


	
DOC NUMBER: 569-DB7B-MEC-724-001		CLIENT NUMBER: PRD-MEC-DSH-015	
TAKEDA PROJECT: BURITI EPCVM PROJECT			

DATA SHEET
 COOLING TOWER
 CT-7B-1 / CT-7B-2

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
REV	DATE	DESCRIPTION	EXEC	CHECK	APPROV

 		 	
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TITLE COOLING TOWER - CT-7B-1 / CT-7B-2			SHEET: 2/4 REV.: 0

1. REVISION HISTORY

Rev	Reason For Change
A	ORIGINAL ISSUE
B	PAGE 03, line 11: changed flow rate from 207 m³/h to 260 m³/h
	PAGE 03, line 12: changed capacity from 1,427 kW to 1,665 kW
	PAGE 03, line 41: changed electrical motor protection from IPW 55 to IP 55
	PAGE 04, item 6: excluded from the scope of the cooling tower supplier the frequency inverters
	PAGE 04: included item 10
	PAGE 04: included item 11
0	ISSUED FOR CONSTRUCTION

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TITLE

COOLING TOWER - CT-7B-1 / CT-7B-2

SHEET:

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REV.:

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1	ITEM:	CT-7B-1/2	QUANTITY:	02 UN (Note 11)	TYPE:	Note 1
2	SERVICE:	WATER COOLING			MODEL:	Note 1
3	LOCAL:	GOIANA - PERNANBUCO			Nº OF REDUCTIONS:	Note 1
4	ELEVATION ABOVE SEA LEVEL:	13 m			EFFICIENCY:	Note 1
5	MANUFACTURER:	Note 1			SERVICE FACTOR:	Note 1
6	MODEL:	Note 1			BOX MATERIAL:	Note 1
7	APPLICABLE:	<input checked="" type="checkbox"/> PROPOSAL <input type="checkbox"/> PURCHASE			WEIGHT:	Note 1
8		<input type="checkbox"/> AS BUILT			LUBRICATION:	Note 1
9	PERFORMANCE - UNIT				FAN - UNIT	
10	TYPE:	INDUCED DRAFT CROSS FLOW			QUANTITY:	Note 1
11	FLOW:	260	m³/h		MANUFACTURER:	Note 1
12	THERMAL LOAD:	1,665	kW		DIAMETER:	Note 1
13	ENTERING FLUID TEMP.:	37.0	°C		NUMBER OF FAN BLADES:	Note 1
14	LEAVING FLUID TEMP.:	31.5	°C		BLADES MATERIAL:	Note 1
15	RANGE:	5.5	°C		BLADES COATING MATERIAL:	Note 1
16	ENTERING WET BULB TEMP.:	27.6	°C		ADJUSTABLE BLADES:	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
17	DRY BULB TEMP.:	22.4	°C		HUB MATERIAL:	Note 1
18	RELATIVE HUMIDITY:	69.4	%		HUB COATING:	Note 1
19	HYDRAULIC LOAD:	Note 1			BLADES COUPLING METHOD:	Note 1
20	TOTAL FILLING SURFACE:	Note 1	m²		BALANCING:	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
21	TOTAL MAKE UP WATER	Note 1	%		VELOCITY:	Note 1
22	STATIC PUMPING HEIGHT:	Note 1	m		PERIPHERAL VELOCITY:	Note 1
23	TOTAL STATIC HEIGHT:	Note 1	m		EACH FAN CAPACITY:	Note 1
24	AIR TEMP. LEAVING THE TOWER:	Note 1	°C		STATIC PRESSURE:	Note 1
25	SPEED AIR ENTER. THE TOWER:	Note 1	m/s		DINAMIC PRESSURE:	Note 1
26	SPEED AIR LEAVI. THE TOWER:	Note 1	m/s		TOTAL PRESURE:	Note 1
27	PERCENTAGE OF RECIRCULATION:	Note 1	%		STATIC EFFICIENCY:	Note 1
28	WORKING DURATION OF TOWER	Continuously			TOTAL EFFICIENCY:	Note 1
29	COOLING TOWER DIMENSIONS - UNIT				POWER CONSUMED BY FAN:	Note 1
30	LENGTH:	Note 1	mm		FAN WEIGHT:	Note 1
31	WIDTH:	Note 1	mm		NOISE @ 1.0 m DISTANCE:	<85 dB(A)
32	HEIGHT	Note 1	mm		ELECTRIC MOTOR	
33	EMPTY WEIGH:	Note 1	kg		TENSION (V)	380
34	OPERATING WEIGHT:	Note 1	kg		Nº OF PHASES :	3
35	MATERIALS (note 3)				FREQUENCY (Hz):	60
36	TOWER SUPERSTRUCTURE:	Carbon Steel			SPEED:	Note 1
37	TOWER STRUCTURAL CASING:	Carbon Steel			SPEED CONTROL:	Yes (Note 10)
38	COLD WATER BASIN:	Carbon Steel			INSULATION CLASS:	F
39	FILLS :	Note 1			SERVICE FACTOR:	1,25
40	LOUVERS :	Carbon Steel			ZONE / TEMP. CLASS / GROUP:	N/A
41	DRIFT ELIMINATORS :	Note 1			PROTECTION:	IP 55
42	HOT WATER DISTRIB. HEADER PIPE:	Carbon Steel			WEIGHT:	Note 1
43	HOT WATER DISTRIBUTION NOZZLES:	Note 1			QUANTITY:	Note 1
44	BOLTS / NUTS:	Hot-dip Galvanized Steel			ACCESSORIES	
45	EXTERNAL PLATFORM / LADDER:	Carbon Steel			<input checked="" type="checkbox"/>	FAN CYLINDER EXTENSION
46					<input checked="" type="checkbox"/>	VIBRATION SWITCH
47	REDUCER				<input checked="" type="checkbox"/>	EXTERNAL SERVICE PLATFORM WITH LADDER
48	QUANTITY:	Note 1			<input checked="" type="checkbox"/>	LOUVER ACESS DOOR
49	MANUFACTURER:	Note 1			<input checked="" type="checkbox"/>	SPECIAL PAINT FOR AGGRESSIVE ENVIRONMENTS

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Notes:

- 1) The supplier shall fill the blank fields.
- 2) A schematic drawing showing all the nozzles and accessories of the tower shall be sent with the proposal.
- 3) Colling Tower materials shall comply with FM GLOBAL's requirements, for condition without sprinklers.
- 4) Included in the supply: clips for grounding, lifting lugs, anchor bolts, ladder and platform with guardrail for motor access.
- 5) Consider NBR-6123 for wind load.
- 6) The manufacturer shall consider the supply of motor and reducer (to be confirmed by the supplier) for the fan operation. Fans with an indirect drive with pulleys and belts will not be accepted.
- 7) A vibration switch with individual dry contacts (SPDT) shall be provided for remote alarm and for stopping the motor at the MCC. The switches shall follow ISO 10816.
- 8) The cooling tower shall be CTI (Cooling Technology Institute) certified.
- 9) For additional information and specifications see PRD-MEC-TSP-003 - TECHNICAL SPECIFICATION – COOLING TOWERS.
- 10) A frequency inverter will control the cooling tower fan according to the condensation water leaving temperature. VFD will be not suplied by the cooling tower manufacturer.
- 11) One equipment stand-by.