DOC NUMBER: **569-DB7C-MEC-734-001**	CLIENT NUMBER: **PRD-MEC-DSH-027**
CLIENT: **TAKEDA**	
PROJECT: **BURITI EPCVM PROJECT**	

DATA SHEET
DEARATOR
DA-7C-1

REV	DATE	DESCRIPTION	EXEC	CHECK	APPROV
0	30/JUL/2021	ISSUED FOR CONSTRUCTION	ASO	LFF	RSP
B	28/JUN/2021	90% DD ISSUE	ASO	LFF	RSP
A	12/FEB/2021	30% DD ISSUE	ASO	LFF	MAJ

1. REVISION HISTORY

Rev	Reason For Change
A	ORIGINAL ISSUE
B	Page 3, line 2.1: changed condensate flow from 8.4 m^3/h to 6.6 m^3/h
	Page 3, line 2.2: changed make up water flow from 1.2 m^3/h to 0.64 m^3/h
	Page 3, line 2.3: changed condensate temperature from 105° C to 100° C
	Page 3, line 2.4, 3.3 and 5.3: changed operation pressure from 0.25 kgf/cm^2 to 0.3 kgf/cm^2
	Page 3, line 3.2 and 5.2: informed shell and head thickness
	Page 3, line 3.5 and 5.5: informed dimensions
	Page 3, line 4.1 and 6.1: changed material for heads and shell from ASTM-A36 to SA-285 GR. C
	Page 4: Added sketch
	Page 5: updated note 1
	Page 5: added note 2
0	ISSUED FOR CONSTRUCTION

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TITLE

DEAERATOR - DA-7C-1

SHEET: 3/5

REV.: **0**

1	**GENERAL**						
1.1	**SERVICE:**	STEAM - HVAC AND PROCESS		**ITEM Nº:**		DA-7C-1	
1.2	**LOCAL:**	7C BUILDING		**QUANTITY:**		1	
1.3	**MANUFACTURER:**	(Note 1)		**MANUFACTURING STANDARD:**		ASME VIII DIVISION 1	
1.4	**APPLICABLE:**	PROPOSAL					
2	**OPERATION CONDITIONS**						
2.1	**DEAERATION CAPACITY (m³/h):**	10.0		**CONDENSATE FLOW (m³/h):**		6.6	
2.2	**MAKE UP WATER FLOW (m³/h):**	0.64		**STEAM CONSUMPTION (kg/h):**		150	
2.3	**CONDENSATE TEMPERATURE (°C):**	100		**MAKE UP WATER TEMPERATURE (°C):**		25	
2.4	**OPERATING PRESSURE (kg/cm²):**	0.30		**VACUUM (mmHg):**		772.6	
2.5	**MAWP (kgf/cm²):**	3.0		**OPERATING TEMPERATURE (°C):**		130	
2.6	**O2 CONCENTRATION AT OUTLET (cc/l):**	0.01		**DESIGN TEMPERATURE (°C):**		150	
3	**MAIN FEATURES OF WATER TANK**						
3.1	**TYPE :**	HORIZONTAL	**USEFUL VOLUME (m³):**	4.0	**TOTAL VOLUME (m³):**	6.0	
3.2	**FORMED HEAD:**	ASME 10%	**HEAD AND SHELL THK (mm):**	9.52	**TOTAL OVER THK (mm):**	1.0	
3.3	**INTER. WORK PRESS. (kgf/cm²):**	0.3	**VACUUM (mmHg):**	772.6	**INTER. WORK TEMPER. (°C):**	130	
3.4	**INTERNAL DESIGN PRESS. (kgf/cm² / mmHg):**	3,0 / 772,6 (VACUUM)			**INTERNAL DESIGN TEM. (°C):**	150	
3.5	**INTER. DIAM. (mm):**	1,650	**CYLIND. LENGTH (mm):**	2,240	**LIQ. LEVEL (mm):**	1,070	
3.6	**OPERATION WEIGHT (kg):**	(Note 1)	**EMPTY WEIGHT (kg):**	(Note 1)			
4	**MATERIAL**						
4.1	**FORMED HEADS:**	SA-285 GR. C	**SHELL**	SA-285 GR. C	**PIPE:**	ASME/ASTM A-106 GR. B	
4.2	**NOZZLE FLANGES:**	ASME/ASTM A-105	**NOZZLE NECK:**	ASME/ASTM A-106 GR. B			
4.3	**BOLTS:**	ASME/ASTM A-193 GR. B7	**NUTS:**	ASME/ASTM A-194 GR. 2H			
4.4	**JOINT EFFICIENCY:**	0.85					
5	**MAIN FEATURES OF DEAERATOR**						
5.1	**TYPE:**	VERTICAL (SPRAY/TRAYS)	**TOTAL VOLUME (m³):**	1.5			
5.2	**FORMED HEAD:**	ASME 10%	**HEAD AND SHELL THK (mm):**	6.35	**TOTAL OVER THK (mm):**	1.0	
5.3	**INTER. WORK PRESS. (kgf/cm²):**	0.3	**VACUUM (mmHg):**	772.6	**INTER. WORK TEMPER. (°C):**	130	
5.4	**INTERNAL DESIGN PRESS. (kgf/cm² / mmHg):**	3,0 / 772,6			**INTERNAL DESIGN TEM. (°C):**	150	
5.5	**INTER. DIAM. (mm):**	1,000	**CYLIND. LENGTH (mm):**	1,650			
5.6	**OPERATION WEIGHT (kg):**	(Note 1)	**EMPTY WEIGHT (kg):**	(Note 1)			
6	**MATERIAL**						
6.1	**FORMED HEADS:**	SA-285 GR. C	**SHELL**	SA-285 GR. C	**PIPE:**	ASME/ASTM A-106 GR. B	
6.2	**NOZZLE FLANGES:**	ASME/ASTM A-105	**FITTINGS:**	ASME/ASTM A-105			
6.3	**SPRAY NOZZLES:**	AISI 304	**TRAYS:**	ASME/ASTM A-240 TP304			
6.4	**JOINT EFFICIENCY:**	0.85					
7	**MATERIALS INSPECTION**						
7.1	**IN THE PLATE SUPPLIER:**	YES					
7.2	**IN THE EQUIPMENT MANUFACTURER:**	YES					
7.3	**IN THE CLIENT'S SITE:**	YES					

Notes:

1) To be confirmed by supplier.

2) The supplier shall be responsible for all equipment dimensioning according to the operational conditions, as well as for the equipment support design

3) Dimensional drawing of the equipment shall be part of the proposal.

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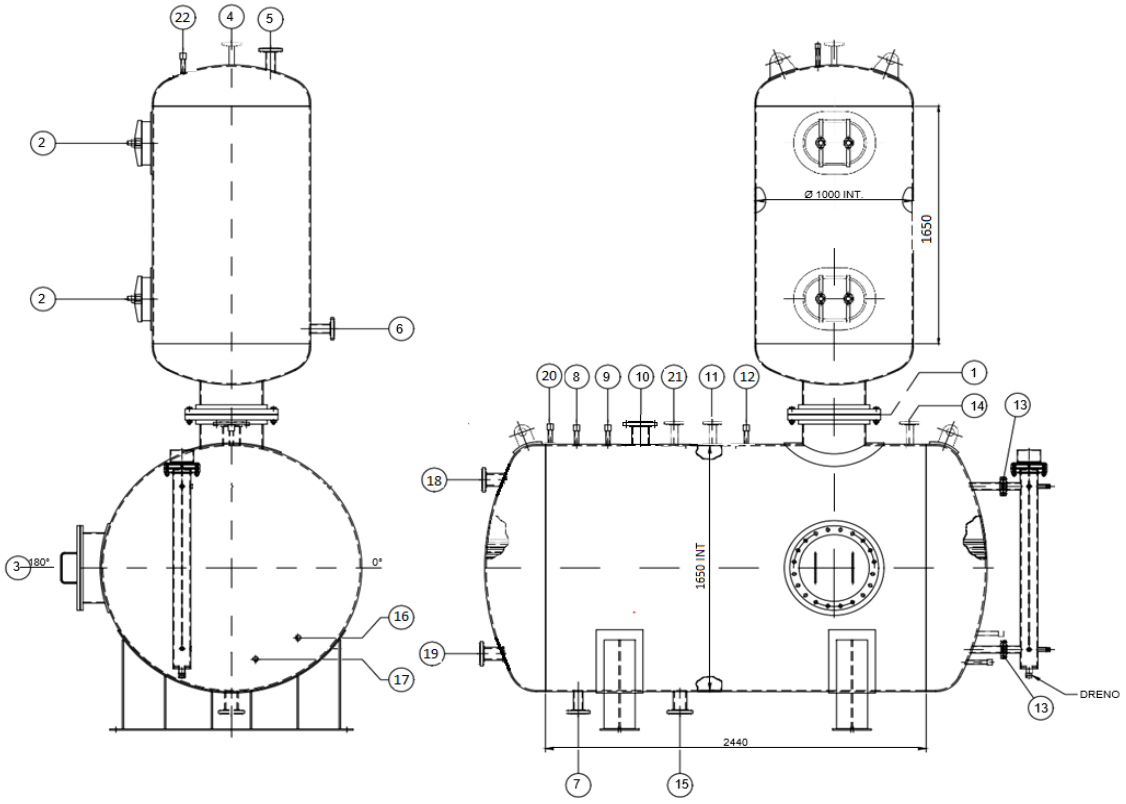
NOZZLES

POS	DIAM	QTY	CLASS	TYPE	FACE	THICKNESS	SERVICE	OBSERVATION
N1	16"	1	150#	SO	RF	SCH40	TANK/DEAERATOR CONNECTION	ASME/ANSI B16.5
N2	300 x 400	2	-	-	-	-	MANHOLE	-
N3	Ø 450	-	-	-	-	-	MANHOLE	-
N4	1"	1	150#	SW	RF	SCH40	NON-CONDENSABLE GASES (VENT)	ASME/ANSI B16.5
N5	2"	1	150#	SW	RF	SCH40	WATER INLET	ASME/ANSI B16.5
N6	2"	1	150#	SW	RF	SCH40	STEAM INLET	ASME/ANSI B16.5
N7	2"	1	150#	SW	RF	SCH40	DRAIN	ASME/ANSI B16.5
N8	1/2"	1	3000#	BSP	-	-	PI-780008	ASME B16.11
N9	1/2"	1	3000#	BSP	-	-	PIT-780001	ASME B16.11
N10	4"	1	150#	SW	RF	SCH40	PSV-780022	ASME/ANSI B16.5
N11	1.1/2"	1	150#	SW	RF	SCH40	PUMP CONDENSATE HEADER 7A/B	ASME/ANSI B16.5
N12	3/4"	1	150#	SW	-	-	PUMP CONDENSATE JACKET LOOPS	ASME/ANSI B16.5
N13	1.1/2"	2	150#	SW	RF	SCH40	LG-780001	ASME/ANSI B16.5
N14	1.1/2"	1	150#	SW	RF	SCH40	LIT-780024	ASME/ANSI B16.5
N15	3"	1	150#	SW	RF	SCH40	WATER OUTLET	ASME/ANSI B16.5
N16	3/4"	1	3000#	BSP	-	-	TI-780002	ASME B16.11
N17	1/2"	1	3000#	BSP	-	-	TIT-780001	ASME B16.11
N18	3"	1	150#	SW	RF	SCH40	LSHH-780001	ASME/ANSI B16.5
N19	3"	1	150#	SW	RF	SCH40	LSLL-780001	ASME/ANSI B16.5
N20	1/2"	1	3000#	BSP	-	-	CHEMICAL TREATMENT	ASME B16.11
N21	1.1/2"	1	150#	SW	RF	SCH40	PSV-780021	ASME/ANSI B16.5
N22	1/2"	1	3000#	BSP	-	-	VENT TO HYDROSTATIC TEST	ASME B16.11



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8	***ACCESSORIES INCLUDED IN THE SUPPLY***
8.1	*LEVEL BOTTLE WITH ELECTRODES.*
8.2	*SAFETY VALVE WITH CALIBRATION CERTIFICATE.*
8.3	*WAFER / DISC VACUUM BREAK VALVE.*
8.4	*SUPPLY OF A COMPLETE SET OF GLASS TUBULAR LEVEL SIGHT WITH MANUAL VALVES.*
8.5	*PRESSURE INDICATOR WITH STAINLESS STEEL CASE, 6" DIAL, SCALE 0-5 BAR.*
8.6	*TEMPERATURE INDICATOR WITH STAINLESS STEEL CASE, 6" DIAL, SCALE 0-200 ^{0}C.*
8.7	*CONTROL VALVE WITH ELECTROPNEUMATIC POSITIONER 4-20 Ma, FLANGED ANSI B16.5, DIAMETER 1 1/2", CL 300 LBS FOR THE STEAM LINE.*
8.8	*FLANGED CONTROL VALVE ACCORDING TO ANSI B16.5, DIAMETER 2", CL 150 LBS WITH ACTUATOR DOUBLE ACTION (ON/OFF) AND SOLENOID VALVE FOR THE REPLACEMENT WATER LINE.*
8.9	*FLANGED CONTROL VALVE ACCORDING TO ANSI B16.5, DIAMETER 2", CL 150 LBS WITH DOUBLE ACTION ACTUATOR (ON/OFF) AND SOLENOID VALVE FOR DRAIN LINE.*
8.10	*SUPPLY OF ELECTRICAL PANEL FOR AUTOMATIC VALVES TO CONTROL PRESSURE AND WATER LEVEL AND TO MONITOR THE DEARATOR TEMPERATURE.*
8.11	*PRESSURE INDICATOR/TRANSMITTER FOR THE DEAERATOR STEAM CONTROL LOOP.*
8.12	*THERMOELEMENT (PT-100) FOR MONITORING THE DEAERATOR WATER TEMPERATURE VIA ELECTRIC PANEL.*
8.13	*DIFFERENTIAL PRESSURE TRANSMITTER FOR THE DEAERATOR WATER REPLACEMENT.*
9	***NR-13 DOCUMENTATION***
9.1	*EQUIPMENT MANUFACTURING RECORDS IN COMPLIANCE WITH NR-13.*
9.2	*SUPPLY OF EQUIPMENT DRAWNING.*
9.3	*STAINLESS STEEL IDENTIFICATION PLATE OF THE EQUIPMENT IN COMPLIANCE WITH RECOMMENDED IN NR-13.*

Notes:

1) For additional information and specifications see PRD-MEC-TSP-006 - TECHNICAL SPECIFICATION - PRESSURE VESSELS and PRD-MEC-TSP-008 - TECHNICAL SPECIFICATION - STEAM BOILERS.

2) The equipment shall have external paint for 150°C (primer only). Consider in the Scope of supply thermal insulation for personal protection.