

*HydroFLOW*®



*i* **CUSTOM**

**HYDROPATH Technology** | The home of *HydroFLOW*®



# 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 (Transducer unit) IP66 IEC 60529 (Junction box)

## 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 accorded 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 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.



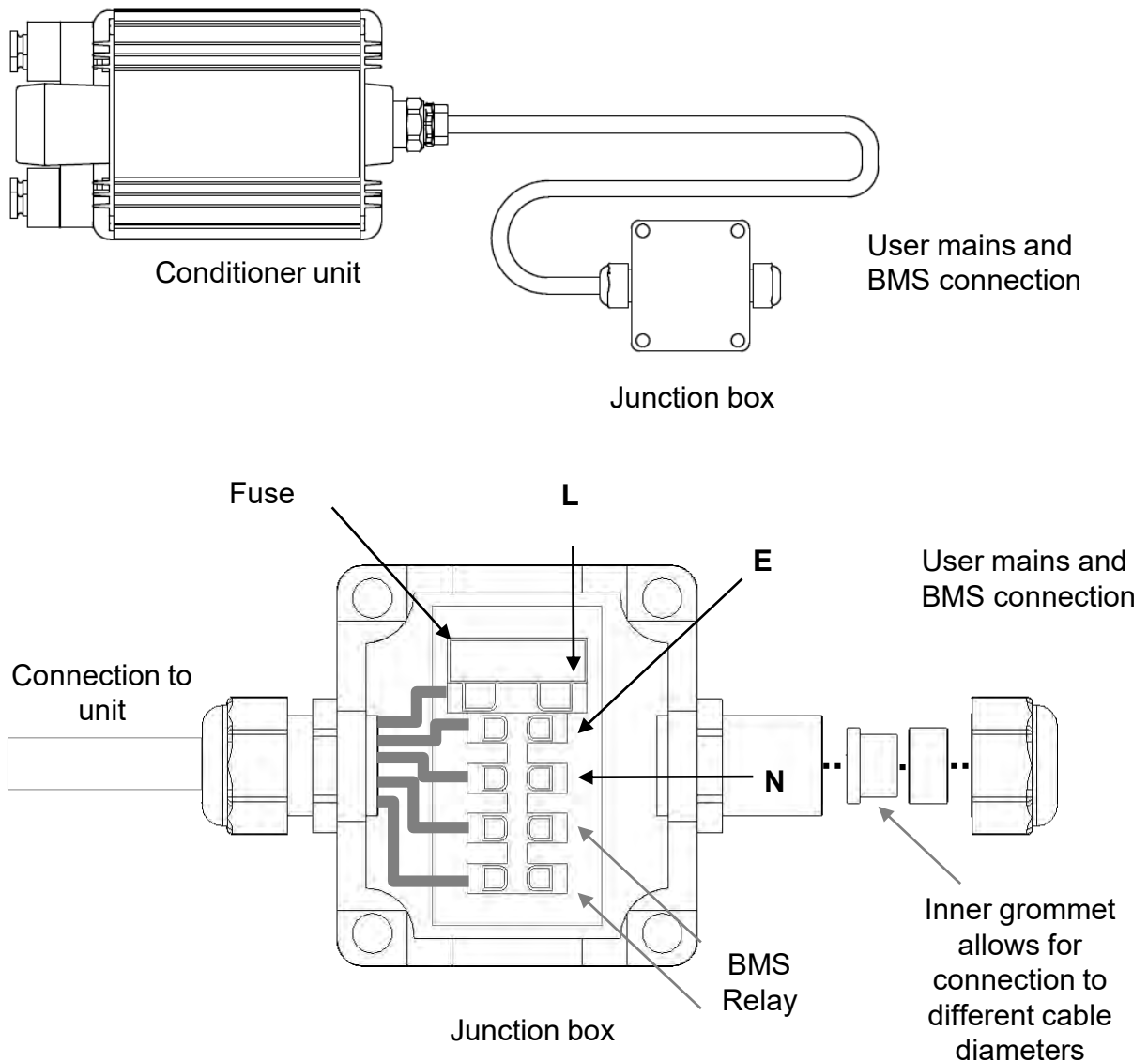
Manufactured to BSEN9002

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



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latest IEE wiring instructions.  
*Fuse rating: 1A.*

# 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 must be used in order to make connection to the mains input and the BMS output.

## 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. This is the sole responsibility of the user and the site safety officer must be consulted before installation is undertaken.

# Mechanical Details

| <b>Pipe Size OD in Inches</b> | <b>Lines of Ferrite/<br/>Number of Cages</b> | <b>Ferrites per Line</b> | <b>Total Ferrites</b> |
|-------------------------------|--|--------------------------|-----------------------|
| 10                            | 2  | 10                       | 20                    |
| 12                            | 2  | 12                       | 24                    |
| 14                            | 2  | 14                       | 28                    |
| 16                            | 3  | 16                       | 48                    |
| 18                            | 3  | 18                       | 54                    |
| 20                            | 3  | 18                       | 54                    |
| 22                            | 3  | 20                       | 60                    |
| 24                            | 3  | 22                       | 66                    |
| 26                            | 3  | 24                       | 72                    |

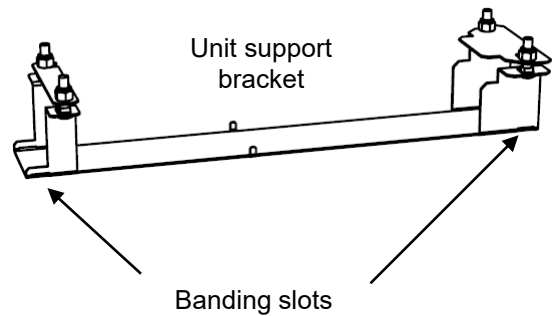
**Larger sizes are available on request.**

The above table is only a guide. Custom units are produced on an individual basis to satisfy the specific needs of each particular application. Hydropath reserves the right to modify the above details as needed.

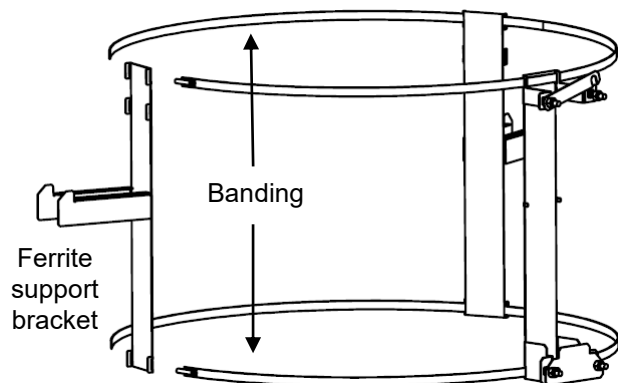
# Assembly

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

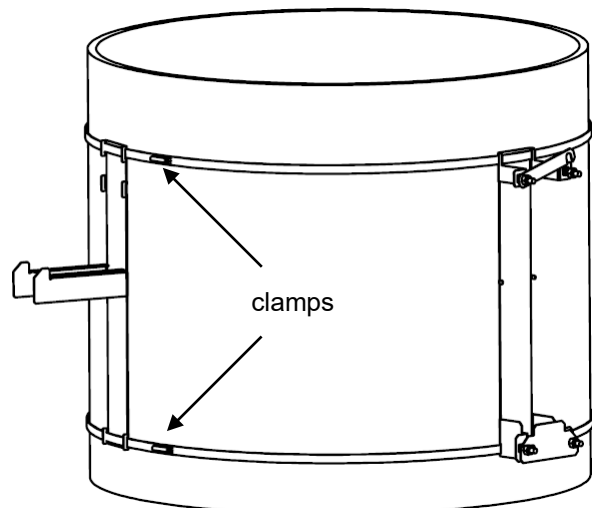
- The unit is supplied with a bracket for ease of mounting to the pipe. The two upper plates should be loosely secured with bolts before installation.



- Pass the two stainless steel bands through the slots in the bracket.
- Then pass the banding through the slots in the ferrite support bracket or brackets.



- Place the brackets around the pipe approximately evenly.
- Secure straps by tightening clamps with flathead screwdriver or hex socket driver



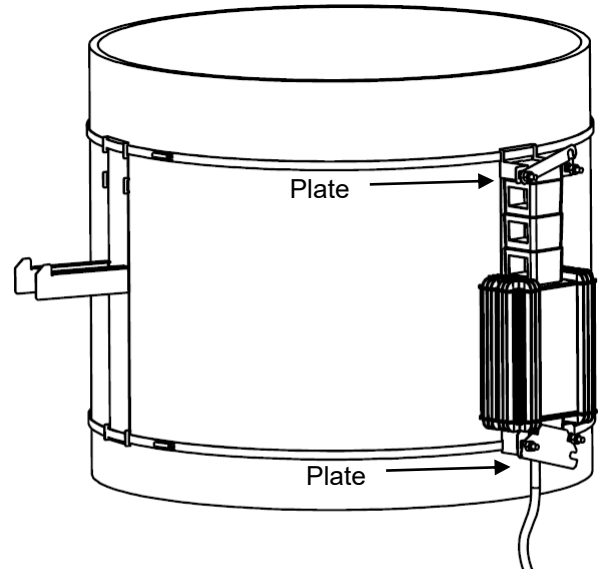
### **WARNING**

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

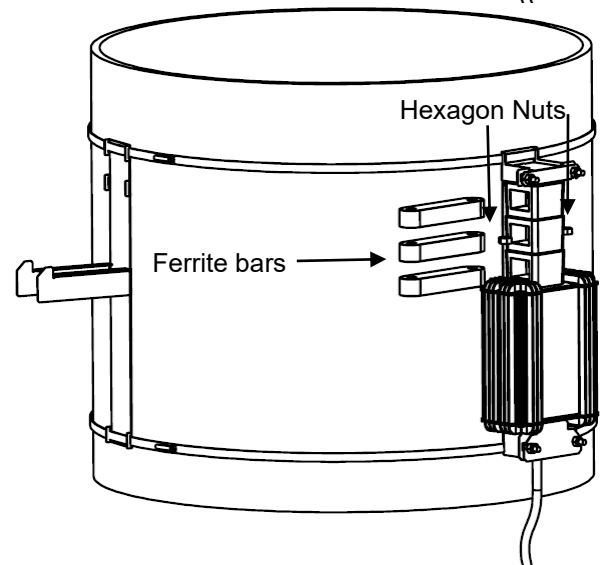
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**DO NOT POWER UP UNIT UNTIL ALL FERRITES SUPPLIED ARE CONNECTED.**

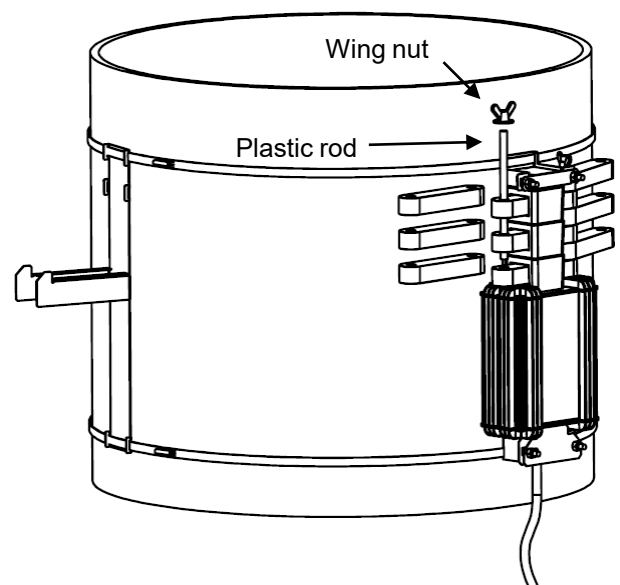
- Place the unit on the bracket and hold in place using the swinging plates.
- Secure by tightening the four steel nuts.



- Insert the two hexagon nuts into the holes in the end plate, next to the ferrite holding cage.
- If installing on a vertical pipe, place the unit with the ferrite cage upwards to ease fitting of hexagon nuts.
- Insert one of the ferrite bars through each hole in the holding cage until the holes line up with the hexagon nuts.



- Take an equal number of ferrites, insert a plastic rod through the holes in both sets of ferrite bars and loosely screw into hexagon nut.
- Secure loosely using a wing nut.
- Repeat on opposite side.



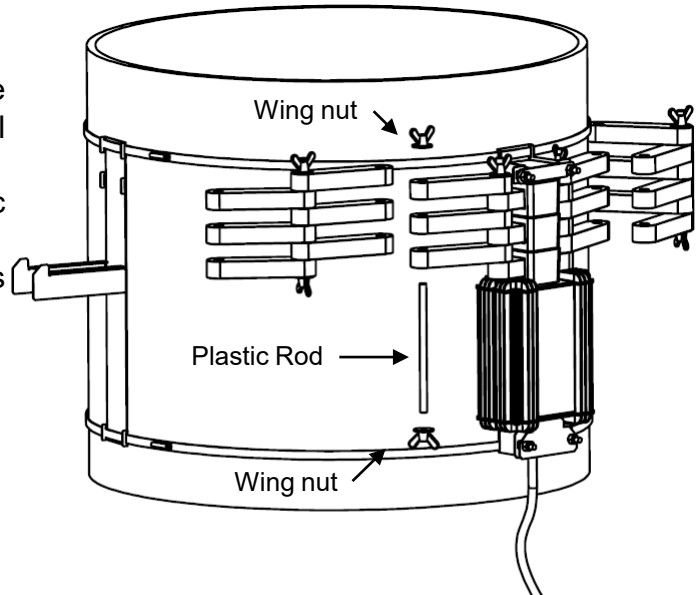
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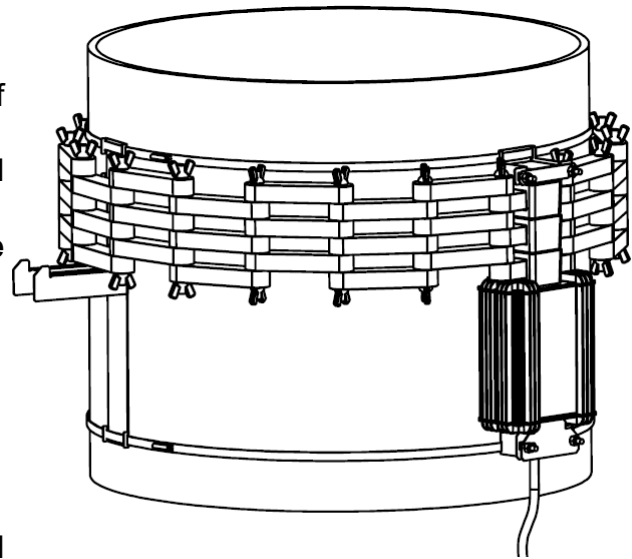
# Assembly

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

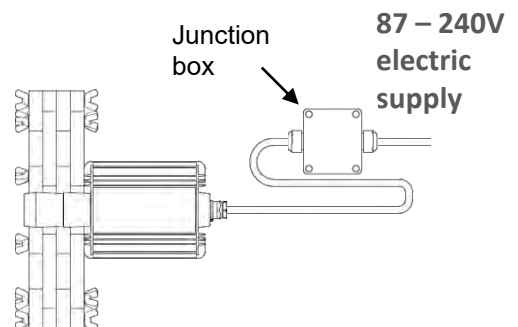
- Assemble **all** the other ferrites around the pipe according to the mechanical configuration specified for the unit.
- Loosely secure each ferrite with plastic rods and wing nuts.
- Ferrites can be pre-assembled in sections for convenience



- Adjust position of ferrite support brackets if necessary
- Once the ferrite ring is complete, tighten all wing nuts until hand tight.
- **Do not over tighten as ferrites are fragile.**



- In accordance with local code and regulations, connect the junction box 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.



## **WARNING**

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# Location Criteria

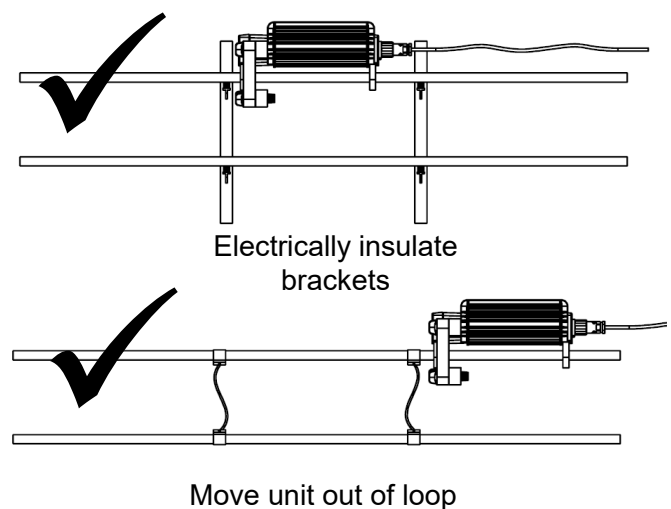
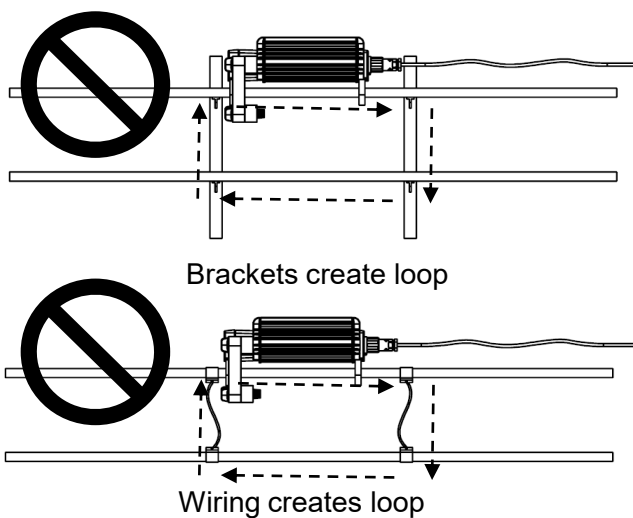
The i Range unit can provide a range of benefits, including protection against limescale, treatment of biofouling and flocculation of particles. The most effective location for the unit depends on the result desired.

- 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, 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.



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

## Box Contents

Transducer Unit

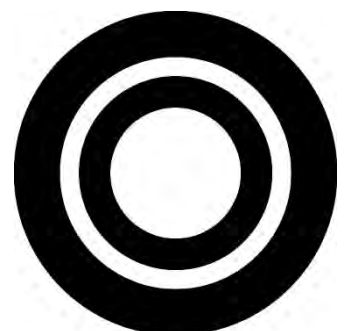
Instructions

| Custom Model | Long ferrites | Stainless Steel Banding | Rods | Hex Nuts | Wing Nuts | Fixing Bracket | Ferrite support Bracket |
|--------------|---------------|-------------------------|------|----------|-----------|----------------|-------------------------|
| 10"          | 20            | 2                       | 10   | 2        | 18        | 1              | 1                       |
| 12"          | 24            | 2                       | 12   | 2        | 22        | 1              | 1                       |
| 14"          | 28            | 2                       | 14   | 2        | 26        | 1              | 1                       |
| 16"          | 48            | 2                       | 16   | 2        | 30        | 1              | 2                       |
| 18"          | 54            | 2                       | 18   | 2        | 34        | 1              | 2                       |
| 20"          | 54            | 2                       | 18   | 2        | 34        | 1              | 2                       |
| 22"          | 60            | 2                       | 20   | 2        | 38        | 1              | 2                       |
| 24"          | 66            | 2                       | 22   | 2        | 42        | 1              | 2                       |
| 26"          | 72            | 2                       | 24   | 2        | 46        | 1              | 2                       |

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[hydropath.com/product-registration/](http://hydropath.com/product-registration/)  
Products must be registered to activate any  
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to our standard terms and conditions of sales,  
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