

## FP Flameproof Rod-Type Immersion Heaters

The FP range of flameproof rod-type immersion heaters is a highly adaptable solution that can be customised to suit the process requirements of our clients, and are suitable for heating all types of process mediums which are non-corrosive to the materials of construction, and carry multiple approvals for global supply.

The FP rod-type immersion heater range is certified for use in hazardous areas where the atmosphere is classified as a Zone 1 or 2 (IIA, IIB, IIC) gas group, or a Zone 21 or 22 (IIIA, IIIB, IIIC) dust group.

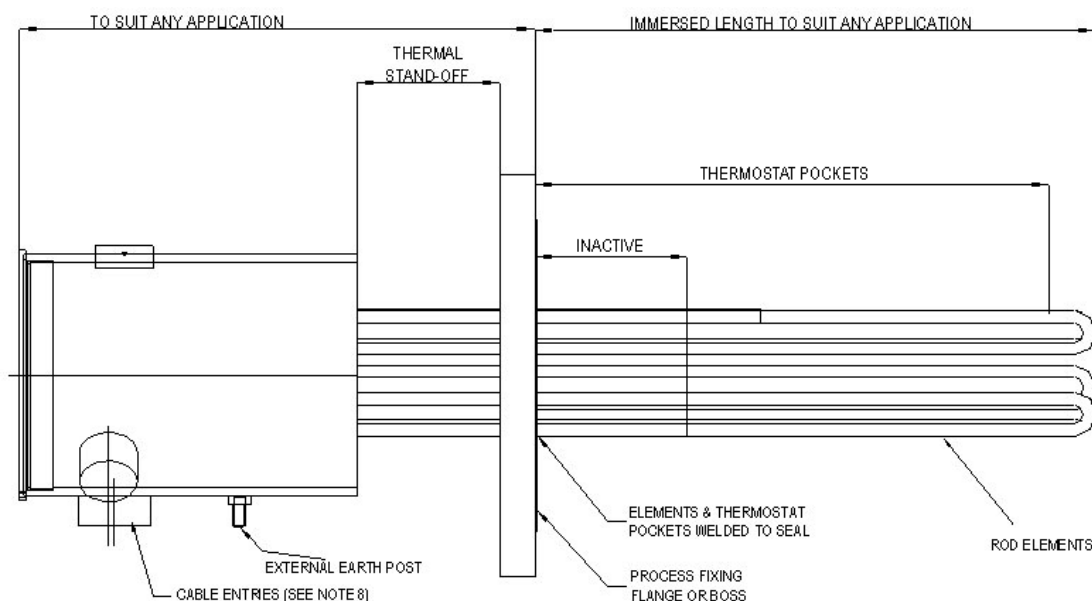


### FEATURES

- Mild steel or 316 stainless steel terminal enclosure with weatherproof protection to IP66 or Enclosure Type/ NEMA 4 or 4X
- Choice of built in process temperature sensors
- Suitable for ambient temperatures from -60°C to +60°C (subject to cert parameters)
- Mounting of the heater can be by a threaded boss or an industry standard flange
- Designed for horizontal installation (vertical mounting version available on request)
- Can be supplied with the terminal box mounted away from the fixing boss/flange for high process temperatures

### TYPICAL APPLICATIONS

- Anti-condensation
- Biofuel
- Boiler equipment
- Caustic tanks
- Chemical tanks
- Compressors
- Distillery
- Frost protection
- Heat transfer systems
- Heating medium
- Oil separators
- Pre-heating oil/water
- Processing equipment
- Refrigeration packages
- Safety showers
- Tank heating
- Turbines
- Water/glycol cooling



Terminal Box Type	Min Flange Size		kW LOAD with a maximum immersed Length of 2800mm	
	Ins	mm	Max Cable Entries	Max No of Elements Without Stand Off
FP 4	3	75	1 off M25 & 1 off M20	6
FP 6	6	150	1 off M32 & 2 off M25	15
FP 8	8	200	2 off M25 & 1 off M40	21
FP 10	10	250	2 off M32 & 1 off M25	39
FP 12	12	300	3 off M32 & 1 off M20	54

### Certifications

**ATEX/IECEx** Ex II 2 G/D Ex d IIC T1 to T6 Gb Zone 1 and 2  
**ATEX/IECEx** Ex tb IIIC T450°C to T85°C Db Zone 21 and 22 (IP66)  
**CSA (CEC/NEC)** Class I, Div 1, Groups A, B, C, D; T1 to T6, Enclosure Type/NEMA 4 or 4X  
**CSA (CEC)** Ex d IIC; T1 to T6 Gb, IP66 (CAN)  
**CSA (NEC)** Class I, Zone 1, AEx d IIC; T1 to T6 Gb, IP66 (USA)  
**CU TR (EAC), CNEEx, CCOE (CCEs), Inmetro & KGS**

### Enclosure

Mild steel or 316 stainless steel, external and internal earths, screwed terminal cover, finished in epoxy paint (if required)

### Elements

A choice of rod-type elements comprising of 80/20 nickel chrome resistance wire, compacted in high purity magnesium oxide insulating powder and encased in either Incoloy or stainless steel sheath, secured by compression fittings, brazing or welding, depending upon the process application

### Controls

Heater over-temperature protection is fitted as standard (optional process temperature sensing devices can be incorporated in the form of thermostats, RTD's or thermocouples)

### Mounting

Any threaded NPT or BSP boss, or flange in any material, can be specified within the limits of the design parameters; heater terminal box can be either 'direct-on' or 'stand-off', depending on process temperature

### Rating

To suit process requirements within the design and certification parameters

### Voltage

Any electrical supply up to 690V (600V CSA)