



DEHDASHT PETROCHEMICAL INDUSTRY COMPANY
DEHDASHT HIGH DENSITY POLYETHYLENE PROJECT



Contract No.: DPIC/98-12	DOCUMENT TITLE: Evaporator Data Sheet	POI: IFA	Rev.: D0
	DOCUMENT NUMBER: DPIC9812-000-VD-1002-ME-DS-0044	Sheet 1 of 5	

Evaporator Data Sheet

PURCHASER'S COMMENT/APPROVAL STATUS					Purchaser: NARGAN
1	AP: Approved (Released for Manufacturing)				Requisition No.: DPIC98-12-001-000-ME-MR-4150-0001-D1
2	AN: Approved With Minor Comments (Fabrication may Proceed)				
3	NF: Approved With Comments (Fabrication not Proceed)				Item No. (Tag No.): PK-6101
4	RJ: Rejected				
5	NR: Not be Returned				Vendor Doc. No.: DPIC9812-000-VD-1002-ME-DS-0044-D0
Date: XX.XX.XX		Signature:			
D0	30.Oct.21	A.VOSOUGH	DR.A.NEJATI	DR.A.NEJATI	
REV	DATE ISSUE	PREPARED	CHECKED	APPROVED	

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1	SERVICE	HEXANE CHILLER	ITEM	E-PK1601
2	DIAM. X LENGTH	1150,1676 X 4200 mm	MOUNTIN	HORIZONTAL
3	NO. OF UNIT	1	SURFACE PER UNIT	434.4 m ²
4	SHELLS PER UNIT	1	SURFACE PER SHELL	434.4 m ²
5	TEMA CLASS	R	REQUIRED OVERDESIGN	10% FLOW
6	PERFORMANCE			
7			SHELL SIDE	TUBE SIDE
8	FLUID CIRCULATED		PROPYLENE	HEXANE
9	FLUID QUANTITY, TOTAL	kg/h	19269 x 1.1	828500x 1.1
10			IN	OUT
11	VAPOUR	kg/h	4239	21188
12	LIQUID	kg/h	16957	8
13	NON CONDENSABLES	kg/h	-	-
14	TEMPERATURE	°C	-23.98	-24.89
15	DENSITY at T and P (Vap./Liq.)	kg/m ³	5.81 / 580	5.6 / 580.2
16	VISCOSITY at T and P (Vap./Liq.)	cP	0.007 / 0.1422	0.0073 / 0.1425
17	MOLECULAR WEIGHT, Vap		42.08	42.08
18	SPECIFIC HEAT (Vap./Liq.)	kJ/kg.C	1.402 / 2.207	1.4 / 2.206
19	THERMAL CONDUCTIVITY (Vap./Liq.)	W/m.K	0.013 / 0.1281	0.0126 / 0.1282
20	LATENT HEAT	kJ/kg	410	411
21	INLET PRESSURE (abs)	bar	2.660	2.57
22	VELOCITY (Mean/Max)	m/s	1.29 / 2.01	2.55 / 2.55
23	PRESSURE DROP (Allowable/Calculated)	bar	0.5	0.08722
24	FOULING RESISTANCE (Min)	m ² ·K/W	0.00017	9E-05 0.00011 Ao based
25	TYPE OF CLEANING MAINTENANCE		<input type="checkbox"/> NONE <input checked="" type="checkbox"/> MECH. <input type="checkbox"/> CHEM.	<input type="checkbox"/> NONE <input checked="" type="checkbox"/> MECH. <input type="checkbox"/> CHEM.
26	HEAT EXCHANGED	kW	1924.5	6.23 °C
27	TRANSFER RATE:	SERVICE: 711.6 DIRTY: 759.3 CLEAN: 964.7		W/m²·K
28	CONSTRUCTION			
29	DESIGN PRESSURE	barg	22	22
30	VACUUM PRESSURE	barg	-1.01	-1.01
31	TEST PRESSURE	barg	28.6	28.6
32	DESIGN TEMPERATURE	°C	120	120
33	MIN. DESIGN METAL TEMPERATURE	°C	-45	-45
34	NUMBER PASSES PER SHELL		1	2
35	CORROSION ALLOWANCE		3	3
36	PARTICULAR SERVICE		-	-
37	PROVIDE X-RAY		FULL	FULL
38	PROVIDE STRESS RELIEVING		<input type="checkbox"/> CHANNEL <input type="checkbox"/> BUNDLE <input type="checkbox"/> SHELL	



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1 CONSTRUCTION OF ONE SHELL					
2	TUBE TYPE : <input checked="" type="checkbox"/> PLAIN <input type="checkbox"/> FINNED	SHELL OD	1186,1712 mm	BAFFLE TYPE	FULL SUPORT
3	TUBE OD: 19.05 mm	SHELL ID	1150,1676 mm	ORIENTATION	
4	TUBE THK (avg): 2.11 mm	IMPINGEMENT PROTECTION	NO	BAFFLE NO.	3 #
5	TUBE LENGTH: 4200 mm	OUTER TUBE LIMIT	1137 mm	BAFFLE THK.	12 mm
6	TUBE NO: 816U #	TUBESHEET THK	103 mm	BAFFLE CUT	%
7	PITCH: 24 mm	TUBE TO TUBESHEET JOINT		C/C SPACING	1400 mm
8	<input type="checkbox"/> 30° <input type="checkbox"/> 60°	<input checked="" type="checkbox"/> WELD <input checked="" type="checkbox"/> EXPAND <input checked="" type="checkbox"/> GROOVES		INLET SPACING	mm
9	<input checked="" type="checkbox"/> 90° <input type="checkbox"/> 45°	TUBE TO TUBESHEET WELD TYPE		CLEARANCE TO SHELL	6.35 mm
10		<input type="checkbox"/> SEAL <input checked="" type="checkbox"/> FULL STRENGTH		CLEARANCE TO TUBE	0.4 mm
11		<input type="checkbox"/> PARTIAL STRENGTH			
12 MATERIALS					
13	TUBES SA-334 GR 6 SEAMLESS	SELL SIDE :		BODY FLANGE :	
14	SHELL SA-516 GR70N	NOZZLES: SA-333 GR6		SHELL: SA-350 LF2	
15	CHANNEL SA-516 GR70N	FLANGES: SA-350 LF2		CHANNEL: SA-350 LF2	
16	SHELL COVER SA-516 GR70N	TUBE SIDE :		BOLTS SA320 L7	
17	TUBE SHEET SA-350 LF2	NOZZLES: SA-333 GR6		NUTS SA 194 Gr. 4	
18	CROSS BAFFLES SA-516 GR70N	FLANGES: SA-350 LF2		GASKET JACKETED METAL	
19	SADDEL/LEG SA-283GR.C				
20 INSULATION AND PAINTING					
21		SHELL SIDE		CHANNEL SIDE	
22	INSULATION (TYPE / THK)	-		-	
23	PAINTING				
24	PRIMER	???		???	
25	MID COATING	???		???	
26	TOP COATING	???		???	
27 MECHANICAL DESIGN DATA					
28	EXPANSION JOINT: <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> BY MFR.	MATERIAL:			
29		SHELL 1	SHELL 2	TUBE SHEET	LIFE CYCLES NO
30	MEAN SHELL METAL TEMPERATURE °C	-24.45	-	-	-
31	MEAN TUBE METAL TEMPERATURE °C	-21.07	-	-	-
32	MINIMUM TUBE METAL TEMPERATURE °C	-21.98	-	-	-
33	MAXIMUM TUBE METAL TEMPERATURE °C	-19.96	-	-	-
34	WEIGHT	EMPTY: 15167 kg		HYDROTEST: 27817 kg	



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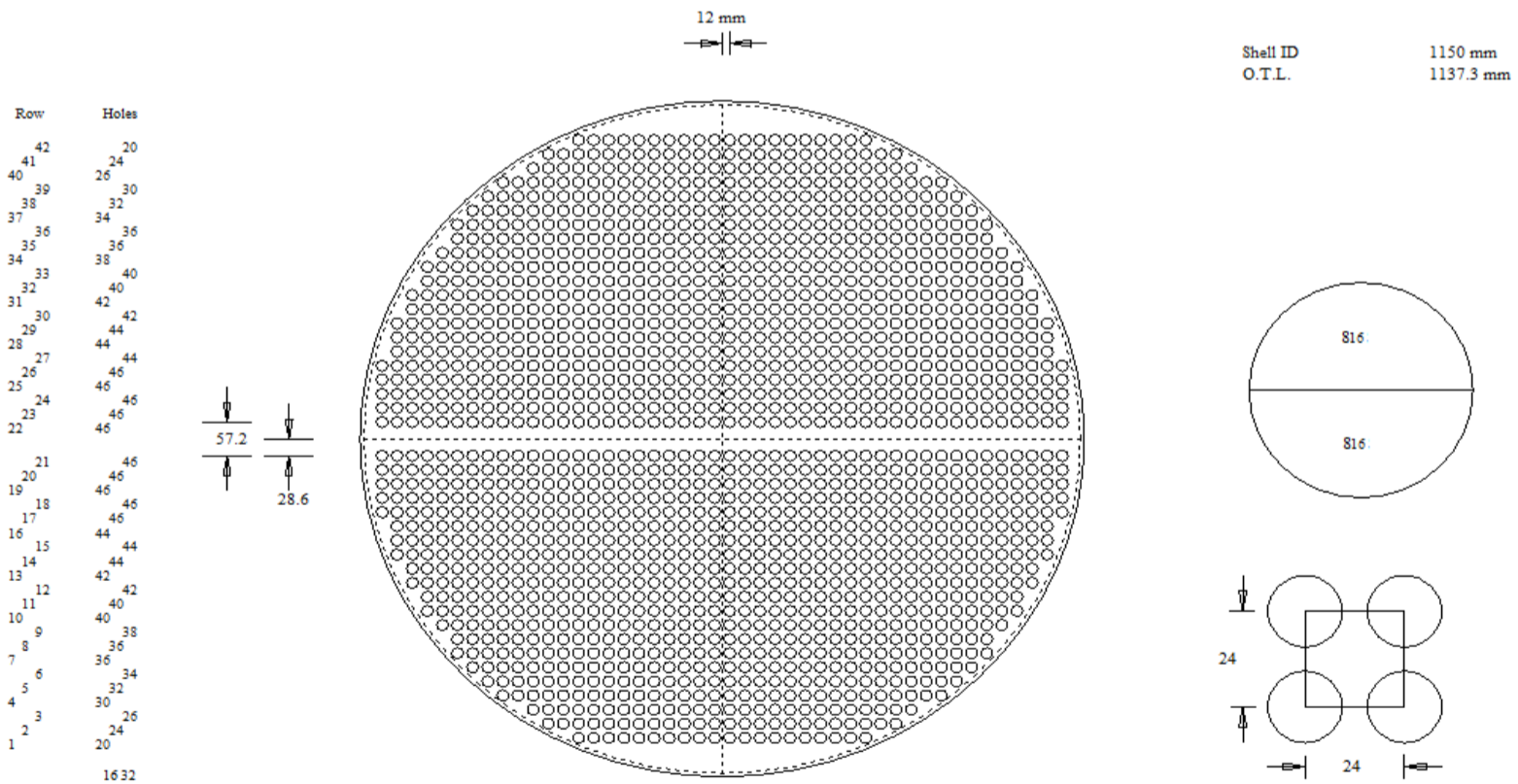
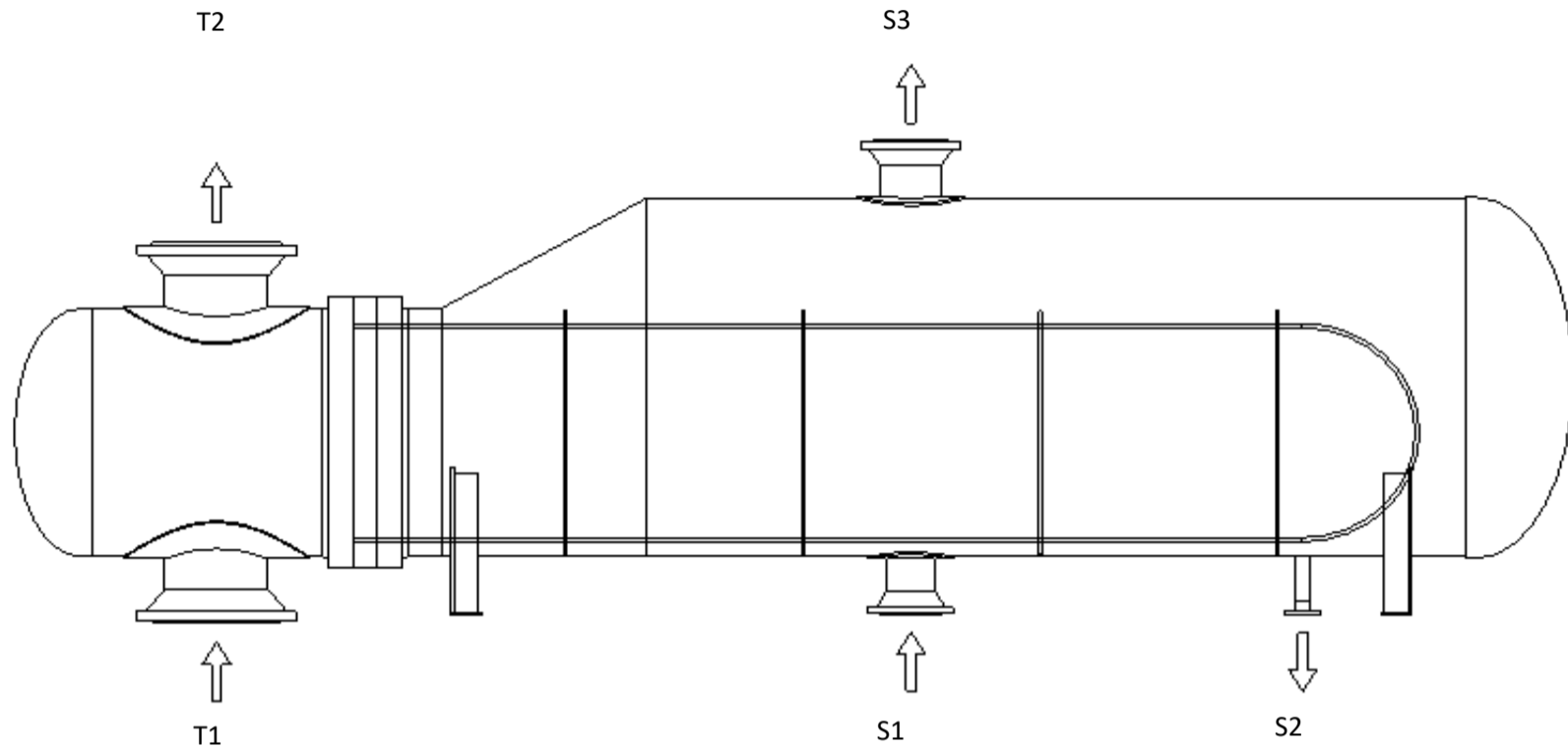
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S3	1	PROPYLENE OUT	10"	300#	RF	200
S2	1	DRAIN	2"	300#	RF	200
S1	1	PROPYLENE IN	8"	300#	RF	200
T2	1	HEX.OUT	18"	300#	RF	200
T1	1	HEX. IN	18"	300#	RF	200
Tag.	No.	Description	Size	Rating	Facing	PROJECTION (mm)