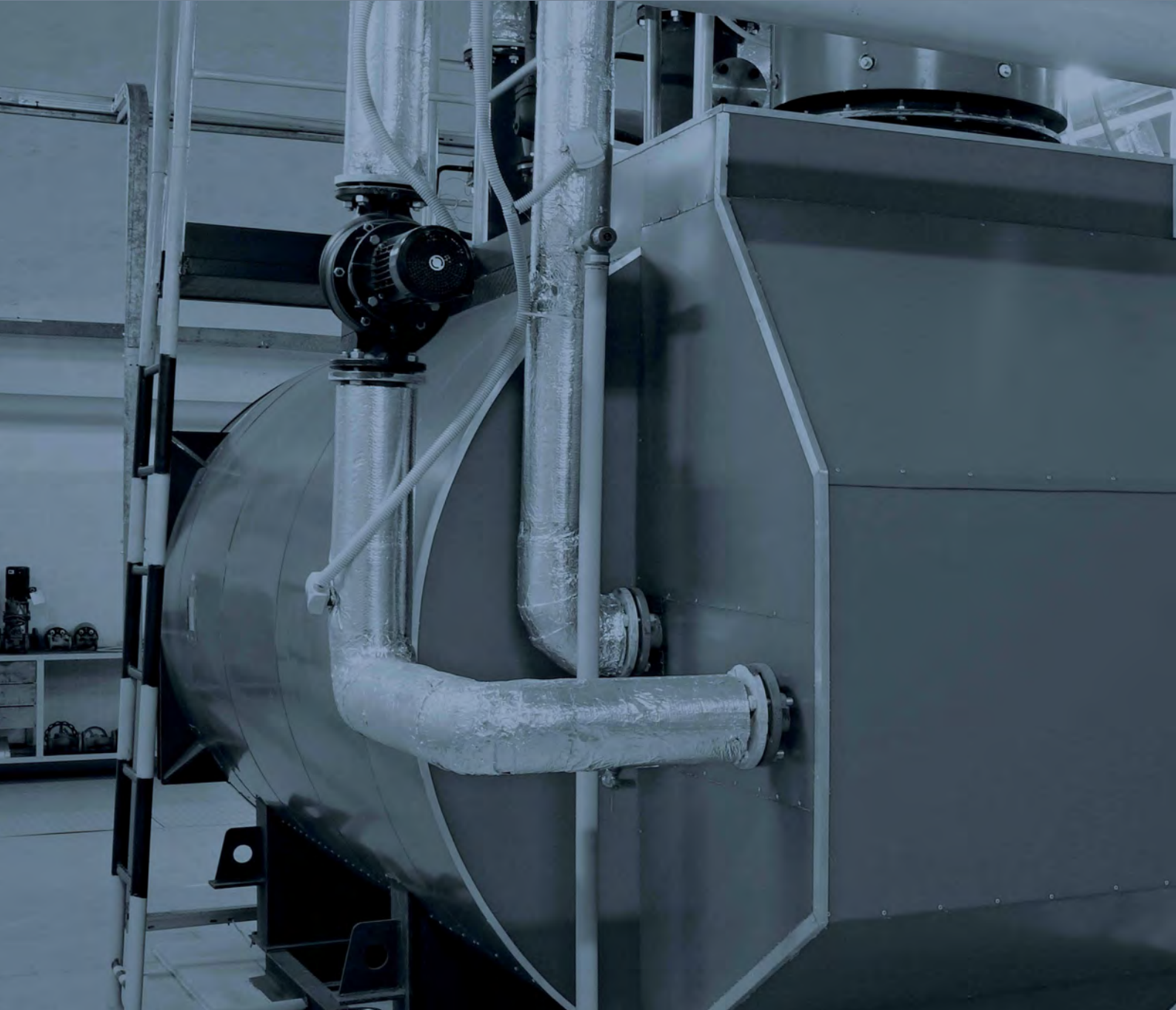


*Hydro***FLOW**[®]



S RANGE

HYDROPATH Technology | The home of *Hydro***FLOW**[®]



Electrical Specifications

Transducer unit

Main unit: Anodised Aluminium
End plates: UL V-0 rated polycarbonate

Water and Dust Protection

IP Rating:
Transducer IP68 IEC 60529
PSU IP66 IEC 60529

Built-in EMI Filter

Meets: FCC 20780 Class B
VDE 0871 Level A

Safety

Europe and Worldwide:
IEC61010-190+A1:92 +A2:95 ~EN61010
Tested according to CENELEC National Requirements

USA: UL3101-1
Canada: CSA22.2 No:1010.1-92
CAN/CSA-22.2 No. 0.4-M1982

Over-voltage (Transients)

10 to 20% above nominal

Remote Monitoring Facility

Normally open circuit or 5V output
(Special terminated cable can be provided to facilitate connection)

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 PSU 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.



To be installed in accordance with the
latest IEE wiring instructions.
Fuse rating: 1A.

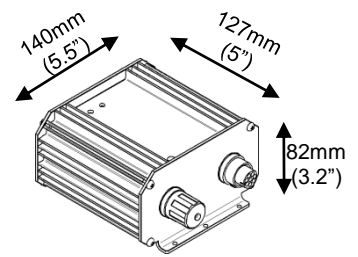
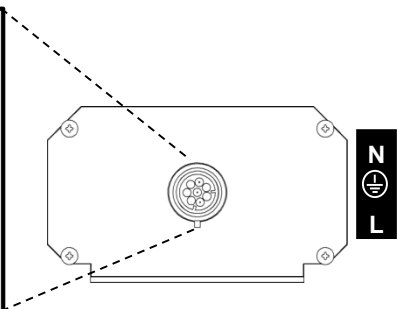
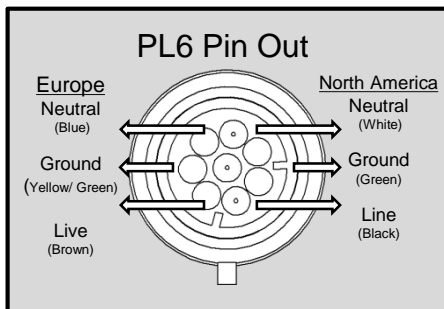
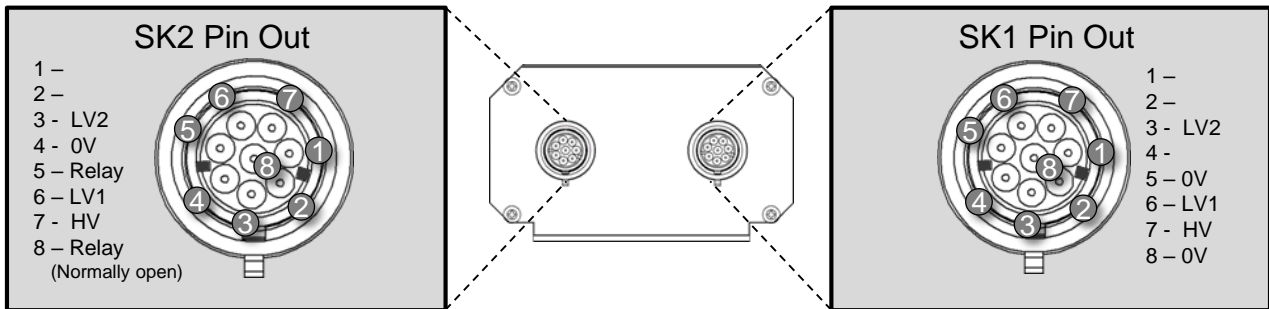
Electrical Specifications

PSU Input voltage: 87 – 240V AC

Frequency: 47 – 63 Hz

PSU Model	LV1	LV2	HV	Input Power	Fuse Rated 250 V	Output Power
DEL638	+12V	+15V	+24 or 30 V*	20W max	1.6A (T)	14W
CP1	+12V	+15V	+24 or 30V*	25W max	1.0A (T)	15W
CP2	+12V	+15V	+35 or 90V*	65W max	1.0A (T)	45W

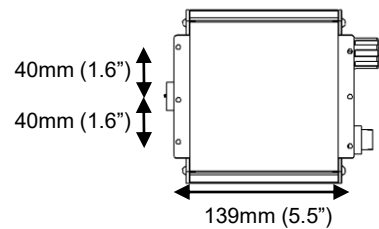
* Voltage depends on transducer model used



PSU Panel Indicators

GREEN: Power ON

RED: Signal is being transmitted

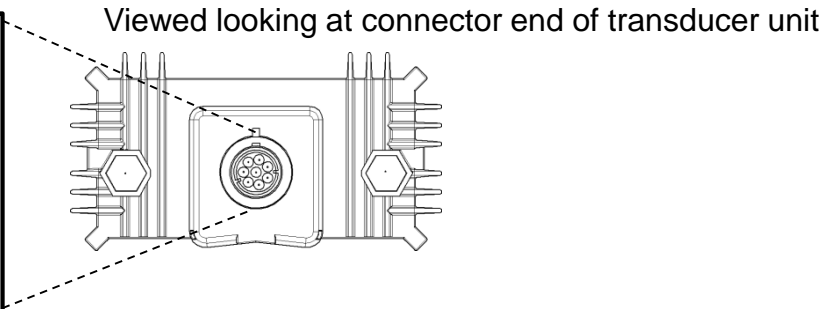
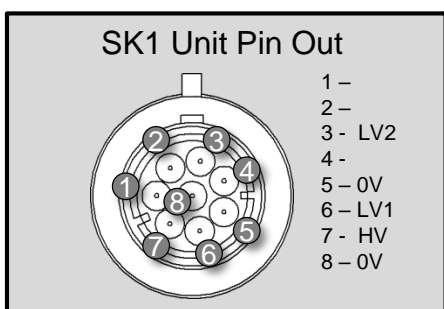


Transducer DC Input Voltage:

PSU Model	LV1	LV2	HV	Input Power
DEL638	+12V	+15V	+24 or 30V*	14W
CP1	+12V	+15V	+24 or 30V*	15W
CP2	+12V	+15V	+35 or 90V*	45W

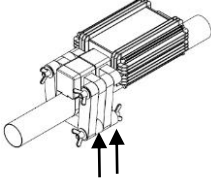
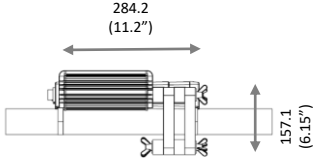
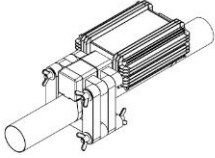
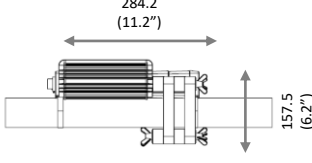
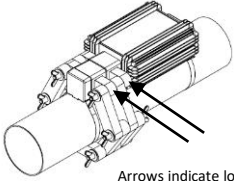
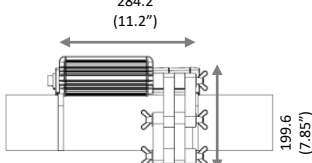
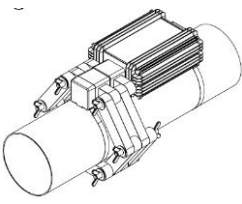
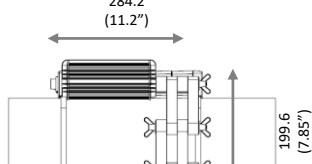
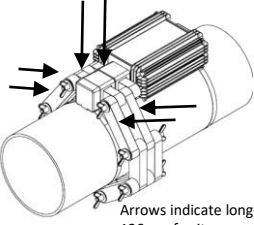
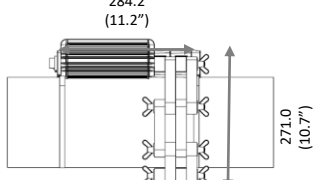
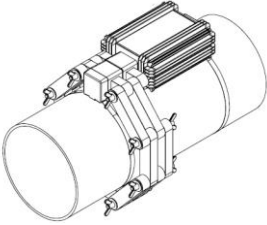
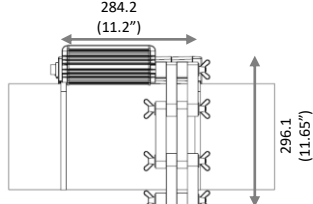
* Voltage depends on transducer unit used

Hydropath may at times replace a particular unit with one of a higher specification without notice.



Mechanical Details

The *HydroFLOW* S Range water conditioner is specifically designed to combat limescale in commercial high pressure steam boilers by clustering mineral ions..

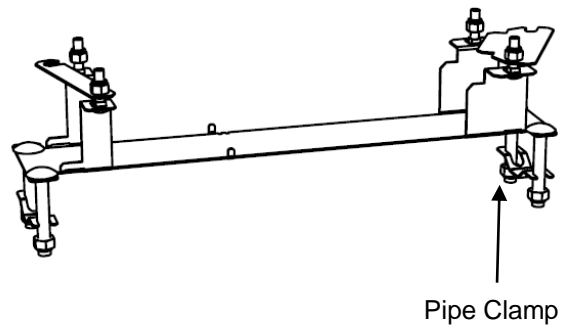
Model	Ferrite Arrangement	Dimensions mm (inches)	Ferrites	Total Weight kg (lbs)
S45	 Arrows indicate shorter 109mm ferrites	 45mm pipe (1.75")	2 x 109mm (4.25") 6 x 126mm (5.0")	5.1 (11.2)
S60		 55mm pipe (2.2")	8 x 126mm (5.0")	5.4 (11.9)
S100	 Arrows indicate longer 126mm ferrites	 104mm pipe (4.1")	10 x 109mm (4.25") 2 x 126mm (5.0")	6.0 (13.2)
S130		 130mm pipe (5.1")	12 x 126mm (5.0")	6.5 (14.3)
S150	 Arrows indicate longer 126mm ferrites	 175mm pipe (6.9")	10 x 109mm (4.25") 6 x 126mm (5.0")	7.7 (17.0)
S190		 200mm pipe (7.8")	16 x 126mm (5.0")	8.3 (18.3)

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

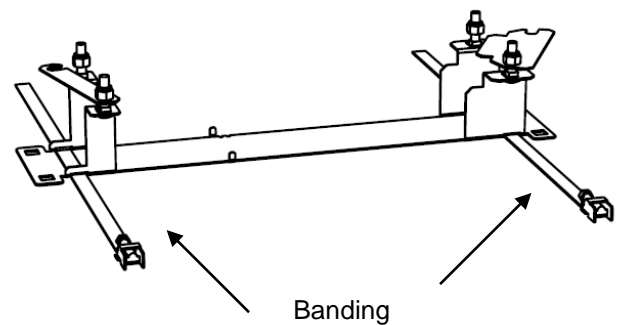
Assembly

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

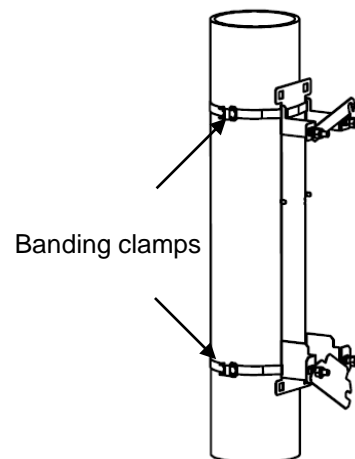
- The unit is supplied with a bracket for ease of mounting to the pipe. The two upper plates should be loosely secured with bolts before installation.
- Smaller units are secured to the pipe using steel clamps and bolts



- For larger units, the brackets are supplied with stainless steel banding.
- Pass the two stainless steel bands through the slots in the bracket.



- Place the bracket on the pipe.
- If installing on a vertical pipe, place the bracket with the smaller plate upwards to ease fitting of hexagon nuts.
- Tighten steel hex nuts to secure clamps for smaller units
- Secure straps on larger units by tightening clamps with flathead screwdriver or hex socket driver



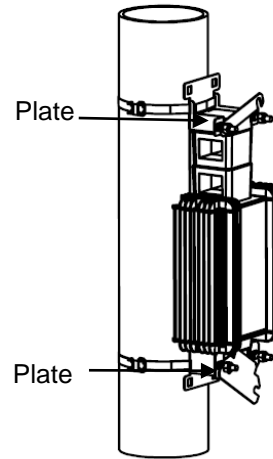
WARNING

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

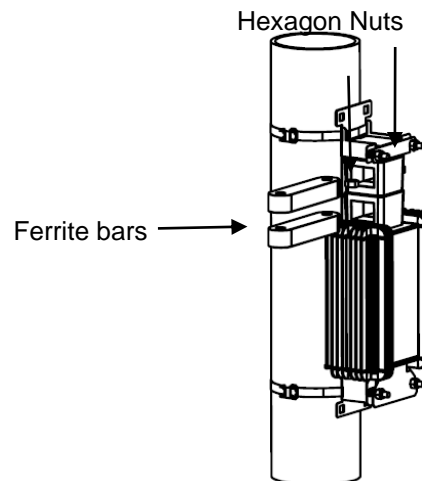
Assembly

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

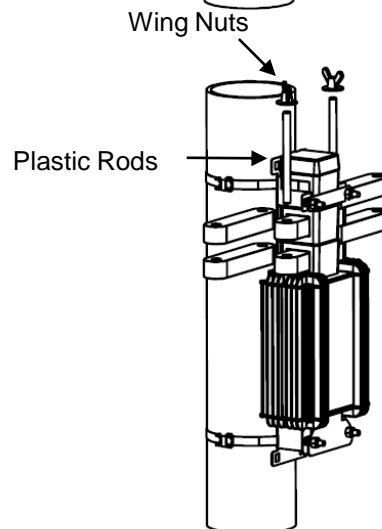
- Place the unit on the bracket and hold in place using the swinging plates.
- Secure by tightening the four steel nuts.



- Insert the two hexagon nuts into the holes in the end plate, next to the ferrite holding cage.
- 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.



- Take a second ferrite, insert a plastic rod screw through both ferrite bars and loosely screw into hexagon nut, securing with wing nut.
- Repeat on opposite side.



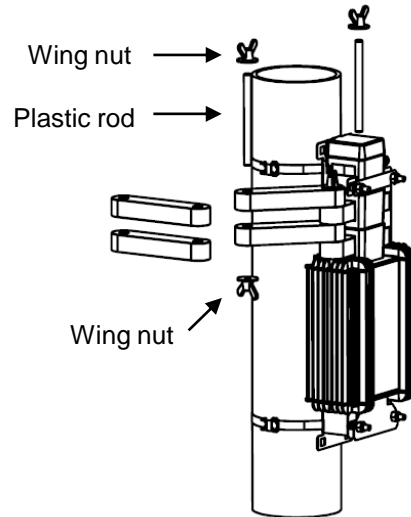
WARNING

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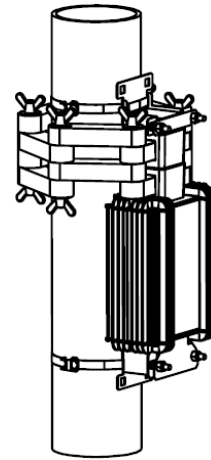
Assembly

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

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



- Once the ferrite ring is complete, tighten all wing nuts until hand tight.
- **Do not over tighten as ferrites are fragile.**



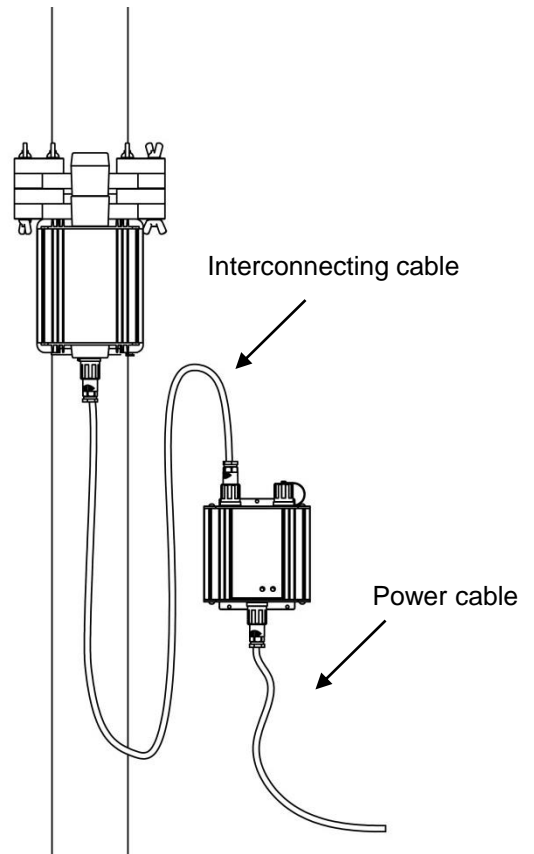
WARNING

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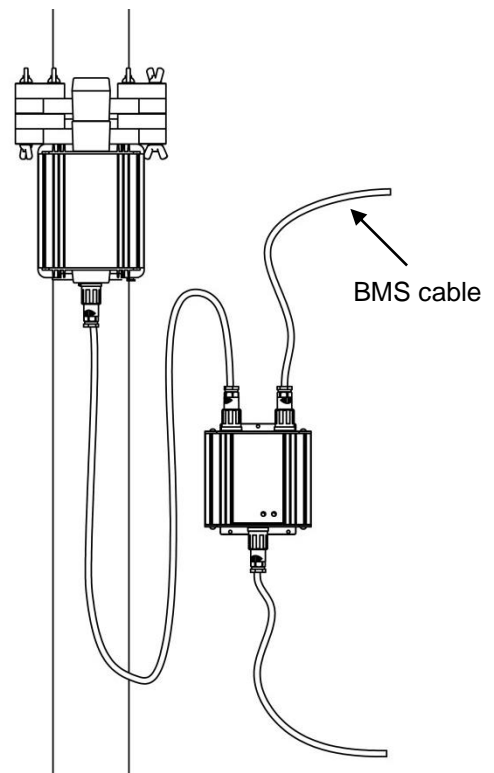
Assembly

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

- Install the Power Supply Unit (PSU) in a convenient position so that the LED lights can be easily viewed.
- In accordance with local code and regulations, connect the PL6 port to the electrical power supply (87V-240V AC).
- Connect between the PSU SK1 and the transducer SK1 port using the supplied interconnecting cable .
- Energise the electrical power supply and ensure that the Red and Green LED lights on the PSU are glowing brightly.



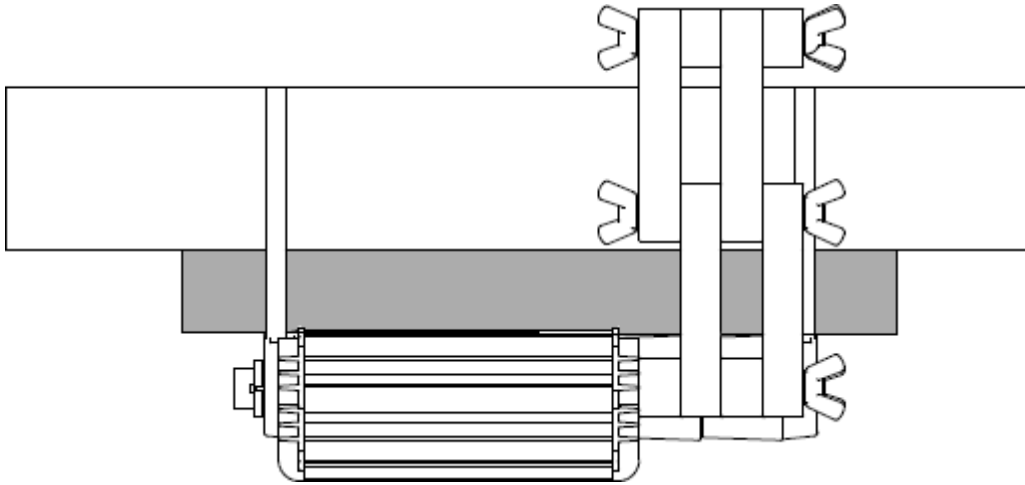
- **Remote Monitoring** is available for use with Building Management Systems (BMS). The cable (supplied separately) plugs into the SK2 port of the PSU, which is normally fitted with a protective cap.
- For additional information please contact an authorised representative.



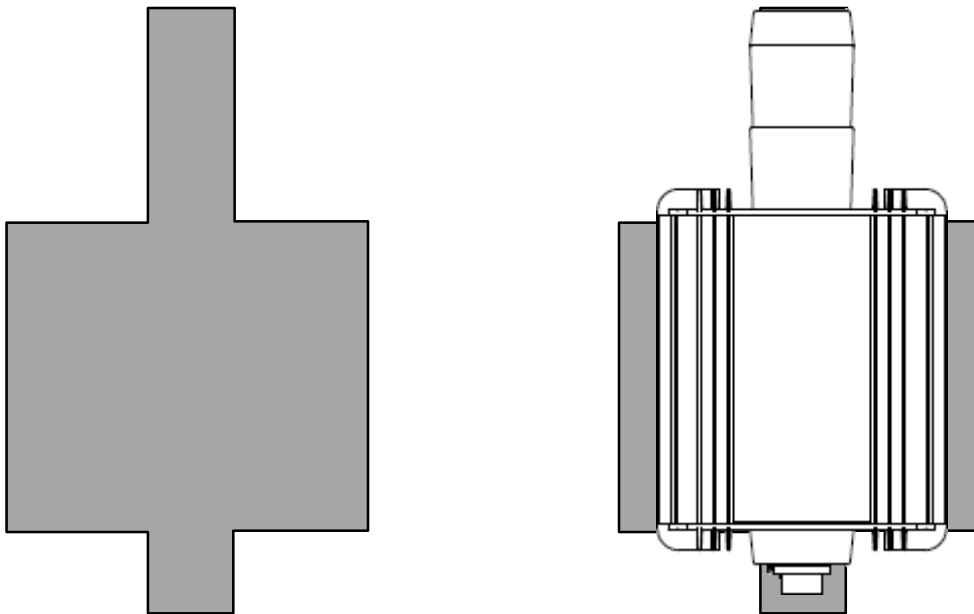
WARNING

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

Insulation of hot pipes



Steam boiler pipework can often exceed the maximum operating temperature of the unit, either by design or due to deterioration of the boiler components. If this is likely to be the case, the unit should be insulated from the pipe appropriately. If the unit is installed on a horizontal pipe, it should be fitted beneath the pipe to reduce potential build-up of heat on the unit.



The insulation material should be cut to the shape illustrated above. It should insulate the cage of the unit but not impede the metal fixing strap. Alternatively, the insulation may be wrapped completely around the pipe.

Box Contents

Transducer Unit

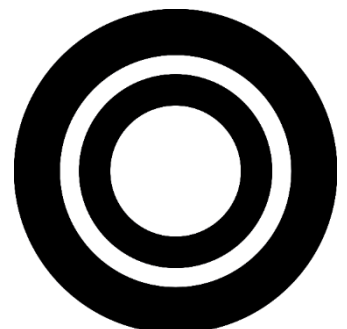
Instructions

Custom Model	Long ferrites	Short Ferrites	Plastic Hex Nuts	Plastic Rods	Plastic Wing Nuts	Steel Bracket	Steel Bands	Pipe clamps	50mm bolts	Steel locking nuts
S45	6	2	2	4	6	1	0	2	4	4
S60	8	0	2	4	6	1	2	0	0	0
S100	2	10	2	6	10	1	2	0	0	0
S130	12	0	2	6	10	1	2	0	0	0
S150	6	10	2	8	14	1	2	0	0	0
S190	16	0	2	8	14	1	2	0	0	0

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