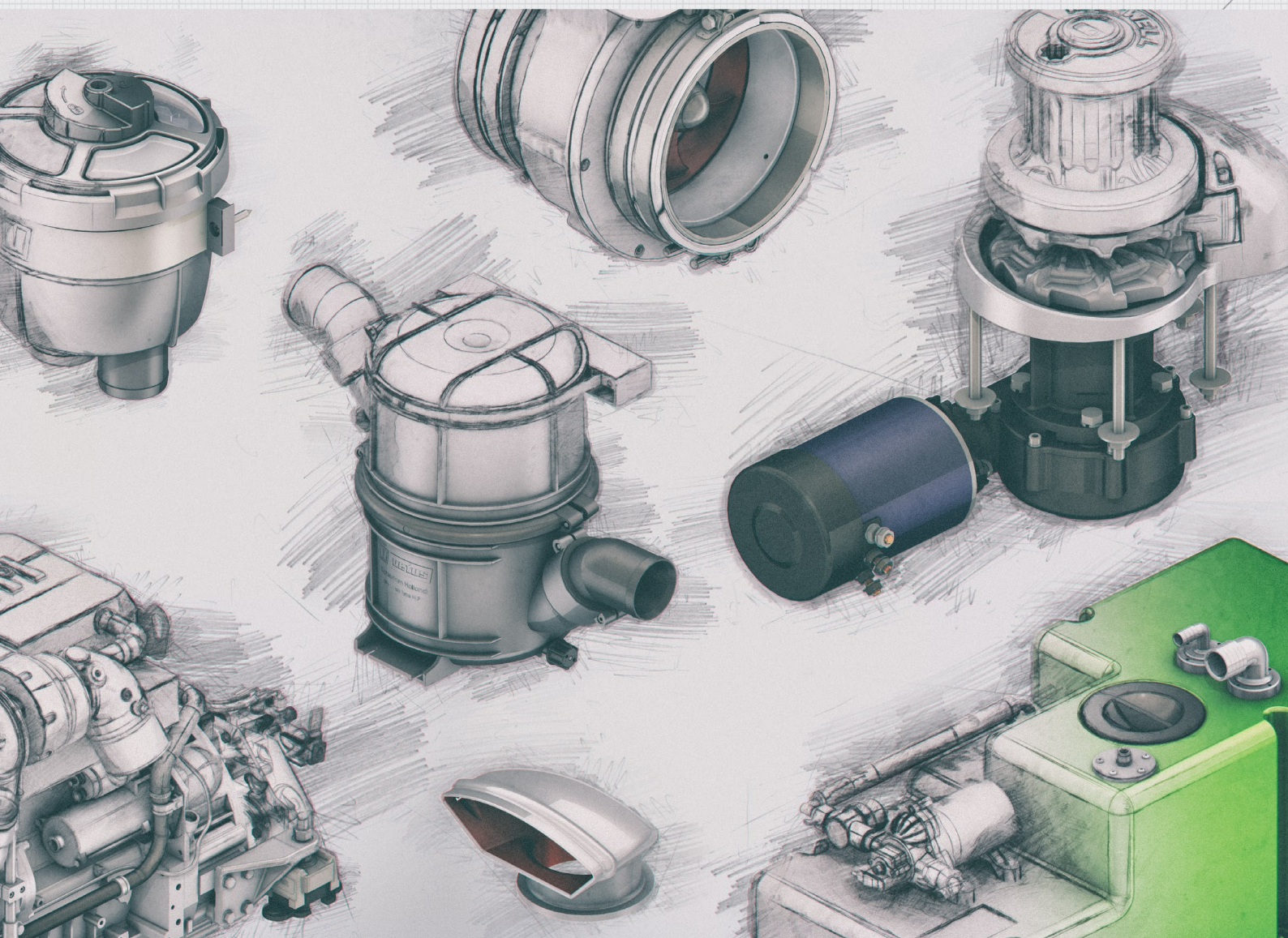
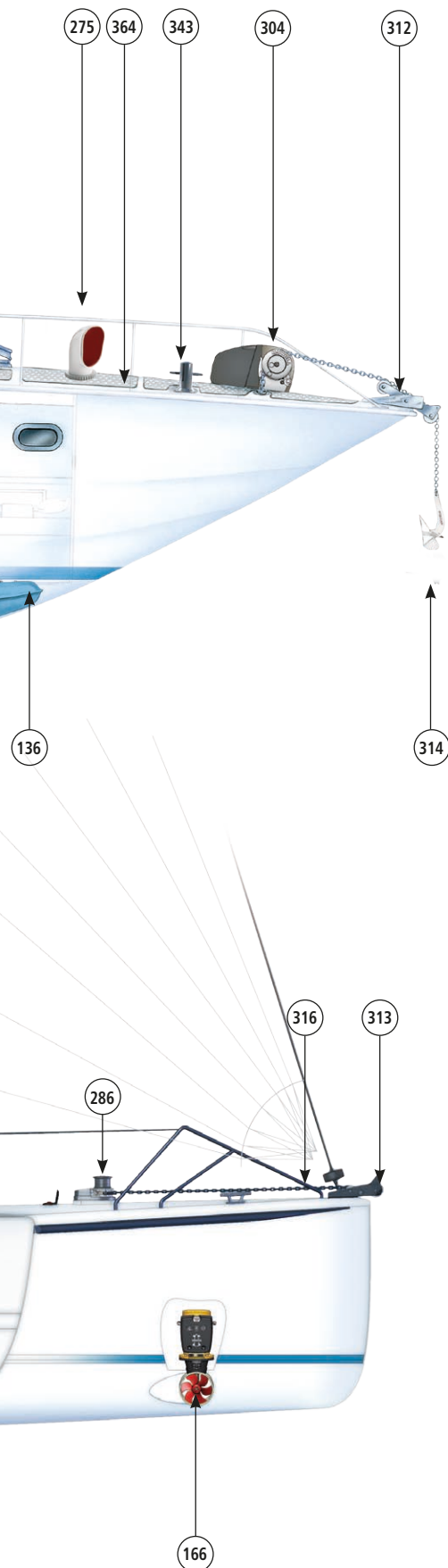


CREATORS OF BOAT SYSTEMS





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VETUS, CREATORS OF BOAT SYSTEMS

Why choose VETUS?

VETUS was founded in 1964 and started out as a wholesale business. Our goals back then have not changed: to be the leading company in innovative systems and products for pleasure boats and light duty commercial vessels. Our mission is accomplished but that does not keep us from being in constant pursuit of supplying the best solutions and products for our customers. VETUS will remain the creator of innovative and reliable boat systems!

Our brands

VETUS

More than 3700 high quality products

Over 70% of our quality products are partly or completely developed in-house. Only the most knowledgeable and experienced companies are added to our list of suppliers.

Maxwell

Backed by industry's most experienced engineering team

For 50 years Maxwell has been known for its comprehensive programme of windlasses, capstans and accessories providing optimal anchoring solutions for pleasure boats/yachts (from 6-90 metres) and commercial vessels. In the marine industry Maxwell's products are renowned for their quality, innovative design, performance and reliability. Maxwell made the world's first automatic rope/chain windlass in the mid 90's and is known for its Freedom series which have been replaced by the brilliantly evolved RC series.

Marex

Active in the market since 1950

Marex is a leading manufacturer of custom made boat windows. Marex stands for quality, innovation and stylish design. Offering several base product ranges including the outstanding Marex Screw-On line, Marex Comfort Line and the Marex Exclusive Line.

V-Quipment

Meets the need of every boat owner

V-Quipment has a diverse range of high quality, carefully selected marine products at affordable prices. That range is divided into theme groups: Comfort, Deck Equipment, Fittings, Pumps, Outboard, Inflatable boats, Materials, Accessories, Locks and Stays. All V-Quipment products are tested and approved in the VETUS test lab in Schiedam (The Netherlands) and therefore carry our 3-year warranty.

Warranty and service

Service wherever you are in the world

VETUS has a worldwide service programme that offers you not only a 3-year warranty for equipment and a 5-year warranty for engines, but also guarantees service wherever you are in the world! These warranty periods are unique in the leisure marine world and are an extra reason for you to choose VETUS products. Our global service network will solve your technical issues all around the world.

3-Year warranty VETUS equipment

We want you to enjoy life on the water and not be let down by product failures. Confidence in your boat and equipment is essential. That is why VETUS offers a 3-year warranty on your equipment and a worldwide service network. Our customers can always count on outstanding support.

5-Year warranty VETUS engines

For the first 36 months after the date of delivery to the first owner, all VETUS diesel propulsion engines are fully warranted in accordance with the conditions as specified in the VETUS Owner's manual. The validity date is the day of commission of the VETUS engine with a maximum of 42 months after delivery ex works Schiedam (The Netherlands).

For an additional period of 24 months or 1000 additional operating hours -whichever comes first- VETUS offers an **extended limited warranty** covering the following specific parts:

- Cylinder block casting
- Cylinder head casting
- Camshaft
- Connecting rods
- Crankshaft
- Flywheel housing casting
- Timing gear wheels
- Timing gear cover casting

VETUS, CREATORS OF BOAT SYSTEMS

Certification

We take our responsibilities very seriously

VETUS is ISO 9001 certified, meaning that we guarantee our quality by working according to certain established guidelines and processes which we monitor continuously. We are committed to delivering quality and service. This important certificate is a confirmation of our commitment.

Below you will find the organisations that have been accredited by a European Union Member State to assess whether our products meet established standards through assessment, inspection and examination of a product, its design and manufacturer.

- CE guidelines e.g. RCD (Recreational Craft Directive)
- MED (Marine Equipment Directive)
- EMC (Electromagnetic Compatibility Directive)
- LVD (Low Voltage Directive)



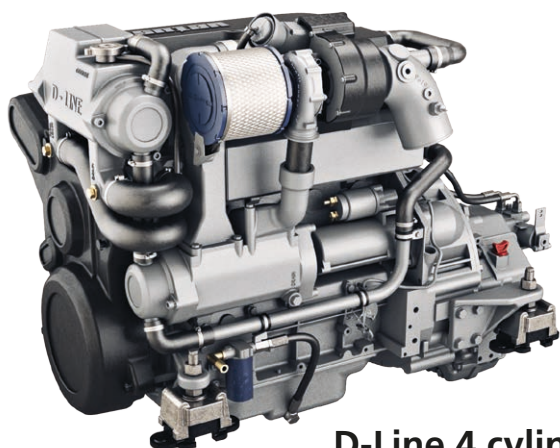
VETUS online

Keeping you up-to-date with the latest activities

Our complete product range can be found on our website www.vetus.com. Next to new product introductions and activities such as boat shows, you will also find our product manuals, instructional videos and frequently asked questions.

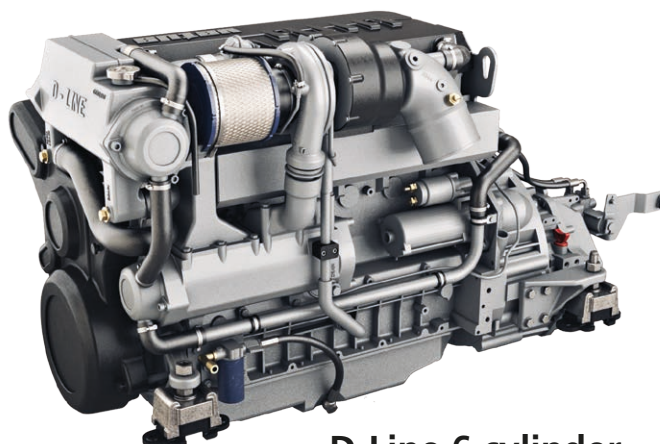


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D-Line 4 cylinder

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Twin coil boiler, type WHT

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Water lubrication connection, type ZWBKIT

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Drinking water system, type DWSC

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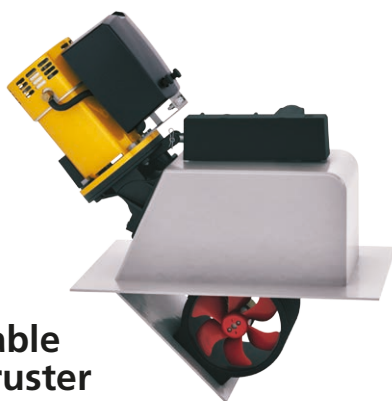
Fuel filter hose connectors

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RIMDRIVE

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Retractable bow thruster

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Battery charger, type BC

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Universal inspection port for tanks, type ILT

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Generators

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Heavy duty rope chain series, type RC12HD

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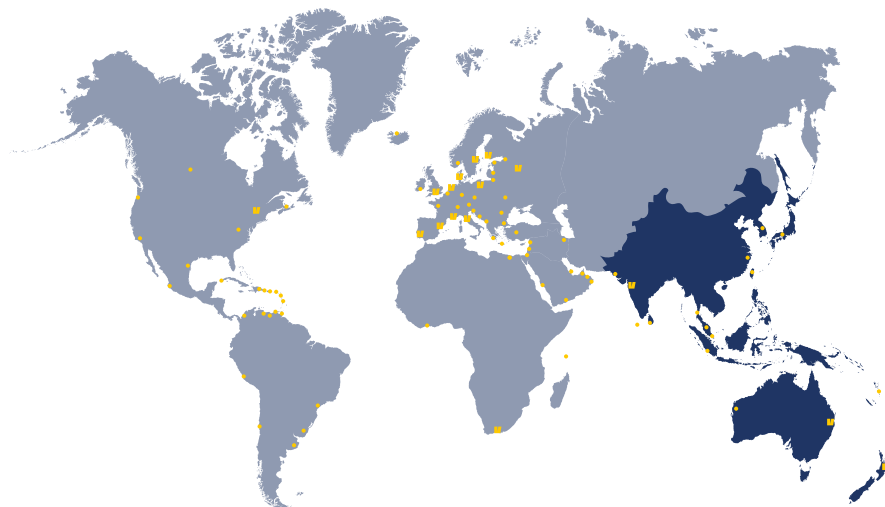
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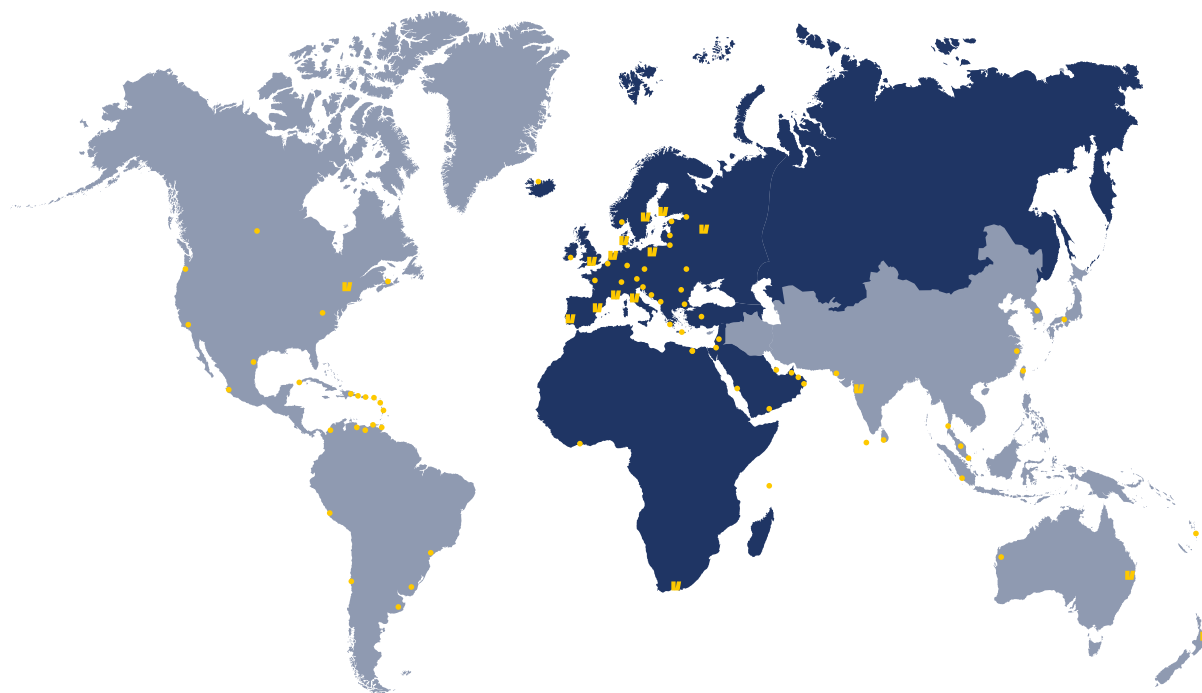
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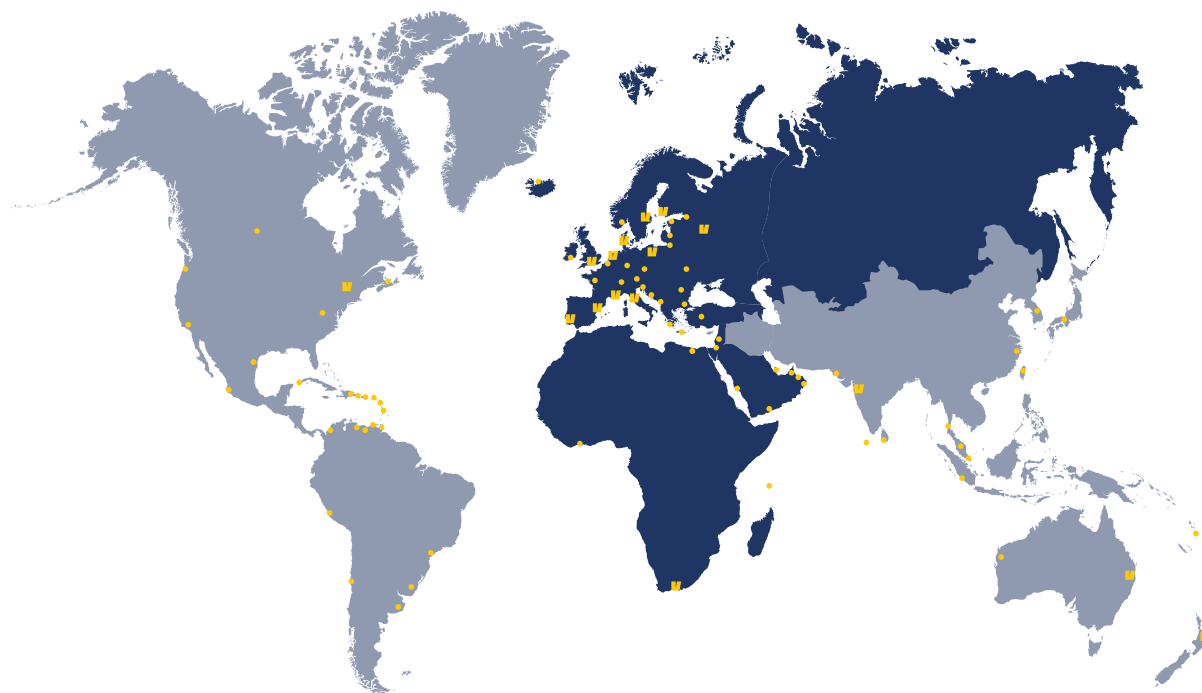
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UNIQUE 3 YEAR WARRANTY

VETUS equipment

VETUS offers an industry leading 3 year warranty on all equipment and a 5 year warranty on engines.

Your interests are the most important consideration for VETUS. We want you to enjoy life on the water and not be let down by technical failure. We want you to have confidence in your boat and the equipment on board. This is the starting point for the development of all new and existing VETUS products. Naturally quality, innovation, ease of use and ease of installation are equally important for every product developed.

Besides a world beating warranty, VETUS also provides a worldwide service network, so that our customers can always count on outstanding support.

UNIQUE 5 YEAR WARRANTY

VETUS engines

(Pleasure Craft Application)

For the first 36 months after the date of delivery to the first owner, all VETUS diesel propulsion engines are fully warranted in accordance with the conditions specified in the VETUS Owner's manual. The day of commissioning of the VETUS engine is the validity date, however, with a maximum of 42 months after delivery ex works Schiedam - The Netherlands. For an additional period of 24 months thereafter, or 1000 additional operating hours whichever comes first, VETUS offers an extended limited warranty.

This extended limited warranty covers the following specific parts:

- Cylinder block casting
- Crankshaft
- Flywheel housing casting
- Timing gear wheels
- Cylinder head casting
- Camshaft
- Timing gear cover casting
- Connecting rods



For more information check the VETUS warranty conditions on www.vetus.com



vetus

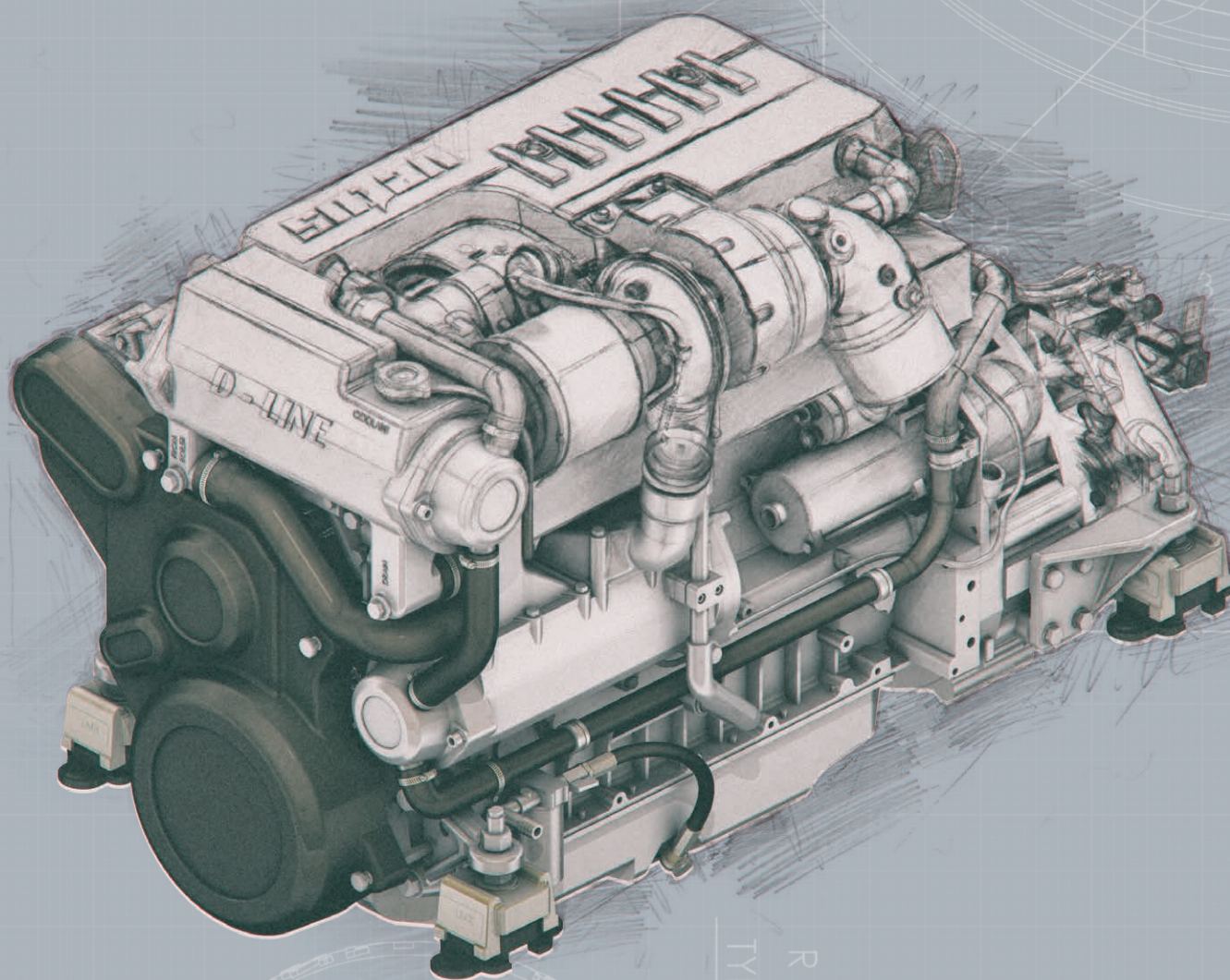
MAXWELL

MAREX



-QUIPMENT

ENGINES AND AROUND THE ENGINE



R 2
TYP.

R 2 TYP.
CE



INTRODUCING VETUS ENGINES

Marine Diesel Engines

Most pleasure boat owners long for the moment they can set foot aboard. Work is forgotten and other worries vanish into the air. That sense of happiness is complete, when the engine comes to life with a healthy roar. The owner of a power or sailing boat with a VETUS engine is in a position to enjoy every moment on the water to the max, and that is the way it should be: check the oil and water filter, turn the key, let go the lines and off you go! Whether you own a sturdy two cylinder with sail drive or a whispering six cylinder beauty, a VETUS Diesel Engine will be your faithful servant. To complement each marine engine in the range, VETUS also offers a well-thought-out complete package of "around the engine" products; from the engine remote control to the fuel filter to the propeller shaft to the exhaust system.

M-LINE

VETUS offers a complete range of M-Line marine diesel engines, suitable for many different types of boats including launches, sailing yachts, canal boats and small cabin cruisers. Over the course of many years of steady development these engines have proven both their quality and reliability.



M2.13



M2.18



M3.29



M4.35



M4.45

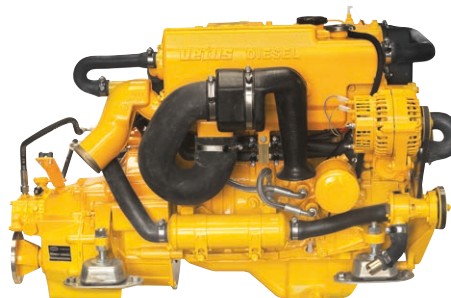


M4.56

H-LINE

The H-Line engines are sturdy, reliable prime movers and are suitable for all kinds of applications, such as cabin boats, small fishing boats and larger canal boats. These engines have low noise and vibration levels due to their robust construction. They are also highly fuel efficient.

VETUS offers two different engine models: the VH4.65 a naturally aspirated engine and a VH4.80 turbo charged system.

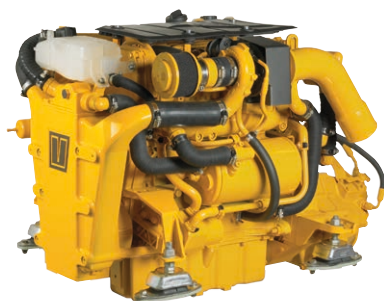


VH4.65

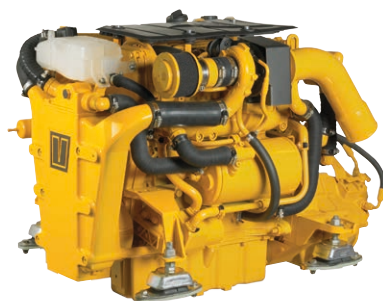
VH4.80

F-LINE

This range of modern high-speed common-rail diesel engines is suitable for planing and semi-planing high speed boats. They are compact, reliable, light weight and very fuel efficient. The power-to-weight ratios are excellent combined with high torque outputs. Due to the small overall dimensions, they are ideal for replacing existing petrol (gasoline) engines. Available with gearbox or sterndrive.



VF4.140C

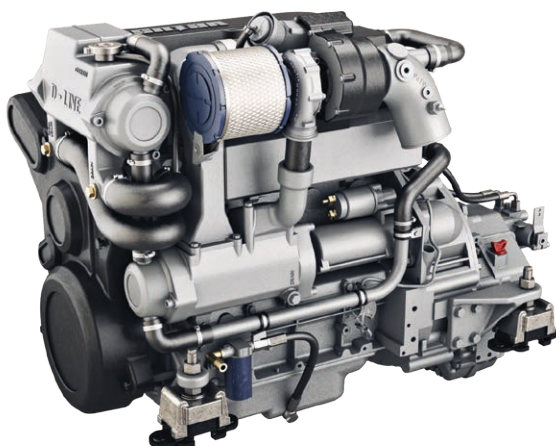


VF4.170C

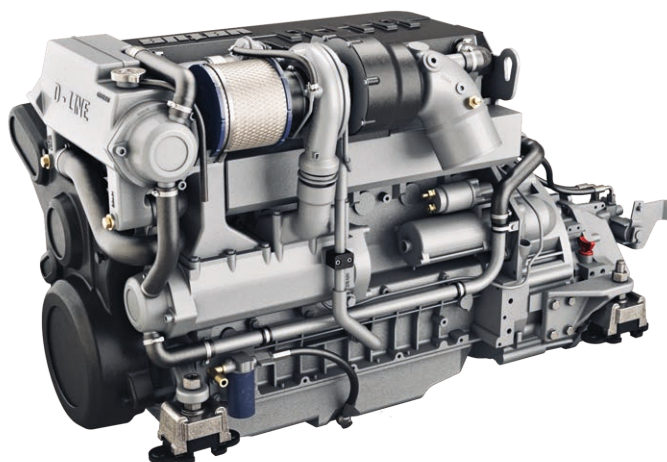
D-LINE

NEW!

The new VETUS D-Line common-rail engines are ideal for heavy displacement boats. They are slow running and exceptionally smooth, making them the engine of choice where long distance cruising is involved. Based on the quality of the well-known Deutz engine blocks, they are exceptionally reliable and durable.



VD4.120
VD4.140



VD6.170
VD6.210



M-LINE

M-Line engines are quiet running, highly fuel-efficient, reliable and offer high power and torque output. The fuel systems are automatically self-bleeding, a great convenience after a fuel filter replacement. All engines are equipped with a high output marine alternator as standard for fast recharging of batteries. A second alternator is available as an option on all type M4 engines. And there is more....!

INNOVATION

Engine space temperature reduction

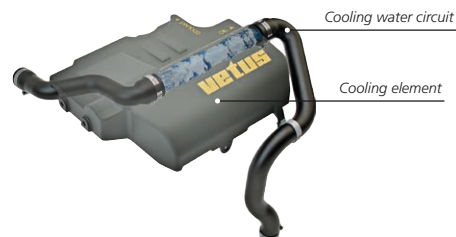
The heat build-up in engine spaces can easily reach temperatures of 70°C. High ambient temperatures in the engine space can have negative effects on engine performance and installed equipment.

VETUS has developed an elegant yet efficient solution by fitting a water-cooled aluminium top cover. Located directly above the cylinder head, this huge cooling element absorbs radiant heat coming from the engine. This innovative concept results in a significant temperature reduction of up to 15°C - a 20% reduction! In turn, the cooler ambient temperature provides a more fuel-efficient air supply to the engine and better combustion. To the best of our knowledge, no other marine engine manufacturer uses such an incorporated cooling element to reduce ambient temperature in the engine space. A truly unique solution developed by VETUS.

Engine sound reduction

People often go boating to enjoy the peace and quiet of the water. VETUS likes to add to this experience by creating a propulsion system that performs as quietly as possible.

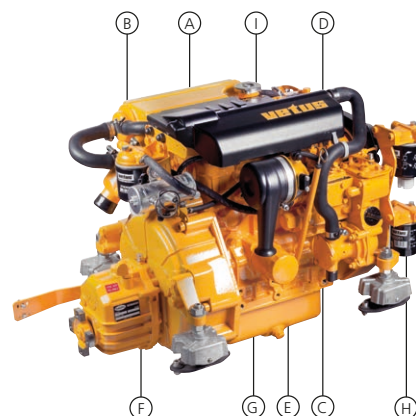
The sturdy, aluminium top cover also significantly reduces the noise level. When combined with the newly designed air filter housing, tests show a sound reduction of about 5 dB(A) and 'near silent' operation at a cruising speeds of around 2200 rpm. Those present at the test sites have all enthusiastically described the engine sound as being incredibly more pleasant to the ear.



FEATURES

Based on customer feedback, the M-Line incorporates many features designed to make life easier for both the boat builder and the end user.

- Service parts such as fuses and relays (A), fuel filter and fuel connections (B), impeller (C), dipstick (D), and oil filter (E) are all easily accessible. On all M4 engines the impeller is located at the front, for even easier access
- The wiring is improved to offer easy connection and extra safety
- All M-Line engines are equipped with an electric fuel pump (F), actuated by the ignition switch
- A new air inlet filter housing attenuates the airflow and lowers the induction sound level (G)
- The heat exchanger unit has 26 improvements over earlier versions, including the construction materials and surface treatments
- The plastic front cover enhances safety and appearance. All pulleys and belts are covered, thereby meeting the EC Machinery Directive
- Front mounted oil and fuel filters including a bracket are available as an option, making servicing as convenient as possible (H)
- When higher charging output is required, all M4 engines are designed to accept a second alternator as an option (when a second alternator is fitted, the front cover is not supplied)
- Available as a powerpack complete with hydraulic pump, when hydraulic power is needed for auxiliary components on board (see page 200)
- Finally yet importantly, the water-cooled top cover not only reduces engine room temperature, but is designed to be used as a step, making it easier to move around or over the engine (I)



All these new advantages come without compromising any other features. With a range from 12 - 52 HP (9 - 37.5 kW) the VETUS M-Line is the preferred choice for many boat builders. Do you need more reasons to choose a VETUS engine?

Customers can expect the highest level of service when choosing a VETUS engine, together with high quality and professional advice.

All M-Line engines meet the RCD2 emission standards and some also meet the BS0II regulations.

SOLAS

For our SOLAS solutions see page 37.

M-LINE

M2.13

● ● 8.8 kW / 12 HP

TECHNICAL SPECIFICATIONS

Supplied as standard with instrument panel type MP10B12 (see page 105) four flexible engine mountings type KSTEUN25V (see page 48) and an oil sump pump.

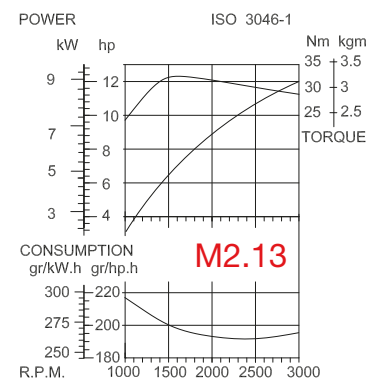
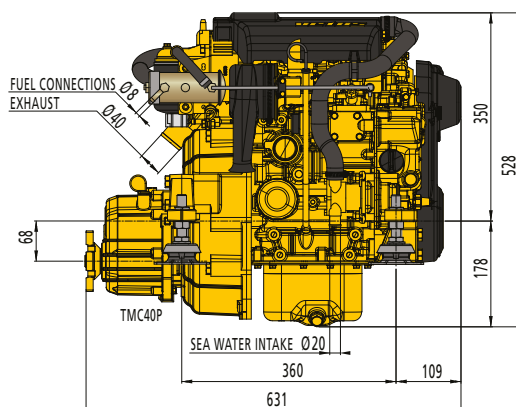
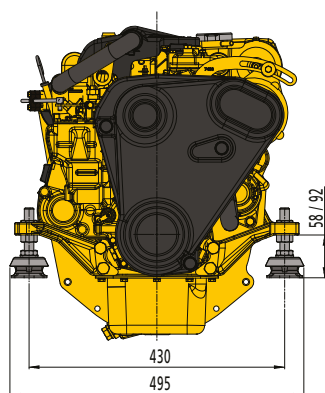


All VETUS engines are certified according ISO 8178-1

| Engine model | M2.13 |
|---|--|
| * Max. output at flywheel (ISO 3046-1) | 8.8 kW (12 hp) |
| * Max. output at propeller shaft (ISO 3046-1) | 8.7 kW (11.8 hp) |
| Maximum rpm | 3000 |
| Max. torque | 32.7 Nm / 1600 rpm |
| Bore x stroke | 76 mm x 70 mm |
| Displacement | 635 cm ³ |
| Number of cylinders | 2 in line |
| Combustion system | indirect injection |
| Compression ratio | 23:1 |
| Firing order | 1-2 |
| Intake | naturally aspirated |
| Electrical system | 12 Volt - 75 Amps. |
| Cooling system (standard) | indirect cooling (keel cooling optional) |
| Gearbox, standard | TMC40P (2 / 2.60:1) |
| Gearbox options | ZF12M 2.14 / 2.63:1 ZF15MIV 2.13 / 2.99:1 TMC60A 2 / 2.5:1 |

| | |
|-----------------------------------|---|
| Saildrive | SP60 2.15 / 2.38:1 SD10 2.23 / 2.49:1 |
| Dry weight (incl. std. gearbox) | 107 kg |
| Fuel consumption at 2500 rpm | 268 g / kW.h (196 g / hp.h) |
| Max. backwards installation angle | 15° |
| Max. lateral inclination angle; | |
| Continuously | 25° |
| 5 minutes max. | 30° |
| Suction height of fuel lift pump | 1.5 m |
| Calorifier connection kit | optional |
| Instrument panel (standard) | MP10B12 |
| Warning lights and audible alarm | oil pressure, temperature (coolant and exhaust), charging current |
| Control light for | pre-heating/glow plugs |
| Electric circuit protection | fuse 10 Amps. |
| Certifications | EU-RCd II, BSO |

* In accordance with ISO 8665



M-LINE

M2.18

● ● 11.8 kW / 16 HP

TECHNICAL SPECIFICATIONS

Supplied as standard with instrument panel type MP10B12 (see page 105), four flexible engine mountings type KSTEUN35V (see page 48) and an oil sump pump.

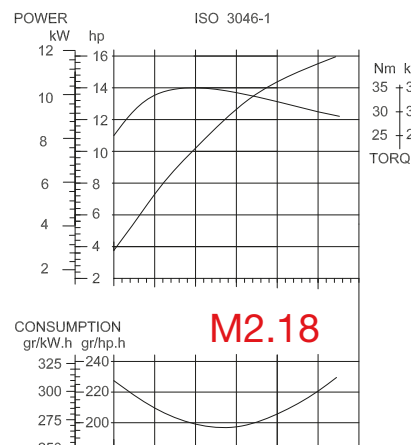
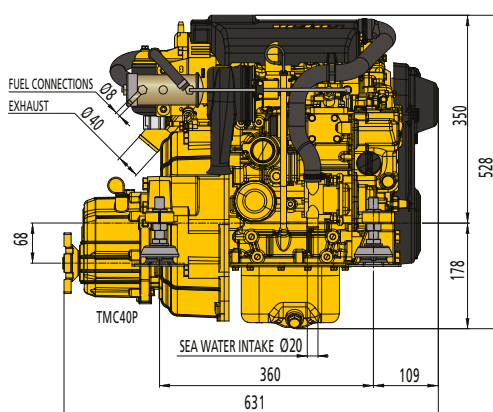
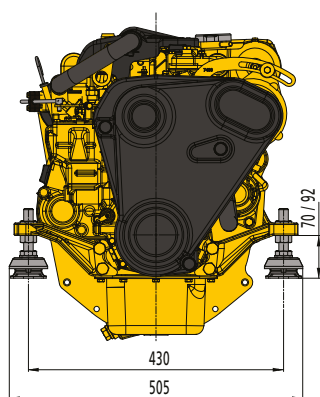


All VETUS engines are certified according ISO 8178-1

| Engine model | M2.18 |
|---|---|
| * Max. output at flywheel (ISO 3046-1) | 11.8 kW (16 hp) |
| * Max. output at propeller shaft (ISO 3046-1) | 11.6 kW (15.8 hp) |
| Maximum rpm | 3600 |
| Max. torque | 35.1 Nm / 2000 rpm |
| Bore x stroke | 76 mm x 70 mm |
| Displacement | 635 cm ³ |
| Number of cylinders | 2 in line |
| Combustion system | indirect injection |
| Compression ratio | 23:1 |
| Firing order | 1-2 |
| Intake | naturally aspirated |
| Electrical system | 12 Volt - 75 Amps. |
| Cooling system (standard) | indirect cooling (keel cooling optional) |
| Gearbox, standard | TMC40P (2 / 2.60:1) |
| Gearbox options | ZF12M 2.14 / 2.63:1 |
| | ZF15MIV 2.13 / 2.99:1 |
| | TMC60A 2 / 2.5:1 |

| | |
|-----------------------------------|---|
| Saildrive | SP60 2.15 / 2.38:1 |
| | SD10 2.23 / 2.49:1 |
| Dry weight (incl. std. gearbox) | 107 kg |
| Fuel consumption at 2500 rpm | 268 g / kW.h (196 g / hp.h) |
| Max. backwards installation angle | 15° |
| Max. lateral inclination angle; | |
| Continuously | 25° |
| 5 minutes max. | 30° |
| Suction height of fuel lift pump | 1.5 m |
| Calorifier connection kit | optional |
| Instrument panel (standard) | MP10B12 |
| Warning lights and audible alarm | oil pressure, temperature (coolant and exhaust), charging current |
| Control light for | pre-heating/glow plugs |
| Electric circuit protection | fuse 10 Amps. |
| Certifications | EU-RCD II, BSO |

* In accordance with ISO 8665



Certified within 5%

M-LINE

M3.29

● ● ● 20 kW / 27 HP

TECHNICAL SPECIFICATIONS

Supplied as standard with instrument panel type MPA22BS2 (see page 103), four flexible engine mountings type KSTEUN40A (see page 48) and a oil sump pump.

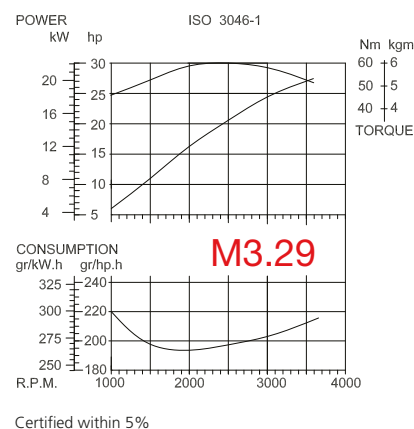
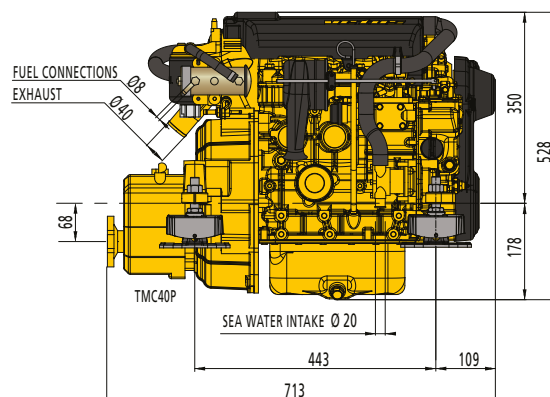
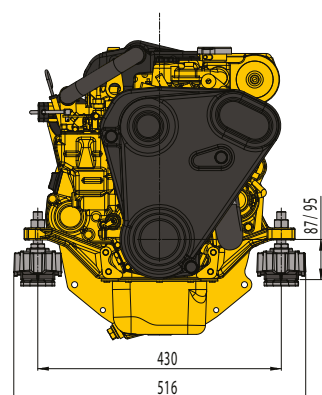


All VETUS engines are certified according ISO 8178-1

| Engine model | M3.29 |
|---|---|
| * Max. output at flywheel (ISO 3046-1) | 20 kW (27 hp) |
| * Max. output at propeller shaft (ISO 3046-1) | 19.3 kW (26.2 hp) |
| Maximum rpm | 3600 |
| Max. torque | 60.2 Nm / 2500 rpm |
| Bore x stroke | 76 mm x 70 mm |
| Displacement | 952 cm ³ |
| Number of cylinders | 3 in line |
| Combustion system | indirect injection |
| Compression ratio | 22:1 |
| Firing order | 1-3-2 |
| Intake | naturally aspirated |
| Electrical system | 12 Volt - 75 Amps. |
| Cooling system (standard) | indirect cooling (keel cooling optional) |
| Gearbox, standard | TMC40P (2 / 2.60:1) |
| Gearbox options | ZF12M 2.14 / 2.63:1 |
| | ZF15MIV 2.13 / 2.99:1 |
| | TMC60A 2 / 2.5:1 |

| | |
|-----------------------------------|---|
| Saildrive | SP60 2.15 / 2.38:1 |
| | SD10 2.23 / 2.49:1 |
| Dry weight (incl. std. gearbox) | 134 kg |
| Fuel consumption at 2500 rpm | 270 g / kW.h (199 g / hp.h) |
| Max. backwards installation angle | 15° |
| Max. lateral inclination angle; | |
| Continuously | 25° |
| 5 minutes max. | 30° |
| Suction height of fuel lift pump | 1.5 m |
| Calorifier connection kit | optional |
| Instrument panel (standard) | MPA22BS2 |
| Warning lights and audible alarm | oil pressure, temperature (coolant and exhaust), charging current |
| Control light for | pre-heating/glow plugs |
| Electric circuit protection | fuse 10 Amps. |
| Certifications | EU-RCD II, BSO, SOLAS |

* In accordance with ISO 8665



M-LINE

M4.35

● ● ● ● 24.3 kW / 33 HP

TECHNICAL SPECIFICATIONS

Supplied as standard with instrument panel type MPA22BS2 (see page 103), four flexible engine mountings type KSTEUN75V (see page 48) and an oil sump pump.

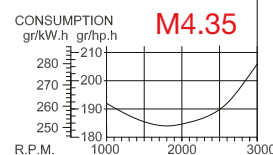
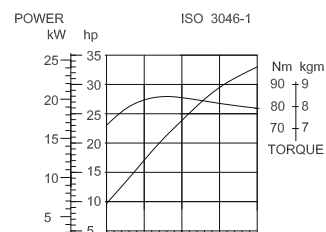
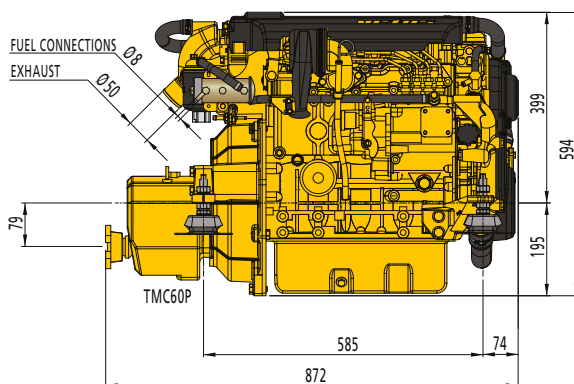
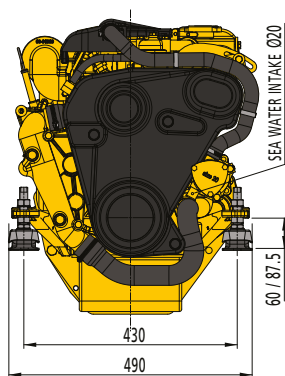


All VETUS engines are certified according ISO 8178-1

| Engine model | M4.35 |
|---|---|
| * Max. output at flywheel (ISO 3046-1) | 24.3 kW (33 hp) |
| * Max. output at propeller shaft (ISO 3046-1) | 23.6 kW (32.1 hp) |
| Maximum rpm | 3000 |
| Max. torque | 83.8 Nm/1700 rpm |
| Bore x stroke | 78 mm x 92 mm |
| Displacement | 1758 cm ³ |
| Number of cylinders | 4 in line |
| Combustion system | indirect injection |
| Compression ratio | 22:1 |
| Firing order | 1-3-4-2 |
| Intake | naturally aspirated |
| Electrical system | 12 Volt - 110 Amps. |
| Cooling system (standard) | indirect cooling (keel cooling optional) |
| Gearbox, standard | TMC60P (2 / 2.5 / 2.94:1) |
| Gearbox options | ZF12M 2.14 / 2.63:1 TMC60A 2 / 2.5:1 |

| | |
|-----------------------------------|---|
| Saildrive | SP60 2.15 / 2.38:1 SD10 2.23 / 2.49:1 |
| Dry weight (incl. std. gearbox) | 199 kg |
| Fuel consumption at 2500 rpm | 252 g / kW.h (185 g / hp.h) |
| Max. backwards installation angle | 15° |
| Max. lateral inclination angle; | |
| Continuously | 25° |
| 5 minutes max. | 30° |
| Suction height of fuel lift pump | 1.5 m |
| Calorifier connection kit | optional |
| Instrument panel (standard) | MPA22BS2 |
| Warning lights and audible alarm | oil pressure, temperature (coolant and exhaust), charging current |
| Control light for | pre-heating/glow plugs |
| Electric circuit protection | fuse 10 Amps. |
| Certifications | EU-RCD II, BSO, SOLAS |

* In accordance with ISO 8665



Certified within 5%

M-LINE

M4.45

● ● ● ● 30.9 kW / 42 HP

TECHNICAL SPECIFICATIONS

Supplied as standard with instrument panel type MPA22BS2 (see page 105), four flexible engine mountings type KSTEUN75V (see page 48) and an oil sump pump.

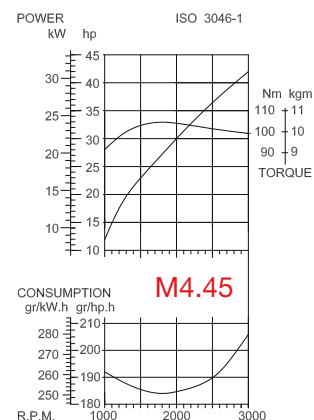
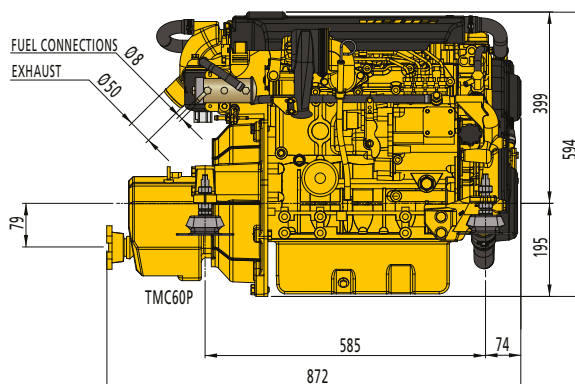
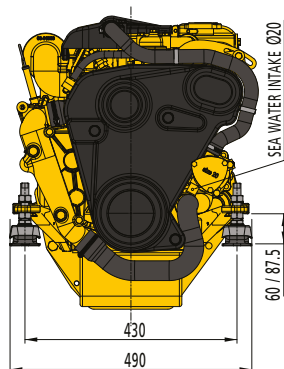


All VETUS engines are certified according ISO 8178-1

| Engine model | M4.45 |
|---|---|
| * Max. output at flywheel (ISO 3046-1) | 30.9 kW (42 hp) |
| * Max. output at propeller shaft (ISO 3046-1) | 30 kW (40.8 hp) |
| Maximum rpm | 3000 |
| Max. torque | 106.4 Nm / 1750 rpm |
| Bore x stroke | 78 mm x 92 mm |
| Displacement | 1758 cm ³ |
| Number of cylinders | 4 in line |
| Combustion system | indirect injection |
| Compression ratio | 22:1 |
| Firing order | 1-3-4-2 |
| Intake | naturally aspirated |
| Electrical system | 12 Volt - 110 Amps. |
| Cooling system (standard) | indirect cooling (keel cooling optional) |
| Gearbox, standard | TMC60P (2 / 2.5 / 2.94:1) |
| Gearbox options | ZF12M 2.14 / 2.63:1 TMC60A 2 / 2.5:1 |

| | |
|-----------------------------------|---|
| Saildrive | SP60 2.15 / 2.38:1 SD10 2.23 / 2.49:1 |
| Dry weight (incl. std. gearbox) | 199 kg |
| Fuel consumption at 2500 rpm | 252 g / kW.h (185 g / hp.h) |
| Max. backwards installation angle | 15° |
| Max. lateral inclination angle; | |
| Continuously | 25° |
| 5 minutes max. | 30° |
| Suction height of fuel lift pump | 1.5 m |
| Calorifier connection kit | optional |
| Instrument panel (standard) | MPA22BS2 |
| Warning lights and audible alarm | oil pressure, temperature and (coolant exhaust), charging current |
| Control light for | pre-heating/glow plugs |
| Electric circuit protection | fuse 10 Amps. |
| Certifications | EU-RCd II, BSO, SOLAS |

* In accordance with ISO 8665



Certified within 5%

M-LINE

M4.56

● ● ● ● 38.3 kW / 52 HP

TECHNICAL SPECIFICATIONS

Supplied as standard with instrument panel type MPA22BS2 (see page 105), four flexible engine mountings type KSTEUN80V (see page 48) and an oil sump pump.

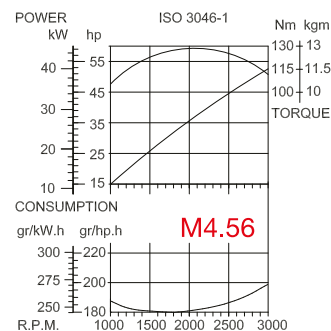
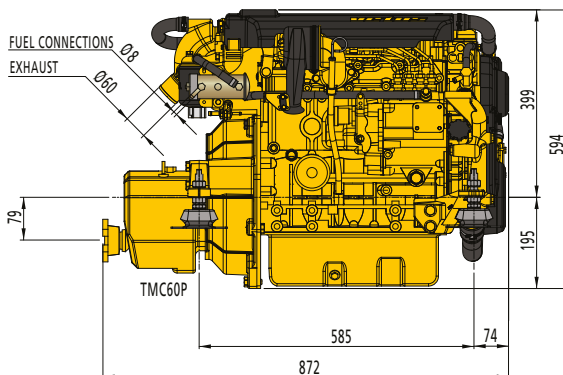
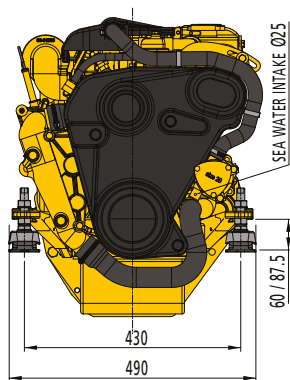


All VETUS engines are certified according ISO 8178-1

| Engine model | M4.56 |
|---|---|
| * Max. output at flywheel (ISO 3046-1) | 38.3 kW (52 hp) |
| * Max. output at propeller shaft (ISO 3046-1) | 37.1 kW (51 hp) |
| Maximum rpm | 3000 |
| Max. torque | 127 Nm / 2000 rpm |
| Bore x stroke | 78 mm x 92 mm |
| Displacement | 1758 cm ³ |
| Number of cylinders | 4 in line |
| Combustion system | indirect injection |
| Compression ratio | 22:1 |
| Firing order | 1-3-4-2 |
| Intake | Turbo charged |
| Electrical system | 12 Volt - 110 Amps. |
| Cooling system (standard) | indirect cooling (keel cooling optional) |
| Gearbox, standard | TM345(A) (2 / 2.47:1) |
| Gearbox options | ZF12M 2.14:1 ZF15MIV 2.13 / 2.99:1 TMC60P 2 / 2.5:1 |

| | |
|-----------------------------------|---|
| Saildrive | SP60 2.15 / 2.38:1 SD10 2.23 / 2.49:1 |
| Dry weight (incl. std. gearbox) | 206 kg |
| Fuel consumption at 2500 rpm | 244 g / kW.h (179 g / hp.h) |
| Max. backwards installation angle | 15° |
| Max. lateral inclination angle; | |
| Continuously | 25° |
| 5 minutes max. | 30° |
| Suction height of fuel lift pump | 1.5 m |
| Calorifier connection kit | optional |
| Instrument panel (standard) | MPA22BS2 |
| Warning lights and audible alarm | oil pressure, temperature (coolant and exhaust), charging current |
| Control light for | pre-heating/glow plugs |
| Electric circuit protection | fuse 10 Amps. |
| Certifications | EU-RCD II, SOLAS |

* In accordance with ISO 8665



Certified within 5%

H-LINE

The H-Line engines are sturdy, reliable engines and are suitable for many applications, such as cabin boats, small fishing boats and larger canal boats. These engines have low noise and vibration levels due to their robust construction. They are also highly fuel efficient.

The H-line engines are four-cylinder 4-stroke engines with an indirect fuel injection system, a dual-circuit cooling system with integrated heat exchanger and a seawater injected exhaust bend.

Available in two versions: VH4.65 and VH4.80.

A few advantages of these engines

- Extremely favourable power to weight ratio
- Very low noise and vibration levels due to counter balancing shafts
- Very low fuel consumption
- Minimum hose connections, owing to extensive use of moulded rubber cooling system components
- High alternator output as standard, developed for marine applications for fast recharging of the batteries
- Self bleeding fuel system
- Readily accessible parts for easy maintenance

Suitable for

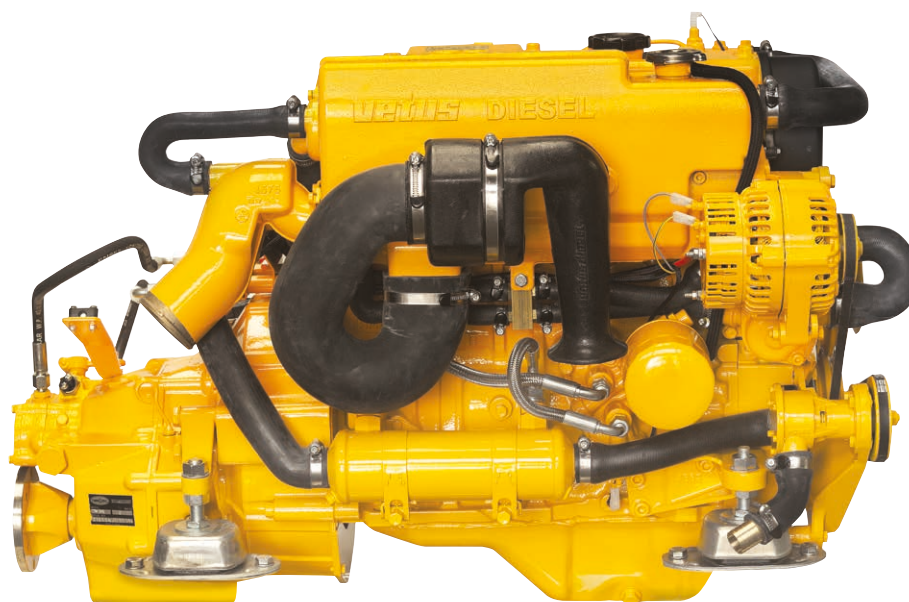
- Cabin boats
- Sailing boats
- Small fishing boats
- Larger canal boats

Options

- The H-line engines can be supplied with gearbox or saildrive
- Alternatively, the H-Line can be supplied with an adaptor kit to fit an existing Volvo Penta saildrive, type 110S, 120S or 120SB
- Available as a powerpack complete with hydraulic pump, when hydraulic power is needed for auxiliary components on board (see page 200)

Purchasing a VETUS H-Line engine brings a host of related benefits

- The extensive VETUS dealer network is on hand to provide service, spare parts and points of contact worldwide
- A VETUS engine brings with it over 50 years' experience in producing reliable and compact marine engines, ensuring safe and continuous boating pleasure
- All VETUS engines come with a 5 year warranty in accordance with the VETUS Warranty and Service Conditions
- All H-Line marine diesel engines meet the RCD2 and Russian RRR emission standards



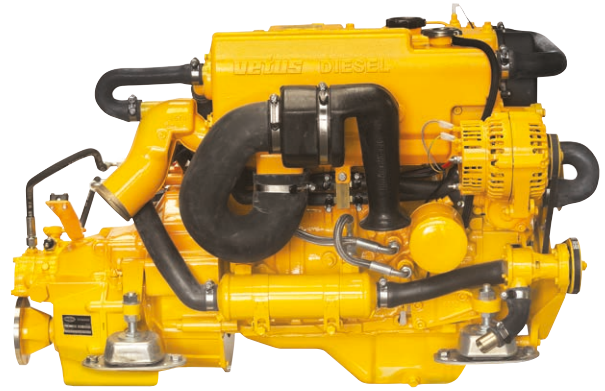
H-LINE

VH4.65

● ● ● ● 48 kW / 65.3 HP

VH4.80

● ● ● ● 59 kW / 80.3 HP



TECHNICAL SPECIFICATIONS

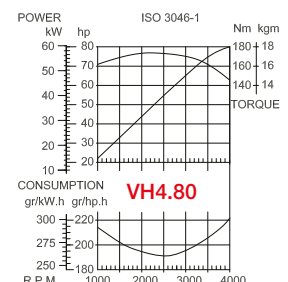
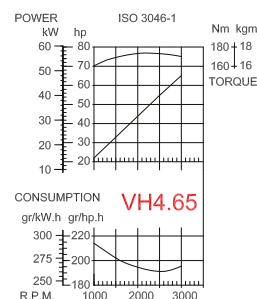
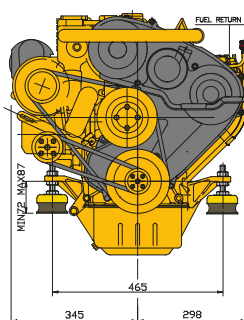
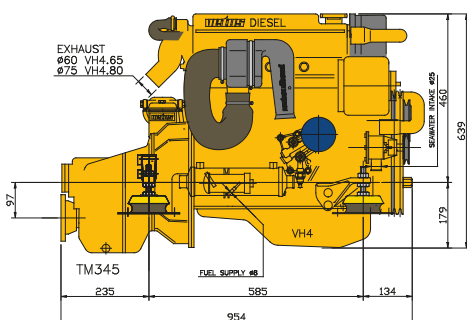
Supplied as standard with instrument panel type MPA22BS2 / BS25 (see page 103), four flexible engine mountings type HY100 (see page 49) and an oil sump pump.

All VETUS engines are certified according ISO 8178-1

| Engine model | VH4.65 / VH4.80 |
|--|--|
| *Max. output at flywheel (ISO 3046-1) | 48 kW (65.3 hp) (VH4.65) 59 kW (80.3 hp) (VH4.80) |
| *Max. output at propeller shaft (ISO 3046-1) | 46.6 kW (63.4 hp) (VH4.65) 57.2 kW (77.6 hp) (VH4.80) |
| Maximum rpm | 3000 (VH4.65) / 4000 (VH4.80) |
| Bore x stroke | 91.1 mm x 100 mm |
| Displacement | 2607 cm ³ |
| Number of cylinders | 4 in line |
| Combustion system | indirect injection |
| Compression ratio | 22:1 |
| Firing order | 1-3-4-2 |
| Intake | Naturally aspirated |
| Electrical system | 12 Volt - 115 Amps. |
| Cooling system (standard) | indirect cooling (keel cooling optional) |
| Gearbox (standard) | TM345(A) |
| Ratio | 2 / 2.47:1 |
| Gearbox options | ZF25A 1.93 / 2.29 / 2.71:1 ZF25 1.97 / 2.8:1 |

| | |
|-----------------------------------|---|
| Saildrive | SP60 2.15:1 |
| Dry weight (incl. std. gearbox) | 240 kg (VH4.65) 245 kg (VH4.80) |
| Max. torque | 170 Nm / 2.200 rpm |
| Max. backwards installation angle | 15° |
| Max. lateral inclination angle; | |
| Continuously | 25° |
| 5 minutes max. | 30° |
| Suction height of fuel lift pump | 1.5 m |
| Calorifier connection kit | optional |
| Instrument panel (standard) | MPA22BS2 / BS25 |
| Warning lights and audible alarm | oil pressure, temperature (coolant and exhaust), charging current |
| Control light for | pre-heating |
| Electric circuit protection | fuse 10 Amps. |
| Certifications | EU-RCD II |

* In accordance with ISO 8665



Certified within 5%

EQUIPMENT SELECTION TABLE FOR M-LINE AND H-LINE



BULFL

See flexible couplings on page 66

See propellers on page 76



See fuel filters on page 121



FTR470

See water strainers on page 51



SISCO

See remote controls on page 42



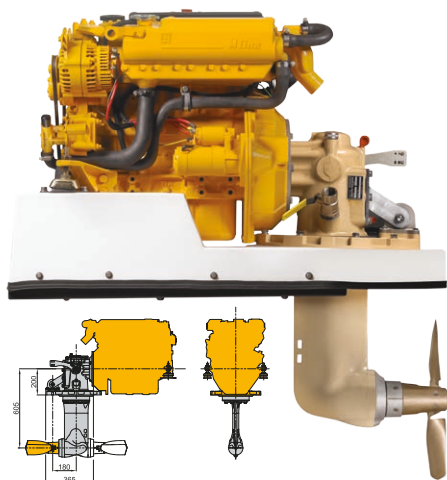
NLP40

See waterlocks on page 86

| Engine model | M2.13 | | M2.18 | | M3.29 | | M4.35 | | M4.45 | | M4.56 | | VH4.65 | | VH4.80 | |
|--|--------|-------|----------------|-------|--------|---------------|---|------------|----------------------|----------------|-------------------------|--------|---------------------------|---------------|------------------|-------|
| Gearbox reduction | 2:1 | 2.6:1 | 2:1 | 2.6:1 | 2:1 | 2.6:1 | 2:1 | 2.5:1 | 2:1 | 2.5:1 | 2:1 | 2,47:1 | 2:1 | 2.63:1 | 1.97:1 | 2.8:1 |
| VETUS water lubricated propeller shaft system | | | | | | | | | | | | | | | | |
| * Shaft diam., Remanit 4462 | | | 25 | | | | 30 | | 35 | 30 | 35 | 30 | 35 | 30 | 30 | 40 |
| VETUS manganese bronze propeller | | | | | | | | | | | | | | | | |
| * 3-blade, P3B, diameter in inches | 13" | 15" | 13" | 15" | 14" | 16" | | 18" | 20" | 18" | 20" | 17" | 21" | request | | 22" |
| * 4-blade, P4E, diameter in inches | | | | | | | | on request | | | | | | | | |
| VETUS flexible couplings | | | | | | | | | | | | | | | | |
| * Bullflex type | | 01 | | 02 | | | 04 | | 08 | 04 | 08 | 04 | 08 | 04 | 04 | 08 |
| * Uniflex type | | | | | 13 | | | | 16 | 13 | | | 16 | | | |
| * Combiflex type | | | | | 12 | | | | n.a. | 12 | | | n.a. | | | |
| VETUS water strainer | | | | | | | | | | | | | | | | |
| * hose connection diam.(mm) | | | | | | 20 | | | | | | | | 25 | | |
| * water strainer, type FTR470 or FTR330: | | | | | | 330 or 470/19 | | | | | | | | 330 or 470/25 | | |
| * water strainer kit, type | | | | | | WKIT33019 | | | | | | | | WKIT33025 | | |
| VETUS water separator / fuel filter | | | | | | | | | | | | | | | | |
| * hose connection suction/return in mm | | | | | | | | | 8-8 | | | | | | | |
| * water separator / fuel filter, type: | | | | | | | | | (75)330VTEB or WS180 | | | | | | | |
| VETUS water-injected exhaust systems | | | | | | | | | | | | | | | | |
| * exhaust hose, diam. (mm) | | | 40 | | | | 50 | | | | 60 | | | | 75 | |
| * waterlock, type | | | LP40R / NLP40 | | | | L50R/S / NLP50 | | | | LP60 / NLP60 | | | | LP75 / NLP75 | |
| * combi waterlock/muffler, type | | | NLPH40 | | | | NLPH50 | | | | NLPH60 | | | | NLPH75 | |
| * muffler, type | | | MP 40 | | | | MP 50 | | | | MP 60 | | | | MP 75 | |
| * gooseneck, type | | | LT 40 | | | | LT 50 | | | | LT 60 | | | | LT 75/75 | |
| * combi muffler/gooseneck, type | | | NLP G40 | | | | NLP G50 | | | | | n.a. | | | | |
| * transom exhaust connection, type TRC | | | 40R / PV or SV | | | | 50R / PV or SV | | | | 60R / PV or SV | | | | TRC7590R | |
| * anti-siphon, type AIRVENT or ASD | | | | | | | AIRVENTV or -H / ASDV or -H | | | | | | | | | |
| VETUS engine remote controls | | | | | | | | | | | | | | | | |
| * to be selected | | | | | | | SICO, SISCO, AFSTZIJ, RCTOPB, RCTOPS, AFSTTOP | | | | | | | | | |
| VETUS maintenance free batteries | | | | | | | | | | | | | | | | |
| * voltage | | | | | | | 12 | | | | | | | | | |
| * starter battery, min. Ah | | | | | 55 | | | | | | | | 108 | | | |
| * service battery, Ah. | | | | | | | | | | to be selected | | | | | | |
| VETUS louvred air suction vents | | | | | | | | | | | | | | | | |
| * per engine, type ASV, SSV or SSVL | 1 x 25 | | 2 x 20 | | 2 x 25 | | 2 x 40 or 4 x 20 | | 2 x 50 or 4 x 30 | | 2 x 60 or 4 x 30/3 x 40 | | 2 x 70 or 2 x 30 + 2 x 40 | | 2 x 80 or 4 x 40 | |



OPTIONS FOR M-LINE AND H-LINE



Saildrive

VETUS can supply a VETUS saildrive for all M-Line and H-Line engines. There are two different types available which are the Technodrive SP60 ratio 2,15/2,38:1 and the ZF SD10 2,23/2,49:1. They can be used for both single and twin engine installations.

The underwater drive leg can be fitted 180° reversed. This will permit the engine to be installed ahead or behind the saildrive unit for greater flexibility of installation.

We will be pleased to recommend the correct propeller for your saildrive

Attention: When a folding propeller is installed, we recommend that this is of a type incorporating a shock absorbing hub, to prevent damage when engaging gear.

All VETUS engines are certified according to ISO 8178-1



Filters

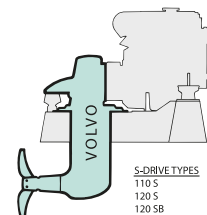
Front mounted oil and fuel filters including a bracket are available as an option on the M-Line range, making servicing as convenient as possible.

| Code | Engine type |
|----------|-------------------------|
| 08-01454 | M2 |
| 08-01455 | M3 |
| 08-01479 | M4 |
| 08-01456 | M2 + electric fuel pump |
| 08-01457 | M3 + electric fuel pump |

Saildrive kits

All VETUS M-line engines and model VH4.65 can be supplied with an adapter kit to fit an existing Volvo Penta sail drive. Kits are available for 110S, 120S or 120SB saildrives.

| Code | Saildrive |
|---------|-----------|
| STM7614 | 110S |
| STM7619 | 120S |
| STM7621 | 120SB |



Second alternator

Engine models M4.35, M4.45 and M4.56 can be supplied with a second alternator of 110 A. For other M series engines a second alternator of 75 A can be ordered.

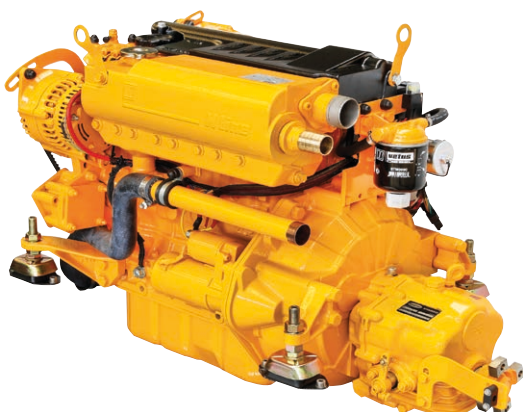
Please contact your local VETUS dealer for more information.



Keelcooling

M-Line and H-Line models are also available as keelcooled versions. Keelcooling systems are normally installed when the boat is used in shallow waters.

Please ask your dealer for details.



For information about Powerpack and hydraulic propulsion see page 200.

F-LINE

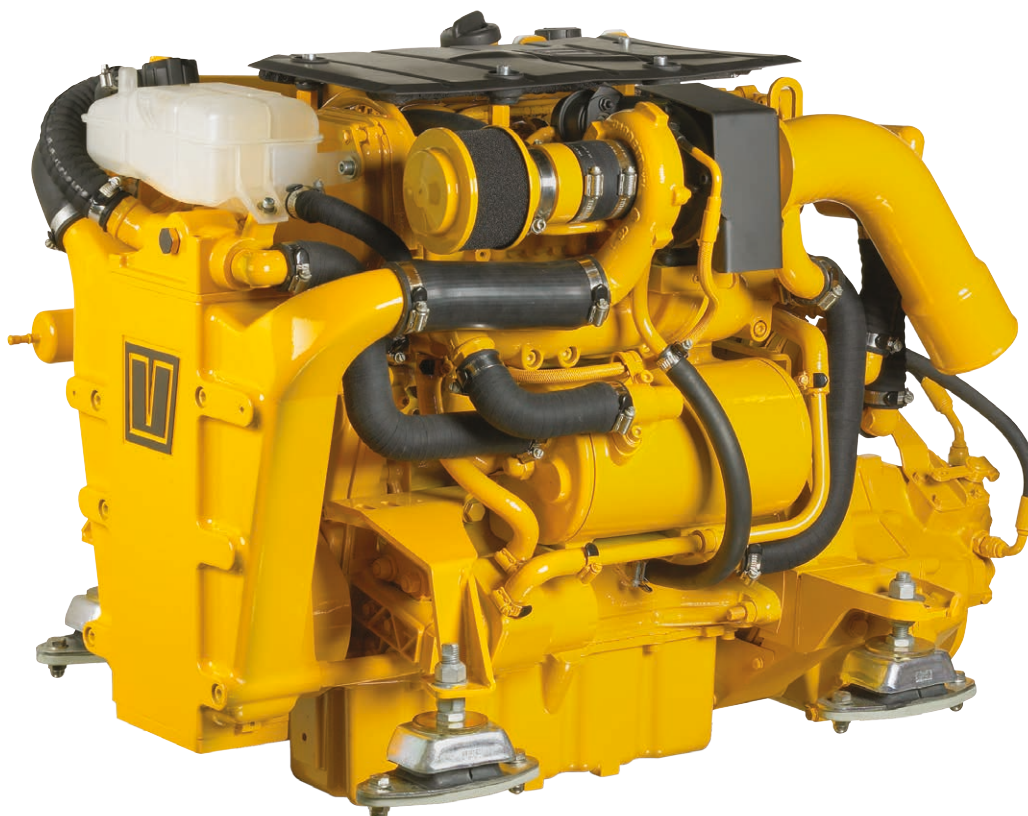
The VETUS F-Line common-rail marine diesel engines with VGT turbo are especially designed for installation in fast semi-planing and planing boats. These marine engines are compact, light weight, fuel efficient and have an excellent power to weight ratio. In addition, they have a SAEJ1939 bus protocol.

The VETUS F-Line marine diesel engines are available with gearbox or a Mercruiser Bravo sterndrive.

Suitable for

- Semi-planing and planing boats
- RIB's
- Speed boats
- Runabouts
- Cruisers

The extensive VETUS dealer network is on hand to provide service, spare parts and points of contact worldwide. A VETUS marine diesel engine brings with it over 50 years' experience in producing reliable and compact marine engines, ensuring safe and continuous boating pleasure. All VETUS marine diesel engines come with a 5 year warranty in accordance with the VETUS Warranty and Service Conditions.



The new VF4-Common-Rail diesel engine which will comply to the new RCD2 regulations will be launched mid 2017.



F-LINE

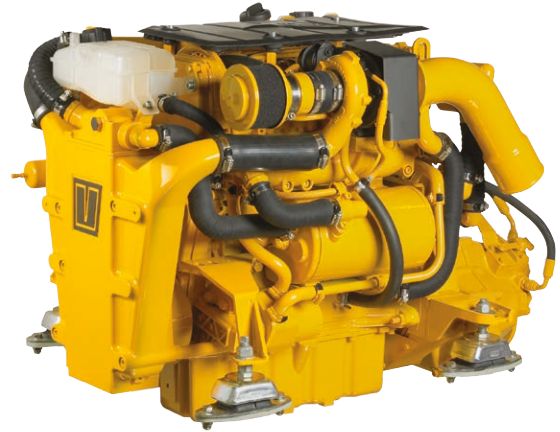
VF4.140

● ● ● ● 103 kW / 140 HP

TECHNICAL SPECIFICATIONS

Supplied as standard with instrument panel type MPA34BS25 (see page 103) and including four flexible engine mountings.

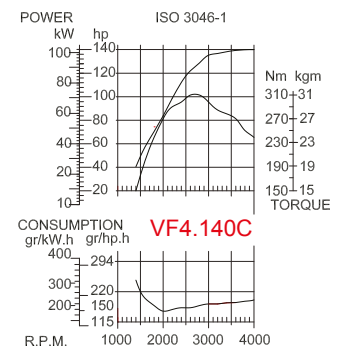
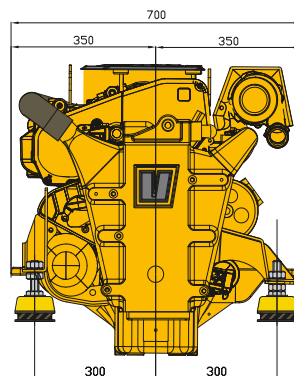
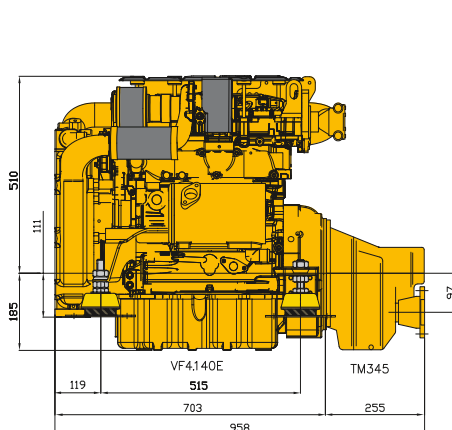
Optional: Electric remote control type EC4 (see page 44).



All VETUS engines are certified according ISO 8178-1

| Engine model | VF4.140C |
|---------------------------------------|--|
| Max. output at crank shaft (ISO 8665) | 103 kW (140 hp) |
| Maximum rpm | 4000 |
| Bore x stroke | 82 mm x 90,4 mm |
| Displacement | 1910 cm ³ |
| Number of cylinders | 4 in line |
| Configuration | 4-stroke cycle, twin camshaft, 16 valves |
| Combustion system | Indirect injection |
| Intake | Turbo charged with variable geometry turbo |
| Electrical system | 12 Volt - 115 Amps. |
| Starting system | Electric starting 14 Volt - 2.3 kW |
| Cooling system (standard) | indirect cooling |

| | |
|-------------------------------------|---|
| Lubrication system | Totally enclosed, forced lubricating system with pump |
| Gearbox (standard) | TM345(A) |
| Ratio | 1.45 / 2 / 2.47:1 |
| Gearbox options | ZF45 / ZF45A / ZF63IV 2 / 2.48:1 |
| Sterndrive | Bravo I, II and III |
| Dry weight (incl. standard gearbox) | 295 kg |
| Max. torque | 310 Nm at 2200 rpm |
| Max. mounting inclination angle | 10° |
| Instrument panel (standard) | MPA34BS25 |
| Certifications | EU-RCD I |



Certified within 5%

Drawing refers to gearbox version. Please ask for drawing of sterndrive version.

F-LINE

VF4.170

125 kW / 170 HP

TECHNICAL SPECIFICATIONS

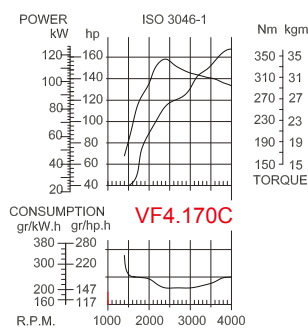
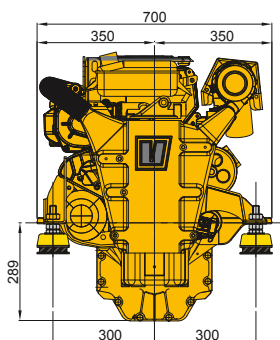
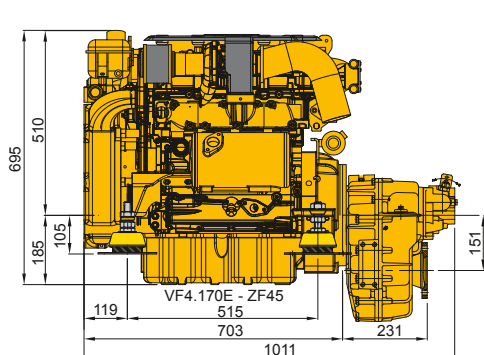
Supplied as standard with instrument panel type MPA34BS25 (see page 103) and including four flexible engine mountings. Optional: Electric remote control type EC4 (see page 44).



All VETUS engines are certified according ISO 8178-1

| Engine model | VF4.170C |
|---------------------------------------|--|
| Max. output at crank shaft (ISO 8665) | 125 kW (170 hp) |
| Maximum rpm | 4000 |
| Bore x stroke | 82 mm x 90,4 mm |
| Displacement | 1910 cm ³ |
| Number of cylinders | 4 in line |
| Configuration | 4-stroke cycle, twin camshaft, 16 valves |
| Combustion system | Indirect injection, common-rail |
| Intake | Turbo charged with variable geometry turbo |
| Electrical system | 12 Volt - 115 Amps. |
| Starting system | Electric starting 14 Volt - 2,3 kW |
| Cooling system (standard) | indirect cooling |

| | |
|-------------------------------------|---|
| Lubrication system | Totally enclosed, forced lubricating system with pump |
| Gearbox (standard) | ZF45 |
| Ratio | 2,2/2,5/3:1 |
| Gearbox options | TM485A 1.51 / 2.09 / 2.4:1 ZF63IV 2/2.48:1 |
| Sterndrive | Bravo I, II and III |
| Dry weight (incl. standard gearbox) | 295 kg |
| Max. torque | 345 Nm at 2200 rpm |
| Max. mounting inclination angle | 10° |
| Instrument panel (standard) | MPA34BS25 |
| Certifications | EU-RCD I |



Certified within 5%

Drawing refers to gearbox version. Please ask for drawing of sterndrive version.

EQUIPMENT SELECTION TABLE FOR F-LINE



BULFL

See flexible couplings
on page 66



See fuel filters on
page 121



FTR470

See water strainers on
page 51



MV

See waterlocks on
page 91

| Engine model | VF4.140C | | VF4.170C | | |
|--|--|----|---------------------------------------|------|----|
| Max. Speed (RPM) | 4000 | | | | |
| VETUS water lubricated propeller shaft system | | | | | |
| * Shaft diam., Duplex 1-4462, | 30 | 35 | 30 | 35 | 40 |
| VETUS manganese bronze propeller | | | | | |
| * 4 or 5-blade | on request | | | | |
| VETUS flexible coupling | | | | | |
| * Bullflex type | 8 | 12 | 8 | 8/12 | 12 |
| VETUS intermediate flange between gearbox & coupling | | | | | |
| * type, only suitable for TM gearbox | TM345(A): CT50086 | | TM485(A): CT50009 | | |
| * type, only suitable for ZF gearbox (not V-drive) | ZF45: CT50068 | | ZF45A: CT50009 | | |
| * type, only suitable for ZF gearbox and Bullflex 32 | n/a | | | | |
| VETUS water strainer | | | | | |
| * hose connection diam. (mm) | 32mm | | | | |
| * water strainer, type FTR470 or FTR330: | FTR47032 or 330/32 | | | | |
| * water strainer installation kit | WKIT33032 | | | | |
| VETUS fuel filter/water separator | | | | | |
| * hose connection suction/return in mm | 8-8 mm | | | | |
| * fuel filter/water separator, type | 75340VTEB or 340VTEB | | | | |
| VETUS exhaust system with water injection | | | | | |
| * exhaust hose, diam. (mm) | 90 | | | | |
| * waterlock, type | NLP /MV/MF or MGP | | | | |
| * gooseneck, type | LT9090 | | | | |
| * transom connection type | TRC 90SV/PV/TC90 | | | | |
| * anti-siphon, type ASD or AIRVENT | V or H | | | | |
| VETUS engine remote control | | | | | |
| * type | Either mechanical controls or electronic engine controls type EC3 or EC4 may be used with VETUS F-line engines | | | | |
| VETUS maintenance free batteries | | | | | |
| * voltage | 12V | | | | |
| * start battery, min. Ah | min. 120 Ah, max. 200 Ah | | | | |
| * light battery, Ah | as required | | | | |
| VETUS louvred air suction vents | | | | | |
| * per engine, type ASV, SSV or SSVL | 4 x 70 | | 2 x 80 + 2 x 90 / 2 x 90 + 2 x 100 | | |

D-LINE

VETUS COMMON-RAIL D-LINE ENGINES 122 - 210 HP

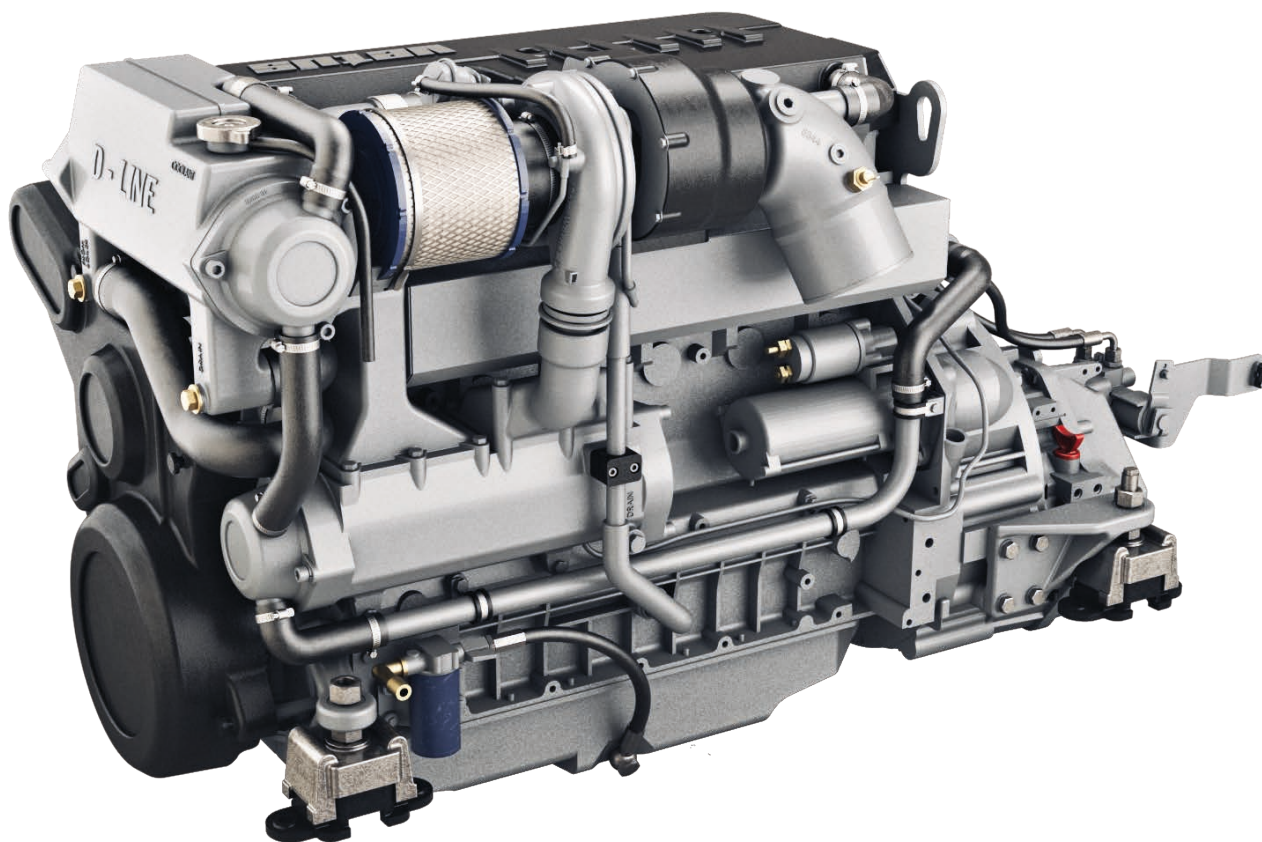
NEW!



VETUS introduces a new range... The new VETUS D-Line common-rail engines run smoothly, have a high power and torque, low revolutions and are highly reliable and durable. They are in conformity with the new RCD2 emission regulations. Extremely suitable for power hydraulics on board. These engines have a CAN bus system with a SAEJ1939 protocol but can easily work with NMEA2000 systems on board as well.

These new VETUS D-Line engines now have a water cooled top cover in order to reduce the heat in the engine room but also to reduce the engine noise of an already quiet engine block. This top cover can also be used as a step. Other features we have added to the new D-Line engines are: smaller air filters in order to save space in the engine room, new exhaust manifold insulation, high output alternators as standard (160 Amps) and a 2nd alternator as an option. Electric sump pumps are fitted as standard.

Options such as a calorifier /hot water tank kit, PTO to install a hydraulic pump, fly-bridge instrument panel or trolling valve, can be ordered separately but will be installed on the engine when ordered as a complete package. Furthermore, for the 6-cylinder there is a possibility for a separate fuel filter kit.

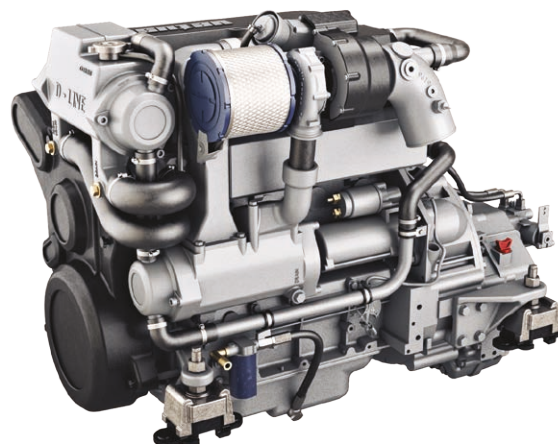


D-LINE

VD4.120

● ● ● ● 90 kW / 122 HP

DI diesel / 4 stroke
4 cyl. in line / turbo-charged
common rail / EMR 3

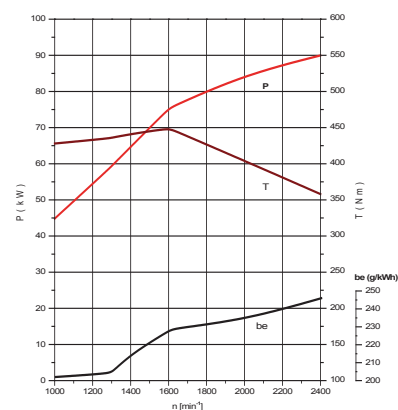
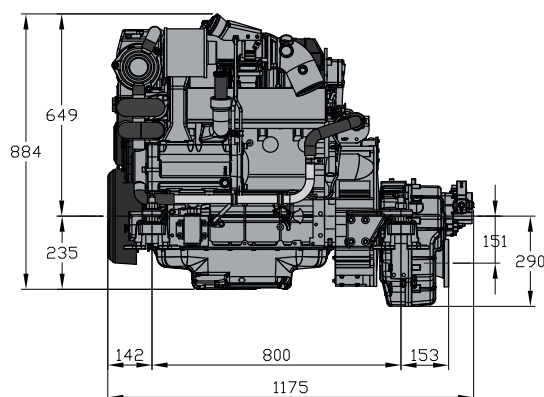
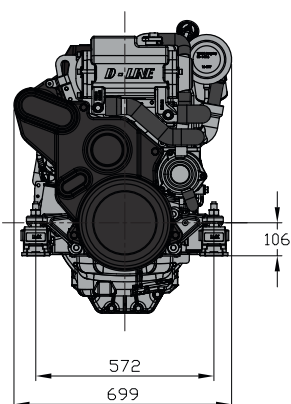


TECHNICAL SPECIFICATIONS

Supplied as standard with instrument panel type MPA34BS2
(see page 103) and four flexible engine mountings type LMX140 (see page 49).

| Engine model | VD4.120 |
|--|---|
| CAN bus | SAE J1939 |
| *Max. output at flywheel (ISO 8665) | 90 kW (122 hp) |
| *Max. output at propeller shaft (ISO 8665) | 86 kW (117 hp) |
| Maximum rpm | 2400 |
| Bore x stroke | 101 mm x 126 mm |
| Capacity | 4040 cm ³ |
| Number of cylinders | 4 in line |
| Cooling system | intercooling |
| Compression ratio | 18:1 |
| Firing order | 1-3-4-2 |
| Alternator | 12 Volt - 160 Amps. 24 Volt - 80 Amps. |
| Optional 2nd alternator | 12 Volt - 160 Amps. 24 Volt - 80 Amps. |
| Torque | 449 Nm / 1600 rpm |
| Idle speed | 800 rpm |
| Fuel consumption at max. rpm | 235 g / kW.h |
| Gearbox (standard) | ZF45 |
| Ratio | 2.2 / 2.51 / 3.1 |

| | |
|---------------------------------------|---|
| Gearbox (optional) | ZF45A 1.26:1 / 1.51 / 2.03 / 2.44:1 ZF63IV 1.29 / 1.56 / 1.99 / 2.47:1 |
| Dry weight (incl. standard gearbox) | 532 kg |
| Fuel lift pump | 1.5 m |
| Max. installation angle (backwards) | 15° |
| Max. athwartship angle (continuously) | 30° |
| Calorifier connection kit | optional |
| Electric oil drain pump | standard |
| P.T.O. flange to install hydr. pump | optional |
| Instrument panel | MPA34BS2 |
| Instruments | Key switch, tacho meter/hour counter, volt meter, oil pressure gauge, temperature gauge |
| Acoustic alarm | Oil pressure, temperature, charging current fresh and raw water |
| Electric circuit protection | Resetable circuit breaker |
| Certification | 2013/53/EU RCD II |



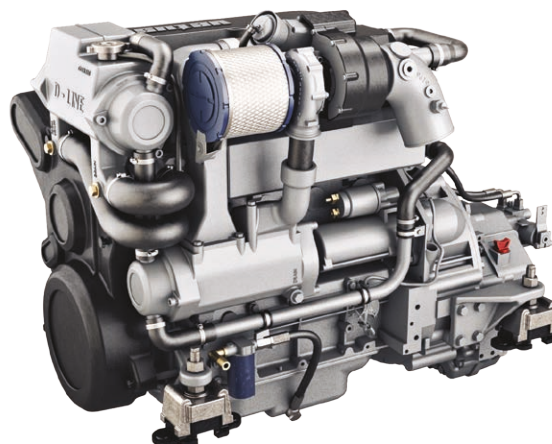
Certified within 5%

D-LINE

VD4.140

● ● ● ● 103 kW / 140 HP

DI diesel / 4 stroke / 4 cyl. in line
turbo-charged / aftercooled
common rail / EMR 3

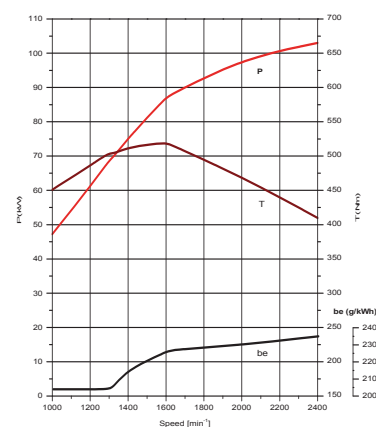
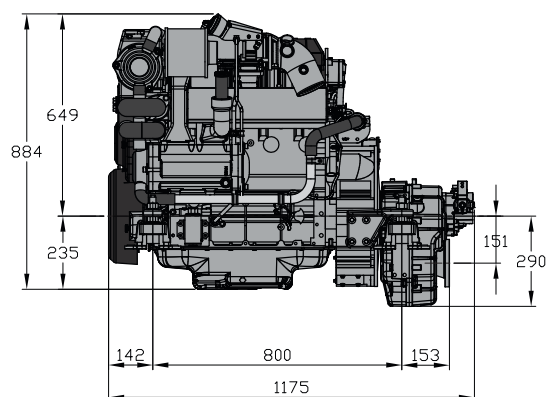
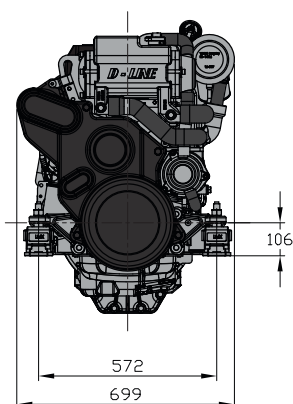


TECHNICAL SPECIFICATIONS

Supplied as standard with instrument panel type MPA34BS2
(see page 103) and four flexible engine mountings type LMX140 (see page 49).

| Engine model | VD4.140 |
|--|---|
| CAN bus | SAE J1939 |
| *Max. output at flywheel (ISO 8665) | 103 kW (140 hp) |
| *Max. output at propeller shaft (ISO 8665) | 98.9 kW (134.4 hp) |
| Maximum rpm | 2400 |
| Bore x stroke | 101 mm x 126 mm |
| Capacity | 4040 cm ³ |
| Number of cylinders | 4 in line |
| Cooling system | intercooling |
| Compression ratio | 18:1 |
| Firing order | 1-3-4-2 |
| Alternator | 12 Volt - 160 Amps. 24 Volt - 80 Amps. |
| Optional 2nd alternator | 12 Volt - 160 Amps. 24 Volt - 80 Amps. |
| Torque | 520 Nm / 1600 rpm |
| Idle speed | 800 rpm |
| Fuel consumption at max. rpm | 235 g / kW.h |
| Gearbox (standard) | ZF45 |
| Ratio | 2.2 / 2.51 / 3.1 |

| | |
|---------------------------------------|---|
| Gearbox (optional) | ZF45A 1.26:1 / 1.51 / 2.03 / 2.44:1 ZF63IV 1.29 / 1.56 / 1.99 / 2.47:1 |
| Dry weight (incl. standard gearbox) | 532 kg |
| Fuel lift pump | 1.5 m |
| Max. installation angle (backwards) | 15° |
| Max. athwartship angle (continuously) | 30° |
| Calorifier connection kit | optional |
| Electric oil drain pump | standard |
| P.T.O. flange to install hydr. pump | optional |
| Instrument panel | MPA34BS2 |
| Instruments | Key switch, tacho meter/hour counter, volt meter, oil pressure gauge, temperature gauge |
| Acoustic alarm | Oil pressure, temperature, charging current fresh and raw water |
| Electric circuit protection | Resetable circuit breaker |
| Certification | 2013/53/EU RCD II |



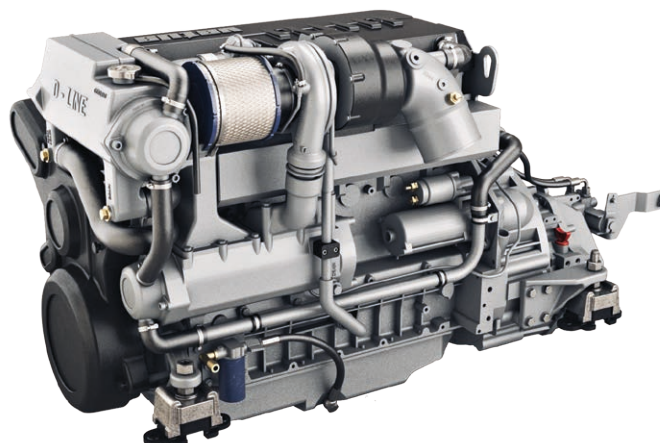
Certified within 5%

D-LINE

VD6.170

● ● ● ● ● ● 125 kW / 170 HP

DI diesel / 4 stroke
6 cyl. in line / turbo-charged
common rail / EMR 3

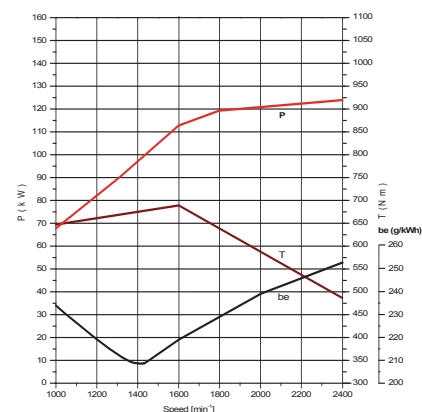
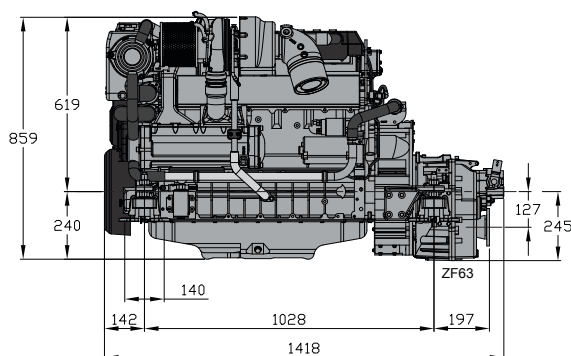
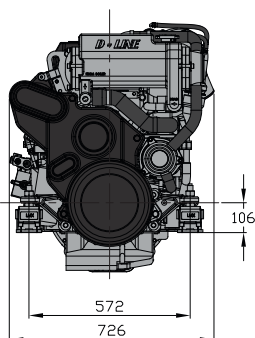


TECHNICAL SPECIFICATIONS

Supplied as standard with instrument panel type MPA34BS2
(see page 103) and four flexible engine mountings type LMX210 (see page 49).

| Engine model | VD6.170 |
|--|---|
| CAN bus | SAE J1939 |
| *Max. output at flywheel (ISO 8665) | 125 kW (170 hp) |
| *Max. output at propeller shaft (ISO 8665) | 120 kW (163 hp) |
| Maximum rpm | 2400 |
| Bore x stroke | 101 mm x 126 mm |
| Capacity | 6060 cm ³ |
| Number of cylinders | 6 in line |
| Cooling system | intercooling |
| Compression ratio | 18:1 |
| Firing order | 1-5-3-6-2-4 |
| Alternator | 12 Volt - 160 Amps. 24 Volt - 80 Amps. |
| Optional 2nd alternator | 12 Volt - 160 Amps. 24 Volt - 80 Amps. |
| Torque | 680 Nm / 1600 rpm |
| Idle speed | 800 rpm |
| Fuel consumption at max. rpm | 240 g / kW.h |
| Gearbox (standard) | ZF63 |
| Ratio | 1.51 / 1.93 / 2.48 / 2.78:1 |

| | |
|---------------------------------------|--|
| Gearbox (optional) | ZF63A 1.22 / 1.56 / 2.04 / 2.52:1 ZF63IV 1.29 / 1.56 / 1.99 / 2.47:1 |
| Dry weight (incl. standard gearbox) | 657 kg |
| Fuel lift pump | 1.5 m |
| Max. installation angle (backwards) | 15° |
| Max. athwartship angle (continuously) | 26° |
| Calorifier connection kit | optional |
| Electric oil drain pump | standard |
| P.T.O. flange to install hydr. pump | optional |
| Instrument panel | MPA34BS2 |
| Instruments | Key switch, tachometer/hour counter, volt meter, oil pressure gauge, temperature gauge |
| Acoustic alarm | Oil pressure, temperature, charging current fresh and raw water |
| Electric circuit protection | Resettable circuit breaker |
| Certification | 2013/53/EU RCD II |



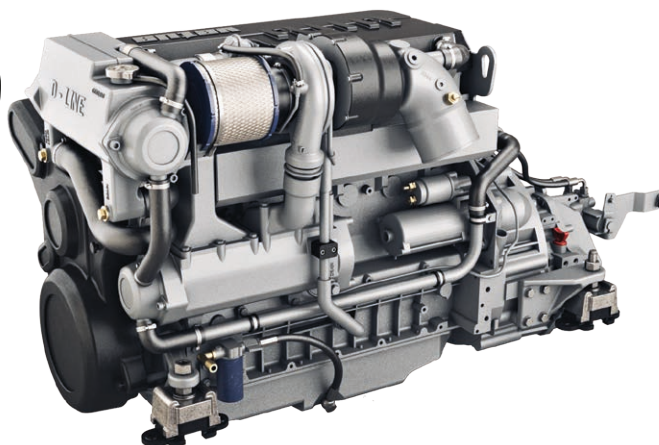
Certified within 5%

D-LINE

VD6.210

● ● ● ● ● ● 155 kW / 210 HP

DI diesel / 4 stroke / 6 cyl. in line
turbo-charged / aftercooled
common rail / EMR 3

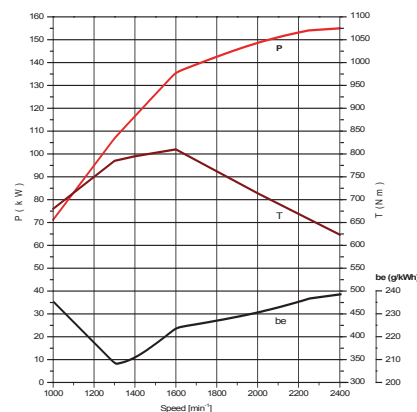
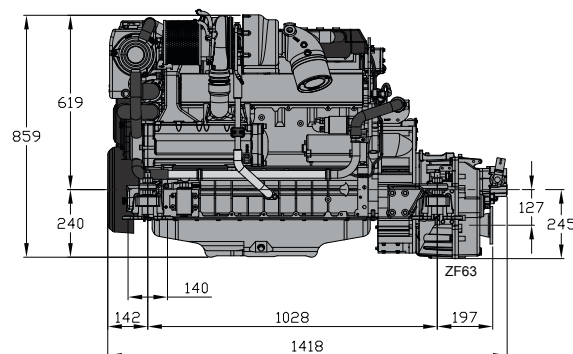
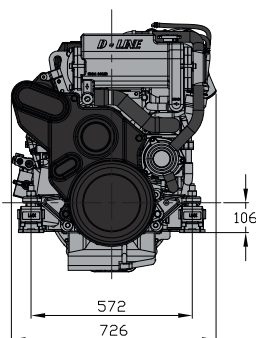


TECHNICAL SPECIFICATIONS

Supplied as standard with instrument panel type MPA34BS2
(see page 103) and four flexible engine mountings type LMX210 (see page 49).

| Engine model | VD6.210 |
|--|---|
| CAN bus | SAE J1939 |
| *Max. output at flywheel (ISO 8665) | 155 kW (210 hp) (VD6.210) |
| *Max. output at propeller shaft (ISO 8665) | 149 kW (203 hp) (VD6.210) |
| Maximum rpm | 2400 |
| Bore x stroke | 101 mm x 126 mm |
| Capacity | 6060 cm ³ |
| Number of cylinders | 6 in line |
| Cooling system | intercooling |
| Compression ratio | 18:1 |
| Firing order | 1-5-3-6-2-4 |
| Alternator | 12 Volt - 160 Amps. 24 Volt - 80 Amps. |
| Optional 2nd alternator | 12 Volt - 160 Amps. 24 Volt - 80 Amps. |
| Torque | 810 Nm / 1600 rpm |
| Idle speed | 800 rpm |
| Fuel consumption at max. rpm | 240 g / kW.h |
| Gearbox (standard) | ZF63 |
| Ratio | 1.51 / 1.93 / 2.48 / 2.78:1 |

| | |
|---------------------------------------|---|
| Gearbox (optional) | ZF63A 1.22 / 1.56 / 2.04 / 2.52:1 ZF63IV 1.29 / 1.56 / 1.99 / 2.47:1 |
| Dry weight (incl. standard gearbox) | 657 kg |
| Fuel lift pump | 1.5 m |
| Max. installation angle (backwards) | 15° |
| Max. athwartship angle (continuously) | 26° |
| Calorifier connection kit | optional |
| Electric oil drain pump | standard |
| P.T.O. flange to install hydr. pump | optional |
| Instrument panel | MPA34BS2 |
| Instruments | Key switch, tacho meter/hour counter, volt meter, oil pressure gauge, temperature gauge |
| Acoustic alarm | Oil pressure, temperature, charging current fresh and raw water |
| Electric circuit protection | Resetable circuit breaker |
| Certification | 2013/53/EU RCD II |



Certified within 5%

EQUIPMENT SELECTION TABLE FOR D-LINE



VDR

See flexible couplings on page 68.



75330VTEB

See fuel filters on page 121.



FTR470

See water strainers on page 51.



MGP

See waterlocks on page 88.

| Engine model | VD4.120 | | VD4.140 | | VD6.170 | | VD6.210 | |
|---|---|-------|---------|-------|-----------------|-------|-----------------|-------|
| Gearbox reduction | 2,2:1 | 2,5:1 | 2,2:1 | 2,5:1 | 2,04:1 | 2,5:1 | 2,04:1 | 2,5:1 |
| VETUS water lubricated propeller shaft system | | | | | | | | |
| * Shaft diam., Duplex 1-4462 | 40 | 40 | 40 | 40 | 45 | 45 | 45 | 50 |
| VETUS manganese bronze propeller | | | | | | | | |
| * 3- or 4-blade | on request | | | | | | | |
| VETUS flexible couplings | | | | | | | | |
| * Bullflex type | 12 | 12 | 12 | 16 | 16 | 16 | 16 | 32 |
| VETUS intermediate flange between gearbox and flexible coupling | | | | | | | | |
| * Type, only suitable for ZF gearbox | ZF45A: CT50009; ZF45: CT50068; ZF63(A)/16: CT50009; ZF63(A)/32: CT50065 | | | | | | | |
| VETUS constant velocity joint with integrated thrust bearing | | | | | | | | |
| * Type | depending on the application | | | | | | | |
| * Dimensions gearbox flange | ZF45: 6", ZF45A: 5", ZF63: 5", ZF63A: 5" | | | | | | | |
| VETUS water strainers | | | | | | | | |
| * hose connection (mm) | 32 | | | | | | | |
| * water strainer, type FTR470 or FTR330: | 330 or 470/32 | | | | | | | |
| * water strainer kit, type | WKIT33032 | | | | | | | |
| VETUS water separator / fuel filter | | | | | | | | |
| * hose connection suction/return in mm | 12 - 10 | | | | | | | |
| * water separator / fuel filter, type: | (75)330VTEB or WS720 | | | | | | | |
| VETUS water-injected exhaust systems | | | | | | | | |
| * exhaust hose, diam. (mm) | 100 | | | | 125 | | | |
| * waterlock, type | MF or MGP | | | | MF or MGS | | | |
| * muffler, type | MP100 | | | | n.a. | | | |
| * gooseneck, type | LT102 | | | | LT127 | | | |
| * exhaust transom connection, type | TRCR/PV or SV | | | | | | | |
| * anti-siphon, type AIRVENT or ASD | AIRVENTV or -H/ASDV or -H | | | | | | | |
| VETUS engine remote controls | | | | | | | | |
| * to be selected | SICO, SISCO, AFSTZIJ, RCTOPB, RCTOPS, AFSTTOP, EC4 | | | | | | | |
| VETUS maintenance free batteries | | | | | | | | |
| * voltage | 12 | | | | | | | |
| * start battery, min. Ah | 108 | | | | | | | |
| * light battery, Ah | to be selected | | | | | | | |
| VETUS louvred air suction vents | | | | | | | | |
| * per engine, type ASV, SSV or SSVL | 2 x 60 + 2 x 70 | | 4 x 70 | | 2 x 80 + 2 x 90 | | 4 x 50 + 4 x 60 | |

SAFETY OF LIFE AT SEA (SOLAS)

Since 1974 VETUS has marinised diesel engines and has become a well known brand in the marine market. The quality and reliability of the famous VETUS yellow marine diesel engines is very well known by boat builders.

Now VETUS offers a range of SOLAS approved engines from 27 to 52hp (20kW to 38,3kW) which can be installed in different SOLAS applications such as tenders, rescue boats and totally enclosed life boats.

Standard scope of supply

Instrument panel including two metre cable with warning lights and an audible alarm for low oil pressure, high coolant temperature and exhaust temperature. Control lights show the status of pre heating and charging current.



Options

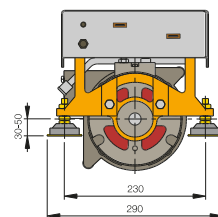
- Fire fighting pump
- Engine heating (48 Volt)
- Mechanical spring starter
- Hydraulic starter
- MP22 and MP34 instrument panels
- Spare parts kit
- A complete propeller shaft system
- Remote controls and push-pull cables
- All other around the engine equipment



For more information on SOLAS engines, please refer to the Commercial Product Information catalogue.



ELECTRIC PROPULSION



EP2200E

EP2200EH

VETUS Electric propulsion

The latest version of this VETUS electric propulsion system, type EP2200E, is suitable for small and light boats. It is whisper-quiet and requires little maintenance, because the motor does not use carbon brushes. The VETUS electric propulsion system has a very favourable power to weight ratio. At low revolutions, the efficiency of this brushless motor is considerably higher than conventional electric motors equipped with carbon brushes. Another remarkable feature of the brushless VETUS electric motor is the very low number of revolutions (max. 1.250 r.p.m.), which means that it can be coupled directly to the propeller shaft, without the need for a gearbox. The propulsion uses an external keel cooler with an electric circulating pump for the coolant. The complete installation is low maintenance and vibration free.

VETUS Hybrid installation (electric propulsion in combination with a VETUS diesel engine)

A few hours of leisurely pottering around and then, at the end of the day, back home with a little more speed. The electric motor, driven by the diesel engine, will then function as a generator, charging the batteries for the next round of electric propulsion.

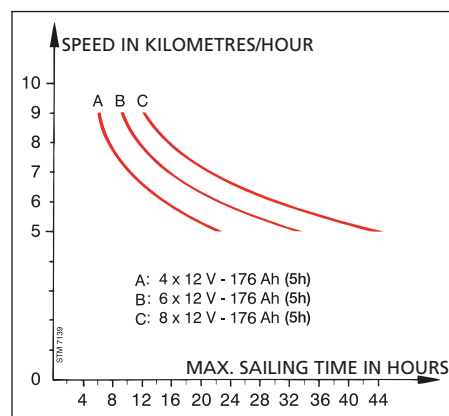
Type EP2200EH (2,2 KW) for M2.13 and M2.18 only.

Scope of supply: electric propulsion

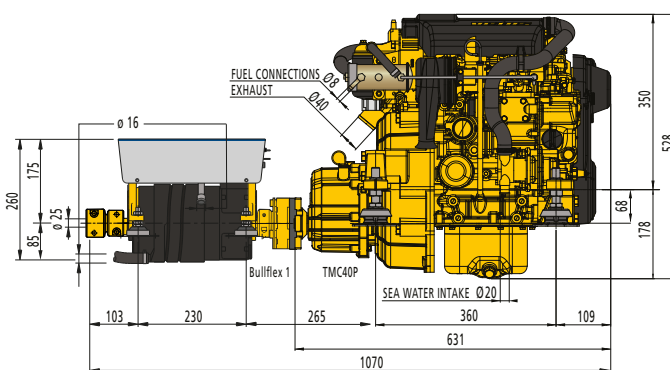
The standard motor package comprises

- 2.2 kW electric motor with speed controller (continuously variable, reversible and water cooled)
- Electric remote control lever, with 5-metre connection cable
- Four flexible engine supports
- Flexible coupling for connection to a Ø 25 mm propeller shaft
- Keel cooling system
- Weight: 52 kg

The VETUS electric propulsion solution type EP2200E/EH meets the EMC requirements as standard.



The diagram shows the motoring time (in this example) at various speeds and with different battery capacities.



Energy consumption gauge/battery monitor

This instrument can be used in both 12 Volt and 24 Volt electrical systems. It is supplied with a 200 A shunt and both black and white bezels.

For detailed information see chapter Boat instruments, page 99.

BATMONB



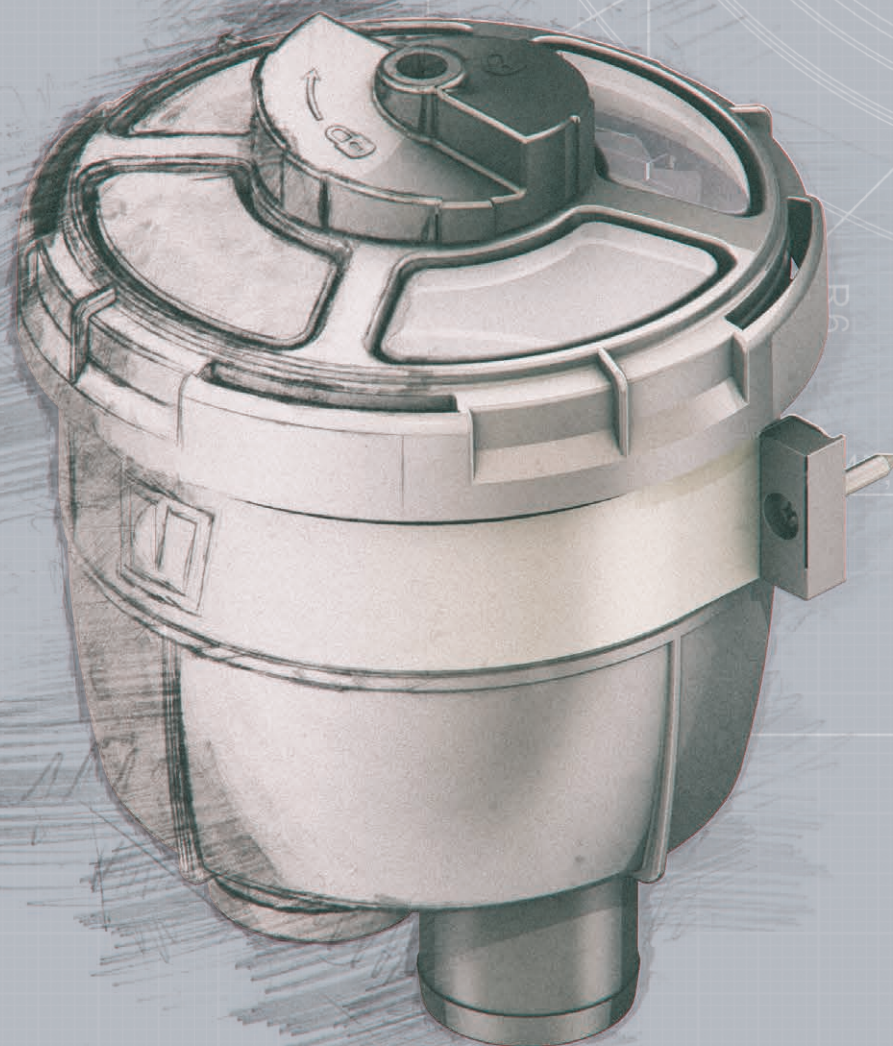
Batteries

For electric propulsion installations, VETUS recommends batteries which can be deep cycled and over many cycles (such as the VEAGM220). For more information about Batteries, see page 211.

VEAGM220



AROUND THE ENGINE



R2
TYP.

R2 TYP.
CE



Overview VETUS around the engine

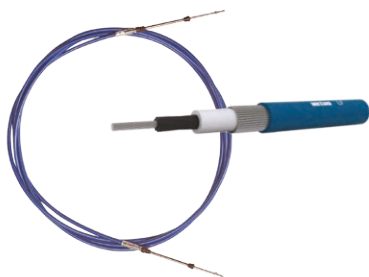
Mechanical engine remote controls, see page 42



Electronic engine remote controls, see page 44



Push-pull cables and accessories,
see page 47



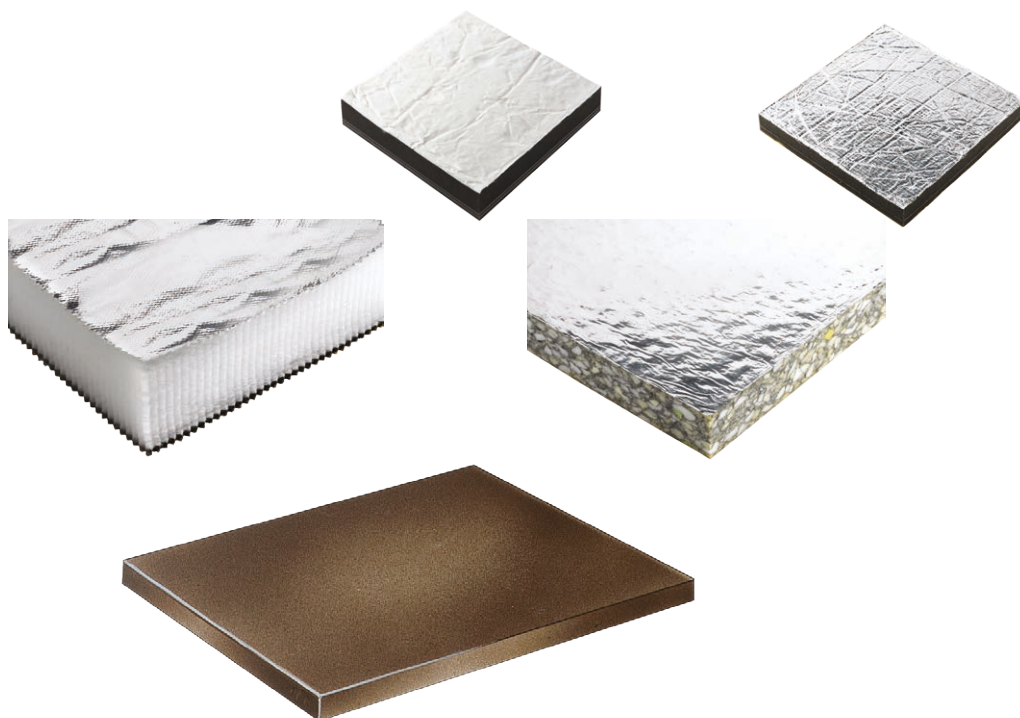
Flexible engine mountings, see page 48



Cooling water strainers, see page 50



Sound insulation materials, see page 54



MECHANICAL ENGINE REMOTE CONTROLS

All remote controls (except type AFST) have a neutral safety switch as standard, which prevents the engine from being started when the gearbox is engaged. Controls which are shown with a red knob are also supplied with a black knob as standard.

Type SISCO - single lever

With stainless steel (AISI 316) handle and housing

VETUS single lever remote control for side mounting. The push-pull cables can be installed horizontally or vertically.

| Type | Length (mm) | Width (mm) | Height (mm) | Handle length from centre (mm) | Mechanism depth from centre (mm) |
|--------|-------------|------------|-------------|--------------------------------|----------------------------------|
| SISCO | 142 | 122 | 85 | 200 | 243 |
| SISCOG | 142 | 122 | 85 | 200 | 243 |



SISCO

SISCOG

Type SICO - single lever

With stainless steel (AISI 316) handle and plastic housing

VETUS single lever remote control for side mounting.

| Type | Length (mm) | Width (mm) | Height (mm) | Handle length from centre (mm) | Mechanism depth from centre (mm) |
|-------|-------------|------------|-------------|--------------------------------|----------------------------------|
| SICO | 147 | 127 | 85 | 200 | 243 |
| SICOG | 147 | 127 | 85 | 200 | 243 |



SICO

SICOG

Type RCTOPS - single lever

With high-gloss polished stainless steel (AISI 316) handle and housing

VETUS single lever remote control for top mounting.

| Type | Length (mm) | Width (mm) | Height (mm) | Handle length from centre (mm) | Mechanism depth (mm) |
|---------|-------------|------------|-------------|--------------------------------|----------------------|
| RCTOPS | 162 | 104 | 237 | 200 | 208 |
| RCTOPSG | 162 | 104 | 237 | 200 | 208 |



RCTOPS

RCTOPSG

Type RCTOPTS - twin lever

With high-gloss polished stainless steel (AISI 316) handles and housing

VETUS twin lever remote control for top mounting.

| Type | Length (mm) | Width (mm) | Height (mm) | Handle length from centre (mm) | Mechanism depth (mm) |
|----------|-------------|------------|-------------|--------------------------------|----------------------|
| RCTOPTS | 162 | 200 | 237 | 200 | 208 |
| RCTOPTSG | 162 | 200 | 237 | 200 | 208 |



RCTOPTS

RCTOPTSG

MECHANICAL ENGINE REMOTE CONTROLS

Type RCTOPTB - twin lever

With cast aluminium housing and stainless steel (AISI 316) handles

VETUS twin lever remote control for top mounting

| Type | Length (mm) | Width (mm) | Height (mm) | Mechanism depth (mm) |
|----------|-------------|------------|-------------|----------------------|
| RCTOPTB | 162 | 200 | 237 | 208 |
| RCTOPTBG | 162 | 200 | 237 | 208 |



RCTOPTB



RCTOPTBG



Type RCTOPB - single lever

With cast aluminium housing and stainless steel (AISI 316) handles

VETUS single lever remote control for top mounting

| Type | Length (mm) | Width (mm) | Height (mm) | Mechanism depth (mm) |
|---------|-------------|------------|-------------|----------------------|
| RCTOPB | 162 | 104 | 237 | 208 |
| RCTOPBG | 162 | 104 | 237 | 208 |



RCTOPB



RCTOPBG

Black/silver plastic housings with black metal and plastic levers

(Without neutral safety switch)

Type AFSTTOPT

VETUS twin lever control for top mounting with plastic housing and handle. Top mounting for 2 engines.

Type AFSTTOP

VETUS single lever control for top mounting with plastic housing and handle. Top mounting for 1 engine.

| Type | Length (mm) | Width (mm) | Height (mm) |
|----------|-------------|------------|-------------|
| AFSTTOPT | 154 | 208 | 238 |
| AFSTTOP | 154 | 118 | 238 |



AFSTTOPT



AFSTTOP



Type AFSTZIJ

VETUS single lever control for side mounting with plastic housing and handle. Side mounting for 1 engine. Ideal for sailing boats.

| Type | Length (mm) | Width (mm) | Height (mm) |
|---------|-------------|------------|-------------|
| AFSTZIJ | 138 | 110 | 78 |



AFSTZIJ



ELECTRONIC ENGINE REMOTE CONTROL

Type EC4

High quality with the latest technology

This high quality electronic engine control lever is made of high-grade stainless steel (AISI 316) with hand-polished stainless steel (AISI 316) casing and is suitable for power and sailing yachts. It can operate 1 or 2 engines and has multiple helm station possibilities with identical controls at all helm stations. The communication goes via CAN-bus protocol. The EC4 is easy to install and configure and meets the EMC requirements as standard.

Characteristics

- Available for 12 and 24 Volt
- Waterproof (IP67)
- Suitable for mechanically controlled engines, combination mechanical/ electronic engine control or fully electronic engine control
- Suitable for mechanical or hydraulic gearboxes and stern drives

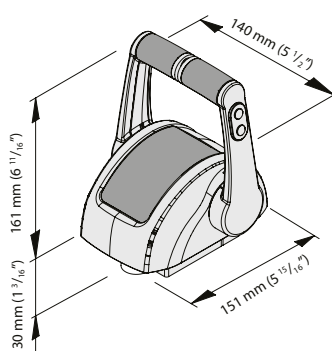
Optional

Trolling valve control, trim tab or bow thruster control

| Type | Length (mm) | Width (mm) | Height (mm) | Engines |
|--------|-------------|------------|-------------|---------------------|
| EC4H1 | 151 | 140 | 161 | 1 |
| EC4HT1 | 151 | 140 | 161 | 1 with trim control |
| EC4H2 | 151 | 140 | 161 | 2 |
| EC4HT2 | 151 | 140 | 161 | 2 with trim control |



EC4

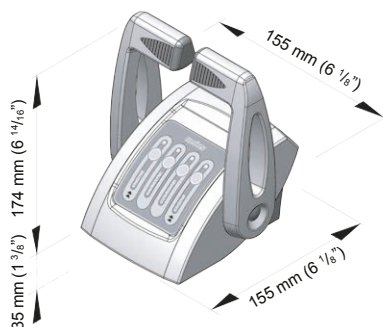


This engine control can be used with electrical and/or mechanical controlled diesel engines and gearboxes. Ask your dealer for more information.

Type EC3

The housing of the EC3 model is made from composites. All other technical specifications are the same as the EC4.

| Type | Length (mm) | Width (mm) | Height (mm) |
|--------|-------------|------------|-------------|
| EC3H1 | 155 | 155 | 174 |
| EC3HT1 | 155 | 155 | 174 |
| EC3H2 | 155 | 155 | 174 |
| EC3HT2 | 155 | 155 | 174 |



EC3

Selection table

| EC3 / EC4 Electronic motor control system | | | 1 Engine | 2 Engine | 1 Engine | 2 Engine | 1 Engine | 2 Engine | 1 Engine | 2 Engine | Optional |
|---|--------------------------|-----------|----------|----------|----------|----------|----------|----------|----------|----------|--|
| Control method: first position=Throttle, Second position = Gear actuation M = mechanical, E = Electrical | | | M/M | M/M | M/E | M/E | E/M | E/M | E/E | E/E | Per extra control head Max. total units = 4 |
| EC3 Composite control head 1 engine | EC3H1 | | O = 1 | | O = 1 | | O = 1 | | O = 1 | | +1/+2/+3 |
| EC3 Composite control head 1 engine + Trim buttons | EC3HT1 | | O = 1 | | O = 1 | | O = 1 | | O = 1 | | +1/+2/+3 |
| EC3 Composite control head twin engines | EC3H2 | | | O = 1 | | O = 1 | | O = 1 | | O = 1 | +1/+2/+3 |
| EC3 Composite control head twin engines + Trim buttons | EC3HT2 | | | O = 1 | | O = 1 | | O = 1 | | O = 1 | +1/+2/+3 |
| EC4 Stainless steel control head 1 engine | EC4H1/ EC4H1R (right) | | O = 1 | | O = 1 | | O = 1 | | O = 1 | | +1/+2/+3 |
| EC4 Stainless steel control head 1 engine + Trim buttons | EC4HT1 | | O = 1 | | O = 1 | | O = 1 | | O = 1 | | +1/+2/+3 |
| EC4 Stainless steel control head 2 engines | EC4H2 | | | O = 1 | | O = 1 | | O = 1 | | O = 1 | +1/+2/+3 |
| EC4 Stainless steel control head 2 engines + Trim buttons | EC4HT2 | | | O = 1 | | O = 1 | | O = 1 | | O = 1 | +1/+2/+3 |
| | | | | | | | | | | | |
| Electronic control box for full mechanical control | 12 +24V | EC3UMM1 | 1 | 2 | x | x | x | x | x | x | |
| Electronic control box for full mechanical control and trim | 12+24V | EC3UMMT1 | 1 | 2 | x | x | x | x | x | x | |
| Electronic control box for mechanical motor and electrical gear | 12+24V | EC3UME1 | x | x | 1 | 2 | x | x | x | x | |
| Electronic control box for 2 mechanical motor and electrical gear | 12+24V | EC3UME2 | x | x | x | 1 | x | x | x | x | |
| Electronic control box for mechanical motor and electrical gear and trim | 12+24V | EC3UMET1 | x | x | 1 | 2 | x | x | x | x | |
| Electronic control box for 2 mechanical motor and electrical gear and trim | 12+24V | EC3UMET2 | x | x | x | 1 | x | x | x | x | |
| Electronic control box for mechanical motor and electrical gear and trolling | 12+24V | EC3UMETR1 | x | x | 1 | 2 | x | x | x | x | |
| Electronic control box for full electric control and trim | 12V | EC312EE | x | x | x | x | 1 | 1 | x | x | |
| Electronic control box for full electric control and trim | 12V+24V | EC3UEE | x | x | x | x | 1 | 1 | x | x | |
| Electronic control box for full electric control and trolling | 12+24V | EC312EET | x | x | x | x | 1 | 1 | x | x | |
| Electronic control box for electric motor control and mechanical gear | 12V | EC312ME1 | x | x | x | x | x | x | 1 | 2 | |
| Electronic control box for electric motor control and mechanical gear and trim | 12V | EC312EMT1 | x | x | x | x | x | x | 1 | 2 | |
| | | | | | | | | | | | |
| Electric throttle cable universal L=3M | | EC3E3U | x | x | x | x | O = 1 | O = 2 | O = 1 | O = 2 | |
| Electric throttle cable for VF engine L=2M | Last stock | EC3E2 | x | x | x | x | O = 1 | O = 2 | O = 1 | O = 2 | |
| Electric throttle cable for VF engine L=3M | | EC3E3M | x | x | x | x | O = 1 | O = 2 | O = 1 | O = 2 | |
| | | | | | | | | | | | |
| Electric gear cable L=2M (12V only boxes 3 wires) | Last stock | EC3G2 | x | x | O = 1 | O = 2 | O = 1 | O = 2 | x | x | *** |
| Electric gear cable L=3M (12V only boxes 3 wires) | | EC3G3M | x | x | O = 1 | O = 2 | O = 1 | O = 2 | x | x | *** |
| Electric gear cable L=3M (12V+24V boxes 6 wires) | | ECG3/6 | x | x | O = 1 | O = 2 | O = 1 | O = 2 | x | x | |
| Electric gear cable L=5M (12V+24V boxes 6 wires) | | ECG5/6 | x | x | O = 1 | O = 2 | O = 1 | O = 2 | x | x | |
| Electric gear cable L=7M (12V+24V boxes 6 wires) | | ECG7/6 | x | x | O = 1 | O = 2 | O = 1 | O = 2 | x | x | |
| | | | | | | | | | | | |
| Trim/Trolling cable L=2M | | EC3T2 | O = 1 | | O = 1 | | O = 1 | | O = 1 | | |
| Trim/Trolling cable L=3M | | EC3T3 | O = 1 | | O = 1 | | O = 1 | | O = 1 | | |
| Trim/Trolling cable L=3M for Mercruiser | | EC3T3MM | O = 1 | | O = 1 | | O = 1 | | O = 1 | | |

x = Not applicable O = Optional *** = For box with 3p connector



ELECTRONIC ENGINE REMOTE CONTROL

Type ECS

VETUS RECO electronic engine controls developed by Rexroth have proved to be extremely reliable and popular over the years. Now, based on customer experience and evolving technology, VETUS introduces the next generation of electronic engine controls: type ECS

The ECS meets the highest production and quality standards and provides operators with maximum reliability, as proven by endurance testing with one million lever actuations. They feature plug-and-play installation and easy operation with a unique design and extensive range of options. Type ECS can be used to control single or twin engine applications from up to four control stations. Trolling gear control is available as an option. The system is designed for pleasure and small work boats and is compatible with all common engine types and reversing gears. The hardware originates from proven automotive applications. The well-established CAN-bus technology ensures reliable communication between all the components. Sophisticated auto-diagnostics inform the operator of the current operating state and an alarm log is provided for subsequent evaluation.



ECS

| Type | Length (mm) | Width (mm) | Height (mm) |
|-------|-------------|------------|-------------|
| ECSH1 | 125 | 130 | 160 |
| ECSH2 | 125 | 130 | 160 |

Design - pairing form with function

- Timeless appearance
- Easy to integrate
- Backlit illumination

Safety

- Proven BOSCH components
- ABYC compliant
- Backup Hall sensor

User experience

- Wi-Fi web server for diagnostics
- Auto-configuration
- Language-independent icons
- Plug and play installation



| Electronic motor control system | | 1 Engine | 2 Engine | 1 Engine | 2 Engine | 1 Engine | 2 Engine | 1 Engine | 2 Engine | Optional |
|---|-----------|----------|----------|----------|----------|-----------|-----------|-----------|-----------|---|
| Control method first position=Throttle, Second position = Gears M = Mechanical, E = Electrical | | M/M | M/M | M/E | M/E | E/M | E/M | E/E | E/E | Per extra control head. Max. total units = 4 |
| ECS Control head 1 engine | ECSH1 | 1 | xx | 1 | xx | 1 | xx | 1 | xx | +1/+2/+3 |
| ECS Control head twin engines | ECSH2 | xx | 1 | xx | 1 | xx | 1 | xx | 1 | +1/+2/+3 |
| ECS Single control unit (incl. ECU wiring harness) | ECSSC | 1 | xx | 1 | xx | 1 | xx | 1 | xx | |
| ECS Twin control unit (incl. ECU wiring harness) | ECSTC | xx | 1 | xx | 1 | xx | 1 | xx | 1 | |
| ECS Actuator 12/24V (*) | ECSA12/24 | 2 | 4 | 1 | 2 | 1 | 2 | xx | xx | |
| Mechanical push-pull cables and connectors | | | | | | | | | | |
| ECS power cable 5/10 m (**) | | 2 | 4 | 1 | 2 | 1 | 2 | xx | xx | |
| ECS bus cable (station and prop). 5/10/15/20/30 m | | 2 | 4 | 1 | 2 | 1 | 2 | xx | xx | |
| ECS gender changer male / female (extend standard length cable) | | 2 | 4 | 1 | 2 | 1 | 2 | xx | xx | |
| ECS Terminating resistor | | 3 | 5 | 2 | 3 | 2 | 3 | 1 | 1 | +1/+2/+3 |
| ECS Gear control cable without connector 10 m | | 2 | 2 | 2 | 2 | 2 | 2 | xx | xx | |
| ECS Gear control cable solenoid valve 5/10 m | | xx | xx | 1 (a/b) | 2 (a/b) | xx | xx | 1 (a/b) | 2 (a/b) | |
| ECS electrical throttle cable 4-20mA 10/20 m | | xx | xx | 1 (a/b) | 2 (a/b) | xx | xx | 1 (a/b) | 2 (a/b) | |
| ECS electrical throttle cable 0-5V 10/2 m | | xx | xx | xx | xx | 1 (c/d/e) | 2 (c/d/e) | 1 (c/d/e) | 2 (c/d/e) | |
| ECS electrical throttle cable PWM 10/20 m | | xx | xx | xx | xx | 1 (c/d/e) | 2 (c/d/e) | 1 (c/d/e) | 2 (c/d/e) | |
| ECS auxiliary cable start interlock 10 m | | xx | xx | xx | xx | 1 (c/d/e) | 2 (c/d/e) | 1 (c/d/e) | 2 (c/d/e) | |
| ECS cable start interlock contact safety stop high idle 10 m | | 0 = 1 | 0 = 2 | 0 = 1 | 0 = 2 | 0 = 1 | 0 = 2 | 0 = 1 | 0 = 2 | |
| ECS cable alarm and monitoring interface 10 m | | 0 = 1 | 0 = 2 | 0 = 1 | 0 = 2 | 0 = 1 | 0 = 2 | 0 = 1 | 0 = 2 | |
| ECS Power ignition cable 20 m | | 0 = 1 | 0 = 2 | 0 = 1 | 0 = 2 | 0 = 1 | 0 = 2 | 0 = 1 | 0 = 2 | |
| ECS Optional cable for remote on/off switch, 20 m | | 0 = 1 | 0 = 1 | 0 = 1 | 0 = 1 | 0 = 1 | 0 = 1 | 0 = 1 | 0 = 1 | |

(*) Mechanical push pull cables to be ordered from the VETUS catalogue

(**) 10M power supply wire not to be used with 12V actuator

xx = Not applicable (a/b/c/d/e) = Select correct cable 0 = Optional

PUSH-PULL CABLES



CABLF

Type LF (low friction)

Superb strength and flexibility

This high quality cable utilises a multi-strand wire core and a ribbed synthetic sheath to ensure that contact with the outer casing is kept to a minimum.

Type LF is ideal for long and complicated runs and dual station installations.

Specifications

- Available lengths from 0,5 to 15 m (up to 17 m available to special order)
- Nominal travel 75 mm
- Minimum bend radius 165 mm
- Stroke 76,2 mm (3")
- Standard rod 10-32 UNF threaded ends

| Type | Description |
|---------|------------------------|
| CABLF05 | LF cable, length 0.5 m |
| CABLF10 | LF cable, length 1.0 m |
| CABLF15 | LF cable, length 1.5 m |
| CABLF20 | LF cable, length 2.0 m |
| CABLF25 | LF cable, length 2.5 m |
| CABLF30 | LF cable, length 3.0 m |
| CABLF35 | LF cable, length 3.5 m |
| CABLF40 | LF cable, length 4.0 m |
| CABLF45 | LF cable, length 4.5 m |
| CABLF50 | LF cable, length 5.0 m |
| CABLF55 | LF cable, length 5.5 m |
| CABLF60 | LF cable, length 6.0 m |
| CABLF65 | LF cable, length 6.5 m |

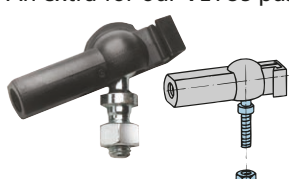
| Type | Description |
|----------|-------------------------|
| CABLF70 | LF cable, length 7.0 m |
| CABLF75 | LF cable, length 7.5 m |
| CABLF80 | LF cable, length 8.0 m |
| CABLF85 | LF cable, length 8.5 m |
| CABLF90 | LF cable, length 9.0 m |
| CABLF95 | LF cable, length 9.5 m |
| CABLF100 | LF cable, length 10.0 m |
| CABLF105 | LF cable, length 10.5 m |
| CABLF110 | LF cable, length 11 m |
| CABLF120 | LF cable, length 12 m |
| CABLF130 | LF cable, length 13 m |
| CABLF140 | LF cable, length 14 m |
| CABLF150 | LF cable, length 15 m |

| Type | Description |
|----------|------------------------------|
| CABLE05A | Standard cable, length 0.5 m |
| CABLE10A | Standard cable, length 1.0 m |
| CABLE15A | Standard cable, length 1.5 m |
| CABLE20A | Standard cable, length 2.0 m |
| CABLE25A | Standard cable, length 2.5 m |
| CABLE30A | Standard cable, length 3.0 m |
| CABLE35A | Standard cable, length 3.5 m |
| CABLE40A | Standard cable, length 4.0 m |
| CABLE45A | Standard cable, length 4.5 m |
| CABLE50A | Standard cable, length 5.0 m |

Cable accessories

Ball-joint / Cable clamp / Anti vibration kit

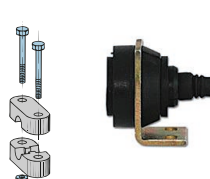
An extra for our VETUS push-pull cables.



Ball-joint



Cable clamp



Anti vibration kit

KOGELGEWR

KABELKL

| Type | Description |
|-----------|--|
| KABELKL | Cable clamp for cables type 33 and LF |
| KOGELGEWR | Ball-joint for cables type 33 and LF |
| | Cable mounting anti-vibration kit type 33 and LF |

Shut-off control

Type DC

Type DC is corrosion free and easy to install (horizontally or vertically) and can be used with VETUS push-pull cables. Comes with a 30° mounting bracket.



DC

| Type | Description |
|------|---------------------------|
| DC | Cable pull handle type DC |

Dual station units type DS

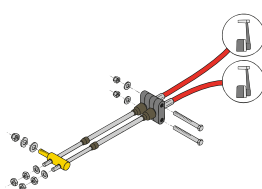
Type DS combines the action of a single lever control from either of 2 command stations, providing a single output to the engine throttle or gearbox lever. 2 Dual station units are needed per engine (type DS-UNIT for the gearbox and type DS-KITF for the throttle).

DS-kit throttle

(only suitable for throttle control by pulling).



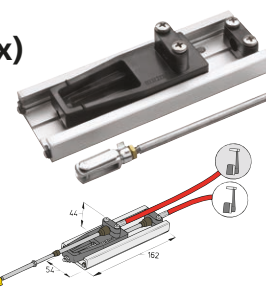
DSKITF



| Type | Description |
|--------|---|
| DSKITF | Dual station unit type DS, for throttle |
| DS | Dual station unit type DS, for gearbox |

DS-unit (gearbox)

DS



FLEXIBLE ENGINE MOUNTINGS

The torque of an engine is one of the deciding factors for determination of the load applied to the engine mounts. When more powerful engines are installed, it is important to use the following formula to define the load per support in kg (4 supporting points).

$$\frac{\text{engine weight in kg}}{\text{number of supports}} + \frac{\text{kW} \times 487 \times \text{reduction of gearbox}}{\text{engine revs/min.} \times \text{centre to centre spacing in metres of the longitudinal engine bearers}} = \text{max. load per support in kg}$$

Type K25V and K35V

For small engines and generator sets with 1 or 2 cylinders

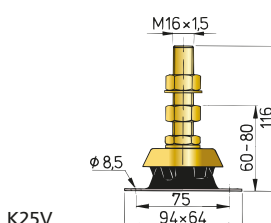
These flexible mountings contain a special rubber compound with excellent vibration damping properties. They are suitable for marine engines in the power range between 4 and 15 kW (6-20 hp).



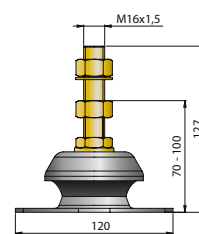
KSTEUN25V



KSTEUN35V



K25V



K35V

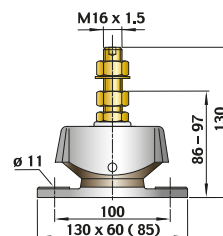
Type K40A

For 3-cylinder marine diesel engines

Type K40 has a relatively soft, rubber compound which fulfils the requirements of light-weight vessels with a modern 3-cylinder marine diesel engine. The rubber elements create an optimum in vibration dampening. Type KSTEUN40 features internal buffers which limit the engine movements when started or stopped. It is also secured against overload and shearing off.



KSTEUN40A



Type K

For smaller engines up to ± 60 kW (80 hp)

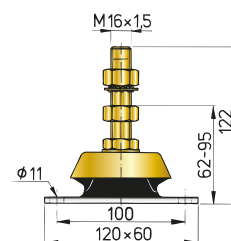
This type is suitable for smaller engines up to approximately 60 kW (80 hp).

KSTEUN50V

KSTEUN75V

KSTEUN80V

KSTEUN100V



| Type | Stiffness ratio | | | Min. load kg | Min. compression mm | Max. load kg | Max. compression mm | Hardness in ° Shore |
|------------|-----------------|---------------|--------------|--------------|---------------------|--------------|---------------------|---------------------|
| | vertical | athwart ships | fore and aft | | | | | |
| KSTEUN25V | 1 | 1,4 | 1,4 | 15 | 1,3 | 25 | 3 | 45 |
| KSTEUN35V | 1 | 1,4 | 1,4 | 15 | 1,3 | 30 | 7 | 45 |
| KSTEUN40A | 1 | 1 | 2,4 | 25 | 5 | 40 | 8 | 50 |
| KSTEUN50V | 1 | 0,75 | 2,5 | 25 | 2 | 50 | 4 | 45 |
| KSTEUN75V | 1 | 0,75 | 2,5 | 38 | 2 | 75 | 4 | 55 |
| KSTEUN80V | 1 | 0,75 | 2,5 | 40 | 2 | 80 | 4 | 60 |
| KSTEUN100V | 1 | 0,75 | 2,5 | 50 | 2 | 100 | 4 | 65 |

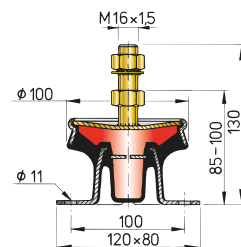
FLEXIBLE ENGINE MOUNTINGS

Type MITSTEUN

For marine diesel engines with 18 up to 26 kW (25-35 hp)

This hydro-damper is a combination of a conventional rubber-metal damper and a hydraulic shock absorber. Its reduction of vibration and noise is truly amazing. The maximum static load per support is 60 kg and the maximum thrust 50 kg.

MITSTEUN



Type HY

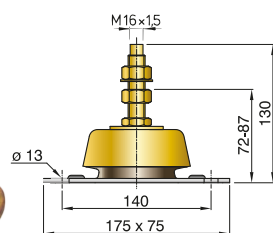
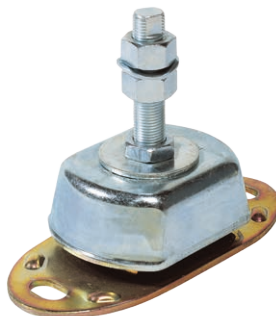
For heavy-weight engines with 4 or more cylinders

This type is extremely suitable for application with marine diesel engines in the power range between 30 and 125 kW (40-170 hp), by virtue of a low stiffness combined with high stiffness in the longitudinal direction.

HY100

HY150

HY230



Type LMX

For marine diesel engines with 70 up to 350 kW (95-480 hp)

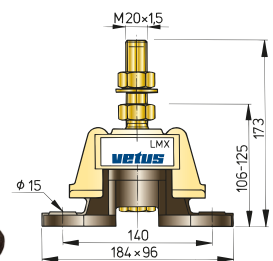
This type has been designed with particular regard to the power to weight ratio of modern diesel engines. The weight of an engine, in comparison to its thrust, has become lower and lower. Type LMX guarantees optimum damping of vibrations, even at idling revs. It has a very high horizontal and aft stiffness which allows the acceptance of considerable thrust. The cushioning of vibrations in horizontal direction athwart-ships is of equal excellence.

LMX140

LMX210

LMX340

LMX500

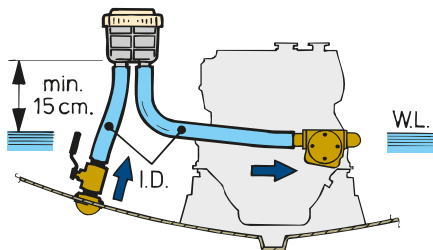


| Type | Stiffness ratio | | | Min. load kg | Min. compression mm | Max. load kg | Max. compression mm | Hardness in ° Shore |
|----------|-----------------|---------------|--------------|--------------|---------------------|------------------|---------------------|---------------------|
| | vertical | athwart ships | fore and aft | static | | static + dynamic | | |
| MITSTEUN | 1 | 1 | 1 | 25 | 1,3 | 67 | 4,5 | 45 |
| HY100 | 1 | 1,2 | 3,5 | 40 | 2 | 100 | 5 | 40 |
| HY150 | 1 | 1,2 | 3,5 | 60 | 2 | 150 | 5 | 50 |
| HY230 | 1 | 1,2 | 3,5 | 92 | 2 | 230 | 5 | 60 |
| LMX140 | 1 | 1 | 7 | 85 | 3 | 140 | 5 | 35 |
| LMX210 | 1 | 1 | 7 | 125 | 3 | 210 | 5 | 45 |
| LMX340 | 1 | 1 | 7 | 205 | 3 | 340 | 5 | 55 |
| LMX500 | 1 | 1 | 7 | 300 | 3 | 500 | 5 | 65 |

COOLING WATER STRAINERS

All VETUS cooling water strainers have a transparent cover for easy inspection of the filter without dismantling. Cleaning of the filter seldom needs to be done but can be easily and quickly achieved.

Typical installation



VETUS advises to install the water strainer always above the waterline. Only type CWS, the metal filter, can be installed below the waterline. Always install a sea-cock behind the inlet water scoop.

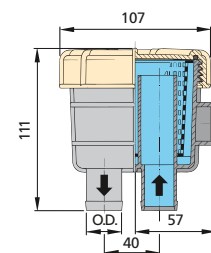
Type FTR140

This water strainer is available with 3 different hose connection diameters.

Specifications

- Housing of Polypropylene GF
- Filter element of HD Polyethylene
- Cover of Styrol/Acrylnitril SAN

| Type | Internal hose Ø | | recommended input l/min. |
|-----------|-----------------|--------|--------------------------|
| | mm | inches | |
| FTR140/13 | 12,7 | 1/2 | 23 |
| FTR140/16 | 15,9 | 5/8 | 35 |
| FTR140/19 | 19,1 | 3/4 | 51 |



FTR140

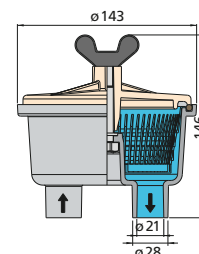
Type FILTER150

This water strainer is suitable for only one hose diameter.

Specifications

- Housing of Polypropylene GF
- Filter element of Polyamide
- Cover of A.B.S.

| Type | Internal hose Ø | | recommended input l/min. |
|-----------|-----------------|--------|--------------------------|
| | mm | inches | |
| FILTER150 | 28,5 | 1 1/8 | 114 |



FILTER150

COOLING WATER STRAINERS

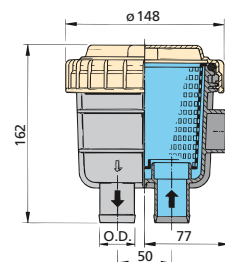
Type FTR330

This water strainer is available for 6 different hose connections.

Specifications

- Housing of polypropylene GF
- Filter element of HD Polyethylene
- Cover of Styrol/Acrylnitril SAN

| Type | Internal hose Ø | | recommended input l/min. |
|-----------|-----------------|--------|--------------------------|
| | mm | inches | |
| FTR330/13 | 12,7 | 1/2 | 23 |
| FTR330/16 | 15,9 | 5/8 | 35 |
| FTR330/19 | 19,1 | 3/4 | 51 |
| FTR330/25 | 25,4 | 1 | 91 |
| FTR330/32 | 31,8 | 1 1/4 | 143 |
| FTR330/38 | 38,1 | 1 1/2 | 200 |



FTR330

Type FTR470

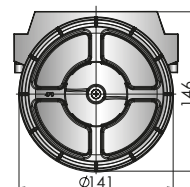
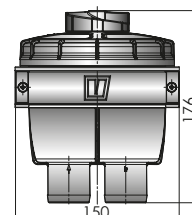
Easy mounting with 360° rotating wall bracket

This strainer is supplied with a rotating stainless steel (AISI 316) wall bracket for easy alignment of the hose connections and clamping it securely in place. This eliminates the need for back-bolting and dramatically simplifies the mounting process.

Specifications

- Housing of Polypropylene GF
- Filter element of HD Polyethylene
- Cover of Polypropylene GF/Polycarbonate

| Type | Internal hose Ø | | recommended input l/min. |
|-----------|-----------------|--------|--------------------------|
| | mm | inches | |
| FTR470/13 | 12,7 | 1/2 | 23 |
| FTR470/16 | 15,9 | 5/8 | 35 |
| FTR470/19 | 19,1 | 3/4 | 51 |
| FTR470/25 | 25,4 | 1 | 91 |
| FTR470/32 | 31,8 | 1 1/4 | 143 |
| FTR470/38 | 38,1 | 1 1/2 | 200 |



FTR470

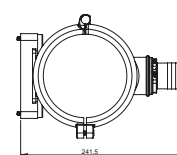
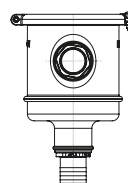
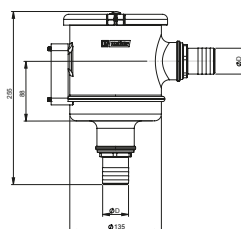
Type CWS

For installations where the cooling water strainer must be mounted close to or below the waterline and for commercial applications. VETUS nickel plated bronze cooling water strainers are an ideal solution. The cover is removable with one screw. Suitable for 0.5 bar under pressure and 5 bar over pressure.

Specifications

- Housing of Nickel plated Bronze
- Cover of Polycarbonate
- Filter element of Stainless steel (AISI 316)
- Mounting Bracket of Nickel plated Bronze

| Type | Internal hose Ø | | recommended input l/min. |
|----------|-----------------|--------|--------------------------|
| | mm | inches | |
| CWS13519 | 19,1 | 3/4 | 51 |
| CWS13525 | 25,4 | 1 | 91 |
| CWS13532 | 31,8 | 1 1/4 | 143 |
| CWS13538 | 38,1 | 1 1/2 | 200 |



CWS



NEW!



COOLING WATER STRAINERS

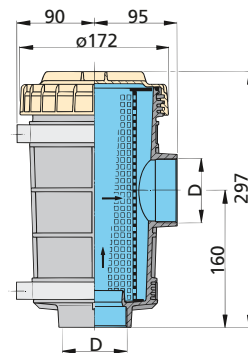
Type FTR1320

This type is provided with adjustable stainless steel (AISI 316) brackets for bulkhead mounting and is available with 3 different threaded connection diameters. Hose pillars/hose bars are not supplied as standard. They can be found on pages 352-353 of this catalogue.

Specifications

- Housing of Polypropylene GF
- Filter element Polyethylene
- Cover of A.B.S.

| Type | D | Internal hose Ø | | recommended input l/min. |
|------------|------|-----------------|--------|--------------------------|
| | | mm | inches | |
| FTR1320/38 | G 1½ | 38 | 1½ | 205 |
| FTR1320/50 | G 2 | 50 | 2 | 365 |
| FTR1320/63 | G 2½ | 63 | 2½ | 570 |



FTR1320

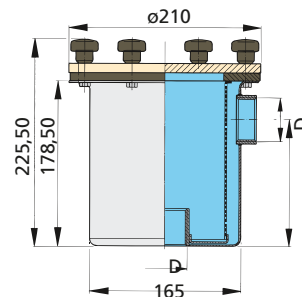
Type FTR525

This water strainer has G 1½ threaded connections. A set of stainless steel (AISI 316) mounting brackets can be supplied as an option. Hose pillars/hose bars are not supplied as standard. They can be found on pages 352-353 of this catalogue.

Specifications

- Stainless steel (AISI 316) housing and filter element
- Acrylic cover

| Type | D | Internal hose Ø | | recommended input l/min. |
|--------|------|-----------------|--------|--------------------------|
| | | mm | inches | |
| FTR525 | G 1½ | 38 | 1½ | 205 |



FTR525

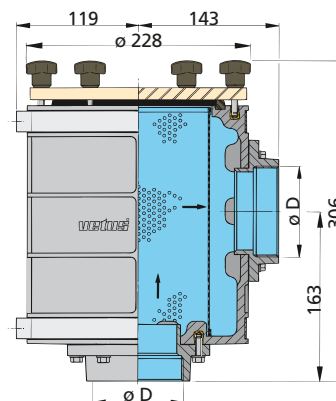
Type FTR1900

This type has 2 different threaded connection diameters and comes with adjustable stainless steel (AISI 316) mounting brackets for bulkhead installation. Hose pillars/hose bars are not supplied as standard. They can be found on pages 352-353 of this catalogue.

Specifications

- Housing of Polypropylene
- Stainless steel (AISI 316) filter element
- Acrylic cover

| Type | D | Internal hose Ø | | recommended input l/min. |
|------------|------|-----------------|--------|--------------------------|
| | | mm | inches | |
| FTR1900/63 | G 2½ | 63 | 2½ | 570 |
| FTR1900/76 | G 3 | 76 | 3 | 820 |



FTR1900

ACCESSORIES

Connection parts for water strainers, type CONN330

Easy interconnecting

With these connection parts 2 water strainers type 330/32 or 470/32 can be interconnected with a maximum capacity of 460 L/min.

Type 470 cannot be rotated when the kit is used.

| Type | Description |
|---------|--|
| CONN330 | Connection kit for two FTR330/32 strainers |



CONN330

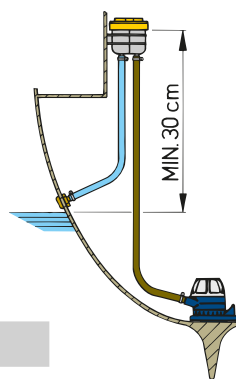
Bilge water/oil separator, type BISEP

Collecting and retaining oil and grease from bilge water

This VETUS separator has a replaceable filter element with a capacity of 320 grams. It can remove 95% of oil in the bilge water. The bilge pump used in combination with this filter has a maximum capacity of 25 litres p/min.

Specifications

- Connections for Ø 19 mm hoses
- Dimensions l 148 x w 150 x h 162 mm



BISEP19

| Type | Description |
|-----------|--|
| BISEP19 | Bilge water/oil separator |
| BISEP19FE | Replacement element for bilge water/oil filter BISEP19, set of 30 pieces |

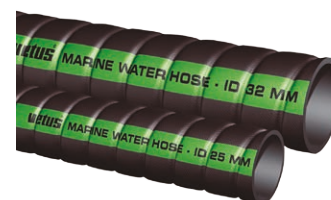
Cooling water hose, type MWHOSE

For all cooling fluids

Type MWHOSE is made of EPDM rubber with synthetic fabric and spiralled steel reinforcement. Suitable for cooling water, both suction and pressure (max. 2,5 bar), salt and fresh water. Temperature resistant between -30° and +120°C.

Unlike lower quality un-reinforced hoses, MWHOSE will not kink or fold shut, thereby preventing a major cause of low seawater flow to the engine cooling system and consequent damage to the impeller and the exhaust system. Similar benefits accrue from the use of this hose for cockpit drains and other critical water connections.

For a complete overview, specifications and dimensions of hoses see page 372.



MWHOSE



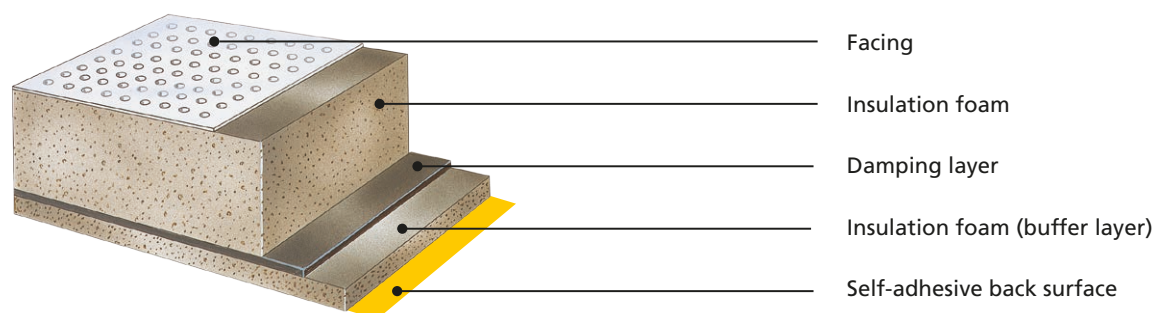
SOUND INSULATION MATERIALS

VETUS sound insulation, discover peace and quiet!

VETUS sound insulation is a versatile range of materials especially developed for marine applications. These products are liquid tight, fire resistant and consist of the highest quality insulation foams. VETUS' product lines are based on 2 insulation foams, Sonitech and Prometech, and are available in various sheet thicknesses. The sound absorption coefficients of these base foam materials are tested according to ISO 10534.

Base materials

The range is built around a number of base materials. Various compositions of these base materials form the four main product lines, which are available in various sheet thicknesses. In the selection table below the possible combinations are presented, to help you select the correct product for your application.



Sound insulation

The sound absorption coefficients of both base foam materials are tested according to ISO 10534.

Guaranteed fire resistance; Class 0

The 'BS476 Class 0' fire resistance rating is the most demanding rating on the market today. To achieve class 0 the product must achieve:

- BS476 part 7, Surface spread of flame, Class 1
- BS476 part 6, Fire propagation, Index I <12 and i1 < 6

This means that the material does not spread flames and limits the amount of heat released from the surface during a fire.

| Range | | Sonitech light | | | | Sonitech single | | | | Prometech single | | | | | Prometech double | | | | | | |
|--|--------------------------|----------------|--------|--------|--------|-----------------|--------|--------|--------|------------------|--------|--------|--------|--------|------------------|--------|--------|--------|--------|--------|--------|
| Product code (All sheets are 600 x 1000 mm) | | ST020A | ST040A | ST020W | ST040W | ST135A | ST145A | ST135W | ST145W | PT112A | PT135A | PT145A | PT112W | PT135W | PT145W | PT225S | PT245S | PT260S | PT225W | PT245W | PT260W |
| Material | Sonitech | • | • | • | • | • | • | • | • | | | | | | | | | | | | |
| | Prometech | | | | | | | | | • | • | • | • | • | • | • | • | • | • | • | • |
| | Number of damping layers | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 |
| | Total thickness | 20 | 40 | 20 | 40 | 35 | 45 | 35 | 45 | 12 | 35 | 45 | 12 | 35 | 45 | 25 | 45 | 60 | 25 | 45 | 60 |
| Facing | Aluminium | • | • | | | • | • | | | • | • | • | | | | | | | | | |
| | White foil | | | | • | • | | | | | | | | | | | | | | | |
| | Glass cloth Silver | | | | | | | | | | | | | | | • | • | • | | | |
| | Glass cloth White | | | | | | | • | • | | | | • | • | • | | | | • | • | • |
| Back | Self-adhesive | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • |
| Weight | (kg) | 0,4 | 0,7 | 0,4 | 0,7 | 3,6 | 3,8 | 3,6 | 3,8 | 3,6 | 4,9 | 5,4 | 3,6 | 4,9 | 5,4 | 7,2 | 7,8 | 9,2 | 7,2 | 7,8 | 9,2 |
| Class 0 | Fire resistant | | | | | | | | | • | • | • | • | • | • | • | • | • | • | • | • |

SOUND INSULATION MATERIALS

VETUS offers four product lines, based on two insulation foams; Sonitech and Prometech. Both foams have excellent sound reducing capabilities and are fire resistant. Prometech is rated to BS476 Class 0 fire resistance.

All sheets measure 100 x 60 cm and are supplied with a self-adhesive backing for quick and easy installation. The modified acrylic adhesive has high initial tag and adhesion of 1000 N/m to steel (ATM.1-PSTC.1).

Prometech double

Ultimate sound insulation and safety

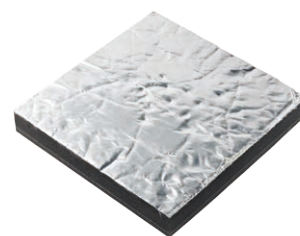
This line is designed to absorb as much sound as possible. It is the top of the range product line with double damping layers.



Prometech single

Excellent sound insulation, highest safety level

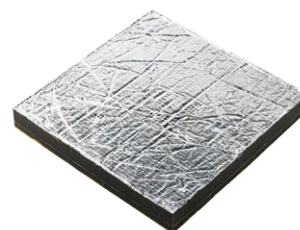
This product has good sound reducing capabilities and the highest level of safety. Ideal for applications where space is limited.



Sonitech single

Good sound insulation capabilities

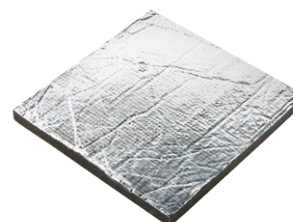
These sheets have a single damping layer resulting in good sound insulation. It gives excellent results at reasonable prices.



Sonitech light

Flexible and light-weight sheet

This product has efficient sound insulation and is ideal for use when cost or space is the prime concern.



INSTALLATION GUIDELINES

Preparing the engine room

Sound is like water and until the last gap is closed, it will find a way out of the engine room. Therefore it is important to cover as much of the surface in the engine room as possible and to close all possible leaks. Any small gaps or holes in, between or under the bulkheads should be filled with flexible sealant, foam or other material. When the 'engine room' is in direct contact with the bilge or other spaces that run through the boat, it is recommended to build bulkheads or a box around the engine.

Fitting the sheets

While fitting the sheets, work around obstacles by cutting the sheet into the right shape and try to fit the puzzle as neatly as possible before actually sticking the sheets in place. Note that tanks tend to amplify noise. When a tank is in the same space as the engine, cover the tank in insulation sheets or build a bulkhead between them.

Hatches and air intakes

Hatches and air intakes may leak noise. Hatches can be sound proofed by using an insulation tape between the touching surfaces. Air intakes however are more difficult to insulate, as the engine needs air for combustion and cooling. Creating a labyrinth or installing a special damper will generally solve the noise leak without choking the engine.



SOUND INSULATION MATERIALS

Sound deadening sheet type GF140S

Absorbing both high and low frequency noise and vibration

These modern light-weight sound deadening sheets are self-adhesive and have an aluminium face layer.

Specifications

- Dimensions 120 cm x 80 cm x 40 mm
- Weight per plate 5,6 kg
- Temperature resistance up to 140°C

| Type | Description |
|--------|----------------------------------|
| GF140S | Sound-deadening glass wool sheet |



GF140S

Sound deadening sheet type PU130S

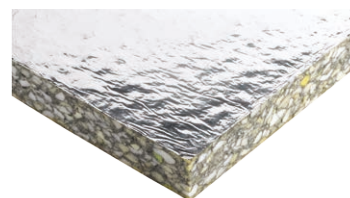
Ideal for smaller engine installations

These sound deadening sheets have excellent noise and vibration reducing qualities and come in packs of 4 sheets.

Specifications

- Dimensions 100 cm x 50 cm x 30 mm
- Weight per plate 1,5 kg
- Temperature resistance -30°C to +90°C

| Type | Description |
|--------|---|
| PU130S | Sound-deadening sheets (pack of 4 sheets) |



PU130S

Anti-reverberation material type ARM

Reduces structure borne sounds

Type ARM specifically reduces structure borne sounds caused by, for example, the ship's propeller. These plates are suitable for steel and aluminium structures.

Specifications

- Plate dimensions 100 cm x 120 cm x 4 mm
- Weight per plate 8 kg
- Temperature resistance -10° C to +90°C

| Type | Description |
|----------|--------------------------|
| ARM10X12 | Anti-reverberation plate |



ARM10X12

SOUND INSULATION MATERIALS

Self-adhesive tape

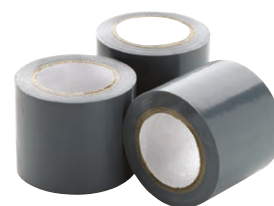
Providing a neat and professional finish

When installing any VETUS sound insulation sheet, we recommend using these self-adhesive tapes to cover the joints.

Specifications

- Come in rolls of 30 m long and 50 mm wide
- Available in the colours grey (TAPEG30), white (TAPEW30) and aluminium (TAPEA30)

| Type | Description |
|---------|-------------------------------|
| TAPEG30 | Self-adhesive tape, grey |
| TAPEW30 | Self-adhesive tape, white |
| TAPEA30 | Self-adhesive tape, aluminium |



TAPE

Glass cloth tape

A new addition to the 'tapes' product family

The tape is perfect for sound insulation applications, requiring strength, flexibility and resistance to heat.

Specially suitable for use with the VETUS glass fibre faced sound isolation sheets.

Available in a 50 m x 50 mm size.

| Type | Description |
|----------|---------------------------------|
| TAPEGF50 | Self-adhesive tape, glass fibre |

NEW!



TAPEGF50

Rosettes

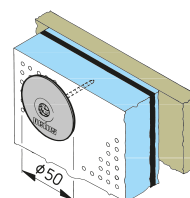
For easy installation of heavy sheets

These fixing rosettes made of Polypropylene are ideal for easy installing of heavy sheets. They come in packs of 15 pieces (screw not supplied).

| Type | Description |
|------|---|
| FIXP | Ceiling rosette for fastening sound insulation sheets |



FIXP



HATCH LIFTER

Type HL...A/B

Opening a heavy hatch was never this easy

This electro-hydraulic 'stand-alone' lifting system makes opening a heavy hatch or lowering a mast or radar arch an easy affair. The standard system consists of a seawater resistant aluminium cylinder with a stainless steel (AISI 316) rod, an electro-hydraulic pump, a waterproof control panel, 12 metres of hydraulic piping and all required hose connectors. VETUS electro-hydraulic lifting systems meet the EMC requirements.

In order to calculate the required lifting power, the following data must be taken into consideration:

W = Width of the object to be lifted (e.g. 1300 mm)

G = Weight of the object to be lifted (e.g. 90 kg)

S = Stroke of the piston in mm

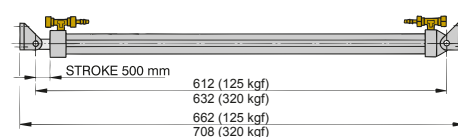
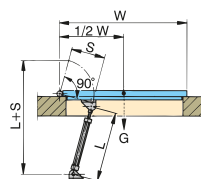
F = Required lifting power in kgf

The formula then works as follows

$$F = \frac{1}{2} \times \frac{W}{S} \times G = F$$

Example

$$F = \frac{1}{2} \times \frac{1300}{500} \times 90 = 117$$



In this case, system HL12500A featuring one cylinder with a lifting power of 125 kgf will be sufficient. If two cylinders must be installed an additional connection kit will be required; please see price list. Hydraulic fluid must be always ordered separately.

| Type | Description | Voltage | Stroke mm | Lifting power |
|-----------|----------------------------------|---------|-----------|---------------|
| HL12500A | Complete system | 12 Volt | 500 | 125 kgf |
| HL12500B | Complete system | 12 Volt | 500 | 320 kgf |
| HL500 | Additional cylinder | | 500 | 125 kgf |
| HL500B | Additional cylinder | | 500 | 320 kgf |
| SLP7/1620 | Hose pillar 7/16" -20 UNF - 8 mm | | | |



Set of limit switches

| Type | Description |
|---------|----------------------------------|
| EHPESET | Set of limit switches (2 pieces) |



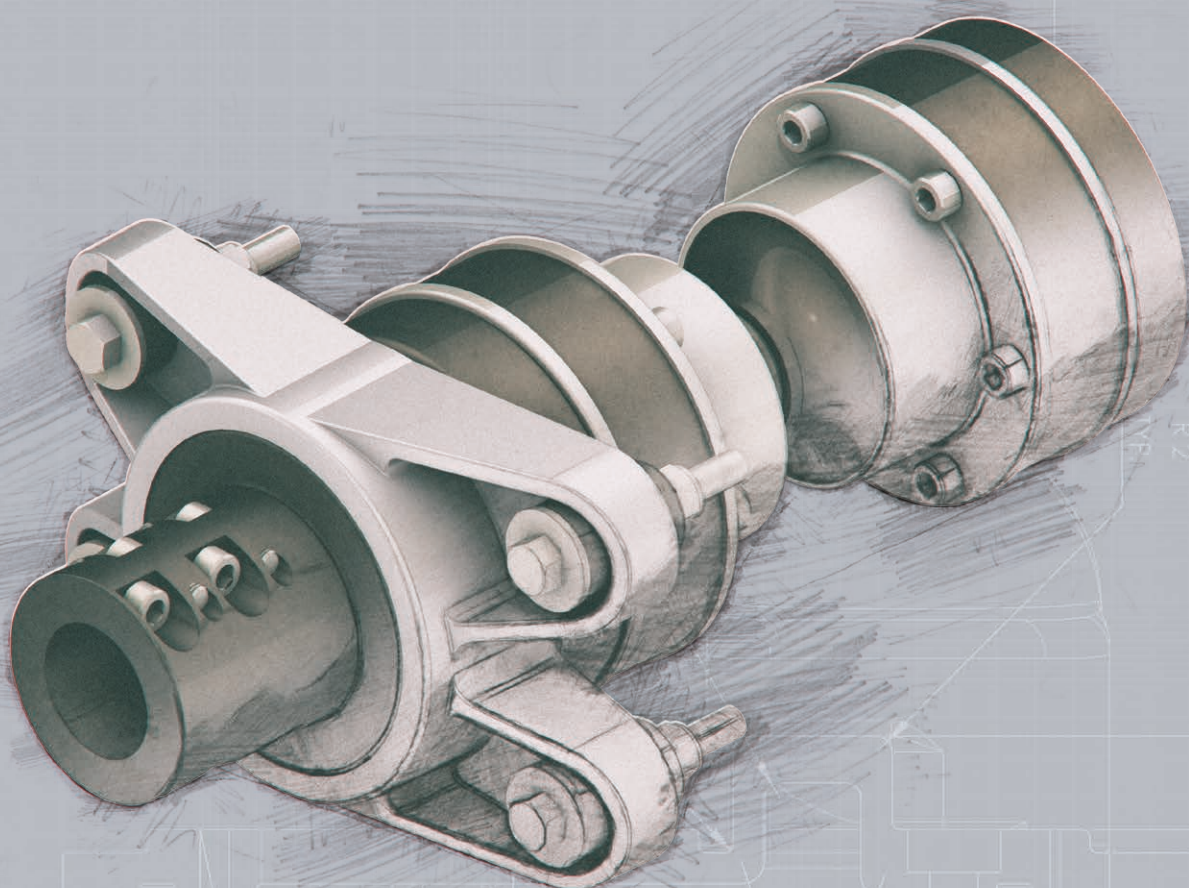
EHPESET

HL500A

HL500B



STERN GEAR SYSTEMS



Overview VETUS stern gear systems

Stern gear, see page 62



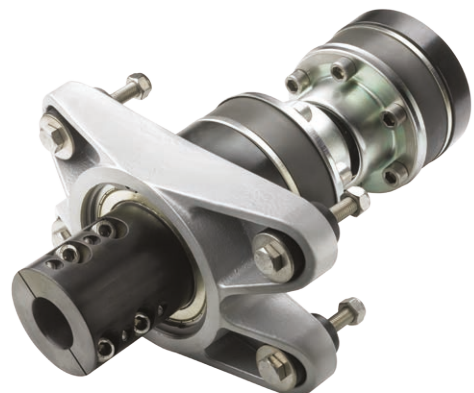
Flexible couplings, see page 64



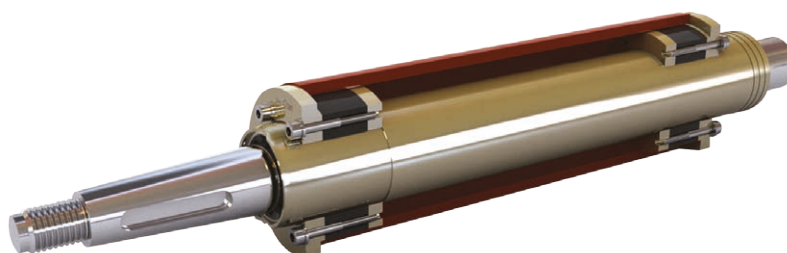
Adapter flanges, see page 67



Coupling based on a CV joint,
see page 68



Water lubricated stern gear, see page 70



Propellers, see page 76



Cutless bearings, see page 78



WHY VETUS STERN GEAR SYSTEMS?

The desired boat speed, waterline length, hull shape and weight are the key factors to determine the perfect engine and gear box combination for a boat. Stern gear transfers the power of the engine to the water. Since water is not a solid substance in which a propeller would have an ideal movement without any slip, the determination of the optimum propeller is specialized work that has to be carried out with sophisticated propeller calculation programs and above all, experience.

VETUS has many years of experience with stern gear and offers a wide range of products which are environmentally friendly and which increase comfort on board. The water-lubricated propeller shafts eliminate the need for oil or grease, flexible couplings absorb deviations in the alignment of the propeller shaft and ensure that vibration transferred from the propeller shaft system to the boat is kept to a minimum.

The stern gear is one of the most important systems in a boat and deserves special attention. After all, a well calculated, manufactured and installed propeller shaft system can greatly enhance the performance and reliability of your boat. Our engineers, responsible for propulsion systems, feel like they represent the heart of the boat. They work with only the best quality propellers, propeller shafts, stern tubes and couplings to design perfectly tuned systems.

A well-functioning stern gear system needs

- A dynamically balanced propeller to prevent vibration, resonance and cavitation
- A propeller shaft system to increase comfort under way and to enhance reliability
- Rubber bearings to ensure that vibration and noise are reduced to a minimum
- Stern tubes for a low friction bearing arrangement
- Couplings to make alignment of the shaft and engine easier

Good reasons to choose a VETUS stern gear system

- VETUS offers free calculation of the correct propeller size using a special computer program
- VETUS' large stock of standard high quality propellers in various sizes, pitches and blade areas
- VETUS provides in-house emergency repairs and modifies the bore and taper of stock propellers if necessary
- VETUS uses high quality corrosion-free materials designed for a long life
- VETUS supplies a complete system, using both standard and custom made products
- VETUS has various stern tube systems for shafts from 25 to 60 mm diameter
- VETUS has various flexible couplings which significantly reduce vibration
- VETUS shaft assemblies protect the environment; lubrication is ensured by means of raw water, without the use of grease or oil



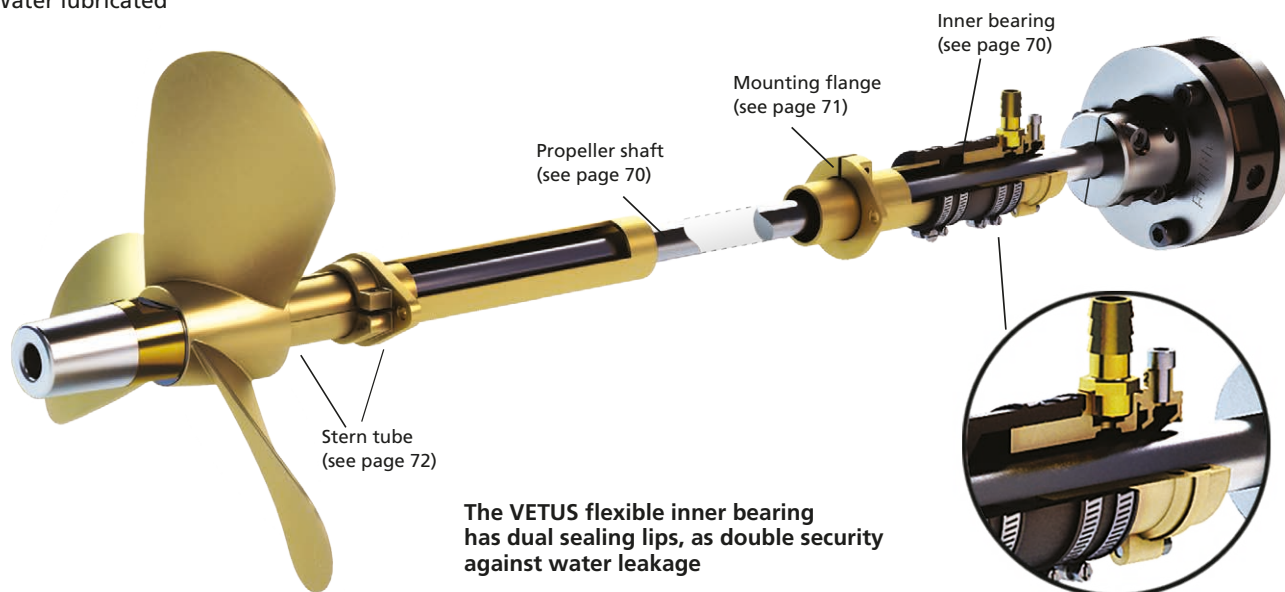
WATER LUBRICATED STERN GEAR

Water lubricated stern gear for wooden, steel or polyester (G.R.P.) vessels

VETUS can deliver stern gear assemblies from stock. Machining, threading and keyway cutting have all been taken care of by VETUS, so easy installation is guaranteed.

Specifications

- All VETUS propeller shafts are made of stainless steel type Duplex 1-4462, corrosion-free and with excellent running properties in rubber bearings
- Dual shaft seal (eliminating the need for a stuffing box)
- A propeller nut with integrated zinc anode is supplied as standard
- Water lubricated



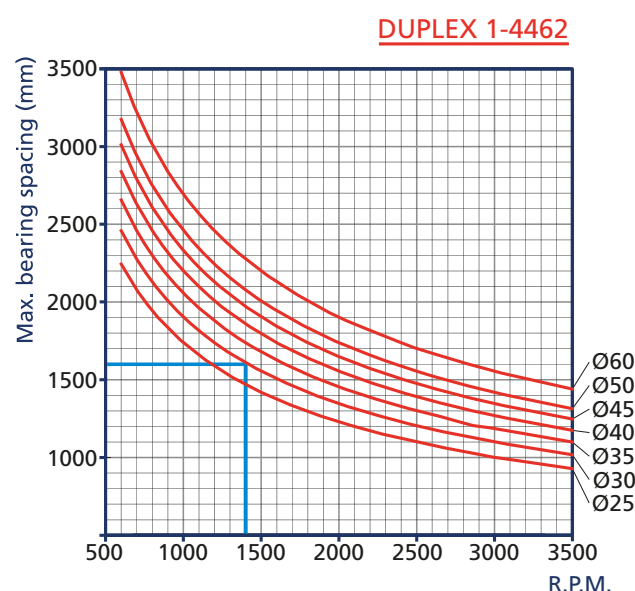
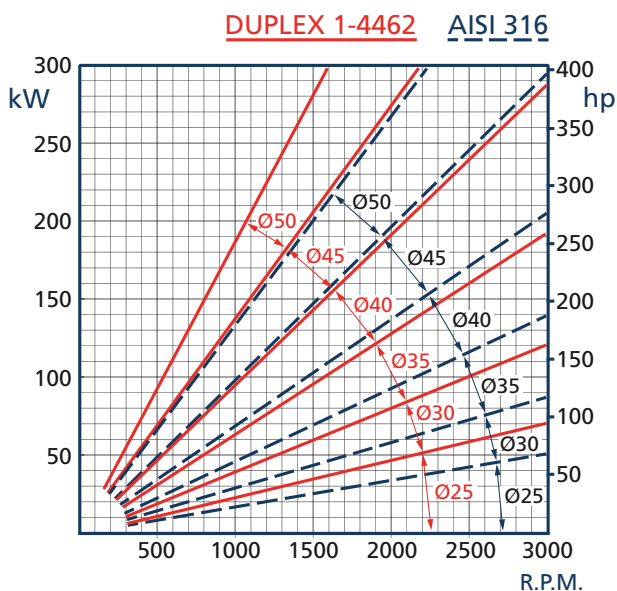
Why Duplex 1-4462 instead of AISI 316

All VETUS propeller shaft are made of stainless steel type "Duplex 1-4462". In comparison with stainless steel materials like AISI 316 and Aquamet 17 or 22, the corrosion resistance of "Duplex 1-4462" is much greater. In addition the tensile strength of "Duplex 1-4462" is about 30% greater than AISI 316 and its hardness is approximately 40% higher. It is precisely this high degree of hardness, which gives "Duplex 1-4462" its excellent running properties in rubber bearings.

Depending on shaft length, diameter and speed of rotation (rpm). 1, 2 or 3 cutless bearings must be installed.

Example

Imagine, you have a shaft with a maximum shaft speed of 1400 r.p.m. and a diameter of 30 mm. The diagram shows (blue line) that the maximum distance between 2 bearings amounts to 1600 mm. If you have a shaft of e.g. 1500 mm. length, then one rubber bearing will be sufficient. Should you have a shaft of 2000 mm. length, in this case 2 rubber bearings have to be used. For shafts with a length of 3200 mm or longer use 3 bearings.



FLEXIBLE COUPLINGS

VETUS offers a variety of solutions to connect the propeller shaft to the engine. The flexible rubber element of the flexible coupling ensures low-noise vibration-free transmission, without backlash between the engine and the propeller shaft. For smaller stern gear installations up to 30 mm, depending on the space available in the engine room, you can either choose the Bullflex, Combiflex, Uniflex type 13 or the KO5. These couplings all permit a misalignment of 2°. Only the KO5 is equally suitable for V-drives. For stern gear installations up to 70 mm, you can choose between Bullflex and Uniflex type 16.

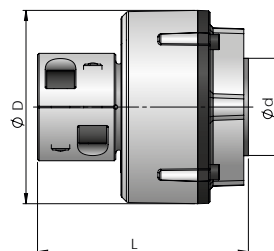
Last but not least, VETUS offers the VDR. This double acting constant velocity joint comes with a thrust bearing. The VDR is used when considerable misalignment angles need to be overcome.

Type COMBIFLEX

Optimum damping of torsional vibrations

The Combiflex coupling has been designed to ensure optimum damping of torsional vibrations, created by cycle irregularities especially at low engine revolutions. The Combiflex coupling is secured against shearing off, both axially and radially, thus ensuring safe transmission under all circumstances. The Combiflex coupling also provides excellent alignment of the propeller shaft. Aligning the engine and propeller shaft can be a rather time consuming affair, however the Combiflex will remain perfectly centred onto the gearbox flange, even if the shaft has a misalignment of 2°. The parallel clamping hub ensures easy installation and probably even more importantly, easy dismantling of the shaft assembly. Available for shafts of Ø 25 or 30 mm. Comes with a 4" flange to fit most common gearbox models.

For specifications, please see table on the next page.



COMFL

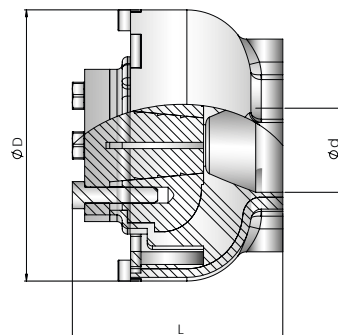
Type Uniflex

Exact alignment and concentric installation of propeller shaft

Couplings of type Uniflex permit a misalignment of 2°. They will centre the shaft on the gearbox by means of a conical clamping hub and is an ideal flexible coupling between a propeller shaft with a self-aligning bearing and an engine on flexible supports. These couplings are axially and radially secured against shearing off. When the propeller shaft is connected to the engine at an angle of 2°, the maximum admissible number of revolutions is 1.500 r.p.m. on the shaft.

Specifications Uniflex type 13 and 16

- With cylindrical bore
- Clamping hub for shafts with a diameter of 20, 25 and 30 (type 13), and 30, 35 or 40 mm for type 16
- 4" Connection (type 13) and/or 5" (type 16) for Hurth, Velvet, TD, ZF, PRM and other makes
- Not suitable for V-Drives



UNIFL

FLEXIBLE COUPLINGS

Type KO5 (type 6)

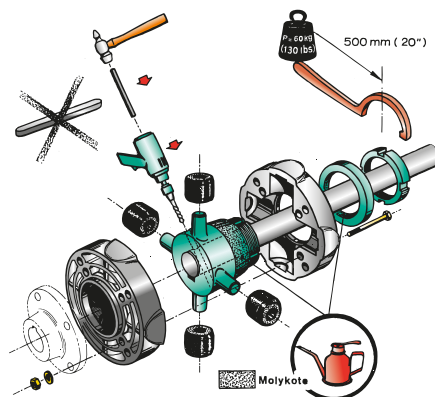
100% Concentric fit

This flexible coupling has a special conical clamping hub and is suitable for V-drives.

Type 6 saves considerable installation time. It is pilot bored Ø 20 mm or with a cylindrical bore for Ø 25, 30 and 35 mm shaft. Comes with 4 and 5" connectors for Hurth, Velvet, TD, ZF and PRM.



KO5



Specifications

| Type | DIN 6270 B = pleasure craft. kW/100 r.p.m. on shaft (HP) | Example: at 1500 r.p.m. the max. admissible power is (DIN B) | DIN 6270 A = commercial craft. kW/100 r.p.m. on shaft (HP) | D mm | L mm | Ø d | Weight kg |
|---------------|---|---|---|------|------|-----|--------------|
| COMFL1225 | 2,4 (3,2) | 15 x 2,4 = 36 kW (48 hp) | 1,7 (2,2) | 126 | 137 | 25 | 3,5 |
| COMFL1230 | 2,4 (3,2) | 15 x 2,4 = 36 kW (48 hp) | 1,7 (2,2) | 126 | 137 | 30 | 3,2 |
| KO51 | 3,9 (5,3) | 15 x 3,9 = 58,5 kW (79,5 hp) | 3,3 (4,5) | 137 | 84 | 20 | 2,7 |
| KO52 | 3,9 (5,3) | 15 x 3,9 = 58,5 kW (79,5 hp) | 3,3 (4,5) | 137 | 84 | 25 | 2,7 |
| KO53 | 3,9 (5,3) | 15 x 3,9 = 58,5 kW (79,5 hp) | 3,3 (4,5) | 137 | 84 | 30 | 2,7 |
| KO54 (type 6) | 3,9 (5,3) | 15 x 3,9 = 58,5 kW (79,5 hp) | 3,3 (4,5) | 137 | 84 | 35 | 2,7 |
| UNIFL1320 | 2,6 (3,6) | 15 x 2,6 = 39 kW (53 hp) | 1,8 (2,5) | 130 | 98 | 20 | 2,4 |
| UNIFL1325 | 2,6 (3,6) | 15 x 2,6 = 39 kW (53 hp) | 1,8 (2,5) | 130 | 98 | 25 | 2,4 |
| UNIFL1330 | 2,6 (3,6) | 15 x 2,6 = 39 kW (53 hp) | 1,8 (2,5) | 130 | 98 | 30 | 2,4 |
| UNIFL1630 | 5,2 (7,1) | 15 x 5,2 = 79 kW (107 hp) | 3,6 (5) | 199 | 131 | 30 | 6,9 |
| UNIFL1635 | 5,2 (7,1) | 15 x 5,2 = 79 kW (107 hp) | 3,6 (5) | 199 | 131 | 35 | 6,9 |
| UNIFL1640 | 5,2 (7,1) | 15 x 5,2 = 79 kW (107 hp) | 3,6 (5) | 199 | 131 | 40 | 6,9 |

Bolt sets required to attach flexible coupling to gearbox drive flange

| Type | Description |
|------------|---|
| SET64 | Set bolts for coupling type 6, for flange 4" |
| SET65 | Set bolts for coupling type 6, for flange 5" |
| UNISSET4/5 | Set studs and bolts (M10) for couplings Combiflex, Uniflex and Bullflex 1-8, for flange 4"/5" |

FLEXIBLE COUPLINGS

Type Bullflex

Ensuring optimum damping of vibrations

Type Bullflex is the answer to the increasing demand of greater boating comfort. It is especially designed to ensure optimum damping of vibrations. Torsional vibrations are smoothed out extremely efficiently by its very flexible rubber element, ensuring low-noise and vibration-free transmission without backlash between the engine and propeller shaft. Another strong characteristic is the excellent alignment of the propeller shaft.

Features

- Very high flexibility
- Secured against shearing off (axially and radially) ensuring safe transmission under all circumstances
- Misalignment of up to 2° permissible
- Excellent centring of the shaft, allowing high shaft revolutions
- Shaft remains centred even in reverse gear
- Possibility to remove the centring ring, in case two or more bearings are applied
- Built-in thrust damper reducing axial vibrations
- Non-tapered clamping hub for perfect centring and easy dismantling of the shaft assembly

Specifications

- Models 1, 2 and 4 have a 4" gearbox connection
- Models 8, 12 and 16 feature a 4 and 5" gearbox connection
- Model 32 is provided with 6 threaded M16 holes on a pitch circle diameter of Ø 120,65 mm/4,75" enabling mounting of the couplings to most models of gearboxes (Hurth, Velvet, TD, ZF and P.R.M.)
- VETUS can also supply the required fastenings for installation of the Bullflex onto the gearbox. This coupling is not suitable for V-Drives

For specifications, please see table on the next page.

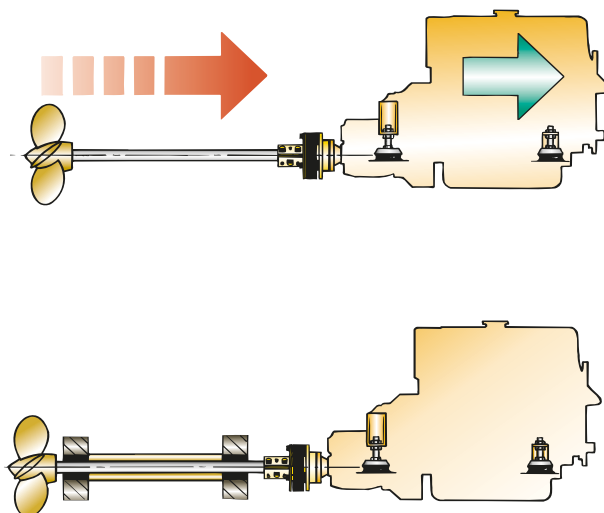


BULFL

Centering the Bullflex

An engine on flexible mountings will by definition, always move. When the propeller shaft is installed rigidly - which means to say: supported by two or more non-flexible bearings - the propeller shaft should not be affected by engine movements.

If this should happen, damage of engine mounting, coupling and sealing of the shaft may result. Where a rigid shaft assembly is installed, the centering ring can be removed from the Bullflex coupling. This must be done if the distance between the output flange of the gearbox and the first shaft bearing is less than 20 times the shaft diameter. Pendulum movements of the flexibly mounted engine will then not be transmitted onto the propeller shaft, but will be effortlessly absorbed by the Bullflex coupling. Naturally, removal of the centering ring has no adverse effects on the vibration damping properties. Where the propeller shaft is supported by one rigid bearing only, the Bullflex coupling - with its centering ring installed - will function as a flexible ball joint. The propeller shaft will thus be supported and centered inside the Bullflex coupling, regardless of any engine movements.



FLEXIBLE COUPLINGS

Type Bullflex

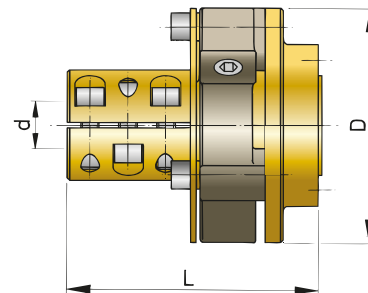
Example

An engine has an output of 84 kW at maximum 3,600 r.p.m. and a gearbox ratio of 2.1:1.

The maximum speed of the propeller shaft is $\frac{3,600}{2,1} = 1,714$ r.p.m.

Therefore, the power to be transmitted per 100 r.p.m. is $\frac{84}{17,14} = 4.9$ kW/100 r.p.m.

From the table, the correct model is a Bullflex 8 for a pleasure craft or a Bullflex 12 for a commercial craft. This formula can also be used with the relevant tables for Uniflex, Combiflex and Type 6 flexible couplings.



Specifications

| Type | DIN 6270 B = pleasure craft kW (HP)/ 100 shaft RPM | DIN 6270 A = commercial craft kW (HP)/ 100 shaft RPM | maximum torque Nm | | max. r.p.m. at zero misalignment | max. r.p.m. at 2° misalignment | D mm | L mm | d mm |
|-----------|---|---|-------------------------|-------|--|--------------------------------------|---------|---------|---------|
| | | | DIN | DIN | | | | | |
| | | | 6270B | 6270A | | | | | |
| BULFL0120 | 0.8 (1.1) | 0.5 (0.7) | 75 | 45 | 7000 | 3500 | 100 | 85 | 20 |
| BULFL0125 | 0.8 (1.1) | 0.5 (0.7) | 75 | 45 | 7000 | 3500 | 100 | 85 | 25 |
| BULFL0220 | 1.6 (2.1) | 0.9 (1.3) | 150 | 90 | 6500 | 3250 | 120 | 120 | 20 |
| BULFL0225 | 1.6 (2.1) | 0.9 (1.3) | 150 | 90 | 6500 | 3250 | 120 | 120 | 25 |
| BULFL0425 | 3.1 (4.3) | 2.1 (2.8) | 300 | 200 | 6000 | 3000 | 150 | 152 | 25 |
| BULFL0430 | 3.1 (4.3) | 2.1 (2.8) | 300 | 200 | 6000 | 3000 | 150 | 152 | 30 |
| BULFL0830 | 6.3 (8.5) | 4.3 (5.8) | 600 | 410 | 5000 | 2500 | 170 | 166 | 30 |
| BULFL0835 | 6.3 (8.5) | 4.3 (5.8) | 600 | 410 | 5000 | 2500 | 170 | 166 | 35 |
| BULFL0840 | 6.3 (8.5) | 4.3 (5.8) | 600 | 410 | 5000 | 2500 | 170 | 166 | 40 |
| BULFL1235 | 9.8 (12.8) | 7.1 (9.6) | 900 | 540 | 4000 | 2000 | 200 | 177 | 35 |
| BULFL1240 | 9.8 (12.8) | 7.1 (9.6) | 900 | 540 | 4000 | 2000 | 200 | 177 | 40 |
| BULFL1245 | 9.8 (12.8) | 7.1 (9.6) | 900 | 540 | 4000 | 2000 | 200 | 177 | 45 |
| BULFL1640 | 12.6 (17.1) | 9.8 (13.3) | 1200 | 935 | 4000 | 2000 | 205 | 197 | 40 |
| BULFL1645 | 12.6 (17.1) | 9.8 (13.3) | 1200 | 935 | 4000 | 2000 | 205 | 197 | 45 |
| BULFL1650 | 12.6 (17.1) | 9.8 (13.3) | 1200 | 935 | 4000 | 2000 | 205 | 197 | 50 |
| BULFL3245 | 23.0 (31.3) | 18.6 (25.3) | 2200 | 1780 | 3600 | 1800 | 260 | 263 | 45 |
| BULFL3250 | 23.0 (31.3) | 18.6 (25.3) | 2200 | 1780 | 3600 | 1800 | 260 | 263 | 50 |
| BULFL3260 | 23.0 (31.3) | 18.6 (25.3) | 2200 | 1780 | 3600 | 1800 | 260 | 263 | 60 |
| BULFL3270 | 23.0 (31.3) | 18.6 (25.3) | 2200 | 1780 | 3600 | 1800 | 260 | 263 | 70 |

Type FLANGE

Adapter flanges for connecting gearboxes to flexible couplings

These adapter flanges can be used for many gearboxes made by Volvo, Yanmar and Kanzaki and are available as an option. When the pump unit on some hydraulic gearboxes is positioned in a way that it is impossible to install a flexible coupling directly onto the output flange, an intermediate flange will have to be fitted as well. Intermediate flange are available on special request.



FLANGE

| Type | Description |
|----------|--|
| FLANGE1 | Adapter flange for Yanmar KM2C; KMP2P; KM3P, Kanzaki KC30; KC45 and KC100 |
| FLANGE2 | Adapter flange for Volvo MS10A/L; MS15A/L and MS25A/L |
| FLANGE2A | Adapter flange for Volvo MS; MSB and all types MS2 |
| FLANGE3 | Adapter flange for Yanmar KM4A; KM4A1; KMH4A; KBW20-1; KBW21 and Kanzaki KC180 |

DRIVE FOR PROPELLER SHAFT

Type VETUS DRIVE

More freedom for engine movement, less freedom for vibration

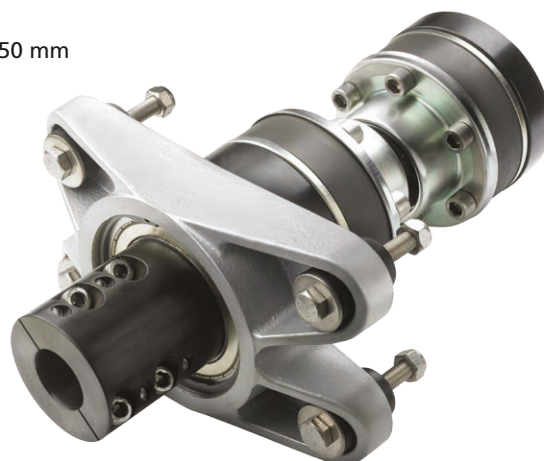
The VETUS DRIVE (Type VDR) has a combination of a self-aligning thrust bearing and a double acting constant velocity joint. The propeller thrust is absorbed by the inbuilt thrust bearing allowing the engine to be set up on softer mountings, resulting in lower vibration and transmitted noise. The VDR is made of stainless, black passivated steel and high performance rubber. This heavy duty VDR has been tested under the toughest conditions and is suitable for maximum thrust up to 24 000 N.

Specifications

- VDR6 is available for shaft diameters of 50, 60 or 70 mm
- VDR2 and 4 are available for shaft diameters of 25, 30, 35, 40, 45 or 50 mm
- Interchangeable with other well-known models
- Durable design with long lifetime

Note

For the most popular Volvo, Yanmar and Kanzaki gearboxes special (also custom made) adapter flanges are available.

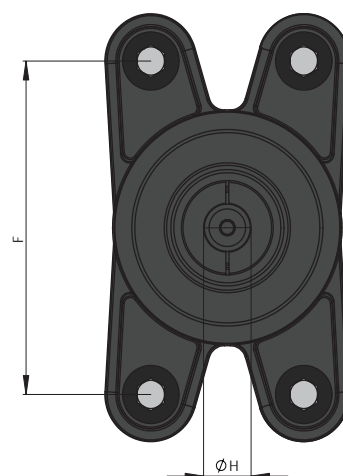
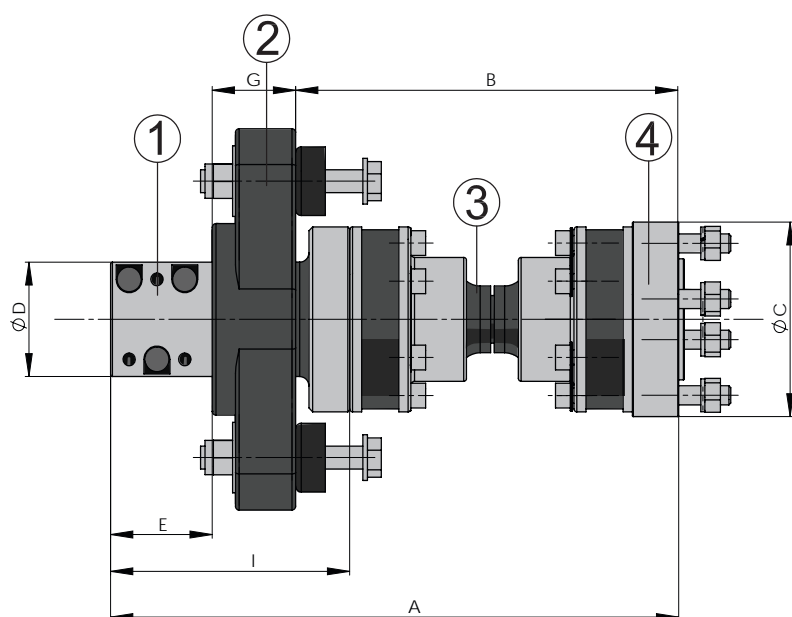


VDR

Dimensions for VDR constant velocity joint

| Type | A mm | B mm | C mm | D Ø | E mm | F mm | G mm | H mm | I mm |
|-----------|------|------|-------|------|------|------|------|------|------|
| VDR210254 | 325 | 217 | 101.6 | 60 | 63 | 145 | 45 | 25 | 143 |
| VDR210255 | 325 | 217 | 127 | 60 | 63 | 145 | 45 | 25 | 143 |
| VDR210304 | 325 | 217 | 101.6 | 60 | 63 | 145 | 45 | 30 | 143 |
| VDR210305 | 325 | 217 | 127 | 60 | 63 | 145 | 45 | 30 | 143 |
| VDR215254 | 376 | 268 | 101.6 | 60 | 63 | 145 | 45 | 25 | 175 |
| VDR215255 | 376 | 268 | 127 | 60 | 63 | 145 | 45 | 25 | 175 |
| VDR215304 | 376 | 268 | 101.6 | 60 | 63 | 145 | 45 | 30 | 175 |
| VDR215305 | 376 | 268 | 127 | 60 | 63 | 145 | 45 | 30 | 175 |
| VDR215354 | 401 | 268 | 101.6 | 69 | 88 | 145 | 45 | 35 | 200 |
| VDR215355 | 401 | 268 | 127 | 69 | 88 | 145 | 45 | 35 | 200 |
| VDR221304 | 429 | 321 | 101.6 | 60 | 63 | 145 | 45 | 30 | 183 |
| VDR221305 | 429 | 321 | 127 | 60 | 63 | 145 | 45 | 30 | 183 |
| VDR221354 | 454 | 321 | 101.6 | 69 | 88 | 145 | 45 | 35 | 208 |
| VDR221355 | 454 | 321 | 127 | 69 | 88 | 145 | 45 | 35 | 208 |
| VDR221404 | 454 | 321 | 101.6 | 69 | 88 | 145 | 45 | 40 | 208 |
| VDR221405 | 454 | 321 | 127 | 69 | 88 | 145 | 45 | 40 | 208 |
| VDR421404 | 437 | 294 | 101.6 | 85 | 90 | 214 | 53 | 40 | 188 |
| VDR421405 | 437 | 294 | 127 | 85 | 90 | 214 | 53 | 40 | 188 |
| VDR421454 | 437 | 294 | 101.6 | 85 | 90 | 214 | 53 | 45 | 188 |
| VDR421455 | 437 | 294 | 127 | 85 | 90 | 214 | 53 | 45 | 188 |
| VDR421505 | 448 | 294 | 127 | 89 | 102 | 214 | 53 | 50 | 199 |
| VDR430404 | 538 | 395 | 101.6 | 85 | 90 | 214 | 53 | 40 | 233 |
| VDR430405 | 538 | 395 | 127 | 85 | 90 | 214 | 53 | 40 | 233 |
| VDR430454 | 538 | 395 | 101.6 | 85 | 90 | 214 | 53 | 45 | 233 |
| VDR430455 | 538 | 395 | 127 | 85 | 90 | 214 | 53 | 45 | 233 |
| VDR430504 | 549 | 395 | 101.6 | 89 | 101 | 214 | 53 | 50 | 244 |
| VDR430505 | 549 | 395 | 127 | 89 | 101 | 214 | 53 | 50 | 244 |
| VDR630505 | 522 | 333 | 127 | 87.5 | 87.5 | 250 | 87 | 50 | 250 |
| VDR630605 | 522 | 333 | 127 | 87.5 | 87.5 | 250 | 87 | 60 | 250 |
| VDR630705 | 522 | 333 | 127 | 87.5 | 87.5 | 250 | 87 | 70 | 250 |
| VDR630506 | 522 | 333 | 152.4 | 87.5 | 87.5 | 250 | 87 | 50 | 250 |
| VDR630606 | 522 | 333 | 152.4 | 87.5 | 87.5 | 250 | 87 | 60 | 250 |
| VDR630706 | 522 | 333 | 152.4 | 87.5 | 87.5 | 250 | 87 | 70 | 250 |
| VDR642505 | 579 | 362 | 127 | 87.5 | 87.5 | 250 | 87 | 50 | 250 |
| VDR642605 | 579 | 362 | 127 | 87.5 | 87.5 | 250 | 87 | 60 | 250 |
| VDR642705 | 579 | 362 | 127 | 87.5 | 87.5 | 250 | 87 | 70 | 250 |
| VDR642506 | 579 | 362 | 152.4 | 87.5 | 87.5 | 250 | 87 | 50 | 250 |
| VDR642606 | 579 | 362 | 152.4 | 87.5 | 87.5 | 250 | 87 | 60 | 250 |
| VDR642706 | 579 | 362 | 152.4 | 87.5 | 87.5 | 250 | 87 | 70 | 250 |

DRIVE FOR PROPELLER SHAFT



1. Clamp Hub
2. Thrust Bearing
3. CV Joint (Constant Velocity Joint)
4. Flange

Selection table for VDR constant velocity joint

| Type 2 Propeller shaft 25, 30 | | Type 2 Propeller shaft 25, 30, 35 | | Type 2 Propeller shaft 30, 35, 40 | | Type 4 Propeller shaft 40, 45, 50 | | Type 4 Propeller shaft 40, 45, 50 | | Type 6 Propeller shaft 50, 60, 70 | | Type 6 Propeller shaft 50, 60, 70 | |
|-------------------------------------|------|---|------|---|------|---|------|---|------|---|------|---|------|
| CV Joint 10 | | CV Joint 15 | | CV Joint 21 | | CV Joint 21 | | CV Joint 30 | | CV Joint 30 | | CV Joint 42 | |
| Power (hp) | RPM | Power (hp) | RPM | Power (hp) | RPM | Power (hp) | RPM | Power (hp) | RPM | Power (hp) | RPM | Power (hp) | RPM |
| 28 | 500 | 50 | 500 | 98 | 500 | 98 | 500 | 140 | 500 | 30 | 250 | 150 | 250 |
| 44 | 1000 | 79 | 1000 | 115 | 1000 | 115 | 1000 | 170 | 1000 | 125 | 500 | 200 | 500 |
| 59 | 1500 | 101 | 1500 | 160 | 1500 | 160 | 1500 | 235 | 1500 | 180 | 750 | 265 | 750 |
| 70 | 2000 | 122 | 2000 | 182 | 1800 | 182 | 1800 | 280 | 2000 | 215 | 1000 | 315 | 1000 |
| 81 | 2500 | 130 | 2250 | 179 | 2000 | 179 | 2000 | 325 | 2500 | 255 | 1250 | 360 | 1250 |
| 90 | 3000 | 125 | 2500 | 161 | 2500 | 161 | 2500 | 360 | 3000 | 285 | 1500 | 415 | 1500 |
| 90 | 3500 | 123 | 3000 | 143 | 3000 | 143 | 3000 | 370 | 3150 | - | - | - | - |
| 90 | 3500 | 122 | 3500 | 136 | 3500 | 136 | 3500 | 340 | 3500 | - | - | - | - |

For the most popular Volvo, Yanmar and Kanzaki gearboxes special adapter flanges are available, for installation of VETUS Drive models 2, 4 and 6.

Type

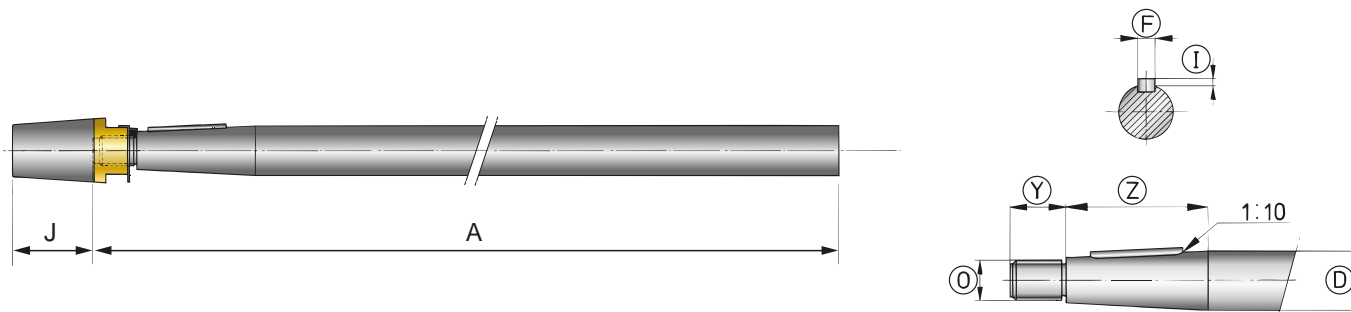
| | |
|-----------------|--|
| FLANGE1 | Adapter flange for Yanmar KM2C; KMP2P; KM3P, Kanzaki KC30; KC45 and KC100 |
| FLANGE2 | Adapter flange for Volvo MS10A/L; MS15A/L and MS25A/L |
| FLANGE2A | Adapter flange for Volvo MS; MSB and all types MS2 |
| FLANGE3 | Adapter flange for Yanmar KM4A; KM4A1; KMH4A; KBW20-1; KBW21 and Kanzaki KC180 |

WATER LUBRICATED STERN GEAR

Propeller shaft type SA

Duplex 1-4462 stainless steel propeller shaft

This shaft is machined with 1:10 taper and a keyway as standard. It is supplied with key and propeller nut with integrated zinc anode. The dimensions of taper and keyway are in accordance with ISO 4566.



Shaft types with all dimensions in mm

| Type | Ø D mm | Shaft lengths (A) (mm) | F | I | J | O | Y | Z |
|------|--------|----------------------------------|----|-----|----|-----------|----|-----|
| SA25 | 25 | 1000 / 1500 / 2000 / 2500 / 3000 | 8 | 3 | 40 | M16 x 1.5 | 25 | 55 |
| SA30 | 30 | 1000 / 1500 / 2000 / 2500 / 3000 | 8 | 3 | 57 | M20 x 1.5 | 30 | 75 |
| SA35 | 35 | on request | 10 | 3 | 54 | M24 x 2 | 35 | 85 |
| SA40 | 40 | on request | 12 | 3 | 64 | M24 x 2 | 35 | 95 |
| SA45 | 45 | on request | 14 | 3,5 | 69 | M30 x 2 | 40 | 105 |
| SA50 | 50 | on request | 14 | 3,5 | 79 | M36 x 2 | 45 | 115 |
| SA60 | 60 | on request | 18 | 4 | 96 | M92 x 3 | 55 | 130 |

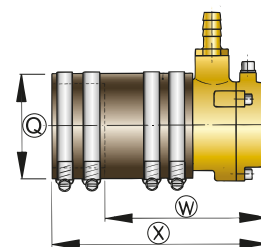
| Type | |
|--------|-------------------------|
| SA25/+ | Extra charge per 500 mm |
| SA30/+ | Extra charge per 500 mm |
| SA35/+ | Extra charge per 500 mm |

| Type | |
|--------|-------------------------|
| SA40/+ | Extra charge per 500 mm |
| SA45/+ | Extra charge per 500 mm |
| SA50/+ | Extra charge per 500 mm |
| SA60/+ | Extra charge per 500 mm |

Self-aligning inner bearing and shaft seal

The VETUS flexible inner bearing used in this system has dual sealing lips for double security against water leakage.

| Type | Description | W | X | Q |
|---------|---|-----|-----|-----|
| ZWB25A | Bronze flexible inner bearing Ø 25 mm, with dual lip seal | 112 | 144 | 54 |
| ZWB30A | Bronze flexible inner bearing Ø 30 mm, with dual lip seal | 112 | 144 | 60 |
| ZWB35A | Bronze flexible inner bearing Ø 35 mm, with dual lip seal | 112 | 145 | 65 |
| ZWB40A | Bronze flexible inner bearing Ø 40 mm, with dual lip seal | 114 | 150 | 71 |
| ZWB45A | Bronze flexible inner bearing Ø 45 mm, with dual lip seal | 129 | 165 | 80 |
| ZWB50A | Bronze flexible inner bearing Ø 50 mm, with dual lip seal | 129 | 165 | 85 |
| ZWB60 | Bronze flexible inner bearing Ø 60 mm, with dual lip seal | 129 | 165 | 102 |
| ZWB2540 | Replacement set for VETUS 25 mm inner bearing with stuffing box | | | |
| ZWB3044 | Replacement set for VETUS 30 mm inner bearing with stuffing box | | | |



ZWB

All dimensions are in mm.

WATER LUBRICATED STERN GEAR

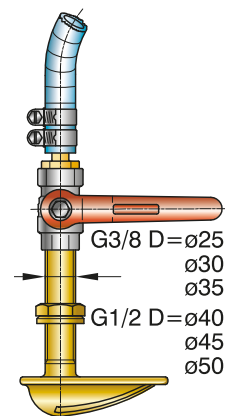
Water lubrication connections

There are two possibilities to water lubricate your shaft assembly

1. By means of a water scoop G 3/8, with ball valve, hose pillar, 1 metre of water hose and hose clamps, or
2. By tapping a small amount of water from the main engine's raw water cooling circuit.

| Type | Description |
|----------|--|
| WCAPSET | Water scoop kit for Ø 25-30-35 mm, shaft |
| WCAPS1/2 | Water scoop kit for Ø 40-45-50 mm, shaft |

WCAPS



For the second option we offer the ZWBKIT. With this kit you have all you need to water lubricate your shaft assembly by using water from the main engine's raw water cooling circuit. The kit consists of a T-piece (18 -10 -18 mm), 3 metres of Ø 10 mm hose (DWHOSE10A) and 4 hose clamps.

| Type | Consist of | Code |
|--------|---------------------------------------|-----------|
| ZWBKIT | 1 TP1810 T-piece | TP1810 |
| | 3 Fresh water hose per metre | DWHOSE10A |
| | 4 Hose clamps RVS304 9 mm Ø 8 - 16 mm | SLK08 |

NEW!

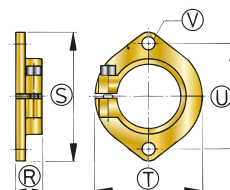


ZWBKIT

Mounting flange for stern tube

The propeller end of the bronze stern tube is provided with an outer cutless bearing and a mounting flange. The slots in the tube are designed for easy replacement of the cutless bearing. A second flange maybe required to secure the inboard end of the stern tube and can be ordered separately.

| Type | Ø D | R | S | T | U | Ø V |
|-------|-----|----|-----|-----|-----|------|
| FLK25 | 25 | 18 | 86 | 72 | 70 | 8,5 |
| FLK30 | 30 | 18 | 90 | 78 | 74 | 8,5 |
| FLK35 | 35 | 23 | 112 | 97 | 92 | 10,5 |
| FLK40 | 40 | 23 | 116 | 101 | 96 | 10,5 |
| FLK45 | 45 | 28 | 132 | 118 | 108 | 13 |
| FLK50 | 50 | 28 | 138 | 125 | 114 | 13 |
| FLK60 | 60 | 28 | 148 | 136 | 124 | 13 |

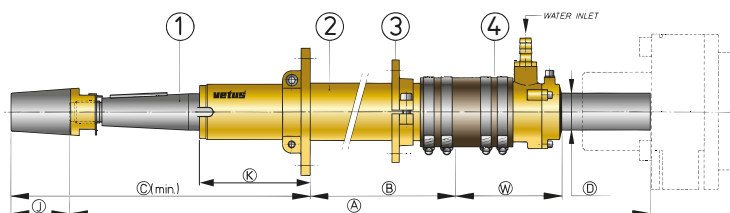


FLK

WATER LUBRICATED STERN GEAR

Bronze stern tube assembly

1. Propeller shaft
2. Stern tube
3. Mounting flange
4. Inner bearing

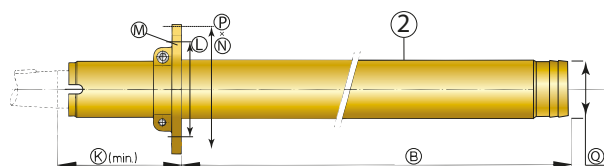


When ordering, please specify dimensions A, B and D.

| Type | Ø Shaft (D) | A | B | K | C | W | J |
|------|-------------|--------------|-------------------|-----|-----|-----|----|
| BL25 | 25 | Shaft length | Stern tube length | 88 | 210 | 112 | 40 |
| BL30 | 30 | | | 105 | 267 | 112 | 57 |
| BL35 | 35 | | | 117 | 291 | 112 | 54 |
| BL40 | 40 | | | 113 | 327 | 114 | 64 |
| BL45 | 45 | | | 145 | 359 | 129 | 69 |
| BL50 | 50 | | | 162 | 401 | 129 | 79 |

Type BL

Bronze stern tube with mounting flange and 1 cutless bearing aft. The slots in the tube are designed for easy replacement of the cutless bearing.



| Type | Ø D | Length B | | | | K | L | Ø M | N | P | Q |
|------|-----|------------|------|------|------|-----|-----|------|-----|-----|------|
| BL25 | 25 | 500 | 1000 | 1500 | 2000 | 88 | 90 | 8,5 | 110 | 60 | 43 |
| BL30 | 30 | 500 | 1000 | 1500 | 2000 | 105 | 100 | 8,5 | 120 | 67 | 49,5 |
| BL35 | 35 | on request | | | | 117 | 110 | 10,5 | 132 | 76 | 57 |
| BL40 | 40 | on request | | | | 113 | 116 | 10,5 | 138 | 82 | 62 |
| BL45 | 45 | on request | | | | 145 | 150 | 13 | 180 | 93 | 71 |
| BL50 | 50 | on request | | | | 162 | 165 | 15 | 197 | 99 | 76,1 |
| BL60 | 60 | on request | | | | 190 | 155 | 15 | 180 | 106 | 92 |

| Type | |
|--------|----------------------|
| BL25/+ | Extra charge per 500 |
| BL30/+ | Extra charge per 500 |
| BL35/+ | Extra charge per 500 |

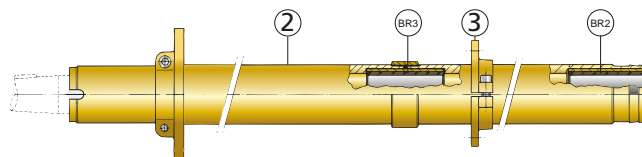
| Type | |
|--------|----------------------|
| BL40/+ | Extra charge per 500 |
| BL45/+ | Extra charge per 500 |
| BL50/+ | Extra charge per 500 |
| BL60/+ | Extra charge per 500 |

Type BR2

Bronze or steel stern tube with 2 cutless bearings, 1 forward and 1 aft. Forward bearing must be ordered separately.

Type BR3

Bronze or steel stern tube with 3 cutless bearings (forward, intermediate and aft). Intermediate and forward bearing must be ordered separately.



Second bearing for bronze stern tubes

| Type | Description |
|-------|---------------------------------------|
| BR225 | Second bearing for Ø 25 mm stern tube |
| BR230 | Second bearing for Ø 30 mm stern tube |
| BR235 | Second bearing for Ø 35 mm stern tube |
| BR240 | Second bearing for Ø 40 mm stern tube |
| BR245 | Second bearing for Ø 45 mm stern tube |
| BR250 | Second bearing for Ø 50 mm stern tube |
| BR260 | Second bearing for Ø 60 mm stern tube |

Third bearing for bronze stern tubes

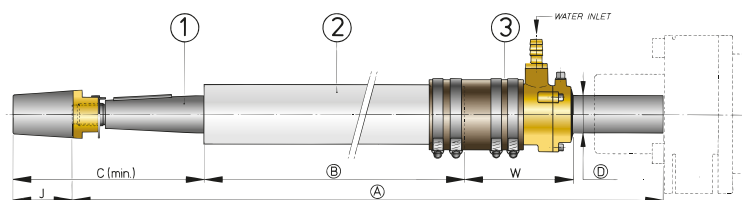
| Type | Description |
|-------|--------------------------------------|
| BR325 | Third bearing for Ø 25 mm stern tube |
| BR330 | Third bearing for Ø 30 mm stern tube |
| BR335 | Third bearing for Ø 35 mm stern tube |
| BR340 | Third bearing for Ø 40 mm stern tube |
| BR345 | Third bearing for Ø 45 mm stern tube |
| BR350 | Third bearing for Ø 50 mm stern tube |
| BR360 | Third bearing for Ø 60 mm stern tube |

WATER LUBRICATED STERN GEAR

G.R.P. (Polyester) stern tube assembly

| Type | Ø D | A | J | Ø Q | W | C | Length B | | | |
|-----------|-----|--------------|----|-----|-----|-----|----------|--------|--------|--------|
| BG25/0500 | 25 | Shaft length | 40 | 44 | 112 | 127 | 581,5 | 1081,5 | 1581,5 | 2081,5 |
| BG30/0500 | 30 | | 57 | 50 | 112 | 172 | 595,5 | 1095,5 | 1595,5 | 2095,5 |
| BG35/0500 | 35 | | 54 | 57 | 112 | 184 | 595,5 | 1095,5 | 1595,5 | 2095,5 |
| BG40/0500 | 40 | | 64 | 62 | 114 | 214 | 595,5 | 1095,5 | 1595,5 | 2095,5 |

- 1. Propeller shaft
- 2. Stern tube
- 3. Inner bearing

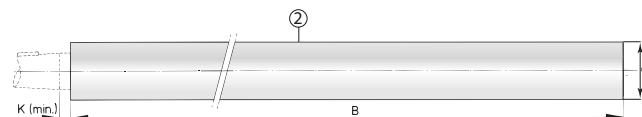


Note

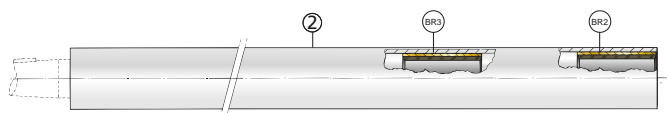
G.R.P. tubes, can be supplied with the same ZWB dual shaft seal as shown on page 70.
The stern tubes which are provided with a cutless bearing, must be bonded directly into the hull.

G.R.P. stern tubes - type BG

The propeller end of the G.R.P. stern tube is provided with an outer cutless bearing. The stern tubes must be bonded directly into the hull.



| Type | Ø D | Length B | | | | K | Ø Q |
|------|-----|------------|--------|--------|--------|----|-----|
| BG25 | 25 | 581,5 | 1081,5 | 1581,5 | 2081,5 | 8 | 44 |
| BG30 | 30 | 595,5 | 1095,5 | 1595,5 | 2095,5 | 10 | 50 |
| BG35 | 35 | 595,5 | 1095,5 | 1595,5 | 2095,5 | 10 | 57 |
| BG40 | 40 | on request | | | | 12 | 62 |



Depending on the length, diameter and RPM of the shaft, there is need for 1, 2 or 3 cutlass bearings.

Second bearing for G.R.P. stern tubes

| Type | Description |
|-------|---------------------------------------|
| BR225 | Second bearing for Ø 25 mm stern tube |
| BR230 | Second bearing for Ø 30 mm stern tube |
| BR235 | Second bearing for Ø 35 mm stern tube |
| BR240 | Second bearing for Ø 40 mm stern tube |

Third bearing for G.R.P. stern tubes

| Type | Description |
|-------|--------------------------------------|
| BR325 | Third bearing for Ø 25 mm stern tube |
| BR330 | Third bearing for Ø 30 mm stern tube |
| BR335 | Third bearing for Ø 35 mm stern tube |
| BR340 | Third bearing for Ø 40 mm stern tube |

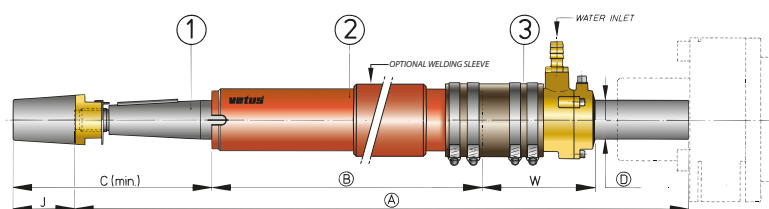
WATER LUBRICATED STERN GEAR

Steel stern tube assembly

When ordering, please specify dimensions A, B and D.

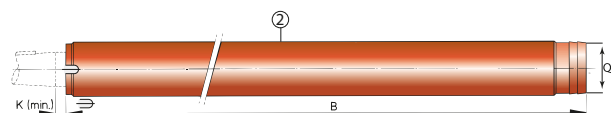
| Type | Ø Shaft (D) | A | B | C | W | J |
|-------|-------------|--------------|-------------------|-----|-----|----|
| BS25 | 25 | Shaft length | Stern tube length | 127 | 112 | 40 |
| BS30 | 30 | | | 172 | 112 | 57 |
| BL35S | 35 | | | 184 | 112 | 54 |
| BL40S | 40 | | | 206 | 114 | 64 |
| BL45S | 45 | | | 226 | 129 | 69 |
| BL50S | 50 | | | 254 | 129 | 79 |
| BL60S | 60 | | | 287 | 93 | 96 |

1. Propeller shaft
2. Stern tube
3. Inner bearing



Steel stern tubes

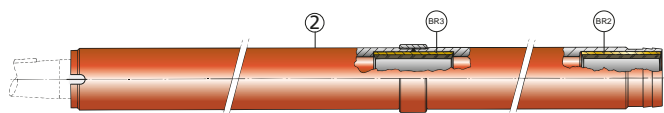
The propeller end of the steel stern tube is provided with an outer cutless bearing. The slots in the tube are designed for easy replacement of the cutless bearing. All steel stern tubes may be supplied with additional sleeves to reduce distortion when welding. Please specify when ordering.



| Type | Ø D | Length B | K | Ø Q |
|-------|-----|------------|----|------|
| BS25 | 25 | on request | 8 | 44 |
| BS30 | 30 | on request | 10 | 51 |
| BL35S | 35 | on request | 10 | 57 |
| BL40S | 40 | on request | 12 | 62 |
| BL45S | 45 | on request | 12 | 70 |
| BL50S | 50 | on request | 15 | 76,1 |
| BL60S | 60 | on request | 15 | 92 |

Type BR2

Steel stern tube with two cutless bearings, one forward and one aft.



Second bearing for stern tubes

| Type | Description |
|-------|---------------------------------------|
| BR225 | Second bearing for Ø 25 mm stern tube |
| BR230 | Second bearing for Ø 30 mm stern tube |
| BR235 | Second bearing for Ø 35 mm stern tube |
| BR240 | Second bearing for Ø 40 mm stern tube |
| BR245 | Second bearing for Ø 45 mm stern tube |
| BR250 | Second bearing for Ø 50 mm stern tube |
| BR260 | Second bearing for Ø 60 mm stern tube |

Type BR3

Steel stern tube with three cutless bearings (forward, intermediate and aft).

Depending on the length, diameter and RPM of the shaft, there is need for 1, 2 or 3 cutless bearings.

Forward cutless bearing must be ordered separately.

Third bearing for stern tubes

| Type | Description |
|-------|--------------------------------------|
| BR325 | Third bearing for Ø 25 mm stern tube |
| BR330 | Third bearing for Ø 30 mm stern tube |
| BR335 | Third bearing for Ø 35 mm stern tube |
| BR340 | Third bearing for Ø 40 mm stern tube |
| BR345 | Third bearing for Ø 45 mm stern tube |
| BR350 | Third bearing for Ø 50 mm stern tube |
| BR360 | Third bearing for Ø 60 mm stern tube |



PROPELLERS

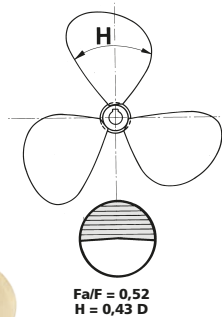
The most essential component of your boat

VETUS makes good use of an especially developed computer programme, which ensures the determination of exactly the right propeller for your boat. The most important elements of propeller design and manufacture are balance, dimensions, material and the blade area.

1. If you bear in mind that a propeller is often rotating at 2.000 r.p.m. (more than 30 revolutions per second), you will understand that it is an absolute must that a good propeller is well-balanced.
2. In order to achieve the best performance and to minimize vibration, it is extremely important to ensure that the pitch of each blade is identical and that the distance between the blades does not vary. (This requires great manufacturing precision.)
3. VETUS propellers are made of manganese bronze, an extremely resilient, yet flexible material.
4. The choice of a good propeller with all above combined qualities, is of the utmost importance.
5. A propeller specialist must always determine the diameter and pitch and the required (fixed) Fa/F ratio. This means the total area of the propeller circle (F) in comparison to the surface area (stretched and developed) of all blades (Fa). The choice of the Fa/F ratio is dependent on the shape of the underwater section and the speed of the boat in question.

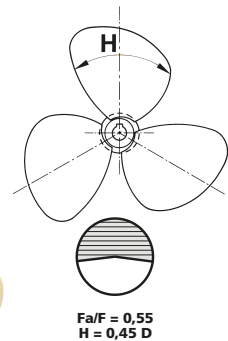
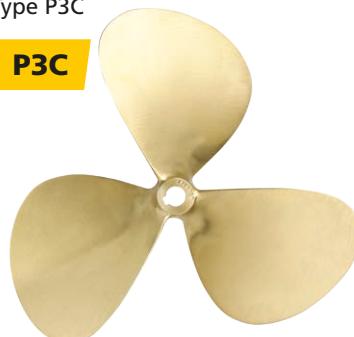
3-Bladed propeller
Type P3B

P3B



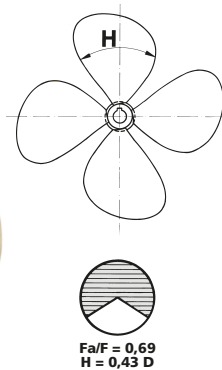
3-Bladed propeller
Type P3C

P3C



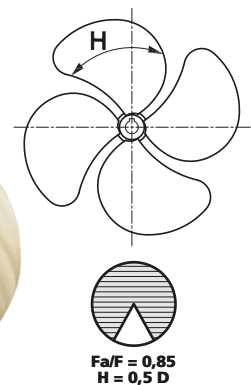
4-Bladed propeller
Type P4E

P4E



4-Bladed propeller
Type P4G

P4G

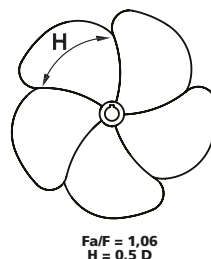


PROPELLERS

Propellers of different types and dimensions are available to special order, with a delivery time of 10 to 12 weeks

5-Bladed propeller
Type P5G

P5G



Note

Types P3B, P3C and P4E have standard shaft holes and keyway. Dimensions are according to ISO 4566. Sizes are indicated in the tables. VETUS can also supply matching propeller shafts from stock (see page 70).

Standard taper of shaft holes of VETUS propellers (1:10). Dimensions according to ISO 4566

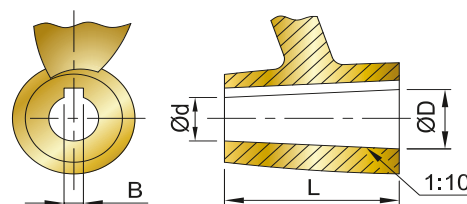
| Propeller diameter | | | | | Shaft hole | | Hub | |
|------------------------|------------------------|------------------------|------------------------|------------------------|-------------------------|--------------------------|-------------------|---------------------|
| 3-bladed propeller P3B | 3-bladed propeller P3C | 4-bladed propeller P4E | 4-bladed propeller P4G | 5-bladed propeller P5G | Largest diameter D (mm) | Smallest diameter d (mm) | Hub length L (mm) | Keyway width B (mm) |
| 12"-15" | 12"-15" | 14"-15" | | | 25 | 19 | 60 | 8 |
| 16"-18" | 16"-18" | 16"-17" | on request | on request | 30 | 22 | 80 | 8 |
| 19"-21" | 19"-21" | 18"-20" | on request | on request | 35 | 26 | 90 | 10 |
| 22"-24" | 22"-24" | 21"-22" | on request | on request | 40 | 30 | 100 | 12 |
| 25" | 25" | 23"-24" | on request | on request | 45 | 34 | 110 | 14 |
| greater than 25" | greater than 25" | on request | on request | on request | 50 | 38 | 120 | 14 |

How to order?

Please give us the propeller diameter and pitch, as well as the number of blades, the sense of rotation and the dimensions of the hub and the taper as shown below. In case propeller details are not known to you: VETUS makes use of an especially developed programme, which ensures the determination of the exactly right propeller for your boat.

Propeller shaft taper

All stock VETUS propellers have a standard taper of 1:10. This means that the difference between the largest and the smallest diameter of the tapered hole represents 10% of the propeller hub length ($D-d=0.1 \times L$). If required, we can machine the hub to a taper of 1:12, 1:16, etc. It takes a few days extra delivery time plus a small surcharge (see pricelist).

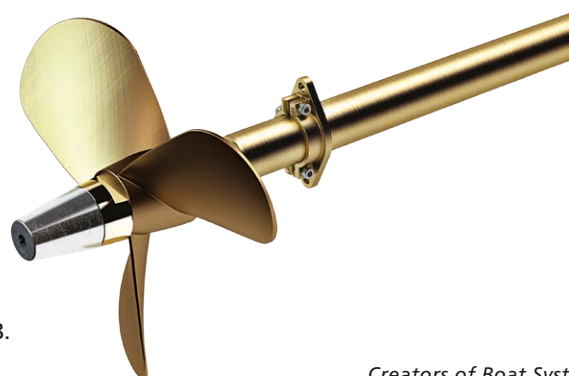


Note:

VETUS offers a wide variety of propeller sizes to special order. Propellers are supplied in manganese bronze. Aluminium bronze propellers can also be supplied to special order.

Zinc anode for shaft nut

| Type | Specifications |
|-------|--|
| SN25B | Spare zinc anode for Ø 25 mm shaft nut |
| SN30B | Spare zinc anode for Ø 30 mm shaft nut |
| SN35B | Spare zinc anode for Ø 35 mm shaft nut |
| SN40B | Spare zinc anode for Ø 40 mm shaft nut |
| SN45B | Spare zinc anode for Ø 45 mm shaft nut |
| SN50B | Spare zinc anode for Ø 50 mm shaft nut |
| SN60B | Spare zinc anode for Ø 60 mm shaft nut |



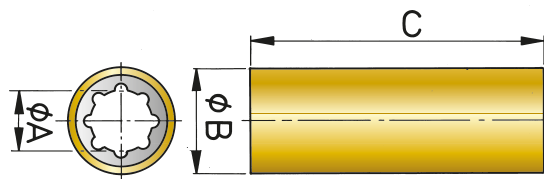
For more information or a overview of anodes see page 367 and 378.

BEARINGS

Water lubricated cutless bearings

These cutless bearings are with polyurethane-rubber linings. The outer bushings are made of either brass or phenolic resin. Phenolic resin is lighter in weight, cannot corrode and can easily be replaced. These bearings are available for shaft diameters between Ø 20 and 100 mm and from 1" through Ø 4". VETUS rubber bearings are also available for larger shaft diameters to special order.

For dimensions please see tables below.



Rubber bearings with shaft size (A) in mm and shell size (B) in inches. Length (C) in mm.

| Brass shell | Phenolic shell | A | B** | C |
|-------------|----------------|------|-------|-----|
| RULAGER20 | RULAG25PH | 20 * | 1 1/4 | 76 |
| RULAGER22 | | 22 * | 1 1/4 | 76 |
| RULAGER25 | | 25 | 1 1/2 | 100 |
| RULAGER30 | RULAG30PH | 30 | 1 3/4 | 120 |
| RULAGER35 | RULAG35PH | 35 | 1 7/8 | 140 |
| RULAGER40 | RULAG40PH | 40 | 2 1/8 | 160 |
| RULAGER45 | RULAG45PH | 45 | 2 3/8 | 180 |
| RULAGER50 | RULAG50PH | 50 | 2 5/8 | 200 |
| RULAGER60 | RULAG60PH | 60 | 3 | 240 |
| RULAGER65 | | 65 * | 3 3/8 | 260 |
| RULAGER70 | RULAG70PH | 70 | 3 1/2 | 280 |
| RULAGER80 | RULAG80PH | 80 | 4 | 320 |

Rubber bearings with shaft size (A) in mm and shell size (B) in mm. Length (C) in mm.

| Brass shell | Phenolic shell | A | B | C |
|-------------|----------------|-----|-----|-----|
| RL2540 | RL2540PH | 25 | 40 | 100 |
| RL3045 | RL3045PH | 30 | 45 | 120 |
| RL3550 | RL3550PH | 35 | 50 | 140 |
| RL4055 | RL4055PH | 40 | 55 | 160 |
| RL4565 | RL4565PH | 45 | 65 | 180 |
| RL5070 | RL5070PH | 50 | 70 | 200 |
| RL6080 | RL6080PH | 60 | 80 | 240 |
| RL7090 | RL7090PH | 70 | 90 | 280 |
| RL8010 | RL8010PH | 80 | 100 | 320 |
| RL9011 | RL9011PH | 90 | 110 | 360 |
| RL1012 | RL1012PH | 100 | 125 | 400 |

Rubber bearings with shaft size (A) in inches and shell size (B) in inches. Length (C) in mm.

| Brass shell | Phenolic shell | A | B | C |
|-------------|----------------|-------|-------|-------|
| RULAG1 | RL1PH | 1 | 1 1/2 | 4 |
| RULAG11/8 | RL11/8PH | 1 1/8 | 1 5/8 | 4 1/2 |
| RULAG11/4 | RL11/4PH | 1 1/4 | 1 3/4 | 5 |
| RULAG13/8 | RL13/8PH | 1 3/8 | 1 7/8 | 5 1/2 |
| RULAG11/2 | RL11/2PH | 1 1/2 | 2 | 6 |
| RULAG15/8 | | 1 5/8 | 2 1/8 | 6 1/2 |
| RULAG13/4 | RL13/4PH | 1 3/4 | 2 3/8 | 7 |
| RULAG2 | RL2PH | 2 | 2 5/8 | 8 |
| RULAG21/4 | RL21/4PH | 2 1/4 | 3 | 9 |
| RULAG21/2 | RL21/2PH | 2 1/2 | 3 1/4 | 10 |
| RULAG23/4 | RL23/4PH | 2 3/4 | 3 3/4 | 11 |
| RULAG3 | RL3PH | 3 | 4 | 12 |
| RULAG31/2 | RL31/2PH | 3 1/2 | 4 1/2 | 14 |
| RULAG4 | RL4PH | 4 | 5 | 16 |

* Available to special order

** Used in VETUS stern gear

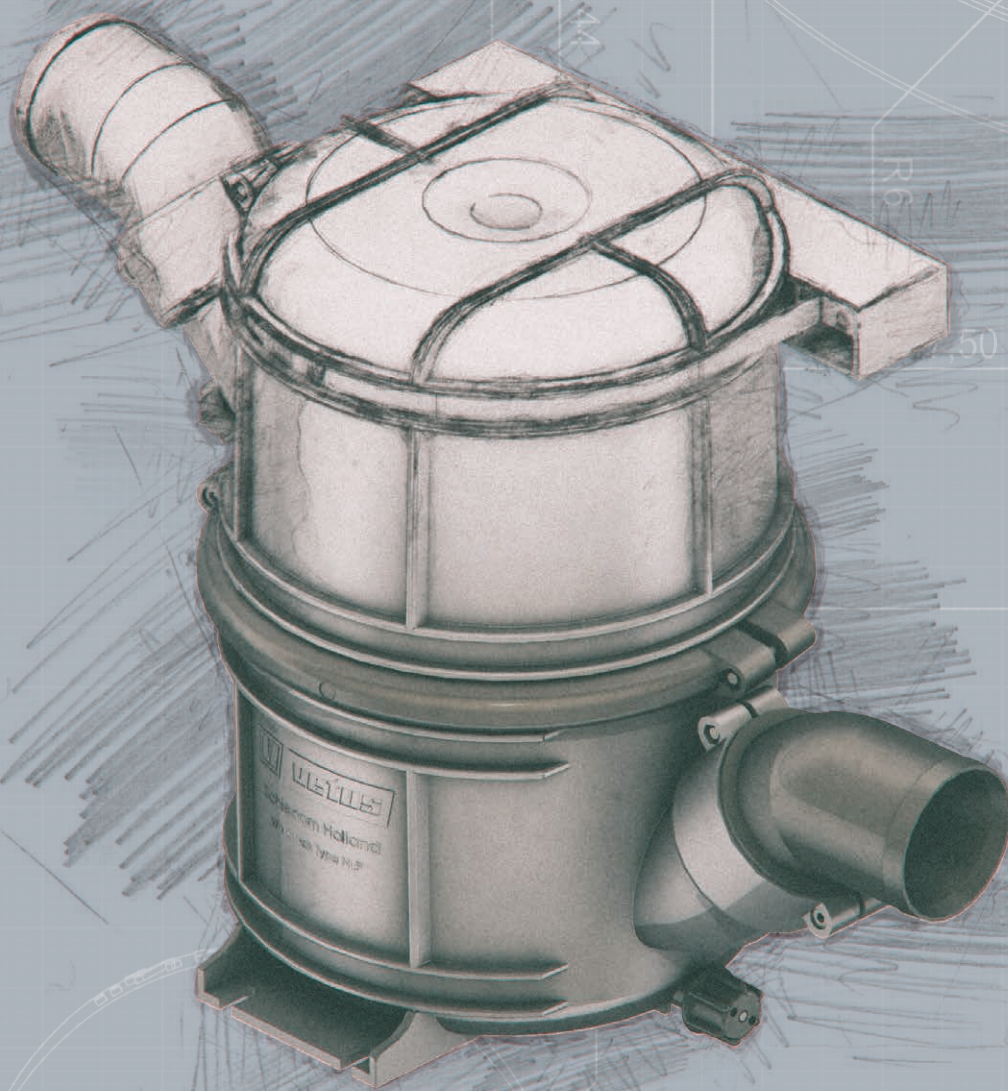


RULAGER

RULAG..PH

RL

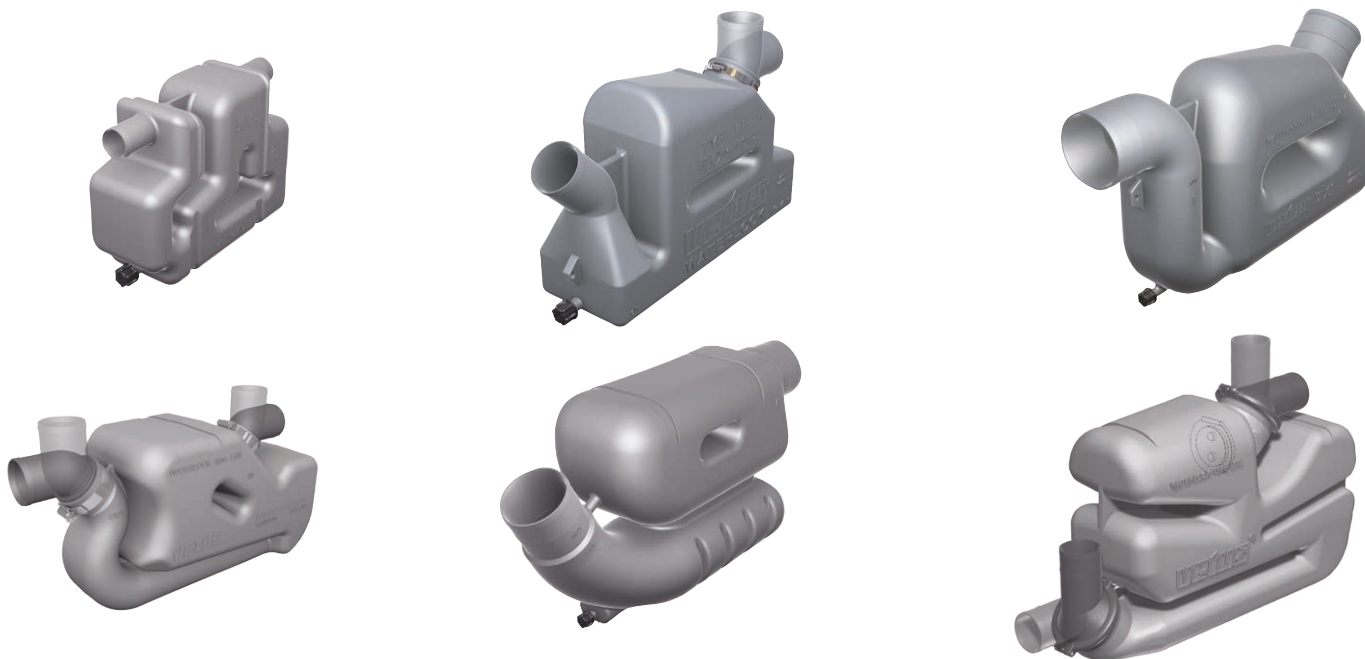
EXHAUST SYSTEMS



Overview VETUS exhaust systems

Waterlock

Standard installations, see page 84



Muffler

For all types, see page 92



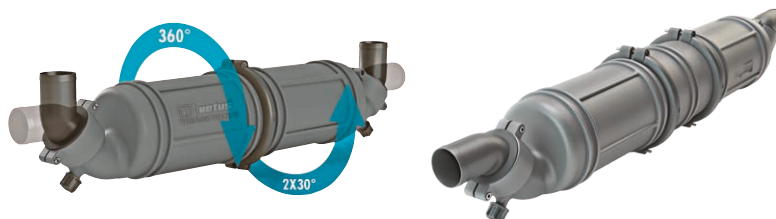
Waterlock

Dual stage, see page 86



Waterlock

For installation in low building space, for instance sailing boats, see page 87



Waterlock

For larger and commercial boats, see page 89



Gooseneck, see page 92



Airvent, see page 94



Separator, see page 96



A WET EXHAUST SYSTEM

A 'dry' exhaust system causes a tremendous amount of noise and diesel exhaust smell. A diesel engine can easily produce an exhaust gas temperature of 600°C or more. However, reduction of exhaust gas temperature to about 40° or 50°C can be achieved by injecting the engine cooling water into the exhaust line. This is how a "wet" exhaust system works. In addition, the typical diesel exhaust smell is also considerably reduced.

Depending on the overall system design, the exhaust gas may flow through one or more of:

- Exhaust hose
- A waterlock/muffler
- A gooseneck
- A transom connector

Why VETUS exhaust systems

All VETUS exhaust systems meet the high standards our customers expect, with just some of the benefits highlighted below:

- All VETUS exhaust systems meet required ABYC standards
- Many system components come complete with rotating connections and bodies for easy installation of hoses from any angle
- Excellent noise reduction is combined with minimal back pressure
- Some available systems use a combination of gooseneck/muffler and waterlock/muffler
- The ASD air vent can be easily dismantled by hand for cleaning and all materials are fully corrosion resistant
- Exhaust hoses are extremely flexible, making installation quick and easy

VETUS OFFERS THE FOLLOWING EXHAUST COMPONENTS

Pleasure boats

Waterlocks type Wlock
Waterlocks type LS
Dual stage waterlocks type NLP
Waterlock type MG

Sailing boats or other types where there is no space for a regular waterlock

Waterlock/muffler type NLPH
Mufflers type DEMP
Mufflers type MV and MF

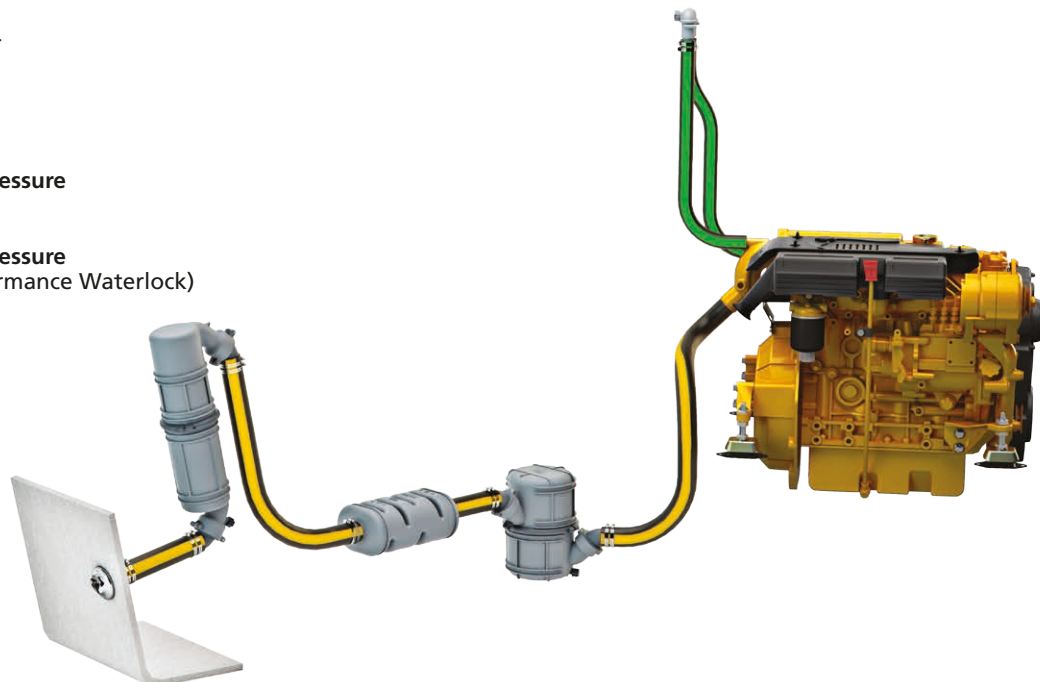
Gooseneck

Gooseneck type WLOCKLT and LT
Waterlock/muffler type NLPHG

Commercial use

Up to 121hp with 0,1 bar back pressure
Waterlock type NLPHD

Up to 302hp with 0,1 bar back pressure
Waterlock type HPW (High Performance Waterlock)



PREVENTING WATER RUNNING BACK TO THE ENGINE

Installation above or below waterline

The cooling water injection point is crucial. If the water injection point is 15 cm or more above the waterline, the cooling water can be injected directly into the exhaust system. But when it is less than 15 cm above or even below the waterline, the cooling system can siphon water through the intake when the engine is turned off. Water can fill up the exhaust system and get back into the engine through the exhaust valves. This can be prevented by using a breather hose (1) in the cooling water system or an air vent (2).

Calculation tool

The waterlock capacity can be easily determined by the following formula:

$$2 \times \left(\frac{\pi}{4} \times D^2 \times L \right) \times 0,25 / 1000.000$$

D = Internal diameter of the hose (mm)

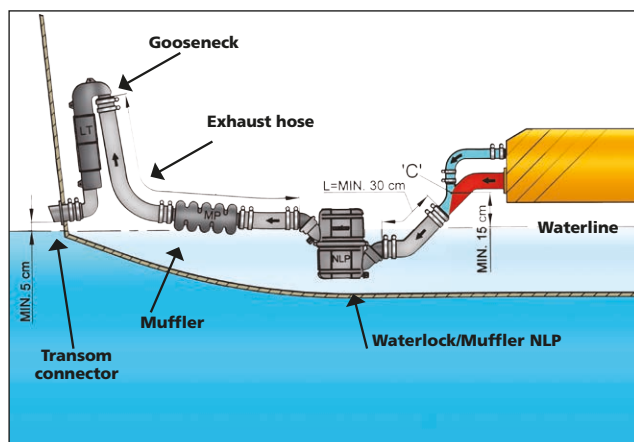
L = Length of hose (mm)

Safety margin

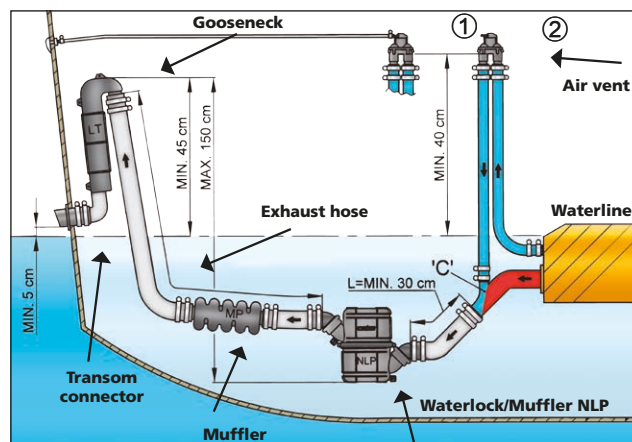
Volume

25% Water in hose

Conversion to litres



Exhaust system with the water injection point "C" **15 cm or more** above the waterline.



Exhaust system with the water injection point "C" **less than 15 cm** above the waterline.

How to choose your perfect Exhaust system

The combination of engine and waterlock determines the optimum sound attenuation. By using this table you will know which combination of engine and waterlock is suitable for you.

| Intake mm | Exhaust mm | Type LP, MF, NLP, LSS, LSL | Type MV | Type MGP, MGS, MGL, LSG |
|-----------|------------|----------------------------|-----------------|-------------------------|
| 30 | 30 | 13,6 hp / 10 kW | - | - |
| 40 | 40 | 24,5 hp / 18 kW | - | - |
| 45 | 45 | 30 hp / 22 kW | - | - |
| 51 | 51 | 38 hp / 28 kW | - | - |
| 60 | 60 | 53 hp / 39 kW | - | 46 hp / 34 kW |
| 76 | 76 | 86 hp / 63 kW | - | 75 hp / 55 kW |
| 90 | 90 | 121 hp / 89 kW | 141 hp / 103 kW | 105 hp / 77 kW |
| 102 | 102 | 155 hp / 114 kW | 181 hp / 133 kW | 136 hp / 100 kW |
| 102 | 127 | - | - | 173 hp / 127 kW |
| 127 | 127 | 241 hp / 177 kW | 281 hp / 206 kW | 211 hp / 155 kW |
| 127 | 152 | - | - | 256 hp / 188 kW |
| 152 | 152 | 345 hp / 254 kW | 403 hp / 296 kW | 302 hp / 222 kW |
| 152 | 203 | - | - | 420 hp / 308 kW |
| 203 | 203 | - | - | 539 hp / 396 kW |
| 203 | 254 | - | - | 691 hp / 508 kW |
| 254 | 254 | - | - | 844 hp / 620 kW |

Note

Values calculated at a back pressure of 0.1 bar. When a higher back pressure is allowed by the engine manufacturer, VETUS waterlocks can be used for engines with a higher output than indicated in this table.

WATERLOCKS

Easy installation

Once the engine of your boat has stopped, with the correctly chosen capacity, VETUS waterlocks will make sure that water will not run back into the engine. All VETUS waterlocks are provided with a drain plug for winter storage.

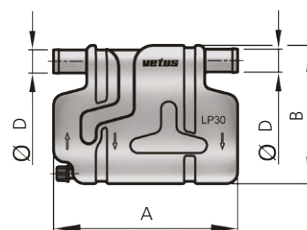
Type WLOCKLP

- Suitable for exhaust hose with an internal diameter of Ø 30 mm



WLOCKLP30

| Type | Capacity (litre) | A (mm) | B (mm) | Ø (D) (mm) |
|-----------|------------------|----------|--------|------------|
| WLOCKLP30 | 2.3 | 240 x 90 | 180 | 30 |



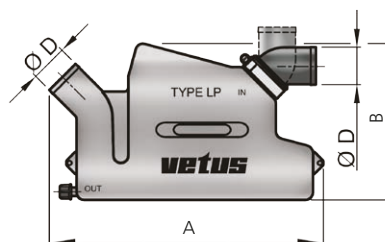
Type WLOCKLR

- Suitable for exhaust hose with internal diameter of Ø 40, 45 or 51 mm
- Type WLOCKL50R is recommended when the total hose length does not exceed 4 metres



WLOCKLR

| Type | Capacity (litre) | A (mm) | B (mm) | Ø (D) (mm) |
|-----------|------------------|-----------|--------|------------|
| WLOCKL40R | 4.3 | 372 x 110 | 211 | 40 |
| WLOCKL45R | 4.3 | 372 x 110 | 211 | 45 |
| WLOCKL50R | 4.3 | 372 x 110 | 211 | 50 |



Type WLOCKLS and WLOCKLP

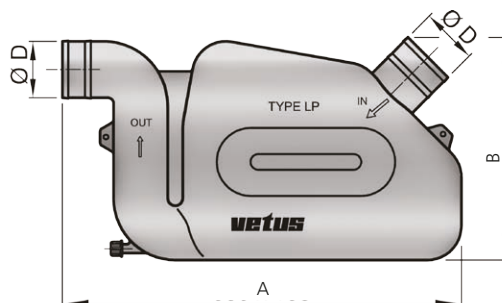
- Suitable for exhaust hose with internal diameter of Ø 51, 60, 76 or 90 mm
- Type WLOCKL50S is recommended when the total hose length does not exceed 4 metres



WLOCKL50S

WLOCKLP

| Type | Capacity (litre) | A (mm) | B (mm) | Ø (D) (mm) |
|-----------|------------------|-----------|--------|------------|
| WLOCKL50S | 10.5 | 530 x 138 | 290 | 50 |
| WLOCKLP60 | 10.5 | 530 x 138 | 290 | 60 |
| WLOCKLP75 | 10.5 | 530 x 138 | 290 | 75 |
| WLOCKLP90 | 10.5 | 530 x 138 | 290 | 90 |



WATERLOCKS

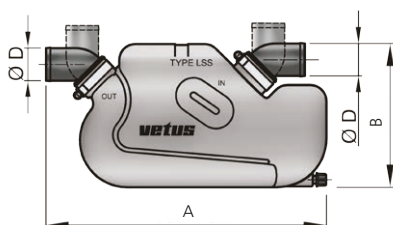
Long exhaust systems

Sometimes the exhaust line is so long that an extra large capacity waterlock is required to prevent water from running back into the engine. The VETUS waterlock type LS is the ideal solution.

Type LSSA

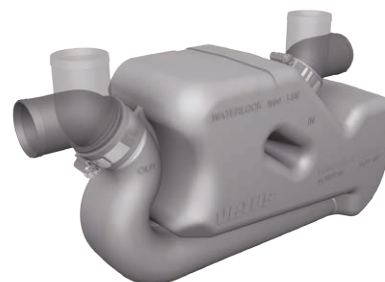
For standard hose connections

- Suitable for exhaust hose with internal diameter of Ø 40, 45 or 51 mm
- 360° Rotating inlet and outlet stubs
- Comes with 1 securing strap



| Type | Capacity (litre) | A (mm) | B (mm) | Ø (D) (mm) |
|--------|------------------|-----------|--------|------------|
| LSS40A | 5.7 | 430 x 152 | 225 | 40 |
| LSS45A | 5.7 | 430 x 152 | 225 | 45 |
| LSS50A | 5.7 | 430 x 152 | 225 | 50 |

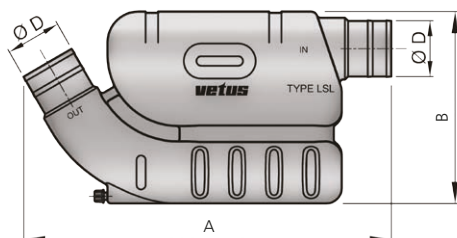
LSSA



Type LSL

For long relatively straight exhaust runs

- Suitable for exhaust hose with internal diameter of Ø 60, 76 or 90 mm
- Non-rotating inlet and outlet connections
- Comes with 2 securing straps



| Type | Capacity (litre) | A (mm) | B (mm) | Ø (D) (mm) |
|-------|------------------|-----------|--------|------------|
| LSL60 | 16 | 596 x 170 | 310 | 60 |
| LSL75 | 16 | 596 x 170 | 310 | 75 |
| LSL90 | 16 | 596 x 170 | 310 | 90 |

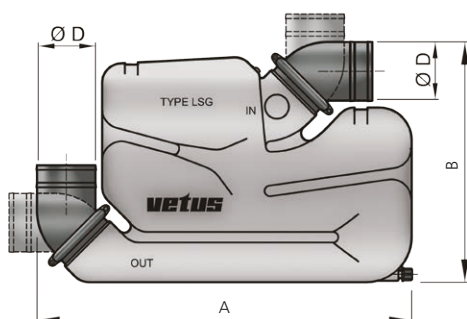
LSL



Type LSG

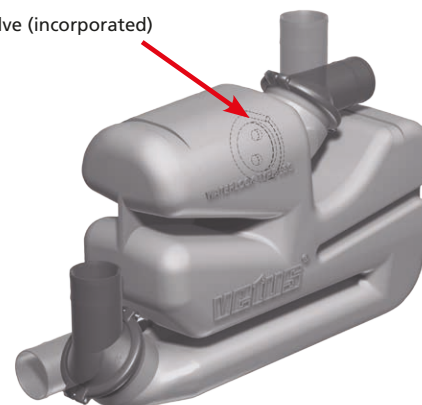
With incorporated check valve for extra security

- Suitable for exhaust hose with internal diameter of Ø 60, 76 or 90 mm
- 360° Rotating inlet and outlet stubs
- Comes with 2 securing straps



| Type | Capacity (litre) | A (mm) | B (mm) | Ø (D) (mm) |
|-------|------------------|-----------|--------|------------|
| LSG60 | 17 | 578 x 170 | 368 | 60 |
| LSG75 | 17 | 578 x 170 | 368 | 75 |
| LSG90 | 17 | 578 x 170 | 368 | 90 |

Check valve (incorporated)



LSG

DUAL STAGE WATERLOCKS

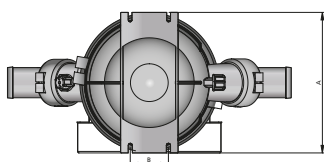
Type NLP

Superior silencing, minimal back pressure

Our NLP waterlocks are of dual stage construction featuring upper and lower chambers with a horizontal partition plate and a riser tube through the centre. The installation of the exhaust system, even in confined engine spaces, is greatly simplified due to the 360° rotating top chamber and both in- and outlet connectors. For optimum silencing of exhaust noise you can also use a VETUS muffler and gooseneck, after the waterlock.

Including mounting brackets for bulkhead or floor mounting

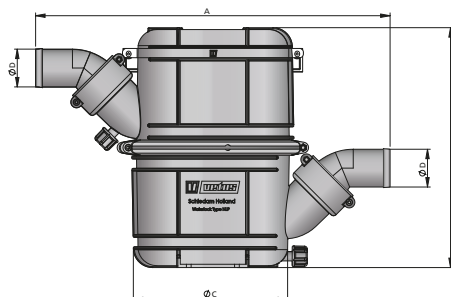
| Type | NLP40 | NLP45 | NLP50 | NLP50S | NLP60 | NLP75 | NLP90 |
|------|-------|-------|-------|--------|-------|-------|-------|
| A | 186 | 186 | 186 | 240 | 240 | 240 | 240 |
| B | 50.5 | 50.5 | 50.5 | 75.5 | 75.5 | 75.5 | 75.5 |



Specifications

- Type NLP40/45/50 has an exhaust hose with inside diameter of Ø 40, 45 or 51 mm with a capacity of 4,5 litres
- Type NLP60/75/90/50S has an exhaust hose with inside diameter of Ø 51, 60, 76 or 90 mm with a capacity of 10 litres
- Comes with 2 securing straps

| Type | Capacity (litre) | A (mm) | B (mm) | Ø (C) (mm) | Ø (D) (mm) |
|--------|------------------|--------|--------|------------|------------|
| NLP40 | 4,5 | 385 | 254 | 165 | 40 |
| NLP45 | 4,5 | 385 | 254 | 165 | 45 |
| NLP50 | 4,5 | 385 | 254 | 165 | 51 |
| NLP50S | 10 | 515 | 362 | 210 | 51 |
| NLP60 | 10 | 515 | 362 | 210 | 60 |
| NLP75 | 10 | 515 | 362 | 210 | 76 |
| NLP90 | 10 | 515 | 362 | 210 | 90 |



Dimensions: plus or minus 2%
 * Capacity of 10 litres, Ø 50 mm

NLP50S*

NLP



NLP

Type NLP40 - 45 - 50



Type NLP60 - 75 - 90 - 50S

WATERLOCK/MUFFLER

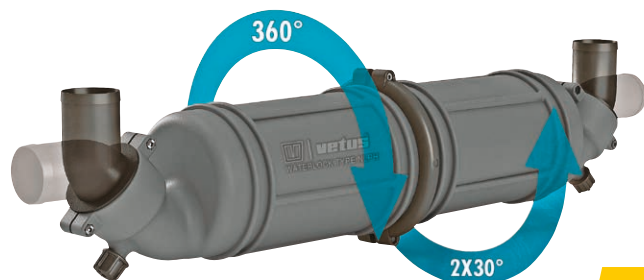
Designed for horizontal installation

The body of this waterlock / muffler consists of 2 rotatable chambers and fully rotatable hose connections, ensuring simple and time saving installation in a wide range of applications.

Type NLPH

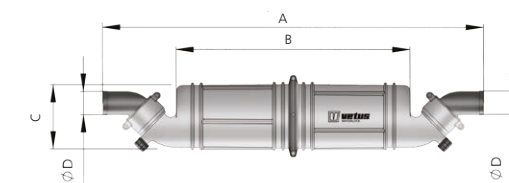
Suitable for a wide range of applications

- Suitable for Ø 40, 45, 51, 60, 76 or 90 mm internal hose diameters

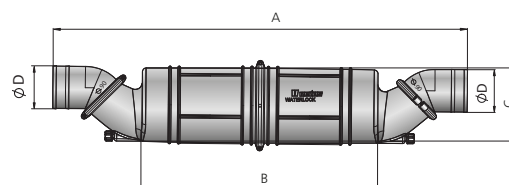


NLPH

| Type | Capacity (litre) | A (mm) | B (mm) | C (mm) | Ø (D) (mm) |
|--------|------------------|--------|--------|--------|------------|
| NLPH40 | 3 | 652 | 400 | 110 | 40 |
| NLPH45 | 3 | 652 | 400 | 110 | 45 |
| NLPH50 | 3 | 652 | 400 | 110 | 50 |
| NLPH60 | 10 | 879 | 500 | 155 | 60 |
| NLPH75 | 10 | 879 | 500 | 155 | 75 |
| NLPH90 | 10 | 879 | 500 | 155 | 90 |



Type 40, 45, 50



Type 60, 75, 90

Type NLP3

The quietest waterlock in the world!

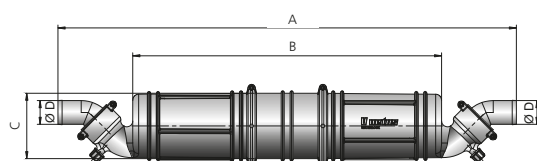
Due to its unique three chamber technology it has a sound reduction of an incredible 10dB more than the traditional waterlocks. Its rotatable chambers and hose connections ensure a quick and simple installation even in the most confined spaces.

- Suitable for hose connections to suit internal diameters of Ø 40, 45, 50, 60, 75 or 90 mm
- Comes with 2 securing straps

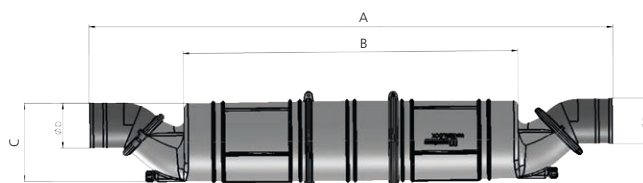
| Type | Capacity (litre) | A (mm) | B (mm) | C (mm) | Ø (D) (mm) |
|--------|------------------|--------|--------|--------|------------|
| NLP340 | 5 | 772 | 520 | 110 | 40 |
| NLP345 | 5 | 772 | 520 | 110 | 45 |
| NLP350 | 5 | 772 | 520 | 110 | 50 |
| NLP360 | 13 | 1050 | 670 | 155 | 60 |
| NLP375 | 13 | 1050 | 670 | 155 | 75 |
| NLP390 | 13 | 1050 | 670 | 155 | 90 |



NLP3



Type 40, 45, 50



Type 60, 75, 90

WATERLOCKS SPECIFICALLY FOR LARGER BOATS

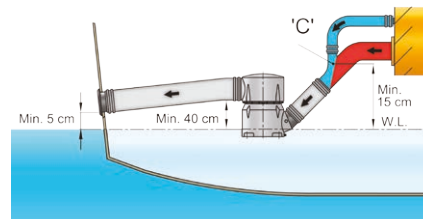
Excellent sound reduction, minimal back pressure

This type of waterlock is designed for modern high performance boats with one or two large engines which have little space to spare in the engine room. The outlet connection at the top can rotate through 360° and the inlet connection is at an angle of 45° upward. Type MG can only be installed in water injected exhaust systems. Its body is entirely made of synthetic materials, therefore not susceptible to corrosion or galvanic action.

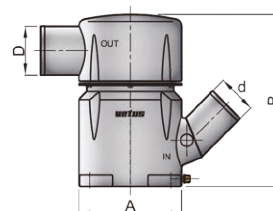
Type MG

Specifications

- Excellent sound reduction
- Minimal back pressure
- Drain valve for winter storage
- Suitable for Ø 90, 102, 127, 152, 209 or 250 mm internal hose diameters
- Capacities of 23, 75 or 130 litres
- Comes with stainless steel (AISI 316) clamp bands



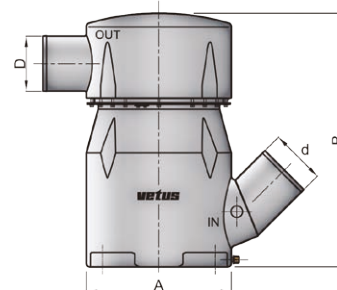
| Type | Ø d (mm) | Ø D (mm) | Ø A (mm) | B (mm) | Capacity (litres) |
|-----------|----------|----------|----------|--------|-------------------|
| MGP9090 | 90 | 90 | 270 | 450 | 23 |
| MGP102102 | 102 | 102 | 270 | 450 | 23 |
| MGP5455 | 127 | 127 | 270 | 450 | 23 |
| MGP102127 | 102 | 127 | 270 | 450 | 23 |



MGP



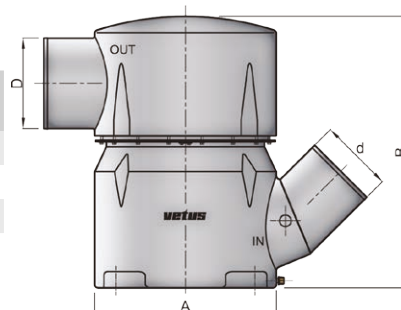
| Type | Ø d (mm) | Ø D (mm) | Ø A (mm) | B (mm) | Capacity (litres) |
|----------|----------|----------|----------|--------|-------------------|
| MGS5455A | 127 | 127 | 400 | 700 | 75 |
| MGS5456A | 127 | 152 | 400 | 700 | 75 |
| MGS6456A | 152 | 152 | 400 | 700 | 75 |



MGS



| Type | Ø d (mm) | Ø D (mm) | Ø A (mm) | B (mm) | Capacity (litres) |
|-----------|----------|----------|----------|--------|-------------------|
| MGL6458A | 152 | 203 | 500 | 750 | 130 |
| MGL8458A | 203 | 203 | 500 | 750 | 130 |
| MGL84510A | 203 | 250 | 500 | 750 | 130 |



MGL

Flexible mountings for waterlocks, see page 98.

Note

For a minimum order of 10 pieces, we can supply these waterlocks with inlet or outlet connection at an angle of 0°, 15° or 30°.

WATERLOCKS SPECIFICALLY FOR COMMERCIAL BOATS

Heavy Duty Line

Heavy duty waterlocks

The HD waterlocks are made of a special blended composite which is heat resistant up to 260°C, almost twice as much as standard GRP materials! The same applies for the thermal resistance to deformation under pressure. It is perfect for applications where the system is put to the test such as commercial or coastguard vessels.

The NLP waterlock design is already known for its extraordinary noise reduction features, versatile installation options and extremely low back pressure. By adding mechanical properties, this product can meet any challenge. The Heavy Duty Line is therefore unique in this market!

We offer two types of HD waterlocks; the NLPHD (4.5 - 10 litres) and the HPW (55 litres).

For specifications see next page.



NLPHD



HPW

| Specifications | VETUS Heavy Duty Composite | GRP | Class 1 Epoxy Vinyl Ester resin |
|---|-----------------------------------|-----------------------------------|---------------------------------------|
| Material temperature resistance | 260 °C | 150 °C | 174 °C |
| Continuous operating temperature | 180 °C | 120 °C | 140 °C |
| Maximum operating temperature | 250 °C | 150 °C | 174 °C |
| Temperature for deflection under load (1.8MPa, 18 bar, 260 psi) | 250 °C | 120 °C | 140 °C |
| Tensile strength | 190 Mpa 1900 Bar 27,560 psi | 100 Mpa 1000 Bar 14500 psi | 114 Mpa 1140 Bar 16,530 psi |
| Flexural strength | 300 Mpa 3000 Bar 43,500 psi | 140 Mpa 1400 Bar 20,300 psi | 167 Mpa 1670 Bar 24,200 psi |



WATERLOCKS SPECIFICALLY FOR COMMERCIAL BOATS

NLPHD

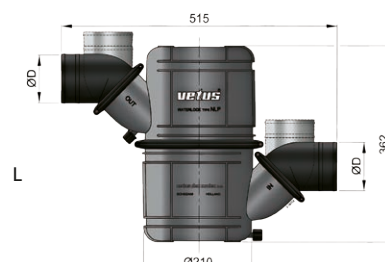
Specifications

- Suitable for Ø 40, 45, 50, 60, 75 and 90 mm internal hose diameters
- 360° Rotating bodies and hose connections (infinite connection possibilities)
- Available in black or white
- Comes with floor and bulkhead mounting brackets

| Type | Colour | Hose Ø mm | Capacity (litres) | Drawing |
|-----------|--------|-----------|-------------------|---------|
| NLP40HD | Black | 40 | 4.5 | S |
| NLP45HD | Black | 45 | 4.5 | S |
| NLP50HD | Black | 50 | 4.5 | S |
| NLP50SHD | Black | 50 | 10 | L |
| NLP60HD | Black | 60 | 10 | L |
| NLP75HD | Black | 75 | 10 | L |
| NLP90HD | Black | 90 | 10 | L |
| NLP40WHD | White | 40 | 4.5 | L |
| NLP45WHD | White | 45 | 4.5 | L |
| NLP50WHD | White | 50 | 4.5 | L |
| NLP50SWHD | White | 50 | 10 | L |
| NLP60WHD | White | 60 | 10 | L |
| NLP75WHD | White | 75 | 10 | L |
| NLP90WHD | White | 90 | 10 | L |



NLPHD



HPW

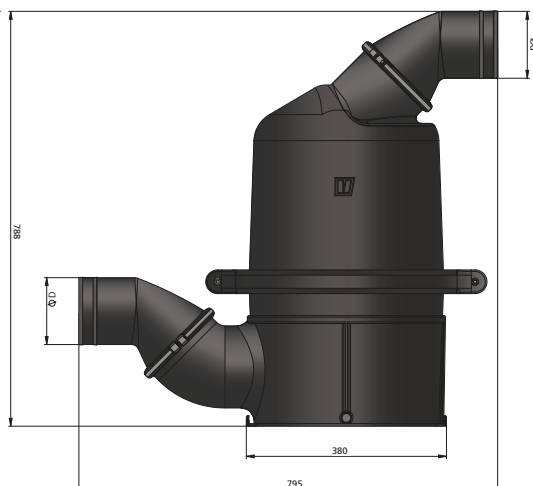
Specifications

- Suitable for Ø 127 and 152 mm internal hose diameters
- 360° Rotating bodies and hose connections (infinite connection possibilities)
- Available in black
- Comes with floor mounting brackets

NEW!



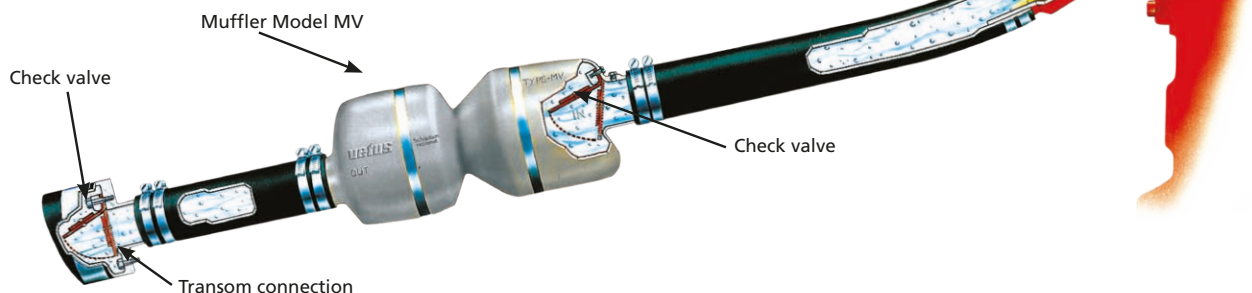
HPW



| Type | Colour | Ø D mm | Ø d mm | Capacity (litres) |
|-----------|--------|--------|--------|-------------------|
| HPW127 | Black | 127 | 127 | 55 |
| HPW152 | Black | 152 | 152 | 55 |
| HPW127152 | Black | 127 | 152 | 55 |

EXHAUST SYSTEMS FOR HIGH-PERFORMANCE CRAFT

Especially developed for fast craft with powerful engines



This system is only applicable to water-injected exhaust systems and is perfect for fast craft with powerful engines without available space for installation of a waterlock and/or gooseneck. By using this compact system you have tremendous reduction of exhaust noise with minimal back pressure. All parts are made of synthetic materials, corrosion free and light weight.

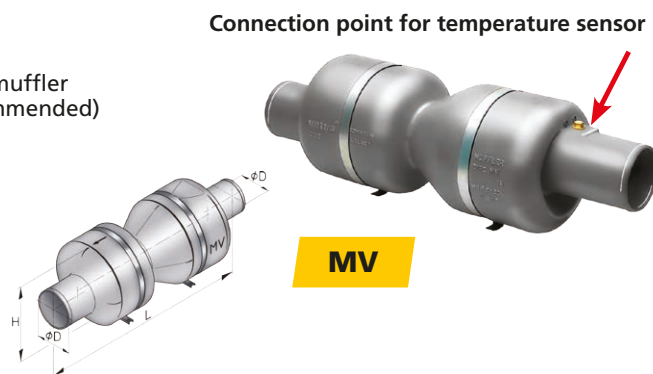
The transom connections for this system are available in stainless steel (AISI 316) or reinforced black plastic. Both the waterlock and the transom connection are provided with a check valve which prevents the seawater from flowing into the engine.

Type MV

Specifications

- For hose diameters Ø 90, 100, 125 and 150 mm
- Comes with stainless steel (AISI 316) mounting brackets for muffler
- Temperature sensor for a raw water alarm is optional (recommended)
See page 96

| Type | Ø D (mm) | Ø H (mm) | L (mm) | Capacity (litre) |
|-------|----------|----------|--------|------------------|
| MV090 | 90 | 210 | 702 | 11,5 |
| MV100 | 100 | 210 | 702 | 11,5 |
| MV125 | 125 | 320 | 910 | 37 |
| MV150 | 150 | 320 | 910 | 37 |

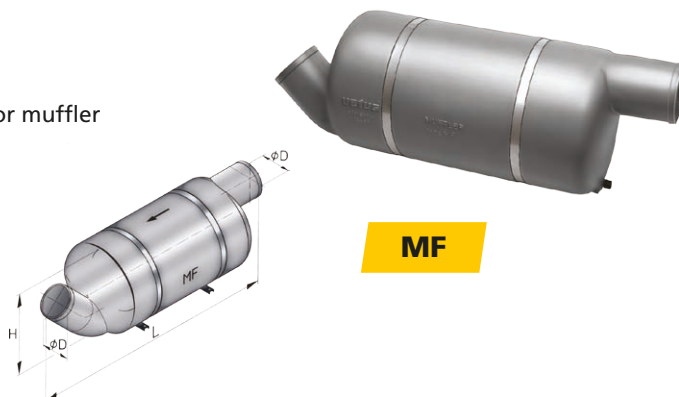


Type MF

Specifications

- For hose diameters Ø 90, 102, 127 and 152 mm
- Comes with stainless steel (AISI 316) mounting brackets for muffler

| Type | Ø D (mm) | Ø (mm) | L (mm) | Capacity (litre) |
|-------|----------|--------|--------|------------------|
| MF090 | 90 | 210 | 728 | 13 |
| MF100 | 102 | 210 | 735 | 13 |
| MF125 | 127 | 320 | 940 | 43,5 |
| MF150 | 152 | 320 | 959 | 43,5 |



Note

Both types should be installed exclusively in combination with an approved reinforced rubber exhaust hose (see page 374).

MUFFLER

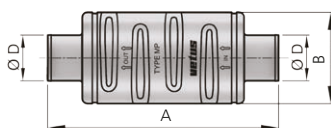
Type DEMPMP

Better noise reduction

The construction of the muffler causes almost no resistance to the free flow of the exhaust gases. It creates additional mixing of the water inside the exhaust line which results in even better noise reduction.

- Suitable for Ø 40, 45, 51, 60, 76, 90 or 102 mm internal hose diameters

| Type | A (mm) | B (mm) | Ø D (mm) |
|-----------|-----------|--------|----------|
| DEMPMP40 | 368 x 108 | 158 | 40 |
| DEMPMP45 | 368 x 108 | 158 | 45 |
| DEMPMP50 | 368 x 108 | 158 | 51 |
| DEMPMP60 | 368 x 108 | 158 | 60 |
| DEMPMP76 | 456 x 130 | 180 | 76 |
| DEMPMP90 | 456 x 130 | 158 | 90 |
| DEMPMP100 | 580 x 168 | 158 | 102 |



DEMPMP

MUFFLER AND GOOSENECK

Type NLPG

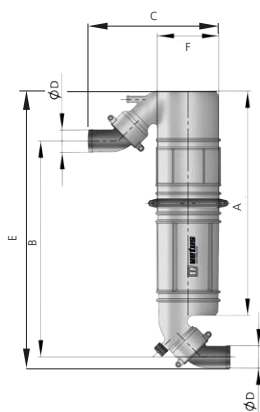
Perfect combination of a muffler and gooseneck

Combining the functions of a muffler and gooseneck saves installation time and space while maintaining the essential qualities of a good exhaust system with impressive negligible back pressure. The gooseneck prevents water back filling the exhaust and the muffler creates additional water mixing to reduce further exhaust noise.

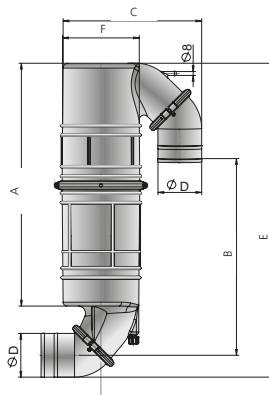
Specifications

- Suitable for exhaust hose with internal diameter of Ø 40, 45, 51, 60, 75 or 90 mm
- Fully rotatable sections and hose connections to ensure easy installation
- Comes with a hose stub to connect the air vent

| Type | Capacity (litre) | A (mm) | B (mm) | Ø C (mm) | Ø (D) (mm) | E (mm) | Ø F (mm) |
|--------|------------------|--------|--------|----------|------------|--------|----------|
| NLPG40 | 3 | 385 | 400 | 110 | 40 | 494 | 110 |
| NLPG45 | 3 | 385 | 400 | 110 | 45 | 494 | 110 |
| NLPG50 | 3 | 385 | 400 | 110 | 50 | 494 | 110 |
| NLPG60 | 10 | 405 | 500 | 285,3 | 60 | 646,4 | 160 |
| NLPG75 | 10 | 405 | 500 | 285,3 | 75 | 646,4 | 160 |
| NLPG90 | 10 | 405 | 500 | 285,3 | 90 | 646,4 | 160 |



Type NLPG40 - 45 - 50



Type NLPG60 - 75 - 90



NLPG

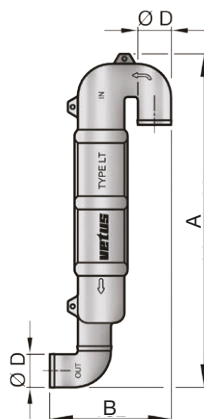
GOOSENECK

The gooseneck raises the exhaust line above the waterline and provides additional noise reduction. The outlet fits directly to all VETUS rubber transom connectors.

Type WLOCKLT

This gooseneck is suitable for an exhaust hose with an internal diameter of Ø 40, 45, 51 or 60 mm. Engines with a 57 mm exhaust elbow can be connected to a Ø 60 mm VETUS exhaust hose and use 60 mm exhaust components.

| Type | A (mm) | B (mm) | Ø D (mm) |
|-----------|-----------|--------|----------|
| WLOCKLT40 | 502 x 135 | 182 | 40 |
| WLOCKLT45 | 502 x 135 | 182 | 45 |
| WLOCKLT50 | 502 x 135 | 182 | 51 |
| WLOCKLT60 | 502 x 135 | 182 | 60 |

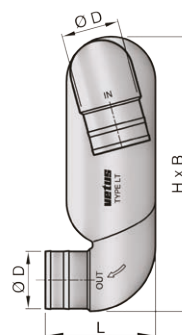


WLOCKLT

Type LT

This type is suitable for an exhaust hose with an internal diameter of Ø 76, 90, 102, 127 or 152 mm. Supplied with stainless steel (AISI 316) mounting brackets.

| Type | L (mm) | H (mm) | B (mm) | Ø D (mm) |
|--------|--------|--------|--------|----------|
| LT 65 | 155 | 500 | 235 | 65 |
| LT 75 | 155 | 500 | 235 | 76 |
| LT 90 | 210 | 525 | 300 | 90 |
| LT 102 | 210 | 525 | 300 | 102 |
| LT 110 | 210 | 525 | 300 | 110 |
| LT 127 | 275 | 565 | 380 | 127 |
| LT 152 | 275 | 565 | 380 | 152 |



LT

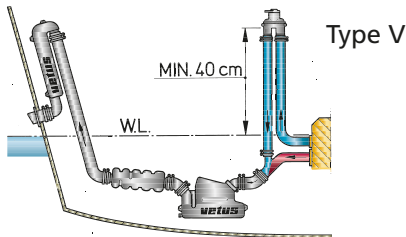


AIR VENTS

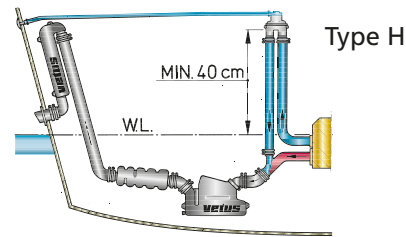
Anti-siphoning

When the cooling water injection point is less than 15 cm above the waterline, the cooling system can siphon water through the intake when the engine is turned off. Water can siphon into the exhaust system and even into the engine itself. This can be prevented by using an air vent.

Type ASDV with pressure valve



Type ASDH with ventilation hose



Type ASDV with pressure valve

Less maintenance is needed

This air vent is made of synthetic material and is exchangeable with type AIRVENT due to the same fixing holes centres. It has a silicone anti-siphon pressure valve and is self-contained.

Specifications

- Types ASDV and type AIRVENTV are suitable for hose connections with an internal diameter of Ø 13, 19, 25 or 32 mm
- Type ASD38V has a hose connection with an internal diameter of Ø 38 mm and is ideal for toilets or holding tanks which are installed below the waterline

Type ASDH with ventilation hose

Constant bleed of cooling water

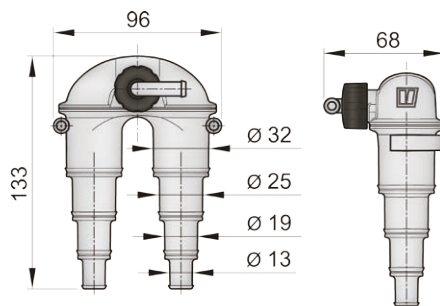
This air vent has a hose connection to the outside of the hull and has a constant bleed of cooling water through the hose while the engine is running. Type H comes with a skin fitting, hose clamps and 4 metres of hose.

Specifications

- Types ASDH and type AIRVENTH are suitable for Ø 13, 19, 25 or 32 mm internal hose connections
- Type ASD38H has a Ø 38 mm hose connection and is ideal for toilets or holding tanks which are installed below the waterline



| Type | | Ø Hose (mm) |
|------|-------------------------------|-------------------|
| ASDV | Anti Syphon Device with valve | 13 / 19 / 25 / 32 |
| ASDH | Anti Syphon Device with hose | 13 / 19 / 25 / 32 |



ASDV

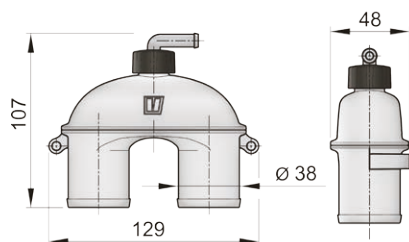


ASDH



AIR VENTS

Type ASD

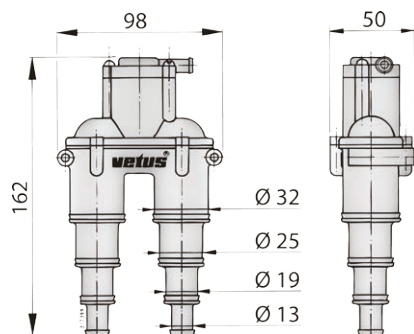


ASD38V

ASD38H

| Type | | Ø Hose (mm) |
|---------------|-------------------------------|-------------|
| ASD38V | Anti Syphon Device with valve | 38 |
| ASD38H | Anti Syphon Device with hose | 38 |

Type AIRVENT



AIRVENTV



AIRVENTH



| Type | | Ø Hose (mm) |
|-----------------|--------------------|-------------------|
| AIRVENTV | Airvent with valve | 13 / 19 / 25 / 32 |
| AIRVENTH | Airvent with hose | 13 / 19 / 25 / 32 |

For both model ASD and AIRVENT a mounting bracket is available to facilitate installation onto surfaces clad with sound insulation (see page 130). This mounting bracket is supplied with bolts, washers and self-locking nuts to mount the air vent.



GAS / WATER SEPARATOR

For marine engines and generator sets

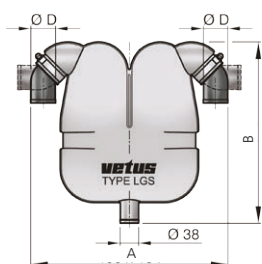
The VETUS gas / water separator has a double function. It separates the injected raw cooling water from the exhaust gases and also functions as a gooseneck, providing an excellent sound attenuation so it no longer produces disturbing, gurgling exhaust noises.

Type LGS 40/45/50/60/75/90

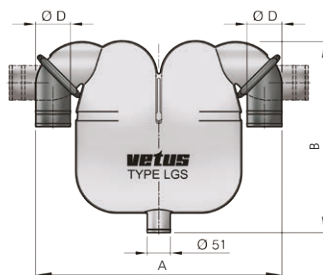
Specifications

- 360° Rotating hose connections for 40, 45 or 51, 60, 76 or 91 mm internal hose diameters
- Cooling water drain of 38 mm or 51 mm
- Comes with stainless steel (AISI 316) mounting bracket with synthetic straps

| Type | A (mm) | B (mm) | Ø D (mm) | Capacity (litre) |
|---------|-----------|--------|----------|------------------|
| LGS4038 | 406 x 134 | 370 | 40 | 7 |
| LGS4538 | 406 x 134 | 370 | 45 | 7 |
| LGS5038 | 406 x 134 | 370 | 51 | 7 |
| LGS6050 | 540 x 170 | 420 | 60 | 12 |
| LGS7550 | 540 x 170 | 420 | 76 | 12 |
| LGS9075 | 559 x 170 | 537 | 91 | 20 |



Type LGS40 - 45 - 50



Type LGS60 - 75 - 90



LGS

NEW!



EXHAUST TEMPERATURE ALARM

Safety first. Always place an alarm in the exhaust line!

A blockage in the engine water intake or a damaged pump impeller will result in a complete loss, or severe reduction in the volume of cooling water in the exhaust system. In this case the temperature in the exhaust will rise much faster than the temperature of the engine. VETUS always recommends placing an exhaust temperature alarm that provides a visual and audible alarm when the temperature inside the exhaust hose or the muffler exceeds an acceptable level.

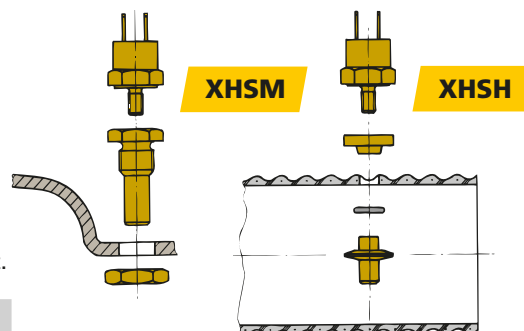
Specifications

- Alarm cut-out dimension Ø 52 mm, overall diameter 62 mm
- Build-in depth 40 mm
- Suitable for 12 or 24 Volt D.C.
- Use sensor XHSM in VETUS waterlocks that have a pre-installed connection
- Use sensor type XHSH for fitting in the exhaust hose

Note

The temperature sensors and the alarm unit must be ordered separately.
In case of a twin engine installation, 2 sensors can be connected to 1 alarm unit.

| Type | Colour |
|--------|---|
| XHI12B | Dashboard instrument for exhaust temperature alarm 12 V |
| XHI24B | Dashboard instrument for exhaust temperature alarm 24 V |
| XHI12W | Dashboard instrument for exhaust temperature alarm 12 V |
| XHI24W | Dashboard instrument for exhaust temperature alarm 24 V |
| XHSM | Sensor for exhaust temperature alarm to fit MF/MV/LSG/LSS/MGS/MGL/MGP |
| XHSH | Sensor for exhaust temperature alarm to fit exhaust hose |



XHI

TRANSOM EXHAUST CONNECTIONS

Easy mounting to transom

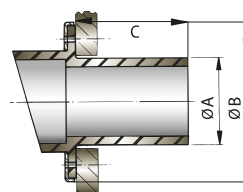
Type TRCR

The flexible EPDM rubber connector is mounted to the outside of the transom with a 2 mm thick stainless steel (AISI 316) mounting ring. VETUS mufflers and goosenecks with corresponding dimensions fit directly into the rubber sleeve. For connection of the exhaust hose, a plastic connector type SLVBR or SLVBG is required (see page 98).



TRCR

| Type | For exhaust hose (I.D.) (mm) | A = hole size Ø (mm) | Ø B (mm) | C (mm) |
|----------|------------------------------|----------------------|----------|--------|
| TRC40R | 40 | 53 | 86 | 86 |
| TRC45R | 45 | 58 | 114 | 86 |
| TRC50R | 51 | 63 | 114 | 86 |
| TRC60R | 60 | 73 | 114 | 86 |
| TRC7590R | 76 and 90 | 111 | 164 | 90 |



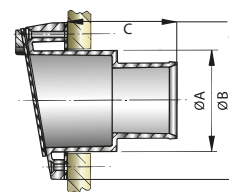
Type TRCPV / TRCSV

Type TRCPV has a synthetic body, Type TRCSV is made from stainless steel (AISI 316). Both types have an integral check valve. The exhaust hose can be fitted directly to these transom connectors.



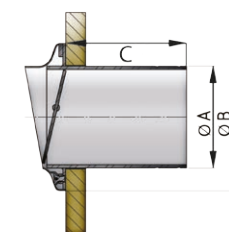
TRCPV

| Type | For exhaust hose (I.D.) (mm) | A = hole size Ø (mm) | Ø B (mm) | C (mm) |
|---------|------------------------------|----------------------|----------|--------|
| TRC40PV | 40 | 52 | 88 | 75 |
| TRC45PV | 45 | 52 | 88 | 75 |
| TRC50PV | 51 | 68 | 104 | 75 |
| TRC60PV | 60 | 68 | 104 | 75 |
| TRC75PV | 76 | 97 | 140 | 95 |
| TRC90PV | 90 | 97 | 140 | 95 |



TRCSV

| Type | For exhaust hose (I.D.) (mm) | A = hole size Ø (mm) | Ø B (mm) | C (mm) |
|----------|------------------------------|----------------------|----------|--------|
| TRC40SV | 40 | 41 | 74 | 75 |
| TRC45SV | 45 | 46 | 79 | 75 |
| TRC50SV | 51 | 51 | 84 | 75 |
| TRC60SV | 60 | 61 | 94 | 75 |
| TRC75SV | 76 | 77 | 110 | 90 |
| TRC90SV | 90 | 91 | 123 | 110 |
| TRC100SV | 102 | 103 | 140 | 115 |
| TRC125SV | 127 | 128 | 169 | 140 |
| TRC150SV | 152 | 153 | 194 | 150 |



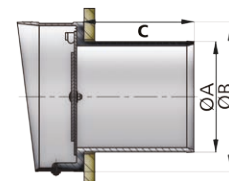
Type TC

Type TC is made from black glass reinforced synthetic with a decorative stainless steel (AISI 316) band. The exhaust hose can be fitted directly to this transom connector.



TC

| Type | For exhaust hose (I.D.) (mm) | A = hole size Ø (mm) | Ø B (mm) | C (mm) |
|-------|------------------------------|----------------------|----------|--------|
| TC90 | 90 | 93 | 141 | 110 |
| TC100 | 102 | 103 | 155 | 115 |
| TC125 | 127 | 128 | 178 | 140 |
| TC150 | 152 | 153 | 203 | 150 |

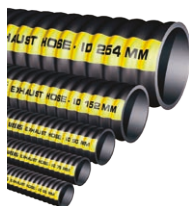


ACCESSORIES

Rubber exhaust hose type SLANG

Flexible and strong, saving valuable installation time

For a complete overview and available sizes see page 372.



SLANG

Silicone hose type SIHOSE

Fits perfectly in a clean and tidy area

For a complete overview and available sizes see page 372.



SIHOSE

Synthetic hose connections

These hose connectors are made of synthetic material and are available in a straight, 60° or 90° bend type.

Type SLVBR

This is a straight type and suitable for hoses with an internal diameter of Ø 40 to 150 mm.



SLVBR

| Type | |
|----------|------------------|
| SLVBR40K | Straight Ø 40 mm |
| SLVBR45K | Straight Ø 45 mm |
| SLVBR50K | Straight Ø 50 mm |
| SLVBR60K | Straight Ø 60 mm |
| SLVBR65K | Straight Ø 65 mm |
| SLVBR75K | Straight Ø 75 mm |

| Type | |
|-----------|-------------------|
| SLVBR90K | Straight Ø 90 mm |
| SLVBR100K | Straight Ø 100 mm |
| SLVBR110K | Straight Ø 110 mm |
| SLVBR125K | Straight Ø 125 mm |
| SLVBR150K | Straight Ø 150 mm |

Type SLVBG

This is a 60° bend type and suitable for hoses with an internal diameter of Ø 40 to 150 mm.



SLVBG

| Type | |
|----------|------------------|
| SLVBG40K | Bent 60° Ø 40 mm |
| SLVBG45K | Bent 60° Ø 45 mm |
| SLVBG50K | Bent 60° Ø 50 mm |
| SLVBG60K | Bent 60° Ø 60 mm |
| SLVBG65K | Bent 60° Ø 65 mm |
| SLVBG75K | Bent 60° Ø 75 mm |

| Type | |
|-----------|-------------------|
| SLVBG90K | Bent 60° Ø 90 mm |
| SLVBG100K | Bent 60° Ø 100 mm |
| SLVBG110K | Bent 60° Ø 110 mm |
| SLVBG125K | Bent 60° Ø 125 mm |
| SLVBG150K | Bent 60° Ø 150 mm |

Type ELB

This is a 90° bend type and suitable for hoses with an internal diameter of Ø 127, 152, 203 or 254 mm.



ELB

| Type | |
|----------|-------------------|
| ELB90127 | Bent 90° Ø 127 mm |
| ELB90152 | Bent 90° Ø 152 mm |

| Type | |
|----------|-------------------|
| ELB90203 | Bent 90° Ø 203 mm |
| ELB90254 | Bent 90° Ø 254 mm |

Flexible mountings for waterlocks

Minimise the noise

These flexible mountings can be used to minimise the noise caused by induced vibrations in the waterlock.

| Type | |
|---------|--|
| MGVIB45 | Anti vibration mounts for MGP waterlocks up to 35 kg |
| MGVIB55 | Anti vibration mounts for MGS and MGL waterlocks up to 65 kg |



MGVIB45

MGVIB55

Water mixer

In some boats the exhaust waterlock must be positioned so closely behind the engine's exhaust manifold (this is especially true in the case of near horizontal exhaust assemblies), that the injected cooling water does not always mix properly with the hot exhaust gases. This often results in the exhaust hose and/or the waterlock becoming overheated. Installation of a water mixer directly behind the exhaust manifold will prevent this problem.

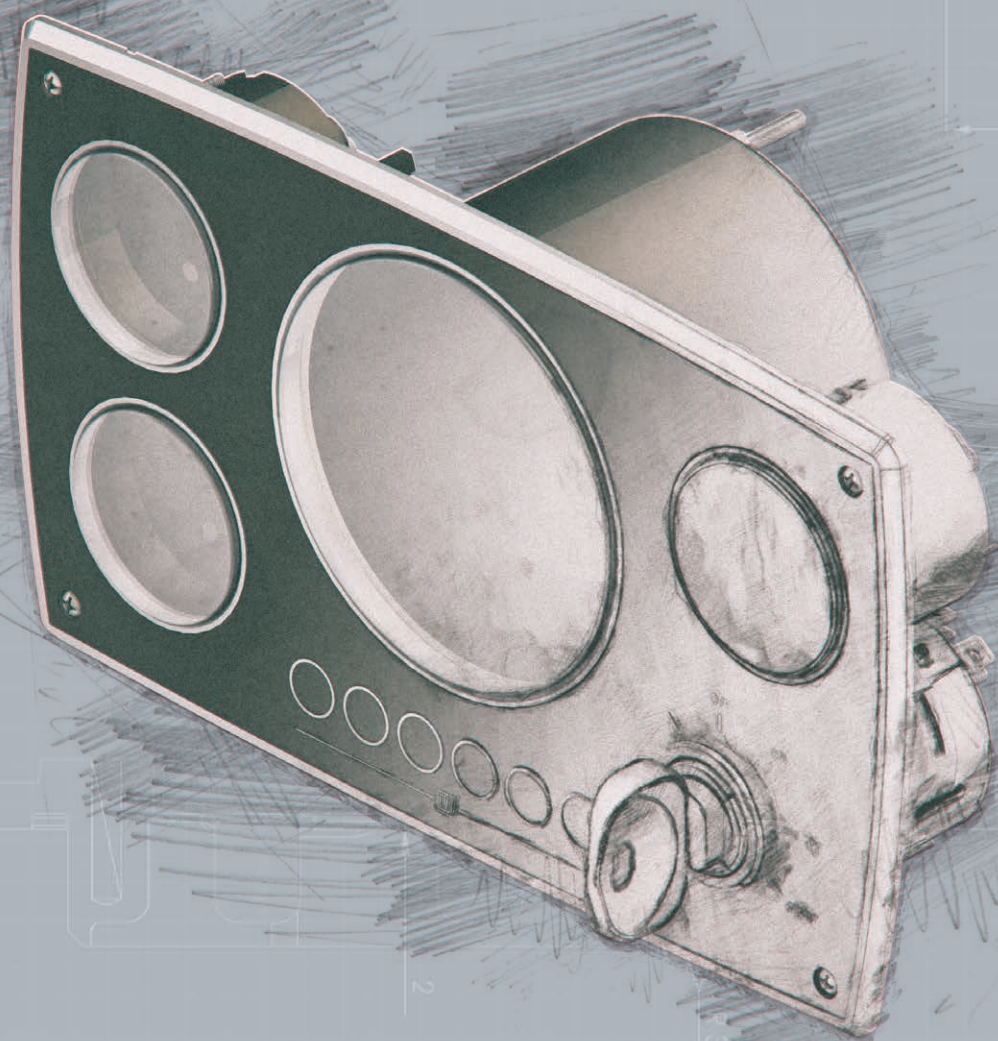
The water mixer is available for exhaust hoses with inside diameter of 90, 100, 125 or 150 mm.

| Type | For exhaust hoses Ø (mm) | Type | For exhaust hoses Ø (mm) |
|----------|-----------------------------|----------|-----------------------------|
| MIXER090 | 90 | MIXER125 | 125 |
| MIXER100 | 100 | MIXER150 | 150 |



MIXER

BOAT INSTRUMENTS

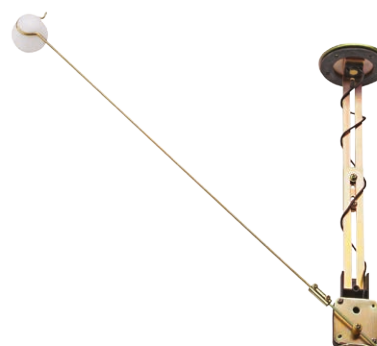


Overview VETUS boat instruments

Engine instrument panels, see page 103



Tank senders, see page 106



Instruments, see page 107



Dashboard gauges, see page 109



Energy consumption gauge, see page 112



Switch panels, see page 113



Detectors, see page 115



WHY VETUS BOAT INSTRUMENTS?

The market offers a large variety of boat instruments in all sorts and sizes. VETUS has a complete range of panels and instruments for every pleasure boat. We at VETUS value your safety and comfort, therefore we strongly recommend that gas and carbon monoxide detector panels and sensors are installed in all vessels with interior spaces (cabins and compartments). All our switch panels are pre-wired to ensure easy installation and existing VETUS instrument panels can easily be extended. All VETUS boat instruments meet the EMC requirements.

Our range of boat instruments includes

- Engine instrument panels
- Bow and stern thruster control panels
- Switch panels
- Detectors and sensors
- Windscreen wiper control panels
- Gauges, sensors and wiring harnesses

Here are 5 good reasons why you should consider VETUS boat instruments

- 1. High degree of accuracy**
Owing to the suspension of the mechanism and the removable pointer, each instrument can be tested and calibrated individually.
- 2. Reliability and longevity**
The annual number of repair jobs worldwide can be counted on five fingers, literally! All instruments are double glazed so condensation is minimized.
- 3. Smart illumination**
The translucent dials are backlit, offering optimum readability.
- 4. Good looks**
Black and cream faced instruments are supplied with two round bezels, one in black plastic and the other chrome finish plastic. White instruments are supplied with two round bezels, one in white plastic and the other in chrome finish plastic.
- 5. Compact dimensions**
The large instruments have an overall diameter of Ø 114 mm and fit a cut-out of Ø 100 mm.
The small instruments have an overall diameter of Ø 63 mm and fit a cut-out of Ø 52 mm.
Both large and small instruments have a 10 mm height.



ENGINE INSTRUMENT PANELS

Type MPA

Stylish aluminium engine panels

Thanks to style and quality materials, these new engine panels are an upgrade for your dashboard. The panels are made from marine grade anodized aluminium, which gives them and the individual gauges a classy look. The subtle curves and contours bring elegance and modernity to the helm station.

The MPA22 panel includes an ignition key, tachometer, hour meter, voltmeter and warning signals (LED and acoustic). The MPA34 panel also includes oil pressure and engine temperature gauges. Two additional gauges are an option with the extension panel MPA1XB (extra gauges should be ordered separately).

All panels can be ordered with black or white gauges. The panel is finished with a black weatherproof coating. Custom colours are available for order quantities of one hundred panels or more. Installed panels are IP64* splash proof and the electrical connections are backwards compatible with those of older VETUS panels.

Specifications

- Stylish design
- Made of marine grade anodized aluminium
- MPA2 and MPA3 include gauges, pre-heating starter switch with removable key and LED warning signals
Two extra gauges can be installed using the MPA1XB extension panel
- Easy installation. Supplied with gaskets and mounting screws
- IP64 splash proof
- Available with black or white gauges
- Available for 12 and 24 Volt systems

* The IP ratings quoted assume that the product is installed correctly and are from the front face only.



MPA22B



MPA34B



MPA1XB

| Type | Description | Dial colour | RPM | Dimensions (mm) | Built in depth (mm) | Volt |
|-----------|--|-------------|--------|-----------------|---------------------|------|
| MPA22BS2 | Aluminium engine panel | Black | 0-4000 | 218 x 157 | 120 | 12 |
| MPA22BW2 | Aluminium engine panel | White | 0-4000 | 218 x 157 | 120 | 12 |
| MPA22BS25 | Aluminium engine panel | Black | 0-5000 | 218 x 157 | 120 | 12 |
| MPA34BS2 | Aluminium engine panel | Black | 0-4000 | 267 x 157 | 120 | 12 |
| MPA34BW2 | Aluminium engine panel | White | 0-4000 | 267 x 157 | 120 | 12 |
| MPA34BS25 | Aluminium engine panel | Black | 0-5000 | 267 x 157 | 120 | 12 |
| MPA34BW25 | Aluminium engine panel | White | 0-5000 | 267 x 157 | 120 | 12 |
| MPA34BS4 | Aluminium engine panel | Black | 0-4000 | 267 x 157 | 120 | 24 |
| MPA34BW4 | Aluminium engine panel | White | 0-4000 | 267 x 157 | 120 | 24 |
| MPA1XB | Aluminium extension panel for two extra gauges | Black | | 154 x 100 | 100 | |

ENGINE INSTRUMENT PANELS

Type MP34B

This engine instrument panel is supplied with 6 monitoring lights, acoustic alarm, pre-heating/starter switch with removable key, combined revolution/hour counter, temperature gauge, voltmeter and oil pressure gauge. Waterproof according to IP64*.

| Type | Dial colour | Rpm | Dimensions (mm) | Built-in depth (mm) | Volt |
|-----------|-------------|--------|-----------------|---------------------|------|
| MP34BS12A | Black | 0-4000 | 255 x 161 | 121 | 12 |
| MP34BW12A | White | 0-4000 | 255 x 161 | 121 | 12 |
| MP34BN12A | Cream | 0-4000 | 255 x 161 | 121 | 12 |
| MP34BS15A | Black | 0-5000 | 255 x 161 | 121 | 12 |
| MP34BW15A | White | 0-5000 | 255 x 161 | 121 | 12 |
| MP34BN15A | Cream | 0-5000 | 255 x 161 | 121 | 12 |
| MP34BS24A | Black | 0-4000 | 255 x 161 | 121 | 24 |
| MP34BW24A | White | 0-4000 | 255 x 161 | 121 | 24 |
| MP34BN24A | Cream | 0-4000 | 255 x 161 | 121 | 24 |



MP34B..



MP21B..

Type MP21B

This engine instrument panel is provided with 6 monitoring lights, combined revolution/hour counter, acoustic alarm and pre-heating/starter switch with removable key. An additional instrument can be fitted. This panel is suitable for installation on a fly-bridge or a second steering position. Waterproof according to IP64*.

| Type | Dial colour | Dimensions (mm) | Built-in depth (mm) | Volt |
|-----------|-------------|-----------------|---------------------|------|
| MP21BS12A | Black | 193 x 161 | 121 | 12 |
| MP21BN12A | Cream | 193 x 161 | 121 | 12 |

Extension panel

The cover is designed to receive 2 VETUS instruments with a cut-out diameter of Ø 52 mm.

(Instruments to be ordered separately).

| Type | Dial colour | Dimensions (mm) |
|-----------|-------------|-----------------|
| XTPAN252A | Black | 161 x 99 |

XTPAN..



* The IP ratings quoted assume that the product is installed correctly and are from the front face only.

ENGINE INSTRUMENT PANELS

Type MP10B12

This engine instrument panel is designed for sailing boats, with 5 monitoring lights, acoustic alarm and a pre-heating/starter switch with removable key. Waterproof according to IP64*.



MP10B12

| Type | Dial colour | Dimensions (mm) | Built-in depth (mm) | Volt |
|---------|-------------|-----------------|---------------------|------|
| MP10B12 | Black | 156 x 94 | 120 | 12 |

Type MP22B

This engine instrument panel is provided with 6 monitoring lights, combined revolution/hour counter, voltmeter, acoustic alarm and pre-heating/starter switch with removable key. Waterproof according to IP64*.



MP22B..

| Type | Dial colour | RPM | Dimensions (mm) | Built-in depth (mm) | Volt |
|-----------|-------------|--------|-----------------|---------------------|------|
| MP22BS12A | Black | 0-4000 | 193 x 161 | 121 | 12 |
| MP22BW12A | White | 0-4000 | 193 x 161 | 121 | 12 |
| MP22BN12A | Cream | 0-4000 | 193 x 161 | 121 | 12 |
| MP22BS15A | Black | 0-5000 | 193 x 161 | 121 | 12 |
| MP22BS24A | Black | 0-4000 | 193 x 161 | 121 | 24 |
| MP22BW24A | White | 0-4000 | 193 x 161 | 121 | 24 |

* The IP ratings quoted assume that the product is installed correctly and are from the front face only.



All VETUS engine instrument panels on these pages come with a multi-pin connector as standard.

In order to reduce condensation as far as possible, all VETUS instrument gauges are double glazed.

All VETUS engine instrument panels featuring a key starter switch are supplied with a separate watertight cover for the switch.

ENGINE INSTRUMENT PANELS

Design your own panel with the “PWL” system

Many designers and installers wish to lay out their own instrument panel, rather than using a standard panel supplied by the engine manufacturer. This can be easily accomplished using the PWL system.

Advantages

- Choose your own instruments, black, cream or white and for 12 or 24 Volt supply
- All cables are bundled and colour coded: no more tracing loose wires
- Cable plugs and connectors are factory fitted, ready to connect to VETUS engine instruments
- The Instruments can be positioned up to 50 cm away from the key switch

Standard system

- Monitoring panel (130 x 35 mm) with 6 warning lights
- Acoustic alarm
- Glow plug pre-heat and starting key switch
- Cable for tachometer (revolution counter/hour counter)
- Cables for voltmeter, oil pressure gauge, water temperature gauge
- Plugs for connection of extension cables

Optional equipment to complete the system

- Extension cable to the engine, available in 2, 4 or 6 metre length
- Cable splitter to connect to a second panel
- Revolution counter / hour counter
- Voltmeter, oil pressure gauge, water temperature gauge



Type

| | |
|--------|---|
| PWL12A | Wiring loom for engine instruments, including warning light panel and starter switch, 12 Volt |
| PWL24A | Wiring loom for engine instruments, including warning light panel and starter switch, 24 Volt |

TANK SENDERS

Universal sender for drinking water, petrol/gasoline and diesel fuel

Universal tank sender for drinking water, petrol and diesel fuel (type SENSOR). Available in 7 different lengths: 280, 320, 380, 480, 580, 680 or 780 mm. The VETUS universal tank sender indicates the difference in fluid level in steps of 2.5 cm. Just compare this with other systems which can only show 3 positions (full - about half full - empty).

| Type | Length (mm) | Volt |
|-----------|-------------|-------|
| SENSOR280 | 280 | 12/24 |
| SENSOR320 | 320 | 12/24 |
| SENSOR380 | 380 | 12/24 |
| SENSOR480 | 480 | 12/24 |
| SENSOR580 | 580 | 12/24 |
| SENSOR680 | 680 | 12/24 |
| SENSOR780 | 780 | 12/24 |

Each tube length contains the maximum number of reed contacts (electronic switches), instead of the bare minimum of just three (full, half full, empty). Because of this, your tank gauges will read with maximum accuracy. The reed contacts are sealed “fluid-tight”.



SENSOR

TANK SENDERS

Sender for waste water tanks

The arm length is adjustable between 200 and 412 mm.

Specifications

- Empty 300 Ω
- Full 0 Ω
- For 12 and 24 Volt

WWSENSORA



Sender for fuel tanks

Sender for all rigid petrol and diesel fuel tanks with a depth between 140 and 660 mm. Both the vertical strip and the horizontal float arm are completely adjustable.

Specifications

- Empty 280 Ω
- Full 40 Ω
- For 12 and 24 Volt

FSENSOR



| Type | Description | Volt |
|-----------|--------------------|-------|
| WWSENSORA | Waste water sensor | 12/24 |
| FSENSOR | Fuel tank float | 12/24 |

All VETUS level gauges are matched with our tank senders and can be connected directly to each other to give an accurate reading. To connect non-VETUS level indicators to a VETUS tank sender, it is necessary to install an EP46849 signal converter in the circuit.

INSTRUMENTS

Ultrasonic level sensors

The ultrasonic level sensor, **SENSORA** is contactless and will measure the fluid level in any shape of tank. It is suitable for use with: petrol, diesel fuel, drinking water, black and grey waste water. After installation, the sensor can be calibrated very easily with the aid of a LED and a calibration wire; no other equipment is required. The sensor may be installed in any shape of tank, regardless of its dimensions, but with a maximum depth of 120 cm. When fitting an ultrasonic sensor to a VETUS fuel tank filler kit type FTKIT, adaptor SENSORSR must also be ordered. The sensor may be connected to all standard VETUS analogue level indicators and also to the VETUS waste water control panel (WWCP). **SENSORA** and **SENSORB** are **not** advised for use with metal tanks.

Specifications

- Voltage: 12 and 24 Volt D.C.
- Current consumption: 35 mA
- Interface: Analogue
- Tank depth: 120 cm
- Accuracy : + / - 5%
- Temperature range: - 20 to + 70°C
- Flange: SAE, 5 holes
- Dimensions: \varnothing 77 x 23 mm



SENSORA



SENSORB

Specifications

- Voltage: 12 and 24 Volt D.C.
- Current consumption: 35 mA
- Interface: Bus (RS485 bus)
- Tank depth: 120 cm
- Accuracy : + / - 5%
- Temperature range: - 20 to + 70°C
- Flange: SAE, 5 holes
- Dimensions: \varnothing 77 x 23 mm

| Type | Description |
|---------|---|
| SENSORA | Ultrasonic level sensor 12/24V, for analogue indication of water, fuel and waste levels |
| SENSORB | Ultrasonic level sensor 12/24V, for indication via bus system of water, fuel and waste levels |

INSTRUMENTS

Ultrasonic level system-bus version (RS485-bus) and graphic display

The VETUS ultrasonic level sensor, type SENSORB is contactless and will measure the fluid level in any shape of tank (metal tanks are not recommended), regardless of its dimensions, but with a maximum depth of 120 cm. It is suitable for use with: petrol, diesel fuel, drinking water, black and grey waste water. After installing the SENSORB it can be calibrated very easily using the SENSORD graphic display.

The graphic display instrument model SENSORD can be used to show the contents of up to 4 different tanks on one screen. A maximum of 8 tanks can be monitored with this system.

Specifications

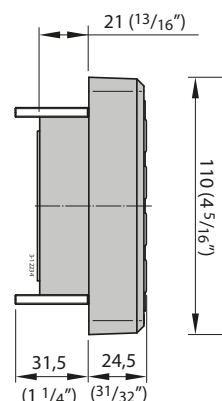
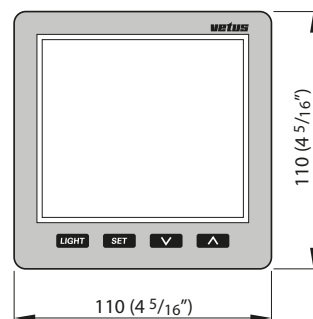
- Power supply: 8 - 32 Volt D.C.
- Current consumption
Instrument: 125 mA at 12 Volt 63 mA at 24 Volt
Including background lighting
- Current consumption sensor: 35mA
- Communication protocol sensor: RS-485
- Number of sensors: max. 8
- Number of display instruments: max. 2
- Alarm outputs: 4
- Max. current on alarm output: 200 mA
- Languages: Dutch, English, German, French, Spanish and Italian
- Operating temperature: 0 to +50 °C
- Protection class: IP66

EMC-directive 89/336/EEC, 92/31/EEC and 93/68/EEC

The tank management system consists of a display instrument (SENSORD) and an ultrasonic level sensor (SENSORB) for each tank. The required number of sensors must be purchased separately.

Scope of supply SENSORD

- One display instrument
- One 8-pin female socket
- One UTP network cable (5 metres)
- One UTP splitter
- Gasket
- Mounting screws
- Drill template



| Type | Description |
|---------|--|
| SENSORD | Display for level indication via bus-system, max 4 tanks |



SENSORD

DASHBOARD INSTRUMENTS WITH BLACK, CREAM OR WHITE DIALS

The market offers a large variety of boat instruments, in all sorts and sizes. Here are three reasons why you should choose VETUS boat instruments:

- **High degree of accuracy:** Owing to the counter-productive exaggeration suspension of the mechanism and the removable pointer, each instrument can be tested and calibrated individually. And that is exactly what is done!



Code suffix: B = black, W = cream and WL = white

- **Reliability and longevity:** The annual number of repair jobs can be counted on the fingers of one hand. Literally!
- **Smart illumination:** No solid dials with over-head illumination from the edge, but translucent dials instead, which are illuminated from below, thus offering optimum readability
- In order to minimize condensation all VETUS instruments are double glazed
- Black and creme faced instruments are supplied with two round bezels, one in black plastic and the other chrome finish plastic
- White instruments are supplied with two round bezels, one in white plastic and the other in chrome finish plastic
- Height: 10 mm. The large instruments have an overall diameter of Ø 114 mm and fit a cut-out of Ø 100 mm
- The small instruments have an overall diameter of Ø 63 mm and fit a cut-out of Ø 52 mm

Tachometer (revolution counter)

With digital hour counter incorporated 12/24 Volt D.C., suitable for alternators with W-connection. Scale calibration: 0-4000 r.p.m. for most diesel engines. Also available with scale calibration: 0-5000 r.p.m. to suit high speed engines.

| Type | Colour | Volt | Cut-out size (Ø mm) |
|--------|--------|-------|---------------------|
| TACHB | Black | 12/24 | 100 |
| TACHWL | White | 12/24 | 100 |
| TACHW | Cream | 12/24 | 100 |

TACH



Exhaust/gas temperature alarm

Designed for water injected exhaust systems. Provides a visual and an audible alarm when the temperature inside the exhaust hose or the waterlock exceeds an acceptable level. A temperature sensor, to be fitted into the exhaust hose or the waterlock must be ordered separately. In the case of a twin engine installation two sensors may be connected to one alarm unit if required. One sensor will also operate two alarm units, in the case of a second steering position.

| Type | Colour | Volt |
|--------|--------|------|
| XHI12B | Black | 12 |
| XHI24B | Black | 24 |
| XHI12W | Cream | 12 |
| XHI24W | Cream | 24 |

XHI



Trim gauge

For connection to the trim sensor of a stern drive or a set of trim tabs. Voltage: 12 Volt D.C. Sensor resistance range: Trim down: 10 Ohm Trim up: 180 Ohm A connection cable is available as an option.

| Type | Colour | Volt |
|----------|------------------|------|
| TRIM12B | Black | 12 |
| TRIM12W | Cream | 12 |
| TRIM12WL | White | 12 |
| TRIMWR | Connection cable | |

TRIM



DASHBOARD INSTRUMENTS WITH BLACK, CREAM OR WHITE DIALS

Temperature gauge

Can be supplied for 12 or 24 Volt D.C. Scale calibration: 40-120°C. and 105-250°F. Temperature sensors are available as optional equipment.

| Type | Colour | Volt | Cut-out size (Ø mm) |
|-----------|---|------|---------------------|
| TEMP12B | Black | 12 | 52 |
| TEMP24B | Black | 24 | 52 |
| TEMP12WL | White | 12 | 52 |
| TEMP24WL | White | 24 | 52 |
| TEMP12W | Cream | 12 | 52 |
| TEMP24W | Cream | 24 | 52 |
| TEMPSR120 | Sender for temperature gauge, 12/24V, single pole M14 x 1.5 | | |
| TEMPSR122 | Sender for temperature gauge, 12/24V, double pole M14 x 1.5 | | |



TEMP

Hour counter

Analogue engine hour counter which connects to the ignition switch.

| Type | Colour | Volt | Cut-out size (Ø mm) |
|--------|--------|-------|---------------------|
| HOURB | Black | 12/24 | 52 |
| HOURWL | White | 12/24 | 52 |
| HOURW | Cream | 12/24 | 52 |



HOUR

Voltmeter

Can be supplied for 12 or 24 Volt D.C. Scale calibration respectively: 8 -16 Volt and 16 -32 Volt.

| Type | Colour | Volt | Cut-out size (Ø mm) |
|----------|--------|------|---------------------|
| VOLT12B | Black | 12 | 52 |
| VOLT24B | Black | 24 | 52 |
| VOLT12WL | White | 12 | 52 |
| VOLT24WL | White | 24 | 52 |
| VOLT12W | Cream | 12 | 52 |
| VOLT24W | Cream | 24 | 52 |



VOLT

Ammeter

Type AMPB, AMPWL and AMPW have a built-in shunt. Scale calibration: +/- 60 A, for 12 or 24 Volt D.C. This ammeter is also available with scale calibration of +/- 100 A, with a separate shunt, type AMPSB, AMPSWL and AMPSW.

| Type | Colour | Volt | Cut-out size (Ø mm) |
|--------|--------|-------|---------------------|
| AMPB | Black | 12/24 | 52 |
| AMPSB | Black | 12/24 | 52 |
| AMPWL | White | 12/24 | 52 |
| AMPSWL | White | 12/24 | 52 |
| AMPW | Cream | 12/24 | 52 |
| AMPSW | Cream | 12/24 | 52 |



AMP

DASHBOARD INSTRUMENTS WITH BLACK, CREAM OR WHITE DIALS

Black or grey waste water gauge

Available for 12 or 24 Volt D.C.

The waste water indicator can be provided with an interface (code EP412326), suitable for 12 and 24 V installations. A warning light can be connected to this interface, which will then indicate when the holding tank is almost full and that it is better not to use the toilet.

| Type | Colour | Volt | Cut-out size (Ø mm) |
|-----------|--------|------|---------------------|
| WASTE12B | Black | 12 | 52 |
| WASTE24B | Black | 24 | 52 |
| WASTE12WL | White | 12 | 52 |
| WASTE24WL | White | 24 | 52 |
| WASTE12W | Cream | 12 | 52 |
| WASTE24W | Cream | 24 | 52 |

WASTE



Oil pressure gauge

Available for 12 or 24 Volt D.C. Scale calibration 0-8 kg/cm² and 0-110 p.s.i. Oil pressure sensors are available as optional equipment.

| Type | Colour | Volt | Cut-out size (Ø mm) |
|----------|---|------|---------------------|
| OIL12B | Black | 12 | 52 |
| OIL24B | Black | 24 | 52 |
| OIL12WL | White | 12 | 52 |
| OIL24WL | White | 24 | 52 |
| OIL12W | Cream | 12 | 52 |
| OIL24W | Cream | 24 | 52 |
| OILSR08 | Oil pressure sender 12/24V, single pole, M10 x 1K | | |
| OILSR082 | Oil pressure sender 12/24V, double pole, M10 x 1K | | |

OIL



Fuel gauge

Available for 12 or 24 Volt D.C.

| Type | Colour | Volt | Cut-out size (Ø mm) |
|----------|--------|------|---------------------|
| FUEL12B | Black | 12 | 52 |
| FUEL24B | Black | 24 | 52 |
| FUEL12WL | White | 12 | 52 |
| FUEL24WL | White | 24 | 52 |
| FUEL12W | Cream | 12 | 52 |
| FUEL24W | Cream | 24 | 52 |

FUEL



Fresh water gauge

Available for 12 or 24 Volt D.C.

| Type | Colour | Volt | Cut-out size (Ø mm) |
|-----------|--------|------|---------------------|
| WATER12B | Black | 12 | 52 |
| WATER24B | Black | 24 | 52 |
| WATER12WL | White | 12 | 52 |
| WATER24WL | White | 24 | 52 |
| WATER12W | Cream | 12 | 52 |
| WATER24W | Cream | 24 | 52 |

WATER



DASHBOARD INSTRUMENTS WITH BLACK, CREAM OR WHITE DIALS

Rudder indicator

| Type | Colour | Volt | Cut-out size (Ø mm) |
|-----------|--------|-------|---------------------|
| RPI1800B | Black | 12/24 | 52 |
| RPI1800WL | White | 12/24 | 52 |
| RPI1800W | Cream | 12/24 | 52 |



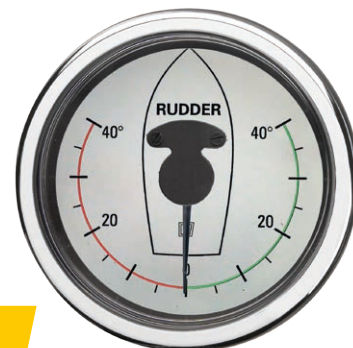
RPI1800

Rudder indicator

To fit a cut out of Ø 107 mm

Both indicating units have scale illumination and are suitable for both 12 and 24 Volt electrical installations.

| Type | Colour | Volt | Cut-out size (Ø mm) |
|-----------|--------|-------|---------------------|
| RPI1810B | Black | 12/24 | 107 |
| RPI1810WL | White | 12/24 | 107 |
| RPI1810W | Cream | 12/24 | 107 |

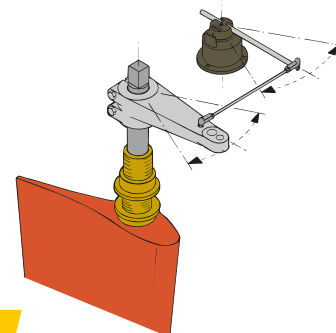


RPI1810

Rudder position sending unit

Type RFU1718 is required for indicators type RPI1800 and RPI1810 and should be ordered separately. This sender will also operate older type RPI1700 indicator units.

| Type | Description |
|---------|-------------------------------------|
| RFU1718 | Rudder position sensor type RFU1718 |



RFU1718

ENERGY CONSUMPTION GAUGE / BATTERY MONITOR

Type BATMONB

Knowing the exact state of charge

The monitor shows you the exact state of charge of a battery or battery bank. The BATMONB has several functions such as voltage, charge or discharge current, scale range of the nominal battery capacity and the time to complete discharge at the present discharge rate.

Specifications

- Suitable for 12 and 24 Volt electrical systems
- Hole diameter Ø 85 mm, overall diameter Ø 97 mm
- Supplied with a 200 A shunt and black and white bezels

| Type | Description |
|---------|--------------------------|
| BATMONB | Energy consumption gauge |

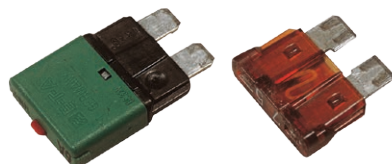


BATMONB

SWITCH PANELS

Type P8F

This panel is splash proof according to IP 64. It has 8 separate circuits, each provided with a switch, indicator LED and fuse holder and it is suitable for both 12 and 24 Volt D.C. circuits.



The panel can be used with conventional automotive (ATO) fuses or with automatic fuses.

The following automotive (ATO) fuses are supplied as standard:

2 x 1A, 2 x 3A, 4 x 5A, 2 x 7.5A, 4 x 10A and 2 x 15A. Automatic fuses may be ordered as optional equipment (see price list).

The 8 fuse holders are located in a separate compartment, which can be opened at the front of the panel and either type of fuse may be fitted. **Sixty self-adhesive name/symbol plates for different functions are supplied.** There are also 2 covers supplied for the fuse compartment, depending on whether automatic fuses or conventional automotive (ATO) fuses are used.

The panel is completely pre-wired and provided with a terminal rail, for connection of the power supply and the consumer equipment. The panel is made of synthetic and non-corrosive materials.

Specifications

- Dimensions 99 x 161 mm
- Built-in depth 45 mm

| Type | Specifications |
|----------|---|
| FUSE06A4 | Automatic fuse 6 Amps, for P8FA Set of 4 pcs. |
| FUSE08A4 | Automatic fuse 8 Amps, for P8FA Set of 4 pcs. |
| FUSE10A4 | Automatic fuse 10 Amps, for P8FA Set of 4 pcs. |
| FUSE15A4 | Automatic fuse 15 Amps, for P8FA Set of 4 pcs. |
| P8FA | Switch panel 12/24 Volt, for 8 blade fuses or automatic fuses (16 blade fuses supplied) |



With automatic fuses.

P8FA



With conventional automotive (ATO) fuses.



SWITCH PANELS

Type P6

This panel features 6 on/off switches, 6 monitoring L.E.D.'s and a choice of either 6 automatic fuses, or 6 tubular glass fuses of 10 A.

Specifications

- Dimensions 94 x 156 mm
- Built-in depth 50 mm

Available for 12 or 24 Volt D.C. circuits.

Sixty self-adhesive name/symbol plates for different functions are supplied.

| Type | Specifications | Volt |
|---------|--|------|
| P6F12 | Switch panel type P6 with 6 fuses | 12 |
| P6F24 | Switch panel type P6 with 6 fuses | 24 |
| P12F12 | Switch panel type P12 with 12 fuses | 12 |
| P12F24 | Switch panel type P12 with 12 fuses | 24 |
| P6CB12 | Switch panel type P6 with 6 circuit breakers | 12 |
| P6CB24 | Switch panel type P6 with 6 circuit breakers | 24 |
| P12CB12 | Switch panel type P12 with 12 circuit breakers | 12 |
| P12CB24 | Switch panel type P12 with 12 circuit breakers | 24 |



P6CB12

P6CB24

Automatic fuses



P6F12

P6F24

Tubular glass fuses

Type P12

This panel features 12 on/off switches, 12 monitoring L.E.D.'s and a choice of either 12 automatic fuses or 12 tubular glass fuses of 10 A.

Specifications

- Dimensions 188 x 156 mm
- Built-in depth 50 mm

Available for 12 or 24 Volt D.C. circuits.

Sixty self-adhesive name/symbol plates for different functions are supplied.



P12F12

P12F24

Tubular glass fuses



P12CB12

P12CB24

Automatic fuses

VETUS switch panels are supplied pre-wired. The only work required is to connect the positive and negative feeds of the various services (lights, pumps etc.). These panels are made of synthetic and non-corrosive materials, but are not waterproof.

DETECTORS



GD1000

GD1000 and PD1000

Specifications

- Voltage: 12 or 24 Volt D.C.
- Maximum relay contact ratings for extractor fan, gas solenoid valve and external alarm: 1 A for each function
- Control panel dimensions: 85 x 85 mm
- Built-in depth: 40 mm
- Sensor: 35 x 26 x 62 mm high

Gas detector GD1000 panel and sensor

The VETUS gas detector model GD1000 offers a gas detection system for a range of combustible gases including propane, butane, methane and hydrogen. In addition it will also detect poisonous carbon monoxide. A single sensor is supplied as standard, which can detect both flammable gases (such as bottled gas) and carbon monoxide. A second sensor can be fitted as an option, for gas detection in an alternative location. A push button will manually actuate a remote solenoid operated cooking gas supply valve, if this is installed in the system. If this solenoid valve is in the open position (or not fitted), the presence of gas is detected continuously. If the valve is closed, detection will take place intermittently. Please note, the valve itself is not supplied with the gas detector.

If the gas detector senses high concentrations of flammable gases and/or carbon monoxide, it will trigger an acoustic alarm and a LED on the control panel. Petrol fumes can trigger the alarm at extremely low concentrations, which makes this device less suitable for boats with a petrol engine(s). The "Mute" button will silence the alarm. The gas detector is provided with three switched connections rated at 1 Amp each. In the event of an alarm situation, these will actuate (if fitted), an extraction ventilator, an external alarm or horn and close a solenoid operated cooking gas supply valve. The extraction ventilator can also be operated manually by means of the "Fan" button. Should the supply voltage drop too low, an acoustic alarm will be triggered and the LED on the control panel will flash. A test function confirms the correct functioning of the gas sensor(s), as well as the three switched connections for the ventilator, external alarm and gas valve. A LED on the sensor indicates when it has reached its maximum life span and should be replaced.

| Type | Specifications |
|---------|--|
| GD1000 | Gas & carbon monoxide detector 12/24 Volt, incl. sensor |
| GSENSOR | Additional sensor for gas & carbon monoxide detector type GD1000 |



PD1000

Gas detector PD1000 panel and sensor

Gas detector model PD1000 specifically detects petrol vapour to prevent the risk of explosion in the engine room, as well as poisonous carbon monoxide (CO).

This gas detector can be supplied with one or two sensors. Both detection functions are carried out simultaneously. All other functions are as described for model GD1000 shown above.

Gas detector PD1000 is suitable for both 12 and 24 Volt D.C. supply and its dimensions are identical to model GD1000.

| Type | Specifications |
|----------|---|
| PD1000 | Petrol vapour & carbon monoxide detector 12/24 Volt, incl. sensor |
| PSSENSOR | Extra sensor for petrol vapour detection |

It is recommended that the possible presence of petrol vapour and carbon monoxide be checked on a permanent basis; even when the boat is not in use! Therefore, always keep the power supply to this gas detector switched on.

FIRE PORT

Fire port

The fire port permits a fire extinguisher to be discharged into the engine space, or any other enclosed area without opening the engine access hatch or panel.

Specifications

- Nozzle can be inserted through the port in complete safety
- Minimizes the amount of oxygen so the fire does not increase
- Made of UV and seawater resistant synthetic material
- Available with black flange

Dimensions

- Cut-out Ø 38 mm
- Outside Ø 76 mm



FIREPORT

| Type | Specifications |
|-----------|---|
| FIREPORTB | Fireport for engine compartment with black finishing ring |

CONTROL PANELS FOR BOW AND STERN THRUSTERS

Below a brief overview of some of the control panels for bow and stern thrusters.

For more models and information see system group Manoeuvring (page 163).



BPJP



BPJR



BPSR

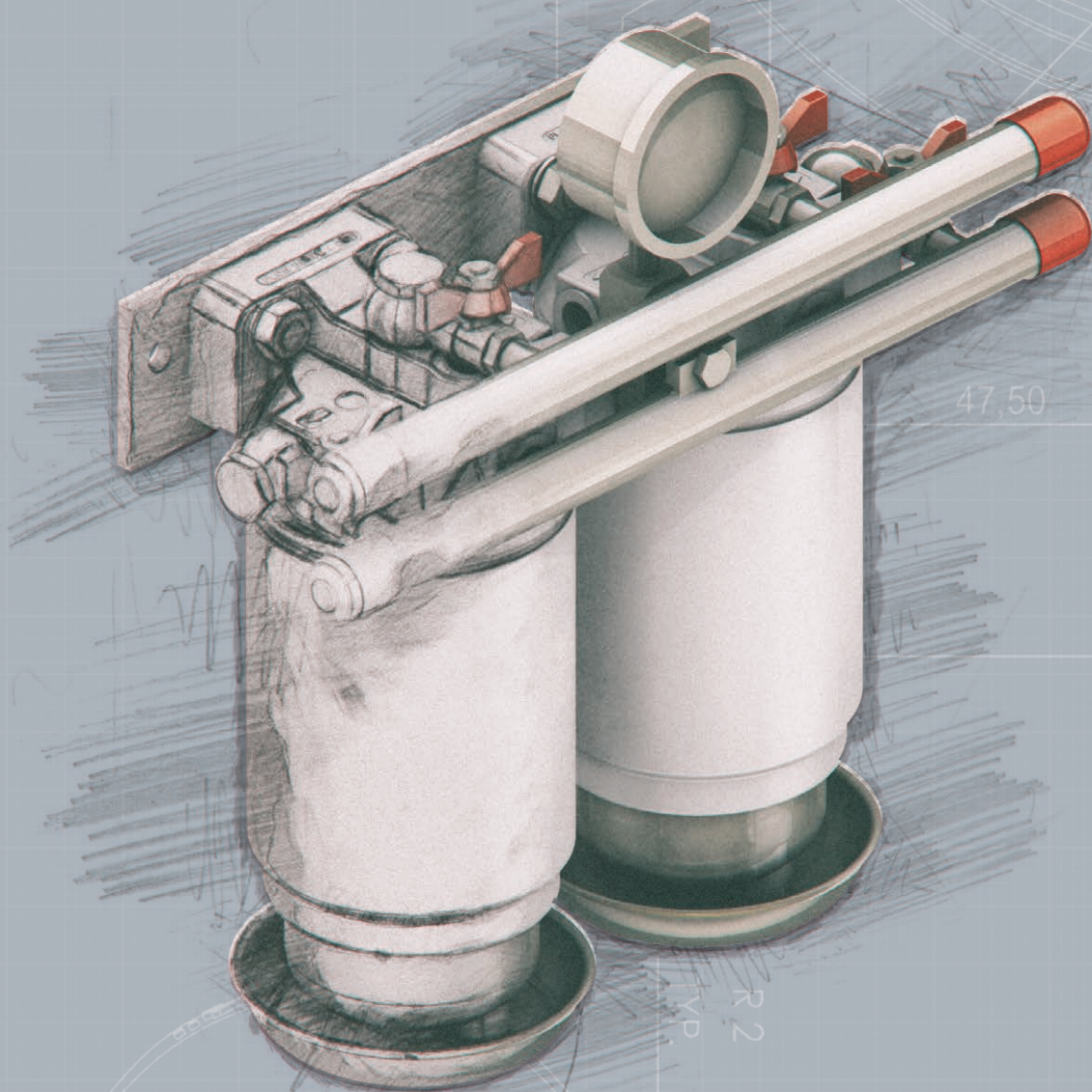


BPAJ



BPAS

FUEL SYSTEMS



Overview VETUS fuel systems

Spin-on filters, see page 121



Centrifugal filters, see page 123



Fuel filter hose connectors,
see page 124



Petrol/diesel filters, see page 125



Splash stops, see page 126



Tanks, see page 127



Tank kits, see page 128



No-smell filters, see page 129

see page 129



WHY VETUS FUEL SYSTEMS?

The fuel system on a boat is a VETUS specialty. You don't have to experience that helpless feeling when an engine unexpectedly stops at a critical moment. VETUS can provide you with the best products, accessories and tips to keep your engine running smoothly, ensuring your safety, comfort and compliance with good practise and environmental regulations.

A good working fuel system

Many people are unaware of the problems that water in fuel can cause. Even a small drop of water can be extremely damaging for the fuel pump, its injectors, filters and engine. Water carries dirt, rust and micro-organism through the narrow pipes into the system and when trapped, the water becomes a perfect breeding place, resulting in blockage in the fuel pump and additional wear and tear. Placing a fuel filter / water separator between the tank and the fuel lift pump will prevent damage to the engine and ensures easy starting and smooth running.

VETUS offers the following types of filters

Spin-on filters

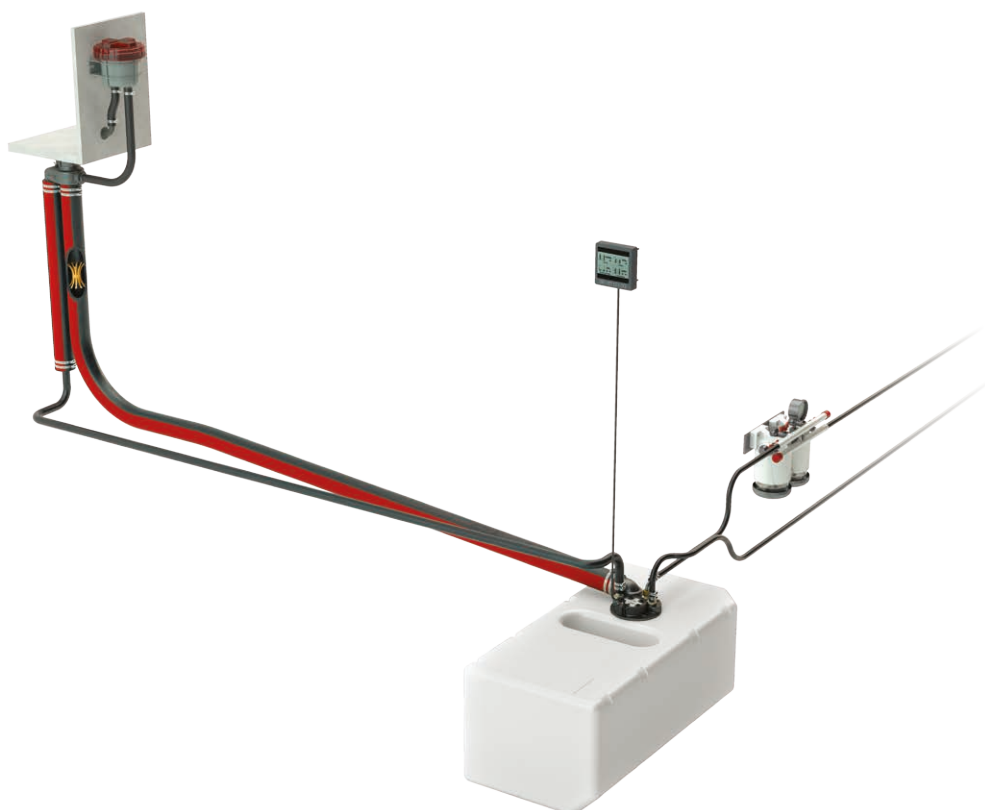
With a maximum capacity from 190 to 460 litres per hour, based on a patented fuel flow system in which water is separated from the fuel before the fuel flows back through the filter element.

Centrifugal filters

With a maximum capacity of 720 up to 3600 litres/hr. This modular system can be ordered in combinations of 2 to 6 filters for engines up to 5000 hp. The fuel inlet and outlet can be configured on the same or the opposite sides.

8 Reasons why you should choose a VETUS fuel system

- Our Splash Stop protects the environment by preventing fuel spillages
- Our fuel tanks are made from synthetic, corrosion free material resulting in less condensation
- Our fuel tanks are ready for installation, complete with a flange with bolt holes for gauge sender
- Our fuel filters have CE and ABYC approved clear bowl
- Our fuel filters have O-ring sealing for leak-free element replacement
- Our patented full-flow system gives VETUS fuel filters up to 5x larger filtering surface
- Our Fuel-safe provides complete low cost protection against fuel theft
- Our engineers have worked hard to find a solution against the presence of a diesel bug when using bio fuel (any VETUS dealer can advise on the best system)



SPIN-ON FILTER

Patented fuel flow system

VETUS Spin-on fuel filters, with maximum capacities ranging from 190 to 460 litres per hour, are based on a patented fuel flow system in which water and dirt is separated from the fuel before the fuel flows through the filter element. This way damage can be prevented and an easy starting, smooth running engine is guaranteed.

Note

All VETUS Spin-on filters meet the CE (ISO 1088) and ABYC requirements (relating to installation in the engine room) and have withstood a fire test of 2,5 minutes.

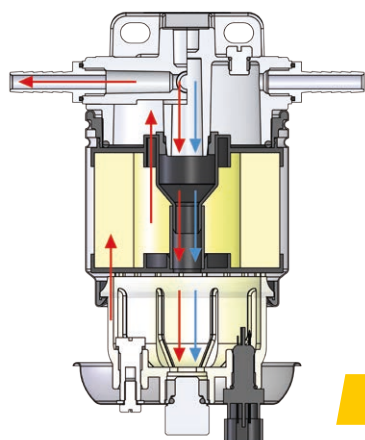
Type VTEB / VTEPB

Consisting filtering and a longer lifetime

These filters have an increased filtering surface and efficiency up to 5 times the surface of conventional filters. They are provided with a transparent bowl, which allows easy checking for water contamination. The elements can be easily replaced as a single unit, ruling out leakage or spills. The filters can be replaced without tools and with the engine running.

Characteristics

- Suitable for all diesel engines up to 600 hp
- A connection kit for 10 mm hose incl. 3 blind plugs is included
- All fittings feature O-ring sealing
- Single Spin-on filters are available with or without a manual pump to facilitate easy bleeding of the fuel system (type VTEPB)



VTEB



VTEPB



Double Spin-on filters

For boats that sail offshore

For boats that sail offshore, we strongly recommend these dual filter systems. In rougher sea conditions, dirt and water accumulated in the fuel tank becomes agitated and can rapidly clog the filter with little warning. This may result in loss of engine power and all the dangers that may present.

By turning the changeover valve, the system will switch over to a clean spare filter without having to turn off the engine. This dual filter system is supplied with a vacuum gauge which shows when the filter element should be replaced.

75...VTEB



SPIN-ON FILTER

Product overview - Spin-on filters for diesel fuel

Single Spin-on filters
with or without bleed pump



| Type | | 330VTEB | 330VTEPB | 340VTEB | 340VTEPB | 350VTEB | 350VTEPB |
|------------------------------|------------------|------------|-----------|------------------|-----------|------------|-----------|
| Max. capacity in l/hr (g/hr) | | 190 (42) | | 380 (84) | | 460 (102) | |
| Version | | single | with pump | single | with pump | single | with pump |
| Connections* | | M16 x 1.5* | | M16 x 1.5* | | M16 x 1.5* | |
| Dimensions (mm) | Height | 205 | | 265 | | 325 | |
| | Width | 120 | | 120 | | 120 | |
| | Depth | 120 | | 120 | | 120 | |
| Weight (kg) | | 1.3 | | 1.45 | | 1.6 | |
| Replacement filter | 10 µm (standard) | VT33EB | | VT34EB | | VT35EB | |
| | 30 µm (optional) | VT33ER | | VT34ER | | VT35ER | |
| Replacement advice | | | | Minimum annually | | | |
| Certified | | | | CE and ABYC | | | |



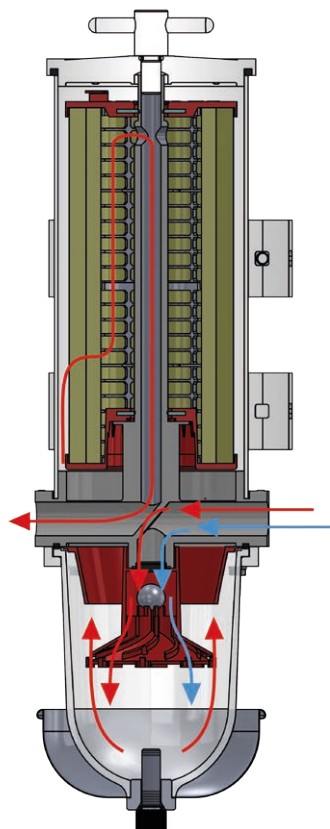
*A connection kit for 10mm hose and three blind plugs is standard supply.



Double Spin-on filters
Parallel or in line

| Type | | 75330VTEB | 75340VTEB | 75350VTEB |
|------------------------------|------------------|---|------------|------------|
| Max. capacity in l/hr (g/hr) | | 190 (42) | 380 (84) | 460 (102) |
| When both filters are in use | | 380 (84) | 760 (168) | 920 (204) |
| Version | | Double | Double | Double |
| Connections | | R 1/2 | R 1/2 | R 1/2 |
| Dimensions (mm) | Height | 305 | 365 | 425 |
| | Width | 310 | 310 | 310 |
| | Depth | 167 | 167 | 167 |
| Weight (kg) | | 4,7 | 5 | 5,3 |
| Replacement filter | 10 µm (standard) | 2 x VT33EB | 2 x VT34EB | 2 x VT35EB |
| | 30 µm (optional) | 2 x VT33ER | 2 x VT34ER | 2 x VT35ER |
| Replacement advice | | When vacuum gauge indicates between -0.2 and -0.38 kg/cm ² , or annually | | |
| Certified | | CE and ABYC | | |

CENTRIFUGAL FILTERS



Modular system for effective filtering

VETUS centrifugal filters have maximum capacities ranging from 720 up to 3600 litres/hr. This modular system can be ordered in combinations of 2 to 6 filters for engines up to 5000 hp. The fuel in- and outlet can be configured on the same or the opposite sides. When determining the required capacity, it is always assumed that one filter is held in reserve. In case of a 6 filter configuration, 5 elements are in use and 1 is in reserve.

Note

All VETUS centrifugal filters meet the CE (ISO 1088) and ABYC and are Germanischer Lloyd certified which makes them applicable for commercial vessels.

Specifications

- Suitable for all diesel engines up to 5000 hp
- All fittings feature O-ring sealing
- Centrifugal filters are equipped with a vacuum gauge

Multiple centrifugal filters for diesel fuel

Available in parallel or in line

For the capacities, dimensions and specifications see table below.



..VTE



| Type | | 75100VTE | 79100VTE | 83100VTE | 87100VTE | 91100VTE |
|------------------------------|--|-------------|-------------|-------------|-------------|-------------|
| Max. capacity in l/hr (g/hr) | | 720 (160)* | 1440 (320)* | 2160 (480)* | 2880 (640)* | 3600 (800)* |
| Version | | 2 | 3 | 4 | 5 | 6 |
| Connections* | | R 3/4 | R 1 | R 1 1/2 | R 1 1/2 | R 1 1/2 |
| Dimensions (mm) | Height | 540 | 540 | 540 | 540 | 540 |
| | Width | 465 | 630 | 788 | 940 | 1100 |
| | Depth | 335 | 335 | 335 | 335 | 335 |
| Weight (kg) | | 12,5 | 20 | 27,6 | 35 | 41 |
| Replacement filter | 30 µm (standard) | 2 x 2020VTR | 3 x 2020VTR | 4x 2020VTR | 5 x 2020VTR | 6 x 2020VTR |
| | 10 µm (optional) | 2 x 2020VTB | 3 x 2020VTB | 4x 2020VTB | 5 x 2020VTB | 6 x 2020VTB |
| Replacement advice | When vacuum gauge indicates between -0.2 and -0.38 kg/cm ² , or once a year | | | | | |
| Certified | CE, ABYC and Germanischer Lloyd | | | | | |

* When determining the required capacity it is always assumed that one filter is held in reserve. When all filters are in use, 720 l/hr (160 g/hr) can be added to the capacity!



REPLACEMENT ELEMENTS FOR SPIN-ON AND CENTRIFUGAL FILTERS

VETUS recommends having a spare element on board at all times. This can be done by changing over filters in a multi-filter system or by keeping a spare element on board.

Spare Spin-on filter type VT3

Comes with a 10 micron element as standard. A spare part element with a filtration of 30 micron is also available (a filter of 10 micron will filter out more dirt and will also become clogged sooner). A 30 micron element is recommended when the tank is very large, infrequently filled or the fuel used is of low quality. Filtration of 10 micron has text printed in blue and 30 micron has text printed in red.

Replacement elements for spin-on filters

| Type | Description | Filter | Max. l/h |
|--------|---------------------------------|-----------|----------|
| VT33EB | Replacement fuel filter element | 10 micron | 190 |
| VT34EB | Replacement fuel filter element | 10 micron | 380 |
| VT35EB | Replacement fuel filter element | 10 micron | 460 |
| VT33ER | Replacement fuel filter element | 30 micron | 190 |
| VT34ER | Replacement fuel filter element | 30 micron | 380 |
| VT35ER | Replacement fuel filter element | 30 micron | 460 |



VT3..

Spare element for centrifugal filter type 2020VT

Comes with a 30 micron element as standard. Also available in 10 micron.

Note

Filtration of 10 micron has an endcap in blue and 30 micron has an endcap in red. Just choose the product code ending with a R (red) or a B (blue) for the right spare part element.

This also holds true for older VETUS filters. These are still available and can be ordered using the code on the existing filter element that is being replaced.

Replacement elements for centrifugal filters

| Type | Description | Filter | Max. l/h |
|---------|---------------------------------|-----------|----------|
| 2020VTB | Replacement fuel filter element | 10 micron | 720 |
| 2020VTR | Replacement fuel filter element | 30 micron | 720 |



2020VTR

Also available in blue.

Fuel filter hose connectors

NEW!

VETUS single 'Spin-on' fuel filters are supplied as standard with Ø 10 mm straight hose connectors. In some situations different connectors can be preferred. Therefore we offer Ø 10 mm connectors with a 90° bend, as well as straight and angled Ø 8 mm connectors.

The double 'Spin-on' filters feature a R1/2 male thread connection. For these filters both straight and angled connections of Ø 8 and 10 mm are available.

| Type | Suitable for | Hose Ø (mm) | Model | Thread |
|---------|---------------------------------|-------------|------------|----------------|
| FFS0800 | Single spin-on filters | 8 | Straight | M16 x 1.5 male |
| FFS0890 | type 330VTE(P)B, 340VTE(P)B and | 8 | 90° Angled | M16 x 1.5 male |
| FFS1090 | 350VTE(P)B | 10 | 90° Angled | M16 x 1.5 male |
| FFD0800 | Double spin-on filters type | 8 | Straight | G1/2 female |
| FFD0890 | 75330VTEB, 75340VTEB and | 8 | 90° Angled | G1/2 female |
| FFD1000 | 75350VTEB | 10 | Straight | G1/2 female |
| FFD1090 | | 10 | 90° Angled | G1/2 female |



FFS0890



FFD0890



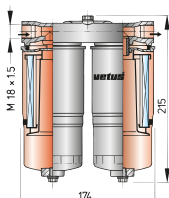
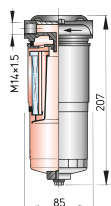
FFD0800

PETROL/DIESEL FILTERS

Type WS

Filter for both petrol and diesel

Type WS180 and WS720 comply with the fire resistance test according to ISO 1008. These filters must be installed in a vertical position as close to the fuel tank as possible.



WS180



WS720

| Type | | WS180 | WS720 |
|-------------------------------------|------------------|-------------------------------------|----------------------|
| Max. capacity in l/hr (g/hr) | | 180 (40) | 720 (160) |
| Recommended capacity in l/hr (g/hr) | | 110 (24) | 440 / 640* (97/142*) |
| Connections | Thread | M14 x 1.5 | M18 x 1.5 |
| | Hose pillar (mm) | 8 | 15 |
| Dimensions (mm) | Height | 207 | 215 |
| | Width | 85 | 174 |
| | Depth | 85 | 85 |
| Weight (kg) | | 0.7 | 1.5 |
| Replacement filter | 40 µm | WS180FE | 2 x WS180FE |
| Replacement advice | | After 200 service hours or annually | |
| Certified | | Fire resistant ISO 1008 + ISO 7840 | |

* With rotary fuel injection pump (as is the case with VETUS DEUTZ engines)

Petrol / gasoline fuel filter

Designed for use with outboard engines

Type 320VTNEB (Spin-on)

Type 320VTNEB is designed for use with outboard engines, but can also be used as a pre-filter for inboard engines. It fits petrol engines with a maximum of 500 hp.

| Type | | 320VTNEB |
|------------------------------|--------|---|
| Max. capacity in l/hr (g/hr) | | 120 (26) |
| Hose connections (mm) | | 10 |
| Dimensions (mm) | Height | 157 |
| | Width | 104 |
| | Depth | 112 |
| Weight (kg) | | 1.3 |
| Replacement filter | 10 µm | VTN32EB |
| Replacement advice | | After 200 service hours or at least once a year |
| Certified | | Fire resistant ISO 1008 |



320VTNEB



FUEL SPLASH-STOP

Overflowing fuel or foam collector

Type FSA

The fuel Splash-stop is connected right under the deck filler plate to ensure that overflowing fuel or foam cannot flood onto the deck. The excess diesel* or petrol fuel is collected in a parallel hose which functions as a reservoir, returning the fuel back into tank.

The capacity of the reservoir is determined by the length and diameter of the hose (see 3 types below). The housing and hose connection are made of anodized aluminium. The fill and vent lines, hose clamps and a matching stainless steel (AISI 316) deck entry should be ordered separately. The fuel Splash-Stop meets all the latest CE (ISO 7840 and ISO 10088) and ABYC standards.



FSA

FSA3816

- Suitable for Ø38 mm hose and 16 mm breather line with a capacity of 1,1 ltr p/mtr
- Recommended for a tank of 40 litres

FSA5116

- Suitable for Ø51 mm hose and 16 mm breather line with a capacity of 2 ltr p/mtr
- Recommended for a tank of 400 litres

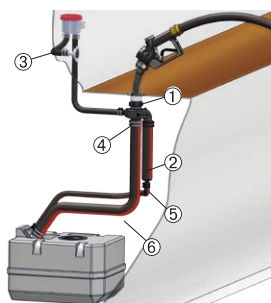
FSA5119

- Suitable for Ø51 mm hose and 19 mm breather line with a capacity of 2 ltr p/mtr
- Recommended for a tank of 400 litres

| Type | L x W x H (mm) | Hose Ø (mm) | Breather Ø (mm) | Capacity (ltr p/mtr) |
|---------|----------------|-------------|-----------------|----------------------|
| FSA3816 | 146 x 86 x 121 | 38 | 16 | 1,1 |
| FSA5116 | 146 x 86 x 121 | 51 | 16 | 2 |
| FSA5119 | 146 x 86 x 121 | 51 | 19 | 2 |

* Note

A no-smell filter (for diesel only) can be fitted in the tank breather line to prevent unpleasant smells. If the filter is located well above the deck entry, the breather line may exit lower than the deck level if required. To prevent expensive fuel theft, we recommend placing a FUELSAFE (see page 130) into the Splash-Stop.



1. Deck entry
2. Reservoir / overflow hose and breather line
3. Tank breather line to outside
4. Splash-Stop
5. Hose connection
6. Fuel filling hose

Type FS

FS3816

- Deck entry Ø38 mm
- Filler hose connection Ø38/51 mm
- Breather connection Ø16 mm

FS5125

- Deck entry Ø51 mm
- Filler hose connection Ø51 mm
- Breather connection Ø25 mm

FS5116

- Deck entry Ø51 mm
- Filler hose connection Ø38/51 mm
- Breather connection Ø16 mm

Note

For use outside the engine room only!

| Type | L x W x H (mm) | Hose Ø (mm) | Breather (mm) | Deck entry Ø (mm) |
|--------|-----------------|-------------|---------------|-------------------|
| FS3816 | 250 x 120 x 215 | 38 / 51 | 16 | 38 |
| FS5116 | 250 x 120 x 215 | 38 / 51 | 16 | 51 |
| FS5125 | 250 x 120 x 215 | 51 | 25 | 51 |

VETUS Splash-Stop model FS is directly connected to a deck entry plate (1), with a diameter of 38 or 51 mm (optional equipment).

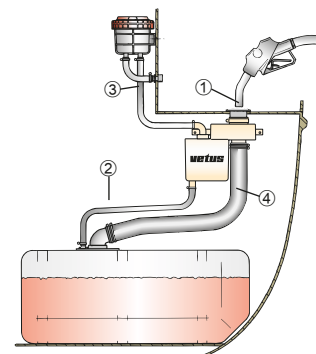
It ensures that overflowing diesel fuel and froth will not come out of the deck entry - soiling your deck and polluting the water, but will be neatly caught inside the reservoir (with a capacity of approx. 2 litres). Excessive fuel will flow back into the main tank through connection (2).

This connection also serves as the necessary tank ventilation. The breather line to outside is to be installed to connection (3).

A VETUS diesel smell filter may be installed into this breather line as well. If the diesel smell filter is positioned well above the deck, the breather line may exit below the deck level, if so required. FS is supplied with connections for Ø38 mm or for Ø51 mm fuel filling hose (4).



FS



RIGID TANKS FOR DIESEL FUEL

Basic tank type ATANK

Multiple purposes - material ideal for waste water, drinking water and diesel

These tanks are made of thick walled high-grade polyethylene which is both rust free and less prone to condensation compared with metal tanks. Due to the seamless construction of the tanks, leakage is impossible. Fittings can be installed wherever you choose and can be ordered separately in this VETUS catalogue.

Tanks are supplied with diesel, fresh water and waste water labels.

Specifications

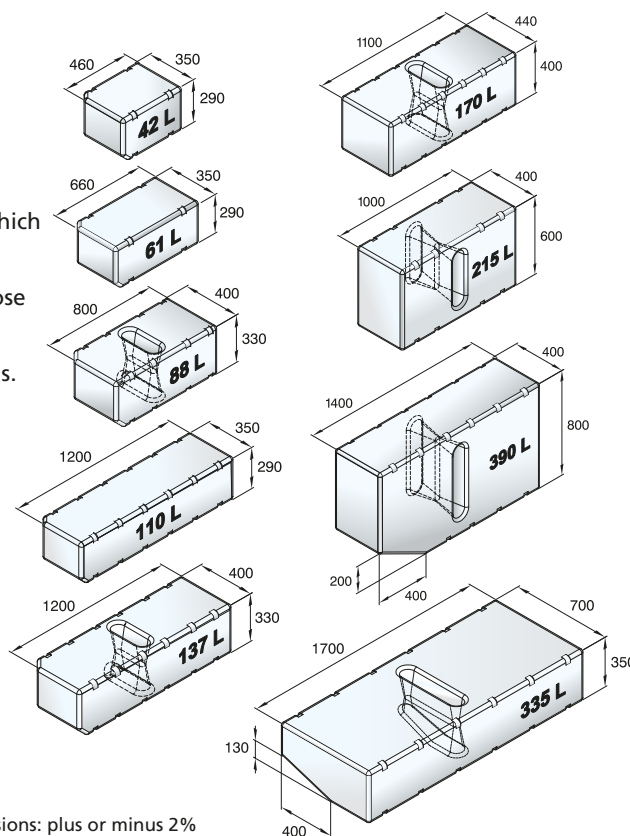
- Tanks are in accordance within the ISO 21478 standard when inspection lid ILT is installed and the supplied diesel sticker is used
- Available in 42, 61, 88, 110, 137, 170, 215, 335 and 390 litres
- Wall thickness 5 up to 7 mm
- Colour Light blue translucent
- Suitable for diesel (up to 100°C)

For dimensions and types see details below.



ATANK

*Provided with a baffle as a standard construction element



Dimensions: plus or minus 2%

| Type | Suitable for | Capacity |
|------------|--|----------|
| ATANK42 | Diesel, drinking water and waste water | 42 |
| ATANK61 | Diesel, drinking water and waste water | 61 |
| ATANK88 * | Diesel, drinking water and waste water | 88 |
| ATANK110 | Diesel, drinking water and waste water | 110 |
| ATANK137 * | Diesel, drinking water and waste water | 137 |
| ATANK170 * | Diesel, drinking water and waste water | 170 |
| ATANK215 * | Diesel, drinking water and waste water | 215 |
| ATANK335 * | Diesel, drinking water and waste water | 335 |
| ATANK390 * | Diesel, drinking water and waste water | 390 |

Tank with connectors type FTANKA/B

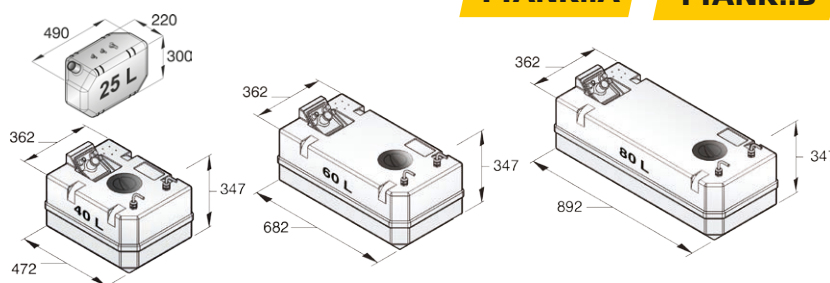
Designed for diesel fuel

This range of rigid VETUS tanks is made of high-grade polyethylene. The centre point for a SAE flange gauge sender is incorporated (except FTANK25) together with 5 blind bolt holes. The gauge sender should be ordered separately.

Each tank is supplied with the following connections

- Fixed hose connector Ø38 mm (Ø51 mm for FTANK25) for filling and 16 mm for breather line
- Rotating hose connector Ø8 mm (type A) or 10 mm (type B) with pick-up pipe for suction (type A + FTANK25)
- Rotating hose connector Ø8 mm (type A) or 10 mm (type B) for fuel-return

| Type | Description | Capacity |
|----------|----------------------------|----------|
| FTANK25 | Synthetic diesel fuel tank | 25 |
| FTANK40A | Synthetic diesel fuel tank | 40 |
| FTANK60A | Synthetic diesel fuel tank | 60 |
| FTANK80A | Synthetic diesel fuel tank | 80 |
| FTANK40B | Synthetic diesel fuel tank | 40 |
| FTANK60B | Synthetic diesel fuel tank | 60 |
| FTANK80B | Synthetic diesel fuel tank | 80 |



Dimensions: plus or minus 2%. Height dimensions includes connectors.

FTANK..A

FTANK..B

CONNECTION KIT FOR RIGID TANKS

Type FTL

Saves considerable installation time

This connection kit has an anodized, salt water resistant aluminium lid with a counter flange and a rubber seal which is tightened very easily with just 3 bolts compressing the rubber seal to ensure a perfect seal. The set contains all the required connections, only 1 single hole with a diameter of 114 mm needs to be cut in the top of the fuel tank. This connection kit is also suitable for plastic, metal or GRP diesel or petrol fuel tanks.

The following connections are supplied

- Filling hose Ø38 or 51 mm and a 16 mm tank ventilation hose
- Fuel suction pipe according to model selected
 - Ø8 mm, max. tank depth 440 mm
 - Ø10 mm, max. tank depth 850 mm
 - Ø15 mm, max. tank depth 970 mm
- Fuel return for Ø8, 10 or 15 mm hose
- Mounting flange for tank level sensors (connection is suitable for sensors with a 5-hole SAE flange)
- Terminal tag 6,3 mm for earth wire
- 2 Mounting straps to secure tank



| Type | Filler (mm) | Supply/return Ø (mm) | Vent (mm) |
|---------|-------------|----------------------|-----------|
| FTL3808 | 38 | 8 | 16 |
| FTL3810 | 38 | 10 | 16 |
| FTL3815 | 38 | 15 | 16 |

| Type | Filler (mm) | Supply/return Ø (mm) | Vent (mm) |
|---------|-------------|----------------------|-----------|
| FTL5108 | 51 | 8 | 16 |
| FTL5110 | 51 | 10 | 16 |
| FTL5115 | 51 | 15 | 16 |

Type VSAW114

| Type | Description |
|---------|---|
| VSAW114 | Ø114 hole saw for plastic, G.R.P. or stainless steel (AISI 316) tanks |

VSAW114



Type FTLD

For installation of twin tanks

With this interconnection kit 2 VETUS fuel tanks can be connected. The lid of this set has 2 connections of 16 mm for tank ventilation. 2 Brass skin fitting (G3/4) and a coupling are supplied to connect the tanks. Including 2 mounting strips to secure the tank.

| Type | Description |
|------|---------------------------------|
| FTLD | Connection kit for 2 fuel tanks |

FTLD



ILT concept: universal inspection port for tanks

Innovative inspection port with robust design

The ILT is an universal inspection port for all types of tanks. See page 370.

For fuel tanks we offer this connection kit.

The separately available fuel connection disc is one set that takes care of all fuel related connections

- Ø 38 / 51 mm fuel fill connection
- Ø 8 / 10 / 15 mm fuel suction connection
- Ø 8 / 10 / 15 mm fuel return connection
- Ventilation connection Ø 16 mm
- 5 hole SAE flange tank level sensor connection

NEW!



ILT

NO-SMELL FILTERS

No-smell filters for diesel tanks type NSFD/S

Remedy for escaping diesel fuel odours

With these filters diesel fuel smells can no longer escape through the breather line which is required for all fuel tanks on boats. The no-smell filters are easy to install and contain activated carbon material to absorb odours. To avoid diesel fuel and froth entering the filter housing and its element, it is imperative to install in combination with a Splash-Stop (page 126). A VETUS no-smell filter should not be used for petrol tanks.

Specifications

- Model NSFD: L 148 x w 150 x h 162 mm
- Suitable for Ø16, 19 or 25 mm connectors
- Model NSFDS: L 107 x w 111 x h 111 mm
- Only suitable for Ø16 mm breather hose

Please note

The filter element is replaceable and should be renewed once a year.

| Type | Description | L x W x H (mm) | Hose Ø (mm) |
|----------|---|-----------------|-------------|
| NSF16D | Large no-smell filter | 148 x 150 x 162 | 16 |
| NSF19D | Large no-smell filter | 148 x 150 x 162 | 19 |
| NSF25D | Large no-smell filter | 148 x 150 x 162 | 25 |
| NSF16DS | Small no-smell filter | 107 x 111 x 111 | 16 |
| NSF16FES | Spare filter element for small no-smell filters | | |
| NSF16FE | Spare filter element for large no-smell filters | | |



NSF.D

NSF16DS

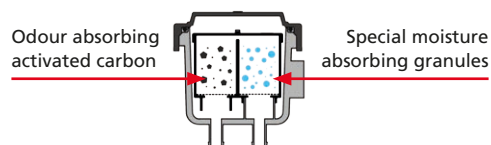
No-smell filters element type NSFCAN

Revolutionary dual function

Type NSFCAN is a pre-filled canisters with a measured quantity of activated carbon and special gel granules. The combination of gel granules and carbon provides a perfect dual function. Traditional carbon filters often lose efficiency due to humidity and condensation. The gel granules in this new filter absorb the moistures which cause the efficiency loss and also ensure significantly less air borne moisture allowed into the fuel tank.

Specifications

- Suitable for new and existing VETUS no-smell filters type NSFD
- Transparent cover so you can easily see when the special gel is saturated and replacement of the canister is necessary
- The filters reduce the risk of mould and 'diesel bug' in the tank (moisture in diesel fuel can be a perfect breeding ground for mould and bacteria)
- The smaller version type NSFCANS can be used with no-smell filter NSF16DS



| Type | Description |
|---------|---|
| NSFCAN | Dual function no-smell filter canister for type NSF filters |
| NSFCANS | Dual function no-smell filter canister for type NSF_S filters |



NSFCAN

NSFCANS

ACCESSORIES

FUELSAFE

No more fuel pumped out of the tank

Type FUELSAFE is made of petrol and diesel resistant synthetic material. No dismantling is required which makes installation of this safety device very simple. The plastic packaging sleeve can be used to insert the device.

Specifications

- Dimensions Ø55 x 72 mm
- Suitable for hoses with internal diameters of Ø38 mm (1½") and 51 mm (2")



FUELSAFE

| Type | Description |
|----------|----------------------------|
| FUELSAFE | Fuel theft security device |

Mounting bracket type MBSET04

For easy fixing of ancillary equipment

With this stainless steel (AISI 316) mounting bracket you easily fix cooling water strainers, no-smell and fuel filters on sound insulation materials up to 40 mm thick. It is supplied with bolts, washers and self-locking nuts. Fixings to mount the bracket are not included.



MBSET04



| Type | Description |
|---------|----------------------|
| MBSET04 | Mounting bracket set |

Fuel hose type FUHOSEA and FUHA115

For transportation of petrol and diesel fuels

The inside is made of NBR rubber and the outside is CR rubber. This hose can also be used as a ventilation line. Available as quality type A1, which means that these fuel hoses have been successfully subjected to a fire test for 2,5 minutes and have a maximum permeability of 100 grams/m²/hour for A1.

For a complete overview of hoses see pages 372 - 375.

Meets the CE standard: ISO 7840 marine fuel A1



FUHOSEA

Meets the highest CE standard: ISO 7840 marine fuel A1-15

Especially suitable for use with petrol because of its low permeability of 15 grams/m²/hour.

For a complete overview of hoses see pages 372 - 375.



FUHA115

Fuel filling hose

Extremely flexible!

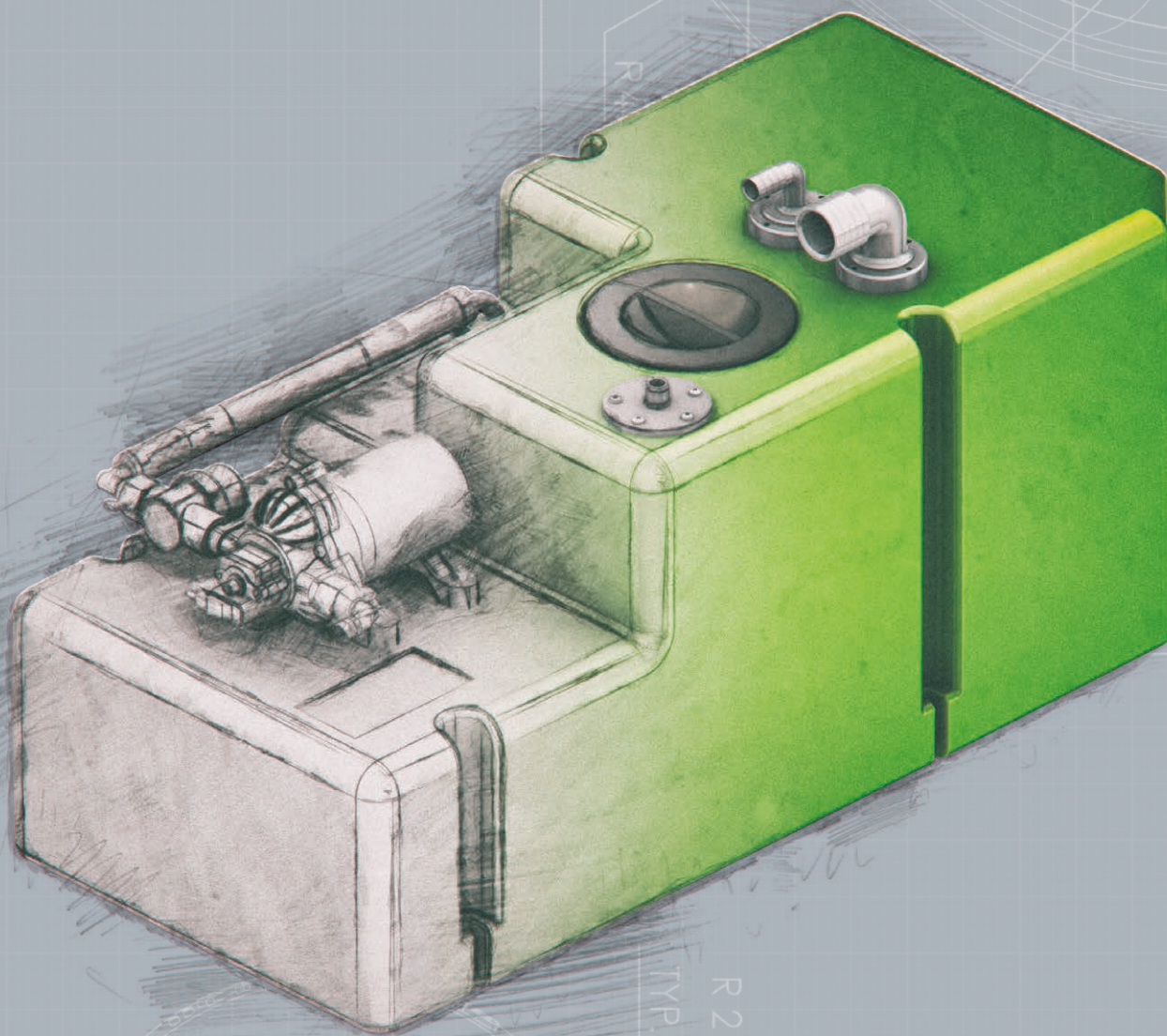
This type of hose, made of NBR rubber with spiralled steel inlay, is suitable for petrol and diesel fuels. Type FFHOSE meets requirements of SAE J 1527 and the standard ISO 7840 marine fuel A2 and is resistant to temperatures of -30° and up to 100°C.

For a complete overview of hoses see pages 372 - 375.



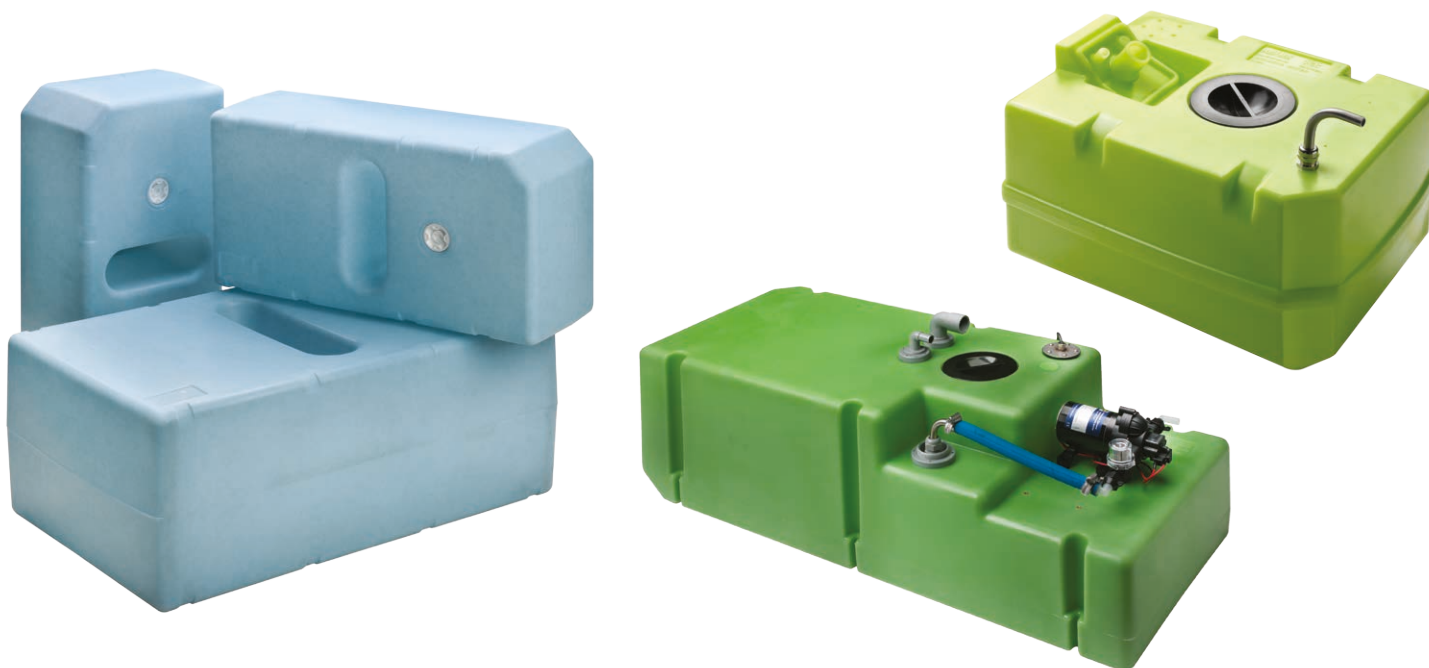
FFHOSE

FRESH WATER SYSTEMS



Overview VETUS fresh water systems

Rigid tanks, see page 135



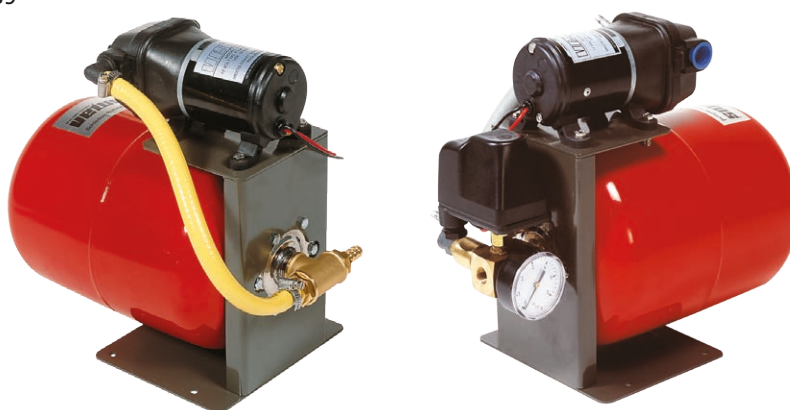
Flexible tanks, see page 136



Water heater/calorifiers, see page 137



Pressurized water systems, see page 139



Pressurized water system pumps, see page 140



Hoses, see page 140



Accessories, see page 141



Accessories for hot water systems, see page 142



WHY VETUS FRESH WATER SYSTEMS?

Clean drinking water is life's number one necessity. Therefore you should always have the best quality of water on board. The quality of the components selected for the on-board fresh water system, will determine how long the stored water remains safe palatable. VETUS uses sophisticated materials to make sure the drinking water stays fresh longer.

Why you should choose a VETUS fresh water system

- Our water tanks are made of synthetic material, perfect for drinking water
- Our tanks can be cleaned easily because of the large inspection covers
- We offer complete water pressure systems with integral pump and water pressure control
- Our electrical components are available for 12 and 24 Volt systems
- Our systems are quick and easy to install
- Our tanks are available in a range of capacities
- Our tanks avoid all of the corrosion problems associated with metal tanks

VETUS offers the following products for a good working fresh water system

Rigid tanks

High-grade synthetic tanks, especially designed for use with drinking water. Available in different shapes, sizes and capacities.

Ready-to-go tanks

These tanks are equipped as standard with an electric water pump, ultrasonic level sensor, inspection lid and all connections required for the filler, suction and breather hoses.

Flexible water tanks

These tanks are made of durable material and can be easily installed and positioned in places which are normally difficult to reach. Ideal when space is a problem.

Calorifiers

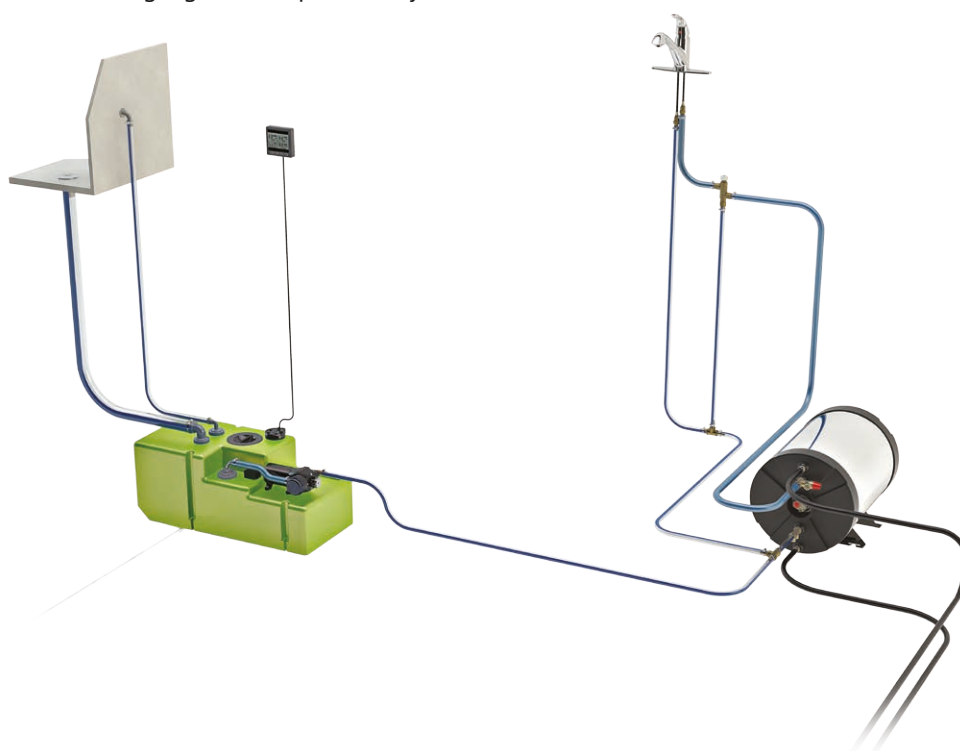
To create hot water when the engine is running. Fresh water will heat up 5-7 times faster than with conventional designs.

Pressurised water systems

Provides a constant water flow in the vessels fresh water circuit.

Accessories

Hoses, connection kits, level sensors and tank gauges to complete the system.



RIGID TANKS FOR DRINKING WATER

Basic tank type ATANK

Multiple purposes - material ideal for fresh water

For specifications and dimensions see page 127.

ATANK



Basic tank type WTANKC

With easy screw down inspection lid

This type is made of high grade synthetic like all other VETUS rigid drinking water tanks and is supplied with all required connections which saves considerable installation time. A centre point for a SAE flange gauge sender is incorporated in the moulding together with 5 blind bolt holes.

Specifications

- Tank capacities of 40, 60 and 80 litres
- Hose connectors for filling line Ø38 mm and breather line Ø16 mm
- Rotating hose connector Ø13 mm with pick-up pipe for water suction
- Supplied with installed screw down inspection lid

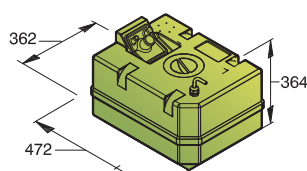
Note

The gauge sender should be ordered separately and the appropriate hole cut in the tank.

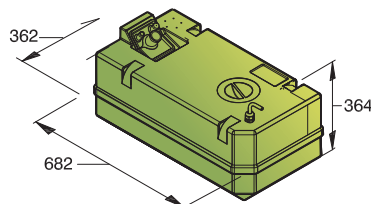
WTANKC



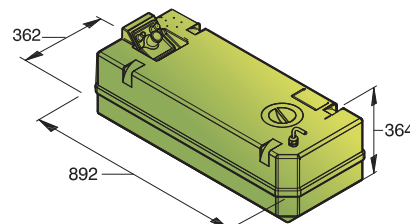
Dimensions: plus or minus 2%
Height dimension includes connectors



40 L



60 L



80 L

| Type | Tank capacity | Ø Filler connection | Ø Breather connection | Ø Outlet connection |
|----------|---------------|---------------------|-----------------------|---------------------|
| WTANK40C | 40 | 38 | 16 | 13 |
| WTANK60C | 60 | 38 | 16 | 13 |
| WTANK80C | 80 | 38 | 16 | 13 |

RIGID TANKS FOR DRINKING WATER

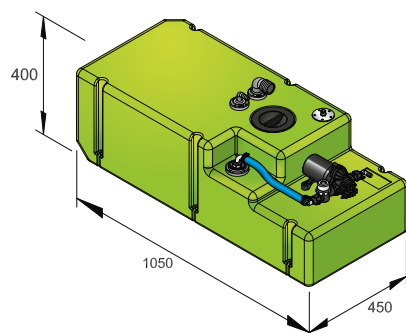
Drinking water system type DWSC

Comfort 'ready to go' system

This high grade synthetic tank for drinking water is supplied with an electric pump which automatically switches on when the pressure in the system drops (for example when a tap is opened).

Specifications

- Tank capacity of 42, 61, 88 and 120 litres
- Pump motor is available for 12 or 24 Volt
- Output 13,2 ltr/min at zero head
- Connections for filling line Ø38 mm, outlet line Ø13 mm and ventilation line Ø16 mm
- Also supplied with inspection cover, float sensor, connectors and filter in suction line



DWSC

| Type | Tank capacity | Voltage | Ø Filler connection | Ø Breather connection | Ø Outlet connection | Pump capacity (l/min) | Pump pressure (Bar) |
|-----------|---------------|---------|---------------------|-----------------------|---------------------|-----------------------|---------------------|
| DWSC04212 | 42 | 12 | 38 | 16 | 13 | 13,2 | 3,1 |
| DWSC04224 | 42 | 24 | 38 | 16 | 13 | 13,2 | 3,1 |
| DWSC06112 | 61 | 12 | 38 | 16 | 13 | 13,2 | 3,1 |
| DWSC06124 | 61 | 24 | 38 | 16 | 13 | 13,2 | 3,1 |
| DWSC08812 | 88 | 12 | 38 | 16 | 13 | 13,2 | 3,1 |
| DWSC08824 | 88 | 24 | 38 | 16 | 13 | 13,2 | 3,1 |
| DWSC12012 | 120 | 12 | 38 | 16 | 13 | 13,2 | 3,1 |
| DWSC12024 | 120 | 24 | 38 | 16 | 13 | 13,2 | 3,1 |

FLEXIBLE TANKS FOR DRINKING WATER

Type TANKW

Easy positioning by changing shape

These flexible tanks adapt its shape to its surroundings so they easily fit in places which are normally difficult to reach. The tanks consist of 3 layers (a wear resistant, reinforcement and a layer for contact with drinking water). Installation of the tank is easy and quickly, fitting the outlet nipple and connecting the inlet and outlet hoses are the only things that need to be done.

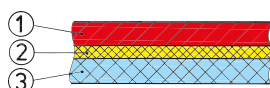
Standard supplied with

- 1 Right angle connector for filling pipe Ø38 mm (is fitted to the top of the tank)
- 1 Right angle connector for the pump hose Ø16 mm (loose)

Additional nipples can be supplied as an option.

The VETUS flexible water tanks consists of three layers

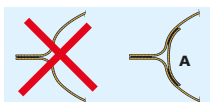
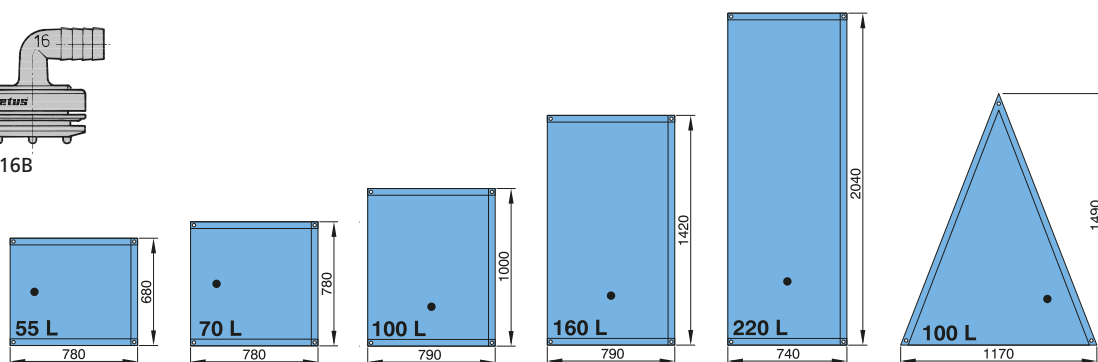
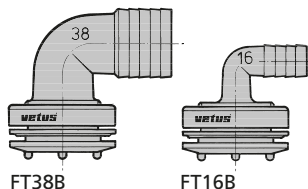
1. A wear resistant layer
2. A reinforcement layer
3. A layer suitable for contact with drinking water



TANKW

FLEXIBLE TANKS FOR DRINKING WATER

| Type | Capacity (appr.) (litre) | Dimensions (appr.) mm | Height filled (appr.) mm |
|-----------|-----------------------------|--------------------------|-----------------------------|
| TANKW55 | 55 | 680 x 780 | 250 |
| TANKW70 | 70 | 780 x 780 | 270 |
| TANKW100 | 100 | 790 x 1000 | 270 |
| TANKW160 | 160 | 790 x 1420 | 270 |
| TANKW220 | 220 | 740 x 2040 | 270 |
| TANKW1003 | 100 (Δ) | 1170 x 1490 | 240 |



We not only weld the seams, but in addition we also weld an extra strip (see drawing A). This makes the VETUS flexible tank resistant against much higher pressures, especially if the contents are moving when the boat is rolling or pitching.

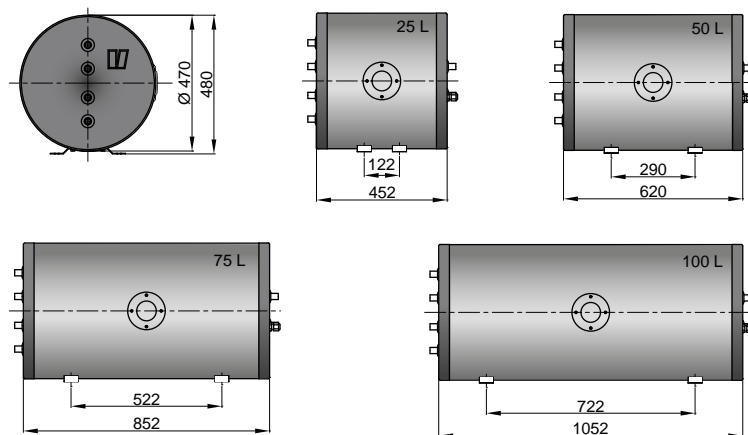
WATER HEATERS / CALORIFIERS

VETUS marine water heaters or calorifiers, make use of surplus heat from the engine to provide hot fresh water. They are also fitted with an electric heating element for use when the engine is not running. All VETUS calorifiers include sturdy mounting brackets for safe installation and a complete connection set with pressure relief valve, plus a 1.5 kW electric heating element.

Twin coil calorifiers type WHT

These conventional calorifiers use a spiral tube to heat the water. The VETUS twin coil calorifiers are supplied with an extra coil so the water can be also heated by the on board heating system!

NEW!



Contents of fresh water: 25 L.
Contents of coolant: 0.5 L.

WHT025

Contents of fresh water: 75 L.
Contents of coolant: 0.5 L.

WHT075

Contents of fresh water: 50 L.
Contents of coolant: 0.5 L.

WHT050

Contents of fresh water: 100 L.
Contents of coolant: 0.5 L.

WHT100

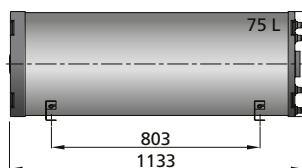
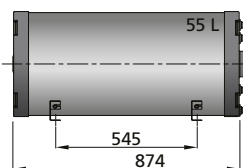
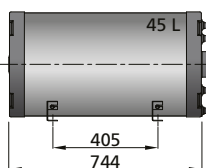
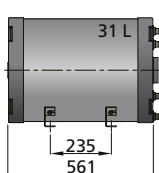
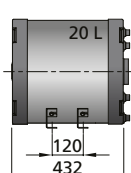
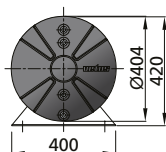
WATER HEATERS / CALORIFIERS

Double wall calorifiers type WHT

Whilst conventional calorifiers use a spiral tube to heat the water, these calorifiers use a very efficient double wall principle. Thanks to this double wall principle, the VETUS double wall calorifiers have a heating surface, which is much greater than that of a conventional heating spiral tube. This means that the double walled calorifiers will heat the water significant faster than conventional calorifiers.

For specifications see next page and for accessories see page 142.

NEW!



Contents of fresh water: 20 L.
Contents of coolant: 4 L.

WHD020

Contents of fresh water: 31 L.
Contents of coolant: 7 L.

WHD031

Contents of fresh water: 45 L.
Contents of coolant: 7,5 L.

WHD045

Contents of fresh water: 55 L.
Contents of coolant: 8 L.

WHD055

Contents of fresh water: 75 L.
Contents of coolant: 9,5 L.

WHD075

Specifications WHD

Basic materials

| | |
|------------|--|
| Inner tank | Duplex stainless steel |
| Outer tank | Stainless steel, AISI 304 |
| Insulation | Polyurethane foam, 35 mm thickness Supplied with high gloss finished stainless steel outer jacket |

Connections

| | |
|-------------------------------|--------------------------|
| Engine coolant | G 1/2 |
| Fresh water | G 1/2 |
| Heating element | G 1 1/4 |
| Pressure relief valve setting | 4 bar (56 lbs / sq.inch) |

Specifications WHT

Basic materials

| | |
|------------|--|
| Inner tank | Duplex stainless steel |
| Outer tank | Stainless steel, AISI 316 |
| Insulation | Polyurethane foam, 50 mm thickness Supplied with white painted steel outer jacket |

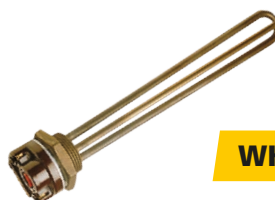
Connections

| | |
|-------------------------------|--------------------------|
| Engine coolant | G 1/2 |
| On-board heating system | G 1/2 |
| Fresh water | G 1/2 |
| Heating element | G 1 1/4 |
| Pressure relief valve setting | 4 bar (56 lbs / sq.inch) |

These calorifiers include
See page 142 for specifications.



WHKIT



WHEL

PRESSURIZED WATER SYSTEMS

Pressurized water system type HF

Ensuring constant water flow

This VETUS pressurized water system provides a constant flow in the vessels fresh water circuit. It is comparable with a piped water system at home. The pressurized tank with a rubber diaphragm inside, prevents the pump motor being started each time a supply of water is required. The diaphragm is suitable for drinking water and can be replaced. This system ensures a constant water flow, saving of energy and minimum noise.

Supplied with

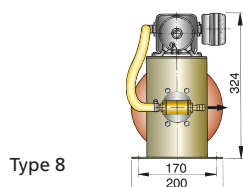
- Self-priming pump
- Inlet water strainer
- Pressure switch
- Mounting bracket



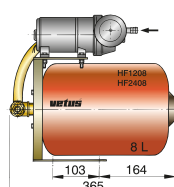
HF

Extremely low noise level

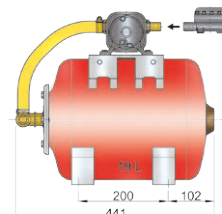
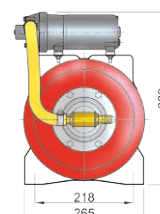
| Water system | Type HF1208 - HF2408 | Type HF1219 - HF2419 |
|---------------------------|------------------------------------|----------------------------------|
| Contents of pressure tank | 8 litres | 19 litres |
| Available in | 12 Volt (3.9 A) 24 Volt (2,0 A) | 12 Volt (6 A) 24 Volt (2,5 A) |
| Connection for hose | Ø13 mm | Ø19 mm |
| Weight | 6,2 kg | 7,5 kg |
| Capacity | 12,5 l/min. | 17 l/min. |
| Max. pressure | 2,5 bar (35 psi) | 2,8 bar (39 psi) |
| Max. suction height | 3 m | 3 m |



Type 8



Type 19



Pressurized water system type HYDRF

With adjustable pressure switch

Type HYDRF works the same as the basic pressurized water system type HF, but has an adjustable pressure switch, a manometer (pressure gauge) and an additional non-return valve. Both VETUS pressurized water systems meet the EMC requirements. For more information about this pressurized water system, see type HF.

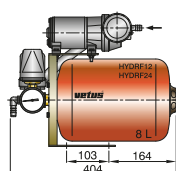
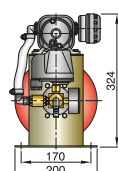
| Water system | Type HYDRF12 - 24 | Type HYDRF1219 - 2419 |
|---------------------------|------------------------------------|----------------------------------|
| Contents of pressure tank | 8 litres | 19 litres |
| Available in | 12 Volt (3.9 A) 24 Volt (2,0 A) | 12 Volt (6 A) 24 Volt (2,5 A) |
| Connection for hose | Ø13 mm | Ø19 mm |
| Weight | 8,2 kg | 9,5 kg |
| Capacity | 12,5 l/min. | 17 l/min. |
| Max. pressure | 2,5 bar (35 psi) | 2,8 bar (39 psi) |
| Max. suction height | 3 m | 3 m |



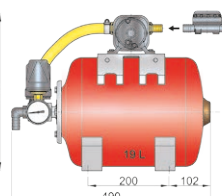
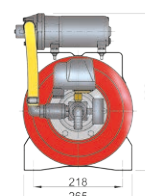
HYDRF

Extremely low noise level

Type 8



Type 19



PRESSURIZED WATER SYSTEMS

Pressurized water system pumps type WP

Silent running and smooth operation

These pumps are designed for pressurized water systems, washing, liquid transfer etc. Type WP is noiseless, low in energy consumption and can run dry without damage. It is well equipped with a thermal overload protection, built-in check valve and is auto demand with built-in pressure switch. This pump is supplied with 2 straight and 2 angled 13 mm hose connections and inlet filter.

For Voltage, flow, pressure, current and dimensions see table below.

| Type | Volt (V) | Flow (lpm) | Pressure (bar) | Max Current (A) | L x W x H (mm) |
|--------|----------|------------|----------------|-----------------|-----------------|
| WP1208 | 12 | 7.6 | 2.1 | 5 | 212 x 130 x 123 |
| WP2408 | 24 | 7.6 | 2.1 | 3 | 212 x 130 x 123 |
| WP1213 | 12 | 13.2 | 3.1 | 7 | 212 x 130 x 123 |
| WP2413 | 24 | 13.2 | 3.1 | 4 | 212 x 130 x 123 |

| Type | Volt (V) | Flow (lpm) | Pressure (bar) | Max Current (A) | L x W x H (mm) |
|--------|----------|------------|----------------|-----------------|-----------------|
| WP1220 | 12 | 20 | 4.2 | 17 | 229 x 147 x 132 |
| WP2420 | 24 | 20 | 4.2 | 10 | 229 x 147 x 132 |



WP..08

WP..13



WP..20

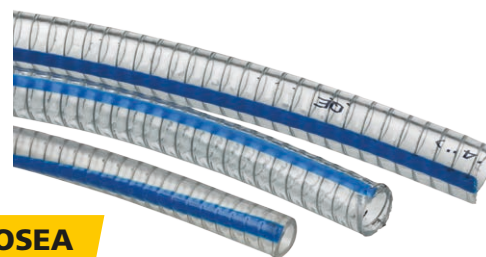
ACCESSORIES

Hose type DWHOSEA

Temperature proof between -5 and + 65°C

This hose is made of transparent PVC with spiral inlay and is suitable for transportation of drinking water and grey water on board, both suction and pressure.

For a complete overview, specifications and dimensions of hoses see pages 372 - 375.



DWHOSEA

Hose type HWHOSE

Ideal for use with calorifier and hot water systems

Type HWHOSE is made of EPDM rubber with an inlay of woven synthetic fabric. This hose is suitable for drinking water and is temperature resistant between -30 and + 160°C.

For a complete overview, specifications and dimensions of hoses see pages 372 - 375.



HWHOSE

ACCESSORIES

Inspection lid type WTK02

For (waste) water tanks only!

Specifications

- Overall diameter Ø156 mm
- Cut out diameter Ø115 mm
- Not suitable for fuel tanks
- Ideal for metal tanks



WTK02

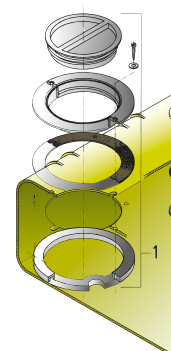
| Type | Description |
|-------|---|
| WTK02 | Inspection lid only, for rigid drinking water tanks |

Inspection lid kit type WTIKIT

Complete with gasket, counter flange and fastenings

Specifications

- Overall diameter Ø156 mm
- Cut out diameter Ø115 mm
- Ideal for metal tanks



WTIKIT

| Type | Description |
|--------|---|
| WTIKIT | Inspection lid for rigid drinking water tanks |

Installation kit type WTKIT

With inspection lid and angled connectors

The installation kit consists of

1. 1 Inspection lid
2. 1 Right angle connector (RT38B) for filling hose Ø38 mm
3. 1 Right angle connector (RT16B) for water pump Ø16 mm
4. 1 Right angle connector (RT16B) for ventilation Ø16 mm
5. 2 Mounting straps
6. T-piece for interconnecting 2 tanks Ø16 mm



WTKIT

| Type | Description |
|-------|---|
| WTKIT | Installation kit for drinking water tanks |

Universal inspection port for tanks type ILT

Innovative inspection port with robust design

The ILT is an universal inspection port for all types of tanks. See page 370.

For fresh water tanks we offer this connection kit.

Keeping fresh water fresh and preventing marine growth can be tricky, but a large opening will help do the job! Periodic cleaning of all connections and of course the tank itself will be a much easier job if it can be done in a fraction of the time! For drinking water tanks in all varieties the VETUS ILT freshwater disc is all you need!

The connections that come with this set are

- Ø 38 mm fresh water fill connection
- Ø 13 mm fresh water suction connection
- Ventilation connection Ø 16
- 5 hole SAE flange tank level sensor connection



ILT

NEW!

Ultrasonic level sensor type SENSORA

Easy measurement

This VETUS ultrasonic level sensor is contactless and will easily measure the fluid level in the tank.

For more available level sensors see page 107.



SENSORA

| Type | Description |
|---------|-------------------------|
| SENSORA | Ultrasonic level sensor |



ACCESSORIES

Suction pipe type WTS44513B

Fitted to the top of fixed tanks

This suction pipe can be fitted to the top of most of the fixed tanks with a maximum depth of 410 mm and is suitable for Ø13 mm drinking water systems.

| Type | Description |
|-----------|---------------------------------------|
| WTS44513B | Suction pipe for drinking water tanks |

WTS44513B



ACCESSORIES FOR HOT WATER SYSTEMS

Connection set type WHKIT

The connection set consists of

- 4 hose pillars G½ - 16 mm for Ø16 mm water hose
- 1 T-piece
- 1 pressure relief valve (4 bar)
- 1 non-return valve with drain points

This set is supplied as standard with VETUS calorifiers, but can also be ordered separately.

| Type | Description |
|-------|-------------------------------------|
| WHKIT | Connection set for VETUS calorifier |

WHKIT



Heating element type WHEL

Adjustable thermostat (40 - 80°C.). Male thread size, ISO 228/1 G1¼. Screw-in length of element is 300 mm.

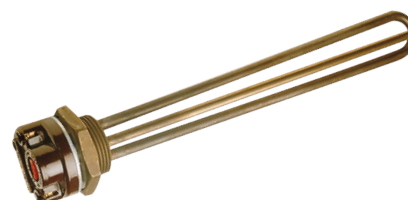
Electric heating elements

- 500 Watt, 230 Volt
- 1000 Watt, 120 Volt
- 1000 Watt, 230 Volt

VETUS heating elements type WHEL meet the low voltage requirements.

| Type | Volt (V) | Watt |
|-----------|----------|------|
| WHEL22500 | 230 | 500 |
| WHEL220 | 230 | 1000 |
| WHEL110 | 120 | 1000 |

WHEL



Thermostatic mixer for calorifiers

Calorifiers which are heated by the engine coolant, can deliver their fresh water contents at temperatures of more than 90°C. There is always a risk that these high temperatures could cause scalding when washing or showering. Using a mixer tap can take too long to find a suitable temperature, with high water usage as a consequence.

By fitting a thermostatic mixer, the risk of scalding is eliminated and a safe and comfortable temperature for each requirement is easily selected. So, no more hot water wastage, a constant safe temperature at the tap and energy saving.

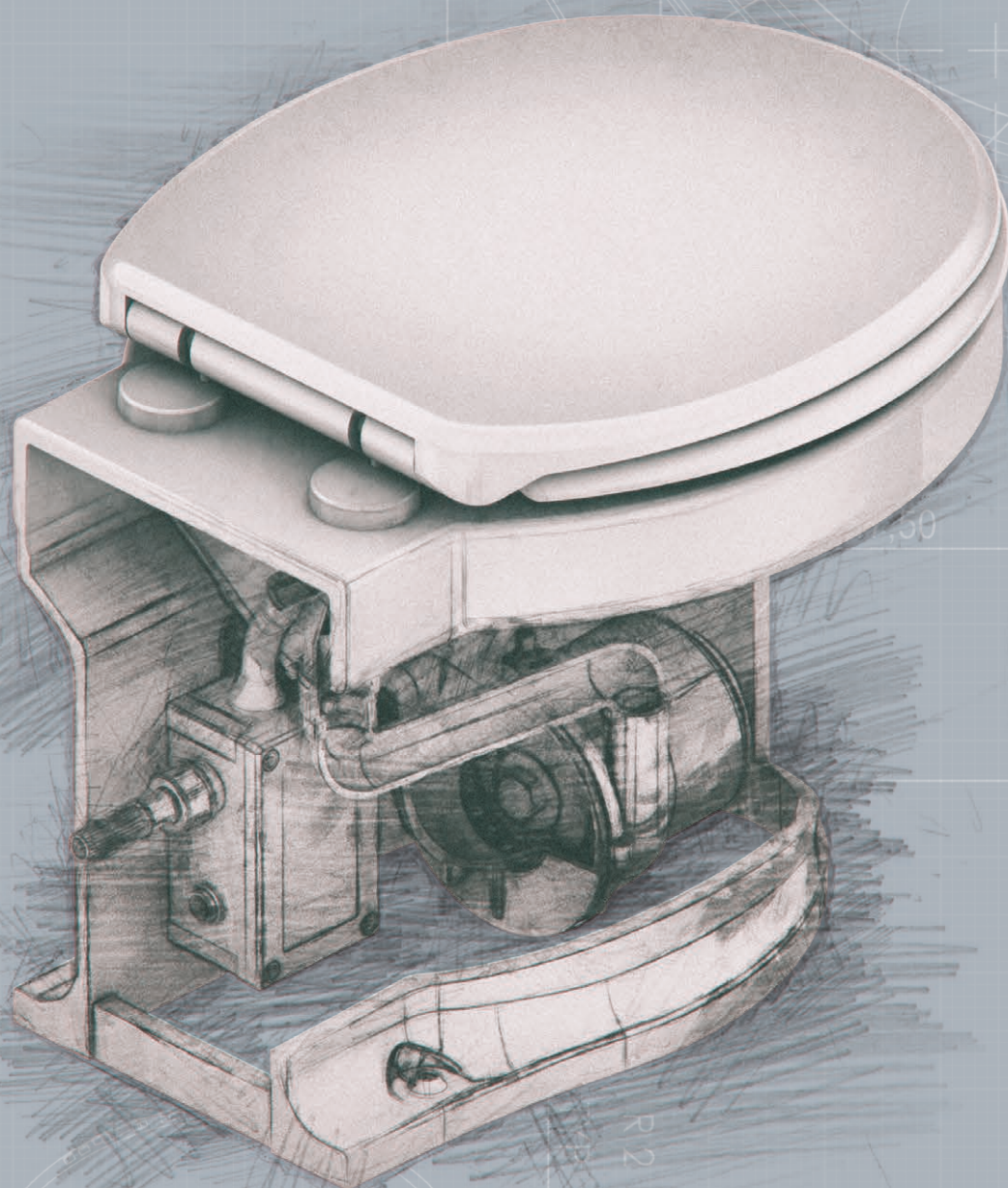
The thermostatic mixer is provided with G½ thread. The temperature is infinitely adjustable between 30° and 70°C.

| Type | Description |
|---------|------------------------------------|
| WHMIXER | Thermostatic mixer for calorifiers |

WHMIXER



WASTE WATER SYSTEMS



Overview VETUS waste water systems

Electric marine toilets, see page 147



Electric toilet control panels, see page 150



Sani-processors, see page 151



Rigid tanks for waste water, see page 153



Flexible waste water tanks, see page 156



TankFresh, see page 156



Accessories for waste water holding tanks, see page 157



WHY VETUS WASTE WATER SYSTEMS?

An odourless waste water system is possible, however, you do need to follow some guidelines to keep your waste water free from unwanted odours. Below we highlight a few tips. You can also download the VETUS guide from the VETUS website with more suggestions to keep your waste water system free of odours.

Tips for an odour-free waste water system

1. Hoses: Make sure your hoses are properly installed. Flush the hoses thoroughly with sufficient water every time the toilet is used.
2. Flushing: Flush your hoses sufficiently. Installing a VETUS electric toilet also helps. These toilets have a powerful macerator pump that ensures all waste water is pumped through the hoses at high pressure, and less water is needed to flush them.
3. Holding tank: Use VETUS holding tanks. The thick walls of our synthetic tanks make them completely odour proof. The hose connection kit and fittings with watertight seals ensure that no leaks can occur. Empty and rinse the tank regularly. All VETUS waste water tanks are certified according ISO 8099.
4. Ventilation: Proper ventilation is the main requirement for an odourless system. It is very important that the tank is well ventilated. Use large diameter fittings and VETUS hoses for ventilation. Make sure that the hoses are not clogged! As an option you can install a No-Smell filter in the ventilation hoses.
5. TankFresh: A concentrate of completely organic bacteria that break down faeces in the waste water system without emitting any odour. Any well-designed waste water system can function virtually without odour just by using TankFresh.

Why you should choose a VETUS waste water system

VETUS WWS waste water system

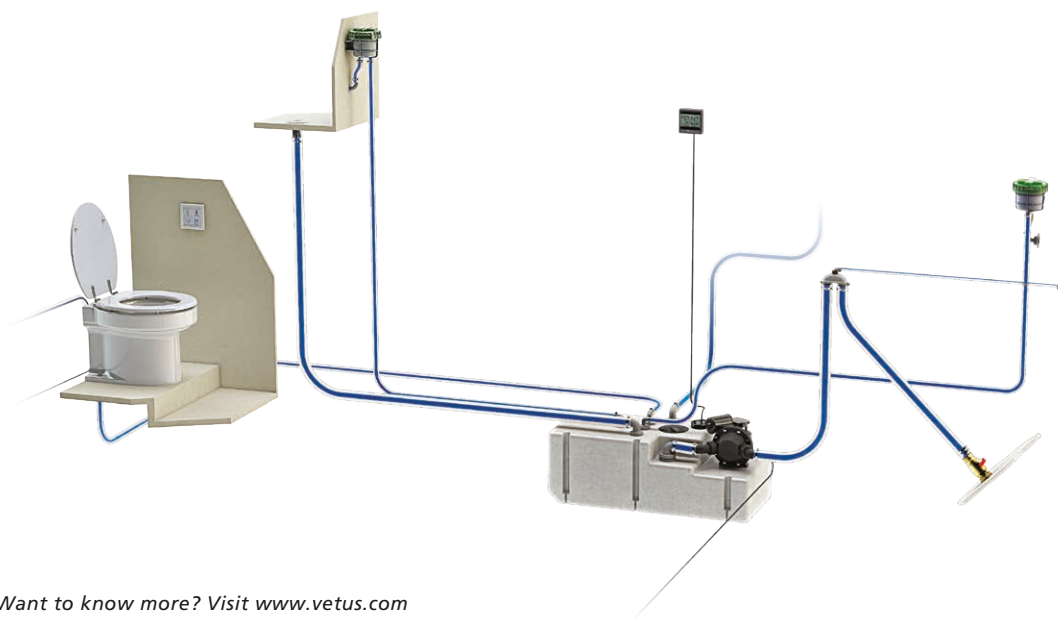
- Is easy to install, low maintenance and space-saving
- Comes pre-fitted with pump, discharge pipe, breather, inspection lid and ultrasonic sensor
- Is robust and corrosion-free and available in capacities of 42, 61, 88 and 120 litres

VETUS EMP 140 waste water pump

- Is a powerful diaphragm pump equipped with 'duck bill' valves
- Produces very low noise levels, is self-priming and low maintenance
- Comes complete with rotatable connectors allowing hose connections from any angle
- Has a large capacity of 27 litres/minute, suction height 3 metres, discharge height 5 metres

VETUS electric toilets

- Come with high quality seat and cover and operate at the touch of a button
- Low maintenance and low water consumption (ECO flush)
- Feature a very low noise macerator and pump and require only a 19 mm diameter outlet pipe
- Equipped with stainless steel (AISI 316) macerator blades, a waterlock and non-return valve
- VETUS electric marine toilets meet the EMC requirements



ELECTRIC MARINE TOILETS

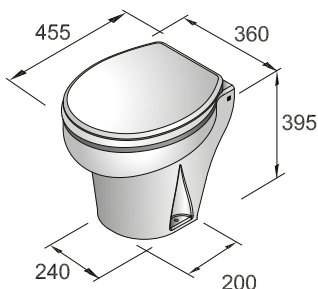
Compact toilet type TMS

Small toilet with great qualities

Due to the compact footprint, this toilet fits perfectly in a small space. It has a porcelain bowl with a comfortable soft close and quick release seat and lid. A perfect hassle-free easy to clean and quiet toilet with very low water consumption.

Specifications

- Easy to install and maintain
- Powerful macerator with full stainless steel (AISI 316) blades and high capacity discharge pump (60dB (A))
- Comes with 3 discharge hose adapters Ø19, 25 and 38 mm and a 700 mm water inlet hose
- Choice of control panel (see page 150)
- Rocker switch operation available



TMS



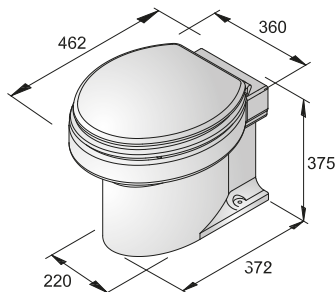
Soft close toilet type TMWQ

Compact dimensions without sacrificing comfort

Very competitively priced and comfortable toilet. A welcome alternative to manually operated hand-pumped toilet. Operated by a simple rocker switch or control panel which must be ordered separately (see page 150).

Specifications

- Soft close and quick release seat / lid
- Easy to clean porcelain bowl / simple maintenance
- Powerful macerator with full stainless steel (AISI 316) blades and high capacity discharge pump (60dB (A))
- Comes with 3 discharge hose adapters Ø19, 25 and 38 mm and a 700 mm water inlet hose
- Very low water consumption



TMWQ



| Type | Voltage (V) | Power consumption (A) | Type of control | External Ø discharge (mm) | Water inlet connection |
|--------|-------------|-----------------------|-----------------|---------------------------|--------------------------------------|
| TMS12 | 12 | 25 | Of choice | 19, 25 or 38 | Female G ³ / ₄ |
| TMS24 | 24 | 12.5 | Of choice | 19, 25 or 38 | Female G ³ / ₄ |
| TMW12Q | 12 | 25 | Of choice | 19, 25 or 38 | Female G ³ / ₄ |
| TMW24Q | 24 | 12.5 | Of choice | 19, 25 or 38 | Female G ³ / ₄ |



ELECTRIC MARINE TOILETS

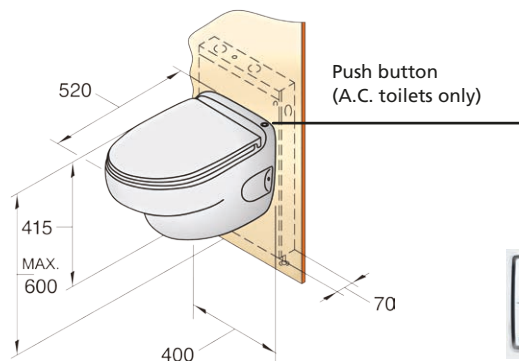
Hanging toilet type HATO

Creating more floor space

A practical wall mounted toilet, the floor under it is continuous which makes cleaning the floor very easy, with porcelain bowl and a comfortable sized seat. The waste connection is in the back wall, which can be an advantage.

Specifications

- Easy to install and maintain
- Super quiet macerator (60dB (A)) with full stainless steel (AISI 316) blades and large capacity discharge pump
- Comes with a waterproof electronic operating panel or a toilet push button
- Very low water consumption
- Available for DC or AC power supply



HATO212B

HATO224B



HATO

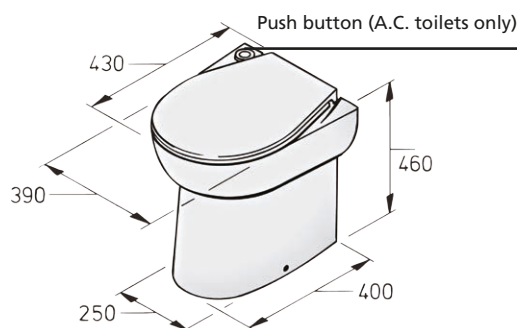
Toilet type WCS

Floor standing comfort

Comfortable floor standing toilet with porcelain bowl and a normal sized seat and lid.

Specifications

- Easy to install and maintain
- Super quiet macerator with full stainless steel (AISI 316) blades and large capacity discharge pump (60dB (A))
- Comes with a waterproof electronic operating panel or pneumatic push button
- Very low water consumption
- Available for DC or AC power supply



WCS12S2

WCS24S2



WCS

| Type | Voltage (V) | Power consumption (A) | Type of control | External Ø discharge (mm) | Water inlet connection |
|----------|---------------|-----------------------|-----------------|---------------------------|--------------------------------------|
| HATO212B | 12 V (DC) | 25 | Panel | 19 | Female G ³ / ₄ |
| HATO224B | 24 V (DC) | 12.5 | Panel | 19 | Female G ³ / ₄ |
| HATO110 | 110 V (60 Hz) | 5 | Push button | 19 | Female G ³ / ₄ |
| HATO220 | 230 V (50 Hz) | 2.5 | Push button | 19 | Female G ³ / ₄ |
| WC12S2 | 12 V (DC) | 25 | Panel | 19 | Female G ³ / ₄ |
| WC24S2 | 24 V (DC) | 12.5 | Panel | 19 | Female G ³ / ₄ |
| WC110S | 110 V (60 Hz) | 5 | Push button | 19 | Female G ³ / ₄ |
| WC220S | 230 V (50 Hz) | 2.5 | Push button | 19 | Female G ³ / ₄ |

ELECTRIC MARINE TOILETS

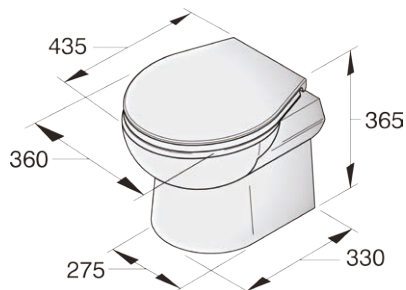
Toilet type SMT0

Small size, big performance

This is one of the smallest and lightest electric toilets on the market. A solid floor standing model with high qualities and a porcelain bowl with comfortable seat and lid.

Specifications

- Easy to install and maintain
- Super quiet macerator with full stainless steel (AISI 316) blades and large capacity discharge pump (60dB (A))
- Comes with a waterproof electronic operating panel (type SMT02) or rocker switch (type SMT02S)
- Very low water consumption



SMT0

SMT02



SMT02S



Compact toilet type WCP

Small footprint, big performance

This toilet has a very small footprint because the electronic control box is mounted outside the toilet.

Specifications

- Easy to install and maintain
- Super quiet macerator with full stainless steel (AISI 316) blades and large capacity discharge pump (60dB (A))
- Comes with a waterproof electronic operating panel (type WCP) or rocker switch (type WCP5)
- Very low water consumption



WCP

WCP



WCP5



| Type | Voltage (V) | Power consumption (A) | Type of control | External Ø discharge (mm) | Water inlet connection |
|----------|-------------|-----------------------|-----------------|---------------------------|--------------------------------------|
| SMT0212 | 12 | 25 | Panel | 19 | Female G ³ / ₄ |
| SMT0224 | 24 | 12.5 | Panel | 19 | Female G ³ / ₄ |
| SMT02S12 | 12 | 25 | Switch | 19 | Female G ³ / ₄ |
| SMT02S24 | 24 | 12.5 | Switch | 19 | Female G ³ / ₄ |
| WCP12 | 12 | 25 | Panel | 19 | Female G ³ / ₄ |
| WCP24 | 24 | 12.5 | Panel | 19 | Female G ³ / ₄ |
| WCP512 | 12 | 25 | Switch | 19 | Female G ³ / ₄ |
| WCP524 | 24 | 12.5 | Switch | 19 | Female G ³ / ₄ |



ELECTRIC TOILET CONTROL PANELS

Marine toilet panel (Suitable for TM Series)

Pre-programmed comfort

The panel is easy to operate with just 4 functions. It has an eco ($\pm 1,2\text{ltr}$) and normal flush ($\pm 2,2\text{ltr}$) button and a fill or empty bowl button. Using a marine toilet was never this easy, just touch the button!

Specifications

- Panel dimensions 110x110 mm
- Build-in depth 50 mm
- Complete installation package including 3mtr cable
- Suitable for 12 or 24 Volt
- Waterproof IP65



TMWPB

Marine toilet switch (Suitable for TM Series)

Full control over the flush

A simple and effective 2 functions switch to fill or empty the bowl.

Specifications

- Switch dimensions 78x47 mm
- Build-in depth 40 mm
- Complete installation package including 3mtr cable
- Suitable for 12 or 24 Volt
- Waterproof IP65



TMWBS

Marine toilet control panel

(suitable for toilet type WCP, WCS, HATO and SMTO)

At the touch of a button

This pre-programmed 3 functions panel has an eco and normal flush and bowl evacuation.

Specifications

- Panel dimensions 72x72 mm
- Build-in depth 21 mm
- Complete installation package including 1,5mtr cable
- Suitable for 12 or 24 Volt
- Waterproof IP65



Marine toilet rocker switch

(suitable for toilet type SMTOS and WCPS)

Full control over your switch

Rocker switch with 2 functions to fill or flush the bowl.

Specifications

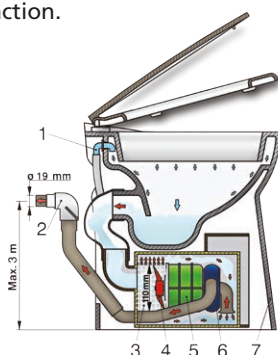
- Switch dimensions 45x75 mm
- Build-in depth 40 mm
- Complete installation package including 3mtr cable
- Suitable for 12 or 24 Volt
- Waterproof IP65



Note

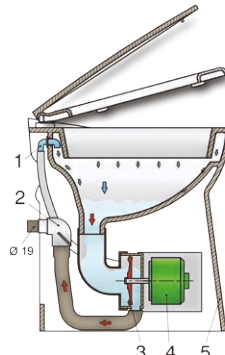
Toilet models WC, HATO and SMTO are supplied with a control panel or rocker switch and do not need to be ordered separately.

All VETUS toilets are equipped with an electric pump with powerful macerator to insure proper evacuation of contents in one single action.



120/230 Volt models

1. Flushing water inlet
2. Discharge of waste water
3. Protective grille
4. Stainless steel (AISI 316) blades
5. Macerator motor
6. Discharge pump
7. Porcelain toilet bowl



12/24 Volt models

1. Flushing water inlet
2. Discharge of waste water
3. Stainless steel (AISI 316) blades
4. Macerator motor
5. Porcelain toilet bowl

SANI-PROCESSOR

Compact Sani-Processor for black and grey water

The comfort and style of home

On larger boats owners want to have the comfort and looks of their toilet at home. Therefore VETUS has developed the Sani-Processor with an electric macerator and a powerful pump in order to use an ordinary gravity flow, domestic toilet on board. When flushing the toilet, the Sani-Processor collects the contents, macerates and pumps the slurry into a holding tank. The whole process takes only 10 to 30 seconds and is very quiet. The unit can be easily cleaned by removing the inspection lid. We recommend using the VETUS sanitary connecting hoses, type SAHOSE, to ensure an odour-tight process.

Specifications

- Processor dimensions l 420 x w 120 x h 360 mm
- Holding tank placement max. 4 mtr higher than Sani-Processor
- Macerator diameter 98 mm
- Weight 4,8kg
- Pump capacity approx. 50ltr/min at 4mtr head
- Power consumption approx. 370W (12V), 435W (24V), 580W (110V), 400W (230V)
- Available for 12 or 24 Volt DC, 230 Volt/50Hz or 120 Volt/60Hz
- Maximum permissible water temperature 35°C

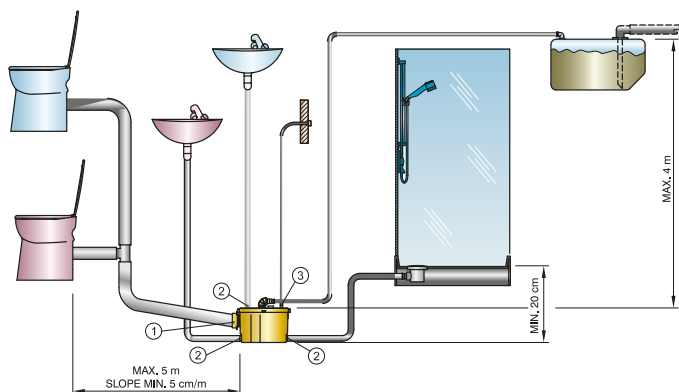
Connections

- Hose from toilet to Sani-Processor: Ø102 mm, max. length 4 mtr
- Hose from Sani-Processor to holding tanks: Ø19 mm, max. length 20 mtr
- Washbasin/bidet connections: Ø40 mm

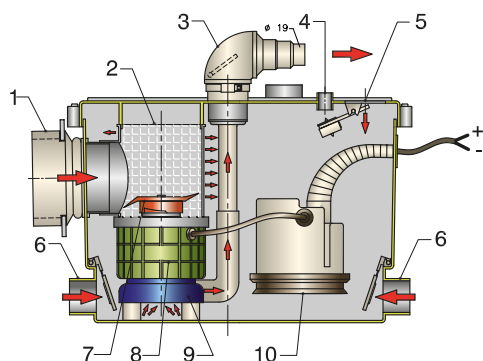


SAPRO

| Type | Voltage |
|----------|------------------|
| SAPRO12 | 12 Volt DC |
| SAPRO24 | 24 Volt DC |
| SAPRO220 | 230 Volt / 50 Hz |
| SAPRO110 | 120 Volt / 60 Hz |



1. Hose connection Ø102 mm (SLVBR100K)
2. Hose connection Ø40 mm (SLVBR40K or HA3060)
3. Hose connection HA1338



1. Toilet connection, Ø102 mm
2. Protective grille
3. Waste discharge connections: male Ø19 mm o.d. and female Ø25/28/32 mm i.d
4. Breather connection, Ø19 mm
5. Washbasin / bidet connection, Ø40 mm
6. Washbasin or shower connection, Ø40 mm
7. Stainless steel (AISI 316) blades
8. Electric macerator motor
9. Discharge pump
10. Float switch



SANI-PROCESSOR

Discharge system to transport waste water into holding tank

Pumping water automatically from the shower tray or washbasin into a waste water tank is possible with the VETUS grey water discharge system (GWDS). It has a watertight housing with a low noise discharge pump, automatic flow switch and a non-return valve in the discharge line. You can easily pump the water into the holding tank.

Specifications

- Dimensions tank
l 300 x w 165 x h 145 mm
- Waste water tank location up to 4mtr above GWDS unit or up to 20mtr away from it
- Bottom of GWDS unit must be placed at least 6 cm below shower tray or washbasin
- Weight 3,5 kg
- Pump output approx. 44 ltr/min
- Power consumption approx. 340W (12V), 350W (24V), 600W (120V), 250W (230V)
- Available for 12 or 24 Volt DC, 230 Volt/50Hz or 120 Volt/60Hz
- Maximum permissible water temperature 35°C

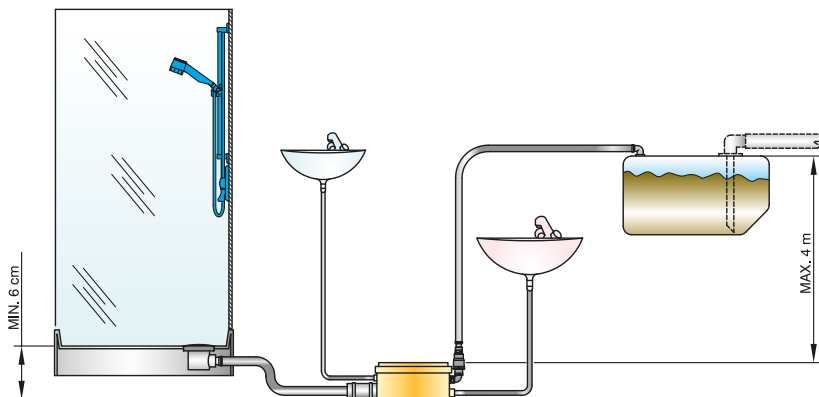
Connections

- Outlet discharge to holding tank: Ø19 mm
- Inlet connections from shower or washbasin: Ø32 or 40 mm

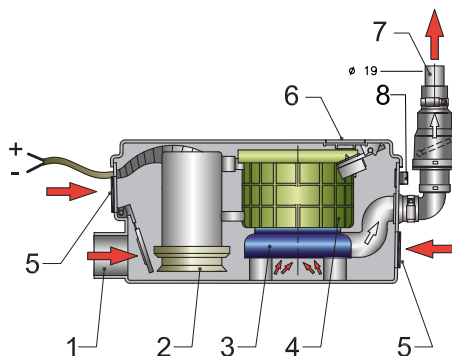


GWDS

| Type | Voltage |
|---------|------------------|
| GWDS12 | 12 Volt DC |
| GWDS24 | 24 Volt DC |
| GWDS220 | 230 Volt / 50 Hz |
| GWDS110 | 120 Volt / 60 Hz |



Hose connectors (1) HA1338 and (2) HA3060 are shown on page 159.



1. Shower or washbasin connection Ø40 mm
2. Float switch
3. Discharge pump
4. Electric motor
5. Washbasin connection, Ø32 or 40 mm
6. Breather
7. Waste water discharge connection: male Ø19 mm o.d
8. Air conditioner connection, Ø12 mm

RIGID TANKS FOR WASTE WATER

Basic tank type ATANK

Odour-free storage of waste water

For specifications and dimensions see page 127.

ATANK



Basic tank including connectors type BTANKC

These tanks will save considerable installation time!

These tanks are made of odour impermeable synthetic see-through material so the content level can be seen from the outside. The centre point for a SAE flange gauge sender has already been provided in the moulding, together with 5 bolt holes (except BTANK25C). This will save you considerable installation time. The tanks are supplied with connectors, a screw down inspection lid and 2 securing straps. The inlet fitting (type RT..B) should be ordered separately matching the inlet hose diameter.

Specifications

- Tanks are according to the ISO 8099 standard
- Tank capacities of 25, 40, 60 or 80 litres

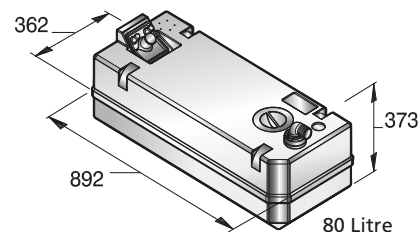
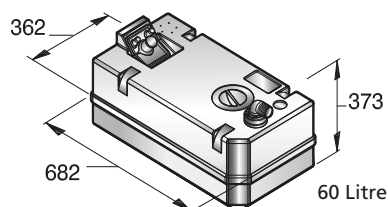
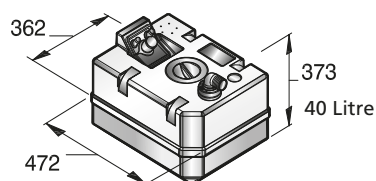
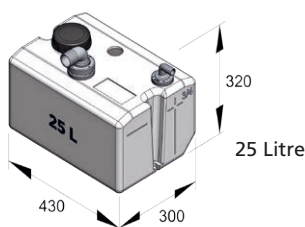
Connections

- Fixed hose connector Ø 19 mm for breather line, rotating for BTANK25C
- Rotating hose connector Ø 38 mm with pick-up pipe for suction
- Ø 42 mm Hole for inlet fitting type RT..B

| Type | Suitable for | Capacity (Litres) |
|----------|--------------|-------------------|
| BTANK25C | Waste water | 25 |
| BTANK40C | Waste water | 40 |
| BTANK60C | Waste water | 60 |
| BTANK80C | Waste water | 80 |



BTANKC



Dimensions: plus or minus 2%. Height dimensions includes connectors



RIGID TANKS FOR WASTE WATER

Bulkhead mounted tank type WW

Can be emptied without a pump

These tanks are made of odour impermeable synthetic see-through material so the content level can be seen from the outside. Available in 4 sizes, horizontal as well as vertical and suitable for mounting under the side decks, above the waterline. The tanks are supplied with inspection cover and connectors. The holes for the inlet fittings have already been provided. The angled inlet connectors should be ordered separately.

Specifications

- Tanks are according to the ISO 8099 standard
- Tank capacities of 25, 60 or 80 litres

Connections

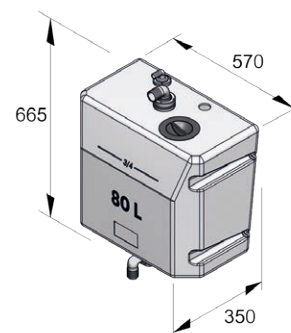
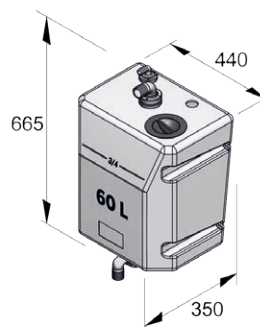
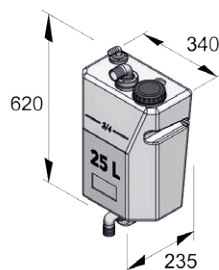
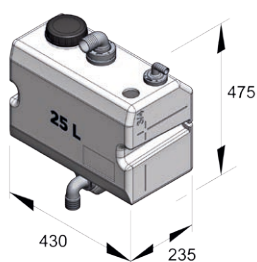
- Suction pipe with angled Ø38 mm hose connector for deck plate connection
- Angled hose connector Ø38 mm for discharge
- Angled hose connector Ø19 mm for tank ventilation

| Type | Suitable for | Capacity (Litres) |
|--------|----------------------------------|-------------------|
| WW25WH | Waste water (horizontal version) | 25 |
| WW25W | Waste water | 25 |
| WW60W | Waste water | 60 |
| WW80W | Waste water | 80 |



WW25WH

WW..W



Dimensions: plus or minus 2%
Height dimensions includes connectors

RIGID TANKS FOR WASTE WATER

Complete tank type WWS

Ready to go!

These tanks are made of odour impermeable synthetic see-through material, so the content level can be seen from the outside. These complete tanks come with a VETUS waste water pump (type EMP, see page 157), inspection cover, ultrasonic level sensor, connectors and 2 securing straps. Only the 12 or 24 Volt level gauge must be ordered separately (see page 111). All connections go through the top of the tank. Type WWS is suitable for storing black water as well as grey waste water and is especially designed to save installation time.

Specifications

- Suitable for 12 or 24 Volt
- Tanks are according to the ISO 8099 standard
- Tank capacities of 42, 61, 88 or 120 litres

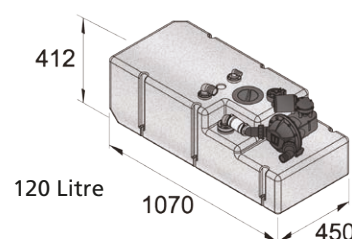
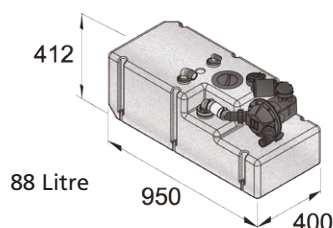
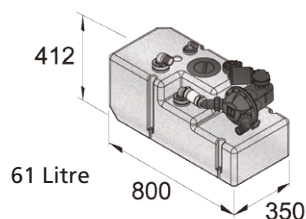
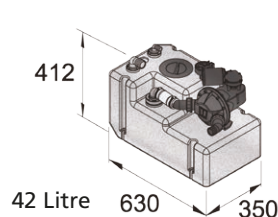
Connections

- Suction pipe with angled hose connector Ø38 mm for discharge to onshore holding facility
- Breather connection Ø19 mm



WWS

| Type | Suitable for | Capacity (Litres) |
|-----------|---|-------------------|
| WWS4212B | "Black" and "grey" waste water incl. 12 Volt pump | 42 |
| WWS4224B | "Black" and "grey" waste water incl. 24 Volt pump | 42 |
| WWS6112B | "Black" and "grey" waste water incl. 12 Volt pump | 61 |
| WWS6124B | "Black" and "grey" waste water incl. 24 Volt pump | 61 |
| WWS8812B | "Black" and "grey" waste water incl. 12 Volt pump | 88 |
| WWS8824B | "Black" and "grey" waste water incl. 24 Volt pump | 88 |
| WWS12012B | "Black" and "grey" waste water incl. 12 Volt pump | 120 |
| WWS12024B | "Black" and "grey" waste water incl. 24 Volt pump | 120 |



Height dimensions includes connectors



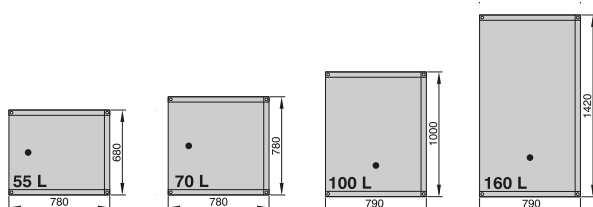
FLEXIBLE TANKS FOR TOILET AND WASTE WATER

VETUS flexible tank type TANKV

Short term waste water storage

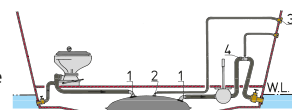
These flexible tanks are constructed in the same robust way as the flexible drinking water tanks (see page 136). However, the material used is suitable to store waste water. These tanks should be pumped and flushed after a day's boating. Available in several dimensions and capacities.

| Type | Capacity (appr.) (Litres) | Dimensions (appr.) (mm) | Height filled (appr.) (mm) |
|----------|---------------------------|-------------------------|----------------------------|
| TANKV55 | 55 | 680 x 780 | 250 |
| TANKV70 | 70 | 780 x 780 | 270 |
| TANKV100 | 100 | 790 x 1000 | 270 |
| TANKV160 | 160 | 790 x 1420 | 270 |



TANKV

- 2 Right angle nipples Ø 38 mm (supplied with each tank)
- Right angle breather nipple Ø 16 mm, already fitted
- Breather nipple Ø 16 mm
- Breather bend for anti-siphoning device, see page 94. When discharge of the tank through a deck plate is required, a Ø 38 mm tank connector is available as an option, see the price-list



NO-SMELL FILTERS

Filter types NSF and NSFS

Fresh air

The filters reduce anaerobic bacterial growth and the build-up of explosive putrefaction gas. What you get instead is an odour- and hazard free environment. The no-smell filter is easy to install and contains activated carbon material to absorb odours. Add the VETUS waste water breather hose made of reinforced PVC for a proper operating system.

Please note

The filter element is replaceable and should be renewed once a year.



NSF

NSFS

| Type | Description | L x W x H (mm) | Hose Ø (mm) |
|--------|-----------------------|-----------------|-------------|
| NSF16S | Small no-smell filter | 107 x 111 x 111 | 16 |
| NSF16 | Large no-smell filter | 148 x 150 x 162 | 16 |
| NSF19 | Large no-smell filter | 148 x 150 x 162 | 19 |
| NSF25 | Large no-smell filter | 148 x 150 x 162 | 25 |
| NSF38 | Large no-smell filter | 148 x 150 x 162 | 38 |

| Type | Description |
|---------|---|
| NSF16FE | Spare filter element for small no-smell filters |
| NSF16FE | Spare filter element for large no-smell filters |

No-smell filters element type NSFCAN

Revolutionary dual function

For specifications and dimensions see page 129.

NSFCAN

NSFCANS



TankFresh

Odour-free tank guaranteed

This VETUS product is an organic concentrate of bacteria which cause the faeces in the waste water system to break down without emitting any odour, unlike other chemical products that often only mask the smell. When using just one bottle of TankFresh periodically, your waste water system can function virtually without odour for an entire boating season.

Specifications

- Comes in a convenient 500 ml dosage bottle
- Consists of nature's own ingredients only
- Proven reduction of odours in the tank

| Type | Description |
|----------|------------------|
| TFRESH05 | 500 ml bottle |
| TFRESH6 | 6x 500 ml bottle |

TFRESH



ACCESSORIES FOR WASTE WATER TANKS

Angled fittings

Synthetic fittings for VETUS flexible tanks (type FT) or rigid tanks (type RT). Suitable for hoses with an internal diameter of Ø13, 16, 19, 25 or 38 mm. The required hole size for flexible tank is Ø42 mm and for rigid tanks Ø43 mm.



| Type | Hose Ø (mm) | Angle |
|-------|-------------|-------------|
| RT13B | 13 | right angle |
| RT16B | 16 | right angle |
| RT19B | 19 | right angle |
| RT25B | 25 | right angle |
| RT38B | 38 | right angle |



| Type | Hose Ø (mm) | Angle |
|-------|-------------|-------------|
| FT13B | 13 | right angle |
| FT16B | 16 | right angle |
| FT19B | 19 | right angle |
| FT25B | 25 | right angle |
| FT38B | 38 | right angle |

Installation kit type BTKIT

Consisting of 2 securing straps, 1 inspection lid and 1 key for angled fittings.

Specifications

- Overall diameter Ø156 mm
- Cut out diameter Ø115 mm

| Type | Description |
|-------|---|
| BTKIT | Fitting kit for synthetic waste water tanks |



Lockable ball valve type BV1½L

This stainless steel (AISI 316) ball valve with G1½ thread is in some countries a legal requirement to prevent the accidental discharge of black water in port. This valve can be padlocked (padlock itself is not supplied).

| Type | Description |
|-------|---------------------------------------|
| BV1½L | Stainless steel (AISI 316) ball valve |

BV1½L



ACCESSORIES FOR WASTE WATER TANKS

Synthetic hose connectors type HA

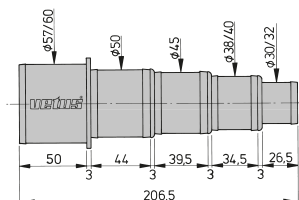
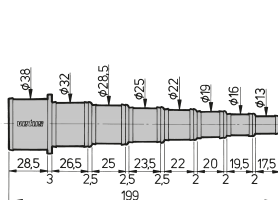
These synthetic hose connectors can be cut to several hose sizes.

| Type | Ø Dim. (mm) |
|--------|-------------|
| HA1338 | 13 - 38 |
| HA3060 | 30 - 60 |



HA1338

HA3060



Universal inspection port for tanks type ILT

Innovative inspection port with robust design

The ILT is an universal inspection port for all types of tanks. See page 370.

For waste water tanks we offer this inspection port.

Although not mandatory as with fuel tanks, a large diameter port for cleaning and inspection does have its value. The VETUS waste water holding tank inspection port is supplied with everything you need for your waste water tank, whether if it's a custom made steel, aluminium or a VETUS thick walled rigid tank.

Connections that come with this interchangeable disc are

- Ø 38 mm connection for discharge (ability to make this a suction connector by mounting a standard Ø 40 mm PVC pipe)
- Ø 25 mm connection for discharge
- Ø 19 mm connection for discharge
- Ventilation connection Ø19 mm
- 5 hole SAE flange tank level sensor connection

NEW!



ILT



ACCESSORIES FOR WASTE WATER TANKS

Remotely controlled ball valves type MV

Simple manual override

These motorised stainless steel (AISI 316) valves with a powder coated aluminium actuator housing enable any skin fitting/through hull to be electrically opened or closed from a remote location. Also suitable for every type of fuel, ignition protected. The G-threading meets the requirements of ISO 228-1 and 9093-1.

The valves can be powered fully opened or closed in approximately 12 to 25 seconds. The powerful motors have a maximum torque of 40 or 220Nm.



MV

| Type | MV12A | MV24A | MV24B |
|---------------------------------|----------------------|----------------------|---------------------|
| Power supply range | 11-14 V | 18-28 V | 20-28 V |
| Operating current @ max. torque | 2.2 A ± 10% @ 13.8 V | 1.2 A ± 10% @ 27.6 V | 4.1 A ± 5% @ 27.6 V |
| Static current | 50±5 mA | 25±5 mA | 60±5 mA |
| Opening and closing | ✓ | | |
| Max. operation Torque | 40Nm | | 220Nm |
| Manual over-ride tool | Hex Key | | Wrench |
| Ambient temp. (Celsius) | -20° to +45° | | |
| ISO8846 certified | Yes | | |

| Control panels* | MV12A | MV24A | MV24B |
|-----------------|-------|-------|-------|
| ELVPAN12 | ✓ | | - |
| ELVPAN24 | - | | ✓ |
| WWCP | ✓ | | ✓ |

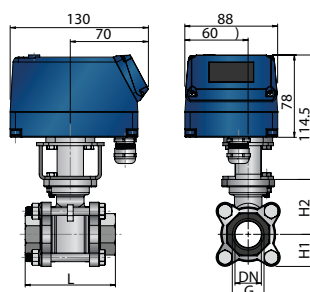
*Ordered separately



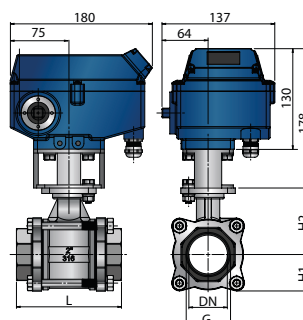
ELVPAN

| Type | | G (ISO 228) | DN (mm) | H1 (mm) | H2 (mm) | L (mm) | Weight (kg) |
|-----------|-----------|----------------|------------|------------|------------|-----------|----------------|
| MV12A1/2 | MV24A1/2 | 1/2" | 15 | 22.5 | 42 | 72 | 2.2 |
| MV12A3/4 | MV24A3/4 | 3/4" | 20 | 22.5 | 48 | 80 | 2.4 |
| MV12A1 | MV24A1 | 1" | 25 | 30 | 55 | 85 | 2.8 |
| MV12A11/4 | MV24A11/4 | 1 1/4" | 32 | 36.5 | 60 | 105 | 3.4 |
| MV12A11/2 | MV24A11/2 | 1 1/2" | 38 | 40 | 70 | 113 | 4.2 |
| | MV24B2 | 2" | 50 | 46.5 | 85 | 132 | 7.8 |

MV..A



MV..B



ACCESSORIES FOR WASTE WATER TANKS

Extraction pipes type WTS for rigid waste water tanks

These extraction pipes are for both grey and black water tanks. They can be used for electrical or manually operated diaphragm pumps, or for direct connection to deck plate.

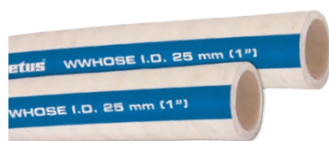
With the choice between angled or straight connections of Ø 38 mm and with a tube length of 780 mm (can be cut to size).

| Type | Length (mm) | Hose nipple Ø (mm) | Angle |
|-----------|-------------|--------------------|-------------|
| WTS78038S | 780 | 38 | straight |
| WTS78038B | 780 | 38 | right angle |



WTS

Waste water hose type WWHOSEA



WWHOSE..A

Impermeable sanitary no-smell hoses type SAHOSE



SAHOSE

For a complete overview of hoses see pages 372.

Anti-siphoning breather-kit

For more information and available types see pages 94.



ASD38H



ACCESSORIES FOR WASTE WATER TANKS

Plastic three-way valve

(without hose connections)

Rotatable hose connections should be ordered separately (5 different sizes available).

| Type | Description |
|------|-------------------------|
| Y3V | Plastic three-way valve |

NEW!



Y3V

Plastic Y-connector

(without hose connections)

Rotatable hose connections should be ordered separately (5 different sizes available).

| Type | Description |
|------|---------------------|
| Y3C | Plastic Y-connector |

NEW!



Y3C

Plastic in-line non-return valve

(without hose connections)

Rotatable hose connections should be ordered separately (5 different sizes available).

| Type | Description |
|------|--|
| YNRE | Plastic in-line non-return valve (duck bill) |

NEW!



YNRE

Plastic hose connections for Y3V, Y3C and YNRE

| Type | Description |
|---------|------------------------------|
| YPA38P2 | Hose connector 38 mm (2pcs.) |
| YPA38P1 | Hose connector 38 mm (1pcs.) |
| YPA32P2 | Hose connector 32 mm (2pcs.) |
| YPA32P1 | Hose connector 32 mm (1pcs.) |
| YPA28P2 | Hose connector 28 mm (2pcs.) |
| YPA28P1 | Hose connector 28 mm (1pcs.) |
| YPA25P2 | Hose connector 25 mm (2pcs.) |
| YPA25P1 | Hose connector 25 mm (1pcs.) |
| YPA19P2 | Hose connector 19 mm (2pcs.) |
| YPA19P1 | Hose connector 19 mm (1pcs.) |

NEW!



YPA

MANOEUVRING SYSTEMS



R44



Overview VETUS bow thrusters

Electrical thruster: the complete series



BOW25



BOW35



BOW45



BOW55



BOW60



BOW75



BOW95



BOW125



BOW160



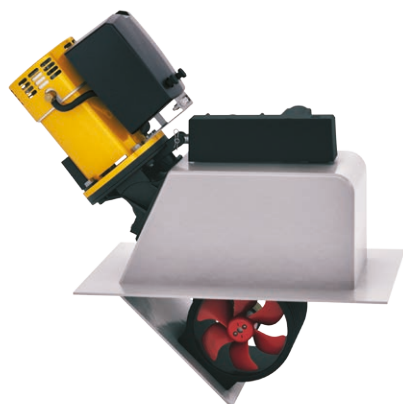
BOW220



BOW285

Thrusters: the specials

Retractable thruster



STE55 - STE60 - STE75
STE95 - STE125 - STE160

Extended runtime thruster



BOW95 - BOW125
BOW160 - BOW220

Rimdrive



RD125 - RD160

Ignition protected thruster



BOW25
BOW35



BOW45
BOW55
BOW75

BOW95
BOW125
BOW160

Stern thruster

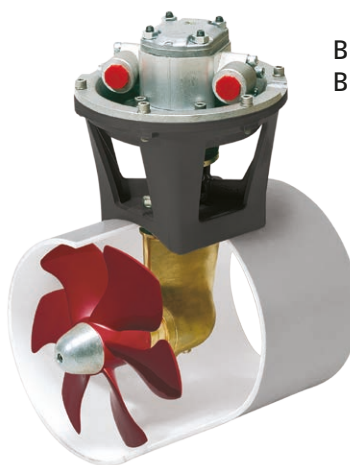


STERN

SDKIT



Hydraulic thruster



BOW..HMD
BOW..HM



PERFORMANCE, SAFETY AND INSTALLATION AND HOW TO CHOOSE YOUR THRUSTER SYSTEM

Every boat owner experienced it at least once: while docking your boat in a strong cross wind, the bow is blown away before you have been able to attach a shore line. You're trying to make a tight turn to port but the wheel effect of the propeller causes the boat to turn in a wider circle than to starboard. On top of that the wind pushes your boat to starboard. VETUS offers a solution for each and every boat. From small to big boats, with a shallow or deep draft, slow or fast, electrically or hydraulically driven.

Why use a VETUS bow thruster?

- Systems are easy to install, supplied with clear installation and operation instructions in 10 different languages
- A single propeller creates less flow disturbance in the tunnel
- VETUS' unique propeller blade design minimizes cavitation noise
- Spiral gears minimize transmission noise
- The use of a flexible coupling between tail piece and motor eliminates vibration
- A streamlined tail piece is used for optimum flow
- A strong synthetic propeller eliminates corrosion and reduces weight and maintenance
- A new line of high quality control panels offers child safety protection, overheat protection, automatic switch off after 30 min and panels are watertight to IP66

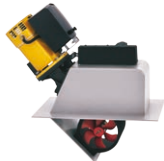
VETUS offers the following types of thrusters



VETUS electrical thrusters for regular use



RIMDRIVE bow and stern thrusters for an unlimited proportional and virtually silent operation



Retractable bow thrusters when there is insufficient draft to install a regular thruster and/or to not disturb the lines of the hull



Stern thrusters for even greater manoeuvrability of your boat



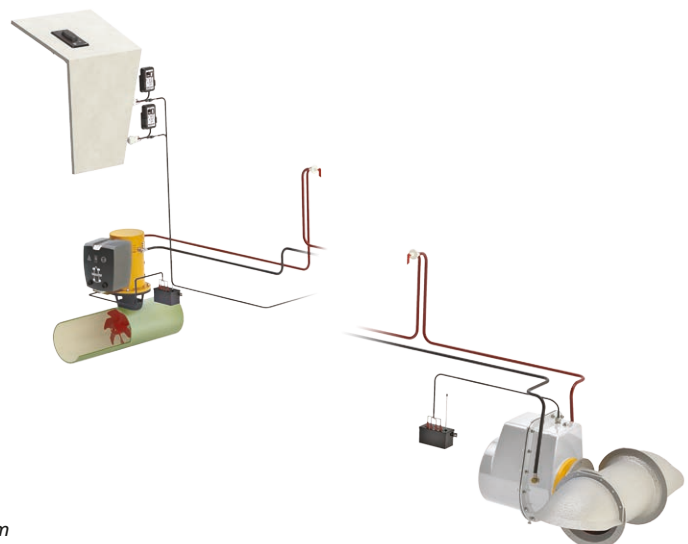
Extended runtime thrusters for joystick docking (7-10 minutes)



Hydraulic thrusters for power hydraulic systems



Ignition protected thrusters to be installed in areas in which petrol or other explosive fumes maybe present. These thrusters are especially designed for boats equipped with gasoline engines. Can be used also in wet or damp areas



HOW TO CHOOSE THE CORRECT BOW AND STERN THRUSTER

After you have selected your type of thruster, the following tool can be used to calculate the required thrust force or you can use the table below to select your ideal thruster.

The influence of the wind

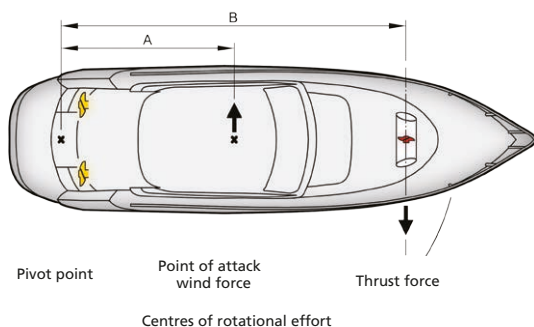
The force applied to the boat by the wind is determined by the wind speed, the wind angle and the lateral wind draft area of the boat. If the wind blows at right angles to the boat, this wind pressure is most difficult to counter. However, this is seldom the case and as most boat superstructures are fairly streamlined, a reduction factor of 0.75 is generally applied, when calculating the wind pressure.

The turning moment

The turning moment is calculated by multiplying the wind force by the distance (A) between the centre of effort of the wind and the point of rotation of the boat. In order to simplify this somewhat: for the vast majority of boats a rule of thumb may be applied that the turning moment is calculated by multiplying the wind force by half of the boat's overall length.

The thrust force

It is the thrust force which is the true measure of a bow thruster's usefulness and not the output of the electric or hydraulic motor in kW or HP. The nominal thrust force is a combination of the motor power, the shape of the propeller and the efficiency losses inside the tunnel. VETUS electrical bow thrusters have a very high thrust of between 17 and 23 kgf per kW motor power. The required thrust force to counter the effects of the wind is now calculated by dividing the turning moment by the distance (B) between the centre of the bow thruster tunnel and the pivot point of the boat. Note: the further forward the tunnel can be positioned, the greater effect the thruster will have.



| Wind force Beaufort | Description | Wind speed m/s | Wind pressure N/m ² - (kgf/m ²) |
|---------------------|-----------------|----------------|--|
| 4 | moderate breeze | 5,5 to 7,9 | 20 to 40 - (2,0 to 4,1) |
| 5 | fresh breeze | 8,0 to 10,7 | 41 to 74 - (4,2 to 7,5) |
| 6 | strong breeze | 10,8 to 13,8 | 75 to 123 - (7,7 to 12,5) |
| 7 | near gale | 13,9 to 17,1 | 125 to 189 - (12,7 to 19,2) |
| 8 | gale | 17,2 to 20,7 | 191 to 276 - (19,4 to 28,2) |

Calculation example

The boat has an overall length of 11 metre and the lateral wind draft measures 18 m². It is required that the bow can be controlled easily when wind force Beaufort 5 applies.

At wind force Beaufort 5, the wind pressure is: $\rho = 41$ to 74 N/m², i.e. ρ (average) = 60 N/m².

The required torque is

$T = \text{wind pressure} \times \text{wind draft} \times \text{reduction factor} \times \text{distance centre of effort to pivot point, (=approx. half the ship's length)}$

$T = 60 \text{ N/m}^2 \times 18 \text{ m}^2 \times 0,75 \times \frac{11}{2} \text{ m} = 4455 \text{ Nm}$

The required thrust force is calculated as follows

$$F = \frac{\text{torque}}{\text{distance between centre of bow thruster and the pivot point of the boat (with the transom as pivot of the boat)}} = \frac{4455 \text{ Nm}}{10,5 \text{ m}} = 420 \text{ N (42 kgf)}$$

The most suitable VETUS bow thruster for this particular vessel is the 45 kgf (25 kgf in the case of Beaufort 4 and 75 kgf in the case of Beaufort 6). Always bear in mind that the effective performance of a bow thruster will vary with each particular boat, as the displacement, the shape of the underwater section and the positioning of the bow thruster will always remain variable factors. As a rule of thumb it can be assumed that the stern thruster may be "one model smaller" than the bow thruster model, as it has been calculated. Therefore, in this case a stern thruster type 35 kgf will be the correct model. Below is a selection table of bow thruster models against recommended boat length. Please note that this table is given for general guidance only and the calculation shown above should be used whenever possible. If you are in any doubt about the best thruster for your boat, your VETUS support representative will be glad to help you with the decision.

| Selection table thrust force - boat length | | | | | | | | | | | | | | | | |
|--|----|----|----|----|----|----|----|----|----|----|----|----|----|-----|-----|-----|
| Metre: | 6 | 8 | 10 | 12 | 14 | 16 | 18 | 20 | 22 | 24 | 26 | 28 | 30 | 32 | 34 | 43 |
| Feet: | 20 | 26 | 33 | 39 | 46 | 52 | 59 | 66 | 72 | 79 | 85 | 92 | 98 | 105 | 112 | 141 |
| 25 kgf | | | | | | | | | | | | | | | | |
| 35 kgf | | | | | | | | | | | | | | | | |
| 45 kgf | | | | | | | | | | | | | | | | |
| 55 kgf** | | | | | | | | | | | | | | | | |
| 60 kgf | | | | | | | | | | | | | | | | |
| 75 kgf | | | | | | | | | | | | | | | | |
| 95 kgf** | | | | | | | | | | | | | | | | |
| 125 kgf | | | | | | | | | | | | | | | | |
| 160 kgf** | | | | | | | | | | | | | | | | |
| 220 kgf | | | | | | | | | | | | | | | | |
| 230 kgf* | | | | | | | | | | | | | | | | |
| 285 kgf | | | | | | | | | | | | | | | | |
| 310 kgf* | | | | | | | | | | | | | | | | |
| 410 kgf* | | | | | | | | | | | | | | | | |
| 550 kgf* | | | | | | | | | | | | | | | | |

* only available as hydraulically driven bow thruster

** available as hydraulically and electrical driven bow thruster

BOW THRUSTERS (ELECTRICAL)

The advantages of VETUS bow thrusters are endless, however below we highlight the most important characteristics.

Advantages

- Minimal noise because of the unique propeller blade design and the spiral gears
- Optimum flow due to the streamlined tail piece
- The synthetic propeller eliminates corrosion and reduces weight
- The high quality aluminium control panels are interchangeable with older panels
- Easy installation and clear instructions

Type BOW....D

Minimal noise, optimum flow



BOW2512D

BOW3512D



BOW4512D

BOW5512D

BOW5524D

BOW6012D

BOW6024D

| Type | Thrust force (kgf) | Voltage (V) | Boat length |
|-----------|--------------------|-------------|--|
| BOW2512D | 25 | 12 | Suitable for boats from 5,5 to 8,5 metres in length |
| BOW3512D | 35 | 12 | Suitable for boats from 6,5 to 10 metres in length |
| BOW4512D | 45 | 12 | Suitable for boats from 7,5 to 11,5 metres in length |
| BOW5512D | 55 | 12 | Suitable for boats from 8,5 to 12,5 metres in length |
| BOW5524D | 60 | 24 | Suitable for boats from 8,5 to 12,5 metres in length |
| BOW6012D | 65 | 12 | Suitable for boats from 9 to 13 metres in length |
| BOW6024D | 70 | 24 | Suitable for boats from 9 to 13 metres in length |
| BOW7512D | 80 | 12 | Suitable for boats from 10,5 to 15 metres in length |
| BOW7524D | 85 | 24 | Suitable for boats from 10,5 to 15 metres in length |
| BOW9512D | 95 | 12 | Suitable for boats from 12 to 17 metres in length |
| BOW9524D | 105 | 24 | Suitable for boats from 12 to 17 metres in length |
| BOW12512D | 125 | 12 | Suitable for boats from 14 to 20 metres in length |
| BOW12524D | 140 | 24 | Suitable for boats from 14 to 20 metres in length |
| BOW16024D | 160 | 24 | Suitable for boats from 16,5 to 22 metres in length |

BOW THRUSTERS (ELECTRICAL)



BOW7512D

BOW7524D

BOW9512D

BOW9524D



BOW12512D

BOW12524D

BOW16024D



BOW22024D

BOW28548D

| Type | Thrust force (kgf) | Voltage (V) | Boat length |
|-----------|--------------------|-------------|---|
| BOW22024D | 220 | 24 | Suitable for boats from 19,5 to 26 metres in length |
| BOW28548D | 285 | 48 | Suitable for boats from 22 to 29 metres in length |



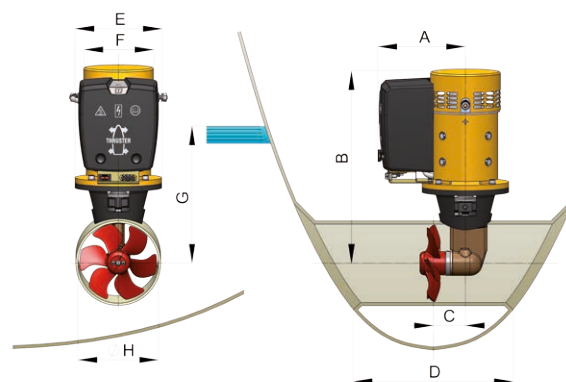
BOW THRUSTERS (ELECTRICAL)

| Specifications | BOW2512D | BOW3512D | BOW4512D | BOW5512D | BOW5524D |
|--|-------------------------|-----------------|-----------------|-----------------|-----------------|
| Thrust, N (kgf) | 250 (25) | 350 (35) | 450 (45) | 550 (55) | 600 (60) |
| Power kW (hp) | 1,5 (2) | 1,5 (2) | 3 (4) | 3 (4) | 3 (4) |
| Motor, reversible D.C. | ✓ | ✓ | ✓ | ✓ | ✓ |
| Tunnel diameter, internal, mm | 110 | 150 | 125 | 150 | 150 |
| Weight excluding tunnel, in kg | 10 | 12 | 20 | 20 | 20 |
| Voltage, 12 Volt D.C. | | | | | |
| Current consumption, Amps. | 200 | 205 | 300 | 350 | |
| Operating time - continuously, in minutes | 4 | 4 | 4 | 4 | |
| - maximum per hour, in minutes | 4 | 4 | 4 | 4 | |
| Main fuse, "slow blow", Amps. | 125* | 160* | 250 | 250 | |
| Batteries 12 Volt D.C., min. Ah / max. Ah | 1x55 / 1x70 | 1x55 / 1x105 | 1x105 / 1x200 | 1x105 / 1x200 | |
| Battery cables**, total length of positive and negative cables together, m / mm ² | 0 - 8 / 25 8-12 / 35 | 0-11 / 35 | 0-12 / 70 | 0-12 / 70 | |
| Battery main switch: model BATSW / type BPMAIN | 250 / 12 | 250 / 12 | 250 / 12 | 250 / 12 | |
| Voltage, 24 Volt D.C. | | | | | |
| Current consumption, Amps. | | | | | 200 |
| Operating time - continuously, in minutes | | | | | 4 |
| - maximum per hour, in minutes | | | | | 4 |
| Main fuse, "slow blow", Amps. | | | | | 125 |
| Batteries 12 Volt D.C., min. Ah / max. Ah | | | | | 2x55 / 2x70 |
| Battery cables**, total length of positive and negative cables together, m/mm ² | | | | | 0-23 / 35 |
| Battery main switch, model BATSW / type BPMAIN | | | | | 250 / 24 |

* This fuse is standard supply

** Based on VETUS battery cable

| Sizes (mm) | BOW2512D | BOW3512D | BOW4512D | BOW5512D | BOW5524D |
|-------------|-----------|-----------|-----------|-----------|-----------|
| A | 138 | 138 | 143 | 143 | 143 |
| B | 323 | 340 | 365 | 377 | 377 |
| C | 73 | 79 | 79 | 79 | 79 |
| D min./max. | 220 / 440 | 300 / 600 | 250 / 500 | 300 / 600 | 300 / 600 |
| E | 149 | 149 | 160 | 160 | 160 |
| F Ø | 112 | 112 | 130 | 130 | 130 |
| G min. | 110 | 150 | 125 | 150 | 150 |
| H Ø | 110 | 150 | 125 | 150 | 150 |



BOW THRUSTERS (ELECTRICAL)

| BOW6012D BOW6024D | BOW7512D BOW7524D | BOW9512D BOW9524D | BOW12512D BOW12524D | BOW16024D | BOW22024D | BOW28548D |
|--|--|---|--|---|---|---|
| 650 (65) - 12 V 700 (70) - 24 V 3 (4) ✓ 185 22 | 800 (80) 12 V 850 (85) 24 V 4,4 (6) ✓ 185 26 | 950 (95) 12 V 1050 (105) 24 V 5,7 (8) ✓ 185 30 | 1250 (125) 12 V 1400 (140) 24 V 5,7 (8) ✓ 250 37 | 1600 (160) 24 V 7 (9,5) ✓ 250 37 | 2200 (220) 24 V 11 (15) ✓ 300 68 | 2850 (285) 48 V 17,5 (23,5) ✓ 300 68 |
| 280 5 5 200 1x105 / 1x145 0-11 / 50 11-16 / 70 250 / 12 | 500 2 2 355 1x120 / 1x225 0 - 8 / 70 8 - 11 / 95 250 / 12 | 610 3 3 425 1x165 / 2x145 0 - 10 / 95 10 - 12 / 120 600 / 12 | 800 3 3 500 1x220 / 2x200 0 - 9 / 120 9 - 12 / 150 600 / 12 | | | |
| 140 5 5 100 2x55 / 2x70 0-20 / 25 250 / 24 | 280 3 3 200 2x150 / 2x143 0 - 21 / 50 250 / 24 | 320 3,5 3,5 200 2x105 / 2x145 0 - 21 / 50 250 / 24 | 450 2,5 2,5 300 2x150 / 2x165 0 - 20 / 70 250 / 24 | 540 4,5 4,5 355 2x165 / 4x165 0 - 29 / 120 600 / 24 | 760 2,5 2,5 500 2x200 / 4x165 0-12 / 120 600 / 24 | 560 2,5 2,5 355 4x145 / 8x120 0-23 / 95 600 |

| BOW6012D BOW6024D | BOW7512D BOW7524D | BOW9512D BOW9524D | BOW12512D BOW12524D | BOW16024D | BOW22024D | BOW28548D |
|---|---|---|---|---|---|---|
| 143,5 397 77 370 / 740 160 130 185 185 | 155 435 77 370 / 740 200 135 185 185 | 209 443 77 370 / 470 200 150 185 185 | 209 500 108 500 / 1000 200 150 250 250 | 222 548 108 500 / 1000 240 185 250 250 | 247 627 136 600 / 1200 258 212 300 300 | 247 627 136 600 / 1200 258 212 300 300 |



RETRACTABLE BOW THRUSTERS

Easy docking, no drag, less noise

Even for the more experienced skipper, it can be difficult to manoeuvre the boat in harsh wind conditions and strong currents. The new line of retractables VETUS thrusters can be placed in shallow parts of the hull and will not disturb its smooth lines.

This low drag solution will make your docking experience easier, faster and just plain more enjoyable.

A retractable thruster has the following advantages

- Optimum forward placement in the bow, while maintaining depth by deployment
- Less noise and vibration as it is not directly connected to the hull
- Optimum tunnel length with minimal losses
- Virtually no marine growth, as there is no light when thruster is in retracted and closed position
- May be placed in the stern in (both sailing and motor) boats where it is not possible to install a tunnel thruster
- Less drag as the lid is flush to the hull
- Small dimensions



The new VETUS retractable, has some big advantages compared to other options in the market

- Patented design (swivel point) - the thruster rotates as one unit
- Less intricate design, fewer moving parts..... lightweight, simple and robust
- Optimized tunnel ergonomics: more power, less noise
- All submerged parts are non-corrosive
- Childproof safety to prevent accidental operation
- Automatic deployment and retracting
- Safety pin protection for lid overload
- Electronically prepared for communication based on CAN protocol
- Automatic retracting and switch off after 15 min.
- Automatic retracting after switching of engine
- Built-in time lapse device when reversing the direction of rotation
- Fast deployment/retracting time
- Unique intelligence to prevent jamming, overload and blocking

The VETUS line of retractable bow thrusters is suitable for sail or power vessels up to 20 metres. A VETUS bow thruster panel is sold separately and the thruster is available in 150 mm, 185 mm and 250 mm tunnel (diameters).

Thrust forces: 55 kgf, 60 kgf, 75 kgf, 95 kgf, 125 kgf, 160 kgf in 12V and 24V.

See next page for specifications.

RETRACTABLE BOW THRUSTERS

| Type | STE5512D | STE5524D | STE6012D | STE6024D | STE7512D | STE7524D |
|--|-------------|-----------|---------------------|-----------|-------------------|-------------|
| Voltage (V) | 12 | 24 | 12 | 24 | 12 | 24 |
| Ignition Protection | - | - | - | - | - | - |
| Thrust (N/kgf) | 550/55 | 600/60 | 650/65 | 700/70 | 800/80 | 850/85 |
| Power (kW) | 3 | 3 | 3 | 3 | 4,4 | 4,4 |
| Motor, reversible D.C. | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Tunnel diameter, internal (mm) | 150 | 150 | 185 | 185 | 185 | 185 |
| Weight (kg) | 26 | 26 | 28 | 28 | 31 | 31 |
| Current consumption (A) | 350 | 200 | 280 | 140 | 500 | 250 |
| Operating time (min.) | 4 | 4 | 5 | 5 | 2 | 3 |
| Main fuse, "slow blow" (A) | 250 | 125 | 200 | 100 | 355 | 200 |
| Batteries 12V min./max. (Ah) | 1x105/1x200 | 2x55/2x70 | 1x105/1x145 | 2x55/2x70 | 1x120/1x225 | 2x150/2x143 |
| Battery cables, length plus/min cables (m/mm²) | 0-12/70 | 0-23/35 | 0-11/50 11-16/70 | 0-20/25 | 0-8/70 8-11/95 | 0-21/50 |
| Battery main switch model BATSW | 250 | 250 | 250 | 250 | 250 | 250 |
| Dimensions, closed: Height (mm) | 291 | 291 | 330 | 330 | 330 | 330 |
| Length (mm) | 703 | 703 | 722 | 722 | 745 | 745 |
| Width (mm) | 262 | 262 | 273 | 273 | 286 | 286 |
| Dimensions, opened: Height (mm) | 380 | 380 | 420 | 420 | 435 | 435 |
| Length (mm) | 625 | 625 | 641 | 641 | 660 | 660 |
| Width (mm) | 262 | 262 | 273 | 273 | 286 | 286 |

| Type | STE9512D | STE9524D | STE12512D | STE12524D | STE16024D |
|--|----------------------|-------------|---------------------|-------------|-------------|
| Voltage (V) | 12 | 24 | 12 | 24 | 24 |
| Ignition Protection | - | - | - | - | - |
| Thrust (N/kgf) | 950/95 | 1050/105 | 1250/125 | 1400/140 | 1600/160 |
| Power (kW) | 5,7 | 5,7 | 5,7 | 5,7 | 7 |
| Motor, reversible D.C. | ✓ | ✓ | ✓ | ✓ | ✓ |
| Tunnel diameter, internal (mm) | 185 | 185 | 250 | 250 | 250 |
| Weight (kg) | 35 | 35 | 41 | 41 | 49 |
| Current consumption (A) | 610 | 320 | 800 | 450 | 540 |
| Operating time (min.) | 3 | 3,5 | 3 | 2,5 | 4,5 |
| Main fuse, "slow blow" (A) | 425 | 200 | 500 | 300 | 355 |
| Batteries 12V min./max. (Ah) | 1x165/2x145 | 2x105/2x145 | 1x220/2x200 | 2x150/2x165 | 2x165/4x165 |
| Battery cables, length plus/min cables (m/mm²) | 0-10/95 10-12/120 | 0-21/50 | 0-9/120 9-12/150 | 0-20/70 | 0-29/120 |
| Battery main switch model BATSW | 600 | 250 | 600 | 250 | 600 |
| Dimensions, closed: Height (mm) | 330 | 330 | 382 | 382 | 382 |
| Length (mm) | 770 | 770 | 916 | 916 | 952 |
| Width (mm) | 325 | 325 | 403 | 403 | 425 |
| Dimensions, opened: Height (mm) | 470 | 470 | 480 | 480 | 506 |
| Length (mm) | 690 | 690 | 846 | 846 | 870 |
| Width (mm) | 325 | 325 | 403 | 403 | 425 |

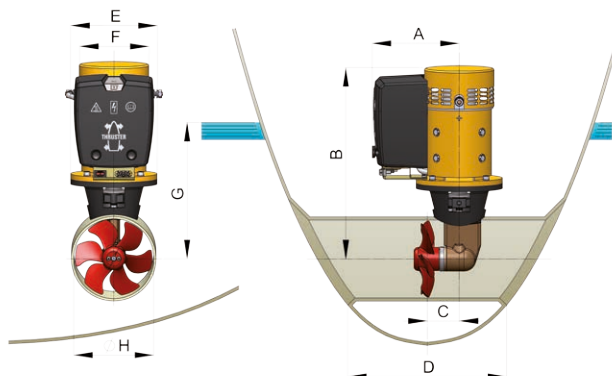


BOW THRUSTERS (ELECTRICAL)

Extended runtime thrusters

Delivers a lot extra!

Extended runtime thrusters can be operated continuously for at least 7 minutes without overheating. There is no doubt that all boaters can benefit highly from these thrusters designed for joystick docking and other more demanding applications.



| Size (mm) | BOW952DE | BOW954DE | BOW1254DE | BOW1604DE | BOW2204DE |
|------------|----------|----------|-----------|-----------|-----------|
| A | 222 | 222 | 222 | 247 | 247 |
| B | 492 | 492 | 523 | 600 | 627 |
| C | 77 | 77 | 108 | 108 | 136 |
| D min/max. | 370/740 | 370/740 | 500/1000 | 500/1000 | 600/1200 |
| E | 240 | 240 | 240 | 258 | 258 |
| F | 185 | 185 | 185 | 212 | 212 |
| G min. | 185 | 185 | 250 | 250 | 300 |
| H | 185 | 185 | 250 | 250 | 300 |

BOW952DE

BOW954DE

BOW1254DE

BOW1604DE

BOW2204DE

| Specifications | BOW952DE | BOW954DE | BOW1254DE | BOW1604DE | BOW2204DE |
|--|------------|------------|------------|------------|------------|
| Thrust in N (kgf) | 1050 (105) | 1050 (105) | 1300 (130) | 1600 (160) | 2200 (220) |
| Power kW (hp) | 5.7 (8) | 5.7 (8) | 5.7 (8) | 7 (9,5) | 11 (15) |
| Motor, reversible D.C. | ✓ | ✓ | ✓ | ✓ | ✓ |
| Tunnel diameter, internal, mm | 185 | 185 | 250 | 250 | 300 |
| Weight excl. tunnel, incl. packaging, in kg | 34 | 34 | 41 | 62 | 82 |
| Weight excl. tunnel, excl. packaging, in kg | 30,7 | 30,7 | 35,8 | 55 | 68 |
| Voltage, Volt D.C. | 12 | 24 | 24 | 24 | 24 |
| Current consumption, Amps. | 350 | 350 | 460 | 450 | 720 |
| Operating time - continuously, in minutes | 10 | 10 | 10 | 10 | 7 |
| - maximum per hour, in minutes | 10 | 10 | 10 | 10 | 7 |
| Main fuse, "slow blow", Amps. | 355 | 355 | 500 | 425 | 675 |
| Batteries 12 Volt D.C., min. Ah / max. Ah @ 24 V | 248/496 | 248/496 | 308/616 | 280/560 | 325/650 |
| Battery cables**, total length of positive and negative cables together, m/mm² | 0-21/70 | 0-21/70 | 0-20/95 | 0-29/120 | 0-21/150 |
| Battery main switch, model BATSW / type BPMAN | 600 / 24 | 600 / 24 | 600 / 24 | 600 / 24 | *** |

** Based on VETUS battery cables

*** Currently not available in the VETUS programme

BOW THRUSTERS (ELECTRICAL)

Ignition protected thrusters

Watertight and ignition protected motor housing

This watertight housing shields the bow or stern thruster from potentially explosive vapour. The BOW...DI has all the required seals, electrical connectors, fastening components and an automatic fuse which can be reset externally without having to open the housing. Furthermore the housing is an excellent protection against corrosion.

Characteristics

- Its housing enables thrusters to comply with ISO 8846 Marine 'Ignition protection' standard
- Can be used as a stern thruster in combination with the appropriate kit
- Is supplied with all the required seals, electrical connectors and fastening components
- Has an automatic fuse for the control loom and can be reset from the outside

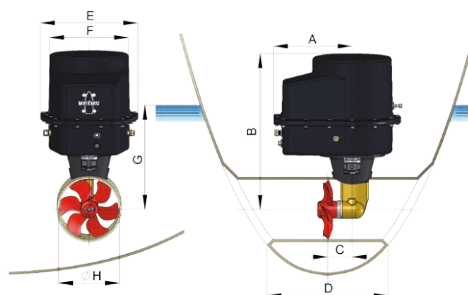


BOW2512DI

BOW3512DI



BOW75..DI



| Sizes (mm) | BOW2512DI | BOW3512DI | BOW4512DI | BOW5512DI BOW5524DI | BOW7512DI BOW7524DI | BOW9512DI BOW9524DI | BOW1252DI | BOW1254DI |
|-------------|-----------|-----------|-----------|------------------------|------------------------|------------------------|-----------|-----------|
| A | 136 | 136 | 195 | 195 | 238 | 238 | 238 | 238 |
| B | 352 | 371 | 400 | 412 | 460 | 460 | 534 | 517 |
| C | 73 | 79 | 79 | 79 | 77 | 77 | 108 | 108 |
| D min./max. | 220/440 | 300/600 | 250/500 | 300/600 | 370/740 | 370/470 | 500/1000 | 500/1000 |
| E | 181 | 181 | 250 | 250 | 296 | 296 | 296 | 296 |
| F | 157 | 157 | 195 | 195 | 240 | 240 | 240 | 240 |
| G min. | 110 | 150 | 125 | 150 | 185 | 185 | 250 | 250 |
| H Ø | 110 | 150 | 125 | 150 | 185 | 185 | 250 | 250 |



RIMDRIVE

The RD125 and RD160

The silent thruster

The RIMDRIVE is unique in its design; when operating, this thruster is virtually silent. The propeller forms the rotating part of the electric motor (rotor) and the fixed winding (stator) is mounted in the tunnel. Therefore noisy gears are not used in this design. Secondly a ring mounted around the propeller, prevents the propeller from cavitating.

The RIMDRIVE is available in 125 and 160 kgf and needs a thruster supply voltage of 48 VOLT DC. Charging can either be delivered by a charger 110/230VAC to 48VDC charger or by converting the normal 12 or 24V battery supply voltage by means of a DC to DC converter solution. The panel (BPJP) and interface (RDIF) needs to be ordered separately.

Unique features

- No carbon brushes
- Silent operation due to a virtually cavitation free propeller and no use of gears
- Proportional control as standard
- Virtually unlimited runtime
- Easy to install
- Maintenance free
- IP67 top cover
- Lock the thruster at any speed and hold the boat alongside the dock
- Can be used as a stern thruster
- Suitable for aluminum, steel and GRP boats



RD125

RD160

BPJP



RDIF



| Specifications | RD125 | RD160 |
|--|---|---|
| Thrust, N (kgf) | 125 kgf | 160 kgf |
| Power kW (hp) | 6.7 (9.1) | 9.5 (12.9) |
| Permanent Magnet Synchronous motor | ✓ | ✓ |
| Variable speed | ✓ | ✓ |
| Tunnel diameter, internal, mm | 250 mm | 250 mm |
| Weight excluding tunnel, in kg | 37 | 37 |
| Supply voltage: 12/24 Volt. Thruster Voltage: 48 Volt DC | ✓ | ✓ |
| Motor current consumption @48VDC (A) +/-10% | 150 | 200 |
| Main fuse, "slow blow" (A) | 200 | 250 |
| Batteries, 48 Volt, min Ah (depending on desired runtime) | 4x 50 Ah | 4x 75 Ah |
| Battery cables**, total length of positive and negative cables together, m/mm ² | 0-10 m/25 mm ² 10 m plus 35 mm ² | 0-10 m/35 mm ² 10 m plus 50 mm ² |
| Battery main switch, model BATSW | 250A | 250A |

** Based on VETUS battery cables

STERN THRUSTERS FOR TRANSOM MOUNTING

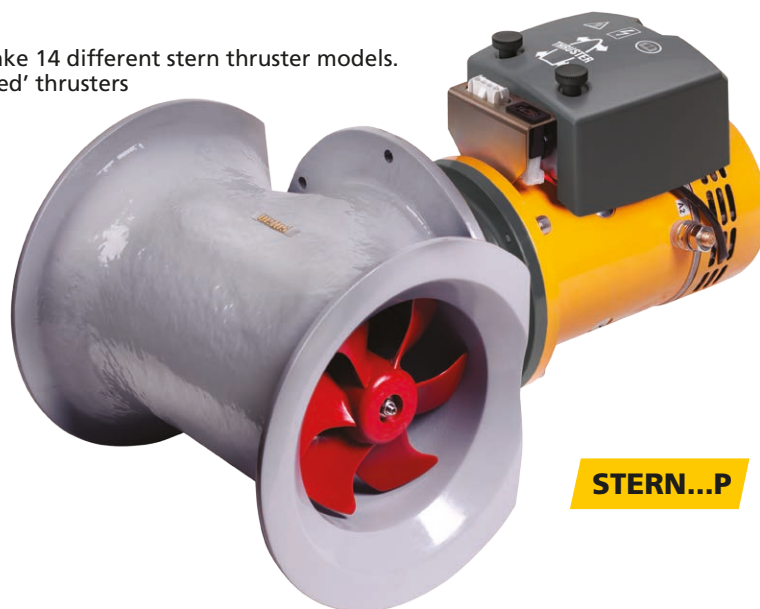
Stern thruster

Docking was never this easy

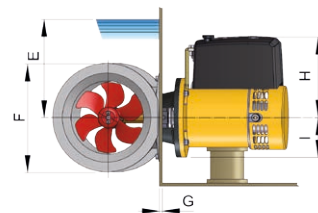
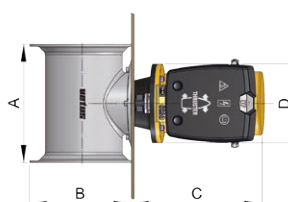
Combining a VETUS stern thruster with a VETUS bow thruster, will provide an even greater manoeuvrability of your boat in locks or harbours. By placing a side-directional thruster in the bow and another one at the transom, docking, sailing away, finding a spot in the lock or marina, becomes child's play! Even the effects of wind and current can be effectively countered. Installation of a VETUS stern thruster is simple, the electric motor and other electric components are fitted internally to the transom of the boat. The tunnel and the propeller are installed externally on the transom.

Note

The range of 7 different stern thruster kits can make 14 different stern thruster models. These kits may also be used with 'ignition protected' thrusters and extended runtime thrusters. For sizes and specifications see details below.



| Type | Specifications | Tunnel Ø (mm) |
|-----------|------------------------|---------------|
| STERN110P | G.R.P. stern thruster | 110 |
| STERN125P | G.R.P. stern thruster | 125 |
| STERN150P | G.R.P. stern thruster | 150 |
| STERN185P | G.R.P. stern thruster | 185 |
| STERN250P | G.R.P. stern thruster | 250 |
| STERN300P | G.R.P. stern thruster | 300 |
| STERN400P | G.R.P. stern thruster | 400 |
| STERN25R | Set for stern Rimdrive | 250 |



| | STERN110P | STERN125P | STERN150P | | | STERN185P | | | | STERN250P | | | STERN300P | | | | STERN400P | |
|---------------|-----------|-----------|----------------------------|-----|-----|------------------------------------|-----|-----|-----|-------------------------------|-----|-----|---|-----|-----|-----|---------------------------|-----|
| COMBINED WITH | | | | | | | | | | | | | | | | | | |
| Size in mm | BOW25 | BOW45 | BOW35 / BOW55 / BOW55HYDR. | | | BOW60 / BOW75 / BOW95 / BOW95HYDR. | | | | BOW125 / BOW160 / BOW160HYDR. | | | BOW220 / BOW230HYDR. / BOW285 / BOW310HYDR. | | | | BOW410HYDR. / BOW550HYDR. | |
| A | 230 | 250 | 270 | 270 | 270 | 300 | 300 | 300 | 300 | 460 | 460 | 460 | 540 | 540 | 540 | 540 | 740 | 740 |
| B | 155 | 192 | 215 | 215 | 215 | 268 | 268 | 268 | 268 | 360 | 360 | 360 | 437 | 437 | 437 | 437 | 543 | 543 |
| C | 232 | 275 | 219 | 282 | 163 | 267 | 305 | 313 | 151 | 313 | 373 | 168 | 416 | 242 | 416 | 242 | 0 | 0 |
| D | 149 | 160 | 149 | 160 | 160 | 160 | 200 | 200 | 200 | 200 | 240 | 240 | 258 | 258 | 258 | 258 | 0 | 0 |
| E min. | 110 | 125 | 150 | 150 | 150 | 185 | 185 | 185 | 185 | 250 | 250 | 250 | 300 | 300 | 300 | 300 | 400 | 400 |
| F Ø | 180 | 205 | 240 | 240 | 240 | 275 | 275 | 275 | 275 | 370 | 370 | 370 | 450 | 450 | 450 | 450 | 550 | 550 |
| G max. | 25 | 40 | 19 | 47 | 47 | 33 | 26 | 26 | 26 | 58 | 92 | 92 | 50 | 50 | 50 | 50 | UNLIMITED | |
| H | 138 | 143 | 138 | 143 | 80 | 143 | 155 | 209 | 100 | 209 | 222 | 120 | 237 | 192 | 237 | 129 | 0 | 0 |
| I | 87 | 117 | 117 | 117 | 117 | 111 | 111 | 111 | 111 | 111 | 154 | 154 | 172 | 172 | 172 | 172 | 200 | 200 |

STERN THRUSTERS FOR TRANSOM MOUNTING

Extension kit for stern thrusters

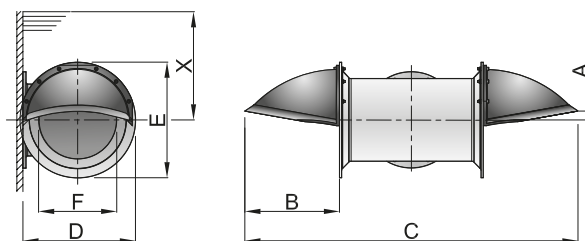
For an uninterrupted flow of water

When the openings of the stern thrusters are too shallow, considerable loss of thrust will occur. This can be prevented by using an extension kit which ensures both tunnel openings are adequately submerged. By installing these deflector shells, the flow of water is directed away from the obstructions and the stern thrusters' effective is maintained. The kit consists of 2 fibreglass shells and stainless steel (AISI 316) fastenings. It can easily be retrofitted to existing installations and is ideal for house boats which in general have a very shallow draft at the bow and stern. The SDKIT is available for stern thrusters with tunnels of Ø150, 185, 250 or 300 mm.



SDKIT...

| Type | A | B | C | D | E | F Ø | X (= 1/2 F + A) (mm) |
|----------|----|-----|------|-----|-----|-----|-------------------------|
| SDKIT150 | 27 | 195 | 650 | 220 | 232 | 150 | Min. 102 |
| SDKIT185 | 17 | 237 | 774 | 268 | 275 | 185 | Min. 110 |
| SDKIT250 | 28 | 303 | 1066 | 360 | 370 | 250 | Min. 153 |
| SDKIT300 | 39 | 365 | 1270 | 437 | 450 | 300 | Min. 189 |



HYDRAULIC BOW AND STERN THRUSTERS

BOW...HMD / HM

The choice is yours

There are 7 models of hydraulic bow thrusters in the VETUS range. They are standard supplied with a hydraulic motor which is supplied with high pressure hydraulic fluid from a centred system. If the pump and associated tank are already installed on board, this assembly may be able to be used to drive the bow thruster too. If a PTO (Power Take Off) connection is supplied, this will greatly simplify the installation of the hydraulic pump. VETUS can also supply the required load sensing and control devices.

Note

All hydraulic bow thrusters can be fitted to GRP, steel or aluminium tunnels, or can be used as a stern thruster using the appropriate installation kit. For specifications please see table on the next page.



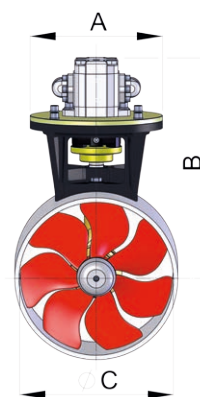
BOW..HMD

BOW..HM

HYDRAULIC BOW AND STERN THRUSTERS

Type BOW...HMD

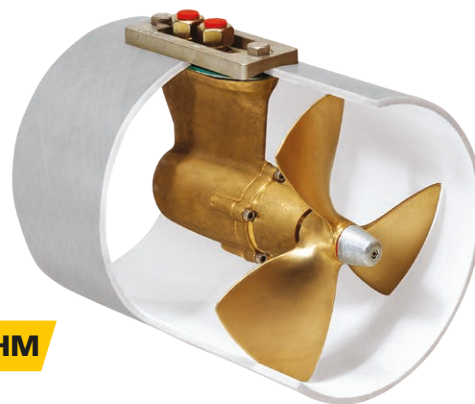
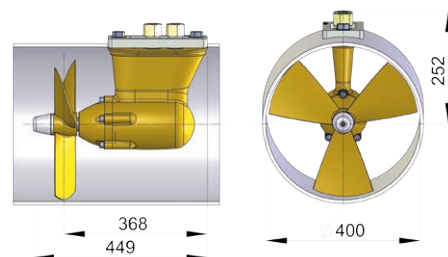
| Specifications | BOW55HMD | BOW95HMD | BOW160HMD | BOW230HMD | BOW310HMD |
|----------------------------------|----------|----------|------------|------------|------------|
| Thrust N (kgf) | 550 (55) | 950 (95) | 1600 (160) | 2300 (230) | 3100 (310) |
| Hydraulic motor power kW | 3,5 | 6,0 | 9,5 | 12,5 | 20 |
| Hydraulic motor speed rpm | 3000 | 4100 | 3300 | 1900 | 2000 |
| Hydraulic motor capacity cm³/rev | 4,2 | 4,2 | 7,0 | 16,8 | 27 |
| Flow rate l/min | 13 | 18 | 24 | 33,5 | 57 |
| Operating pressure bar | 165 | 230 | 250 | 230 | 220 |
| Internal tunnel diameter mm | 150 | 185 | 250 | 300 | 300 |
| A mm Ø | 160 | 200 | 240 | 258 | 258 |
| B mm | 258 | 276 | 345 | 431 | 455 |
| C mm Ø | 150 | 185 | 250 | 300 | 300 |



| Type | Specifications | Tunnel diam. (mm) |
|------------------|--|-------------------|
| BOW55HMD | Hydraulic bow thruster 55 kgf incl. hydraulic motor 3,5 kW | 150 |
| BOW95HMD | Hydraulic bow thruster 95 kgf incl. hydraulic motor 6,0 kW | 185 |
| BOW160HMD | Hydraulic bow thruster 160 kgf incl. hydraulic motor 9,5 kW | 250 |
| BOW230HMD | Hydraulic bow thruster 230 kgf incl. hydraulic motor 12,5 kW | 300 |
| BOW310HMD | Hydraulic bow thruster 310 kgf incl. hydraulic motor 20,0 kW | 300 |
| BP1053 | Bronze propeller for BOW22024D / BOW230HM | |
| BP1182 | Bronze propeller for BOW310HM | |

Type BOW...HM

| Specifications | BOW410HM | BOW550HM |
|----------------------------------|------------|------------|
| Thrust N (kgf) | 4100 (410) | 5500 (550) |
| Hydraulic motor power kW | 22 | 33 |
| Hydraulic motor speed rpm | 1920 | 1920 |
| Hydraulic motor capacity cm³/rev | 45 | 45 |
| Flow rate l/min | 92 | 92 |
| Operating pressure bar | 180 | 280 |
| Internal tunnel diameter mm | 400 | 400 |



BOW410HM

BOW550HM

| Type | Specifications | Tunnel diam. (mm) |
|-----------------|---|-------------------|
| BOW410HM | Hydraulic bow thruster 410 kgf, incl. hydro motor 22 kW | 400 |
| BOW550HM | Hydraulic bow thruster 550 kgf, incl. hydro motor 33 kW | 400 |
| BP1259 | Bronze propeller for BOW410HM | |
| BP1260 | Bronze propeller for BOW550HM | |

CONTROL PANELS FOR BOW AND STERN THRUSTERS

BP

Fast and easy installation

These bow thruster panels are available in complete or compact versions. Both panels can be easily fitted in a 52 mm diameter. The panels are waterproof and provided with a switched outlet (max. 3A) to connect extra equipment.

Round bow thruster panel type BPSR and BPJR

- Front panel Ø63 mm
- Built-in depth 90 mm
- Installation hole Ø52 mm
- Backwards compatible with other VETUS bow thruster panels and bezel rings match other VETUS boat instruments

Aluminium bow thruster panel type BPAS and BPAJ

- Front panel 97 x 95 mm
- Built-in depth 90 mm
- Installation hole Ø52 mm
- Backwards compatible with other VETUS bow thruster panels

Unique features

- Built-in time lapse device when reversing direction or rotation
- Automatic switch off after 30 minutes inactivity
- Thruster switches off after continuous running for more than 2 minutes and resets itself after 5 seconds
- Child protection



BPJP



BPJR



BPSR



BPAS



BPAJ

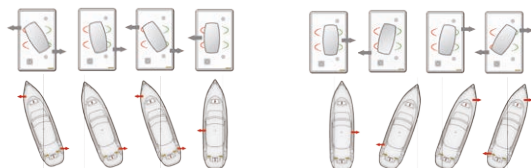
| Type | |
|------|---|
| BPSR | Round bow thruster touch panel with time delay, built in Ø 52 mm, 12/24 V |
| BPJR | Round bow thruster panel with joy-stick and time delay, built in Ø 52 mm, 12/24 V |
| BPAS | Aluminium bow thruster touch panel with time delay, 97 x 95 mm, built in Ø 52 mm, 12/24 V |
| BPAJ | Aluminium bow thruster panel with joy-stick and time delay, 97 x 95 mm, built in Ø 52 mm, 12/24 V |
| BPJP | Proportional control for the Rimdrive, 101 x 100 mm, built in Ø 80 mm, 48 V |

CONTROL PANELS FOR BOW AND STERN THRUSTERS

Easy docking panel

Turns twin joysticks into one easy operating knob

This control panel ensures a smooth procedure of both bow and stern thruster operation. By using Hall effect sensors, the panel has no holes and is therefore completely watertight. The safety features and technical specifications are identical to all shown VETUS control panels.



EZDOCK2



Control panels type 2

Control panels type 2 are protected against accidental or unauthorised operation and circuit overload. They have a panel power indicator and warning LED and buzzer in case of continuous running for more than 2 minutes. These panels are watertight, easily interconnected and can be fitted at any helm position.

Control panel models BPSE2, BPJE2 and EZDOCK2 have additional features:

- Built-in time lapse device when reversing direction or rotation
- Automatic switch off after 30 minutes inactivity
- Thruster switches off after continuous running for more than 2 minutes
- Panel resets itself after 5 seconds



BPSE2



BPJE2



BPJE2



BPA

Note

For optimum safety and performance we recommend using VETUS control panels with VETUS thrusters.

| Type | | Dimensions mm |
|----------------|---|---------------|
| EZDOCK2 | Easy docking system for bow/stern thruster, incl. time delay, 12/24 volt | 85 x 138 |
| BPSE2 | Bow thruster touch panel with time delay, 12/24 volt | 85 x 85 |
| BPJE2 | Bow thruster panel with joy-stick and time delay, 12/24 volt | 85 x 85 |
| BPJDE2 | Bow & stern thruster panel with two joy-sticks and time delay, 12/24 volt | 85 x 138 |
| BPA | Adapter plate to replace old BPS/BPJ panels with new BPSE/BPJE panels | |

CONTROL PANELS FOR BOW AND STERN THRUSTERS

Wireless control panel

Easy installation, less time consuming!

With this radio connector a bow thruster can be controlled without having to install an interconnecting cable to the panel. The installation kit of this radio control device consists of a transmitter and receiver. The distance between these devices should not exceed 15 metres.

Specifications

- Suitable for 12 or 24 Volt D.C. installations
- Capacity of 25A
- Available for single (type RCMBP) and dual station (type RCMBP2)
- Supplied with connection plugs

| Type | Specifications |
|--------|--|
| RCMBP | Installation kit for single station radio control or bow or stern thruster, 3 Amp. |
| RCMBP2 | Installation kit for dual station radio control or bow or stern thruster, 3 Amp. |



Electric remote control

Always comes in handy

Type RECON can be used for the operation of bow and stern thrusters, anchor windlasses, remote controlled gangways, electric cranes, hydraulic steering systems etc. This electric remote control has a stainless steel (AISI 316) hanger loop which is fitted on the back.

Specifications

- Suitable for 12 or 24 Volt D.C.
- Max switching capacity of 6A
- Supplied with three-core spiralled wire of 3,5 mtr
- Complete with watertight plug and socket

| Type | Specifications |
|-------|---|
| RECON | Hand held remote control for operation of bow and stern thrusters, windlasses, etc. |



Wireless remote control

In control of your electrically driven equipment on board

With the WRCBS wireless remote control unit you have total control over your boat in the palm of your hand. The WRC package consists of a receiver, the WRCBS and remote control, the WRCKF. The VETUS wireless control hand held remote has a range of 10 to 25 metres depending on the location of the receiver and delivers easy control of bow thruster, stern thruster and/or windlasses. The wireless remote control meets the EMC requirements.

Specifications WRCBS

- Power supply: 8 - 30 Volt D.C.
- Connectors for 2x VETUS thrusters (4 channels)
- Max. 10 remotes allowed
- Detachable antenna

Specifications WRCKF remote

- Power supply 3 Volt battery CR2032
- Open air range >10 metres
- Maximum range Up to 25 metres when unimpeded
- Hand held control Watertight according to IP66

| Type | Specifications |
|-------|---|
| WRC | Package consists of the WRCBS and the WRCKF |
| WRCBS | Base unit for wireless remote control |
| WRCKF | Universal wireless remote control, incl. receiver |



ACCESSORIES FOR BOW AND STERN THRUSTERS

Bow thruster control panel

For side mounting

Specifications

- With on/off switch and rocker switch
- Diameter 102 mm
- Build-in depth 79 mm
- Watertight to IP 65



BPSM

| Type | Description |
|------|---|
| BPSM | Bow thruster control panel for side mounting with toggle switch Ø102 mm |

Joystick

For bow and stern thrusters

This joystick switch is for dashboard mounting only. It is watertight and can be used for bow and stern thrusters. A connection cable should be ordered separately.



BPJSTA

| Type | Description |
|--------|--|
| BPJSTA | Joystick only for bow thrusters (excl. connection cable) |

Time delay device

Safety first

Eliminates the risk of the bow thruster being switched over too quickly. It is highly recommended for rental crafts to prevent motor damage. Only necessary for BPJSTA and BPSM.



BPTD

| Type | Description |
|------|--|
| BPTD | Time delay unit for 12 Volt bow thruster panel BPSM and BPJSTA |

Panel connection cables

These panel connection cables are supplied with multi-plugs and available in 5 different lengths.



BP29..

| Type | Connection cable |
|--------|---------------------------------|
| BP29 | 6 m control panel/bow thruster |
| BP2910 | 10 m control panel/bow thruster |
| BP2916 | 16 m control panel/bow thruster |
| BP2918 | 18 m control panel/bow thruster |
| BP2920 | 20 m control panel/bow thruster |



ACCESSORIES FOR BOW AND STERN THRUSTERS

Remotely controlled battery main switch and emergency stop

Type BPMAIN

Ideal for use with bow thrusters, anchor windlasses or other high current consumers

A remotely controlled battery switch is in many countries required by law. The BPMAIN can be remotely controlled electrically or activated by hand in an emergency. The switch should be fitted as close as possible to the battery of the bow thruster or other consumers, and should be placed in a position where the red emergency stop button is within reach. For switching on/off a control panel is supplied with pre-wired loom and multi-plugs.

Specifications

- Available in 12 or 24 Volt D.C.
- Extension looms and control panels are optional
- Maximum load 250 Amps continuous or 800 Amps for 3 minutes

Note

When a 24 Volt bow thruster is connected to a 12 Volt circuit by a series/parallel switch, a 12 Volt battery main switch must be selected. When a 48 Volt bow thruster is connected to a 24 Volt circuit by a series/parallel switch, a 24 Volt main switch must be used.



BPMAIN

| Type | Description |
|----------|--|
| BPMAIN12 | Remotely controlled battery main switch and emergency stop 12 Volt |
| BPMAIN24 | Remotely controlled battery main switch and emergency stop 24 Volt |
| BPMEC | Extension cable 6mtr for BPMAIN |
| BPMRC | Remote control for BPMAIN |

Series/parallel switch

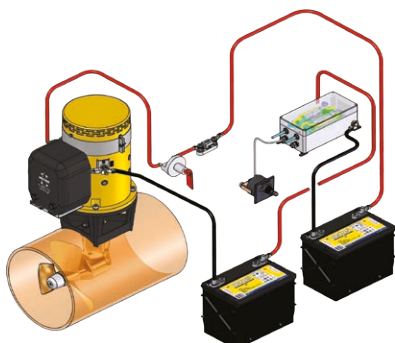
Simple and time saving installation

Bow thrusters of 160 and 220 kgf are only available in 24 Volt D.C. By installing the series/parallel switch (12 Volt batteries connected in series), the required 24 Volt can be obtained. For charging the 12 Volt batteries are automatically connected in parallel and linked to the 12 Volt charging system. This series/parallel switch comes with a pre-assembled auxiliary relays to ensure easy connection between the battery bank and the bow thruster. The charging contacts of the series/parallel switch have a continuous duty rating of 100 Amps and an intermittent rating of 150 Amps at 20% duty. The series/parallel switches meet the EMC requirements.

Note

285 kgf - 48 Volt bow thrusters are standard supplied with series/parallel switch to permit connection to a 24 Volt battery bank. A 48 Volt series/parallel switch is also available but has to be ordered separately.

| Type | Description |
|-------|--|
| BPSPE | Series parallel switch for 24 Volt thruster with 12 Volt charging system |



BPSPE

ACCESSORIES FOR BOW AND STERN THRUSTERS

Tunnels for bow and stern thrusters

VETUS tunnels are available in GRP, steel and aluminium in standard lengths or per metre.

Glassfibre reinforced polyester

| Type | Dimensions in mm |
|----------|------------------|
| BP110G75 | 110 x 750 |
| BP110G10 | 110 x 1000 |
| BP110G30 | 110 x 3000 |
| BP125G10 | 125 x 1000 |
| BP125G15 | 125 x 1500 |
| BP125G20 | 125 x 2000 |
| BP125G30 | 125 x 3000 |
| BP150G75 | 150 x 750 |
| BP150G10 | 150 x 1000 |
| BP150G15 | 150 x 1500 |
| BP150G30 | 150 x 3000 |
| BP185G75 | 185 x 750 |
| BP185G10 | 185 x 1000 |
| BP185G15 | 185 x 1500 |
| BP185G20 | 185 x 2000 |
| BP185G30 | 185 x 3000 |
| BP250G10 | 250 x 1000 |
| BP250G15 | 250 x 1500 |
| BP250G20 | 250 x 2000 |
| BP250G25 | 250 x 2500 |
| BP250G30 | 250 x 3000 |
| BP300G10 | 300 x 1000 |
| BP300G15 | 300 x 1500 |
| BP300G30 | 300 x 3000 |
| BP400G20 | 400 x 2000 |
| BP400G25 | 400 x 2500 |

Steel

| Type | Dimensions in mm |
|----------|------------------|
| BP110S75 | 110 x 750 |
| BP110S10 | 110 x 1000 |
| BP110S30 | 110 x 3000 |
| BP125S10 | 125 x 1000 |
| BP125S15 | 125 x 1500 |
| BP125S30 | 125 x 3000 |
| BP150S10 | 150 x 1000 |
| BP150S15 | 150 x 1500 |
| BP150S30 | 150 x 3000 |
| BP185S10 | 185 x 1000 |
| BP185S15 | 185 x 1500 |
| BP185S20 | 185 x 2000 |
| BP185S30 | 185 x 3000 |
| BP250S10 | 250 x 1000 |
| BP250S15 | 250 x 1500 |
| BP250S20 | 250 x 2000 |
| BP250S25 | 250 x 2500 |
| BP250S30 | 250 x 3000 |
| BP300S10 | 300 x 1000 |
| BP300S15 | 300 x 1500 |
| BP300S30 | 300 x 3000 |
| BP400S20 | 400 x 2000 |
| BP400S25 | 400 x 2500 |

Aluminium

| Type | Dimensions in mm |
|----------|------------------|
| BP110A75 | 110 x 750 |
| BP110A10 | 110 x 1000 |
| BP110A30 | 110 x 3000 |
| BP125A75 | 125 x 750 |
| BP125A10 | 125 x 1000 |
| BP125A30 | 125 x 3000 |
| BP150A10 | 150 x 1000 |
| BP150A30 | 150 x 3000 |
| BP185A10 | 185 x 1000 |
| BP185A30 | 185 x 3000 |
| BP250A10 | 250 x 1000 |
| BP250A30 | 250 x 3000 |
| BP300A10 | 300 x 1000 |
| BP300A15 | 300 x 1500 |
| BP300A30 | 300 x 3000 |



BP.....

| Description | Internal Ø (mm) | External Ø (mm) |
|---------------------------------|-----------------|-----------------|
| Glassfibre reinforced polyester | 110 | 120 |
| Steel | 112.5 | 121 |
| Aluminium | 112 | 120 |
| Glassfibre reinforced polyester | 125 | 135 |
| Steel | 125 | 139.7 |
| Aluminium | 125 | 135 |
| Glassfibre reinforced polyester | 150 | 160.6 |
| Steel | 150 | 159 |
| Aluminium | 150 | 160 |
| Glassfibre reinforced polyester | 185 | 195.6 |
| Steel | 182.5 | 193.7 |
| Aluminium | 185 | 196 |
| Glassfibre reinforced polyester | 250.6 | 264.6 |
| Steel | 252.8 | 267 |
| Aluminium | 250 | 264 |
| Glassfibre reinforced polyester | 300 | 320 |
| Steel | 303 | 318 |
| Aluminium | 300 | 320 |
| Glassfibre reinforced polyester | 400 | 424 |
| Steel | 397 | 419 |

Both the internal and the external diameters may vary slightly from the given dimensions.

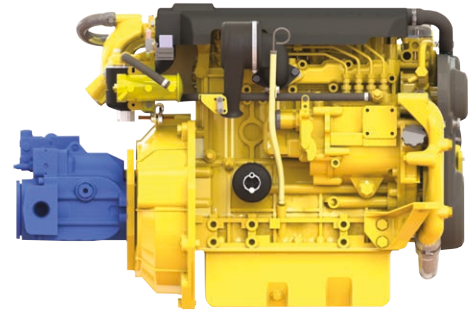


DIESEL POWERPACK

For the most powerful hydraulic bow thrusters

The 3 most powerful VETUS hydraulic bow thrusters can be powered using a specially prepared diesel powerpack instead of a pump on the main engine. The matching hydraulic pump will then be supplied as part of the powerpack. Installing a powerpack on board can considerably reduce the required generator set capacity because the thrusters on board are hydraulically operated instead of electrically powered.

For more information see chapter Power Hydraulics.



| Type | Suitable for |
|---------------------------|-------------------------|
| PM4.35 of 24.3 kW (33 hp) | Bow thruster of 310 kgf |
| PM4.45 of 30.9 kW (42 hp) | Bow thruster of 410 kgf |
| PVH4.65 of 48 kW (65 hp) | Bow thruster of 550 kgf |

CONTROL PANELS FOR HYDRAULIC BOW AND STERN THRUSTERS

BPJ

Easy operating

Specifications

- Type BJSTH5: Hydraulic bow thrusters 2-step joystick for operation at full or half power (no panel)
- Type BPJ5: Hydraulic bow thruster panel with on/off switch and 2-step joystick for operation at full or half power. Dimensions 85 x 85 mm
- Type BPJ5D: Hydraulic bow and stern thruster panel with on/off switch and twin 2-step joysticks for operation at full or half power. Dimensions 85 x 136 mm

Note

All models are watertight to IP65.



BPJSTH5



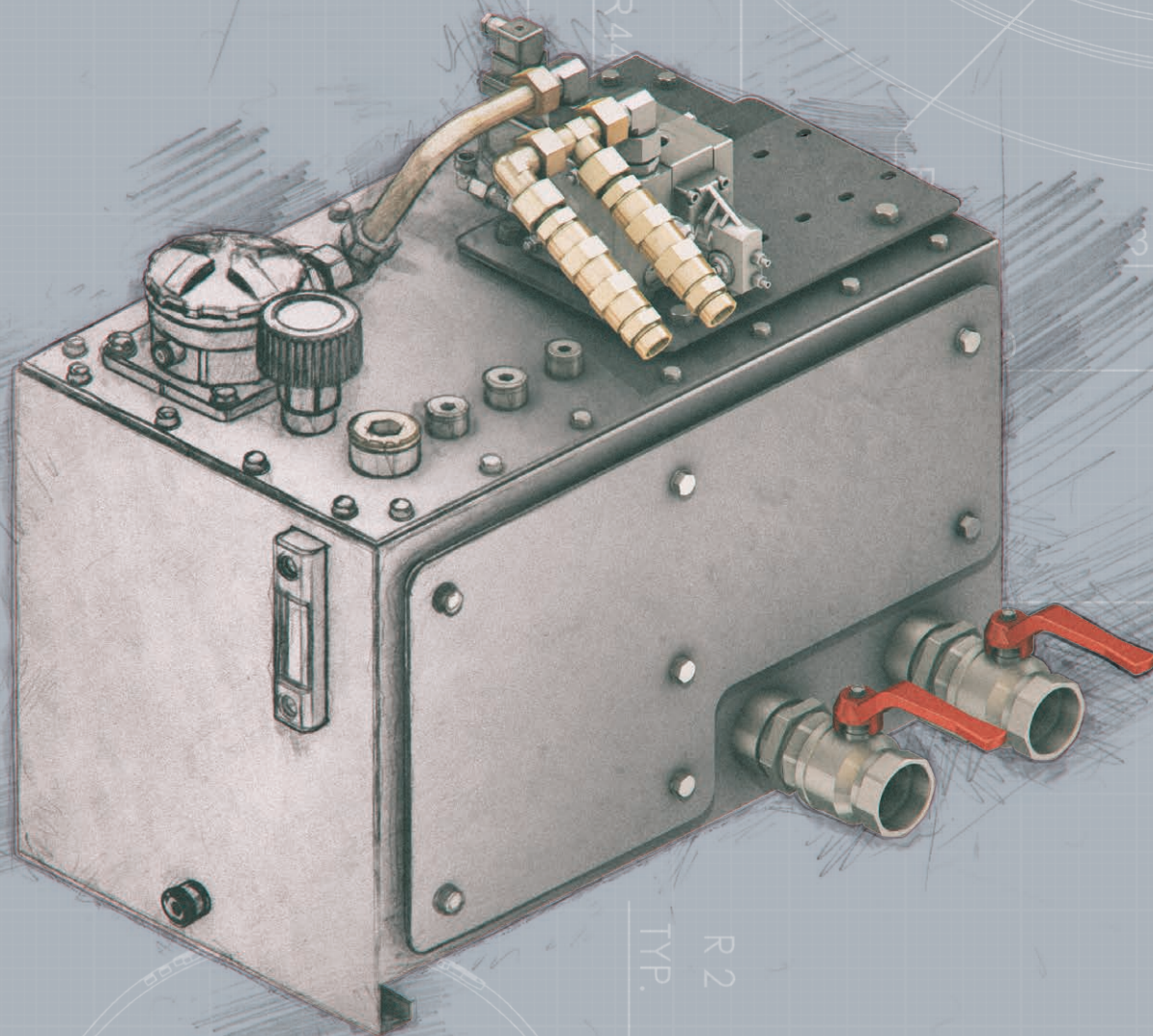
BPJ5



BPJ5D

| Type | Specification |
|---------|---|
| BPJSTH5 | Joystick only for hydraulic bow thrusters (5 positions) |
| BPJ5 | Bow thruster panel with joystick, for hydraulic bow thruster (5 positions) |
| BPJ5D | Bow thruster panel with two joysticks, for hydraulic bow and stern thruster (5 positions) |

POWER HYDRAULICS



Power hydraulics

Power where you need it, for as long as you need it

The concept

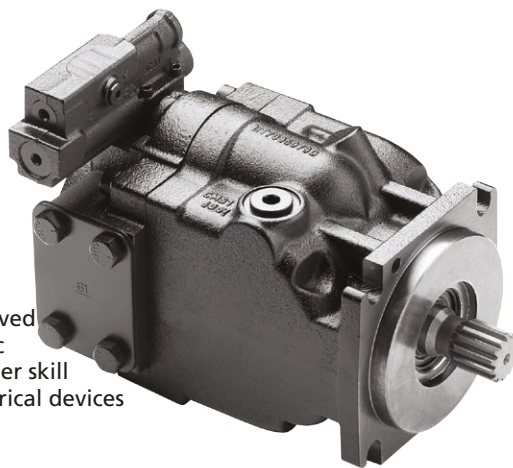
VETUS Hydraulic Systems are an excellent way to move the power of a "Prime Mover" engine to user devices around the vessel, by means of the controlled flow of high pressure fluid moving through flexible hoses or rigid tubes. The prime mover may be a main propulsion engine, the engine of a diesel generator, or a "power pack" engine dedicated to powering the hydraulic system. A user device is any item or system of mechanical equipment, including bow and stern thrusters, windlasses, capstans, winches, cranes, hatch lifters, roll stabilizers and power steering.

The heart of the hydraulic system consists of one or more hydraulic pumps, each mounted on a simple gearbox called a Power Take Offs (PTO), itself mounted on an engine or propulsion gearbox. When a main propulsion engine is the prime mover of the hydraulic system, mounting the PTO on the gearbox will usually provide the most convenient installation.

The hydraulic pump draws hydraulic fluid (a light oil) from a reservoir tank, and sends that oil, at high pressure and flow, to valves that then control the flow of fluid to each of the user devices.

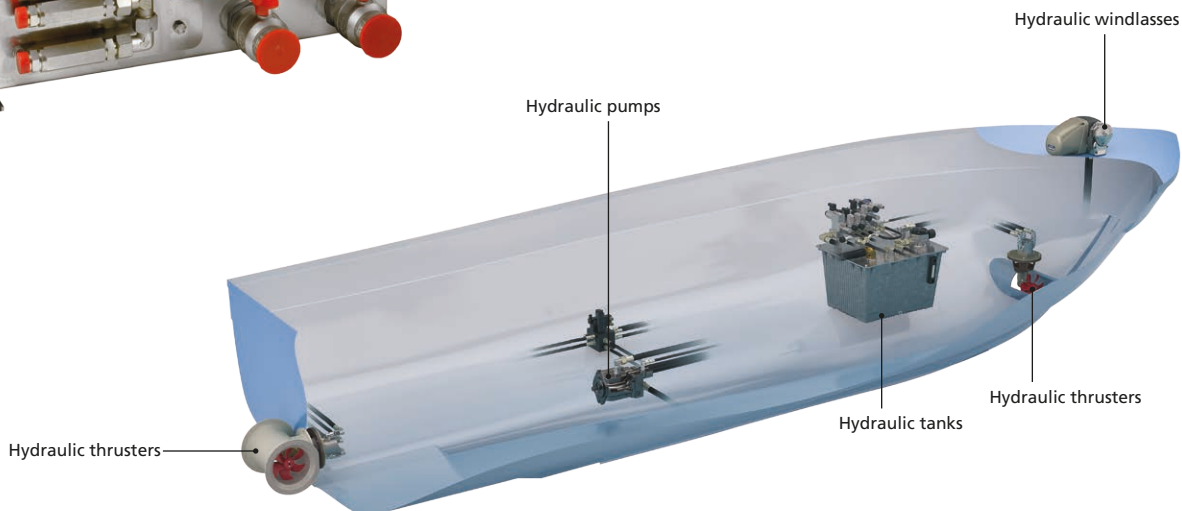
VETUS hydraulic pumps are of the variable volume, load sensing type and provided that the prime mover engine is developing enough power, these pumps can deliver maximum flow and pressure at any engine speed. When no user device is operating, the pump essentially freewheels, so no clutch is necessary. The temperature of the hydraulic fluid must be maintained within certain limits and a seawater-cooled oil cooler is installed in almost all systems.

Integrated hydraulic systems require advance planning so that engines or gearboxes are ordered with appropriate PTOs and so that adequate space is reserved in the engine room for the hydraulic reservoir tank. The installation of a hydraulic system requires extensive knowledge of hydraulic theory and practice, with a larger skill set and more training and experience than is required for the installation of electrical devices and equipment.



The cost of installing a single hydraulic user device such as a bow thruster will exceed the cost of installing a single electrically powered device of similar output, but as more devices are added to the vessel and powered by the same central system of pumps, oil coolers and reservoir, there will be a substantial reduction in the cost difference between the integrated hydraulic system and a collection of electrical device.

In addition, hydraulic devices tend to be lighter, capable of developing more power, require little maintenance, are more reliable, have few if any electrical components outside the warm, dry conditions of the engine room and most importantly, can work continuously without the run-time and overheating limitations of comparable electrical devices.



The process

1. Select the hydraulic devices you want to install, using the same calculations and processes used for electric devices
2. Make a list of device combinations that may operate at the same time. (e.g. bow and stern thruster)
3. Determine how much power will be needed by the most demanding of these combinations of devices
4. Identify power sources that can deliver that power (i.e. propulsion engines, propulsion gearboxes, diesel generators, diesel power packs). Remember that propulsion engines are idling during docking maneuvers and that they must turn the PTOs and the main propellers. In addition, for a propulsion engine mounted PTO to be feasible, there must be adequate clearance between the case of the required pump and the engine block and oil pan/sump
5. Ensure that the propulsion engines, gearboxes and gensets are ordered with SAE B or C flange Power Take Offs (PTOs), rated for the power output needed to drive the most demanding device combination
6. Specify a pump or pumps that can deliver the flow required when the PTO is turning at its standard speed during docking maneuvers. Take into account the direction of rotation of the PTO (s), and the need to have the pump port locations accessible
7. Select control devices (joysticks, etc.) and the valves to which they connect
8. Select a reservoir tank to store and de-foam the hydraulic fluid
9. Select blocks and manifolds for the control valves
10. Select one or more oil coolers to keep the hydraulic fluid within the appropriate temperature range
11. Install all of the hydraulic equipment and then measure for the required lengths of hydraulic hose and tubing. As the hose or tubing will be required on the vessel within a few working hours of installing the equipment and measuring the hose and tubing runs and as metal fittings must be machine swaged onto hoses, it is usually best to make arrangements for hoses and tubes with a supplier local to the vessel
12. Fill the system with the hydraulic fluid specified by VETUS, then commission and adjust all elements of the system

Hydraulic systems are complex and require a lot of expertise but the results are well worth the effort. A VETUS customer support team member is available to you by email, at no cost, to discuss your vessel configuration and usage and to recommend hydraulic user devices and central system equipment. You will receive our recommendations for your Power Hydraulic system within 48 hours of all information being received and finalized. Remember that prime mover engines or gearboxes must be ordered with Power Take Offs, which are difficult or impossible to retrofit.



HYDRAULIC PUMPS

VETUS hydraulic pumps are variable volume, load sensing, piston pumps and are able to provide full hydraulic flow and pressure at all PTO/ prime-mover engine speeds, providing the engine is producing enough power at those speeds. These pumps adjust themselves to meet the requirement of the activated user devices, and when no hydraulic flow is required, stop pumping and freewheel, so no clutch is required at the Power Take Off (PTO) on which the pump is mounted.

Hydraulic pumps are assembled from modules, with many possible arrangements of port locations, mounting flange size, shaft size and type, and direction of rotation. The pumps in the table below will work well for most situations and are available from stock, but VETUS will supply whatever pump is needed for a particular system. For an engine mounted PTO, a pump with rear connections is required, to avoid the pump ports being covered by the engine block or oil pan. In general, a gearbox mounted PTO will be the most convenient, with all round access to pump ports for hose connections.

The direction of rotation of the PTO drive shaft determines the required direction of rotation of the pump, and they will be opposites, when both PTO and pump are viewed looking toward the end of the shaft. A right hand/clockwise PTO needs a left hand/anticlockwise pump and vice versa. In order to transmit the power of the prime-mover engine on which the PTO is mounted, the pump must produce the pressure and flow required by the user devices. To accomplish that power transmission, a pump or pumps is selected with sufficient capacity to produce the required flow at the speed of the PTO(s), allowing for appropriate volumetric inefficiency in the pump(s).

For pumps mounted on propulsion engines or propulsion gearboxes, the PTO speed is taken when the engine is idling, to allow for full hydraulic power to thrusters during docking manoeuvres. For most modern diesel engines idling speed will be between 600 and 700 rpm. For pumps mounted on genset PTOs, the speed of the PTO is taken at the normal operating speed of the genset engine, as listed in the genset manuals (usually 1500, 1800 or 3000 pm).

Your VETUS hydraulic support engineer will work with you to select the correct pumps and all other equipment for your installation, but remember that the engines, gearboxes or gensets must be ordered with appropriate Power Take Offs (PTOs), so early planning of the hydraulic system is essential. Retrofitting PTOs is very expensive and may be impossible.

Each hydraulic pump in the system will have four hose connections: The suction line to draw low pressure oil from the reservoir tank, the high pressure line (P) delivering high potential energy hydraulic fluid to the control valve assembly, the load sensing line (LS) from the valve assembly that controls the output of the pump, and the case drain (D) that prevents hydraulic fluid that has bypassed the internal mechanisms of the pump from accumulating at high pressure in its case. It is important to understand that each pump must have a single load sensing connection. In a multi user-device system, shuttle valves may be required so that the pump provides hydraulic fluid at the highest pressure required by any of the user devices in operation. Other user- devices in the system requiring lower pressures will be protected by crossover/bypass valves.

Standard hydraulic pumps stocked by VETUS for rapid delivery

Non-standard pumps are made to order.

| Part Code | Pump capacity (cc) (fluid pumped in one revolution) | Direction of Rotation | Shaft | Weight kg approx | Torque in Newton Metres for each bar of operating pressure * | Suction and pressure port location | Available SAE flange | Max cont rpm |
|-----------|--|-----------------------|-----------|------------------|--|------------------------------------|----------------------|--------------|
| HT1015SD2 | 45 | LH - anticlockwise | 13 spline | 27 | 0.72 | rear | SAE B 2 bolt | 2800 |
| HT1015E62 | 62 | LH - anticlockwise | 13 spline | 24 | 1 | rear | SAE B 2 bolt | 2600 |
| HT1016SD1 | 30 | LH - anticlockwise | 13 spline | 24 | 0.48 | side | SAE B 2 bolt | 3200 |
| HT1016SD2 | 45 | LH - anticlockwise | 13 spline | 27 | 0.72 | side | SAE B 2 bolt | 2800 |
| HT1017E62 | 62 | RH - clockwise | 13 spline | 24 | 1 | rear | SAE B 2 bolt | 2600 |
| HT1017SD1 | 30 | RH - clockwise | 13 spline | 24 | 0.48 | side | SAE B 2 bolt | 3200 |
| HT1017SD2 | 45 | RH - clockwise | 13 spline | 27 | 0.72 | side | SAE B 2 bolt | 2800 |
| HT1022SD | 75 | LH - anticlockwise | 14 spline | 27 | 1.2 | side | SAE C 4 bolt | 2400 |
| HT1023SD | 75 | RH - clockwise | 14 spline | 27 | 1.2 | side | SAE C 4 bolt | 2400 |
| HT1016SD3 | 100 | RH- clockwise | 17 spline | 56 | 1.6 | side | SAE C 4 bolt | 2450 |
| HT1016SD4 | 130 | RH - clockwise | 17 spline | 56 | 2.1 | side | SAE C 4 bolt | 2200 |
| HT1027** | 45 | RH - clockwise | 13 spline | 27 | 0.72 | side | SAE B 2 bolt | 2800 |

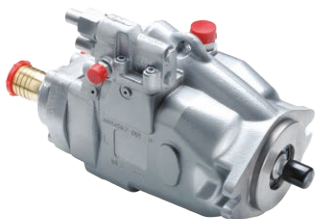
* It may be necessary to reduce pump pressure to avoid exceeding the maximum allowed torque for the PTO, even if that means reduced power for the user device.

** This pump is configured to mount on the PTO of a John Deere diesel engine.

HYDRAULIC PUMPS

Specifications

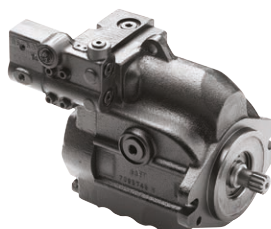
- Capacity: 62 cc
- Rotation: Anti-clockwise viewed from end of shaft
- Connection: SAE-B flange, 13 spline shaft
Rear connection for suction and pressure
Fits VETUS DEUTZ engines and PRM gearboxes
- Maximum r.p.m.: 2.880



HT1015E62

Specifications

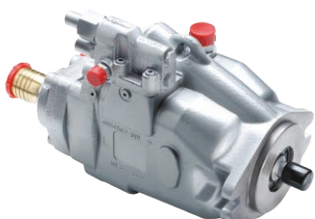
- Capacity: 45 cc
- Rotation: Anti-clockwise viewed from end of shaft
- Connection: SAE-B flange, 13 spline shaft
Rear connection for suction and pressure
Fits VETUS DEUTZ engines and PRM gearboxes
- Maximum r.p.m.: 2.800



HT1015SD2

Specifications

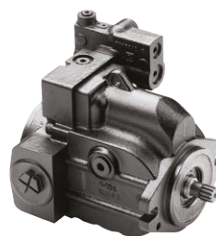
- Capacity: 62 cc
- Rotation: Clockwise viewed from end of shaft
- Connection: SAE-B flange, 13 spline shaft
Rear connection for suction and pressure
Fits Twindisc gearboxes
- Maximum r.p.m.: 2.880



HT1017E62

Specifications

- Capacity: 30 cc (SD1) or 45 cc (SD2)
- Rotation: Anti-clockwise viewed from end of shaft
- Connection: SAE-B flange, 13 spline shaft
Side connection for suction and pressure. Fits PRM gearboxes.
- Maximum r.p.m.: 3.600 SD1. / 2.800 SD2

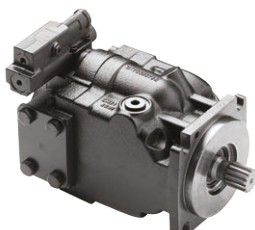


HT1016SD1

HT1016SD2

Specifications

- Capacity: 75 cc
- Rotation: Anti-clockwise (HT1022SD), clockwise (HT1023SD) viewed from end of shaft
- Connection: SAE-C flange, 14 spline shaft
Side connection for suction and pressure
Fits Twindisc gearboxes
- Maximum r.p.m.: 2.880

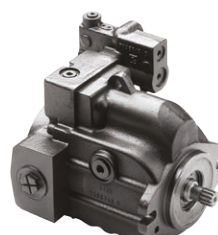


HT1022SD

HT1023SD

Specifications

- Capacity: 30 cc (SD1) or 45 cc (SD2)
- Rotation: Clockwise viewed from end of shaft
- Connection: SAE-B flange, 13 spline shaft
Side connection for suction and pressure
Fits Twindisc gearboxes
- Maximum r.p.m.: 3.600 SD1. / 2.800 SD2



HT1017SD1

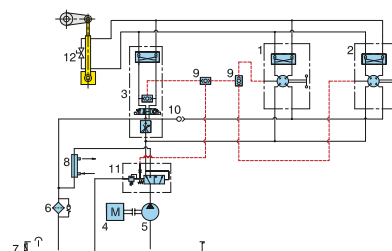
HT1017SD2

For John Deere engines, pump type HT 1027 has an extension shaft, for connection to the water pump.

Diagram of a single hydraulic drive

It is possible to connect various equipment devices to one hydraulic pump.

1. Hydraulic motor
2. High pressure pump
3. Solenoid control valve
4. Propulsion engine
5. Hydraulic pump
6. Storage tank hydraulic fluid



HYDRAULIC TANKS

Hydraulic systems require the installation of a hydraulic tank, as a collection point for hot hydraulic fluid returning from all of the user devices in the system, and as a reservoir from which the pump or pumps can draw the hydraulic fluid and re-pressurize it for re-use. The returning hydraulic fluid foams when it reaches the tank and returns to atmospheric pressure, so the tank must be sized so that the fluid is in the tank long enough for the foam to "boil out", returning the fluid to a completely liquid state, able to maintain its volume as it is re-pressurized by the pump(s).

Aluminum alloy tanks HT1010 and HT1028 may contribute to cooling of the hydraulic fluid, but as the rate of cooling depends on the engine room air temperature and convective air flow over the surfaces of the tanks the difference in temperature between the outer face of the tank and the ambient air temperature around the tank (Δt) (itself dependent on engine room air temperature and freedom of air movement for convection), the cooling capacity of the tank is unpredictable and VETUS recommends that sea-water cooled hydraulic fluid (oil) coolers be included in all systems. If for reasons of economy, an oil cooler is not initially installed, operating temperatures must be carefully monitored and an oil cooler retrofitted if necessary.

- The lid of this hydraulic tank serves as the base plate for all control units required to operate the various hydraulic devices
- VETUS supplies this hydraulic tank ready to use and preinstalled with all control units ordered
- Additional control units can be supplied as separate components, if required
- Tagged for connections
- Mounted so that suction hose runs down to pumps
- Connections for more than one pump
- Mounted on Bulkhead, shelf or platform built by installer or OEM
- Valves mounted on lid for convenience
- Space for the tank must be planned and reserved in the engine room, adjacent to the pumps

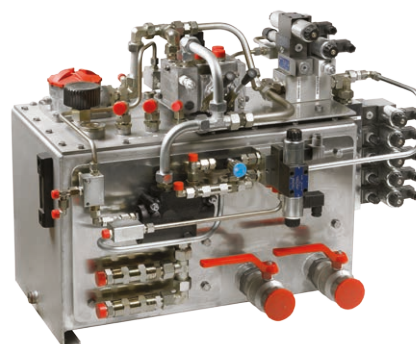
The table shown below provides guidance for tank selection for systems driving thrusters. All other device will be covered if the system is adequately sized for the thrusters.

Hydraulic reservoir tanks

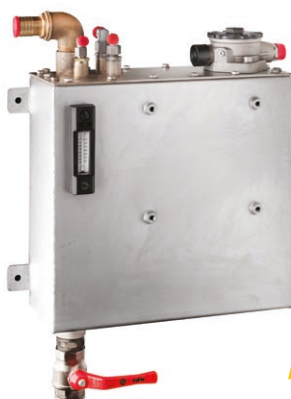
Examples of hydraulic reservoir tanks.



HT1010



HT1010BS



HPTANK



HT1028B

| Tank type | HT1010 | HT1010BS | HPTANK | HT1028 |
|--|--------------------|----------------------------|----------------------------|--------------------|
| Tank capacity litres | 70 | 130 | 35 | 17 |
| Weight (kg) | 34 | 68 | 29 | 24 |
| Total height (mm) | 490 | 580 | 565 | 415 |
| Wide (mm) | 620 x 480 | 730 x 600 | 530 x 210 | 470 x 310 |
| Volt | 24 (12 on request) | 24 (12 on request) | 24 (12 on request) | 24 (12 on request) |
| Vibration dampers (ordered separately) | HT3010 (set of 4) | HT3010 (set of 4) | HT3010 (set of 4) | HT3020 (set of 4) |
| Height (mm) | 30 | 30 | 30 | 15 |
| Material body | aluminium alloy | stainless steel (AISI 316) | stainless steel (AISI 316) | aluminium alloy |

HYDRAULIC TANKS

The chart below provides a guideline for tank types for systems including thrusters, although this will be reviewed by your VETUS Power Hydraulics support engineer in developing the equipment list for your system. In most circumstances, all other devices will be covered if the tank is big enough for the thrusters.

Tank specifier for thruster systems

| Tank type | One thruster | | | | Two thrusters | | | |
|---|---|--------|--------|----------|---------------|--------|--------|----------|
| | HT1028 | HPTANK | HT1010 | HT1010BS | HT1028 | HPTANK | HT1010 | HT1010BS |
| Tank Capacity Litres | 20 | 38 | 70 | 130 | 20 | 38 | 70 | 130 |
| Maximum oil contents litres | 18 | 35 | 63 | 117 | 18 | 35 | 63 | 117 |
| Approx. weight of oil in kg | 17 | 32 | 58 | 107 | 17 | 32 | 58 | 107 |
| Dry (empty) of tank in kg | 24 | 29* | 34 | 68** | 24 | 29* | 34 | 68** |
| Approx weight of full tank in kg | 41 | 61 | 92 | 175 | 41 | 61 | 92 | 175 |
| Approx height overall including valves and dampers (mm) | 430 | 565* | 680 | 610** | 430 | 565* | 680 | 610** |
| Approx length (mm) | 470 | 530 | 620 | 730** | 470 | 530 | 620 | 730** |
| Approx depth overall including valves (mm) | 310 | 430*** | 480 | 600** | 310 | 430*** | 480 | 600** |
| Additional minimum clearance required at top for filling and filter maintenance | 250 | 300 | 250 | 350 | 250 | 300 | 250 | 350 |
| Thruster type | Single thruster flow rate litres per minute | | | | | | | |
| BOW55HMC | 13 | ✓ | ✓ | ✓ | ✓ | x | ✓ | ✓ |
| BOW95HMC | 18 | ✓ | ✓ | ✓ | ✓ | x | ✓ | ✓ |
| BOW160HMC | 24 | x | ✓ | ✓ | ✓ | x | ✓ | ✓ |
| BOW230HMC | 33,5 | x | ✓ | ✓ | ✓ | x | ✓ | ✓ |
| BOW310HMC | 57 | x | x | ✓ | ✓ | x | x | ✓ |
| BOW410HM | 92 | x | x | x | ✓ | x | x | ✓ |
| BOW550HM | 92 | x | x | x | ✓ | x | x | ✓ |

* No manifold/valve block or valves can be mounted on the top of the HP tank

** This weight or dimension does not include valves, blocks or manifolds, as these are assembled to each customer's order

*** It is possible, with a mounting plate, to install a manifold and valves on the front of the HP tank, but those dimensions are not included here

The weights and dimensions provided in this chart are approximate and will vary with each tank, manifold and valve assembly, but for a successful installation, it is essential that adequate space and support is planned and designed into the engine room for the tank assembly and hydraulic pumps.

Manifold for additional control units

An extension of the basic manifold block. Required if more than 5 solenoid control devices are installed.



HT1026

Hydraulic oil

We recommend the use of the following hydraulic fluids: VETUS Hydraulic oil HT (HLP ISO-VG46).

| Type | Specification |
|-------|----------------|
| VHT1 | 1 L ISO VG 46 |
| VHT4 | 4 L ISO VG 46 |
| VHT20 | 20 L ISO VG 46 |



VHT

Oil cooler type HT3011

If a pump with a fixed swept volume, or a high capacity is installed, or if the ambient temperature is high, a lot of heat can be generated. In these cases, the installation of an oil cooler in the return line will be required.

Four different cooling water hose diameters are available:

- Ø 32 (HT301132)
- Ø 42 (HT301142)
- Ø 47 (HT301147)
- Ø 2" thread (HT3011MP)

HT3011



HYDRAULIC LOAD SENSING AND CONTROL DEVICES

In order to direct the oil flow from the hydraulic pump to the equipment to be driven, load sensing and control devices, which are built up in modular construction segments, are used. These ensure the correct speed and sense of rotation of the equipment to be driven. Supplied as standard for 24 Volt electric installations, 12 Volt on request.

HT1011

Single step load sensing device (24 Volt). Gives zero or full flow rate, depending on whether a load is sensed or not. Used for e.g. bow and stern thrusters. Includes electrical connection box.

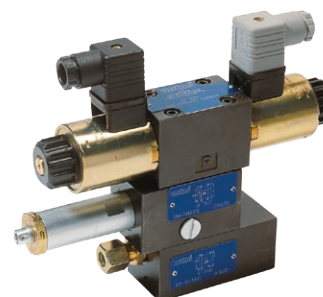
HT1011



HT1012

Dual step load sensing device (24 Volt). Gives zero, partial or full flow rate, dependent on load sensed. Used for e.g. bow and stern thrusters. Includes electrical connection box.

HT1012



HT1013

Solenoid control unit (24 Volt) for bow and stern thrusters.

HT1013



HT102311

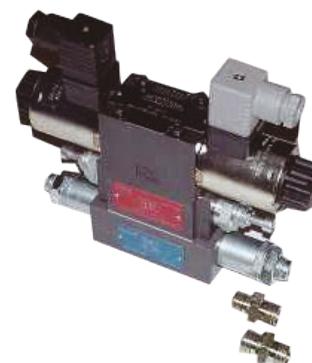
Solenoid control unit (24 Volt) for an anchor windlass in combination with a single step load sensing device. Pressure and flow adjustable.

HT102312

Solenoid control (24 Volt) for an anchor windlass in combination with a dual step load sensing device. Flow adjustable.

HT102311

HT102312



HYDRAULIC THRUSTER CONTROL JOYSTICKS

BPJSTA

Joystick switch only for dashboard mounting.
Watertight to IP 65

BPJSTA



BPJSTH5

Hydraulic bow thruster two step joystick for operation at full or half power (no panel).
Watertight to IP 65.

BPJSTH5



BPJ5

Hydraulic bow thruster panel with on/off switch and two step joystick for operation at full or half power.
Watertight to IP 65.

BPJ5



BPJ5D

Hydraulic bow and stern thruster panel with on/off switch and twin two step joysticks for operation at full or half power.
Watertight to IP 65.

BPJ5D



HT5034

This electrical connection box is supplied with type HT1011, HT1012 and HT1026.

HT5034



| Type | Specification |
|----------|--|
| HT1011 | Single step load sensing device, incl. electrical connection box |
| HT1012 | Dual step load sensing device, incl. electrical connection box |
| HT1013 | Solenoid control unit 24 V, for bow and stern thrusters, (12 V available to special order) |
| HT102311 | Single step solenoid control unit 24 V, for anchor windlass, (12 V available to special order) |
| HT102312 | Dual step solenoid control unit 24 V, for anchor windlass, (12 V available to special order) |
| BPJSTA | Joystick switch only for dashboard mounting |
| BPJSTH5 | Joystick only for hydraulic bow thrusters (5 positions) |
| BPJ5 | Bow thruster panel with joystick, for hydraulic bow thruster (5 positions) |
| BPJ5D | Bow thruster panel with two joysticks, for hydraulic bow and stern thruster (5 positions) |
| HT5034 | Electrical connection box |



PROPORTIONAL VALVES

HT1032/35

Proportional valve assembly for two thrusters and a windlass, in some cases mounted on an HT1010 tank.

HT1032

HT1035



Model HT1034 Proportional control joystick

Single joystick control.
The LED lights up when the joy-stick is opening the proportional valve.
The LED will go out when the joy-stick is in neutral.

The LED can be installed in one of the mounting holes of the joystick.

HT1034



| Thruster type | Valve type | Valve Assembly or Part Number | |
|---------------|------------------|-------------------------------|-------------------------|
| | | on/off-directional | Two stage, Load sensing |
| BOW55HMD | Direct operating | HT1013 | HT1012 |
| | Proportional | HT1032 | Not applicable |
| BOW95HMD | Direct operating | HT1013 | HT1012 |
| | Proportional | HT1032 | Not applicable |
| BOW160HMD | Direct operating | HT1013 | HT1012 |
| | Proportional | HT1032 | Not applicable |
| BOW230HMD | Direct operating | HT1013 | HT1012 |
| | Proportional | HT1032 | Not applicable |
| BOW310HMD | Direct operating | HT1013 | HT1012 |
| | Proportional | HT1032 | Not applicable |
| BOW410HM | Direct operating | Not applicable | Not applicable |
| | Proportional | HT1032 | Not applicable |
| BOW550HM | Direct operating | Not applicable | Not applicable |
| | Proportional | HT1032 | Not applicable |

Note HT1012 two stage, load-sensing valve set is supplied standard with an HT5034 electrical junction box.

For systems not incorporating an HT1011 or HT1012 load sensing valve, the HT5034 electrical junction box must be ordered separately, if required.

For systems including an HT1010 reservoir tank, one HT1013 on/off, directional valve is supplied standard with the tank, but the HT1012 two stage, load-sensing valve set must still be ordered separately. If the system incorporates two thrusters with proportional control, then an HT1035 dual valve assembly will be supplied, rather than two HT1032s.

For electronic control of any thruster, as required for integrated joystick systems, dynamic positioning/station holding systems, etc., proportional valves must be used, with connection heads specified for electronic compliance with the output of the electronic control system.

When a proportional valve such as the HT1032 is specified, the valve will be set up by Vetus to match the flow requirements of the thruster or other device. Without such an adjustment, control range may be drastically reduced. Please discuss this with your VETUS hydraulic support engineer when completing your order.

HYDRAULIC BOW AND STERN THRUSTERS

Type BOW..HMD

These are the thrusters for the most demanding of work situations and are available in power outputs of 55 Kilograms Force (Kgf), 95 Kgf, 160Kgf, 230Kgf, 310Kgf, 410Kgf and 550Kgf. They operate in hydraulics systems delivering flow rates ranging from 13 litres/3.4 U.S gallons per minute to 91 litres / 24 U.S. gallons per minute, at pressures ranging from 165 bar/ 2393 p.s.i. to 280 bar/4061 p.s.i., all depending on thruster model selected.

VETUS hydraulic thrusters are able to run continuously, although not as primary propulsion units. They delivery high power and great reliability, with no electrical connections at the thruster or pump(s) and they need little routine maintenance. These thrusters are available with several control heads, in three control regimens, including proportional control.

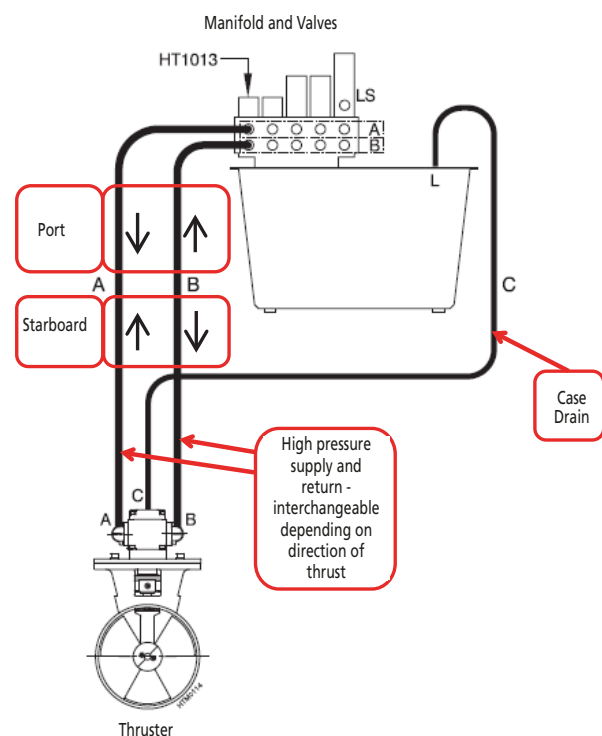
The skill and knowledge set required to plan, integrate and implement a hydraulic installation work is extensive, and includes all of the skills required to install electric thrusters and a lot more. Such work should not be undertaken by persons, however generally experienced in boat work, who have not received formal training in power hydraulics theory and practice. Access to local hydraulic hose and fitting suppliers is also essential for a well-organized and successful installation.

If an existing hydraulic system can deliver the pressure and flow required by the thruster(s) appropriate for your vessel, it is often possible to add VETUS thrusters to the system, but VETUS also offers complete hydraulic systems as described in this catalogue section.

Whether you buy a complete hydraulic system from VETUS, or just the thrusters, a VETUS customer support team member will review the entire system with you to ensure that your thrusters work well after installation.

See next page for specifications.

The connections and flow of oil for a thruster



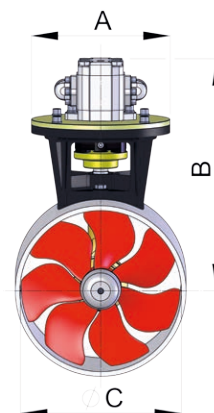
BOW..HMD

BOW..HM



HYDRAULIC BOW AND STERN THRUSTERS

| Type | Specifications |
|------------------|---|
| BOW55HMD | Hydraulic bow thruster 55 kgf incl. hydro motor 3,5 kW, for tunnel diam. 150 mm |
| BOW95HMD | Hydraulic bow thruster 95 kgf incl. hydro motor 6,0 kW, for tunnel diam. 185 mm |
| BOW160HMD | Hydraulic bow thruster 160 kgf incl. hydro motor 9,5 kW, for tunnel diam. 250 mm |
| BOW230HMD | Hydraulic bow thruster 230 kgf incl. hydro motor 12,5 kW, for tunnel diam. 300 mm |
| BOW310HMD | Hydraulic bow thruster 310 kgf incl. hydro motor 20,0 kW, for tunnel diam. 300 mm |
| BP1053 | Bronze propeller for BOW22024/BOW230HM |
| BP1182 | Bronze propeller for BOW300HM/310HM |



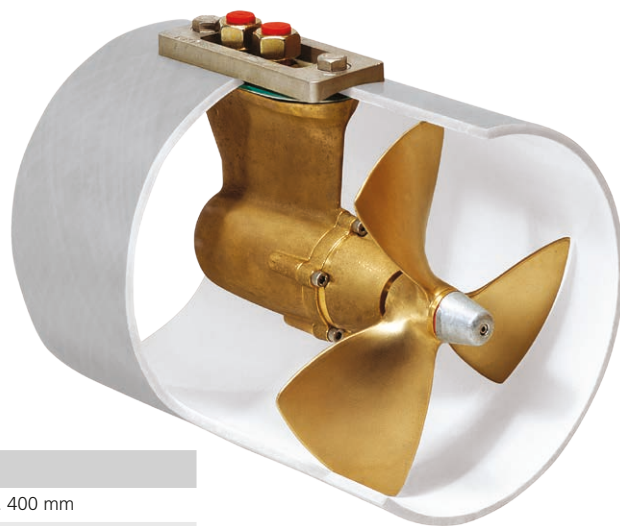
| Specifications | BOW55HMD | BOW95HMD | BOW160HMD | BOW230HMD | BOW310HMD |
|----------------------------------|-----------------|-----------------|-------------------|-------------------|-------------------|
| Thrust N (kgf) | 550 (55) | 950 (95) | 1600 (160) | 2300 (230) | 3100 (310) |
| Hydraulic motor power kW | 3,5 | 6,0 | 9,5 | 12,5 | 20 |
| Hydraulic motor speed rpm | 3000 | 4100 | 3300 | 1900 | 2000 |
| Hydraulic motor capacity cm³/rev | 4,2 | 4,2 | 8,4 | 16,8 | 27 |
| Flow rate l/min | 13 | 18 | 24 | 33,5 | 57 |
| Operating pressure bar | 165 | 230 | 250 | 230 | 220 |
| Internal tunnel diameter mm | 150 | 185 | 250 | 300 | 300 |
| A mm | 160 Ø | 200 Ø | 240 Ø | 258 Ø | 258 Ø |
| B mm | 258 | 276 | 345 | 431 | 455 |
| C mm | 150 Ø | 185 Ø | 250 Ø | 300 Ø | 300 Ø |

Type BOW410HM - BOW550HM

The hydraulic motor for types BOW410HM and BOW550HM is located within the tailpiece.

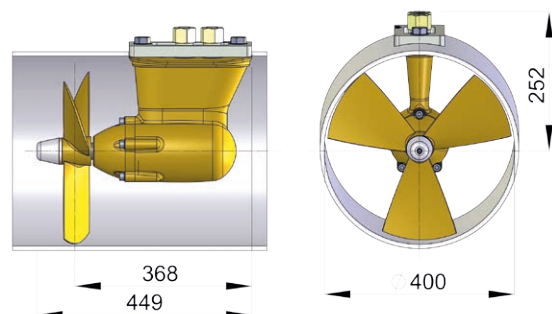
BOW410HM

BOW550HM



| Type | Specifications |
|-----------------|--|
| BOW410HM | Hydraulic bow thruster 410 kgf, incl. hydro motor 22 kW, for tunnel diam. 400 mm |
| BOW550HM | Hydraulic bow thruster 550 kgf, incl. hydro motor 33 kW, for tunnel diam. 400 mm |
| BP1259 | Bronze propeller for BOW410HM |
| BP160 | Bronze propeller for BOW550HM |

| Specifications | BOW410HM | BOW550HM |
|-----------------------------------|-------------------|-------------------|
| Thrust, N (kgf) | 4100 (410) | 5500 (550) |
| Hydraulic motor power, kW | 22 | 33 |
| Hydraulic motor speed, rpm | 1920 | 1920 |
| Hydraulic motor capacity, cm³/rev | 45 | 45 |
| Flow rate, l/min | 92 | 92 |
| Operating pressure, bar | 180 | 280 |
| Internal tunnel diameter, mm | 400 | 400 |



HYDRAULIC WINDLASSES

Each of these hydraulic windlasses and capstans is powered by a gerotor type hydraulic motor with a two high pressure ports. No separate case drain is required.

No electrical connections are required at the windlass or capstan. All electrical control connections are made at the control valves, most frequently located at the hydraulic reservoir tank, in or near the engine room.

Hydraulic port sizes and hydraulic hose type and diameters will be provided by your VETUS hydraulic support engineer.

As with all Maxwell windlasses, the maximum pull should equal or exceed three times the total weight of the ground tackle (chain and anchor).

Please see the Maxwell windlass section of this catalogue for details of the chainwheel and warping drums, as these are common to both electric and hydraulic windlasses. In that catalogue section you will also find information about bow rollers, chain stoppers, anchors, chains, rodes and many other anchoring system components.



Maxwell hydraulic windlasses and capstans

| Type Windlass | Maximum Pull | | Chain size if applicable inch - mm | Rope size if applicable inch - mm | Hydraulic Flow | | Hydraulic Pressure | | Weight - topworks, gearbox, motor | |
|----------------------|--------------|--------|---|--|-------------------|---------------------------|--------------------|------|--------------------------------------|--------|
| | Kg | Pounds | | | Litres/ minute | US. Gallons/ minute | bar | psi | Kg | Pounds |
| RC8-8 | 600 | 1320 | 5/16 - 8 | 5/8 - 16 | 20 | 5.3 | 138 | 2000 | 10.5 | 23 |
| RC10-8 | 700 | 1540 | 5/16 - 8 | 5/8 - 16 | 20 | 5.3 | 138 | 2000 | 13.6 | 30 |
| RC10-10 | 850 | 1870 | 3/8 - 10 | 5/8 - 16 | 20 | 5.3 | 138 | 2000 | 14 | 31 |
| RC12-10 | 1134 | 2500 | 3/8 - 10/11 | 5/8 - 3/4-16/20 | 42 | 9.5 | 138 | 2000 | 26 | 57 |
| RC12-12 | 1590 | 3500 | 1/2 - 12/13 | 3/4 - 20 | 42 | 11 | 138 | 2000 | 26 | 57 |
| HRC10-8 | 700 | 1540 | 5/16 - 8 | 5/8 - 16 | 20 | 5.3 | 138 | 2000 | 13 | 28.5 |
| HRC10-10 | 850 | 1870 | 3/8 - 10 | 5/8 - 16 | 20 | 5.3 | 138 | 2000 | 13 | 28.5 |
| VC1000 | 700 | 1540 | N/A | | 20 | 5.3 | 100 | 1430 | 11 | 24 |
| VW1000 | 700 | 1540 | 1/4 to 3/8 - 6- 10 | | 20 | 5.3 | 100 | 1430 | 15 | 34 |
| VW1500 | 850 | 1870 | 1/4 to 3/8 - 6- 10 | | 20 | 5.3 | 138 | 2000 | 15 | 34 |
| VW2500 | 1135 | 2500 | 5/16 to 3/8 -9-11 | | 36 | 9.5 | 138 | 2000 | 32 | 70 |
| VW3500 | 1590 | 3500 | 3/8 to 1/2 -10-13 | | 42 | 11 | 138 | 2000 | 40 | 88 |
| VWC1000 | 700 | 1540 | 1/4 to 3/8 - 6- 10 | | 20 | 5.3 | 100 | 1430 | 17 | 37 |
| VWC1500 | 850 | 1870 | 1/4 to 3/8 - 6- 10 | | 20 | 5.3 | 138 | 2000 | 17 | 37 |
| VWC2500 | 1135 | 2500 | 5/16 to 3/8 -9-11 | | 36 | 9.5 | 138 | 2000 | 32 | 70 |
| VWC2500 Tall Drum | 1135 | 2500 | 5/16 to 3/8 -9-11 | | 36 | 9.5 | 138 | 2000 | 32 | 70 |
| VWC3500 | 1590 | 3500 | 3/8 to 1/2 -10-13 | | 42 | 11 | 138 | 2000 | 40 | 88 |
| HWC2500 | 1135 | 2500 | 5/16 to 3/8 -9-11 | | 36 | 9.5 | 138 | 2000 | 48.5 | 107 |
| HWC3500 | 1590 | 3500 | 3/8 to 1/2 -10-13 | | 40 | 11 | 138 | 2000 | 49 | 107 |



POWERPACK

Hydraulic Powerpack

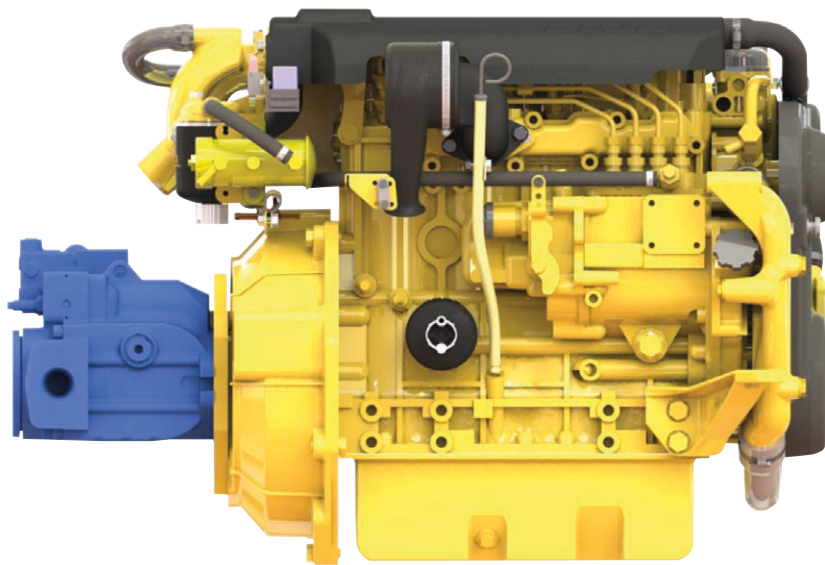
A stand-alone diesel engine with a hydraulic pump, dedicated to driving a hydraulic system

Although most hydraulic systems will use the propulsion engines or genset engine as the prime mover, there are some circumstances where a Powerpack is necessary or more economical to operate, including:

- When adequate power for hydraulic applications is not available from propulsion or genset engines
- When running large propulsion engines or genset engines to power relatively small hydraulic power needs consumes excessive quantities of fuel, is uneconomical and over time, damaging to the propulsion or genset engines through under-loading
- When station holding can be accomplished by thrusters only without running main propulsion engines
- On some towed workboats and barges which do not have propulsion engines but which can be maneuvered around a worksite on thrusters only
- When some functions conventionally powered by electricity can be driven hydraulically, substantially reducing genset size
- When propulsion transmission is completely hydraulic, as in some single engine catamarans
- When a hydraulically driven "pony" shaft and feathering propeller is installed in the hull as a "get-you-home" drive to save the day in the event of main engine failure. (This concept is also particularly useful (and comforting) on single engine trawlers and similar vessels equipped with PTO fitted gensets.)

Typically a VETUS Powerpack will consist of an M or VH series diesel engine with an appropriately sized hydraulic pump (variable volume, load-sensing or vane type depending upon the application) mounted on an adaptor plate in place of a gearbox. VETUS diesel engines meet all European emission requirements but at the time of publication of this catalogue are not EPA certified for use in the USA or Canada. If the Powerpack is entirely devoted to propulsion, then its diesel engine will be controlled by a throttle lever, but in a multiple user-device system with a load sensing pump an electronic control will be fitted to the Powerpack engine.

As with all VETUS hydraulic systems, a customer support engineer will work with you to configure the Powerpack and related systems to suit your vessel and its needs.



ACCESSORIES INCLUDED AS STANDARD WITH A VETUS POWERPACK

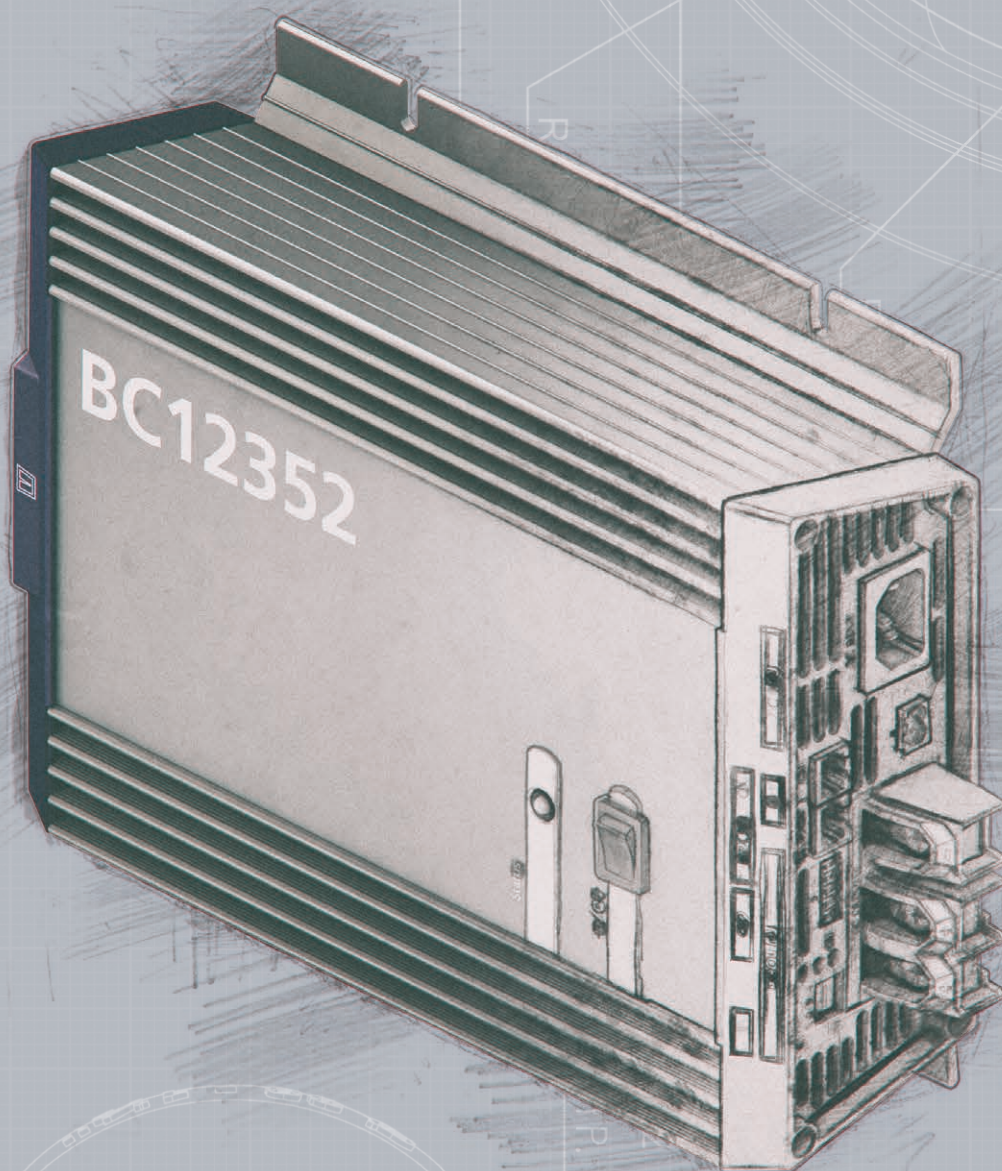
Four flexible engine mounts, see page 48.



Motor engine start panel and cable loom type MP22. Optional additional panels for a second station are available. See page 103.



ELECTRICITY ON BOARD



Overview VETUS electricity on board

Diesel generators, see page 205



Inverters, see page 207



Battery chargers, see page 209



Battery charger/maintainer, see page 210



Battery splitters, see page 210



Batteries, see page 211



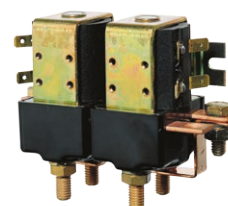
Automatic change-over device, see page 214



Battery watch, see page 215



Accessories, see page 216



ELECTRICITY ON BOARD

Electricity on board not only has an important role in creating comfortable living conditions, but also plays a vital part in safe operations. A pleasant stay on board is dependent on reliable electrical power. VETUS supplies a wide range of products that will exceed your expectations when it comes to electricity on board. Whenever you need power, you can rely on VETUS.

VETUS offers the following electrical system components

Generator sets

When high capacity power supply is needed. All VETUS generators are supplied as standard with a complete exhaust and water intake system and a remote control panel.

Batteries

VETUS offers 2 different types of batteries: The SMF (Sealed Maintenance Free) and the AGM (Absorbed Glass Mat) marine battery series. These very low self discharge batteries are designed to live up to the varying seasonal demands on a battery which is used on board.

Battery chargers and splitters

Providing optimum simultaneous charging with lower cost, faster installation time, fewer cables and more space.

Inverters

Compact and lightweight inverters to power many items of electrical and electronic equipment.

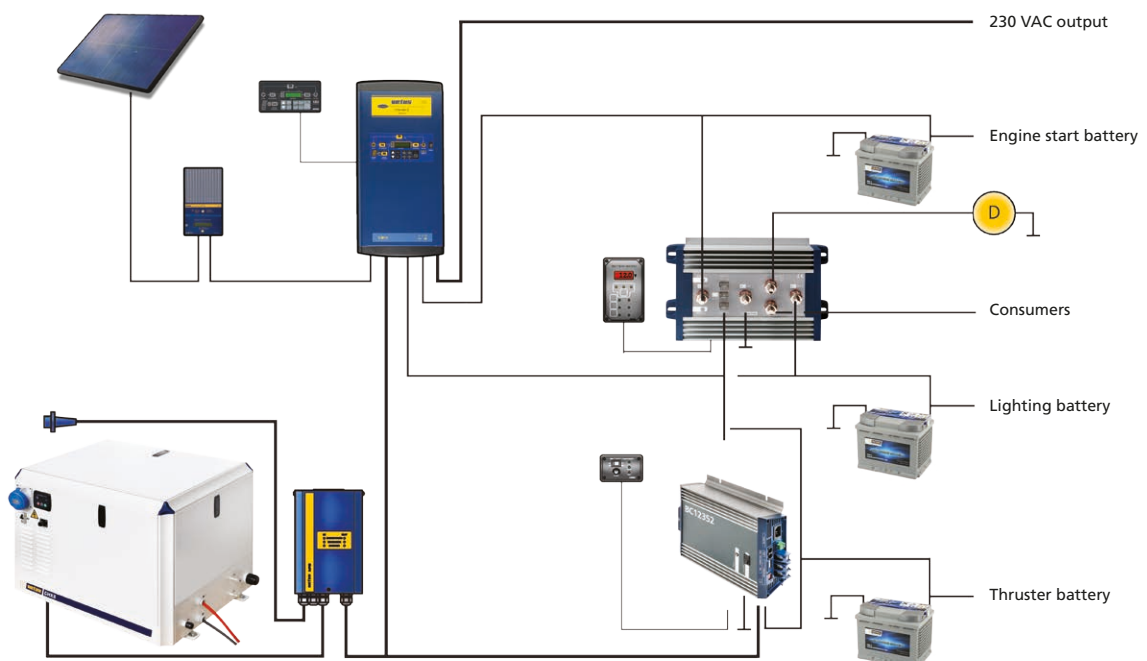
Solar charger

Popular supplement to the charging system on boats. Economical and environmentally friendly way to top up your on board power supply. Can be used as a stand-alone charger or in combination with the Combi-gamma charger/inverter.

Why VETUS electricity on board

Below we have highlighted a few good reasons to consider VETUS electricity on board

- All VETUS electricity on board products meet the EMC requirements
- VETUS is the only manufacturer of a combined battery charger and battery splitter
- The Combi-gamma has a load support function which regulates all the supply sources
- A power protection function prevents overloading the shore supply or generator
- Uninterrupted power supply (UPS) switches in the inverter in case of generator failure
- And much more!



DIESEL GENERATOR SETS

GX series generator sets

Reliable, easy to maintain and exceptionally quiet!

VETUS GX generators range from 6 kVA to 20 kVA and are available in a choice of 50 or 60 Hertz outputs. The base engines are carefully selected for power output and fuel economy, depending on the speed and output of the generator to be driven.

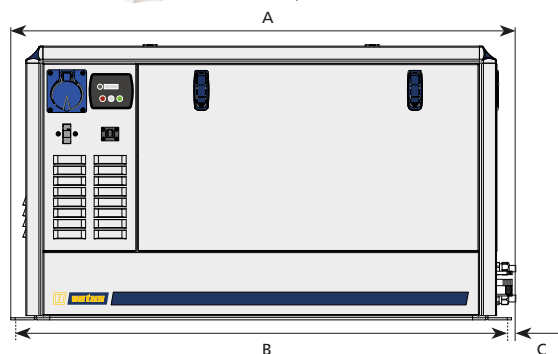
These generator sets operate at fixed engine speeds and can be placed even in the most confined spaces because of their compact dimensions and lower weight. The high quality of design, insulation and finish of the generators used in this range, guarantee a long reliable life time.

Characteristics

- Reliable, highly fuel efficient engines are used - marinised in-house!
- Sturdy aluminium engine cover acts as a sound barrier
- Very clean sine wave, low signal noise < 3% and overload protected
- Easy installation and maintenance - high serviceability!
- Pre-installed connections for battery cables, fuel supply / return, exhaust and raw water
- Comes with a remote control panel (MPRGEN) including six metre cable

Specifications

- Generator sets from 6 kVA to 20 kVA
- 50 or 60 Hertz output
- High speed (3000 / 3600 rpm) and low speed (1500 / 1800 rpm) types available
- Single phase (120 - 230 V) and three phase (240 - 400 V)



Specifications

- Maximum voltage variance: plus or minus 2%
- Protection: IP55
- Max. ambient temperature: 40°C
- Max. raw water temperature: 30°C
- Noise level (GLX) with sound-proof box: 57 dB(A)
- Noise level (GHX) with sound-proof box: 65 dB(A) / 68 dB(A)
- Max. cont. angle of inclination:
fore and aft: 15° athwartships: 25°



MPRGEN



Dimensions

| | GLX 6/7 SIC/TIC | GHX 8/9 SIC/TIC | GHX 14/17 SIC | GHX 14/17 TIC | GLX 14/17 SIC | GLX 14/17 TIC |
|--------|-----------------|-----------------|---------------|---------------|---------------|---------------|
| A (mm) | 927 | 884 | 1082 | 1082 | 1172 | 1172 |
| B (mm) | 887 | 844 | 1042 | 1042 | 1132 | 1132 |
| C (mm) | 20 | 20 | 20 | 20 | 20 | 20 |
| D (mm) | 657 | 659 | 659 | 659 | 659 | 659 |
| E (mm) | 297 | 327 | 327 | 327 | 327 | 327 |
| F (mm) | 644 | 571 | 641 | 641 | 644 | 641 |
| G (mm) | 165 | 150 | 150 | 150 | 150 | 150 |

DIESEL GENERATOR SETS

| Type | Power kVA | Engine speed (rpm) | Frequency (Hz) | Phases | Voltage | Weight (kg) | Engine type |
|-----------------|-----------|--------------------|----------------|--------|-------------|-------------|--------------|
| 50 Hertz | | | | | | | |
| GHX8SIC | 8 | 3000 | 50 | Single | 230 | 185 | VETUS M2.18 |
| GHX8TIC | 8 | 3000 | 50 | Three | 3 x 230/400 | 185 | VETUS M2.18 |
| GHX14SIC | 14 | 3000 | 50 | Single | 230 | 295 | VETUS M3.29 |
| GHX14TIC | 14 | 3000 | 50 | Three | 3 x 230/400 | 295 | VETUS M3.29 |
| 60 Hertz | | | | | | | |
| GLX6SIC | 6 | 1500 | 50 | Single | 115 or 230 | 245 | VETUS M3.29 |
| GLX6TIC | 6 | 1500 | 50 | Three | 3 x 230/400 | 245 | VETUS M3.29 |
| GLX14SIC | 14 | 1500 | 50 | Single | 115 or 230 | 395 | VETUS M4.45 |
| GLX14TIC | 14 | 1500 | 50 | Three | 3 x 230/400 | 395 | VETUS M4.45 |
| GLX20TIC | 20 | 1500 | 50 | Three | 3 x 230/400 | n.a. | VETUS H4.65 |
| 60 Hertz | | | | | | | |
| GHX9SIC | 9 | 3600 | 60 | Single | 120 or 240 | 185 | VETUS M2.18 |
| GHX9TIC | 9 | 3600 | 60 | Three | 3 x 240/415 | 185 | VETUS M2.18 |
| GHX17SIC | 17 | 3600 | 60 | Single | 120 or 240 | 295 | VETUS M3.29 |
| GHX17TIC | 17 | 3600 | 60 | Three | 3 x 240/415 | 295 | VETUS M3.29 |
| 60 Hertz | | | | | | | |
| GLX7SIC | 7 | 1800 | 60 | Single | 120 or 240 | 245 | VETUS M3.29 |
| GLX7TIC | 7 | 1800 | 60 | Three | 3 x 240/415 | 245 | VETUS M3.29 |
| GLX17SIC | 17 | 1800 | 60 | Single | 120 or 240 | 395 | VETUS M4.45 |
| GLX17TIC | 17 | 1800 | 60 | Three | 3 x 240/415 | 395 | VETUS M4.45 |
| GLX24TIC | 24 | 1800 | 60 | Three | 3 x 240/415 | n.a. | VETUS VH4.65 |

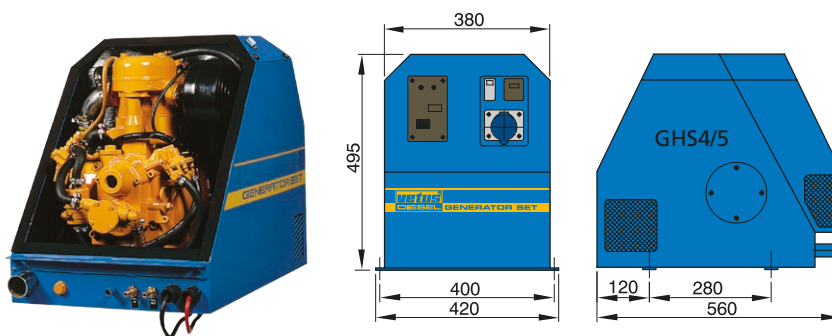
Other voltages on request

GHS4/5

Specifications

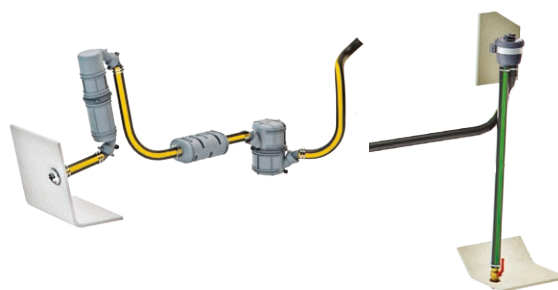
4 - 5 kVA

- Maximum voltage variance: plus or minus 2%
- Protection: IP55
- Max. ambient temperature: 40°C
- Max. raw water temperature: 30°C
- Noise level with sound-proof box: 70 dB(A)
- Max. cont. angle of inclination: fore and aft: 15° athwartships: 25°



| Type | Power kVA | Engine speed (rpm) | Frequency (Hz) | Phases | Weight (kg) | Voltage | Engine type |
|------|-----------|--------------------|----------------|--------|-------------|------------|-------------|
| GHS4 | 4 | 3000 | 50 | Single | 95 | 230 | F1.03 |
| GHS5 | 4.5 | 3600 | 60 | Single | 95 | 120 or 230 | F1.03 |

Our generators meet the EMC Low Voltage and machine requirements when mounted in a sound enclosure. They are standard supplied with an exhaust and water intake system and a remote control panel. Please see table above for our wide range of generators.



INVERTERS

Sine wave inverters and control panel, type IV

Type IV is a very compact and lightweight inverter which produces a pure sine wave using high frequency technology.

All VETUS inverters have a shore power connection, a built-in UPS (uninterruptable power supply) function and LED bar for indication of the battery voltage and power consumption. Whenever the shore power is disconnected, the inverter will immediately switch over the power supply without affecting the connected equipment.

The inverter is protected against overload, high or low battery voltage, high temperature and short-circuit.

Characteristics

- High peak power (a 3 kW inverter can produce 3.9 kW for up to 30 minutes)
- Universal AC outlet socket, compatible with all plugs worldwide
- 200 - 240 V 50/60 Hz selectable

Optional

By adding a remote control panel the inverter can be switched on and off from a distance, it can show the battery voltage and AC output status, the power output and the alarm functions.



IV



IVPANEL



(Multi connector AC-out)



| Type | IV60012 | IV100012 | IV150012 | IV200012 | IV300012 | IV60024 | IV100024 | IV150024 | IV200024 | IV300024 |
|---------------------|--|--------------|---------------------|--------------|---|--|----------------|--------------|----------------|--------------|
| input | Nominal battery voltage | | | | | 10 to 16 V | | | | |
| | Max. input current at 10.5 resp. 21 Volt and Phom. | | | | | 20 to 32 V | | | | |
| output | 67 A | 112 A | 167 A | 223 A | 334 A | 34 A | 56 A | 84 A | 112 A | 167 A |
| | Voltage | | | | | Adjustable: 200, 220, 230, or 240 V AC (+/-2%) | | | | |
| | Frequency | | | | | Adjustable: 50 Hz or 60 Hz (+/- 0,05%) | | | | |
| | Wave shape | | | | | Sinus, total harmonic distortion < 3% | | | | |
| | Nominal power | | | | | Continuous at cos phi=1, at a maximum inverter temperature of 75°C | | | | |
| | 600 W | 1000 W | 1500 W | 2000 W | 3000 W | 600 W | 1000 W | 1500 W | 2000 W | 3000 W |
| | 60 min. 105-110% | | 30 min. 120-130% | | 10 min. 140-145% | | 5 sec. 150% | | 1 sec. 200% | |
| | Cos phi | | | | | All types of load are permitted | | | | |
| | Efficiency | | | | | 83 - 85% | | | | |
| | Input voltage UPS mode | | | | | 180 - 245 V AC, Switch time < 3msec. | | | | |
| Ambient temperature | | | | | During storage: -30°C to +70°C / During use: 0°C to +50°C (inverter temp. 75°C) | | | | | |
| Relative humidity | | | | | Max. 95 %, condensation-free (all printed circuit boards are coated) | | | | | |
| Protection class | | | | | IP20 | | | | | |
| Dimensions (mm) | 350x285 x120 | 400x285 x120 | 450x285 x120 | 420x285 x185 | 490x285 x185 | 350x285 x120 | 400x285 x120 | 450x285 x120 | 420x285 x185 | 490x285 x185 |
| Weight | 5.3 kg | 6.6 kg | 7.5 kg | 11 kg | 13 kg | 5.3 kg | 6.6 kg | 7.5 kg | 11 kg | 13 kg |

COMBI-GAMMA

Type COMBI-γ

Multi-function Inverter Charger

The VETUS COMBI can be used as an inverter and a battery charger. In combination with a VETUS solar charger, the Combi-γ unit can exchange data and control the current supply, as well as the charging characteristics.

This battery charger has a four-stage function: boost, absorption, float and equalize.

Extra features

- Power control: Selecting the maximum input current from the shore supply or 'genset', to ensure that the circuit breaker on the shore supply or generator will not trip
- Power Manager: The Power Manager function controls and regulates the entire power supply. If you need more power, the Power Manager will automatically switch in the inverter, in order to supply the required power. One 3 kW Combi-γ unit will therefore supply a total of 6kW (3kW via the inverter function and a further 3 kW from the shore supply or the generator)
- Uninterrupted Power Supply (UPS): This function will switch in automatically, when the shore power supply fails
- Parallel connection: Easily connecting up to 5 COMBI units in parallel via parallel box model CGP (to be ordered separately)
- 3-Phase functionality: Achieving a total output of 45kW by using 3kW COMBI'S (CG3PH)



COMBI

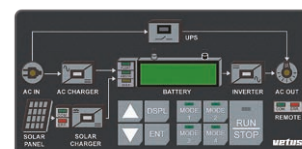
Remote control panel for Combi- γ "

This panel displays the following information

- AC input and output voltage and current
- Battery voltage, current and power consumption
- Charging voltage and charging current levels of Combi-γ and solar charger
- UPS status
- Multifunctional relay status
- Alarms

It also controls

- Inverter, battery charger, solar charger ON/OFF
- Switching levels
- Charge voltage and current
- Relays
- Parallel 3-phase configuration
- AC output voltage and frequency



GAMPANEL

| VETUS “Combi-γ”, model | | COMBI1512 | COMBI3012 | COMBI1524 | COMBI3024 |
|----------------------------|--|--|----------------------|----------------------|---------------|
| Inverter | | | | | |
| input | Nominal battery voltage | 10-16 V | | 20-32 V | |
| | Max. input current at 10.5V resp. 21V and Pnom | 167 A | 334 A | 84 A | 167 A |
| output | Voltage | Adjustable: 185-240 V AC | | | |
| | Frequency | Adjustable: 50 of 60 Hz ± 0.1% | | | |
| | Wave shape | Pure sine, total harmonic distortion < 3% | | | |
| | Nominal power | Continuous at cos phi =1, at a max. inverter temperature of 75°C | | | |
| | | 1500 W | 3000 W | 1500 W | 3000 W |
| | Peak power | 60 min 105 - 110% | 30 min 120 - 130% | 10 min 140 - 135% | 5sec. 150% |
| Cos phi (power factor) | | All types of load are permitted | | | |
| Battery charger | | | | | |
| input | Voltage | 200-250 V AC | | | |
| | Frequency | 45-55 Hz or 55-65 Hz | | | |
| | Cos phi (power factor) | 1 | | | |
| output | Charging Current | Adjustable | | | |
| | Maximum charging current | 70 A | 120 A | 40 A | 70 A |
| | Charging current starter battery | 4 A | | | |
| General | | | | | |
| Input power in UPS mode | | 180 -245, switch-over time < 3 msec. | | | |
| Max. switching current UPS | | 16 A | 30 A | 16 A | 30 A |
| Max. current Power Control | | 10 A | 20 A | 10 A | 20 A |
| Multifunctional relay | | 3x | | | |
| Ambient temperature | | During storage: -30°C to +70°C. During use: 0°C to +50°C (inverter temp. 75°C) | | | |
| Relative humidity | | Max. 95%, condensation-free (all printed circuit boards are coated) | | | |
| Protection class | | IP20 | | | |

BATTERY CHARGERS

Type BC

Especially designed for marine use

These new battery chargers have a four stage IUoU charge programme:

In the first Bulk charge stage, the battery receives a continuous maximum current charge. Once the battery is recharged to approximately 75% of its full capacity, the charger switches automatically to a constant voltage Absorption stage for the remaining 25%.

When the battery is fully charged, the charger will maintain this charge phase for 15 minutes (providing the charge is under 6.25 % of the full charge current) and then switches over to the Float charge stage. In this stage the battery charger maintains the full charge without overloading the battery. It compensates for self-discharge and "floats" any loads on the battery.

After being in the float stage for 12 days, the charger implements the final Reconditioning stage. In this stage the charger will switch to the Bulk stage for 85 minutes only, to ensure that the battery stays in optimum condition. With easy access dipswitches, the maximum charge voltage can be adapted to suit the type of battery being charged. These chargers are suitable for all AC power sources from 90 V to 265 V. The active Power Factor Correction feature takes care of any unwanted line disturbances.

VETUS battery chargers are extensively tested, including a 2G vibration test, to meet our quality standards and ensure long term operation. These new chargers are compatible with Lead Acid, Li-ion, Gel and AGM batteries, and can be connected to a remote control panel (BCRP) and a battery temperature sensor (BCTS). The chargers have a separate alarm contact and the fan speed can be adjusted for comfort reasons.

A trickle charger with maximum output of 2A is provided on models BC12151, BC12252 and BC12352.

Specifications

- Universal AC input with active PFC (90 – 264 VAC)
- Compatible with Lead Acid, Li-ion, Gel and AGM batteries
- Remote control panel BCRP available as optional accessory
- Optional battery temperature sensor BCTS
- Voltage/temperature compensation
- High efficiency and high reliability
- Protection against short circuit/over voltage/over temperature



BC12...

BC24...

| Type | Dimensions W(A) x H(B) x D(C) (mm) | Standard Boost Charge Voltage (V) | Standard Float Charge Voltage (V) | Main Rated Current (A) | Single Output Current Limit (A) | Main Output (ESB) |
|---------|--|---|---|------------------------------|---------------------------------------|-------------------------|
| BC12151 | 205 x 84 x 259 | 14.4V / 14.7V | 13.8 / 13.5 | 15 | 15 | 1 (1) |
| BC12252 | 205 x 84 x 259 | 14.4V / 14.7V | 13.8 / 13.5 | 25 | 25 | 2 (1) |
| BC12352 | 205 x 87 x 279 | 14.4V / 14.7V | 13.8 / 13.5 | 35 | 35 | 2 (1) |
| BC24122 | 205 x 84 x 259 | 28.8V / 29.4V | 27.6 / 27 | 12.5 | 12.5 | 2 |
| BC12503 | 237 x 90 x 288 | 14.4V / 14.7V | 13.8 / 13.5 | 50 | 40 | 3 |
| BC24253 | 237 x 90 x 288 | 28.8V / 29.4V | 27.6 / 27 | 25 | 25 | 3 |
| BC12803 | 237 x 90 x 328 | 14.4V / 14.7V | 13.8 / 13.5 | 80 | 40 | 3 |
| BC24403 | 237 x 90 x 328 | 28.8V / 29.4V | 27.6 / 27 | 40 | 40 | 3 |



BCRP



BCTS

TRICKLE CHARGER / BATTERY MAINTAINER

Type BC12051

Intelligent charging in 5 stages

BC12051 controls the battery charging in 5 stages ensuring optimal performance from your batteries. It has an Ingress Protection Rating IP65, so it is dust, splash and rainproof.

- Stage 1** (desulfation): Recuperates a deeply discharged or lightly sulphated battery
- Stage 2** (boost charger): Charges the battery to 75% in the fastest and sufficient way
- Stage 3** (equalisation and analysis): Pulse charge at lower current to almost full charge
- Stage 4** (top-off): Fully charges the battery without overcharging
- Stage 5** (float): Maintains the battery in full-charge status

Specifications

- Dimensions L 160 x W 960 x H 540 mm
- Weight 0,85 kg
- Charging voltage (max.) 14,8V / currents (max.) 5A
- Battery capacity up to 100Ah
- Ambient temperature -20° to +50°C
- AC Voltage input 220-240 VAC, 50/60Hz
- AC and DC cable length 1,83 m



BC12051

| Type | Description |
|---------|------------------------------------|
| BC12051 | 5-stage battery charger/maintainer |

Battery splitter type BS

For optimal charging and maintenance

VETUS battery separators or splitters simultaneously charge 2 or 3 battery banks from any charging source with negligible voltage drop due to the use of mosfet transistors instead of diodes. One down/discharged battery cannot discharge another battery. This battery splitter ensures automatic distribution of the charging current from the alternator and/or battery charger. Once the engine has started, the alternator will automatically recharge all banks of batteries. The VETUS battery separators feature an auxiliary connection which provides feedback to voltage sensed alternators.

Specifications

- Suitable for 12 and 24 Volt installations, 2 or 3 battery banks and 1 or 2 alternators
- Maximum charging current 150A
- Input 8-30 Volt DC

| Type | Number of inputs | Number of outputs | Maximum charging current (A) | Input voltage V (DC) | Weight (kg) |
|----------|------------------|-------------------|------------------------------|----------------------|-------------|
| BS1502C | 1 | 2 | 150 | 8-30 | 1,0 |
| BS1503C | 1 | 3 | 150 | 8-30 | 1,2 |
| BS15032C | 2 | 3 | 150 (2x) | 8-30 | 1,3 |



BS1502C

BS1503C

BS15032C

BATTERIES

VETUS batteries

Specially designed for use aboard pleasure craft

VETUS batteries are designed with consideration of the varying seasonal demands of boating. During the winter months the battery will mostly be unused, therefore the batteries have a minimal rate of self-discharge and can still be relied on to start the engine again the following season. We strongly advise the use of a float charger during winter storage. During the boating season, the batteries are able to supply both small constant loads as well as heavy but short loads for the use of a bow thruster. VETUS offers 2 different types of marine battery series with its own characteristics. To help you select the best battery for a specific purpose, please refer to the battery chart.

The SMF (Sealed Maintenance Free) series

Maintenance free, no need to be refilled!

- Sealed and maintenance free
- Lids which internally re-generate any gas the occurs during use or charging
- Construction based on use of lead-calcium plates which reduce water usage
- Models VESMF60, 70, 85 and 105 are equipped with a 'magic eye' which indicates the state of charge
- Manufactured in the EU



Specifications VETUS SMF batteries

| Type | VESMF60 | VESMF70 | VESMF85 | VESMF105 | VESMF125 | VESMF145 | VESMF165 | VESMF200 | VESMF220 |
|------------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Voltage | 12 V | 12 V | 12 V | 12 V | 12 V | 12 V | 12V | 12V | 12V |
| Capacity C20 | 60 Ah | 70 Ah | 85 Ah | 105 Ah | 125 Ah | 145 Ah | 165 Ah | 200 Ah | 220 Ah |
| Cold Cranking Amps CCA (EN) | 540 A | 640 A | 680 A | 710 A | 950 A | 1050 A | 1250 A | 1300 A | 1400 A |
| Reserve capacity in minutes at 25A | 93 | 110 | 165 | 190 | 230 | 301 | 322 | 431 | 445 |
| Dimensions LxBxH | 242x175x175 | 278x175x175 | 350x175x175 | 350x175x230 | 513x189x220 | 513x223x223 | 518x223x223 | 518x276x242 | 518x276x242 |
| Weight (kg) | 13,8 | 16,2 | 19,6 | 25,6 | 34,4 | 39,9 | 43,8 | 54,5 | 56,2 |
| BATBOX | S | M | L | L | - | - | - | - | - |

The AGM (Absorbed Glass Mat) series

Multipurpose marine batteries with long life spans

- Sealed VRLA and maintenance free (does not contain any free electrolyte)
- Electrolyte is absorbed by glass fibre mat separators between battery plates
- Leakage-free even when the battery is dropped and the casing is damaged
- Battery can even be shipped by airfreight
- Manufactured in the EU



Specifications VETUS AGM marine batteries

| Type | VEAGM60 | VEAGM70 | VEAGM90 | VEAGM100 | VEAGM140 | VEAGM170 | VEAGM185 | VEAGM220 |
|------------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Voltage | 12 V | 12 V | 12 V | 12 V | 12 V | 12 V | 12V | 12V |
| Capacity C20 | 60 Ah | 70 Ah | 90 Ah | 100 Ah | 140 Ah | 170 Ah | 185 Ah | 220 Ah |
| Capacity C5 | 43 Ah | 50 Ah | 67 Ah | 75 Ah | 115 Ah | 135 Ah | 155 Ah | 185 Ah |
| Cold Cranking Amps CCA (EN) | 530 A | 680 A | 800 A | 760 A | 1100 A | 1300 A | 1400 A | 1500 A |
| Reserve capacity in minutes at 25A | 103 | 125 | 175 | 210 | 267 | 336 | 383 | 496 |
| Dimensions LxBxH | 242x175x190 | 278x175x190 | 355x175x190 | 345x175x230 | 513x189x223 | 513x223x223 | 518x274x242 | 518x274x242 |
| Weight (kg) | 16,5 | 19,3 | 25,2 | 29,2 | 41,8 | 49 | 57,4 | 60 |
| BATBOX | S | M | L | L | - | - | - | - |

BATTERIES

Battery selection chart

| | SMF Marine Battery | AGM Marine Battery |
|---------------------|-----------------------|-----------------------|
| Application | | |
| Engine starting | xxxx | xxx |
| Generator starting | xxxx | xxxx |
| Bow thruster | xxx | xxx |
| Anchor windlass | xxxx | xxxx |
| Pumps | xxx | xxx |
| Use with inverter | xx | xxx |
| Refrigeration | x | xxx |
| Air conditioning | x | xxx |
| Lighting | x | xxx |
| Electric propulsion | x | xxx |

x Not recommended
 xx Suitable
 xxx Recommended
 xxxx Highly recommended

Battery selection chart

| | SMF Marine Battery | AGM Marine Battery |
|-----------------------------------|-----------------------|-----------------------|
| General | | |
| Maintenance free | ✓ | ✓ |
| Deep discharge | - | xxx |
| Typical life span | 7-8 years | 7-10 years |
| Number of cycles - %age discharge | 350 - 35% | 375 - 80% |
| Self discharge | < 3% per month | < 3% per month |
| Electrolyte | Wet acid | Absorbed glass mat |
| Plate materials | Lead - calcium | Lead - calcium |
| VRLA (pressure relief vent) | ✓ | ✓ |
| Series connection allowed | ✓ | ✓ |
| Parallel connection allowed | ✓ | ✓ |
| Safe transportation | ✓ | ✓ |
| Maximum angle in use | 55° | 55° |
| Maximum installation angle | 0° | 0° |
| Charging with standard charger | ✓ | ✓ |

Battery boxes type BATBOX

For all VETUS batteries

VETUS battery boxes are made of polypropylene and come in 3 different sizes. Please see table below.

| Type | | Internal dimensions LxBxH (mm) |
|---------|----------------------|--------------------------------|
| BATBOXS | Battery box - small | 255 x 180 x 195 |
| BATBOXM | Battery box - medium | 350 x 180 x 195 |
| BATBOXL | Battery box - large | 360 x 175 x 230 |

Recommended battery box by battery

| BATBOXS | BATBOXM | BATBOXL |
|---------|---------|----------|
| VESMF60 | VESMF70 | VESMF85 |
| VEAGM60 | VEAGM70 | VESMF105 |
| | | VEAGM90 |
| | | VEAGM100 |



BATBOX

BATTERIES



General information

Battery poles and pole clamps

The battery poles on all VETUS 12 Volt batteries are tapered posts. For connecting cables we recommend the use of VETUS battery terminal set. These are available with a cable clamp (up to 95 mm² cable) or with a M10 bolt connection to connect a cable tag. See page 218. When installing the battery terminal, it needs to be opened wide enough to be placed over the battery pole. Do not try to force the clamp onto the pole using a hammer. This can damage the battery and affect both its life span and performance.

VRLA

VETUS AGM are VRLA (Valve Regulated Lead Acid) type batteries. This means that under normal usage conditions, batteries of this type are sealed. In the event of a problem caused by external short circuit or charging at excessive voltage, the electrolyte may evaporate. In extreme circumstances over pressurisation of the battery will occur and a small pressure relief valve will open for safety purposes.

Electrolyte

Electrolyte is the substance in a battery which transports electrons between the positive and negative poles. This electrolyte is in liquid form in the Sealed Maintenance Free batteries. In AGM batteries it is absorbed by glass fibre mats between the plates.

Filling and charging

All VETUS batteries come filled and ready charged.

Transport

All VETUS batteries are provided with carrier handles. The larger batteries are quite heavy (40-60 kgs) and need to be handled by two persons. When moving these batteries over a large distance or height, we strongly recommend the use of mechanical assistance.

Safety

Smoking near batteries is to be strongly discouraged. Batteries may cause high inflammable explosive gases. It is recommended to wear protective clothing when working with batteries. When placing batteries into position the poles must be covered in order to avoid short circuit caused by external factors. When installing batteries, a gas discharge needs to be fitted to the battery or battery box.

Environment and recycling

VETUS kindly asks all customers to be environmentally aware when disposing of batteries. The materials used in batteries, such as acid, lead, plastics etc. are not environmentally friendly. When replacing a battery, the old one should always be disposed of with environmental awareness. If you wish to return your old battery (of any make) to VETUS, we will take care of the recycling follow up. When a battery is returned for recycling, almost 99% of it can be reused. This makes a lead-acid battery one of the most environmentally friendly products in the world!



AUTOMATIC CHANGE-OVER DEVICE

Type IVPS

Constantly monitoring voltage range and power supply

If the power from the shore supply is disconnected or the generator output falls outside the 180-250 Volt range, this change-over device will automatically switch in the inverter. When both sources are available, the generator is given priority. When switching to the generator, a time lapse of 0 up to 30 seconds can be set.

Specifications

- Capacity 4.5 kVA
- Dimensions 290 x 180 x 95 mm
- Weight 2.4 kg
- Nominal voltage 230 Volt AC, 50Hz

IVPS



Shore power protector type SPP

Protection against overload of shore supply

Shore power protector with LCD display and connection cable (2 mtr) provides a warning when the shore supply is overloaded. It will disconnect the overload before the breaker in the marina does. The shore power protector will not be affected by equipment with a high inrush current such a refrigerator or air conditioning.

Specifications

- Input voltage 195 to 253 Volt AC / 50-60Hz
- Power consumption 5 Watt nominal
- Switch-off current 16A max. (user settable)
- Maximum switching power 3680 Watt resistive and weak inductive loads / 1500 Watt inductive loads at cos phi < 0,4
- Operation within the limits of B- or C-fuse characteristics, temperature 0-40°C

SPP230



Solar charger type SL

Eco-friendly charging

The VETUS Solar Charger enables regulated battery charging when using solar panels. In addition to its charging function this unit ensures that, when the batteries are fully charged, the output of the solar panels can be used for other purposes (diversion regulation). In order to prevent complete discharge of the battery, the charging control function will disconnect any consumers when the battery voltage drops too low. The VETUS Solar Charger may be used as a stand alone unit, or in combination with the VETUS Combi-γ unit. In this case the Combi-γ will control the complete current supply. Up to 10 Solar Chargers may be connected in parallel formation.

The Solar Charger is protected against

- Short circuit
- Current overload from solar panel
- Reversed battery polarity
- Excess temperature

| Solar Charger, type | SL45 | SL60 |
|--------------------------------|---|------|
| Maximum charging current | 45 A | 60 A |
| Charging characteristics | 4-stage | |
| Battery voltage | 12-48 V | |
| Maximum voltage of solar panel | 125 V | |
| Minimum voltage of solar panel | 9 V | |
| Ambient temperature | During storage: -55°C to +85°C - During use: -40°C to +45°C | |
| Relative humidity | Max. 95%, condensation-free (p.c.b. is coated) | |
| Dimensions (H x W x D) in mm | 266 x 127 x 75 | |
| Weight | 1,5 kg | |



SL

BATTERY WATCH

Type BWA

Controlling 3 separate battery banks

A VETUS battery watch is actually a 3-way battery splitter (without voltage drop), a lifeguard/alarm when low voltage occurs and a trickle charger of the batteries for starting the bow thruster when using a combined charger/inverter (limited to 3A charging current). It also has a switch on/off relay for the lightning battery. Type BWA ensures simultaneous charging by the engine alternator or by a battery charger. It features a relay that automatically disconnects the domestic (lightning) battery before it is completely discharged, enhancing the life span of the battery considerably.

Specifications

- Suitable for 12 and 24 Volt electrical installations
- Dimensions W 220 x D 87 x H 133 mm
- Weight 1,7 kg
- Switch-off voltage 10,5 Volt (22 V) with 1 minute delay (impervious to brief peak loads)
- Switch-on voltage 11,5 Volt (23.5 V)

| Type | Volt | Panel |
|---------|---|--------------|
| BW312A | 12 | Included |
| BW324A | 24 | Included |
| BW312AL | 12 | Not included |
| BW324AL | 24 | Not included |
| BW3A | Adapter to connect two battery watches to one panel | |



BW312A

BW324A

Includes remote control panel

Remote control panel for BWA

Indicating the voltage of your batteries

This 3-digit LCD screen with an accuracy of 0.1Volt indicates the voltage of your domestic, bow thruster or start battery banks. The desired battery bank can be chosen with the 'battery select' button. If the battery voltage drops too low, an audible alarm will be triggered. This control panel can also be used to operate the relay as a main switch for the domestic battery bank. Type BWA is standard supplied and must be connected to the battery watch with a thin UTP cable.

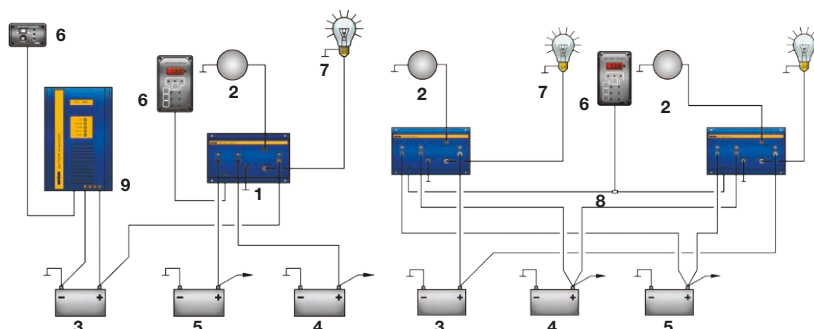
Specifications

- Dimensions of panel 161 x 99 mm
- Cut-out dimensions 128 x 76 mm
- Also suitable for a twin engine installations (2 alternators), controlling and monitoring 2 battery watches with 1 panel. An extension set can be supplied with 1 additional battery watch and a cable to interconnect both battery watches



In the case of a twin engine installation (two alternators), it is possible to control and monitor two battery watches with one panel. To this effect, an extension set may be supplied, consisting of one additional battery watch and a cable to interconnect both battery watches. On the panel, a current charging monitoring light for one alternator only is available, but all other functions can be used in full.

1. Battery Watch
2. Alternator
3. Domestic (lighting) battery
4. Bow thruster battery
5. Starter battery
6. Remote control panel
7. Consumers
8. Adapter
9. Battery charger/inverter



ACCESSORIES

Battery selector switch type ACCUSCH

Famous for its multifunctional use

From the OFF position, in accordance with the switch pattern, battery 1 only, battery 1 plus battery 2 or battery 2 only can be switched on. The switch enables usage and charging of the batteries individually and in parallel connection. The switch has a red locking button which indicates and locks the switch position, discouraging enthusiastic operation. Even though the battery selector is fitted, you still have the choice which battery will supply which service. If your chosen battery is nearly discharged or defective, the other battery can be called to the rescue. By using a VETUS battery selector switch, the starter and domestic battery can be used and charged as you desire.

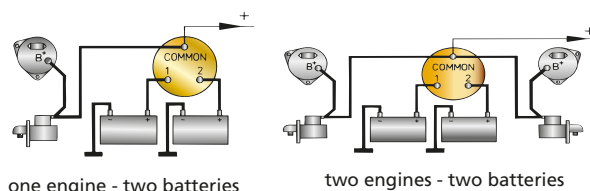
Specifications

- Capacity at 6, 12, 24 or 32 Volt
- Continuous 175A / interval 300A
- Dimensions 153 x 135 x 75 mm



ACCUSCH

| Type | Description |
|---------|-------------------------|
| ACCUSCH | Battery selector switch |



Battery main switches type BATSW

Twin pole switching

May be connected to either the positive or the negative electric cable. Two positions: "on" and "off". In the "off" position the key may be removed (except models 150 and 600). Provided with two M10 connectors. Model 250T is a twin pole switch to make/break both the positive and negative cables. **Model 600 is watertight according to IP 67.**

BATSW075



BATSW100



BATSW150



BATSW250



BATSW250T



BATSW600



| Type | BATSW075 | BATSW100 | BATSW150R* BATSW150B** | BATSW250 | BATSW250T | BATSW600 |
|-------------------------|----------|----------|---------------------------|----------|------------|----------|
| Nominal operational (V) | max. 24 | max. 24 | max. 24 | max. 24 | max. 24 | max. 24 |
| Current max.: | | | | | | |
| - Continuous operation | 75 A | 100 A | 150 A | 250 A | 2 x 250 A | 450 A |
| - 3 minutes' load | | | | | | 800 A |
| - 5 seconds' load | 350 A | 500 A | 1000 A | 2500 A | 2 x 2500 A | 3500 A |

* BATSW150R = with red handle

**BATSW150B = with black handle

ACCESSORIES

Fuse holders type ZEHC

Type ZEHC is suitable for VETUS fuses of 40 up to 500 Amp. The fuses to match are encapsulated in glass to prevent splatter and fire. The fuse holder comes with a protector cover.

Note

Can be used in combination with strip fuses type ZE.



ZEHC100



ZE

| Type | Description |
|---------|--|
| ZEHC100 | Fuse holder, type C100 including cover |

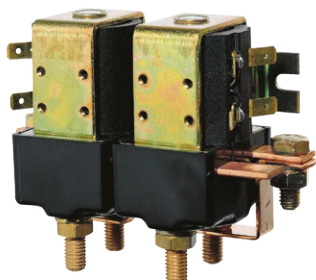
| Type | Description | Amp. |
|-------|----------------|------|
| ZE040 | Strip fuse C20 | 40 |
| ZE050 | Strip fuse C20 | 50 |
| ZE063 | Strip fuse C20 | 63 |
| ZE080 | Strip fuse C20 | 80 |
| ZE100 | Strip fuse C20 | 100 |
| ZE125 | Strip fuse C20 | 125 |
| ZE160 | Strip fuse C20 | 160 |

| Type | Description | Amp. |
|-------|----------------|------|
| ZE200 | Strip fuse C20 | 200 |
| ZE250 | Strip fuse C20 | 250 |
| ZE300 | Strip fuse C20 | 300 |
| ZE355 | Strip fuse C20 | 355 |
| ZE425 | Strip fuse C20 | 425 |
| ZE500 | Strip fuse C20 | 500 |

Make/break relay / solenoid type AFSTD and SOL

Make/break relay to reverse the direction of rotation of an electric motor (e.g. windlass) with a maximum output of 1.5 kW at 12 Volt, 3 kW at 24 Volt and 6 kW at 24 Volt (type..624..).

* Type SOL is watertight to IP66.



AFST1512D

SOL1512D*

SOL324D*

AFST324D

AFST624D

| Type | Description | Volt / Watt | Terminals |
|-----------|-----------------------|-------------|-----------|
| AFST1512D | Dual make/break relay | 12 / 1500 | M8 |
| SOL1512D | Dual make/break relay | 12 / 1500 | M6 |
| SOL324D | Dual make/break relay | 24 / 3000 | M6 |
| AFST324D | Dual make/break relay | 24 / 3000 | M8 |
| AFST624D | Dual make/break relay | 24 / 6000 | M10 |

Single relay / solenoid type AFSTS and SOL

When the motor has 2 field windings, 2 of these relays can be used to operate the motor in either direction.

* Type SOL is watertight to IP66.



AFST1512S

SOL1512S*

SOL324S*

AFST324S

AFST624S

| Type | Description | Volt / Watt | Terminals |
|-----------|--------------|-------------|-----------|
| AFST1512S | Single relay | 12 / 1500 | M8 |
| SOL1512S | Single relay | 12 / 1500 | M6 |
| SOL324S | Single relay | 24 / 3000 | M6 |
| AFST324S | Single relay | 24 / 3000 | M8 |
| AFST624S | Single relay | 24 / 6000 | M10 |



ACCESSORIES

Battery cables type BATC

These extremely flexible cables have a PVC insulation jacket with a temperature range of -20° to +85°C. The cables are available in black for negative and red for positive direct current with a cross sectional area of 6, 10, 35, 50, 70, 95, 120 or 150 mm².

Note

The matching battery cable tags should be ordered separately (type BATCC).



BATC

| Type | Cross sectional area (mm ²) | Colour |
|---------|---|--------|
| BATC06M | 6 | Black |
| BATC10M | 10 | Black |
| BATC35 | 35 | Black |
| BATC50 | 50 | Black |
| BATC70 | 70 | Black |
| BATC95 | 95 | Black |
| BATC120 | 120 | Black |
| BATC150 | 150 | Black |

| Type | Cross sectional area (mm ²) | Colour |
|----------|---|--------|
| BATC06RM | 6 | Red |
| BATC10RM | 10 | Red |
| BATC35R | 35 | Red |
| BATC50R | 50 | Red |
| BATC70R | 70 | Red |
| BATC95R | 95 | Red |
| BATC120R | 120 | Red |

Cable lug for battery cables type BATCC



BATCC

| Type | For cable cross sections (mm ²) | Hole | Pack of |
|-----------|---|------|---------|
| BATCC0606 | 6 | M6 | 10 |
| BATCC0608 | 6 | M8 | 10 |
| BATCC0610 | 6 | M10 | 10 |
| BATCC1006 | 10 | M6 | 10 |
| BATCC1008 | 10 | M8 | 10 |
| BATCC1010 | 10 | M10 | 10 |
| BATCC3506 | 35 | M6 | 2 |
| BATCC3508 | 35 | M8 | 2 |
| BATCC3510 | 35 | M10 | 2 |
| BATCC5006 | 50 | M6 | 2 |
| BATCC5008 | 50 | M8 | 2 |

| Type | For cable cross sections (mm ²) | Hole | Pack of |
|-----------|---|------|---------|
| BATCC5010 | 50 | M10 | 2 |
| BATCC7006 | 70 | M6 | 2 |
| BATCC7008 | 70 | M8 | 2 |
| BATCC7010 | 70 | M10 | 2 |
| BATCC9508 | 95 | M8 | 2 |
| BATCC9510 | 95 | M10 | 2 |
| BATCC9512 | 95 | M12 | 2 |
| BATCC1210 | 120 | M10 | 2 |
| BATCC1212 | 120 | M12 | 2 |
| BATCC1510 | 150 | M10 | 2 |
| BATCC1512 | 150 | M12 | 2 |

Battery terminal sets type BATT

Suitable for cables with a cross section between 16 and 35 mm² / 50 and 95 mm². Supplied with a M10 bolt for a cable up to 150 mm².

| Type | Description |
|----------|---|
| BATT1635 | Terminal set for cable 16 - 35 mm ² , pack of 2 |
| BATT5095 | Terminal set for cable 50 - 95 mm ² , pack of 2 |
| BATT150 | Terminal with M10 bolt, for cable up to 150 mm ² , pack of 2 |



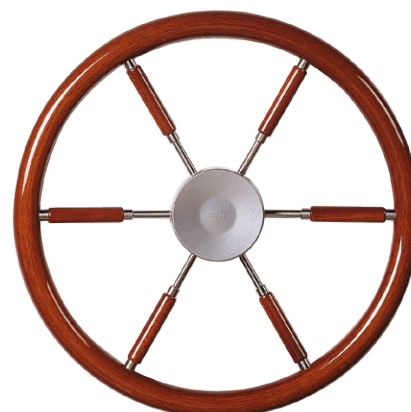
BATT

STEERING SYSTEMS



Overview VETUS steering systems

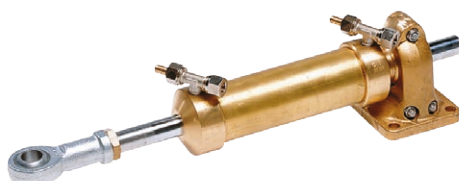
Steering wheels, see page 223



Steering pumps, see page 226



Steering cylinders, see page 228



Accessories, see page 235



Rudders, see page 238



Remote control steering, see page 240



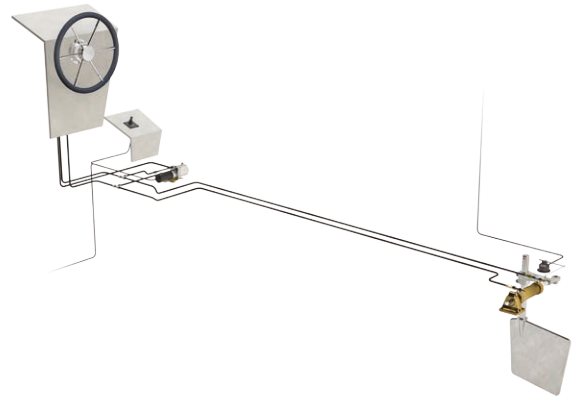
HOW TO DETERMINE THE CORRECT VETUS STEERING

Various combinations of boat speed, rudder blade surface area and balance sections apply a variety of forces on steering systems. Furthermore the dynamic influences of wind and currents cause steering systems to be continuously used under sometimes harsh conditions.

A skipper is dependent on the steering system and therefore it must be reliable under all circumstances. The design of the steering system determines how rapidly the vessel responds to helm movements. Fast light vessels react quickly to small rudder movements. While a slow, heavy displacement vessel will usually be set up to require more wheel movement for a given change of course. A thoughtful calculation of a steering system is therefore essential.

This chapter explains how the appropriate steering system can be determined for any boat.

Make your choice from a wide range of steering wheels and steering systems in this chapter.



RUDDER TORQUE

The choice of the correct cylinder is determined by the rudder torque in Nm (or kg). The rudder torque is the determining factor (Torque = force x lever). To ascertain the correct rudder torque, only the maximum speed of the vessel, the surface area of the rudder blade and the maximum rudder angle (in degrees) are of importance. Information such as length of boat and engine power are irrelevant. With a few exceptions, the rudder performs best with a maximum rudder angle of 35° to either side. Contrary to what is sometimes claimed for rudders with normal dimensions, a larger rudder angle does not enhance the manoeuvring capabilities of a vessel.

Your VETUS customer support representative will be pleased to provide you with recommendations for all steering system components, based on the maximum speed of the vessel and a dimensioned sketch or the rudder (provided by you).

The formula to determine the rudder torque:

M (torque) = F x b (per rudder)

In other words: the force F, which is applied to the rudder (given in Newton = N), is being multiplied by the lever "b", being the distance between the centerline of the rudder stock and the centre of pressure which lies on the line X-Y.

F (the force applied to the central line XY) – taking into consideration a maximum rudder angle of 2 x 35° – is constituted in the following manner:

$F = 23.3 \times A \times v^2$ in Newton (N), or: $F = 2.33 \times A \times v^2$ in kgf.

A = total surface area of rudder blade in m².

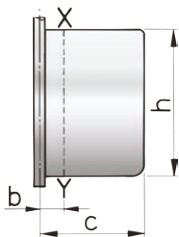
v = speed in km/hour.

A rudder **without** balance section requires the formula:

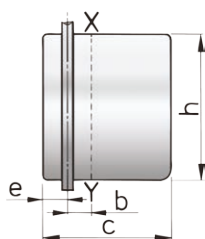
$b = 0.37 \times c$ (in metres);

A rudder **with** balance section calls for the formula:

$b = (0.37 \times c) - e$ (in metres).



Rudder without balance section



Rudder with balance section

Calculation example of one rudder with balance section

The maximum speed of the boat is 16 km/hour (v); the total width of the rudder blade is 57 cm (c); the width of the balance section is 9 cm (e); the height of the rudder blade is 100 cm (h).

$F = 23.3 \times 0.57 \times 1.00 \times 16^2 = 3400 \text{ N (340 kgf)}$

$b = (0.37 \times 0.57) - 0.09 = 0.12 \text{ m.}$

Therefore, the rudder torque amounts to $3400 \times 0.12 = 408 \text{ Nm (41 kgm)}$. So, the VETUS hydraulic steering to be selected in this case is model MTC52. With a twin rudder installation, the required torque is $2 \times 408 \text{ Nm} = 816 \text{ Nm}$, which makes model MTC125 the one to choose. We recommend that you consult VETUS for an accurate calculation. We also calculate the effects of the propeller wash, as well as the torque when going astern. Because smaller vessels tend to respond quite sharply to the rudder commands, the maximum rudder torque is not used and a reduction of 10 to 20% off the calculated maximum torque is quite acceptable most of the time.

Be careful: some manufacturers of hydraulic steerings have already taken such reduction into account when stating their capacity (torque). We, at VETUS, are of the opinion however, that the choice of whether or not such reduction should be applied, is exclusively the option of the naval architect.

All VETUS steering systems meet the CE ISO 8848 standard

STEERING WHEELS

Type PRO

The perfect match for traditional and modern boats

Type PRO has 2 models. Type 'T' with a satin-gloss varnished teak rim and type 'P' with a semi-hard polyurethane rim which will keep your hands warm. Both models have substantial spokes and a hub cover made of high-gloss polished stainless steel (AISI 316). The hub itself is made of synthetic material and bored for a $\varnothing 3/4"$ shaft with 1:12 taper which will fit most steering systems. These steering wheels are according to the CE and ABYC directives.

Specifications

- Available with overall diameters of 400, 500 or 600 mm
- Outer rim $\varnothing 32$ mm

Note: An alternative hub to suit older VETUS steering pumps with a $\varnothing 1"$ hole shaft and $3\frac{1}{2}:12$ taper is also available (product code: SETPS1).

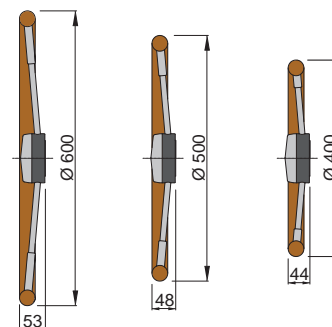


PRO..P



PRO..T

| Type | Material steering wheel | Ø (mm) | Ø Outer rim (mm) |
|--------|---------------------------------|--------|------------------|
| PRO40P | Polyurethane rim steering wheel | 400 | 32 |
| PRO50P | Polyurethane rim steering wheel | 500 | 32 |
| PRO60P | Polyurethane rim steering wheel | 600 | 32 |
| PRO40T | Teak steering wheel | 400 | 32 |
| PRO50T | Teak steering wheel | 500 | 32 |
| PRO60T | Teak steering wheel | 600 | 32 |



Type KW / KWL

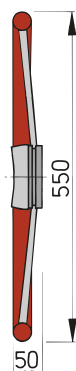
With a mahogany rim

The spokes and hubcap are made of stainless steel (AISI 316). The hub itself is made of aluminium.

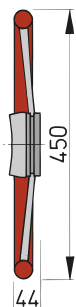
Specifications

- Available with overall diameters of 380, 450 and 550 mm
- Bored for $\varnothing 3/4"$ shaft, tapered 1:12
- A hub with $\varnothing 1"$ bore, tapered $3\frac{1}{2}:12$ is available as an option (SETKS1)

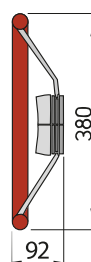
| Type | Material steering wheel | Ø mm | Ø shaft mm | Tapered |
|------|----------------------------------|------|------------|---------|
| KW38 | Steering wheel with mahogany rim | 380 | 19,05 | 1:12 |
| KW45 | Steering wheel with mahogany rim | 450 | 19,05 | 1:12 |
| KW55 | Steering wheel with mahogany rim | 550 | 19,05 | 1:12 |



KW55



KW45



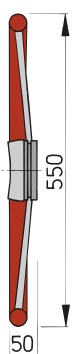
KW38



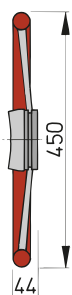
STEERING WHEELS

Type KWL

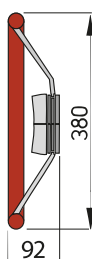
| Type | Material steering wheel | Ø mm | Ø shaft mm | Tapered |
|-------|---|------|------------|---------|
| KWL38 | Steering wheel with mahogany rim and spokes | 380 | 25,4 | 3½:12 |
| KWL45 | Steering wheel with mahogany rim and spokes | 450 | 25,4 | 3½:12 |
| KWL55 | Steering wheel with mahogany rim and spokes | 550 | 25,4 | 3½:12 |



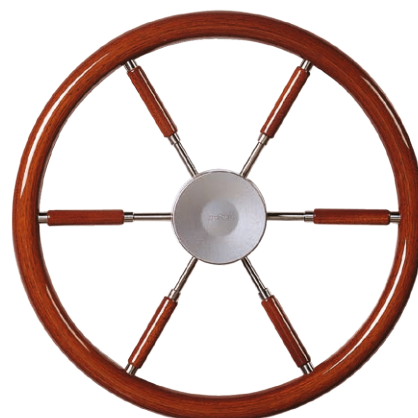
KWL55



KWL45



KWL38



Type SWSPORT

Sport steering wheel

A sporty three-spoke steering wheel finished in carbon with a diameter of 350 mm. Bored for Ø ¾" shaft, tapered 1:12.

| Type | Ø mm |
|---------|---|
| SWSPORT | Three spoke sport steering wheel, carbon finish 350 |

SWSPORT



Type SWCRUISER

Cruiser steering wheel

A three-spoke steering wheel finished in silver aluminium accents and a diameter of 350 mm. Bored for Ø ¾" shaft, tapered 1:12.

| Type | Ø mm |
|-----------|--|
| SWCRUISER | Three spoke sport steering wheel, black with aluminium inserts 350 |

SWCRUISER



PASBUS A

All VETUS wheels and steering pumps have a Ø ¾" bore, with a 1:12 taper. The PASBUS is a tapered bushing that can be applied to the ¾" shaft of a steering pump so that it can receive a wheel with a 1" bore. This allows wheels made by others to be installed on our pumps.



STEERING WHEELS

Type KS

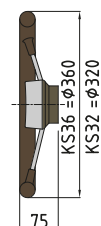
No more cold hands

Model KS has stainless steel (AISI 316) rims, spokes and a cap. The rims have a layer of semi-hard PU-foam with an integral skin. These soft-feel wheels are resistant to all weather conditions.

Specifications

- Available with overall diameters of 320, 360, 380, 450 and 550 mm
- Type KS38, 45 and 55 are supplied in the colour grey (RAL 704) or black
- Bored for $\varnothing \frac{3}{4}$ " shaft, tapered 1:12

| Type | PU-foam layer | Ø mm | Ø shaft mm | Tapered |
|-------|---------------|------|------------|---------|
| KS32G | Grey | 320 | 19 | 1:12 |
| KS32Z | Black | 320 | 19 | 1:12 |
| KS36G | Grey | 360 | 19 | 1:12 |
| KS36Z | Black | 360 | 19 | 1:12 |



KS32G

KS32Z



KS36G

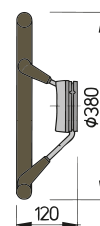
KS36Z



| Type | PU-foam layer | Ø mm | Ø shaft mm | Tapered |
|-------|---------------|------|------------|---------|
| KS38G | Grey | 380 | 19 | 1:12 |
| KS38Z | Black | 380 | 19 | 1:12 |
| KS45G | Grey | 450 | 19 | 1:12 |
| KS45Z | Black | 450 | 19 | 1:12 |
| KS55G | Grey | 550 | 19 | 1:12 |
| KS55Z | Black | 550 | 19 | 1:12 |

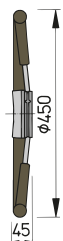
KS38G

KS38Z



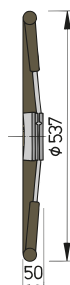
KS45G

KS45Z



KS55G

KS55Z



STEERING PUMPS

HTP and HTPR

These hydraulic steering pumps are suitable for almost all steering wheels, including VETUS wheels (see pages 223-224) and have a $\varnothing 3/4"$ shaft, tapered 1:12. Available in black or white.

Both types are supplied with

- Compression fittings (for the pressure lines) and a balance pipeline port
- Mounting studs, nuts and washers
- One vented and one un-vented filler plug

Type HTPR has in addition

- An integral non-return valve with continuous air bleeding system
- An integral pressure relief valve for protection against over pressurisation of the system

See page 229 for various installation options with single and dual pumps.



VETUS offers 2 different types of steering pumps

Types HTP 20/30/42

A steering pump without non-return valves.



Type HTPR 20/30/42

A steering pump with integral non-return valve and pressure relief valves.



Steering pumps without non return valves

| Type | Color | Ø mm tubing | Capacity cm ³ /rev. | Number of pistons | Weight without valve kg |
|----------|-------|-------------|--------------------------------|-------------------|-------------------------|
| HTP2010 | White | 10 | 19,7 | 5 | 3,3 |
| HTP3010 | White | 10 | 30,0 | 5 | 3,3 |
| HTP4210 | White | 10 | 42,0 | 7 | 3,3 |
| HTP2010B | Black | 10 | 19,7 | 5 | 3,3 |
| HTP3010B | Black | 10 | 30,0 | 5 | 3,3 |
| HTP4210B | Black | 10 | 42,0 | 7 | 3,3 |

Steering pumps with non return valves

| Type | Color | Ø mm tubing | Capacity cm ³ /rev. | Number of pistons | Weight with valve kg |
|-----------|-------|-------------|--------------------------------|-------------------|----------------------|
| HTP2010R | White | 10 | 19,7 | 5 | 4,1 |
| HTP3010R | White | 10 | 30,0 | 5 | 4,1 |
| HTP4210R | White | 10 | 42,0 | 7 | 4,1 |
| HTP2010RB | Black | 10 | 19,7 | 5 | 4,1 |
| HTP3010RB | Black | 10 | 30,0 | 5 | 4,1 |
| HTP4210RB | Black | 10 | 42,0 | 7 | 4,1 |

STEERING PUMPS

Tilting steering pumps type HTPT

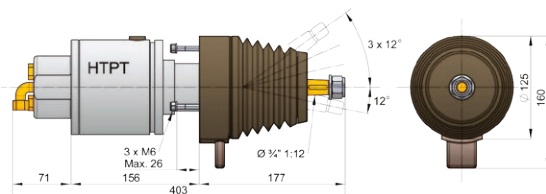
For both seated and standing steering positions

Type HTPT has a tilt mechanism which allows the steering wheel to be locked in 5 different positions with total tilt range of 48°. The steering wheel shaft is made of stainless steel (AISI 316) and all other visible parts are made of black rubber and synthetic material. These pumps are supplied with built-in non-return valves, a pressure relief valve and feature the same specifications as steering pump type HTPR.

HTP20T

HTP30T

HTP42T



| Type | Colour | Ø mm tubing | Capacity cm³/rev. | Number of pistons |
|----------|--------|-------------|-------------------|-------------------|
| HTP2008T | Black | 8 | 19,7 | 5 |
| HTP2010T | Black | 10 | 19,7 | 5 |
| HTP3008T | Black | 8 | 30,0 | 5 |
| HTP3010T | Black | 10 | 30,0 | 5 |
| HTP4210T | Black | 10 | 42,7 | 7 |



HTPT

CYLINDERS

The cylinders below are supplied as standard with zinc plated steel rod ends. Stainless steel (AISI 316) red ends are available as an option. For accessories see page 235.

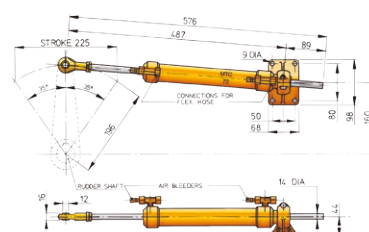
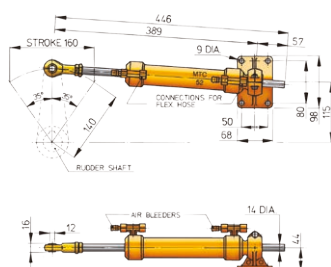
| Type | Ø mm tubing |
|---------|-------------|
| MTC5210 | 10 |
| MTC7210 | 10 |



MTC5210

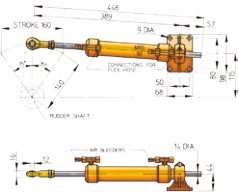
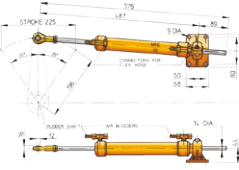
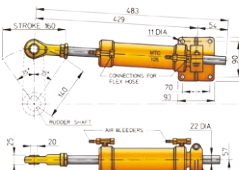
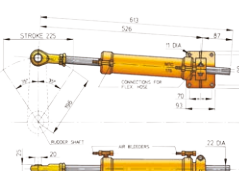


MTC7210



STEERING PUMPS AND CYLINDERS

This table shows combination of pumps and cylinders.

| Cylinder type MTC5210 | Pump type 20 | Pump type 30 | Pump type 42 |
|--|--|---|--|
|  <ul style="list-style-type: none"> Stroke 160 mm Volume 104 cm³ Length of tiller arm 140 mm Weight 3.4 kg | Wheel turns 5.3 <ul style="list-style-type: none"> Max. Torque 510Nm (52kgm) (376ft.lbs). Torque at 35° and 56kg/cm²: 412Nm (42kgm) (304ft.lbs) Tubing: nylon hose Ø6 x Ø10mm or copper Ø8 x Ø10mm | Wheel turns 3.5 <ul style="list-style-type: none"> Max. Torque 510Nm (52kgm) (376ft.lbs). Torque at 35° and 56kg/cm²: 412Nm (42kgm) (304ft.lbs) Tubing: nylon hose Ø6 x Ø10mm or Ø8 x Ø12mm or copper Ø8 x Ø10mm | N/A |
| Cylinder type MTC7210 | Pump type 20 | Pump type 30 | Pump type 42 |
|  <ul style="list-style-type: none"> Stroke 225 mm Volume 146 cm³ Length of tiller arm 19 mm Weight 3.8 kg | Wheel turns 7.5 <ul style="list-style-type: none"> Max. Torque: 706Nm (72kgm) (521ft.lbs). Torque at 35° and 56kg/cm²: 589Nm (60kgm) (434ft.lbs) Tubing: nylon hose Ø6 x Ø10 mm or copper Ø8 x Ø10mm | Wheel turns 4.9 <ul style="list-style-type: none"> Max. Torque 706Nm (72kgm) (376ft.lbs). Torque at 35° and 56kg/cm²: 589Nm (60kgm) (434ft.lbs) Tubing: nylon hose Ø6 x Ø10mm or Ø8 x Ø12mm or copper Ø8 x Ø10mm | Wheel turns 3.5 <ul style="list-style-type: none"> Max. Torque 706Nm (72kgm) (376ft.lbs). Torque at 35° and 56kg/cm²: 589Nm (60kgm) (434ft.lbs) Tubing: nylon hose Ø6 x Ø10mm or Ø8 x Ø12mm or copper Ø8 x Ø10mm |
| Cylinder type MTC12510 | Pump type 20 | Pump type 30 | Pump type 42 |
|  <ul style="list-style-type: none"> Stroke 160 mm Volume 253 cm³ Length of tiller arm 140 mm Weight 7.1 kg | N/A | Wheel turns 8.5 <ul style="list-style-type: none"> Max. Torque 1226Nm (125kgm) (904ft.lbs). Torque at 35° and 56kg/cm²: 981Nm (100kgm) (723ft.lbs) Tubing: nylon hose Ø6 x Ø10mm or Ø8 x Ø12mm or copper Ø8 x Ø10mm | Wheel turns 6.1 <ul style="list-style-type: none"> Max. Torque 1226Nm (125kgm) (904ft.lbs). Torque at 35° and 56kg/cm²: 981Nm (100kgm) (723ft.lbs) Tubing: nylon hose Ø6 x Ø10mm or Ø8 x Ø12mm or copper Ø8 x Ø10mm |
| Cylinder type MTC17510 | Pump type 20 | Pump type 30 | Pump type 42 |
|  <ul style="list-style-type: none"> Stroke 225 mm Volume 356 cm³ Length of tiller arm 196 mm Weight 8 kg | N/A | N/A | Wheel turns 8.5 <ul style="list-style-type: none"> Max. Torque 1717Nm (175kgm) (1266ft.lbs). Torque at 35° and 56kg/cm²: 1373Nm (140kgm) (1013ft.lbs) Tubing: nylon hose Ø6 x Ø10mm or Ø8 x Ø12mm or copper Ø8 x Ø10mm |



STEERING SYSTEM ARRANGEMENTS

Single steering position base system components

1 Steering pump with or without built-in non-return valves

- 1 Cylinder
- Hydraulic tubing (with end fittings) and fluid
- Optional: Separate dual non-return valve or by-pass valve (see below)



Dual steering positions base system components

- Two steering pumps with built-in non-return valves
- Alternatively: two steering pumps without non-return valves, in which case a separate dual non-return valve block must be fitted
- 1 Cylinder
- Hydraulic tubing (with end fittings) and fluid
- Optional: By-pass valves (see below)



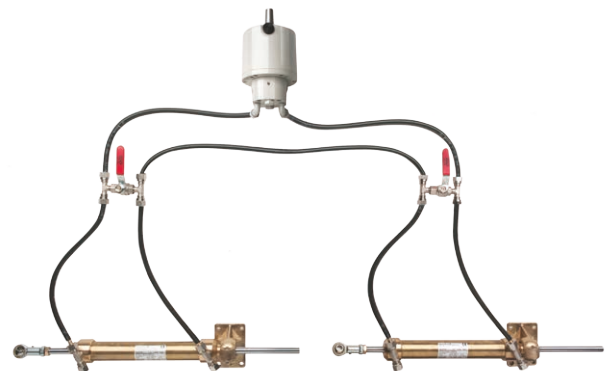
Dual rudder steering

Specifically suitable for catamarans!

Dual rudders which are not connected by a tie-bar can be operated by 2 cylinders and 1 pump with or without built-in non-return valves.

Specifications

- 2 Cylinders and T-pieces to connect the cylinders
- Hydraulic tubing (with end fittings) and fluid
- By-pass valves
- Optional: Separate dual non-return valve



STEERING SYSTEMS FOR COMMERCIAL CRAFT

Type MT0230B / MT0345B / MT0455B / MT0600B / MT0900B / MT1200B

The best possible combination

Choosing the right combination of pump and cylinder can be quite difficult. VETUS pumps and cylinders are fully compatible, enabling the builder and owner to choose the best combination of price and number of wheel turns lock to lock. The smaller the pump unit, the lower the price but also the higher the number of turns. However, the choice of cylinder is always determined by the rudder torque. Please see tables below for determination of the wheel turns.

Specifications

- Available for single and dual station control
- Cylinders are supplied with flexible hose tails, bleed nipples (which accept a quick-release coupling for rapid bleeding) and a base plate with universal joint and a swivelling rod end
- Axial plunger pumps with 7 plungers
- 25 mm / 1" diameter Stainless steel (AISI 316) steering wheel shaft (extra strong for large steering wheels)
- Cylinder and pump can be supplied separately

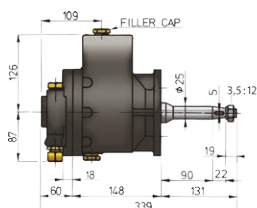


MTP151B

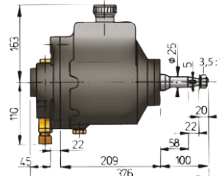
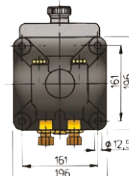
MTP191B



MTP089B



MTP089B



MTP151B
MTP191B

| Specifications pump units | MTP089B | MTP151B | MTP191B |
|------------------------------|---|---------------------------|---------------------------|
| Capacity of pump unit | 89 cm ³ /rev. | 151 cm ³ /rev. | 191 cm ³ /rev. |
| Number of pistons | 7 | 7 | 7 |
| Maximum pressure | 63 kg/cm ² (6178 kPa) (896 lbs/sq. inch) | | |
| Dimensions of tubes | Ø 18 x 15 mm | | |
| Connections | G 1/2 female pipe thread | | |
| Weight of pump unit | 9,1 kg | 23 kg | 23 kg |
| Min. steering wheel diameter | 65 cm | 110 cm | 135 cm |

| Cylinder | A | B | C | D | E | F | G | H | I | K | L | M | N | O | P | R |
|----------|------|-----|-----|-----|-----|-----|-----|-----|------|------|-----|-----|----|----|----|-----|
| MT0230B | 733 | 607 | 127 | 200 | 175 | 112 | 140 | 143 | 36 | 11 | 72 | 100 | 31 | 25 | 28 | 55 |
| MT0345B | 933 | 757 | 177 | 300 | 260 | 112 | 140 | 215 | 36 | 11 | 72 | 100 | 31 | 25 | 28 | 55 |
| MT0455B | 1133 | 907 | 227 | 400 | 350 | 112 | 140 | 286 | 36 | 11 | 72 | 100 | 31 | 25 | 28 | 55 |
| MT0600B | 735 | 695 | 40 | 200 | 175 | 160 | 198 | 143 | 71,5 | 18,5 | 143 | 182 | 25 | 35 | 40 | 102 |
| MT0900B | 935 | 845 | 90 | 300 | 260 | 160 | 198 | 215 | 71,5 | 18,5 | 143 | 182 | 25 | 35 | 40 | 102 |
| MT1200B | 1135 | 995 | 140 | 400 | 350 | 160 | 198 | 286 | 71,5 | 18,5 | 143 | 182 | 25 | 35 | 40 | 102 |

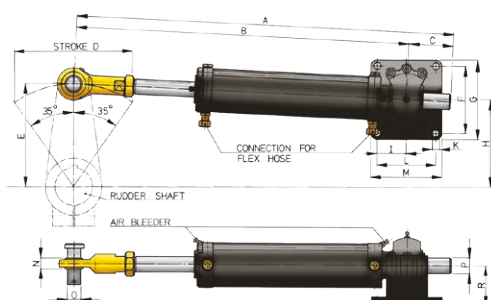
STEERING SYSTEMS FOR COMMERCIAL CRAFT



MT1200B



MT0230B



MT0230B - MT1200B

Theoretical number of steering wheel turns from Starboard to Port

| Pump unit | Cylinder | | | | | |
|-----------|----------|---------|---------|---------|---------|---------|
| | MT0230B | MT0345B | MT0455B | MT0600B | MT0900B | MT1200B |
| MTP089B | 5.6 | 8.4 | 11.2 | 14.8 | 22.2 | 29.6 |
| MTP151B | 3.3 | 5.0 | 6.6 | 8.8 | 13.1 | 17.5 |
| MTP191B | 2.6 | 3.9 | 5.2 | 6.9 | 10.4 | 13.8 |

| Technical data cylinders | | | | | | |
|--------------------------------|---|----------------------|----------------------|----------------------|----------------------|------------------------|
| | MT0230B | MT0345B | MT0455B | MT0600B | MT0900B | MT1200B |
| Max torque at 35° rudder angle | 2207 Nm (225 kgm) | 3335 Nm (340 kgm) | 4415 Nm (450 kgm) | 5886 Nm (600 kgm) | 8829 Nm (900 kgm) | 11772 Nm (1200 kgm) |
| Cylinder stroke | 200 mm | 300 mm | 400 mm | 200 mm | 300 mm | 400 mm |
| Max. pressure | 6178 kPa (63 kg/cm ²) (896 lbs/sq.inch) | | | | | |
| Cylinder volume | 500 cm ³ | 750 cm ³ | 1000 cm ³ | 1319 cm ³ | 1978 cm ³ | 2638 cm ³ |
| Total rudder angle | 70° | | | | | |
| Length of tiller arm | 175 mm | 260 mm | 350 mm | 175 mm | 260 mm | 350 mm |
| Weight of cylinder | 13,8 kg | 15,9 kg | 18 kg | 35,1 kg | 38,8 g | 42,5 kg |
| Dimensions of tubes | Ø18 x 15 mm | | | | | |
| Connections | All connections are provided with G 1/2 female pipe thread. | | | | | |

Also available for single and dual steering

| Type | Description |
|-------|--|
| HS81B | Dual non-return valve (G1/2) (incl. tube connectors Ø 18 mm) |
| HS74B | Single non-return valve (G1/2) with by-pass valve (incl. tube connectors Ø 18 mm) (suitable for single and dual station) |
| HS42B | Pressure relief valve (G1/2) (incl. tube connectors Ø 18 mm) |

STEERING SYSTEMS FOR OUTBOARD ENGINES/Z-DRIVES

A VETUS outboard engine/Z-drive steering system consists of a steering pump with a non-return and pressure relief valves as well as a cylinder. The cylinder is connected to the pump with nylon hydraulic hose. VETUS offers 5 different types of hydraulic cylinders suitable for outboard motors with an output of 90 KW (125hp) up to 220 KW (300hp).

OBC cylinders

Specifications

- Balanced cylinder
- Supplied with combined Ø10 mm hose connections and bleed nipples
- Piston rod with scraper seals preventing damage from salt and dirt and T-pieces to connect the cylinders



Required components to order separately

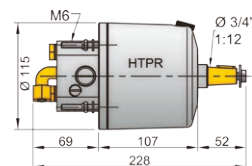
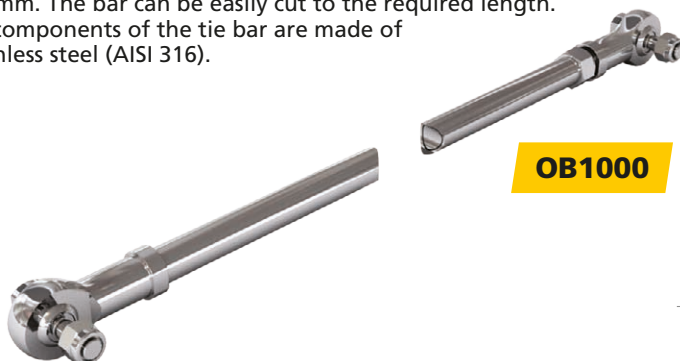
- 1 or 2 cylinders type OBC or MTC (see page 234 for max. engine hp possibilities)
- 1 or 2 steering pumps with built-in non-return valves, type HTPR
- Length of hydraulic hose Ø8 x 12 mm, type HHOSE8
- Straight or right angle hose connectors
- Hydraulic fluid
- T-pieces for Ø10 mm pipe (when more than 1 pump or cylinder is installed)

| Type | Max. hp |
|---------|---------|
| OBC125 | 125 |
| OBC150 | 150 |
| OBC225 | 225 |
| OBC275 | 300 |
| MTC100Z | 300 |

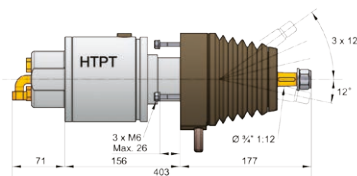
OB1000 Tie bar

For connecting 2 outboard motors up to 300 hp each

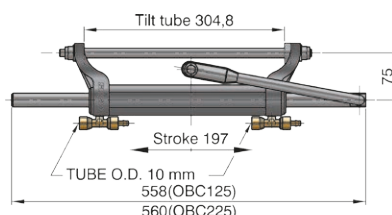
The tie bar has adjustable ends and connection bolts (7/8" UNF). The maximum centre-to-centre distance between the steering arms is 915mm. The bar can be easily cut to the required length. All components of the tie bar are made of stainless steel (AISI 316).



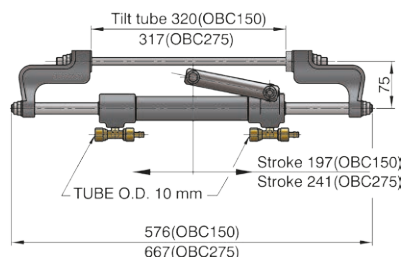
HTP2010R
HTP3010R
HTP4010R



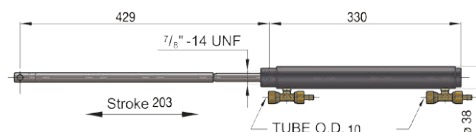
HTP2010T
HTP3010T
HTP4010T



OBC125
OBC225



OBC150
OBC275



MTC100Z

STEERING SYSTEMS FOR OUTBOARD ENGINES/Z-DRIVES

Specifications

- Maximum operating pressure 70 bar
- Connections G 1/4- Ø10mm
- Nylon hose Ø8 x Ø12mm
- Pump fitting Front Mount

- Capacity 19,9 cm³/rev.
- Number of pistons 5
- Weight 4,1kg



HTP2010R

- Capacity 30,0 cm³/ rev.
- Number of pistons 5
- Weight 4,1kg



HTP3010R

- Capacity 42,0 cm³/ rev.
- Number of pistons 7
- Weight 4,1kg



HTP4210R

OBC125

- Maximum rudder torque 643 Nm
- Volume 108,3 cm³
- Maximum output 90 kW (125 hp)
- Maximum speed 85 km/h (45 knots)



Wheels turns
port -
starboard: 5,5

Wheels turns
port -
starboard: 3,6

N/A

OBC125 the piston rod moves inside the cylinder

OBC225

- Maximum rudder torque 1026 Nm
- Volume 172,6 cm³
- Maximum output 165 kW (225 hp)
- Maximum speed 85 km/h (45 knots)



Wheels turns
port -
starboard: 8,8

Wheels turns
port -
starboard: 5,8

Wheels turns
port -
starboard: 4,1

OBC225 the piston rod moves inside the cylinder

OBC150

- Maximum rudder torque 643 Nm
- Volume 108,3 cm³
- Maximum output 110 kW (150 hp)
- Maximum speed 85 km/h (45 knots)



Wheels turns
port -
starboard: 5,5

Wheels turns
port -
starboard: 3,6

N/A

OBC150 the cylinder moves over the piston rod

OBC275

- Maximum rudder torque 788 Nm
- Volume 132,6 cm³
- Maximum output 220 kW (300 hp)
- Maximum speed: 110 km/h (60 knots)



Wheels turns
port -
starboard: 6,8

Wheels turns
port -
starboard: 4,4

Wheels turns
port -
starboard: 3,2

OBC275 the cylinder moves over the piston rod

MTC100Z

- Maximum rudder torque 989 Nm
- Volume 132 cm³ /163,3 cm³
- Maximum output 220 kW (300 hp)
- Maximum speed: 95 km/h (50 knots)



Wheels turns
port -
starboard: 8,3

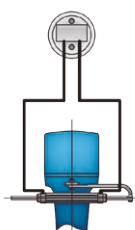
Wheels turns
port -
starboard: 5,4

Wheels turns
port -
starboard: 3,9

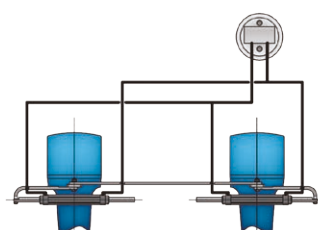
MTC100Z for Z-drives and outboard engines

For accessories see page 235.

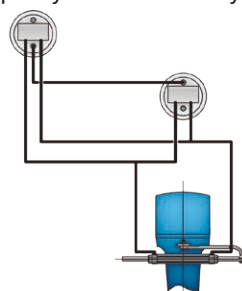
A single cylinder can operate a **twin** outboard motor installation. If both propellers rotate in the same direction, the total engine output may not exceed the maximum capacity of the selected cylinder. If the motors have handed (counter-rotating) propellers, the total combined output may be twice the rated capacity of the chosen cylinder.



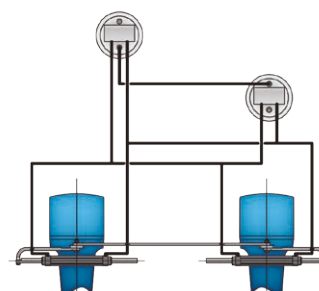
Single steering position
for 1 engine



Single steering position
for 2 engines



Dual steering position
for 1 engine



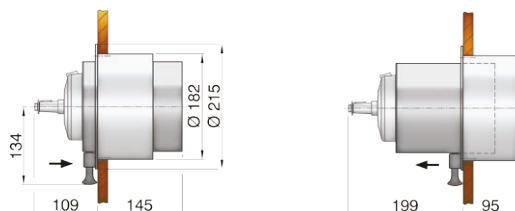
Dual steering position
for 2 engines

ACCESSORIES FOR STEERING SYSTEMS

Telescopic steering wheel adjuster type HS

Enhancing your steering comfort

This telescopic steering wheel adjuster is suitable for hydraulic steering pumps type HTP and HTPR. It is fitted to the steering pump, enhancing your steering comfort in both seated and standing positions. Maximum travel of 90 mm (adjustable in 3 steps of 30 mm).



HS1000

| Type | Description |
|--------|--|
| HS1000 | Telescopic steering wheel adjuster for HTP type pumps (excl. pump) |

Pump flanges type HTPF

Embellishment for your pump

These polished stainless steel (AISI 316) flanges can be used to fit pump type HTP (or to replace older type MTP) and to recess your pump by 38 mm (type HTPF) or 74 mm (type HTPF2). It can also be used to give your pump a more refined look.

On an outside helm station, with a pump mounted on an inclined bulkhead or sloping dashboard, the housing of the telescopic wheel adjuster may catch water. To prevent this water entering the boat, a seal set is recommended (Type HTPF3).

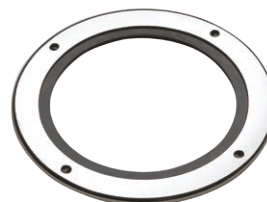
| Type | Description |
|-------|--|
| HTPF | Adaptor flange, stainless steel (AISI 316) for HTP pump, 38 mm depth |
| HTPF2 | Adaptor flange, stainless steel (AISI 316) for HTP pump, 74 mm depth |
| HTPF3 | Waterproof seal kit for HTP pump in a HTPF flange |



HTPF



HTPF2



HTPF3



ACCESSORIES FOR STEERING SYSTEMS

Non-return valve

This dual non-return valve block has to be installed when dual station steering is required. You can also use 2 steering pumps with built-in non-return valves type HTPR. This is also the case when an electro-hydraulic pump needs to be installed when fitting an autopilot and the installed steering pumps do not have integral non-return valves.

The connection kit must be ordered separately and is not included with the K30/140B.



K30/140B

| Type | Description |
|-----------|--|
| K30/140B | Dual non-return valve block without fittings used with cylinders MTC3008 to MTC17510 |
| KITK30 | Connection kit, 8 mm, to be used with K30/140B and MTC3008 |
| KITK52175 | Connection kit, 10 mm, to be used with K30/140B and MTC5210 |

KITK30

KITK52175



By-pass valve

If a quick change-over to tiller steering has to be done in case of an emergency, installation of a by-pass valve is necessary.

| Type | Tubing Ø mm |
|----------|-------------|
| BYPASS8 | 8 |
| BYPASS10 | 10 |
| BYPASS18 | 18 |



BYPASS

Nylon hose

| Type | Internal Ø mm | External Ø mm | Length in rolls of (m) | Required connection parts |
|-----------|---------------|---------------|------------------------|-----------------------------------|
| HS04N | 6 | 8 | 15 | HS1011S Sleeve insert (20 pieces) |
| HHOSE6015 | 6 | 10 | 15 | HS145S Sleeve insert (20 pieces) |
| HHOSE6030 | 6 | 10 | 30 | HS145S Sleeve insert (20 pieces) |
| HHOSE6050 | 6 | 10 | 50 | HS145S Sleeve insert (20 pieces) |
| HHOSE6100 | 6 | 10 | 100 | HS145S Sleeve insert (20 pieces) |



HHOSE

| Type | Internal Ø mm | External Ø mm | Length in rolls of (m) | Required connection parts |
|-----------|---------------|---------------|------------------------|---|
| HHOSE8015 | 8 | 12 | 15 | HS1031MS (straight, set of 2 pieces) / HS1037MS (angled, set of 2 pieces) |
| HHOSE8030 | 8 | 12 | 30 | HS1031MS (straight, set of 2 pieces) / HS1037MS (angled, set of 2 pieces) |
| HHOSE8050 | 8 | 12 | 50 | HS1031MS (straight, set of 2 pieces) / HS1037MS (angled, set of 2 pieces) |
| HHOSE8100 | 8 | 12 | 100 | HS1031MS (straight, set of 2 pieces) / HS1037MS (angled, set of 2 pieces) |

ACCESSORIES FOR STEERING SYSTEMS

Connection parts

When using compression fittings supplied as standard with non-commercial pumps and cylinders, a brass sleeve must be inserted into each end of the nylon hose in order to maintain hose circularity. An alternative connection method for 8 x 12 nylon hose is to use barbed connections HS1031MS and HS1037MS.

| Type | Description |
|----------|---|
| HS10131 | Sleeve insert Ø 6 mm and olive, Ø 8 mm for use with HS04N nylon hose, pack of 10 pcs |
| HS1011S | Sleeve insert, Ø 6 mm, for use with HS04N, set of pack of 20 pcs |
| HS145S | Sleeve insert, Ø 6,5 mm, for use with nylon hose (HHOSE6...), pack of 20 pcs |
| HS1031MS | Straight brass hose connector for nylon hose Ø 8 x 12 mm (HHOSE8..), pack of 2 pcs |
| HS1037MS | Right angle brass hose connector for nylon hose Ø 8 x 12 mm (HHOSE8..), pack of 2 pcs |



HS1011S



HS145S



HS10131



HS1031MS



HS1037MS

Copper tubing

Copper tubing is available per roll in 3 different sizes.

| Type | Internal Ø mm | External Ø mm | Length m | Required connection parts |
|----------|---------------|---------------|----------|-------------------------------|
| COPPER08 | 6 | 8 | 16 | MTC610 Flexible hose tail set |
| COPPER10 | 8 | 10 | 20 | MTC810 Flexible hose tail set |
| COPPER18 | 15 | 18 | 10 | - |



COPPER

VETUS hydraulic steering oil type VHS1

Optimal functioning in all temperatures

For more information see page 376.



VHS

Hydraulic fluid header tank type HTANK

This transparent tank can be installed with all VETUS steering pumps up to 89 cm³ per revolution. It is also recommended for electro-hydraulic hatch lifters when operating more than 1 cylinder. By installing this reservoir tank, the breather plug in the steering pump can be replaced with the supplied solid plug, eliminating the possibility of steering fluid dribbling from the breather in big seas.

Specifications

- Capacity 200 cm³
- Supplied with a large mounting bracket
- Comes with 1mtr of Ø 8 mm hose, 2 matching hose clips, 1 G¼ and 1 G¾ nylon hose pillar



HTANK

| Type | Description |
|-------|---|
| HTANK | Expansion tank kit for hydraulic steering systems |

RUDDERS

Type RUDS

These rudders with stainless steel (AISI 316) blade come complete with a rudder arm to which a VETUS hydraulic steering cylinder can be connected. The blade sides are polished and need no additional finishing. The stainless steel (AISI 316) rudder stock is provided with a hole to facilitate the fitting of an emergency tiller. Type RUDS comes in 2 heights.

Specifications type RUDS4040

- Dimensions w 400 x h 400 mm (excl. rudder arm)
- Speed with cylinder MTC30 30 knots, MTC52 42 knots

Specifications type RUDS5040

- Dimensions w 400 x h 500 mm (excl. rudder arm)
- Speed with cylinder MTC30 27 knots, MTC52 34 knots

A rudder gland may be supplied as an extra (type HENKO only)

| Type | Width mm | Height mm |
|----------|-----------------------|-----------|
| RUDS4040 | 400, excl. rudder arm | 400 |
| RUDS5040 | 400, excl. rudder arm | 500 |

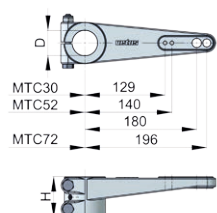
| | RUDS4040 | RUDS5040 |
|---------------------|----------|----------|
| With cylinder MTC30 | 30 knots | 27 knots |
| With cylinder MTC52 | 42 knots | 34 knots |

The indicated speed figures are the maximum permissible speeds.

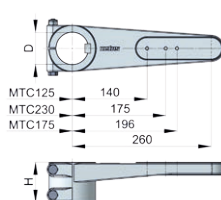


Aluminium rudder arms type HELM

These rudder arms are available for Ø30, 40, 50 or 60 mm rudder stocks. They are connected by 2 clamp bolts. The Ø30 and 40 mm rudder arms have 2 locking grub screws onto the shaft and feature 4 attachment points for the steering cylinder making them suitable for VETUS hydraulic cylinders type MTC30/52 and 72. The Ø50 and 60 mm rudder arms have a stainless steel (AISI 316) key and feature 3 attachment points which match type MTC125/175 and 230. For connecting VETUS cylinder types MTC30/175 matching bolt sets are available.



| Type | D | Ø |
|--------|---|----|
| HELM30 | H | 56 |
| HELM40 | H | 66 |



| Type | D | Ø |
|--------|---|----|
| HELM50 | H | 66 |
| HELM60 | H | 76 |



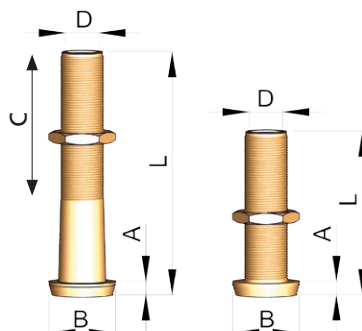
HELM

RUDDERS

Rudder gland type HENKO

This bronze rudder gland is available in 2 different lengths for Ø30 or Ø40 mm rudder stocks.

| Type | Ø D mm | L mm | A mm | Ø B mm | C mm |
|----------|-----------|---------|---------|-----------|---------|
| HENKO30 | 30 | 175 | 15 | 65 | - |
| HENKO30L | 30L | 275 | 15 | 65 | 160 |
| HENKO40 | 40 | 205 | 17 | 80 | - |
| HENKO40L | 40L | 305 | 17 | 80 | 160 |



HENKO..L



HENKO

REMOTE CONTROL STEERING

Follow-up steering

Suitable for boats of 6-20 metres LOA

Many pleasure craft are equipped with a manual hydraulic steering system. The VETUS follow-up steering system can be added to enable remote control from any position on board without the need to mount and connect a steering wheel. This greatly facilitates adding an inside steering station in a finished and furnished space. This system comes from a type of steering that is in common use with professional waterways vessels. By simply turning the steering handle, the rudder will follow the exact angle of the handle and by returning the handle to the mid-position, the rudder will return to mid-ships. Manual steering can be resumed at any time by switching the system off. VETUS' follow-up steering meets the EMC requirements.

Type FUHANDLE with control box type FU1224

Steering from any convenient place on board!

The fixed control handle can operate any type of hydraulic steering system with an electro-hydraulic pump, by means of the control box. It can be mounted on the dashboard or fixed to the helmsman's seat. This type of remote control can be used as the main steering device instead of the steering wheel, or as second or even third steering option.

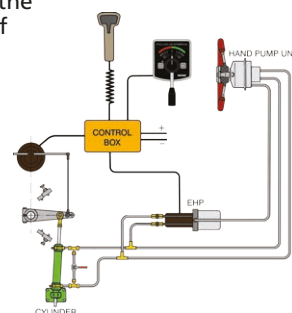
Specifications

- Panel dimensions 110 x 120 mm
- Dimensions incl. handle 110 x 190 mm
- Height 45 mm

| Type | Description |
|----------|--|
| FUHANDLE | Dash mount control handle for follow-up system |
| FU1224 | Control box for follow-up system, 12/24 Volt |



FUHANDLE



FU1224

REMOTE CONTROL STEERING

Follow-up control type FUREM

Mobile hand held control

Type FUREM has the same function as fixed control handle type FUHANDLE. However, the control is supplied with a 3 mtr spiralled cable with connection plug and socket. Type FUREM can only be used in addition to the fixed control.

| Type | Description | Dimensions control box (mm) |
|-------|---|-----------------------------|
| FUREM | Hand operated remote control for follow-up system | 258 x 114 x 52 |



FUREM

Electric remote control type RECON

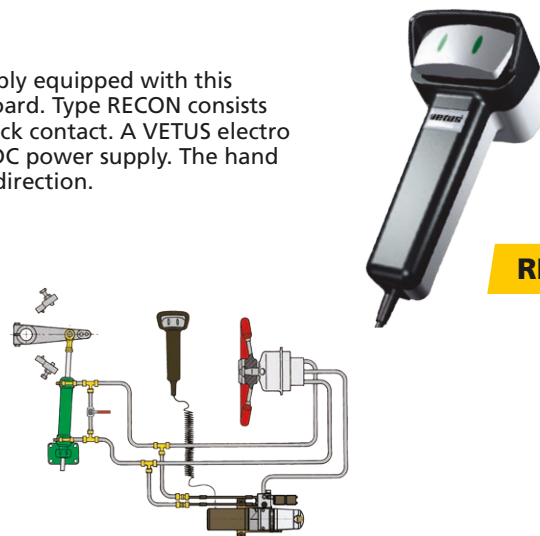
Easy and affordable expansion of your steering system

Conventional wheel operated hydraulic systems can be easily and cheaply equipped with this electrically operated remote control unit from virtually any point on board. Type RECON consists of a rocker switch, a 3,5 mtr spiralled wire with watertight plug and deck contact. A VETUS electro hydraulic pump is fitted in the hydraulic system and connected to the DC power supply. The hand held remote control is then used to operate the pump in the required direction.

Required components to order separately

- Electro hydraulic pump type EHPAR2/BR2/CR2/D or E
- Hydraulic fitting set for pump
- Hydraulic tubing of the required length
- 1 or more hand held controls with spiralled wire
- 2 Limit switches for the hydraulic cylinder

| Type | Description |
|-------|--|
| RECON | Hand held remote control for operation of: bow and stern thrusters, windlasses, etc. |



RECON

Set of limit switches

To avoid damage to the steering system components, the action of any electronic or electrical steering system should be tempered by limit switches located at the rudder stops.

| Type | Description |
|---------|----------------------------------|
| EHPESET | Set of limit switches (2 pieces) |



EHPESET

Joystick steering

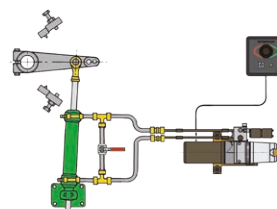
Replacement of your wheel operated steering

This joystick and its associated electro-hydraulic pump can replace the normal wheel operated steering pump. This approach is often used in commercial vessels plying inland waterways. The hydraulic steering cylinder will be specified according to the rudder torque and your joystick steering device is ready for usage.

Required components to order separately

- Electro hydraulic pump type EHPAR2/BR2/CR2/D or E
- Hydraulic fitting set for pump
- Hydraulic steering cylinder (for instance type MTC30/75)
- Hydraulic tubing of the required length
- Panel with joystick control
- 2 Limit switches EHPESET (see above)

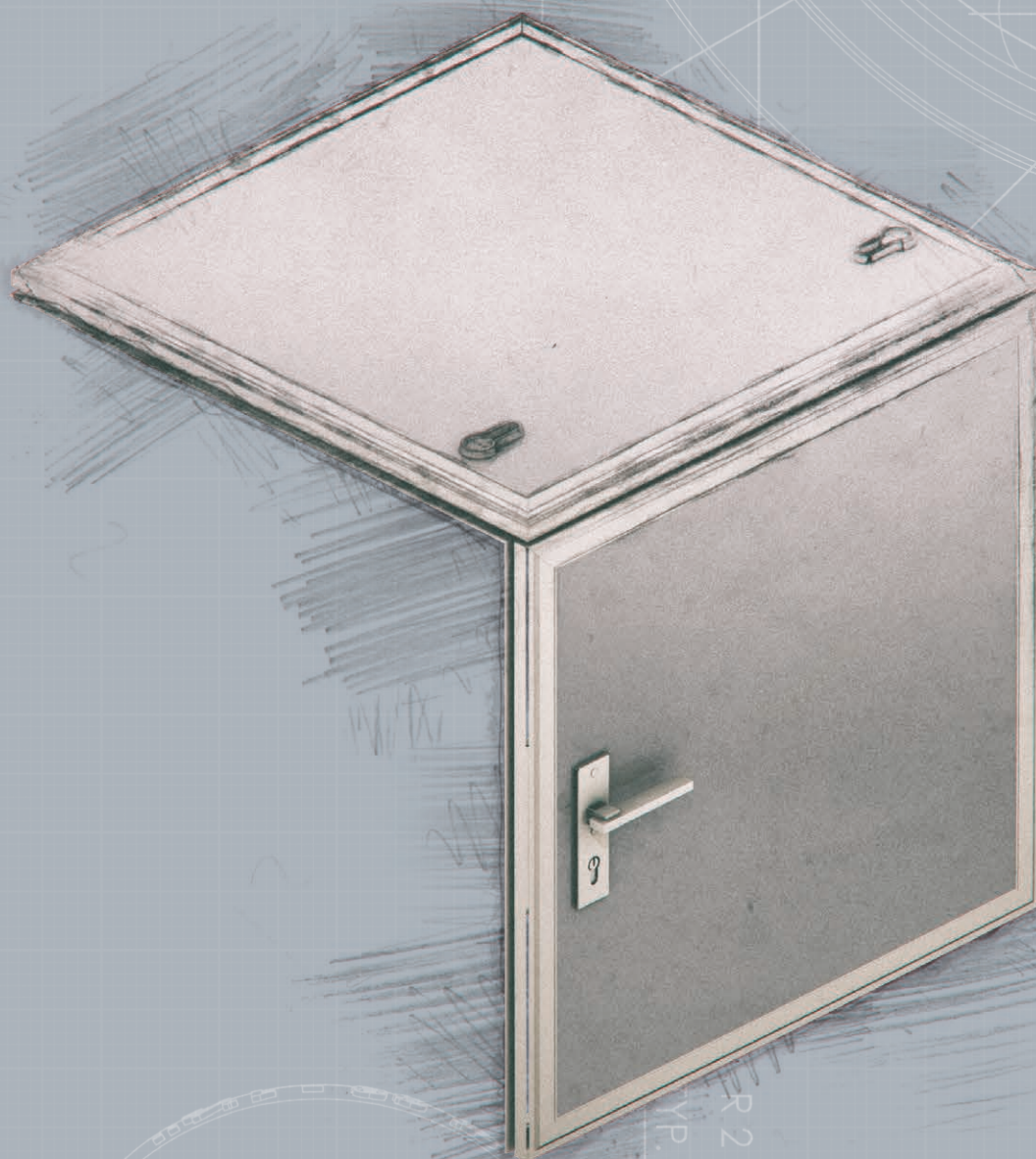
| Type | Description |
|---------|---|
| EHPJSTA | Joystick panel 12/24 V for electro-hydraulic steering systems |



EHPJSTA



GLAZING SYSTEMS



Overview VETUS glazing systems

Portholes, see page 245



Escape and ventilation hatches, see page 249



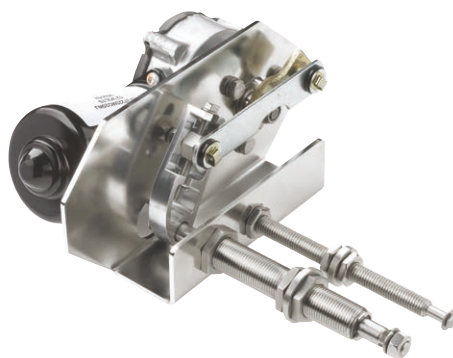
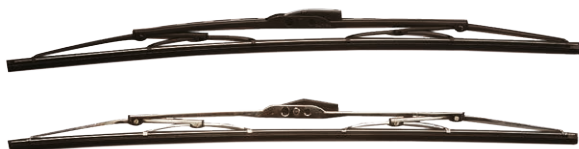
Hatch trims with mosquito screen, see page 250



Custom made glazing products, see page 254



Windscreen wipers, arms and blades, see page 259



Clear view screens, see page 262



Accessories, see page 265



VETUS GLAZING PRODUCTS

VETUS has produced glazing products for over 50 years. Over these years we have gained a huge amount of knowledge and experience, giving us the ability to offer the best quality at the most competitive price. To maintain this leadership position we are constantly monitoring and improving the production processes.

Whether you need a windscreen wiper system, a flush hatch or a custom window, our dedicated glazing team will be there to provide you with solid advice and excellent after-sales service.

Why use VETUS glazing products?

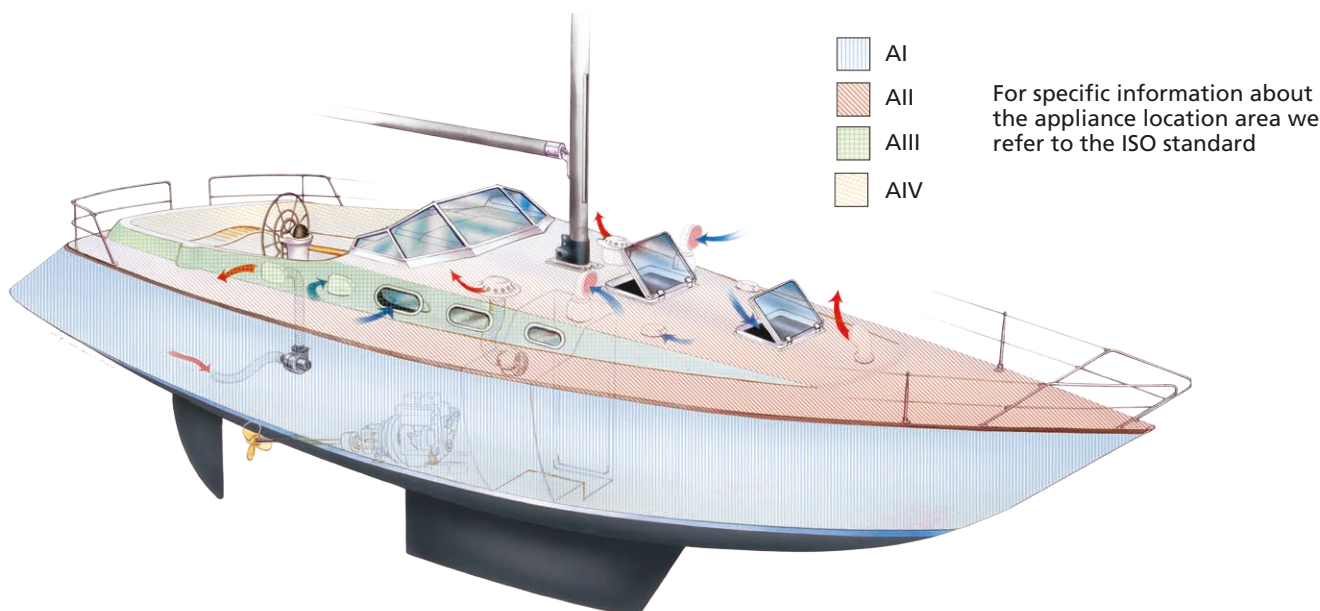
- We provide a complete solution to all your marine glazing requests
- Competitive price/quality ratio
- We offer a wide range of standard and custom made windows, windscreens and hatches
- All portholes are delivered with a mosquito screen as a standard
- High quality marine wipers featuring a powerful electric motor and separate worm wheel transmission
- Uniform appearance
- All hatches and portholes are CE marked in accordance with the Recreational Craft Directive
- All windows, windscreens, doors and cabin entries have been tested according to ISO 12216



CE MARKING

By affixing the CE marking to our products we declare, on our sole responsibility, that our products are in conformity with the requirements of the applicable European legislation. Specific requirements for windows, portlights, hatches, deadlights and doors are given in an international standard.

Naturally our complete range of glazing products fulfils the requirements set by ISO 12216. The criteria that have to be met depend on the area the appliances are installed in. There is always a VETUS product that is tested and certified to suit your situation. If you require advice about the correct product to choose, please contact your VETUS dealer.



PORTHOLES

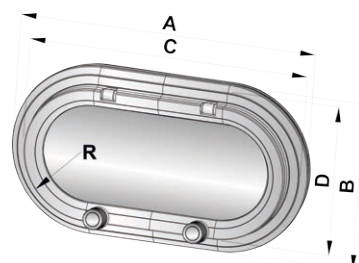
Portholes Area AI

Heavy duty portholes

These portholes are suitable for use in the hull side. The 10 mm 'smoke' coloured opening pane is set in satin anodised aluminium frame. Black and white powder coated frames are optional. The clamp fixing ensures that no fasteners are visible from either inside or outside. The portholes can be held open in any position due to the friction type hinges. In closed position knobs ensure water resistance. The porthole can be fitted in a surface with a minimum thickness of 2 mm and a maximum thickness of 18 mm. As standard a mosquito screen is supplied. A fixed version of each opening porthole is also available.

Type PM (AI)

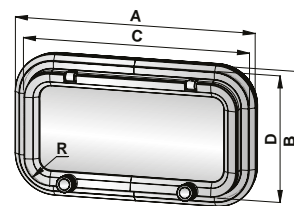
| Type | External dimensions A x B (mm) | Cut-out dimensions C x D (mm) | Cut-out radius R (mm) | Type mosquito screen |
|-------|-----------------------------------|----------------------------------|--------------------------|-------------------------|
| PM111 | 244 x 146 | 220 x 122 | 61 | HOR11 |
| PM121 | 294 x 172 | 270 x 148 | 74 | HOR12 |
| PM131 | 344 x 198 | 320 x 174 | 87 | HOR13 |
| PM141 | 362 x 146 | 338 x 122 | 61 | HOR14 |
| PM151 | 390 x 220 | 366 x 196 | 98 | HOR15 |
| PM161 | 399 x 199 | 375 x 175 | 87 | HOR16 |



PM

Type PZ (AI)

| Type | External dimensions A x B (mm) | Cut-out dimensions C x D (mm) | Cut-out radius R (mm) | Type mosquito screen |
|-------|-----------------------------------|----------------------------------|--------------------------|-------------------------|
| PZ611 | 301 x 164 | 277 x 140 | 54 | HOR61 |
| PZ621 | 368 x 179 | 344 x 155 | 61 | HOR62 |
| PZ631 | 622 x 197 | 598 x 173 | 61 | HOR63 |
| PZ641 | 397 x 197 | 373 x 173 | 61 | HOR64 |
| PZ651 | 399 x 190 | 375 x 166 | 54 | HOR65 |
| PZ661 | 399 x 234 | 375 x 210 | 54 | HOR66 |
| PZ671 | 451 x 274 | 427 x 250 | 54 | HOR67 |



PZ



PORTHOLES

Type PW (AI)

| Type | External dimensions A (mm) Ø | Cut-out dimensions B (mm) Ø | Type mosquito screen |
|-------|---------------------------------|--------------------------------|----------------------|
| PW201 | 198 | 174 | HOR2013 |
| PW211 | 220 | 196 | HOR2113 |
| PW221 | 260 | 236 | HOR2213 |



PW

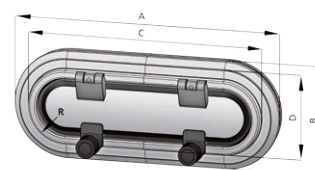
Portholes Area AIII

Medium duty portholes

These portholes are suitable for use in the coachroof side. They come with a 10 mm 'smoke' coloured -unframed- opening pane. The clamp type installation ensures that no fasteners are visible from either inside or outside. The portholes can be held open in any position due to the friction type hinges. In closed position 2 knobs ensure water resistance. They are standard supplied with a mosquito screen. The porthole can be fitted in a surface with a minimum thickness of 2 mm and a maximum thickness of 18 mm.

Type PM (AIII)

| Type | External dimensions A x B (mm) | Cut-out dimensions C x D (mm) | Cut-out radius R (mm) | Type mosquito screen |
|-------|-----------------------------------|----------------------------------|--------------------------|----------------------|
| PM113 | 244 x 146 | 220 x 122 | 61 | HOR11 |
| PM123 | 294 x 172 | 270 x 148 | 74 | HOR12 |
| PM133 | 344 x 198 | 320 x 174 | 87 | HOR13 |
| PM143 | 362 x 146 | 338 x 122 | 61 | HOR14 |
| PM153 | 390 x 220 | 366 x 196 | 98 | HOR15 |
| PM163 | 399 x 199 | 375 x 175 | 87 | HOR16 |

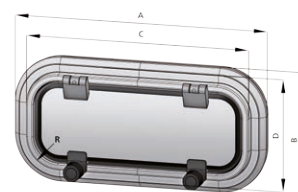


PM



Type PZ (AIII)

| Type | External dimensions A x B (mm) | Cut-out dimensions C x D (mm) | Cut-out radius R (mm) | Type mosquito screen |
|-------|-----------------------------------|----------------------------------|--------------------------|----------------------|
| PZ613 | 301 x 164 | 277 x 140 | 54 | HOR61 |
| PZ623 | 368 x 179 | 344 x 155 | 61 | HOR62 |
| PZ633 | 622 x 197 | 598 x 173 | 61 | HOR63 |
| PZ643 | 397 x 197 | 373 x 173 | 61 | HOR64 |
| PZ653 | 399 x 190 | 375 x 166 | 54 | HOR65 |
| PZ663 | 399 x 234 | 375 x 210 | 54 | HOR66 |
| PZ673 | 451 x 274 | 427 x 250 | 54 | HOR67 |



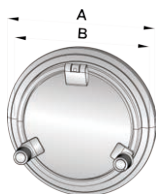
PZ



PORTHOLES

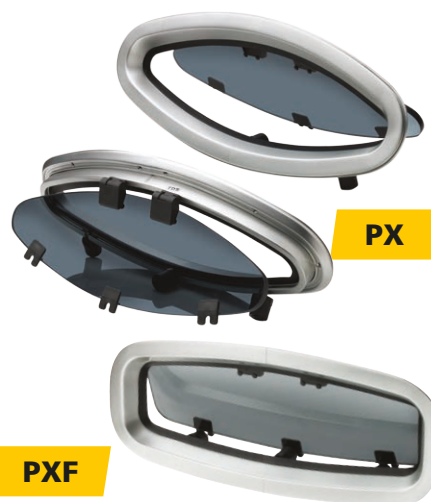
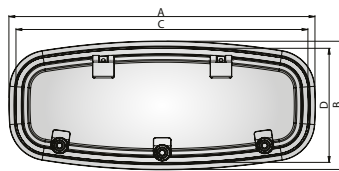
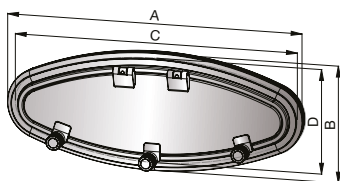
Type PW (AIII)

| Type | External dimensions A (mm) Ø | Cut-out dimensions B (mm) Ø | Type mosquito screen |
|-------|---------------------------------|--------------------------------|-------------------------|
| PW203 | 198 | 174 | HOR2013 |
| PW213 | 220 | 196 | HOR2113 |
| PW223 | 260 | 236 | HOR2213 |



Type PX (AIII)

| Type | External dimensions A x B (mm) | Cut-out dimensions C x D (mm) | Type mosquito screen |
|------|-----------------------------------|----------------------------------|-------------------------|
| PX45 | 441 x 179 | 417 x 155 | HOR45 |
| PX46 | 492 x 196 | 468 x 172 | HOR46 |
| PX47 | 544 x 217 | 520 x 193 | HOR47 |
| PXF | 480 x 239 | 456 x 215 | HORPXF |



PXF

Stainless steel portholes (AI and AIII)

Available in 2 versions

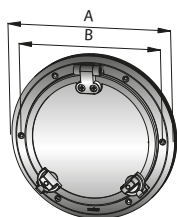
These portholes are suitable for a panel thickness of 3 to 18 mm. Both versions come with an anodised aluminium mosquito screen (for screw sizes and panel thicknesses see table below).

Versions

1. With a stainless steel inner frame, 'smoke' coloured 8 mm acrylic. Appliance location area I.
2. With unframed 10 mm acrylic, 'smoke' coloured. Appliance location area III.

Type PWS

| Type | External dimensions A (mm) Ø | Cut-out dimensions B (mm) Ø | Type mosquito screen |
|---------|---------------------------------|--------------------------------|-------------------------|
| PWS31A3 | 220 | 198 | HOR31S |
| PWS31A1 | 220 | 198 | HOR31S |
| PWS32A3 | 260 | 238 | HOR32S |
| PWS32A1 | 260 | 238 | HOR32S |

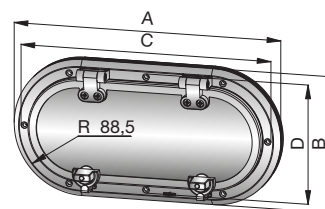


PWS

PORTHOLES

Type PMS

| Type | External dimensions A x B (mm) | Cut-out dimensions C x D (mm) | Type mosquito screen |
|---------|-----------------------------------|----------------------------------|-------------------------|
| PMS23A3 | 346 x 199 | 322 x 177 | HOR23S |
| PMS23A1 | 346 x 199 | 322 x 177 | HOR23S |
| PMS24A3 | 390 x 199 | 366 x 177 | HOR24S |
| PMS24A1 | 390 x 199 | 366 x 177 | HOR24S |



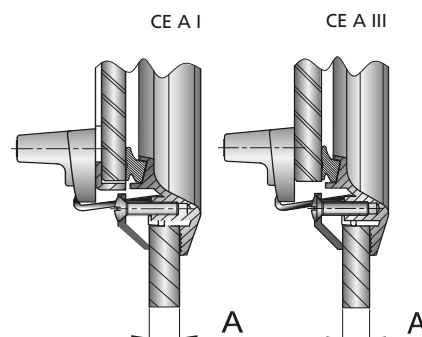
PMS



Recommended screw size for VETUS portholes

Screws available for PWS and PMS portholes in packs of 50 pcs.

| Type | Panel thickness (A) | Screw |
|---------|---------------------|---------|
| SET0092 | 3 - 5 mm | M5 x 12 |
| SET0093 | 5 - 9 mm | M5 x 16 |
| SET0094 | 9 - 14 mm | M5 x 20 |
| SET0095 | 14 - 18 mm | M5 x 25 |



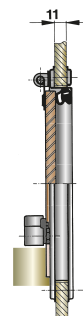
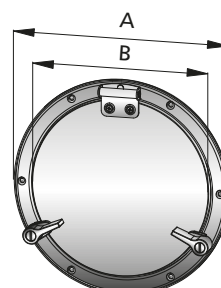
Portholes type PQ

CE marking All

VETUS PQ portholes are made of stainless steel and include a counter flange. They have an 8 mm thick acrylic 'smoke' coloured pane and come with a mosquito screen.



PQ



| Type | External dimensions A (mm) Ø | Cut-out dimensions B (mm) Ø | Type mosquito screen |
|------|---------------------------------|--------------------------------|-------------------------|
| PQ51 | 158 | 126 | HORPQ51 |
| PQ52 | 184 | 151 | HORPQ52 |
| PQ53 | 210 | 176 | HORPQ53 |

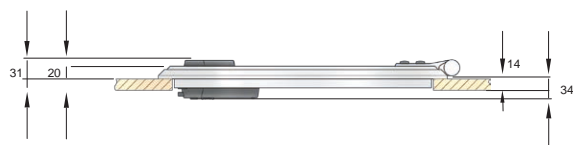
ESCAPE AND VENTILATION HATCHES

Type PLANUS (All)

Stylish budget model

These hatches have a satin sheen anodised aluminium frame with a 75 mm corner radius and a 10 mm 'dark smoke' coloured acrylic lid. A friction hinge allows the hatches to remain open at any angle up to 180°.

Type PLANUS is suitable for design category A, Area II.



Maximum height (incl. dogs)



PLA

Escape hatches

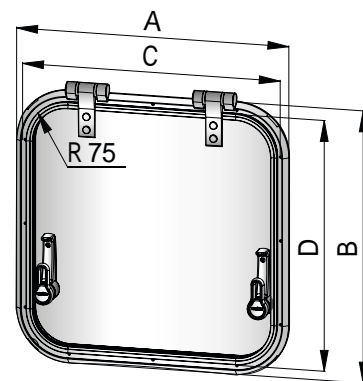
| Type | External dimensions A x B (mm) | Cut-out dimensions C x D (mm) |
|--------|-----------------------------------|----------------------------------|
| PLA50L | 521 x 521 | 471 x 471 |
| PLA45L | 474 x 474 | 424 x 424 |

Ventilation hatches

| Type | External dimensions A x B (mm) | Cut-out dimensions C x D (mm) |
|--------|-----------------------------------|----------------------------------|
| PLA34L | 390 x 260 | 340 x 210 |
| PLA30L | 350 x 280 | 300 x 230 |
| PLA23L | 280 x 280 | 230 x 230 |

Deck hatches

| Type | External dimensions A x B (mm) | Cut-out dimensions C x D (mm) |
|--------|-----------------------------------|----------------------------------|
| PLA40L | 424 x 424 | 374 x 374 |
| PLA32L | 474 x 344 | 424 x 294 |



VETUS handles

Specifications

- The hatch can be opened from the inside or outside
- Can be locked or secured with an air gap for permanent ventilation
- An internal locking mechanism prevents opening from the outside when the boat is unattended
- The low external profiles ensures that ropes cannot get caught under the handles



CLOSED



OPEN

ESCAPE AND VENTILATION HATCHES

Type FGH (All)

Stylish flush hatch

The FGH is specifically designed for new boats. The flush hatches are most suitable for new builds because the deck must be recessed to receive the hatch. After fitting, the hatches are completely recessed into the deck, leaving the deck smooth without visible lines. Type FGH is available in four sizes and is made of 12 mm thick 'dark smoke' acrylic with a polished and anodised aluminium frame. Type FGH is suitable for design category A, Area II.



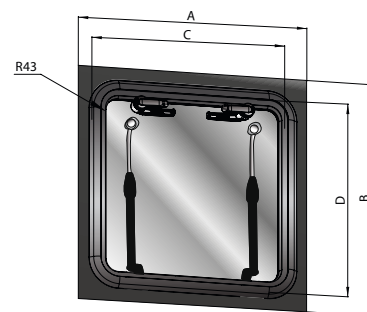
FGH

Escape hatches

| Type | External dimensions A x B (mm) | Cut-out dimensions C x D (mm) |
|---------|-----------------------------------|----------------------------------|
| FGH6363 | 700 x 700 | 627 x 627 |
| FGH5151 | 580 x 580 | 507 x 507 |

Deck hatches

| Type | External dimensions A x B (mm) | Cut-out dimensions C x D (mm) |
|---------|-----------------------------------|----------------------------------|
| FGH4444 | 515 x 515 | 442 x 442 |
| FGH2626 | 330 x 330 | 260 x 260 |



Hatch trims with mosquito screen

Neat finish and protection against insects

The complete range of hatches can be supplied with an adjustable depth trim complete with mosquito screen. These white synthetic trims are designed to cover the space between the hatch and the headlining inside the boat. The depth of the flange can be cut to size to suit any deck thickness up to 50 mm. The integral and hinged mosquito screen can be easily removed to facilitate cleaning.

| Type | Hatch |
|-------|--------|
| HCM23 | PLA23L |
| HCM30 | PLA30L |
| HCM32 | PLA32L |
| HCM34 | PLA34L |
| HCM40 | PLA40L |
| HCM45 | PLA45L |
| HCM50 | PLA50L |

| Type | Hatch |
|---------|----------|
| HCM2020 | LIB2032L |
| HCM3420 | LIB3432L |
| HCM4141 | LIB4155L |
| HCM4532 | LIB32..L |
| HCM5037 | LIB37..L |
| HCM5050 | LIB50..L |
| HCM6262 | LIB62..L |

| Type | Hatches | | |
|---------|-----------|-----------|---------|
| HCM2626 | MAG2626SL | ALT2626SL | FGH2626 |
| HCM4242 | MAG4242SL | ALT4242SL | |
| HCM4444 | | | FGH4444 |
| HCM4633 | MAG4633SL | ALT4633SL | |
| HCM4747 | MAG4747SL | ALT4747SL | |
| HCM5038 | MAG5038SL | ALT5038SL | |
| HCM5151 | MAG5151SL | ALT5151SL | FGH5151 |
| HCM6363 | MAG6363SL | ALT6363SL | FGH6363 |

| Type | Hatch |
|---------|-----------|
| HCMD420 | ALTD420SL |
| HCMD520 | ALTD520SL |
| HCMR420 | ALTR420SL |
| HCMR520 | ALTR520SL |



HCM

ESCAPE AND VENTILATION HATCHES

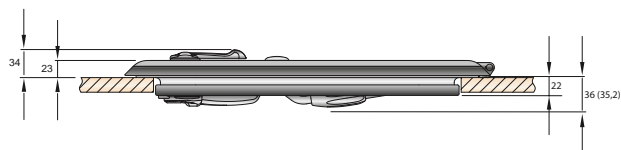
Type ALTUS (All)

Best midrange hatch in the business

This type is made of a sturdy aluminium profile (height 21 mm) with a satin sheen anodised frame and is suitable for design category A and appliance location area II. The acrylic has a thickness of 10mm and is 'dark smoke' coloured. These hatches come with adjusters which are stylish and easy to operate, allowing the lid to be held open at almost any angle up to 90°. Type ALTUS can be fitted on deck and opened from the inside or outside. It has a ventilation position and can be locked completely watertight.

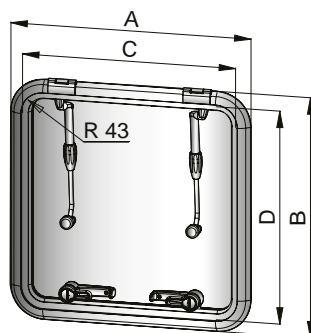


ALT

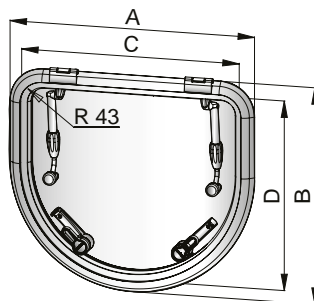


Maximum height (incl. dogs)

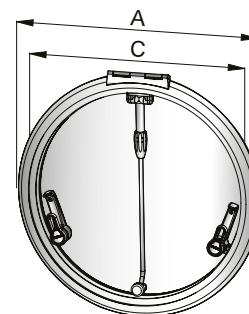
Model 1



Model 2



Model 3



Escape hatches

| Type | External dimensions A x B (mm) | Cut-out dimensions C x D (mm) | Model |
|-----------|-----------------------------------|----------------------------------|-------|
| ALT6363SL | 701 x 701 | 627 x 627 | 1 |
| ALT5151SL | 581 x 581 | 507 x 507 | 1 |
| ALT4747SL | 544 x 544 | 470 x 470 | 1 |
| ALTD520SL | 592 x 524 | 518 x 450 | 2 |
| ALTR520SL | Ø 592 | Ø 518 | 3 |

Deck hatches

| Type | External dimensions A x B (mm) | Cut-out dimensions C x D (mm) | Model |
|-----------|-----------------------------------|----------------------------------|-------|
| ALT4242SL | 495 x 495 | 421 x 421 | 1 |
| ALT5038SL | 581 x 451 | 507 x 377 | 1 |
| ALT4633SL | 531 x 401 | 457 x 327 | 1 |
| ALTR420SL | Ø 491 | Ø 417 | 3 |

Ventilation hatches

| Type | External dimensions A x B (mm) | Cut-out dimensions C x D (mm) | Model |
|-----------|-----------------------------------|----------------------------------|-------|
| ALT2626SL | 334 x 334 | 260 x 260 | 1 |
| ALTD420SL | 491 x 326 | 417 x 252 | 2 |



ESCAPE AND VENTILATION HATCHES

Type LIBERO (All)

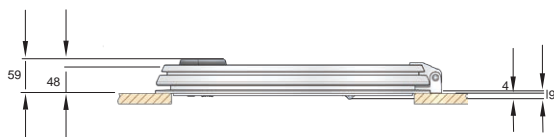
Still going strong

These hatches have a hand polished and anodised aluminium frame with a 32 or 55 mm corner radius and a 10 mm 'dark smoke' coloured acrylic lid. The escape and deck hatches come with adjusters allowing the lid to be held open at almost any angle up to 90°.

Type LIBERO is suitable for design category A, Area II.



LIB



Maximum height (incl. dogs)

Escape hatches

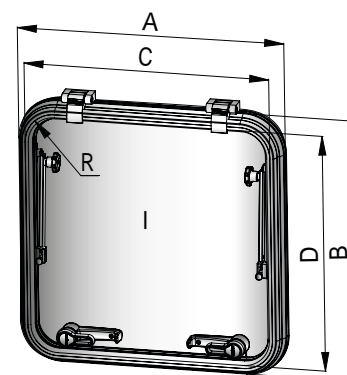
| Type | External dimensions A x B (mm) | Cut-out dimensions C x D (mm) | Cut-out radius R (mm) |
|----------|-----------------------------------|----------------------------------|-----------------------|
| LIB6232L | 680 x 680 | 620 x 620 | 32 |
| LIB6255L | 680 x 680 | 620 x 620 | 55 |
| LIB5032L | 560 x 560 | 500 x 500 | 32 |
| LIB5055L | 560 x 560 | 500 x 500 | 55 |
| LIB4155L | 470 x 470 | 410 x 410 | 55 |

Deck hatches

| Type | External dimensions A x B (mm) | Cut-out dimensions C x D (mm) | Cut-out radius R (mm) |
|----------|-----------------------------------|----------------------------------|-----------------------|
| LIB3732L | 560 x 430 | 500 x 370 | 32 |
| LIB3755L | 510 x 380 | 500 x 370 | 55 |
| LIB3232L | 400 x 255 | 450 x 320 | 32 |
| LIB3255L | 450 x 320 | 450 x 320 | 55 |

Ventilation hatches

| Type | External dimensions A x B (mm) | Cut-out dimensions C x D (mm) | Cut-out radius R (mm) |
|----------|-----------------------------------|----------------------------------|-----------------------|
| LIB3432L | 400 x 255 | 340 x 195 | 32 |
| LIB2032L | 260 x 260 | 200 x 200 | 32 |



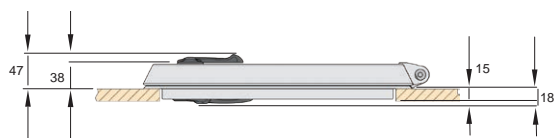
ESCAPE AND VENTILATION HATCHES

Type MAGNUS (AI)

Heavy duty ocean hatch

MAGNUS hatches have a satin sheen anodised frame profile with a 10 mm thick 'dark smoke' coloured acrylic and are designed for ocean use, design category A, Area I. These hatches can be opened from the inside or outside through 180° with almost no obstructions in the opening. They have a ventilation position and can be locked completely watertight. The cut-out sizes of this type match the market-based dimensions.

Application on habitable multihulls as a means of escape in the inverted position, is subject to European legislation. Please contact our glazing team for further information.



Maximum height (incl. dogs)



MAG

Escape hatches

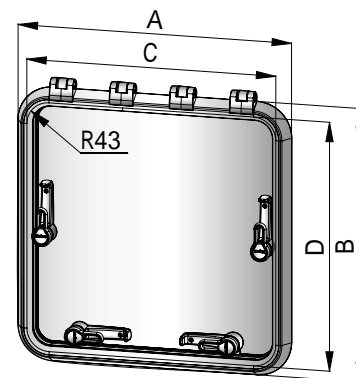
| Type | External dimensions A x B (mm) | Cut-out dimensions C x D (mm) |
|-----------|-----------------------------------|----------------------------------|
| MAG6363SL | 679 x 679 | 627 x 627 |
| MAG5151SL | 559 x 559 | 507 x 507 |
| MAG4747SL | 522 x 522 | 470 x 470 |

Deck hatches

| Type | External dimensions A x B (mm) | Cut-out dimensions C x D (mm) |
|-----------|-----------------------------------|----------------------------------|
| MAG4242SL | 473 x 473 | 421 x 421 |
| MAG5038SL | 559 x 429 | 507 x 377 |
| MAG4633SL | 509 x 379 | 457 x 327 |

Ventilation hatches

| Type | External dimensions A x B (mm) | Cut-out dimensions C x D (mm) |
|-----------|-----------------------------------|----------------------------------|
| MAG2626SL | 312 x 312 | 260 x 260 |



CUSTOM MADE BOAT GLAZING

MAREX

Marex stands for high quality in custom made marine glazing products. The aluminium frames withstand a 1000-hour salt spray test without any observable damage. In addition, they are independently certified to comply with the Recreational Craft Directive and applicable ISO standards. This all ensures that your glazing will look like new for a long time.

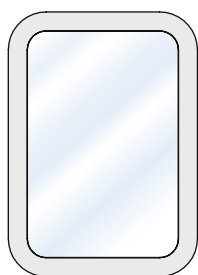
To meet your needs, we offer three different window profiles: screw-on, comfort and exclusive. In addition we can provide fritted glass (frameless glass), windscreens, sliding hatches, cabin entries and doors. All products are made to measure.

The following frame finishes are available:
anodised clear, powder coated in black (RAL 9005) or white (RAL 9010).
Other colours are available on request.

Sliding and halfdrop type windows can be provided with a mosquito screen.

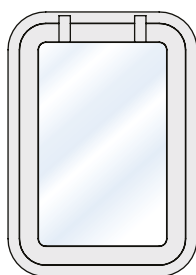


Exclusive double glass
Comfort single glass and
double glass
Screw-on single glass



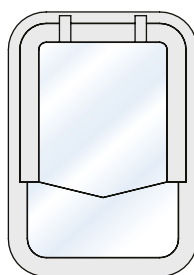
FIXED

Exclusive double glass
Comfort single glass and
double glass



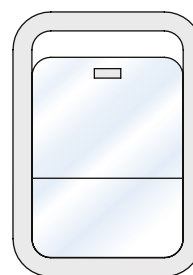
HINGED

Comfort single glass



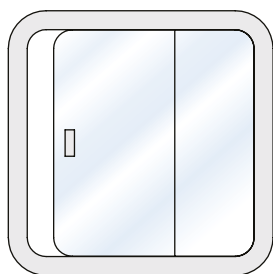
HALF HINGED

Comfort single glass
Screw-on single glass



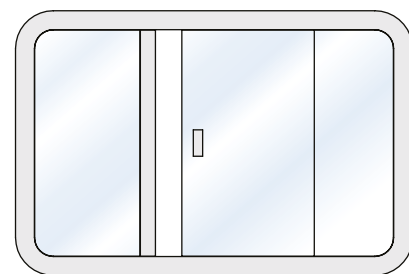
HALF DROP

Screw-on single glass
Comfort single glass



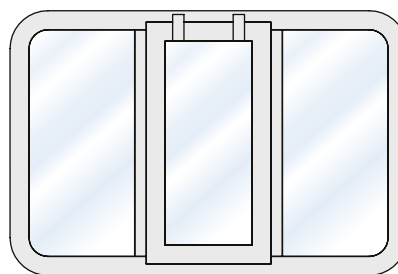
SLIDING

Screw-on single glass
Comfort single glass



COMBINATION FIXED/SLIDING

Comfort single and double glass
Exclusive double glass



COMBINATION FIXED/HINGED

CUSTOM MADE BOAT GLAZING

MAREX

Screw-on range

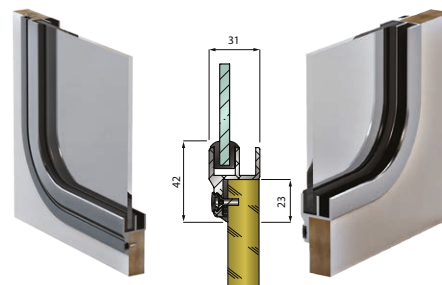
Specifications

- Particularly suitable for wooden superstructures
- Suitable for all panel thicknesses
- Supplied with a black, white or grey strip to cover the screws
- With corner radii (65, 75, 90 or 105 mm) or mitred corners
- Standard 6 mm glass thickness

Cover strip



outside



Screw-on range

inside

Comfort range

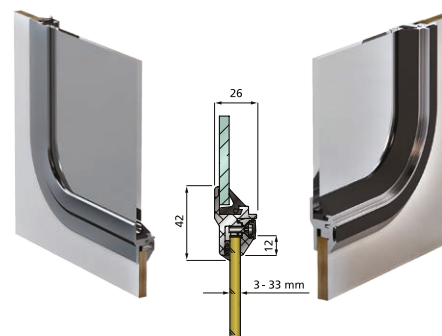
Specifications

- Uses an aluminium clamp profile, fastened from inside by screws through the supplied aluminium counter flange (therefore no screws are visible from the outside of the boat)
- Suitable for panel thicknesses between 3 and 33 mm (fixed glass), 3 and 37 mm (sliding glass) or 3 and 42 mm (double glass)
- Supplied with a black, white or grey strip to cover the screws
- With corner radii (65, 75, 90 or 105 mm) or mitred corners
- Available glass thicknesses: 6, 8 and 10 mm for single glass or combined for double glass

Cover strip



outside



Comfort range

inside

Exclusive range

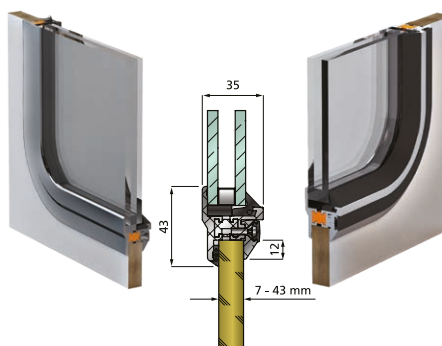
Specifications

- Uses an aluminium clamp profile, fastened from inside by screws through the supplied aluminium counter flange (therefore no screws are visible from the outside of the boat)
- Suitable for panel thicknesses of 7 to 43 mm
- Supplied with a black, white or grey strip to cover the screws and a seal for fitting
- To prevent condensation on the inside glass pane and window frame, the Exclusive range uses an (insulation bridge) insulated edge seal
- Available as fixed or fully hinged versions with double glass only
- With corner radii (75*, 90 or 105 mm) or mitred corners
- Available glass thicknesses (6, 8 and 10 mm) can be combined for the double glass. The standard is two panes, each 6 mm thick

Cover strip



outside



Exclusive range

inside

*Except hinged windows

Fritted glass

A modern alternative for boat glazing: fritted glass in a frame. Fritted glass, also known as structural glazing, is glued in a groove. Optical the windows and the boat are one. Everything completely flush.

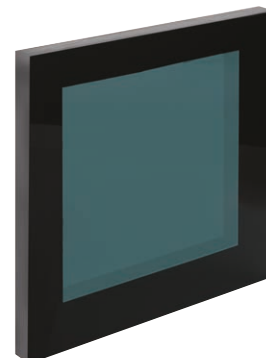
Specifications

Flat fritted single or double glass

- Maximum size of glass pane: 2660 x 2440 mm
- Minimum size of glass pane: 300 x 300 mm
- Available glass thicknesses 3.5 mm - 22 mm
- Available corner radii: no limitations
- Solid frit size: no limitations
- Solid frit colour: black. Other colours on special request
- Spacer bar: aluminium only (6, 8, 10, 12, 16, 19 and 24 mm)
- Spacer bar colour: aluminium. Colours on special request
- Dotted frit size and pattern: on special request

Curved fritted single pane glass

- Curved in one direction only
- Maximum size of glass pane: 2200 x 2200 mm
- Minimum size of glass pane: 500 x 500 mm
- Available glass thicknesses 5 mm - 12 mm
- Available corner radii: no limitations
- Solid frit size: no limitations
- Solid frit colour: black. Other colours on special request
- Dotted frit size and pattern: on special request



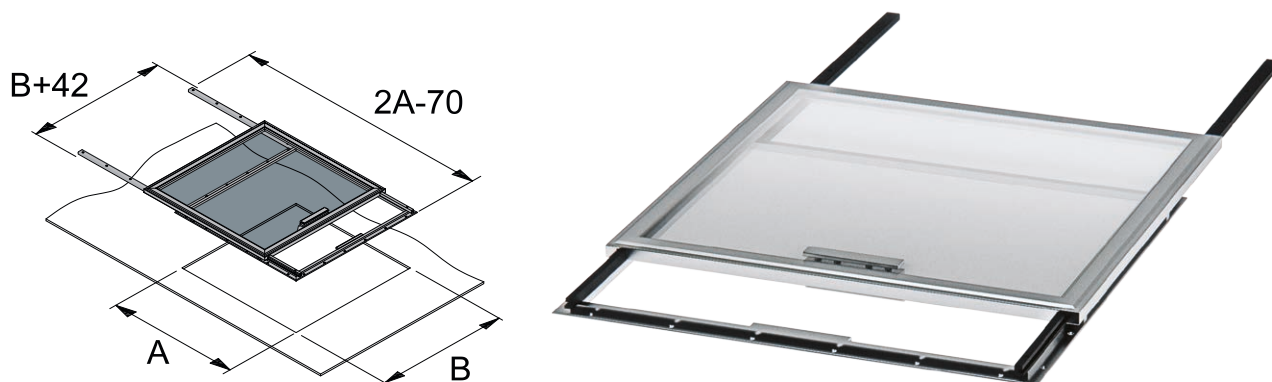
CUSTOM MADE BOAT GLAZING

MAREX

Sliding hatches

Hand polished, anodised aluminium profiles

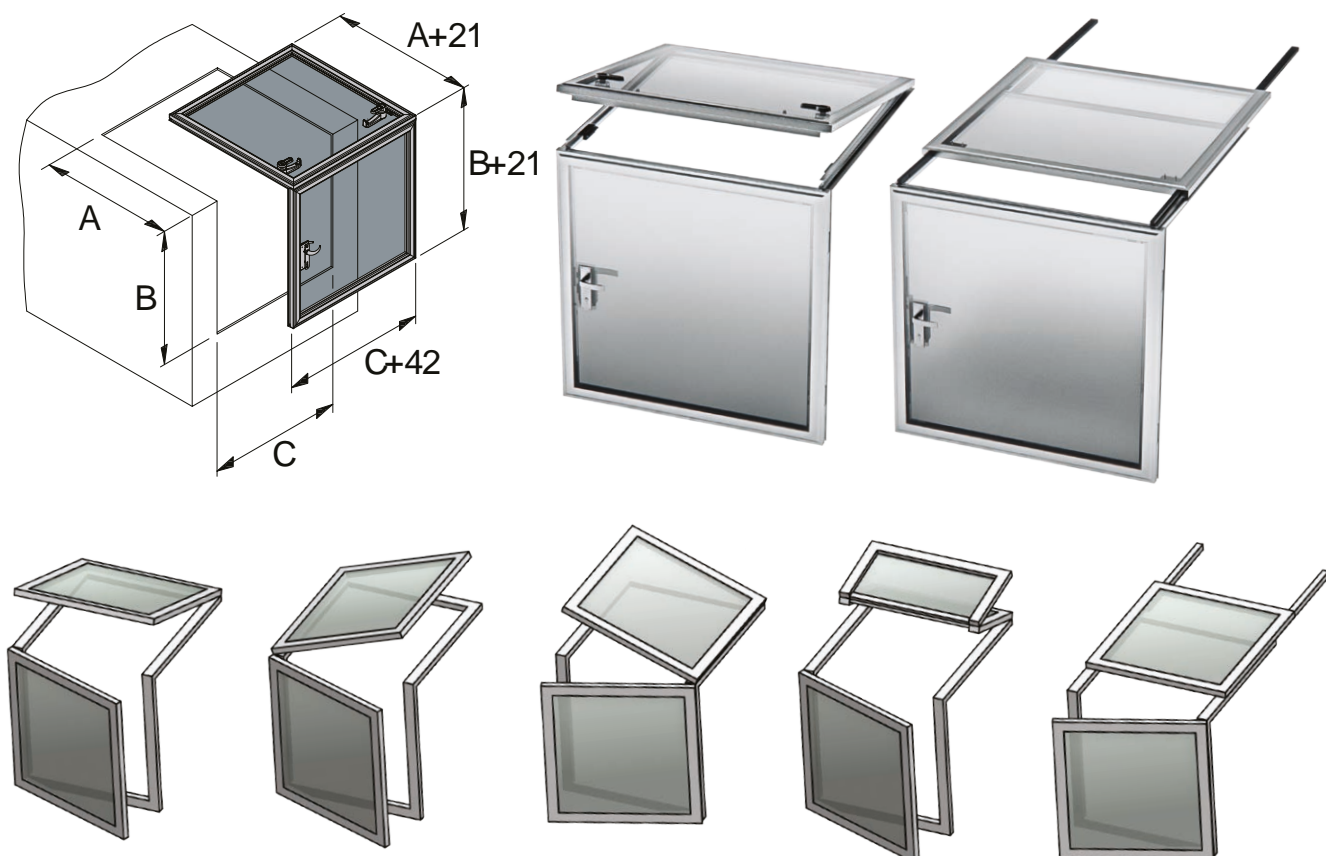
Our sliding hatches are made to your dimensions. The acrylic pane has a thickness of 10 mm and is 'smoke' coloured. All sliding hatches are suitable for design category A, Area IV.



Cabin entries

Made to your dimensions

Both the hinged door and the top cover (hinged or sliding) are made to your dimensions. The cabin entries can also be supplied without a door and the doors can be ordered without a hatch. All cabin entries are suitable for design category A, Area IV.



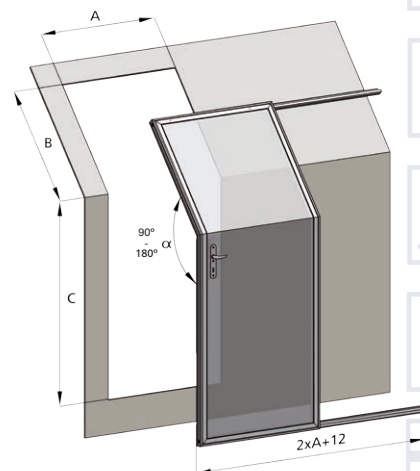
CUSTOM MADE BOAT GLAZING

MAREX

Sliding cabin entry

Easy sliding!

Equipped with bearing runners this single unit cabin entry opens and shuts very easily. In order to keep the sliding door in its open position an end-lock is mounted. Available with mitred corners, acrylic pane and angles from 90-180 degrees.

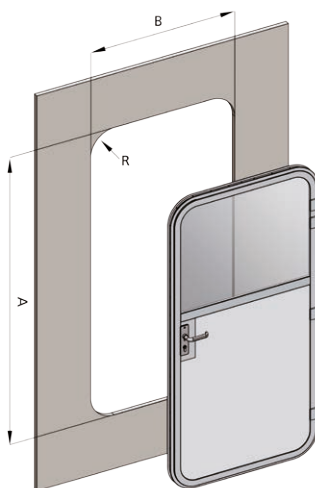


Hinged doors

For when you are boating in heavy weather, these hinged doors are fitted with a double seal for protection against flooding. The door's upper section can be single or double glazed, or fitted with an opaque panel (tinted glass). Available with mitred or rounded corners.

Specifications

- Corner radius 130 mm
- Door thickness 20 mm
- Panel thickness 3 - 48 mm



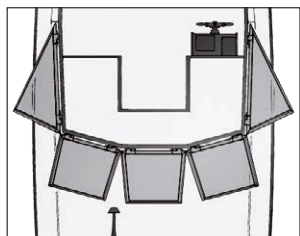
CUSTOM MADE BOAT GLAZING

MAREX

Windscreens

Choose your style

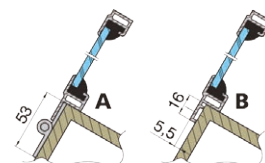
Our custom made windscreens are constructed from polished and anodised or powder-coated aluminium extrusions. The toughened glass can be supplied in the tints 'clear', green, grey, bronze or blue. The upper edges of the side screens can be made with a larger radius curve. Below you see 2 installation possibilities.



Installation option 1

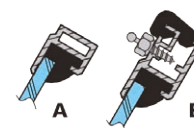
There are two ways to secure the windscreen to the superstructure: either hinged (A) or fixed (B), see drawing.

For boats which often pass low bridges, the windscreens can be hinged so each section can be lowered to the deck to reduce the craft's air draft.



Installation option 2

The standard profile along the top edge of the windscreen is as shown in drawing A. If a spray hood is to be fitted, we can install the profile shown in drawing B, to which standard canvas fittings such as snaps and twist-locks can be attached.



Fastening system for hinged windscreen

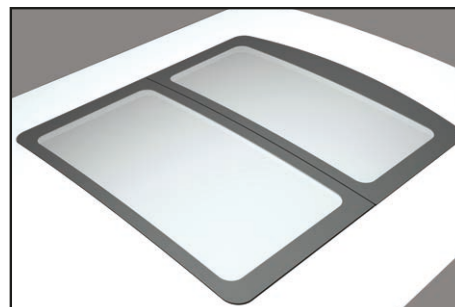
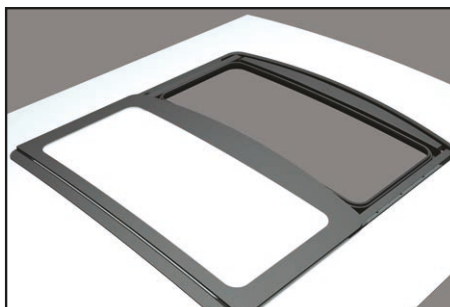
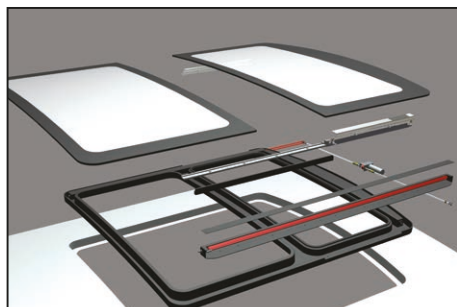
Flush Panoramic Sunroof

Ultimate benefits of a solid glass roof

Our panoramic sunroof is produced using the latest state-of-the-art techniques, components and materials, operating both silently and smoothly.

You can enjoy the sun and the ocean breeze by opening the panoramic roof (measuring 2000 x 2150 mm) or keep the weather out by simply closing it.

| Model | Flush Panoramic Sunroof |
|----------------------|-------------------------|
| Outside dimensions | 2000 x 2150 mm |
| Roof radius | 12 m |
| Weight (excl. glass) | 85 kg |
| Weight (incl. glass) | 175 kg |
| Voltage | 230 V / 260 W |



WINDSCREEN WIPERS, ARMS AND BLADES

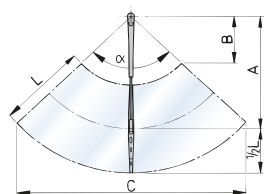
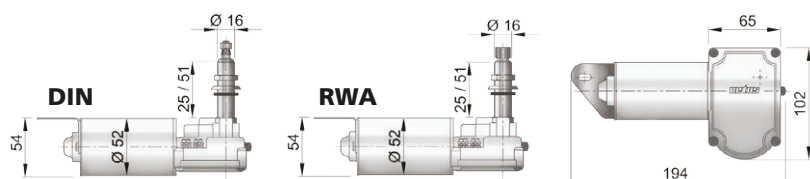
Windscreen wipers motor type RW and DIN

Ideal wiping for almost any window shape and size

These high quality marine windscreen wipers feature a powerful but quiet 2 speed electric motor and a separate worm gear transmission. The wiping angle can be adjusted to 8 different settings. Type RW has a parallel push fit connection. Type DIN has a tapered and knurled connection with a securing nut providing a stronger connection between the wiper arm and the motor drive shaft resulting in a longer life span for both parts. Both types are self-parking and meet the EMC requirements.

Specifications

- Available for 12 or 24 Volt D.C. supply
- Output 30 Watt
- Suitable for panel thickness from 3 to 13 mm (short shaft) or 3 to 38 mm (long shaft)
- Type RW with straight knurled stainless steel shaft end of Ø13,5 mm, 72 teeth
- Type DIN with tapered and knurled stainless steel shaft according to DIN 72783
- Optional: screen washer kit, 3-position switch, protective synthetic cover, control panel



| Type | Specifications |
|---------|--|
| RW01A | Wiper motor 12 V, 50 mm spindle with parallel end |
| RW02A | Wiper motor 24 V, 50 mm spindle with parallel end |
| RW08A | Wiper motor 12 V, 25 mm spindle with parallel end |
| RW09A | Wiper motor 24 V, 25 mm spindle with parallel end |
| DIN1250 | Wiper motor 12 V, 50 mm spindle with DIN tapered end |
| DIN2450 | Wiper motor 24 V, 50 mm spindle with DIN tapered end |
| DIN1225 | Wiper motor 12 V, 25 mm spindle with DIN tapered end |
| DIN2425 | Wiper motor 24 V, 25 mm spindle with DIN tapered end |



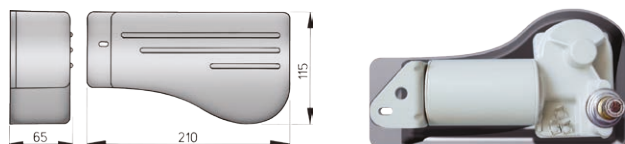
RW



DIN

Plastic cover for wiper type RW and DIN

By installing the plastic cover, you will reduce the indicated panel thickness by 3 mm, complete with bottom plate.



RWCG

RWASET

The RWASET is a connection set for parallel wiper arms.



RWASET

WINDSCREEN WIPERS, ARMS AND BLADES

How to choose a motor

When ordering, the voltage, shaft length and shaft end type must be stated. The table below shows the required wiping angle for almost any window. Wiper arms and blades should be ordered separately (see below this page).

| Single arm adjustable from 395 mm to 481 mm | | | | | | | Single arm adjustable from 473 mm to 559 mm | | | | | | | Single arm adjustable from 280 mm to 366 mm | | | | | | | | | |
|---|----|------|------|------|------|------|---|----------------|----|------|------|------|------|---|------|----------------|----|------|------|------|------|------|------|
| L: 305 L: 410 L: 508 | | | | | | | L: 305 L: 410 L: 508 | | | | | | | L: 305 L: 410 L: 508 | | | | | | | | | |
| α° | | Min. | Max. | Min. | Max. | Min. | Max. | α° | | Min. | Max. | Min. | Max. | Min. | Max. | α° | | Min. | Max. | Min. | Max. | Min. | Max. |
| 40 | A: | 395 | 481 | 395 | 481 | 395 | 481 | 40 | A: | 473 | 559 | 473 | 559 | 473 | 559 | 40 | A: | 280 | 366 | 280 | 366 | 280 | 366 |
| | B: | 228 | 309 | 179 | 259 | 132 | 213 | | B: | 301 | 382 | 252 | 333 | 206 | 287 | | B: | 120 | 201 | 70 | 151 | 24 | 105 |
| | C: | 375 | 433 | 410 | 469 | 444 | 503 | | C: | 428 | 487 | 464 | 523 | 497 | 556 | | C: | 296 | 355 | 332 | 391 | 365 | 424 |
| 50 | A: | 395 | 481 | 395 | 481 | 395 | 481 | 50 | A: | 473 | 559 | 473 | 559 | 473 | 559 | 50 | A: | 280 | 366 | 280 | 366 | 280 | 366 |
| | B: | 220 | 298 | 172 | 250 | 128 | 206 | | B: | 290 | 368 | 243 | 321 | 198 | 276 | | B: | 116 | 193 | 68 | 146 | 24 | 102 |
| | C: | 463 | 535 | 507 | 580 | 549 | 621 | | C: | 529 | 601 | 573 | 646 | 614 | 687 | | C: | 366 | 438 | 410 | 483 | 451 | 524 |
| 60 | A: | 395 | 481 | 395 | 481 | 395 | 481 | 60 | A: | 473 | 559 | 473 | 559 | 473 | 559 | 60 | A: | 280 | 366 | 280 | 366 | 280 | 366 |
| | B: | 210 | 284 | 165 | 239 | 122 | 197 | | B: | 278 | 352 | 232 | 307 | 190 | 264 | | B: | 110 | 185 | 65 | 139 | 24 | 97 |
| | C: | 548 | 634 | 600 | 686 | 649 | 735 | | C: | 626 | 712 | 678 | 764 | 727 | 813 | | C: | 433 | 519 | 485 | 571 | 534 | 620 |
| 70 | A: | 395 | 481 | 395 | 481 | 395 | 481 | 70 | A: | 473 | 559 | 473 | 559 | 473 | 500 | 70 | A: | 280 | 366 | 280 | 366 | 280 | 366 |
| | B: | 199 | 269 | 156 | 226 | 116 | 186 | | B: | 263 | 333 | 220 | 290 | 179 | 202 | | B: | 104 | 175 | 61 | 132 | 23 | 92 |
| | C: | 628 | 727 | 688 | 787 | 745 | 843 | | C: | 718 | 816 | 778 | 876 | 834 | 865 | | C: | 496 | 595 | 556 | 655 | 613 | 711 |
| 80 | A: | 395 | 481 | 395 | 481 | 395 | 481 | 80 | A: | 473 | 559 | 473 | 542 | | | 80 | A: | 280 | 366 | 280 | 366 | 280 | 366 |
| | B: | 186 | 252 | 146 | 211 | 108 | 140 | | B: | 246 | 311 | 205 | 258 | | | | B: | 98 | 164 | 57 | 123 | 20 | 86 |
| | C: | 704 | 814 | 771 | 882 | 834 | 888 | | C: | 804 | 915 | 872 | 960 | | | | C: | 556 | 667 | 624 | 734 | 686 | 797 |
| 90 | A: | 395 | 481 | 395 | 481 | | | 90 | A: | 473 | 559 | 473 | 482 | | | 90 | A: | 280 | 366 | 280 | 366 | 280 | 366 |
| | B: | 171 | 232 | 134 | 195 | | | | B: | 227 | 287 | 190 | 196 | | | | B: | 90 | 151 | 53 | 114 | 18 | 79 |
| | C: | 774 | 896 | 849 | 970 | | | | C: | 885 | 1006 | 959T | 972 | | | | C: | 612 | 733 | 686 | 808 | 755 | 877 |
| 100 | A: | 395 | 481 | 395 | 434 | | | 100 | A: | 473 | 559 | | | | | 100 | A: | 280 | 366 | 280 | 366 | 280 | 366 |
| | B: | 156 | 211 | 122 | 147 | | | | B: | 206 | 261 | | | | | | B: | 82 | 137 | 48 | 103 | 17 | 62 |
| | C: | 839 | 971 | 919 | 979 | | | | C: | 958 | 1090 | | | | | | C: | 663 | 794 | 743 | 875 | 818 | 925 |
| 110 | A: | 395 | 481 | 395 | | | | 110 | A: | 473 | 530 | | | | | 110 | A: | 280 | 366 | 280 | 366 | 280 | 318 |
| | B: | 139 | 188 | 109 | | | | | B: | 184 | 217 | | | | | | B: | 73 | 122 | 43 | 92 | 15 | 37 |
| | C: | 897 | 1038 | 983 | | | | | C: | 1025 | 1118 | | | | | | C: | 709 | 849 | 795 | 935 | 875 | 937 |

How to choose wipers and blades

| Dual arm, adjustable from 308 mm to 393 mm 45+ | | | | | | | | Dual arm, adjustable from 308 mm to 393 mm 45 - | | | | | | | |
|--|------|------|------|------|------|------|-----|---|------|------|------|------|------|------|-----|
| L: 305 | | | | | | | | L: 305 | | | | | | | |
| L: 410 | | | | | | | | L: 410 | | | | | | | |
| L: 508 | | | | | | | | L: 508 | | | | | | | |
| α° | Min. | Max. | Min. | Max. | Min. | Max. | | α° | Min. | Max. | Min. | Max. | Min. | Max. | |
| 40 | A: | 308 | 393 | 308 | 393 | 308 | 393 | 40 | A: | 308 | 393 | 308 | 393 | 318 | 393 |
| | B: | 182 | 262 | 129 | 209 | 80 | 160 | | B: | 92 | 172 | 39 | 119 | 0 | 70 |
| | C: | 211 | 269 | 211 | 269 | 211 | 269 | | C: | 211 | 269 | 211 | 269 | 218 | 269 |
| 50 | A: | 308 | 393 | 308 | 393 | 308 | 393 | 50 | A: | 308 | 393 | 308 | 393 | 330 | 393 |
| | B: | 172 | 249 | 119 | 196 | 70 | 147 | | B: | 82 | 159 | 29 | 106 | 0 | 57 |
| | C: | 260 | 332 | 260 | 332 | 260 | 332 | | C: | 260 | 332 | 260 | 332 | 279 | 332 |
| 60 | A: | 308 | 393 | 308 | 393 | 308 | 393 | 60 | A: | 308 | 393 | 308 | 393 | 345 | 393 |
| | B: | 159 | 233 | 107 | 180 | 58 | 131 | | B: | 69 | 143 | 17 | 90 | 0 | 41 |
| | C: | 308 | 393 | 308 | 393 | 308 | 393 | | C: | 308 | 393 | 308 | 393 | 345 | 393 |
| 70 | A: | 308 | 393 | 308 | 393 | 308 | 393 | 70 | A: | 308 | 393 | 308 | 393 | 365 | 393 |
| | B: | 145 | 214 | 92 | 162 | 43 | 113 | | B: | 55 | 124 | 2 | 72 | 0 | 23 |
| | C: | 353 | 451 | 353 | 451 | 353 | 451 | | C: | 353 | 451 | 353 | 451 | 419 | 451 |
| 80 | A: | 308 | 393 | 308 | 393 | 308 | 393 | 80 | A: | 308 | 393 | 326 | 393 | 390 | 393 |
| | B: | 128 | 194 | 76 | 141 | 27 | 92 | | B: | 38 | 104 | 0 | 51 | 0 | 2 |
| | C: | 396 | 505 | 396 | 505 | 396 | 505 | | C: | 396 | 505 | 419 | 505 | 501 | 505 |
| 90 | A: | 308 | 393 | 308 | 393 | 308 | 393 | 90 | A: | 308 | 393 | 354 | 393 | | |
| | B: | 110 | 170 | 58 | 118 | 9 | 66 | | B: | 20 | 80 | 0 | 28 | | |
| | C: | 436 | 556 | 436 | 556 | 436 | 556 | | C: | 436 | 556 | 501 | 556 | | |
| 100 | A: | 308 | 393 | 308 | 393 | 308 | 393 | 100 | A: | 308 | 393 | 389 | 393 | | |
| | B: | 90 | 145 | 38 | 93 | 0 | 16 | | B: | 0 | 55 | 0 | 3 | | |
| | C: | 472 | 602 | 472 | 602 | 498 | 536 | | C: | 472 | 602 | 596 | 602 | | |
| 110 | A: | 308 | 393 | 308 | 393 | | | 110 | A: | 345 | 393 | | | | |
| | B: | 69 | 118 | 17 | 65 | | | | B: | 0 | 28 | | | | |
| | C: | 505 | 644 | 505 | 644 | | | | C: | 565 | 644 | | | | |

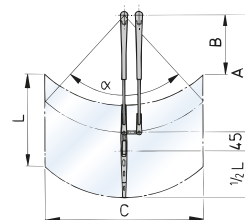
In order to prevent overloading the wiper motor, the right combination of arm length mm x blade length mm x wiping angle in degrees is essential. The result of this multiplication should not exceed **17.800.000**.

Example

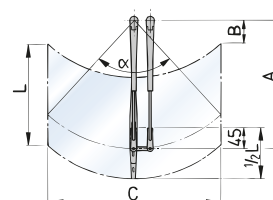
- Blade length = 410 mm
- Arm length = 366 mm
- Wiping angle = 120°

410 x 366 x 120 = 18.007.200
Therefore this combination is not allowed.

| Dual arm, adjustable from 386 mm to 471 mm 45+ | | | | | | | Dual arm, adjustable from 386 mm to 471 mm 45 - | | | | | | | |
|--|--------|------|--------|------|--------|------|---|--------|------|--------|------|--------|------|-----|
| α° | L: 305 | | L: 410 | | L: 508 | | α° | L: 305 | | L: 410 | | L: 508 | | |
| | Min. | Max. | Min. | Max. | Min. | Max. | | Min. | Max. | Min. | Max. | Min. | Max. | |
| 40 | A: | 386 | 471 | 386 | 471 | 386 | 471 | A: | 386 | 471 | 386 | 471 | 386 | 471 |
| | B: | 255 | 335 | 203 | 283 | 154 | 335 | B: | 165 | 245 | 113 | 193 | 64 | 144 |
| | C: | 264 | 322 | 264 | 322 | 264 | 322 | C: | 264 | 322 | 264 | 322 | 264 | 322 |
| 50 | A: | 386 | 471 | 386 | 471 | 386 | 471 | A: | 386 | 471 | 386 | 471 | 386 | 471 |
| | B: | 242 | 319 | 190 | 267 | 141 | 319 | B: | 152 | 229 | 100 | 177 | 51 | 128 |
| | C: | 326 | 398 | 326 | 398 | 326 | 398 | C: | 326 | 398 | 326 | 398 | 326 | 398 |
| 60 | A: | 386 | 471 | 386 | 471 | 386 | 471 | A: | 386 | 471 | 386 | 471 | 386 | 471 |
| | B: | 227 | 300 | 174 | 248 | 125 | 300 | B: | 137 | 210 | 84 | 158 | 35 | 109 |
| | C: | 386 | 471 | 386 | 471 | 386 | 471 | C: | 386 | 471 | 386 | 471 | 386 | 471 |
| 70 | A: | 386 | 471 | 386 | 471 | 386 | 471 | A: | 386 | 471 | 386 | 471 | 386 | 471 |
| | B: | 209 | 278 | 156 | 226 | 107 | 177 | B: | 119 | 188 | 66 | 136 | 17 | 87 |
| | C: | 443 | 540 | 443 | 540 | 443 | 540 | C: | 443 | 540 | 443 | 540 | 443 | 540 |
| 80 | A: | 386 | 471 | 386 | 471 | 386 | 471 | A: | 386 | 471 | 386 | 471 | 390 | 437 |
| | B: | 188 | 253 | 136 | 201 | 87 | 126 | B: | 98 | 163 | 46 | 111 | 0 | 36 |
| | C: | 496 | 606 | 496 | 606 | 496 | 562 | C: | 496 | 606 | 496 | 606 | 501 | 562 |
| 90 | A: | 386 | 471 | 386 | 471 | 386 | 389 | A: | 386 | 471 | 386 | 471 | | |
| | B: | 165 | 226 | 113 | 173 | 64 | 66 | B: | 75 | 136 | 23 | 83 | | |
| | C: | 546 | 666 | 546 | 666 | 546 | 550 | C: | 546 | 666 | 546 | 666 | | |
| 100 | A: | 386 | 471 | 386 | 471 | | | A: | 386 | 471 | 386 | 434 | | |
| | B: | 141 | 195 | 88 | 119 | | | B: | 51 | 105 | 0 | 29 | | |
| | C: | 591 | 722 | 591 | 722 | | | C: | 591 | 722 | 596 | 665 | | |
| 110 | A: | 386 | 471 | 386 | 471 | | | A: | 386 | 471 | | | | |
| | B: | 114 | 163 | 61 | 66 | | | B: | 24 | 73 | | | | |
| | C: | 632 | 772 | 632 | 772 | | | C: | 632 | 772 | | | | |



Wiper blade fitted to lower bayonet on the arm.



Wiper blade fitted to upper bayonet on the arm.

WINDSCREEN WIPERS

Wiper arm types RWA and DINP

Adjustable single / dual wiper arms

These wiper arms are made of high-gloss polished stainless steel and black components of top-grade synthetic materials. Both types are available in several sizes (see below).

Single wiper

- Sizes: **S** from 280 to 366 mm / **L** from 395 to 481 mm / **X** from 473 to 559 mm
- Spade connector 7,2 x 2,5 mm

Dual wiper

- Sizes: **D** from 308 to 393 mm / **DX** from 386 to 471 mm
- Spindle centres 45 mm
- Spade connector 7,2 x 2,5 mm

| Type | Arm | Length (mm) | Motor type |
|--------|--------------------|-------------|------------|
| RWAS | Black single arm | 280 - 366 | RW |
| RWAL | Black single arm | 395 - 481 | RW |
| RWAX | Black single arm | 473 - 559 | RW |
| RWAD | Black dual arm set | 308 - 393 | RW |
| RWADX | Black dual arm set | 386 - 471 | RW |
| DINPS | Black single arm | 280 - 366 | DIN |
| DINPL | Black single arm | 395 - 481 | DIN |
| DINPX | Black single arm | 473 - 559 | DIN |
| DINPD | Black dual arm set | 308 - 393 | DIN |
| DINPDX | Black dual arm set | 386 - 471 | DIN |

RWA

Without taper

DINP

With DIN taper



Wiper blade type WBB and WBS

Fit almost all makes and types of wiper arms with a 7,2 x 2,5 mm bayonet

The metal parts of these blades are made of AISI 316 stainless steel, either high-gloss polished or black coated. These blades will fit almost all makes and types of wiper arms with a 7,2 x 2,5 mm bayonet. They are available in lengths of 305, 410 or 508 mm.

| Type | Wiper blade | Finish | Length (mm) |
|-------|-----------------|----------------|-------------|
| WBB30 | Stainless steel | Coated black | 305 |
| WBB41 | Stainless steel | Coated black | 410 |
| WBB51 | Stainless steel | Coated black | 508 |
| WBS30 | Stainless steel | Gloss polished | 305 |
| WBS41 | Stainless steel | Gloss polished | 410 |
| WBS51 | Stainless steel | Gloss polished | 508 |



WBB

WBS

Wiper arm type SSA and DINS

Strong, durable and stylish!

These arms are entirely made of strong and durable high-gloss polished stainless steel (AISI 316). In combination with VETUS polished wiper blades they will enhance the appearance of any boat!

| Type | Arm | Length (mm) | Motor type |
|--------|-------------------------------|-------------|------------|
| SSAS | Single arm, stainless steel | 280 - 366 | RW |
| SSAL | Single arm, stainless steel | 395 - 481 | RW |
| SSAX | Single arm, stainless steel | 473 - 559 | RW |
| SSAD | Dual arm set, stainless steel | 308 - 393 | RW |
| SSADX | Dual arm set, stainless steel | 386 - 471 | RW |
| DINSS | Single arm, stainless steel | 280 - 366 | RW |
| DINSL | Single arm, stainless steel | 395 - 481 | RW |
| DINSX | Single arm, stainless steel | 473 - 559 | RW |
| DINSD | Dual arm set, stainless steel | 308 - 393 | RW |
| DINSDX | Dual arm set, stainless steel | 386 - 471 | RW |

SSA

Without taper

DINS

With DIN taper



WINDSCREEN WIPERS

Wiper type ORW12SET

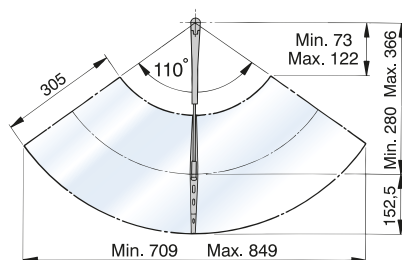
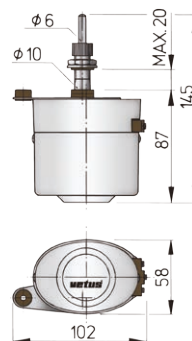
Only available as a complete set comprising motor, arm and blade

This wiper blade is made of black synthetic and is available as a spare part. It also fits other makes of wiper arms with a 7,2 x 2,5 mm bayonet. The arm length is adjustable from 280 to 366 mm. The motor is self-parking, has a single speed and a wiping angle of 80° or 110°. Type ORW12SET meets all the EMC requirements.

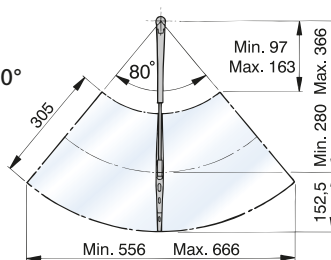
Specifications

- Available for 12 Volt D.C.
- Max. current consumption 2A
- Max. panel thickness 20 mm
- Blade length 305 mm

| Type | Specifications |
|----------|---|
| ORW12SET | Wiper motor set, incl. wiper motor, arm and blade (12V) |
| ORW12BL | Spare blade for wiper type ORW |



Wiping angle:
standard 110°,
adjustable to 80°



ORW12SET

Clear view screens type SLR

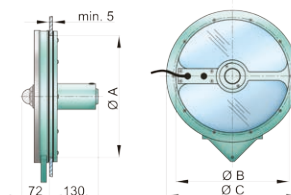
Completely clear vision at all times

The centrifugal force caused by the rotating toughened glass, which reaches its maximum revolutions per minute within 25 seconds, instantly clears the screen from rain, snow and spray. Even dirt and salt will not cause any smears. Type SLR is available in 2 sizes and meets all the EMC requirements.

Specifications

- Type 300 (screen Ø 300 mm) / type 350 (screen Ø 350 mm)
- Both types available for 12 or 24 Volt D.C.
- Max. current consumption 2,7A (12 Volt) / 1,4A (24 Volt)

| Type | Specifications |
|----------|---|
| SLR30012 | Clear view screen Ø 300 mm o.a. 12 Volt |
| SLR30024 | Clear view screen Ø 300 mm o.a. 24 Volt |
| SLR35012 | Clear view screen Ø 350 mm o.a. 12 Volt |
| SLR35024 | Clear view screen Ø 350 mm o.a. 24 Volt |



SLR

| Type | Ø A | Dimensions Cut-out Ø B | Ø C |
|----------|-----|------------------------------|-----|
| Type 300 | 275 | 250 | 300 |
| Type 350 | 326 | 300 | 350 |

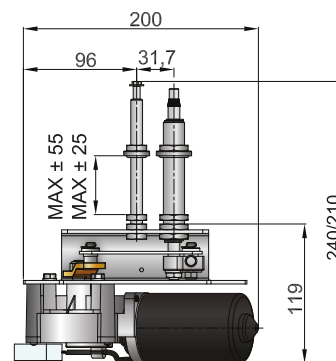
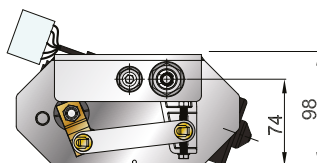
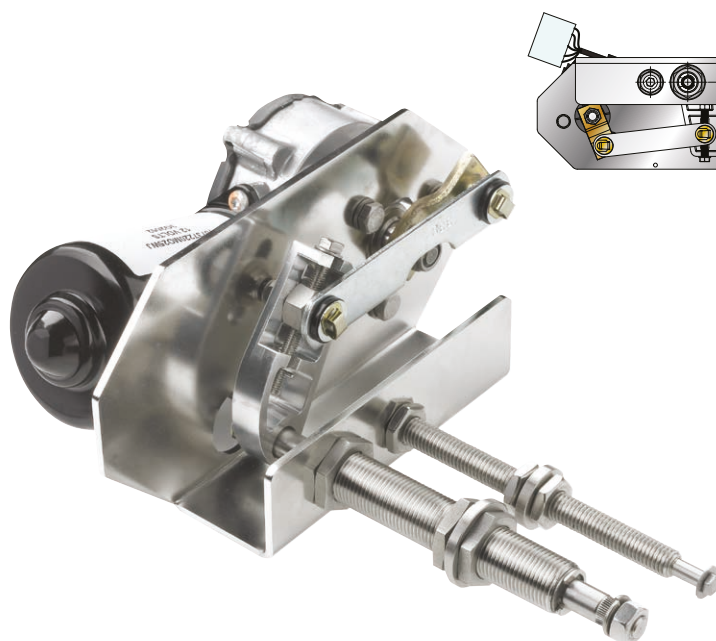
WINDSCREEN WIPERS HEAVY DUTY

Windscreen wiper type HDM

This quiet windscreen wiper is interchangeable with previous models HDM (A, B and C). It has a thermal cut-out which will protect the electric motor in case of excessive operating temperature. Type HDM is self-parking on either side, has 2 speeds and is available with 2 different shaft lengths. The wiping angle is fully adjustable between 62° and 92°. All visible parts of the mechanism are made of stainless steel and meet the EMC requirements.

Specifications

- Available for 12 or 24 Volt D.C.
- Power 75 Watt
- Weight (without arm and blade) 2,5 kg



HDM..DS

Short shafts

HDM..DL

Long shafts



HDMCOVER

| Type | Specifications |
|----------|---|
| HDM12DL | Heavy duty wiper motor, long shaft, adjustable wipe angle, 12V |
| HDM24DL | Heavy duty wiper motor, long shaft, adjustable wipe angle, 24V |
| HDM12DS | Heavy duty wiper motor, short shaft, adjustable wipe angle, 12V |
| HDM24DS | Heavy duty wiper motor, short shaft, adjustable wipe angle, 24V |
| HDMCOVER | Plastic cover for HDM engines |



WINDSCREEN WIPERS

Wiper arms and blades type WB and SHDA

Heavy duty stainless steel wiper arms and blades for wiper motor HDMD

The range of stainless steel heavy duty wiper arms consist of 460, 560 and 660 mm blades. The components of these arms and blades are made of corrosion-proof materials, ensuring a long and trouble free life.

The wiping angle is fully adjustable between 62° and 92°, but to determine the optimum wiping surface of each specific window, please see tables below for detailed specifications.

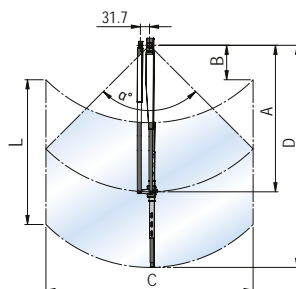
| Type | Description | Length (mm) |
|---------------------|--|-------------|
| Wiper blades | | |
| WBS46H | Wiper blade, made of high-gloss polished stainless steel 316 | 460 |
| WBS56H | Wiper blade, made of high-gloss polished stainless steel 316 | 560 |
| WBS66H | Wiper blade, made of high-gloss polished stainless steel 316 | 660 |
| WBB46H | Wiper blade, made of stainless steel 316, coated black | 460 |
| WBB56H | Wiper blade, made of stainless steel 316, coated black | 560 |
| WBB66H | Wiper blade, made of stainless steel 316, coated black | 660 |
| Wiper arms | | |
| SHDA400 | Stainless steel AISI 316 dual wiper arm | 401 - 486 |
| SHDA500 | Stainless steel AISI 316 dual wiper arm | 508 - 593 |
| SHDA760 | Stainless steel AISI 316 dual wiper arm | 677 - 762 |



Wiped areas of heavy duty windshield wiper assemblies with HDM motors

SHDA760

| α° | | L: 460 | | L: 560 | | L: 660 | |
|----------------|---|--------|------|--------|------|--------|------|
| | | Min. | Max. | Min. | Max. | Min. | Max. |
| 62 | A | 677 | 762 | 677 | 762 | 677 | 762 |
| | B | 350 | 423 | 300 | 373 | 250 | 323 |
| | C | 697 | 785 | 697 | 785 | 697 | 785 |
| | D | 907 | 992 | 957 | 1042 | 1007 | 1092 |
| 92 | A | 677 | 762 | 677 | 762 | 677 | 762 |
| | B | 240 | 299 | 190 | 249 | 140 | 199 |
| | C | 974 | 1096 | 974 | 1096 | 974 | 1096 |
| | D | 907 | 992 | 957 | 1042 | 1007 | 1092 |



SHDA500

| α° | | L: 460 | | L: 560 | | L: 660 | |
|----------------|---|--------|------|--------|------|--------|------|
| | | Min. | Max. | Min. | Max. | Min. | Max. |
| 62 | A | 508 | 593 | 508 | 593 | 508 | 593 |
| | B | 205 | 278 | 155 | 228 | 105 | 178 |
| | C | 523 | 611 | 523 | 611 | 523 | 611 |
| | D | 738 | 823 | 788 | 873 | 838 | 923 |
| 92 | A | 508 | 593 | 508 | 593 | 508 | 593 |
| | B | 123 | 182 | 73 | 132 | 23 | 82 |
| | C | 731 | 853 | 731 | 853 | 731 | 853 |
| | D | 738 | 823 | 788 | 873 | 838 | 923 |

SHDA400

| α° | | L: 460 | | L: 560 | | L: 660 | |
|----------------|---|--------|------|--------|------|--------|------|
| | | Min. | Max. | Min. | Max. | Min. | Max. |
| 62 | A | 401 | 486 | 401 | 486 | 401 | 486 |
| | B | 114 | 187 | 64 | 137 | 14 | 87 |
| | C | 413 | 501 | 413 | 501 | 413 | 501 |
| | D | 631 | 716 | 681 | 766 | 731 | 816 |
| 92 | A | 401 | 486 | 401 | 486 | 401 | 486 |
| | B | 49 | 108 | -1 | 58 | -51 | 8 |
| | C | 577 | 699 | 577 | 699 | 577 | 699 |
| | D | 631 | 716 | 681 | 766 | 731 | 816 |

ACCESSORIES

Complete screen washer kit type WWFR

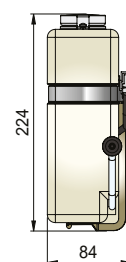
Always a clear view

Type WWFR includes a reservoir with integral pump, tubing with non-return valve, rotary switch and a unique long double spray nozzle to reach over thick windscreen frame profiles and wiper blades. An extension kit (code HDSXTB) consisting of a second double spray nozzle, additional tubing and a T-piece is available and recommended to maintain sufficient flow and pressure.

Specifications

- Available in 12 or 24 Volt D.C.
- Max. current consumption 1,8A (12 Volt) / 0,9A (24 Volt)
- Tubing length 3 mtr
- Reservoir capacity 1,5 litres
- Pump output 0,88 litres/min.

WWFR..



| Type | Description | Voltage (V) | Current (A) | Capacity (L/min) |
|--------|--|-------------|-------------|------------------|
| WWFR12 | Screen washer kit complete, including reservoir (1,5L) | 12 | 1,8 | 0,88 |
| WWFR24 | Screen washer kit complete, including reservoir (1,5L) | 24 | 0,9 | 0,88 |
| HDSXTA | Extension screen washer kit for additional windscreen | | | |

Screen washer

Suitable for all VETUS wiper types

This screen washer is fed by a pressurised, potable water system. The screen washer comes with a hose, solenoid valve (12 or 24 Volt D.C.) and switch, hose pillars, spray nozzles and skin fittings and is easy to install.

| Type | Description | Voltage (V) |
|--------|---|-------------|
| HDS12A | Screen washer kit | 12 |
| HDS24A | Screen washer kit | 24 |
| HDSXTA | Extension screen washer kit for additional windscreen | |

HDS



Three-position switch

For two-speed wiper motors

Available as rotary or rocker type switch. Suitable for two-speed wiper motors RVWS, DIN and HDM. Not suitable for type ORW.

| Type | Max. panel thickness (mm) | Max. switch current (A) |
|--------|---------------------------|-------------------------|
| HDMSW | 7 | 20 |
| HDMSW2 | 6 | 20 |



HDMSW



HDMSW2

ACCESSORIES

Type WPANEL in combination with rain sensor type MARBO

Completely pre-wired motor wipe panel

Type WPANEL can control up to 5 wiper motors to run synchronously at high or low speed. Each wiper motor is individually switched, so you can select which wipers are operational. They also feature a combination switch for screen wash/wipe activation, speed selection and interval wipe delay. The wiper motors to be connected must have a 2 speed motor and an automatic parking position. It is optional to connect up to 3 MARBO rain sensors to the control unit. The rain sensor function can be activated by the supplied switch panel and can activate all 5 wipers simultaneously.

Type WPANEL is supplied with

- 1 control unit with electronic overload protection (can be DIN rail mounted)
- 5 wiper motor switches
- 1 combined switch for wash/wipe and speed selection
- 1 mounting plate with room for 6 switches and 2 blind plates

Specifications

- Available for 12 or 24 Volt D.C. supply
- Power consumption in stand-by mode approx. 10 mA
- Maximum power per wiper motor 120 W
- Internal fuses 10 A each wiper motor, 5 A for screen wash pump or solenoid valve
- Dimensions control panel 49 x 24 x 37,5 mm, control unit 159 x 90 x 58 mm



WPANEL



Automatic rain-sensor for wiper activation



MARBO



MARBO2

Type RWPANEL

Control panel for up to three windscreen wipers

This panel will control up to 3 switched windscreen wipers synchronously and also activate a screen wash system. The wipers can be set to run at high or low speed at 1 of 5 interval wipes and will self-park when they are switched off. It is possible to connect up to 3 rain sensors (type MARBO2) for automatic operation of the wipers.

Specifications

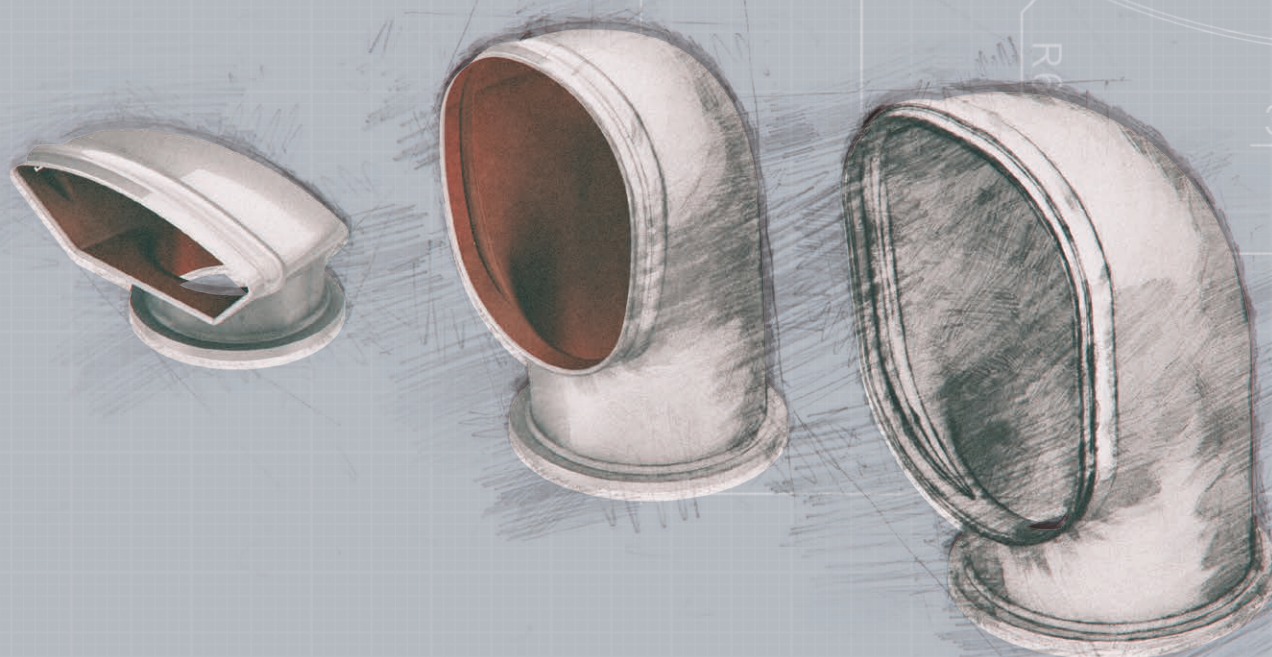
- Panel is suitable for 12 or 24 Volt D.C. supply
- Dimensions control panel 85 x 85 mm, control unit 159 x 90 x 58 mm
- Built-in depth 40 mm



RWPANEL2

| Type | Specifications |
|----------|--|
| MARBO | Rain sensor incl. switch, 12/24 Volt |
| MARBO2 | Additional rain sensor, 12/24 Volt |
| RWPANEL2 | Windscreen wiper control panel for up to 3 wipers, 12/24 Volt, incl. control panel |
| WPANEL | Windscreen wiper control panel for up to 5 wipers, 12/24 Volt, incl. switches |

VENTILATION



Overview VETUS ventilation

Deck ventilators, see page 270



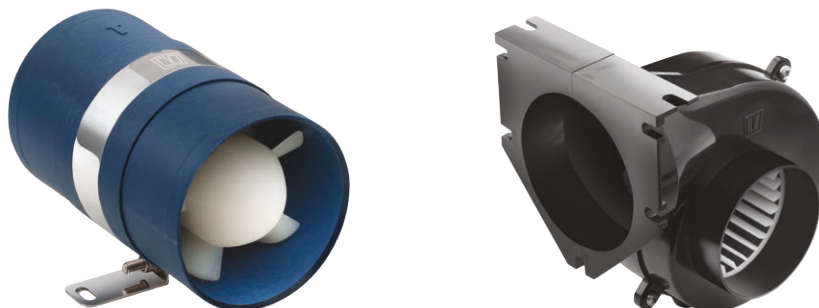
Shell ventilators, see page 272



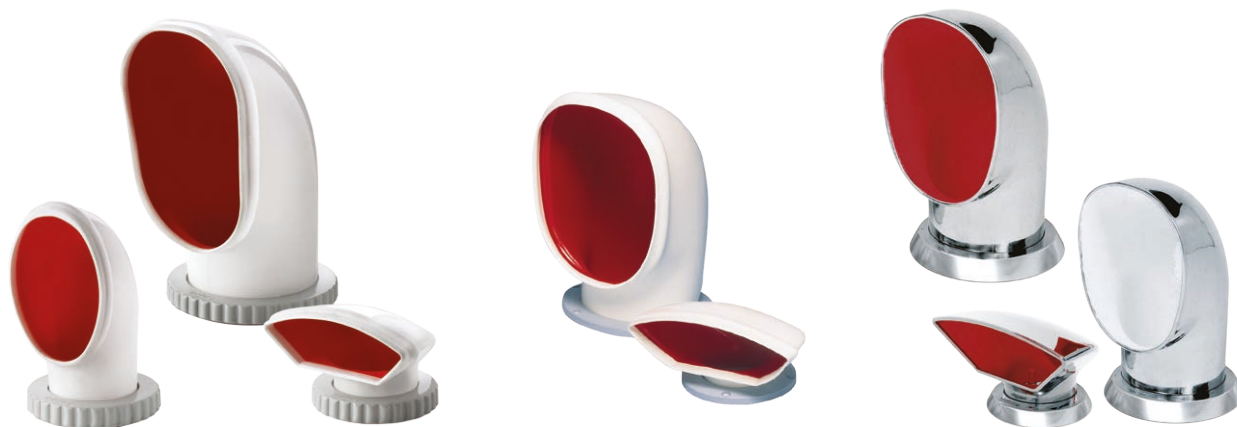
Electric extractor fans, see page 273



Extraction ventilators, see page 273



Cowl ventilators, see page 275



Accessories, see page 276



Louvred air suction vents, see page 278



VENTILATION

Good ventilation on your boat is very important if you have enclosed areas. It can help prevent mildew and bad odours and can save lives by taking carbon monoxide or petrol fumes out of the boat. When it comes down to making the best choice of ventilation system, VETUS has a wide range, even for the harshest conditions, both extremely safe and stylish as well. We at VETUS understand that ventilation isn't just a hole in your boat. When done correctly it can be a breath of fresh air!

There are 2 types of ventilation systems

1. Natural (passive) ventilation

Consists of vents, cowls and other permanent openings in the boat, designed to let air enter or exit using wind power or the boat's motion to move the air. Primarily used for living spaces.

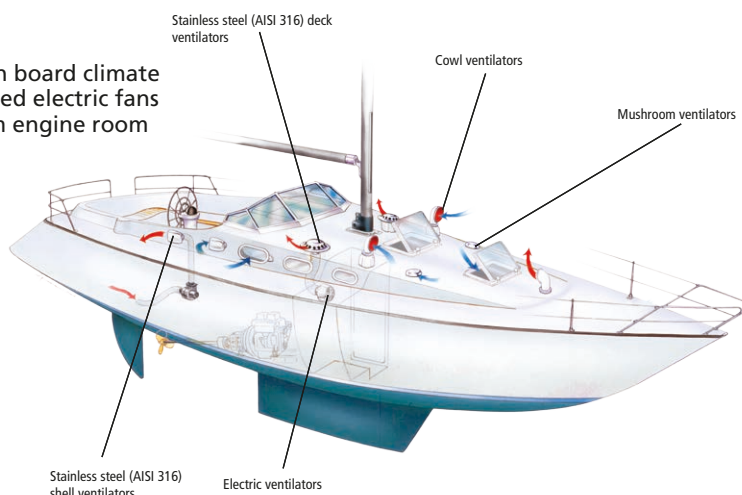
2. Power extraction ventilators

Specifically designed to clear fumes from closed compartments. VETUS power extraction ventilators are ignition protected to prevent sparks and are built to resist overheating and corrosion.

Why choose VETUS ventilation

- One stop shop for a complete range to ensure a healthy on board climate
- We put safety first! Offering only certified ignition protected electric fans
- VETUS has ventilation products for any compartment, from engine room to sleeping quarters, from mushroom ventilators to extraction ventilators for the engine room
- VETUS UFO ventilators provide permanent boat ventilation, day and night, rain and splash proof, but also fully closable for the hardest conditions
- VETUS cowl ventilators are available in different designs, sizes and materials; the choice is yours!

For assistance in choosing the proper equipment and defining your ventilation system, please contact your VETUS dealer.



DECK VENTILATORS

Small cabins aboard boats must be ventilated adequately. It is very important when the temperature drops to keep the air humidity inside and outside as similar as possible to prevent condensation and its consequences, mould and mildew.

Open ventilators type UFO and UFOTRANS

Reliable, easy to maintain and good looking

These stainless steel (AISI 316) models with high-gloss polished shell cannot be closed thus ensuring permanent ventilation. They are rain and splash proof and can be used in combination with our electric extraction ventilators (see page 273). For dimensions please see diagram below.

Characteristics

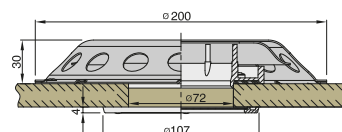
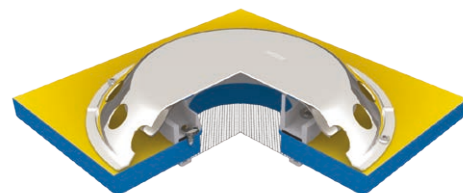
- Free flow area 31,8 cm²
- TRANS version is translucent
- Supplied with mosquito screen and interior finishing ring



UFO



UFOTR



DECK VENTILATORS

Closeable deck ventilator type UFO2

Low profile deck ventilator with integral mushroom ventilator

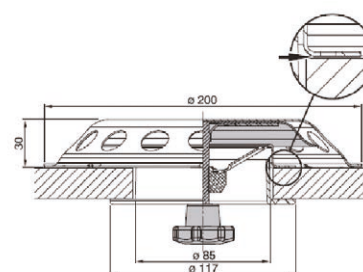
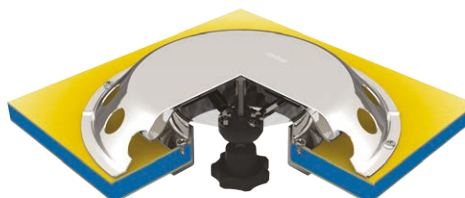
This deck ventilator can be closed and made absolutely watertight. When opened the UFO2 ensures constant ventilation and still remains rain and splash proof. Its cover is made of high-gloss polished stainless steel (AISI 316) as is the internal mushroom ventilator. **CE marking: All**

Characteristics

- Free flow area 30 cm²
- Comes with an integral mosquito screen
- A synthetic finishing ring is supplied as standard



UFO2



| Type | Description | Flow area cm ² |
|-------|---|---------------------------|
| UFO | Deck ventilator (stainless steel AISI316) | 31,8 |
| UFOTR | Deck ventilator (stainless steel AISI316) | 31,8 |
| UFO2 | Closable deck ventilator | 30 |

Mushroom ventilators type DARTAGN1, ATHOS1 and PORTOS1

High polished stainless steel (AISI 316) ventilators

These mushroom ventilators can be opened from the outside or from the inside using an integral knob. They include a mosquito screen and counter flange, both made of synthetic material. **CE marking All**



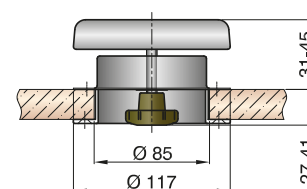
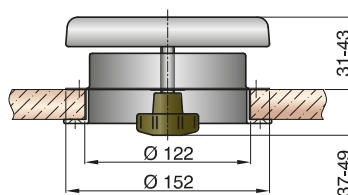
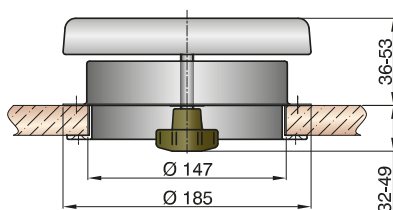
DARTAGN1



ATHOS1



PORTOS1



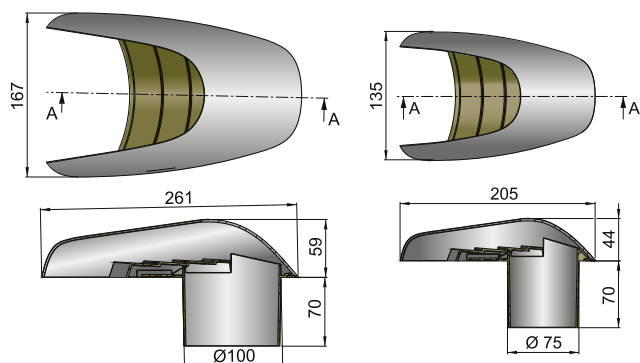
| Type | Description | Free flow area cm ² |
|----------|---------------------|--------------------------------|
| DARTAGN1 | Mushroom ventilator | 76 |
| ATHOS1 | Mushroom ventilator | 45 |
| PORTOS1 | Mushroom ventilator | 30 |

SHELL VENTILATORS

Ventilator type TYPHOON

A redefined and updated 'traditional' shell ventilator

The outer cover of this shell ventilator is made of high-gloss polished stainless steel (AISI 316) and all other parts are of synthetic materials. When installed, no screws are visible. This intake or outlet ventilator is available in 2 sizes and suitable for horizontal or vertical use.



TYP75

TYP100

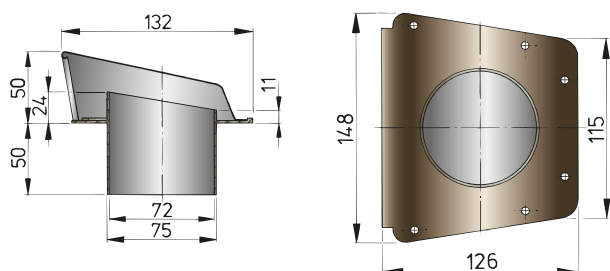


| Type | Description | Free flow area cm ² | Hose connection Ø |
|--------|------------------|--------------------------------|-------------------|
| TYP75 | Shell ventilator | 30 | 75 |
| TYP100 | Shell ventilator | 41 | 100 |

Ventilator type SCIROCCO

The ideal solution for ventilation openings to the engine room

This stainless steel (AISI 316) intake or outlet ventilator can be screwed directly on to hull or superstructure. A plastic base plate with water guard and hose connection is standard supply. This type can be installed horizontally or vertically.



SCIROCCO



| Type | Description | Free flow area cm ² | Hose connection Ø |
|----------|------------------|--------------------------------|-------------------|
| SCIROCCO | Shell ventilator | 38,5 | 76 |

ELECTRIC VENTILATORS

Type FAN

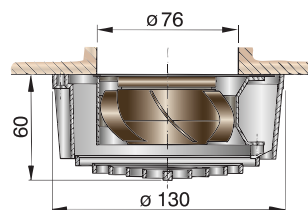
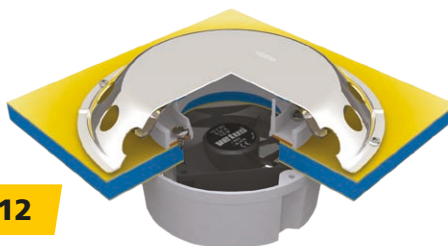
Extremely low energy consumption and noise level

This barely audible electric ventilator is specified for saloons, cabins, galleys and toilets and is also ideal for heat extraction near a refrigerator. It can be installed in both ceilings and bulkheads. It can be used in combination with VETUS deck ventilators UFO and UFOTRANS. With its long-life motor it can operate for at least 50.000 hours. VETUS recommends that every area should have an air-exchange rate of 3 to 4 times per hour.



FAN12

FAN24



Specifications

- Available in 12 or 24 Volt (consumption 0,19 A or 0,11 A)
- Capacity 72 m³/hour (42 cfm)
- Provided with a 2-speed switch
- Static pressure 6 mm H₂O

| Type | Description | Volt |
|-------|---------------------|------|
| FAN12 | Electric ventilator | 12 |
| FAN24 | Electric ventilator | 24 |

ACCESSORIES

Hose for blowers (ventilators)

Suitable for VETUS shell ventilators and extraction ventilators.
For a complete overview of hoses and available sizes see page 372.

BLHOSE



EXTRACTION VENTILATORS

Type TWINLINEA

The perfect heat extractor

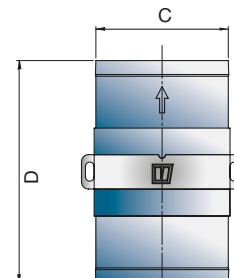
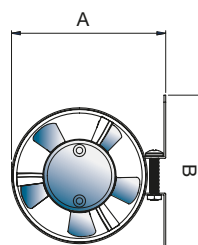
The purpose of these ignition protected (IP67) extraction ventilators is to extract the heat from the engine room when the engine is not running or, when a petrol/gasoline engine is installed, to extract any possible petrol/gasoline fumes prior to starting the engine(s).

Specifications

- Available in 12 Volt (consumption 2,8 A max)
- Static pressure 36 mm H₂O
- Complies with ISO 9097 Marine Standard
- Hose may be connected to Scirocco or Typhoon Shell ventilators

Note

VETUS does NOT recommend using extraction ventilators to provide air to the main engine(s)!



TWINLINEA

TWINLINEB

| Type | A (mm) | B (mm) | C (mm) | D (mm) | Capacity (m ³ /min) | I.D.hose Ø (mm) |
|-----------|--------|--------|--------|--------|--------------------------------|-----------------|
| TWINLINEA | 88,5 | 92,5 | 76 | 128 | 5 | 76 |
| TWINLINEB | 116 | 119 | 101,6 | 180 | 7 | 102 |

EXTRACTION VENTILATORS

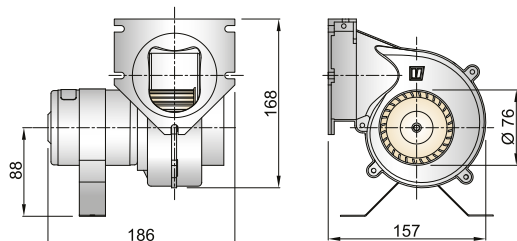
Type VENT76A

Ideal for gallery, toilet and engine room

This extraction ventilator with Delrin Impeller is ignition protected IP67 and complies with ISO 9097 Marine Standard. It includes a mounting bracket and connection flange for in-line installation.

Specifications

- Available in 12 or 24 Volt (consumption 8 A or 4 A)
- Capacity 4 m³ per minute
- Suitable for Ø 76 mm I.D. hose type VENTKITA (to be ordered separately)
- Static pressure 57 mm H₂O



VENT7612A

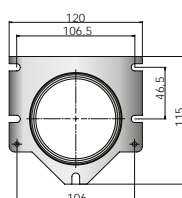
VENT7624A



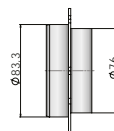
| Type | Decription | Volt | I.D.hose Ø (mm) |
|-----------|-----------------------|------|-----------------|
| VENT7612A | Extraction ventilator | 12 | 76 |
| VENT7624A | Extraction ventilator | 24 | 76 |

Connection flange

| Type | Decription |
|----------|--|
| VENTKITA | Spare in-line hose connection flange for VENT76A |



VENTKITA



EXTRACTION VENTILATORS

Type VENT178A

Suitable for bulkhead mounting and receiving air ducting hose

This extraction ventilator is ignition protected IP67 and complies with ISO 9097 Marine Standard. Can be supplied with VHOSE (see page 274).

Specifications

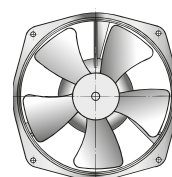
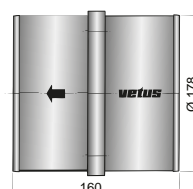
- Available in 12 or 24 Volt (consumption 6 A or 3 A)
- Capacity 12,2 m³ at 12 Volt or 12,5 m³ at 24 Volt D.C. per minute
- Suitable for receiving Ø 178 mm internal air ducting hose
- Static pressure 36 mm H₂O

VENT17812A

VENT17824A



| Type | Decription | Volt | I.D.hose Ø (mm) |
|------------|-----------------------|------|-----------------|
| VENT17812A | Extraction ventilator | 12 | 178 |
| VENT17824A | Extraction ventilator | 24 | 178 |



COWL VENTILATORS

Silicone cowl ventilators

Guaranteed to withstand the test of time!

These cowl ventilators are made of silicone. Silicone rubber is a very flexible synthetic material with a service temperature range between -100°C and +200°C. It is resistant to UV light and does not discolour, so it will always look like it's brand new. The cowl ventilators are removable and can be rotated after loosening the knurled base ring by hand. The ring nuts and mating deck flanges are made of hard plastic and the internal colour is red (RAL3020). A Mosquito screen and a stainless steel (AISI 316) cover plate for closing off the cowl ventilator can be supplied as an option. **Type S** has a screwed down synthetic ring.



SAMOENS



CHINOOKS

LIBECS

TRAMONS



SAMOEN

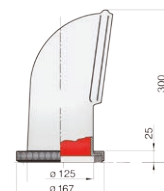
CHINOOK

LIBEC

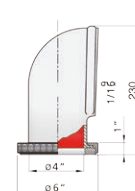


TRAMON

| Type | Cowl | Free flow area (cm²) | Deck opening Ø (mm) |
|---------|-----------------|----------------------|---------------------|
| TRAMON | Silicone rubber | 44,2 | 75 |
| LIBEC | Silicone rubber | 44,2 | 75 |
| CHINOOK | Silicone rubber | 78,6 | 100 |
| SAMOEN | Silicone rubber | 122,8 | 125 |

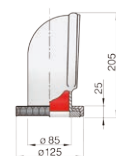


SAMOEN-S

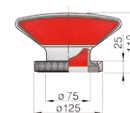


CHINOOK-S

| Type | Cowl | Free flow area (cm²) | Deck opening Ø (mm) |
|----------|-----------------|----------------------|---------------------|
| TRAMONS | Silicone rubber | 44,2 | 75 |
| LIBECS | Silicone rubber | 44,2 | 75 |
| CHINOOKS | Silicone rubber | 78,6 | 100 |
| SAMOENS | Silicone rubber | 122,8 | 125 |



LIBEC-S



TRAMON-S

Flexible PVC cowl ventilators

Excellent UV resistance

These cowl ventilators are made of Polyvinylchloride and the ring nuts and matching deck flanges are made of hard synthetic. The cowl ventilators are removable. A mosquito screen and a stainless steel (AISI 316) cover plate for closing off the cowl ventilator can be supplied as an option. **Type S** has a screwed down synthetic ring.



YOGIS

TOMS

JERRYS



DONALDS



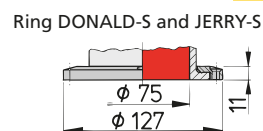
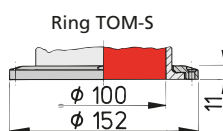
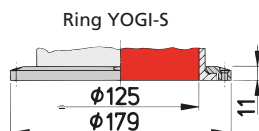
YOGI2

TOM2

JERRY2



DONALD2



| Type | Cowl | Dek opening Ø (mm) | Free flow area (cm²) |
|---------|------|--------------------|----------------------|
| DONALDS | PVC | 75 | 44,2 |
| JERRYS | PVC | 75 | 44,2 |
| TOMS | PVC | 100 | 78,6 |
| YOGIS | PVC | 125 | 122,8 |

| Type | Cowl | Dek opening Ø (mm) | Free flow area (cm²) |
|---------|------|--------------------|----------------------|
| DONALD2 | PVC | 75 | 44,2 |
| JERRY2 | PVC | 75 | 44,2 |
| TOM2 | PVC | 100 | 78,6 |
| YOGI2 | PVC | 125 | 122,8 |

COWL VENTILATORS

Stainless steel (AISI 316) cowl ventilators

Stylish appearance

Both the cowls and rings are made of cast stainless steel (AISI 316). The cowls rotate and are removable and the clamping ring can be tightened by hand. A threaded ring nut and deck ring are supplied as standard. A mosquito screen and a stainless steel (AISI 316) cover plate for closing off the cowl ventilator are optional.



YOG316R

TOM316R

JER316R



DON316R



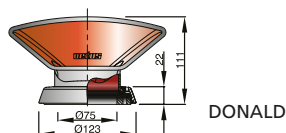
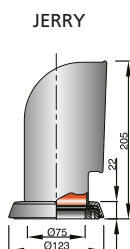
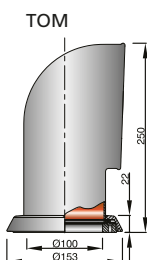
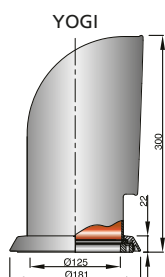
YOG316WR

TOM316WR

JER316WR



DON316WR



| Type | Cowl | Deck opening Ø (mm) | Free flow area (cm ²) |
|---------|----------|------------------------|--------------------------------------|
| DON316R | AISI 316 | 75 | 44,2 |
| JER316R | AISI 316 | 75 | 44,2 |
| TOM316R | AISI 316 | 100 | 78,6 |
| YOG316R | AISI 316 | 125 | 122,8 |

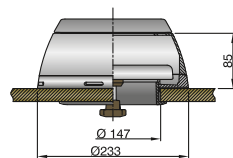
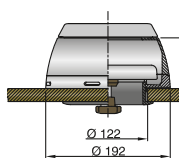
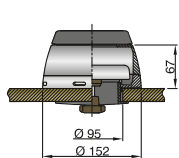
| Type | Cowl | Deck opening Ø (mm) | Free flow area (cm ²) |
|----------|----------|------------------------|--------------------------------------|
| DON316WR | AISI 316 | 75 | 44,2 |
| JER316WR | AISI 316 | 75 | 44,2 |
| TOM316WR | AISI 316 | 100 | 78,6 |
| YOG316WR | AISI 316 | 125 | 122,8 |

ACCESSORIES FOR COWL VENTILATORS

Dorade box type BOX and BOXS

Prevents water from entering the ventilator

This box drains off any water entering the interior of the boat from the cowl ventilator and can be closed off entirely by means of the incorporated stainless steel (AISI 316) mushroom ventilator. Available in synthetic material or stainless steel (AISI 316), maximum deck thickness 25 mm. A mosquito screen and a stainless steel (AISI 316) cover plate for closing off the cowl ventilator can be supplied as an option.



BOX



Bottom



Top

| Type | Ø (mm) | Max. deck thickness | Material |
|---------|--------|------------------------|---------------------------|
| BOX75 | 75 | 25 | Synthetic |
| BOX100 | 100 | 25 | Synthetic |
| BOX125 | 125 | 25 | Synthetic |
| BOXS75 | 75 | 25 | Stainless steel (AISI316) |
| BOXS100 | 100 | 25 | Stainless steel (AISI316) |
| BOXS125 | 125 | 25 | Stainless steel (AISI316) |

BOXS

CE marking: All



ACCESSORIES FOR COWL VENTILATORS

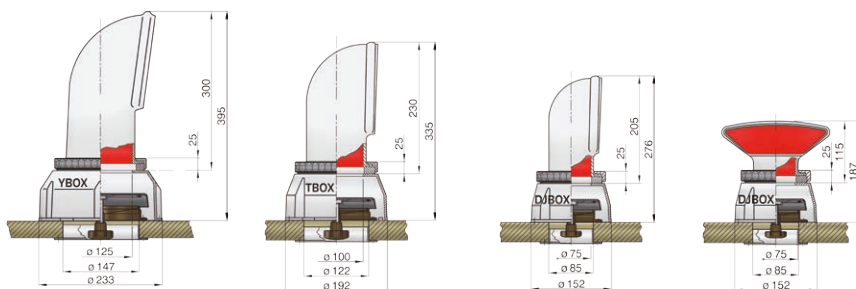
Dorade box type DJBOX, TBOX and YBOX

Synthetic boxes

This synthetic box drains off any water entering the ventilator and can be closed off entirely by means of the incorporated stainless steel (AISI 316) mushroom ventilator. The female deck rings are made of either synthetic or stainless steel (AISI 316) and can be easily fitted to the dorade box using the supplied nuts and bolts. A mosquito screen and a stainless steel (AISI 316) cover plate for closing off the cowl ventilator can be supplied as an option.

Note These boxes are not suitable for cowl ventilator type S.

| Type | Description |
|-------|---|
| YBOX | Dorado box for YOGI / SAMOEN, including mushroom ventilator |
| TBOX | Dorado box for TOM / CHINOOK, including mushroom ventilator |
| DJBOX | Dorado box for DONALD / JERRY / TRAMON / LIBEC, including mushroom ventilator |



YBOX

TBOX

DJBOX



Adaptor to fit dorade box type BOX

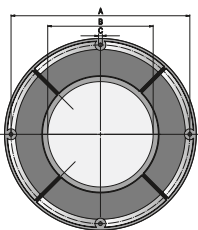
For use with thicker decks

The type BOX and BOXS dorade boxes can be mounted invisibly to any deck up to 25 mm thickness. For larger deck thicknesses VETUS offers the BOXAD adapter flange. This flange can be mounted to the dorade box using the counter flange, after which the adapter can be screwed down to the deck.

The adapter flanges are made of high gloss polished stainless steel (AISI 316) to suit the stainless steel (AISI 316) cowl ventilators and dorade boxes.



BOXAD



| Type | Suitable for | A Ø mm | B Ø mm | C Ø mm | Thickness mm |
|----------|-----------------|-----------|-----------|-----------|-----------------|
| BOXAD75 | BOX75, BOXS75 | 167 | 95 | 5.2 | 6 |
| BOXAD100 | BOX100, BOXS100 | 202 | 118.5 | 5.2 | 6 |
| BOXAD125 | BOX125, BOXS125 | 245 | 144.5 | 5.2 | 6 |

Ring and nut type RING

Complete set

This set consists of a stainless steel (AISI 316) ring nut, a male deck ring and fastening key. The male deck ring is available for each size of cowl ventilator.

| Type | Description |
|---------|---|
| RING75 | Ring and nut, AISI 316, for cowl ventilator DONALD / JERRY / TRAMON / LIBEC |
| RING100 | Ring and nut, AISI 316, for cowl ventilator TOM / CHINOOK |
| RING125 | Ring and nut, AISI 316, for cowl ventilator YOGI / SAMOEN |



RING

LOUVRED AIR SUCTION VENTS

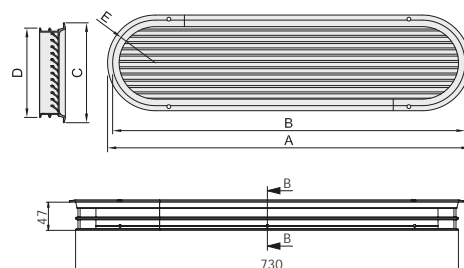
In addition to combustion air, the engine also requires sufficient ventilation air to dissipate the residual heat. The required volume of ventilation air is about the same as the combustion air needed which is approximately 6.1 m³ per kW (4.5 m³ per hp) per hour based on a maximum air velocity of 3 m/sec. The design of the VETUS air suction vents is based on these principles. The model numbers (see tables below) relate to the engine horsepower for which they are suitable.

Type ASV

This type has a polished anodised aluminium frame with grilles of naturally anodised aluminium.



ASV



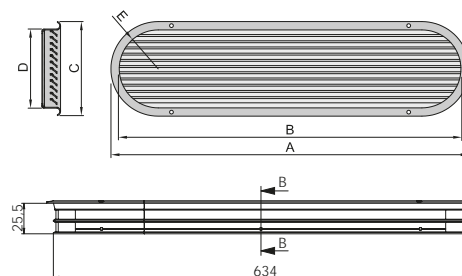
| Type | A (mm) | B = Cutout (mm) | C (mm) | D = Cutout (mm) | E = Cutout radius (mm) | Free flow area in dm ² * |
|---------|--------|-----------------|--------|-----------------|------------------------|-------------------------------------|
| ASV020A | 300 | 280 | 117 | 97 | R 48,5 | 0,83 |
| ASV025A | 350 | 330 | 117 | 97 | R 48,5 | 1,00 |
| ASV030A | 360 | 340 | 130 | 110 | R 55 | 1,22 |
| ASV040A | 450 | 430 | 130 | 110 | R 55 | 1,59 |
| ASV050A | 490 | 470 | 146 | 126 | R 63 | 2,02 |
| ASV060A | 570 | 550 | 146 | 126 | R 63 | 2,41 |
| ASV070A | 590 | 570 | 159 | 139 | R 69,5 | 2,83 |
| ASV080A | 660 | 640 | 159 | 139 | R 69,5 | 3,21 |
| ASV090A | 670 | 650 | 172 | 152 | R 76 | 3,63 |
| ASV100A | 730 | 710 | 172 | 152 | R 76 | 4,00 |
| ASV125A | 750 | 730 | 198 | 178 | R 89 | 5,03 |
| ASV150A | 890 | 870 | 198 | 178 | R 89 | 6,03 |

Type SSV

Type SSV is made of high gloss stainless steel (AISI 316) and has anodised aluminium louvres.



SSV



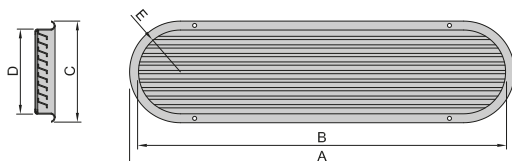
| Type | A (mm) | B = Cutout (mm) | C (mm) | D = Cutout (mm) | E = Cutout radius (mm) | Free flow area in dm ² * |
|--------|--------|-----------------|--------|-----------------|------------------------|-------------------------------------|
| SSV070 | 590 | 570 | 159 | 139 | R 69,5 | 2,83 |
| SSV080 | 660 | 640 | 159 | 139 | R 69,5 | 3,21 |
| SSV090 | 670 | 650 | 172 | 152 | R 76 | 3,63 |
| SSV100 | 730 | 710 | 172 | 152 | R 76 | 4,00 |
| SSV125 | 750 | 730 | 198 | 178 | R 89 | 5,03 |
| SSV150 | 890 | 870 | 198 | 178 | R 89 | 6,08 |

LOUVRED AIR SUCTION VENTS

Type SSVL

The frame and grilles of this type are made of high gloss polished stainless steel (AISI 316).

SSVL

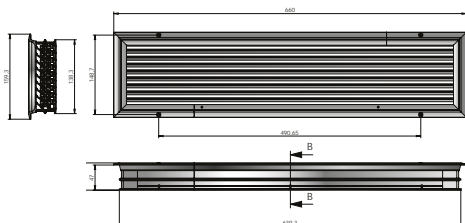


| Type | A (mm) | B = Cutout (mm) | C (mm) | D = Cutout (mm) | E = Cutout radius (mm) | Free flow area in dm ² * |
|---------|--------|-----------------|--------|-----------------|------------------------|-------------------------------------|
| SSVL070 | 590 | 570 | 159 | 139 | R 69,5 | 2,83 |
| SSVL080 | 660 | 640 | 159 | 139 | R 69,5 | 3,21 |
| SSVL090 | 670 | 650 | 172 | 152 | R 76 | 3,63 |
| SSVL100 | 730 | 710 | 172 | 152 | R 76 | 4,00 |
| SSVL125 | 750 | 730 | 198 | 178 | R 89 | 5,03 |
| SSVL150 | 890 | 870 | 198 | 178 | R 89 | 6,08 |

Type ASVREC

Rectangular louvred air suction vent

The frames of this type are made of polished anodised aluminium and the grilles of naturally anodised aluminium.



ASVREC



| Type | A (mm) | B = Cutout (mm) | C (mm) | D = Cutout (mm) | Free flow area in dm ² * |
|----------|--------|-----------------|--------|-----------------|-------------------------------------|
| ASVREC20 | 300 | 280 | 117 | 97 | 0,83 |
| ASVREC30 | 360 | 340 | 130 | 110 | 1,25 |
| ASVREC40 | 450 | 430 | 130 | 110 | 1,62 |
| ASVREC50 | 490 | 470 | 146 | 126 | 2,05 |
| ASVREC60 | 570 | 550 | 146 | 126 | 2,45 |
| ASVREC70 | 590 | 570 | 159 | 139 | 2,85 |
| ASVREC80 | 660 | 640 | 159 | 139 | 3,25 |

* 1 dm² = 100 cm²

Note

VETUS can supply louvred air vents in other shapes and sizes to special order.

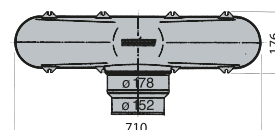
LOUVRED AIR SUCTION VENTS

Type MOFI100

Louvred air vent connector box

This ventilator box with hose connections, fits to aluminium louvred air vent type ASV100 and the extraction ventilator type VENT178 with a flexible air hose with an 178 mm internal diameter. This box cannot be used with the stainless steel (AISI 316) versions type SSV or SSVL.

| Type | Description |
|---------|--|
| MOFI100 | Dorade box with connectors for 152 and 178 mm hose (excl. louvre vent) |



MOFI100

Hose type VHOSE

Very flexible suction/pressure hose

This hose can connect the MOFI air vent to the extraction ventilator type 178. Available for Ø 152 or 178 mm hose connectors.

For a complete overview of hoses see pages 372 - 375.



VHOSE..N

VHOSE

DORADE BOXES

Type DBOX for louvered air suction vents

All standard air suction vents can be supplied with a synthetic dorade box as an option (except type ASVREC).

| Type | Specifications |
|---------|--|
| DBOX020 | Dorade box for ASV, SSV, SSVL, type 20 |
| DBOX025 | Dorade box for ASV, SSV, SSVL, type 25 |
| DBOX030 | Dorade box for ASV, SSV, SSVL, type 30 |
| DBOX040 | Dorade box for ASV, SSV, SSVL, type 40 |
| DBOX050 | Dorade box for ASV, SSV, SSVL, type 50 |
| DBOX060 | Dorade box for ASV, SSV, SSVL, type 60 |

| Type | Specifications |
|---------|---|
| DBOX070 | Dorade box for ASV, SSV, SSVL, type 70 |
| DBOX080 | Dorade box for ASV, SSV, SSVL, type 80 |
| DBOX090 | Dorade box for ASV, SSV, SSVL, type 90 |
| DBOX100 | Dorade box for ASV, SSV, SSVL, type 100 |
| DBOX125 | Dorade box for ASV, SSV, SSVL, type 125 |
| DBOX150 | Dorade box for ASV, SSV, SSVL, type 150 |



DBOX

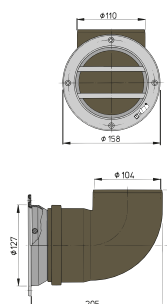
ROUND AIR SUCTION VENTS

Type ERV

Air suction vent with rotating connector

This vent is suitable for up to 16 hp of engine power. For a 60 hp engine you would need 4 of these air suction vents of which 2 should be fitted to port and 2 to starboard. Type ERV is made of stainless steel (AISI 316) and has a synthetic rotating connector which functions as a watertight dorade box. The free flow area is 0,66 dm². No matching hose is supplied.

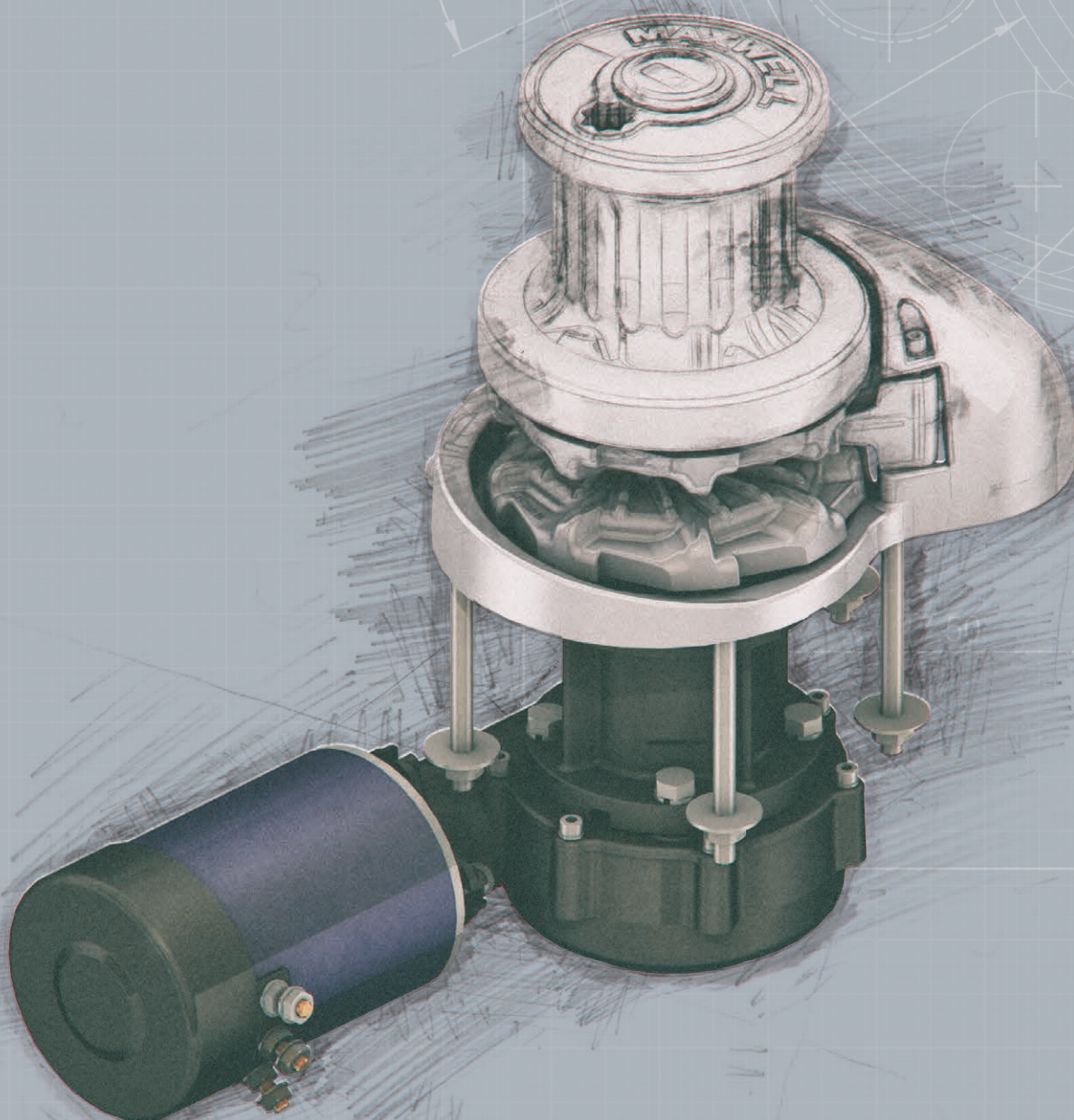
| Type | Description |
|---------|---|
| ERV110A | Round air suction vent type 110, with stainless steel (AISI 316) grille and synthetic housing |



ERV110A



ANCHORING SYSTEMS



R2
TYP.

Maxwell Product Innovation

Maxwell equipment is born of innovation and backed by years of experience in the manufacture of the world's highest quality anchor windlasses, ancillary deck gear and stern handling products.

Maxwell's innovative approach to design resulted in the introduction of automatic rope/chain windlasses to the global marine market during the mid 1990's. These were a radical departure from all other windlasses, revolutionary in design and technical features. Building on the success of these products, Maxwell designed and developed an exciting RC range of automatic rope/chain windlasses. Maxwell broke the design barriers with the development of a vertical and horizontal rope/chain windlass range incorporating two unique and internationally patented features. The RC and HRC Series attest to Maxwell's ongoing commitment to innovative design and development.

Maxwell continues to evolve its existing range of proven windlasses and capstans. The RC12 is the culmination of Maxwell's evolution of a full range of automatic rope/chain windlasses suitable for use on vessels from 4.5metres (15 feet) to over 22 metres (75 feet).



Maxwell's Compact Foot Switches

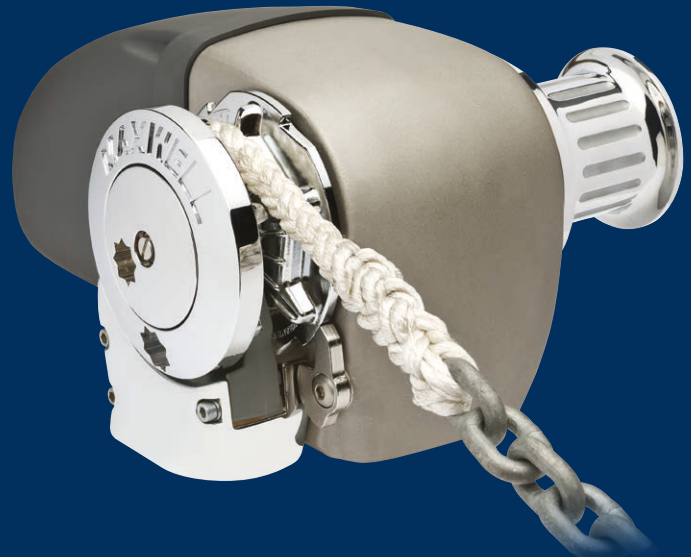


RC10 Capstan Version

Maxwell's ongoing commitment to product development can also be seen in the upgrading of their 'traditional' and continually popular vertical VWC Series. Stalwarts since the early nineties, the VWC windlasses were always great performers and now, with advanced engineering features incorporated into their improved designs, they work even better.

Maxwell recognises that boat owners not only want equipment that works flawlessly, they want products that look good as well. To this end, Maxwell designers spend countless hours improving the look, functionality and robustness of all Maxwell products, as well as introducing new and highly innovative products such as the popular HRCFF6, HRCFF7, HRCFF8, HRC10, RC6, RC8, RC10 and RC12 Series.

With an ongoing commitment to excellence, product innovation, research and development, you can count on Maxwell to secure your investment!



HRCFF

The compact HRCFF6, HRCFF7 and HRCFF8 are Maxwell's horizontal versions of their innovative vertical RC6 and RC8 automatic rope/chain windlasses. Packed with original and proven features, such as automatic 'Free Fall' and including the patented rode management technology developed by Maxwell, the new HRCFF6, HRCFF7 and HRCFF8 have become industry icons.



RC12

The evolutionary RC12 Series incorporates Maxwell's stylish innovation in automatic rope/chain technology. Retaining the classic open design styling more appropriate on larger boats, the RC12 Series represents the next generation of rope/chain windlass evolution in every respect.

HRC10

Maxwell's HRC10 Horizontal Series represents yet another breakthrough in performance and anchor handling excellence. These horizontal, fully automatic rope/chain windlasses have been designed to meet the demands for use on larger vessels up to 16 metres (52 feet), which require a completely above deck installation system. The HRC10's flawlessly handles rope up to 16 mm (5/8") and chain up to 10 mm (3/8") in size, including the thick rope to chain splice. The modern appearance of the HRC10 Series retains the classic good looks of previous Maxwell horizontal windlasses, while incorporating design features years ahead of its competitors.

An Introduction to Maxwell's Products

To make the proper selection in anchor-handling equipment it is important to give careful consideration to the style and size of boat, the anticipated anchoring conditions, and the weight and type of ground tackle. (Refer to 'Which Winch' article on page 285). Maxwell has an extensive range of windlasses for all types of ground tackle, bow configurations, locker spaces and power requirements including:

- The vertical stainless steel RC Series and the horizontal HRC Series automatically handle rope/chain combination rodes and are suitable for boats from 4.5 metres (15 feet) up to approximately 22 metres (75 feet)
- The evolutionary RC12 Series automatically handles rope/chain combination rodes and is suitable for lighter displacement vessels up to approximately 24 metres (80 feet)
- The multipurpose VC (Vertical Capstan) Series, which can be used for all types of line handling
- The traditional rope and chain VW (Vertical Windlass) Series, designed for manually handling a rope and chain combination anchor rode joined by a conventional shackle and eye splice. The exception being the hybrid VW10, see page 298
- The VWC (Vertical Windlass/Capstan) and HWC (Horizontal Windlass/Capstan) Series, which handle chain only rodes automatically

VERTICAL OR HORIZONTAL - MAXWELL OFFERS BOTH

Vertical systems have several advantages: They take up less space on deck and are easier to maintain. They are less expensive than equivalent horizontal models. Chain, or rope/chain alignment with the bow roller, while not as critical as horizontal windlass alignment, should be within a tolerance of about +/- 2% for smooth retrieval of chain or rope/chain. Rode (rope/chain) alignment with RC Series winches is more critical (consult Owner's Manual). With vertical systems more chain is in contact with the chainwheel thus minimising the possibility of chain jump. Line-pull on the warping drum can be in any direction, as opposed to fore and aft only on horizontal models.

Horizontal models have the advantage of being better suited to applications where there is extreme deck thickness (over 200 mm - 8"), limited below deck accessibility or when two anchors must be handled from one winch.

Maxwell rates its anchor winches at the stall load. The loads that the winch will normally be subjected to are substantially less. Each winch is available with a circuit breaker/isolator of appropriate size to provide electrical protection during normal operation of the winch.

Maxwell capstan winches and anchor windlasses fitted with capstan drums are manufactured with Maxwell's fluted stainless steel design to ensure the best possible grip and control of rope lines or rodes.

Maxwell products are distributed and supported worldwide by an extensive service network.



WINDLASS AND CAPSTAN SELECTION CHART

This chart serves as a basic guide to assist in selecting the appropriate anchor winch system for your boat.

Please note: Size, displacement and type of vessel, as well as anchoring conditions, must be taken into consideration when selecting an anchor winch. Vessels of heavy

displacement and/or high windage will require larger windlasses. All systems assume the use of a chain stopper, chain snubber or mooring cleat to remove the load when setting or breaking the anchor loose. The maximum pulling capacity of the windlass should not be less than three times the total weight of the ground tackle. Should you require any assistance or information, please do not hesitate to contact Maxwell Marine or any of our distributors or service centres world-wide.

| WINCH Series, Type & Size | | CHAIN SIZE Use of short link chain is essential | | | | | BOAT LENGTH FEET | | | | | | | | | | | | | | |
|--|--------------------|--|---------------|------------------|---------------|----------------|---------------------|-----------|-----------|-----------|------------|------------|------------|------------|------------|------------|----------|------------|------------|--|--|
| | | 6/7 mm 1/4" | 8 mm 5/16" | 10/11 mm 3/8" | 13 mm 1/2" | METRES FEET | 4.5 15 | 6.1 20 | 7.6 25 | 9.2 30 | 10.7 35 | 12.2 40 | 13.7 45 | 15.3 50 | 16.8 55 | 18.5 60 | 20 65 | 21.5 70 | 22.8 75 | | |
| RC6 Automatic Rope & Chain | RC6 only V | ● | | | | LIGHT | | | | | | | | | | | | | | | |
| | | | | | | HEAVY | | | | | | | | | | | | | | | |
| RC8 Automatic Rope & Chain | RC8-6 only V | ● | | | | LIGHT | | | | | | | | | | | | | | | |
| | | | | | | HEAVY | | | | | | | | | | | | | | | |
| | RC8-8 only V | | ● | | | LIGHT | | | | | | | | | | | | | | | |
| | | | | | | HEAVY | | | | | | | | | | | | | | | |
| RC10 Automatic Rope & Chain | RC10-8 only V | | ● | | | LIGHT | | | | | | | | | | | | | | | |
| | | | | | | HEAVY | | | | | | | | | | | | | | | |
| | RC10-10 only V | | | ● | | LIGHT | | | | | | | | | | | | | | | |
| | | | | | | HEAVY | | | | | | | | | | | | | | | |
| RC12 Automatic Rope & Chain | RC12-10 only V | | | ● | | LIGHT | | | | | | | | | | | | | | | |
| | | | | | | HEAVY | | | | | | | | | | | | | | | |
| | RC12-12 only V | | | | ● | LIGHT | | | | | | | | | | | | | | | |
| | | | | | | HEAVY | | | | | | | | | | | | | | | |
| ANCHORMAX™ | only V | | | | | LIGHT | | | | | | | | | | | | | | | |
| | | | | | | HEAVY | | | | | | | | | | | | | | | |
| HRCFF Automatic Rope & Chain | HRCFF-6 only H | ● | | | | LIGHT | | | | | | | | | | | | | | | |
| | | | | | | HEAVY | | | | | | | | | | | | | | | |
| | HRCFF-7 only H | ● | | | | LIGHT | | | | | | | | | | | | | | | |
| | | | | | | HEAVY | | | | | | | | | | | | | | | |
| | HRCFF-8 only H | ● | ● | | | LIGHT | | | | | | | | | | | | | | | |
| | | | | | | HEAVY | | | | | | | | | | | | | | | |
| HRC10 Automatic Rope & Chain | HRC10-8 only H | | ● | | | LIGHT | | | | | | | | | | | | | | | |
| | | | | | | HEAVY | | | | | | | | | | | | | | | |
| | HRC10-10 only H | | | ● | | LIGHT | | | | | | | | | | | | | | | |
| | | | | | | HEAVY | | | | | | | | | | | | | | | |

VC All Rope
VWC Rope & Chain
VWC Chain only
HWC Rope & Chain

V - Vertical Configuration -
H - Horizontal Configuration

LIGHT DISPLACEMENT: Refers to a vessel which is relatively light in weight compared to its overall length.

May be used on larger lighter displacement vessels providing rode is mainly rope

HEAVY DISPLACEMENT: Refers to a vessel which is relatively heavy in weight compared to its overall length.

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|-----------------|---|---|---|---|--|--|--|--|--|--|--|--|--|--|--|--|
| ● | ● | | | 500 only v | ● | | | | | | | | | | | | | | | |
| | ● | | | VW10 only v | | ● | ● | | | | | | | | | | | | | |
| ● | ● | ● | | 1000 only v | ● | ● | | | | | | | | | | | | | | |
| ● | ● | ● | | 1500 only v | ● | ● | ● | | | | | | | | | | | | | |
| | | ● | ● | 2500 V and H | | | ● | | | | | | | | | | | | | |
| | ● | ● | ● | 3500 V and H | | | ● | ● | | | | | | | | | | | | |

This chart refers to anchor windlass selection only. When selecting a stern capstan for the same boat, Maxwell uses one size smaller drive, or down to a minimum of 50% of the pull rating of the windlass (unless specified otherwise).

ALL MAXWELL WINDLASSES ARE RODE COUNTER READY WITH SENSOR HOLE DRILLED AND MAGNET FITTED



RC6



RC8



RC10



RC12



ANCHORMAX™



HRCFF6-7-8



HRC10



VC Vertical Capstan



VW Vertical Windlass



VWC Vertical Windlass & Chainpipe



HWC Horizontal Windlass & Capstan

WHICH WINCH? (Italicised items - refer to glossary, page 318)

There are a number of important criteria to be considered in selecting the correct anchor *winch*. These include the vessel size, displacement, windage, anchor size and *rode* selection. Practicalities such as locker space and depth of fall for the rode also play a part in deciding which *windlass* is ideal for you.

Maxwell Marine's range of windlasses and capstans is extensive, with models to suit boats up to 120 metres (over 380 feet). This section aims to simplify the selection process by taking you step by step through all the criteria that needs to be considered when choosing a windlass or capstan.

WHAT SIZE WINDLASS OR CAPSTAN FOR MY BOAT?

Consider the overall length and displacement (either light or heavy) of your boat and use the chart on the opposite page to identify the most suitable windlass or capstan for your vessel.

VERTICAL OR HORIZONTAL CONFIGURATION?

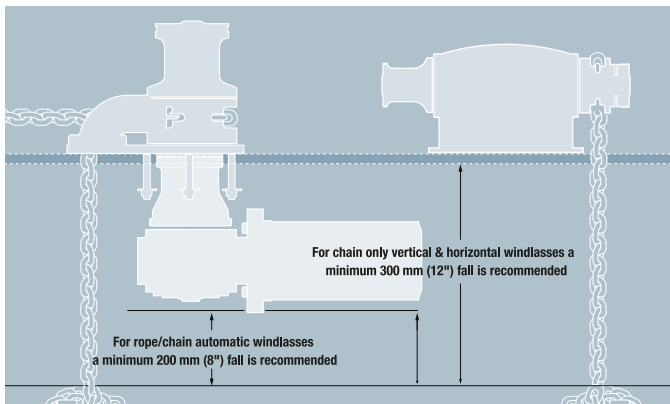
The two basic types of windlasses are differentiated by the drive shaft orientation. Deck thickness and underdeck space are the two main considerations when deciding which of the two types to fit.

Vertical windlasses make up the majority of anchor winch sales. They are characterised by situating the *capstan* and/or *gypsy* (topworks) above the deck and the motor and gearbox below. Vertical windlasses provide a 180° wrap of the anchor rode around the chainwheel giving optimal chain control, minimising slippage and jumping.

Horizontal windlasses are mounted completely above deck with gypsy and capstan located to either side. They provide a 90° wrap of the anchor rode around the chainwheel.

HOW MUCH SPACE DO I NEED IN MY CHAIN LOCKER?

Deck thickness and locker space play an important role in deciding whether to install a *vertical* or *horizontal* windlass. Estimating or measuring the depth of fall of the rode into the anchor locker may dictate which type of windlass is most suitable for your vessel. Calculating the depth of fall differs for horizontal chain only windlasses and for vertical chain or rope/chain windlasses (see diagram below).



Recommended minimum fall distances are measured from the top of rode pile (chain or rope/chain) after complete retrieval of the anchor.

ROPE SELECTION

Rope and, particularly chain, selection is extremely important. Deciding on the right anchor winch for your boat depends on the size, not only of the boat, but also the ground tackle. Maxwell anchor winches and capstans are designed to take chain only, rope only or a combination of both. Automatic rope/chain systems are now commonly used on boats up to 22 metres (75 feet). Consequently, Maxwell's HRCFF6, HRCFF7, HRCFF8, HRC10, RC6, RC8, RC10 and the evolutionary RC12 automatic rope/chain systems have become increasingly popular, as they offer the added benefit of less weight in the bow with the ability to carry an increased amount of rode. Chain only systems remain popular on heavier displacement sail and motor yachts. There are two main types of anchor chain. Short link chain is most commonly used on small and medium sized boats while stud link

chain is generally used on much larger vessels such as Superyachts. The latter is characterised by a stud (bar) joining the two sides of the link preventing them from deforming when overloaded. High test or calibrated short link chain should always be used. Long or regular link chain should not be used with anchor windlasses.

There are a wide variety of both metric (mm) and imperial (inches) chain sizes available and these will have bearing on your final windlass decision. It is important that the right size and right grade of chain is used to ensure a correct fit of the links to the gypsy. If the chain is not matched to the chainwheel problems may occur, such as the chain jumping off the gypsy or the chain jamming as it will not feed smoothly through the chain pipe. As chain to chainwheel compatibility is so important, Maxwell Marine supplies chainwheels to fit just about every known chain available on today's international market.

DC, AC OR HYDRAULIC?

The wattage of a DC electric motor is not the important factor. Rather it is the efficiency of the whole winch, including the gearbox and motor, which counts. With the increasing popularity of powerful and compact on-board generators, AC powered winches are becoming a practical consideration for bigger boats. Hydraulic systems provide another power source well worth considering as they have the advantage of constant speed under all load conditions and can be run almost constantly while coupled with safe guards such as pressure relief valves. Modern hydraulic systems offer an integrated, low maintenance and efficient, centrally managed, power pack.

WHAT PULL CAPABILITY WILL I NEED?

The only meaningful way to rate anchor winch performance is by looking at what it will lift and at what speed. The two things to consider are (a) the *maximum pull* capability and (b) the *working load* of the winch. Maximum pull (sometimes referred to as stall load) is the maximum short term or instantaneous pull of the winch. Working load is generally rated at about one third of the maximum pull and is usually considered to be the load that the winch is pulling once the anchor is off the bottom. To determine your required maximum pull capability, complete the calculation below.

1. Calculate ground tackle weight (anchor + chain + rope = ground tackle)

eg: ANCHOR + 18 m/60 ft CHAIN + 61 m/200 ft ROPE = GROUND TACKLE
30 kg/66 lbs + 45 kg/100 lbs + 12 kg/ 26 lbs = 87 kg/192 lbs

2. Calculate the maximum pull (total ground tackle x 3 = Maximum pull)

Safety guidelines suggest that the pulling capacity of the windlass should not be less than 3 times the total weight of the ground tackle.

eg: GROUND TACKLE x 3 = MAXIMUM PULL
87 kg/192 lbs x 3 = 261 kg/576 lbs

In this instance an **HRC8, HRC10, RC8, RC10, or VW1000** would be suitable, providing the chain and rope size is applicable to the windlass being considered. The maximum pull of 261 kg/576 lbs is well within the capability of all these anchor winches.

SAFETY AND SECURITY TIPS

Circuit breaker/isolators are used in the installation of any DC electric windlass to provide protection to motor and cables should the windlass be overloaded. Accessories such as *chain stoppers* or chain snubbers must be used for safe anchoring, the avoidance of unintentional self-launching of the anchor and for the prevention of damage to your anchor winch. You should never anchor off your winch or use your winch to pull your boat to the anchor spot. The anchor winch is designed to lift a dead weight and should not be subjected to the strain of your boat riding at anchor. If you think the winch you are considering may be too small, then go to the next size up. Better to have excess lifting capacity than not enough!

Maxwell Marine and their agents or distributors offer free and helpful advice should you have any questions. Alternatively, check out Maxwell's website: www.maxwellmarine.com





The stainless steel (AISI 316) RC6 automatic rope/chain anchor winch is Maxwell's smallest version in the highly successful vertical RC Series Windlass Range.

Features and benefits

- The stainless steel (AISI 316) RC6 Series incorporates a chromed bronze chainwheel suitable for use with 6 mm/7 mm (1/4") chain spliced to 12 mm (1/2") three strand or 8-braid (plait) rope
- The RC6 features Maxwell's revolutionary, and patented, Wave Design™ chainwheel. Refer below for more information about this innovative feature
- Providing most of the features of the larger RC8 (refer pages 288 - 289), the RC6 has been designed with the smaller, trailer boat market in mind
- The in-line, vertical gearbox and motor means quick and easy installation by either the boat yard or the DIY aftermarket customer
- An inexpensive, high performance and great looking windlass; the RC6 is built for durability and years of trouble free use
- The RC6 is a Low Profile unit (no optional capstan drum)



RC6 Low Profile



RC6 showing, 'fast install', in-line vertical gearbox and motor

STANDARD EQUIPMENT REQUIRED FOR DUAL DIRECTION CONTROL

Dual Direction Solenoid (included)
Emergency 'free fall' activation lever (included)
Up/Down remote control panel (not included)
Circuit breaker/isolator panel (not included)

OPTIONS

1. AutoAnchor™ Equipment
2. Compact Remote
3. Foot Switches
4. Chain Stopper
5. Chain Snubber

Every Maxwell RC6 automatic rope/chain windlass comes with top works, gearbox, motor and dual direction solenoid. Switches and circuit breaker are available and need to be ordered separately. Refer chart on page 318.

Important: Maxwell windlasses must be used in conjunction with a chain stopper or alternative snubbing device to take the load off the windlass while laying at anchor. The chain stopper and alternative snubbing system should also be used to secure the anchor in the fully raised position while under way.

3YEAR
Limited Warranty



Maxwell's smallest version of the rope/chain anchor winch

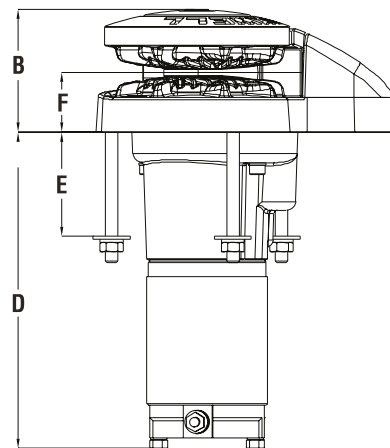
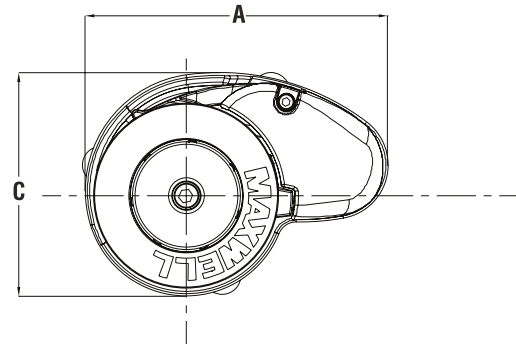
SPECIFICATIONS

| Model | RC6 |
|---|----------------------|
| Maximum Pull/Lift | 350 kg / 770 lbs |
| Static Hold | 700 kg / 1540 lbs |
| Chain Short Link | 6 mm/7 mm / 1/4" |
| Rope Size (Nylon)* (3 strand or 8 plait recommended) | 12 mm / 1/2" |
| Chain Speed (Anchor Retrieval) | 24 m/min / 79 ft/min |
| Rope Speed (Anchor Retrieval) | 21 m/min / 69 ft/min |
| Power Supply (DC) | 12 or 24 V |
| Motor Power | 500 W |
| Net Weight | 8.5 kg / 18.7 lb |

* Refer to owners manual for rope size variations

DIMENSIONS

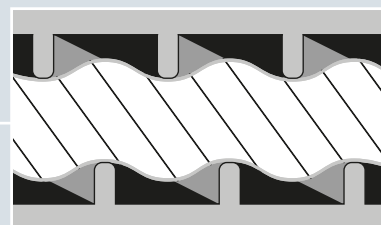
| Model | RC6 |
|-------|-----------------|
| A | 196 mm / 7 3/4" |
| B | 80 mm / 3 3/16" |
| C | 145 mm / 5 3/4" |
| D | 209 mm / 8 3/4" |
| E | 65 mm / 2 1/2" |
| F | 39 mm / 1 9/16" |



MAXWELL'S REVOLUTIONARY CHAINWHEEL

Maxwell lead the market yet again in innovative thinking when they introduced the Wave Design™ chainwheel. This patented rope/chain wheel incorporates two unique design concepts that greatly improve the handling and control of the rope/chain spliced rode. The outer ribs of the chainwheel are angled slightly forward ensuring that the rope and the chain are smoothly guided in the wheel during anchor retrieval.

As the rope pulls into the wheel, the opposite facing inner ribs grip the rope in an undulating manner, securing the rope more firmly in a 'wave pattern' action that is far superior to the traditional 'jam cleat' manner of holding the rope compared to all other products on the market. Not only does this Wave Design™ hold the rope more securely, it is also kinder on the rope resulting in increased longevity of your anchor rode.





McLAY BOATS' 690

3YEAR
Limited Warranty


RC8 Low Profile Version



RC8 Low Profile Version

The stainless steel (AISI 316) RC8 Series of automatic rope/chain anchor winches are Maxwell's mid-range models in the highly success RC Series Windlass Range

Features and benefits

- The stainless steel (AISI 316) RC8-6 Series incorporates a chromed bronze chainwheel, designed to effortlessly retrieve and deploy 6 mm/7 mm (1/4") chain spliced to 12 mm (1/2") three strand or 8-braid (plait) rope
- The more powerful RC8-8 can be used with 8 mm (5/16") chain spliced to 16 mm (5/8") three strand or 8-plait rope
- The ingenious Wave Design™ rope/chain gypsy (chainwheel) is able to accommodate a wide range of chain pitch differences within the specified chain size diameters suitable for use with the RC8 Series
- A sleek, Low Profile version and a fluted stainless steel capstan drum version, are available
- Simple two piece installation saves time and money and allows easy retrofitting without disassembly of the windlass.
- Unique spacer tube design allows installation through virtually any deck thickness and the multiple mounting positions and self aligning gearbox ensure optimal location of gearbox and motor in virtually all installation situations
- The RC8 features Maxwell's revolutionary, and patented, Wave Design™ chainwheel. Refer RC6 page 287 for more information about this innovative feature
- The heavy duty stainless steel (AISI 316) pressure arm is designed to effectively help grasp the rope/chain splice, giving the RC8 an unparalleled level of performance. In combination with a heavy duty, large wire diameter, stainless steel pre-loaded spring, the pressure arm always exerts maximum control pressure
- The RC8 works just as effectively with all-chain rodes
- Huge, through deck hawse pipe throat ensures easy entry of the rope/chain rode into and out of the anchor locker
- Full disassembly capability of the topworks utilising only the handle provided and an Allen key
- Manual override and 'Free Fall', using the emergency crank/clutch handle provided
- Sealed oil bath and marine-grade hard anodised, alloy gearbox provides maximum output via a precision worm and worm wheel

SPECIFICATIONS

| Model | RC8 (6/7 mm-1/4") kg / lbs | RC8 (8 mm-5/16") kg / lbs |
|---|-------------------------------|------------------------------|
| Maximum Pull/Lift | 350 kg / 770 lbs | 600 kg / 1320 lbs |
| Static Hold | 1200 kg / 2640 lbs | 1200 kg / 2640 lbs |
| Chain Short Link | 6/7 mm - 1/4" | 8 mm - 5/16" |
| Rope Size (Nylon)* (3 strand or 8 plait recommended) | 12 mm - 1/2" | 14 mm/16 mm - 9/16"-5/8" |
| Chain Speed (Anchor Retrieval) | 28 m/min - 92 ft/min | 32 m/min - 105 ft/min |
| Rope Speed (Anchor Retrieval) | 24 m/min - 79 ft/min | 28 m/min - 92 ft/min |
| Power Supply (DC) | 12 or 24 V | 12 or 24 V |
| Motor Power | 600 W | 1000 W |
| Net Weight | 12.5 kg / 27.5 lbs | 16.5 kg / 36.3 lbs |

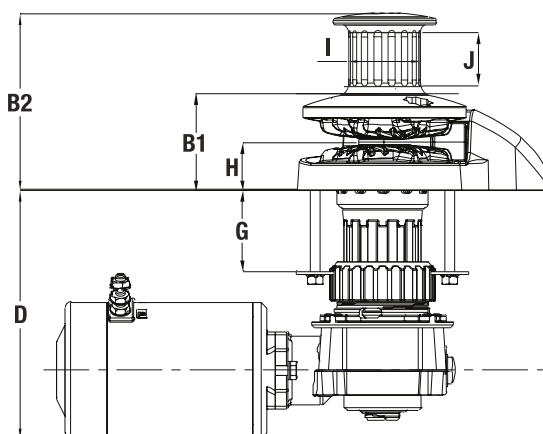
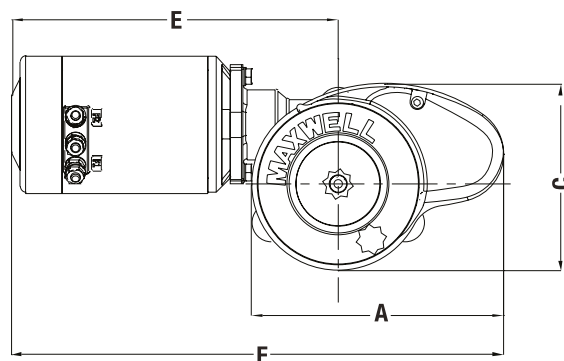
* Refer to owners manual for rope size variations

DIMENSIONS

| Model | RC8 (6/7 mm-1/4") | RC8 (8 mm-5/16") |
|--------------------------|-------------------|------------------|
| A | 210 mm / 8 5/16" | 210 mm / 8 5/16" |
| B1 | 83 mm / 3 5/16" | 83 mm / 3 5/16" |
| B2 (with Capstan) | 146 mm / 5 3/4" | 146 mm / 5 3/4" |
| C | 156 mm / 6 3/16" | 156 mm / 6 3/16" |
| D | 200 mm / 7 7/8" | 208 mm / 8 1/4" |
| E | 245 mm / 9 5/8" | 272 mm / 10 3/4" |
| F | 383 mm / 15" | 410 mm / 16 1/4" |
| G (Std deck clearance) ^ | 65 mm / 2 1/2" | 65 mm / 2 1/2" |
| H | 40 mm / 1 5/8" | 40 mm / 1 5/8" |
| I | 66 mm / 2 5/8" | 66 mm / 2 5/8" |
| J | 44 mm / 1 3/4" | 44 mm / 1 3/4" |

^ extra deck clearance models available. Contact your Maxwell dealer.

Mid-range rope/chain anchor winch



Important: Maxwell windlasses must be used in conjunction with a chain stopper or alternative snubbing device to take the load off the windlass while laying at anchor. The chain stopper and alternative snubbing system should also be used to secure the anchor in the fully raised position while under way.

STANDARD EQUIPMENT REQUIRED FOR DUAL DIRECTION CONTROL

- Dual Direction Solenoid (included)
- Emergency crank/clutch release handle lever (included)
- Up/Down remote control panel (not included)
- Circuit breaker/isolator panel (not included)

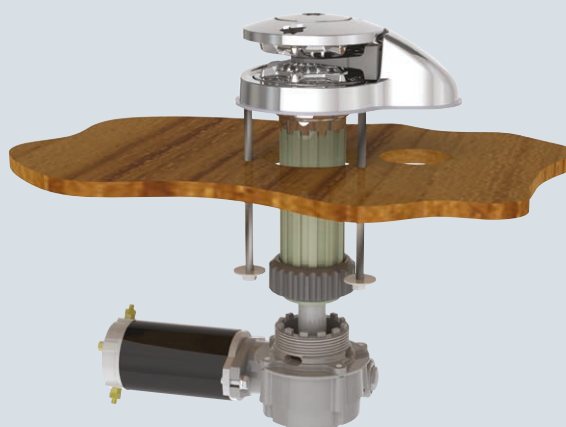
Every Maxwell RC8 automatic rope/chain windlass comes with the top works, gear box, motor and dual-direction solenoid. Switches and circuit breaker are available and need to be ordered separately. Refer chart on page 318.

HEIGHT MATCHED CHAIN STOPPER

- For use with Maxwell's rope/chain vertical windlasses
- Height adjusted to most effectively align chain with the chainwheel
- No height adjustment plinth required
- Refer to page 313 for more information



Height Matched Chain Stopper



OPTIONS

1. AutoAnchor™ Equipment
2. Compact Remote
3. Foot Switches
4. Chain Stopper
5. Chain Snubber
6. Capstan model





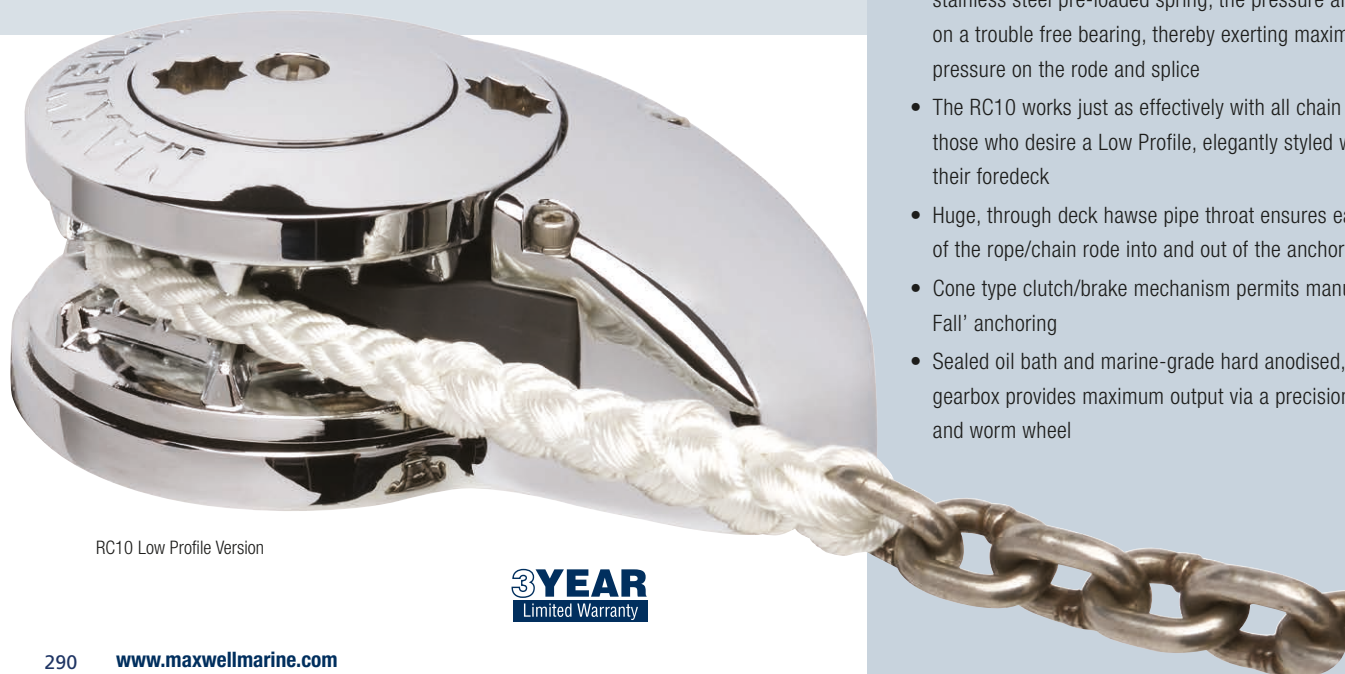
The stainless steel (AISI 316) RC10 Series of automatic rope/chain anchor winches are Maxwell's upper mid-range models in the highly successful RC Series Windlass Range.

Features and benefits

- The stainless steel (AISI 316) RC10-8 Series incorporates a chromed bronze chainwheel, designed to effortlessly retrieve and deploy 8 mm (5/16") chain spliced to 14 mm (9/16") or 16 mm (5/8") three strand or 8-braid (plait) rope
- The more powerful RC10-10 can be use with 10 mm (3/8") chain spliced to 16 mm (5/8") three strand or 8-braid (plait) rope
- A sleek, Low Profile version and a fluted stainless steel capstan drum version, are available
- Simple two piece installation saves time and money and allows easy retrofitting without disassembly of the windlass. Unique spacer tube design allows installation through virtually any deck thickness and the multiple mounting positions and self aligning gearbox ensure optimal location of gearbox and motor in virtually all installation situations
- Full disassembly capability of the topworks utilising only the handle provided and an Allen key
- The RC10 is manufactured from marine-grade 316 stainless steel and chromed bronze for long term durability. The heavy duty stainless steel pressure arm, coupled with the unique rope/chain gypsy, is designed to effectively grasp the splice between rope and chain, giving the RC10 an unparalleled level of performance
- In combination with a heavy duty, large wire diameter, stainless steel pre-loaded spring, the pressure arm pivots on a trouble free bearing, thereby exerting maximum control pressure on the rode and splice
- The RC10 works just as effectively with all chain rodes for those who desire a Low Profile, elegantly styled windlass on their foredeck
- Huge, through deck hawse pipe throat ensures easy entry of the rope/chain rode into and out of the anchor locker
- Cone type clutch/brake mechanism permits manual, 'Free Fall' anchoring
- Sealed oil bath and marine-grade hard anodised, alloy gearbox provides maximum output via a precision worm and worm wheel



RC10 Capstan Version



RC10 Low Profile Version

3YEAR
Limited Warranty

SPECIFICATIONS

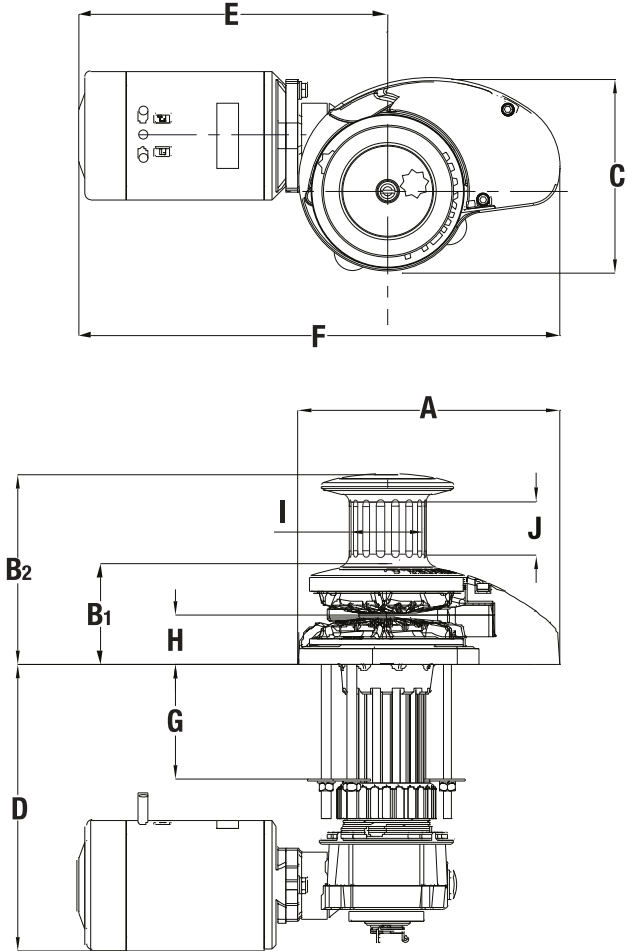
| Model | RC10 (8 mm-5/16") | RC10 (10 mm-3/8") |
|---|----------------------------|-----------------------|
| Maximum Pull/Lift | 700 kg 1540 lbs | 850 kg 1870 lbs |
| Static Hold | 1500 kg 3300 lbs | 1500 kg 3300 lbs |
| Chain Short Link | 8 mm 5/16" | 10 mm 3/8" |
| Rope Size (Nylon)* (3 strand or 8 plait recommended) | 14 mm - 16mm 9/16"-5/8" | 16 mm 5/8" |
| Chain Speed (Normal Working load) | 24 m/min 79 ft/min | 24 m/min 79 ft/min |
| Rope Speed (Normal Working load) | 20 m/min 65 ft/min | 20 m/min 65 ft/min |
| Power Supply (DC) | 12 or 24 V | 12 or 24 V |
| Motor (Watts) | 1000 W | 1200 W |
| Net Weight | 19 kg 42 lbs | 20 kg 44 lbs |

* refer to owners manual for rope size variations.

DIMENSIONS

| Model | RC10 (8 mm-5/16") | RC10 (10 mm-3/8") |
|--------------------------|-------------------|-------------------|
| A | 230 mm 9 1/8" | 230 mm 9 1/8" |
| B1 | 89 mm 3 1/2" | 89 mm 3 1/2" |
| B2 (with capstan) | 168 mm 6 5/8" | 168 mm 6 5/8" |
| C | 170 mm 6 3/4" | 170 mm 6 3/4" |
| D | 251 mm 10" | 251 mm 10" |
| E | 272 mm 10 3/4" | 272 mm 10 3/4" |
| F | 424 mm 16 3/4" | 424 mm 16 3/4" |
| G (Std deck clearance) ^ | 100 mm 4" | 100 mm 4" |
| H | 43 mm 1 3/4" | 43 mm 1 3/4" |
| I | 66 mm 2 5/8" | 66 mm 2 5/8" |
| J | 44 mm 1 3/4" | 44 mm 1 3/4" |

^ extra deck clearance models available. Contact your Maxwell dealer.



Important: Maxwell windlasses must be used in conjunction with a chain stopper or alternative snubbing device to take the load off the windlass while laying at anchor. The chain stopper and alternative snubbing system should also be used to secure the anchor in the fully raised position while under way.

HEIGHT MATCHED CHAIN STOPPER

- For use with Maxwell's rope/chain vertical windlasses
- Height adjusted to most effectively align chain with the chainwheel
- No height adjustment plinth required
- Refer to page 313 for more information

Height Matched
Chain Stopper



STANDARD EQUIPMENT REQUIRED FOR DUAL DIRECTION CONTROL

Dual Direction Solenoid (included)
Emergency crank/clutch release handle lever (included)
Up/Down remote control panel (not included)
Circuit breaker/isolator panel (not included)

OPTIONS

1. AutoAnchor™ Equipment
2. Compact Remote
3. Foot Switches
4. Chain Stopper
5. Chain Snubber
6. Capstan model

Every Maxwell RC10 automatic rope/chain windlass comes with top works, motor/gear box and dual direction solenoid. Switches and circuit breaker are available and need to be ordered separately. Refer chart on page 318.





The RC12 Series incorporates Maxwell's latest stylish innovation in automatic rope/chain windlass technology. Retaining the classic open design styling more appropriate on larger boats, the RC12-10 and RC12-12 represent the next generation of rope/chain windlass evolution in every respect.

Features and benefits

- The RC12 fully automatic windlass series is designed to effortlessly retrieve and deploy 10 mm (3/8") short link chain and 16 mm (5/8") to 20 mm (3/4") three strand or 8-Plait rope (RC12-10) and 13 mm (1/2") short link chain and 16 mm (5/8") to 20 mm (3/4") three strand or 8-Plait rope (RC12-12)
- Stainless steel AISI 316
- With a maximum pull of 1590 kg (3500 lb), and an anchor retrieval rate of 15 m/min (50ft/min), the RC12-12 is one of the fastest and gruntest windlasses in its class
- A sleek, Low Profile version and a fluted stainless steel (AISI 316) capstan drum version, are available
- The all new RC12 is packed with patented innovative features combined with Maxwell's traditionally classic aesthetics, but reflecting the modern "form follows function" of the highly successful RC6, RC8 and RC10 series windlasses
- The elegantly designed deckplate and chainpipe cover are manufactured in polished marine-grade (AISI 316) stainless steel, as are the heavy duty pressure arm, stripper, chainwheel and fluted capstan drum
- The huge, through deck hawse pipe throat ensures easy entry of the rope/chain rode into and out of the anchor locker
- Double cone-type brake/clutch mechanism permits 'Free Fall' anchoring. Cone clutches, unlike dog clutches, provide smooth progressive engagement, ensuring safe and precise operator control
- The RC12 features Maxwell's revolutionary and patented new Wave Design™ chainwheel. Refer to RC6 page for more information about this innovative feature
- Emergency manual retrieval is made simple and easy with Maxwell's unique "Active Latch Ratchet System" operation that prevents backwind of the windlass during manual hauling of the anchor
- The Maxwell designed, all new and innovative black, hard anodised gearbox provides numerous advantages:
 - Fast and easy windlass installation
 - More corrosion resistant
 - Easy to maintain and service
 - Takes up less room in the anchor locker
 - 75:1 Ratio (RC12-10) or 100:1 Ratio (RC12-12), single stage design with less moving parts, for smoother and quieter operation
 - Allows for multi-positioning of the gearbox/motor



RC12 Capstan Model

3 YEAR
Limited Warranty

Activation of the ratcheted mechanism lever ensures the windlass can not backwind during emergency (manual) retrieval of the rode (rope and/or chain) and anchor.





RC12 Low Profile Model

Stylish innovation in automatic rope/chain windlass technology

SPECIFICATIONS

| Model | RC12 (10/11 mm-3/8") | RC12 (12/13 mm-1/2") |
|--|--------------------------|--------------------------|
| Maximum Pull/Lift | 1134 kg 2500 lbs | 1590 kg 3500 lbs |
| Static Hold | 2200 kg 4840 lbs | 2200 kg 4840 lbs |
| Chain Short Link** | 10/11 mm 3/8" | 12/13 mm 1/2" |
| Rope Size (Nylon)** (3 strand or 8 plait recommended) | 16-20 mm 5/8-3/4" | 20-22 mm 3/4" |
| Chain Speed (at normal working load) | 20 m/min 65 ft/min | 15 m/min 50 ft/min |
| Rope Speed (at normal working load) | 17 m/min 56 ft/min | 13 m/min 43 ft/min |
| Power Supply (DC) | 12 or 24 V | 12 or 24 V |
| Motor Power | 1200 W | 1200 W |
| Net Weight - DC (Capstan version) | 32 kg 71 lbs | 32 kg 71 lbs |
| Net Weight - DC (Low Profile version) | 29 kg 64 lbs | 29 kg 64 lbs |
| Hydraulic Pressure | 138 bar 2000 PSI | 138 bar 2000 PSI |
| Hydraulic Flow | 42 l/min 11 USgal/min | 42 l/min 11 USgal/min |
| Net Weight - Hyd (Low Profile) | 23 kg/ 51 lbs | 23 kg/ 51 lbs |
| (Capstan version) | 26 kg/ 57 lbs | 26 kg/ 57 lbs |

** When ordering please specify your specific rope and chain, combination rope

DIMENSIONS

| Model | RC12 (10 mm-3/8") | RC12 (12/13 mm-1/2") |
|---|-------------------|----------------------|
| A | 293 mm 11 5/8" | 293 mm 11 5/8" |
| B ¹ (Low Profile version) | 128 mm 5 1/8" | 128 mm 5 1/8" |
| B ² (Capstan version) | 233 mm 9 1/4" | 233 mm 9 1/4" |
| C | 206 mm 8 1/8" | 206 mm 8 1/8" |
| D (Std deck clearance) | 210 mm 8 3/8" | 210 mm 8 3/8" |
| E | 294 mm 11 5/8" | 294 mm 11 5/8" |
| F | 482 mm 19" | 482 mm 19" |
| G | 90 mm 3 5/8" | 90 mm 3 5/8" |
| H (Std deck clearance) | 54 mm 2 1/4" | 54 mm 2 1/4" |
| I | 106 mm 4 1/4" | 106 mm 4 1/4" |
| J | 62 mm 2 1/2" | 62 mm 2 1/2" |

STANDARD EQUIPMENT REQUIRED FOR DUAL DIRECTION CONTROL

- Dual Direction Solenoid (included)
- Emergency (manual) retrieval handle (included)
- Clutch release handle (included)
- Up/Down remote control panel (not included)
- Circuit breaker/isolator panel (not included)

OPTIONS

1. AutoAnchor™ Equipment
2. Compact Remote
3. Foot Switches
4. Chain Stopper
5. Chain Snubber
6. Capstan model

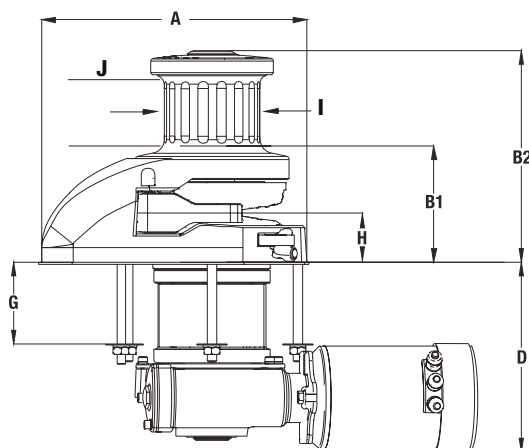
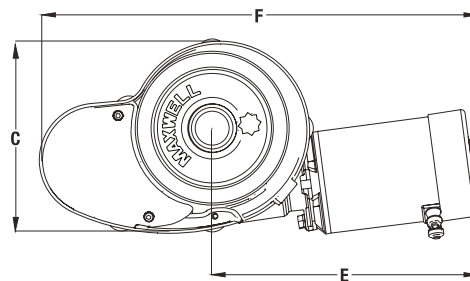
Every Maxwell RC12 automatic rope/chain windlass comes with top works, motor/ gear box and dual direction solenoid. Switches and circuit breaker are available and need to be ordered separately. Refer chart on page 318.

HEIGHT MATCHED CHAIN STOPPER

- For use with Maxwell's rope/chain vertical windlasses
- Height adjusted to most effectively align chain with the chainwheel
- No height adjustment plinth required
- Refer to page 313 for more information



Height Matched Chain Stopper



Important: Maxwell windlasses must be used in conjunction with a chain stopper or alternative snubbing device to take the load off the windlass while laying at anchor. The chain stopper and alternative snubbing system should also be used to secure the anchor in the fully raised position while under way.





NEW!



RC12HD Capstan Version

Heavy Duty Rope/Chain Series

The RC12HD is designed for use with 10 mm to 13 mm (3/8" to 1/2") short link chain with 18 mm to 24 mm (3/4" to 7/8") Nylon rope, the motor and gearbox are sized to meet typical Classification Society test requirements for 12.5 mm U1 Stud link chain. This design is particularly well suited to vessels requiring high service speeds such as patrol vessels as the reduced weight of rope/chain combination reduces weight from the front of the vessel.

The RC12HD is fitted with a heavy duty fan cooled DC motor and fin cooled gearbox allowing running for extended periods.

The 1½" mainshaft is manufactured in high strength corrosion resistant 2205 Duplex stainless steel and the above deck components in AISI 316 stainless steel providing excellent corrosion resistance and highly polished finish.

The RC12HD is available with either a 24VDC or Hydraulic motor. Run time on the DC version varies with load from continuous operation at loads up to 300 kgf to a 5 minute run time at loads of 700 kgf.

The run time of the Hydraulic version is only limited by the temperature rise of the gearbox.

Double cone-type brake/clutch mechanism permits 'Free Fall' anchoring. Cone clutches, unlike dog clutches, provide smooth progressive engagement, ensuring safe and precise operator control.

The RC12HD features Maxwell's revolutionary and patented Wave Design™ chainwheel.

3 YEAR
Limited Warranty

Important: Maxwell windlasses must be used in conjunction with a chain stopper or alternative snubbing device to take the load off the windlass while laying at anchor. The chain stopper and alternative snubbing system should also be used to secure the anchor in the fully raised position while under way.



RC12HD Low Profile Model

NEW!

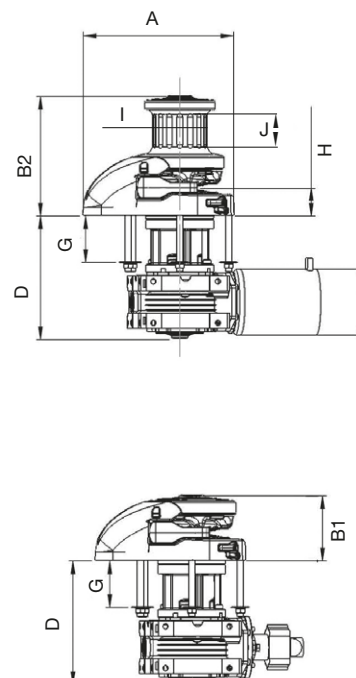
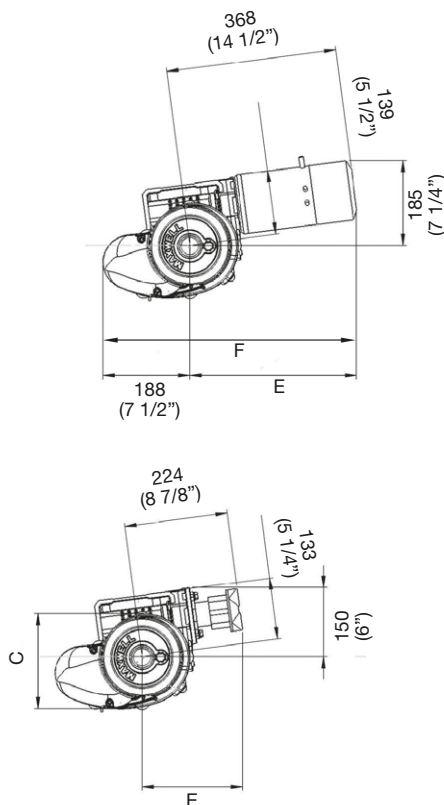
SPECIFICATIONS

| | 24V DC Electric (2000W) | Hydraulic |
|-------------------------------|-------------------------|--------------------------|
| Maximum pull | 1820 kg (4000 lbs) | 1200 kg (2640 lbs) |
| Continuous pull | 300 kg (660 lbs) | 1200 kg (2640 lbs) |
| Line speed at continuous pull | 12 m/min (39 ft/min) | 15 m/min (49 ft/min) |
| Working Load limit (10min) | 610 kg (1335 lbs) | 1200 kg (2640 lbs) |
| Maximum line speed | 18 m/min (59 ft/min) | 15 m/min (49 ft/min) |
| Static Hold | 2200 kg (4840 lbs) | 2200 kg (4840 lbs) |
| Net Weight (Capstan Version) | 40 kg (88 lbs) | 31.5 kg (69 lbs) |
| Power Supply | 24V DC | Hydraulic |
| Motor Power | 2000 W | N/A |
| Maximum Hydraulic Pressure | N/A | 138 Bar (2000 PSI) |
| Recommended Hydraulic Flow | N/A | 40 l/min (11 Gal/min) |
| Accessories | | |
| Reversing Solenoid | P104851 | 24V |
| Circuit Breaker | P100791 | 135 Amp |

Refer to page numbers 308 - 317 for additional electrical accessories.

DIMENSIONS

| Model | RC12HD 100TDC | RC12HD 200TDC |
|---|-------------------|-------------------|
| A | 293 mm 11 5/8" | 293 mm 11 5/8" |
| B ¹ (Low Profile version) | 128 mm 5 1/8" | 128 mm 5 1/8" |
| B ² (Capstan version) | 233 mm 9 1/4" | 233 mm 9 1/4" |
| C | 206 mm 8 1/8" | 206 mm 8 1/8" |
| D (Std deck clearance) | 241 mm 9 1/2" | 348 mm 13 3/4" |
| E | 361 mm 14 1/4" | 361 mm 14 1/4" |
| F | 549 mm 21 5/8" | 549 mm 21 5/8" |
| G (Std deck clearance) | 95 mm 3 3/4" | 195 mm 7 3/4" |
| H | 54 mm 2 1/4" | 54 mm 2 1/4" |
| I | 106 mm 4 1/4" | 106 mm 4 1/4" |
| J | 62 mm 2 1/2" | 62 mm 2 1/2" |





VC500



An extremely versatile capstan

ANCHORMAX™



An extremely versatile vertical capstan or general purpose electric winch for use as an anchor winch, pot hauler or davit winch.

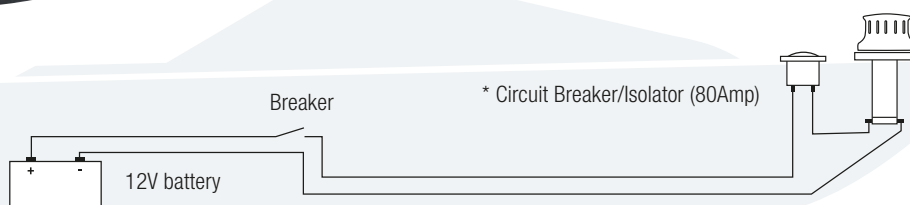
The ANCHORMAX™ has an extremely high power to weight ratio. The compact, fully sealed gearbox is driven by a vertically mounted, permanent magnet motor. Intrusion below decks is minimised making the design ideal for boats from 5 metres (16ft) to 10 metres (32ft). Fitting to the boat is simplicity itself as no dismantling of the winch is required.

The ANCHORMAX™ gear housings are marine-grade alloy and the drum is stainless steel (AISI 316). It is supplied as a single direction (clockwise) unit, complete with deck foot switch, fastenings, template and fitting instructions.

The ANCHORMAX™ is not recommended for use to haul halyards.

The ANCHORMAX™ is not recommended for use to haul chain.

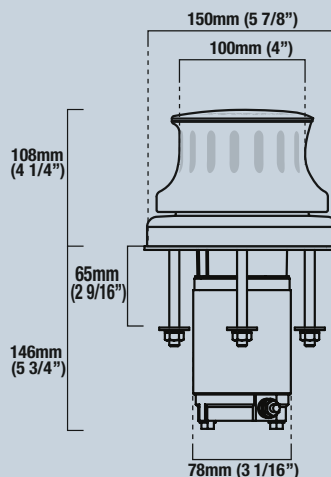
All standard and optional control accessories can be found on pages 308 - 317.

3 YEAR
Limited Warranty


*Not supplied with but recommended

ANCHORMAX SPECIFICATIONS

| | |
|----------------------------------|-------------------------|
| Maximum Line Pull/Lift | 330 kg (740 lbs) |
| Speed @ nominal working load | 32 m/min |
| (80 Amps with 75 kg/165 lb load) | (105' per min) |
| Voltage | 12 V or 24 V |
| Power | 500 W |
| Weight | 5.5 kg (17.6 lbs) |
| Maximum Boat LOA | 10 m (33') |
| Maximum Boat Weight | 4 tonnes |



High quality fluted capstan for smaller (power/sail) boats

The stainless steel (AISI 316) fluted capstan VC Series is designed for simple, low cost anchor recovery on smaller boats and rope hauling on larger vessels.

Features and benefits

- Vertical design suits smaller powerboats or sailboats and can be utilised for anchor rodes, as a docking capstan on larger craft, or auxiliary line hauling from any direction
- High quality, hard wearing stainless steel (AISI 316) above deck components
- Functional rope hauling from any direction using fluted, snag-free warping drum for positive control of all ropes
- Simplified through deck installation by modular design and precise alignment of gearbox to the topworks
- Alternative gearbox/motor positions accommodate virtually all installation situations
- Compact, reliable gearbox, made of corrosion resistant materials
- Anodized aluminium gearbox and spacer on VC500 and VC1000 models
- Heavy duty, dual direction motors, designed for marine winches
- Easily disassembled for servicing
- Can be mounted horizontally for use as a pot hauler or davit winch

STANDARD EQUIPMENT REQUIRED FOR SINGLE DIRECTION CONTROL

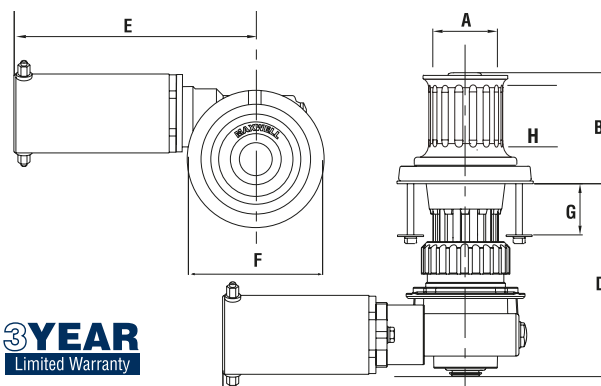
Circuit breaker/isolator panel
Foot Switch

OPTIONS

Extra deck clearance
Hydraulic motor*



VC500



SPECIFICATIONS

| Model | 500 | 1000 |
|--------------------------------|-----------------------|---------------------------|
| Maximum Pull/Lift | 300 kg 660 lbs | 700 kg 1540 lbs |
| Static Hold | N/A N/A | N/A N/A |
| Line Speed (Normal Working) | 18 m/min 60 ft/min | 20 m/min 65 ft/min |
| Power Supply (DC) | 12 or 24 V | 12 or 24 V |
| Motor (Watts) | 600 W | 1000 W |
| Net Weight (Electric) | 10 kg 22 lbs | 18 kg 40 lbs |
| Hydraulic Pressure | *N/A *N/A | 100 bar 1450 psi |
| Hydraulic Flow | *N/A *N/A | 20 l/min 5.3 USgal/min |
| Net Weight - Hyd | *N/A *N/A | 11 kg 24 lbs |

DIMENSIONS

| Model | 500 | 1000 |
|----------------------------|---------------------|--------------------|
| A | 65 mm 2 9/16" | 80 mm 3 1/8" |
| B | 106 mm 4 3/16" | 122.5 mm 4 5/6" |
| D (Std deck clearance) | 173 mm 6 7/8" | 252 mm 9 15/16" |
| E | 245 mm 9 5/8" | 272 mm 10 3/4" |
| F | 132.5 mm 5 7/32" | 160 mm 6 5/16" |
| G (Std deck clearance) | 57 mm 2 1/4" | 100 mm 4" |
| G (Extra deck clearance) ^ | N/A N/A | 150 mm 6" |
| H | 37.5 mm 1 7/16" | 44 mm 1 3/4" |

**For VC1000 a shorter deck clearance version is also available at 50 mm (2")

^ A deck clearance increase will also increase the 'D' measurement by the same increment.





The VW Series of anchor winches are designed for traditional rope and chain combination anchor rodes, where manual transfer of the rode from the rope warping drum to the chainwheel is required.

3 YEAR
Limited Warranty

VW10 Capstan Version



Features and benefits

- Provides the versatility of operating two anchors from one winch
- Functional rope hauling from any direction using independent MAX-grip™ snag-free warping drum with clutch disengagement of chainwheel for positive control of all ropes
- Permits use of traditional shackle and thimble rope and chain connection
- Allows alternative mounting horizontally on a fore and aft bulkhead inside chain locker for below deck installation
- High-quality finish on above deck components, manufactured from marine grade stainless steel (AISI 316) and chromed bronze, for long term durability
- Cone type brake/clutch mechanism permits manual 'Free Fall' anchoring. Cone clutches, unlike dog clutches, provide smooth progressive engagement ensuring safe operator control
- Chainwheel locking pawl (except on VW500 and VW10)
- Simplified through deck installation by modular design and precise alignment of gearbox to the topworks utilising marine-grade stainless steel (AISI 316) bolts
- Anodized aluminium gearbox and spacer on 500, 1000 and 1500 models
- Heavy duty, dual direction motor, designed for marine winches
- Easily disassembled for servicing

VW10 WINDLASS FOR USE WITH SPLICED ROPE/CHAIN

The VW10 evolved from the demand for a vertical windlass that could be used in a horizontally installed configuration (refer image above), but which would also, interactively handle a rope/chain rode. The chainwheels on traditional VW models could be used with chain only rodes. The VW10, capable of automatically handling up to 10 mm (3/8") chain and 16 mm (5/8") rope, is ideally suited for use in sailing boat anchor lockers, where space considerations are critical. Quick and easy to install and available with or without independant warping capstan, the VW10 is destined to become an instant hit in this unique niche market.

STANDARD EQUIPMENT REQUIRED FOR SINGLE DIRECTION CONTROL

Emergency crank handle/clutch control lever (included, except with VW500)
Chainwheel to suit chain specified chain size (included)
Circuit breaker/isolator panel (not included)
Windlass electrical controls (not included)

OPTIONS

- | | |
|-----------------------------|--------------------------------------|
| 1. AutoAnchor™ Equipment | 6. Hydraulic motor (except on 500) |
| 2. Foot Switches | 7. Up/Down remote control panel |
| 3. Chain Stopper* | 8. Circuit breaker/isolator panel |
| 4. Chain Snubber | 9. Single or dual direction solenoid |
| 5. Extra deck clearance kit | |

All standard and optional control accessories can be found on pages 308 - 317.

Ideal for use in sailing boat anchor lockers with little available space

SPECIFICATIONS

| MODEL | 500* | VW10-8 8 mm (5/16") | VW10-10 10 mm (3/8") | 1000 | 1500 | 2500 | 3500 |
|-------------------|---|------------------------|-------------------------|------------------------------|------------------------------|------------------------------|-----------------------------|
| Maximum Pull/Lift | 227 kg 500 lbs | 700 kg 1540 lbs | 850 kg 1870 lbs | 700 kg 1540 lbs | 850 kg 1870 lbs | 1135 kg 2500 lbs | 1590 kg 3500 lbs |
| Static Hold | 600 kg 1320 lbs | 1500 kg 3300 lbs | 1500 kg 3300 lbs | 1500 kg 3300 lbs | 1500 kg 3300 lbs | 2200kg 4840lbs | 2200 kg 4840 lbs |
| Chain Short Link | 6/7 mm 1/4" | 8 mm 5/16" | 10 mm 3/8" | 6-10 mm 1/4" -3/8" | 6-10 mm 1/4" -3/8" | 9-11 mm 5/16"-3/8" | 10-13 mm 3/8"-1/2" |
| Line Speed** | 18 m/min (Normal Working) 59 ft/min | 24 m/min 79 ft/min | 24 m/min 79 ft/min | 18 m/min 59 ft/min | 18 m/min 59 ft/min | 15 m/min 50 ft/min | 15 m/min 50 ft/min |
| Power Supply (DC) | 12 or 24 V | 12 or 24 V | 12 or 24 V | 12 or 24 V | 12 or 24 V | 12 or 24 V | 12 or 24 V |
| Motor (Watts) | 600 W | 1000 W | 1200 W | 1000 W | 1200 W | 1200 W | 1200 W |
| Net Weight | 10 kg (Electric) 22 lbs | 19 kg 42 lbs | 20 kg 44 lbs | 22 kg 50 lbs | 22 kg 50 lbs | 38 kg 84 lbs | 48 kg 105 lbs |
| Hydraulic | N/A | N/A | N/A | 100 bar | 138 bar | 138 bar | 138 bar |
| Pressure | N/A | N/A | N/A | 1450 psi | 2000 psi | 2000 psi | 2000 psi |
| Hydraulic Flow | N/A | N/A | N/A | 20 l/min 5.3USgal/ min | 20 l/min 5.3USgal/ min | 36 l/min 9.5USgal/ min | 42 l/min 11USgal/ min |
| Net Weight (Hyd) | N/A | N/A | N/A | 15 kg 34 lbs | 15 kg 34 lbs | 32 kg 70 lbs | 40 kg 88 lbs |

* Available USA only

** Winch performance when hauling rope with capstan. Chain speed may vary depending on size of chain and gypsy.

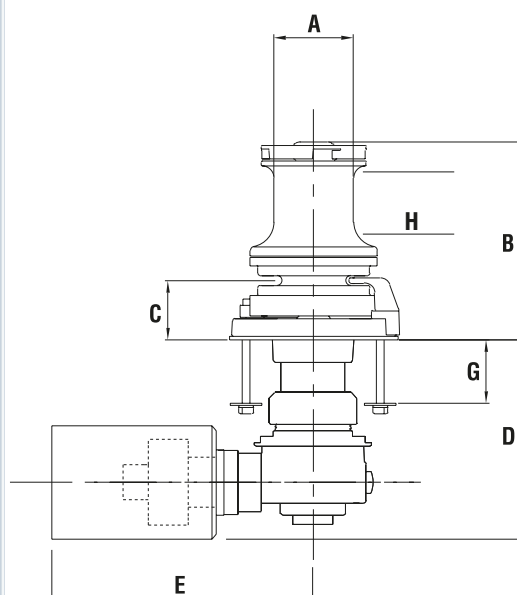
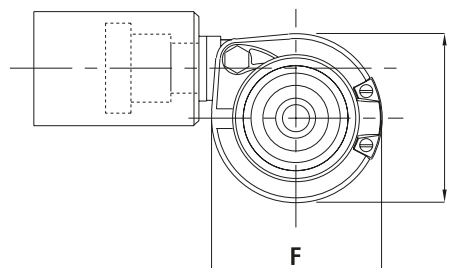
DIMENSIONS

| MODEL | 500 | VW10-8 | VW10-10 | 1000 | 1500 | 2500 | 3500 |
|---|-------------------|-------------------|-------------------|-------------------|-------------------|--------------------|-------------------|
| A | 65 mm 2 9/16" | 66 mm 2 5/8" | 66 mm 2 5/8" | 80 mm 3 1/8" | 80 mm 3 1/8" | 94 mm 3 11/16" | 110 mm 4 5/16" |
| B | 151 mm 6" | 168 mm 6 5/8" | 168 mm 6 5/8" | 198 mm 7 3/4" | 198 mm 7 3/4" | 251 mm 9 15/16" | 276 mm 10 7/8" |
| C | 40 mm 1 5/8" | 43 mm 1 3/4" | 43 mm 1 3/4" | 59 mm 2 3/8" | 59 mm 2 3/8" | 80 mm 3 5/32" | 83 mm 3 9/32" |
| D | 173 mm 6 7/8" | 252 mm 10" | 252 mm 10" | 252 mm 10" | 252 mm 10" | 219 mm 8 5/8" | 219 mm 8 5/8" |
| E | 244 mm 9 5/8" | 272 mm 10 3/4" | 272 mm 10 3/4" | 272 mm 10 3/4" | 272 mm 10 3/4" | 281 mm 11 1/8" | 281 mm 11 1/8" |
| F | 133 mm 5 1/4" | 172 mm 6 7/8" | 172 mm 6 7/8" | 165 mm 6 1/2" | 165 mm 6 1/2" | 190 mm 7 1/2" | 270 mm 10 5/8" |
| G (Std deck clearance)** | 57 mm 2 1/4" | 100 mm 4" | 100 mm 4" | 100 mm 4" | 100 mm 4" | 85 mm 3 11/32" | 85 mm 3 11/32" |
| G (Extra deck clearance) ^ | N/A | N/A | N/A | 150 mm 6" | 150 mm 6" | 190 mm 7 1/2" | 190 mm 7 1/2" |
| H (Working height of drum for rope warping) | 37.5 mm 1 1/2" | 44 mm 1 3/4" | 44 mm 1 3/4" | 44 mm 1 3/4" | 44 mm 1 3/4" | 33 mm 1 5/16" | 54 mm 2 1/8" |
| I | 133 mm 5 1/4" | 140 mm 5 5/8" | 140 mm 5 5/8" | 165 mm 6 1/2" | 165 mm 6 1/2" | 194 mm 7 5/8" | 270 mm 10 5/8" |

**For VW1000 and VW1500 shorter deck clearance version also available at 50 mm (2")

^ A deck clearance increase will also increase the 'D' measurement by the same increment.

***Important:** Maxwell windlasses must be used in conjunction with a chain stopper or alternative snubbing device to take the load off the windlass while laying at anchor. The chain stopper and alternative snubbing system should also be used to secure the anchor in the fully raised position.



VW1500 Capstan Version





The VWC Series is designed for automatic vertical handling of chain-only anchor rodes while offering an independent capstan for the retrieval of a secondary rope and chain rode or to assist with docking procedures.

Features and benefits

- Fully automatic single or dual direction chainwheel operation
- High-quality finish on above deck components, manufactured from marine grade stainless steel (AISI 316), for long term durability
- Integral chain pipe and stripper are aligned for virtually jam-free operation providing automatic feed of chain into and out of the anchor locker
- Port and starboard chain pipes for twin installations (Sizes 2500 and above only)
- Cone-type brake/clutch mechanism permits manual 'free fall' anchoring. Cone clutches, unlike dog clutches, provide smooth progressive engagement ensuring safe and precise operator control
- Chainwheel locking pawl
- Optional Band Brake available for 3500 series unit
- Clutch disengagement of the chainwheel enables independent rope hauling from any direction, using the Max-grip™ snag-free warping drum for positive control of all ropes
- Simple through deck installation by modular design and precise alignment of gearbox to the topworks utilising marine-grade stainless steel bolts
- Anodized aluminium gearbox and spacer tube on all models.
- Heavy duty, dual direction motor, designed for marine winches
- Low Profile configurations (no warping drum) are available



VWCLP3500 Low Profile Version

3 YEAR
Limited Warranty

STANDARD EQUIPMENT REQUIRED FOR DUAL DIRECTION CONTROL

Dual Direction Solenoid (included)
Emergency crank handle/clutch control lever (included)
Chainwheel to suit chain specified chain size (included)
Up/Down remote control panel (not included)
Circuit breaker/isolator panel (not included)

***Important:** Maxwell windlasses must be used in conjunction with a chain stopper or alternative snubbing device to take the load off the windlass while laying at anchor. The chain stopper and alternative snubbing system should also be used to secure the anchor in the fully raised position while under way.

OPTIONS

1. AutoAnchor™ Equipment
2. Foot Switches
3. Chain Stopper*
4. Up/Down remote control panel
5. Extra deck clearance kit
6. Hydraulic motor
7. Compact Remote
8. Roving remote

All standard and optional control accessories can be found on pages 308 - 317.



VWCLP3500 Low Profile Version

Fully automatic jam-free operation

SPECIFICATIONS

| MODEL | 1000 | 1500 | 2500 | 3500 |
|--------------------------------|---------------------------|---------------------------|---------------------------|--------------------------|
| Maximum Pull/Lift | 700 kg 1540 lbs | 850 kg 1870 lbs | 1135 kg 2500 lbs | 1590 kg 3500 lbs |
| Static Hold | 1500 kg 3300 lbs | 1500 kg 3300 lbs | 2200 kg 4840 lbs | 2200 kg 4840 lbs |
| Chain Short Link | 6-10 mm 1/4" - 3/8" | 6-10 mm 1/4" - 3/8" | 9-11mm 5/16" - 7/16" | 10-13 mm 3/8" - 1/2" |
| Line Speed (Normal Working) | 18m/min 60 ft/min | 18 m/min 60 ft/min | 15 m/min 50 ft/min | 15 m/min 50 ft/min |
| Power Supply (DC) | 12 or 24 V | 12 or 24 V | 12 or 24 V | 12 or 24 V |
| Motor (Watts) | 1000 W | 1200 W | 1200 W | 1200 W |
| Net Weight - DC | 24 kg 52 lbs | 24 kg 52 lbs | 38 kg 84 lbs | 48 kg 106 lbs |
| Hydraulic Pressure | 100 bar 1450 PSI | 138 bar 2000 PSI | 138 bar 2000 PSI | 138 bar 2000 PSI |
| Hydraulic Flow | 20 l/min 5.3 USgal/min | 20 l/min 5.3 USgal/min | 36 l/min 9.5 USgal/min | 42 l/min 11US gal/min |
| Net Weight - Hyd | 17 kg 37 lbs | 17 kg 37 lbs | 32 kg 70 lbs | 40 kg 88 lbs |

DIMENSIONS

| MODEL | 1000 | 1500 | 2500 | 3500 |
|--|---------------------|---------------------|---------------------|--------------------|
| A | 80 mm 3 1/8" | 80 mm 3 1/8" | 94 mm 3 11/16" | 110 mm 4 5/16" |
| B | 195 mm 7 11/16" | 195 mm 7 11/16" | 242 mm 9 9/16" | 254 mm 10" |
| B ¹ (Low Profile) | 98 mm 3 7/8" | 98 mm 3 7/8" | 148 mm 5 27/32" | 149 mm 5 7/8" |
| C | 56 mm 2 7/32" | 56 mm 2 7/32" | 80 mm 3 5/32" | 83 mm 3 9/32" |
| D | 252 mm 9 5/16" | 252 mm 9 5/16" | 219 mm 8 5/8" | 219 mm 8 5/8" |
| E | 262 mm 10 11/32" | 272 mm 10 23/32" | 281 mm 11 1/8" | 281 mm 11 1/8" |
| F | 224 mm 8 27/32" | 224 mm 8 27/32" | 297 mm 11 23/32" | 342 mm 13 7/16" |
| G (Std deck clearance)* | 100 mm 4" | 100 mm 3 11/32" | 85 mm 3 11/32" | 100 mm 4" |
| G (Extra deck clearance)^ | 150 mm 6" | 150 mm 6" | 190 mm 7 1/2" | 190 mm 7 1/2" |
| H (Working height of drum for rope warping) | 44 mm 1 3/4" | 44 mm 1 3/4" | 33 mm 1 5/16" | 29 mm 1 1/8" |
| I | 165 mm 6 1/2" | 165 mm 6 1/2" | 190 mm 7 1/2" | 215 mm 8 15/32" |

*For VWC1000 and VWC1500 a shorter deck clearance version is also available at 50 mm (2").

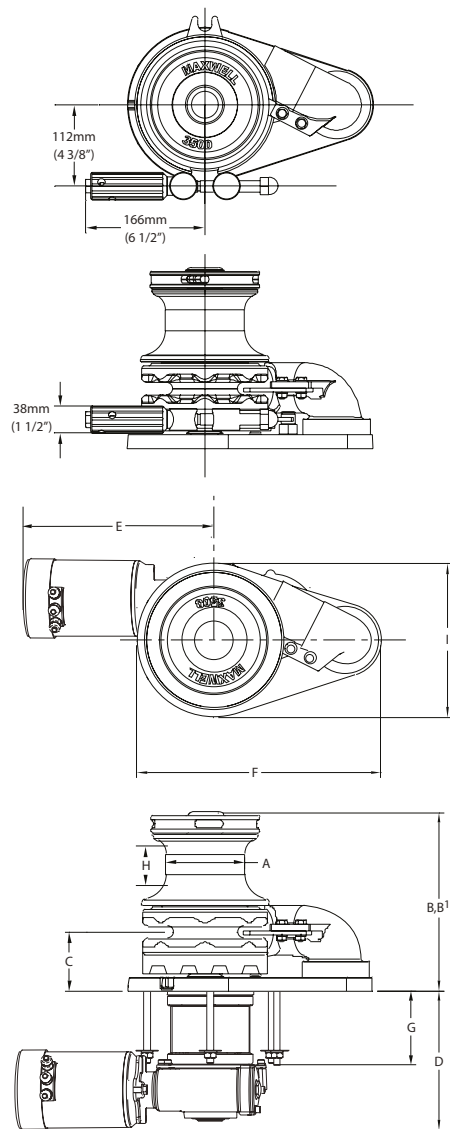
^ A deck clearance increase will also increase the 'D' measurement by the same increment.



VWC3500 Band Brake featuring Maxwell's innovative 'stow-a-way' tensioning lever



VWC3500 without Band Brake



VWC2500





The sleek, compact HRCFF 6-7-8 are Maxwell's horizontal versions of the latest innovative vertical RC6 and RC8 automatic rope/chain windlasses. The HRCFF Series are packed with original and proven features including patented rode management technology developed by Maxwell.

Features and benefits

- Now incorporating Maxwell's automatic free-fall technology. Simply activate the windlass 'Free Fall' lever, operate your down control (helm station or footswitch) and the windlass will freefall your anchor. Ready to lift the anchor? Activate the up control and the 'free fall' device automatically disengages allowing you to power up your anchor
- Aesthetically pleasing above deck design, encapsulating the motor and drive in a watertight case, saving space below deck and allowing simple routine maintenance
- Die cast, marine-grade, alloy case is hard anodized for unsurpassed marine protection
- Simple 'bolt down' installation ensures effortless and rapid on-deck installation and set up
- Guaranteed trouble free rode transition from rope to chain, by means of an innovative, proven and patented pressure arm system, within a safe enclosed design
- Integrated composite nylon, through deck hawse pipe for ease of installation and smooth, snag-free operation
- High efficiency spur gearbox incorporating a robust non-backwind mechanism
- High speed, jam-free retrieval of rope and chain controlled from a remote panel mounted Up/Down switch
- Emergency 'free fall' function in the event of onboard power failure. Activated by the supplied, emergency 'Free Fall' lever
- Revolutionary Wave Design™ chainwheel - see page 303
- Heavy duty, dual direction motor incorporating new technology features, including integrated wiring for quick electrical installation



HRCFF

3 YEAR
Limited Warranty

Every Maxwell HRCFF 6-7-8 windlass comes with top works, motor/gear box and dual direction solenoid. Switches and circuit breaker are available and need to be ordered separately. Refer chart on page 318.

Important: Maxwell windlasses must be used in conjunction with a chain stopper or alternative snubbing device to take the load off the windlass while laying at anchor. The chain stopper and alternative snubbing system should also be used to secure the anchor in the fully raised position while under way.

STANDARD EQUIPMENT REQUIRED FOR DUAL DIRECTION CONTROL

Dual Direction Solenoid (included)

Clutch Release Handle (included)

Up/Down remote control panel (not included)

Circuit breaker panel (not included)

OPTIONS

- | | |
|--------------------------|------------------|
| 1. AutoAnchor™ Equipment | 4. Chain Stopper |
| 2. Compact Remote | 5. Chain Snubber |
| 3. Foot Switches | |

3 YEAR
Limited Warranty

Innovative, compact horizontal automatic rope/chain windlass

SPECIFICATIONS

| Model | HRCFF6 | HRCFF7 | HRCFF8 |
|---|------------------------|------------------------|------------------------|
| Maximum Pull/Lift | 410 kg 900 lbs | 410 kg 900 lbs | 410 kg 900 lbs |
| Static Hold | 700 kg 1540 lbs | 700 kg 1540 lbs | 700 kg 1540 lbs |
| Chain Short Link | 6 mm 1/4" | 7 mm 1/4" | 8 mm 5/16" |
| Rope Size (Nylon)* (3 strand or 8 plait recommended) | 12 mm 1/2" | 12 mm 1/2" | 14 mm 9/16" |
| Line Speed (Anchor Retrieval) | 33 m/min 108 ft/min | 33 m/min 108 ft/min | 33 m/min 108 ft/min |
| Power Supply (DC) | 12 V | 12 V | 12 or 24 V |
| Motor Power | 600 W | 600 W | 600 W |
| Net Weight | 11.5 kg 25 lbs | 11.5 kg 25 lbs | 11.5 kg 25 lbs |

*refer to owners manual for rope size variations.

DIMENSIONS

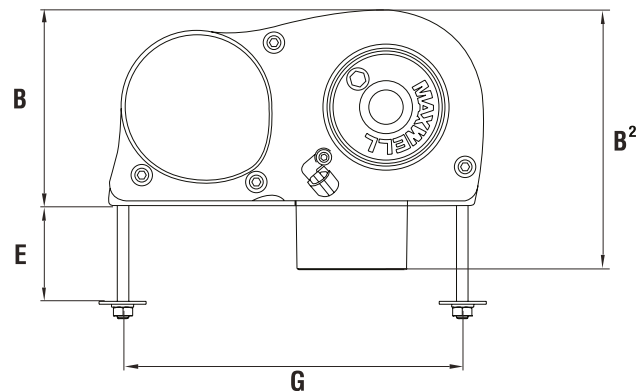
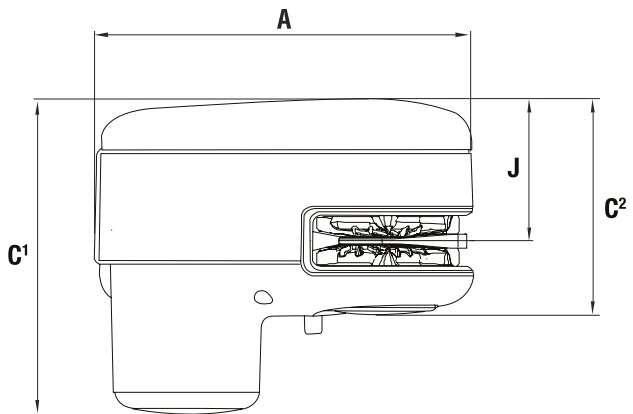
| All Models | mm | inches |
|----------------|------|---------|
| A | 256 | 10 1/8 |
| B | 132 | 5 11/32 |
| B ² | 176 | 6 7/8 |
| C ¹ | 214 | 8 7/16 |
| C ² | 147 | 5 3/4 |
| E | 65 | 2 1/2 |
| G | 230 | 9 1/16 |
| J | 96.4 | 3 7/8 |

All standard and optional control accessories can be found on pages 308 - 317.

MAXWELL'S REVOLUTIONARY CHAINWHEEL

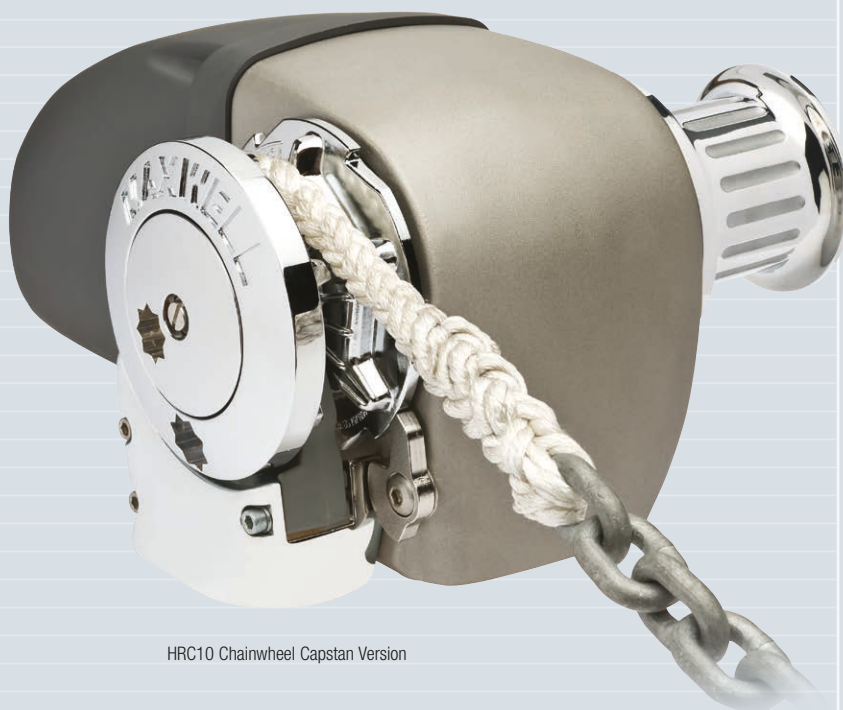
Maxwell lead the market yet again in innovative thinking when they introduced the Wave Design™ chainwheel. This patented rope/chain wheel incorporates two unique design concepts that greatly improve the handling and control of the rope/chain spliced rode.

The outer ribs of the chainwheel are angled slightly forward ensuring that the rope and the chain are smoothly guided in the wheel during anchor retrieval. As the rope pulls into the wheel, the opposite facing inner ribs grip the rope in an undulating manner, securing the rope more firmly in a 'wave pattern' action that is far superior to the traditional 'jam cleat' manner of holding the rope compared to all other products on the market. Not only does this Wave Design™ hold the rope more securely, it is also kinder on the rope resulting in increased longevity of your anchor rode.





The HRC10 Horizontal Series windlasses proudly follow in the highly successful footsteps of Maxwell's previous, fully automatic rope/chain anchor winches.



HRC10 Chainwheel Capstan Version



HRC10 Non Capstan Version

3 YEAR
Limited Warranty

STANDARD EQUIPMENT REQUIRED FOR DUAL DIRECTION CONTROL

Dual Direction Solenoid (included)
Emergency crank/clutch release handle (included)
Up/Down remote control panel (not included)
Circuit breaker/isolator panel (not included)

OPTIONS

1. AutoAnchor™ Equipment
2. Compact Remote
3. Foot Switches
4. Chain Stopper
5. Chain Snubber

Every Maxwell HRC10 windlass comes with top works, motor/gear box and dual direction solenoid. Switches and circuit breaker are available and need to be ordered separately. Refer chart on page 318.

Features and benefits

- The all new HRC10 fully automatic horizontal windlass series is designed to effortlessly retrieve and deploy 8 mm (5/16") and 10 mm (3/8") short link chain and 14 mm (9/16") and 16 mm (5/8") three strand or 8-braid (plait) rope
- The more powerful HRC10-10 can be use with 10 mm (3/8") chain spliced to 16 mm (5/8") three strand or 8-braid (plait) rope
- The aesthetically pleasing above deck design, evolved from the philosophy of form follows function, encapsulates the motor and drive in a two part watertight case, saving space below deck
- The two part case consists of a die cast, marine-grade hard anodised alloy front section and a rugged and easily removable composite motor cover aft section
- This two piece watertight case allows for quick and easy, on-deck, routine maintenance
- Simple 'bolt down' installation ensures effortless and rapid on-deck installation and set up
- The stainless steel (AISI 316) pressure arm always exerts maximum control pressure on the rode (rope, splice or chain)
- The new and revolutionary patented Wave Design™ chainwheel is able to accommodate a wide range of chain pitch differences, within the specified chain size diameters, suitable for use with the HRC10 Series. Refer page 303 for more information about this innovative feature
- The unique Maxwell 'wrap around' horizontal chainwheel ensures that more than 90° of the wheel is used, allowing greatly improved rope and chain handling compared with competitor designs
- The HRC10 works just as effectively with all-chain rodes for those who desire the added security and holding power of an all-chain anchor system
- The integral chain pipe and huge, through deck hawse pipe throat ensures easy entry of the rope/chain rode into and out of the anchor locker
- Cone type clutch/brake mechanism permits manual, 'free fall' anchoring and emergency crank recovery of the rode and anchor if required
- The sealed oil bath and marine-grade hard anodised, alloy gearbox provides high efficiency output drive via precision worm and wormwheel



Eye-catching fully automatic horizontal windlass with great capacities

SPECIFICATIONS

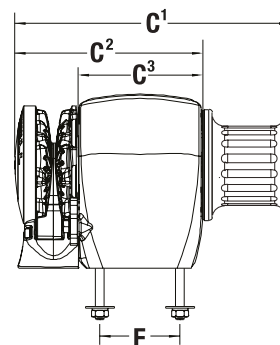
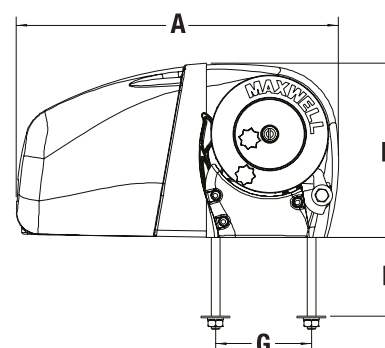
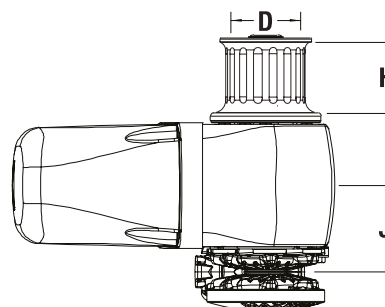
| Model | HRC10-8* 8 mm - 5/16" | HRC10-10* 10 mm - 3/8" |
|--------------------------------|-------------------------------|---------------------------|
| Maximum Pull/Lift | 700 kg 1540 lbs | 850 kg 1870 lbs |
| Static Hold | 1500 kg 3300 lbs | 1500 kg 3300 lbs |
| Chain Short Link | 8 mm 5/16" | 10 mm 3/8" |
| Rope Size | 14 mm - 16 mm 9/16" - 5/8" | 16 mm 5/8" |
| Chain Speed (Anchor Retrieval) | 24 m/min 79 ft/min | 24 m/min 79 ft/min |
| Rope Speed (Anchor Retrieval) | 20 m/min 65 ft/min | 20 m/min 65 ft/min |
| Power Supply (DC) | 12 or 24 V | 12 or 24 V |
| Motor (Watts) | 1000 W | 1200 W |
| Net Weight | 19 kg 42 lbs | 20 kg 44 lbs |
| Hydraulic Pressure | 138 bar 2000 psi | 138 bar 2000 psi |
| Hydraulic Flow | 20 L/min 5.3 USgal/min | 20 L/min 5.3 USgal/min |
| Net Weight - Hyd | 13 kg 28 1/2 lbs | 13 kg 28 1/2 lbs |

Non Capstan Version. Weight is 1kg/2.2lbs less than above indicated.

*8 mm - 5/16" or 10 mm - 3/8" chainwheels can be used on either of the above models

DIMENSIONS

| Model | HRC10-8* 8 mm - 5/16" | HRC10-10* 10 mm - 3/8" |
|-----------------------------|--------------------------|---------------------------|
| A | 369 mm 14 9/16" | 369 mm 14 9/16" |
| B | 199 mm 7 7/8" | 199 mm 7 7/8" |
| C ¹ | 316 mm 12 1/2" | 316 mm 12 1/2" |
| C ² | 225 mm 8 7/8" | 225 mm 8 7/8" |
| C ³ | 140 mm 5 1/2" | 140 mm 5 1/2" |
| D | 80 mm 3 3/16" | 80 mm 3 3/16" |
| E (standard deck clearance) | 90 mm 3 9/16" | 90 mm 3 9/16" |
| F | 92 mm 3 9/16" | 92 mm 3 9/16" |
| G | 110 mm 4 3/8" | 110 mm 4 3/8" |
| H | 80 mm 3 3/16" | 80 mm 3 3/16" |
| J | 99 mm 4" | 99 mm 4" |



Important: Maxwell windlasses must be used in conjunction with a chain stopper or alternative snubbing device to take the load off the windlass while laying at anchor. The chain stopper and alternative snubbing system should also be used to secure the anchor in the fully raised position while under way.





POROSITY JET TERN



KADEY KROGEN 58'

The HWC Series is designed for automatic horizontal handling of chain-only anchor rodes while offering an independent capstan for the retrieval of a secondary rope and chain rode or to assist with docking procedures.

Features and benefits

- Fully automatic single or dual direction chainwheel operation, for use with chain only rodes
- Functional rope hauling from fore and aft using independent fluted stainless steel snag-free warping drum with clutch disengagement of chainwheel for positive control of all ropes
- Optional dual anchor handling with smooth independent control of each chainwheel via cone clutches
- Chain pipe assembly supplied
- Cone-type clutch/brake mechanism permits manual 'free fall' anchoring. Cone clutches, unlike dog clutches, provide smooth progressive engagement ensuring safe and precise operator control
- Chainwheel locking pawl to assist when using warping drum independently
- Simple deck mounted installation with no under deck parts
- Simplified maintenance with ability to strip the running gear (chainwheel and drum) from the windlass without disturbing the windlass mounting
- Heavy duty, dual direction motor, designed for marine winches
- Chainwheel and warping drum of high-quality chrome finish over marine-grade bronze
- Marine-grade alloy casing pretreated, powder coated and finished with a two component white polyurethane paint



HWC3500 Chainwheel Capstan Version

3 YEAR
Limited Warranty



HWC3500

HWC3500 Double Chainwheel Capstan Version

STANDARD EQUIPMENT REQUIRED FOR DUAL DIRECTION CONTROL

- Dual Direction Solenoid (included)
- Chain pipe and chainwheel to suit chain size specified (included)
- Emergency crank/clutch release handle (included)
- Up/Down remote control panel (not included)
- Circuit breaker/isolator panel (not included)

OPTIONS

- | | |
|---------------------------------|--------------------|
| 1. AutoAnchor™ Equipment | 5. Hydraulic motor |
| 2. Foot Switches | 6. Compact Remote |
| 3. Chain Stopper* | 7. Roving remote |
| 4. Up/Down remote control panel | |

3 YEAR
Limited Warranty

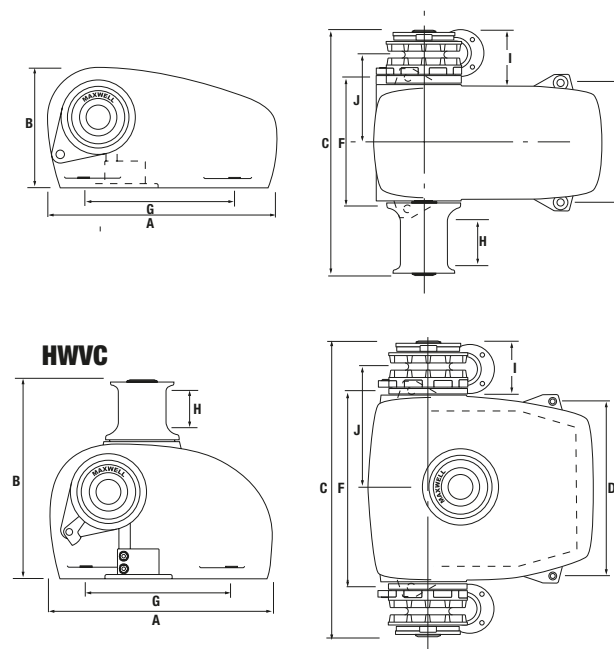
Horizontal handling for chain-only anchor rodes

SPECIFICATIONS

| MODEL | 2500 | 3500 | HWVC3500 |
|--------------------|---|--------------------------|--------------------------|
| Maximum Pull/Lift | 1135 kg 2500 lbs | 1590 kg 3500 lbs | 1590 kg 3500 lbs |
| Static Hold | 2200 kg 4840 lbs | 2200 kg 4840 lbs | 2200 kg 4840 lbs |
| Chain Short Link | 9-11mm 3/16"- 3/8" | 8-13mm 3/8"- 1/2" | 8-13mm 3/8"- 1/2" |
| Line Speed | 15 m/min (Normal Working) 50 ft/min | 15 m/min 50 ft/min | 10 m/min 33 ft/min |
| Power Supply (DC) | 12 or 24 V | 12 or 24 V | 12 or 24 V |
| Motor (Power) | 1200 W | 1200 W | 1200 W |
| Net Weight - DC | 55 kg 121 lbs | 57 kg 125 lbs | 94.5 kg 208 lbs |
| Hydraulic Pressure | 135 bar 1950 psi | 138 bar 2000 psi | 138 bar 2000 psi |
| Hydraulic Flow | 36 l/min 9.5 USgal/min | 40 l/min 11 USgal/min | 40 l/min 11 USgal/min |
| Net Weight - Hyd | 48.5 kg 107 lbs | 49 kg 107 lbs | 80 kg 176 lbs |

DIMENSIONS

| MODEL | 2500 | 3500 | HWVC3500 |
|---|---------------------|---------------------|---------------------|
| A | 495 mm 19 1/2" | 515 mm 20 9/32" | 515 mm 20 9/32" |
| B | 289 mm 11 3/8" | 316 mm 12 7/16" | 446 mm 17 9/16" |
| C | 516 mm 20 5/16" | 549 mm 21 5/8" | 710 mm 28" |
| D (Hole centres) | 234 mm 9 1/4" | 260 mm 10 1/4" | 417 mm 18 7/16" |
| F (Hole centres) | 278 mm 10 15/16" | 308 mm 12 1/8" | 464 mm 18 1/4" |
| G (Approximate hole centres) | 300 mm 11 13/16" | 348 mm 13 11/16" | 348 mm 13 11/16" |
| H (Working height of drum for rope warping) | 60 mm 2 3/8" | 53 mm 2 3/32" | 53 mm 2 3/32" |
| I | 125 mm 4 15/16" | 130 mm 5 1/8" | 130 mm 5 1/8" |
| J | 194 mm 7 5/8" | 208 mm 8 3/16" | 287 mm 11 19/64" |



***Important:** Maxwell windlasses must be used in conjunction with a chain stopper or alternative snubbing device to take the load off the windlass while laying at anchor. The chain stopper and alternative snubbing system should also be used to secure the anchor in the fully raised position while under way.



KADEY KROGEN 58' FITTED WITH HWVC3500

All standard and optional control accessories can be found on pages 308 - 317.





Maxwell will supply not only your anchor winch or capstan, but also a complete anchoring package consisting of control gear, circuit protection, anchors, rope, chain, chain stoppers, chain snubbers, swivels, shackles, bow rollers, etc.

UP/DOWN CONTROLS

Easy to use, panel-mounted Up/Down switches for remote windlass operation from the helm, fly bridge or cockpit. Suitable for use with dual-directional solenoids.

- Manufactured from marine-grade materials.
- Splash proof.
- Suitable for 12 and 24 Volt DC use.
- Includes on/off switch and power indicator light (B only).

When it comes to anchoring, Maxwell provides the ultimate anchoring solution backed by sound advice and after sales service. A full range of anchoring accessory items are available. Please contact your nearest Maxwell office or local distributor for helpful advice and assistance.



**UP/DOWN REMOTE PANEL
(TOGGLE TYPE)
(P102938)**

(A)



**UP/DOWN REMOTE PANEL
(PUSH BUTTON TYPE)
(P102983)**

(B)

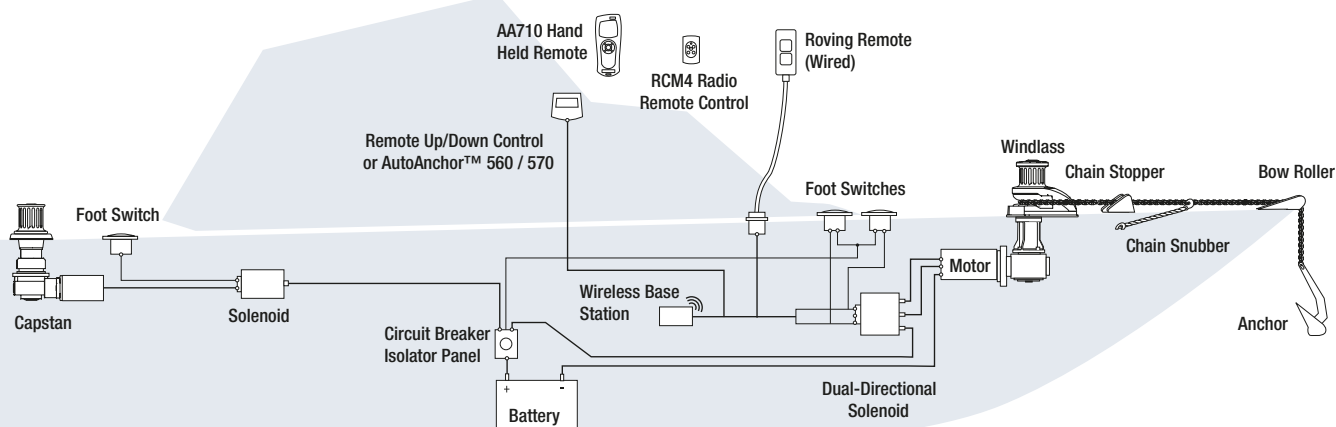
Accessories Positioning Guide

The correct installation of your Maxwell windlass or capstan and all associated anchoring equipment will ensure that you get years of trouble free service. It is worth taking the time to install all accessories and electrical wiring or hydraulic connections carefully and professionally.

Your Maxwell Owner's Manual will provide you with all the information you, or your service agent, needs to properly set up your specific installation.

The indicative diagram gives you some idea of what is involved and is a guide only.

Note: All the accessories shown are not necessarily available from every Maxwell warehouse. Please contact your nearest Maxwell office for availability.



HEAVY DUTY FOOT SWITCH

Maxwell heavy-duty, weather resistant units have a UV stabilised water proof diaphragm and are supplied complete with mounting instructions and screws.

- Rated at 150 amps maximum current and suitable for 12 or 24 V applications
- Nickel-plated copper contacts ensure corrosion-free, reliable operation



BLACK COVERED
WHITE COVERED
STAINLESS STEEL COVERED

P19006
P19007
P100735

BLACK PLASTIC BEZEL
STAINLESS STEEL BEZEL

P19008
P19001

COMPACT FOOT SWITCH

Maxwell's, compact up and down foot switches now available in black and white cover versions. These 5 Amp rated switches are required to be operated via solenoids, which also allows for smaller diameter wiring.



WHITE COVERED **P104809**
BLACK COVERED **P104810**

CIRCUIT BREAKER/ISOLATOR PANELS

Maxwell circuit breaker/isolator panels are available to suit a wide range of windlasses and capstans.

- For protection of the main conductor circuit for DC winches
- Enables the battery, or electrical supply, to be isolated when winch is not in use
- Suitable for 12 or 24 V DC systems



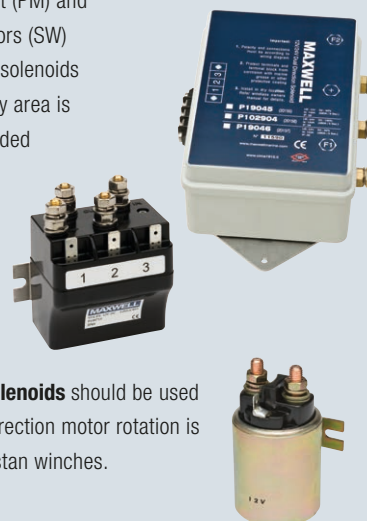
P100789 40 AMP
P100790 80 AMP

P100791 135 AMP
P102903 70 AMP

DUAL AND SINGLE DIRECTION SOLENOIDS

Dual Direction Solenoids are used in conjunction with remote Up/ Down panel, AutoAnchor™ Rode Counters, roving hand held remote controls and/or foot switches to switch the motor in the required direction.

- Heavy-duty solenoids, suitably rated for our winch motors
- Available in 12 or 24 V DC for permanent magnet (PM) and series wound motors (SW)
- Ignition protected solenoids
- Installation in a dry area is always recommended



Single Direction Solenoids should be used where only single direction motor rotation is necessary. E.g. capstan winches.

SINGLE DIRECTION **SP1393 12V (PM/SW)**
SINGLE DIRECTION **SP1394 24V (PM/SW)**

DUAL DIRECTION **P100715 12V (PM)**
DUAL DIRECTION **P11121 24V (PM)**
DUAL DIRECTION **P19045 12V (SW)**
DUAL DIRECTION **P19046 24V (SW)**




3 YEAR
 Limited Warranty

MAXWELL AA570: WIRELESS PANEL MOUNT WINDLASS CONTROLLER AND RODE COUNTER

- Instant connection to the AA702 base station (included), no cables required back to windlass*
- Easy one-off calibration for multiple station set-ups
- Seamless interface with AA710 hand-held remotes
- Operate 2 windlasses from a single console
- One touch function deploys and retrieves a preset length of rode
- Preset stopping point and docking alarm on retrieval
- Adjustable backlit display in feet, metres or fathoms
- Graphic LCD screen with intuitive user interface for easy operation
- Displays windlass speed, direction and rode deployed
- Safety lock, windlass log hours and more.
- Typical range 10 m (30ft), with antenna option for increased range
- Very secure data transmission with 16 different channel options

*AA570 Console requires connection to 12V /24V power supply.



AA570 includes helm station control and base-station

3 YEAR
 Limited Warranty

MAXWELL AUTOANCHOR WIRELESS REMOTE CONTROLS

PRODUCT FEATURES

- Windlass monitoring from the helm
- Simple Plug & Play sensor installation
- Accurate information for all-chain or combination rope/chain rodes
- Flexibility of magnet and sensor gap from 3 mm to 50 mm
- Easy set up
- Multiple unit installation options – combine with other Maxwell AA products for total windlass control
- Fits all DC, AC and hydraulic windlasses
- Inbuilt diagnostics for troubleshooting installation issues
- EMC protection to CE EN60945

MAXWELL AA560 WIRED PANEL MOUNT WINDLASS CONTROLLER AND RODE COUNTER (P102944)



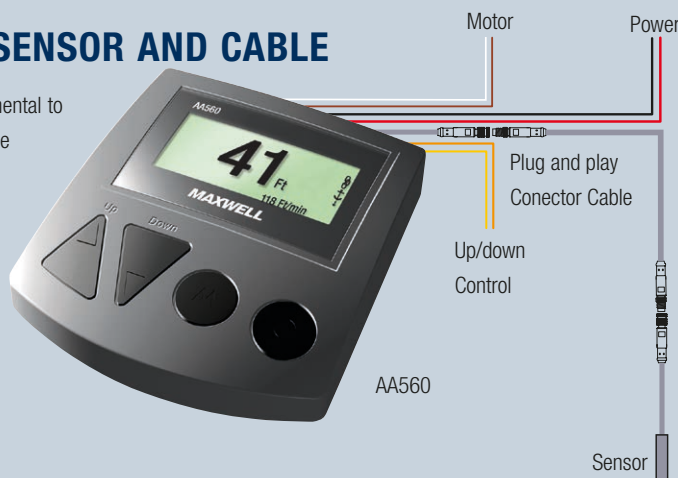
SPECIAL FEATURES

- Preset stopping point and docking alarm on retrieval
- One-touch function to deploy and retrieve a preset length of rode
- Adjustable back lit display in feet, metres or fathoms
- Graphic LCD screen featuring intuitive user interface for simple operation
- Displays windlass speed and direction
- Safety lock to help protect against accidental windlass deployment
- Logs windlass operation hours to help ensure regular windlass maintenance
- Weather cover and choice of black or gray console

Kit includes 1 console, 1 sensor and 1 magnet

PLUG AND PLAY SENSOR AND CABLE

Correct sensor installation is fundamental to rode counter operation. To ensure the best possible sensor installation the Maxwell AA series products come with waterproof connectors prefitted to the sensor cables. No need for solder. Make sure you order the plug and play connecting cable with your new counter.



**ALL MAXWELL WINDLASSES
ARE RODE COUNTER READY
WITH MAGNET FITTED
AND SENSOR HOLE DRILLED**



MAXWELL AA710 WIRELESS, HAND HELD REMOTE WINDLASS CONTROLLER AND RODE COUNTER

All the features of the AA570 plus options to control a bow thruster or deck lights and anchor wash.

- High level wireless transmission security - 2.4GHz ISM band
- Hand held controller displays rode count plus signal strength and battery level
- Water resistant to IP67
- Console requires two AA batteries
- Rubber moulding for grip and non slip protection
- Ergonomic shape with wrist strap connector
- Console holder and protective cover
- Shockproof
- EEE 802.15.4 compliant

Kit includes: 1 hand held remote control and 1 base station, 1 sensor and 1 magnet. **Note:** Two base stations can be operated by one remote to allow control of two windlasses. Plug and Play connectors, T-Connectors and Gender Adaptors are also available. Contact your Maxwell Dealer.



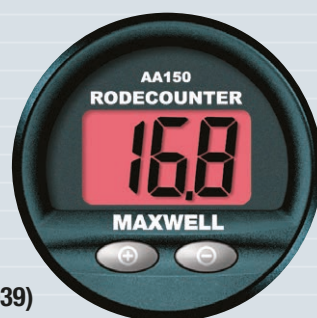
(P102981)

ELECTRONIC WINDLASS CONTROL AND RODE MONITORING

MAXWELL AA150 WIRED PANEL MOUNT RODE COUNTER

- Docking alarm
- Standard 60mm (2.36") marine instrument console
- Choice of feet or metre count readout
- Large, adjustable, backlit LCD display

Kit includes 1 console, 1 sensor and 1 magnet



(P102939)

AUTOANCHOR WIRED ROVING REMOTE CONTROL UNITS

ANCHOR LAUNCHING OR RETRIEVAL FROM THE BOW WHEN VISION FROM THE HELM STATION IS OBSTRUCTED

- Use for Windlasses, Davits, Thrusters and other Marine Equipment
- Electrical protection against back-emf
- Rubber over-moulding for shock protection and grip
- Stowage cradle
- Operate in parallel with all AutoAnchor™ products, toggle switches, foot switches or other control equipment
- Connect to DC, AC and Hydraulic systems
- Rugged 4.5m coiled cable and connectors
- All products are rated to IP67 including cables, plugs and sockets
- Deck socket with 2 m flying lead reduces potential for corrosion (excluding AA320 series)
- Other Maxwell AutoAnchor controllers are available, check with your local Maxwell distributor



AA730
With Rode Counter
(P102994)



AA320
Windlass Control
(P102992)



AA342*
Dual Windlass
Controller
(P102996)

4 metres cable



All wires remotes are complete with moulded deck socket Rated to IP67.



Gender Adaptor
Cable Connector
(SP4192)



Dual Installation
T Connector
(SP4155)

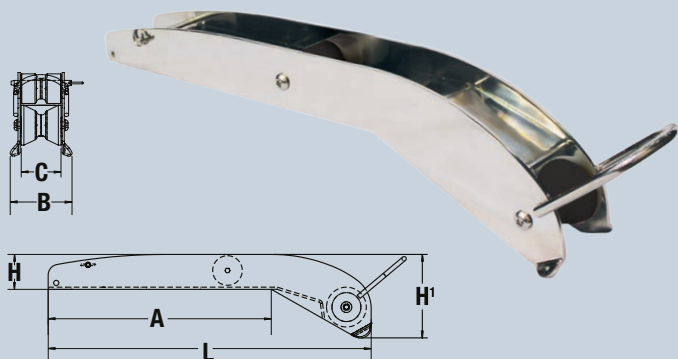
* AA341 Model (P102995) is similar to AA342 but can be used as a general dual equipment controller (contact Maxwell for details).





The MAXSET Bow Roller design guarantees that MAXSET stainless steel and galvanised anchors, along with similar competitor versions, are efficiently self-launched during anchor deployment. When the anchor is fully retrieved, the MAXSET bow roller ensures that the anchor fits securely into the roller and will not rattle around when the boat is under way.

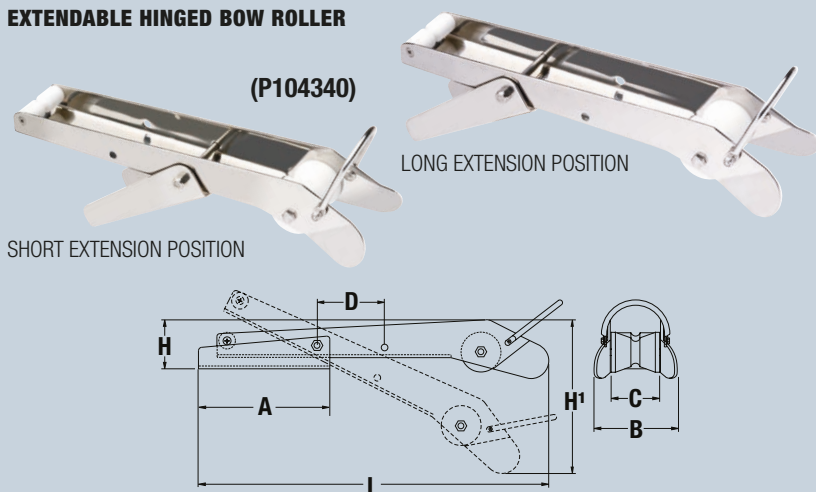
MAXSET BOW ROLLERS



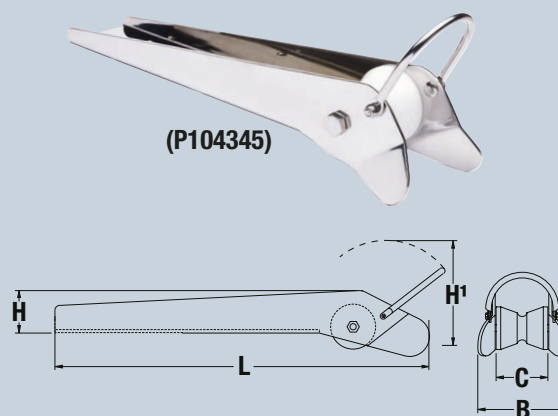
MAXSET ANCHORS AND MAXSET BOW ROLLERS

| MAXSET (Delta Style Anchors) | Satin Finish | | | | | Polished Finish | | | | |
|---------------------------------|--------------|---------|---------|---------|---------|-----------------|---------|---------|---------|---------|
| | P105074 | P105076 | P105078 | P105080 | P105082 | P105075 | P105077 | P105079 | P105081 | P105083 |
| 4kg/9lbs | • | | | | | • | | | | |
| 6kg/13lbs | • | | | | | • | | | | |
| 10kg/22lbs | | • | | | | | • | | | |
| 16kg/35lbs | | | • | | | | | • | | |
| 20kg/44lbs | | | | • | | | | | • | |
| 25kg/55lbs | | | | | • | | | | | • |
| 30kg/66lbs | | | | | • | | | | | • |
| 40kg/88lbs | | | | | • | | | | | • |

EXTENDABLE HINGED BOW ROLLER



FIXED BOW ROLLER WITH ANCHOR LOOP



MAXSET ANCHORS AND BOW ROLLERS

| Standard Bow Roller Codes | P104331 | P104332 | P104333 | P104334 | P104340 | P104345 |
|--|---------|---------|---------|---------|---------|---------|
| MAXSET (Delta Style Anchors) | | | | | | |
| 4 kg/9 lbs | | • | • | | • | • |
| 6 kg/13 lbs | | • | • | | • | • |
| 10 kg/22 lbs | • | • | • | | • | • |
| 16 kg/35 lbs | | • | • | • | • | • |
| 20 kg/44 lbs | | | | • | | |
| 25 kg/55 lbs | | | | • | | |
| Standard Bow Roller Codes | P104331 | P104332 | P104333 | P104334 | P104340 | P104345 |
| MAXCLAW (Claw Style Anchors) | | | | | | |
| 5 kg/11 lbs | | • | • | | • | |
| 8 kg/18 lbs | | • | • | | • | • |
| 10 kg/22 lbs | • | • | • | • | • | • |
| 15 kg/33 lbs | | | | • | • | • |
| 20 kg/44 lbs | | | | • | | |

MAXSET AND STANDARD BOW ROLLER DIMENSIONS

| | Extendable P104340 | Fixed with Hoop P104345 | P105074 P105075 | P105076 P105077 | P105078 P105079 | P105080 P105081 | P105082 P105083 |
|-----------|-----------------------|----------------------------|----------------------|----------------------|---------------------|--------------------|---------------------|
| A | 198 mm (7 13/16") | N/A | 315 mm (12 3/8") | 414 mm (16 5/16") | 480 mm (18 7/8") | 510 mm (20") | 560 mm (22") |
| B | 125 mm (4 15/16") | 134 mm (5 1/4") | 84 mm (3 5/16") | 112 mm (4 3/8") | 112 mm (4 3/8") | 114 mm (4 1/2") | 153 mm (6") |
| C | 73 mm (2 7/8") | 75 mm (3") | 62 mm (2 1/2") | 78 mm (3") | 78 mm (3") | 78 mm (3") | 105 mm (4 1/8") |
| D | 101 mm (4") | N/A | N/A | N/A | N/A | N/A | N/A |
| H | 75 mm (2 15/16") | 65 mm (2 9/16") | 55 mm (2 1/8") | 65 mm (2 1/2") | 72 mm (2 13/16") | 78 mm (3") | 95 mm (3 3/4") |
| H' | 239 mm (9 3/8") | 155 mm (6 1/8") | 122 mm (4 13/16") | 152 mm (6") | 165 mm (6 1/2") | 175 mm (6 7/8") | 215 mm (8 1/2") |
| L | 527 mm (20 1/4") | 460 mm (18 1/8") | 465 mm (18 5/16") | 600 mm (23 5/8") | 715 mm (28 1/8") | 762 mm (30") | 850 mm (33 1/2") |

BOW ROLLERS

Note: Because Maxwell is able to supply a variety of bow rollers for custom or production line boats, please see the pictures shown on this page for characteristics.

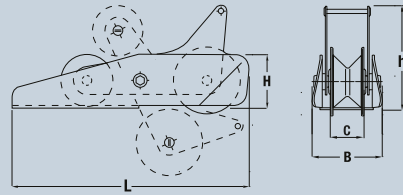
HINGED BOW ROLLER

Suitable for rope and chain anchor rodes utilising up to 13 mm (1/2") chain.



HINGED BOW ROLLER DIMENSIONS

| Code | Type | L | B | H | h | C |
|---------|--------|-----------------------|---------------------|-------------------|--------------------|---------------------|
| P104330 | Size 1 | 320 mm (12 5/8") | 92 mm (3 5/8") | 72 mm (2 7/8") | 133 mm (5 1/4") | 44 mm (1 3/4") |
| P104331 | Size 2 | 430 mm (16 15/16") | 160 mm (5 5/16") | 100 mm (4") | 190 mm (7 1/2") | 66 mm (2 11/16") |



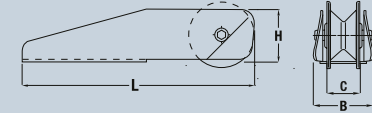
FIXED BOW ROLLER

Suitable for rope and chain anchor rodes utilising up to 13 mm (1/2") chain.



FIXED BOW ROLLER DIMENSIONS

| Code | Type | L | B | H | C |
|---------|--------|---------------------|--------------------|--------------------|---------------------|
| P104332 | Size 1 | 205 mm (8 1/8") | 72 mm (2 7/8") | 74 mm (3") | 44 mm (1 3/4") |
| P104333 | Size 2 | 320 mm (12 5/8") | 86 mm (3 7/16") | 74 mm (3") | 44 mm (1 3/4") |
| P104334 | Size 3 | 444 mm (17 1/2") | 110 mm (4 3/8") | 110 mm (4 3/8") | 68 mm (2 11/16") |



CHAIN STOPPERS

Taking the load off the windlass

Chain stoppers hold the chain and take the load off the windlass. Always use a chain stopper to set and ride on the anchor, break free the anchor or to prevent accidental free fall of the anchor while under way.

To suit any installation figuration of chain stoppers and windlass combinations, Maxwell offers 3 types of chain stoppers: Height Matched, Levered and Economy.



Height Matched



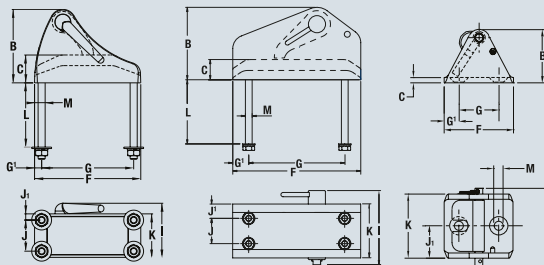
Economy



Levered

CHAIN STOPPER DIMENSIONS

| | Height Matched | | Levered | | | Economy |
|----|----------------------|----------------------|---------------------|--------------------|---------------------|----------------------|
| | RC8 (P104358) | RC10/12 (P104359) | 8 mm (P104372) | 10 mm (P104373) | 13 mm (P104374) | 8/10 mm (P104335) |
| B | 105 mm (4 1/8") | 127 mm (5") | 72 mm (2 7/8") | 86 mm (3 7/16") | 105 mm (4 3/16") | 62 mm (2 3/8") |
| C | 40 mm (1 9/16") | 48 mm (1 7/8") | 20 mm (7/8") | 20 mm (7/8") | 26 mm (1 1/8") | 6 mm (1/4") |
| F | 150 mm (5 15/16") | 182 mm (7 3/16") | 152 mm (6") | 190 mm (7 1/2") | 219 mm (8 5/8") | 80 mm (3 1/8") |
| G | 130 mm (5 1/8") | 159 mm (6 1/4") | 92 mm (3 5/8") | 130 mm (5 1/8") | 159 mm (6 5/16") | 46 mm (1 3/4") |
| G' | 10 mm (7/16") | 11.5 mm (1/2") | 30 mm (1 3/16") | 30 mm (1 3/16") | 30 mm (1 3/16") | 17 mm (5/8") |
| I | 77 mm (3") | 97 mm (3 13/16") | 70 mm (2 7/8") | 86 mm (3 1/2") | 100 mm (4") | 92 mm (3 5/8") |
| J | 44 mm (1 3/4") | 53 mm (2") | 31.5 mm (1 1/4") | 44 mm (1 3/4") | 53 mm (2 1/8") | N/A |
| J' | 8.8 mm (11/32") | 12.5 mm (1/2") | 10 mm (7/16") | 10 mm (7/16") | 12.5 mm (1/2") | 37 mm (1 1/2") |
| K | 61.5 mm (2 7/16") | 78 mm (3") | 51.5 mm (2 1/8") | 64 mm (2 5/8") | 78 mm (3 1/8") | 74 mm (2 7/8") |
| L | 90 mm (3 1/2") | 125 mm (4 15/16") | 95 mm (3 3/4") | 95 mm (3 3/4") | 130 mm (5 1/8") | N/A |
| M | M8 | M10 | M10 | M10 | M12 | M10 |



STOPPER TENSIONER

The 10-13 mm chain stopper is now available with integral anchor tensioner which is used to pull the stowed anchor tightly into the bow roller or anchor pocket preventing unwanted noise from the anchor pocket and unwanted noise from the anchor moving.

A retro-fit kit is available to fit the tensioner assembly onto existing Maxwell 10-13 mm chainstopper bodies.

P105257 - Stopper Tensioner 10-13 mm Removable Lever

P104740 - Stopper Tensioner Retrofit Kit for 13 mm Chainstoppers



WEBBING TENSIONER

Also available is a webbing strap tensioner for use on 7-12 mm chains.

The webbing tensioner simply fits to a deck cleat/bollard and uses a stainless steel claw to grip the chain and an over center cam lock to tensioner and secure the anchor.

P105072 - Webbing Tensioner 7-12 mm

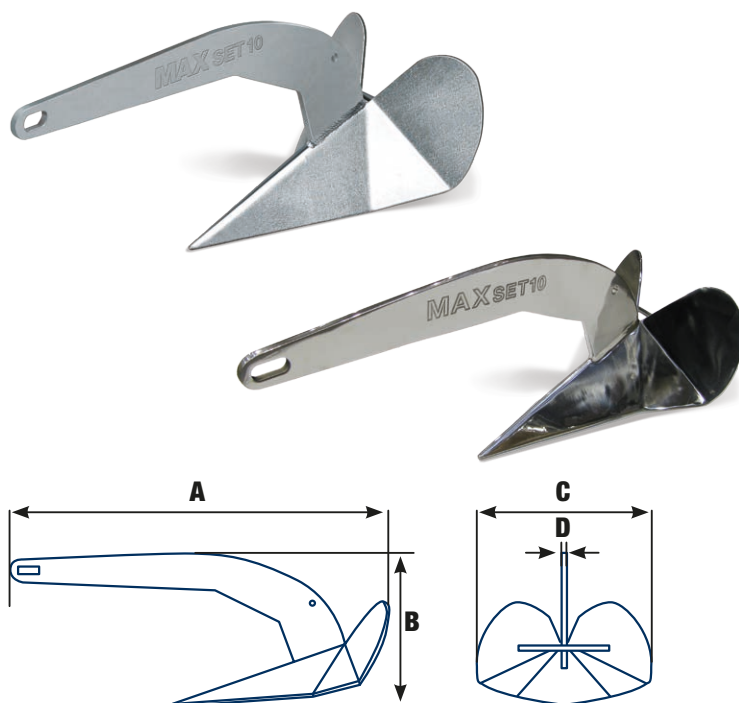




When it comes to anchoring, Maxwell provides the ultimate anchoring solution backed by sound advice and after sales service. A full range of anchoring accessory items are available. Please contact your nearest Maxwell office or local distributor for helpful advice and assistance.

MAXSET ANCHORS

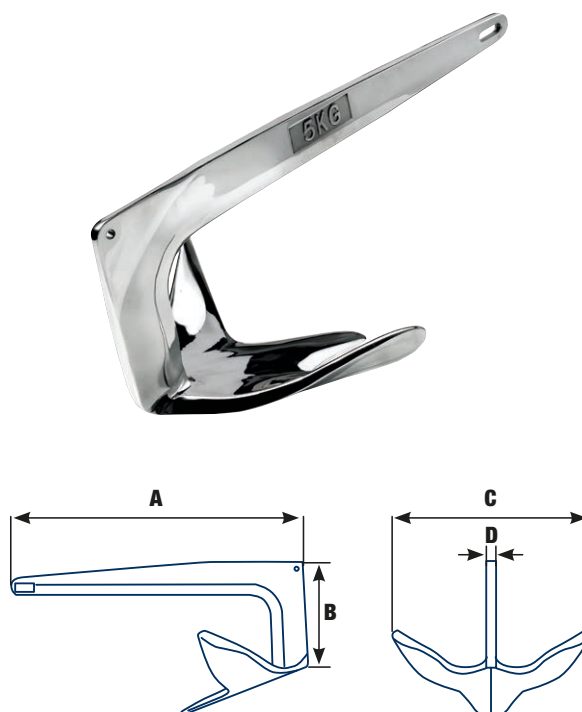
The "MAXSET" galvanised and stainless steel (AISI 316) anchor range, based on the proven 'Plough' design is available in eight different sizes to suit boats from approximately 4 metres (15') to 17 metres (55').



| MAXSET ANCHORS STAINLESS STEEL | MAXSET ANCHORS GALVANISED | ANCHOR WEIGHTS | A | B | C | D |
|-----------------------------------|------------------------------|----------------|----------------------|---------------------|---------------------|------------------|
| P105070 | P105069 | 4 kg/9 lbs | 530 mm (20 7/8") | 222 mm (8 3/4") | 245 mm (9 5/8") | 8 mm (5/16") |
| P105055 | P105000 | 6 kg/13 lbs | 620 mm (24 1/2") | 230 mm (9 1/8") | 262 mm (10 3/8") | 10 mm (3/8") |
| P105056 | P105001 | 10 kg/22 lbs | 730 mm (28 3/4") | 275 mm (10 7/8") | 315 mm (12 1/2") | 12 mm (1/2") |
| P105057 | P105002 | 16 kg/35 lbs | 820 mm (32 3/8") | 315 mm (12 1/2") | 340 mm (13 1/2") | 14 mm (9/16") |
| P105058 | P105003 | 20 kg/44 lbs | 890 mm (35") | 345 mm (13 5/8") | 400 mm (15 3/4") | 16 mm (5/8") |
| P105059 | P105004 | 25 kg/55 lbs | 986 mm (38 7/8") | 410 mm (16 1/8") | 445 mm (17 1/2") | 16 mm (5/8") |
| P105067 | P105005 | 30 kg/66 lbs | 1050 mm (38 7/8") | 445 mm (16 1/8") | 465 mm (17 1/2") | 20 mm (5/8") |
| P105068 | P105006 | 40 kg/88 lbs | 1130 mm (44 1/2") | 470 mm (18 1/2") | 510 mm (20") | 20 mm (3/4") |

MAXCLAW ANCHORS

The "MAXCLAW" 316 Stainless Steel anchor range, based on the proven 'North Sea' claw design is available in seven different sizes to suit boats from approximately 4 metres (12') to 18 metres (58').



| MAXCLAW STAINLESS STEEL | ANCHOR WEIGHTS | A | B | C | D |
|----------------------------|----------------|----------------------|---------------------|---------------------|-----------------------------|
| P105060 | 5 kg/11 lbs | 470 mm (18 5/8") | 190 mm (7 1/2") | 310 mm (12 1/4") | 15 - 18 mm (5/8"-3/4") |
| P105061 | 8 kg/18 lbs | 530 mm (20 7/8") | 210 mm (8 3/8") | 360 mm (14 1/4") | 15 - 18 mm (5/8"-3/4") |
| P105062 | 10 kg/22 lbs | 600 mm (23 5/8") | 228 mm (9") | 380 mm (15") | 15 - 18 mm (5/8"-3/4") |
| P105063 | 15 kg/33 lbs | 670 mm (26 1/2") | 265 mm (10 1/2") | 450 mm (17 3/4") | 15 - 18 mm (5/8"-3/4") |
| P105064 | 20 kg/44 lbs | 715 mm (28 1/4") | 360 mm (14 1/4") | 470 mm (18 5/8") | 15 - 20 mm (5/8"-7/8") |
| P105065 | 30 kg/66 lbs | 815 mm (32 1/8") | 425 mm (16 3/4") | 550 mm (21 3/4") | 18 - 25 mm (3/4"-1") |
| P105066 | 40 kg/88 lbs | 1000 mm (39 3/8") | 440 mm (17 3/8") | 675 mm (26 5/8") | 18 - 30 mm (3/4"-1 1/4") |

MAXSET ANCHORS AND MAXSET BOW ROLLERS

See chart below to select the most suitable bow roller for use with your MAXSET or MAXCLAW anchor.

| MAXSET ANCHORS | | | TO SUIT APPROXIMATE BOAT LENGTH | | | | | | | | | | | | MAXSET BOW ROLLERS | |
|-----------------|------------|---------------|---------------------------------|----------|----------|-----------|-----------|-----------|-----------|-----------|--|--|--|--|--------------------|-----------------|
| Stainless Steel | Galvanised | Weight | 4M (13') | 6M (20') | 8M (26') | 10M (33') | 12M (39') | 14M (46') | 16M (52') | 18M (59') | | | | | Satin Finish | Polished Finish |
| P105070 | P105069 | 4 kg/9 lbs | | | | | | | | | | | | | P105074 | P105075 |
| P105055 | P105000 | 6 kg/13 lbs | | | | | | | | | | | | | P105074 | P105075 |
| P105056 | P105001 | 10 kg/22 lbs | | | | | | | | | | | | | P105076 | P105077 |
| P105057 | P105002 | 16 kg/35 lbs | | | | | | | | | | | | | P105078 | P105079 |
| P105058 | P105003 | 20 kg/44 lbs | | | | | | | | | | | | | P105080 | P105081 |
| P105059 | P105004 | 25 kg/55 lbs | | | | | | | | | | | | | P105082 | P105083 |
| P105067 | P105005 | 30 kg/66 lbs | | | | | | | | | | | | | P105082 | P105083 |
| P105068 | P105006 | 40 kg/88 lbs | | | | | | | | | | | | | P105082 | P105083 |
| MAXCLAW ANCHORS | | | TO SUIT APPROXIMATE BOAT LENGTH | | | | | | | | | | | | | |
| P105060 | | 5 kg/11 lbs | | | | | | | | | | | | | | |
| P105061 | | 7.5 kg/17 lbs | | | | | | | | | | | | | | |
| P105062 | | 10 kg/22 lbs | | | | | | | | | | | | | | |
| P105063 | | 15 kg/33 lbs | | | | | | | | | | | | | | |
| P105064 | | 20 kg/44 lbs | | | | | | | | | | | | | | |
| P105065 | | 30 kg/66 lbs | | | | | | | | | | | | | | |
| P105066 | | 40 kg/88 lbs | | | | | | | | | | | | | | |



ANCHOR SWIVEL SHACKLES



6-8 MM (P104370)



10-13 MM (P104371)

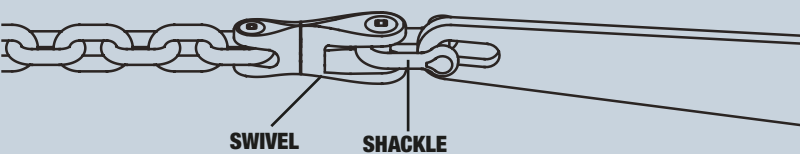
ANCHOR SWIVEL SHACKLES

Improve your anchor retrieval

The use of a swivel and joining shackle for your anchor and rode will greatly improve anchor retrieval and help ensure that the rode lays neatly into your anchor locker.

Maxwell has 2 available sizes for use with its automatic rope/chain series windlasses to suit vessels up to 20 metres (65 feet):

- 6-8 mm (1/4" - 5/16")
- 10-13 mm (3/8" - 1/2")

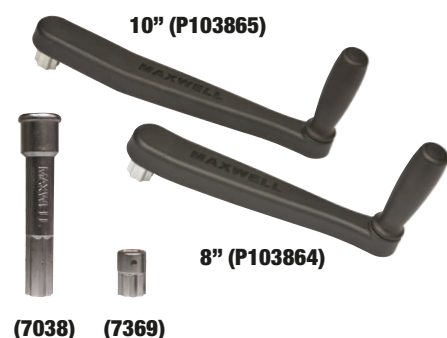


EMERGENCY CRANK/CLUTCH RELEASE HANDLES AND BI-SQUARE EXTENSION DRIVES

Especially for type RC12 anchor winches

These crank handles are available in 2 different sizes to suit the constraints of most foredeck configurations. They are constructed of light weight, durable injection-moulded plastic and will float if accidentally dropped overboard. 2 Bi-square drives are also available. The extension unit facilitates access to the windlass clutch release nut in constrained areas.

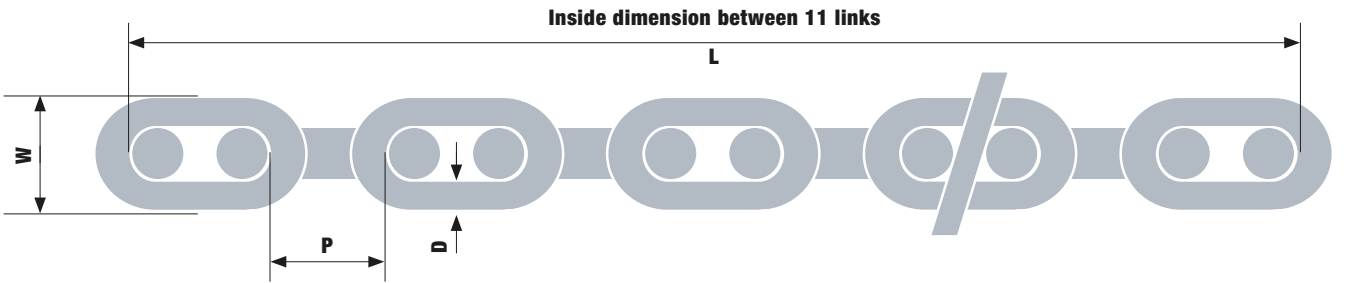
BI-SQUARE EXTENSION AND 1/2" DRIVE





CHAINWHEEL SELECTION GUIDE

There are various grades of short link chain, relating to the raw metal quality, strength and finishing process. Both galvanised and stainless steel chains are available. In order for your windlass to retrieve and deploy the anchor and chain smoothly, without jamming, it is of great importance that the chain and chainwheel (gypsy) match. Therefore Maxwell had devised a global chain and chainwheel spreadsheet which will help you to figure out what kind of chainwheel you need to order. In addition to the chains listed below, Maxwell can supply a variety of alternatives to meet any market demand. Please feel free to contact your nearest Maxwell dealer for assistance.



P = Pitch length inside link **D = Chain wire diameter** **W = width outside the link** **L = inside dimension between 11 links.**
 Please take an 11 link section of your chain, lay it out in a stretched out straight line and measure the dimensions as indicated

DOWNLOAD THE MAXWELL CHAINWHEEL SELECTION GUIDE SPREADSHEET www.maxwellmarine.com/support_chainwheel.php

| CHAINWHEEL SELECTION GUIDE | | | | | | | | | | | | | | | | | | | | | | |
|----------------------------|--------------------|-----------------|--------------------|-------|-------------------------------|-----------|-----------|----------|-----------|-----------|------------|------------|------------|------------|------------|------------|------------|------------|--|--|--|--|
| | | | DIN766 | EN818 | TO SUIT APPROXIMATE BOAT SIZE | | | | | | | | | | | | | | | | | |
| CHAIN | HOT DIP GALVANISED | STAINLESS STEEL | HOT DIP GALVANISED | | 4M (15FT) | 5M (16FT) | 6M (19FT) | 7M (22F) | 8M (26FT) | 9M (30FT) | 10M (32FT) | 12M (38FT) | 14M (45FT) | 16M (52FT) | 18M (58FT) | 20M (65FT) | 22M (72FT) | 24M (78FT) | | | | |
| 6 mm | SP3105 | SP4471 | N/A | | | | | | | | | | | | | | | | | | | |
| 7 mm | SP4049 | N/A | N/A | | | | | | | | | | | | | | | | | | | |
| 8 mm | SP4050 | SP4207 | N/A | | | | | | | | | | | | | | | | | | | |
| 10 mm | SP4051 | SP2514 | SP4012 | | | | | | | | | | | | | | | | | | | |
| 12 mm | N/A | N/A | SP3666 | | | | | | | | | | | | | | | | | | | |
| 13 mm | SP4052 | SP4474 | N/A | | | | | | | | | | | | | | | | | | | |

CHAIN INFORMATION

There are various Grades of short link chain. The Grade relates to the raw metal quality, strength and finishing process. Both galvanised and stainless steel chains are available. Chain Specification is the Standard a chain must be manufactured to in order to comply with a given International Standard. Outside of North America the most common types of metric short link chain are DIN766 and EN-818. Within North America the most common imperial chains are BBB and G40. The important thing to keep in mind is to select a chain grade and specification that complies with recognised standards. In addition to the chains listed above, Maxwell can supply a variety of alternatives to meet any market demand. Contact your nearest Maxwell Dealer.

ROPE AND CHAIN

Maxwell can supply a full range of anchor rodes including chain-only, rope only or a pre-spliced combination of rope and chain rodes. Chains for vessels up to 100 metres (300 feet) and 8-plait (brait) nylon rope for vessels up to 20 metres (65 feet) in length as well as ropes and hawsers commonly used on superyachts.

Please see the pictures shown on this page for sizes and characteristics.

| STANDARD COMBINATION ROPE CHAIN KITS | | | | | | |
|--------------------------------------|--------------|--------|-------------|--------|--------|--------|
| CHAIN Ø | CHAIN LENGTH | ROPE Ø | ROPE LENGTH | | | |
| | | | 50 m | 100 m | 150 m | 200 m |
| 6 mm | 10 mtrs | 12 mm | SP2627 | SP2628 | SP2629 | SP2630 |
| 6 mm | 20 mtrs | 12 mm | N/A | SP2643 | N/A | N/A |
| 8 mm | 10 mtrs | 14 mm | SP2631 | SP2632 | SP2633 | SP2634 |
| 8 mm | 20 mtrs | 14 mm | SP2644 | SP2642 | N/A | N/A |
| 10 mm | 10 mtrs | 16 mm | SP2648 | SP2649 | N/A | N/A |
| 10 mm | 20 mtrs | 16 mm | SP2645 | SP2646 | N/A | N/A |

Custom lengths available. Contact your Maxwell Dealer.



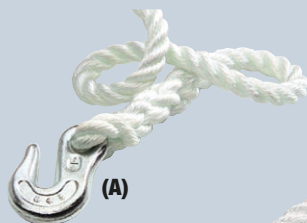
NYLON 8 PLAIT ROPE

12MM (SP3167) 14MM (SP3168)
16MM (SP3169) 20MM (SP3170)

CHAIN SNUBBERS

Alternative method of taking the load of your windlass

These snubbers are recommended to secure the anchor while under way. Available in rope version with chain clevis hook (A) or snap shackle (B). See pictures below for the various sizes.



6 MM (SP3174)
8 MM (SP3175)
10 MM (SP3176)

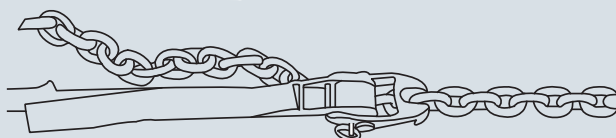


(B)
SPECIAL ORDER ONLY

ANCHOR TENSIONER

Simple, easy to use and adjustable tensioner

This innovative anchor tensioner secures the anchor firmly into the bow roller, taking the weight off the windlass and preventing accidental deployment of the anchor. The tensioner is suitable for use with 7 mm (¼") to 12 mm (½") short link chain and can be secured to an existing cleat or bollard so no installation is required.



Electrical Accessories Selection Guide

Use this guide to select the electrical accessories you require and to confirm that they are suitable for use with your chosen windlass or capstan unit.

After identifying your winch, follow steps 1 through 5 below. See also additional information on page 284.

1. Select Solenoid (when required)

| | Windlass Model | Anchor Max | 500VC | HRCFF 6/7/8 | RC6 | RC8-6 | RC8-8 | RC10-8 | RC10-10 | HRC10-8 | HRC10-10 | RC12-10 | RC12-12 | VW10-8 | VW10-10 | 1000 | 1500 | 2500 | 3500 |
|-------------|--|------------|-------|--|------|-------|-------|--------|---------|---------|----------|---------|---------|--------|---------|-------|-------|-------|-------|
| Part Number | | 500W | 600W | 600W | 500W | 600W | 1000W | 1000W | 1200W | 1000W | 1200W | 1200W | 1200W | 1000W | 1200W | 1000W | 1200W | 1500W | 1200W |
| | Reversing Solenoids | | | | | | | | | | | | | | | | | | |
| P100715 | Reversing Solenoid 12V | | | (●) | (●) | (●) | | | | | | | | | | | | | |
| P11121 | Reversing Solenoid 24V | | | (●) | (●) | (●) | | | | | | | | | | | | | |
| P19045 | Reversing Solenoid 12V | | | | | | (●) | (●) | (●) | (●) | (●) | (●) | (●) | (●) | (●) | (●) | (●) | (●) | (●) |
| P19046 | Reversing Solenoid 24V | | | | | | (●) | (●) | (●) | (●) | (●) | (●) | (●) | (●) | (●) | (●) | (●) | (●) | (●) |
| | Single Direction Solenoids | | | | | | | | | | | | | | | | | | |
| SP1393 | Single Direction 12V | • | • | Single Direction Solenoid may be used with windlass if dual direction operation is not required. | | | | | | | | | | | | | | | |
| SP1394 | Single Direction 24V | • | • | | | | | | | | | | | | | | | | |
| | (●) = part of the standard 12V or 24V windlass package • = optional extra | | | | | | | | | | | | | | | | | | |

2. Select Circuit Breaker/Isolator (recommended)

| | Circuit Breaker | Anchor Max | 500VC | HRCFF 6/7/8 | RC6 | RC8-6 | RC8-8 | RC10-8 | RC10-10 | HRC10-8 | HRC10-10 | RC12-10 | RC12-12 | VW010-8 | VW10-10 | 1000 | 1500 | 2500 | 3500 |
|---------|-------------------------|------------|-------|-------------|-----|-------|-------|--------|---------|---------|----------|---------|---------|---------|---------|------|------|------|------|
| P100789 | 40 Amp circuit breaker | 24V | 24V | 24V | 24V | 24V | | | | | | | | | | | | | |
| P102903 | 70 Amp circuit breaker | | | 12V | 12V | | | | | | | | | | | | | | |
| P100790 | 80 Amp circuit breaker | 12V | 12V | | | 12V | 24V | 24V | 24V | 24V | 24V | 24V | 24V | 24V | 24V | 24V | 24V | 24V | 24V |
| P100791 | 135 Amp circuit breaker | | | | | | 12V | 12V | 12V | 12V | 12V | 12V | 12V | 12V | 12V | 12V | 12V | 12V | 12V |

3. Select Switch or Combination of Switches (as required)

| | Foot Switches | Anchor Max | 500VC | HRCFF 6/7/8 | RC6 | RC8-6 | RC8-8 | RC10-8 | RC10-10 | HRC10-8 | HRC10-10 | RC12-10 | RC12-12 | VW010-8 | VW10-10 | 1000 | 1500 | 2500 | 3500 |
|---------|---------------------------------------|------------|-------|-------------|-----|-------|-------|--------|---------|---------|----------|---------|---------|---------|---------|------|------|------|------|
| P19001 | Foot Switch With Chrome Bezel | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • |
| P19006 | Foot Switch Covered (Black) | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • |
| P19007 | Foot Switch Covered (White) | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • |
| P19008 | Foot Switch Plastic Bezel | (●) | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • |
| P100735 | Foot Switch Covered (Stainless Steel) | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • |
| | Compact Foot Switches | | | | | | | | | | | | | | | | | | |
| P104809 | Foot Switch Covered (White) | | | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • |
| P104810 | Foot Switch Covered (Black) | | | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • |
| | Remote Panel (Up/Down) | | | | | | | | | | | | | | | | | | |
| P102938 | Toggle Switch | | | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • |
| P102983 | Push Button | | | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • |
| | Hand Held Wired Roving Control | | | | | | | | | | | | | | | | | | |
| P102933 | Roving Control Two Button | | | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • |
| P102992 | AA320 Roving Control Two Button | | | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • |
| P102995 | AA342 Roving Control Two Button | | | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • |
| | Hand Held Wireless Remote Control | | | | | | | | | | | | | | | | | | |
| P104816 | RCM2 Two Button Radio Remote Control | | | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • |
| P104817 | RCM4 Four Button Radio Remote Control | | | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • |

4. Select Rode Counters (when desired)

| | | | | | | | | | | | | | | | | | | | |
|---------|--|--|--|----|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P102939 | AA150 Panel Mount Rode Counter Without Control Switch | | | •* | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • |
| P102944 | AA560 Panel Mount Rode Counter and Windlass Control | | | •* | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • |
| P102945 | AA570 Wireless Panel Mount Rode Counter and Windlass Control | | | •* | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • |
| P102994 | AA730 Wired Roving Control with Rode Counter | | | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • |
| P102981 | AA710 Wireless Remote Control with Rode Counter | | | •* | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • |

* HRC sensor P102909 is required to fit a chain counter to the HRCFF6 and HRCFF8 windlasses

5. Select Sensor Cable Extension Packs for Rode Counters or Switches with Rode Counters (as required)

| | | | | | | | | | | | | | | | | | | | |
|--------|--|--|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SP4154 | 2m (6.5 ft) Dual Installation Connection cable | | | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • |
| SP4156 | 6.5 m (21 ft) | | | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • |
| SP4157 | 15 m (49 ft) | | | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • |
| SP4153 | 20 m (65 ft) | | | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • |
| SP4155 | Dual Instalation "T" Connector | | | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • |
| SP4192 | Gender Adaptor (to join 2 sensor cables) | | | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • |

Additional Anchoring Accessories Selection Guide Information

MAXSET Anchors

| Stainless Steel | Galvanised | Anchor Weight |
|-----------------|------------|---------------|
| P105070 | P105069 | 4kg/9lbs |
| P105055 | P105000 | 6kg/13lbs |
| P105056 | P105001 | 10kg/22lbs |
| P105057 | P105002 | 16kg/35lbs |
| P105058 | P105003 | 20kg/44lbs |
| P105059 | P105004 | 25kg/55lbs |
| P105067 | P105005 | 30kg/66lbs |
| P105068 | P105006 | 40kg/88lbs |

MAXCLAW Anchors

| | |
|---------|-------------|
| P105060 | 5kg/11lbs |
| P105061 | 7.5kg/17lbs |
| P105062 | 10kg/22lbs |
| P105063 | 15kg/33lbs |
| P105064 | 20kg/44lbs |
| P105065 | 30kg/66lbs |
| P105066 | 40kg/88lbs |

MAXSET Bow Rollers

| Satin Finish | Polished Finish | Anchor Weight |
|--------------|-----------------|---------------|
| P105074 | P105075 | 4kg/9lbs |
| P105074 | P105075 | 6kg/13lbs |
| P105076 | P105077 | 10kg/22lbs |
| P105078 | P105079 | 16kg/35lbs |
| P105080 | P105081 | 20kg/44lbs |
| P105082 | P105083 | 25kg/55lbs |
| P105082 | P105083 | 30kg/66lbs |
| P105082 | P105083 | 40kg/88lbs |

Bow Rollers

| | |
|---------|--|
| P104330 | Hinged # 1 up to 8mm (5/16") chain |
| P104331 | Hinged # 2 up to 13mm (1/2") chain |
| P104332 | Fixed # 1 up to 8mm (5/16") chain |
| P104333 | Fixed # 2 up to 8mm (5/16") chain |
| P104334 | Fixed # 3 up to 13mm (1/2") chain |
| P104340 | Extendable hinged up to 13mm (1/2") chain |
| P104374 | Fixed with anchor loop up to 13mm (1/2") chain |

Chain Stoppers

| | |
|---------|--|
| P104335 | Economy 8mm -10mm (5/16"-3/8") chain |
| P104372 | Removable Levered Pawl 8mm (5/16") chain |
| P104373 | Removable Levered Pawl 10mm (3/8") chain |
| P104374 | Removable Levered Pawl 13mm (1/2") chain |
| P104358 | Height Matched 8mm/10mm (5/16"-3/8") chain |
| P104359 | Height Matched 10mm/13mm (3/8"-1/2") chain |

Anchor Swivels

| | |
|---------|--|
| P104370 | Stainless Steel 750 kg load 6mm-8mm (1/4"-5/16") chain |
| P104371 | Stainless Steel 1500 kg load 10mm-13mm (3/8"-1/2") chain |

Chain Snubbers and Tensioners

| | |
|---------|---|
| SP3174 | Snubbing Hook 6/7mm (1/4") chain |
| SP3175 | Snubbing Hook 8mm (5/16") chain |
| SP3176 | Snubbing Hook 10mm (3/8") chain |
| P101100 | Adjustable Devil's Claw/Tensioner 13mm (1/2") chain |

Crank Handles

| | |
|---------|-------------------------------------|
| P103864 | Short RC8, RC10 and RC12 windlasses |
| P103865 | Long RC8, RC10 and RC12 windlasses |

Installation and Maintenance

Maxwell provides a complete installation and maintenance manual with every windlass or capstan. This clear and detailed step-by-step guide, provides information on how and where to install your winch. Suggestions, practical tips and cautions provide a solid basis for usage and maintenance. These publications are available on the Maxwell website. A good installation could mean the difference between your winch performing as it should or ending up causing you problems. Please ensure that you carefully read the Owner's Manual before installing and using your winch. Simple guidelines and advice such as greasing the clutch cones, using products such as CRC™ 'soft seal' on the motor and electrical terminals and bedding the winch to the deck with a top quality marine sealant will ensure that you get years of trouble free use from your Maxwell Marine products. If in doubt, contact your nearest Maxwell dealer.

Maxwell Three Year Warranty

Maxwell Marine provides a three year limited warranty on all windlasses, capstans and accessories for pleasure boat usage (with the exception of the AnchorMax which has a two year warranty) and a one year limited warranty for those systems used on commercial or charter vessels. Warranty, service and parts are available world-wide. Contact your nearest Maxwell Marine office or check out the Maxwell Marine website:

www.maxwellmarine.com for a complete list of service centres, agents and distributors.

3 YEAR
Limited Warranty

www.maxwellmarine.com

Maxwell's ongoing commitment to customer service and technological excellence can be viewed online at www.maxwellmarine.com.

This fully interactive and constantly evolving website features Maxwell's easy to use winch selection guide, cad drawings, product manual downloads and up-to-date technical information regarding the latest product developments and innovations.

You can register warranties on line, ask for technical advice, find out what boat shows we are attending and locate the Maxwell office, agent or distributor nearest you.

Glossary

Capstan Often referred to as a drum, rope drum, or warping drum. The capstan is primarily used for hauling rope.

Chain Stopper Similarly, chain compressor. Located between the winch and bow roller. Secures chain and anchor and takes the load off the winch/windlass. Highly recommended for systems utilising all chain and for semi-automatic rope and chain systems.

Free Fall Release of the winch clutch mechanism allowing the anchor and rode (chain or rope and chain) to run out freely with no engagement of winch gearbox or motor.

Gypsy Often referred to as chainwheel or wildcat. A special wheel with pockets, to accommodate a specified chain size, for hauling up the chain and anchor. With automatic rope/chain systems the gypsy is designed to haul both rope and chain.

Hauling Often referred to as weighing or lifting. The operation of lifting the anchor and rode.

Horizontal Pertaining to the winch or windlass. Drive shaft, capstan and gypsy are positioned horizontally to the deck.

Manual Override System Often referred to as emergency crank system. A means of manually cranking the winch to haul in the rode and anchor should a failure occur in the motor, gearbox or power supply.

Maximum Pull Sometimes referred to as rated lift, stall load, or simply lift/pull. The maximum pull or lift load of the winch.

Rode The line that secures the boat to the anchor. This may consist of all chain, all rope, or a combination of rope and chain.

Static Hold The maximum load that the windlass can hold. It is not recommended that the windlass be used in this manner.

Vertical Pertaining to the winch or windlass. The drive shaft, capstan and gypsy are positioned vertically to the deck.

Winch A windlass driven by a hand or power-operated crank or gearbox. Often implies to pull or lift a weight by using a winch.

Windlass A machine for raising a weight by winding a rope and/or chain around a drum or chainwheel, driven by a crank, motor, etc.

Working load Often referred to as the normal working load or the typical lift of the winch. This is usually somewhere between 25% to 35% of the maximum pull or rated lift. This workload should approximately correspond to the total weight of the anchor and rode aboard the boat.



Superyacht Windlasses and Capstans

For over four decades Maxwell Marine has been supplying anchoring solutions to the global marine market. The Superyacht industry poses unique challenges. Quality, reliability and style are a must. Owners and captains depend on the finest equipment aboard their luxurious vessels to see them safely around the world or cruising in their home waters. Maxwell Marine has become the manufacturer of choice on many of the world's Superyachts.

The 21st century has presented Maxwell Marine with new opportunities and challenges. Larger Superyachts mean larger windlasses and anchor handling equipment. In response Maxwell has continued to develop and expand its highly successful 'SY' Series Superyacht windlasses. Complemented by new and innovative deck gear, such as

integrated Roller-Stopper-Tensioners, Compressor-Roller-Tensioners and Chain Pipe-Rollers, Maxwell is able to meet the demands for a complete and integrated anchoring package for Megayachts.

All Superyacht products are manufactured to the stringent international requirements of ISO9001 and are covered under the European CE standard. Maxwell Superyacht products are, and can be, certified to any of the major classification societies such as Lloyds, DNV, ABS, BV, etc.

For more information about Maxwell Marine's extensive range of Superyacht products and services, see the new Superyacht catalogue and information guide or visit www.maxwellmarine.com alternatively contact: superyacht@maxwellmarine.com.



RETRACTABLE VERTICAL CAPSTAN **RVC**

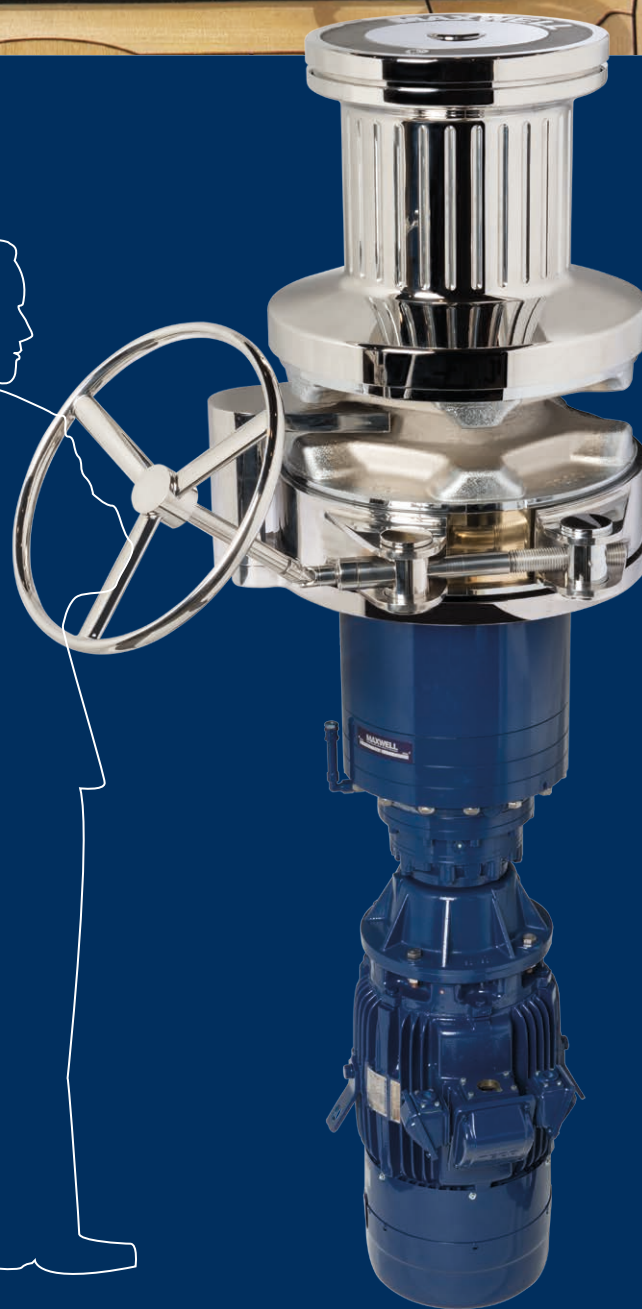
The Maxwell Retractable Vertical Capstan (RVC) has been designed not only for superb functionality, but with the aim that aesthetics aboard any yacht are also paramount. The top of the capstan drum is pleasing to the eye and has been patterned to provide a non-skid surface, when flush with the deck in the fully "DOWN" position, alternatively it can be recessed allowing for compatible deck finishes to be attached.



The **SY38**

The SY38 is the latest in Maxwell's SY Series of Superyacht windlasses; developed and built to handle up to 38mm stud link chain and suitable for vessel lengths up to approximately 100 metres. The SY Series gives Maxwell the ability to offer customers highly competitive, top quality anchoring equipment, without over or under specifying power, strength, reliability or performance.

Developed and engineered in response to the demand for bigger and stronger anchor windlasses for today's larger Superyachts and Megayachts, Maxwell has once again broken through the innovation boundary.





V-QUIPMENT

The best equipment for your boat!

- High quality and reliability
- Complementary to the VETUS systems
- Attractively priced
- 3 Year warranty



ABYC-H-31 - SEAT STRUCTURE RECOMMENDATIONS

The ABYC-H-31 - Seat structure recommendations applies to permanently installed seats in cockpits, deck areas and all helm positions, including their fastenings and structures to which they are attached. It is a guide for the design, testing, construction and installations of these product systems.

These recommendations are divided into the so called type "A" and type "B" system.



Type "A" system

A seating system (seat and pedestal) designed for occupancy while vessel is underway at any boat speed.



Type "B" system

A seating system (seat and pedestal) designed for occupancy only at boat speed not exceeding 8 km/h (5 miles per hour).

The type "A" system is sub-divided into



Type "AO" operators system

Seat mounts must have a positive locking mechanism which shall withstand a torque of 205Nm (150 foot pounds). (Positive locking = by means of a pin lock)



Type "A" system

Seat mounts shall withstand a torque of 41Nm (30 foot pounds).



VETUS has symbolized these recommendations into the below mentioned classification logos, which are shown next to each individual seat mount within the VETUS comfort section of this catalogue.



Source: ABYC- H-31

Note

All seats are classified as type "A", a seat combined with a type "AO" seat mount is therefore usable as an operators system. A seat combined with a type "B" seat mount, has the above mentioned usage restrictions.

Boat seats

All seats and benches in this range are finished in maintenance free, water and UV resistant skai imitation leather, which is ideal for marine use. The skai imitation leather can also be ordered in rolls of 5 metres to match the complete boat interior to your boat seats. See page 331 for more information.

Equivalent RAL colours: White 9002, Dark Blue 5013, Cream 1015, Black 9011, Grey 7043, Light Grey 7004.

Which pedestal?

Seats are supplied without pedestal. Please find the pedestal of your choice on page 332. The hole patterns (R or S) in the specification tables of the seat and pedestal should match. See the table on the right for the dimensions of the hole patterns.

| Seat dimensions | Hole pattern (threaded) | |
|--|--|--|
| <p>A side view diagram of a boat seat. It shows a curved backrest and a seat cushion. Dimensions are indicated: D1 is the total width of the seat base, D2 is the width of the backrest, H1 is the total height from the base to the top of the backrest, and H2 is the height of the backrest from its base to the top.</p> | <p>A top view diagram of a boat seat, showing the seat cushion and backrest within an oval frame. Dimensions are indicated: ØT is the diameter of the oval frame, W1 is the width of the seat base, and W2 is the width of the seat cushion.</p> | <p>R=</p> <p>(for slides)</p> <p>A rectangular hole pattern diagram for slides. It shows a rectangle with two diagonal lines crossing in the center. The width is labeled 300 and the height is labeled 127.</p> |
| | | <p>S=</p> <p>(for swivels)</p> <p>A square hole pattern diagram for swivels. It shows a square with two diagonal lines crossing in the center. The side length is labeled 127.</p> |

COMFORT



CHCOMW

FLIP-UP



CHCOMB

Commander

Luxurious chair with excellent support. The front part can be folded up for steering in a standing or leaning position.

Available colours:

- White
- Dark blue
- Without upholstery (CHCOMU)

Supplied without pedestal.

Fits pedestals with slide only.

Use seat cover CCDS or CCSB to keep the seat clean and protected against UV.

| D1 | D2 | H1 | H2 | W1 | W2 | ØT | Hole pattern | Weight (kg) |
|-----|-----|-----|-----|-----|-----|-----|--------------|-------------|
| 684 | 485 | 715 | 610 | 610 | 415 | 720 | R | 15 |



CHFUS

FLIP-UP



CHFUSBL

Queen

Comfortable FLIP-UP boat seat. The front part can be folded up for steering in a standing or leaning position.

Available colours:

- White
- Dark blue
- Without upholstery (CHFUSQU)

Supplied without pedestal.

Fits pedestals with slide only.

Use seat cover CCDS or CCSB to keep the seat clean and protected against UV.

| D1 | D2 | H1 | H2 | W1 | W2 | ØT | Hole pattern | Weight (kg) |
|-----|-----|-----|-----|-----|-----|-----|--------------|-------------|
| 715 | 490 | 600 | 510 | 560 | 460 | 800 | R | 12 |



CHFUSW

FLIP-UP



CHFUSC



CHFUSB

King

Comfortable FLIP-UP boat seat. The front part can be folded up for steering in a standing or leaning position. With comfortable head rest.

Available colours:

- White with dark blue seams
- Dark blue with white seams
- Cream with cream seams
- Without upholstery (CHFUSKU)

Supplied without pedestal.

Fits pedestals with slide only.

Use seat cover CCDS or CCSB to keep the seat clean and protected against UV.

| D1 | D2 | H1 | H2 | W1 | W2 | ØT | Hole pattern | Weight (kg) |
|-----|-----|-----|-----|-----|-----|-----|--------------|-------------|
| 720 | 490 | 620 | 500 | 570 | 450 | 800 | R | 13 |



COMFORT



CHFASW



CHFASC



CHFASB

Master

High quality helm seat with armrests.
Stainless steel frame.

Available colours:

- White
- Dark blue
- Cream
- Without upholstery (CHFASU)

Supplied without pedestal.

Fits pedestals with slide only.

Use seat cover CCMB to keep the seat clean and protected against UV.

| D1 | D2 | H1 | H2 | W1 | W2 | ØT | Hole pattern | Weight (kg) |
|-----|-----|-----|-----|-----|-----|-----|--------------|-------------|
| 690 | 500 | 630 | 510 | 580 | 500 | 760 | R | 15 |

Sailor

Helm seat with armrests. Anodised aluminium frame.

Available colours:

- White
- Dark blue

Supplied without pedestal.

Fits all pedestals.

Use seat cover CCDS or CCSB to keep the seat clean and protected against UV.

| D1 | D2 | H1 | H2 | W1 | W2 | ØT | Hole pattern | Weight (kg) |
|-----|-----|-----|-----|-----|-----|-----|--------------|-------------|
| 600 | 440 | 620 | 540 | 570 | 635 | 700 | R / S | 8,2 |



CHSAILW



CHSAILB

Skipper

Classic helm chair with comfortable arm rests.
Anodised aluminium frame.

Available colours:

- White
- Dark blue

Supplied without pedestal.

Fits all pedestals.

Use seat cover CCDS or CCSB to keep the seat clean and protected against UV.

| D1 | D2 | H1 | H2 | W1 | W2 | ØT | Hole pattern | Weight (kg) |
|-----|-----|-----|-----|-----|-----|-----|--------------|-------------|
| 590 | 420 | 535 | 415 | 680 | 430 | 680 | R / S | 9,5 |



CHCASW



CHCASB

COMFORT


CHLIEUTB


FLIP-UP

CHLIEUTW

Lieutenant

Comfortable seat with a foldable front part for steering in standing or leaning positions.

Available colours:

- White
- Dark blue

Supplied without pedestal.

Fits pedestals with slide only.

Use seat cover CCDS or CCSB to keep the seat clean and protected against UV.

| D1 | D2 | H1 | H2 | W1 | W2 | ØT | Hole pattern | Weight (kg) |
|-----|-----|-----|-----|-----|-----|-----|--------------|-------------|
| 710 | 510 | 540 | 410 | 585 | 430 | 710 | R | 8 |


CHSPORTW


FLIP-UP


CHSPORTWB

Pilot

Sporty seat with good lateral support. The front part can be folded up for steering in standing or leaning positions.

Available colours:

- White
- White with black
- Without upholstery (CHSPORTU)

Supplied without pedestal.

Fits pedestals with slide only.

Use seat cover CCDS or CCSB to keep the seat clean and protected against UV.

| D1 | D2 | H1 | H2 | W1 | W2 | ØT | Hole pattern | Weight (kg) |
|-----|-----|-----|-----|-----|-----|-----|--------------|-------------|
| 670 | 475 | 600 | 510 | 500 | 403 | 720 | R | 8,7 |


CHDRIVEW

CHDRIVEWB

Driver

Sporty seat with good lateral support. Modern design.

Available colours:

- White
- White with black

Supplied without pedestal.

Fits pedestals with slide only.

Use seat cover CCDS or CCSB to keep the seat clean and protected against UV.

| D1 | D2 | H1 | H2 | W1 | W2 | ØT | Hole pattern | Weight (kg) |
|-----|-----|-----|-----|-----|-----|-----|--------------|-------------|
| 640 | 450 | 600 | 510 | 520 | 405 | 670 | R | 7 |



COMFORT



CHADMW



FLIP-UP

CHADMB

Admiral

A sporty and comfortable seat with lateral supports. The front part can be folded up for steering in standing or leaning positions.

Available colours:

- White
- Dark blue

Supplied without pedestal.

Fits pedestals with slide only.

Use seat cover CCDS or CCSB to keep the seat clean and protected against UV.

| D1 | D2 | H1 | H2 | W1 | W2 | ØT | Hole pattern | Weight (kg) |
|-----|-----|-----|-----|-----|-----|-----|--------------|-------------|
| 730 | 510 | 620 | 550 | 580 | 430 | 730 | R | 8,5 |



CHMAJORW



FLIP-UP

CHMAJORB

Major

A comfortable seat with a foldable front part for steering in standing or leaning positions.

Available colours:

- White
- Dark blue

Supplied without pedestal.

Fits pedestals with slide only.

Use seat cover CCDS or CCSB to keep the seat clean and protected against UV.

| D1 | D2 | H1 | H2 | W1 | W2 | ØT | Hole pattern | Weight (kg) |
|-----|-----|-----|-----|-----|-----|-----|--------------|-------------|
| 730 | 510 | 660 | 555 | 585 | 400 | 730 | R | 9,5 |



CAPTSEAT2

Captain

The Captain seat is a long established favourite and is excellent value for money. Including cushions.

Available colours:

- White

Supplied without pedestal.

Fits pedestals with slide only.

Use seat cover CCDS or CCSB to keep the seat clean and protected against UV.

| D1 | D2 | H1 | H2 | W1 | W2 | ØT | Hole pattern | Weight (kg) |
|-----|-----|-----|-----|-----|-----|-----|--------------|-------------|
| 485 | 430 | 500 | 450 | 530 | 430 | 530 | R | 8,3 |

COMFORT



CHCS



CHCW



CHCBWB



CHCG

Crew

Deluxe light weight seat with folding back rest.
With or without cushions.

Available colours:

- Light grey (without upholstery)
- White
- White with dark blue insert
- Grey



Supplied without pedestal.
Only fits pedestals without slide.

| D1 | D2 | H1 | H2 | W1 | W2 | ØT | Hole pattern | Weight (kg) |
|-----|-----|-----|-----|-----|-----|-----|--------------|-------------|
| 482 | 435 | 435 | 405 | 470 | 470 | 630 | S | 3 |



CHFSWW



CHFSBW

Fisherman

Classic seat with folding back rest. Anodised aluminium hinges.

Available colours:

- White with dark blue seams
- Dark blue with white seams



Supplied without pedestal.
Fits all pedestals.

| D1 | D2 | H1 | H2 | W1 | W2 | ØT | Hole pattern | Weight (kg) |
|-----|-----|-----|-----|-----|-----|-----|--------------|-------------|
| 480 | 350 | 450 | 360 | 400 | 400 | 575 | R / S | 3,3 |



CHFSW



CHFSB

First Mate

Comfortable deluxe seat with folding back rest. Anodised aluminium hinges.

Available colours:

- White with blue seams
- Dark blue with white seams
- Light grey with dark grey seams
- Grey with light grey seams



Supplied without pedestal.
Fits all pedestals.

| D1 | D2 | H1 | H2 | W1 | W2 | ØT | Hole pattern | Weight (kg) |
|-----|-----|-----|-----|-----|-----|-----|--------------|-------------|
| 480 | 350 | 450 | 360 | 400 | 400 | 575 | R / S | 3,3 |



CHFSL



CHFSD



COMFORT



DCHFSW

DCHFSB

First Class

Comfortable deluxe double seat with folding back rest. Anodised aluminium hinges.

Available colours:

- White with dark blue seams
- Dark blue with white seams

Supplied without pedestal.
Fits on two pedestals.

| D1 | D2 | H1 | H2 | W1 | W2 | ØT | Hole pattern | Weight (kg) |
|-----|-----|-----|-----|-----|-----|----|--------------|-------------|
| 480 | 350 | 450 | 360 | 900 | 900 | - | 2xR | 13 |

Ferry

Seat with moveable double sided backrest. Anodised aluminium hinges.

Available colours:

- White with dark blue seams
- Dark blue with white seams

Supplied without pedestal. Fits all pedestals.

| D1 | D2 | H1 | H2 | W1 | W2 | ØT | Hole pattern | Weight (kg) |
|-----|-----|-----|-----|-----|-----|-----|--------------|-------------|
| 570 | 375 | 460 | 380 | 420 | 420 | 706 | R / S | 6 |

Ferry Bench

Double seat with moveable double sided backrest. Anodised aluminium hinges.

Available colours:

- White with dark blue seams
- Dark blue with white seams

Supplied without pedestal. Fits on two pedestals (with or without slide).

| D1 | D2 | H1 | H2 | W1 | W2 | ØT | Hole pattern | Weight (kg) |
|-----|-----|-----|-----|-----|-----|----|--------------|-------------|
| 570 | 375 | 460 | 380 | 900 | 900 | - | 2xR / 2xS | 15 |



DCHTBSW

DCHTBSB

COMFORT



CCDS



CCSB



CCMB

Seat cover

To keep the seat dry and clean and protected against UV. Made of nylon with PU coating.

Types CCDS and CCSB fit all single seats except the 'Master' seat.

Available colours:

- Dark blue
- Silver

| Type | D | H | W |
|-------------|-----|-----|-----|
| CCDS / CCSB | 500 | 830 | 640 |
| CCMB* | 580 | 700 | 580 |

* Type CCMB fits only the 'Master' seat (CHFAS..), available in:

- Dark blue



CHSKAI..

Marine grade skai

Maintenance free, water and UV resistant skai imitation leather, which is ideal for marine use. Available in rolls of 5 metres to match the complete boat interior to your boat seat.

| Type | Colour | RAL code | Roll length | Width | Weight (Roll) (kg) |
|---------------|--------------|----------|-------------|-------|--------------------|
| CHSKAIB | Dark blue | 5013 | 5.000 | 1.370 | 5,4 |
| CHSKAIW | White | 9002 | 5.000 | 1.370 | 5,4 |
| CHSKAIC | Cream | 1015 | 5.000 | 1.370 | 5,4 |
| Special order | Grey | 7043 | 5.000 | 1.370 | 5,4 |
| Special order | Light grey | 7004 | 5.000 | 1.370 | 5,4 |
| Special order | Bright white | 9010 | 5.000 | 1.370 | 5,4 |
| Special order | Red | 3003 | 5.000 | 1.370 | 5,4 |
| Special order | Black | 9011 | 5.000 | 1.370 | 5,4 |



CHCOMU

CHFASU

CHFUSQU

CHSPORTU

CHFUSKU

Custom seat colours

To facilitate custom upholstery, for example by a local specialist, many seats within the V-Quipment range can be ordered without upholstery on request. Seat types Commander, Queen, King, Master and Pilot are available without upholstery from stock, see price list.

VETUS can also supply seats in various custom colours, colour combinations and even with your own logo. Please ask for prices and minimum order quantities. In addition, the skai imitation leather used as upholstery on standard seats is available in 5 metre rolls in the colours blue, white or cream, please see above for more information. VETUS can also supply other colours on the roll to special order.

| Type | |
|----------|--|
| CHCOMU | For more information and specifications see page 325 |
| CHFUSQU | For more information and specifications see page 325 |
| CHFUSKU | For more information and specifications see page 325 |
| CHFASU | For more information and specifications see page 326 |
| CHSPORTU | For more information and specifications see page 327 |

You can order S.CHSKAI8 as a sample set.

S.CHSKAI8



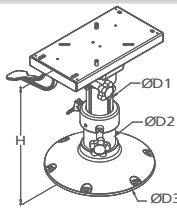
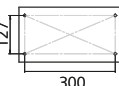

COMFORT

Seat pedestals

All pedestals are made of high grade aluminum and have a 360° rotatable swivel on top. Gas adjustable pedestals are operated with a handle. Manually adjustable pedestals have both a lock-pin with a locking position every 25 mm and a clamping knob for complete security. The sliding mechanism can be moved through 135 mm in total and locked in one of 7 positions.

Note

An explanation of the classification logo which is shown next to each seat mount can be found on page 324 of this catalogue.

| Pedestal dimensions | Hole pattern |
|--|---|
|  | <p>R= 127 (for slides)</p>  |
| | <p>S= 127 (for swivels)</p>  |



PCG3040

PCG3547

PCG4363

Gas adjustable pedestals with slide

For optimum enjoyment of your seat. Gas spring height adjustable aluminum seat pedestal with slide and 360° swivel. Polished base.

| Type | Height (H) | Hole pattern | Pedestal Ø (D1 / D2) | Base Ø (D3) | Weight (kg) |
|---------|------------|--------------|----------------------|-------------|-------------|
| PCG3040 | 300 - 400 | R / S | 73 / 87 | 228 | 6 |
| PCG3547 | 350 - 470 | R / S | 73 / 87 | 305 | 7 |
| PCG4363 | 435 - 605 | R / S | 73 / 87 | 305 | 7,8 |
| PCG5680 | 560 - 800 | R / S | 73 / 87 | 305 | 9 |



PCMS3040

PCMS3547

PCMS4363

Manually adjustable pedestals with slide

Manually height adjustable aluminum seat pedestal with slide and 360° swivel. Polished base.

| Type | Height (H) | Hole pattern | Pedestal Ø (D1 / D2) | Base Ø (D3) | Weight (kg) |
|----------|------------|--------------|----------------------|-------------|-------------|
| PCMS3040 | 300 - 400 | R / S | 73 / 87 | 228 | 6 |
| PCMS3547 | 350 - 470 | R / S | 73 / 87 | 305 | 7 |
| PCMS4363 | 435 - 635 | R / S | 73 / 87 | 305 | 7,8 |



PCM3040

PCM3547

PCM4363

Manually adjustable pedestals without slide

Manually height adjustable aluminum seat pedestal with 360° swivel only. Anodised base.

| Type | Height (H) | Hole pattern | Pedestal Ø (D1 / D2) | Base Ø (D3) | Weight (kg) |
|---------|------------|--------------|----------------------|-------------|-------------|
| PCM3040 | 300 - 400 | S | 60 / 73 | 228 | 4 |
| PCM3547 | 350 - 470 | S | 60 / 73 | 228 | 5 |
| PCM4363 | 435 - 635 | S | 60 / 73 | 228 | 5,8 |

COMFORT

Fixed height pedestals

With 360° swivel, available with or without slide. Anodised base.



PCFS33



PCF33



PCFS45



PCF45

| Type | Slide | Height (H) | Hole pattern | Pedestal Ø (D2) | Base Ø (D3) | Weight (kg) |
|--------|-------|------------|--------------|-----------------|-------------|-------------|
| PCFS33 | ✓ | 330 | R / S | 73 | 228 | 4,2 |
| PCF33 | - | 330 | S | 73 | 228 | |
| PCFS45 | ✓ | 457 | R / S | 73 | 228 | 4,8 |
| PCF45 | - | 457 | S | 73 | 228 | |



RESTU



FTREST

Footrest

Rotatable and foldable aluminium footrest. When ordering the RESTU, please also select the correct adapter to fit your pedestal below:

| Type | Description | For pedestal Ø (D2) | Suits pedestal type | Weight (kg) |
|----------|-------------|---------------------|---------------------|-------------|
| RESTU | Footrest | 80 and 100 | Older VETUS types | 3,5 |
| RESTU73 | Adapter | 73 | PCM, PCF | |
| RESTU87 | for RESTU | 87 | PCMS, PCG | |
| FTREST73 | Footrest | 73 | PCM, PCF | 3,5 |
| FTREST87 | Footrest | 87 | PCMS, PCG | 3,5 |

Does not fit type PCR nor PCQ pedestals.

FTREST..

- Aluminium chequer plate, size 400 x 225
- No adapterset needed



PCBELL

Bell shape pedestal

Seat pedestal with 360° swivel. Manually adjustable. Grey powder coated base.

| Type | Height (H) | Hole pattern | Pedestal Ø (D1) | Base Ø (D3) | Weight (kg) |
|--------|------------|--------------|-----------------|-------------|-------------|
| PCBELL | 330 - 430 | S | 60 | 254 | 2,3 |



PC13

Base with swivel

Low profile anodised base with 360° swivel.

| Type | Height (H) | Hole pattern | Base Ø (D3) | Weight (kg) |
|------|------------|--------------|-------------|-------------|
| PC13 | 134 | S | 228 | 2 |



COMFORT



PCS15

Base with swivel and slide

Low profile anodised base with 360° swivel and slide.

| Type | Height (H) | Hole pattern | Base Ø (D3) | Weight (kg) |
|-------|------------|--------------|-------------|-------------|
| PCS15 | 153 | R / S | 228 | 4 |



PCBS

Swivel with slide

Aluminium 360° swivel with slide with 7 locking positions. For direct mounting.

| Type | Height (H) | Hole pattern | Base Ø (D3) | Weight (kg) |
|-------|------------|--------------|-------------|-------------|
| PCBS | 70 | R / S | S | 2,5 |
| PCBSR | 70 | R / S | S | 2,5 |



PCBSR

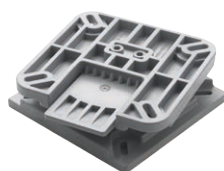


PCBL

Rotatable base with locking position

Aluminium 360° rotatable base with 7 locking positions. For direct mounting.

| Type | Height (H) | Hole pattern | Base | Weight (kg) |
|------|------------|--------------|------|-------------|
| PCBL | 51 | S | S | 2 |

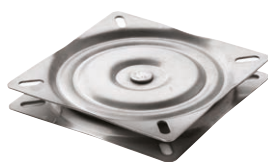


PCB

Removable swivel base

Rotatable and removable plastic 360° swivel base for direct mounting.

| Type | Height (H) | Hole pattern | Base | Weight (kg) |
|------|------------|--------------|------|-------------|
| PCB | 55 | S | S | 0,7 |



PCBR

Rotatable stainless steel base

360° Rotatable base for direct mounting. Made from stainless steel AISI 304.

| Type | Height (H) | Hole pattern | Base | Weight (kg) |
|------|------------|--------------|------|-------------|
| PCBR | 23 | S | S | 1 |



SCU

Slide

Seat slide for direct mounting. The sliding mechanism can be moved through 135 mm in total and locked in one of 7 positions.

| Type | Height (H) | Hole pattern | Base | Weight (kg) |
|------|------------|--------------|------|-------------|
| SCU | 70 | R + S | S | 2 |

COMFORT



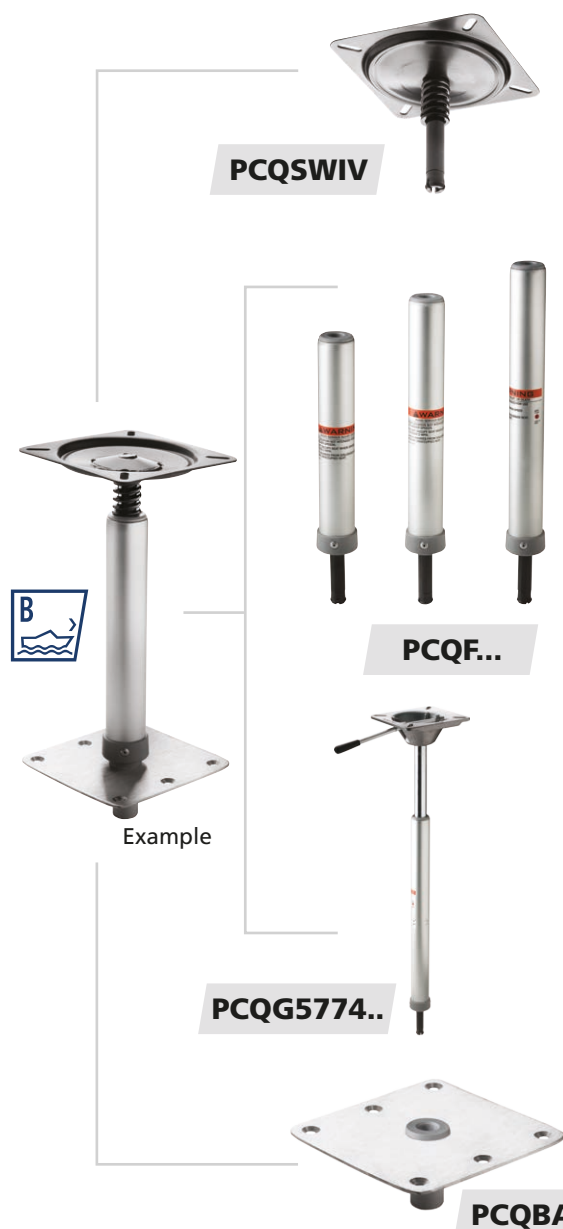
Removable pedestal

With 360° swivel and recessed anodised base. Base and pedestal fit most commonly used similar systems in the market.

| Type | Swivel (hole pattern) | Height (H) | Pedestal Ø (D2) | Base Ø (D3) | Recessed depth | Hole Ø |
|--------|-----------------------|------------|-----------------|-------------|----------------|--------|
| PCR38 | Swivel (S) | 380 | 60 | 228 | 70 | 90 |
| PCRS38 | Slide (R) | 380 | 60 | 228 | 70 | 90 |
| PCRQ33 | Quick position (S) | 330 | 60 | 228 | 70 | 90 |
| PCRQ38 | Quick position (S) | 380 | 60 | 228 | 70 | 90 |

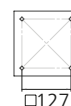
Quick positioning series seat pedestals

Pedestals in the quick positioning series are specially suitable for applications where multiple seating positions are used, such as in fishing boats. There are two positioning systems: a very quick clicking system and a more sturdy threaded system. The components that form a complete pedestal can be ordered separately to offer great flexibility in seating configuration. Please make sure you order a swivel, leg and base to complete the pedestal. The quick release pedestals fit seats with hole pattern type S.



Quick positioning series swivel

Seat mount swivel with spring. Angled 3°. Outside dimension swivel: 168 x 168



| Type | Connection | Hole pattern | Height | Weight (kg) |
|---------|------------|--------------|--------|-------------|
| PCQSWIV | Click | S | 140 | 1 |

Quick positioning series fixed height legs

Available with click or threaded connection. Anodised aluminium.

| Type | Base Connection | Height (H) | Pedestal Ø | Weight (kg) |
|---------|-----------------|------------|------------|-------------|
| PCQF28C | Click | 280 | 45 | 0,6 |
| PCQF28T | Threaded | 280 | 45 | 0,7 |
| PCQF33C | Click | 330 | 45 | 0,65 |
| PCQF33T | Threaded | 330 | 45 | 0,75 |
| PCQF38C | Click | 380 | 45 | 0,8 |
| PCQF38T | Threaded | 380 | 45 | 0,85 |

Quick positioning series gas adjustable legs

Available with click or threaded connection. Angled 3°. 360° swivel included.

| Type | Base Connection | Height (H) | Pedestal Ø | Hole pattern | Weight (kg) |
|-----------|-----------------|------------|------------|--------------|-------------|
| PCQG5774C | Click | 570 - 740 | 45 | S | 2,1 |
| PCQG5774T | Threaded | 570 - 740 | 45 | S | 2,3 |

This adjustable pedestal contains chromed steel parts, we advise against use on salt water.

Quick positioning series baseplates

Stainless steel (AISI 316).

| Type | Connection type | Base dimensions | Recessed depth | Hole Ø | Weight (kg) |
|----------|-----------------|-----------------|----------------|--------|-------------|
| PCQBASEC | Click | 174 x 174 | 60 | 55 | 1 |
| PCQBASET | Threaded | 174 x 174 | 90 | 55 | 1,2 |

Dimensions in (mm)

COMFORT

Tables

All table tops are made from white synthetic material and have four cupholders incorporated. The table pedestals are high grade aluminium and all come with top mount and base. The unique locking systems on the threaded base ensures a sturdy table. Separate base plates make various table positions on your boat possible.



Height adjustable table

Removable from the base. The screwed connection ensures a very sturdy table. Polished pedestal, anodised base.

| Type | Top | Height | Base Ø | Max. load (kg) |
|---------|-----------------|-----------|--------|----------------|
| PTT5070 | Oval, 450 x 760 | 500 - 700 | 178 | 22 |
| TPM5070 | Round, Ø 600 | 500 - 700 | 178 | 22 |



Fixed height table

Removable from the base. The screwed connection ensures a very sturdy table. Anodised aluminium.

| Type | Top | Height | Base Ø | Max. load (kg) |
|--------|-----------------|--------|--------|----------------|
| PTTF68 | Oval, 450 x 760 | 685 | 178 | 22 |
| PTF68 | Round, Ø 600 | 685 | 178 | 22 |

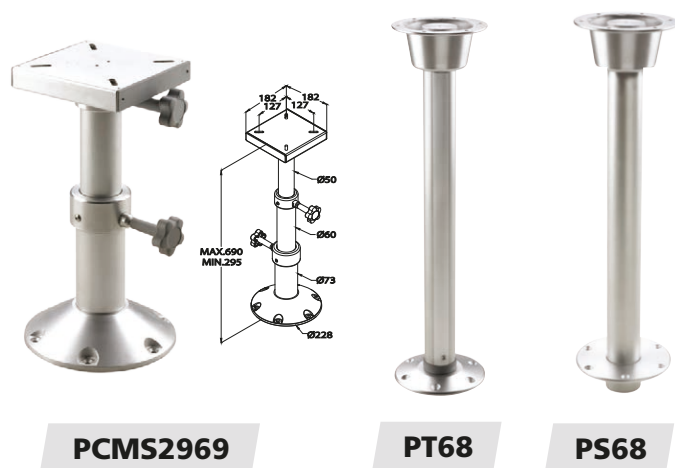


Quick remove table

Fixed height, easy to place and remove due to the countersunk connection to the base. Anodised aluminium.

| Type | Top | Height | Base Ø | Recessed depth | Hole Ø | Max. load (kg) |
|--------|-----------------|--------|--------|----------------|--------|----------------|
| PTTR68 | Oval, 450 x 760 | 685 | 171 | 50 | 70 | 22 |
| PTR68 | Round, Ø 600 | 685 | 171 | 50 | 70 | 22 |

Table pedestals



Telescopic pedestal

Two stage, height adjustable table pedestal. Anodised aluminium.

| Type | Height | Base Ø |
|----------|-----------|--------|
| PCMS2969 | 295 - 690 | 228 |

Removable pedestal

Fixed height, with screwed connection plate. Anodised base.

| Type | Height | Base Ø |
|------|--------|--------|
| PT68 | 685 | 178 |

Quick remove pedestal

Fixed height, with quick remove countersunk connection. Anodised aluminium.

| Type | Height | Base Ø | Recessed depth | Hole Ø |
|------|--------|--------|----------------|--------|
| PS68 | 685 | 171 | 50 | 70 |

COMFORT

Tables

These top quality parts and products in the VETUS table line are now available for a "mix and match to suit your needs". By having the choice to combine shape, size, options and finish we hope to cater to your needs in every possible situation. We guarantee that all choices are fit for combination and that the result will always be a sturdy, high quality product which is easy to install. The use of corrosion resistant materials will make sure that the combination of your choice will stand the test of time.



TTR

TTO



TB..

Table top

Made from white synthetic material.
With four cupholders incorporated.

| Type | Top |
|------|-----------------|
| TTR | Round, Ø 600 |
| TTO | Oval, 450 x 760 |

Swivel for table top

| Type | Description |
|-------|--|
| TBT | Table swivel anodised aluminium |
| TBTBA | Table swivel bright anodised aluminium |

Table column

The table columns are made of high grade aluminium.
Available in fixed- or adjustable heights.

| Type | Description | Height |
|-------|--|-----------|
| TCCA | Table column countersunk, anodised | 685 |
| TCCP | Table column countersunk, polished | 685 |
| TCSA | Table column screw connection, anodised | 685 |
| TCSP | Table column screw connection, polished and bright anodised | 685 |
| TCSPM | Table column screw connection, polished and bright anodised, manually adjustable | 500 - 700 |
| TCSPG | Table column screw connection, polished and bright anodised, gas adjustable | 500 - 700 |



TCCA

TCSA

TCSP

TCSPM

TCSPG

TCCP



TBF

TBFBA



TBR

TBRBA

Base

Both bases are made of anodised aluminium. The screw down base (TBR/TBRBA) has a unique locking system to ensure a sturdy table system.

| Type | Description | Connection | Base Ø | Recessed depth | Hole Ø | Weight (kg) |
|-------|-----------------|-------------|--------|----------------|--------|-------------|
| TBF | Anodised | Countersunk | 171 | 50 | 70 | 0,5 |
| TBFBA | Bright anodised | Countersunk | 171 | 50 | 70 | 0,5 |
| TBR | Anodised | Screw down | 178 | - | - | 0,4 |
| TBRBA | Bright anodised | Screw down | 178 | - | - | 0,4 |

DECK EQUIPMENT


M12
M24

Deluxe electric horns

Deluxe electric horns with an elegant shape. Horn made of chromed plastic, housing made of chromium plated brass, mounting brackets of stainless steel (AISI 316). Available in 12 or 24 Volt and with high and/or low pitch sound. Supplied with relay.

| Type | Horns | Pitch | Freq. | Vol. | Length | Height | Width |
|------|-------|------------|--------|--------|--------|--------|-------|
| M12D | 2 | High + Low | Both | 114 dB | 470 | 115 | 195 |
| M24D | 2 | High + Low | Both | 114 dB | 470 | 115 | 95 |
| M12L | 1 | Low | 320 Hz | 112 dB | 470 | 115 | 95 |
| M24L | 1 | Low | 320 Hz | 112 dB | 470 | 115 | 95 |
| M12H | 1 | High | 370 Hz | 112 dB | 400 | 115 | 95 |
| M24H | 1 | High | 370 Hz | 112 dB | 400 | 115 | 95 |


H12
H24

Electric marine horns

Electric marine horns made of stainless steel (AISI 316). Available in 12 or 24 Volt and with high and/or low pitch sound.

| Type | Horns | Pitch | Vol. | Length | Height | Width |
|------|-------|------------|--------|--------|--------|-------|
| H12L | 1 | Low | 115 dB | 465 | 125 | 100 |
| H12H | 1 | High | 115 dB | 410 | 125 | 100 |
| H24L | 1 | Low | 115 dB | 465 | 125 | 100 |
| H24H | 1 | High | 115 dB | 410 | 125 | 100 |
| H12D | 2 | High + Low | 115 dB | 465 | 125 | 200 |
| H24D | 2 | High + Low | 115 dB | 465 | 125 | 200 |


T12

Flush mount electric horns

Flush mounted electric horns. Plastic housing, stainless steel (AISI 316) diaphragm. Available in 12 Volt. Includes white, black and chrome plated ABS cover.

| Type | Vol. | Cover Length | Cover Height | Build in depth |
|------|--------|--------------|--------------|----------------|
| T12 | 110 dB | 128 | 62 | 95 |

DECK EQUIPMENT



TNA12 **TNA24**

Compact electric horns

Deluxe compact electric horns. Horn made of chromium plated ABS and stainless steel (AISI 316). Available in 12 or 24 Volt and with high pitch and/or low pitch sound. Supplied with relay.

| Type | Horns | Pitch | Freq. (Hz) | Vol. | Length | Height | Width |
|--------|-------|------------|------------|--------|--------|--------|-------|
| TNA12L | 1 | Low | 420 | 115 dB | 97 | 114 | 95 |
| TNA12H | 1 | High | 480 | 115 dB | 97 | 114 | 95 |
| TNA24L | 1 | Low | 420 | 115 dB | 97 | 114 | 95 |
| TNA24H | 1 | High | 480 | 115 dB | 97 | 114 | 95 |
| TNA12D | 2 | High + Low | Both | 115 dB | 195 | 114 | 95 |
| TNA24D | 2 | High + Low | Both | 115 dB | 195 | 114 | 95 |



C12D **C12L**

Compact shell horns

Electric horns. Stainless steel (AISI 316). Available in 12 Volt.

| Type | Horns | Pitch | Vol. | Length | Height | Width |
|------|-------|------------|--------|--------|--------|-------|
| C12D | 2 | High + low | 110 dB | 205 | 56 | 85 |
| C12L | 1 | Low | 110 dB | 83 | 56 | 104 |



HORNPB

Push-button for marine horn

This push button may operate marine horns, with a current consumption of 15 A maximum. Suitable for 12 and 24 Volt D.C. electrical installations.

Specifications

- Cut-out diameter: Ø 31 mm
- Outside dimensions: Ø 38 mm
- Watertight to IP67

| Type | Description |
|--------|---------------------------------------|
| HORNPB | Horn push button, max 15A, 12/24 Volt |



DECK EQUIPMENT

Boarding ladders (AISI 316)

All ladders are made of high-gloss polished stainless steel (AISI 316).



SLT3



SLT4

Telescopic ladder

Stainless steel (AISI 316). Available with 3 or 4 steps.
With synthetic black grips.

| Type | Steps | L (extended) | L (retracted) | Width (c to c) | Tube Ø | Weight (kg) |
|------|-------|-----------------|------------------|-------------------|-------------------|----------------|
| SLT3 | 3 | 875 | 385 | 254 | 19 / 25 / 32 | 2,4 |
| SLT4 | 4 | 1135 | 400 | 254 | 19 / 25 / 32 / 38 | 3,6 |



SLT3P



SLT4P

Telescopic platform cassette ladder

Stainless steel (AISI 316). Available with 3 or 4 steps.
With synthetic black grips.

| Type | Steps | L (extended) | L (retracted) | Width (c to c) | Tube Ø | Weight (kg) |
|-------|-------|-----------------|------------------|-------------------|-------------------|----------------|
| SLT3P | 3 | 1070 | 380 | 254 | 19 / 25 / 32 | 3,1 |
| SLT4P | 4 | 1410 | 405 | 254 | 19 / 25 / 32 / 38 | 4,4 |



SLT4C



Telescopic cassette ladder

High gloss polished stainless steel (AISI 316). Available with 4 steps.
With black synthetic grips.

| Type | Steps | L (extended) | L (retracted) | Width (c to c) | Tube Ø | Weight (kg) |
|-------|-------|-----------------|------------------|-------------------|-------------------|----------------|
| SLT4C | 4 | 1150 | 0 | 254 | 19 / 25 / 32 / 38 | 8,1 |

Folding ladder, deck mounted

Stainless steel (AISI 316). Available with 3 or 4 steps with synthetic black grips.

| Type | Steps | L (extended) | L (retracted) | Width (c to c) | Tube Ø | Weight (kg) |
|-------|-------|-----------------|------------------|-------------------|-----------|----------------|
| SLFB3 | 3 | 665 | 375 | 228 | 22 | 2,4 |
| SLFB4 | 4 | 940 | 560 | 228 | 22 | 3,6 |



SLFB3



SLFB4



DECK EQUIPMENT



SLT4D

Luxury swim ladder

Telescopic swim ladder with 4 steps. Stainless steel (AISI 316). With black synthetic grips.

Heavy duty stainless steel construction with a L-angle bracket for extra support that goes across the edge of a deck. This luxury ladder extends 1140 mm below the deck when it is unfolded.

- The handrails help you to climb on board easily
- The steps are covered with black synthetic grips to give extra safety with bare feet

| Type | Steps | L (extended) | L (retracted) | Width (c to c) | Tube Ø | Weight (kg) |
|-------|-------|-----------------|------------------|-------------------|-------------------|----------------|
| SLT4D | 4 | 1600 | 540 | 380 | 19 / 25 / 32 / 38 | 8,2 |



SLF3

SLF4

Folding ladder, transom mounted

Stainless steel (AISI 316). Available with 3 or 4 steps. With synthetic black grips.

| Type | Steps | L (extended) | L (retracted) | Width (c to c) | Tube Ø | Weight (kg) |
|------|-------|-----------------|------------------|-------------------|-----------|----------------|
| SLF3 | 3 | 600 | 315 | 228 | 22 | 1,7 |
| SLF4 | 4 | 875 | 450 | 228 | 22 | 2 |



SLFM3

SLFM4

Folding ladder with teak steps

Stainless steel (AISI 316). Available with 3 or 4 steps.

| Type | Steps | L (extended) | L (retracted) | Width (c to c) | Tube Ø | Weight (kg) |
|-------|-------|-----------------|------------------|-------------------|-----------|----------------|
| SLFM3 | 3 | 560 | 285 | 165 | 25 | 1,8 |
| SLFM4 | 4 | 755 | 480 | 165 | 25 | 2,1 |



DECK EQUIPMENT

Handrail (AISI 316)



PIJP



STEUN..

Stainless steel (AISI 316) handrail

Rail pipe and rail fittings available in Ø 20 mm and 25 mm. Pipe is available per metre. Fittings must be ordered separately, please see price list.

| Type | Tube Ø | Wall thickness | Max. pipe length |
|--------|--------|----------------|------------------|
| PIJP | 20 | 1,5 | 6000 |
| PIJP25 | 25 | 1,5 | 6000 |

| Type | Tube Ø | Support |
|----------|--------|---------|
| STEUN20V | 20 | Front |
| STEUN20A | 20 | Rear |
| STEUN20M | 20 | Middle |
| STEUN25V | 25 | Front |
| STEUN25A | 25 | Rear |
| STEUN25M | 25 | Middle |

Stainless steel (AISI 316) stanchions

Tapered with 2 wire holes.

Specifications

- Diameter: 25 mm
- Length: 610 and 750 mm



STANCH..

| Type | Length | Ø | Hole spacing |
|----------|--------|----|---------------------------|
| STANCH61 | 610 | 25 | 2 wire holes at 305 / 600 |
| STANCH75 | 750 | 25 | 2 wire holes at 375 / 740 |

Stainless steel (AISI 316) stanchion sockets

Specifications

- Diameter: 25 mm
- 90° straight or with 6° angle
- Dimensions (lxwxh): 90 x 67 x 60 mm



STANCHPR



STANCHPS

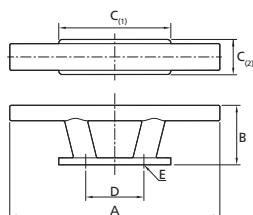
| Type | Description |
|----------|-------------|
| STANCHPR | Straight |
| STANCHPS | Angled 6° |

DECK EQUIPMENT

Cleats and bollards



TAURUS



Cleats type TAURUS

All models (except TAURUS06 and 07) are tapped on the underside so that no fastenings are visible. Made of high-gloss polished stainless steel (AISI 316).

| Type | SWL* | A | B | C | D | E |
|-------------|----------|-----|----|------------|----------|-----------|
| TAURUS01 | 575 kgf | 140 | 50 | 89,5 x 30 | 47 | 2 x M8 |
| TAURUS02 | 900 kgf | 195 | 60 | 120,5 x 35 | 69 | 2 x M10 |
| TAURUS03 | 1310 kgf | 255 | 75 | 150 x 40 | 83 | 2 x M12 |
| TAURUS04 | 2470 kgf | 300 | 85 | 160 x 50 | 83 | 2 x M16 |
| TAURUS05 | 2470 kgf | 300 | 85 | 200 x 85 | 83 | 2 x M16 |
| TAURUS06** | 2620 kgf | 300 | 85 | 200 x 85 | 130 x 55 | 4 x Ø12,5 |
| TAURUS07*** | 3600 kgf | 250 | 70 | 250 x 40 | 105 | 3 x Ø12,5 |

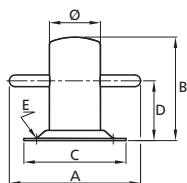
* SWL = Safe working load

** 4 holes in a rectangle as dimensioned by D. Holes are 90° countersunk.

*** 3 holes in line with 105 mm in between. Holes are 90° countersunk.



ACHIL



ACHILZ

ACHIL090B

Bollards type ACHIL

Made of high-gloss polished stainless steel (AISI 316).

Bollards type ACHILZ are for direct welding to the deck. Dimensions are similar to ACHIL.

| Type | SWL* | A | B | Ø | C** | D | E |
|-----------|----------|-----|-----|----|-----------|-----|-----------|
| ACHIL080 | 620 kgf | 120 | 90 | 40 | 80 x 65 | 52 | 4 x Ø6,5 |
| ACHIL090 | 620 kgf | 130 | 95 | 50 | 92 x 92 | 52 | 4 x Ø6,5 |
| ACHIL110 | 1150 kgf | 160 | 120 | 60 | 122 x 97 | 70 | 4 x Ø8,5 |
| ACHIL130 | 1150 kgf | 180 | 142 | 70 | 140 x 118 | 82 | 4 x Ø8,5 |
| ACHIL150 | 1800 kgf | 200 | 172 | 80 | 153 x 122 | 100 | 4 x Ø10,5 |
| ACHIL160 | 2620 kgf | 255 | 195 | 90 | 165 x 135 | 120 | 4 x Ø10,5 |
| ACHIL080Z | 620 kgf | 120 | 90 | 40 | - | 52 | - |
| ACHIL090Z | 620 kgf | 130 | 95 | 50 | - | 52 | - |
| ACHIL110Z | 1150 kgf | 160 | 120 | 60 | - | 70 | - |
| ACHIL130Z | 1150 kgf | 180 | 142 | 70 | - | 82 | - |
| ACHIL150Z | 1800 kgf | 200 | 172 | 80 | - | 100 | - |
| ACHIL160Z | 2620 kgf | 255 | 195 | 90 | - | 120 | - |

Type Description

ACHIL090B Bollard type Achilles 90, with bolt mounting

Bollard type ACHIL090B for small craft is fastened by means of two M8 bolts. Dimensions are similar to ACHIL090.

* SWL = Safe working load

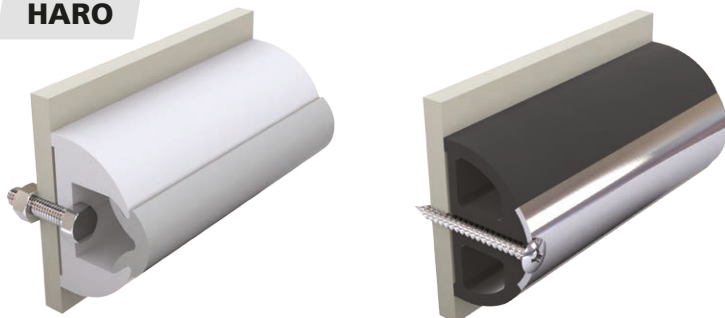


DECK EQUIPMENT

Base profiles for rubbing strakes

All VETUS rubbing strakes, have a dark grey or white base profile, for fastening to the boat by means of bolts or screws. All VETUS base profiles are only available in lengths of 20 or 30 metres.

HARO

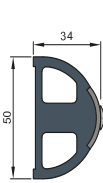
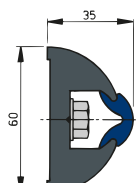
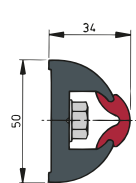


| Type | Colour | Dimension | Length (metres) |
|-----------|-----------|-----------|-----------------|
| HARO5034 | Dark grey | 50 x 34 | 20 |
| HARO5034L | Dark grey | 50 x 34 | 30 |
| HARO50W | White | 50 x 34 | 20 |
| HARO50WL | White | 50 x 34 | 30 |
| HARO6035 | Dark grey | 60 x 35 | 20 |
| HARO6035L | Dark grey | 60 x 35 | 30 |
| HARO60W | White | 60 x 35 | 20 |
| HARO60WL | White | 60 x 35 | 30 |

HARO5034

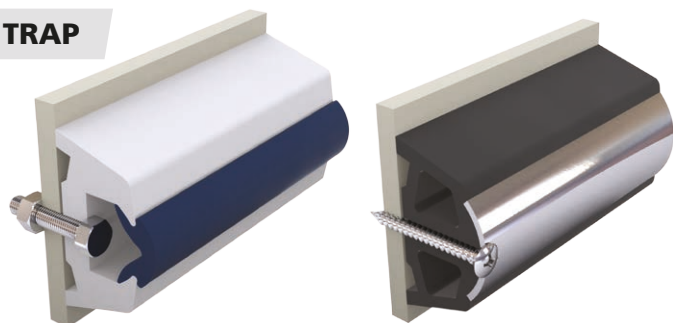
HARO6035

HARO5S



| Type | Colour | Dimension | Length (metres) |
|----------|--|-----------|-----------------|
| HARO5S | Dark grey | 50 x 34 | 20 |
| HARO5SL | Dark grey | 50 x 34 | 30 |
| HARO5SW | White | 50 x 34 | 20 |
| HARO5SWL | White | 50 x 34 | 30 |
| HARO20S | Stainless steel inlay, 10 x 2 mtr. lengths | | |
| HARO30S | Stainless steel inlay, 15 x 2 mtr. lengths | | |
| HAROSE | Set of 2 stainless steel end pieces for rubbing strake type HARO5S | | |

TRAP



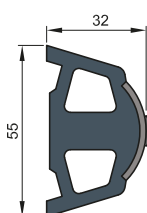
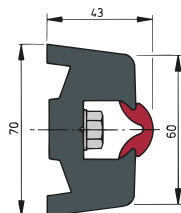
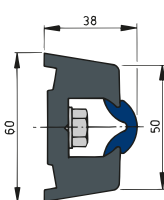
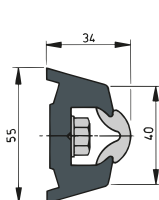
| Type | Colour | Dimension | Length (metres) |
|-----------|-----------|-----------|-----------------|
| TRAP5534 | Dark grey | 55 x 34 | 20 |
| TRAP5534L | Dark grey | 55 x 34 | 30 |
| TRAP55W | White | 55 x 34 | 20 |
| TRAP55WL | White | 55 x 34 | 30 |
| TRAP6038 | Dark grey | 60 x 38 | 20 |
| TRAP6038L | Dark grey | 60 x 38 | 30 |
| TRAP60W | White | 60 x 38 | 20 |
| TRAP60WL | White | 60 x 38 | 30 |
| TRAP7043 | Dark grey | 70 x 43 | 20 |
| TRAP7043L | Dark grey | 70 x 43 | 30 |
| TRAP70W | White | 70 x 43 | 20 |
| TRAP70WL | White | 70 x 43 | 30 |

TRAP5534

TRAP6038

TRAP7043

TRAP5S

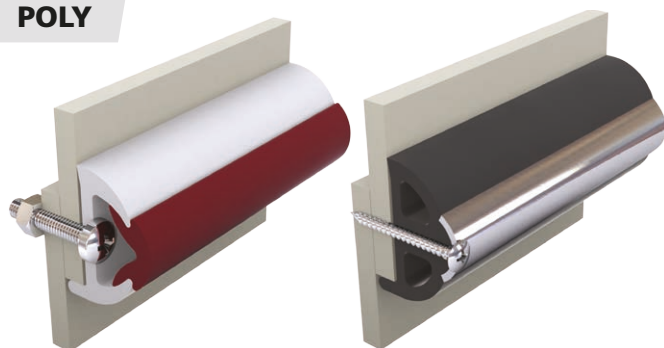


| Type | Colour | Dimension | Length (metres) |
|----------|--|-----------|-----------------|
| TRAP5S | Dark grey | 55 x 34 | 20 |
| TRAP5SL | Dark grey | 55 x 34 | 30 |
| TRAP5SW | White | 55 x 34 | 20 |
| TRAP5SWL | White | 55 x 34 | 30 |
| TRAP20S | Stainless steel inlay, 10 x 2 mtr. lengths | | |
| TRAP30S | Stainless steel inlay, 15 x 2 mtr. lengths | | |
| TRAPSE | Set of 2 stainless steel end pieces for rubbing strake type TRAP5S | | |

DECK EQUIPMENT

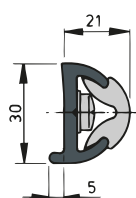
Rubbing strake, ideal for GRP boats

POLY

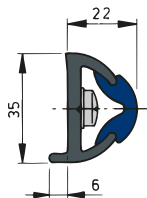


| Type | Colour | Dimension | Length (metres) |
|-----------|-----------|-----------|-----------------|
| POLY3026 | Dark grey | 30 x 26 | 20 |
| POLY3026L | Dark grey | 30 x 26 | 30 |
| POLY30W | White | 30 x 26 | 20 |
| POLY30WL | White | 30 x 26 | 30 |
| POLY3528 | Dark grey | 35 x 28 | 20 |
| POLY3528L | Dark grey | 35 x 28 | 30 |
| POLY35W | White | 35 x 28 | 20 |
| POLY35WL | White | 35 x 28 | 30 |
| POLY4031 | Dark grey | 40 x 31 | 20 |
| POLY4031L | Dark grey | 40 x 31 | 30 |
| POLY40W | White | 40 x 31 | 20 |
| POLY40WL | White | 40 x 31 | 30 |

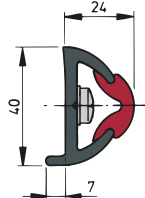
POLY3026



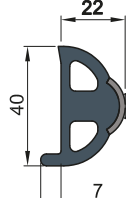
POLY3528



POLY4031

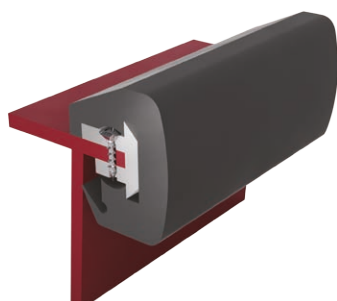


POLY4S

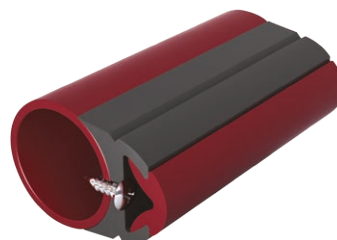
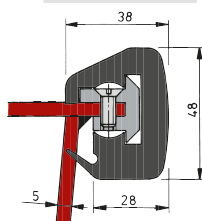


| Type | Colour | Dimension | Length (metres) |
|----------|--|-----------|-----------------|
| POLY4S | Dark grey | 40 x 31 | 20 |
| POLY4SL | Dark grey | 40 x 31 | 30 |
| POLY4SW | White | 40 x 31 | 20 |
| POLY4SWL | White | 40 x 31 | 30 |
| POLY20S | Stainless steel inlay, 10 x 2 mtr. lengths | | |
| POLY30S | Stainless steel inlay, 15 x 2 mtr. lengths | | |
| POLYSE | Set of 2 stainless steel end pieces for rubbing strake type POLY4S | | |

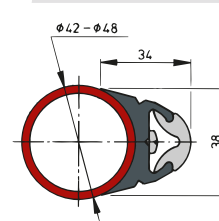
Rubbing strake for steel boats



STE4838



ROND4248



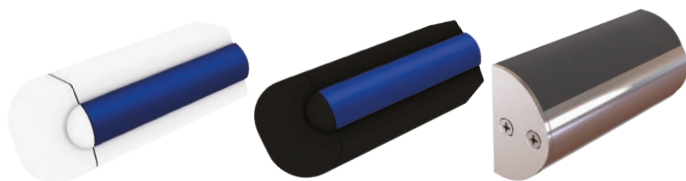
| Type | Colour | Dimension | Length (metres) |
|----------|-----------|-----------|-----------------|
| STE4838 | Dark grey | 48 x 38 | 20 |
| STE4838L | Dark grey | 48 x 38 | 30 |

| Type | Colour | Dimension | Length (metres) |
|-----------|-----------|------------|-----------------|
| ROND4248 | Dark grey | Round 4248 | 20 |
| ROND4248L | Dark grey | Round 4248 | 30 |

DECK EQUIPMENT

End covers for rubbing strakes

End covers must be ordered separately and are available in white, black or stainless steel (AISI 316).



| Type | Description |
|----------|---|
| EPOLY40B | Set end pieces black for rubbing strake type POLY40 |
| EPOLY40W | Set end pieces white for rubbing strake type POLY40 |
| EPOLY30B | Set end pieces black for rubbing strake type POLY30 |
| EPOLY30W | Set end pieces white for rubbing strake type POLY30 |
| EPOLY35B | Set end pieces black for rubbing strake type POLY35 |
| EPOLY35W | Set end pieces white for rubbing strake type POLY35 |

| Type | Description |
|----------|---|
| EHARO50B | Set end pieces black for rubbing strake type HARO50 |
| EHARO50W | Set end pieces white for rubbing strake type HARO50 |
| EHARO60B | Set end pieces black for rubbing strake type HARO60 |
| EHARO60W | Set end pieces white for rubbing strake type HARO60 |

| Type | Description |
|----------|---|
| ETRAP55B | Set end pieces black for rubbing strake type TRAP55 |
| ETRAP55W | Set end pieces white for rubbing strake type TRAP55 |
| ETRAP60B | Set end pieces black for rubbing strake type TRAP60 |
| ETRAP60W | Set end pieces white for rubbing strake type TRAP60 |
| ETRAP70B | Set end pieces black for rubbing strake type TRAP70 |
| ETRAP70W | Set end pieces white for rubbing strake type TRAP70 |

Inlay strips for Rubbing strakes

The inlay strips must be ordered separately and can be replaced easily. All inlay strips are only available in length of 20 or 30 metres.

| Type | Colour | Length (metres) | Type | Colour | Length (metres) |
|---------|-------------|-----------------|---------|------------|-----------------|
| STRIPB | Cobalt blue | 20 | STRIPG | Light grey | 20 |
| STRIPBL | Cobalt blue | 30 | STRIPGL | Light grey | 30 |
| STRIPD | Dark grey | 20 | STRIPR | Wine red | 20 |
| STRIPDL | Dark grey | 30 | STRIPRL | Wine red | 30 |

Available colours

STRIPR: wine red RAL3004

STRIPB: cobalt blue RAL5013

STRIPG: light grey RAL7035

STRIPD: dark grey RAL 9004

TRAP.S: stainless steel (AISI 316)

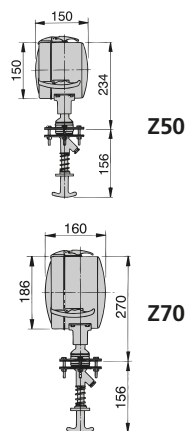
Searchlights



Z50



Z70



Stainless steel (AISI 316) searchlights type Z

Stainless steel AISI 316. Including sealed beam.

| Type | Ø | Voltage | Watts | Range |
|-------|-----|---------|-------|-------|
| Z5012 | 150 | 12 V | 100 W | 450 m |
| Z5024 | 150 | 24 V | 250 W | 550 m |
| Z7012 | 180 | 12 V | 100 W | 475 m |
| Z7024 | 180 | 24 V | 170 W | 480 m |

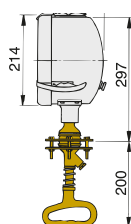
Powder coated search light type ZN

Bulbs should be ordered separately.

| Type | Ø | Bulb | Voltage | Watts | Range |
|-------|-----|-----------|----------|-------|-------|
| ZN215 | 214 | HAL21512 | 12 V | 100 W | 362 m |
| ZN215 | 214 | HAL21524 | 24 V | 250 W | 664 m |
| ZN215 | 214 | HAL215220 | 230 V AC | 300 W | 345 m |



ZN215



DECK EQUIPMENT

Navigation lights



In order to comply with the I.M.O. regulations, each navigation light (type 35 or type 55N) requires a special focussed 25 W bulb, type LAMP1225 (12 V) or LAMP2425 (24V). These bulbs must be ordered separately.

| Type | Description |
|----------|---|
| LAMP1225 | Bulb for navigation lights 12 Volt/25 Watt (approved) |
| LAMP2425 | Bulb for navigation lights 24 Volt/25 Watt (approved) |

Navigation lights type 35

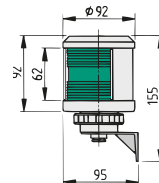
Black or white housing. Meets I.M.O. Specifications (international regulations for prevention of collisions at sea, colreg '72). For boats of less than 20 metres in length.

Available in this range:

Side mounting, base mounting or hoistable. Light images as shown on the right.

| Type | Description |
|-----------|--|
| SB35ZWIT | Starboard light (side mounting), with white coloured housing (excl. bulb) |
| BB35ZWIT | Portside light (side mounting), with white coloured housing (excl. bulb) |
| TW35ZWIT | Steaming light (side mounting), with white coloured housing (excl. bulb) |
| HW35ZWIT | Stern light (side mounting), with white coloured housing (excl. bulb) |
| TKL35VWIT | Bicolour light (base mounting), with white coloured housing (excl. bulb) |
| DKL35VWIT | Tricolour light (base mounting), with white coloured housing (excl. bulb) |
| RW35VWIT | All round, white (base mounting), with white coloured housing (excl. bulb) |
| RR35VWIT | All round, red (base mounting), with white coloured housing (excl. bulb) |
| RG35VWIT | All round, green (base mounting), with white coloured housing (excl. bulb) |
| RW35HWIT | All round, white (hoistable), with white coloured housing (excl. bulb) |
| RR35HWIT | All round, red (hoistable), with white coloured housing (excl. bulb) |
| RGR35HWIT | All round, green (hoistable), with white coloured housing (excl. bulb) |

| Type | Description |
|--------|--|
| SB35Z | Starboard light (side mounting), with black coloured housing (excl. bulb) |
| BB35Z | Portside light (side mounting), with black coloured housing (excl. bulb) |
| TW35Z | Steaming light (side mounting), with black coloured housing (excl. bulb) |
| HW35Z | Stern light (side mounting), with black coloured housing (excl. bulb) |
| TKL35V | Bicolour light (base mounting), with black coloured housing (excl. bulb) |
| DKL35V | Tricolour light (base mounting), with black coloured housing (excl. bulb) |
| RW35V | All round, white (base mounting), with black coloured housing (excl. bulb) |
| RR35V | All round, red (base mounting), with black coloured housing (excl. bulb) |
| RG35V | All round, green (base mounting), with black coloured housing (excl. bulb) |
| RW35H | All round, white (hoistable), with black coloured housing (excl. bulb) |
| RR35H | All round, red (hoistable), with black coloured housing (excl. bulb) |
| RGR35H | All round, green (hoistable), with black coloured housing (excl. bulb) |



Starboard



Portside



Stern



Steaming



All-round



Bi-colour light



Tri-colour light

Navigation lights type 55N

Black housing. Model 55N not only meets the above mentioned I.M.O. specifications, but also those of the European standard EN 14744, which will become applicable in future. For the all round lights, a set is available that allows them to be hoisted as well. For boats of less than 50 metres in length.

Available in this range:

Base mounting or hoistable. Light images as shown on the right.

| Type | Description |
|---------|--|
| SB55VN | Starboard light (base mounting), with black coloured housing (excl. bulb) |
| BB55VN | Portside light (base mounting), with black coloured housing (excl. bulb) |
| TW55VN | Steaming light (base mounting), with black coloured housing (excl. bulb) |
| HW55VN | Stern light (base mounting), with black coloured housing (excl. bulb) |
| HGL55VN | Towing light, yellow (base mounting), with black coloured housing (excl. bulb) |
| RW55VN | All round, white (base mounting), with black coloured housing (excl. bulb) |
| RR55VN | All round, red (base mounting), with black coloured housing (excl. bulb) |
| RGL55VN | All round, yellow (base mounting), with black coloured housing (excl. bulb) |
| RGR55VN | All round, green (base mounting), with black coloured housing (excl. bulb) |
| SETH55 | Set to make navigation lights type 55 hoistable |



Starboard



Portside



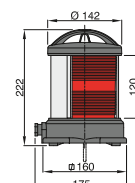
Stern and tow



Steaming



All-round



FITTINGS



Stainless steel (AISI 316) breather nipples

The breathing capacity fulfils the CE requirements. Provided with an easily cleaned stainless steel (AISI 316) gauze, which functions as a flame arrester.

| Type | Shape | Hose Ø | Cut-out Ø | Max. wall thickness |
|--------|----------|--------|-----------|---------------------|
| AB16S | Straight | 16 | 39,5 | N/A |
| AB16B | Angled | 16 | 39,5 | 30 |
| AB19S | Straight | 19 | 54 | N/A |
| AB19SL | Straight | 19 | 54 | N/A |
| AB19B | Angled | 19 | 54 | 31 |
| AB25B | Angled | 25 | 54 | 31 |
| AB38B | Angled | 38 | 76 | 42 |



Air vent nipples for tanks

Suitable for Ø 16 mm internal diameter hose. In stainless steel (AISI 316). Straight or 90° angled.

| Type | Shape | Material | Hose Ø | Cut-out Ø | Wall thickness |
|--------|----------|----------|--------|-----------|----------------|
| ST04HS | Angled | AISI 316 | 16 | 20 | 0 - 10 |
| ST04S | Straight | AISI 316 | 16 | 20 | 0 - 10 |
| ST05HS | Angled | AISI 316 | 16 | 40 | 10 - 30 |
| ST05S | Straight | AISI 316 | 16 | 40 | 10 - 30 |



Stainless steel (AISI 316) deck entries

Stainless steel (AISI 316). With high-gloss polished watertight cover.

Cover inscriptions:

- Water
- Unleaded gasoline
- Diesel fuel
- 'Pump-out' icon (WC)

These stainless steel (AISI 316) deck entries are also available with a winch handle socket (item codes ending with a 'W').

| Type | Cap Ø | Hose Ø | Cut-out Ø | Length |
|---------|-------|--------|-----------|--------|
| CAP..38 | 87 | 38 | 51 | 75 |
| CAPWC38 | 87 | 38 | 51 | 120 |
| CAP..51 | 93 | 51 | 57 | 75 |

Deck entry key

Key for slotted deck entries. Also suitable for deck entries with an octagonal recess.



Chromium plated brass deck entries

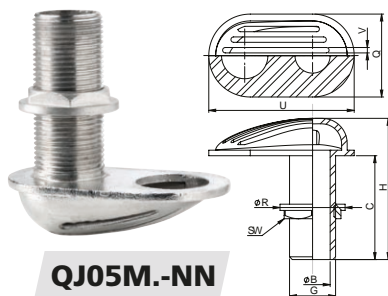
| Type | Cap Ø | Hose Ø | Cut-out Ø | Length |
|----------|-------|--------|-----------|--------|
| FCAPDF38 | 85 | 38 | 57 | 75 |
| FCAPDF50 | 85 | 50 | 57 | 75 |
| FCAPWC38 | 90 | 38 | 57 | 120 |

MARINE FITTINGS

V-Equipment marine fittings are designed for reliability and made of high grade materials. Failure of submerged fittings can cause major problems, therefore we advise the use of stainless steel (AISI 316) or bronze fittings for applications in which the fittings are in continuous contact with salt water.

Stainless steel (AISI 316) Marine fittings

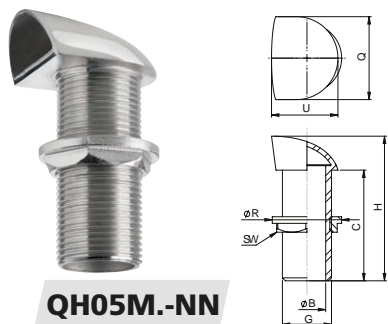
Water scoop



| Type | Thread (G)* | ØB | H | C | Q | ØR | SW | U | V | Weight (kg) |
|-----------|-------------|----|-----|----|----|----|----|-----|-----|-------------|
| QJ05MC-NN | 3/8" | 11 | 90 | 66 | 44 | 26 | 22 | 81 | 2 | 0,2 |
| QJ05MD-NN | 1/2" | 12 | 88 | 65 | 44 | 32 | 25 | 81 | 2 | 0,3 |
| QJ05ME-NN | 3/4" | 19 | 107 | 82 | 56 | 41 | 32 | 104 | 3 | 0,4 |
| QJ05MF-NN | 1" | 26 | 105 | 76 | 60 | 47 | 38 | 106 | 3,2 | 0,5 |
| QJ05MG-NN | 1 1/4" | 33 | 103 | 78 | 64 | 57 | 49 | 116 | 3,5 | 0,6 |
| QJ05MH-NN | 1 1/2" | 39 | 108 | 82 | 70 | 72 | 53 | 133 | 3,5 | 0,7 |
| QJ05MI-NN | 2" | 51 | 122 | 91 | 86 | 83 | 68 | 152 | 3,6 | 1 |

*According to ISO 228/1-G..B

Air vent

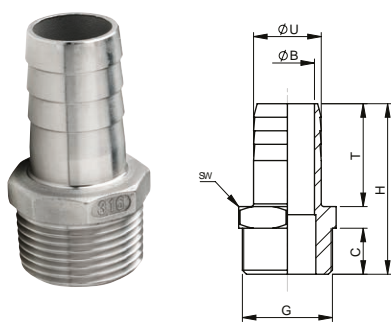


Polished surface, without flame arester gauze.

| Type | Thread (G)* | ØB | H | C | Q | ØR | SW | U | Weight (kg) |
|-----------|-------------|----|-----|----|----|----|----|----|-------------|
| QH05MD-NN | 1/2" | 16 | 83 | 65 | 38 | 32 | 25 | 38 | 0,1 |
| QH05ME-NN | 3/4" | 21 | 86 | 65 | 43 | 41 | 32 | 41 | 0,2 |
| QH05MF-NN | 1" | 27 | 98 | 75 | 50 | 47 | 38 | 58 | 0,3 |
| QH05MG-NN | 1 1/4" | 36 | 108 | 79 | 57 | 57 | 49 | 65 | 0,4 |
| QH05MH-NN | 1 1/2" | 42 | 114 | 82 | 64 | 72 | 53 | 75 | 0,5 |
| QH05MI-NN | 2" | 53 | 134 | 89 | 81 | 83 | 68 | 97 | 1 |

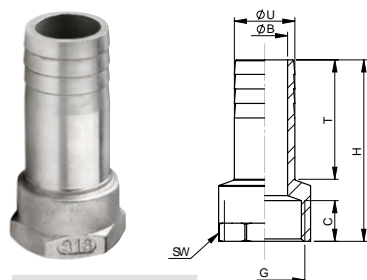
*According to ISO 228/1-G..B

Hose connector with male thread



| Type | Thread (G) | ØU | ØB | H | C | T | Weight (kg) |
|-----------|------------|----|------|------|------|------|-------------|
| QA05MC-15 | 3/8" | 15 | 11 | 50,2 | 14,5 | 28 | 0,03 |
| QA05MD-12 | 1/2" | 12 | 7 | 64 | 19 | 36 | 0,09 |
| QA05MD-15 | 1/2" | 15 | 11 | 54 | 14,5 | 31 | 0,04 |
| QA05MD-20 | 1/2" | 20 | 14 | 58 | 15 | 32 | 0,06 |
| QA05ME-20 | 3/4" | 20 | 15,5 | 60 | 17 | 35,5 | 0,07 |
| QA05ME-25 | 3/4" | 25 | 20 | 63 | 17 | 37 | 0,09 |
| QA05MF-25 | 1" | 25 | 20,5 | 67 | 19 | 39,5 | 0,12 |
| QA05MF-30 | 1" | 30 | 25 | 70 | 19 | 43 | 0,14 |
| QA05MG-32 | 1 1/4" | 32 | 27 | 76 | 21 | 45 | 0,17 |
| QA05MG-35 | 1 1/4" | 35 | 29,5 | 76 | 20,5 | 45 | 0,20 |
| QA05MG-38 | 1 1/4" | 38 | 32 | 78 | 21,5 | 48 | 0,20 |
| QA05MH-38 | 1 1/2" | 38 | 33,5 | 81,5 | 22 | 48 | 0,25 |
| QA05MH-45 | 1 1/2" | 45 | 39 | 86 | 22 | 52,5 | 0,25 |
| QA05MI-50 | 2" | 50 | 44 | 98,6 | 26 | 59,5 | 0,41 |

Hose connector with female thread



| Type | Thread (G)* | ØU | ØB | H | C | T | Weight (kg) |
|-----------|-------------|----|------|------|------|------|-------------|
| QA05FC-15 | 3/8" | 15 | 10 | 41 | 11,5 | 26,5 | 0,04 |
| QA05FD-15 | 1/2" | 15 | 10 | 48 | 15,5 | 27 | 0,06 |
| QA05FD-20 | 1/2" | 20 | 15 | 48 | 15,5 | 30 | 0,06 |
| QA05FE-20 | 3/4" | 20 | 14 | 56 | 16 | 34 | 0,09 |
| QA05FF-25 | 1" | 25 | 18,5 | 63 | 19 | 37,5 | 0,14 |
| QA05FG-35 | 1 1/4" | 35 | 28 | 69 | 21 | 42 | 0,3 |
| QA05FG-40 | 1 1/4" | 40 | 34 | 69 | 21 | 42 | 0,3 |
| QA05FH-45 | 1 1/2" | 45 | 38 | 76 | 21,5 | 50 | 0,4 |
| QA05FI-50 | 2" | 50 | 42 | 90,5 | 24 | 59,5 | 0,5 |

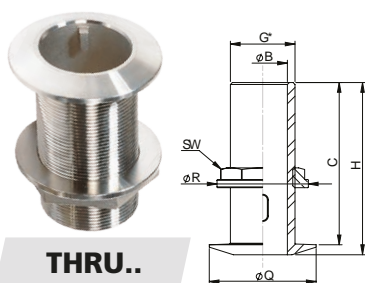
*According to ISO 228/1-G..

Dimensions in (mm)



MARINE FITTINGS

Chamfered thru-hull



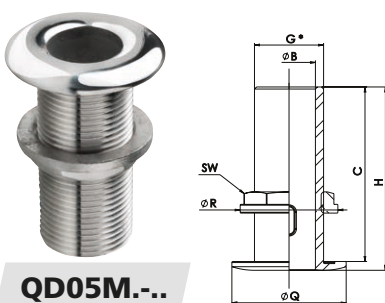
THRU..

Machined surface

| Type | Thread (G)* | ØB | H | C | ØQ | ØR | SW | Weight (kg) |
|-----------|-------------|----|-----|-----|----|----|----|-------------|
| THRU1/2S | 1/2" | 16 | 60 | 50 | 46 | 34 | 27 | 0,15 |
| THRU3/4S | 3/4" | 21 | 71 | 61 | 51 | 47 | 36 | 0,25 |
| THRU1S | 1" | 27 | 80 | 70 | 54 | 53 | 42 | 0,35 |
| THRU11/4S | 1 1/4" | 33 | 86 | 77 | 70 | 68 | 53 | 0,60 |
| THRU11/2S | 1 1/2" | 40 | 97 | 87 | 70 | 74 | 61 | 0,65 |
| THRU2S | 2" | 53 | 109 | 100 | 88 | 85 | 73 | 0,90 |

*According to ISO 228/1-G..B

Rounded thru-hull



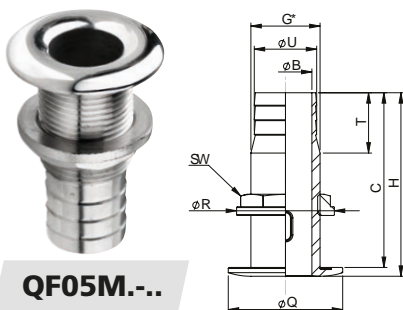
QD05M..

Polished surface

| Type | Thread (G)* | ØB | H | C | ØQ | ØR | SW | Weight (kg) |
|-----------|-------------|----|-----|----|----|----|----|-------------|
| QD05MC-NN | 3/8" | 11 | 57 | 53 | 35 | 26 | 22 | 0,08 |
| QD05MD-NN | 1/2" | 15 | 63 | 59 | 39 | 32 | 25 | 0,10 |
| QD05ME-NN | 3/4" | 20 | 75 | 70 | 49 | 41 | 32 | 0,22 |
| QD05MF-NN | 1" | 25 | 79 | 73 | 55 | 47 | 38 | 0,26 |
| QD05MG-NN | 1 1/4" | 35 | 84 | 79 | 63 | 57 | 49 | 0,35 |
| QD05MH-NN | 1 1/2" | 40 | 84 | 79 | 71 | 72 | 53 | 0,50 |
| QD05MI-NN | 2" | 52 | 101 | 97 | 85 | 83 | 68 | 0,75 |

*According to ISO 228/1-G..B

Rounded thru-hull with hose connection



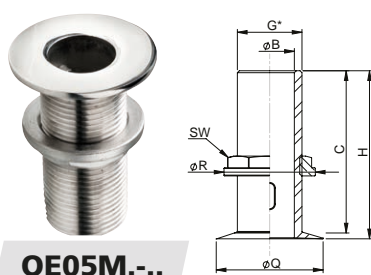
QF05M..

Polished surface

| Type | Thread (G)* | ØB | H | C | ØQ | ØR | SW | T | ØU | Weight (kg) |
|-----------|-------------|----|-----|----|----|----|----|----|----|-------------|
| QF05MC-14 | 3/8" | 11 | 59 | 55 | 35 | 26 | 22 | 20 | 14 | 0,08 |
| QF05MD-18 | 1/2" | 15 | 65 | 60 | 39 | 32 | 25 | 24 | 18 | 0,11 |
| QF05ME-23 | 3/4" | 20 | 75 | 71 | 49 | 41 | 32 | 24 | 23 | 0,18 |
| QF05MF-29 | 1" | 25 | 79 | 73 | 54 | 47 | 38 | 30 | 29 | 0,24 |
| QF05MG-38 | 1 1/4" | 35 | 85 | 80 | 63 | 57 | 49 | 30 | 38 | 0,30 |
| QF05MH-44 | 1 1/2" | 40 | 87 | 81 | 71 | 72 | 53 | 30 | 44 | 0,44 |
| QF05MI-55 | 2" | 52 | 100 | 95 | 85 | 83 | 68 | 40 | 55 | 0,65 |

*According to ISO 228/1-G..B

Flush thru-hull



QE05M..

Polished surface

| Type | Thread (G)* | ØB | H | C | ØQ | ØR | SW | Weight (kg) |
|-----------|-------------|----|----|----|----|----|----|-------------|
| QE05MC-NN | 3/8" | 11 | 54 | 51 | 32 | 26 | 22 | 0,07 |
| QE05MD-NN | 1/2" | 15 | 62 | 58 | 37 | 32 | 25 | 0,10 |
| QE05ME-NN | 3/4" | 20 | 72 | 66 | 48 | 41 | 32 | 0,20 |
| QE05MF-NN | 1" | 26 | 76 | 70 | 55 | 47 | 38 | 0,25 |
| QE05MG-NN | 1 1/4" | 34 | 79 | 73 | 64 | 57 | 49 | 0,35 |
| QE05MH-NN | 1 1/2" | 38 | 81 | 76 | 70 | 72 | 53 | 0,50 |
| QE05MI-NN | 2" | 50 | 89 | 84 | 81 | 83 | 68 | 0,75 |

*According to ISO 228/1-G..B

Flush thru-hull with hose connection



QG05M..

Polished surface

| Type | Thread (G)* | ØB | H | C | ØQ | ØR | SW | T | ØU | Weight (kg) |
|-----------|-------------|----|----|----|----|----|----|----|----|-------------|
| QG05MC-15 | 3/8" | 11 | 54 | 51 | 33 | 26 | 22 | 23 | 15 | 0,07 |
| QG05MD-18 | 1/2" | 15 | 62 | 58 | 37 | 32 | 25 | 24 | 18 | 0,08 |
| QG05ME-22 | 3/4" | 20 | 71 | 65 | 48 | 41 | 32 | 27 | 22 | 0,16 |
| QG05MF-29 | 1" | 26 | 76 | 70 | 56 | 47 | 38 | 28 | 29 | 0,25 |
| QG05MG-38 | 1 1/4" | 34 | 79 | 73 | 64 | 57 | 49 | 30 | 38 | 0,30 |
| QG05MH-43 | 1 1/2" | 38 | 82 | 76 | 69 | 72 | 53 | 35 | 43 | 0,45 |
| QG05MI-55 | 2" | 50 | 89 | 84 | 81 | 83 | 68 | 40 | 55 | 0,70 |

*According to ISO 228/1-G..B

MARINE FITTINGS

Ball valves



BV..

In a number of countries it is a legal requirement that the toilet or holding tank outlet can be locked to prevent the accidental discharge of black water in port. These stainless steel (AISI 316) ball valves can be padlocked if required. The padlock itself is not supplied. Suitable for diesel oil, gasoline, water and sea water.

| Type | Thread (G)* | Thread length | Bore | Normal Press (bar) | Working temp (° C) | Dimensions hxbxd | Weight (kg) |
|--------|-------------|---------------|-----------|--------------------|--------------------|------------------|-------------|
| BV1/2 | ½" | 14 | Full Bore | 69 | -20 - +160 | 130x65x35 | 0,27 |
| BV3/4 | ¾" | 16 | Full Bore | 69 | -20 - +160 | 150x80x40 | 0,4 |
| BV1 | 1" | 19 | Full Bore | 69 | -20 - +160 | 160x85x50 | 0,7 |
| BV11/4 | 1¼" | 19 | Full Bore | 69 | -20 - +160 | 195x110x60 | 1,1 |
| BV11/2 | 1½" | 20 | Full Bore | 69 | -20 - +160 | 230x125x70 | 1,4 |
| BV2 | 2" | 22 | 49 mm | 69 | -20 - +160 | 260x140x80 | 2 |

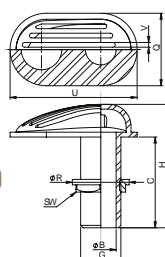
*According to ISO 228/1-G..

Bronze Marine fittings (ISO CuPb5Sn5Zn5)

Water scoop



WCAPB



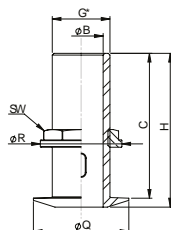
| Type | Thread (G)* | ØB | H | C | Q | ØR | SW | U | V | Weight (kg) |
|-----------|-------------|----|-----|-----|----|----|----|-----|---|-------------|
| WCAPB1/2 | ½" | 15 | 96 | 73 | 50 | 38 | 25 | 91 | 4 | 0,34 |
| WCAPB3/4 | ¾" | 9 | 102 | 78 | 58 | 48 | 32 | 103 | 4 | 0,50 |
| WCAPB1 | 1" | 25 | 109 | 83 | 61 | 53 | 39 | 106 | 4 | 0,61 |
| WCAPB11/4 | 1¼" | 35 | 117 | 90 | 65 | 64 | 50 | 118 | 4 | 0,75 |
| WCAPB11/2 | 1½" | 38 | 129 | 100 | 70 | 70 | 55 | 131 | 4 | 0,95 |

*According to ISO 228/1-G..B

Chamfered thru-hull



THRUB



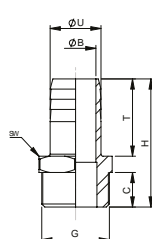
| Type | Thread (G)* | ØB | H | C | ØQ | ØR | SW | Weight (kg) |
|-----------|-------------|----|----|----|----|----|----|-------------|
| THRUB1/2 | ½" | 15 | 64 | 59 | 39 | 38 | 25 | 0,15 |
| THRUB3/4 | ¾" | 19 | 70 | 65 | 48 | 48 | 32 | 0,23 |
| THRUB1 | 1" | 26 | 77 | 47 | 54 | 54 | 40 | 0,32 |
| THRUB11/4 | 1¼" | 34 | 82 | 76 | 65 | 64 | 49 | 0,45 |
| THRUB11/2 | 1½" | 38 | 84 | 79 | 70 | 70 | 55 | 0,55 |

*According to ISO 228/1-G..B

Hose connector with male thread



HPB



| Type | Thread (G) | ØU | ØB | H | C | SW | T | Weight (kg) |
|---------|------------|----|----|----|----|----|----|-------------|
| HPB1/2 | ½" | 13 | 10 | 51 | 13 | 23 | 30 | 0,06 |
| HPB3/4 | ¾" | 20 | 15 | 53 | 14 | 28 | 32 | 0,08 |
| HPB1 | 1" | 25 | 20 | 62 | 15 | 36 | 38 | 0,17 |
| HPB11/4 | 1¼" | 31 | 26 | 67 | 16 | 45 | 42 | 0,25 |
| HPB11/2 | 1½" | 37 | 32 | 72 | 18 | 52 | 45 | 0,30 |

Manifolds



MAN.G

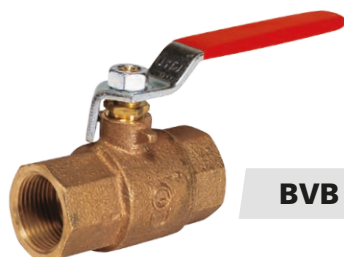
VETUS fluid manifolds enable a number of pipes to be connected to a single thru-hull fitting. These manifolds are made of seawater resistant bronze (ISO CuZn35Al1). They may also be connected to an underwater skin fitting with ball valve for raw water intake. It is not recommended to connect multiple engines or generating sets to one raw water intake.

| Type | Main connections (M/F) (G)* | Connections (F) (G)* |
|----------|-----------------------------|----------------------|
| MAN2G1/2 | ¾" | 2 x ½" |
| MAN3G1/2 | ¾" | 3 x ½" |
| MAN2G3/4 | 1" | 2 x ¾" |
| MAN3G3/4 | 1" | 3 x ¾" |

*According to ISO 228/1-G..B

MARINE FITTINGS

Ball valves



BVB

Bronze ISO CuPb5Sn / CuSn5Zn5Pb5

| Type | Thread (G)* Female | Bore | Working Press (bar) | Dimensions hxbxd | Weight (kg) |
|---------|-----------------------|-----------|------------------------|---------------------|----------------|
| BVB1/2 | 1/2" | Full Bore | 40 | 120x60x40 | 0,28 |
| BVB3/4 | 3/4" | Full Bore | 40 | 140x70x40 | 0,38 |
| BVB1 | 1" | Full Bore | 40 | 150x80x50 | 0,60 |
| BVB11/4 | 1 1/4" | Full Bore | 40 | 175x98x60 | 0,95 |
| BVB11/2 | 1 1/2" | Full Bore | 40 | 180x110x75 | 1,30 |

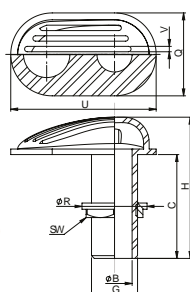
*According to ISO 228/1-G..

Brass Marine fittings

Water scoop**



WCAP



| Type | Thread (G)* | ØB | H | C | Q | ØR | SW | U | V | Weight (kg) |
|----------|-------------|----|-----|-----|-----|-----|-----|-----|---|-------------|
| WCAP1/2 | 1/2" | 15 | 96 | 72 | 49 | 38 | 26 | 91 | 3 | 0,3 |
| WCAP3/4 | 3/4" | 19 | 103 | 77 | 58 | 48 | 32 | 105 | 3 | 0,5 |
| WCAP1 | 1" | 26 | 104 | 76 | 61 | 55 | 38 | 108 | 3 | 0,6 |
| WCAP11/4 | 1 1/4" | 26 | 104 | 78 | 61 | 55 | 38 | 108 | 3 | 0,7 |
| WCAP11/2 | 1 1/2" | 39 | 113 | 82 | 72 | 72 | 56 | 134 | 3 | 0,9 |
| WCAP2 | 2" | 51 | 126 | 91 | 89 | 88 | 68 | 156 | 3 | 1,5 |
| WCAP21/2 | 2 1/2" | 65 | 155 | 112 | 113 | 113 | 92 | 198 | 5 | 2,4 |
| WCAP3 | 3" | 77 | 134 | 134 | 129 | 120 | 105 | 238 | 5 | 3,9 |

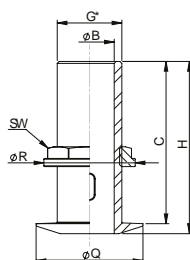
*According to ISO 228/1-G..B

** For continuous immersion in salt water, we advise against the use of brass fittings.

Chamfered thru-hull**



DOORB



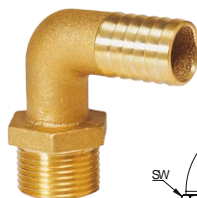
Machined surface

| Type | Thread (G)* | ØB | H | C | ØQ | ØR | SW | Weight (kg) |
|-----------|-------------|----|-----|-----|-----|-----|-----|-------------|
| DOORB3/8 | 3/8" | 11 | 58 | 53 | 34 | 36 | 22 | 0,20 |
| DOORB1/2 | 1/2" | 15 | 64 | 58 | 40 | 39 | 25 | 0,25 |
| DOORB3/4 | 3/4" | 19 | 72 | 66 | 49 | 49 | 32 | 0,25 |
| DOORB1 | 1" | 25 | 77 | 70 | 56 | 56 | 40 | 0,35 |
| DOORB11/4 | 1 1/4" | 34 | 83 | 76 | 65 | 66 | 50 | 0,45 |
| DOORB11/2 | 1 1/2" | 39 | 84 | 78 | 72 | 72 | 56 | 0,60 |
| DOORB2 | 2" | 50 | 102 | 94 | 84 | 84 | 68 | 0,90 |
| DOORB21/2 | 2 1/2" | 65 | 132 | 123 | 110 | 111 | 91 | 1,70 |
| DOORB3 | 3" | 76 | 150 | 140 | 127 | 124 | 105 | 2,50 |

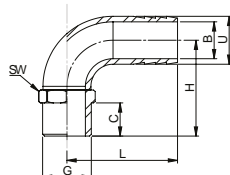
*According to ISO 228/1-G..B

** For continuous immersion in salt water, we advise against the use of brass fittings.

Hose connector angled**



HPM

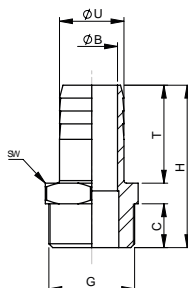


| Type | Thread (G) | ØU | ØB | H | C | SW | L | Weight (kg) |
|----------|------------|----|----|----|----|----|----|-------------|
| HPM1/2B | 1/2" | 13 | 8 | 37 | 15 | 25 | 48 | 0,08 |
| HPM3/4B | 3/4" | 19 | 12 | 47 | 16 | 30 | 50 | 0,15 |
| HPM1B | 1" | 25 | 19 | 58 | 20 | 37 | 58 | 0,26 |
| HPM11/4B | 1 1/4" | 32 | 24 | 67 | 20 | 50 | 70 | 0,45 |
| HPM11/2B | 1 1/2" | 38 | 29 | 70 | 21 | 55 | 77 | 0,57 |

** For continuous immersion in salt water, we advise against the use of brass fittings.

MARINE FITTINGS

Hose connector**



SLP

| Type | Thread (G)* | ØU | ØB | H | C | SW | T | Weight (kg) |
|-----------|-------------|----|----|-----|----|----|----|-------------|
| SLP1/408 | 1/4" | 8 | 5 | 34 | 8 | 15 | 22 | 0,02 |
| SLP1/416 | 1/4" | 16 | 13 | 37 | 8 | 18 | 25 | 0,04 |
| SLP3/810 | 3/8" | 10 | 7 | 35 | 9 | 18 | 22 | 0,02 |
| SLP3/815 | 3/8" | 15 | 11 | 40 | 8 | 18 | 27 | 0,03 |
| SLP1/213 | 1/2" | 13 | 9 | 42 | 11 | 22 | 27 | 0,03 |
| SLP1/216 | 1/2" | 16 | 12 | 42 | 10 | 22 | 27 | 0,04 |
| SLP1/219 | 1/2" | 19 | 16 | 42 | 11 | 22 | 27 | 0,04 |
| SLP3/416 | 3/4" | 16 | 12 | 48 | 10 | 23 | 30 | 0,06 |
| SLP3/419 | 3/4" | 19 | 16 | 48 | 9 | 23 | 30 | 0,05 |
| SLP3/425 | 3/4" | 25 | 20 | 52 | 10 | 29 | 33 | 0,06 |
| SLP125 | 1" | 25 | 20 | 56 | 12 | 30 | 34 | 0,10 |
| SLP132 | 1" | 32 | 27 | 60 | 12 | 34 | 38 | 0,10 |
| SLP11/432 | 1 1/4" | 32 | 28 | 58 | 13 | 35 | 37 | 0,15 |
| SLP11/438 | 1 1/4" | 38 | 35 | 65 | 12 | 43 | 43 | 0,15 |
| SLP11/238 | 1 1/2" | 38 | 33 | 65 | 14 | 46 | 42 | 0,18 |
| SLP11/245 | 1 1/2" | 45 | 40 | 73 | 14 | 48 | 48 | 0,21 |
| SLP251 | 2" | 51 | 44 | 75 | 15 | 55 | 47 | 0,30 |
| SLP21/260 | 2 1/2" | 61 | 56 | 91 | 15 | 70 | 63 | 0,50 |
| SLP376 | 3" | 76 | 69 | 102 | 19 | 83 | 65 | 1,00 |

*According to ISO 228/1-G..B

** For continuous immersion in salt water, we advise against the use of brass fittings.

Ball valves**



KRAAN

Nickel plated brass, suitable for water and diesel oil.

| Type | Thread (G)* Female | Bore | Working Press (bar) | Working temp (° C) | Dimensions hxbxd | Weight (kg) |
|-----------|--------------------|-----------|---------------------|--------------------|------------------|-------------|
| KRAAN1/4 | 1/4" | Full Bore | 40 | -20 - +170 | 120X100X20 | 0,11 |
| KRAAN3/8 | 3/8" | Full Bore | 40 | -20 - +170 | 150X80X20 | 0,12 |
| KRAAN1/2 | 1/2" | Full Bore | 40 | -20 - +170 | 110X110X30 | 0,15 |
| KRAAN3/4 | 3/4" | Full Bore | 32 | -20 - +170 | 160X90X30 | 0,26 |
| KRAAN1 | 1" | Full Bore | 32 | -20 - +170 | 150X120X40 | 0,40 |
| KRAAN11/4 | 1 1/4" | Full Bore | 25 | -20 - +170 | 200X120X50 | 0,60 |
| KRAAN11/2 | 1 1/2" | Full Bore | 25 | -20 - +170 | 115X180X65 | 0,85 |
| KRAAN2 | 2" | Full Bore | 25 | -20 - +170 | 220X140X80 | 1,35 |
| KRAAN21/2 | 2 1/2" | Full Bore | 25 | -20 - +170 | 220X180X80 | 1,96 |
| KRAAN3 | 3" | Full Bore | 16 | -20 - +170 | 340X200X120 | 3,40 |

*According to ISO 228/1-G..

** For continuous immersion in salt water, we advise against the use of brass fittings.

3-way ball valves**



KRA

Nickel plated brass, suitable for water and diesel oil.

| Type | Thread (G)* Female | Bore | Working Press (bar) | Working temp (° C) | Dimensions hxbxd | Weight (kg) |
|----------|--------------------|-----------|---------------------|--------------------|------------------|-------------|
| KRA1/2L | 1/2" | Full Bore | 40 | -10 - +100 | 80X160X70 | 0,65 |
| KRA3/4L | 3/4" | Full Bore | 40 | -10 - +100 | 100X205X85 | 1,5 |
| KRA1L | 1" | Full Bore | 40 | -10 - +100 | 100X210X90 | 2,15 |
| KRA11/4L | 1 1/4" | Full Bore | 40 | -10 - +100 | 310X150X150 | 3,85 |
| KRA11/2L | 1 1/2" | Full Bore | 40 | -10 - +100 | 310X150X120 | 5,9 |

*According to ISO 228/1-G..

** For continuous immersion in salt water, we advise against the use of brass fittings.



FITTINGS

Delrin (plastic) fittings

Rounded thru-hull


DOORN

| Type | Thread (G) | Hose Ø |
|-----------|------------|--------|
| DOORN5/8 | 5/8" | 13 |
| DOORN3/4 | 3/4" | 19 |
| DOORN1 | 1" | 32 |
| DOORN11/4 | 1 1/4" | 13 |
| DOORN11/2 | 1 1/2" | 19 |

Chamfered thru-hull


THRH

| Type | Hose Ø |
|--------|--------|
| THRH16 | 16 |
| THRH19 | 19 |
| THRH25 | 25 |
| THRH28 | 28 |
| THRH32 | 32 |
| THRH38 | 38 |

Thru-hull with L-flange


THRHL

| Type | Hose Ø |
|----------|--------|
| THRHL16L | 16 |
| THRHL19L | 19 |
| THRHL25L | 25 |
| THRHL28L | 28 |
| THRHL32L | 32 |
| THRHL38L | 38 |

Chamfered thru-hull

100° angled


THRH..BH

| Type | Hose Ø |
|----------|--------|
| THRH25BH | 25 |
| THRH28BH | 28 |

Flush thru-hull

100° angled


THRH..BL

| Type | Hose Ø |
|----------|--------|
| THRH25BL | 25 |
| THRH28BL | 28 |

FITTINGS

Bulkhead connectors


BULKH

| Type | Hose Ø | Wall thickness |
|---------|--------|----------------|
| BULKH16 | 16 | 28 |
| BULKH19 | 19 | 28 |
| BULKH25 | 25 | 48 |
| BULKH28 | 28 | 48 |
| BULKH32 | 32 | 55 |
| BULKH38 | 38 | 55 |

T-Piece


TPC

Plastic equal T-piece. Suitable for temperatures up to +83 °C.

| Type | Hose Ø |
|-------|--------|
| TPC16 | 16 |
| TPC19 | 19 |
| TPC25 | 25 |
| TPC28 | 28 |

Hose clamps


HCS

Stainless steel hose clamps

For hose diameters between: 8 mm and 170 mm.

W4 materials:

Screw

• AISI 304

Band + housing

• AISI 304

| Type | Description | Band width | Max. torque (Nm) | Max. pressure (Bar) |
|-------|-------------|------------|------------------|---------------------|
| HCS08 | D 8-16 mm | 9 | 3 | 45 |
| HCS12 | D 12-22 mm | 9 | 3 | 45 |
| HCS16 | D 16-27 mm | 12 | 4.6 | 45 |
| HCS20 | D 20-32 mm | 12 | 5.6 | 45 |
| HCS25 | D 25-40 mm | 12 | 5.6 | 40 |
| HCS32 | D 32-50 mm | 12 | 6.5 | 35 |
| HCS40 | D 40-60 mm | 12 | 6.5 | 30 |

| Type | Description | Band width | Max. torque (Nm) | Max. pressure (Bar) |
|---------|--------------|------------|------------------|---------------------|
| HCS50 | D 50-70 mm | 12 | 7 | 25 |
| HCS60 | D 60-80 mm | 12 | 7 | 20 |
| HCS75 | D 70-90 mm | 12 | 7 | 17 |
| HCS90* | D 90-110 mm | 12 | 7 | 12 |
| HCS110* | D 110-130 mm | 12 | 7 | 8 |
| HCS130* | D 130-150 mm | 12 | 7 | 6 |
| HCS150* | D 150-170 mm | 12 | 7 | 4 |



FITTINGS

Heavy duty hose clamps

For hose diameters between: 34 mm and 329 mm.



W2 materials:

Band + bridge

- AISI 430

Bolt

- QST 36-3 Mild steel silver white zinc plated

HCHD

| Type | Description | Band width | Max. torque (Nm) | Max. pressure (Bar) |
|---------|-------------|------------|------------------|---------------------|
| HCHD034 | D 34-37 mm | 20 | 13 | 40 |
| HCHD037 | D 37-40 mm | 20 | 13 | 40 |
| HCHD040 | D 40-43 mm | 20 | 13 | 40 |
| HCHD043 | D 43-47 mm | 20 | 16 | 36 |
| HCHD047 | D 47-51 mm | 20 | 16 | 36 |
| HCHD051 | D 51-55 mm | 20 | 16 | 36 |
| HCHD055 | D 55-59 mm | 20 | 16 | 36 |
| HCHD059 | D 59-63 mm | 20 | 16 | 36 |
| HCHD063 | D 63-68 mm | 20 | 16 | 36 |
| HCHD068 | D 68-73 mm | 25 | 30 | 28 |
| HCHD073 | D 73-79 mm | 25 | 30 | 28 |
| HCHD079 | D 79-85 mm | 25 | 30 | 28 |
| HCHD085 | D 85-91 mm | 25 | 30 | 20 |
| HCHD091 | D 91-97 mm | 25 | 30 | 20 |

| Type | Description | Band width | Max. torque (Nm) | Max. pressure (Bar) |
|----------|--------------|------------|------------------|---------------------|
| HCHD097 | D 97-104 mm | 25 | 30 | 20 |
| HCHD104 | D 104-112 mm | 25 | 30 | 12 |
| HCHD112 | D 112-121 mm | 25 | 30 | 12 |
| HCHD121 | D 121-130 mm | 25 | 30 | 12 |
| HCHD130 | D 130-140 mm | 28 | 45 | 9 |
| HCHD140 | D 140-150 mm | 28 | 45 | 9 |
| HCHD150 | D 150-162 mm | 28 | 45 | 9 |
| HCHD162 | D 162-174 mm | 28 | 45 | 6 |
| HCHD174 | D 174-187 mm | 28 | 45 | 6 |
| HCHD187 | D 187-200 mm | 28 | 45 | 6 |
| HCHD200 | D 200-213 mm | 28 | 45 | 3 |
| HCHD213 | D 213-226 mm | 28 | 45 | 3 |
| HCHD260* | D 263-276 mm | 30 | NA | NA |
| HCHD300* | D 316-329 mm | 30 | NA | NA |

Stainless steel heavy duty hose clamps

For hose diameters between: 34 mm and 329 mm.



W4 materials:

Band + bridge

- AISI 304

Bolt

- AISI 302

HCHDS

| Type | Description | Band width | Max. torque (Nm) | Max. pressure (Bar) |
|----------|-------------|------------|------------------|---------------------|
| HCHDS034 | D 34-37 mm | 20 | 12 | 35 |
| HCHDS037 | D 37-40 mm | 20 | 12 | 35 |
| HCHDS040 | D 40-43 mm | 20 | 12 | 35 |
| HCHDS043 | D 43-47 mm | 20 | 12 | 35 |
| HCHDS047 | D 47-51 mm | 20 | 16 | 30 |
| HCHDS051 | D 51-55 mm | 20 | 16 | 30 |
| HCHDS055 | D 55-59 mm | 20 | 16 | 30 |
| HCHDS059 | D 59-63 mm | 20 | 16 | 30 |
| HCHDS063 | D 63-68 mm | 20 | 16 | 30 |
| HCHDS068 | D 68-73 mm | 25 | 30 | 20 |
| HCHDS073 | D 73-79 mm | 25 | 30 | 20 |
| HCHDS079 | D 79-85 mm | 25 | 30 | 20 |
| HCHDS085 | D 85-91 mm | 25 | 30 | 15 |
| HCHDS091 | D 91-97 mm | 25 | 30 | 15 |

| Type | Description | Band width | Max. torque (Nm) | Max. pressure (Bar) |
|-----------|--------------|------------|------------------|---------------------|
| HCHDS097 | D 97-104 mm | 25 | 30 | 15 |
| HCHDS104 | D 104-112 mm | 25 | 30 | 10 |
| HCHDS112 | D 112-121 mm | 25 | 30 | 10 |
| HCHDS121 | D 121-130 mm | 25 | 30 | 10 |
| HCHDS130* | D 130-140 mm | 28 | 45 | 6 |
| HCHDS140* | D 140-150 mm | 28 | 45 | 6 |
| HCHDS150* | D 150-162 mm | 28 | 45 | 6 |
| HCHDS162* | D 162-174 mm | 28 | 45 | 3 |
| HCHDS174* | D 174-187 mm | 28 | 45 | 3 |
| HCHDS187* | D 187-200 mm | 28 | 45 | 3 |
| HCHDS200* | D 200-213 mm | 28 | 45 | 3 |
| HCHDS213* | D 213-226 mm | 28 | 45 | 3 |
| HCHDS260* | D 263-276 mm | 30 | NA | NA |
| HCHDS300* | D 316-329 mm | 30 | NA | NA |

PUMPS



BLP..

Bilge pumps

Submersible bilge pumps (IP67). Detachable strainer acts as screw-down base. Durable snap connection for easy cleaning. Double seals for long lifetime. Internal components are made from stainless steel (AISI 316). Comes with 1.2 metre cable. For all suitable hoses see page 372.

| Type | Voltage (V) | Current A @ 13,6 V | Capacity litre/min | Max. head (m) | Dimensions Ø x H | Hose connection Ø | Advised hose type |
|-----------|-------------|--------------------|--------------------|---------------|------------------|-------------------|-------------------|
| BLP12500 | 12 | 3 | 40 | 4 | 90 x 120 | 19 | DWHOSE19A |
| BLP121000 | 12 | 3 | 50 | 4 | 90 x 120 | 28,5 | DWHOSE28A |
| BLP122000 | 12 | 6 | 110 | 4 | 120 x 150 | 28,5 | DWHOSE28A |
| BLP123000 | 12 | 9 | 160 | 5 | 130 x 180 | 32 | DWHOSE32A |

| Type | Voltage (V) | Current A @ 27,1 V | Capacity litre/min | Max. head (m) | Dimensions Ø x H | Hose connection Ø | Advised hose type |
|-----------|-------------|--------------------|--------------------|---------------|------------------|-------------------|-------------------|
| BLP24500 | 24 | 1,5 | 40 | 4 | 90 x 120 | 19 | DWHOSE19A |
| BLP242000 | 24 | 3 | 111 | 4 | 120 x 150 | 28,5 | DWHOSE28A |
| BLP243000 | 24 | 4,5 | 147 | 5 | 130 x 180 | 32 | DWHOSE32A |



BLSWITCH

Level switch

This switch activates the pump when the bilge water level reaches 50 mm.

- Made from high quality synthetic material
- Suitable for 12 and 24 Volt
- Suitable for fresh and salt water
- Comes with 1 metre cable

| Type | Voltage (V) | Max. current (A) | Total width | Total length | Cable length (m) |
|----------|-------------|------------------|-------------|--------------|------------------|
| BLSWITCH | 12 / 24 | 15 | 70 | 117 | 1 |



BLPM020

Manual membrane pump

A high quality membrane pump suitable for pumping/ transferring bilge water, seawater or diesel.

- Synthetic housing, metallic parts of stainless steel (AISI 316)
- Easy to remove clamping ring for maintenance and or head rotation
- Horizontal or vertical mounting
- Self-priming

Suitable for boats up to 12 m (ISO 15083)
For all suitable hoses see page 372.

| Type | Suction lift (m) | Discharge head (m) | Capacity L/stroke | Hose connection | Advised hose type |
|---------|------------------|--------------------|-------------------|-----------------|-------------------|
| BLPM020 | 3 | 4 | 0,44 | Ø32 | DWHOSE32A |



BLPS..

Stirrup type pumps

Sturdy single action plunger pump suitable for fresh water, seawater or other fluids normally present in the bilge.

- Material: durable plastic (PP)
- Temperature resistant to max. 60° Celsius
- Ergonomically shaped handle
- Self priming
- Hose length: 980 mm

| Type | Hose connection Ø | Stroke length | Capacity L/stroke |
|--------|-------------------|---------------|-------------------|
| BLPS05 | 28 | 315 | 0,5 |
| BLPS08 | 28 | 460 | 0,8 |

Dimensions in (mm)

NEW!

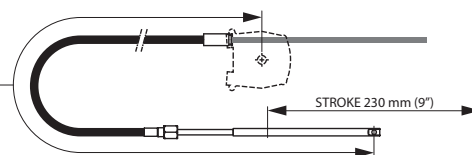
NEW!

OUTBOARD

Cable steering

The cable length refers to total length of the inner cable. The outer jacket of the cable is about 75 cm (30") shorter. When selecting the right cable, always round up to the next size.

Cable length:



LCSKIT..

Light series cable steering kit

Cable steering kit including: Helm, straight bezel, cable and spent core tube. The helm is equipped as standard with a friction brake.

Available with cable length:
7 to 16 ft (213 to 287 cm), in steps of 1 ft.

- Wheel turns: 2,6
- Max. wheel Ø: 406 mm
- Min. bend radius 302 mm

For craft up to 5 m.

| Type | Max. engine output | Cable length |
|----------|--------------------|------------------|
| LCSKIT7 | 55 HP (40 kw) | 7 ft (213.5 cm) |
| LCSKIT8 | 55 HP (40 kw) | 8 ft (244 cm) |
| LCSKIT9 | 55 HP (40 kw) | 9 ft (274.5 cm) |
| LCSKIT10 | 55 HP (40 kw) | 10 ft (305 cm) |
| LCSKIT11 | 55 HP (40 kw) | 11 ft (335.5 cm) |

| Type | Max. engine output | Cable length |
|----------|--------------------|------------------|
| LCSKIT12 | 55 HP (40 kw) | 12 ft (366 cm) |
| LCSKIT13 | 55 HP (40 kw) | 13 ft (396.5 cm) |
| LCSKIT14 | 55 HP (40 kw) | 14 ft (427 cm) |
| LCSKIT15 | 55 HP (40 kw) | 15 ft (457.5 cm) |
| LCSKIT16 | 55 HP (40 kw) | 16 ft (488 cm) |



HZFKIT..

Zero feedback cable steering kit

Zero torque high performance cable steering kit including: Zero feedback helm, straight bezel, high performance cable and spent core tube. Smooth and durable operation due to planetary gear design. Unique design eliminates any torque coming from the steering cable, creating an effortless ride. A 20° Bezel kit can be ordered separately if required.

A.B.Y.C., N.M.M.A., I.M.C.I. and CE approved.

Available with cable length:
8 to 20 ft (244 to 610 cm), in steps of 1 ft.

- Wheel turns: 3,8
- Max. wheel Ø: 406 mm
- Min. bend radius 200 mm

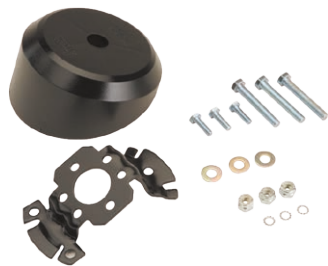
For craft up to 7 m.

| Type | Max. engine output | Cable length |
|----------|--------------------|------------------|
| HZFKIT8 | 125 HP (90 kw) | 8 ft (244 cm) |
| HZFKIT9 | 125 HP (90 kw) | 9 ft (274.5 cm) |
| HZFKIT10 | 125 HP (90 kw) | 10 ft (305 cm) |
| HZFKIT11 | 125 HP (90 kw) | 11 ft (335.5 cm) |
| HZFKIT12 | 125 HP (90 kw) | 12 ft (366 cm) |
| HZFKIT13 | 125 HP (90 kw) | 13 ft (396.5 cm) |
| HZFKIT14 | 125 HP (90 kw) | 14 ft (427 cm) |

| Type | Max. engine output | Cable length |
|----------|--------------------|------------------|
| HZFKIT15 | 125 HP (90 kw) | 15 ft (457.5 cm) |
| HZFKIT16 | 125 HP (90 kw) | 16 ft (488 cm) |
| HZFKIT17 | 125 HP (90 kw) | 17 ft (518.5 cm) |
| HZFKIT18 | 125 HP (90 kw) | 18 ft (549 cm) |
| HZFKIT19 | 125 HP (90 kw) | 19 ft (579.5 cm) |
| HZFKIT20 | 125 HP (90 kw) | 20 ft (610 cm) |

OUTBOARD

Cable steering options


HB20

Bezel kit

To tilt the helm at a 20° angle for optimum steering position. 20° Bezel kit for zero feedback cable steering helm. Weight 0,3 kg.

| Type | Description |
|------|---------------------------------------|
| HB20 | High performance series 20o bezel kit |


SQBALL

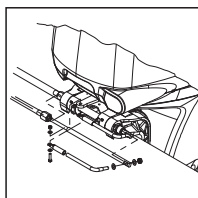
Quick release balljoint

Quick release balljoint for steering cables. For L and H series. Weight 0,3 kg.

| Type | Description |
|--------|--|
| SQBALL | H and L series, steering cable quick release balljoint |

Cable steering mounting sets

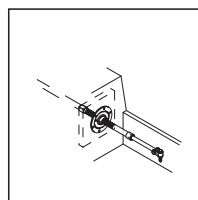
To complete the steering system to your requirements, please select one of the mounting sets below.


SLINK


Universal link arm

When outboard motor acts as cable mount. For L and H series.

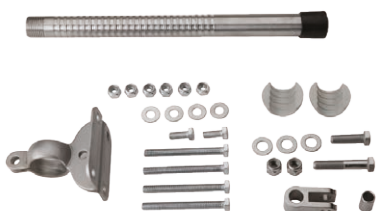
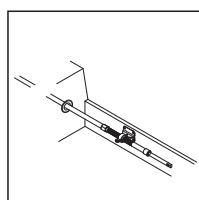
| Type | Description |
|-------|-----------------------------------|
| SLINK | Steering cable universal link arm |


SSPLASH


Splashwell mount

Splashwell cable support mount for L and H series.

| Type | Flange Ø | Weight (kg) |
|---------|----------|-------------|
| SSPLASH | 125 | 0,75 |


STRANS


Transom mount

Transom support mount (short) for L and H series.

| Type | Length* (mm) | Angle | Weight (kg) |
|--------|--------------|-------|-------------|
| STRANS | 51 | 90° | 0,7 |

*Cable core to transom



OUTBOARD



STRANL

Transom mount

Transom support mount (long) for L and H series.

| Type | Length* (mm) | Angle | Weight (kg) |
|--------|--------------|-------|-------------|
| STRANL | 102 | 67° | 0,8 |

*Cable core to transom

Steering cable only

Available for light series and high performance series.
Length between 5 and 20 feet (153 to 610 cm), in steps of 1 ft.
Max. bend radius: 200 mm.



LCAB..

For light series: LCAB (max. 55 HP / 40 kw)
For zero feedback series: HCAB (max. 125 HP / 90 kw)

| Type | Cable length | Type | Cable length |
|--------|------------------|--------|------------------|
| LCAB5 | 5 ft (152.5 cm) | LCAB13 | 13 ft (396.5 cm) |
| LCAB6 | 6 ft (183 cm) | LCAB14 | 14 ft (427 cm) |
| LCAB7 | 7 ft (213.5 cm) | LCAB15 | 15 ft (457.5 cm) |
| LCAB8 | 8 ft (244 cm) | LCAB16 | 16 ft (488 cm) |
| LCAB9 | 9 ft (274.5 cm) | LCAB17 | 17 ft (518.5 cm) |
| LCAB10 | 10 ft (305 cm) | LCAB18 | 18 ft (549 cm) |
| LCAB11 | 11 ft (335.5 cm) | LCAB19 | 19 ft (579.5 cm) |
| LCAB12 | 12 ft (366 cm) | LCAB20 | 20 ft (610 cm) |



HCAB..

| Type | Cable length | Type | Cable length |
|--------|------------------|--------|------------------|
| HCAB5 | 5 ft (152.5 cm) | HCAB13 | 13 ft (396.5 cm) |
| HCAB6 | 6 ft (183 cm) | HCAB14 | 14 ft (427 cm) |
| HCAB7 | 7 ft (213.5 cm) | HCAB15 | 15 ft (457.5 cm) |
| HCAB8 | 8 ft (244 cm) | HCAB16 | 16 ft (488 cm) |
| HCAB9 | 9 ft (274.5 cm) | HCAB17 | 17 ft (518.5 cm) |
| HCAB10 | 10 ft (305 cm) | HCAB18 | 18 ft (549 cm) |
| HCAB11 | 11 ft (335.5 cm) | HCAB19 | 19 ft (579.5 cm) |
| HCAB12 | 12 ft (366 cm) | HCAB20 | 20 ft (610 cm) |

INFLATABLE BOATS

VB Series

The VB series of inflatable boats are designed for optimum durability, usability and performance. The high level of attention to detail during manufacturing results in rugged boats with an absolutely top class finish. By selecting the best materials and accessories these boats have just that little bit extra.

Based on many years of boating experience, we've equipped the boats with many practical features. Take for example the shape of the tube ends. Together with the triangular trim flaps at the transom, the angled design of the tubes provides extra planing surface to help get the boat up onto the plane. When going fast, there is an ergonomically placed grab handle just at the right place inside the boat. Prefer to row around the harbour? Adjust the seat on the continuous bench support to find the optimum rowing position.

Packed in a sleek overall design, V-Quipment boats offer great benefits at a very attractive price! Get on board and experience all the benefits whilst enjoying every minute on the water!

Choosing the right boat

The VB series of inflatable boats is available in five boat lengths of 200, 230, 270, 300 or 330 cm overall. The preferred length depends on your personal application. Do you need a lot of space, or does the boat need to fit the davits? How many people should be able to enjoy the boat at once? See the technical specifications on the next page.

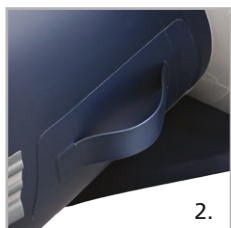
In addition, there are two types of deck available. VB Traveller boats have an inflatable deck, whilst VB Explorer boats have a folding aluminium deck. Both versions are rigid when installed and feature a deep V hull for greater stability at both low and high speeds. Each has its individual advantages. Please see a detailed overview on the next page.

To provide the optimum freedom in usage, all models are equipped with multiple carrying handles and D rings, for towing, lifting, and anchoring of the boat.

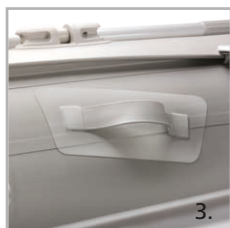
The fun starts with selecting the right boat. Imagine what adventures you are going to have: Rowing ashore to get to know new places, exploring the coastline, sunbathing away from the crowd, snorkeling, or even waterskiing?



1.



2.



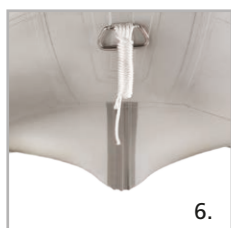
3.



4.



5.



6.



7.

1. The angled stern tubes, and the trim flaps at the transom provide a greater planing surface. In addition, the rounded stern tubes with continuous rubbing strake are less prone to damage
2. Convenient grab handles at the transom
3. Additional grab handles ideally placed for the driver when motoring
4. Oar storage inside the boat and quick storage clamp on the top of the tubes
5. The bench can be repositioned and optionally a second bench can be installed
6. Deep V keel with rubbing strake protector. The side tubes are protected with an additional layer of PVC fabric at the bottom
7. Multiple D rings allow for towing and hoisting the boat



INFLATABLE BOATS

Features and benefits

- High quality, durable PVC fabric with polyester reinforcement, 1100 Decitex (1000 gram), 0.9 mm
- Three separate tube compartments are equipped with high quality valves
- A pressure relief valve is included to prevent over-inflation
- Double layer of PVC fabric at the bottom of the tubes for protection against wear
- Rubbing strake protector covering the tubes and the keel
- The boats are lightweight and easy to carry
- Four sturdy carry handles with integrated cleats on the sides
- Convenient grab handles at the transom
- Additional grab handles ideally placed for the driver when motoring
- Stern tubes are shaped to provide a greater planing surface.
- Hull extensions at the transom also enhance planing
- Rounded stern tubes with continuous rubbing strake are less prone to damage
- Choose between a lightweight inflatable deck and or a hard wearing aluminium deck
- Integrated strap to secure the fuel tank
- Inflatable deep V keel for greater stability under power and when rowing
- Reinforced transom connection to the tubes for extra rigidity
- One-way drain plug with closure, without loose parts
- Oar storage inside the boat and quick storage clamp on the top of the tubes
- Aluminium oars can be disassembled for easy transportation and storage
- A lightweight aluminium bench seat is standard. Optionally, a second bench can be installed
- The adjustable bench support allows any seat layout to fit your needs the best



Anchor D ring with integrated carrying handle at the bow



Double D-rings at the bow for towing



Double lifting rings at the bow and stern

VB Traveller



- Inflatable board deck
- Lightweight and compact for easy storage and transportation
- Robust, flat deck with anti-slip surface

VB Traveller boats are ideal for short trips, for example as a yacht tender. The compact dimensions when deflated make this model very convenient when transportation or storage is an issue.

These boats are equipped with an inflatable deck. The decks are manufactured using drop-stitch technology. This construction is also used in inflatable surf boards and handles the extremely high pressure needed for performance. When under pressure, the air deck offers a robust flat surface to stand on and creates a performance increasing deep V hull. A strap to secure the fuel tank is incorporated in the deck as standard.

VB Explorer



- Folding aluminium deck
- High stability and performance
- Sturdy flat deck with anti-slip surface

VB Explorer boats offer the best performance for longer trips or when heavily loaded. The sturdy aluminium deck creates a rigid hull shape. In addition, the extruded aluminium panels provide a stable deck to carry people and goods. This deck also facilitates a deep V hull and incorporates a strap for the fuel tank.

INFLATABLE BOATS

| Type | VB200T | VB230T | VB270T | VB300T | VB330T |
|-----------------------|--|------------------|------------------|------------------|------------------|
| Type | Traveller 200 | Traveller 230 | Traveller 270 | Traveller 300 | Traveller 330 |
| Deck type | Inflatable drop-stitch board deck | | | | |
| Length overall | 200 cm | 230 cm | 270 cm | 300 cm | 330 cm |
| Beam width overall | 139 cm | 130 cm | 154 cm | 154 cm | 154 cm |
| Tube diameter | 41 cm | 35 cm | 42 cm | 42 cm | 42 cm |
| Packed size | 105 x 70 x 32 cm | 105 x 70 x 35 cm | 115 x 70 x 38 cm | 115 x 70 x 38 cm | 115 x 70 x 38 cm |
| Payload | 250 kg | 360 kg | 485 kg | 500 kg | 570 kg |
| Max. capacity persons | 2 | 2 | 3 | 3+1 (child) | 4 |
| Total boat weight | 26 kg | 34 kg | 44 kg | 48 kg | 51 kg |
| Max. horse power | 3,7 hp | 5 hp | 10 hp | 10 hp | 15 hp |
| Standard supply | Carry/ storage bag, foot pump, repair kit with spare pump connector, two aluminium oars, one aluminium bench | | | | |



| Type | VB230E | VB270E | VB300E | VB330E |
|-----------------------|--|------------------|------------------|------------------|
| Type | Explorer 230 | Explorer 270 | Explorer 300 | Explorer 330 |
| Deck type | Foldable aluminium deck | | | |
| Length overall | 230 cm | 270 cm | 300 cm | 330 cm |
| Beam width overall | 130 cm | 154 cm | 154 cm | 154 cm |
| Tube diameter | 35 cm | 42 cm | 42 cm | 42 cm |
| Packed size | 105 x 70 x 35 cm | 115 x 70 x 38 cm | 115 x 70 x 38 cm | 115 x 70 x 38 cm |
| Payload | 360 kg | 485 kg | 500 kg | 570 kg |
| Max. capacity persons | 2 | 3 | 3+1 (child) | 4 |
| Total boat weight | 44 kg | 52 kg | 59 kg | 65 kg |
| Max. horse power | 5 hp | 10 hp | 10 hp | 15 hp |
| Standard supply | Carry/ storage bag, foot pump, repair kit with spare pump connector, two aluminium oars, one aluminium bench | | | |



Accessories

| Type | Description |
|----------------|--|
| VBEN74 | Extra aluminium bench 74 cm (for type 200 and 230) |
| VBEN85 | Extra aluminium bench 85 cm (for type 270 to 330) |
| VBENBG | Seat bag, black. With cushion, light gray |
| VBCOV20 | Boat cover, light grey, 200 cm |
| VBCOV23 | Boat cover, light gray, 230 cm |
| VBCOV27 | Boat cover, light gray, 270 cm |
| VBCOV30 | Boat cover, light gray, 300 cm |
| VBCOV33 | Boat cover, light gray, 330 cm |

Service parts

| Type | Description |
|-----------------|----------------------|
| VBREPAIR | Repair kit complete |
| VBPUMP01 | Foot pump standard |
| VBPCON | Air valve connector |
| VBDRAIN | Drain plug set |
| VBHAND | Hand grab with cleat |
| VBVENT | Air valve |
| VBCBAG | Carry bag |
| VBOAR | Oar 152 cm |
| VBOAR20 | Oar 132 cm |
| VBOARL | Oarlock, complete |
| VBOARN | Oarlock, nut only |

VBPUMP01


Foot pump with gauge

VBREPAIR


Repair kit

VBCBAG


Carry bag

VBENBG


Seat bag

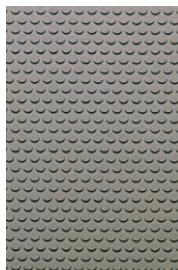
VBCOV


Boat cover

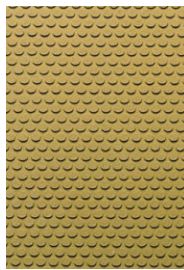


MATERIALS

Non-slip deck covering



ANTI..HAP



ANTI..SAF

Deck covering, made of rubber, cork and plastic. This material has incredibly high non-slip properties under all circumstances. It is highly resistant against sunlight, seawater and oil. Suitable for all types of decks (steel, glassfibre, wood, aluminium and concrete).

Available colours:

- Happy Elephant (grey)
- Safari (light brown)

| Type | Dimension | Thickness |
|-----------|------------|-----------|
| ANTI12HAP | 900 x 1200 | 3 |
| ANTI24HAP | 900 x 2400 | 3 |
| ANTI12SAF | 900 x 1200 | 3 |
| ANTI24SAF | 900 x 2400 | 3 |

VETUS Fix



BOATFIX1

This glue has been specially developed to bond VETUS non-slip deck covering. However, it is also very suitable for bonding P.V.C.- and polyester foil to leather and wood. Excellent adhesion is obtained as well on laminated plastics such as Formica, hard P.V.C. and ABS.

A can of 1 litre VETUS FIX is sufficient to glue 2 to 3 m².

| Type | Description |
|----------|------------------------|
| BOATFIX1 | Boatfix adhesive 1 ltr |

INTERIOR MATERIALS

Poly-wood



SH..WSH

SH..WH

SH..WXSH

This material is ideal for the fabrication of all sorts of components on board. It is completely resistant against sunlight and water and is tough and durable. It is easy to work with using common woodworking machinery and tools. The product is made of solid plastic and is not laminated. Poly-wood cannot rot, splinter, crack open or show discolouration and is therefore particularly suitable for outdoor use in all weather conditions.

Available colour:

- White

| Type | Dimension | Thickness |
|----------|-------------|-----------|
| SH06WXSH | 1210 x 600 | 6 |
| SH12WXSH | 1210 x 600 | 12 |
| SH18WXSH | 1210 x 600 | 18 |
| SH06WSH | 1220 x 800 | 6 |
| SH12WSH | 1220 x 800 | 12 |
| SH18WSH | 1220 x 800 | 18 |
| SH06WH | 1220 x 2440 | 6 |
| SH12WH | 1220 x 2440 | 12 |
| SH18WH | 1220 x 2440 | 18 |

Each sheet is protected by a plastic masking. We recommend that you remove the masking when the job is done; not before.

INTERIOR MATERIALS

Plug and sockets



SC

Watertight plug and socket

Watertight plugs and sockets are available in 2 versions: For cable with a cross sectional area up of to 0,75 mm² (AWG18) max. 3 Amp. or a larger model for cables of up to 2,5 mm² (AWG12) max. 5 Amp. A rubber gasket and a synthetic cover are standard supply.

Material:

- Chrome plated brass

| Type | Description |
|-------|--|
| SC29 | Watertight plug and socket with 2 pins, chromium plated brass |
| SC33 | Watertight plug and socket with 3 pins, chromium plated brass |
| SC44 | Watertight plug and socket with 4 pins, chromium plated brass |
| SC29L | Watertight plug and socket with 2 pins, large model, chromium plated brass |
| SC33L | Watertight plug and socket with 3 pins, large model, chromium plated brass |
| SC44L | Watertight plug and socket with 4 pins, large model, chromium plated brass |

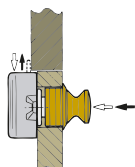
Locks and stays



LOCKDR



LOCKDRC



Push-button lock

Made of plastic with chromium or brass finish push-button.

Dimensions:

- 78 x 45 x 20 mm

| Type | Description |
|---------|---|
| LOCKDRC | Synthetic lock with chromium plated push-button |
| LOCKDRM | Synthetic lock with brass plated push-button |



UITSTEL

Stainless steel (AISI 316) hatch adjusters

Stainless steel (AISI 316). With brackets and knob.

| Type | Min.length | Max. length |
|-----------|------------|-------------|
| UITSTELPH | 202 | 368 |
| UITSTELFE | 261 | 485 |



LOCKS AND STAYS

Gas struts

There are many applications on board where the assistance of a gas strut will reduce the effort required. For example, heavy deck hatches or locker doors. VETUS gas struts are specifically designed for marine use. All external parts are made of stainless steel (AISI 316) or synthetic materials and the special seals guarantee long service life. When fitted vertically, make sure that the piston rod is pointing downward.

These gas-filled cylinders are supplied complete with fixings.

In order to calculate the maximum admissible weight which can be supported, the following data is required:

F = Force of the gas strut in N/m (see table)

G = Weight of the object to be lifted in N

W = Width of the object to be lifted in mm

The calculation goes as follows:

$$\text{Force in N/m} = \frac{G \times \frac{1}{2}W}{1000}$$

Example:

The weight (G) of a hatch is 11 kg (≈ 110 N). The width (W) of the hatch is 600 mm. This means that:

$$\frac{110 \times 300}{1000} = 33 \text{ N/m is needed to hold the hatch open.}$$

In the table we find that GASSP44 delivers 28.8 N/m, which means that an additional 4,3 N/m will have to be applied by the user.

In the case of 2 gas struts GASSP38, $18,9 \times 2 = 37,8$ N/m is delivered by the struts. In this case the user will have to push the hatch down with a force of 4,8 N/m.



GASSP.

| Type | Force in N | Stroke S in mm | Force (F) in N/m | Length L in mm | Length L+S in mm |
|---------|------------|----------------|------------------|----------------|------------------|
| GASSP25 | 180 | 74 | 13,3 | 180 | 254 |
| GASSP30 | 135 | 85 | 11,5 | 220 | 305 |
| GASSP38 | 135 | 140 | 18,9 | 240 | 380 |
| GASSP44 | 180 | 160 | 28,8 | 280 | 440 |
| GASSP51 | 270 | 205 | 55,3 | 305 | 510 |

ACCESSORIES

Marine binoculars

These binoculars are specially designed for marine applications and the materials are carefully selected for their resistance to wind and weather. The lens coatings are specifically chosen for use on the water, where bright light, glare and UV radiation should be taken into account.

Robust, lightweight binoculars

The durable, lightweight housing and the relatively compact size make the BINO1 the ideal binoculars to have at hand at all times. The BK7 prisms and multi-coated lenses deliver very sharp images and the housing is fitted with a non-slip grip.

- BK7 prisms
- Magnification: 7x; Lens diameter 50 mm
- Water repellent
- Fixed focus and central variable focus
- Flexible eyecups for use with (sun) glasses
- Non-slip grip
- Robust housing
- Includes bag and strap and caps



BINO1

High-quality, waterproof binoculars

The BAK 4 prisms create the sharpest and clearest images possible in a binocular in this price range. All lenses are multi-coated for long lasting protection. The superior prisms combined with large lens diameters make these binoculars very suitable for use in difficult conditions such as twilight or bad weather. The binoculars have a robust soft touch casing and ergonomic design making them easy and stable to hold.

- Superior quality prisms (BAK4) for the brightest images
- Magnification: 7x; Lens diameter 50 mm
- Waterproof and fog-free (filled with nitrogen)
- Fixed focus and central variable focus
- Flexible eyecups for use with (sun) glasses
- Ergonomic design and non-slip grip
- Includes bag and floatation strap and caps



BINO2

BK7 and BAK4 refer to the type of glass used for the prisms. The prisms bend the light image inside the binoculars. BK7 is borosilicate and BAK4 barium crown glass. The type of glass affects the sharpness and clarity of the image, BAK4 produces the best images with negligible distortion, whilst BK7 can result in a very slightly distorted image.

ANODES - BOLT-ON - ZINC AND ALUMINIUM

For vessels, which mostly cruise on inland (fresh) waters, we recommend aluminium anodes, since aluminium has a greater difference of potential with other metals than zinc. This is very important, as fresh water provides a higher electrical resistance than salt water. For sailing on salt water or brackish water, we recommend the use of zinc anodes. Aluminium anodes also function well in salt water, but are sacrificed at a much faster rate. We do not recommend the use of magnesium anodes, as the difference of potential with other metals is too great, which could cause damage to the hull paint, especially when sailing in brackish or salt waters.

Use the table below to select the right anode suitable for the type of water in which the boat is generally used.

| Water type | Hull material | | | | |
|------------|-----------------|-----------------|-----------------|-----------------|----------------------|
| | Wood | GRP | Aluminium | Steel | Sterndrive/ outboard |
| Fresh | Aluminium | Aluminium | Aluminium | Aluminium | Aluminium |
| Brackisch | Zinc/ Aluminium | Zinc/ Aluminium | Zinc/ Aluminium | Zinc/ Aluminium | Aluminium |
| Salt | Zinc/ Aluminium | Zinc/ Aluminium | Zinc/ Aluminium | Zinc/ Aluminium | Aluminium |

An annually inspection of the anode is needed, it must be renewed/ replaced when 50% is wasted.


ALU08C
ZINK08C

ALU15C
ZINK15C

ALU25C
ZINK25C

ALU35C
ZINK35C

Weights of the zinc and aluminium anodes

| | Type 8 kg | Type 15 kg | Type 25 kg | Type 35 kg |
|-----------------|--------------|---------------|---------------|---------------|
| Zinc-anode | 1,1 | 1,1 | 2,5 | 4,7 |
| Aluminium anode | 0,47 | 0,49 | 1,1 | 2,1 |

Type of anode material

| Type | Type of alloy according to |
|------------------|----------------------------|
| Zinc | MIL-A-18001K |
| Aluminium | MIL-A-24779 (sh) |

Anode connection kit

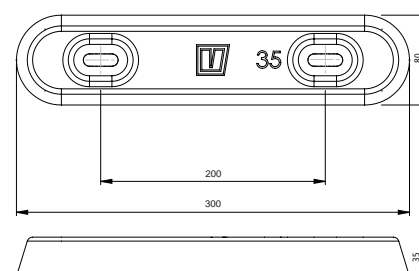
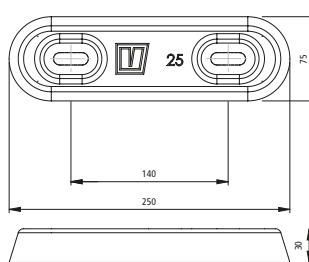
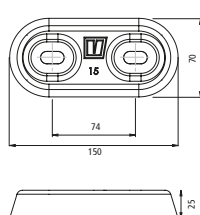
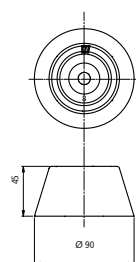
| Type | Specifications |
|--------------|----------------------|
| ZKITS | For steel hulls |
| ZKITP | For for g.r.p. hulls |

Directives for the protection of steel hulls

Exposed surface protected per anode, both aluminium and zinc.

Aluminium and zinc hull anodes

| Type | Type | Adequate paint system | Worn out paint | Unpainted bare |
|------------------|------|-----------------------|-------------------|---------------------|
| ALU08C / ZINK8C | 8 | 12 m ² | 6 m ² | 3,5 m ² |
| ALU15C / ZINK15C | 15 | 14 m ² | 7 m ² | 3,5 m ² |
| ALU25C / ZINK25C | 25 | 24 m ² | 12 m ² | 6,5 m ² |
| ALU35C / ZINK35C | 35 | 40 m ² | 20 m ² | 10,5 m ² |



ANODES - WELD-ON - ZINC AND ALUMINIUM



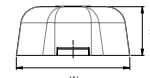
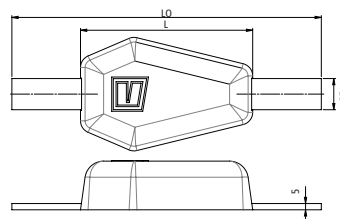
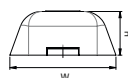
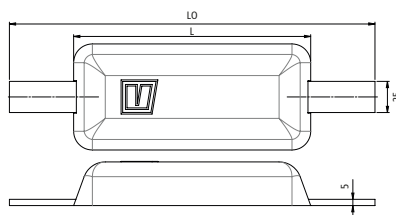
WOA0..A

WOA0..Z



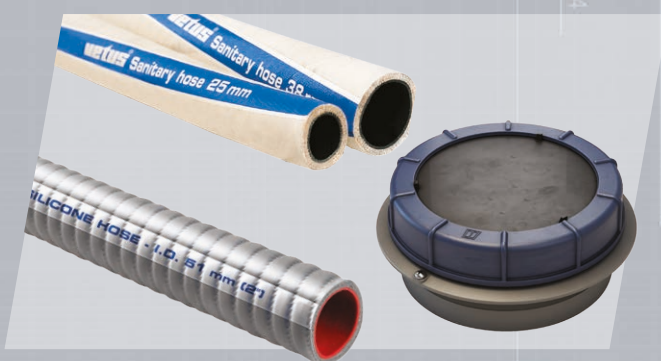
WOA01.A

WOA01.Z



| Type | Description | Type of contour | Length overall (LO=) | Length (L=) | Width (W=) | Height (H=) | Steel strap | Nett Weight (kg) | Gross weight (kg) |
|---------|--------------------------------|-----------------|----------------------|-------------|------------|-------------|-------------|------------------|-------------------|
| WOA000Z | Weld- on hull anode, zinc | Rectangular | 198 | 113 | 60 | 17 | 198x25x3 mm | 0.57 | 0.68 |
| WOA000A | Weld- on hull anode, aluminium | Rectangular | 198 | 113 | 60 | 17 | 198x25x3 mm | 0.25 | 0.36 |
| WOA001Z | Weld- on hull anode, zinc | Rectangular | 198 | 113 | 62 | 25 | 198x25x5 mm | 0.88 | 1.07 |
| WOA001A | Weld- on hull anode, aluminium | Rectangular | 198 | 113 | 62 | 25 | 198x25x5 mm | 0.36 | 0.55 |
| WOA002Z | Weld- on hull anode, zinc | Rectangular | 298 | 200 | 70 | 22 | 298x25x5 mm | 1.56 | 1.85 |
| WOA002A | Weld- on hull anode, aluminium | Rectangular | 298 | 200 | 70 | 22 | 298x25x5 mm | 0.76 | 1.05 |
| WOA003Z | Weld- on hull anode, zinc | Rectangular | 293 | 209 | 65 | 29 | 293x25x5 mm | 1.99 | 2.27 |
| WOA003A | Weld- on hull anode, aluminium | Rectangular | 293 | 209 | 65 | 29 | 293x25x5 mm | 0.82 | 1.10 |
| WOA004Z | Weld- on hull anode, zinc | Rectangular | 293 | 190 | 85 | 35 | 293x25x5 mm | 2.72 | 3.00 |
| WOA004A | Weld- on hull anode, aluminium | Rectangular | 293 | 190 | 85 | 35 | 293x25x5 mm | 1.17 | 1.45 |
| WOA010Z | Weld- on hull anode, zinc | Drop | 230 | 118 | 78 | 25 | 230x25x5 mm | 0.78 | 1.00 |
| WOA010A | Weld- on hull anode, aluminium | Drop | 230 | 118 | 78 | 25 | 230x25x5 mm | 0.33 | 0.55 |
| WOA011Z | Weld- on hull anode, zinc | Drop | 248 | 138 | 92 | 35 | 248x25x5mm | 1.56 | 1.80 |
| WOA011A | Weld- on hull anode, aluminium | Drop | 248 | 138 | 92 | 35 | 248x25x5mm | 0.71 | 0.95 |
| WOA012Z | Weld- on hull anode, zinc | Drop | 248 | 160 | 100 | 42 | 248x25x5 mm | 2.46 | 2.70 |
| WOA012A | Weld- on hull anode, aluminium | Drop | 248 | 160 | 100 | 42 | 248x25x5 mm | 1.01 | 1.25 |

GENERAL PURPOSE PRODUCTS



ILT CONCEPT: UNIVERSAL INSPECTION PORT FOR TANKS

Innovative inspection port with robust design

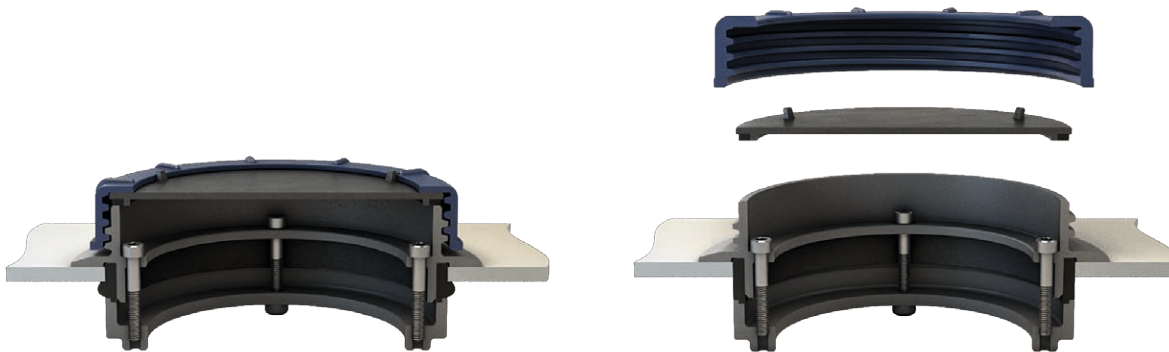
The standard delivery of the VETUS ILT is an innovative port with flange-in-ring design which facilitates easy opening, inspecting and cleaning the tank, even after being closed for a long time. The inspection port has a counter flange and a rubber seal which are inserted into a Ø 159 mm hole in the tank. All that needs to be done is tighten the 4 supplied bolts which compresses the rubber seal to ensure perfect sealing.

The “clamp and seal” design simplifies installation, making the drilling of a Ø 159 hole the hardest part in the installation! It doesn't stop there however, because the sealing mechanism of the inspection lid (in the standard scope of supply) will put the pressure only on the outer rim, while not having to compensate for the friction when opening for inspection!



ILT

Not only does it solve the MANDATORY requirements stated in INTERNATIONAL STANDARD ISO/FDIS 21487: “Diesel tanks shall be equipped with inspection hatch(es) having a suitable diameter of at least 120 mm at suitable position(s) for cleaning and inspection of the lowest part(s) of the tank.” It does so while all connections can stay in place!



| Type | Description | Diameter (mm) | Diameter hole (mm) |
|---------|---|---------------|--------------------|
| ILT120 | Inspection port with counter flange | 120 | 159 |
| VSAW159 | Ø159 mm hole saw for plastic, G.R.P. or stainless steel tanks | | 159 |

ILT CONCEPT: UNIVERSAL INSPECTION PORT FOR TANKS

The VETUS ILT is a revolutionary tank connection system that saves on installation time, minimizes risk of leakage and makes sure that your installation complies with international standards.

With the kits on this page you can easily change the ILT inspection port into a tank connection kit for various type tanks. All you need to do is replace the lid of the ILT for one of these kits.

Best thing about it is that switching these discs is done in seconds!

Fuel connection kit

The separately available fuel connection disc is one set that takes care of all fuel related connections:

- Ø 38 / 51 mm fuel fill connection
- Ø 8 / 10 / 15 fuel suction connection
- Ø 8 / 10 / 15 fuel return connection
- Ventilation connection Ø 16
- 5 hole SAE flange tank level sensor connection



Fresh water connection kit

Keeping fresh water fresh and preventing growth can be tricky, but a large opening will help do the job! Periodic cleaning of all connections and of course the tank itself will be a much easier job if it can be done in a fraction of the time!

For drinking water tanks in all varieties the VETUS ILT freshwater disc is all you need!

The connections that come with this set are:

- Ø 38 mm fresh water fill connection
- Ø 13 mm fresh water suction connection
- Ventilation connection Ø 16
- 5 hole SAE flange tank level sensor connection



Waste water connection kit

Although not mandatory as with fuel tanks, a big port for cleaning and inspection does have its value, having a complete overview of all your connections at a single glance is even better. The VETUS waste water disc is supplied with everything you need for your waste water tank, it doesn't matter if it's a custom made steel, aluminium or a Vetus thick walled rigid tank.

Connections that come with this interchangeable disc are:

- Ø 38 connection for discharge (ability to make this a suction connector by mounting a standard Ø 40 mm PVC pipe)
- Ø 25 connection for discharge
- Ø 19 connection for discharge
- Ventilation connection Ø 19
- 5 hole SAE flange tank level sensor connection



OVERVIEW OF HOSES

VETUS marine hoses are of a high quality and meet all the requirement of the current legislation for use on board. We have a very large range of hoses for all innovative boat systems. Our hoses are highly flexible and extremely resistant to a variety of in- and external influences.

For available sizes see page 374.



DWHOSEA

Water hose type DWHOSEA

Temperature proof between -5 and + 65°C

This hose is made of transparent PVC with spiral inlay and is suitable for transportation of drinking water and grey water on board, both suction and pressure.



FUHOSEA

Fuel hose type FUHOSEA and FUHA115

For transportation of petrol and diesel fuels

The inside is made of NBR rubber and the outside of CR rubber. Can be used for transportation and as ventilation line. Particularly suitable for use of petrol because of low permeability.

Type FUHOSEA meets the CE standard: ISO 7840 marine fuel A1

Type FUHA115 meets the standard ISO 7840 marine fuel A1-15

Always check the rules and regulations that apply in your country.



FUHA115



WWHOSE..A

Waste water hose type WWHOSE..A

This type is made of white PVC with steel spiral inlay.



SAHOSE

Impermeable sanitary no-smell hoses type SAHOSA

An absolute must for waste water tanks

These hoses are made of SBR rubber with inlays of woven synthetic fabric and steel spiral. Recommended especially for transportation of biological waste from (marine) toilets.



BLHOSE

Hose type BLHOSE

For shell and extraction ventilators

Type BLHOSE is made of a woven glass fibre fabric, impregnated with PVC. Temperature resistant between -20° and +100°C.

OVERVIEW OF HOSES

Hose for fluids in closed heating / cooling systems type CCHOSE

Excellent for fluids in air conditioning and central heating

Type CCHOSE is made of EPDM rubber with inlay of woven reinforcement fabric. Suitable for fluids in closed heating and/or cooling systems. When used with air conditioning units, an insulating sleeve (made of a combination of polythene and rubber with a closed cell structure) is required. Temperature resistant between +3° and 80°C.

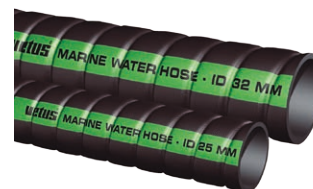


CCHOSE

Cooling water hose type MWHOSE

For all cooling fluids

Type MWHOSE is made of EPDM rubber with synthetic fabric and spiralled steel reinforcement. Suitable for cooling water, both suction and pressure (max. 2,5 bar), salt and fresh water. Temperature resistant between -30° and +120°C.



MWHOSE

Hose type HWHOSE

Ideal for use with calorifier and hot water systems

Type HWHOSE is made of EPDM rubber with an inlay of woven synthetic fabric. Suitable for drinking water and is temperature resistant between -30° and +160°C.



HWHOSE

Silicone hose type SIHOSE

Extremely high temperature resistant

Type SIHOSE is made of high grade silicone rubber with woven synthetic and an encapsulated steel spiral with an external smooth gloss finish. This flexible hose is highly resistant to ageing and suitable for a wide range of applications (exhaust, cooling and waste water hose). Temperature range of -54°, 177° up to 250°C.

Type SIHOSE meets all the requirements of the ISO13363 type Class B and SAE J 2006 R1 standards.



SIHOSE

Fuel filling hose type FFHOSE

Extremely flexible!

Type FFHOS is made of NBR rubber with spiralled steel inlay. Suitable for petrol and diesel fuels. Resistant to temperatures of -30° and +100°C.

Type FFHOSE meets requirements of SAE J 1527 and the standard ISO 7840 marine fuel A2.



FFHOSE

Hose type VHOSE

Very flexible suction/pressure hose

This hose can connect the MOFI air vent to the extraction ventilator type 178. Available for Ø 152 or 178 mm hose connectors.



VHOSE

VHOSE..N

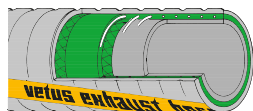


OVERVIEW OF HOSES

Rubber exhaust hose type SLANG

Flexible and strong, saving valuable installation time

Type exhaust hose SLANG is the most flexible hose because of the increased spiral reinforcement and the extremely supple rubber. The completely smooth inside of the hose will reduce back pressure in the engine. Exhaust hoses with an internal diameter up to Ø152mm have a bending radius of more than 1,5 X the diameter. Exhaust hoses with an internal diameter of more than Ø152mm have a bending radius of twice the diameter. Temperature resistant between -30° + 100°C with brief temperatures of 115°C.



Type SLANG is Lloyd's Registered and meets the requirements of the SAE J2006 R2 standard.



SLANG

An engine with a water injection exhaust elbow with an external diameter of 57 mm (2 1/4") may be connected to 60 mm VETUS exhaust hose. In this case VETUS waterlocks, mufflers, goosenecks and transom connections with a size of ø 60 mm can be used as well.

DWHOSE

| Type | Internal Ø mm | External Ø mm | Weight kg/m | Max. pressure bar | Bending radius mm |
|-----------|---------------|---------------|-------------|-------------------|-------------------|
| DWHOSE10A | 10 | 16 | 0,16 | 7 | 20 |
| DWHOSE12A | 12 | 18 | 0,18 | 7 | 25 |
| DWHOSE16A | 16 | 22 | 0,23 | 6 | 35 |
| DWHOSE19A | 19 | 26 | 0,32 | 5 | 50 |
| DWHOSE25A | 25 | 33 | 0,53 | 5 | 60 |
| DWHOSE28A | 28 | 36 | 0,57 | 4,5 | 66 |
| DWHOSE30A | 30 | 38 | 0,60 | 4,5 | 70 |
| DWHOSE32A | 32 | 40 | 0,56 | 4,5 | 75 |
| DWHOSE35A | 35 | 44 | 0,73 | 4 | 80 |
| DWHOSE38A | 38 | 47 | 0,80 | 4 | 90 |
| DWHOSE40A | 40 | 49 | 0,87 | 3 | 95 |
| DWHOSE45A | 45 | 55 | 1,10 | 3 | 105 |
| DWHOSE50A | 50 | 60 | 1,20 | 3 | 125 |

WWHOSE..A

| Type | Internal Ø mm | External Ø mm | Weight kg/m | Max. pressure bar | Bending radius mm |
|-----------|---------------|---------------|-------------|-------------------|-------------------|
| WWHOSE16A | 16 | 22 | 0,23 | 6 | 35 |
| WWHOSE19A | 19 | 26 | 0,32 | 5 | 50 |
| WWHOSE25A | 25 | 33 | 0,53 | 5 | 60 |
| WWHOSE38A | 38 | 47 | 0,80 | 4 | 90 |
| WWHOSE45A | 45 | 55 | 1,10 | 3 | 105 |

SAHOSE

| Type | Internal Ø mm | External Ø mm | Weight kg/m | Max. pressure bar | Bending radius mm |
|-----------|---------------|---------------|-------------|-------------------|-------------------|
| SAHOSE16 | 16 | 26 | 0,45 | 3 | 50 |
| SAHOSE19 | 19 | 29 | 0,55 | 3 | 65 |
| SAHOSE25 | 25 | 36 | 0,72 | 3 | 75 |
| SAHOSE38 | 38 | 48 | 1,15 | 3 | 100 |
| SAHOSE102 | 102 | 115 | 3,86 | 3 | 250 |

FUHOSE - FUHA

| Type | Internal Ø mm | External Ø mm | Weight kg/m | Max. pressure bar | Bending radius mm |
|-----------|---------------|---------------|-------------|-------------------|-------------------|
| FUHOSE06A | 6 | 13 | 0,16 | 10 | 25 |
| FUHOSE08A | 8 | 16 | 0,24 | 10 | 30 |
| FUHOSE10A | 10 | 18 | 0,28 | 10 | 35 |
| FUHOSE13A | 13 | 22 | 0,39 | 10 | 50 |
| FUHOSE16A | 16 | 25 | 0,45 | 10 | 60 |
| FUHOSE19A | 19 | 28 | 0,52 | 10 | 80 |
| FUHOSE25A | 25 | 35 | 0,73 | 10 | 110 |
| FUHA11506 | 6 | 16 | 0,22 | 17 | 13 |
| FUHA11508 | 8 | 17 | 0,24 | 17 | 22 |
| FUHA11510 | 10 | 18 | 0,30 | 17 | 22 |
| FUHA11513 | 13 | 23 | 0,38 | 17 | 35 |

BLHOSE

| Type | Internal Ø mm | External Ø mm | Weight kg/m | Max. pressure bar | Bending radius mm |
|------------|---------------|---------------|-------------|-------------------|-------------------|
| BLHOSE310A | 79 | 30 | 0,2 | - | 47 |
| BLHOSE410A | 102 | 39 | 0,2 | - | 61 |

CCHOSE

| Type | Internal Ø mm | External Ø mm | Weight kg/m | Max. pressure bar | Bending radius mm |
|----------|---------------|---------------|-------------|-------------------|-------------------|
| CCHOSE16 | 16 | 30 | 0,54 | 1.5 | 112 |
| CCHOSE25 | 25 | 39 | 0,76 | 1.5 | 175 |

MWHOSE

| Type | Internal Ø mm | External Ø mm | Weight kg/m | Max. pressure bar | Bending radius mm |
|----------|---------------|---------------|-------------|-------------------|-------------------|
| MWHOSE19 | 19 | 28 | 0,39 | 2.5 | 29 |
| MWHOSE25 | 25 | 34 | 0,51 | 2.5 | 38 |
| MWHOSE32 | 32 | 41 | 0,71 | 2.5 | 48 |
| MWHOSE38 | 38 | 47 | 0,88 | 2.5 | 57 |
| MWHOSE51 | 51 | 60 | 1,15 | 2.5 | 77 |

OVERVIEW OF HOSES

HWHOSE

| Type | Internal Ø mm | External Ø mm | Weight kg/m | Max. pressure bar | Bending radius mm |
|----------|---------------|---------------|-------------|-------------------|-------------------|
| HWHOSE13 | 13 | 23 | 0,36 | 8 | 95 |
| HWHOSE16 | 16 | 26 | 0,40 | 8 | 110 |

SIHOSE

| Type | Internal Ø mm | External Ø mm | Weight kg/m | Max. pressure bar | Bending radius mm |
|-----------|---------------|---------------|-------------|-------------------|-------------------|
| SIHOSE25 | 25 | 35 | 0,60 | 5.0 | 62 |
| SIHOSE32 | 32 | 41 | 0,73 | 4.5 | 80 |
| SIHOSE38 | 38 | 47 | 0,85 | 4.0 | 95 |
| SIHOSE51 | 51 | 61 | 1,31 | 4.0 | 150 |
| SIHOSE63 | 63 | 74 | 1,60 | 3.5 | 190 |
| SIHOSE76 | 76 | 87 | 2,06 | 3.5 | 225 |
| SIHOSE102 | 102 | 113 | 2,70 | 2.0 | 360 |

FFHOSE

| Type | Internal Ø mm | External Ø mm | Weight kg/m | Max. pressure bar | Bending radius mm |
|----------|---------------|---------------|-------------|-------------------|-------------------|
| FFHOSE38 | 38 | 50 | 1,1 | 4 | 76 |
| FFHOSE51 | 51 | 63 | 1,5 | 4 | 102 |

VHOSE

| Type | Internal Ø mm | External Ø mm | Weight kg/m |
|-----------|---------------|---------------|-------------|
| VHOSE152 | 152 | 158 | 0,2 |
| VHOSE152N | 152 | 158 | 0,2 |
| VHOSE178 | 180 | 186 | 0,2 |
| VHOSE178N | 180 | 186 | 0,2 |

SLANG

| Type | Internal Ø mm | External Ø mm | Weight kg/m | Max. pressure bar | Bending radius mm |
|----------|---------------|---------------|-------------|-------------------|-------------------|
| SLANG30 | 30 | 38 | 0,55 | 4 | 45 |
| SLANG40 | 40 | 48 | 0,79 | 4 | 60 |
| SLANG45 | 45 | 53 | 0,88 | 4 | 68 |
| SLANG50 | 51 | 59 | 1,0 | 4 | 77 |
| SLANG57 | 57 | 65 | 1,1 | 3.3 | 86 |
| SLANG60 | 60 | 68 | 1,2 | 3.3 | 90 |
| SLANG65 | 65 | 73 | 1,3 | 3.3 | 98 |
| SLANG75 | 76 | 84 | 1,4 | 3.3 | 114 |
| SLANG90 | 90 | 98 | 1,9 | 2 | 135 |
| SLANG100 | 102 | 110 | 2,3 | 2 | 153 |
| SLANG110 | 110 | 119 | 2,8 | 2 | 165 |
| SLANG125 | 127 | 137 | 3,3 | 2 | 191 |
| SLANG150 | 152 | 163 | 4,4 | 2 | 228 |
| SLANG200 | 203 | 218 | 6,8 | 2 | 406 |
| SLANG250 | 254 | 270 | 8,5 | 2 | 508 |
| SLANG300 | 305 | 323 | 10,8 | 2 | 606 |



LUBRICANTS

VETUS has a wide range of high quality lubricants for marine diesel engines, gearboxes, steering and power systems and bow thrusters. A special line for outboard engines, including stern drive oil and 2- and 4-stroke engine oils is also available. Multipurpose lubricants were recently added to complete this impressive range of lubricants for all marine applications!



Marine diesel engine mineral oil

Suitable for most marine diesel engines, engines with or without turbo pressure charging and generator sets.

Specifications

API CI-4/SL

VMD15

| Type | Specification | |
|---------|---------------|--------|
| VMD151 | 1 L | 15W-40 |
| VMD154 | 4 L | 15W-40 |
| VMD1520 | 20 L | 15W-40 |



Marine diesel engine synthetic oil

Specially developed for high output, modern marine diesel engines and generator sets.

Specifications

API CI-4

VMD10

| Type | Specification | |
|--------|---------------|--------|
| VMD101 | 1 L | 10W-40 |
| VMD104 | 4 L | 10W-40 |



Hypoid gear oil for drive legs

Suitable for bow thrusters drive legs, anchor windlass gearboxes and outboard engine drive legs.

Specifications

API GL-5

VBT

| Type | Specification | |
|-------|---------------|--------|
| VBT05 | 500 ml | 80W-90 |



Transmission oil

Suitable for all marine transmissions where automatic transmission fluid (ATF) Dextron IID or Suffix A is specified.

Specifications

DEXRON II-D

VTF1

| Type | Specification |
|------|---------------|
| VTF1 | 1 L |



Hydraulic Steering oil

Very thin, hydraulic steering oil for optimal functioning in all temperatures.

Specifications

DIN 51524

VHS

| Type | Specification | |
|------|---------------|--------|
| VHS1 | 1 L | 22 CST |



Hydraulic oil

For all hydraulic systems. This product has particularly high EP and corrosion resistant properties.

Specifications

DIN 51524-2 HLP

VHT

| Type | Specification | |
|-------|---------------|-----------|
| VHT1 | 1 L | ISO VG 46 |
| VHT4 | 4 L | ISO VG 46 |
| VHT20 | 20 L | ISO VG 46 |

LUBRICANTS



2-Stroke outboard engine oil

Suitable for 2-stroke outboard engines.

VTS

Specifications

NMMA (BIA) TC-W3

| Type | Specification |
|------|---------------|
| VTS1 | 1 L |



4-Stroke outboard engine oil

Recommended for the lubrication of high speed 4-stroke marine engines under heavy duty load.

VFS

Specifications

NMMA FC-W

| Type | Specification |
|--------|---------------|
| VFS251 | 1L 25W-40 |
| VFS101 | 1L 10W-30 |



Teflon Spray

A widely applicable lubricant for cleaning, lubricating and protection against dirt and moisture. Only available in 400 ml.

VTEFS

| Type | Specification |
|-------|---------------|
| VTEFS | 400 ml |



Shipping Grease

A lithium soap thickened grease with excellent water-displacing qualities even in salt water.

VSG

Specifications

N.L.G.I. Klasse 2, DIN 51 502, KP 2 K-30

| Type | Specification |
|------|---------------|
| VSG | 600 gr |



Stern drive oil

Specially developed for transmissions used in watersports such as outboard drive legs and stern drives. Outstanding moisture resistance, excellent protection against rust and corrosion.

VSD

Specifications

API: GL-4/5 SAE 75W-90

| Type | Specification |
|---------|---------------|
| VSD7505 | 500 ml 75W-90 |



Organic Coolant -38°C

A modern organic coolant for all types of engines made of cast iron, steel or aluminium. Available in 1 litre (VOC1) and 4 litres (VOC4).

VOC

| Type | Specification |
|------|---------------|
| VOC1 | 1 L |
| VOC4 | 4 L |



Sump-pump

This pump is for emptying the engine sump, gearbox comes complete with tubing.

CARTERP

| Type | Specification |
|---------|---------------------------------------|
| CARTERP | Manual sump-pump, brass, incl. tubing |



ALUMINIUM AND ZINC ANODES

Protection by means of anodes is a "must" for all metal parts under water. Therefore, not only for steel boats, but also for wooden, fibreglass and aluminium hulls, anodes are required. The material of VETUS zinc anodes is of the highest possible standard, the U.S. mil.-A-18001 K. specifications. Anodes which do not meet these specifications have little or no effect.

VETUS aluminium anodes consist of an aluminium-indium-zinc alloy Mil - A - 24779 (SH). All VETUS anodes are streamlined and mounted either with studs, which can be welded to a steel hull, or through-hull bolts for fibreglass and wooden boats.

We supply these studs and bolts separately.

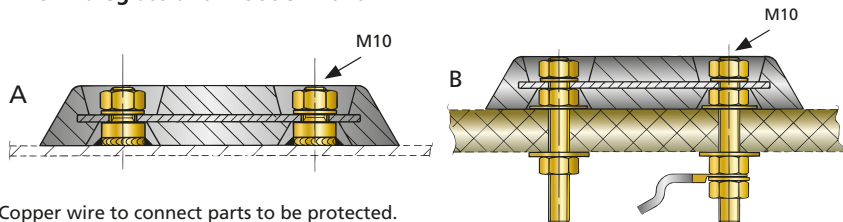
When ordering, please always specify the material of the hull. All metal parts must have a direct contact with the anode. Therefore the bolts supplied for e.g. fibreglass hulls must have a wire-connection, so that contact can be made with the metal parts.

(See drawing B). On fibreglass and wooden boats only the **metal** parts must be protected. For anodes type 8 you need **one** (1) connection kit and for types 15, 15S, 25, 25S and 35 you need **two** (2) of these. All VETUS anodes have a protective layer of paint at the mounting side to prevent damage to the paint work of your boat.

A How to install weld-on studs for steel hulls

Anodes that are installed by means of studs are much easier to replace than anodes that are welded directly to the ship's hull.

B For fibreglass and wooden hulls



* Copper wire to connect parts to be protected.



Shaft anodes, for installation directly to the propeller shaft

VETUS shaft anodes are designed to create a perfect fit on the shaft. Even as the anode is eroded, it cannot come loose. An interlock system is incorporated in both halves, to ensure that the bolt holes are in perfect alignment. The material around the holes is also increased to prevent the bolts becoming loose.

Shaft anodes are not recommended on high speed vessels. They create turbulence in the water flow around the propeller and as they erode, can cause imbalance in the propeller shaft. These problems do not occur when using the VETUS propeller nut with integrated zinc anode.

Shaft anodes can be supplied with a metal bracket by special order.



ZINKAS

ZASA

Zinc anodes for shaft mounting

| Type | Shaft Ø mm | Anode Ø mm | Length mm | Weight kg |
|-----------|------------|------------|-----------|-----------|
| ZINKAS25C | 25 | 58 | 56 | 0,50 |
| ZINKAS30C | 30 | 58 | 60 | 0,55 |
| ZINKAS35C | 35 | 65 | 65 | 0,68 |
| ZINKAS40C | 40 | 81 | 71 | 1,30 |
| ZINKAS45C | 45 | 81 | 71 | 1,40 |
| ZINKAS50C | 50 | 81 | 71 | 1,00 |
| ZINKAS60C | 60 | 105 | 96 | 2,60 |

| Type | Shaft Ø inches | Anode Ø mm | Length mm | Weight kg |
|---------|----------------|------------|-----------|-----------|
| ZASA1C | 1" | 54 | 55 | 0,40 |
| ZASA1¼C | 1.25" | 61 | 60 | 0,53 |
| ZASA1½C | 1.5" | 70 | 66 | 0,74 |
| ZASA1¾C | 1.75" | 80 | 70 | 1,07 |
| ZASA2C | 2" | 90 | 74 | 1,40 |

Zinc anodes for bow thrusters

| Type | Specifications |
|---------|---|
| SET0148 | For bow thruster 25 kgf |
| SET0149 | For bow thruster 35, 45, 55 kgf |
| SET0150 | For bow thruster 60, 75, 80, 95 kgf |
| SET0151 | For bow thruster 125, 130, 160 kgf |
| SET0152 | For bow thruster 220 kgf |
| SET0153 | For bow thruster 23, 50, 80 kgf and for all stern thruster sets |

Zinc anodes for VETUS shaft nuts

| Type | Specifications |
|-------|--|
| SN25B | Spare zinc anode for Ø 25 mm shaft nut |
| SN30B | Spare zinc anode for Ø 30 mm shaft nut |
| SN35B | Spare zinc anode for Ø 35 mm shaft nut |
| SN40B | Spare zinc anode for Ø 40 mm shaft nut |
| SN45B | Spare zinc anode for Ø 45 mm shaft nut |
| SN50B | Spare zinc anode for Ø 50 mm shaft nut |

SPARE PARTS

VETUS products are manufactured to the highest quality standards. Using only genuine VETUS spare parts protects your investment and maintains the unique warranty conditions. Our dealer network is committed to deliver the right part any time and place you need it.

VETUS Diesel Engine Spare Parts

All engine spare parts are manufactured to the same quality standards as the original engine and subject to strict testing procedures. Thanks to short lines of communication with our suppliers and advanced testing facilities, we can offer high quality and the most extensive warranty conditions in the market.

VETUS Diesel service kit

Regular engine maintenance and daily checks will help to avoid unpleasant surprises whilst out on the water! To make your life easier, a VETUS Diesel Service kit is available for nearly each type VETUS marine diesel engine. Please have your type number available when you order your kit with your dealer to make sure you order the right service kit. This number can be found on the sticker on your engine.

The following items are included in the spare parts kit

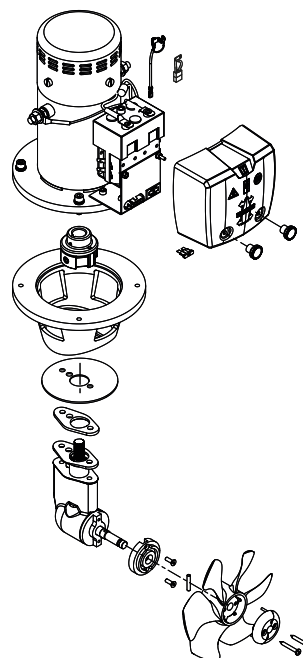
- Oil filter
- Fuel filter
- V-belt
- Impeller
- Gasket



VETUS Equipment spare parts

For VETUS equipment we have a wide range of spare parts in stock for replacement, maintenance and repair. The availability of these spare parts will considerably extend the life time of your boat equipment.

Looking for the right part: check our website and go to the 'Service and Support' module to find the part list for your VETUS product.



VETUS Service network

As the owner of a VETUS engine/product we hope you can enjoy your time on the water without any problems. Regular service and maintenance is, of course, very important, nevertheless even the most reliable products can sometimes develop a problem. With the VETUS worldwide service network we are able to help you with your unexpected issues. We can help you as quickly as needed. Most spare parts are in stock in our central warehouses, from O-rings to alternators and from oil filters to heat exchangers, for both current and discontinued VETUS engines and products alike.



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