



OPERATING & MAINTENANCE INSTRUCTIONS FOR EXHEAT FP-RCH TYPE FLAMEPROOF WATER HEATER

1.0 GENERAL

- 1.1 All work should be carried out by suitably qualified personnel.
- 1.2 Heaters must be handled with care & stored in dry conditions.
- 1.3 Adequate withdrawal space must be provided to allow the removal of the heater assembly.
- 1.4 Carefully remove all protective packaging & visually inspect unit for any transit damage.
- 1.5 All prevailing rules, regulations & bylaws in force at the time & place of installation must be observed.
- 1.6 Heaters must only be immersed in the fluid they are designed to heat.
- 1.7 The introduction of alternative fluids even in small concentrations for purposes such as sterilising may cause serious damage to the heater & will invalidate the warranty.
- 1.8 Any modification not carried out by Exheat Limited or its approved agent will invalidate certification & warranty.
- 1.9 For Hazardous area heaters reference must be made to EN 60079-17.
- 1.10 All electrical testing must be carried out in a non-hazardous area.
- 1.11 Precautions must be taken to prevent damage to machined surfaces & threads of flameproof enclosures.
- 1.12 Ensure that any special conditions for safe use detailed on the hazardous area certification are complied with.

2.0 INSTALLATION Refer to Fig.1

- 2.1 The heater should be securely fixed in position & all terminal connections checked for tightness before energising.
- 2.2 The unit must be wall mounted allowing one metre above the highest draw off point to ensure good flow.
- 2.3 Sufficient clearance must be allowed to ensure access to the ball valve assembly.
- 2.4 The wall fixing points are designed to accept 8mm bolts which should not be less than 50mm in length.
- 2.5 Always ensure that the wall is sufficiently strong to carry the weight of the unit when it is full of water.

3.0 PIPEWORK CONNECTIONS Refer to Fig.2

- 3.1 The installation must conform to any local authority byelaws.
- 3.2 The cold water supply & warning pipe assembly (overflow) can be connected to either side of the unit, the respective apertures are pre-formed in the outer case & these should be used as guides for cutting through the cold water tank.
- 3.3 A 22mm hole saw is required for the inlet & a 27mm hole saw for the warning pipe.
- 3.4 An isolating valve must be fitted to the cold water mains supply to allow for servicing.

4.0 FITTING TO COLD WATER TANK Refer to Fig.3

- 4.1 The FP-RCH series of water heaters are supplied with all the components that are required to comply with the UK WRC byelaw 30.
- 4.2 The filter & breather assembly is a push snap-fit connection & should be fitted to the lid in the aperture provided.
- 4.3 The warning pipe assembly (overflow) comprises of three components.
- 4.4 The threaded elbow (tank connector) is inserted through the hole that has been cut, & tightened with the nut & sealing washer on the inside of the tank.
- 4.5 The 90° bend internal “dip tube” is pushed firmly into the connector facing downwards. The warning pipe (overflow) screen is located securely in to downwards external connection of the connector.
- 4.6 The ball valve assembly is fitted as required, adjusting the float to ensure that the water level in the tank does not exceed the water level line.
- 4.7 Before making electrical connections it is recommended that the unit is filled & checked for leaks.
- 4.8 After installation, replace lid & secure with retaining screw supplied.

5.0 ELECTRICAL SUPPLY CONNECTIONS Refer to Fig.4

- 5.1 Refer to wiring diagram (Fig.4)
- 5.2 The cable entry is positioned on the side of the terminal box.
- 5.3 Before connection ensure that the supply corresponds with that specified on the rating label.
- 5.4 Ensure that the sizes & types of cable to be used are suitably rated for the load & temperature of the unit.
- 5.6 Each heater must be protected by a suitably rated over current device.
- 5.7 The cables must enter the heater terminal box via a certified Ex d cable gland (not supplied) & be fitted by a qualified person.
- 5.8 The covers & bodies of RF series terminal boxes are unscrewed after slackening the locking grub screw. When re-fitting ensure that the “O” ring seal is in good condition & correctly located. The main cover threads **MUST** be kept clean & free from any debris at all times.
- 5.9 The installer or end user must connect to the Exheat supplied terminals within the terminal box – **DO NOT** – connect to or disturb factory fitted heating element wiring.

6.0 EARTH CONNECTION

- 6.1 **WARNING** – these heaters **MUST BE EARTHED**.
- 6.2 The external earth connection is located adjacent to one of the terminal box cable entries.
- 6.3 An internal earth connection is provided inside the terminal box.

7.0 OPERATION

- 7.1 Important – the unit **MUST** be full of water before switching on the electricity supply & at all times whilst energised.
- 7.2 The cold water supply to the integral cistern is controlled by the ball valve; water drawn from the unit is replaced from the contents of the cold water cistern that is refilled automatically.
- 7.3 Heat is transferred by means electric heating elements.
- 7.4 Control of the heater is facilitated by thermostats, & reference should be made to the wiring diagram to ensure that these are correctly connected & set prior to energising the heater.
- 7.5 Where a manual reset cut-out is installed, the terminal box cover will have to be removed to enable a reset to be carried out.
- 7.6 The unit **MUST NOT** be used if suspected of being frozen. If water ceases to flow switch off the electricity supply immediately at the isolating switch. If the unit is to be serviced or drained disconnect the electricity supply before commencing the operation.

8.0 MAINTENANCE

- 8.1 All prevailing site safety regulations shall be adhered to at all times.
- 8.2 Before & whilst any maintenance activity is carried out, it must be ensured that there are no hazardous gases present.
- 8.3 Equipment is to be fully isolated from the electricity supply before & whilst any work is being carried out.
- 8.4 Any damage or faults should be notified to Exheat Limited immediately.
- 8.5 For equipment certified for use in hazardous areas reference should be made to EN 60079-17 (especially table 1) in addition to the following recommendations.
- 8.6 Any replacement parts required must be obtained directly from Exheat. The use of any other parts will void any certification and warranty

8.7 3 Monthly

- a. Generally inspect the equipment for external damage or leaks.

8.8 6 Monthly

- a. Isolate the electrical supply & remove the cover.
- b. Internals should be clean & dry.
- c. Insure terminals are intact & secure.
- d. Heating element insulation resistance to be at least 2 megaohm.
- e. Refit cover with new gasket or “O” ring if required.
- f. Earth continuity must be maintained between all earth points & main structure.

8.9 Annually

- a. Check all above.
- b. Check for element failure or low insulation resistance.
- c. Check operation of level switch by draining & re-filling unit with electrical fully isolated.

8.10 Only Exheat Limited or its approved agent to carry out element or level switch replacement in hazardous area heaters otherwise the certification will be invalidated.

8.11 If heater is being left unused for a period greater than 3 months carry out 6 monthly maintenance before energizing.

9.0 Marking

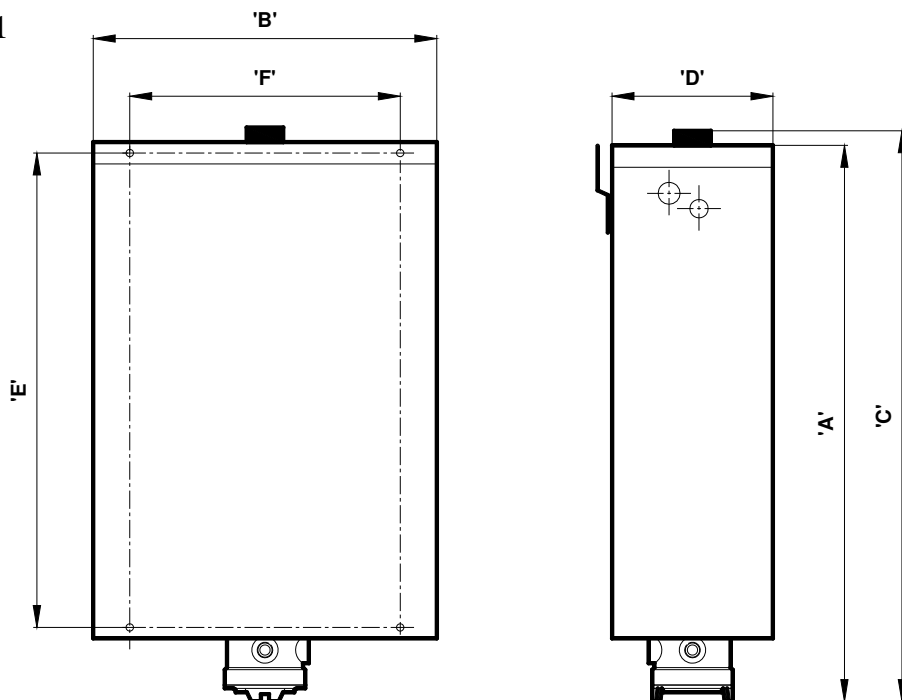
9.1  II 2 G/D

Ex d IIC T4 to T6

10.0 Certification

10.1 LCIE 01 ATEX 6026 X

Fig.1



Model	Capacity (Litres)		Dimensions (mm)						Weight (kg)	
	Hot	Cold	A	B	C	D	E	F	Empty	Full
FP-RCH25	25	8	815	470	785	210	670	320	24	57
FP-RCH50	50	24	860	600	830	320	715	450	36	110
FP-RCH75	75	24	1030	600	1005	320	890	450	41	140
FP-RCH100	100	24	1190	600	1160	320	1045	450	44	168

Fig.2

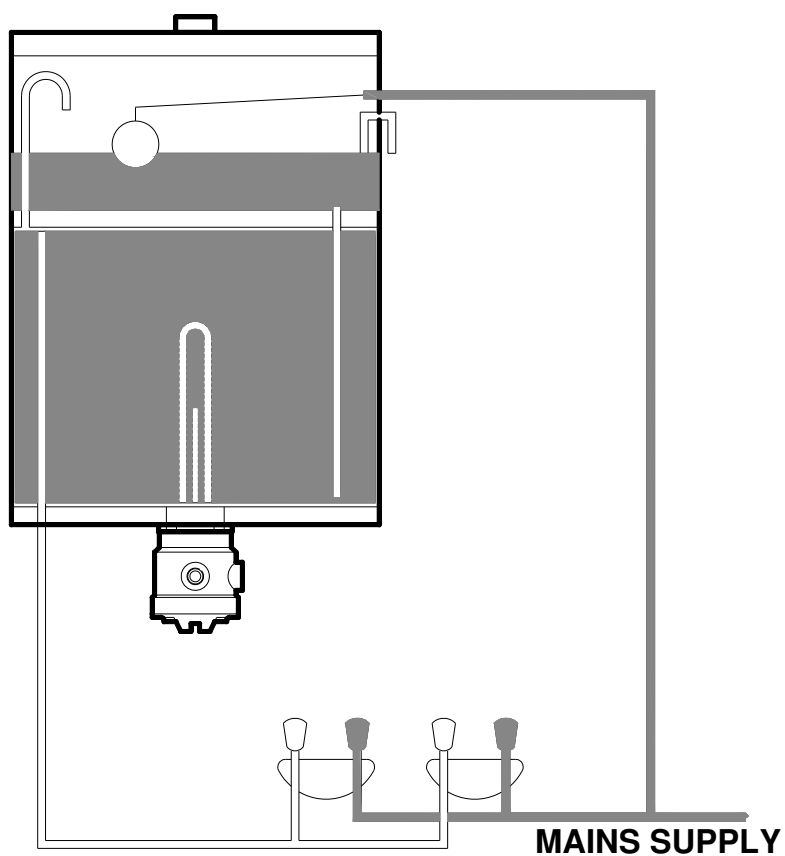


Fig.3

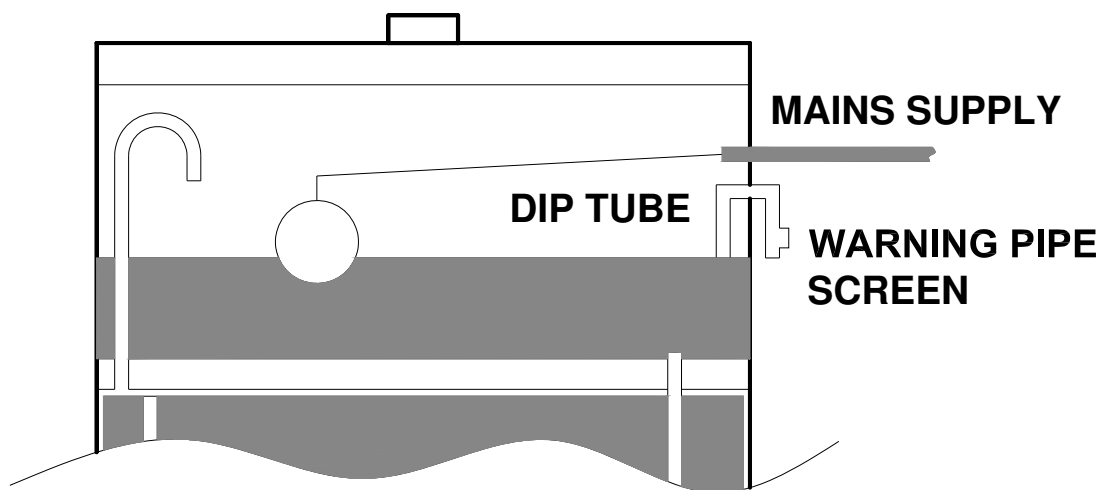
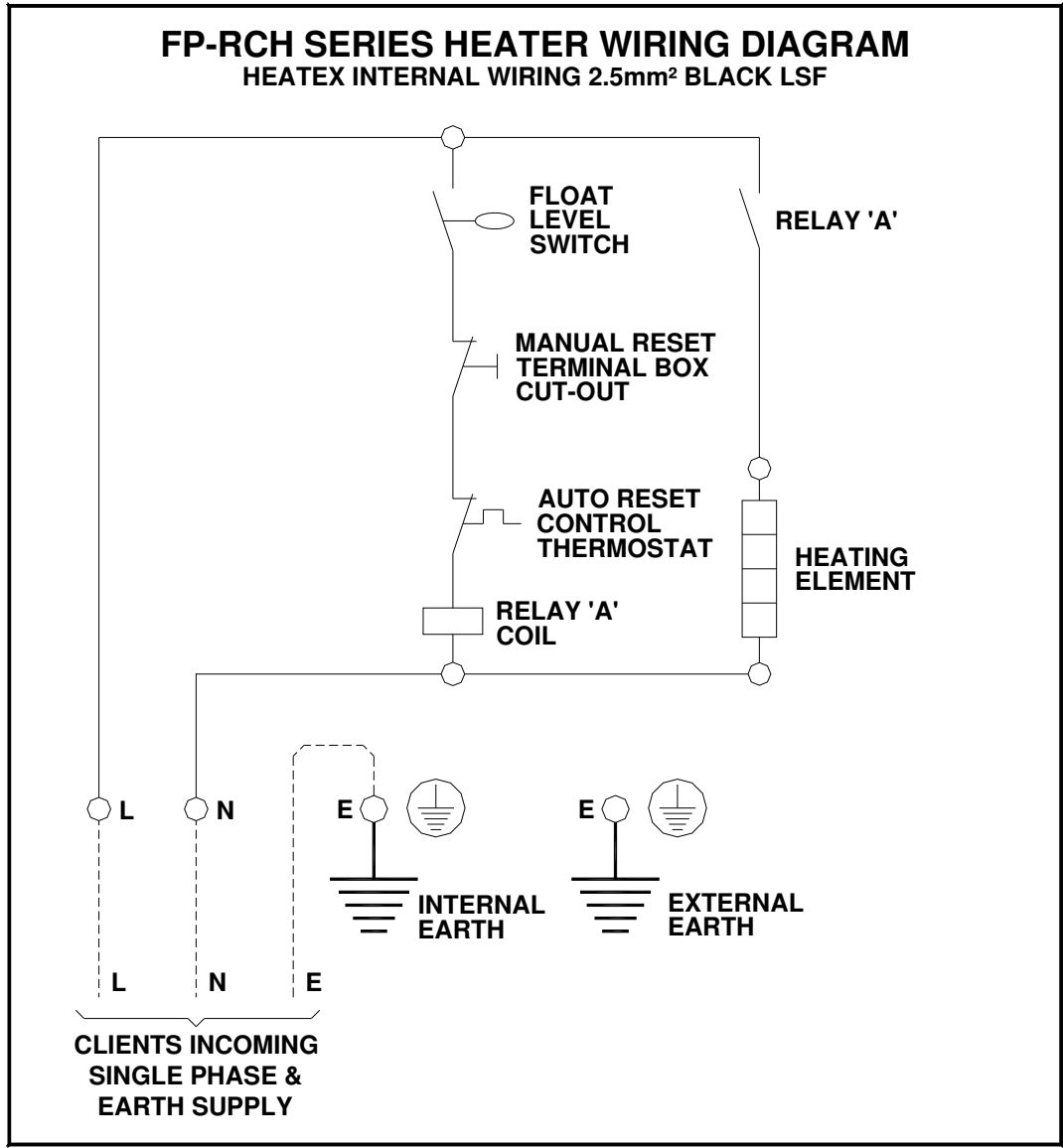


Fig.4





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Thorne & Derrick
+44 (0) 191 410 4292
www.heatingandprocess.com