

DATA SHEET OF HEAT EXCHANGER

PROJECT		BPCP		Item No	117-EE-461
JOB NO.		6907		Unit	LLDPE
CLIENT		BCPL		Service	Suction of Compressor
LOCATION		Lepetkata, Assam, India		Quantity	1 No.

1	Type	BEM Horizontal		
2	Arrangement:	Fixed Tube sheet		
3	Shell/Units	1		
4	Ambient Temperature	°C	(+1 to (+) 39.8	
5	Relative humidity	%	49 to 93	
6		Shell side	Tube side	
6.01	Fluid	Water	Nitrogen	
6.02	Flow rate	kg/h	17117.2	5450
6.03	Operating temperature			Rev 1
	Inlet (normal)	°C	33	90
	Outlet(max)	°C	37	40
6.04	Operating pressure			Rev 1
	Inlet (min/normal)	kg/cm ² g	4.00	0.082 (0.080 barg)
	Outlet (min/normal)	kg/cm ² g	3.00	0.045 (0.044 barg)
6.05	Delta P max / actual	kg/cm ²	1.0/0.045	0.04/0.037
6.06	Mechanical Design/Test pr.	kg/cm ² g	7.5 / 9.75	4.4 & FV / 5.72
6.07	Mechanical Design Temp.	°C	65	125
6.08	No. of passes		1	1
6.09	Fouling factor	m ² h°C/kcal	0.0004	0.0001
6.1	Velocity	m/sec	0.30	30.62
6.11	Density	kg/m ³	995.3/994.0	Density=1.25 @ Temp 0degC, Press 1.01kg/cm2
6.12	Viscosity	cp	0.7488/0.6914	0.0205/0.0184
6.13	Specific heat	kcal/°C kg	0.9986/0.9985	0.2515/0.2504
6.14	Thermal conductivity	Kcal/mh°C	0.5328/0.5375	0.0251/0.0222
6.15	Corrosion allowance	mm	3	3
7	Heat exchanged	kcal/h	68324.7	
8	LMTD(Corrected)	°C	22.8	Rev 1
9	Transfer rate	kcal/m ² h°C	74.31	Rev 1
10	Calculated surface/Unit	m ²	37.62	Rev 1
10a	Actual selected surface area	m ²	40.384	Rev 1

REVIEW CODE 1 2 3

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Signature & Name

हस्ताक्षर एवं नाम

Date/ दिनांक 26/10/20

V. P. No.

वी.पी.नं. 6907/

1	Revised as marked	KT	Dr.Norbert Ohl	KT	12-10-10	Doc. Ref. OSI201002.0.305.0112.4 (Sheet1 of 3)
0	Issued for approval	KT	Dr.Norbert Ohl	KT	07-01-10	
REV	Description	Prepared by	Checked by	Issued by	Issue Date	

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CONSTRUCTION OF SHELL				
11	Tubes			
	MOC		SA 179 (Carbon steel)	
	Quantity	no.	358	
	OD/ID	mm	15.875/12.573	
	Length	mm	2300	Rev 1
	Pitch/Type	mm	20.637/Triangular	
12	Shell			
	MOC		SA 516 Gr 70	
	OD/ID	mm	457/441	Rev 1
	Expansion joint		NO	
13	Bonnet Cover		SA 516 Gr 70	
14	Floating head cover		NA	
15	Channel Cover		SA 516 Gr 70	
16	Tube sheet		SA 516 Gr 70	
17	Insulation shell / tubes		Insulation in EIL/Client Scope. Insulation cleat to be provided by Coperion (Considering insulation thickness as 25 mm)	
18	Cross baffles			
	MOC		SA 516 Gr 70	
	Type		SINGLE SEG.	
	% Cut		45	Rev 1
19	Longitudinal baffles			
	Type		--	
	Support plates		--	
20	Tube wall temp at clean / dirty Conditions		--	
21	Tube sheet joint		Strength welded	
22	Gaskets (MOC)		PTFE	
23	Weight			
	Empty	kg	1351	Rev 1
	Tube bundle	kg	544	Rev 1
	Operating	kg	1890	Rev 1
24	Overall Dimension	mm	457 OD X 3306	Rev 1
25	Code requirement		ASME Sec VIII Div 1/ TEMA C	

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27 Nozzle Schedule						
Item	Service	Flange Matl.	Pipe Matl.	Nominal Size	Rating	Flange Type and Finish
N1	Water Supply	SA-105	SA 106 GR. B	2" NB	150#	SORF, 125, AARH
N2	Water Return	SA-105	SA 106 GR. B	2" NB	150#	SORF, 125, AARH
N3	Gas Inlet	SA-105	SA 106 GR. B	12" NB	150#	SORF, 125, AARH
N4	Gas outlet	SA-105	SA 106 GR. B	12" NB	150#	SORF, 125, AARH
N5	Shell drain	-	SA 105	3/4" NPT	3000#	SOCKET WITH PLUG
N6	Shell vent	-	SA 105	3/4" NPT	3000#	SOCKET WITH PLUG
N7	Tube drain	-	SA 105	3/4" NPT	3000#	SOCKET WITH PLUG
N8	Tube vent	-	SA 105	3/4" NPT	3000#	SOCKET WITH PLUG

Notes:

1 All flanges drilled to ANSI B16.5, 150#

NOZZLE N1: 3" NB (CW SUPPLY)
NOZZLE N2: 3" NB (CW RETURN)
(PLEASE REFER ATTACHED DWG.)

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