

Heat Exchanger Specification Sheet

1	Funke Heat Exchangers USA, Inc		10/1/15	
2	York, Pa			
3				
4	Job: 1815			
5	Item: CO2 Cooler			
6	Size	16--168	in	Type BEU Hor Connected in 1 parallel 1 series
7	Surf/unit(eff.)	526.1	ft²	Shells/unit 1 Surf/shell (eff.) 526.1 ft²
8	PERFORMANCE OF ONE UNIT			
9	Fluid allocation	Shell Side		Tube Side
10	Fluid name	CO2		Water
11	Fluid quantity, Total	130320		381557
12	Vapor (In/Out)	lb/h	0	0
13	Liquid	lb/h	130320	381557
14	Noncondensable	lb/h	0	0
15				
16	Temperature (In/Out)	°F	98	68
17	Dew / Bubble point	°F		
18	Density Vapor/Liquid	lb/ft³	/ 32.951	/ 45.282
19	Viscosity	cp	/ 0.0544	/ 0.072
20	Molecular wt, Vap			
21	Molecular wt, NC			
22	Specific heat	BTU/(lb F)	/ 1.072	/ 0.7977
23	Thermal conductivity	BTU/(ft h F)	/ 0.036	/ 0.046
24	Latent heat	BTU/lb		
25	Pressure (abs)	psi	1232.7	1226.42
26	Velocity	ft/s	6.06	8.63
27	Pressure drop, allow./calc.	psi	15	6.28
28	Fouling resist. (min)	ft² h F/BTU	0.001	0.0005 0.0006 Ao based
29	Heat exchanged	3825457	BTU/h	MTD corrected 31.14 °F
30	Transfer rate, Service	233.54	Dirty 239.43 Clean 388.86	BTU/(h ft² F)
31	CONSTRUCTION OF ONE SHELL			Sketch
32		Shell Side		Tube Side
33	Design/vac/test pressure:g	psi	1360/	150/
34	Design temperature	°F	200	200
35	Number passes per shell		1	2
36	Corrosion allowance	in	0.0625	0.0625
37	Connections	In in	6/ -	8/ -
38	Size/rating	Out	1 4/ -	1 8/ -
39	Nominal	Intermediate	/ -	/ -
40	Tube No. 94	OD 0.75	Tks-Avg 0.065 in	Length 14 ft Pitch 0.9375 in
41	Tube type Plain	#/in	Material Carbon Steel	Tube pattern 30
42	Shell Carbon Steel	ID 16.124	OD 18 in	Shell cover Carbon Steel
43	Channel or bonnet Carbon Steel			Channel cover -
44	Tubesheet-stationary Carbon Steel			Tubesheet-floating -
45	Floating head cover -			Impingement protection None
46	Baffle-crossing Carbon Steel	Type Single segmental	Cut(%d) 24.82	H Spacing: c/c 6 in
47	Baffle-long -	Seal type		Inlet 0 in
48	Supports-tube	U-bend	0	Type
49	Bypass seal		Tube-tubesheet joint	Exp.
50	Expansion joint -	Type	None	
51	RhoV2-Inlet nozzle	1214	Bundle entrance 775	Bundle exit 152 lb/(ft s²)
52	Gaskets - Shell side	Flat Metal Jacket Fibe	Tube Side	Flat Metal Jacket Fibe
53	Floating head	-		
54	Code requirements	ASME Code Sec VIII Div 1	TEMA class	C - general service
55	Weight/Shell	5741.3	Filled with water 6920.3	Bundle 1565.8 lb
56	Remarks	Rev. 1 change glycol to water		
57				
58				