

HYDROPATH MARINE

HYDROPATH MARINE RANGE
HM45 HM60 HM100 HM120 HM160



www.hydropath.com

HYDROPATH
TECHNOLOGY



eco friendly



Electrical Specifications

Input Voltage 87-240V AC

Input Frequency 47-63 Hz

Material Specifications

Main unit: Anodised Aluminium

End plates: UL V-0 rated polycarbonate

Water and Dust Protection

IP Rating: IP68 IEC 60529

Built-in EMI Filter

Meets: FCC 20780 Class B

VDE 0871 Level A

Safety

Europe and Worldwide:

IEC51010-190+A1:92 +A2:95 ~EN61010

Tested according to CENELEC National Requirements

USA: UL3101-1

Canada: CSA22.2 No:1010.1-92

Over-voltage (Transients) 10 to 20% above nominal

Environmental Specifications

Installation category:

Cat II; Altitude: <2000 Mtrs (6562'); Operating Temperature: -20 to + 50° C (-4 to 122°F);

Maximum relative humidity; Max 80% up to 31°C (87° F) decreasing linearly to 50% RH at 40° C (104° F)

Overload Protection Continuous short or open circuit on all outputs.

Insulation Basic insulation with the metal enclosure bonded to earth.

Servicing

No user repairable parts are fitted. Repair must be undertaken by an authorised repair centre.

Panel Indicators

The unit is fitted with LED indicator lights. The Green LED indicates that the power is on, and the Red indicates that a signal is being transmitted.

CSA Certification and CB Test Certificate

In accordance with the
International (IEC) and
UL/CSA standards listed
above.



Manufactured to BSEN9002

To be installed in accordance with the
latest IEE wiring instructions.

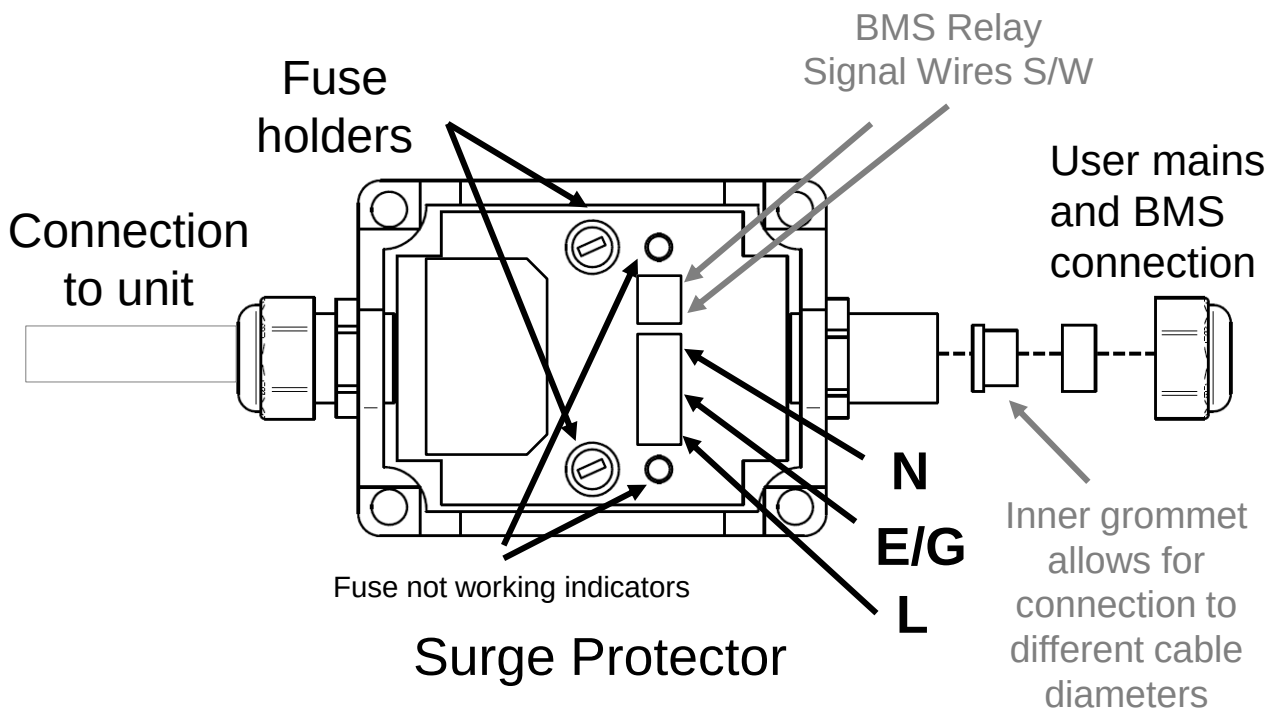
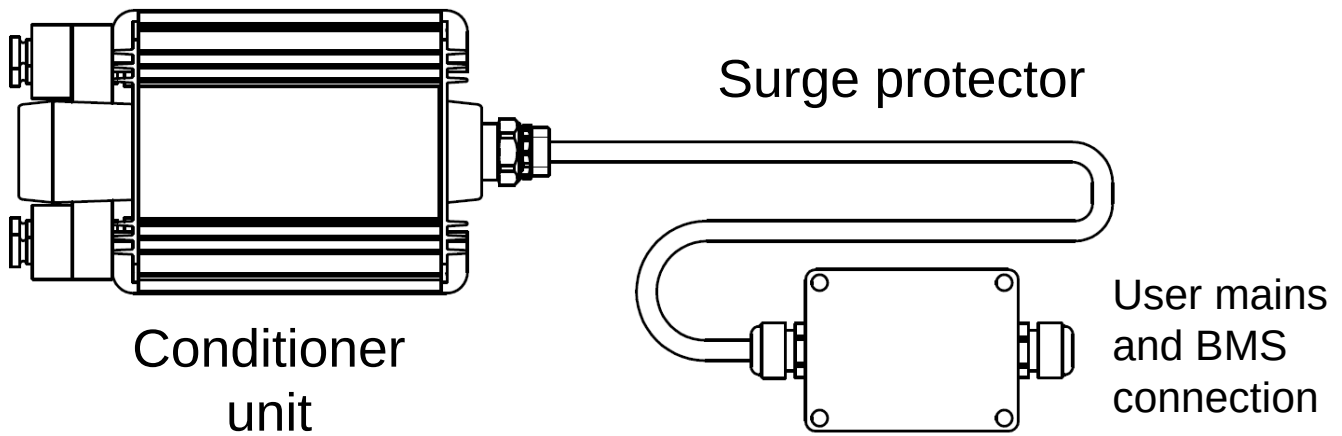
Fuse rating: 1A.



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Electrical Specifications



Remote Monitoring Facility

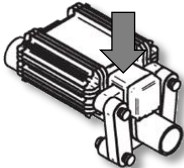
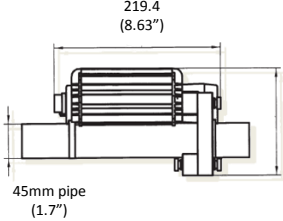
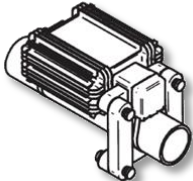
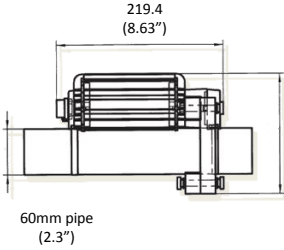
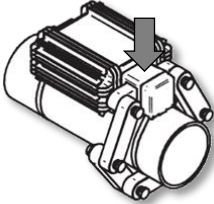
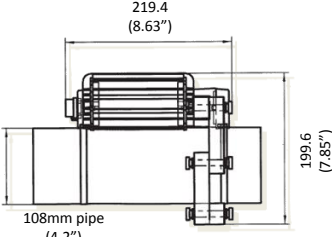
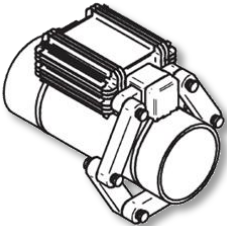
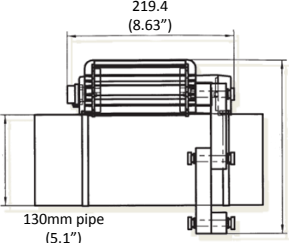
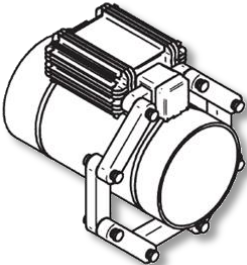
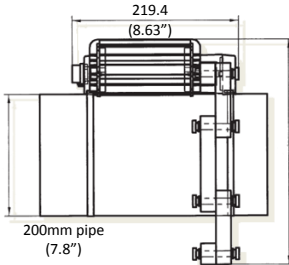
A volt free normally open contact closure is provided by the unit connection with a BMS (Business Management System) computer, to monitor that the unit is operating correctly. Connection to the BMS output is made via the junction box. A suitable 5 core approved cable can be used in order to make connection to the mains input and the BMS output. If a BMS connection via a separate cable is preferred, an additional connection point can be supplied as an optional extra.

Electrical Connection

The user must connect the electrical supply to the junction box in accordance with the on-site ruling safety legislation at the time of installation by a certified electrician. Failure to do so will invalidate the warrantee. This is the sole responsibility of the user and the site safety officer must be consulted before installation is undertaken.

Mechanical Details

The Hydropath Marine range of water conditioners are specifically designed to combat limescale in Marine applications by clustering mineral ions, to enhance filtration by flocculating particles and to eliminate biofouling.

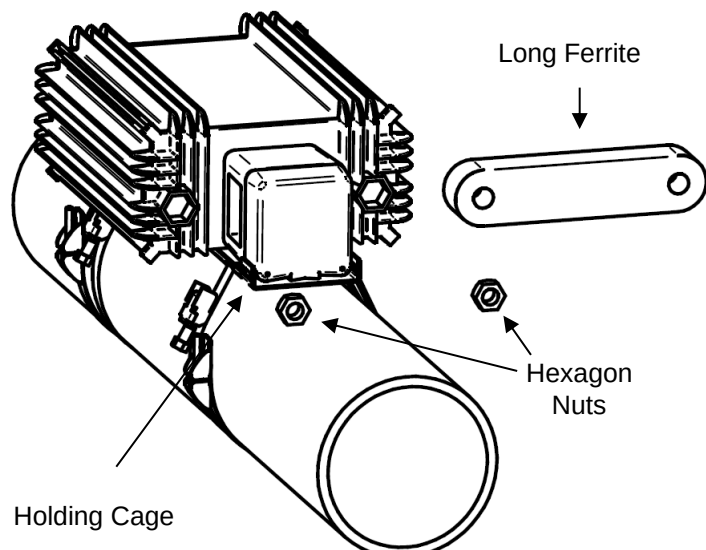
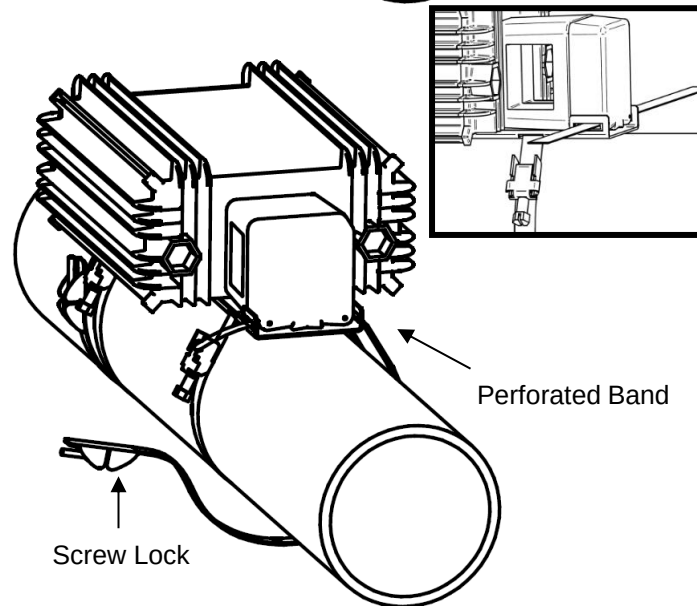
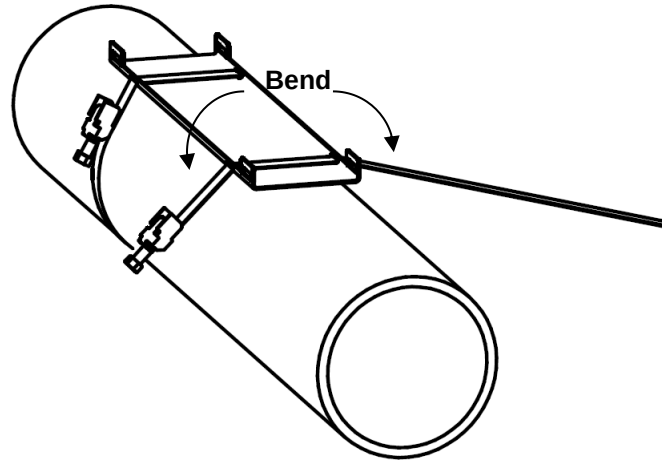
Model	Ferrite Arrangement	Dimensions mm (inches)	Ferrites	Total Weight kg (lbs)
HM 45	 Arrow indicates longer 126mm ferrite	 45mm pipe (1.7")	3 x 109mm (4.25") 1 x 126mm (5.0")	4.0 (8.8)
HM 60		 60mm pipe (2.3")	4 x 126mm (5.0")	4.2 (9.2)
HM 100	 Arrow indicates longer 126mm ferrite	 108mm pipe (4.2")	5 x 109mm (4.25") 1 x 126mm (5.0")	4.4 (9.7)
HM 120		 130mm pipe (5.1")	6 x 126mm (5.0")	4.6 (10.1)
160 HM		 200mm pipe (7.8")	8 x 126mm (5.0")	5.8 (12.8)

- All units draw less than 1 amp of current at 120V AC
- Listed weights include: Transducer unit, ferrites, cables and mounting hardware.

Assembly

DO NOT POWER UP UNIT UNTIL ALL FERRITES SUPPLIED ARE CONNECTED.

- Secure the bracket firmly on the pipe. Pass the worm gear quick release bands through the inner slots in the brackets.
- To ensure the bands remain flush against the bracket, firmly bend the bands where they pass through the slots. Pass the bands around the pipe and secure using worm gear.
- Secure the unit to the bracket using the perforated steel bands. Pass the bands through the outer raised slots in both ends of the steel bracket and through both ends of the transducer. Next pass the bands around the pipe and secure using the screw locks.
- Insert the two hexagon nuts into the holes in the end plate, next to the ferrite holding cage.
- If installing on a vertical pipe, place the unit with the ferrite cage upwards to ease fitting of hexagon nuts.
- The transducer unit is supplied with at least one **long** ferrite bar. Insert this through the holding cage until the holes line up with the hexagon nuts.



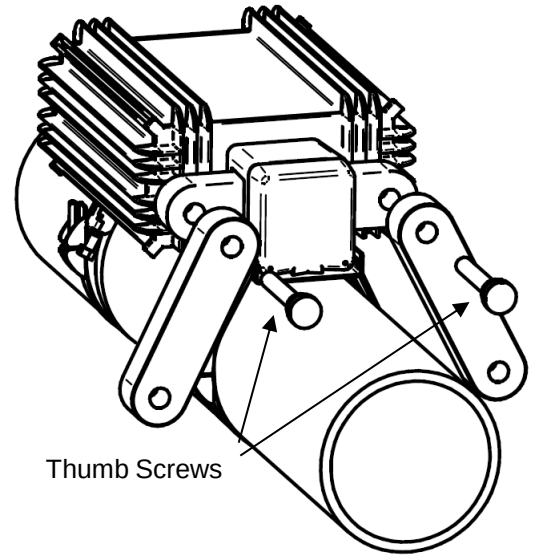
WARNING

The system must be used as specified. Failure to do so will prevent correct operation of device and may impair safety.

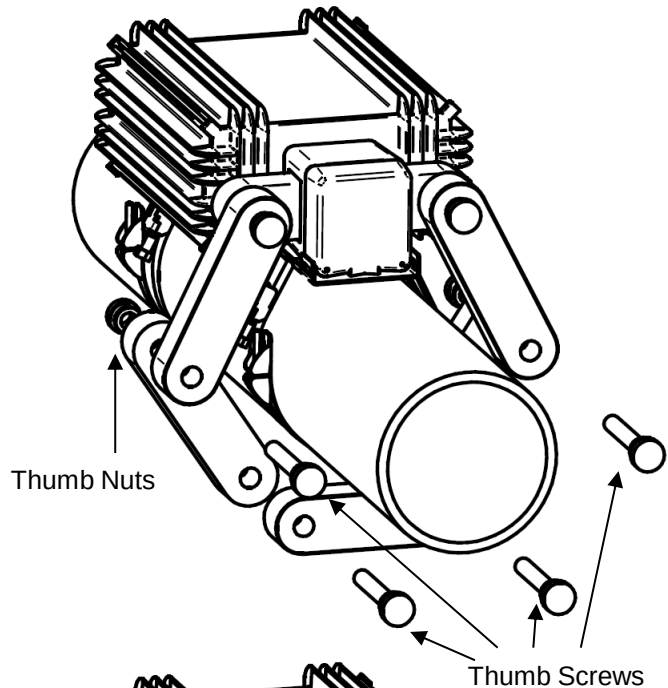
Assembly

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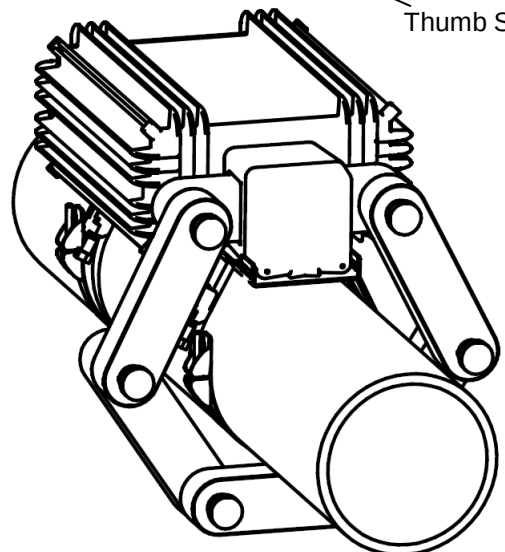
- Take a second ferrite, insert a plastic thumb screw through the holes in both ferrite bars and loosely screw into hexagon nut.
- Repeat on opposite side.



- Assemble **all** the other ferrites around the pipe according to the mechanical configuration specified for the unit.
- Loosely secure each ferrite with thumb nuts and thumb screws.



- Once the ferrite ring is complete, add a drop of threadlock glue to each thumb nut and tighten all thumb nuts and screws until hand tight. **Do not over-tighten as ferrites are fragile.**
- In accordance with local code and regulations, connect the junction box (Fig 3) to the electrical power supply (87V-240V AC). Energize the electrical power supply and ensure that the Red and Green LED lights on the unit are glowing brightly.



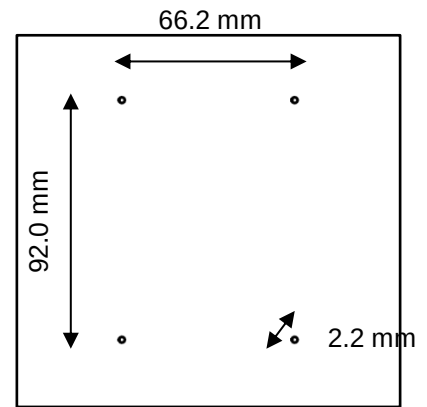
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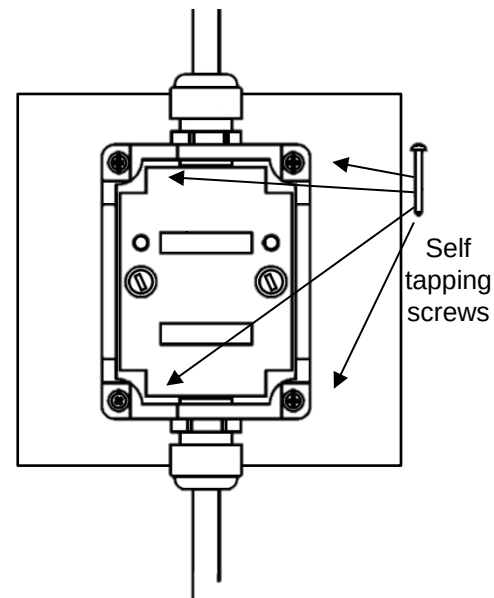
Assembly

MOUNTING THE SURGE PROTECTOR

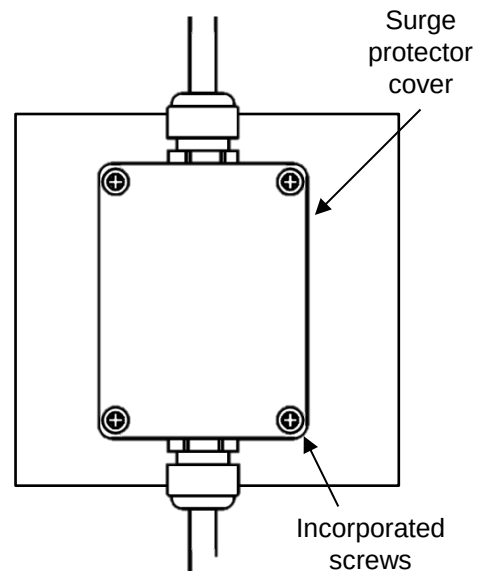
- The surge protector should be mounted on a safe, convenient location.
- To secure the surge protector to a back plate, first drill four 2.2mm pilot holes as shown.



- Remove the surge protector cover by loosening the four screws in the lid.
- Insert the four self-tapping screws into the holes in the surge protector base and into the pilot holes. Tighten until the surge protector is secure.



- Once the surge protector base is fixed to the back plate, replace the lid and secure using the four incorporated screws.



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Location Criteria

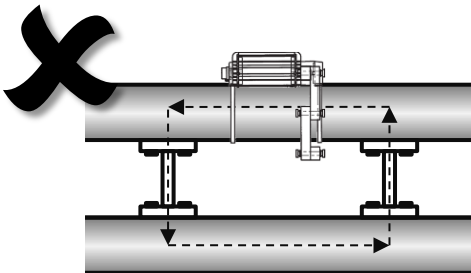
The Hydropath Marine unit can provide a range of benefits, including protection against limescale, treatment of biofouling, and flocculation of particles. The most effective location for the unit depends on the result desired.

- For protection against Limescale due to heating, the unit should be fitted on the cold feed to where the water is heated.
- For protection against limescale, the unit should be fitted after any pumps or filters as these can degrade the conditioning effect.
- To enhance flocculation or kill bacteria, the ideal location is before the pump feeding a filter.

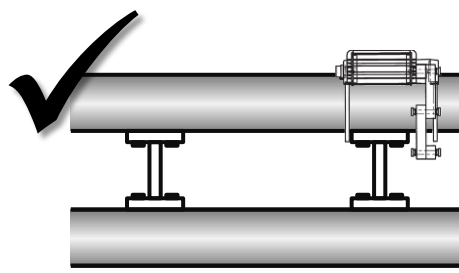
Electrical Loops

An electrical loop is created whenever an electrical connection is made from one side of the ferrite loop to the other, e.g. by metal supports, wiring or pipework. A loop will prevent the unit from operating correctly.

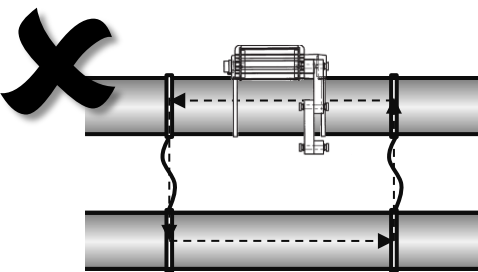
This problem can be solved by moving the unit outside the electrical loop. If this is not possible, the metal support brackets can be electrically insulated. Installing the unit on a section of plastic pipe eliminates the possibility of an electrical loop.



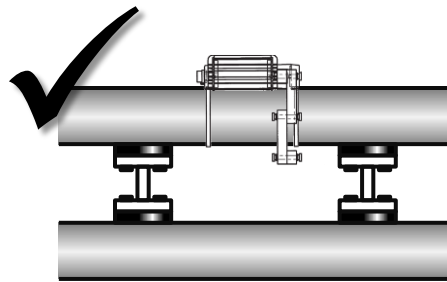
Brackets create loop



Move unit out of loop



Wiring creates loop



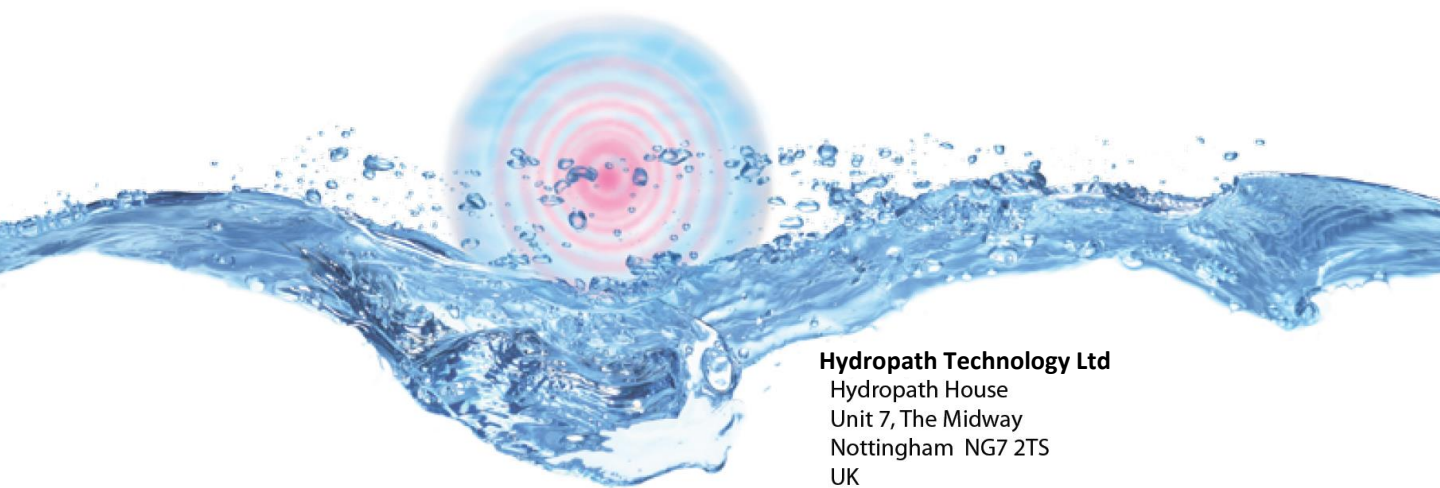
Electrically insulate brackets

If you are unsure of any details of fitting or installation, please contact your local Hydropath representative for technical support

Model	Short Ferrite Quantity	Long Ferrite Quantity	Stainless Steel Banding (mm)	Screw Lock	Screw	Nut	Thumb Nut
HM45	3	1	2 x 280	2	4	2	2
HM60	-	4	2 x 280	2	4	2	2
HM100	5	1	2 x 470	2	6	2	4
HM120	-	6	2 x 470	2	6	2	4
HM160	-	8	2 x 700	2	8	2	6

The table above indicates the parts included with each **HYDROPATH MARINE** Model.
Please refer to the User Instructions for further details on the complete installation process.

Box Contents List:	
Transducer	Ferrites and Fixings (refer to table above)
User Instructions	Fixing bracket + 2x Worm Screw Steel Bands
Threadlock Glue	4 x Self Tapping Screws



***The unit must be registered online to
activate the guarantee and warrantee
Register at: www.hydroflow.co.uk***

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