## **FP-MLH Flameproof Mini Line Heaters**

The range of flameproof mini line heaters consist of a screw plug or flanged type immersion heater mounted in a thermally insulated heating vessel, and is designed to efficiently transfer heat to a flowing medium (liquid, air or gas). The FP-MLH range is certified for use in hazardous areas where the atmosphere is classified as a Zone 1 or 2 (IIA, IIB, IIC) gas group.





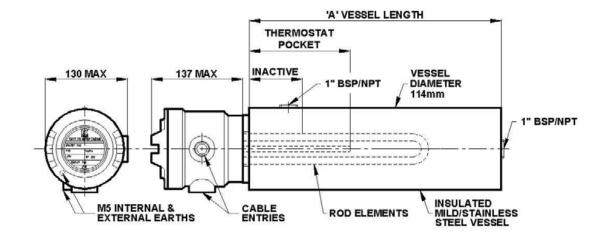
## **FEATURES**

- Weatherproof protected to IP66 or NEMA4 (FP4-MLH only)
- Choice of built in process temperature sensors and externally adjustable option
- Mild steel or 316 stainless steel vessel
- Suitable for ambient temperatures from -40°C to +40°C (FP-MLH) and -60°C to +60°C (FP4-MLH)
- Standard range of high quality Incoloy or stainless steel rod-type elements, designed for water or withdrawable ceramic core elements, designed for oil
- Maximum allowable working pressure up to 10 barg/145 psig, subject to design parameters
- Designed for both horizontal and vertical installation (if mounted vertically, terminal box must be located at the bottom)
- · FP4-MLH range available with multi approvals

## **TYPICAL APPLICATIONS**

- **Frost protection:** Pre-start systems for water cooled engines, fire extinguishing equipment, oil sump heating
- Fuel oil heating: Pre-heating to pumping viscosity
- Heat transfer oils: Moulds, dies and platens, closed loop systems for bitumen, etc
- Water heating: Wash rooms, industrial washing equipment, hot water storage tanks





Model	Loading (kW)	Dimension A (mm)	BSP/NPT	
WATER				
Short Body				
FP-MLH1S	1	475	1"	
FP-MLH2S	2	475	1"	
FP-MLH3S	3	475	1"	
Long Body				
FP-MLH3L	3	925	1"	
FP-MLH6L	6	925	1"	
FP-MLH9L	9	925	1"	
FP-MLH12L	12	925	1"	
OIL				
Long Body				
FP-MLHX1	1	925	1"	
FP-MLHX2	2	925	1"	
FP-MLHX3	3	925	1"	
Note 1 <sup>1</sup> / <sub>2</sub> " BSP Connections available on request				

Certification	ATEX (a) II 2 G Ex d IIC T4 to T6 Gb Zone 1 and 2 EN 60079-0, EN 60079-1, EN 60079-7, EN 60079-31 CU TR (EAC)	FP4-MLH also certified to: ATEX/IECEx, CSA, Inmetro, CNEx, CCOE & KGS	
Enclosure	Cast aluminium alloy with a maximum of one M20 and one M25 cable entry, external and internal earths and screwed terminal cover (FP4-MLH - mild steel or 316 stainless steel)		
Elements	High quality nickel chrome resistance wire compacted in magnesium oxide insulating powder and sheathed in corrosion resistant Incoloy 825/800, 316L stainless steel, withdrawable ceramic core elements housed in mild steel or 316L stainless steel tube		
Pressure	Maximum allowable working pressure up to 10 barg/145 psig subject to design parameters		
Design Code	Sound Engineering Practice (SEP)		
Vessel	Mild steel or stainless steel		
Insulation	Mineral wool		
Cladding	Coated mild steel or 304 stainless steel		
Voltage	Standard units are normally designed for 220V to 254	4V (1 phase) or 380 to 440V (3 phase)	

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