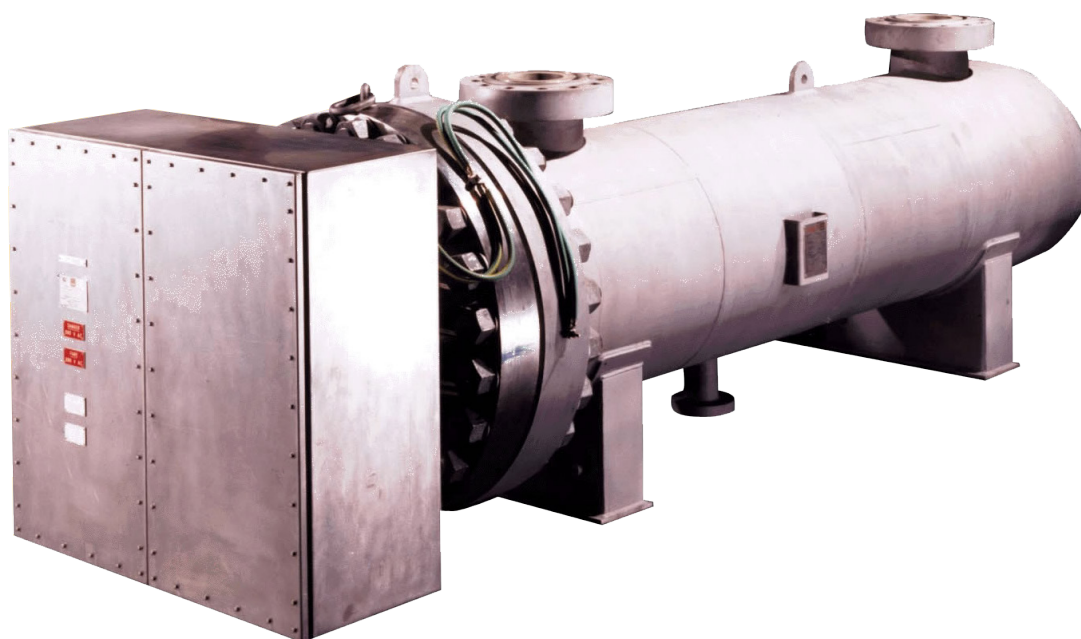


## ISES Range of Hazardous Area Ex e Certified Electric Process Heaters

The ISES heater comprises a large range of process flow heaters, certified for use in Zone 1 (ATEX and IECEx among others) or Class I, Division 2 (Canada only) hazardous areas, and are custom built to meet client specifications.

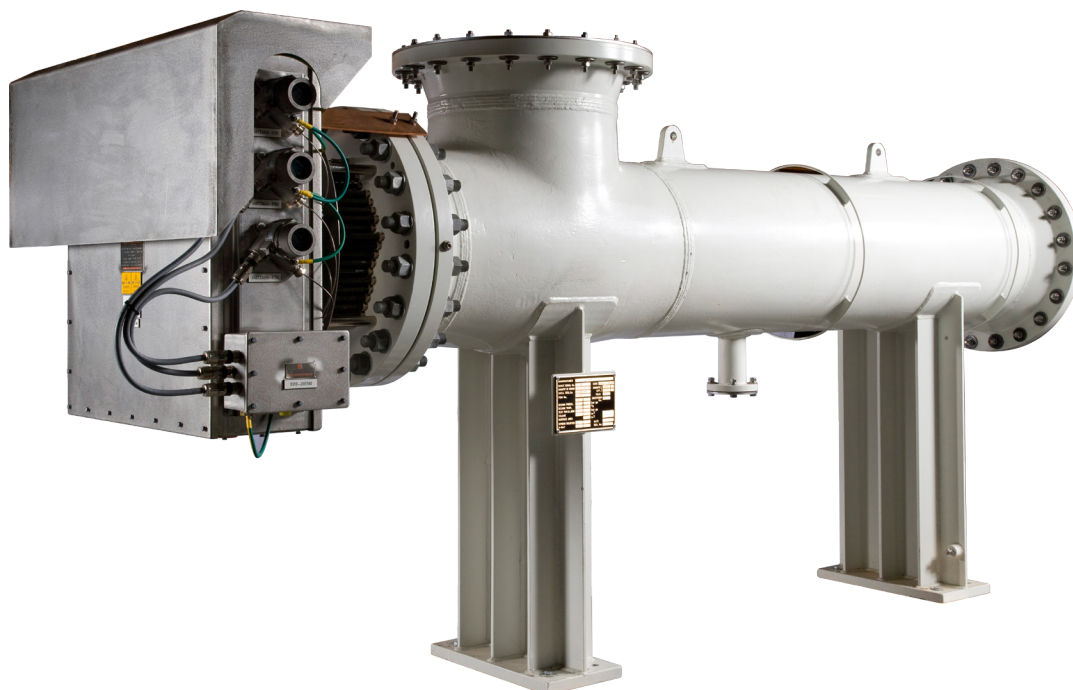



### FEATURES

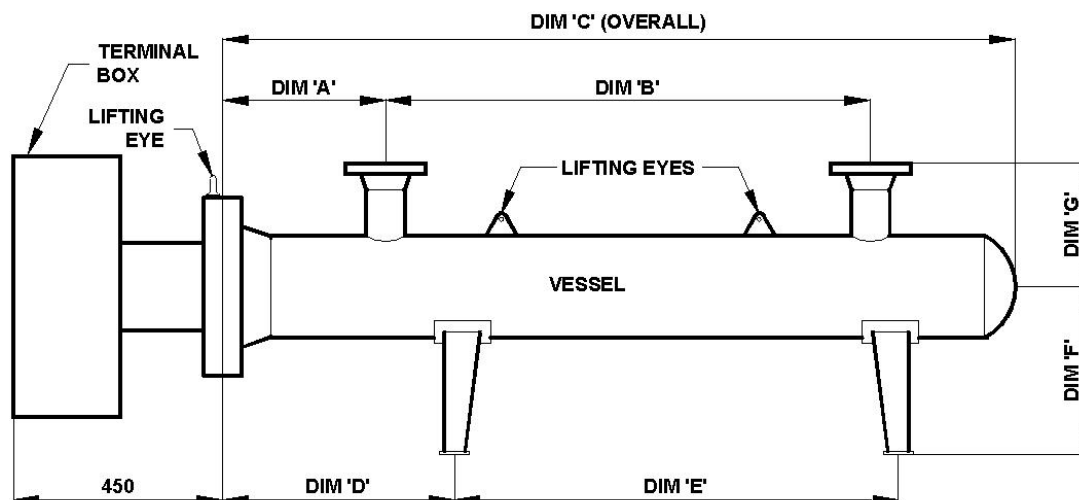
- Certified to ATEX, IECEx or CSA standards
- Terminal box is certified weatherproof to IP67 or Type 4X
- Temperature classifications T1 to T6
- Up to 5000kW
- Elements are specially sealed to prevent moisture ingress
- Elements are individually replaceable on site without the need for special tools
- Suitable and certified for use in high ambient temperatures of -60°C to +60°C
- Anti-condensation heaters fitted, if required

### TYPICAL APPLICATIONS

- Fuel gas
- Natural gas
- Molecular sieve regeneration
- Industrial gases
- Heat transfer oils
- Fuel oils
- Water
- Crude oil / hydrocarbons / liquids
- Heating medium



Certification	ATEX / IECEx  II 2 G Ex e IIC T1 to T6 Gb IP67 CSA Class I, Div 2, Groups A, B, C, D, T1 to T6, Type 4 or 4x CU TR (formerly GOST), CCOE, CNEx, Inmetro								
Vessel Design Codes	PED Compliant Stoomwezen CODAP	PD 5500 2000 Cat 1 ASME VIII Div 1/2 EN13445	AS 1210 AD Merkblätter						
Vessel Materials	Carbon steel Duplex Monel	Low temperature steel Titanium Nickel alloys	Stainless steel Super austenitic						
Elements	Manufactured from 80/20 NiCr resistance wire with high purity compacted magnesium oxide powder sheathed within corrosion/erosion resistant tube, eg:  <table><tr><td>Incoloy 800/825</td><td>Inconel 600/625</td><td>Titanium</td></tr><tr><td>316/316L stainless steel</td><td>321 stainless steel</td><td>Monel</td></tr></table> Element sheath available in welded or seamless tube up to 1.6mm thick			Incoloy 800/825	Inconel 600/625	Titanium	316/316L stainless steel	321 stainless steel	Monel
Incoloy 800/825	Inconel 600/625	Titanium							
316/316L stainless steel	321 stainless steel	Monel							
Internals	Elements are supported in a segmental or rod type baffle assembly to prevent flow-induced vibration and hot spots, generally complying with TEMA standards								
Element to Tubesheet	Generally, elements are sealed into the flange by ‘Bite’ type couplings which provide a 100% seal at pressures up to 400 barg and give the opportunity to replace individual elements on site								
Terminal Box	Manufactured from 316L stainless steel								
Voltage	Suitable for voltages up to 690V								



Tables indicate EXHEAT standard designs for hydrocarbon gas heating applications. Dimensions may vary from other mediums on compliance with project specification.

Short Option										
kW	Withdrawal	A	B	C	D	E	F	G	Diameter (Ins)	Diameter (mm)
25	2200	190	1605	1958	215	1555	400	250	4	100
50	2200	240	1555	2035	265	1505	400	275	6	150
75	2200	240	1555	2035	265	1505	400	275	6	150
100	2200	240	1555	2035	265	1505	400	275	6	150
125	2200	290	1520	2100	315	1470	400	300	8	200
150	2200	290	1520	2100	315	1470	400	300	8	200
175	2200	290	1520	2100	315	1470	400	300	8	200
200	2200	333	1500	2166	358	1450	400	325	10	250
225	2200	335	1500	2170	360	1450	400	325	10	250
250	2200	335	1500	2170	360	1450	400	325	10	250
275	2200	335	1500	2170	360	1450	400	325	10	250
300	2200	335	1500	2170	360	1450	400	325	10	250
325	2200	385	2220	2220	410	1400	400	350	12	300
350	2200	385	2220	2220	410	1400	400	350	12	300
375	2200	385	2220	2220	410	1400	400	350	12	300
400	2200	385	2220	2220	410	1400	400	350	12	300

Long Option										
kW	Withdrawal	A	B	C	D	E	F	G	Diameter (Ins)	Diameter (mm)
50	3600	190	3005	3385	215	2955	400	250	4	100
100	3600	240	2955	3435	265	2905	400	275	6	150
150	3600	240	2955	3435	265	2905	400	275	6	150
200	3600	240	2955	3435	265	2905	400	275	6	150
250	3600	290	2920	3500	315	2870	400	300	8	200
300	3600	290	2920	3500	315	2870	400	300	8	200
350	3600	290	2920	3500	315	2870	400	300	8	200
400	3600	335	2900	3570	360	2850	400	325	10	250
450	3600	335	2900	3570	360	2850	400	325	10	250
500	3600	335	2900	3570	360	2850	400	325	10	250
600	3600	335	2900	3570	360	2850	400	325	10	250