

## FP-C Flameproof Removable Core Immersion Heaters

The FP-C range of flameproof removable single and multi-core heaters offers a hazardous area heating solution for oil and similar applications where low heat density is required. Designed for convenience, the elements can be withdrawn for inspection without system drain down. A standard heater consists of a single element (or multiple cores) fitted into a mounting flange. A robust Ex d terminal enclosure protects the electrical connections. The watts density of the element core fitted depends upon the media to be heated and the kilowatt rating required.

The FP removable core-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

Certified to ATEX and IECEx standards

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)

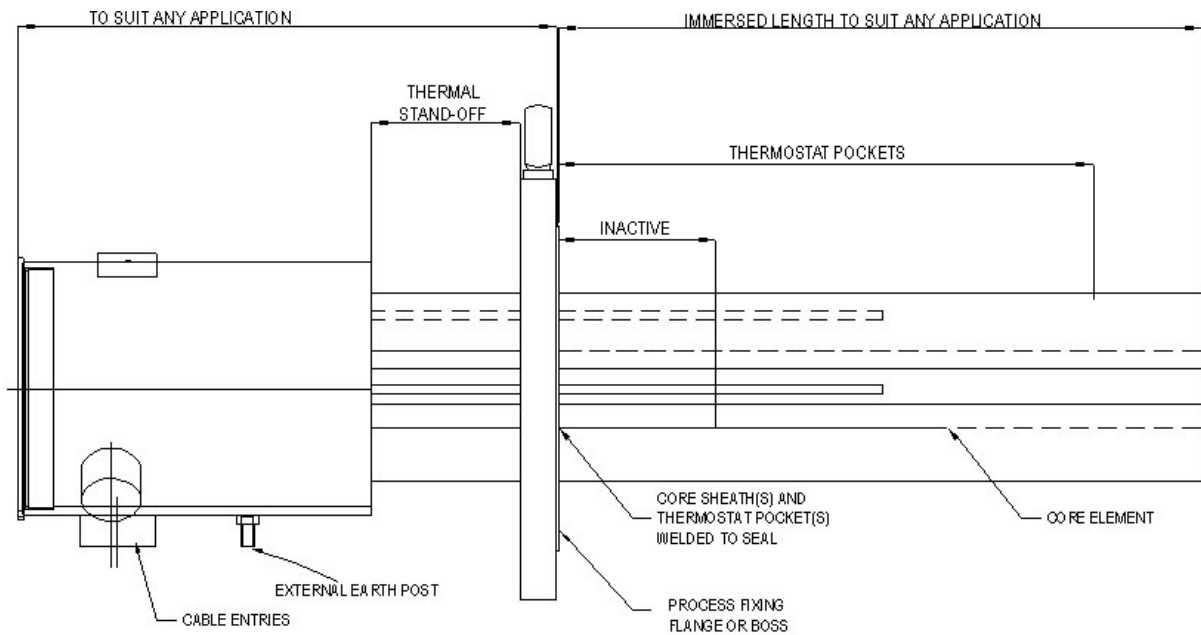
Mounting of the heater can be by a threaded NPT or BSP boss or an industry standard flange

Designed for horizontal installation (vertical mounting version available on request)

Can be supplied with the terminal box mounted away from the fixing boss / flange

### TYPICAL APPLICATIONS

Bitumen tanks	Oil purifiers
Boiler equipment	Oil separation / filtration
Cleaning and rinsing tanks	Oil separators
Compressors	Pre-heating oil / water
Crankcase lubrication	Processing equipment
Frost protection	Refrigeration packages
Heat transfer systems	Turbines
Lube oil reservoirs	Water / glycol cooling



Terminal Box Type	Min Flange Size		kW LOAD with a maximum immersed Length of 2800mm	
	Ins	mm	Max Cable Entries	Max Number of Cores
FP 4	3	75	1 off M25 & 1 off M20	1
FP 6	6	150	1 off M32 & 2 off M25	3
FP 8	8	200	2 off M25 & 1 off M40	6
FP 10	10	250	2 off M32 & 1 off M25	9
FP 12	12	300	3 off M32 & 1 off M20	12

#### Certifications

ATEX / IECEx  $\text{Ex d}$  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 (Canada)  
 CSA (NEC) Class I, Zone 1, AEx d IIC; T1 to T6 Gb, IP66 (USA)  
 CU TR (formerly GOST), KGS, CNEC, CCOE (CCEs), Inmetro

#### Enclosure

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

#### Elements

Removable core, comprising high quality 80/20 nickel chrome resistance wire, contained within ceramic formers housed in plain or extended surface tubes

#### 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)