



Why use a water-injected "wet" exhaust system?

The following factors are of great importance:

- 1) Exhaust gas **temperatures** can reach very high levels. A diesel engine can easily produce an exhaust gas temperature of 600°C (1100°F) or more.
- 2) The **speed** with which sound can be transmitted through air is dependent on the temperature of the air. This applies to exhaust gases as well. The higher the exhaust temperature, the higher the speed of sound through the gas.
- 3) The **sound level**, i.e. the relative volume of sound as experienced by the human ear, is in turn dependent on the speed of sound. As the speed of sound transmission reduces, so the sound level will reduce proportionally.

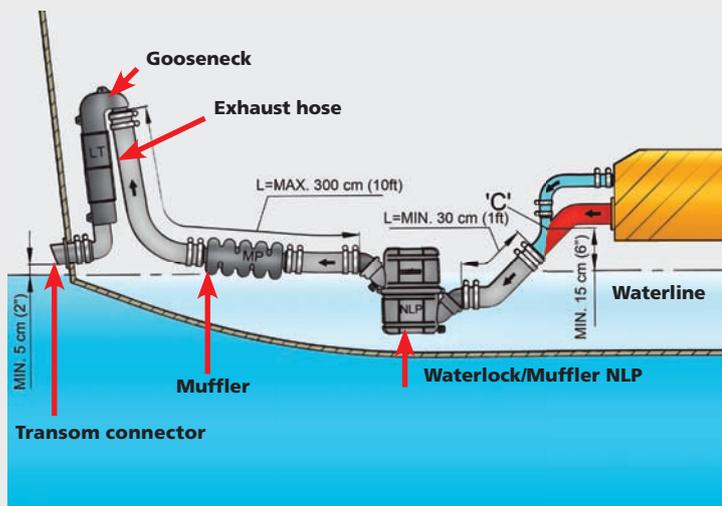
In the past, many boats used a "dry" exhaust system, in which the exhaust gases were transported to outside the hull without any form of cooling. The resultant hot exhaust pipe had to be thoroughly insulated, but even so, it produced a tremendous amount of noise. However, reduction of exhaust gas temperature to about 40° or 50°C (104°F or 122°F) 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. A further major advantage of reducing the temperature, is the fact that all exhaust components downstream from the engine outlet can be made from rubber or synthetic materials. This permits greater design sophistication and weight reduction and ensures freedom from corrosion.

What requirements must be fulfilled by a "wet" exhaust system?

In its simplest form, a rubber hose, running from the engine directly to the transom of the boat, seems adequate enough. However, the following issues must also be taken into consideration:

- After the engine is stopped, the cooling water in the exhaust system must not be able to flow back into the engine.
- Water outside the boat must be prevented from entering the exhaust system and therefore the engine, through the transom connection.

In order to fulfil these requirements, VETUS offers a complete range of exhaust components made of synthetic materials, such as:



Exhaust system with the water injection point "C" **15 cm (6") or more** above the waterline.

A waterlock (see pages 65 to 69) will collect the cooling water present in the system when the engine is stopped. In addition, a waterlock has great sound-deadening capabilities and acts as a very efficient muffler. The size of the waterlock is not only determined by the diameter of the exhaust hose, but also by the quantity of water that must be collected. Therefore, VETUS offers waterlocks with extra large capacity for systems with long exhaust runs.

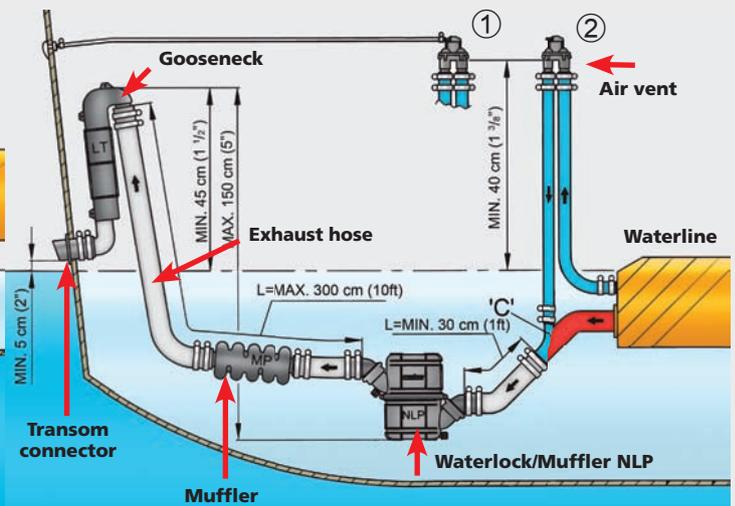
A **gooseneck** (see page 70) raises the exhaust hose above the waterline, so that water cannot backfill the exhaust system. After the engine is stopped, all cooling water in the exhaust hose will run to the lowest point of the system, which is where the waterlock should be situated. In order to limit the quantity of water, the gooseneck should be fitted as closely as possible behind the waterlock. But, if required, it may also be fitted directly onto the transom exhaust connection.

The **transom exhaust connection** (see page 76) should be fitted **above** the waterline, as a general rule.

We recommend VETUS **rubber exhaust hose** (see page 77) for all water-injected exhaust systems: VETUS exhaust hose is extremely flexible but it cannot collapse when subjected to heat and is resistant to exhaust gases, temperatures up to 100°C, and oil residues. These hoses are Lloyd's approved and satisfy the SAE J2006 R2 directives.

Always fit an **exhaust temperature alarm** (see page 71) in order to warn off excessive temperature in the exhaust system. This can happen if the cooling water flow is restricted or blocked altogether. VETUS marine diesel engines have an exhaust temperature alarm fitted as standard.

The height of the cooling **water injection** point into the exhaust system, relative to the external waterline, is of great importance. If the **water injection point is 15 cm (6") or more above the waterline**, the cooling water may be injected directly into the exhaust system. However, if the **water injection point is less than 15 cm (6") above the waterline (or even below it)** there is a risk that the cooling system will siphon water through the intake, once the engine is stopped. This water will fill up the exhaust system and eventually get back into the engine cylinders via the exhaust valves. This siphon action may be prevented by having a **breather hose** (1) in the cooling water line or by fitting an **air vent** (2).



Exhaust system with the water injection point "C" **less than 15 cm (6")** above the waterline.

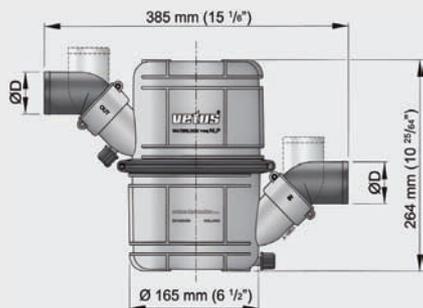


Waterlock/mufflers type NLP (Ø 40 (1⁹/₁₆")-45 (1¹²/₁₆")-50 (2")-60 (2⁶/₁₆")-75 (3")-90 (3⁹/₁₆"))

The NLP waterlocks are of **dual stage construction**, featuring **upper and lower** chambers with a horizontal partition plate and a riser tube through the centre. Compared with single stage waterlocks using only one chamber, these NLP waterlocks offer superior silencing of exhaust noise with minimal back pressure. Since the top chamber may be rotated through 360° and both the inlet and the outlet connectors can rotate through 360°, installation of the exhaust assembly even in confined engine spaces is greatly simplified.

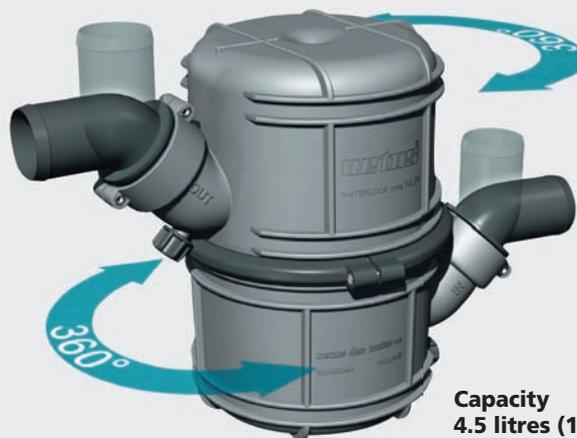
How these waterlocks operate

The rotatable inlet of the waterlock is connected to the engine exhaust manifold, using VETUS exhaust hose (see page 77). The exhaust gases, mixed with cooling water are forced from the lower chamber into the upper one, via the central riser tube and then through the (also rotatable) outlet connector at the top. This outlet connector is coupled to the transom connector, again by means of VETUS exhaust hose. For optimum silencing of exhaust noise, we recommend installation of a VETUS muffler and gooseneck NLPG (see page 66) in the exhaust line, after the NLP waterlock.

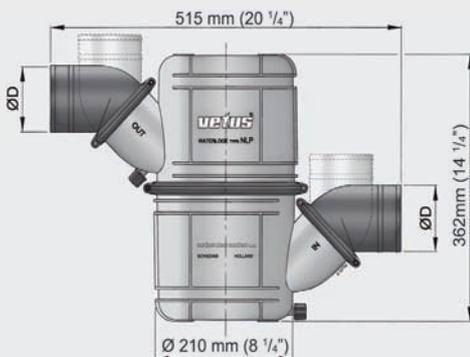


- NLP40**
- NLP45**
- NLP50**

Suitable for exhaust hose with inside diameter of resp. Ø 40 mm (1¹²/₁₆"), Ø 45 mm (1¹²/₁₆"), Ø 51 mm (2"), Ø 60 mm (2⁶/₁₆"), Ø 76 mm (3") or Ø 90 mm (3⁹/₁₆"). Provided with drain plugs (for winter storage). Straps to secure the waterlock to the boat are supplied as standard. Capacity 4.5 (1.2 gal.) and 10 litres (2.6 gal.).



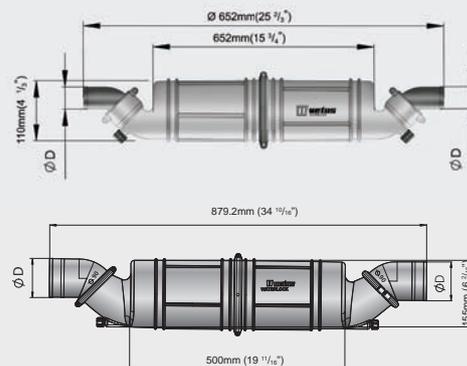
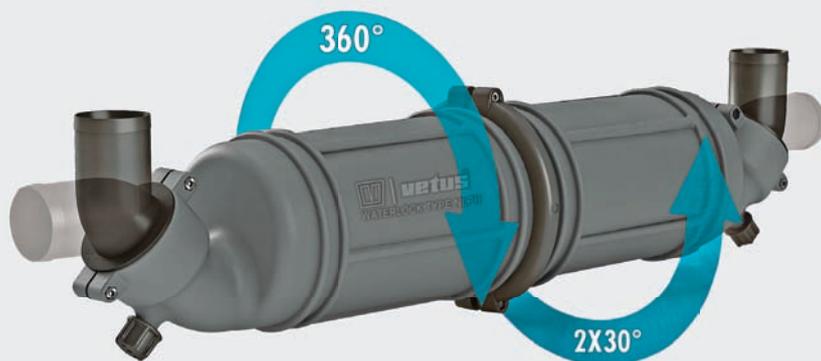
Capacity
4.5 litres (1.2 gal.)



- NLP50S***
- NLP60**
- NLP75**
- NLP90**



Capacity
10 litres (2.6 gal.)



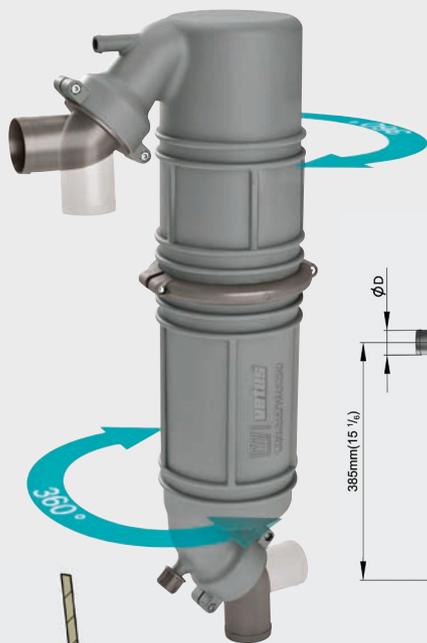
- NLPH40** **NLPH60**
- NLPH45** **NLPH75**
- NLPH50** **NLPH90**

Capacity 3 litres (0.8 gal.) (40-45-50)

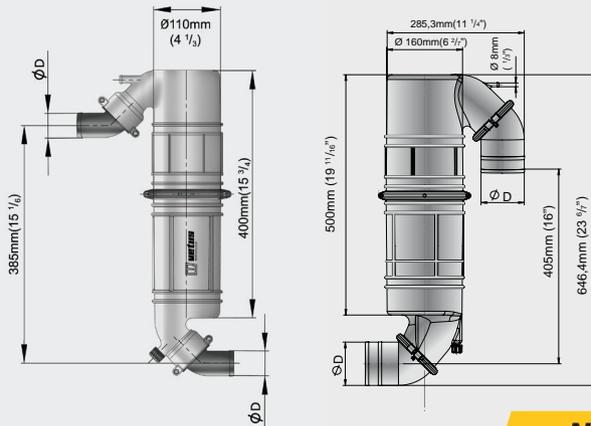
Capacity 10 litres (2.6 gal.) (60-75-90)

Waterlock / muffler, type NLPH

The construction of this new VETUS waterlock / muffler consists of two rotatable components. The hose connections are also fully rotatable, ensuring simple and time-saving installation in a wide range of applications. This combined exhaust component is designed for **horizontal** installation. Available with hose connections of $\varnothing 40 \text{ mm}$ ($1\frac{1}{2}$ "), $\varnothing 45 \text{ mm}$ ($1\frac{1}{2}$ "), $\varnothing 51 \text{ mm}$ (2"), $\varnothing 60 \text{ mm}$ ($2\frac{1}{4}$ "), $\varnothing 76 \text{ mm}$ (3") or $\varnothing 90 \text{ mm}$ ($3\frac{3}{4}$ ").



- NLPG40** **NLPG60**
- NLPG45** **NLPG75**
- NLPG50** **NLPG90**

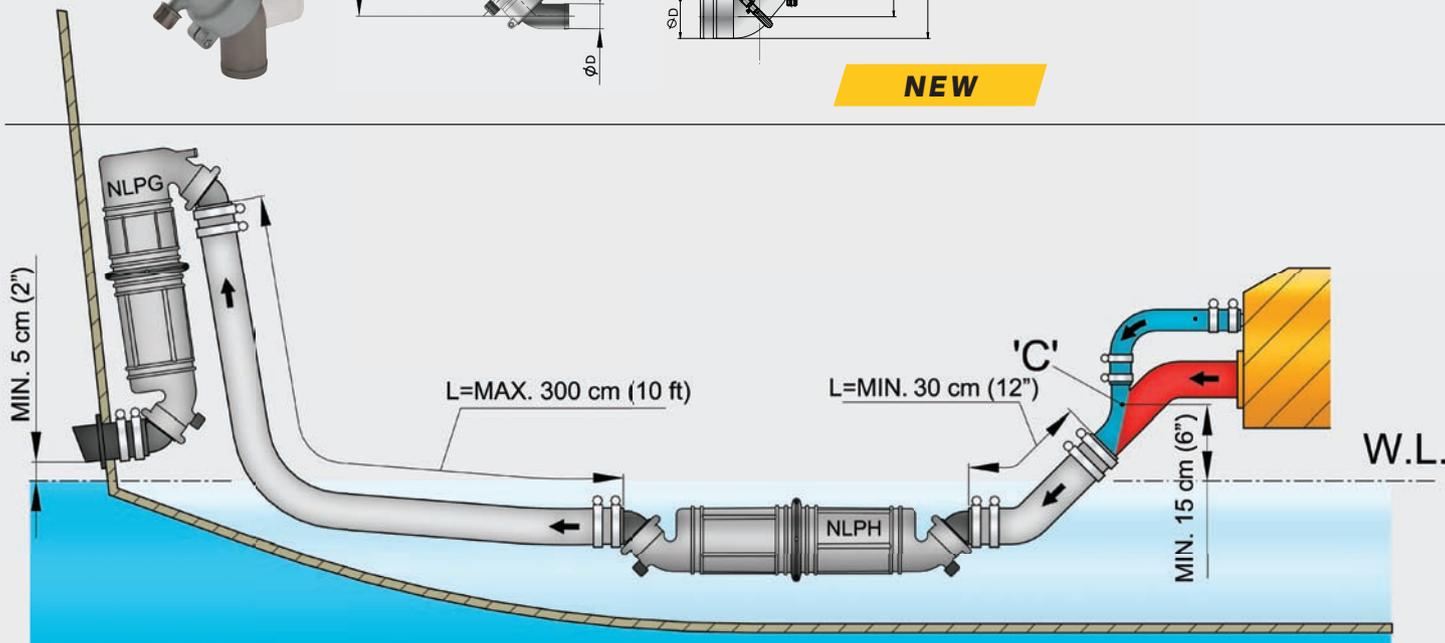


Muffer / gooseneck, type NLPG

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

The results are impressive and all with negligible back pressure in the system. Both the sections and the hose connections of this new model are fully rotatable, ensuring ease of installation. A hose stub to connect an air vent is standard. Available with hose connections of $\varnothing 40 \text{ mm}$ ($1\frac{1}{2}$ "), $\varnothing 45 \text{ mm}$ ($1\frac{1}{2}$ "), $\varnothing 51 \text{ mm}$ (2").

NEW



Exhaust system with the water injection point "C" **15 cm (6") or more** above the waterline.



Waterlock / muffler type NLP3

Maximum sound reduction

The NLP3 waterlock / muffler is the quietest in the world.

Due to its unique three chamber construction the sound attenuation is an incredible 10 dB more than that achieved with a two chamber waterlock. **No other waterlock on the market reduces the sound better.**

The NLP3 has rotatable chambers as well as rotatable hose connections, ensuring quick and simple installation in even the most confined spaces. It is available with hose connections to suit internal hose diameters of \varnothing 40 mm ($1\frac{1}{2}$ "), \varnothing 45 mm ($1\frac{1}{2}$ " or $1\frac{15}{16}$ " or 50 mm ($1\frac{15}{16}$ ").

Provided with drain plugs for winter storage. Straps to secure the waterlock to the boat are supplied as standard.

Capacity 4 litres (1 gal.)

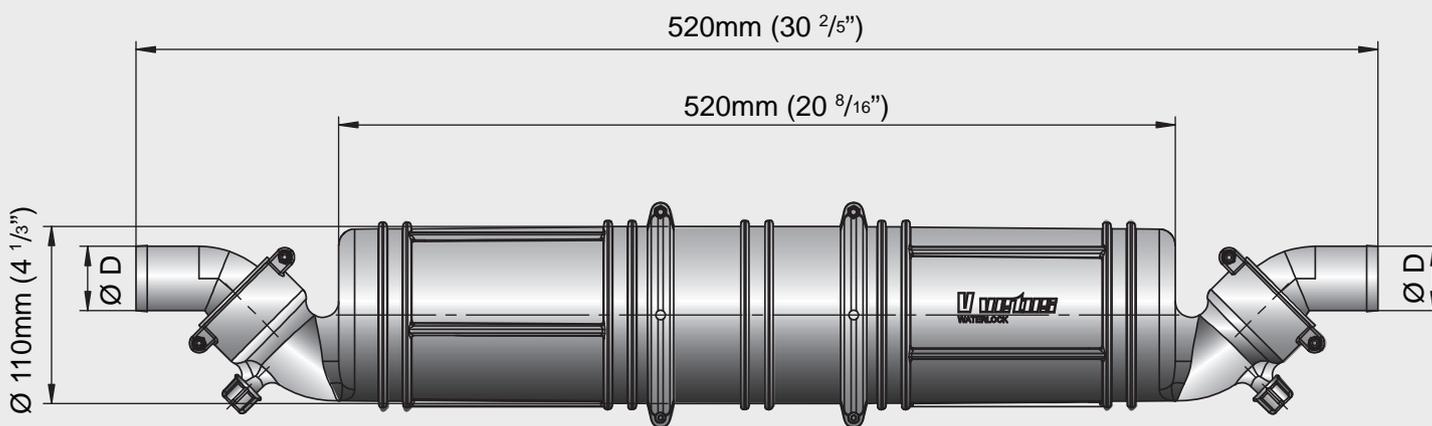
NEW



NLP340

NLP345

NLP350



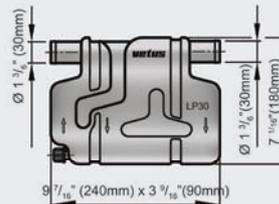
	NLP340	NLP345	NLP350
Ø D	40 mm ($1\frac{1}{2}$ ")	45 mm ($1\frac{1}{2}$ ")	50 mm (2")



Waterlocks



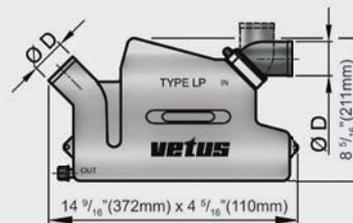
WLOCKLP30
Capacity 2.3 litres (0.6 gal.)



Suitable for exhaust hose with 30 mm (1³/₁₆" I.D. Provided with a drain plug for winter storage.



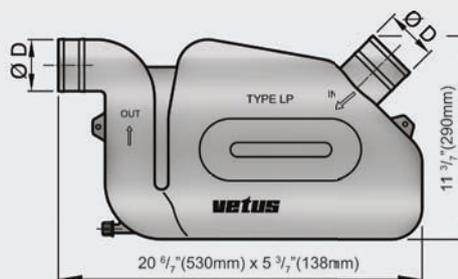
WLOCKL40R
WLOCKL45R
WLOCKL50R
Capacity 4.3 litres (1.05 gal.)



For exhaust hose with internal diameters of 40 mm (1⁵/₁₆"), 45 mm (1¹/₂" or 1¹/₂" I.D. or 51 mm (2") I.D. Provided with a plug for draining during winter time. The inlet connection of these 3 models will **revolve through 360°**, which greatly facilitates the installation of the exhaust assembly. There is a larger waterlock for 51 mm (2") I.D. hose (shown below) which is recommended for assemblies with longer length exhaust hose (more than 4 metres (12 ft.) total hose length).



WLOCKL50S
WLOCKLP60
WLOCKLP75
WLOCKLP90
Capacity 10.5 litres (2.77 gal.)



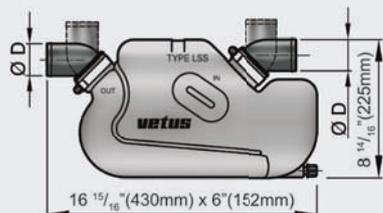
For exhaust hose with internal diameters of 51 mm (2"), 60 mm (2⁹/₁₆" I.D.), 76 mm (3") or 90 mm (3⁹/₁₆" I.D. The smaller model L50R, shown above, is to be used when the exhaust line is relatively **short**, whereas the larger model LP50S should be used with a **long length** of exhaust hose. These waterlocks are provided with a drain plug.



Waterlocks for long exhaust systems

Sometimes, notably in the case of sailing yachts, the exhaust line is so long that an extra large waterlock is needed to prevent the large volume of water in the line from running back into the engine once it has been stopped. VETUS waterlocks type LSG, LSS and LSL are the ideal solution for boats sailing in rough waters, without the engine running. To simplify installation of models LSS and LSG, both the inlet and outlet stubs will rotate through 360 degrees. They are also fitted with a drain plug for winter storage. It is possible to fit a sensor for an exhaust temperature alarm into the inlet hose connection of the LSG. Model LSS features a reduced height of 225 mm (8¹¹/₁₆"), thus enabling easy installation under floor.

Hose connection Ø 40 mm (1⁹/₁₆"), 45 mm (1¹²/₁₆") or 51 mm (2") Inlet and outlet stubs will rotate through 360 degrees. One securing strap is standard supply.



LSS40A

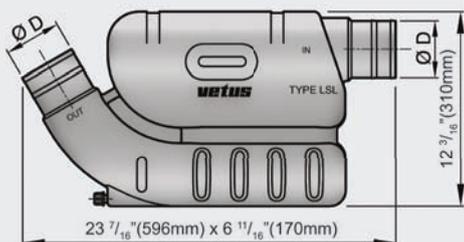
LSS45A

LSS50A

Capacity 7½ litres (2 gal.)



These waterlocks are designed for long relatively straight exhaust runs, for example in sailing boats. They have fixed (non-rotating) inlet and outlet connections and are available for Ø 60 mm (2⁶/₁₆"), 75 mm (2¹⁵/₁₆") or 90 mm (3⁹/₁₆") internal diameter exhaust hose. Two securing straps are standard supply.



LSL60

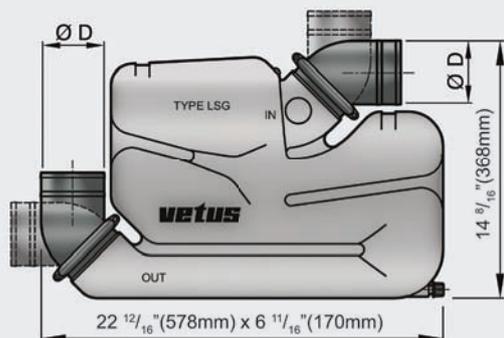
LSL75

LSL90

Capacity 16 litres (4.23 gal.)



Hose connection Ø 60 mm (2⁶/₁₆"), 76 mm (3") or 90 mm (3⁹/₁₆"). With check valve and the inlet/outlet stubs will rotate through 360 degrees. Two securing straps are standard supply.



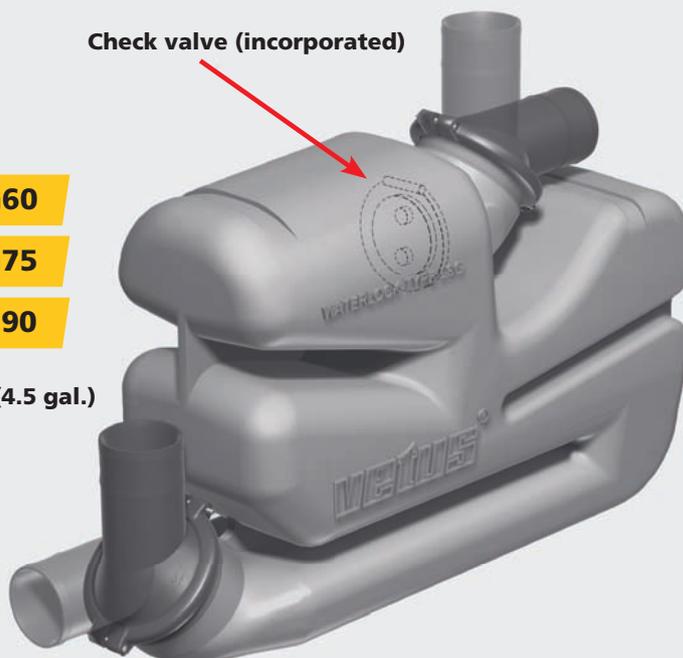
LSG60

LSG75

LSG90

Capacity 17 litres (4.5 gal.)

Check valve (incorporated)





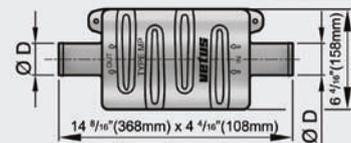
Exhaust systems with water injection from 40 (1⁴/₇")-152 (6") internal diameter



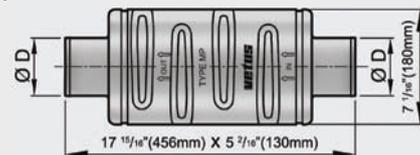
- DEMPMP40**
- DEMPMP45**
- DEMPMP50**
- DEMPMP60**
- DEMPMP75**
- DEMPMP90**
- DEMPMP100**

Muffer

Available for exhaust hoses of 40 mm (1⁹/₁₆"), 45 mm (1¹²/₁₆") or 51 mm (2"), 60 mm (2 ⁶/₁₆"), 75 mm (2¹⁵/₁₆"), 90 mm (3⁹/₁₆") or 102 mm (4") I.D. This muffer creates additional mixing of the water inside the exhaust line, which results in even better noise reduction. The construction of the muffer causes almost no resistance to the free flow of the exhaust gases.



- MP 40 (Ø 40 mm (1⁴/₇"))
- MP 45 (Ø 45 mm (1⁷/₉"))
- MP 50 (Ø 51 mm (2"))
- MP 60 (Ø 60 mm (2¹/₃"))



- MP 75 (Ø 76 mm (3")) 456 (17⁵/₁₆") x 130 (5¹/₈") x 180 (7¹/₈")
- MP 90 (Ø 90 mm (3⁹/₁₆")) 456 (17⁵/₁₆") x 130 (5¹/₈") x 180 (7¹/₈")
- MP 100 (Ø 102 mm (4")) 580 (22³/₁₆") x 168 (6⁵/₈") x 202 (7¹⁵/₁₆")

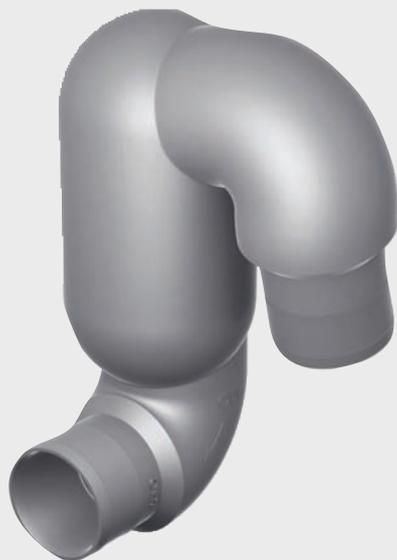
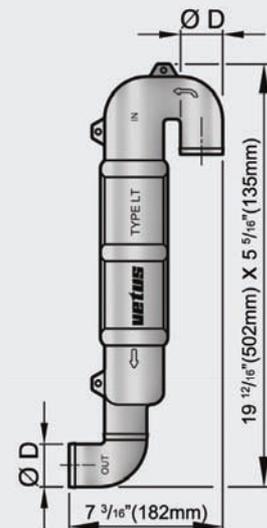


- WLOCKLT40**
- WLOCKLT45**
- WLOCKLT50**
- WLOCKLT60**

Gooseneck

LT 40 / LT 45 / LT 50 / LT 60
Available for exhaust hose of Ø 40 mm (1⁹/₁₆"), Ø 45 mm (1¹²/₁₆") Ø 51 mm (2"), Ø 60 mm (2⁶/₁₆"),

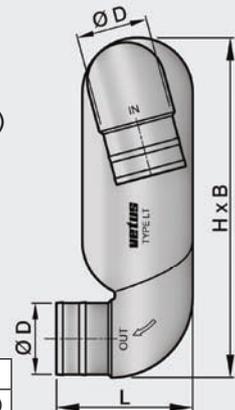
An engine with a water injection exhaust elbow with an external diameter of 57 mm (2¹/₄") may be connected to Ø 60 mm (2⁶/₁₆") VETUS exhaust hose. In this case VETUS waterlocks, mufflers, goosenecks and transom connections with a size of Ø 60 mm (2⁶/₁₆") can be used as well.



- LT6565**
- LT6575**
- LT7575**
- LT9090**
- LT90110**
- LT110110**
- LT102**
- LT127**
- LT152**

Gooseneck

LT 75 / LT 90-90 / LT 102 / LT 127 / LT 152
Available for exhaust hose of Ø 76 mm (3"), Ø 90 mm (3⁹/₁₆"), Ø 102 mm (4") Ø 127 mm (5") or Ø 152 mm (6") I.D. Stainless steel fastening brackets are supplied as standard with these goosenecks.

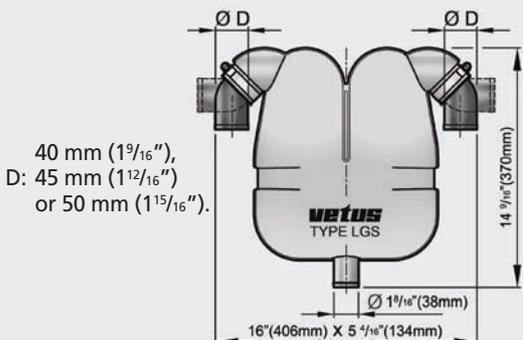


Ø	D	B	L	H
LT 65	65 (3")	235 (9 ¹ / ₄ ")	155 (6 ¹ / ₈ ")	500 (19 ³ / ₄ ")
LT 75	75 (3")	235 (9 ¹ / ₄ ")	155 (6 ¹ / ₈ ")	500 (19 ³ / ₄ ")
LT 90	90 (3 ¹ / ₂ ")	300 (11 ⁷ / ₈ ")	210 (8 ¹ / ₄ ")	525 (20 ³ / ₄ ")
LT 102	102 (4")	300 (11 ⁷ / ₈ ")	210 (8 ¹ / ₄ ")	525 (20 ³ / ₄ ")
LT 110	110 (4 ³ / ₁₆ ")	300 (11 ⁷ / ₈ ")	210 (8 ¹ / ₄ ")	525 (20 ³ / ₄ ")
LT 127	127 (5")	380 (15")	275 (10 ⁷ / ₈ ")	565 (22 ¹ / ₄ ")
LT 152	152 (6")	380 (15")	275 (10 ⁷ / ₈ ")	565 (22 ¹ / ₄ ")



Gas/water separator for marine engines and generator sets

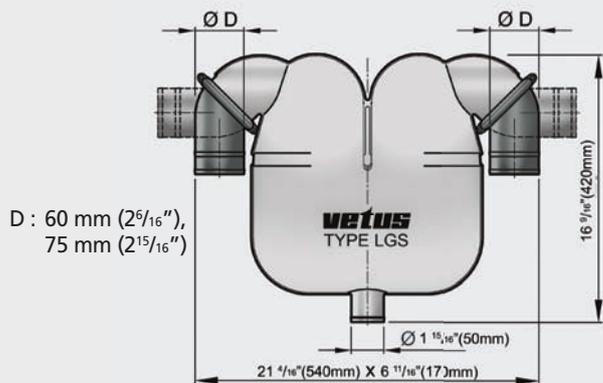
Generator sets and **marine diesel engines** often produce disturbing, gurgling **exhaust noises**. The VETUS gas/water separator type LGS offers the ultimate solution, because it separates the injected raw cooling water from the exhaust gases. In addition, the LGS gas/water separator has great sound-deadening capacities and it functions as a gooseneck as well. The models LGS 40/45/50 are supplied with hose connectors with diameter Ø 40 mm (1⁹/₁₆"), 45 mm (1¹²/₁₆") 50 mm (1¹⁵/₁₆"), which can **rotate through 360°** and they have a capacity of 7 litres (1.5 gal.). The cooling water drain pipe has a diameter of Ø 38 mm (1⁹/₁₆"). The models LGS 60/75 have 360° rotatable connectors, with a diameter of Ø 60 mm (2⁶/₁₆") or 75 mm (2¹⁵/₁₆"). The capacity is 12 litres (32 gal.) and the cooling water drain pipe has a diameter of Ø 50 mm (1¹⁵/₁₆"). A stainless steel mounting bracket with synthetic straps is supplied standard with all models.



LGS4038

LGS4538

LGS5038

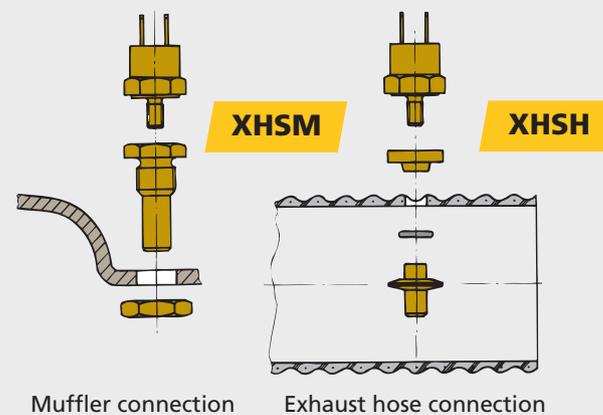


LGS6050

LGS7550



Exhaust temperature alarm



A blockage in the engine water intake or a damaged pump impeller will result in complete loss, or severe reduction in the volume of cooling water in the exhaust system. In this case the temperature of the exhaust will rise much faster than the temperature of the engine. We recommend that a VETUS exhaust temperature alarm is always installed in the exhaust line. This alarm is designed for water injected exhaust systems. It provides a visual and an audible alarm when the temperature inside the exhaust hose or the muffler exceeds an acceptable level.

The temperature sensors, to be fitted into the exhaust hose or the waterlock/muffler, and the **alarm unit** must be ordered separately. In the case of a twin engine installation 2 sensors may be connected to 1 alarm unit, if so required. One sensor may also serve two alarm units, e.g. in the case of a second steering position. Cut-out dimensions: Ø 52 mm (2¹/₁₆"). Outside dimensions: Ø 62 mm (2⁷/₁₆"). Available for 12 and 24 Volt D.C.

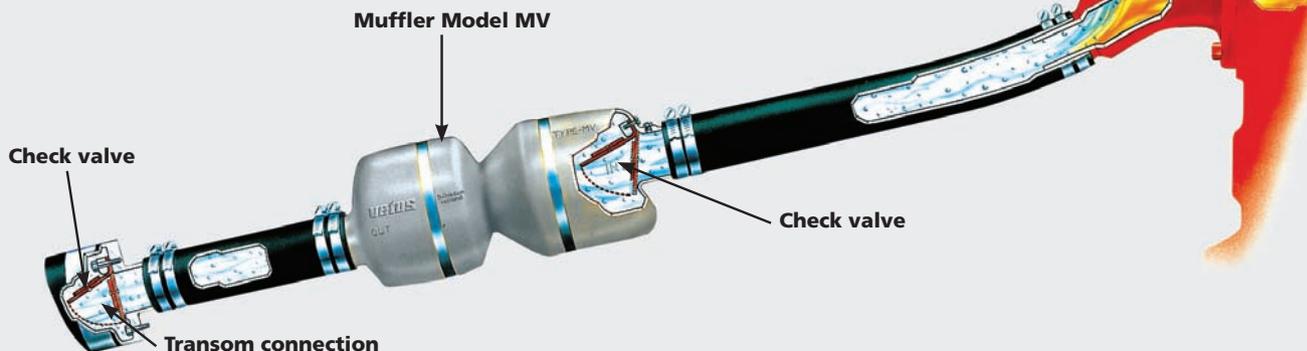


XHI



Exhaust systems for high-performance craft

Specially developed for fast craft with powerful engines, where very often there is no space available for installation of a waterlock and/or gooseneck.



- Application in combination with **water-injected** exhaust systems only.
- All parts are made of synthetic materials (no corrosion).
- Tremendous reduction of exhaust noise.
- Back pressure is absolutely minimal.
- Compact dimensions and light-weight.
- Stainless steel mounting brackets for the muffler are standard supply.
- The transom connection can be stainless steel (model TRCVS), or reinforced black plastic, with a stainless steel band (model TC). Both types are provided with a check valve.
- For muffler model MV a temperature sensor for a raw water

alarm is optional and can be supplied with the muffler. The muffler and the transom connection of this exhaust system may only be installed when the transom connection is positioned at least **5 cm (2")** lower than the outlet of the engine's exhaust manifold, in which case the flow of the seawater, injected into the exhaust bend, will always be directed away from engine.

Both the muffler and the transom connection are provided with a **check valve** ("flapper"), which ensures that **under no circumstances** (e.g. when in waves or manoeuvring astern) can the seawater flow towards the engine. Therefore, this system makes the installation of a gooseneck unnecessary.

Each MV muffler features a connection for a temperature sensor, which triggers an audible alarm if the temperature of the exhaust gases/cooling water mixture exceeds an acceptable level. This ensures the best protection for the engine, as it provides an immediate warning when the raw water flow is impeded, long before the coolant in the engine itself becomes overheated. VETUS marine engines, though, do not require such (an additional) security device, as they all feature an exhaust temperature alarm as standard equipment.

Temperature sensor

Model MV

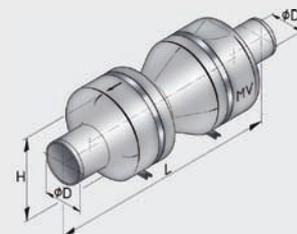
Ø D	Ø H	L
90 (3 1/2")	210 (8 1/16")	702 (27 19/32")
100 (4")	210 (8 1/16")	702 (27 19/32")
125 (5")	320 (12 19/32")	910 (35 13/16")
150 (6")	320 (12 19/32")	910 (35 13/16")

MV090

MV100

MV125

MV150



Capacity:

Ø 90 (3 1/2") and 100 (4") approximately 11.5 litres (3 gal.)
 Ø 125 (5") and 150 (6") approximately 37 litres (9.8 gal.)

Muffler model MF

- For hose diameters 90 mm (3 9/16") and 102 mm (4"):
volume 13 litres (3.5 gal.)
- For hose diameters 127 mm (5") and 152 mm (6 3/16"):
volume 43.5 litres (11.5 gal.)

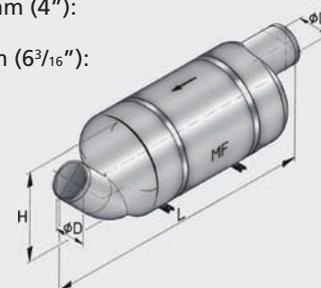
Ø D	Ø H	L
90 (3 1/2")	210 (8 1/16")	728 (28 11/16")
100 (4")	210 (8 1/16")	735 (28 29/32")
125 (5")	320 (12 19/32")	940 (37")
150 (6")	320 (12 19/32")	959 (37 3/16")

MF090

MF100

MF125

MF150



Capacity:

Ø 90 (3 1/2") and 100 (4") approximately 13 litres (3.5 gal.)
 Ø 125 (5") and 150 (6") approximately 43.5 litres (11.5 gal.)

These VETUS MV and MF mufflers are to be installed solely in combination with approved reinforced rubber exhaust hose (see page 00).

In some boats the (VETUS) exhaust muffler 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 muffler becoming overheated. Installation of a VETUS water mixer directly behind the exhaust manifold will overcome this problem. The water mixer is available for exhaust hoses with inside diameter of 90 mm (3 9/16"), 100 mm (3 15/16"), 125 mm (4 15/16") or 150 mm (5 1/4").

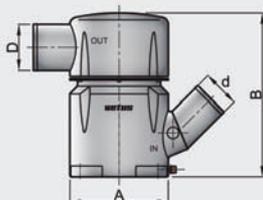
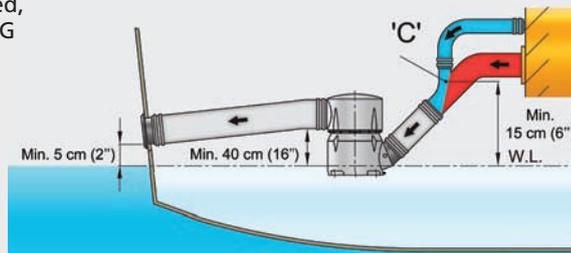


MIXER



Waterlocks for exhaust of Ø 90 MM (3⁹/₁₆"") - Ø 250 MM (9¹³/₁₆"").

Often in a modern high performance boat, with one or two large engines installed, there is very little space to spare in the engine room. VETUS waterlocks, model MG are designed to make even the most awkward installation possible. The outlet connection at the top will rotate through 360° and the inlet connection is at an angle of 45° upward. For a minimum order quantity of 10 pieces, we can supply these waterlocks with the inlet or outlet connection at an angle of 0°, 15° or 30°. VETUS waterlocks, type MG, may only be installed in water injected exhaust systems. They are made entirely of synthetic materials (no corrosion or galvanic action), have excellent sound reduction properties and cause minimal back pressure. The clamp bands are made of stainless steel. Provided with a drain valve for winter storage.



Type	d	D	A	B
MGP9090	Ø 90 (3 ¹ / ₂ "")	Ø 90 (3 ¹ / ₂ "")	Ø 270 (10 ⁵ / ₈ "")	Ø 450 (17 ³ / ₄ "")
MGP102102	Ø 102 (4"")	Ø 102 (4"")	Ø 270 (10 ⁵ / ₈ "")	Ø 450 (17 ³ / ₄ "")
MGP5455	Ø 127 (5"")	Ø 127 (5"")	Ø 270 (10 ⁵ / ₈ "")	Ø 450 (17 ³ / ₄ "")
MGP102127	Ø 102 (4"")	Ø 127 (5"")	Ø 270 (10 ⁵ / ₈ "")	Ø 450 (17 ³ / ₄ "")

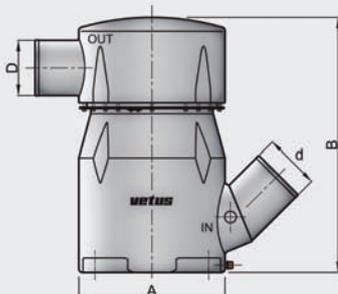
Capacity: approx. 23 litres (6.1 gal.)

MGP9090

MGP5455

MGP102102

MGP102127



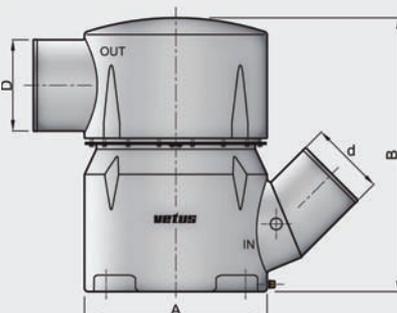
Type	d	D	A	B
MGS5455A	Ø 127 (5"")	Ø 127 (5"")	Ø 400 (15 ³ / ₄ "")	Ø 700 (27 ⁵ / ₈ "")
MGS5456A	Ø 127 (5"")	Ø 152 (6"")	Ø 400 (15 ³ / ₄ "")	Ø 700 (27 ⁵ / ₈ "")
MGS6456A	Ø 152 (6"")	Ø 152 (6"")	Ø 400 (15 ³ / ₄ "")	Ø 700 (27 ⁵ / ₈ "")

Capacity: approx. 75 litres (19.8 gal.)

MGS5455A

MGS5456A

MGS6456A



Type	d	D	A	B
MGL6458A	Ø 152 (6"")	Ø 203 (8"")	Ø 500 (20"")	Ø 750 (29 ¹ / ₂ "")
MGL8458A	Ø 203 (8"")	Ø 203 (8"")	Ø 500 (20"")	Ø 750 (29 ¹ / ₂ "")
MGL84510A	Ø 203 (8"")	Ø 250 (10"")	Ø 500 (20"")	Ø 750 (29 ¹ / ₂ "")

Capacity: approx. 130 litres (34.3 gal.)

MGL6458A

MGL8458A

MGL84510A



These flexible mountings can be used to minimise the noise caused by engine induced vibrations in the waterlock. They are suitable for waterlock models MGP, MGS and MGL.

MGVI45 For waterlock MGP
MGVI55 For waterlocks MGS and MGL

MGVI45

MGVI55



NEW



Air vents

If the point where the cooling water is injected into the exhaust is less than 15 cms (6") above the waterline, then when the engine is stopped, there is a risk that cooling water will siphon into the exhaust system and subsequently into the engine itself. Such siphoning may be prevented by fitting a VETUS air vent at least 40 cm (16") above the waterline.

Two different models are available: type ASD and type AIRVENT. Both models can be connected to hoses with internal diameters of Ø 13, 19, 25 and 32 mm (½", ¾", 1" and 1¼"). Version ASD38 connects to hose with internal diameter of Ø 38 mm (1½").

With pressure valve

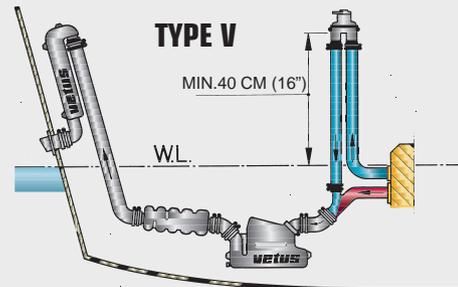
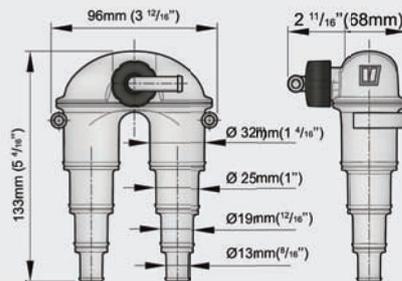
Type V has a reliable antisiphon pressure valve and is self-contained. However, it requires periodic maintenance to prevent clogging with salt crystals.

Airvent ASD

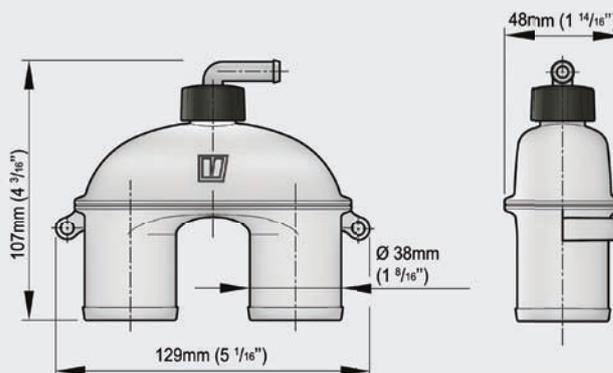
The only one on the market with virtually **no maintenance**. Can be easily dismantled by hand for cleaning.



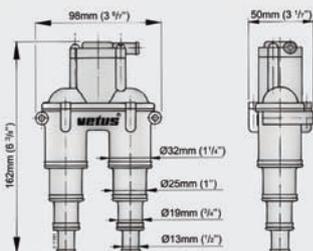
ASDV



ASD38V



AIRVENTV



ASDV	Anti Syphon Device with valve	13 mm (½"), 19 mm (¾"), 25 mm (1"), 32 mm (1¼")
AIRVENTV	Anti Syphon Device with valve	13 mm (½"), 19 mm (¾"), 25 mm (1"), 32 mm (1¼")
ASDH	Anti Syphon Device with hose	13 mm (½"), 19 mm (¾"), 25 mm (1"), 32 mm (1¼")
AIRVENTH	Anti Syphon Device with hose	13 mm (½"), 19 mm (¾"), 25 mm (1"), 32 mm (1¼")
ASD38V	Anti Syphon Device with valve	38 mm (1½")
ASD38H	Anti Syphon Device with hose	38 mm (1½")



Model ASD is interchangeable with type AIRVENT and has the same fixing hole centres. It has the advantage that the air bleed connection rotates through 360°. In addition, the valve can be maintained without removing the vent from the wall and no tools are required to do this. For replacement, a set with 5 valves is available as a spare part.

Materials

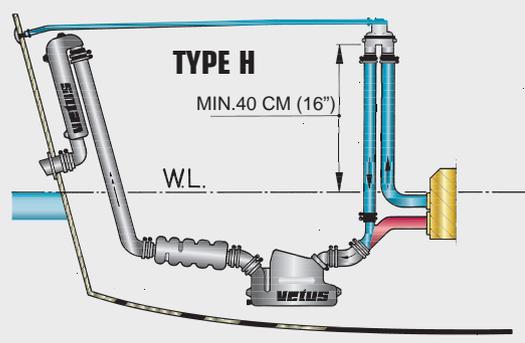
Housing : All models made of synthetic material
 Valve : Model ASD made of synthetic material

Model AIRVENT made of synthetic and stainless steel. Mounting brackets are available for both types of air vent, to facilitate installation onto surfaces clad with sound insulation, see page 91.

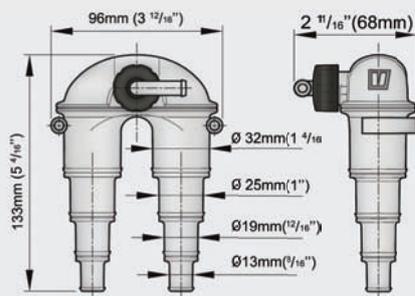
This mounting bracket is supplied with bolts, washers and self-locking nuts to mount the airvent.

With ventilation line

Type H has a hose connection to the outside of the hull. There is a constant bleed off of cooling water through this hose whilst the engine is running. Type H comes complete with a skin fitting, hose clamps and 4 metres (12 ft.) of hose.



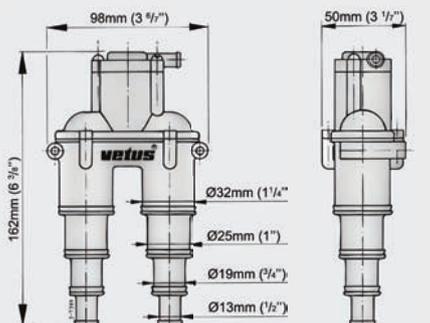
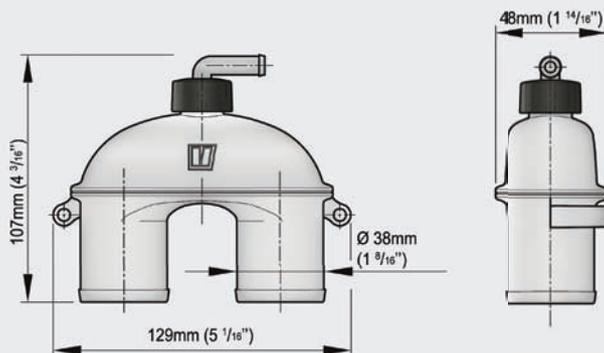
ASDH



Airvents suitable for Ø 38 (1 1/2") mm hose. These are ideal for toilets or holding tanks which are installed below the waterline. Comes complete with a skin fitting, hose clamps and 4 metres (12 ft.) of breather hose.

A VETUS airvent type ASD38H is also suitable for use with under-waterline toilets and/or the discharge pipe of a waste water tank.

ASD38H



AIRVENTH





Transom exhaust connections



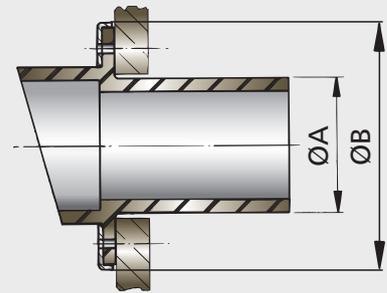
TRC40R

TRC45R

TRC50R

TRC60R

TRC7590R



Type	For exhaust hose (I.D.)	A=hole size	B
40	40 mm (1 ⁹ / ₁₆ "	Ø 53 mm (2 ¹ / ₈ "	Ø 86 mm (3 ³ / ₁₆ "
45	45 mm (1 ³ / ₄ "	Ø 58 mm (2 ³ / ₁₆ "	Ø 114 mm (4 ⁵ / ₁₆ "
50	51 mm (2"	Ø 63 mm (2 ¹ / ₂ "	Ø 114 mm (4 ⁵ / ₁₆ "
60	60 mm (2 ³ / ₈ "	Ø 73 mm (2 ⁷ / ₈ "	Ø 114 mm (4 ⁵ / ₁₆ "
76/90	76 mm (3" and 90 mm (3 ¹ / ₂ "	Ø 111 mm (4 ³ / ₈ "	Ø 164 mm (6 ⁷ / ₁₆ "

Transom exhaust connections (EPDM rubber) Ø 40 mm (1⁹/₁₆" - 90 mm (3¹/₂").

Can be mounted to the transom easily and flexibly. The rubber connector is mounted to the outside of the transom by means of a 2 mm (3/32") thick stainless steel polished mounting ring. VETUS mufflers and goosenecks with corresponding dimensions can be fitted directly. For connection of the exhaust hose, a plastic hose connector is required.

Transom exhaust connections with check valve (synthetic) Ø 40 mm (1⁹/₁₆" - 90 mm (2³/₈").

The exhaust hose can be fitted directly to this transom connection.



TRC40PV

TRC45PV

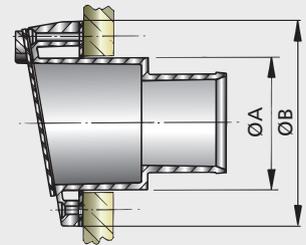
TRC50PV

TRC60PV

TRC90PV

TRC75PV

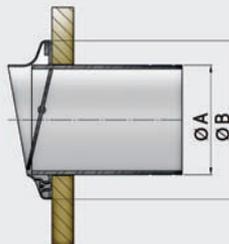
- Ø 40 (1⁹/₁₆"
- Ø 45 (2³/₈"
- Ø 50 (1¹⁵/₁₆"
- Ø 60 (2³/₈"



Type	For exhaust hose (I.D.)	A=hole size	B
40	40 mm (1 ⁹ / ₁₆ "	Ø 52 mm (2 ¹ / ₁₆ "	Ø 88 mm (3 ¹ / ₂ "
45	45 mm (1 ³ / ₄ "	Ø 52 mm (2 ¹ / ₁₆ "	Ø 88 mm (3 ¹ / ₂ "
50	51 mm (2"	Ø 68 mm (2 ¹¹ / ₁₆ "	Ø 104 mm (4"
60	60 mm (2 ³ / ₈ "	Ø 68 mm (2 ¹ / ₁₆ "	Ø 104 mm (4"
75	76 mm (3"	Ø 97 mm (3 ⁷ / ₈ "	Ø 140 mm (5 ¹ / ₂ "
90	90 mm (3 ¹ / ₂ "	Ø 97 mm (3 ⁷ / ₈ "	Ø 140 mm (5 ¹ / ₂ "

Transom exhaust connections with check valve (Stainless steel AISI 316) Ø 40 mm (1⁹/₁₆" - 150 mm (6").

The exhaust hose can be fitted directly to this transom connection.



TRC40SV

TRC45SV

TRC50SV

TRC60SV

TRC75SV

TRC90SV

TRC100SV

TRC125SV

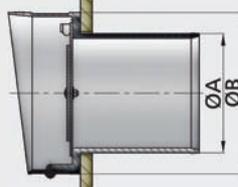
TRC150SV

Type	For exhaust hose (I.D.)	A=hole size	B
40	40 mm (1 ⁹ / ₁₆ "	Ø 41 mm (1 ⁵ / ₈ "	74 mm (2 ⁹ / ₃₂ "
45	45 mm (1 ³ / ₄ "	Ø 46 mm (1 ¹³ / ₁₆ "	79 mm (3 ¹ / ₈ "
50	51 mm (2"	Ø 51 mm (2"	84 mm (3 ⁵ / ₁₆ "
60	60 mm (2 ³ / ₈ "	Ø 61 mm (2 ³ / ₁₆ "	94 mm (3 ¹¹ / ₁₆ "
75	76 mm (3"	Ø 77 mm (3 ¹ / ₁₆ "	110 mm (4 ⁵ / ₁₆ "
90	90 mm (3 ¹ / ₂ "	Ø 91 mm (3 ¹⁹ / ₃₂ "	123 mm (4 ⁷ / ₈ "
100	102 mm (4"	Ø 103 mm (4 ¹ / ₁₆ "	140 mm (5 ¹ / ₂ "
125	127 mm (5"	Ø 128 mm (5 ¹ / ₁₆ "	169 mm (6 ⁵ / ₈ "
150	152 mm (6"	Ø 153 mm (6 ¹ / ₃₂ "	194 mm (7 ⁵ / ₈ "



Transom exhaust connections with check valve (synthetic) Ø 90 mm (3 1/12") - 150 mm (6").

The exhaust hose can be fitted directly to this transom connection. Made from glass filled reinforced synthetic material (colour: black), with a decorative stainless steel band. The exhaust hose can be fitted directly to this transom connector.



TC090

TC125

TC100

TC150

Type	For exhaust hose (I.D.)	A=hole size	B Ø mm
90	90 mm (3 1/2")	Ø 93 mm (3 1/16")	141 mm (5 9/16")
100	102 mm (4")	Ø 103 mm (4 1/16")	155 mm (6 1/8")
125	127 mm (5")	Ø 128 mm (5 1/16")	178 mm (7")
150	152 mm (6")	Ø 153 mm (6 1/16")	203 mm (8")

Rubber exhaust hose

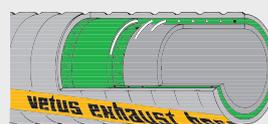
Thanks to increased spiral reinforcement and a more supple type of rubber, VETUS exhaust hoses are now even stronger, as well as more flexible. Exhaust hoses with an internal diameter of up to Ø 152 mm (6") inclusive, have a bending radius of no more than 1.5 x the diameter. Exhaust hoses with an internal diameter of more than Ø 152 mm (6"), have a bending radius of two times the diameter of the hose. By virtue of this increased flexibility, valuable installation time will be saved. VETUS exhaust hoses have Lloyd's Register of Shipping approval and also meet the requirements of the SAE J2006 R2 standard. They are temperature resistant between -30° (-22° F) and +100°C (+212° F), with brief peak temperatures of 115°C (239° F). VETUS exhaust hose approved by RINA is also available to special order (please see pricelist).



SLANG

Code	Internal diam. in mm (inch.)	External diam. in mm (inch.)	Weight	Max pressure in bar (psi)	Bending radius in mm (inch.)
SLANG30	30 (1 3/16")	38 (1 1/2")	0,55 kg/m	4 bar (58)	45 (1 3/4")
SLANG40	40 (1 9/16")	48 (1 14/16")	0,79 kg/m	4 bar (58)	60 (2 9/16")
SLANG45	45 (1 3/4")	53 (2 1/8")	0,88 kg/m	4 bar (58)	68 (2 11/16")
SLANG50	51 (2")	59 (2 3/16")	1,1 kg/m	4 bar (58)	77 (3 1/16")
SLANG57	57 (2 1/4")	65 (2 5/8")	1,1 kg/m	3,3 bar (47.8)	86 (3 3/8")
SLANG60	60 (2 3/8")	68 (2 11/16")	1,2 kg/m	3,3 bar (47.8)	90 (3 9/16")
SLANG65	65 (2 9/16")	73 (2 7/8")	1,3 kg/m	3,3 bar (47.8)	98 (3 7/8")
SLANG75	76 (3")	84 (3 1/8")	1,4 kg/m	3,3 bar (47.8)	114 (4 5/16")
SLANG90	90 (3 1/2")	98 (3 7/8")	1,9 kg/m	2 bar (29)	135 (5 3/16")
SLANG100	102 (4")	110 (4 5/16")	2,3 kg/m	2 bar (29)	153 (6 1/32")
SLANG110	110 (4 11/32")	119 (4 11/16")	2,8 kg/m	2 bar (29)	165 (6 1/2")
SLANG125	127 (5")	137 (5 2/5")	3,3 kg/m	2 bar (29)	191 (7 1/2")
SLANG150	152 (6")	163 (6 7/16")	4,4 kg/m	2 bar (29)	228 (9")
SLANG200	203 (8")	218 (8 4/7")	6,8 kg/m	2 bar (29)	406 (16")
SLANG250	254 (10")	270 (10 9/16")	8,5 kg/m	2 bar (29)	508 (20")
SLANG300	305 (12")	323 (12 5/7")	10,8 kg/m	2 bar (29)	606 (23 7/7")

In order to reduce back pressure in the engine, the inside of all VETUS exhaust hoses is **completely flush and smooth**.



An engine with a water injection exhaust elbow with an external diameter of 57 mm (2 1/4") may be connected to 60 mm (2 9/16") VETUS exhaust hose. In this case VETUS waterlocks, mufflers, goosenecks and transom connections with a size of Ø 60 mm (2 9/16") can be used as well.

Plastic hose connections

Hose connectors, made of synthetic material. Available as straight connectors or 60° bend, for exhaust hose with internal diameters from 40 mm (1 9/16") to 150 mm (6") inclusive. Available with 90° bend for exhaust hose with internal diameters 127 mm (5"), 152 mm (6"), 203 mm (8") or 254 mm (10").



SLVBR



SLVBG

Silicone hose

VETUS silicone hose is made from high grade silicone rubber with woven synthetic and spiraled steel wire inlays. It is suitable for a wide range of applications such as exhaust hose, cooling water hose or waste water hose.

Due to the smooth gloss external finish, this type of hose is ideal for use in areas where appearance and cleanliness is important. The hose is extremely flexible, facilitating installation and is highly resistant against aging. It has a tremendous temperature range and can be used continuously from -54° (-65° F) to +177°C (+350° F) (intermittently up to 250°C (482° F)). VETUS silicone hose fulfills all requirements of the ISO13363 type Class B and SAE J 2006 R1 standards.



SIHOSE

Code	Internal diam. in mm (inch.)	External diam. in mm (inch.)	Weight	Max pressure in bar (psi)	Bending radius in mm (inch.)
SIHOSE25	25 (1")	35 (1 3/8")	0,60 kg/m	5 (72.5)	62 (2 7/16")
SIHOSE32	32 (1 1/4")	41 (1 10/16")	0,73 kg/m	4,5 (65.2)	80 (3 1/8")
SIHOSE38	38 (1 1/2")	47 (1 14/16")	0,85 kg/m	4 (58)	95 (3 3/4")
SIHOSE51	51 (2")	61 (2 9/16")	1,31 kg/m	4 (58)	150 (6")
SIHOSE63	63 (2 1/2")	74 (2 15/16")	1,60 kg/m	3,5 (50.7)	190 (7 9/16")
SIHOSE76	76 (3")	87 (3 1/16")	2,06 kg/m	3,5 (50.7)	225 (8 14/16")
SIHOSE102	102 (4")	113 (4 1/8")	2,70 kg/m	2 (29)	360 (14 3/16")