

HY-MAG (The successor to HydroMAG) INSTALLATION AND OPERATION INSTRUCTIONS

Please read these notes fully before installing a HY-MAG unit and control box.

Water Quality

To obtain an optimum performance from the HY-MAG, electromagnetic water conditioner, the water chemistry and ambient temperature must give a positive calcium saturation index (Langelier Saturation Index) as the water enters the HY-MAG unit. This can be verified by Hydrotec in our laboratories if required.

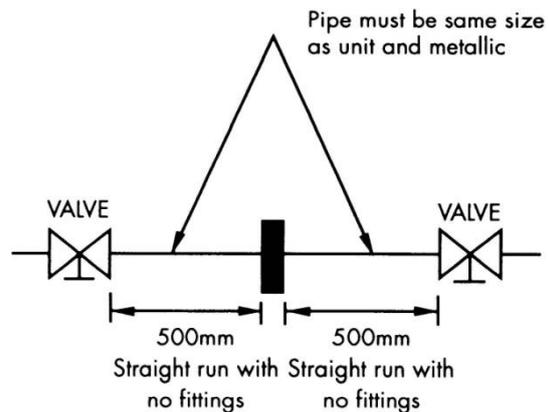
The conditioning effect imparted by the HY-MAG is a physical effect and is reversible. The maximum retention time in the system, (after treatment) must not exceed 48 hours. System retention times longer than this may lead to reduction in the conditioning effect noted, and can result in deposition.

Where the HY-MAG is to be used in conjunction with very high heat flux density water heating equipment, as may be found in the latest generation of 'environment friendly' heaters, confirmation must be sought from Hydrotec on the suitability of this type of equipment in hard water areas.

Installation Instructions

1. The HY-MAG system is a WRAS approved product and therefore suitable for use with water used for drinking and cooking purposes.
2. The HY-MAG must have at least 500mm of straight metallic pipe, the same size as the unit, either side of the unit itself to prevent turbulence (see installation diagram fig.1). This straight piece of pipe must not have any fittings, e.g. valves.

Installation in line (fig.1)



3. Install the HY-MAG so that the arrow points in the direction of flow. Note that the control box is connected to the inlet side of the HY-MAG.
4. If the HY-MAG unit is to be supported on metal brackets the unit must be electrically insulated from the brackets by shims of at least 10mm thickness.
5. Wall anchors for pipework must be insulated, ideally for up to 4m away from the unit.

Scale Control

6. Mount the control box onto a wall within 1.5m of the **HY-MAG** unit.
7. Plug the cable into the **HY-MAG** (the plug is supplied pre-wired).
8. Connect the power cable (supplied open ended) to a fused spur fitted with a 5 amp fuse.
9. Do not under any circumstances apply power to the unit when there is no water in the system as this may cause damage to the coil.
10. Maximum inlet service pressure is 16 bar.
11. Maximum water temperature is 80°C.
12. Maximum ambient temperature is 40°C.
13. Water passing through the **HY-MAG** without any power connected for a period up to two weeks will not cause any damage to the unit. If this period is to be exceeded then the **HY-MAG** should either be removed and a bridge pipe fitted or water should be diverted through the bypass. This will prevent any scale formation within the unit.
14. Turn on the water supply and check for leaks. Run off water from any mains-fed tap to ensure that the unit is full and any airlocks have been vented.

*Since the **HY-MAG** body has no moving parts, the only possible problems will be associated with the control box or the electrical coil within the conditioning unit.*

Neither the unit or control box contain field serviceable parts. Dismantling of either will render the warranty invalid. In the event of a suspected failure please refer to the fault finding section.

Electrical wiring - important

The wires for the mains lead are coloured in accordance with the following code:

Green and yellow	= Earth
Blue	= Neutral
Brown	= Live

As colours of the wires in the mains of this appliance may not correspond with the coloured markings identifying the terminals in the spur, proceed as follows:

(a) The wire that is coloured green and yellow must be connected to the terminal in the spur that is marked with the letter E, or by the earth symbol or coloured green or green/yellow.

(b) The wire that is coloured blue must be connected to the terminal that is marked with the letter N or is coloured black.

(c) The wire that is coloured brown must be connected to the terminal that is marked with the letter L or is coloured red.

Warning - This appliance must be earthed.

HY-MAG DN100 ONLY

Please inform Hydrotec as soon as possible after the unit has been installed to allow commissioning to be carried out and the warranty and commissioning certificate to be issued. The warranty only becomes operative after the unit has been commissioned by a Hydrotec engineer.

CONTROL BOXES

Important - Please Note

The polarity lamps should be checked regularly to ensure proper functioning.

Standard Plus control box



When the Standard Plus control box is operating correctly the polarity reversal panel will show a set of 8 red diodes lighting in turn for +ve polarity operation then 8 green diodes for -ve polarity operation.

If there is a fault all 8 red diodes will flash simultaneously. If this should occur, follow the procedure below.

Competition control box



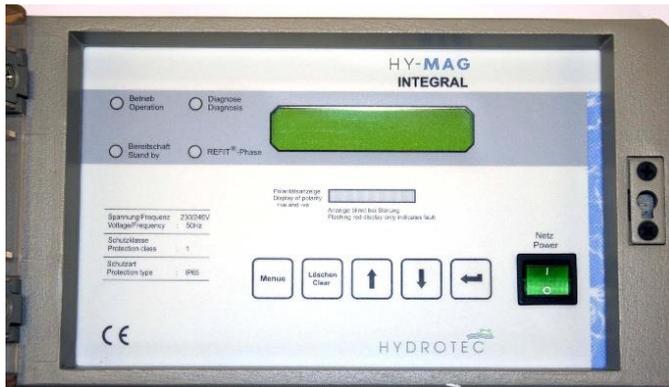
The Competition control box can be programmed to operate in a time controlled or continuous mode, although we strongly advise that the unit should operate in a continuous mode.

When the unit is operating correctly the polarity reversal panel will show a set of 8 red diodes lighting in turn for +ve polarity operation then 8 green diodes for -ve polarity operation.

If there is a fault all 8 red diodes will flash simultaneously and an audible alarm will be heard. Additionally, a feature of the Competition model is the volt free contacts for remote fault indication and if this facility is being utilised a fault signal will be sent to the BMS panel. In the event of a fault warning, follow the procedure below.

Scale Control

Integral control box



Fault tracing procedures for Standard Plus, Competition and Integral control panels.

- a) Switch off power supply to control box.
- b) Check that there is power to the fused spur (240 volt single phase).
- c) Check the fuse in the spur (5 amp).
- d) Switch power back on.

Should the fault continue please contact Hydrotec for advice
- Telephone 01494 796 040.

The Integral control box can be programmed to operate by time control, sensor control or continuous operation. Under normal circumstances we would strongly advise that the unit should operate in a continuous mode.

Control boxes are not user serviceable. If the box is opened the warranty will be invalidated.

Other features of the Integral control box are

- a) Volt free contacts for remote fault indication.
- b) Connections for radio clock.
- c) RS232 connection.
- d) Thermal protection for the HY-MAG DN100.
- e) Sensor control.

When the unit is operating correctly the polarity reversal panel will show a set of 8 red diodes lighting in turn for +ve polarity operation then 8 green diodes for -ve polarity operation.

If there is a fault all 8 red diodes will flash simultaneously and an audible alarm will sound. In addition, if the volt free contacts are being utilised a fault signal will be sent to the BMS panel. In the event of a fault warning, follow the procedure below.

Subject to technical revisions and modifications

Hydrotec
Hydrotec House
5 Manor Courtyard
Hughenden Avenue
High Wycombe
Bucks HP13 5RE
Tel: +44 (0) 1494 796040
Fax: +44 (0) 1494 796049
E-mail: sales@hydrotec.co.uk
Website: www.hydrotec.co.uk