

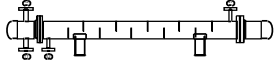
# Aspen Exchanger Design and Rating Shell & Tube V10

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TEMA Sheet

## Heat Exchanger Specification Sheet

1	Company:														
2	Location:														
3	Service of Unit:					Our Reference:									
4	Item No.:					Your Reference:									
5	Date:		Rev No.:		Job No.:										
6	Size:	152 - 1828.8	mm	Type:	BEM	Horizontal	Connected in:	1	parallel	1	series				
7	Surf/unit(eff.)	3.4	m <sup>2</sup>	Shells/unit	1	Surf/shell(eff.)	3.4	m <sup>2</sup>							
8	<b>PERFORMANCE OF ONE UNIT</b>														
9	Fluid allocation			Shell Side			Tube Side								
10	Fluid name														
11	Fluid quantity, Total			kg/s			0.347			1.9762					
12	Vapor (In/Out)			kg/s			0			0					
13	Liquid			kg/s			0.347			1.9762					
14	Noncondensable			kg/s			0			0					
15															
16	Temperature (In/Out)			°C			78.82			42.43					
17	Bubble / Dew point			°C			/			/					
18	Density Vapor/Liquid			kg/m <sup>3</sup>			/ 742.87			/ 748.86					
19	Viscosity			mPa-s			/ 0.4247			/ 0.471					
20	Molecular wt, Vap														
21	Molecular wt, NC														
22	Specific heat			kJ/(kg-K)			/ 3.297			/ 3.242					
23	Thermal conductivity			W/(m-K)			/ 0.1582			/ 0.1595					
24	Latent heat			kJ/kg											
25	Pressure (abs)			bar			1.04			1.02626					
26	Velocity (Mean/Max)			m/s			0.05 / 0.06			0.87 / 0.87					
27	Pressure drop, allow./calc.			bar			0.1104			0.01374					
28	Fouling resistance (min)			m <sup>2</sup> -K/W			0			0 0 Ao based					
29	Heat exchanged			42.7			kW			MTD (corrected) 29.53 °C					
30	Transfer rate, Service			423.2			Dirty 524.9			Clean 524.9 W/(m <sup>2</sup> -K)					
31	<b>CONSTRUCTION OF ONE SHELL</b>														
32				Shell Side			Tube Side								
33	Design/Vacuum/test pressure			bar			3.44738 / /								
34	Design temperature			°C			115.56								
35	Number passes per shell						1								
36	Corrosion allowance			mm			0								
37	Connections			In			mm								
38	Size/Rating			Out			mm								
39	Nominal			Intermediate			mm								
40	Tube #:	44	OD:	14	Tks. Average	1.24	mm	Length:	1828.8	mm	Pitch:	18	mm	Tube pattern:	30
41	Tube type: Plain			Insert:None			Fin#:			#/m			Material:SS 304		
42	Shell SS 304			ID	162.74	OD	168.28	mm	Shell cover			-			
43	Channel or bonnet			SS 304			Channel cover			-					
44	Tubesheet-stationary			SS 304			Tubesheet-floating			-					
45	Floating head cover			-			Impingement protection			None					
46	Baffle-cross SS 304			Type	Single segmental			Cut(%d)	41.8	HorizSpacing: c/c			146.05	mm	
47	Baffle-long -			Seal Type			Inlet			225.42			mm		
48	Supports-tube			U-bend			0			Type					
49	Bypass seal			Tube-tubesheet joint			Expanded only (2 grooves)(App.A "i")								
50	Expansion joint			-			Type			None					
51	RhoV2-Inlet nozzle			1369			Bundle entrance			1			kg/(m-s <sup>2</sup> )		
52	Gaskets - Shell side			-			Tube side			Flat Metal Jacket Fibe					
53	Floating head			-											
54	Code requirements			ASME Code Sec VIII Div 1			TEMA class			R - refinery service					
55	Weight/Shell			144.8			Filled with water			180.7			kg		
56	Remarks														
57															
58															