

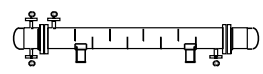
# Aspen Exchanger Design and Rating Shell & Tube V11

File: D:\08 Linked In\05 Github\DW\Sim-Repo\..42 Shell and Tube HEX.EDR

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## TEMA Sheet

### Heat Exchanger Specification Sheet

1	Company: XYZ Engineering Corp												
2	Location: N.A.												
3	Service of Unit: N.A.					Our Reference: N.A.							
4	Item No.: N.A.					Your Reference: N.A.							
5	Date: 09-07-2024		Rev No.: 0		Job No.: 12345								
6	Size:	203	-	1828.8	mm	Type:	BEM	Horizontal	Connected in:	1 parallel	1 series		
7	Surf/unit(eff.)	3.6			m²	Shells/unit	1		Surf/shell(eff.)	3.6	m²		
8	PERFORMANCE OF ONE UNIT												
9	Fluid allocation					Shell Side			Tube Side				
10	Fluid name					Toluene			Benzene				
11	Fluid quantity, Total					kg/s	0.5556			0.5556			
12	Vapor (In/Out)					kg/s	0	0	0	0			
13	Liquid					kg/s	0.5556	0.5556	0.5556	0.5556			
14	Noncondensable					kg/s	0	0	0	0			
15													
16	Temperature (In/Out)					°C	25	45.75	70	50			
17	Bubble / Dew point					°C	/	/	93.64	93.64	92.34	92.34	
18	Density Vapor/Liquid					kg/m³	/ 864.79	/ 845.49	/ 825.55	/ 846.72			
19	Viscosity					mPa-s	/ 0.5543	/ 0.444	/ 0.3557	/ 0.4437			
20	Molecular wt, Vap												
21	Molecular wt, NC												
22	Specific heat					kJ/(kg-K)	/ 1.572	/ 1.662	/ 1.724	/ 1.631			
23	Thermal conductivity					W/(m-K)	/ 0.1308	/ 0.1248	/ 0.1276	/ 0.1342			
24	Latent heat					kJ/kg							
25	Pressure (abs)					bar	2.5	2.48807	1.5	1.44606			
26	Velocity (Mean/Max)					m/s	0.05 / 0.05		0.48 / 0.49				
27	Pressure drop, allow./calc.					bar	0.2	0.01193	0.2	0.05394			
28	Fouling resistance (min)					m²-K/W	0.0001		0.0001	0.00013	Ao based		
29	Heat exchanged		18.6		kW	MTD (corrected)			21.47		°C		
30	Transfer rate, Service		243.5		Dirty	247.2		Clean	262		W/(m²-K)		
31	CONSTRUCTION OF ONE SHELL								Sketch				
32						Shell Side		Tube Side					
33	Design/Vacuum/test pressure					bar	3.44738 /		3.44738 /				
34	Design temperature / MDMT					°C	110 /		110 /				
35	Number passes per shell						1		4				
36	Corrosion allowance					mm	3.18		3.18				
37	Connections					In	mm	1	25.4 /			-	1
38	Size/Rating					Out		1	25.4 /	-	1	19.05 /	-
39	Nominal					Intermediate		/	-	/	-		
40	Tube #: 34 OD: 19.05 Tks. Average 2.11 mm Length: 1828.8 mm Pitch: 23.81 mm Tube pattern: 30												
41	Tube type: Plain					Insert: None		Fin#: /m		Material: Carbon Steel			
42	Shell Carbon Steel					ID 205	OD 219.08		mm		Shell cover	-	
43	Channel or bonnet					Carbon Steel				Channel cover		-	
44	Tubesheet-stationary					Carbon Steel				Tubesheet-floating		-	
45	Floating head cover					-				Impingement protection		None	
46	Baffle-cross Carbon Steel					Type	Single segmental		Cut(%d)	43.02	HorizSpacing: c/c	171.45 mm	
47	Baffle-long -					Seal Type				Inlet	276.23 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		1148		Bundle entrance	3		Bundle exit	1		kg/(m-s²)		
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		274.2		Filled with water	329.1		Bundle	91.8		kg		
56	Remarks This is a dumm TEMA Sheet for practice purpose.												
57													
58													