DOC NUMBER: **569-DB7A-MEC-725-002**	CLIENT NUMBER: **PRD-MEC-DSH-003**
CLIENT: **TAKEDA**	
PROJECT: **BURITI EPCVM PROJECT**	

DATA SHEET
WATER COLLED CHILLER
PCH-7A-1 / PCH-7A-2

REV	DATE	DESCRIPTION	EXEC	CHECK	APPROV
0	30/JUL/2021	ISSUED FOR CONSTRUCTION	ASO	LFF	RSP
B	27/APR/2021	90% DD ISSUE	ASO	LFF	RSP
A	08/FEB/2021	30% DD ISSUE	ASO	LFF	MAJ

1. REVISION HISTORY

Rev	Reason For Change
A	ORIGINAL ISSUE
B	PAGE 03, line 6: changed capacity from 100 Tons to 150 Tons
	PAGE 03, line 14: changed capacity from 100 Tons to 150 Tons
	PAGE 03, line 17: unit power demand by vendor
	PAGE 03, line 23: changed temperature from 15.0°C to 11.0°C
	PAGE 03, line 25: changed flow rate from 16.4 lps to 21.1 lps
	PAGE 03, line 31: informed number of passes
	PAGE 04, line 06: changed flow rate from 19.7 lps to 29.2 lps
	PAGE 04, line 12: informed number of passes
	PAGE 05, line 13: excluded from the scope chilled and condensation water flow switches and block valve. Changed protocol communication description
	PAGE 05, line 28: adjusted note 6
	PAGE 05, line 30: included note 7
0	ISSUED FOR CONSTRUCTION
	PAGE 03, line 23: changed temperature from 11.0°C to 9.5°C
	PAGE 03, line 25: changed flow rate from 21.1 lps to 29.2 lps
	PAGE 05, line 28: adjusted note 6

NUMBER:	569-DB7A-MEC-725-002	CLIENT NR:	PRD-MEC-DSH-003
TITLE: WATER COOLED CHILLER - PCH-7A-1 / PCH-7A-2		SHEET:	3/5
		REV.:	0

CLIENT:	PA(Takeda / Baxalta	**SERVICE.:**	Process (7A Bld.)
LOCATION:	Goiana - PE	**EQUIPMENT TAG:**	PCH-7A-1 / PCH-7A-2
PLANT:	Hemobrás' site	**QTY.:**	2 units

APPLICABLE TO: ☑ **Proposal** ☐ **Purchase** ☐ **As Built**

PROCESS CONDITIONS:

1	***GENERAL***		
2		***Required***	***To Be Completed By Vendor***
3	***MANUFACTURER:***	*(Note 1)*	
4	***MODEL:***	*(Note 1)*	
5	***UNITS:***	*2*	
6	***UNIT EFFECTIVE CAPACITY (kW):***	*528 (150 tons)*	
7	***REFRIGERANT CHARGE***	*(Note 1)*	
8	***SERVICE RATING:***	*1,0*	
9	***PERFORMANCE OF ONE UNIT***		
10		***Required***	***To Be Completed By Vendor***
11	***PROCESS FLUID:***	*Water (Note 6)*	
12	***REFRIGERANT:***	*HFC-134a (Note 5)*	
13	***ELEVATION ABOVE SEA LEVEL (m):***	*13*	
14	***CAPACITY @ RATED TEMPERATURE (kW)***	*528 (150 tons)*	
15	***COEFFICIENT OF PERF @ RATED TEMP (kW/kW):***	*(Note 1)*	
16	***IPLV (kW/kW):***	*(Note 1)*	
17	***UNIT POWER DEMAND (TOTAL - kW):***	*(Note 1)*	
18	***UNIT POWER DEMAND (COMPRESSORS - kW):***	*(Note 1)*	
19	***OVERALL SOUND PRESSURE @ 1M (dBA):***	*<85*	
20	***EVAPORATOR (Note 6)***		
21		***Required***	***To Be Completed By Vendor***
22	***TYPE***	*Shell & Tube*	
23	***ENTERING TEMPERATURE (°C):***	*9.5*	
24	***LEAVINGTEMPERATURE (°C):***	*5.0*	
25	***NOMINAL FLOW RATE (l/s):***	*29.2 (105 m³/h)*	
26	***MIN/MAX FLOW RATE (l/s):***	*(Note 1) / (Note 1)*	
27	***PRESSURE DROP (kPa g):***	*<65*	
28	***FOULING FACTOR (m².K/kW):***	*(Note 1)*	
29	***SHELL MATERIAL / TUBE MATERIAL:***	*Carbon Steel / Copper*	
30	***CONNECTION SIZE / TYPE:***	*(Note 1) / Flanged B16.5*	
31	***NUMBER OF EVAPORATOR PASSES:***	*2*	

NUMBER:	569-DB7A-MEC-725-002	CLIENT NR:	PRD-MEC-DSH-003
TITLE: WATER COOLED CHILLER - PCH-7A-1 / PCH-7A-2		SHEET:	4/5
		REV.:	0

CLIENT:	PAC Takeda / Baxalta	**SERVICE.:**	Process (7A Bld.)
LOCATION:	Goiana - PE	**EQUIPMENT TAG:**	PCH-7A-1 / PCH-7A-2
PLANT:	Hemobrás' site	**QTY.:**	2 units

APPLICABLE TO: ☑ **Proposal** ☐ **Purchase** ☐ **As Built**

		Required	To Be Completed By Vendor
1	**CONDENSER**		
2			
3	TYPE	Shell & Tube	
4	ENTERING TEMPERATURE (°C):	31.5	
5	LEAVINGTEMPERATURE (°C):	37.0	
6	NOMINAL FLOW RATE (l/s):	29.2 (105 m³/h)	
7	MIN/MAX FLOW RATE (l/s):	(Note 1) / (Note 1)	
8	PRESSURE DROP (kPa g):	<65	
9	FOULING FACTOR (m².K/kW):	(Note 1)	
10	SHELL MATERIAL / TUBE MATERIAL:	Carbon Steel / Copper	
11	CONNECTION SIZE / TYPE:	(Note 1) / Flanged B16.5	
12	NUMBER OF CONDENSER PASSES:	2	
13	**ELECTRICAL**		
14	UNIT VOLTAGE (V / F / PH):	380 / 60 / 3	
15	NORMAL OPERATING CURRENT (A):	(Note 1)	
16	MAXIMUM OPERATING CURRENT (A):	(Note 1)	
17	STARTING CURRENT (A):	(Note 1)	
18	STARTING TYPE:	VFD	
19	**CONSTRUCTION**		
20	NO. REFRIGERATION CIRCUITS PER UNIT:	(Note 1)	
21	COMPRESSOR TYPE:	Screw	
22	TEST PRESSURE (KPa g):	(Note 1)	
23	UNIT LENGTH (mm):	(Note 1)	
24	UNIT WIDTH (mm):	(Note 1)	
25	UNIT HEIGHT (mm):	(Note 1)	
26	EMPTY MASS WEIGHT (kg):	(Note 1)	
27	OPERATING MASS WEIGHT (kg):	(Note 1)	
28	SHIPPING WEIGHT (kg):	(Note 1)	
29	CODE REQUIREMENTS:	ASME / AHRI	
30			
31			

NUMBER:	569-DB7A-MEC-725-002	CLIENT NR:	PRD-MEC-DSH-003

TITLE	SHEET: 5/5
WATER COOLED CHILLER - PCH-7A-1 / PCH-7A-2	REV.: 0

CLIENT:	***PA(*** *Takeda / Baxalta*	***SERVICE.:***	*Process (7A Bld.)*
LOCATION:	*Goiana - PE*	***EQUIPMENT TAG:***	*PCH-7A-1 / PCH-7A-2*
PLANT:	*Hemobrás' site*	***QTY.:***	*2 units*

APPLICABLE TO: ☑ **Proposal** ☐ **Purchase** ☐ **As Built**

1	***ADDITIONAL REQUIREMENTS***	
2	***MINIMUM CLEARANCES FOR MAINTENACE***	
3	***FRONT (mm):***	*(Note 1)*
4	***BACK (mm):***	*(Note 1)*
5	***RIGHT SIDE - LOOKING TO COMPRESSOR (mm):***	*(Note 1)*
6	***LEFT SIDE - LOOKING TO COMPRESSOR (mm):***	*(Note 1)*
7	***SOUND PRESSURE BETWEEN UNITS (dBA):***	*(Note 1)*
8	***PAINT SPEC.: PRIMER (µm):***	*(Note 1)*
9	***1st COAT (µm):***	*(Note 1)*
10	***2nd COAT (µm):***	*(Note 1)*
11	***TOP COAT (µm):***	*(Note 1)*
12	***TOTAL PAINT THICKNESS (µm):***	*(Note 1)*
13	***ACCESSORIES (Note 4)***	
14	☑ ***ELECTRICAL PANEL***	☑ ***PLC (PROTOCOL IN ETHERNET AND***
15	☐ ***CHILLED WATER FLOW SWITCH***	***COMPATIBLE WITH THE WONDERWARE***
16	☐ ***CONDENSATION WATER FLOW SWITCH***	***PLATFORM (BMS SYSTEM)).***
17	☑ ***ANTI-VIBRATION DEVICE***	
18	☐ ***AUTOMATIC BLOCK VALVE***	
19	☑ ***ANTI-FREEZE PROTECTION***	
20	***GENERAL NOTES***	
21	*1) TO BE CONFIRMED BY SUPPLIER*	
22	*2) COP: COEFICIENT OF PERFORMANCE*	
23	*3) IPLV: PARTIAL LOAD EFFICIENCY CALCULATED TO ARI STANDARD 550 / 590 EQUATION.*	
24	*4) FOR ADDITIONAL INFORMATION AND SPECIFICATIONS SEE PRD-MEC-TSP-002 - TECHNICAL*	
25	*SPECIFICATION - CHILLERS*	
26	*5) OTHER REFRIGERANT SHOULD BE PROPOSED, BUT MUST BE HFC TYPE, FREE CHLORINE*	
27	*IN THE COMPOSITION.*	
28	*6) THE SELECTED EQUIPMENT SHALL BE ABLE TO WORK WITH PROPYLENE GLYCOL SOLUTION AT 1°C.*	
29	*THE DELTA T SHOULD BE 4.5°C, WITH A RETURN OF 5.5°C.*	
30	*7) FREQUENCY INVERTER CONSIDERED ONLY FOR STARTING, NOT FOR CONTROL.*	
31		