ROSETTI MARINO

1	NO COMMENTS - APPROVED - WORK MAY PROCEED
2	MINOR COMMENTS - REVISE AND RESUBMIT - WORK MAY PROCEED
3	MAJOR COMMENTS – REJECTED – DO NOT PROCEED
4	APPROVAL NOT REQUIRED

NOTE: Approval doesn't relieve the supplier from mandatory compliance with contractual documents and specifications. Comments made do not imply acceptance of any cost or delivery impact.

Sign	Date
	07-01-2025

Base Load Power Hub (BLPH)

EQUIPMENT DETAILS AND DATASHEETS – DESALINATION PACKAGE

Document Number: 1724000448-MAC-DA-00008

Document Class: 3

Rev.	Date	Description	Prepared	Reviewed	Approved
03	06/12/2024	Issue For Information (IFI)	SF	RM	RM
02	04/11/2024	Issue For Information (IFI)	SF	RM	RM
01	22/07/2024	Issue For Information (IFI)	ED	RM	RM
00	05/06/2024	Issue For Information (IFI)	ED	RM	RM

Table of Contents

SH.	DESCRIPTION	REVISIONS							
		00	01	02	03				
1	Cover	X	X	X	X				
2	Table of Contents	X	X	X	X				
3	Revision / Change Log	X	X	X	X				
4	Drawing Heat Exchanger (Element)	X	X	X					
5	Heat Exchanger (Element) Datasheet	X	X	X					
6	Drawing high pressure pumps	X	X	X					
7	High pressure pumps datasheet	X	X	X					
8	Drawing Back wash pumps	X	X	X					
9	Back wash pumps datasheet	X	X	X					
10	Drawing Sea Water Booster pumps	X	X	X					
11	Sea Water Booster pumps datasheet	X	X	X					
12	Drawing dosing pump (Caustic Soda)	X	X	X					
13	Dosing pump (Caustic Soda) datasheet	X	X	X					
14	Drawing dosing pump (Antiscalant)	X	X	X					
15	Dosing pump (Antiscalant) datasheet	X	X	X					
16	Drawing dosing pump (Biocide)	X	X	X					
17	Dosing pump (Biocide) datasheet	X	X	X					
18	Drawing cartridge filters	X	X	X					
19	Cartridge filters datasheet	X	X	X					
20	Cartridge filters datasheet	X	X	X					
21	Drawing Vessel membranes	X	X	X					
22	Vessel membranes datasheet	X	X	X					
23	Drawing Water Softener	X	X	X					
24	Water Softener Datasheet	X	X	X					
25	Container air fan drawing	X	X	X					
26	Container air fan datasheet	X	X	X					
27	Container electrical heater drawing	X	X	X					
28	Container electrical heater datasheet	X	X	X					
29	Desalination Package general view	X	X	X					

Revision / Change Log

Rev.	Description
00	ISSUE FOR INFORMATION (IFI)
01	ISSUE FOR INFORMATION (IFI)
02	ISSUE FOR INFORMATION (IFI)
03	ISSUE FOR INFORMATION (IFI)

HOLDS LIST

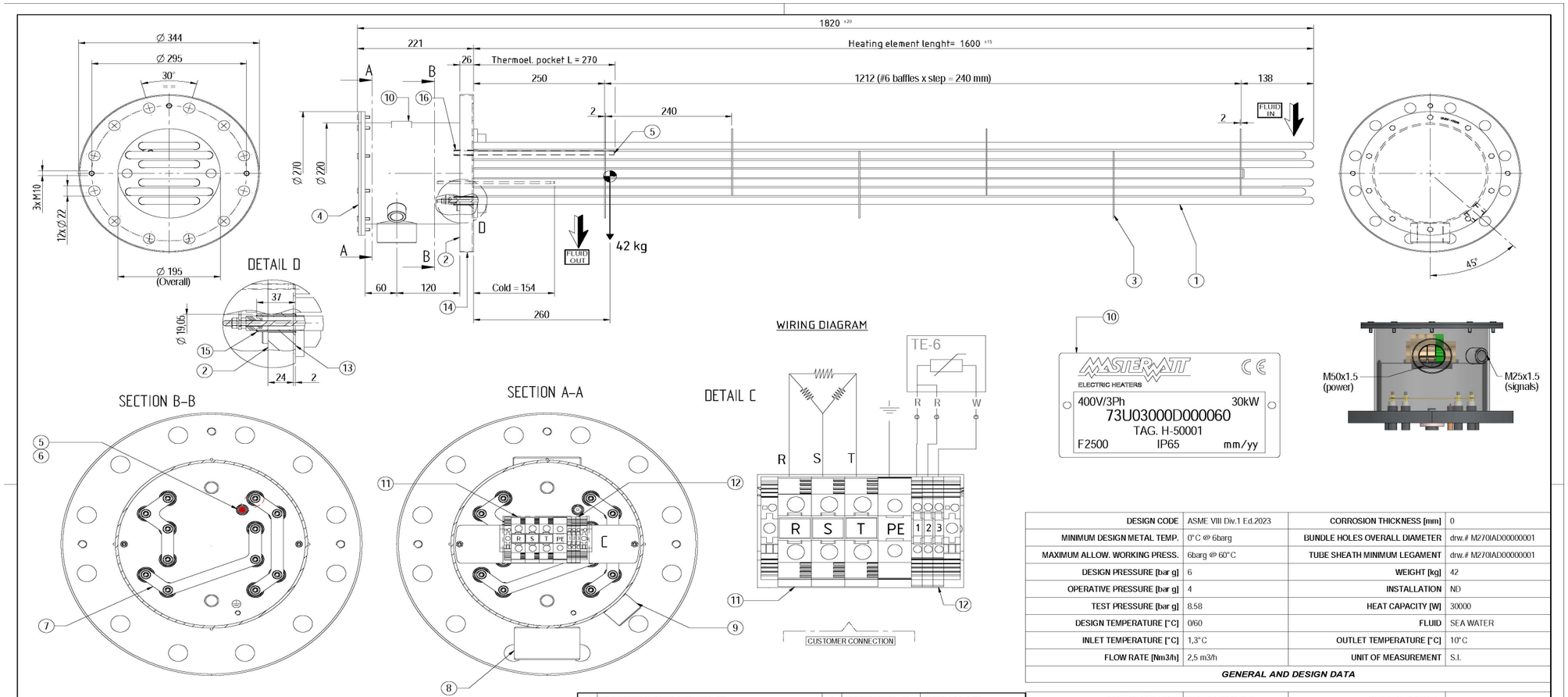
No.	Description
1.	
2.	
3.	
4.	

Drawing Heat Exchanger (Element)

Supplier: MASTERWATT

Models: 30 kW - 400 V./3ph - sea water

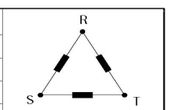
WEIGHT= Heating elements 42 kg <2> **TAG= H-50001**
Vessel 160 kg <2>



16	THERMOELEMENT POCKET DISTANCING PIPE	1	ASTMB338 GR 2 (smls)	Ø12,7 Thk.0,9 - L=37mm
15	HEATING ELEMENT DISTANCING PIPE	12	ASTMB338 GR 2 (smls)	Ø19,05 Thk.0,9 - L=37mm
14	FLANGE PROTECTION	1	Titanium	Ø344 x H=26 Thk 2mm
13	DISK FOR FLANGE	1	Titanium	Ø340 Thk 2mm
12	SIGNAL TERMINAL BOARD	3	/	SECT. 2,5 mm² (MAX)
11	POWER TERMINAL BOARD (R-S-T-PE)	4	/	SECT. 35 mm² (MAX)
10	HEATER NAMEPLATE	1	AISI 316	Thk. 1 mm
9	THREADED COUPLING (SIGNALS)	1	AISI 316	NOZZLE M25x1.5
8	THREADED COUPLING (POWER)	1	AISI 316	NOZZLE M50x1.5
7	CONNECTION LINKS	SET	BRASS	section 28 mm²
6	THERMORESISTANCE PT100 (3 wires) - SHEATH OVER_T° CONTROL (TE-6)	1	N/A	Ø3 mm - SET POINT = 110°C
5	THERMOELEMENT POCKET	1	ASTMB338 GR 2 (smls)	Ø10 Thk 1mm
4	TERMINAL BOX CONNECTION IP65	1	AISI 316	SIZE 200
3	SEGMENTAL BAFFLE (CUT 25%)	6	Titanium	Ø195 Thk. 2mm
2	HEATER BLIND FLANGE	1	SA 182 F53	DN200 PN16 - EN1092-1 /05A
1	HEATING ELEMENT 5000W 400V - 3,4 W/cm²	6	ASTMB338 GR 2 (smls)	Ø16 mm
POS.	DESCRIPTION	Q.TY	MATERIAL	DIMENSIONS

LIST OF PART

ELECTRIC DATA								
TOTAL POWER [kW]	30							
VOLTAGE [V]	400							
PHASES	3							
TOTAL CURRENT [A]	43.3							
N°STAGES	1							
stages	1st	2nd	3rd	4th	5th	6th	7th	8th
OHMIC VALUE Ph-Ph [Ohm] ±5%	10.67	/	/	/	/	/	/	/



CONNECTION TYPE : DELTA

DESIGN CODE	ASME VIII Div.1 Ed.2023
CORROSION THICKNESS [mm]	0
MINIMUM DESIGN METAL TEMP.	0°C @ 6barg
BUNDLE HOLES OVERALL DIAMETER	drw.# M270IAD00000001
MAXIMUM ALLOW. WORKING PRESS.	6barg @ 60°C
TUBE SHEATH MINIMUM LEGAMENT	drw.# M270IAD00000001
DESIGN PRESSURE [bar g]	6
WEIGHT [kg]	42
OPERATIVE PRESSURE [bar g]	4
INSTALLATION	ND
TEST PRESSURE [bar g]	8,58
HEAT CAPACITY [W]	30000
DESIGN TEMPERATURE [°C]	0/60
FLUID	SEA WATER
INLET TEMPERATURE [°C]	1,3°C
OUTLET TEMPERATURE [°C]	10°C
FLOW RATE [Nm3/h]	2,5 m3/h
UNIT OF MEASUREMENT	S.I.

GENERAL AND DESIGN DATA

PAINTING OR FINISH	NOT APPLICABLE	WELDING BOOK No.	-
JOB No.	-	TECHNICAL CODE	F2500
ORDER No.	2885/04/24/0	ARTICLE No.	73U03000D000060
CUSTOMER CODE		ORDER CONF. No.	24-1870
CUSTOMER	PSC S.P.A.	SUPPLIER	MASTERWATT S.r.L.

JOB DATA

REV.	DATE	DESCRIPTION	DWN.	APPR.
01	02/07/2024	Modified after customer comments	Jonathan Sifuentes	Paolo Florian
00	17/06/2024	Issued	Jonathan Sifuentes	Paolo Florian

REVISIONS TABLE

MASTERWATT ELECTRIC HEATERS

NOT LISTED QUOTE TABLE

FROM	1	126	201	1601	2501	NOT LISTED BROKEN ±1/64"
TO	125	200	1600	2500	OVER	CONFORMITY ±1°
DIFFERENT	64	0,5	1	2	5 (mm)	NOT LISTED MACHI 0,5 mm
TOOLED PC	10	0,2	0,5	1	2	ANGLE TP / FUS. ANGLE PL

TITLE: FLANGE MOUNTED HEATER 30000 W 400 V 3Ph Delta

MATERIAL: SEE TABLE

SCALE	SIZE	1st EXECUTION	CODE	DWG. N.	REV
1:5	A2	17/06/2024	GD0000000000450		01

SHEET 1

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REFERENCE DOCUMENTS

1724000448-MAC-DA-00005	GENERAL ARRANGEMENT DRAWINGS AND FOUNDATIONS LOADING CALCULATIONS
1724000448-PR-PID-00013	WATER TREATMENT PACKAGE-PID DIAGRAM

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ELECTRIC HEATER DATASHEET

Sh. 5 / 29

PROJECT: HOLLANDSE KUST NOORD WIND PARK Project	CLIENT: Rosetti Marino S.p.A.	Doc. Nr. PK2885-M-001
ITEM: H-50001		
REFERENCE DRAWING:	P&I: 1724000448-PR-PID-00013	MFR: Masterwatt

TYPE: Electric Heater Bundle

INSTALLATION: ■ INDOOR ☐ OUTDOOR

ELECTRICAL CHARACTERISTICS

INSTALLED POWER	30	kW				
SUPPLY	400	Volts	3	Phases	50	Hz
CONNECTION TYPE	■ DELTA	☐ STAR				
	☐ SINGLE PHASE	☐				
STANDARDS	☐ IEC	☐ ATEX	☐ KOSHA			
PROTECTION	IP65					
EXECUTION	SAFE AREA					
TEMPERATURE CLASS	N.A.					
NUMBER OF STAGES	1					
ELECTRIC POWER STEP N° 1	30	kW				
ELECTRIC POWER STEP N° 2	-	kW				
ELECTRIC POWER STEP N° 3	-	kW				
ELECTRIC POWER STEP N° 4	-	kW				
SPECIFIC POWER	3.4	W/cm^2				
EXCHANGE SURFACE	0.882 <2>	m^2				

SERVICE CONDITION

FLUID TO BE HEATED	SEA WATER			
DESIGN FLOW	2.5	m^3/h		
INLET PRESSURE	4	bar g		
MAX PRESSURE DROP	1	bar g		
INLET LIQUID TEMP.	1.3	°C		
OUTLET LIQUID TEMP.	10	°C		
HEAT DUTY CAPACITY	30	kW		
MOLECULAR WEIGHT	18	DENSITY	1020-1030	kg/m^3
INLET FLUID CONDITION	■ LIQUID	☐ GAS		
OUTLET FLUID CONDITION	■ LIQUID	☐ GAS		
FLUID SPEED	2.5	m^3/h		
MECHANICAL DESIGN TEMPERATURE	0 / +60	°C		
MECHANICAL DESIGN PRESSURE	6	barg		
DESIGN VESSEL CODE	PED			
INSTALLATION	Indoor & Vertical			

MECHANICAL CHARACTERISTICS

ELEMENT NUMBER	6 armoured electric resistances				
ELEMENT DIAMETER	16	mm			
TOTAL LENGHT	3200	mm			
HEATED LENGHT	3060	mm			
BAFFLES	YES ■	NO ☐	n°	6	
VESSEL DIAMETER	DN200	mm			
HEAT EXCHANGER EMPTY WEIGHT	202 <2>	kg			

PROCESS CONNECTIONS

FLANGE	Inlet (PVC)	DIAMETER	DN40
		RATING	PN16
FLANGE	Outlet (PVC)	DIAMETER	DN40
		RATING	PN16
FLANGE	Heater	DIAMETER	DN 200
		RATING	EN1092 PN16

MATERIALS

BODY CONNECTIONS FLANGE	A185 F53 / Titanium Cladded		
HEATING ELEMENTS SHEATH	ASTM B338		
TERMINAL BOX	AISI 316		
VESSEL	Vinylester		
BAFFLES	Titanium		
TUBE SHEET	A185 F53 / Titanium Cladded		
CORROSION ALLOWANCE	N.A.	mm	
FINISHING	N.A.		

ACCESSORIES

THERMOELEMENT FOR FLUID	YES ☐	NO ■
THERMOELEMENT FOR HEATING ELEM.	YES ■	NO ☐
ANTICONDENSING	YES ☐	NO ■
ELECTRIC INSULATION BETWEEN RESISTIVE WIRE, SHEATH	YES ■	NO ☐

REMARKS

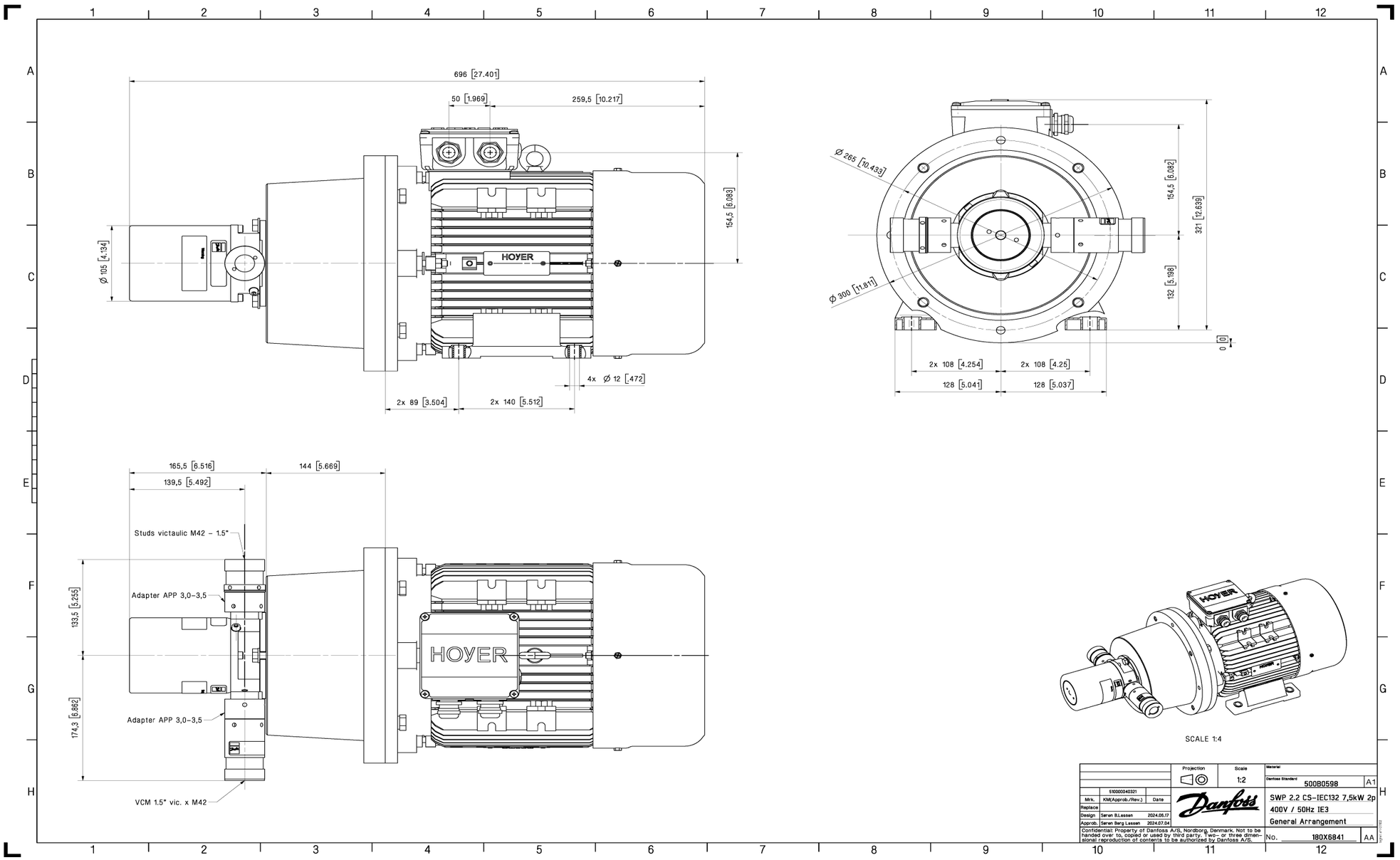
REV	DATE	DESCRIPTION	PREPARED	CHECKED	APPR. BY
02	04/11/2024	Issue for Review (IFR)	SF	WR	RM
01	31/07/2024	Issue for Review (IFR)	IT	WR	RM
00	24/06/2024	Issue for Review (IFR)	IT	WR	RM

Supplier: DANFOSS

Models: APP 2.2

Drawing high pressure pumps

WEIGHT (PUMP+MOTOR) = 67 kg <2>
TAG= P-50004A/B



REFERENCE DOCUMENTS	
1724000448-MAC-DA-00005	GENERAL ARRANGEMENT DRAWINGS AND FOUNDATIONS LOADING CALCULATIONS
1724000448-PR-PID-00013	WATER TREATMENT PACKAGE-PID DIAGRAM

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VOLUMETRIC PUMP DATA SHEET
SPECIFICA PER POMPA VOLUMETRICA

Sh. 7/ 29

PROJECT: Progetto	HOLLANDSE KUST NOORD WIND PARK	LOCATION: Località	Off Shore Hollandse Kust Noord (Netherlands)	DOC N° : Doc N°	PK2885-M-001
MOD: Mod	APP 2.2	PLANT: Impianto	Water treatment package	CUSTOMER: Cliente	Rosetti Marino S.p.A.
MFR: Fornitori	DANFOSS			JOB: Commessa	PK2885

1	SERVICE Descrizione	SWRO HIGH PRESSURE PUMP		PUMP TYPE Tipo di pompa	Volumetric, Rotating Axial Pistons	PUMP SERIAL No. Matricola pompa	
2	MANUFACTURER Costruttore	DANFOSS		No. of UNITS No. Unità	2		
3	EL. MOTOR No. Motore el. No.	ITEM Sigla	P-50004 A/B	SUPPLIED BY Fornito da	HOYER <2>	ASSEMBLED BY Sub-Supplier Montato da	N/A<2>
4	WEIGHT: Peso	67 <2> Kg					

DESIGN CONDITION FOR ONE PUMP
CONDIZIONI DI PROGETTO

6	LIQUID Liquido	Sea water			CAPACITY NORM. Portata normale	2	m^3/h	SAFETY V. RATING Taratura valvola sicurezza	65 bar
7	SOLID IN SUSPENSION Solidi in sospensione	None			DISCHARGE PRESSURE Pressione di mandata	55-63.5	barg	MAX PRESSURE Pressione max ammissibile	83 bar
8	CORROSIVE COMPOUND Composti corrosivi	(pH = 8.2), Chlorides = 20310 ppm			SUCTION PRESS. MAX Pressione di aspirazione max	4	barg	MAX TEMP. Temperatura max	50 °C
9	TEMP. NORM. Temp. Norm.	10	MAX Max	25 °C	DIFFERENTIAL PRESSURE Pressione differenziale	51-59.5	bar		
10	VISCOSITY Viscosità	1.31-0.89		mPa sec	DIFFERENTIAL HEAD Prevalenza	507-592 <2>	m		
11	DENSITY Densità	1020-1030		kg/m^3	NPSH AVAILABLE NPSH disponibile	30 (booster pump)	m		
12	VAPOUR PRESSURE Tensione di vapore	0.012-0.02		Bar abs	OPERATION Servizio	Continuos			
13	FREEZING TEMP. Temperatura di congelamento	-1		°C	INSTALLATION Installazione	INDOOR ■ Al chiuso	OUTDOOR □ All'aperto		

CONSTRUCTION DATA
DATI COSTRUTTIVI

14	PUMP ASSEMBLING Montaggio pompa	(HORIZONTAL ■ Orizzontale)	(FOOT □ Foot)	(BRAKET □ Braket)	(VERTICAL □ Verticale)			
15	JACKET Camicie	N/A <2>						
16	DIAPHRAGM ø Membrana	N/A <2>	mm	THICKNESS Spessore	N/A <2>	mm		
17	PISTON CASING NORM. Corsa pistone	0/125.2 <2>	mm	MIN./MAX				
18	VALVE TYPE Tipo valvole di ritegno	Check valve VCM 10 (Supplier Standard) <2>						
19	SUCTION NOZZLE ø Flangia di aspirazione	3/4 GAS	mm					
20	DISCHARGE NOZZLE ø Flangia di mandata	3/4 GAS	mm					
21	LUBRICATION TYPE Lubrificazione tipo	None		LUBRICANT TYPE Lubrificante tipo	None <2>			
22	JOINT TYPE Giunto tipo	Flexible Coupling						
23	BASE PLATE Basamento	None						
24	PACKING TYPE Premistoppa tipo	Hastelloy / NBR						
25	SEALING TYPE Tenuta tipo	Packing						
26	SAFETY VALVE Valvola di sicurezza	External	(YES □ Si)	(NO ■ No)	PULSATION DAMPER Smorzatore di pulsazioni	(YES □ Si)	(NO ■ No)	
27	STEAM TRACING (to execute at erection) Tracciatura (da eseguire al montaggio)	(YES □ Si)	(NO ■ No)	FLUID Fluido				
28	INSULATION Coibentazione	None <2>						

TESTS
COLLAUDI

<2> According to project ITP Doc. 1724000448-QC-ITP-00002

MATERIALS
MATERIALI

29	CASING Cassa	Duplex Stainless Steel
30	PISTON Pistone	Duplex Stainles Steel
31	INNER PART Parti interne	Super Duplex Stainles Steel
32	VALVE Valvole di ritegno	Duplex <2>
33	STUFFING BOX Premistoppa tipo	Hastelloy / NBR <2>
34	PULSATION DAMPER Smorzatore di pulsazioni	N.A.
35	GASKETS Guarnizioni	NBR
36	BASE PLATE Basamento	N.A.

DRIVING MOTOR
MOTORE DI COMANDO

31	TYPE: Tipo	ELECTRIC ■ Elettrico	PNEUMATIC □ Pneumatico	
32	NOMINAL POWER kW Potenza Nominale	7.5		
33	RPM Giri al minuto	2930 (1)	POLES No. No. Poli	2
34	CONSTR. SHAPE Forma	B3		
35	PROTECTION & EXECUTION Protezione ed esecuzione	IP 55	Safe Area	
36	VOLT/PHASES/CYCLES Volt/fasi/cicli	400/3/50		
37	MFR Costruttore	HOYER		
38	TYPE Tipo	IEC		

AUXILIARY PIPES
TUBAZIONI AUSILIARIE



REMARKS *Note*: (1) Suitable for operation with VSDS

Rev.	DATE Data	DESCRIPTION Descrizione	FILLED OUT Compilato	CHECKED Controllato	APPR. BY Approvato
02	04/11/2024	Issue for Review (IFR)	SF	WR	RM
01	31/07/2024	Issue for Review (IFR)	IT	WR	RM
00	23/06/2024	Issue for Review (IFR)	IT	WR	RM

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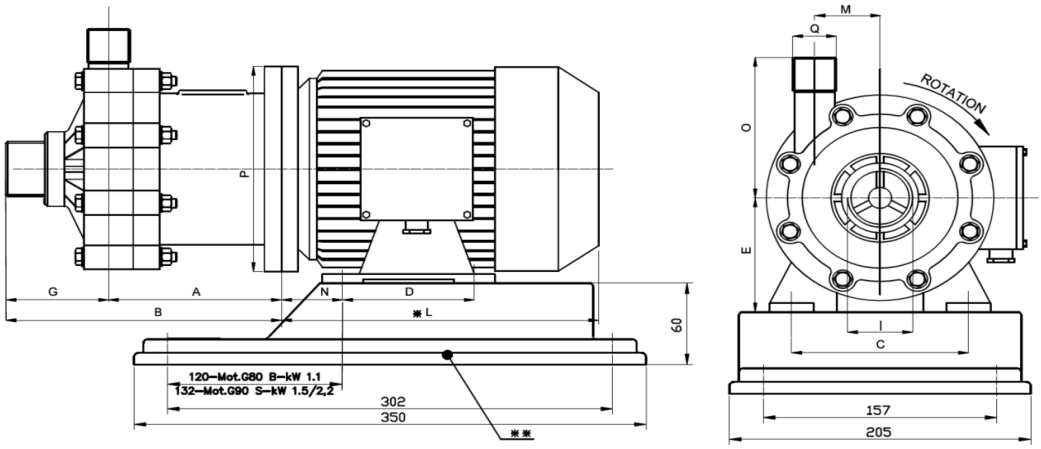
Supplier: GEMMECOTTI

Models: HTM 15 PP 1.1. kW

Drawing Back wash pumps

WEIGHT (PUMP+MOTOR) = 18.8 kg TAG= P-50002A/B

DATA												
A	B	C	D	E	G	I	L	M	N	O	P	Q
151	231	125	100	80	80	2'' Threaded Gas MALE	232	66	50	135	200	1.1/2" Threaded Gas MALE



<2>

PUMP TYPE	MOTOR FLANGE B3–B5	POT. Kw	DIMENSIONS – mm –												
			A	B	C	D	E	G	I	✱L	M	N	O	P	Q
HTM 15	G 80 B	1.1	151	231	125	100	80	80	2" MALE	232	66	50	135	200	1" 1/2 MALE

REFERENCE DOCUMENTS	
1724000448-MAC-DA-00005	GENERAL ARRANGEMENT DRAWINGS AND FOUNDATIONS LOADING CALCULATIONS
1724000448-PR-PID-00013	WATER TREATMENT PACKAGE-PID DIAGRAM

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CENTRIFUGAL PUMP DATA SHEET

SPECIFICA POMPA CENTRIFUGA

PROJECT: Progetto	HOLLANDSE KUST NOORD WIND PARK Project	LOCATION: Località	Off Shore Hollandse Kust Noord	DOC N° : Doc N°	PK2885-M-001
MOD Mod	HTM 15 PP	PLANT: Impianto	Water treatment package	CUSTOMER: Cliente	Rosetti Marino S.p.A.
MFR: Fornitori	GEMME COTTI			JOB: Commessa	PK2885

SERVICE Descrizione	Backwash pumps	ITEM Descrizione	P-50002 A/B	N° OF UNITS N° di unità	2	
APPLICABLE CODE Norme	NONE			TYPE Tipo	Centrifugal	
WEIGHTS: Pesi	PUMP: Pompa	6	kg MOTOR: Kg motore	13		

DESIGN CONDITION
CONDIZIONI DI PROGETTO

LIQUID Liquido	SEA WATER (2)			NORMAL CAPACITY Portata normale	5	$m^3/$ DESIGN Richiesta	23 m^3/h
SOLID IN SUSPENSION Solidi in sospensione	None	% wt		DISCHARGE PRESSURE Pressione di mandata			2.6 bar abs
SIZE DISTRIBUTION Granulometria	N/A <2>			SUCTION PRESSURE Pressione di aspirazione massima			1.1 bar abs
PUMPING TEMPERATURE (P.T.) Temperatura di pompaggio	10/25	°C		DIFFERENTIAL PRESSURE Pressione differenziale			1.5 bar
VISCOSITY AT P.T. Viscosità	1.31-0.89	m Pa sec		DIFFERENTIAL HEAD Prevalenza			14.5 m
SPECIFIC GRAVITY AT P.T. Densità	1020-1030	kg/m^3		OPERATING TIME Tempo operativo			1 hours/day
VAPOUR PRESSURE AT P.T. Tensione di vapore	0.012-0.02	bar abs		SHUT-OFF PRESSURE Pressione di arresto			2 bar
NPSH AVAILABLE / REQUIRED NPSH richiesto / disponibile	10.4 - 11.3 / 2.5	m		MAX. SUCTION PRESS. Pressione di aspirazione massima			1.2 bar abs
EFFICIENCY Rendimento	34.28 <2>	%		MECH. DESIGN PRESS. Pressione di progetto			6 bar (g)
POWER Potenza — ABSORBED AT DUTY POINT Assorbita al punto di lavoro normale	0.55	kW		MECH. DESIGN TEMP. Temperatura di progetto			60 °C
ABSORBED AT END OF CURVE Assorbita al massimo carico	0.9	kW		SPEED Velocità			2900 rpm
SELECTED MOTOR Nominale	1.1	kW		ROTATION (VIEW FROM MOTOR) <2>	☐ C.W. Orario		■ C.C.W. Antiorario

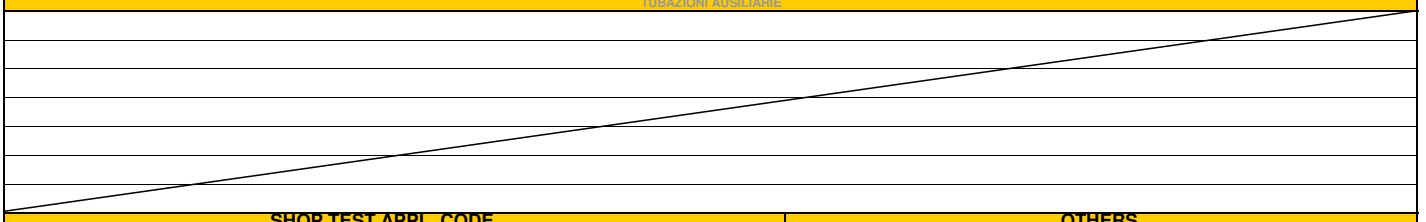
CONSTRUCTION DATA
DATI COSTRUTTIVI

INSTALLATION Installazione	■ HORIZONTAL Orizzontale	☐ VERTICAL Verticale		■ IN LINE In linea	LOCATION Posizione	☐ OUTDOOR All'aperto	■ INDOOR Al chiuso
SUPPORT TYPE Supporti tipo	☐ CENTERLINE In linea	<2>	■ MOTOR FOOT Piedini	☐ BRACKET Mensole			
SPLIT Apertura corpo	☐ AXIAL Assiale	<2>	■ RADIAL Radiale				
CASING Voluta tipo	<2> ■ SINGLE VOLUTE Singola	☐ DOUBLE VOLUTE Doppia		☐ DIFFUSER Diffusore			
THREADED CONNECTIONS Connessioni filettate	☐ VENT Sfiato	☐ DRAIN Scarico		☐ MANOMETER Manometro			
NOZZLE Bocchelli — SUCTION Aspirazione	SIZE Ø	Threaded 2" Gas Male					
DISCHARGE Mandata	SIZE Ø	Threaded 1.1/2" Gas Male					
IMPELLER N° Girante N°	TYPE Tipo ☐	OPEN Aperta ☐	SEMIOPEN Semiaperta ■	CLOSED Chiusa	RATED ø Diametro ø	108 <2> mm	
RADIAL THRUST BEARINGS MFT & TYPE Cuscinetti tipo	Supplier standard <2>				LUBRICATION Lubrificazione	N/A <2>	
COUPLING Giunto	MAGNETIC DRIVEN				ASSEMBLED BY Montato da	☐ BUYER Cliente <2>	■ PUMP MRF Costruttore
COUPLING GUARD NON-SPARKING Protezione giunto da scintille	☐ YES Si	■ NO No			BASE PLATE Basamento	☐ YES Si <2>	■ NO No
SEALING Tenuta	N/A<2>	☐ MECHANICAL Meccanica	☐ PACKING Premistoppa		TYPE Tipo	N.A.	
☐ REDUCTION GEAR Riduttore a ingranaggi	N/A <2>						

MATERIALS
MATERIALI

CASING Corpo	PP	BEARINGS Cuscinetti	PTFEC
IMPELLER Girante N°	PVDF	BASE PLATE Basamento	PP <2>
SHAFT Albero	Al2O3		

HEATING / COOLING <2>
TUBAZIONI AUSILIARIE



SHOP TEST APPL. CODE
COLLAUDI

<2> According to project ITP Doc. 1724000448-QC-ITP-00002

OTHERS
ALTRO

PUMP + BASE PLATE + COUPLING WEIGHT+DRIVE Peso pompa + Basamento + Giunto + Motore	22 <2>	kg
PUMP WEIGHT ONLY Peso corpo pompa	6 <2>	kg

MOTOR DRIVER
MOTORE DI COMANDO

DRIVER Motore	■ ELECTRICAL MOTOR Elettrico				TYPE Tipo	IE3	
REQUIRED POWER Potenza richiesta	kW	1.1	rpm	2900	Volts/Phases/Cycles Volt/fasi/Cicli	400/3/50	
	Shape Forma		Enclosure Protezione	IP55	Execution Esecuzione	Safe area	

REMARKS
Note

(1) INCLUDED:
- Electric motor
- Nameplate

(2) pH = 8.2 Chlorides = 20310 ppm

DATE Data	REV Rev	DESCRIPTION Descrizione	FILLED OUT Compilato	CHECKED Controllato	APPR. BY Approvato
04/11/2024	02	Issue for Review (IFR)	SF	WR	RM
31/07/2024	01	Issue for Review (IFR)	IT	WR	RM
20/06/2024	00	Issue for Review (IFR)	IT	WR	RM

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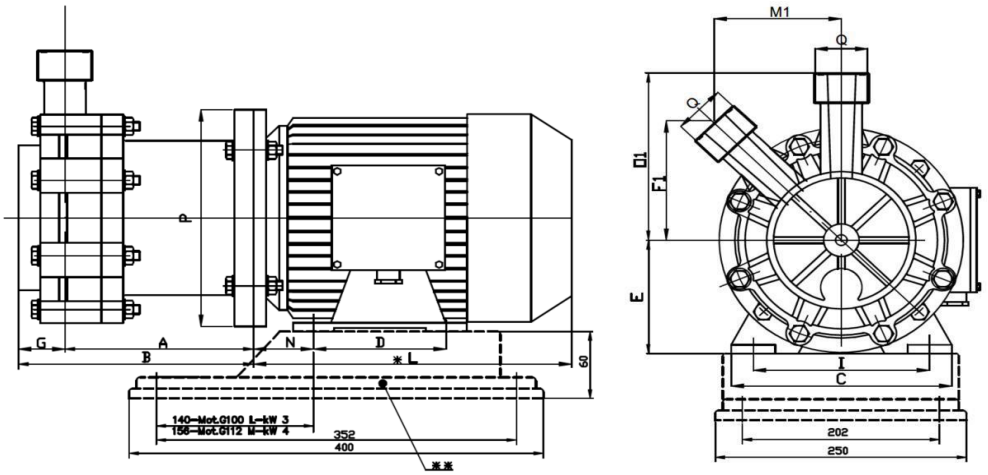
Supplier: GEMMECOTTI

Models: HTT 12000 PP 4 Kw

Drawing Sea Water Booster pumps

WEIGHT (PUMP+MOTOR)= 43 <2>kg **TAG= P-50003A/B**

DATA													
A	B	C	D	E	F	G	I	L	M	N	O1	P	Q
207	241	230	140	112	95	34	190	324	95	70	135	250	1.1/2'' Threaded GAS MALE



PUMP TYPE	MOTOR FLANGE B3–B5	POT. Kw	DIMENSIONS – mm –													
			A	B	C	D	E	F1	G	I	*L	M1	N	O1	P	Q
HTT 12000	G 100 L	3	207	241	200	140	100	95	34	160	316	95	63	135	250	1" 1/2"G MALE
	G 112 M	4			230		112			190	324		70			

REFERENCE DOCUMENTS	
1724000448-MAC-DA-00005	GENERAL ARRANGEMENT DRAWINGS AND FOUNDATIONS LOADING CALCULATIONS
1724000448-PR-PID-00013	WATER TREATMENT PACKAGE-PID DIAGRAM

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CENTRIFUGAL PUMP DATA SHEET
SPECIFICA POMPA CENTRIFUGA

PROJECT: Progetto	HOLLANDSE KUST NOORD / WIND PARK Project	LOCATION: Località	Off Shore Hollandse Kust Noord / The Netherlands
DOC N° : Doc N°	PK2885-M-001		
MOD. Mod	HTT 12000 PP	PLANT: Impianto	Water treatment package
CUSTOMER: Cliente	Rosetti Marino S.p.A.		
MFR: Fornitori	GEMME COTTI		
JOB: Commessa	PK2885		

SERVICE Descrizione	Booster pumps	ITEM	P-50003 A/B	N° OF UNITS N° di unità	2		
APPLICABLE CODE Norme	NONE			TYPE Tipo	Centrifugal		
WEIGHTS: Pesi	PUMP: Pompa	8 <2>	Kg BASE: Kg base		Kg MOTOR: Kg motore	30.2 <2>	Kg TOTAL WEIGHT: Kg peso totale	43	Kg

DESIGN CONDITION
CONDIZIONI DI PROGETTO

LIQUID Liquido	SEA WATER (2)			NORMAL CAPACITY Portata normale	2.5	m^3/h	DESIGN Richiesta: 9 m^3/h
SOLID IN SUSPENSION Solidi in sospensione	None	% wt		DISCHARGE PRESSURE Pressione di mandata			5.1 bar abs
SIZE DISTRIBUTION Granulometria	N/A <2>			SUCTION PRESSURE Pressione di aspirazione massima			1.1 bar abs
PUMPING TEMPERATURE (P.T.) Temperatura di pompaggio	10/25	°C		DIFFERENTIAL PRESSURE Pressione differenziale			4 bar
VISCOSITY AT P.T. Viscosità	1.31-0.89	m Pa sec		DIFFERENTIAL HEAD Prevalenza			41.2 m
SPECIFIC GRAVITY AT P.T. Densità	1020-1030	kg/m^3		OPERATING TIME Tempo operativo			24 hours/day
VAPOUR PRESSURE AT P.T. Tensione di vapore	0.012-0.02	bar abs		SHUT-OFF PRESSURE Pressione di arresto			4.8 bar
NPSH AVAILABLE / REQUIRED NPSH richiesto / disponibile	10.4 - 11.3 / 3	m		MAX. SUCTION PRESS. Pressione di aspirazione massima			1.2 bar abs
EFFICIENCY Rendimento	7.51 <2>	%		MECH. DESIGN PRESS. Pressione di progetto			6 bar (g)
POWER Potenza — ABSORBED AT DUTY POINT Assorbita al punto di lavoro normale	3.5	kW		MECH. DESIGN TEMP. Temperatura di progetto			60 °C
POWER — ABSORBED AT END OF CURVE Assorbita al massimo carico	2.25	kW		SPEED Velocità			2900 rpm
POWER — SELECTED MOTOR Nominale	4	kW		ROTATION (VIEW FROM MOTOR) Rotazione (vista dal MOTORE) <2>	■ C.W. Orario	☐ C.C.W. Antiorario	

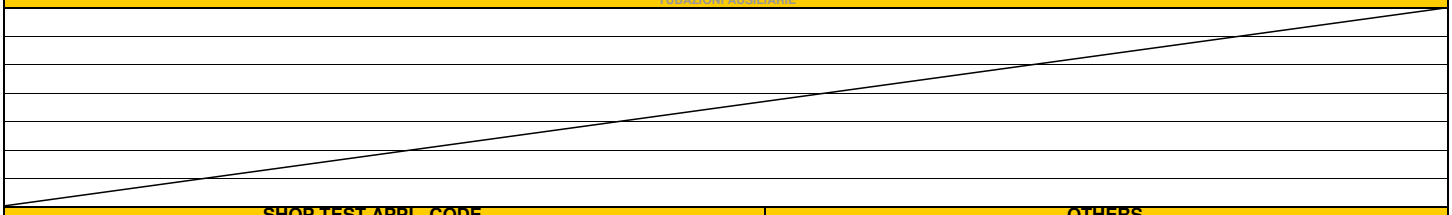
CONSTRUCTION DATA
DATI COSTRUTTIVI

INSTALLATION Installazione	■ HORIZONTAL Orizzontale	☐ VERTICAL Verticale	☐ IN LINE In linea	LOCATION Posizione	☐ OUTDOOR All'aperto	■ INDOOR Al chiuso	
SUPPORT TYPE Supporti tipo	☐ CENTERLINE In linea	<2> ■ MOTOR FOOT Piedini	☐ BRACKET Mensole				
SPLIT Apertura corpo	☐ AXIAL Assiale	<2> ■ RADIAL Radiale					
CASING Voluta tipo	■ SINGLE VOLUTE Singola	☐ DOUBLE VOLUTE Doppia	☐ DIFFUSER Diffusore				
THREADED CONNECTIONS Connessioni filettate	☐ VENT Sfiato	☐ DRAIN Scarico	☐ MANOMETER Manometro				
NOZZLE Bocchelli — SUCTION Aspirazione	SIZE Ø	Threaded 1.1/2" GAS Male					
NOZZLE — DISCHARGE Mandata	SIZE Ø	Threaded 1.1/2" GAS Male					
IMPELLER N° Girante N°	TYPE Tipo ☐ OPEN Aperta	☐ SEMIOPEN Semiaperta ■	CLOSED Chiusa	RATED ø Diametro ø	92 <2> mm		
RADIAL THRUST BEARINGS MFT & TYPE Cuscinetti tipo	Supplier standard <2>			LUBRICATION Lubrificazione	N/A <2>		
COUPLING Giunto	MAGNETIC DRIVEN			ASSEMBLED BY Montato da	☐ BUYER Cliente	■ PUMP MRF Costruttore	
COUPLING GUARD NON-SPARKING Protezione giunto da scintille	☐ YES Si	■ NO No		BASE PLATE Basamento	☐ YES Si	■ NO No	
SEALING Tenuta N/A<2>	☐ MECHANICAL Meccanica	☐ PACKING Premistoppa		TYPE Tipo	N.A.		
☐ REDUCTION GEAR Riduttore a ingranaggi	N/A <2>						

MATERIALS
MATERIALI

CASING Corpo	PP	BEARINGS Cuscinetti	PTFEC
IMPELLER Girante N°	PVDF	BASE PLATE Basamento	PP <2>
SHAFT Albero	Al2O3		

HEATING / COOLING <2>
TUBAZIONI AUSILIARIE



SHOP TEST APPL. CODE
COLLAUDI

<2> According to project ITP Doc. 1724000448-QC-ITP-00002

OTHERS
ALTRO

PUMP + BASE PLATE + COUPLING WEIGHT+DRIVE Peso pompa + Basamento + Giunto + Motore	43 <2>	kg
PUMP WEIGHT ONLY Peso corpo pompa	8 <2>	kg

MOTOR DRIVER
MOTORE DI COMANDO

DRIVER Motore	■ ELECTRICAL MOTOR Elettrico			TYPE Tipo	IE3
REQUIRED POWER Potenza richiesta	kW 4	rpm 2900		Volts/Phases/Cycles Volt/fasi/Cicli	400/3/50
Shape Forma		Enclosure Protezione	IP55	Execution Esecuzione	Safe area

REMARKS
Note

(1) INCLUDED:
- Electric motor
- Nameplate

(2) pH = 8,2 Chlorides = 20310 ppm

DATE Data	REV Rev	DESCRIPTION Descrizione	FILLED OUT Compilato	CHECKED Controllato	APPR. BY Approvato
04/11/2024	02	Issue for Review (IFR)	SF	WR	RM
31/07/2024	01	Issue for Review (IFR)	IT	WR	RM
20/06/2024	00	Issue for Review (IFR)	IT	WR	RM

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Supplier: GRUNDFOS

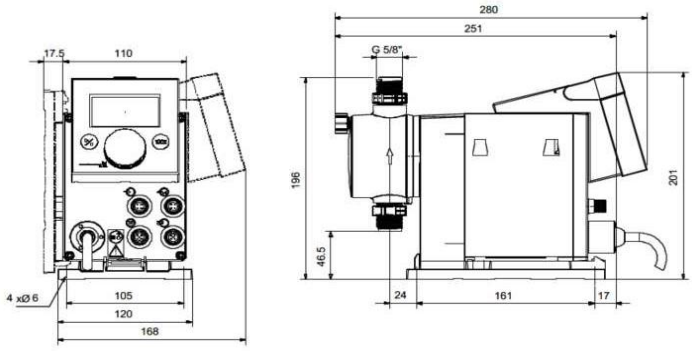
Models: DDC 6-10 AR-PV/T/C-F-31U2U2FGC3

Drawing dosing pump (Caustic Soda)

WEIGHT= 2 kg

TAG= P-50005A/B

Dimension



REFERENCE DOCUMENTS	
1724000448-MAC-DA-00005	GENERAL ARRANGEMENT DRAWINGS AND FOUNDATIONS LAODING CALCULATIONS
1724000448-PR-PID-00013	WATER TREATMENT PACKAGE-PID DIAGRAM

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VOLUMETRIC PUMP DATA SHEET
SPECIFICA PER POMPA VOLUMETRICA

Sh. 13 / 29

PROJECT: Progetto	HOLLANDSE KUST NOORD WIND PARK	LOCATION: Località	Off Shore Hollandse Kust Noord (Netherlands)	DOC N° : Doc N°	PK2885-M-001
MOD: Mod	DDC 6-10 AR-PVC/E/C F-31U2U2FGC3	PLANT: Impianto	Water treatment package	CUSTOMER: Cliente	Rosetti Marino S.p.A.
MFR: Fornitori	Grundfos			JOB: Commessa	PK2885

SERVICE Descrizione	Caustic soda dosing pumps		PUMP TYPE Tipo di pompa	Volumetric, Metering diaphragm	PUMP SERIAL No. Matricola pompa	
MANUFACTURER Costruttore	Grundfos		No. of UNITS No. Unità	2		
EL. MOTOR No. Motore el. No.	ITEM Sigla	P-50005 A/B	SUPPLIED BY Fornito da	Grundfos	ASSEMBLED BY Montato da	Grundfos
WEIGHT: PUMP Kg Peso Pompa	2					

DESIGN CONDITION FOR ONE PUMP
CONDIZIONI DI PROGETTO

LIQUID Liquido	Caustic soda (2% w/w)		CAPACITY NORM. Portata normale	0.05	DES. Rich.	0.10	l/h
SOLID IN SUSPENSION Solidi in sospensione	None		DISCHARGE PRESSURE Pressione di mandata	5.3			barg
CORROSIVE COMPOUNDS Composti corrosivi	pH = 13.7		SUCTION PRESS. MAX Pressione di aspirazione max	atm			barg
TEMP. NORM. Temp. Norm.	10.5	MAX Max 25 °C	DIFFERENTIAL PRESSURE Pressione differenziale	5.3			bar
VISCOSITY Viscosità	1 <2>	mPa sec	DIFFERENTIAL HEAD Prevalenza	53 <2>			m
DENSITY Densità	1020	kg/m³	NPSH AVAILABLE NPSH disponibile	10 <2>			m
VAPOUR PRESSURE Tensione di vapore	0,012 <2>	Bar abs	OPERATION Servizio	Continuos			
FREEZING TEMP. Temperatura di congelamento	<0 <2>	°C	INSTALLATION Installazione	INDOOR Al chiuso ■	OUTDOOR All'aperto □		

CHARACTERISTICS
CARATTERISTICHE

SAFETY V. RATING Taratura valvola sicurezza	6 (1)	bar
CAPACITY Portata	min 6 ml/h max 6 l/h	
MAX PRESSURE Pressione max ammissibile	10	bar
MAX TEMP. Temperatura max	45	°C

CONSTRUCTION DATA
DATI COSTRUTTIVI

PUMP ASSEMBLING Montaggio pompa	(HORIZONTAL ■) (Orizzontale)	(FOOT ■) (Foot)	(BRAKET □) (Braket)	(VERTICAL □) (Verticale)	
JACKET Camicie	N/A <2>				
CORROSION ALLOWANCE Sovraspessore di corrosione	N/A <2> mm				
SUCTION NOZZLE ø Flangia di aspirazione	Threaded 5/8" Gas Male				
DISCHARGE NOZZLE ø Flangia di mandata	Threaded 5/8" Gas Male				
LUBRICATION TYPE Lubrificazione tipo	None				
JOINT TYPE Giunto tipo	None				
BASE PLATE Basamento	None				
PACKING TYPE Premistoppa tipo	N/A <2>				
SEALING TYPE Tenuta tipo	N/A <2>				
MULTI FUNCTIONAL VALVE Valvola multifunzione	(YES ■) (Si)	(NO □) (No)	PULSATION DAMPER Smorzatore di pulsazioni	(YES □) (Si)	□ (NO ■) (No)
STEAM TRACING (to execute at erection) Tracciatura (da eseguire al montaggio)	(YES □) (Si)	(NO ■) (No)			
INSULATION Coibentazione	N/A <2>				

TESTS
COLLAUDI

<2> According to project ITP Doc. 1724000448-QC-ITP-00002

MATERIALS
MATERIALI

CASING Cassa	PVC
PISTON Pistone	N/A <2>
DIAPHRAGM Membrana	PVDF
INNER PART Parti interne	PVC
VALVE Valvole di ritegno	PVC
STUFFING BOX Premistoppa tipo	N/A <2>
PULSATION DAMPER Smorzatore di pulsazioni	N/A <2>
GASKETS Guarnizioni	EPDM
BASE PLATE Basamento	N/A <2>

DRIVING MOTOR
MOTORE DI COMANDO

TYPE: Tipo	ELECTRIC Elettrico ■ PNEUMATIC Pneumatico □
NOMINAL POWER kW Potenza Nominale	0.022 <2>
PROTECTION & EXECUTION Protezione ed esecuzione	IP 65
VOLT/PHASES/CYCLES Volt/fasi/cicli	240 or 100/1/50
MFR Costruttore	Grundfos
TYPE Tipo	Stepper suitable for safe area
FULL LOAD AMPERAGE A Amperaggio pieno carico	25 <2>

AUXILIARY PIPES <2>
TUBAZIONI AUSILIARIE

REMARKS
Note

(1) Multi functional valve (PSV+check) set at 6 barg
(2) Injection valve shall be included
(3) Automatic stroke adjustment 4-20 mA

Rev. Rev.	DATE Data	DESCRIPTION Descrizione	FILLED OUT Compilato	CHECKED Controllato	APPR. BY Approvato
02	04/11/2024	Issue for Review (IFR)	SF	WR	RM
01	31/07/2024	Issue for Review (IFR)	IT	WR	RM
00	23/06/2024	Issue for Review (IFR)	IT	WR	RM

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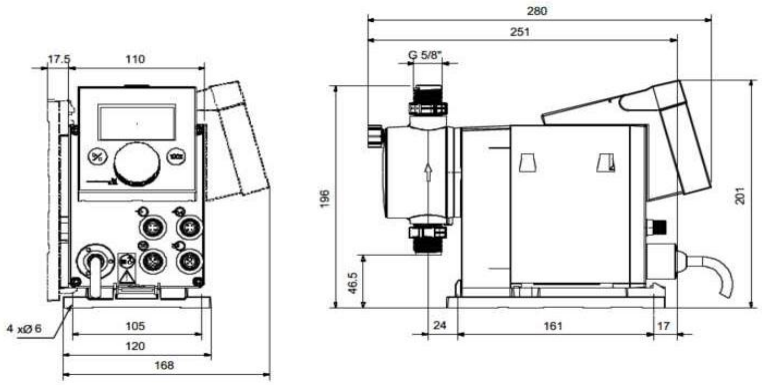
Models: DDC 6-10 AR-PVC/V/C-F-31U2U2FGC3

Drawing dosing pump (Antiscalant)

WEIGHT= 2 kg

TAG= P-50006A/B

Dimension



REFERENCE DOCUMENTS	
1724000448-MAC-DA-00005	GENERAL ARRANGEMENT DRAWINGS AND FOUNDATIONS LOADING CALCULATIONS
1724000448-PR-PID-00013	WATER TREATMENT PACKAGE-PID DIAGRAM

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VOLUMETRIC PUMP DATA SHEET
SPECIFICA PER POMPA VOLUMETRICA

PROJECT: Progetto: HOLLANDSE KUST NOORD WIND PARK	LOCATION: Località: Off Shore Hollandse Kust Noord (Netherlands)	DOC N° : Doc N°: PK2885-M-001	
MOD: Mod: DDC 6-10 AR-PVC/V/C F-31U2U2FG	PLANT: Impianto: Water treatment package	DEPARTMENT: Reparto:	CUSTOMER: Cliente: Rosetti Marino S.p.A.
MFR: Fornitori: Grundfos	RFQ N° RdO N°:	PO N° Ordine N°:	JOB: Commessa: PK2885

SERVICE Descrizione	Antiscalant dosing pumps		PUMP TYPE Tipo di pompa	Volumetric, Metering diaphragm	PUMP SERIAL No. Matricola pompa
MANUFACTURER Costruttore	Grundfos		No. of UNITS No. Unità	2	
EL. MOTOR No. Motore el. No.		ITEM Sigla	P-50006 A/B	SUPPLIED BY Fornito da	Grundfos	ASSEMBLED BY Montato da	Grundfos
WEIGHT: PUMP Kg Peso / Pompa	2				

DESIGN CONDITION FOR ONE PUMP
CONDIZIONI DI PROGETTO

LIQUID Liquido	Antiscalant		CAPACITY NORM. Portata normale	0.01	DES. Rich.	0.05	l/h
SOLID IN SUSPENSION Solidi in sospensione	None		DISCHARGE PRESSURE Pressione di mandata	3.0			barg
CORROSIVE COMPOUNDS Composti corrosivi	pH = 7.5		SUCTION PRESS. MAX Pressione di aspirazione max	atm			barg
TEMP. NORM. Temp. Norm.	10.5	MAX Max 25 °C	DIFFERENTIAL PRESSURE Pressione differenziale	3			bar
VISCOSITY Viscosità	<10 <2>	mPa sec	DIFFERENTIAL HEAD Prevalenza	27 <2>			m
DENSITY Densità	1130 <2>	kg/m^3	NPSH AVAILABLE NPSH disponibile	10 <2>			m
VAPOUR PRESSURE Tensione di vapore	Not available	bar abs	OPERATION Servizio	Continuos			
FREEZING TEMP. Temperatura di congelamento	<0	°C	INSTALLATION Installazione	INDOOR ■ Al chiuso	OUTDOOR □ All'aperto		

CHARACTERISTICS
CARATTERISTICHE

SAFETY V. RATING Taratura valvola sicurezza	6 (1)	bar
CAPACITY Portata	min 6 ml/h	max 6 l/h
MAX PRESSURE Pressione max ammissibile	10	bar
MAX TEMP. Temperatura max	45	°C

CONSTRUCTION DATA
DATI COSTRUTTIVI

PUMP ASSEMBLING Montaggio pompa	(HORIZONTAL ■ Orizzontale)	(FOOT ■ Foot)	(BRAKET □ Braket)	(VERTICAL □ Verticale)	
JACKET Camicie	N/A <2>				
CORROSION ALLOWANCE Sovrapessore di corrosione	N/A <2> mm				
SUCTION NOZZLE ø Flangia di aspirazione	Threaded 5/8" Gas Male				
DISCHARGE NOZZLE ø Flangia di mandata	Threaded 5/8" Gas Male				
LUBRIFICATION TYPE Lubrificazione tipo	None				
JOINT TYPE Giunto tipo	None				
BASE PLATE Basamento	None				
PACKING TYPE Premistoppa tipo	N/A <2>				
SEALING TYPE Tenuta tipo	N/A <2>				
MULTI FUNCTIONAL VALVE Valvola multifunzione	(YES ■ Si)(NO □ No)	PULSATION DAMPER Smorzatore di pulsazioni	(YES □ Si)	(NO ■ No)	
STEAM TRACING (to execute at erection) Tracciatura (da eseguire al montaggio)	(YES □ Si)(NO ■ No)				
INSULATION Coibentazione	N/A <2>				

TESTS
COLLAUDI

<2> According to project ITP Doc. 1724000448-QC-ITP-00002

MATERIALS
MATERIALI

CASING Cassa	PVC
PISTON Pistone	N/A <2>
DIAPHRAGM Membrana	PVDF
INNER PART Parti interne	PVC
VALVE Valvole di ritegno	PVC
STUFFING BOX Premistoppa tipo	N/A <2>
PULSATION DAMPER Smorzatore di pulsazioni	N/A <2>
GASKETS Guarnizioni	EPDM
BASE PLATE Basamento	N/A <2>

DRIVING MOTOR
MOTORE DI COMANDO

TYPE: Tipo — ELECTRIC Elettrico ■ / PNEUMATIC Pneumatico □	
NOMINAL POWER kW Potenza Nominale	0.022 <2>
PROTECTION & EXECUTION Protezione ed esecuzione	IP 65
VOLT/PHASES/CYCLES Volt/fasi/cicli	240 or 100/1/50
MFR Costruttore	Grundfos
TYPE Tipo	Stepper suitable for safe area
FULL LOAD AMPERAGE A Amperaggio pieno carico	25 <2>

AUXILIARY PIPES <2>
TUBAZIONI AUSILIARIE

REMARKS
Note

(1) Multi functional valve (PSV+check) set at 6 barg

(2) Injection valve shall be included

(3) Manual stroke adjustment

Rev. Rev.	DATE Data	DESCRIPTION Descrizione	FILLED OUT Compilato	CHECKED Controllato	APPR. BY Approvato
02	04/11/2024	Issue for Review (IFR)	SF	WR	RM
01	31/07/2024	Issue for Review (IFR)	IT	WR	RM
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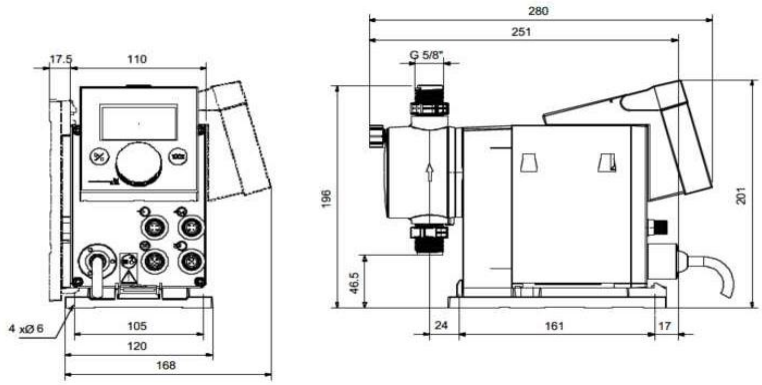
Models: DDC 6-10 AR-PVC/V/C-F-31U2U2FGC3

Drawing dosing pump (Biocide)

WEIGHT= 2 kg

TAG= P-50007A/B
P-50008A/B
P-50010A/B

Dimension



REFERENCE DOCUMENTS	
1724000448-MAC-DA-00005	GENERAL ARRANGEMENT DRAWINGS AND FOUNDATIONS LOADING CALCULATIONS
1724000448-PR-PID-00013	WATER TREATMENT PACKAGE-PID DIAGRAM

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VOLUMETRIC PUMP DATA SHEET
SPECIFICA PER POMPA VOLUMETRICA

PROJECT: Progetto	HOLLANDSE KUST NOORD WIND PARK	LOCATION: Località	Off Shore Hollandse Kust Noord (Netherlands)	DOC N° : Doc N°	PK2885-M-001
MOD: Mod	DDC 6-10 AR-PVC/V/C F-31U2U2FG	PLANT: Impianto	Water treatment package	DEPARTMENT: Reparto	
CUSTOMER: Cliente	Rosetti Marino S.p.A.	MFR: Fornitori	Grundfos	RFQ N° RdO N°	
PO N° Ordine N°		JOB: Commessa	PK2885		

1	SERVICE Descrizione	Biocide dosing pumps (inlet water plant)		PUMP TYPE Tipo di pompa	Volumetric, Metering diaphragm	PUMP SERIAL No. Matricola pompa
2	MANUFACTURER Costruttore	Grundfos		No. of UNITS No. Unità	2	
3	EL. MOTOR No. Motore el. No.	ITEM Sigla	P-50007 A/B P-50008 A/B <2> P-50010 A/B <2>	SUPPLIED BY Fornito da	Grundfos	ASSEMBLED BY Montato da Grundfos
4	WEIGHT: PUMP Kg Peso Pompa	2				

	DESIGN CONDITION FOR ONE PUMP CONDIZIONI DI PROGETTO						CHARACTERISTICS CARATTERISTICHE		
5									
6	LIQUID Liquido	Biocide (DBNPA or equivalent)		CAPACITY NORM. Portata normale	Note 4 <2>	DES. 6 <2> Rich. l/h	SAFETY V. RATING Taratura valvola sicurezza	6 (1)	bar
7	SOLID IN SUSPENSION Solidi in sospensione	None		DISCHARGE PRESSURE Pressione di mandata	4.5	barg	CAPACITY Portata	min 6 ml/h	max 6 l/h
8	CORROSIVE COMPOUNDS Composti corrosivi	pH = 2.5-4 (sol. 1%)		SUCTION PRESS. MAX Pressione di aspirazione max	atm	barg	MAX PRESSURE Pressione max ammissibile	10	bar
9	TEMP. NORM. Temp. Norm.	10.5	MAX Max 25 °C	DIFFERENTIAL PRESSURE Pressione differenziale	4.5	bar	MAX TEMP. Temperatura max	45	°C
10	VISCOSITY Viscosità	1	mPa sec	DIFFERENTIAL HEAD Prevalenza	38	m			
11	DENSITY Densità	1140-1180	kg/m^3	NPSH AVAILABLE NPSH disponibile	8	m			
12	VAPOUR PRESSURE Tensione di vapore	0.23	bar abs	OPERATION Servizio	Continuos				
13	FREEZING TEMP. Temperatura di congelamento	<0	°C	INSTALLATION Installazione	INDOOR ■ Al chiuso	OUTDOOR □ All'aperto			

	CONSTRUCTION DATA DATI COSTRUTTIVI					TESTS COLLAUDI
14						
15	PUMP ASSEMBLING Montaggio pompa	(HORIZONTAL ■ Orizzontale)	(FOOT ■ Foot)	(BRAKET □ Braket)	(VERTICAL □ Verticale)	<2> According to project ITP Doc. 1724000448-QC-ITP-00002
16	JACKET Camicia	N/A <2>				
17	CORROSION ALLOWANCE Aovraspessore di corrosione	N/A <2> mm				
18	SUCTION NOZZLE ø Flangia di aspirazione	Threaded 5/8" Gas Male				
19	DISCHARGE NOZZLE ø Flangia di mandata	Threaded 5/8" Gas Male				
20	LUBRICATION TYPE Lubrificazione tipo	None				
21	JOINT TYPE Giunto tipo	None				
22	BASE PLATE Basamento	None				
23	PACKING TYPE Premistoppa tipo	N/A <2>				
24	SEALING TYPE Tenuta tipo	N/A <2>				
25	MULTI FUNCTIONAL VALVE Valvola multifunzione	(YES ■ Si) | (NO □ No)	PULSATION DAMPER Smorzatore di pulsazioni	(YES □ Si)	□ (NO ■ No)	
26	STEAM TRACING (to execute at erection) Tracciatura (da eseguire al montaggio)	(YES □ Si) | (NO ■ No)				
27	INSULATION Coibentazione	N/A <2>				

	MATERIALS MATERIALI		DRIVING MOTOR MOTORE DI COMANDO		
28					
29	CASING Cassa	PVC	TYPE: Tipo ELECTRIC Elettrico ■	PNEUMATIC Pneumatico □	
30	PISTON Pistone	N/A <2>	NOMINAL POWER kW Potenza Nominale	0.022 <2>	
31	DIAPHRAGM Membrana	PVDF	PROTECTION & EXECUTION Protezione ed esecuzione	IP 65	
32	INNER PART Parti interne	PVC	VOLT/PHASES/CYCLES Volt/fasi/cicli	240 or 100/1/50	
33	VALVE Valvole di ritegno	PVC	MFR Costruttore	Grundfos	
34	STUFFING BOX Premistoppa tipo	N/A <2>	TYPE Tipo	Stepper suitable for safe area	
35	PULSATION DAMPER Smorzatore di pulsazioni	N/A <2>	FULL LOAD AMPERAGE A Amperaggio pieno carico	25 <2>	
36	GASKETS Guarnizioni	EPDM			
37	BASE PLATE Basamento	N/A <2>			
38					

	AUXILIARY PIPES <2> TUBAZIONI AUSILIARIE
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REMARKS
Note

(1) Multi functional valve (PSV+check) set at 6 barg

(2) Injection valve shall be included

(3) Manual stroke adjustment

(4) P50007A/B: 0.03 l/h; P50008A/B: 0.85 l/h; P50010A/B: 0.85 l/h <2>

Rev. Rev	DATE Data	DESCRIPTION Descrizione	FILLED OUT Compilato	CHECKED Controllato	APPR. BY Approvato
02	04/11/2024	Issue for Review (IFR)	SF	WR	RM
01	31/07/2024	Issue for Review (IFR)	IT	WR	RM
00	23/06/2020	Issue for Review (IFR)	IT	WR	RM

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Supplier: EVERBLUE

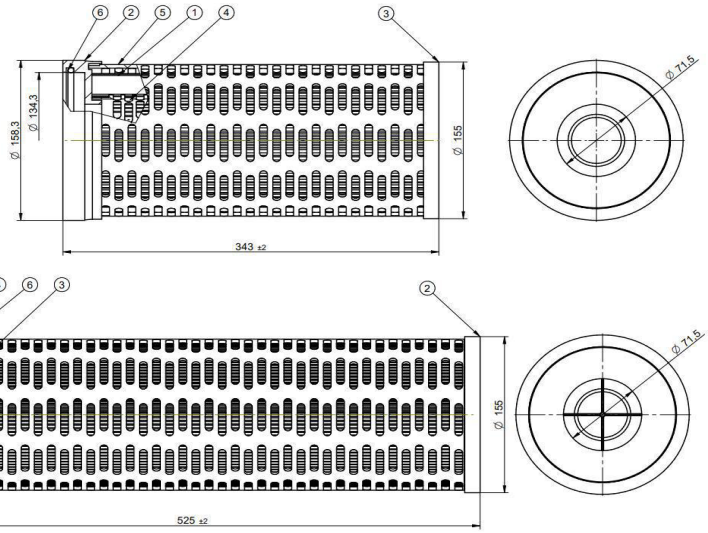
Models: FMX-01
Model cartridge filter: PP95MX5L 13" 20 MICRON / PP95MX5L 13" 5 MICRON

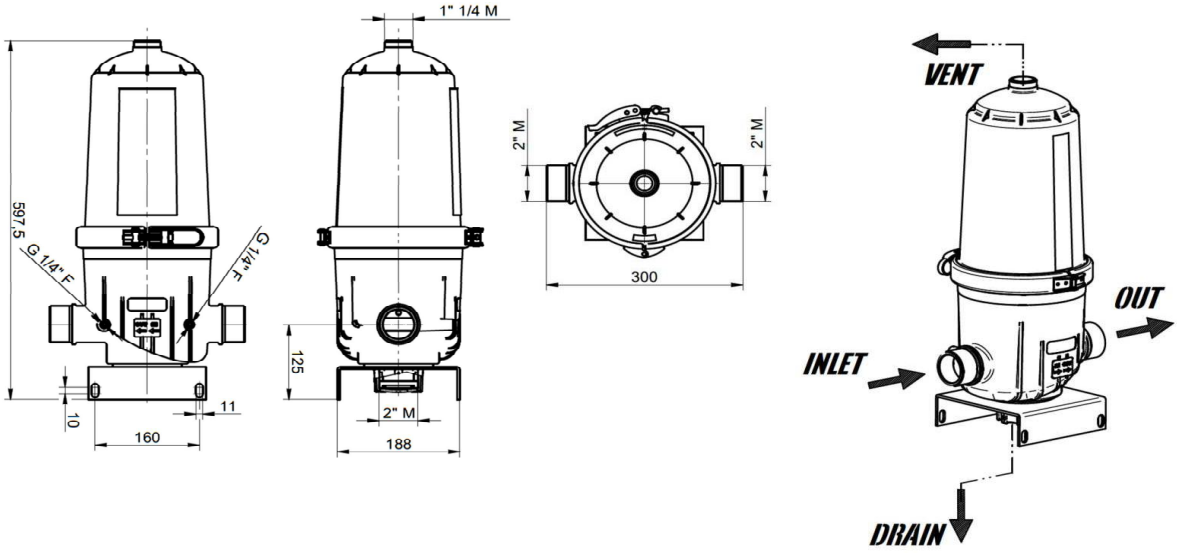
Drawing cartridge filters

WEIGHT VESSEL = 19 kg

TAG= S-50002A/B, S-50003A/B

Pos	Description	Dimens.	Material
1	Pleated	L=311mm,5 mm	PP
2	Lower shell attachment MX	D=155	PP
3	Lower shell attachment		PP
4	Cartridge Inner Duct FM	13''	PP
5	Cartridge Outer Duct MX	13''	PP
6	Ring 210	133,4*5,34*144,08 mm	Silica





REFERENCE DOCUMENTS	
1724000448-MAC-DA-00005	GENERAL ARRANGEMENT DRAWINGS AND FOUNDATIONS LOADING CALCULATIONS
1724000448-PR-PID-00013	WATER TREATMENT PACKAGE-PID DIAGRAM

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FILTER DATA SHEET
SPECIFICA PER FILTRO

Sh. 19 / 29

PLANT: Impianto: Water treatment package	CUSTOMER: Cliente: Rosetti Marino S.p.A		
LOCATION: Località: HOLLANDSE KUST NOORD WIND PARK Project	JOB: Commessa: PK2885	ITEM: Sigla: S-50002A/B	
DEPARTMENT : Reparto	P&I : 1724000448-PR-PID-00013	MFR: Costruttore: EVERBLUE	DOC.Nr. Doc. Nr.: PK2885-M-001

1	SERVICE OF UNIT / Servizio: Cartridge filter (20 µm)			No. OF UNITS / No. di unità: 2
2	FLUID HANDLED / Fluido trattato:			Sea water
3	CORROSIVE COMPOUNDS / Composti corrosivi		ppm	TDS = 37000 and Chloride = 20300, (@pH = 8.2)
4	FLOW RATE / Portata:	OPERATING INLET / NET	m^3/h	2 / 2
5	OPERATING PRESSURE / Pressione di esercizio		barg	4
6	OPERATING TEMPERATURE / Temperatura di esercizio:		°C	10-23
7	FLUID DENSITY/ Densità:		kg /m^3	1020 / 1029
8	FLUID VISCOSITY / Viscosità:		mPa sec	1.67/ 0.89
9	TOTAL SUSPENDED SOLIDS / Solidi Sospesi Totali:		mg/l	<5
10	MINIMUM SIZE OF PARTICLES TO BE REMOVED / Dim. minima delle particelle da filtrare:		µm	> 40
11	PRESSURE DROP / Perdite di carico:	CLEAN / DIRTY / MAX	bar	0.2 / 0.7 / 1.0
12	MAX WASHING PHASE FLOW RATE		m^3/h	N.A.
13	MAX WASHING PHASE DURATION TIME		sec	N.A.
14	DESIGN PRESSURE / Pressione di progetto:		barg	6
15	TEST PRESSURE / Pressione di prova :		barg	9
16	DESIGN TEMPERATURE / Temperatura di progetto:		°C	50
17	FILTER TYPE (Tipo di filtro)			Cartridge element spiral wound
18	FILTRATION AREA		m^2	0,3
19	FILTER DIAMETER/HEIGHT DIMENSIONS		mm	300 / 600
20	FILTER EMPTY AND OPERATING WEIGHT		kg	19 / 40
21	FILTER MATERIAL / Materiale filtrante:			PP
22	SUPPORT BASKET MATERIAL / Materiale supporto cestello:			PP
23	FILTER HOLES DIAMETER / Diametro fori del filtro:		µm	20 (NON ABSOLUTE)
24	FILTER REMOVAL EFFICIENCY / Efficienza di filtrazione		%	95
25	BODY MATERIAL / Materiale corpo:			PP
26	CORROSION ALLOWANCE / Sovraspessore di corrosione:		mm	N.A.
27	CODE REQUIREMENTS / Norme richieste:			PED 2014/68/UE
28	CONNECTIONS / Connessioni	FLUID / Fluido: IN /OUT		3" BSP
29		DRAIN / Scarico:		3" BPS
30		VENT / Sfiato:		3/4 "
31	BY-PASS FOR MAINTENANCE / By-pass per manutenzione:			NO
32	FILTER TWIN OR SINGLE / Filtro doppio o singolo:			Single
33	TYPE OF SUPPORT (IF APPLICABLE) / Tipo di supporto:			N.A.
34	GASKETS / Guarnizioni:			NBR
35	ELASTOMERS / Elastomeri:			N.A.
36	POWER SUPPLY		V, Hz	N.A.
37	INSTALLED POWER		W	N.A.
38	THERMAL INSULATION TYPE / Tipo isolamento: N.A.	THICKNESS / Spessore:	mm	N.A.

39 **REMARKS**

40 **(1) Required items included:**
- Nameplate
- Filter element
-Tools key

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REV. Rev.	DATE Data	DESCRIPTION Descrizione	PREPARED Compilato da	CHECKED Controllato da	APPR. BY Approvato da
02	04/11/2024	Issue for Review (IFR)	SF	WR	RM
01	31/07/2024	Issue for Review (IFR)	IT	WR	RM
00	24/06/2024	Issue for Review (IFR)	IT	WR	RM

FILTER DATA SHEET
SPECIFICA PER FILTRO

Sh. 20 / 29

PLANT: Impianto: Water treatment package	**CUSTOMER:** Cliente: Rosetti Marino S.p.A		
LOCATION: Località: HOLLANDSE KUST NOORD WIND PARK Project	**JOB:** Commessa: PK2885	**ITEM:** Sigla: S-50003A/B	
DEPARTMENT : Reparto	**P&I :** 1724000448-PR-PID-00013	**MFR:** Costruttore: EVERBLUE	**DOC.Nr.** Doc. Nr.: PK2885-M-001

1	SERVICE OF UNIT / Servizio: Cartridge filter (5 µm)			No. OF UNITS / No. di unità: 2
2	FLUID HANDLED / Fluido trattato:			Sea water
3	CORROSIVE COMPOUNDS / Composti corrosivi		ppm	TDS = 37000 and Chloride = 20300, (@ pH = 8.2)
4	FLOW RATE / Portata:	OPERATING INLET / NET	m^3/h	2 / 2
5	OPERATING PRESSURE / Pressione di esercizio		bar	4
6	OPERATING TEMPERATURE / Temperatura di esercizio:		°C	10
7	FLUID DENSITY/ Densità:		kg /m^3	1020 / 1029
8	FLUID VISCOSITY / Viscosità:		mPa sec	1.67/ 0.89
9	TOTAL SUSPENDED SOLIDS / Solidi Sospesi Totali:		mg/l	<3
10	MINIMUM SIZE OF PARTICLES TO BE REMOVED / Dim. minima delle particelle da filtrare:		µm	> 20
11	PRESSURE DROP / Perdite di carico:	CLEAN / DIRTY / MAX	bar	0.2 / 0.7 / 1.0
12	MAX WASHING PHASE FLOW RATE		m^3/h	N.A.
13	MAX WASHING PHASE DURATION TIME		sec	N.A.
14	DESIGN PRESSURE / Pressione di progetto:		barg	6
15	TEST PRESSURE / Pressione di prova :		barg	9
16	DESIGN TEMPERATURE / Temperatura di progetto:		°C	50
17	FILTER TYPE (Tipo di filtro)			Cartridge element spiral wound
18	FILTRATION AREA		m^2	0.3
19	FILTER DIAMETER/HEIGHT DIMENSIONS		mm	300 / 600
20	FILTER EMPTY AND OPERATING WEIGHT		kg	19 / 40
21	FILTER MATERIAL / Materiale filtrante:			PP
22	SUPPORT BASKET MATERIAL / Materiale supporto cestello:			PP
23	FILTER HOLES DIAMETER / Diametro fori del filtro:		µm	5 (NON ABSOLUTE)
24	FILTER REMOVAL EFFICIENCY / Efficienza di filtrazione		%	95
25	BODY MATERIAL / Materiale corpo:			PP
26	CORROSION ALLOWANCE / Sovraspessore di corrosione:		mm	N.A.
27	CODE REQUIREMENTS / Norme richieste:			PED 2014/68/UE
28	CONNECTIONS / Connessioni	FLUID / Fluido: IN /OUT		3" BSP
29		DRAIN / Scarico:		3" BPS
30		VENT / Sfiato:		3/4 "
31	BY-PASS FOR MAINTENANCE / By-pass per manutenzione:			NO
32	FILTER TWIN OR SINGLE / Filtro doppio o singolo:			Single
33	TYPE OF SUPPORT (IF APPLICABLE) / Tipo di supporto:			NONE
34	GASKETS / Guarnizioni:			NBR
35	ELASTOMERS / Elastomeri:			N.A.
36	POWER SUPPLY		V, Hz	N.A.
37	INSTALLED POWER		W	N.A.
38	THERMAL INSULATION TYPE / Tipo isolamento: N.A.	THICKNESS / Spessore:	mm	N.A.

39 **REMARKS**

40 **(1) Required items included:**
- Nameplate
- Filter element
- Tools key

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Supplier: SG

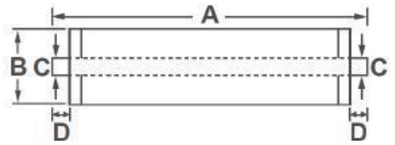
Models: LG SW4040R membrane
1MNC1384 Vessel

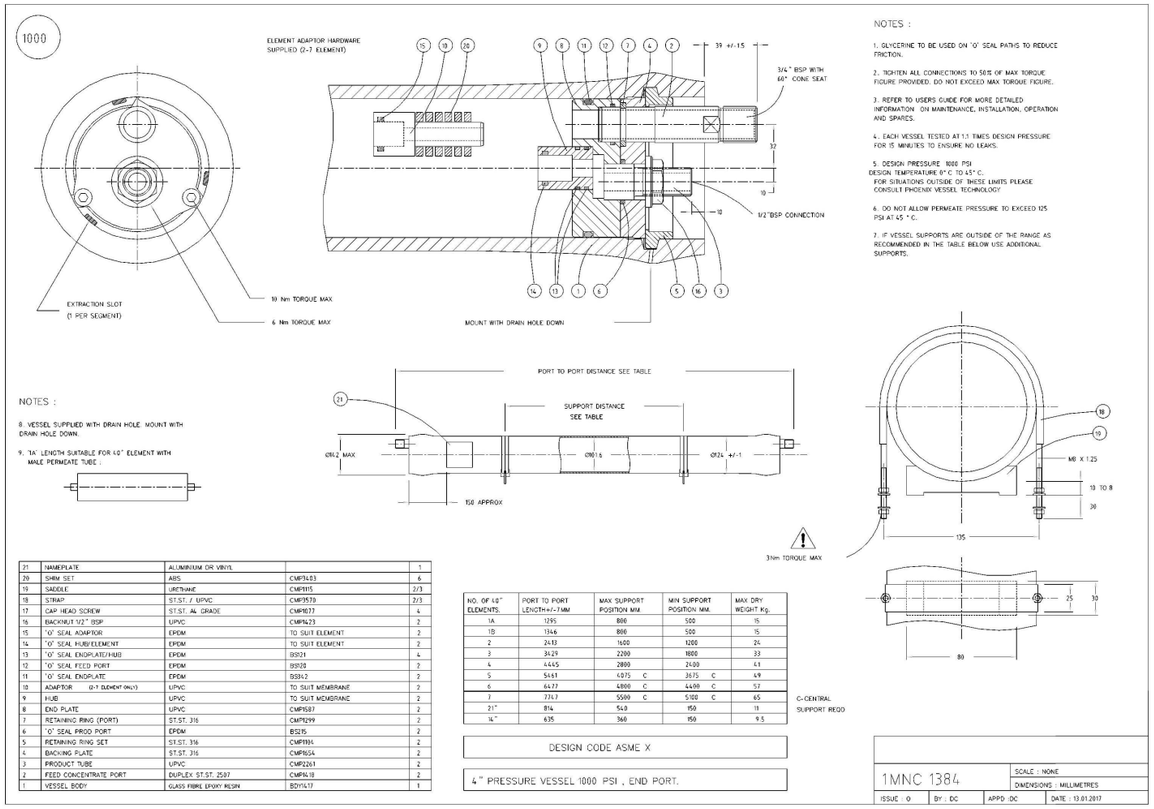
Drawing Vessel membranes

WEIGHT= 57 kg **TAG=A-50007A/B**

Membrane: nr.6 elements

Dimension	
A	1,016 mm
B	100 mm
C	19 mm
D	29 mm





21	NAMEPLATE	ALUMINIUM OR VINYL		1
20	SHIM SET	ABS	CMP7483	6
19	SADDLE	URETHANE	CMP1115	2/3
18	STRAP	ST.ST. / UPVC	CMP7570	2/3
17	CAP HEAD SCREW	ST.ST. AL GRADE	CMP6077	4
16	BACKOUT 1/2" BSP	UPVC	CMP6423	2
15	"O" SEAL ADAPTOR	EPDM	TO SUIT ELEMENT	2
14	"O" SEAL HUB/ELEMENT	EPDM	TO SUIT ELEMENT	2
13	"O" SEAL ENDPLATE/HUB	EPDM	BS921	4
12	"O" SEAL FEED PORT	EPDM	BS908	2
11	"O" SEAL ENDPLATE	EPDM	BS912	2
10	ADAPTOR (2-7 ELEMENT ONLY)	UPVC	TO SUIT MEMBRANE	2
9	HUB	UPVC	TO SUIT MEMBRANE	2
8	END PLATE	UPVC	CMP1587	2
7	RETAINING RING (PORT)	ST.ST. 316	CMP1299	2
6	"O" SEAL PROD PORT	EPDM	BS215	2
5	RETAINING RING SET	ST.ST. 316	CMP1934	2
4	BACKING PLATE	ST.ST. 316	CMP1654	2
3	PRODUCT TUBE	UPVC	CMP2261	2
2	FEED CONCENTRATE PORT	DUPLEX ST.ST. 2507	CMP4418	2
1	VESSEL BODY	GLASS FIBRE EPOXY RESIN	BDY1617	1

NO. OF 40" ELEMENTS:	PORT TO PORT LENGTH+/-1 MM	MAX SUPPORT POSITION MM.	MIN SUPPORT POSITION MM.	MAX. DRY WEIGHT Kg.
1A	1295	800	500	15
1B	1346	800	500	15
2	2413	1600	1200	24
3	3429	2200	1800	33
4	4445	2800	2400	43
5	5461	4075 C	3675 C	49
6	6477	4800 C	4400 C	57
7	7747	5500 C	5100 C	65
21"	814	540	150	11
14"	635	360	150	9.5

C=CENTRAL SUPPORT REQD

DESIGN CODE ASME X

4" PRESSURE VESSEL 1000 PSI , END PORT.

1MNC 1384	SCALE : NONE	
	DIMENSIONS : MILLIMETRES	
ISSUE : 0	BY : DC	APPD : DC	DATE : 13.01.2017

REFERENCE DOCUMENTS	
1724000448-MAC-DA-00005	GENERAL ARRANGEMENT DRAWINGS AND FOUNDATIONS LOADING CALCULATIONS
1724000448-PR-PID-00013	WATER TREATMENT PACKAGE-PID DIAGRAM

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Pressure Vessel for Membranes

PROJECT: Progetto	HOLLANDSE KUST NOORD WIND PARK	**LOCATION:** Località	Off Shore Hollandse Kust Noord (Netherlands)
DOC N° : Doc N°	PK2885-M-001		
MOD: Mod	1MNC1384	**PLANT:** Impianto	Water treatment package
CUSTOMER: Cliente	Rosetti Marino S.p.A		
MFR: Fornitori	ASTRO		
JOB: Commessa	PK2885		

SERVICE Servizio	Pressure Vessel for Membranes	ITEM Item	A-50007A/B	No. of UNITS No. Di UNITA' 2
WEIGHT Pesi	EMPTY Vuoto 57 kg			

OPERATING CONDITION
CONDIZIONI OPERATIVE

		SHELL Mantello	JACKET Camicia
OPERATING TEMPERATURE Temperatura operativa	°C	10 / 25	
OPERATING PRESSURE Pressione operativa	barg	55 - 63	
Fluid		Filtered sea water	

DESIGN DATA
DATI DI PROGETTO

DESIGN PRESSURE Pressione di progetto	69 barg	
TEST PRESSURE Pressione di prova	75.9 (1.1 times Pdes) barg	
DESIGN TEMPERATURE Tempratura di progetto	0 - 45°C °C	
Body Material Materiale	Glass Fibre Epoxy Resin	
GASKET Guarnizioni	EPDM	
Number of installed elements	6 membranes	
DIMENSION Dimensione	4"/ 6477 mm (Lenght)	

INSTALLATION Installazione: Horizontal — INDOOR All'aperto ☐ — OUTDOOR Al chiuso ☐

INSULATION TYPE Tipo isolamento: NONE — THICKNESS Spessore: N.A. mm — SURFACE Superficie: m^2

CODE REQUIREMENTS Guranizioni

NOZZLES
BOCCHELLI

ITEM Sigla	DN" DN"	RATING Rating	TYPE Tipo	SERVICE Servizio
N1	3/4"	-	Threaded BSP - F	Sea Water Inlet
N2	3/4"	-	Threaded BSP - F	Product Water Outlet
N3	1/2"	-	Threaded BSP - F	Concentrate (Brine)



REMARKS
Note

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01	29/07/2024	Issue for Review (IFR)	IT	WR	RM
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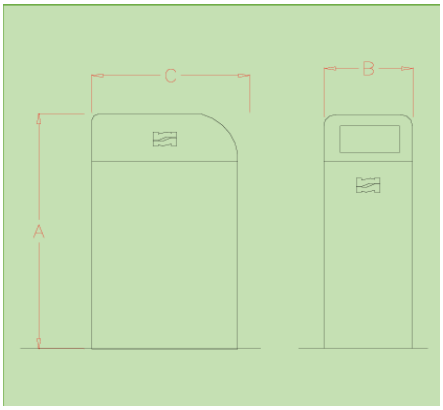
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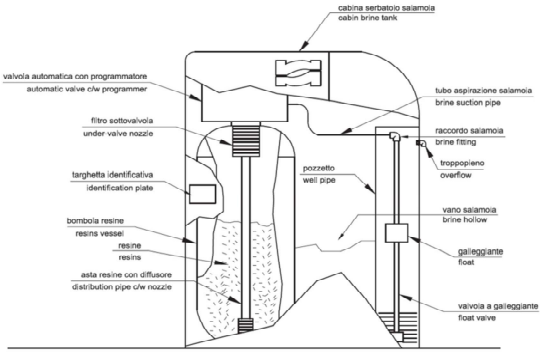
Models:AC 90

Drawing Water Softener

WEIGHT= 35 kg **TAG= S-50004**



Data			Connections inlet/outlet 1''
A	B	C	
1000 mm	300 mm	450 mm	



REFERENCE DOCUMENTS	
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Water Softener Data sheet

PROJECT: Progetto	HOLLANDSE KUST NOORD WIND PARK	**LOCATION:** Località	Off Shore Hollandse Kust Noord (Netherlands)
DOC N° : Doc N°	PK2885-M-001		
MOD: Mod	AC 90	**PLANT:** Impianto	Water treatment package
CUSTOMER: Cliente	Rosetti Marino S.p.A		
MFR: Fornitori	Nobel		
JOB: Commessa	PK2885		

SERVICE Servizio	Water Softener	ITEM Item	S-50004	No. of UNITS No. Di UNITA'	1	
WEIGHT Pesi	EMPTY Vuoto	35	Kg	IN OPERATION	110	kg

OPERATING CONDITION
CONDIZIONI OPERATIVE

		SHELL Mantello	JACKET Camicia
OPERATING TEMPERATURE Temperatura operativa	°C	10 / 25	
OPERATING PRESSURE Pressione operativa	barg	5	
Max Flow	m^3/h	1.8	
Fluid		Fresh Water	

DESIGN DATA
DATI DI PROGETTO

DESIGN PRESSURE Pressione di progetto	6 barg	
DESIGN TEMPERATURE Tempratura di progetto	5 - 40°C °C	
Body Material Materiale	GRP	
GASKET Guarnizioni	EPDM	
Power Supply	110 - 240 V; 50-60 Hz; 10 W 12 V (Working tension)	
DIMENSION Dimensione	1000 x 300 x 450 mm	

INSTALLATION Installazione	Vertical	INDOOR All'aperto	■	OUTDOOR Al chiuso	□		
INSULATION TYPE Tipo isolamento	NONE	THICKNESS Spessore	N.A.	mm		SURFACE Superficie	m^2

CODE REQUIREMENTS
Guranizioni

NOZZLES
BOCCHELLI

ITEM Sigla	DN" DN"	RATING Rating	TYPE Tipo	SERVICE Servizio
N1	1"	-	Threaded BSP - F	Water Inlet
N2	1"	-	Threaded BSP - F	Water Outlet
N3	22 mm	-	Nipple	Drain

REMARKS
Note

REV. Rev.	DATE Data	DESCRIPTION	FILLED OUT Compilato da	CHECKED Controllato da	APPR. BY Approvato da
02	18/09/2024	Issue for Review (IFR)	SF	WR	RM
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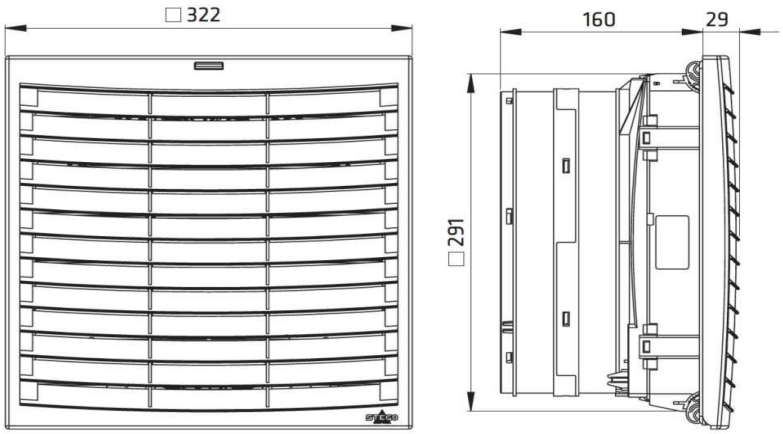
Supplier: STEGO

Models: FPO 018

Container air fan drawing

WEIGHT= 3.4 kg **TAG= HFA-50001A/B/C**

Data		
Lenght	heigth	width
322 mm	322 mm	189 mm



REFERENCE DOCUMENTS	
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CONTAINER AIR FAN

SPECIFICA PER VENTILATORE CONTAINER

PSC	PLANT: Impianto: Water treatment package	CUSTOMER: Cliente: Rosetti Marino S.p.A	Sh.: 26/29
	LOCATION: Località: HOLLANDSE KUST NOORD	JOB: Commessa: PK2885	ITEM: Sigla: HFA-50001A/B/C
DEPARTMENT : Reparto	P&I : 172400448-PR-PID-00013	MFR: Costruttore: STEGO	DOC.Nr. Doc. Nr.: PK2885-M-001

1	SERVICE OF UNIT / Servizio: CONTAINER AIR FAN		No. OF UNITS / No. di unità: 3
2	FLUID HANDLED / Fluido trattato:		ambient air
3	FLOW RATE / Portata:	m^3/h	1010
4	OPERATING / DESIGN PRESSURE / Pressione di esercizio /progetto	barg	atm
5	OPERATING TEMPERATURE / Temperatura di esercizio:	°C	min -25°C; Max +50
6	DESIGN TEMPERATURE / Temperatura di progetto:	°C	min -40°C; Max +70
7	AIR FAN DIMENSIONS	mm	Please refer to sheet 25
8	AIR FAN WEIGHT	kg	3.4
9	CASING MATERIAL		Plastic UL94 V-0
10	POWER SUPPLY	W	140
11	NOMINAL VOLTAGE		AC 230 V, 50/60 Hz
12	CURRENT ABSORBED	mA	500-700
13			
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38	**REMARKS**		
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REV. Rev.	DATE Data	DESCRIPTION Descrizione	PREPARED Compilato da	CHECKED Controllato da	APPR. BY Approvato da
03	24/10/2024	Issued for Information	SF	WR	RM
02	30/08/2024	Issued for Information	SF	WR	RM
01	22/07/2024	Issued for Information	IT	WR	RM
00	24/06/2024	Issued for Information	IT	WR	RM

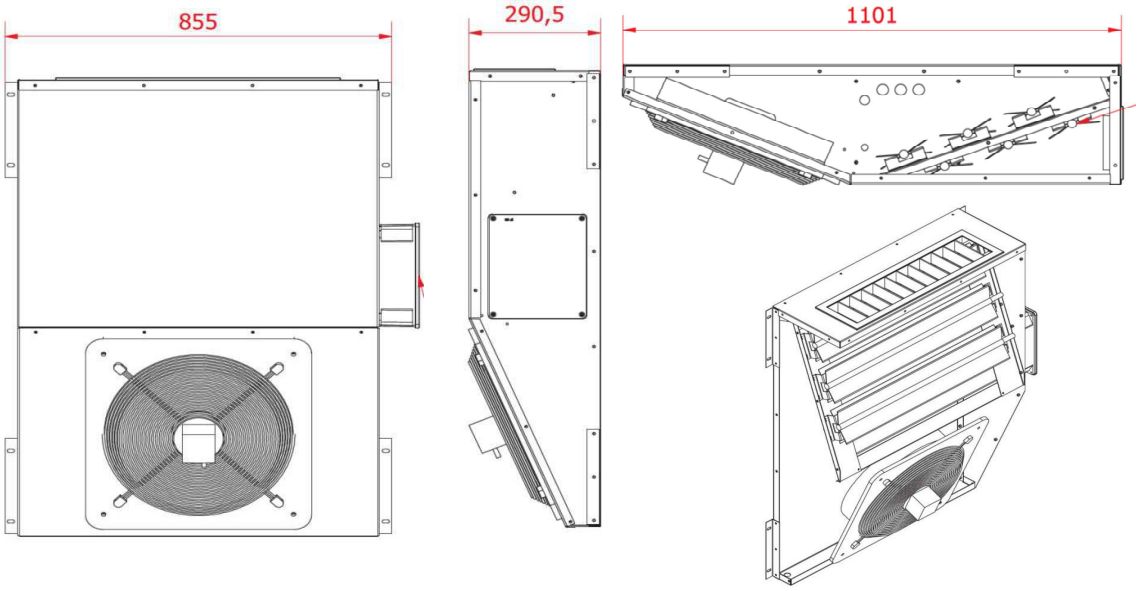
Supplier: AC GRAF

Models: Not Applicable

Container electrical heater drawing

WEIGHT= 26.4 kg **TAG= HHS-50003A/B**

Data		
Lenght	heigth	width
1101 mm	290.5 mm	855 mm



REFERENCE DOCUMENTS	
1724000448-MAC-DA-00005	GENERAL ARRANGEMENT DRAWINGS AND FOUNDATIONS LOADING CALCULATIONS
1724000448-PR-PID-00013	WATER TREATMENT PACKAGE-PID DIAGRAM

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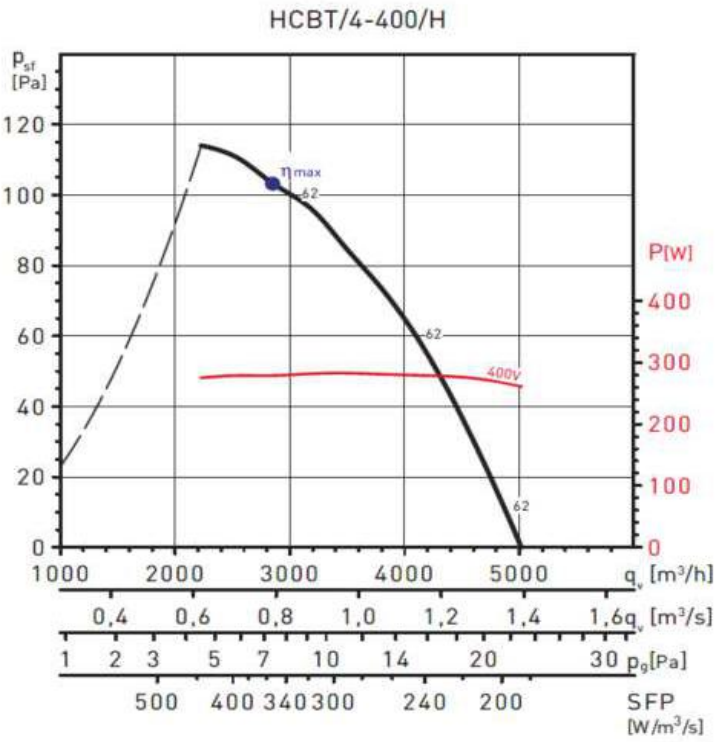
CONTAINER ELECTRICAL HEATER

SPECIFICA PER RISCALDATORE CONTAINER

PLANT: Impianto: Water treatment package	CUSTOMER: Cliente: Rosetti Marino S.p.A		Sh.: 28/29
LOCATION: Località: HOLLANDSE KUST NOORD	JOB: Commessa: PK2885	ITEM: Sigla:	HHS-50003A/B
DEPARTMENT : Reparto	P&I : 172400448-PR-PID-00013	MFR: Costruttore: AC GRAF	DOC.Nr. Doc. Nr.: PK2885-M-001

1	SERVICE OF UNIT / Servizio: CONTAINER ELECTRICAL HEATER		No. OF UNITS / No. di unità: 2
2	FLUID HANDLED / Fluido trattato:		ambient air
3	FLOW RATE / Portata:	m^3/h	2000
4	OPERATING / DESIGN PRESSURE / Pressione di esercizio /progetto	barg	atm
5	OPERATING TEMPERATURE / Temperatura di esercizio:	°C	min -40°C; Max +70
6	DESIGN TEMPERATURE / Temperatura di progetto:	°C	min -40°C; Max +70
7	CONTAINER ELECTRICAL HEATER DIMENSIONS	mm	Please refer to sheet 27
8	CONTAINER ELECTRICAL HEATER WEIGHT	kg	26.4
9	CASING MATERIAL		AISI 316
10	POWER SUPPLY	kW	8.4
11	NOMINAL VOLTAGE		400 V; 3ph; 50Hz
12			

AXIAL FLOW FAN PERFORMANCE CURVE (Note1)

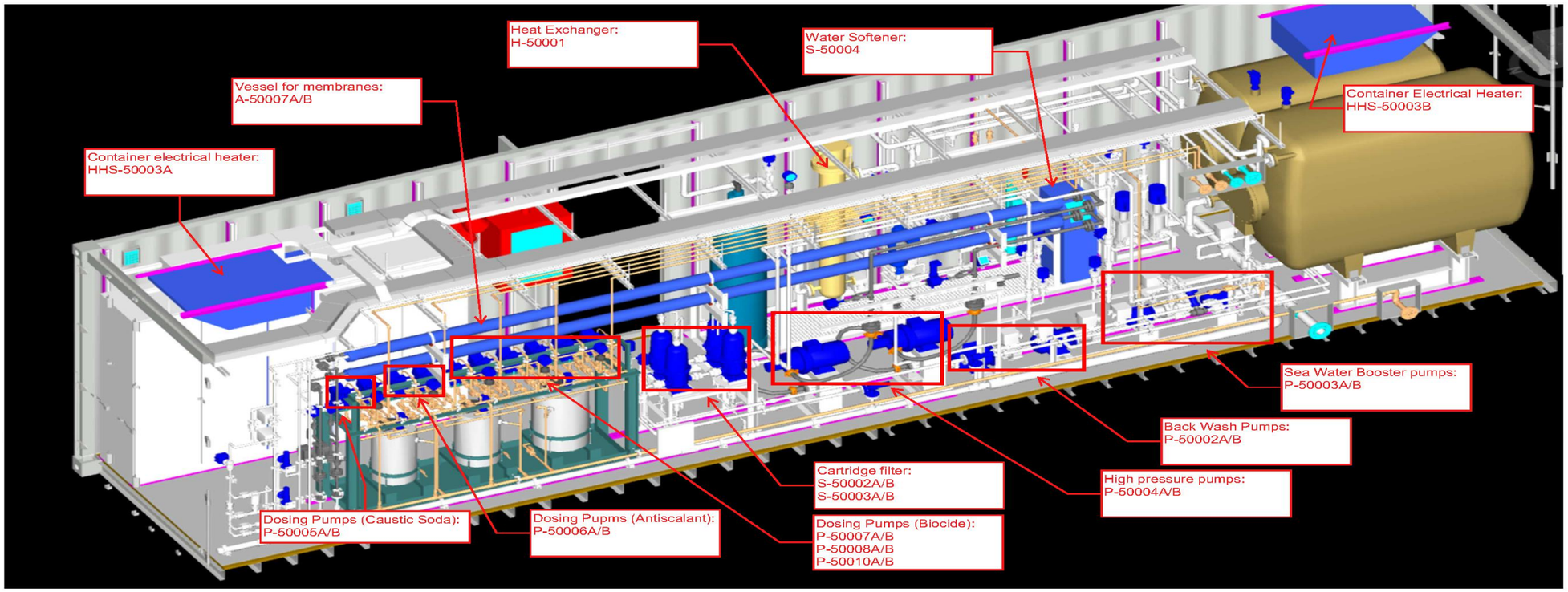


Note

1) Installed in the container electrical heater

REV. Rev.	DATE Data	DESCRIPTION Descrizione	PREPARED Compilato da	CHECKED Controllato da	APPR. BY Approvato da
03	24/10/2024	Issued for Information	SF	WR	RM
02	30/08/2024	Issued for Information	SF	WR	RM
01	22/07/2024	Issued for Information	IT	WR	RM
00	24/06/2024	Issued for Information	IT	WR	RM

Desalination Package general view



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