



DEHDASHT PETROCHEMICAL INDUSTRY COMPANY
DEHDASHT HIGH DENSITY POLYETHYLENE PROJECT



DOCUMENT TITLE: Condenser Data Sheet

POI: IFA

Rev.: D0

Contract No.: DPIC/98-12

DOCUMENT NUMBER: DPIC9812-000-VD-1002-ME-DS-0075

Sheet 1 of 5

Condenser 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-0075-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	CONDENSER				ITEM	E-PK1601-2				
2	DIAM. X LENGTH	1180	X	6000	mm	MOUNTIN	HORIZONTAL				
3	NO. OF UNIT	1				SURFACE PER UNIT	656.2	m ²	IN PARALLEL	1	
4	SHELLS PER UNIT	1				SURFACE PER SHELL	656.2	m ²	IN SERIES	1	
5	TEMA CLASS	R				REQUIRED OVERDESIGN	10% FLOW		CODE	TEMA. 9TH ED.	
6	PERFORMANCE										
7		SHELL SIDE					TUBE SIDE				
8	FLUID CIRCULATED	PROPYLENE					COOLING WATER				
9	FLUID QUANTITY, TOTAL	27626 x 1.1					230911 x 1.1				
10		IN		OUT			IN		OUT		
11	VAPOUR	30385		-			-		-		
12	LIQUID	-		30385			254002		254002		
13	NON CONDENSABLES	-		-			-		-		
14	TEMPERATURE	80.3		48.33			35		45		
15	DENSITY at T and P (Vap./Liq.)	35.84	/	/ 462.02			/	994.45	/	990.56	
16	VISCOSITY at T and P (Vap./Liq.)	0.011	/	/ 0.06			/	0.719	/	0.5964	
17	MOLECULAR WEIGHT										
18	SPECIFIC HEAT (Vap./Liq.)	2.025	/	/ 3.321			/	4.171	/	4.172	
19	THERMAL CONDUCTIVITY (Vap./Liq.)	0.024	/	/ 0.0898			/	0.6231	/	0.6371	
20	LATENT HEAT	282.4		282.7							
21	INLET PRESSURE (abs)	19.937		19.90			5.5		5.31		
22	VELOCITY (Mean/Max)	0.66	/	1.46			0.88	/	0.88		
23	PRESSURE DROP (Allowable/Calculated)	0.1		0.03482			0.5		0.1906		
24	FOULING RESISTANCE (Min)	0.0002					0.0004	0.00051	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	2941.9		kW			MTD (CORRECTED)		8.49 °C		
27	TRANSFER RATE:	SERVICE:	527.7		DIRTY:	572.1		CLEAN:	966.9		W/m ² ·K
28	CONSTRUCTION										
29	DESIGN PRESSURE	23					23				
30	VACUUM PRESSURE	-1.01					-1.01				
31	TEST PRESSURE	43.46					29.9				
32	DESIGN TEMPERATURE	120					80				
33	MIN. DESIGN METAL TEMPERATURE	-45					-45				
34	NUMBER PASSES PER SHELL	1					4				
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	1210	mm	BAFFLE TYPE	SINGLE SEG.
3	TUBE OD: 19.05 mm	SHELL ID	1180	mm	ORIENTATION	VERTICAL
4	TUBE THK (avg): 2.11 mm	IMPINGEMENT PROTECTION	YES		BAFFLE NO.	25 #
5	TUBE LENGTH: 6000 mm	OUTER TUBE LIMIT	1167	mm	BAFFLE THK.	8 mm
6	TUBE NO: 1876 #	TUBESHEET THK	65	mm	BAFFLE CUT	35 %
7	PITCH: 24 mm	TUBE TO TUBESHEET JOINT			C/C SPACING	210 mm
8	<input type="checkbox"/> 30° <input checked="" type="checkbox"/> 60°	<input checked="" type="checkbox"/> WELD <input checked="" type="checkbox"/> EXPAND <input checked="" type="checkbox"/> GROOVES			INLET SPACING	400 mm
9	<input 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	0.79 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 GR70	FLANGES: SA-350 LF2			CHANNEL: SA-266	
16	SHELL COVER SA-516 GR70	TUBE SIDE :			BOLTS SA193 B7	
17	TUBE SHEET SA-350 LF2	NOZZLES: SA-106 GR.B			NUTS SA 194 2H	
18	CROSS BAFFLES SA-516 GR70N	FLANGES: SA-105			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	50.21	-	-	-	
31	MEAN TUBE METAL TEMPERATURE °C	44.9	-	-	-	
32	MINIMUM TUBE METAL TEMPERATURE °C	41.33	-	-	-	
33	MAXIMUM TUBE METAL TEMPERATURE °C	52.41	-	-	-	
34	WEIGHT	EMPTY: 16540 kg		HYDROTEST: 23326 kg		



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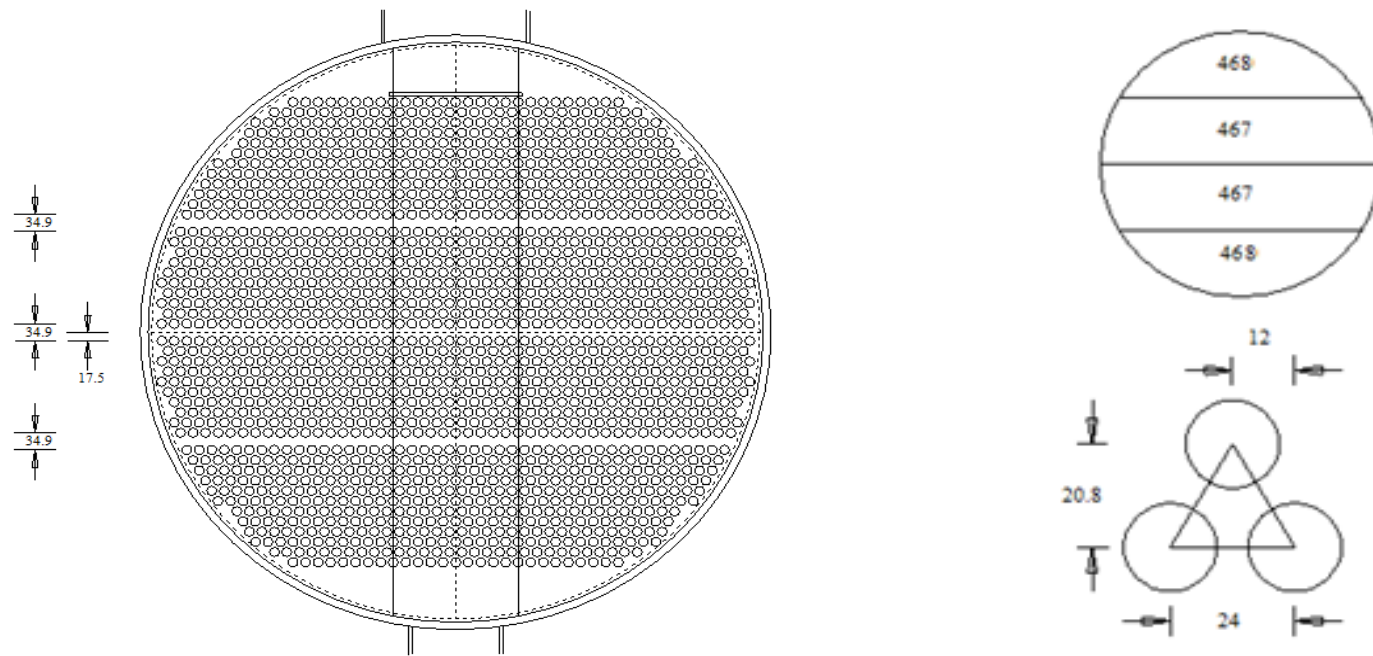
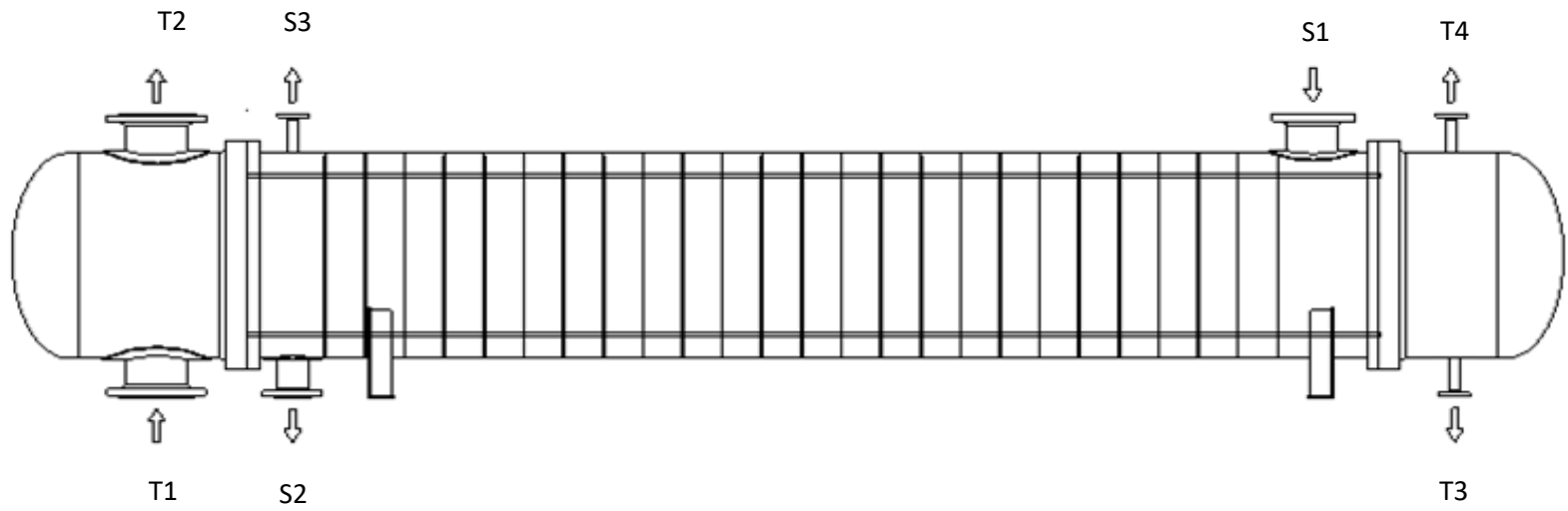
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S3	1	VENT	2"	300#	RF	200
S2	1	PROPYLENE OUTLET	6"	300#	RF	200
S1	1	PROPYLENE INLET	10"	300#	RF	200
T4	1	VENT	3/4"	300#	RF	200
T3	1	DRAIN	1"	300#	RF	200
T2	1	COOLING WATER OUT	12"	300#	RF	200
T1	1	COOLING WATER IN	12"	300#	RF	200
Tag.	No.	Description	Size	Rating	Facing	PROJECTION (mm)