Calmag
Calming troubled waters

WRAS APPROVED PRODUCT

ELECTROMAG

INSTALLATION AND OPERATING INSTRUCTIONS

ELECTROMAGNETIC WATER CONDITIONING UNITS

WRAS Approval number: 1206056

Version 2.0 05/12

Contents

How Electromag works

Hard water, which is 60-70% of the UK, has a drastic effect on the efficiency and lifespan of appliances. Limescale is a poor conductor of heat and any heat transfer surface, covered in scale will experience a reduction in efficiency.

The Electromag is an electromagnetic water conditioner, providing industry with a low cost solution to the build up of limescale. The unit is an innovative product which not only protects appliances from future limescale build-up, but will also remove existing limescale to further enhance heat transfer efficiency.

The Electromag is suitable for use in a variety of industrial and commercial applications where softened water is not viable.

Using the latest technology, the unit represents a breakthrough in electromagnetic water conditioning technology. A dual purpose shaft allows the magnetic flux, generated by an internal coil, to interface with the water as it passes through the conditioning chamber. The magnetic flux is specifically sized to a range of water flow rates, determined by pipe size and site conditions. This has the effect of changing the crystallisation characteristics of the hardness salts in the water. In this way the unit provides effective control of the build-up of limescale in various types of appliances and pipework.

All Electromag units are WRAS approved and therefore suitable for use with potable water used for drinking and cooking purposes.

Specifying Electromag

Water Conditioning

To inhibit limescale formation an electromagnetic water conditioner shall be installed and size should be recommended by the original manufacturer only.

The unit should be WRAS approved.

The Unit shall have a 240v DC electrical coil for generating the electromagnetic field with a central dual purpose shaft allowing the magnetic field to interface with the water as it passes through the conditioning chamber.

The ampere turns should range from 2200AT to 25000AT.

The power supply or control box should either be connected directly into a 3-pin plug socket (E22-E42 inclusive), or alternatively should be connected to a 240v, single phase, 50Hz supply through a double pole fused switched spur with corresponding fuse size (E150-E400 inclusive). BMS interface supplied as standard.

The unit is to be a Calmag Electromag as detailed in the corresponding technical data.

Installation guidelines

The Electromag is suitable for installation on copper or steel pipework – please refer to the relevant pipe material specification sheets. Ensure that the unit is adequately supported with suitable bracketing if required. Installation should be undertaken by a competent professional.

To ensure periodic inspection under the Health and Safety guidelines we recommend that isolating valves be installed prior and after the unit and also a bypass valve and system to be in place to ensure that water can be accessed at all times. The installation of these valves is purely down to the discretion of the installer.

The range of Electromags do not introduce any sodium into the water which means that the water remains potable as the carbon steel shaft is coated with a WRAS approved material, and is safe to drink, neither does it require a separate drain. The unit is compact and can be installed in confined spaces. As there are no moving parts, no routine servicing is required.

When installing the unit on pipework which is situated close to a wall it may be necessary to install elbows and/or additional pipework to accommodate the diameter of the outer casing of the unit. In situations where the water flow is minimal for extended periods, the temperature of the water may increase.

Please note that the Electromag internal pipework and shaft are coated with Copon Hycote EA5 WB which is a WRAS approved product and suitable for cold water use and the whole range of Electromag units are WRAS approved.

Warranty

The Electromag is covered by a 10 year warranty on mechanical parts and 12 months on any electrical parts and labour*. All warranties are only eligible on mainland UK.
In the unlikely event of a scale situation arises following installation of the unit, Calmag will undertake an investigation to recommend or carry out rectification work promptly. All work to be carried out only on mainland UK.

Do not apply power to the unit for prolonged periods unless there is water in the system as this may damage the coil.

Warranties do not cover damage resulting by misuse, or incorrect installation.

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* Please note, the guarantees are only valid if Calmag have carried out the commissioning and service of the units.

WRAS®

Water Regulations Advisory Scheme

This certifies that

CALMAG YORKSHIRE LTD.

has had the undermentioned product examined, tested and found, when correctly installed, to comply with the requirements of the United Kingdom Water Supply (Water Fittings) Regulations/Scottish Water Byelaws.

E22, E28, E35, E42, E150, E200, E250, E300 & E400 ELECTROMAG WATER CONDITIONERS

This certificate by itself is not evidence of a valid WRAS Approval. Confirmation of the current status of an approval must be obtained from the WRAS Directory (www.wras.co.uk/directory)

The product so mentioned will be listed in the Water Fittings and Materials Directory for a period until:

31 JUNE 2017

1206056

Certificate No.

Chairman, Test and Assessment Group

Secretary

WRAS APPROVED PRODUCT

WRc-NSF

TEST CERTIFICATE

The

Calmag Yorkshire Ltd

Electromag Range of Water Conditioners

HAS SUCCESSFULLY COMPLETED MECHANICAL TESTING AGAINST THE REGULATORS' SPECIFICATION FOR WATER FITTINGS AND THEREFORE MEETS THE MECHANICAL REQUIREMENTS OF THE WATER SUPPLY (WATER FITTINGS) REGULATIONS 1999 IN ENGLAND AND WALES, THE WATER BYELAWS 2004 IN SCOTLAND AND THE WATER SUPPLY (WATER FITTINGS) REGULATIONS (NORTHERN IRELAND) 2009.

The following models are covered by this test certificate

E22, E28, E35, E42, E150, E200, E250, E300 & E400

S G Warburton

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S G Warburton (Laboratory Director)

Date: 24th April 2012

Certificate number: 110334

WRc-NSF Ltd, 30 Fern Close, Pen-y-fan Industrial Estate, Oakdale, Gwent, NP11 3EH, UK.

Telephone: +44 (0) 1495 236 260 Website: www.wrcnsf.com

UKAS TESTING

0626

This test certificate relates to the successful completion of testing of the range of products detailed above against the requirements of the Regulators' Specification for water fittings and does not constitute approval or endorsement of the above items by WRc-NSF or any of its associated organisations.

Installation instructions - copper

MODEL - E22, E28, E35, E42

INSTALLATION

- Units are best installed on the cold feed to a specified appliance. If the pipework contains a booster pump, the Electromag must be fitted downstream of this pump.
- Ensure that the correct sized unit corresponds to the pipework.
- The peak flow rates and nominal frictional losses are measured at 5 bar supply pressure.
- Maximum working pressure on all models is 20 bar.
- Temperature of 23 degrees centigrade (standard). Maximum temperate 90°C.
- All fittings, tubes and power supplies are to British Standard.

OTHER INFORMATION

- All products are 100% tested.
- All units are robustly manufactured from quality materials to ensure maximum performance.
- A 240v 50Hz electrical supply is required.

Model: E22

WRAS APPROVED PRODUCT

Maximum flow rate:	**38 l/min**
Connections:	**Inlet/Outlet: 22mm compression**
Maximum water temperature:	**90°C**

Other information

Unit Dimensions	
Total length:	430mm (inc fittings)
Diameter of housing:	114mm
Length of housing:	330mm
Central shaft:	High performance coated iron shaft
Maximum pressure:	20 Bar
Power supply:	240v 50Hz
Power consumption:	50 Watts

Pressure Drop Calculator

Flow medium	Water 20° C / liquid
Volume flow	2.28 m^3/h
Weight density	998.206 kg/m^3
Dynamic Viscosity	1001.61 10-6 kg/ms
Element of pipe	circular
Dimensions of element	Diameter of pipe D: 114m Length of pipe L: 0.33m
Velocity of flow	0.06 m/s
Reynolds number	7050
Velocity of flow 2	-
Reynolds number 2	-
Flow	turbulent
Absolute roughness	0.0015m
Pipe friction number	0.03
Resistance coefficient	0.1
Resist.coeff.branching pipe	-
Press.drop.branch. pipe	-
Pressure drop	0 mbar 0 bar

Note: The pressure drop was calculated by the online calculator of www.pressure-drop.com. We can not warrant the correctness of this software. The software is produced carefully, but no computer software is without bugs and therefore the calculations are at your own risk.

Typical Installation Guidelines

Turn off the water supply.
Drain relevant pipe work or system where the unit is to be installed.
Cut pipe work to suit. The unit should be installed no less than 1 metre away from an appliance.
Push the unit into place, ensuring that the fittings are fully into position.
Tighten the compression fittings to make a seal.
Plug the transformer into the unit and into the mains supply.
Re-open the system slowly.
Check for leaks. Turn on the electricity supply to the unit.

Model: E28

WRAS APPROVED PRODUCT

Maximum flow rate:	**64 l/min**
Connections:	**Inlet/Outlet: 28mm compression**
Maximum water temperature:	**90°C**

Other information

Unit Dimensions	
Total length:	440mm (inc fittings)
Diameter of housing:	114mm
Length of housing:	330mm
Central shaft:	High performance coated iron shaft
Maximum pressure:	20 Bar
Power supply:	240v 50Hz
Power consumption:	50 Watts

Pressure Drop Calculator

Flow medium	Water 20° C / liquid
Volume flow	3.84 m^3/h
Weight density	998.206 kg/m^3
Dynamic Viscosity	1001.61 10-6 kg/ms
Element of pipe	circular
Dimensions of element	Diameter of pipe D: 114m Length of pipe L: 0.33m
Velocity of flow	0.1 m/s
Reynolds number	11873
Velocity of flow 2	-
Reynolds number 2	-
Flow	turbulent
Absolute roughness	0.0015m
Pipe friction number	0.03
Resistance coefficient	0.09
Resist.coeff.branching pipe	-
Press.drop.branch. pipe	-
Pressure drop	0 mbar 0 bar

Note: The pressure drop was calculated by the online calculator of www.pressure-drop.com. We can not warrant the correctness of this software. The software is produced carefully, but no computer software is without bugs and therefore the calculations are at your own risk.

Typical Installation Guidelines

Turn off the water supply.
Drain relevant pipe work or system where the unit is to be installed.
Cut pipe work to suit. The unit should be installed no less than 1 metre away from an appliance.
Push the unit into place, ensuring that the fittings are fully into position.
Tighten the compression fittings to make a seal.
Plug the transformer into the unit and into the mains supply.
Re-open the system slowly.
Check for leaks. Turn on the electricity supply to the unit.

Model: E35

WRAS APPROVED PRODUCT

Maximum flow rate:	**100 l/min**
Connections:	**Inlet/Outlet: 35mm compression**
Maximum water temperature:	**90°C**

Other information

Unit Dimensions	
Total length:	500mm (inc fittings)
Diameter of housing:	141mm
Length of housing:	365mm
Central shaft:	High performance coated iron shaft
Maximum pressure:	20 Bar
Power supply:	240v 50Hz
Power consumption:	50 Watts

Pressure Drop Calculator

Flow medium	Water 20° C / liquid
Volume flow	6 m^3/h
Weight density	998.206 kg/m^3
Dynamic Viscosity	1001.61 10-6 kg/ms
Element of pipe	circular
Dimensions of element	Diameter of pipe D: 114m Length of pipe L: 0.365m
Velocity of flow	0.11 m/s
Reynolds number	14999
Velocity of flow 2	-
Reynolds number 2	-
Flow	turbulent
Absolute roughness	0.0015m
Pipe friction number	0.03
Resistance coefficient	0.07
Resist.coeff.branching pipe	-
Press.drop.branch. pipe	-
Pressure drop	0 mbar 0 bar

Note: The pressure drop was calculated by the online calculator of www.pressure-drop.com. We can not warrant the correctness of this software. The software is produced carefully, but no computer software is without bugs and therefore the calculations are at your own risk.

Typical Installation Guidelines

Turn off the water supply.
Drain relevant pipe work or system where the unit is to be installed.
Cut pipe work to suit. The unit should be installed no less than 1 metre away from an appliance.
Push the unit into place, ensuring that the fittings are fully into position.
Tighten the compression fittings to make a seal.
Plug the transformer into the unit and into the mains supply.
Re-open the system slowly.
Check for leaks. Turn on the electricity supply to the unit.

Model: E42

WRAS APPROVED PRODUCT

Maximum flow rate:	**148 l/min**
Connections:	**Inlet/Outlet: 42mm compression**
Maximum water temperature:	**90°C**

Other information

Unit Dimensions	
Total length:	520mm (inc fittings)
Diameter of housing:	141mm
Length of housing:	365mm
Central shaft:	High performance coated iron shaft
Maximum pressure:	10 Bar
Power supply:	240v 50Hz
Power consumption:	50 Watts

Pressure Drop Calculator

Flow medium	Water 20° C / liquid
Volume flow	8.88 m^3/h
Weight density	998.206 kg/m^3
Dynamic Viscosity	1001.61 10-6 kg/ms
Element of pipe	circular
Dimensions of element	Diameter of pipe D: 114m Length of pipe L: 0.365m
Velocity of flow	0.16 m/s
Reynolds number	22198
Velocity of flow 2	-
Reynolds number 2	-
Flow	turbulent
Absolute roughness	0.0015m
Pipe friction number	0.03
Resistance coefficient	0.07
Resist.coeff.branching pipe	-
Press.drop.branch. pipe	-
Pressure drop	0 mbar 0 bar

Note: The pressure drop was calculated by the online calculator of www.pressure-drop.com. We can not warrant the correctness of this software. The software is produced carefully, but no computer software is without bugs and therefore the calculations are at your own risk.

Typical Installation Guidelines

Turn off the water supply.
Drain relevant pipe work or system where the unit is to be installed.
Cut pipe work to suit. The unit should be installed no less than 1 metre away from an appliance.
Push the unit into place, ensuring that the fittings are fully into position.
Tighten the compression fittings to make a seal.
Plug the transformer into the unit and into the mains supply.
Re-open the system slowly.
Check for leaks. Turn on the electricity supply to the unit.

Installation instructions - steel

MODEL - E150, E200, E250, E300, E400

INSTALLATION

- Units are best installed on the cold feed to a specified appliance. If the pipework contains a booster pump, the Electromag must be fitted downstream of this pump.
- Ensure that the correct sized unit corresponds to the pipework.This will ensure that the electromagnetism field is contained within the unit for maximum efficiency.
- The peak flow rates and nominal frictional losses are measured at 5 bar supply pressure.
- Maximum working pressure on all models is 20 bar.
- Temperature of 23 degrees centigrade (standard). Maximum temperature 90°C.
- All fittings, tubes and power supplies are to British Standard.
- Units are designed to be installed with the corresponding BSP sockets (E200, E250, E300, E400).

ELECTRICAL

- We recommend that the Electromag is connected to the following sized spur:- E150 - 1 x double pole fused switched spur 5 amp. E200, E250, E300 and E400 - 1 x double pole fused switched spur 10 amp.
- The Electromag control panel needs to be connected to a 5 amp or 10 amp fused, 240v 50Hz supply. 5 amp for the E150. 10 amp for the E200, E250, E300 and E400. The spur must incorporate a switch to enable maintenance or repair of the equipment.
- The cable must be connected to a supply having a means of disconnection which must incorporate a gap of at least 3mm.
- A means of isolating the Electromag (double pole fused switch) must be accessible to the user.
- The Electromag must be connected to the mains supply via the control panel. **DO NOT CONNECT THE ELECTROMAG BODY DIRECTLY TO THE MAINS.**
- The lead from the control panel to the Electromag body must not be coiled. Due to the current running through the coil this may lead to failure due to the heat transfer that may occur.
- BMS interface supplied as standard.

MAIN UNIT

The main unit should be mounted to the wall or floor depending on the installation. If fixed to the floor use the correct sized coach bolts (not provided).

DO NOT MOUNT ON A FALSE WALL DUE TO THE OVERALL WEIGHT.

CONTROL PANEL

Mount to a wall using 10mm or similar sized bolts (not provided).

OTHER INFORMATION

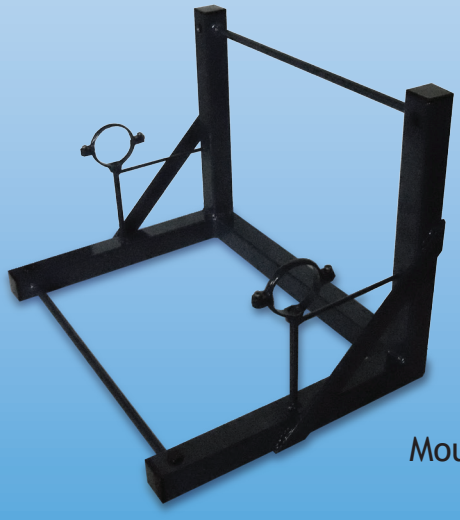
- All products have been tested for performance prior to despatch and is the reason when on start up you will find that the "Hours Run" setting on the control panel is not at zero.

The ends of the Electromag may also have hemp within the threads which is again due to our testing procedures.

- All products are 100% tested.
- All units are robustly manufactured from quality materials to ensure maximum performance.
- A 240v 50Hz electrical supply is required to the unit – see above for fuse ratings.
- A control circuit and transformer provide the DC current for the coil.

Electromag is available in different sizes for steel ranging from 1.5" to 4" depending upon the size of pipework and the type of appliance being protected.

- Flanged units are available as special orders on request.
- Units are designed to be installed with corresponding BSP sockets. Flanges are not normally required as the units do not need to be removed for maintenance purposes and servicing can be carried out in situ.



Mounting Frame

Model: E150 WRAS APPROVED PRODUCT

Maximum flow rate:	**2.47 l/sec (148 l/min)**
Connections:	**Inlet/Outlet: 1½" BSP**
Maximum water temperature:	**90°C**

Other information

Unit Dimensions	
Total length:	520mm (inc fittings)
Diameter of housing:	141mm
Length of housing:	365mm
Central shaft:	High performance coated iron shaft
Maximum pressure:	20 Bar
Power supply:	240v 50Hz
Power consumption:	50 Watts

Pressure Drop Calculator

Flow medium	Water 20° C / liquid
Volume flow	8.88 m^3/h
Weight density	998.206 kg/m^3
Dynamic Viscosity	1001.61 10-6 kg/ms
Element of pipe	circular
Dimensions of element	Diameter of pipe D: 141mm Length of pipe L: 0.365m
Velocity of flow	0.16 m/s
Reynolds number	22198
Velocity of flow 2	-
Reynolds number 2	-
Flow	turbulent
Absolute roughness	0.15m
Pipe friction number	0.03
Resistance coefficient	0.07
Resist.coeff.branching pipe	-
Press.drop.branch. pipe	-
Pressure drop	0 mbar 0 bar

Note: The pressure drop was calculated by the online calculator of www.pressure-drop.com. We can not warrant the correctness of this software. The software is produced carefully, but no computer software is without bugs and therefore the calculations are at your own risk.

Model: E200 WRAS APPROVED PRODUCT

Maximum flow rate:	**5 l/sec (300 l/min)**
Connections:	**Inlet/Outlet: 2" BSP**
Maximum water temperature:	**90°C**

Other information

Unit Dimensions	
Total length:	560mm (inc fittings)
Diameter of housing:	270mm
Length of housing:	440mm
Central shaft:	High performance coated iron shaft
Maximum pressure:	20 Bar
Power supply:	240v 50Hz
Power consumption:	500 Watts
Fuse rating:	10 Amp
Control Box Dimensions: BMS interface supplied as standard	
Height:	400mm
Width	300mm
Depth	160mm
Mounting Frame Dimensions	
Height:	400mm
Width	530mm
Depth	400mm

Mounting frame is a steel based painted tube and to be used for permanent fixing to a solid floor or wall.

Pressure Drop Calculator

Flow medium	Water 20° C / liquid
Volume flow	18 m^3/h
Weight density	998.206 kg/m^3
Dynamic Viscosity	1001.61 10-6 kg/ms
Element of pipe	circular
Dimensions of element	Diameter of pipe D: 270mm Length of pipe L: 0.44m
Velocity of flow	0.09 m/s
Reynolds number	23498
Velocity of flow 2	-
Reynolds number 2	-
Flow	turbulent
Absolute roughness	0.15m
Pipe friction number	0.03
Resistance coefficient	0.04
Resist.coeff.branching pipe	-
Press.drop.branch. pipe	-
Pressure drop	0 mbar 0 bar

Note: The pressure drop was calculated by the online calculator of www.pressure-drop.com. We can not warrant the correctness of this software. The software is produced carefully, but no computer software is without bugs and therefore the calculations are at your own risk.

Model: E250

WRAS APPROVED PRODUCT

Maximum flow rate:	**6.7 l/sec (400 l/min)**
Connections:	**Inlet/Outlet: 2.5" BSP**
Maximum water temperature:	**90˚C**

Other information

Unit Dimensions	
Total length:	560mm (inc fittings)
Diameter of housing:	270mm
Length of housing:	440mm
Central shaft:	High performance coated iron shaft
Maximum pressure:	20 Bar
Power supply:	240v 50Hz
Power consumption:	550 Watts
Fuse rating:	10 Amp
Control Box Dimensions: BMS interface supplied as standard	
Height:	400mm
Width	300mm
Depth	160mm
Mounting Frame Dimensions	
Height:	400mm
Width	530mm
Depth	400mm

Mounting frame is a steel based painted tube and to be used for permanent fixing to a solid floor or wall.

Pressure Drop Calculator

Flow medium	Water 20° C / liquid
Volume flow	24 m^3/h
Weight density	998.206 kg/m^3
Dynamic Viscosity	1001.61 10-6 kg/ms
Element of pipe	circular
Dimensions of element	Diameter of pipe D: 270mm Length of pipe L: 0.44m
Velocity of flow	0.12 m/s
Reynolds number	31331
Velocity of flow 2	-
Reynolds number 2	-
Flow	turbulent
Absolute roughness	0.15m
Pipe friction number	0.02
Resistance coefficient	0.04
Resist.coeff.branching pipe	-
Press.drop.branch. pipe	-
Pressure drop	0 mbar 0 bar

Note: The pressure drop was calculated by the online calculator of www.pressure-drop.com. We can not warrant the correctness of this software. The software is produced carefully, but no computer software is without bugs and therefore the calculations are at your own risk.

Model: E300 WRAS APPROVED PRODUCT

Maximum flow rate:	**10 l/sec (600 l/min)**
Connections:	**Inlet/Outlet: 3" BSP**
Maximum water temperature:	**90°C**

Other information

Unit Dimensions	
Total length:	630mm
Diameter of housing:	270mm
Length of housing:	480mm
Central shaft:	High performance coated iron shaft
Maximum pressure:	20 Bar
Power supply:	240v 50Hz
Power consumption:	600 Watts
Fuse rating:	10 Amp
Control Box Dimensions: BMS interface supplied as standard	
Height:	400mm
Width	300mm
Depth	160mm
Mounting Frame Dimensions	
Height:	400mm
Width	570mm
Depth	400mm

Mounting frame is a steel based painted tube and to be used for permanent fixing to a solid floor or wall.

Flanges are not normally required as the product does not need to be removed for maintenance purposes and service can be carried out in situ.
Flanged units are available on request as special orders.

Pressure Drop Calculator

Flow medium	Water 20° C / liquid
Volume flow	36 m^3/h
Weight density	998.206 kg/m^3
Dynamic Viscosity	1001.61 10-6 kg/ms
Element of pipe	circular
Dimensions of element	Diameter of pipe D: 270mm Length of pipe L: 0.48m
Velocity of flow	0.17 m/s
Reynolds number	46997
Velocity of flow 2	-
Reynolds number 2	-
Flow	turbulent
Absolute roughness	0.15m
Pipe friction number	0.02
Resistance coefficient	0.04
Resist.coeff.branching pipe	-
Press.drop.branch. pipe	-
Pressure drop	0.01 mbar 0 bar

Note: The pressure drop was calculated by the online calculator of www.pressure-drop.com. We can not warrant the correctness of this software. The software is produced carefully, but no computer software is without bugs and therefore the calculations are at your own risk.

Model: E400 WRAS APPROVED PRODUCT

Maximum flow rate:	**30 l/sec (1800l/min)**
Connections:	**Inlet/Outlet: 4" BSP**
Maximum water temperature:	**90°C**
Other information	
Unit Dimensions	
Total length:	620mm
Diameter of housing:	275mm
Length of housing:	480mm
Central shaft:	High performance coated iron shaft
Maximum pressure:	20 Bar
Power supply:	240v 50Hz
Power consumption:	600 Watts
Fuse rating:	10 Amp
Control Box Dimensions: BMS interface supplied as standard	
Height:	400mm
Width	300mm
Depth	150mm
Mounting Frame Dimensions	
Height:	400mm
Width	560mm
Depth	400mm

Mounting frame is a steel based painted tube and to be used for permanent fixing to a solid floor or wall.

Flanges are not normally required as the product does not need to be removed for maintenance purposes and service can be carried out in situ.
Flanged units are available on request as special orders.

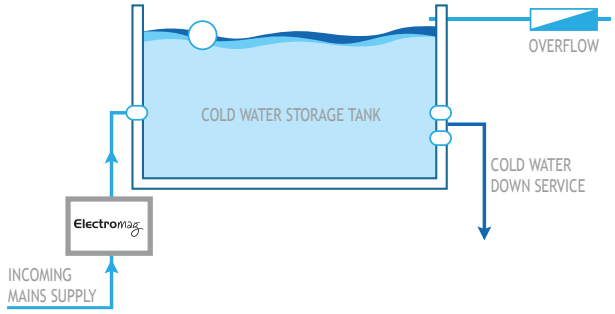
Pressure Drop Calculator

Flow medium	Water 20° C / liquid
Volume flow	108 m^3/h
Weight density	998.206 kg/m^3
Dynamic Viscosity	1001.61 10-6 kg/ms
Element of pipe	circular
Dimensions of element	Diameter of pipe D: 275mm Length of pipe L: 0.48m
Velocity of flow	0.51 m/s
Reynolds number	138427
Velocity of flow 2	-
Reynolds number 2	-
Flow	turbulent
Absolute roughness	0.15m
Pipe friction number	0.02
Resistance coefficient	0.03
Resist.coeff.branching pipe	-
Press.drop.branch. pipe	-
Pressure drop	0.04 mbar 0 bar

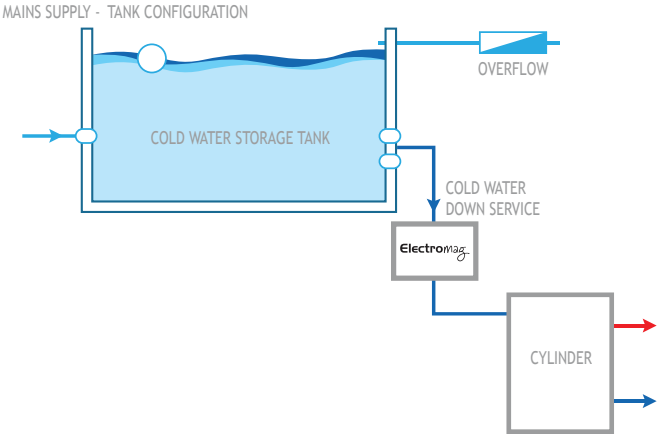
Note: The pressure drop was calculated by the online calculator of www.pressure-drop.com. We can not warrAnt the correctness of this software. The software is produced carefully, but no computer software is without bugs and therefore the calculations are at your own risk.

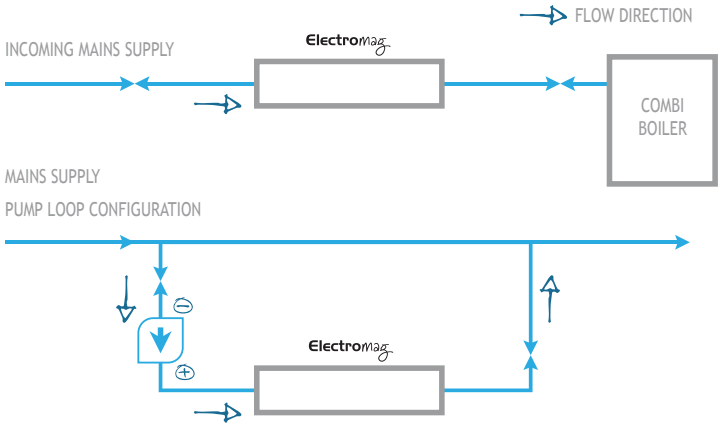
Typical Installation Diagram

MAINS SUPPLY - TANK CONFIGURATION

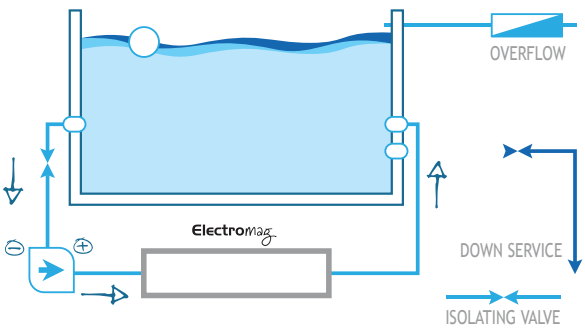


MAINS SUPPLY - TANK CONFIGURATION

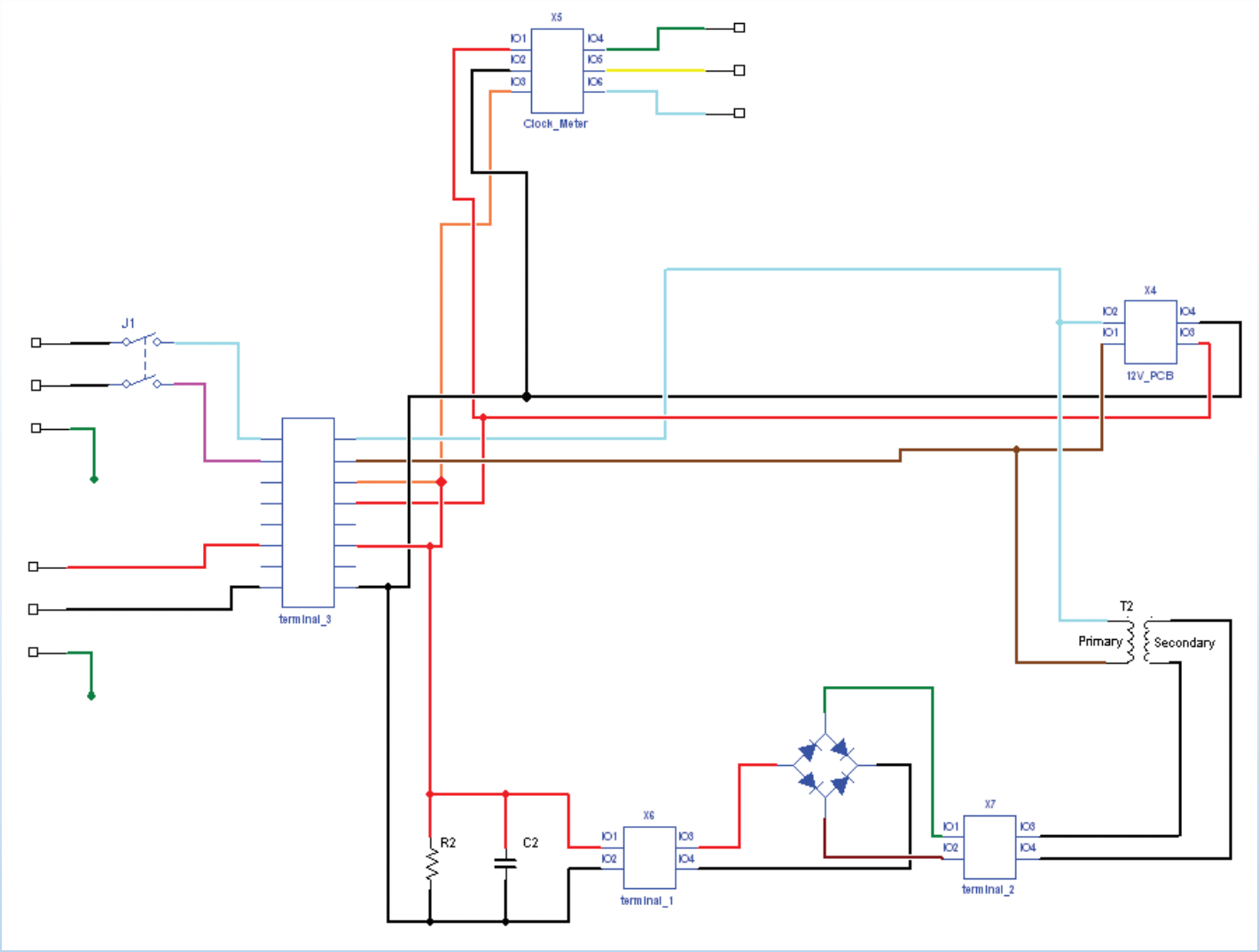




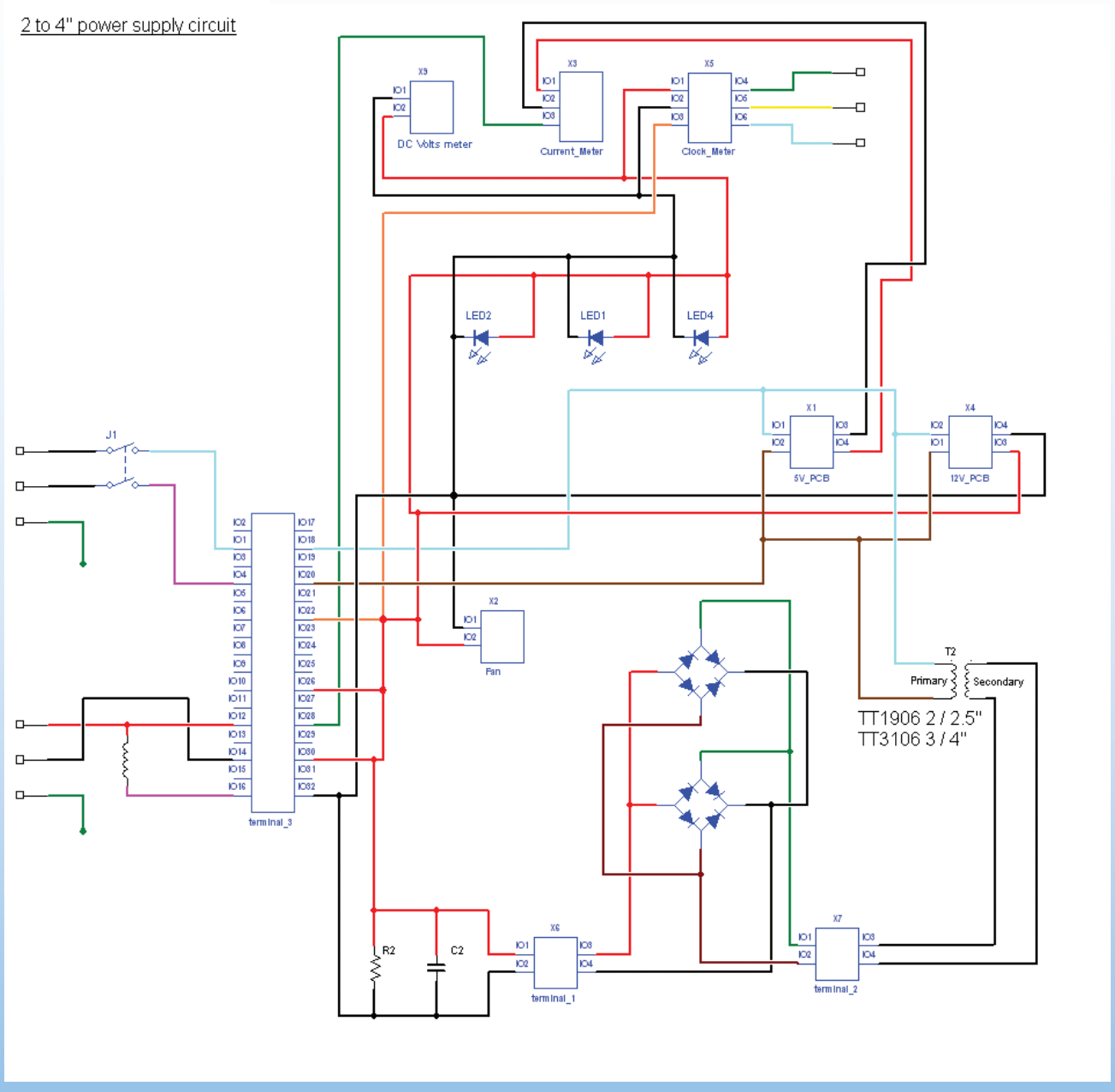
MAINS SUPPLY -TANK CONFIGURATION



E150
wiring diagram



E200-E400
wiring diagram



CHECKLIST

ELECTROMAG COMMISSIONING

Serial number		
3 flashing lights		
Hour meter reading		
Volt meter reading		
Current reading		
Pipe connections (union or socket)		
Electrical connections (FCU)		
Pipe temperature		
Unit mounted/bolted		
Unit installation (on mains)		
Control box mounting		
Cable condition from box to unit		
Cable condition from box to electricity supply		
Incoming pipe size		
Is pipe magnetised?	YES / NO	GAUSS reading

* Please note, Commissioning must be carried out by Calmag to validate the guarantees given.

Declaration of Conformity

The Manufacturer of the Products covered by this Declaration is:
Calmag (Yorkshire) Limited, Riverview Buildings, Bradford Road, Riddlesden, Keighley, West Yorkshire, BD20 5JH

The Directives covered by this Declaration:
89/336/EEC Electromagnetic Compatibility directive, as amended

The Products Covered by this Declaration:
XC-SI-ELECTROMAG scale inhibitor

The Basis on which Conformity is being Declared:
The manufacturer hereby declares under his sole responsibility that the products identified above comply with the protection requirements of the EMC directive and that the following standards have been applied:

BS EN 50082-1 1992

BS-EN 55081-1 1992

BS EN 61010-1 1993

The technical documentation required to demonstrate that the products meet the requirements of the directive has been compiled and is available for inspection by the relevant enforcement authorities.
The CE mark was first applied in: 2006

Attention!

The attention of the specifier, purchaser, installer, or user is drawn to special measures and limitations to use which must be observed when these products are taken into service to maintain compliance with the above directives.

Details of these special measures and limitations to use are available on request, and are also contained in the product manuals.

Certificate

COMMISSIONING CERTIFICATE

We Calmag (Yorkshire) Limited of Riverview Buildings, Bradford Road, Riddlesden, Keighley, West Yorkshire, BD20 5JH in the United Kingdom declare under our sole responsibility that the :-

PRODUCT:

TYPE:

has been commissioned fully in accordance to our Terms and Conditions.

CUSTOMER:

SITE ADDRESS:

ANY OTHER COMMENTS:

Signed:

Name:

Position:

Date:

* Please note, Commissioning must be carried out by Calmag to validate the guarantees of each unit.

Calmag Yorkshire Limited, Riverview Buildings, Bradford Road, Riddlesden, Keighley, West Yorkshire, BD20 5JH

Telephone: 01535 210320 Fax: 01535 210321
Email: sales@calmagltd.com Website: www.calmagltd.com