



HEAT EXCHANGER SPECIFICATION SHEET

Released to the following company:
SC
SSD

Job No.

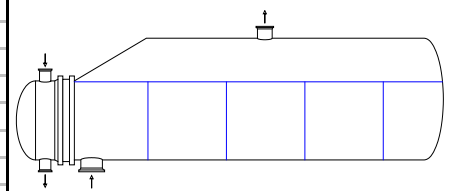
Customer	PAD JAM PETROCHEMICAL	Reference No.	
Address		Proposal No.	
Plant Location	ASSALOUYEH	Date	2/21/2024 Rev 0
Service of Unit	Evaporator	Item No.	
Size	600 - 924.32 x 2500 mm	Type	BKU Horizontal
Surf/Unit (Gross/Eff)	61.76 / 58.884 m2	Shell/Unit	1
		Connected In	1 Parallel 1 Series
		Surf/Shell (Gross/Eff)	61.76 / 58.884 m2

PERFORMANCE OF ONE UNIT

Fluid Allocation	Shell Side		Tube Side	
Fluid Name	Propane		Styrene	
Fluid Quantity, Total	3104.1		40623	
Vapor (In/Out)	1346.2	3104.1		
Liquid	1757.8		40623	40623
Steam				
Water				
Noncondensables				
Temperature (In/Out)	C	1.22	1.00	15.20
Specific Gravity		0.5331		0.9100
Viscosity	mN-s/m2	0.0076 V/L 0.1295	0.0076	0.8200
Molecular Weight, Vapor				
Molecular Weight, Noncondensables				
Specific Heat	kJ/kg-C	1.7857 V/L 2.4337	1.7835	1.6040
Thermal Conductivity	W/m-C	0.0161 V/L 0.1090	0.0160	0.1500
Latent Heat	kJ/kg	375.46	375.79	
Inlet Pressure	kPa		480.96	300.00
Velocity	m/s		0.18	0.67
Pressure Drop, Allow/Calc	kPa	5.000	3.429	50.000
Fouling Resistance (min)	m2-K/W		0.000170	0.000200
Heat Exchanged	183233 W			MTD (Corrected) 7.9 C
Transfer Rate, Service	391.85 W/m2-K	Clean	524.15 W/m2-K	Actual 431.07 W/m2-K

CONSTRUCTION OF ONE SHELL

	Shell Side	Tube Side	Sketch (Bundle/Nozzle Orientation)
Design/Test Pressure	kPaG	2200.0 /	680.00 /
Design Temperature	C	120.00	85.00
No Passes per Shell		1	4
Corrosion Allowance	mm	3.000	3.000
Connections	In mm	1 @ 154.05	1 @ 77.927
Size & Rating	Out mm	1 @ 102.26	1 @ 77.927
	Intermediate	@	@



Tube No.	188U	OD	19.050 mm	Thk(Avg)	1.651 mm	Length	2.500 m	Pitch	23.813 mm
Tube Type	Plain					Material	SA-334 6	Tube pattern	30
Shell	SA-516 70N	ID	600.00	OD		Shell Cover	SA-516 70N		(Integ.)
Channel or Bonnet	SA-516 70N					Channel Cover	SA-516 70N		
Tubesheet-Stationary	SA-350 LF2 CL.1					Tubesheet-Floating			
Floating Head Cover						Impingement Plate	Circular plate		
Baffles-Cross	Carbon steel	Type	Support	%Cut (Diam)		Spacing(c/c)	611.90	Inlet	mm
Baffles-Long				Seal Type	None				
Supports-Tube				U-Bend				Type	Full support
Bypass Seal Arrangement	pairs seal strips			Tube-Tubesheet Joint	Expanded (2 grooves)				
Expansion Joint				Type	None				
Rho-V2-Inlet Nozzle	91.14	kg/m-s2		Bundle Entrance		Bundle Exit		kg/m-s2	
Gaskets-Shell Side	Mach. Mtl. (Kammprofile\Flex. Face)			Tube Side	Mach. Mtl. (Kammprofile\Flex. Face)				
- Floating Head	Mach. Mtl. (Kammprofile\Flex. Face)								
Code Requirements						TEMA Class	R		
Weight/Shell	2116.0	kg	Filled with Water	4073.4	kg	Bundle	872.38	kg	

Remarks: Supports/baffle space = 3.

Full Vacuum on Shell Side and Tube Side will be considered.

Note: Reported duty and flow rates include a user-specified multiplier of 1.10.

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