

EXCHANGER SPECIFICATION SHEET 1E-310 A/B

1	CUSTOMER AND PROJECT LOCATION <i>CONTINENTAL OIL CO.</i>		EXCHANGER MFR. <i>HEATRAM</i>	
2	PLANT <i>1000 T/D AMMONIA PLANT</i>		REQ. NO. <i>1E-2</i>	
3	EXCHANGER NO. <i>1E-310</i>		ITEM NO. <i>3</i>	
4	SERVICE OF UNIT <i>CONVERTER FEED PREHEATER</i>			
5	SIZE <i>41-11500-38</i>	TYPE <i>D&D</i>	CONNECTED IN <i>2</i>	SERIES <i>PARALLEL</i>
6	SURFACE PER UNIT <i>22,600</i> <i>23,000</i>	EFF. GR. SHELLS PER UNIT <i>2</i>	SURFACE PER SHELL <i>11,300</i> EFF. GR.	
PERFORMANCE OF ONE UNIT				
7	FLUID CIRCULATED		SHELL SIDE	
8	TOTAL FLUID ENTERING LBS/HR		CONVERTER FEED	
9	VAPOR		545,024 Δ	
10	LIQUID		27,183 Δ (NH ₃)	
11	STEAM		-	
12	NON-CONDENSIBLES		517,841 Δ	
13	FLUID VAPORIZED OR CONDENSED		NONE	
14	STEAM CONDENSED		-	
15	GRAVITY-LIQUID		-	
16	VISCOSITY-LIQUID		-	
17	MOLECULAR WEIGHT-VAPORS		10.22	
18	SPECIFIC HEAT-LIQUIDS		B.T.U./#	
19	LATENT HEAT-VAPORS		B.T.U./#	
20	TEMPERATURE IN		81 Δ °F	
21	TEMPERATURE OUT		352 °F	
22	OPERATING PRESSURE PSIG		2464	
23	NUMBER OF PASSES		1	
24	VELOCITY		FT./SEC.	
25	PRESSURE DROP ALLOW/CALC. Δ		15.0 #/SQ.IN.	
26	FOULING RESISTANCE MIN.		0.001	
27	<i>M/L 1/2 HZ</i>		<i>65.74</i>	
28	HEAT EXCHANGED - B.T.U./HR.		106,000,000 Δ	
29	TRANSFER RATE - SERVICE		136.0 Δ CLEAN	
			ACTUAL FOULING FACTOR	
CONSTRUCTION				
30	DESIGN PRESSURE		2.600 #/SQ.IN.	
31	TEST PRESSURE		CODE #/SQ.IN.	
32	DESIGN TEMPERATURE		600 °F	
33	TUBES <i>A-214</i>	NO. <i>1850</i>	O.D. <i>5/8</i>	BWG <i>60</i> MIN. LENGTH <i>38'</i>
34	SHELL <i>STEEL</i>	I.D. <i>41.0</i>		THICKNESS
35	SHELL COVER		FLOATING HEAD COVER	
36	CHANNEL <i>STEEL</i>		CHANNEL COVER <i>STEEL</i>	
37	TUBE SHEETS - STATIONARY <i>STEEL</i>		FLOATING	
38	BAFFLES - CROSS <i>STEEL</i>		TYPE <i>SEGMENTAL</i>	
39	BAFFLE - LONG		TYPE	
40	TUBE SUPPORTS <i>STEEL</i>		THICKNESS	
41	GASKETS			
42	CONNECTIONS - SHELL - IN Δ <i>14" 16</i>		OUT <i>14" 16</i>	
43	- CHANNEL - IN Δ <i>14" 16</i>		OUT <i>14" 16</i>	
44	CORROSION ALLOWANCE - SHELL SIDE		TUBE SIDE	
45	CODE REQUIREMENTS <i>DD</i>		TEMA CLASS <i>R</i>	
46	WEIGHTS - EACH SHELL		BUNDLE FULL OF WATER	
47	NOTE: INDICATE AFTER EACH PART WHETHER STRESS RELIEVED (S.R.) AND WHETHER RADIOGRAPHED (X-R)			
48	REMARKS: - (1) HEAT REMOVAL PER DS-1E-310. (2) SEAM WELD TUBES / 11 TUBESHEET (3)			
49	DESIGN INTERNALS FOR SUSP1 DIFFERENTIAL.			
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REV.	Δ	DATE	ISSUED FOR CONSTRUCTION	GB	10	JOB NO.	DRWG. NO.	REV.
	Δ	10/6/64	REVISED & REISSUED FOR QUOTATION	J.D.	GB	4915	DS-1E-310	2
	Δ	7/28/64	ISSUED FOR QUOTATION	J.D.	GB			