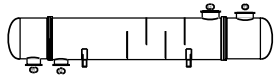


TEMA Sheet

Heat Exchanger Specification Sheet

1	Company: SIMACRO Chemical									
2	Location: ME									
3	Service of Unit: 1		Our Reference: 864-E-1101A/B							
4	Item No.: HE101		Your Reference: 864-E-1101A/B							
5	Date:		Rev No.: 001		Job No.: 001					
6	Size: 1270 - 5250		mm		Type: BEM Horizontal		Connected in: 1 parallel 1 series			
7	Surf/unit(eff.)		687.2		m ²		Shells/unit 1		Surf/shell(eff.) 687.2 m ²	
8	PERFORMANCE OF ONE UNIT									
9	Fluid allocation				Shell Side			Tube Side		
10	Fluid name									
11	Fluid quantity, Total				kg/h 387489			491788		
12	Vapor (In/Out)				kg/h 7 0			0 61933		
13	Liquid				kg/h 387483 387489			491788 429855		
14	Noncondensable				kg/h 0 0			0 0		
15										
16	Temperature (In/Out)				°C 174.45 116.63			79.87 113.62		
17	Bubble / Dew point				°C 174.45 / 315.23 173.5 / 314.59			81.54 / 350.07 80.93 / 348.55		
18	Density Vapor/Liquid				kg/m ³ 16.98 / 617.12 / 673.79			/ 659.99 14.12 / 652.95		
19	Viscosity				cp 0.0103 / 0.2199 / 0.3695			/ 0.344 0.0102 / 0.3073		
20	Molecular wt, Vap				79.3			57.74		
21	Molecular wt, NC									
22	Specific heat				kJ/(kg-K) 2.409 / 2.725 / 2.507			/ 2.423 2.177 / 2.523		
23	Thermal conductivity				W/(m-K) 0.0283 / 0.0774 / 0.1024			/ 0.0955 0.0255 / 0.093		
24	Latent heat				kJ/kg 243.9 245.9			299.8 280.3		
25	Pressure (abs)				kPa 703.697 694.476			721.192 713.567		
26	Velocity (Mean/Max)				m/s 0.56 / 0.68			0.93 / 3.61		
27	Pressure drop, allow./calc.				kPa 13.79 9.221			20.684 7.625		
28	Fouling resistance (min)				m ² -K/W 0.00018			0.00018 0.00023 Ao based		
29	Heat exchanged		16282.8		kW		MTD (corrected)		48.01 °C	
30	Transfer rate, Service		493.5		Dirty 409.3		Clean 490		W/(m ² -K)	
31	CONSTRUCTION OF ONE SHELL								Sketch	
32					Shell Side		Tube Side			
33	Design/Vacuum/test pressure:g		kPa 800 / /		800 / /					
34	Design temperature / MDMT		°C 210 /		150 /					
35	Number passes per shell		1		1					
36	Corrosion allowance		mm 3.18		3.18					
37	Connections	In	mm	1 488.95 / -	1 387.35 / -					
38	Size/Rating	Out		1 387.35 / -	1 488.95 / -					
39	ID	Intermediate		/ -	/ -					
40	Tube #: 2245		OD: 19.05		Tks. Average 2.11		mm		Length: 5250 mm Pitch: 23.81 mm Tube pattern:30	
41	Tube type: Plain		Insert:None		Fin#:		#/m		Material:Carbon Steel	
42	Shell Carbon Steel		ID 1270		OD 1320.8		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) 35.39		HorizSpacing: c/c 585 mm	
47	Baffle-long -		Seal Type						Inlet 1094.97 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		533		Bundle entrance		396		Bundle exit 138 kg/(m-s ²)	
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		18102.6		Filled with water		25639.9		Bundle 11601.9 kg	
56	Remarks									
57										
58										