

Electric Heater Specification Sheet

Company: ROSETH				Your Reference:			
Project:				Our Reference: Q35527			
Location:				Revision: 0			
Service of Unit:				Date: 11/09/2017			
Item No.: TEHA-E-5001				Job No.:			
Size		Type	Electric	Ver	Connected in	Parallel	Series
Surf Area/unit(eff.) 0.29 m2		Shells/unit					
PERFORMANCE OF ONE UNIT							
		Shell Side		Elements			
		IN	OUT				
Fluid name		Oily Water					
Fluid quantity, Total		kg/h					
Vapor (In/Out)		kg/h					
Liquid		kg/h					
Noncondensable		kg/h					
Temperature (In/Out)		C					
Dew / Bubble point		C					
Density (Vap / Liq)		kg/m3	/ 1000	/	Operating Heat Flux: 3.88 W/cm2		
Viscosity (Vap / Liq)		poise	/	/			
Molecular wt, Vap							
Molecular wt, NC							
Specific heat (Vap / Liq)		kJ/(kg*K)	/ 4.205	/			
Thermal conductivity (Vap / Liq)		W/(m*K)	/ 0.571	/			
Latent heat		kJ/kg					
Pressure		bar (abs)					
Velocity		m/s	1.52				
Pressure drop, allow./calc.		bar					
Fouling resist. (min)		m2*K/W	0				
Heat exchanged		12.3 kW					
Installed Power		13.53 kW 17 kW					
CONSTRUCTION OF HEATER BUNDLE							
		Shell Side					
Design/Test pressure		bar(g)	0.07+ Liq static head				
MDMT / Design temperature		°C	-10 / 100				
Number passes per shell							
Corrosion allowance (Tank Flange)		mm	0				
Element No. (Active)	3	OD	12.8	Thk avg	1	mm	Active Length
Element No. (Spare)	3	Element Type		Hairpin	Material		Seamless Alloy 625
Element Protection		1 x K type duplex TC on elements					
Additional Protection		None					
Baffle Material	Inconel 625	No.	2	Type	Support Lace	Cut(%d)	0
				Studbolts / Nuts		ASTM A193 B8M / Gr 8M	
				Gasket - Shell Side		Spiral Wound	
				Impingement Protection		None	
Tank Flange Material and Rating		A182 F51		150#			
Heater Classification		ATEX Eex'd IIC T3		Element-Tubesheet Joint		Bite Coupling	
Instrument Box Classification		ATEX Eex'd IIC T6		Radiograph		100% on Butt Welds	
Terminal Box Material		Cast Iron	IP Rating	66	Mag. Particle		Attachments
PWHT		To Code		Ultrasonic Test		None	
Nozzle Loads				Voltage		400/3PH/ 50Hz / Delta	
Code requirements		ASME Code Sec VIII Div 1		TEMA class			
Weight of equipment (approx.)							
Remarks		Anti condensation heater provided in Terminal Box					
Akech Hair							

Design Pressure: 0.1 Barg Design Temperature: 100°C To Code: ASME VIII DIV 1 Hazardous Area Cert: ATEX EExd' Zone 1 IIB T3 PART NUMBER: LTI6421P				DIMENSIONS IN MM, APPROXIMATE, NOT TO SCALE, PRELIMINARY AND PROVISIONAL ONLY			
				Installed Power: 15.53kW 17kW Supply Voltage: 400V 3ph 50Hz 3 Wire Delta No. of Elements: 6 (3 Active+ 3 Spare) Overtemp. trip: 1 x K Type T/C on element			
DRAWN AN	CHECKED	DATE	SCALE	ELTRON Chromalox Ⓢ CROYDON ENGLAND			
CUSTOMER				TITLE			
ORDER No.				SERIAL No.			
ELTRON				DRAWING No.			
REV.				REV.			

CONTROL PANEL DESCRIPTION / DATA SHEET

QUOTE No: Q865227
CUSTOMER: ROSETH
DESCRIPTION: Contactor Control Panel

DATE: 19-May-17
Tag No(s):

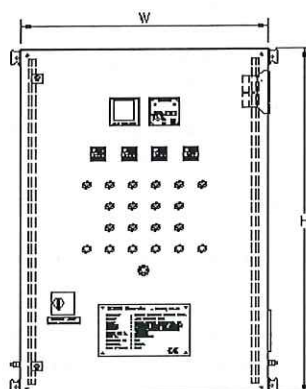
REV: 1

(Quantity 1 - off)

Panel rating (kW) : 13.53 **17**
Enclosure Details:- (Material; Mild Steel)
Wall Mounted

Segregation: Form 1
Height 800 mm
Width 600 mm
Depth 250 mm
IP rating 41 Exterior
IP rating 20 Interior
Weight 40 kg (approx.)
Ambient 40 °C Temp. max.
Cable entry Bottom
Cable exit Bottom
Colour Outside RAL7035
Colour Inside RAL7035
N/A

Enclosure Safe Area? YES
Heater Terminal Box Eex'd'
Encl. Heat Dissipation 67 Watts Approx.
Thickness:



WALL MOUNTED ENCLOSURE

Example of Typical enclosures. Please refer to description for the model use

Mounting plate: 3 mm Minimum
Doors: 2 mm Minimum
Frame, Roof, & Rear: 1.5 mm Minimum
Gland Plate: 1.5mm M.S.

Supply and Load Characteristics:

400 Volts (Mains)
110 Volts (Control) Derived internally
50 Hz
3 Phase
3 Wire Heater
3 Wire Control Panel Input

Stages/ Zones as follows:

Stage/ zone 1 13.53 kW

The ratings of the components within the enclosure take into account the tolerance not only in manufacturing the heater elements but also the voltage tolerance (+ 5 % & - 5 %)

Input signals:-	Signal	Type	Function	Quantity
	Control	Contact	ON/OFF from DCS	1
	Over-Temp Cut-out	K-TC	ELEMENT	1
	Over-Temp Cut-out	N/A		

Main Components used:

The controls for the heater include the following components:-

Qty.	Item.	Rating.
1	Door interlocked MCCB	32 A/36kA
1	Voltage Transformer	213.53 VA
1	Earth Leakage Relay	0.03~3 A
		54 A

- 1 - Over Temperature Controllers with door mounted digital temperature display
- 1 - Ammeter c/w Switch & C/T's (0-)
- 1 - Voltmeter c/w Switch & Fuses (0-)
- 1 - Set Pushbuttons
- 1 - Set Pilot Lights

- 1 - Set Relays/ Fuses/ Neutral Links etc.

This is our proposed specification for the control panel. The panel has been designed in conjunction with the heater to provide a complete heating package to meet your requirement with maximum efficiency and dependability.