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	<b>DEHDASHT PETROCHEMICAL INDUSTRY COMPANY</b> <b>DEHDASHT HIGH DENSITY POLYETHYLENE PROJECT</b>	
	DOCUMENT TITLE: Economizer Data Sheet	POI: IFA
Contract No.: DPIC/98-12	DOCUMENT NUMBER: DPIC9812-000-VD-1002-ME-DS-0076	Rev. No.: D2

**DOCUMENT TITLE:**

**Economizer Data Sheet  
(E-PK6101-3)**

<b>PURCHASER'S COMMENT/APPROVAL STATUS</b>					Purchaser: NARGAN
1	AP: Approved (Released for Manufacturing)				Requisition No.: DPIC98-12-001-000-ME-MR-4150-0001-D2
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-0076-D1
Date:		Signature:			
					
D2	22.Jan.22	A.VOSOUGH	DR.A.NEJATI	DR.A.NEJATI	
D1	25.Dec.21	A.VOSOUGH	DR.A.NEJATI	DR.A.NEJATI	
D0	30.Oct.21	A.VOSOUGH	DR.A.NEJATI	DR.A.NEJATI	
<b>REV</b>	<b>DATE ISSUE</b>	<b>PREPARED</b>	<b>CHECKED</b>	<b>APPROVED</b>	



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Page	Rev-D0	Rev-D1	Rev-D2	Rev-D3	Rev-D4
1	x	x	x		
2	x	x	x		
3	x	x	x		
4	x	x	x		
5	x	x			
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Page	Rev-D0	Rev-D1	Rev-D2	Rev-D3	Rev-D4
36					
37					
38					
39					
40					
41					
42					
43					
44					
45					
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1	SERVICE	<b>ECONOMIZER</b>			ITEM	<b>E-PK6101-3</b>			
2	DIAM. X LENGTH	<b>581</b>	X	<b>6000</b> mm	MOUNTIN	<b>HORIZONTAL</b>			
3	NO. OF UNIT	<b>1</b>			SURFACE PER UNIT	<b>113.94</b>	m <sup>2</sup>	IN PARALLEL	<b>1</b>
4	SHELLS PER UNIT	<b>1</b>			SURFACE PER SHELL	<b>113.94</b>	m <sup>2</sup>	IN SERIES	<b>1</b>
5	TEMA CLASS	<b>R</b>			REQUIRED OVERDESIGN	CODE			<b>TEMA. 9TH ED.</b>
6	<b>PERFORMANCE</b>								
7		SHELL SIDE				TUBE SIDE			
8	FLUID CIRCULATED	<b>PROPYLENE</b>				<b>PROPYLENE</b>			
9	FLUID QUANTITY, TOTAL	kg/h				<b>19500.0</b>		<b>7002.55</b>	
10		IN		OUT		IN		OUT	
11	VAPOUR	kg/h		-		<b>2030.74</b>		<b>7002.55</b>	
12	LIQUID	kg/h		<b>19500</b>		<b>19500</b>		<b>4971.81</b>	
13	NON CONDENSABLES	kg/h		-		-		-	
14	TEMPERATURE	°C		<b>48.4</b>		<b>16</b>		<b>12.37</b>	
15	DENSITY at T and P (Vap./Liq.)	kg/m <sup>3</sup>		<b>461.73</b>		<b>520.93</b>		<b>17.36 / 526.76</b>	
16	VISCOSITY at T and P (Vap./Liq.)	cP		<b>0.0599</b>		<b>0.894</b>		<b>0.0087 / 0.0933</b>	
17	MOLECULAR WEIGHT, Vap								
18	SPECIFIC HEAT (Vap./Liq.)	kJ/kg.K		<b>3.3267</b>		<b>2.5839</b>		<b>1.65 / 2.578</b>	
19	THERMAL CONDUCTIVITY (Vap./Liq.)	W/m.K		<b>0.0898</b>		<b>0.1061</b>		<b>0.0162 / 0.1081</b>	
20									
21	INLET PRESSURE (abs)	bar		<b>19.900</b>		<b>8.3</b>			
22	VELOCITY (Mean/Max)	m/s		/		<b>0.21</b>		/ <b>3.39</b>	
23	PRESSURE DROP (Allowable/Calculated)	bar		<b>0.2</b>		<b>0.019</b>		<b>0.1</b>	
24	FOULING RESISTANCE (Min)	m <sup>2</sup> -KW		<b>0.00017</b>		<b>0.00017</b>			
25	TYPE OF CLEANING MAINTENANCE			<input checked="" type="checkbox"/> NONE <input type="checkbox"/> MECH <input type="checkbox"/> CHEM.		<input checked="" type="checkbox"/> NONE <input type="checkbox"/> MECH <input type="checkbox"/> CHEM.			
26	HEAT EXCHANGED	kW		<b>506</b>		MTD (CORRECTED)		<b>14.1</b> °C	
27	TRANSFER RATE:	SERVICE:	<b>314.5</b>	CALCULATED:	<b>347.86</b>	CLEAN:	<b>402.08</b>	W/m <sup>2</sup> -K	
28	<b>CONSTRUCTION</b>								
29	DESIGN PRESSURE	barg		<b>23</b>		<b>23</b>			
30	VACUUM PRESSURE	barg				<b>-1.01</b>			
31	TEST PRESSURE	barg		<b>29.9</b>		<b>29.9</b>			
32	DESIGN TEMPERATURE	°C		<b>135</b>		<b>135</b>			
33	MIN. DESIGN METAL TEMPERATURE	°C		<b>-45</b>		<b>-45</b>			
34	NUMBER PASSES PER SHELL			<b>1</b>		<b>3</b>			
35	CORROSION ALLOWANCE			<b>3</b>		<b>3</b>			
36	PARTICULAR SERVICE			<b>-</b>		<b>-</b>			
37	PROVIDE X-RAY			<b>FULL</b>		<b>FULL</b>			
38	PROVIDE STRESS RELIEVING			<input type="checkbox"/> CHANNEL <input type="checkbox"/> BUNDLE <input type="checkbox"/> SHELL					

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1	<b>CONSTRUCTION OF ONE SHELL</b>				
2	TUBE TYPE : <input checked="" type="checkbox"/> PLAIN <input type="checkbox"/> FINNED	SHELL OD	<b>601</b>	mm	BAFFLE TYPE <b>Single segmental</b>
3	TUBE OD: <b>25.4</b> mm	SHELL ID	<b>581</b>	mm	ORIENTATION <b>Horizontal</b>
4	TUBE THK (avg): <b>2.77</b> mm	IMPINGEMENT PROTECTION	<b>NO</b>		BAFFLE NO. <b>18</b> #
5	TUBE LENGTH: <b>6000</b> mm	OUTER TUBE LIMIT	<b>566.949</b>	mm	BAFFLE THK. <b>8</b> mm
6	TUBE NO: <b>241</b> #	TUBESHEET THK	<b>62</b>	mm	BAFFLE CUT <b>28.5</b> %
7	PITCH: <b>32</b> mm	TUBE TO TUBESHEET JOINT			C/C SPACING <b>300</b> mm
8	<input checked="" type="checkbox"/> 30° <input type="checkbox"/> 60°	<input checked="" type="checkbox"/> WELD <input checked="" type="checkbox"/> EXPAND <input checked="" type="checkbox"/> GROOVES			INLET SPACING <b>350</b> mm
9	<input type="checkbox"/> 90° <input type="checkbox"/> 45°	TUBE TO TUBESHEET WELD TYPE			CLEARANCE TO SHELL <b>4.76</b> mm
10		<input type="checkbox"/> SEAL <input checked="" type="checkbox"/> FULL STRENGTH			CLEARANCE TO TUBE <b>0.79</b> mm
11		<input type="checkbox"/> PARTIAL STRENGTH			
12	<b>MATERIALS</b>				
13	TUBES <b>SA-334 GR 6 SEAMLESS</b>	SELL SIDE :			BODY FLANGE :
14	SHELL <b>SA-516 GR70N</b>	NOZZLES: <b>SA-333 GR6</b>			SHELL: <b>SA-350 LF2</b>
15	CHANNEL <b>SA-516 GR70N</b>	FLANGES: <b>SA-350 LF2</b>			CHANNEL: <b>SA-350 LF2</b>
16	SHELL COVER <b>SA-516 GR70N</b>	TUBE SIDE :			BOLTS <b>SA320 L7</b>
17	TUBE SHEET <b>SA-350 LF2</b>	NOZZLES: <b>SA-333 GR6</b>			NUTS <b>SA 194 Gr. 4</b>
18	CROSS BAFFLES <b>SA-516 GR70N</b>	FLANGES: <b>SA-350 LF2</b>			GASKET <b>JACKETED METAL</b>
19	SADDEL/LEG <b>SA-283GR.C</b>				
20	<b>INSULATION AND PAINTING</b>				
21		SHELL SIDE			CHANNEL SIDE
22	INSULATION (TYPE / THK)	<b>COLD/100 mm</b>			-
23	PAINTING				
24	PRIMER	<b>ZINCETHYL SILICATE (1X70µm)</b>			
25	MID COATING				
26	TOP COATING				
27	<b>MECHANICAL DESIGN DATA</b>				
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	<b>28.02</b>	-	-	-
31	MEAN TUBE METAL TEMPERATURE °C	<b>21.71</b>	-	-	-
32	MINIMUM TUBE METAL TEMPERATURE °C	<b>20.44</b>	-	-	-
33	MAXIMUM TUBE METAL TEMPERATURE °C	<b>22.98</b>	-	-	-
34	WEIGHT	EMPTY: <b>4058</b> kg		HYDROTEST: <b>5602</b> kg	



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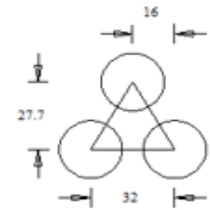
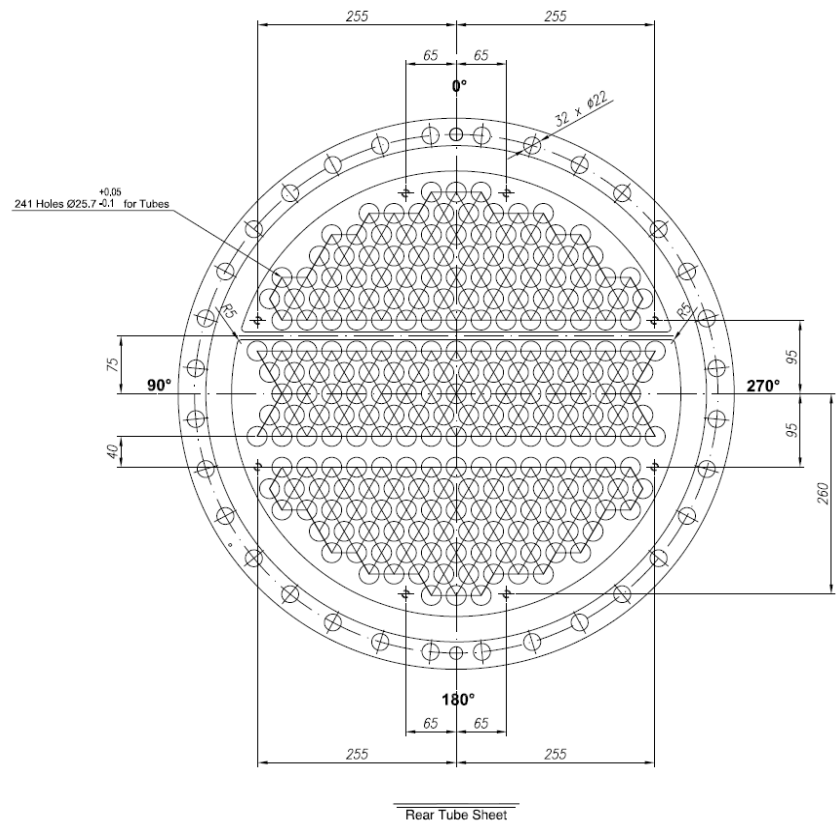
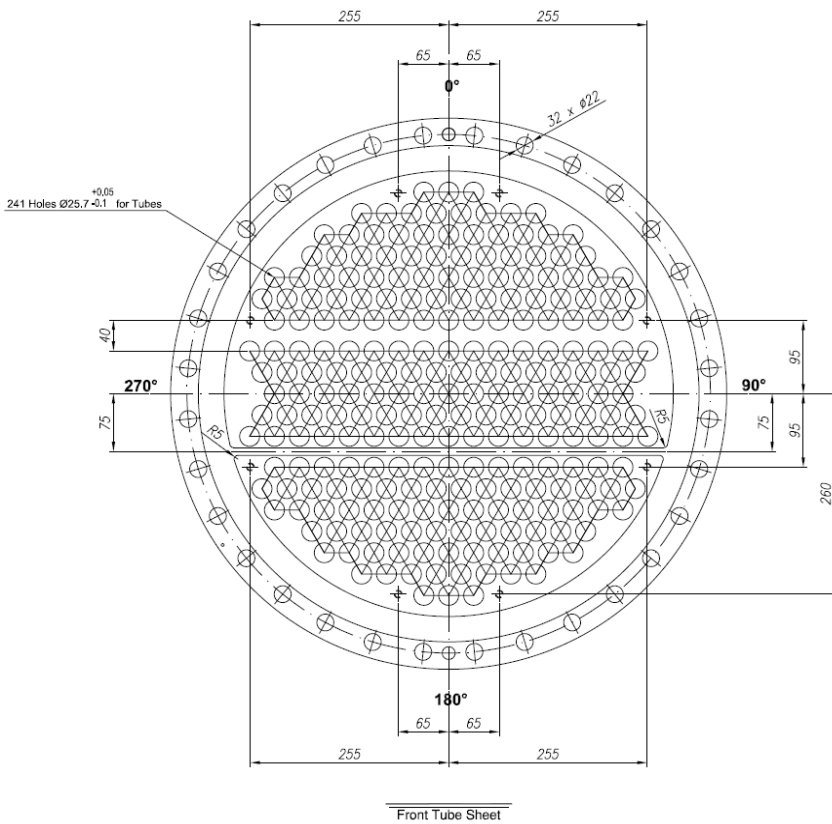
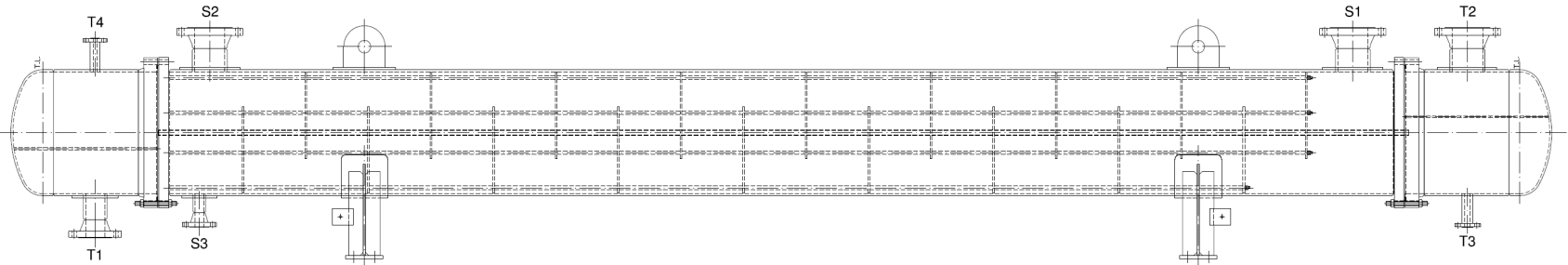
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T3	1	DRAIN	1"	300#	RF	200
T4	1	VENT	3/4"	300#	RF	200
S3	1	DRAIN	2"	300#	RF	200
S2	1	PROPYLENE OUTLET	6"	300#	RF	200
S1	1	PROPYLENE INLET	6"	300#	RF	200
T2	1	PROPYLENE OUTLET	6"	300#	RF	200
T1	1	PROPYLENE INLET	4"	300#	RF	200
Tag.	No.	Description	Size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