ELVARME

ATEX

IMMERSION HEATERS

NEWTRONIC

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.

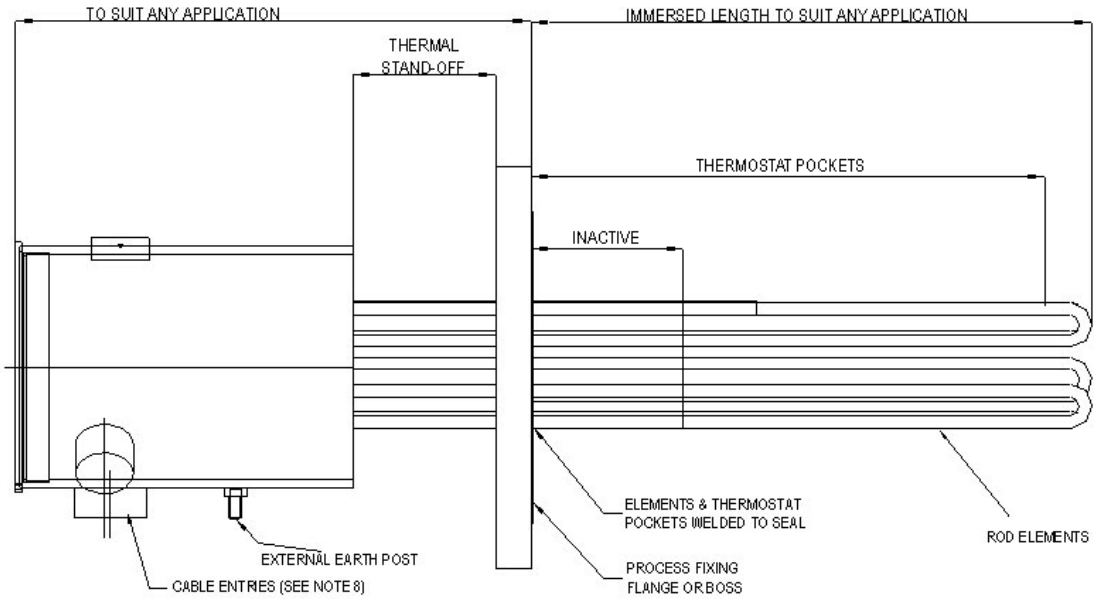
The FP rod-type immersion heater range is certified for use in hazardous areas where the atmosphere is classified as a Zone 1 or 2 (IIA, IIB, IIC) gas group, or a Zone 21 or 22 (IIIA, IIIB, IIIC) dust group.

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 Ⓔx 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), CNEx, 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)

RFT FLAMEPROOF PROCESS SENSING THERMOSTATS

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 The element can be withdrawn for inspection without system drain down.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

The FP removable cartridge-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.

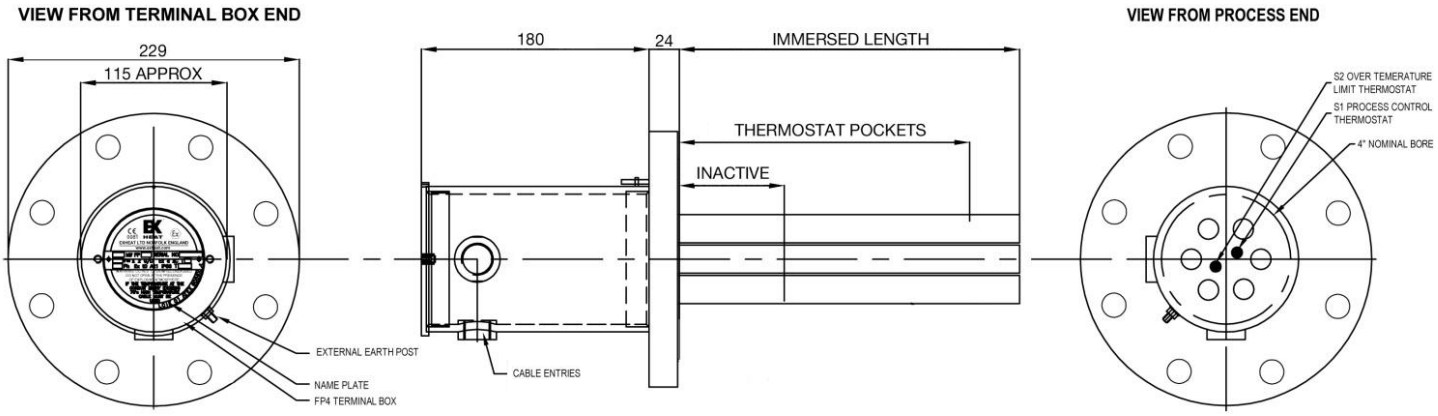
FEATURES

- 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 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 for high process temperatures

TYPICAL APPLICATIONS

- Bitumen tanks
- Boiler equipment
- Cleaning and rinsing tanks
- Compressors
- Crankcase lubrication
- Frost protection
- Heat transfer systems
- Lube oil reservoirs
- Oil purifiers
- Oil separation/filtration
- Oil separators
- Oil sumps
- Pre-heating oil/water
- Processing equipment
- Refrigeration packages
- 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	33
FP 10	10	250	1 off M50 & 2 off M25	54
FP 12	12	300	Up to 3 off M63 & 2 off M25	115



Certification

ATEX/IECEx Ⓔx 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), CNEx, 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

Removable 304/316L stainless steel cartridge, comprising high quality 80/20 nickel chrome resistance wire, housed within 316L stainless steel sheath; cartridges secured by welding

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 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 requirement within the design and certification parameters

Voltage

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

HB REMOVABLE CORE TYPE INDUSTRIAL IMMERSION HEATERS

The HB range of screwed or flanged immersion heaters is an inexpensive solution for all commercial and industrial hot water cylinders, process tank heating, cooling tower frost protection and other applications which are non-corrosive to the materials of construction. The HB range of heaters can be supplied with an adjustable control thermostat scaled to suit the specific application.

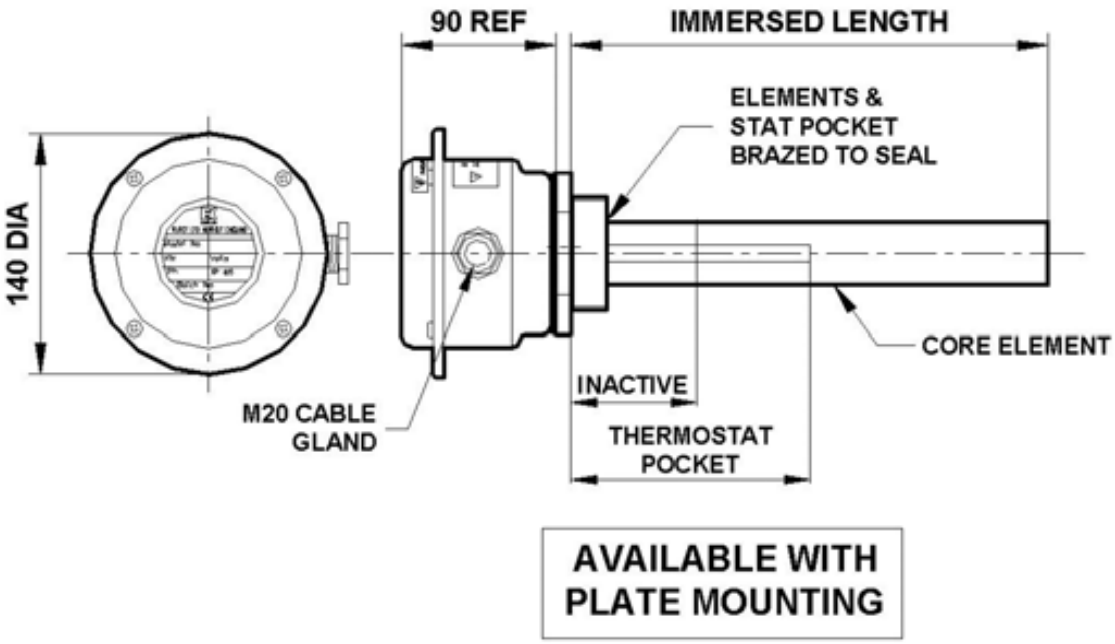
IP66
Waterproof

FEATURES

- Certified weatherproof to IP66
- Robust lightweight aluminium enclosure
- Fitted with control and limit (on request) thermostats
- Suitable for working pressures of up to 8 barg (higher working pressures are available on request)
- All stock coded models fitted with Incoloy 825 elements and 2-off stainless steel thermostat pockets
- Terminal box can be rotated through 360 degrees to allow final cable entry position to be chosen
- Heavy duty brass fixing boss screwed 2", 2¼" or 2½" BSPP, alternatively supplied with square mounting flange
- Up to two cable entries (standard 1-off)
- Standard immersion heaters are designed for horizontal installation (heaters for vertical installation are available on request)

TYPICAL APPLICATIONS

- Cleaning and rinsing equipment
- Food processing equipment
- Frost protection
- Heat transfer, process and boiler equipment
- Hot water storage tanks
- Pre-heating oil and water



This range is recommended for applications where the equipment cannot be easily drained. Heat is transferred to the liquid by means of removable ceramic heating elements within a carrier tube to allow replacement without draining. Automatic control can be achieved by fitting a thermostat into the integral pocket. Sheath material available in stainless steel or mild steel. Rating up to 6kW.

WATER/OIL

List No. 2" BSP Fixing	List No. 2¼" BSP Fixing	List No. 95mm Plate	Loading (kW)			Phase	Immersed Length	
			220V	240V	254V		Ins	mm
HBS123BS	HBS123AS	HBS123S	0.84	1.00	1.1	1	23	584
HBS244BS	HBS244AS	HBS244S	1.7	2.00	2.24	1	44	1118
HBS366BS	HBS366AS	HBS366S	2.52	3.00	3.36	1	66	167

OIL

List No. 2" BSP Fixing	List No. 2¼" BSP Fixing	List No. 2½" BSP Fixing *	Loading (kW)			Phase	Immersed Length		
			220V	240V	254V		Ins	mm	* mm (2½" BSP)
HBX 115/B	HBX 115/A	HBX 108/D	0.84	1.00	1.12	1	15	381	200
HBX 226/B	HBX 226/A	HBX 216/D	1.63	2.00	2.24	1	26	660	406
HBX 336/B	HBX 336/A	HBX 324/D	2.52	3.00	3.36	1/3	36	914	610
HBX 447/B	HBX 447/A	HBX 432/D	3.36	4.00	4.48	1/3	47	1194	812
HBX 557/B	HBX 557/A	HBX 540/D	4.20	5.00	5.60	1/3	57	1448	1016

HB ROD-TYPE INDUSTRIAL IMMERSION HEATERS

The HB range of screwed or flanged immersion heaters is an inexpensive solution for all commercial and industrial hot water cylinders, process tank heating, cooling tower frost protection and other applications which are non-corrosive to the materials of construction. The HB range of heaters can be supplied with an adjustable control thermostat scaled to suit the specific application.

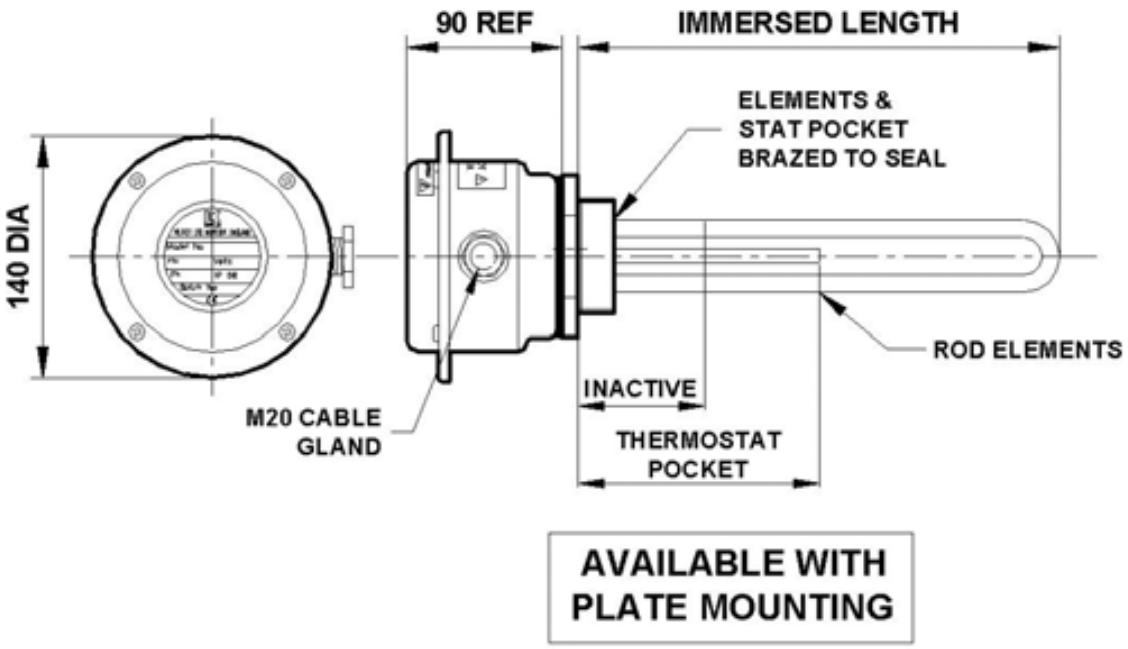
IP66
Waterproof

FEATURES

- Certified weatherproof to IP66
- Robust lightweight aluminium or mild steel enclosure
- Fitted with control and limit (on request) thermostats
- Suitable for working pressures of up to 8 barg (higher working pressures are available on request)
- All stock coded models fitted with Incoloy 825 elements and 2-off stainless steel thermostat pockets
- Terminal box can be rotated through 360 degrees to allow final cable entry position to be chosen
- Heavy duty brass fixing boss screwed 2", 2¼" or 2½" BSPP, alternatively supplied with square mounting flange
- Up to two cable entries (standard 1-off)
- Standard immersion heaters are designed for horizontal installation (heaters for vertical installation are available on request)

TYPICAL APPLICATIONS

- Cleaning and rinsing equipment
- Food processing equipment
- Frost protection
- Heat transfer, process and boiler equipment
- Hot water storage tanks
- Pre-heating oil and water



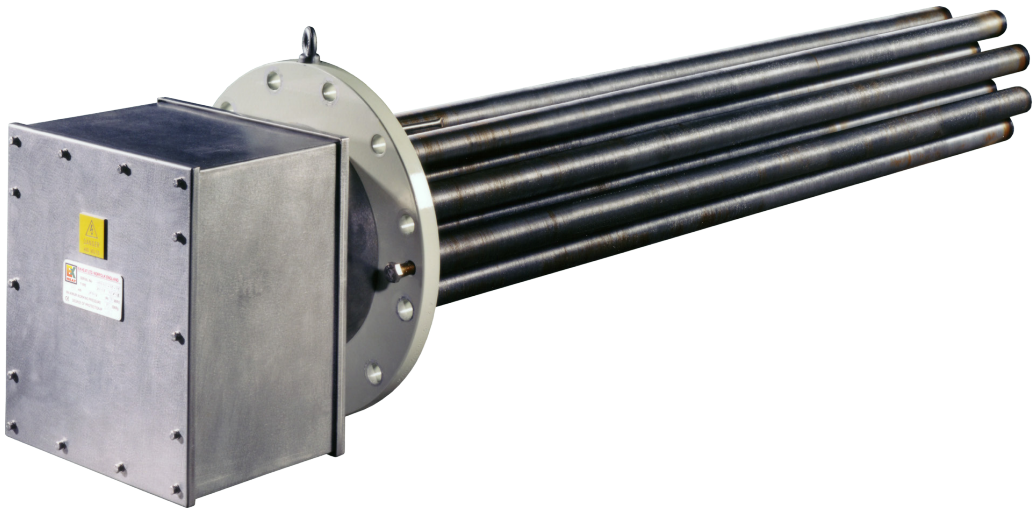
Heat is transferred to the liquid by means of Incoloy 825 sheathed heating elements with automatic control being achieved by the integral adjustable thermostat.

Units marked* have been designed for use where space is limited. These have high flux ratings which should be considered when selecting heaters. Two thermostat pockets are fitted as standard to facilitate optional safety limit thermostat when required.

List No. 2" BSP Fixing	List No. 2¼" BSP Fixing	List No. 95mm Plate	Loading (kW)			Phase	Immersed Length	
			220/380V	240/415V	254/440V		Ins	mm
HBY 111/B	HBY 111/A	HBY 111/S	0.84	1.00	1.12	1	11	280
HBY216/B	HBY 216/A	HBY 216/S	1.68	2.00	2.24	1	16	406
HBY311/B	HBY 311/A	HBY 311/S	2.52	3.00	3.36	1/3	11	280
	HBY 330/A	HBY 330/S	2.52	3.00	3.36	1/3	30	762
	HBY 411/A	HBY 411/S	3.36	*4.00	*4.48	1/3	11	280
	HBY 416/A	HBY 416/S	3.36	4.00	4.48	1/3	16	406
HBY 616/B	HBY 616/A	HBY 616/S	5.04	*6.00	*6.72	1/3	16	406
	HBY 630/A	HBY 630/S	5.04	6.00	6.72	1/3	30	726
	HBY 642/A	HBY 642/S	5.04	6.00	6.72	1/3	42	1067
	HBY 724/A	HBY 724/S	5.88	7.00	7.84	1/3	24	610
	HBY 916/A	HBY 916/S	*7.56	9.00	*10.08	1/3	16	406
	HBY 923/A	HBY 923/S	7.56	9.00	*10.08	1/3	23	584
HBY 926/B	HBY 926/A	HBY 926/S	7.56	9.00	*10.08	1/3	26	660
	HBY 936/A	HBY 936/S	7.56	9.00	10.08	1/3	36	914
	HBY 1223/A	HBY 1223/S	*10.08	*12.00	*13.34	1/3	23	584
HBY1233/B	HBY 1233/A	HBY 1233/S	10.08	12.00	*13.34	1/3	33	838

HC IMMERSION HEATERS

The EXHEAT HC range of removable ceramic core immersion heaters is suitable for all process fluids which are non-corrosive to the materials of construction. They provide a safe, low density, electrical heating method for fuel oil, lube oil, water and other bulk liquid storage tanks.

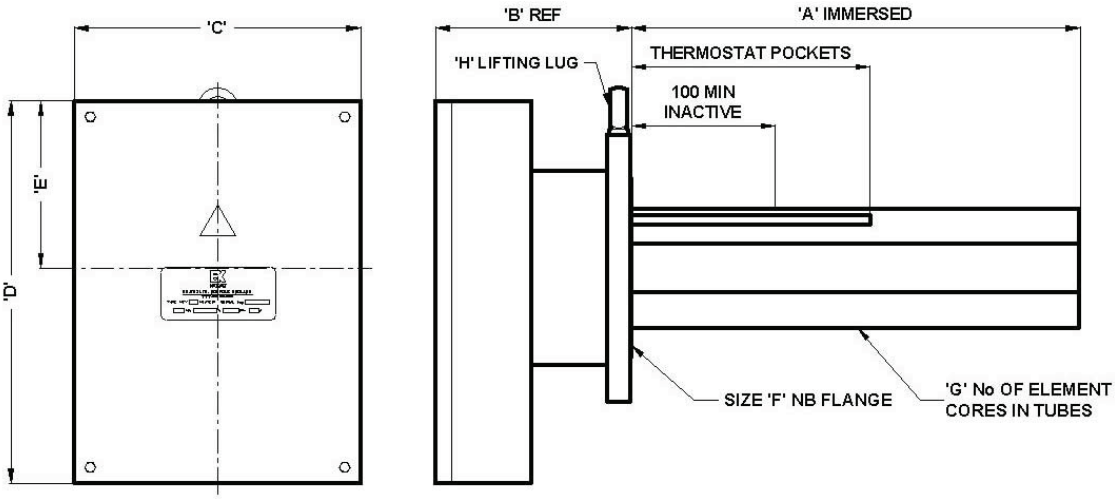


FEATURES

- Removable ceramic core elements can be replaced without drain down
- Any flange specifications accommodated
- Can be supplied with the terminal box mounted away from the flange, for high process temperature
- Designed for horizontal installation only. Vertical mounting version available on request
- Weatherproof terminal enclosure to IP55
- Internal control thermostat(s) and overtemperature thermostat
- Materials engineered to meet process requirements

TYPICAL APPLICATIONS

- Boiler equipment
- Bulk liquid storage tanks
- Calorifier packages
- Cleaning and rinsing equipment
- Fuel, lube oil
- Heat transfer systems
- Hot water storage tanks



Model	Dimensions (mm)								Stages	Core	
	A	B	C	D	E	F	G	H		Type	Qty
HC 1/3	750	204	260	360	170	100	1	M12	1	A	1
HC 2/6	750	205	300	400	175	150	2	M12	1	A	2
HC 3/9	750	205	300	400	175	150	3	M12	1	A	3
HC 3/12	950	205	300	400	175	150	3	M12	1	B	3
HC 3/15	1150	205	300	400	175	150	3	M12	1	C	3
HC 3/18	1350	205	300	400	175	150	3	M12	1	D	3
HC 6/24	946	209	350	500	230	200	6	M12	2 EQUAL	B	6
HC 6/30	1146	209	350	500	230	200	6	M12	2 EQUAL	C	6
HC 6/36	1346	209	350	500	230	200	6	M12	2 EQUAL	D	6
HC 6/42	1546	209	350	500	230	200	6	M16	2 EQUAL	E	6
HC 6/48	1746	209	350	500	230	200	6	M16	2 EQUAL	F	6
HC 9/54	1344	211	400	560	235	250	9	M16	3 EQUAL	D	9
HC 9/63	1544	211	400	560	235	250	9	M16	3 EQUAL	E	9
HC 9/72	1744	211	400	560	235	250	9	M16	3 EQUAL	F	9
HC 9/81	1944	211	400	560	235	250	9	M20	3 EQUAL	G	9
HC 12/96	1743	212	450	600	235	300	12	M20	3 EQUAL	F	12
HC 12/108	1943	212	450	600	235	300	12	M20	3 EQUAL	G	12
HC 12/120	2143	212	450	600	235	300	12	M20	3 EQUAL	H	12
HC 12/144	2543	212	450	600	235	300	12	M20	3 EQUAL	I	12
HC 15/180	2538	217	150	600	235	300	15	M20	3 RATIO 2/2/1	I	15

Enclosure	Folded steel finished in textured paint colour grey RAL 7032
Element	Removable ceramic core, comprising high quality 80/20 nickel chrome resistance wire, contained within ceramic formers
Element Sheath	A choice of carbon steel, monel, inconel, incoloy, stainless steel or titanium sheath, depending upon the process application
Controls	One over-temperature protection thermostat is fitted as standard, together with one control thermostat per heater stage
Mounting	Any industry standard flange in any material can be specified, within the limits of the design parameters. Heaters can be either ‘direct-on’ or ‘stand-off’
Rating	Unlimited within the design parameters
Voltage	Any electrical supply up to 690V

HFY FLANGED INDUSTRIAL IMMERSION HEATERS

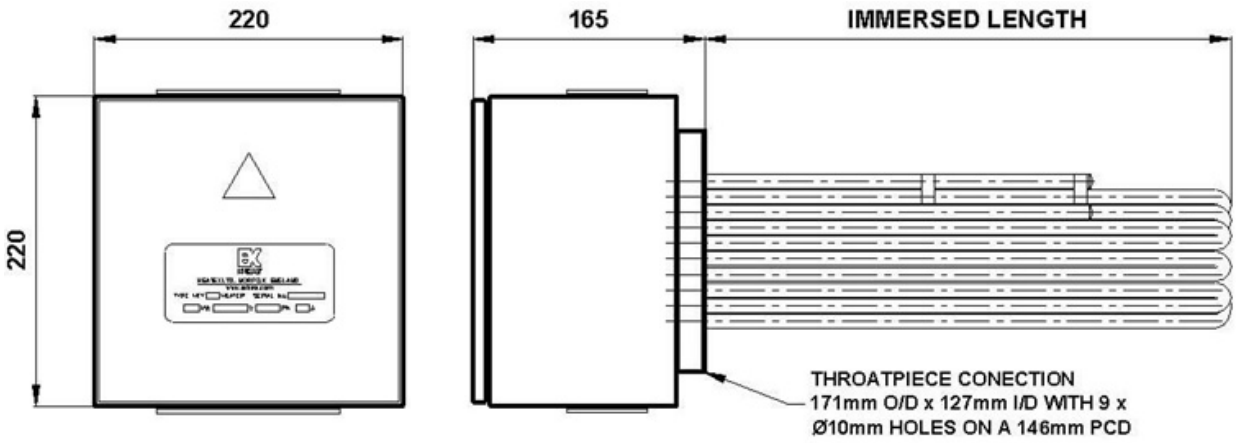
The HFY range of flanged immersion heaters are suitable for all commercial and industrial hot water cylinders and process tank heating applications which are non-corrosive to the materials of construction. Each heater is supplied with an adjustable control thermostat, for automatic temperature control and Run Dry, manual reset, over-temperature protection thermostat.

FEATURES

- Individually replaceable Incoloy 825 elements
- Weatherproof terminal enclosure to IP54
- 'Run Dry' over temperature protection
- Brass or 316L stainless steel mounting flange
- Heavy duty stud terminals suitable for client cables
- Designed for horizontal installation only

TYPICAL APPLICATIONS

- Boiler equipment
- Calorifier packages
- Cleaning and rinsing equipment
- Heat transfer system
- Hot water storage tanks



Model	Load kW 380V 3PH	Loading kW 415V 3PH	Loading kW 440V 3PH	Immersed Length (mm)
HFY 1216	10.1	12.0	13.5	405
HFY 1223	10.1	12.0	13.5	584
HFY 1816	15.1	18.0	20.2	405
HFY 1823	15.1	18.0	20.2	584
HFY 2416	20.1	24.0	27.0	405
HFY 2423	20.1	24.0	27.0	584
HFY 3027	30.2	36.0	40.5	685
HFY 4527	37.7	45.0	50.6	685
HFY 5436	45.3	54.0	60.7	915

Enclosure Heavy gauge, corrosion protected, mild steel having a hinged access door and two undrilled removable gland plates for cable entry (finished in grey stove enamel)

Flange Brass or 316L stainless steel having 8 bolt holes, 10mm diameter on 146mm PCD

Elements Nickel chrome resistance wire compacted in high purity magnesium oxide insulating powder and sheathed in corrosion resistant Incoloy; each element is secured to the flange by screwed compression fixings, making them individually replaceable

Controls A capillary type control thermostat and a manual reset cut-out thermostat are fitted as standard

Working Pressure The maximum allowable working pressure is 6 barg/87 psig

Thermostat Pockets Two stainless steel pockets are secured into the flange by screwed compression fittings, one of which is thermally linked to the uppermost element

Voltage Standard units are nominally designed for 415V, and are suitable for operation on 380 to 440V electrical supplies; other voltages and alternative wiring configurations available on request

HRF IMMERSION HEATERS

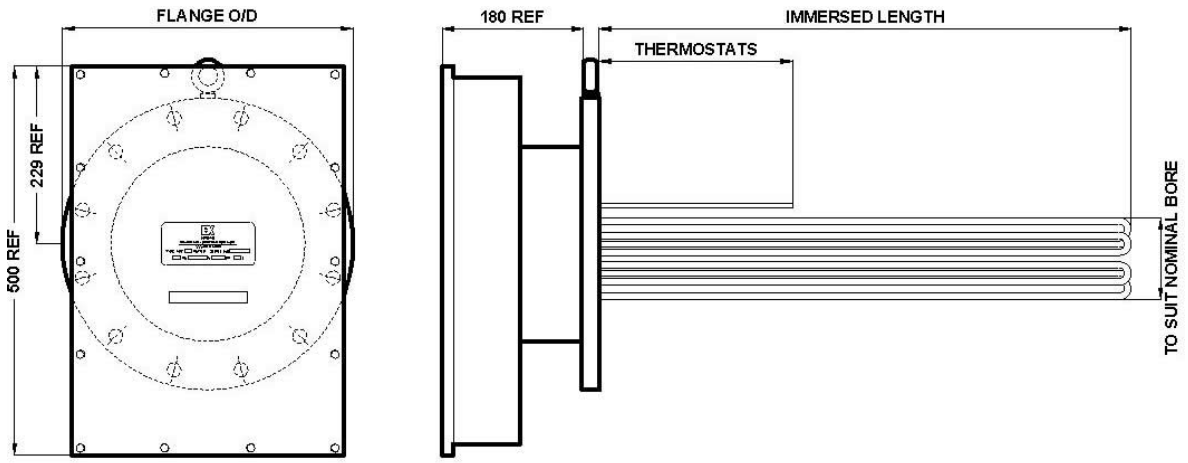
The EXHEAT Industrial HRF range of immersion heaters is suitable for heating all process fluids which are non-corrosive to the materials of construction. They are primarily intended for use in bulk storage vessels, flow heaters and hot water calorifiers.

FEATURES

- Weatherproof terminal enclosure to IP66
- Individually replaceable Incoloy 825 elements
- Standard range from 15 to 120kW
- Internal control thermostat(s) and overtemperature thermostat
- Carbon/stainless steel mounting flange
- Finished in textured grey paint to RAL 9007
- Designed for horizontal installation only, vertical mounting version available on request

TYPICAL APPLICATIONS

- Boiler equipment
- Bulk liquid storage tanks
- Calorifier packages
- Cleaning and rinsing equipment
- Heat transfer system



Model	Loading kW	Immersed Length (mm)	Nominal Bore (mm)
HRF 6/15	15	660	150
HRF 6/18	18	870	150
HRF 6/24	24	980	150
HRF 6/30	30	1400	150
HRF 9/45	45	1400	200
HRF 12/60	60	1400	200
HRF 15/75	75	1400	250
HRF 18/90	90	1400	250
HRF 21/105	105	1400	250
HRF 24/120	120	1400	250

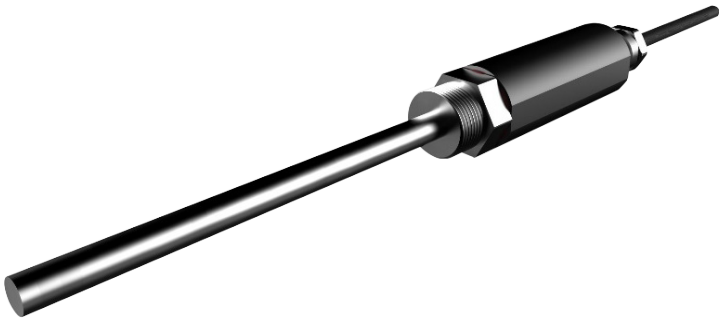
Enclosure	Folded steel, weatherproof to IP66, finished in textured grey paint to RAL 9007 Carbon
Flange	steel/316L stainless steel as standard (other alternatives available on request) Incoloy
Elements	825, sheathed, rod type (other options available on request)
Working Pressure	Up to 10 barg
Working Temperature	Up to 180°C
Voltage	Standard 415V/3P/3 or 4 wire (other voltages on application)

MTH MINI TANK IMMERSION HEATERS

The Miniature Tank Heater (MTH) is a smaller range 'plug and play' immersion heater that provides a complete solution for the heating of hazardous area liquids. Each is designed with specific fittings for direct immersion and are fully 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.

Incorporating both process set-point control and over-temperature trip electronic circuitry, it requires no additional control or safety components to operate. The inclusion of bespoke electronics allows for greater accuracy and lower hysteresis when controlling the process temperature, when compared with traditionally used electro-mechanical temperature switches.

A compact Ex d anodised aluminium enclosure houses the electronics, this provides an ideal solution when space is at a premium.

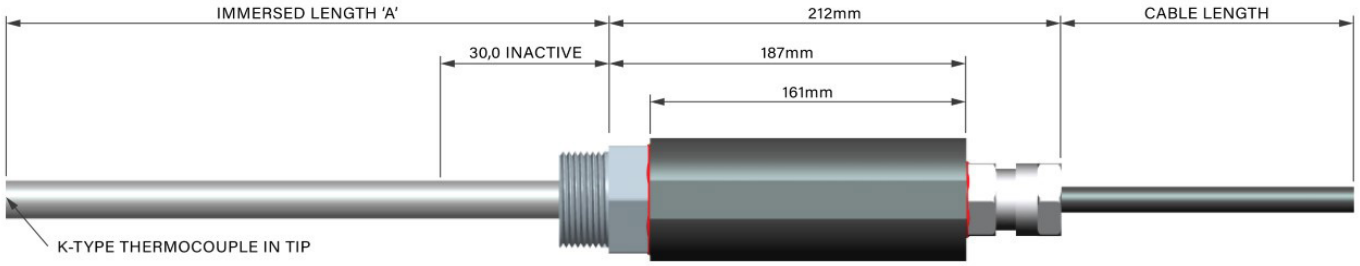


FEATURES

- "Plug and play" style heater, screws directly to tank or boss as required.
- Horizontal or vertical installation.
- Suitable for ambient temperatures as low as -40°C (subject to certification parameters). Max ambient limit TBC.
- Different sized withdrawable cartridge elements available
- Optional built-in thermocouple for over-temperature protection available

TYPICAL APPLICATIONS

- Anti-condensation
- Boiler equipment
- Cleaning and rinsing tanks
- Frost protection
- Gear boxes
- Hot water storage tanks
- Pump casings
- Sumps
- Tank bases



Accuracy	1°C
Ambient operating temperature	-40°C to 60°C
Calibration temperature	20°C to 25°C
Certi ication	**ATEX/IECEx** (subject to changes) Ⓔx II 2 G D Ex d IIC T3 Gb Ex tb IIIC T200°C Db (IP65/68) **CSA** (subject to changes) 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) **SIL** Hardware assessed for use in SIL applications **CCOE, CU TR (EAC), INMETRO, KGS to be available shortly**
Cable Elements	3m standard – longer available on request
Mains input	15mm elements pre welded to a ½" NPT 316L Stainless steel boss only
Mounting	110-254V AC RMS
Process fluid	Threaded SS316 boss suited to client requirements.
Set point control	Hazardous area liquids such hydraulic oil and non-hazardous gasses
	-40°C to 75°C

Suitable for Oil & Water Applications

Model	Rating (W) *				Immersed length (mm)	Inactive length (mm) **	Surface load (W/cm²)				Fixing	Element
	220V	230V	240V	254V			220V	230V	240V	254V		
MTH-0.1-6-RNS	91	100	109	122	160	40	1.61	1.77	1.93	2.16	1/2" NPT	15mm
MTH-0.2-11-RNS	183	200	218	244	270	40	1.69	1.85	2.01	2.25	1/2" NPT	15mm
MTH-0.3-15-RNS	274	300	326	366	380	40	1.71	1.87	2.03	2.28	1/2" NPT	15mm
MTH-0.4-20-RNS	366	400	435	489	500	40	1.69	1.85	2.01	2.26	1/2" NPT	15mm
MTH-0.5-24-RNS	457	500	544	610	620	40	1.67	1.83	1.99	2.23	1/2" NPT	15mm

* 230V Nominal suitable to run between 220V up to 254V. 110V available on special request.
** 30mm inactive from fixing 10mm inactive at tip where thermocouple is placed

Please contact our Sales Team to discuss the full range of options available.

RFA-C FLAMEPROOF CORE IMMERSION HEATERS

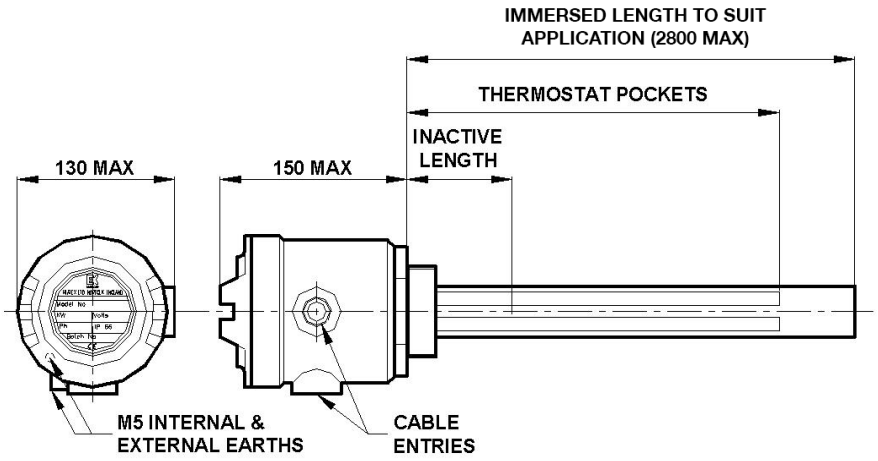
The RFA-C range of flameproof core removable cartridge heaters offers a hazardous area heating solution for oil and similar applications where low heat density is required. The element can be withdrawn for inspection without system drain down. The standard heater consists of a single element core fitted into a mounting flange. A robust flameproof 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.

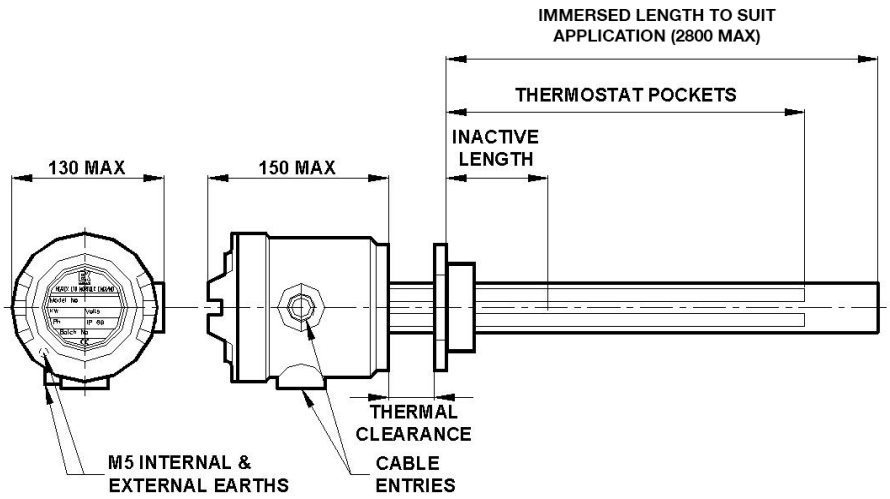
FEATURES

- Lightweight cast aluminium alloy terminal enclosure with weatherproof protection to IP66 and IP67
- Choice of built in process temperature sensors
- Suitable for ambient temperatures from -40°C to +40°C
- Mounting of the heater can be by threaded boss or an industry standard flange
- Designed for horizontal installation only, 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

- Boiler equipment
- Cleaning and rinsing tanks
- Compressors
- Frost protection
- Heat transfer systems
- Lube oil reservoirs
- Oil separators
- Oil sumps
- Pre-heating oil and water
- Processing equipment
- Turbines





Certifications	**ATEX** Ⓔx II 2 G Ex d IIC T3 to T6 Gb Zone 1 and 2	**CU TR (EAC)** 1Ex db IIC T6...T1 Gb X
Enclosure	Cast aluminium alloy with a maximum of two cable entries, external and internal earths, screwed terminal cover, finished in epoxy paint	
Elements	Removable core, comprising high quality 80/20 nickel chrome resistance wire, contained within ceramic formers	
Element	A choice of carbon steel, or 316L stainless steel secured by either brazing or welding depending upon the process application	
Controls	Heater over-temperature protection is fitted as standard	
Mounting	Any threaded boss or flange in any material can be specified within the limits of the design parameters. Heaters can be either ‘direct-on’ or ‘stand-off’	
Rating	Maximum loading 8kW	
Voltage	Any electrical supply up to 690V	

RFA-CA FLAMEPROOF CARTRIDGE IMMERSION HEATERS

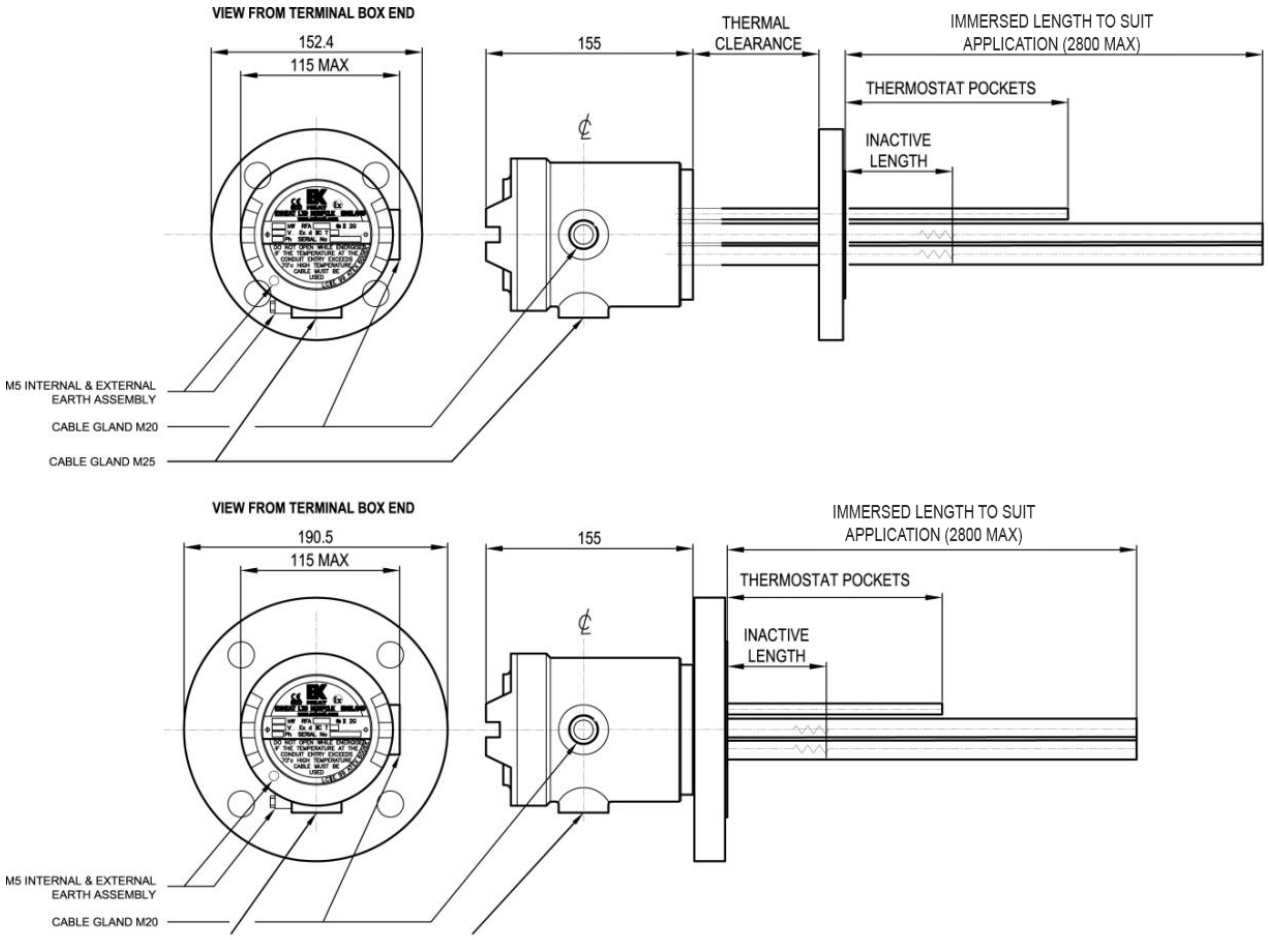
The RFA-CA range of flameproof removable cartridge heaters offers a hazardous area heating solution for oil and similar applications where low heat density is required. The element can be withdrawn for inspection without system drain down. The standard heater consists of a single or multiple cartridge elements fitted into a mounting flange. A robust flameproof terminal enclosure protects the electrical connections. The watts density of the element cartridge fitted depends upon the medium to be heated and the kilowatt rating required.

FEATURES

- Lightweight cast aluminium alloy terminal enclosure with weatherproof protection to IP66 and IP67
- Choice of built in process temperature sensors
- Suitable for ambient temperatures from -40°C to +40°C
- Mounting of the heater can be by threaded boss or an industry standard flange
- Designed for horizontal installation only, 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

- Boiler equipment
- Cleaning and rinsing tanks
- Compressors
- Frost protection
- Heat transfer systems
- Lube oil reservoirs
- Oil separators
- Oil sumps
- Pre-heating oil and water
- Processing equipment
- Turbines



Certification	**ATEX** ⟨Ex⟩ II 2 G Ex d IIC T3 to T6 Gb Zone 1 and 2	**CU TR (EAC)** 1Ex db IIC T6...T1 Gb X
Enclosure	Cast aluminium alloy with a maximum of two cable entries, external and internal earths, screwed terminal cover, finished in epoxy paint	
Elements	Removable 304 stainless steel cartridge, comprising high quality 80/20 nickel chrome resistance wire, contained within 316L stainless steel sheath; cartridges secured by either brazing or welding depending upon the process application	
Controls	Heater over-temperature protection is fitted as standard	
Mounting	Any threaded boss or flange in any material can be specified within the limits of the design parameters, heaters can be either ‘direct-on’ or ‘stand-off’	
Rating	Maximum loading 8kW	
Voltage	Any electrical supply up to 690V	

RFA FLAMEPROOF ROD-TYPE IMMERSION HEATERS

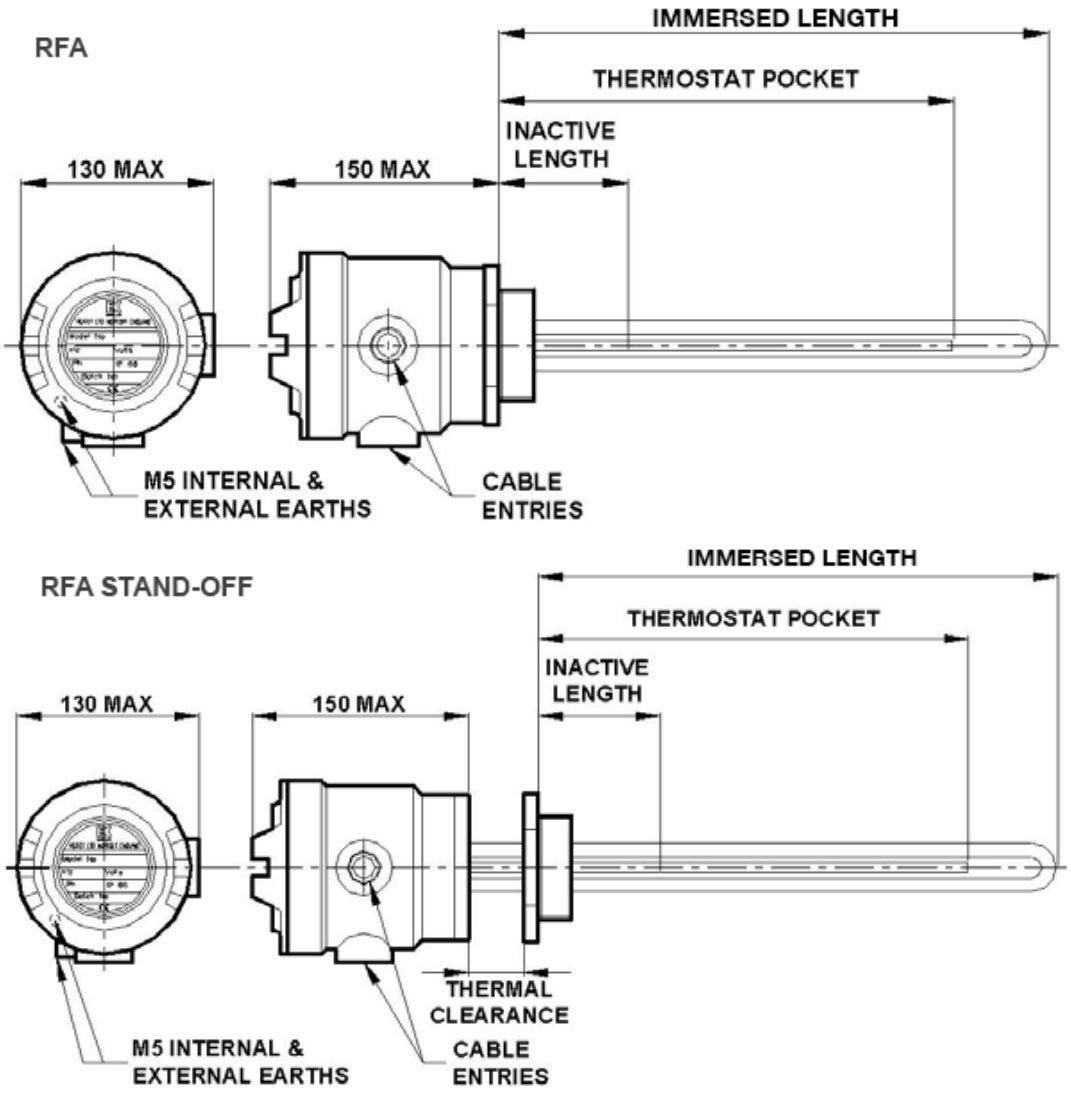
The RFA range of flameproof rod-type immersion heaters is suitable for installation in process tanks, safety showers, engine sumps, pressure vessels and similar plants located in Zone 1 and Zone 2 hazardous areas, where the flammable atmosphere is a IIA, IIB or IIC Gas Group. They are suitable for heating all process liquids or gases which are non-corrosive to the materials of construction.

Features

- Lightweight cast aluminium alloy terminal enclosure with weatherproof protection to IP66 and IP67
- Choice of built in process temperature sensors
- Suitable for ambient temperatures from -40°C to +40°C
- Mounting of the heater can be by threaded boss or an industry standard flange
- Designed for horizontal installation only, vertical mounting version available on request

Typical applications

- Boiler equipment
- Cleaning and rinsing tanks
- Frost protection
- Heat transfer systems
- Oil separators
- Pre-heating oil and water
- Processing equipment
- Refrigeration packages
- Safety showers
- Water/glycol packages



Certification	**ATEX** ⟨Ex⟩ II 2 G Ex d IIC T3 to T6 Gb Zone 1 and 2	**CU TR (EAC)** 1Ex db IIC T6...T3 Gb X
Enclosure	Cast aluminium alloy with a maximum of one M20 and one M25 cable entry, external and internal earths and screwed terminal cover; certified Ex d IIC T4 to T6 with the option of T3 to T6, where the terminal enclosure is stood away from the processing equipment	
Elements	A maximum of three rod-type elements, comprising 80/20 nickel chrome resistance wire, compacted in high purity magnesium oxide insulating powder and encased in either Incoloy 800, 825 or 316L, 304 or 321 stainless steel, secured by either brazing or welding, depending upon the process application	
Controls	Heater over temperature protection is fitted as standard	
Mounting	Any threaded NPT or BSP boss or flange in any material can be specified within the limits of the design parameters; heaters can be either ‘direct-on’ or ‘standoff’ as required by the certification	
Rating	12kW (water applications) and up to 3kW (light-medium oil applications)	
Voltage	Any electrical supply up to 690V	

FP-C FLAMEPROOF REMOVABLE CORE IMMERSION HEATERS

The FP-C range of flameproof removable single and multi-core heaters offer hazardous area heating solutions 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.

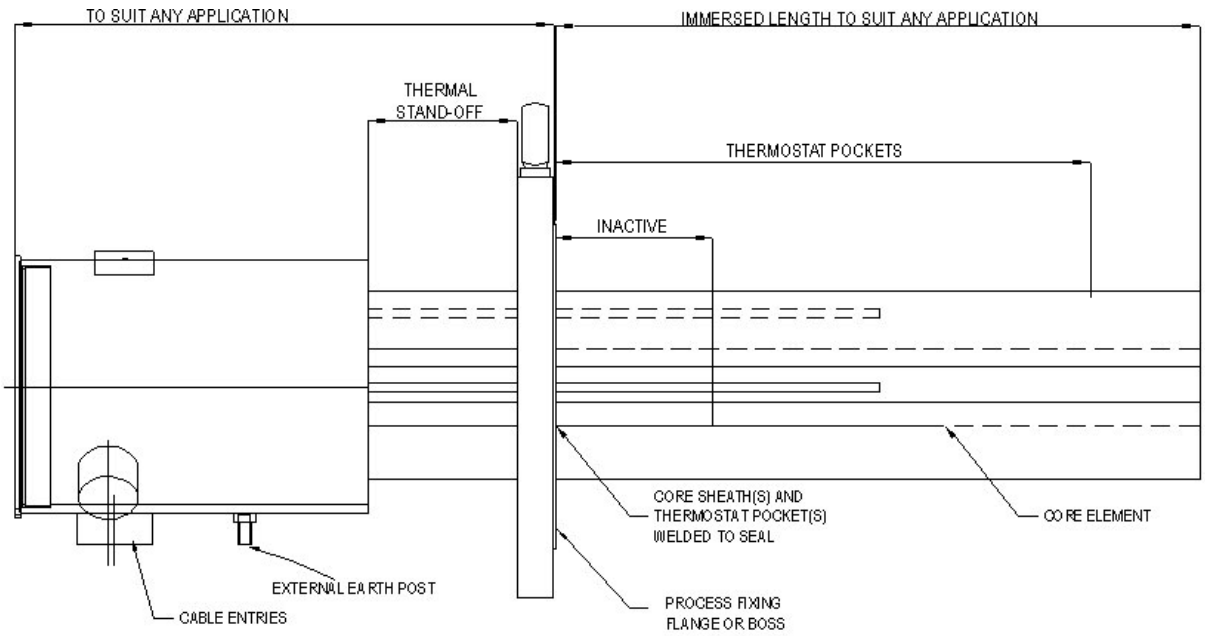
The FP removable core-type immersion heater range is certified for use in hazardous areas where the atmosphere is classified as a Zone 1 or 2 (IIA, IIB, IIC) gas group, or a Zone 21 or 22 (IIIA, IIIB, IIIC) dust group.

FEATURES

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



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

Certifications

ATEX/IECEx Ⓔx 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), CNEx, 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

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)

FP-C STANDARD FLAMEPROOF REMOVABLE CORE IMMERSION HEATERS

The FP-C range of standard-design flameproof removable single and multi-core heaters offer hazardous area heating solutions 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.

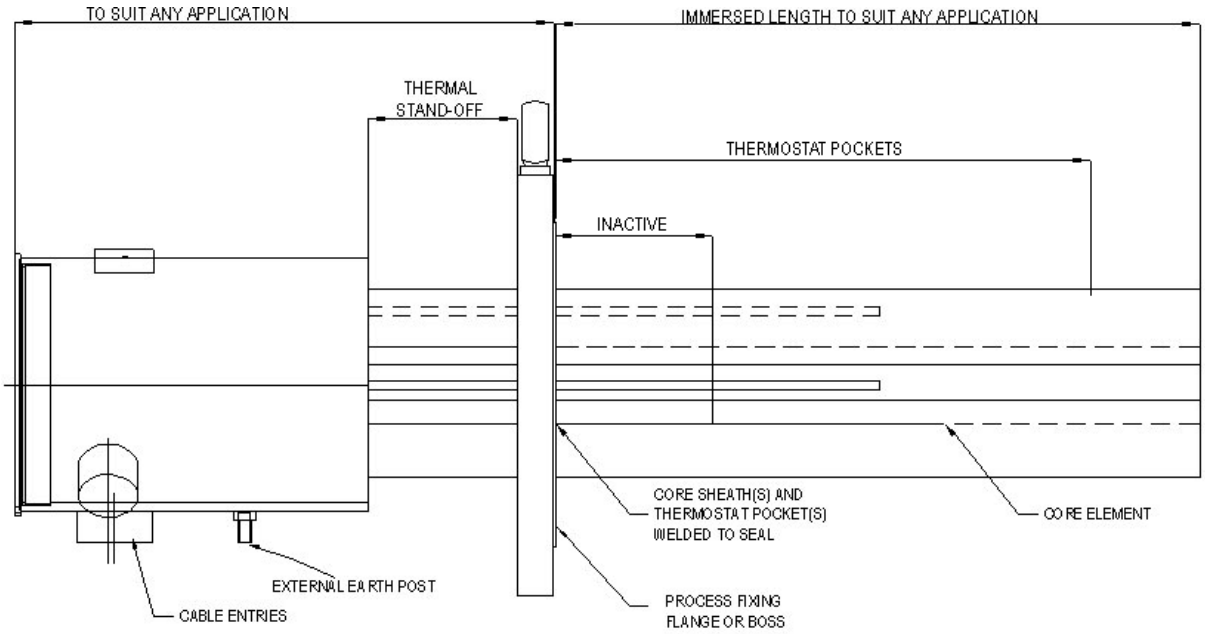
The FP-C standard removable core-type immersion heater range is certified for use in hazardous areas where the atmosphere is classified as a Zone 1 or 2 (IIA, IIB, IIC) gas group, or a Zone 21 or 22 (IIIA, IIIB, IIIC) dust group.

FEATURES

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



RATING (kW)	MODEL	IMMERSED LENGTH (MM)	INACTIVE LENGTH (MM)	SURFACE LOAD (W/cm²)	VOLTAGE	WEIGHT (KG)
0.5	FP4-CS1-0.5-22-FS3-400	550	100	0.6	230/400V	13
0.5	FP4-CS1-0.5-22-FS3-415	550	100	0.6	240/415V	13
0.5	FP4-CS1-0.5-22-FS3-440	550	100	0.6	254/440V	13
1	FP4-CS1-1-22-FS3-400	550	100	1.3	230/400V	13
1	FP4-CS1-1-22-FS3-415	550	100	1.3	240/415V	13
1	FP4-CS1-1-22-FS3-440	550	100	1.3	254/440V	13
2	FP4-CS1-2-29-FS3-400	750	100	2	230/400V	14
2	FP4-CS1-2-29-FS3-415	750	100	2	240/415V	14
2	FP4-CS1-2-29-FS3-440	750	100	2	254/440V	14
3	FP4-CS1-3-41-FS3-400	1050	100	2	230/400V	15
3	FP4-CS1-3-41-FS3-415	1050	100	2	240/415V	15
3	FP4-CS1-3-41-FS3-440	1050	100	2	254/440V	15
4	FP4-CS1-4-53-FS3-400	1350	100	2	230/400V	17
4	FP4-CS1-4-53-FS3-415	1350	100	2	240/415V	17
4	FP4-CS1-4-53-FS3-440	1350	100	2	254/440V	17
5	FP4-CS1-5-67-FS3-400	1700	100	2	230/400V	19
5	FP4-CS1-5-67-FS3-415	1700	100	2	240/415V	19
5	FP4-CS1-5-67-FS3-440	1700	100	2	254/440V	19

ATEX/IECEx as standard - other certifications available on request.

Certifications	**ATEX/IECEx** Ⓔx 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), CNEx, CCOE (CCEs), Inmetro & KGS**
Enclosure	Mild steel as standard - 316 stainless steel & painted options available on request
Elements	316L Stainless steel plain surface tube as standard – mild steel & extended surface available on request
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 terminated within transmitters)
Mounting	3" NB 150lb ANSI RF Blind 316L Stainless Steel Flange as standard - 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 AC (600V CSA) +0/-10% tolerance

ELVARME

VORES PRODUKTSORTIMENT INKLUDERER:

GENNEMSTRØM STANDARD

BADVARMERE

ELPATRONER

VARMEPATRONER

ENV-L-WALL MOUNTED

ATEX

VI FØRER PRODUKTER INDENFOR KATEGORIERNE:

AUTOMATIK

HVAC & BYGNINGS-AUTOMATIK

KØLEPROFILER

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