PPI / NARGAN	DEHDASHT PETROCHEMICAL INDUSTRY COMPANY DEHDASHT HIGH DENSITY POLYETHYLENE PROJECT	شرکت صنایع پتروشیمی خلیج فارس Persian Gulf Petrochemical Industries Co PGPIC شرکت صنایع پتروشیمی دهدشت (سهامی عام)	
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	

connction for level transmitter with size of 2" two be considered by vendor .please refer to related P&ID

OK

Evaporator Data Sheet

1- all detail will be given in EVAPORATOR DRAWING DOCUMENT.
2- data corrected

General Notes:
1- please send the sketch with detail such as dimension,... ,
2- Please recheck and revise the value of Evaporator accordance with DPIC98-12-001-600-ME-DS-4150-6101 chiller sector.

General Notes:
1- Please submit the Aspen soft. native files V11 version.
2-Please send the calculation of pressure vessel and supporting with PV-Elite native file.

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)	
X	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: 20.11.2021	Signature: A.AB	

REV	DATE ISSUE	PREPARED	CHECKED	APPROVED
D0	30.Oct.21	A.VOSOUGH	DR.A.NEJATI	DR.A.NEJATI

KASRAVAND Engineering & Construction

Page	Rev-D0	Rev-D1	Rev-D2	Rev-D3	Rev-D4
1	x				
2	x				
3	x				
4	x				
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PPI

NARGAN

will be given in EVAPORATOR DRAWING DOCUMENT.

fireproofing requirement will be specified on arrangement drawing.

will be given in EVAPORATOR DRAWING DOCUMENT.

DASHT HIGH DENSITY POLYETHYLENE PROJECT

done

شرکت صنایع پتروشیمی خلیج فارس
Persian Gulf Petrochemical Industries Co
PGPIC
شرکت صنایع پتروشیمی دهدشت (سهامی عام)

Co | OCUMENT TITLE: Evaporator Data Sheet | POI: IFA | Rev.: D0

OCUMENT NUMBER: DPIC9812-000-VD-1002-ME-DS-0(| Sheet 3 of 5

Note:
1- Please specify the thickness of shell.

according to DPIC98-1[illegible]-001-600-ME-DS-4150-6101 Mass flow of HEX in& out shall be 748,000, please revise this item

?

Fluid is flammable and Non-lethal.

?

Fluid is flammable and Non-lethal.

1	SERVICE	HEXANE CHILLER						
2	DIAM. X LENGTH	1150,1676 X 4200 mm	MOUNTIN	HORIZONTAL			BKU	
3	NO. OF UNIT	1	SURFACE PER UNIT	434.4		EL	1	
4	SHELLS PER UNIT	1	-	434.4			1	
5	TEMA CLASS	R	SIGN	10% FLOW		CODE	TEMA. 9TH ED.	
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		IN	OUT	
11	VAPOUR			21188		-	-	
12	LIQUID			8		911350	911350	
13	NON CONDENSABLES	kg/h	-	-		-	-	
14	TEMPERATURE	°C	-23.98	-24.89		-16	-19.99	
15	DENSITY at T and P (Vap./Liq.)	kg/m³	5.81 / 580	5.6 / 580.2		/ 703.25	/ 706.68	
16	VISCOSITY at T and P (Vap./Liq.)	cP	0.007 / 0.1422	0.0073 / 0.1425		/ 0.4872	/ 0.5128	
17	MOLECULAR WEIGHT,Vap		42.08	42.08		-	-	
18	SPECIFIC HEAT (Vap./Liq.)	kJ/kg.C	1.402 / 2.207	1.4 / 2.206		/ 1.906	/ 1.89	
19	THERMAL CONDUCTIVITY (Vap./Liq.)	W/m.K	0.013 / 0.1281	0.0126 / 0.1282		/ 0.131	/ 0.1324	
20	LATENT HEAT	kj/kg	410	411				
21	INLET PRESSURE (abs)	bar	2.660	2.57		6.914	6.56	
22	VELOCITY (Mean/Max)	m/s	1.29 / 2.01			2.55 / 2.55		
23	PRESSURE DROP (Allowable/Calculated)	bar	0.5	0.08722		0.26	0.34954	
24	FOULING RESISTANCE (Min)	m²·K/W	0.00017			9E-05	0.00011	Ao based
25	TYPE OF CLEANING MAINTENANCE		☐ NONE ☑ MECH. ☐ CHEM.			☐ NONE ☑ MECH. ☐ CHEM.		
26	HEAT EXCHANGED	1924.5 kW	MTD (CORRECTED)			6.23	°C	
27	TRANSFER RATE: SERVICE:	711.6	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		☐ CHANNEL	☐ BUNDLE	☐ SHELL			

density is OK.

Average of density is 660 kg/m3

OK

will be finalized after receiving compressor data sheet

no needed

Please check which one shall be done

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CONSTRUCTION OF ONE SHELL

TUBE TYPE :	☑ PLAIN	☐ FINNED	SHELL OD	1186,1712	mm	BAFFLE TYPE	FULL SUPORT	
TUBE OD:	19.05	mm	SHELL ID	1150,1676	mm	ORIENTATION		
TUBE THK (avg):	2.11	mm	IMPINGEMENT PROTECTION	NO		BAFFLE NO.	3	#
TUBE LENGTH:	4200	mm	OUTER TUBE LIMIT	1137	mm	BAFFLE THK.	12	mm
TUBE NO:	816U	#	TUBESHEET THK	103	mm	BAFFLE CUT		%
PITCH:	24	mm	TUBE TO TUBESHEET JOINT			C/C SPACING	1400	mm
☐ 30°	☐ 60°		☑ WELD ☑ EXPAND ☑ GROOVES			INLET SPACING		mm
☑ 90°	☐ 45°		TUBE TO TUBESHEET WELD TYPE			CLEARANCE TO SHELL	6.35	mm
			☐ SEAL ☑ FULL STRENGTH			CLEARANCE TO TUBE	0.4	mm
			☐ PARTIAL STRENGTH					

MATERIALS

TUBES	SA-334 GR 6 SEAMLESS	SELL SIDE :			BODY FLANGE :	
SHELL	SA-516 GR70N		NOZZLES:	SA-333 GR6	SHELL:	SA-350 LF2
CHANNEL	SA-516 GR70N		FLANGES:	SA-350 LF2	CHANNEL:	SA-350 LF2
SHELL COVER	SA-516 GR70N	TUBE SIDE :			BOLTS	SA320 L7
TUBE SHEET	SA-350 LF2		NOZZLES:	SA-333 GR6	NUTS	SA 194 Gr. 4
CROSS BAFFLES	SA-516 GR70N		FLANGES:	SA-350 LF2	GASKET	JACKETED METAL
SADDEL/LEG	SA-283GR.C					

done

please specify

INSULATION AND PAINTING

	SHELL SIDE	CHANNEL SIDE
INSULATION (TYPE / THK)	-	-
PAINTING		
PRIMER	???	???
MID COATING	???	???
TOP COATING	???	???

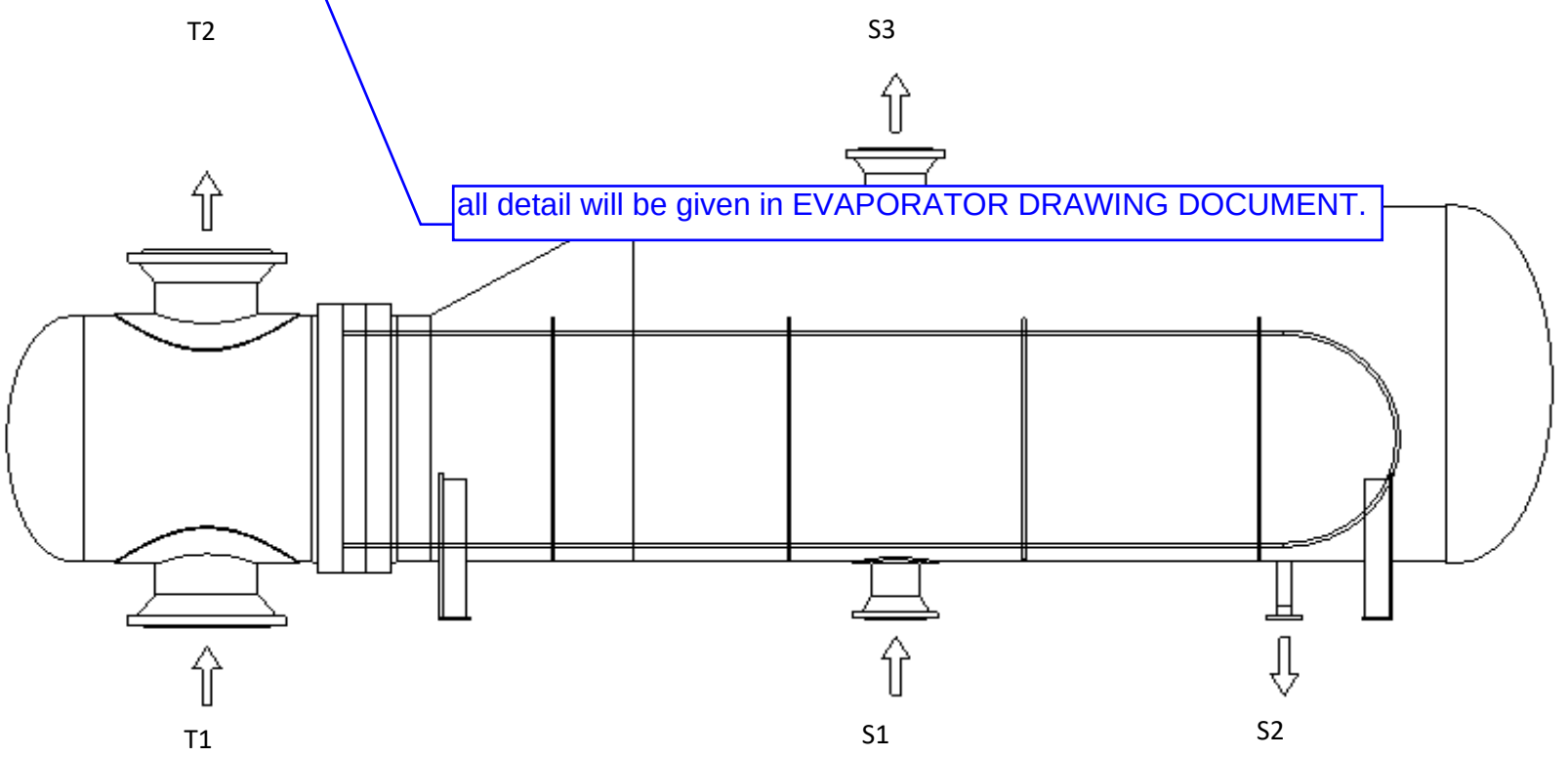
MECHANICAL DESIGN DATA

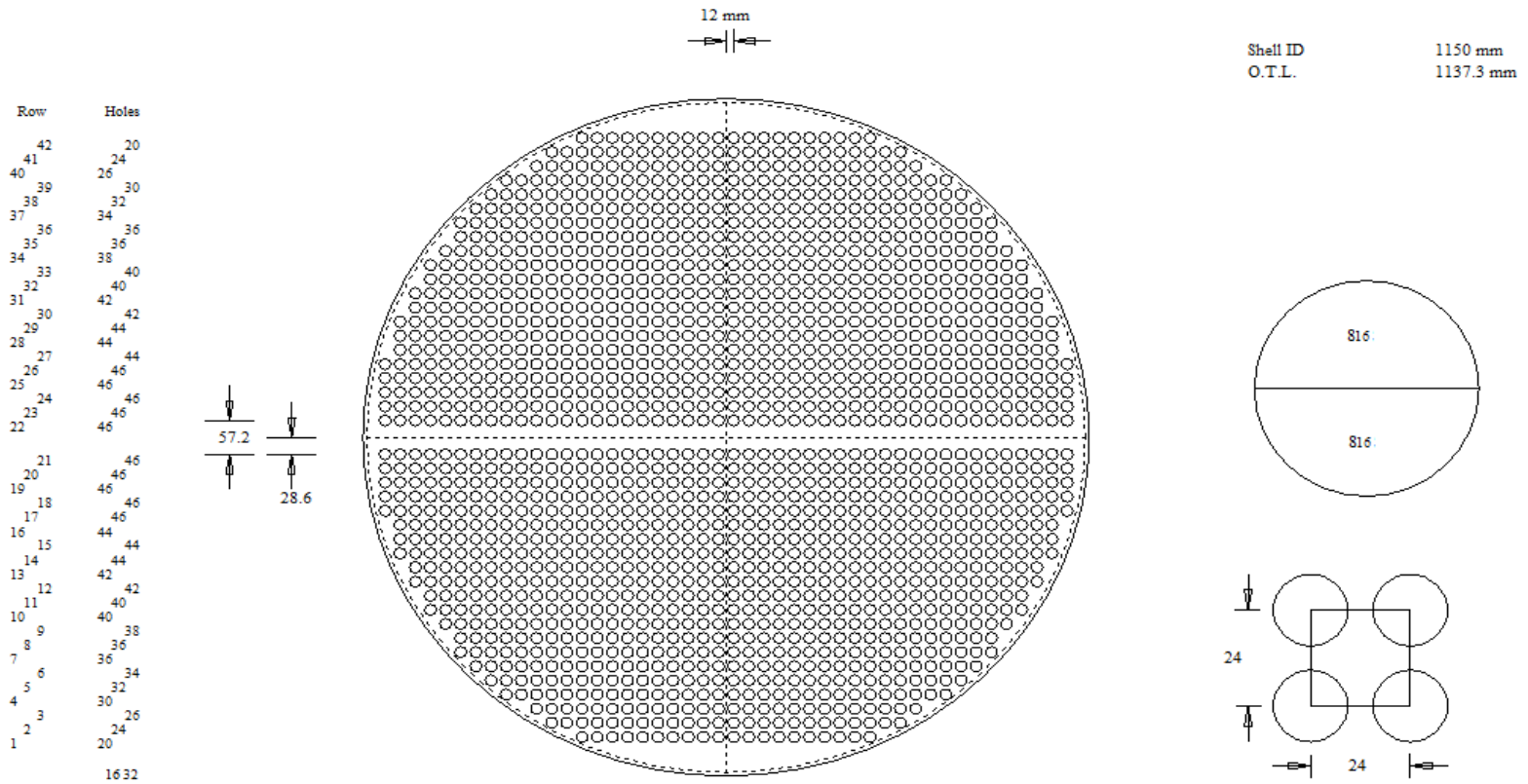
EXPANSION JOINT: ☐ YES ☑ NO ☐ BY MFR. MATERIAL:

		SHELL 1	SHELL 2	TUBE SHEET	LIFE CYCLES NO
MEAN SHELL METAL TEMPERATURE	°C	-24.45	-	-	-
MEAN TUBE METAL TEMPERATURE	°C	-21.07	-	-	-
MINIMUM TUBE METAL TEMPERATURE	°C	-21.98	-	-	-
MAXIMUM TUBE METAL TEMPERATURE	°C	-19.96	-	-	-

WEIGHT — EMPTY: 15167 kg — HYDROTEST: 27817 kg

Notes:
1- Please redesign and modify sketch accordance with attachment #1,2,4.
2- Please specify type of flange.
3- Please specify supporting specification.
4- Please send its DWG. file.
5- Please send the transparency sketch.





Tag.	No.	Description	Size	Rating	Facing	PROJECTION (mm)
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