

CLIENT : GASSNOVA

PROJECT TITLE : CO2 KARSTO

JOB NUMBER : 25474

M.R. NUMBER : \_\_\_\_\_

EQUIPMENT NUMBER : ME-101 / ME-104

EQUIPMENT TITLE : WASH WATER COOLERS (ABSORBER 1 & 2)


CRITICALITY RATING : \_\_\_\_\_

PROCESS DATASHEET No : \_\_\_\_\_  
(REV / DATE / DESCRIPTION)

**COMMENTS:**

- A. Vendor to add all missing data.
- B. 2x100% exchangers to be provided, each capable of achieving the duty as specified. Alternative arrangements of 4x50% exchangers or 6x33% exchangers will be considered.
- C. Data in this datasheet is for 1x100% exchanger.
- D. Winter Case is determining case for exchanger design
- E. Standard non-welded plate and frame exchangers are acceptable.

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1	14 Nov 08	ISSUED FOR INFORMATION INCLUDING COMMENTS	JS	MJC	DM	ADB	BR	1
0	08-Oct-08	ISSUED FOR INFORMATION	JS	MJC	DM	ADB	BR	
REV	DATE	DESCRIPTION	Orig.	Chkd	LE	Chief	PEM	
		HEAT EXCHANGER (PLATE) DATA SHEET	Job No		25474			
			Process		Datashet No.			REV
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 2 Applicable To:  Proposal  Purchase  As Built  ASME  API  Other \_\_\_\_\_  
 3 Manufacturer \_\_\_\_\_ Model \_\_\_\_\_ Serial No. \_\_\_\_\_  
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6 **GENERAL DATA**

7 Case			Normal		Normal		Winter		Winter	
			WASH WATER		SEA WATER		WASH WATER		SEA WATER	
			IN	OUT	IN	OUT	IN	OUT	IN	OUT
8 Stream Name										
9 Fluid Quantity										
10 Vapour	kg/h									
11 Liquid	kg/h	1.361E+06	1.361E+06			1.542E+06	1.542E+06			
12 Steam	kg/h	-	-	-	-	-	-	-	-	-
13 Water	kg/h	-	-	-	-	-	-	-	-	-
14 Non-Condensable	kg/h	-	-	-	-	-	-	-	-	-
15 Temperature	°C	53.74	20.00	11.00	21.00	52.52	20.00	11.00	21.00	
16 Vapour										
17 Density	kg/m³	-	-	-	-	-	-	-	-	-
18 Viscosity	Pa.s	-	-	-	-	-	-	-	-	-
19 Thermal Conductivity	W/(m-K)	-	-	-	-	-	-	-	-	-
20 Specific Heat	kJ/(kg-K)	-	-	-	-	-	-	-	-	-
21 Molecular Weight		-	-	-	-	-	-	-	-	-
22 Liquid										
23 Density	kg/m³	987.37	999.84	1027	1024	987.83	999.71	1027	1024	
24 Viscosity	Pa.s	0.000518	0.001051	0.001480	0.001080	0.000528	0.001051	0.001480	0.001080	
25 Thermal Conductivity	W/(m-K)	0.629	0.588	0.580	0.596	0.628	0.589	0.580	0.596	
26 Specific Heat	kJ/(kg-K)	4.218	4.042	3.989	3.993	4.214	4.045	3.989	3.993	
27 Inlet Pressure	kPag	348	248	670	570	348	248	670	570	
28 Velocity	m/s									
29 Latent Heat	kJ/kg									
30 Pressure Drop Allow.	kPa	100		100		100		100		
31 Pressure Drop Calc.	kPa									
32 Fouling Factor	m²·°C/W	(NOTE 1)		(NOTE 1)		(NOTE 1)		(NOTE 1)		
33 Number of Passes										
34 Heat Exchanged	kW	52698		52698		57558		57558		
35 MTD	°C									
36 Transfer Rate Clean	kW/(m²-K)									
37 Transfer Rate Service	kW/(m²-K)									

39 **CONSTRUCTION**

40 Number of Cores per Unit									
41 Core Width	mm								
42 Core height	mm								
43 Core Length	mm								
44 Parting Sheet Thickness	mm								
45 Outside Sheet Thickness	mm								
46 Number of Dummy Layers									
47 Number of Passages									
48 Passage Width ( Effective)	mm								
49 Passage Length ( Effective)	mm								
50 Fin Type									
51 Fin Height x Thickness	mm								
52 Number of Fins per Inch									
53 Surface Area ( Effective)	m²								
54 Distributor									
55 Nozzles.									
56 Rating									
57 Size	mm								
58 Number									
59 Design Pressure	kPag	911		850		911		850	
60 Test Pressure	°C								
61 Design Temperature Max	°C	80		80		80		80	
62 Design Temperature Min	°C	-17		-17		-17		-17	
63 Design Code									
64 Manufacturing Standards									
65 Weights Operating	N								
66 Full of water	N								



HEAT EXCHANGER (PLATE) DATA SHEET

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**COLD BOX**

3 Stream Number	1	2	3	4
4 Stream Name	WASH WATER	SEA WATER		
5 Dimensions				
6 Width	mm			
7 Depth	mm			
8 Height	mm			
9 Material - (Note 2)	TITANIUM	TITANIUM		
10 Structural Design Code				
11 Wind Load Design Code				
12 Seismic Zone				
13 Insulation Filling				

**DESIGN DATA**

	Temperature °C	Pressure kPaa	Enthalpy kJ/kg	Vapour Fraction Mol %	Vapour Fraction Weight %	Heat Duty kW
1	53.74	448.09		0.00	0.00	0.00
2	45.43	448.09		0.00	0.00	-13175.00
3	37.05	448.09		0.00	0.00	-26349.00
4	28.57	448.09		0.00	0.00	-39516.00
5	20.00	448.09		0.00	0.00	-52698.00
6						

HEAT RELEASE CURVE - STREAM 1

	Temperature °C	Pressure kPaa	Enthalpy kJ/kg	Vapour Fraction Mol %	Vapour Fraction Weight %	Heat Duty kW
1						
2						
3						
4						
5						
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HEAT RELEASE CURVE - STREAM 2

	Temperature °C	Pressure kPaa	Enthalpy kJ/kg	Vapour Fraction Mol %	Vapour Fraction Weight %	Heat Duty kW
1						
2						
3						
4						
5						
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HEAT RELEASE CURVE - STREAM 3

	Temperature °C	Pressure kPaa	Enthalpy kJ/kg	Vapour Fraction Mol %	Vapour Fraction Weight %	Heat Duty kW
1						
2						
3						
4						
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HEAT RELEASE CURVE - STREAM 4

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1 NOTES:

- 2
- 3 1. Vendor to advise margin to account for fouling in amine and wash water service (minimum 10%).
- 4 2. Vendor to confirm material selection based on own product experience in amine and wash water service.
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\* H&MB 04 OCT NORMAL RECLAIMER ON.



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