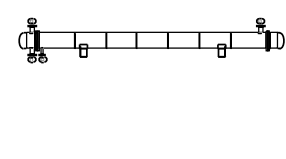


TEMA Sheet

Heat Exchanger Specification Sheet

1	Company: DELTA										
2	Location: Zanjan										
3	Service of Unit: CONDENSER										
4	Item No.: E-004		Your Reference:								
5	Date:		Rev No.: 0		Job No.:						
6	Size: 325 - 4800 mm		Type: BEM Horizontal		Connected in: 1 parallel 1 series						
7	Surf/unit(eff.) 35.6 m ²		Shells/unit 1		Surf/shell(eff.) 35.6 m ²						
8	PERFORMANCE OF ONE UNIT										
9	Fluid allocation			Shell Side			Tube Side				
10	Fluid name			AMMONIA			COOLING WATER				
11	Fluid quantity, Total kg/h			1266			40000				
12	Vapor (In/Out) kg/s			0.3516		0		0		0	
13	Liquid kg/s			0		0.3516		11.1111		11.1111	
14	Noncondensable kg/s			0		0		0		0	
15											
16	Temperature (In/Out) °C			71.8		41.52		27		36.1	
17	Bubble / Dew point °C			41.65 / 41.65		41.64 / 41.64		/		/	
18	Density Vapor/Liquid kg/m ³			10.43 /		/ 579.89		/ 997.94		/ 995.78	
19	Viscosity mPa-s			0.0118 /		/ 0.0869		/ 0.8561		/ 0.7041	
20	Molecular wt, Vap			17.03							
21	Molecular wt, NC										
22	Specific heat kJ/(kg-K)			2.524 /		/ 4.952		/ 4.191		/ 4.189	
23	Thermal conductivity W/(m-K)			0.0351 /		/ 0.4445		/ 0.6031		/ 0.6149	
24	Latent heat kJ/kg			1097.9		1097.9					
25	Pressure (abs) bar			16.1283		16.1216		6		5.89827	
26	Velocity (Mean/Max) m/s			0.29 / 1.77			0.82 / 0.83				
27	Pressure drop, allow./calc. bar			0.05		0.0067		0.5		0.10173	
28	Fouling resistance (min) m ² -K/W			0.0001			0.00017		0.0002		Ao based
29	Heat exchanged 418.5 kW			MTD (corrected) 9.77 °C							
30	Transfer rate, Service 1202.8 Dirty 1343.2 Clean 2227.4 W/(m ² -K)										
31	CONSTRUCTION OF ONE SHELL						Sketch				
32				Shell Side		Tube Side					
33	Design/Vacuum/test pressure bar			20 / 1 / 26		12 / / 18					
34	Design temperature °C			120		85					
35	Number passes per shell			1		2					
36	Corrosion allowance mm			3		3					
37	Connections In mm			1 76.2 / 300 ANSI		1 76.2 / 150 ANSI					
38	Size/Rating Out			1 31.75 / 300 ANSI		1 76.2 / 150 ANSI					
39	Nominal Intermediate			1 / 300 ANSI		1 / 150 ANSI					
40	Tube #: 126		OD: 19.05		Tks. Average 1.24 mm		Length: 4800 mm		Pitch: 23.81 mm Tube pattern:30		
41	Tube type: Plain			Insert:None			Fin#: #/m		Material:SA-334 6		
42	Shell SA-516 70 K02700			ID 325		OD 345 mm		Shell cover -			
43	Channel or bonnet SA-516 70 K02700			Channel cover -							
44	Tubesheet-stationary SA-350 LF2 K03011 1			Tubesheet-floating -							
45	Floating head cover -			Impingement protection None							
46	Baffle-cross SA-516 70 K02700			Type Single segmental		Cut(%d) 37.31		VertiSpacing: c/c 650 mm			
47	Baffle-long -			Seal Type			Inlet 736.48 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 521		Bundle entrance 7		Bundle exit 0		kg/(m-s ²)				
52	Gaskets - Shell side Flat Metal Jacket Fibe			Tube side			Spiral-Wound Metal Fib				
53	Floating head -										
54	Code requirements ASME Code Sec VIII Div 1			TEMA class R - refinery service							
55	Weight/Shell 997.2		Filled with water 1379		Bundle 417		kg				
56	Remarks										
57											
58											