



Heat Exchanger Specification Sheet

1 Company: Ventenich XTL Oklahoma, LLC.												
2 Location:												
3 Service of Unit: Wax Product Cooler					Our Reference: Inq 9632 C							
4 Item No.: E-702					Your Reference:							
5 Date: 1/13/2014		Rev No.:2		Job No.:S2777-3								
6 Size 8--120		in		Type AFS		Hor		Connected in 1 parallel 1 series				
7 Surf/unit(eff.)		36.6 ft²		Shells/unit 1		Surf/shell (eff.)		36.6 ft²				
PERFORMANCE OF ONE UNIT												
9 Fluid allocation				Shell Side			Tube Side					
10 Fluid name				710-Wax Product			537A-HFTL					
11 Fluid quantity, Total lb/h				1701.7			2121					
12 Vapor (In/Out) lb/h				0		0		0		0		
13 Liquid lb/h				1701.7		1701.7		2121		2121		
14 Noncondensable lb/h				0		0		0		0		
15												
16 Temperature (In/Out) °F				419.51		361.98		275.24		324.98		
17 Dew / Bubble point °F												
18 Density Vapor/Liquid lb/ft³				/ 42.19		/ 43.59		/ 45.02		/ 43.8		
19 Viscosity cp				/ 0.945		/ 1.3104		/ 1.7657		/ 1.2657		
20 Molecular wt, Vap												
21 Molecular wt, NC												
22 Specific heat BTU/(lb F)				/ 0.7163		/ 0.689		/ 0.6396		/ 0.6657		
23 Thermal conductivity BTU/(ft h F)				/ 0.067		/ 0.07		/ 0.073		/ 0.07		
24 Latent heat BTU/lb												
25 Pressure (abs) psi				54.696		54.627		69.696		69.311		
26 Velocity ft/s				0.45				1.45				
27 Pressure drop, allow./calc. psi				5		0.069		5		0.385		
28 Fouling resistance (min) ft² h F/BTU				0.003				0.003		0.0039 Ao based		
29 Heat exchanged 68821 BTU/h						MTD corrected		89.21 °F				
30 Transfer rate, Service 21.07 Dirty 24.21 Clean 29.02								BTU/(h ft² F)				
CONSTRUCTION OF ONE SHELL										Sketch		
				Shell Side			Tube Side					
33 Design/vac/test pressure:g psi				150/ -14.7 /			150/ -14.7 /					
34 Design temperature °F				500			400					
35 Number passes per shell				2			4					
36 Corrosion allowance in				0.125			0.125					
37 Connections		In	in	1	2/ 150 ANSI	1	2/ 150 ANSI					
38 Size/rating		Out		1	2/ 150 ANSI	1	2/ 150 ANSI					
39 Nominal		Intermediate			/ 150 ANSI		/ 150 ANSI					
40 Tube No. 20		OD 0.75		Tks-Avg 0.083	in	Length 120	in	Pitch 0.9375	in			
41 Tube type Plain			#/in	Material SA-179 K01200		Tube pattern 90						
42 Shell Carbon Steel		ID 7.981		OD 8.625	in	Shell cover	Carbon Steel					
43 Channel or bonnet Carbon Steel						Channel cover	Carbon Steel					
44 Tubesheet-stationary Carbon Steel				-		Tubesheet-floating	Carbon Steel					
45 Floating head cover Carbon Steel						Impingement protection	None					
46 Baffle-cross Carbon Steel		Type	Single segmental	Cut(%d) 20	V	Spacing: c/c 5.75	in					
47 Baffle-long Carbon Steel			Seal type		Inlet	7.0625	in					
48 Supports-tube		U-bend	0	Type								
49 Bypass seal			Tube-tubesheet joint	Exp./seal wld 2 grv								
50 Expansion joint -			Type	None								
51 RhoV2-Inlet nozzle 10			Bundle entrance 0		Bundle exit 0	lb/(ft s²)						
52 Gaskets - Shell side		Spiral-Wound Metal Fib	Tube Side	Spiral-Wound Metal Fib								
53 Floating head		Spiral-Wound Metal Fib										
54 Code requirements		ASME Code Sec VIII Div 1					TEMA class	R - refinery service				
55 Weight/Shell		912.1	Filled with water	1136.4	Bundle	262.2	lb					
56 Remarks												
57												
58												