



Idromar international



DISSALATORI › WATERMAKERS
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USER MANUAL WATERMAKER IDROMAR MODEL MC1-2-3-4J



Idromar international

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IMPORTANT:

WHEN THE WATERMAKER IS IN FUCTION DON'T OPEN THE ELECTRICAL BOX AND DON'T PUT THE HAND INSIDE THE WATERMAKER BEFORE OF ANY OPERATION STOP THE WATERMAKER BY STOP BUTTON

- 1 . The desalination plant must not run in port or close to densely populated coastlines in order to avoid premature and occasionally irreparable damage to the membrane.
The desalination plant should run offshore or while sailing, in order to avoid a frequent change of pre-processing filters, since the sea water – even if it is clear water – contains a bigger concentration of colloidal and suspended particles especially next to the coastline.
2. While manoeuvring - wherever the anchor weighing implies a displacement of the sand on the sea bed - , **the plant must be off.**
3. Keep the electric contacts positioned on pressure gauges unchanged as well as the timer positioned on the control panel, otherwise they should be out of phase.
- 4 . If the plant is kept off for over 5 days, it is indispensable to clean it with fresh water for 15 minutes (see After-production run wash).
- 5 . Periodically check the oil level in the pan of the high pressure pump. The oil change every 500 hours' running. Use oil SAE 80/90 or oil SYNECO (to order to the IDROMAR).
6. If the plant is off for over 60 days , effect a bacteriologically protective wash of the membrane (see Regeneration paragraph).
7. After each production run and a fresh-water wash, set valve V1 to vertical position (closed).

DESCRIZIONE INSTALLAZIONE

SEA WATER

Install a pre-cleaner, an on/off valve and a nonreturn valve at the suction point.

Take a 1/2" tube and connect to the sea water intake tube through a connection. It is advisable to use a hose over the 30- cm-long end.

AFTER-PRODUCTION RUN WASH

Fresh water directly comes from the tank and at the exit of the autoclave, whenever it is hard to suck water from the tank. Take a 1/2" tube and connect it to the fresh water intake tube with the aid of a connection.

It is advisable to use a hose over the 30-cm-long end

CONCENTRATE DISCHARGE TUBE

Connect a 3/8" tube to the outboard discharge tube through a connection. If the desalination plant is at a lower level than the discharge tube, install a non-return valve in order to avoid a return of sea water to the membrane.

HIGH SALINITY DISCHARGE

This tube is already connected to the desalination plant

PRODUCTION DELIVERY

Connect a 3/8" tube meant to feed the fresh water tank.

Connection occurs at the exit of the active carbon filter.

POWER SUPPLY

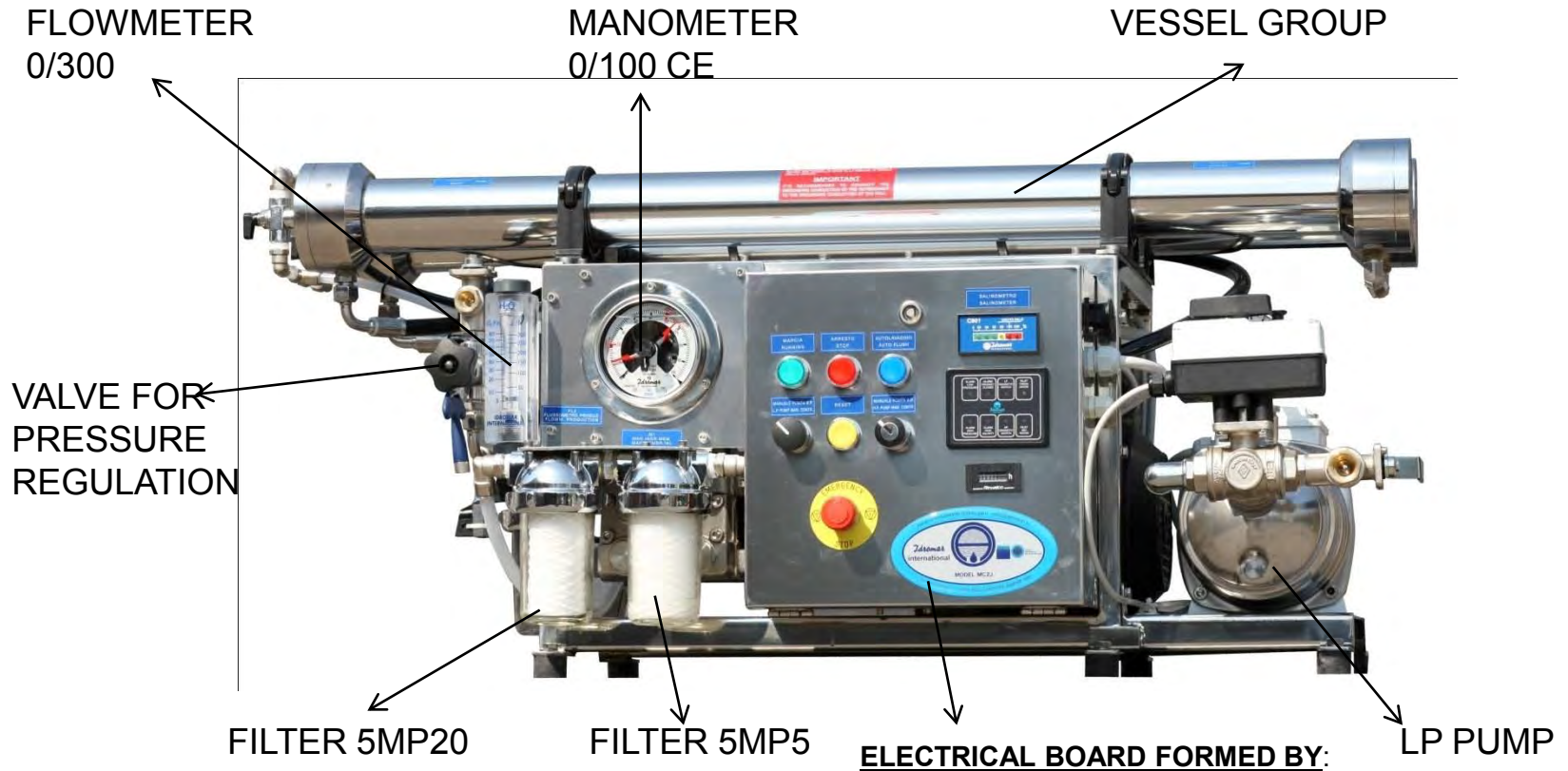
From the power board take a cable which shall be connected to the plant cable supplied by the Company.

CABLE SECTION:

MONOPHASE: 3x2.5 mm²

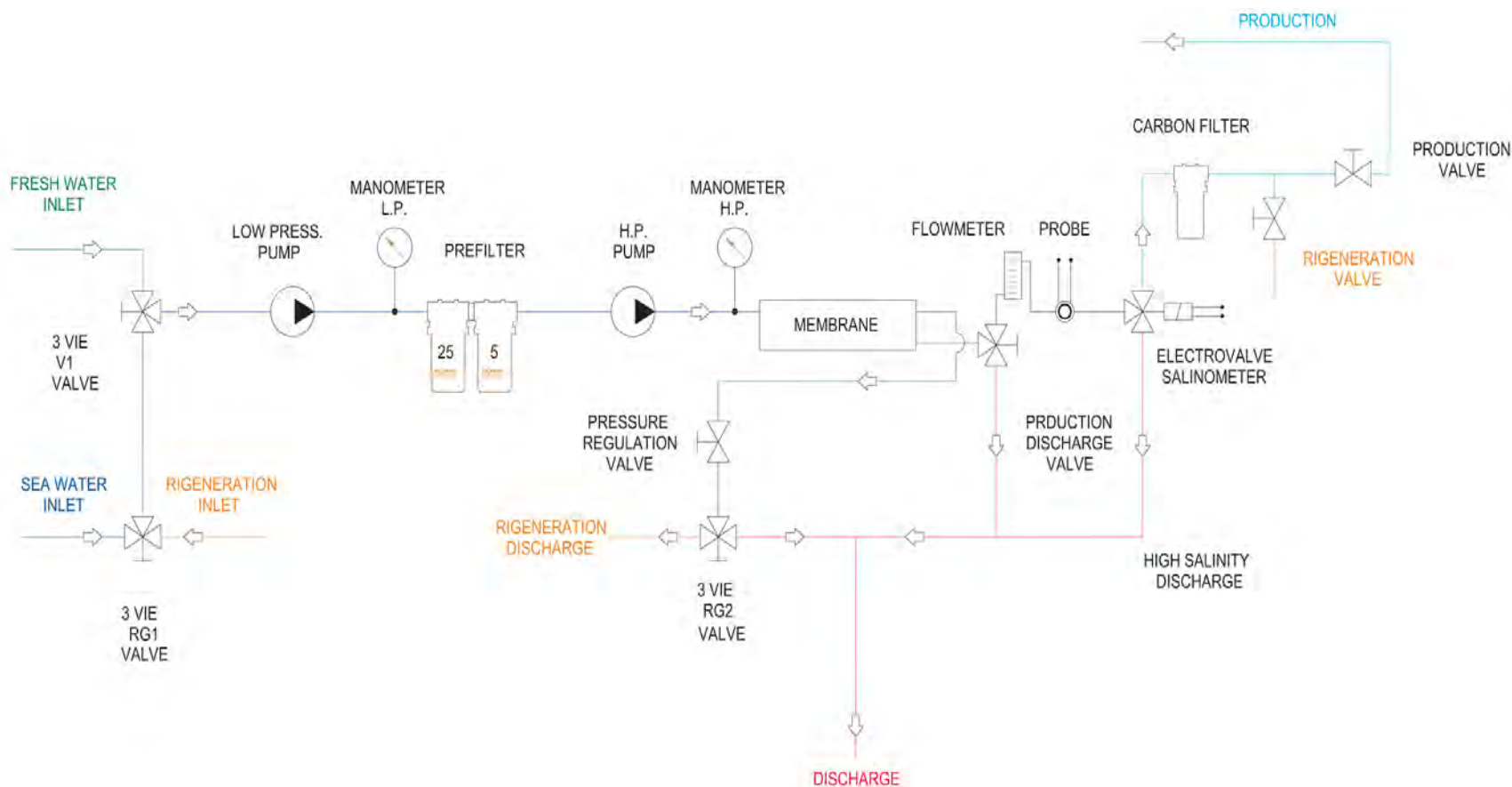
THREE-PHASE: 4x2.5 mm²

PRINCIPAL COMPONENTS



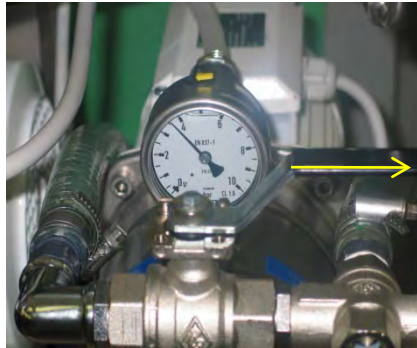
- GREEN START BOTTOM
- RED STOP BOTTOM
- LOW PRESSURE MANUAL SELECTOR
- HIGH PRESSURE SELECTOR BY KEY (only for emergency) The key is inside the electrical board.
- YELLOW RESET BOTTOM
- BLU BOTTON FOR AUTOFLUSH
- SALINOMETER
- ALLARM
- HOURCOUNTER

PRODUCTION FLOW AND END OF CYCLE WASH

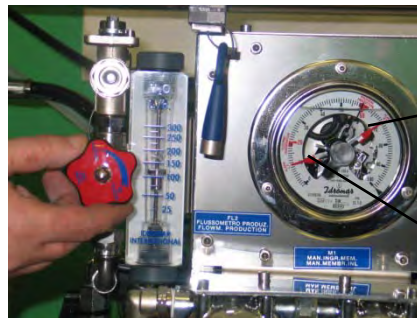


START PRODUCTION

- 1 – Position the seawater intake valve
- 2 – Press the green start button
- 3 – Check that the pressure meter shows about 3 ATE



4 only for automatic version: After 30 seconds pressure pump starts; at this point increase the pressure until it the high reaches 60 BAR, turning the pressure control valve clockwise. The 2 red needles are the alarms for low and high pressure.



MAX. PRESS ALLARM

MIN. PRESS ALLARM

5 – The unit is now running; check production on the flow meter and salinity on the salinometer (green led correct salinity red led = salinity)

PRODUCTION RUN

Switch on the plant, the pilot lamp will light up.

Set the 3-way valve V1 to sea water intake. Be careful that the regeneration valve lever RG1 is properly positioned (towards the flow arrival)

Start the plant pushing the start button **A**, wait for some seconds until the pressure is stable, anyway above 10 BAR in order to avoid any low-pressure alarm and set pressure to 60 ATE, closing very softly the needle valve clockwise (vrp).

Henceforth the plant is running as long as it is required. If the plant stops, the lamp of the high and low pressure will light up. To re-start, push the reset button. Generally this alarm is on when some pressure defaults occur (either too low, below 10 Bar or too high above 70 Bar).

It may happen that the early water production features salinity above 800 PPM, therefore it is automatically discharged by the solenoid valve. It only happens for some minutes.

The solenoid valve automatically discharges the water production when red leds onto the salinometer (F) light up. When the green leds light up the water production is automatically pushed to the tanks.

Before stopping the production run, set softly the pressure to approx. 24 BAR. After a drop in pressure, the plant may electrically stop, pushing the production stop button.

It is important that each production run is followed by a wash as described hereunder.

If you like to taste the water during the production cycle, water can be taken in through opening the regeneration valve installed after the active carbon filter.

ALLARMS

- 1 - If the low pressure alarm lights up, restart the unit pressing the yellow reset button and increase the pressure until it exceeds the red needle on the meter.
- 2 If high pressure up - the alarm lights up, check the pressure control valve as it may be too tight, then turn it anti-clockwise till the pressure drops to 60 BAR
- 3 - If during startup the red led of the salinometer lights up and the output water is jettisoned overboard, this is perfectly normal. After about 30 seconds when the water is the quality tanks correct quality, the green led lights up and the water goes to the tanks.



ROUTINE MAINTENANCE

- 1** – If the unit is not in use it must be rinsed every week with fresh water as the water from the last use tends to stagnate inside the filters, causing a buildup of bacteria. By washing through with clean water the filters are kept clean and efficient.
- 2** – Check the prefilter cartridges periodically. If they have a dark colouring, they need to be replaced. This is done by unscrewing the metal ring joining the filter cup and cap.



HAND POSITION FOR CHANGE THE FILTER

ROUTINE MAINTENANCE

3 – Check the number of hours on the counter on the electrical panel and every 500 hours change the oil in the high pressure pump.

The discharge valve is at the rear of the high pressure pump; connect a rubber tube to the fitting on the valve and open it to drain the oil. Remove the levelling cap to allow smooth discharge. The amount of oil is about 500 grams. On completion, close the discharge valve and refill the pump via the level opening.



Hourcounter



Open valve in position discharge for the connection on the hose for empty the pump



Valve closed and now underscrew the yellow cap for put on the pump the new oil

ROUTINE MAINTENANCE

4 – Wash the membrane with fresh water every end of cycle production or once a week.

To wash the membrane turn the valve on the lp pump from sea water position to fresh water position, start green button and up the pressure at max 15 ATE
After about 3 minutes stop the plant with the red button and repute the valve on the lp pump in sea water position.



Turn the valve on fresh water position



Push green button



Up the pressure at max 15 ATE

SPECIAL MAINTENANCE

At the end of the season special maintenance is required for the filters. This different consists in washing the filters with 2 products. The first wash is done using the powder provided which descales the filters; the second wash uses the liquid product which sterilizes the filters.

Dissolve all the CTR powder contained in a bottle, into a perfectly clean bucket and mix it with fresh water until it is totally melted.



Pour the CTR product into a 50-liter container filled with fresh water. It is important that the capacity is at least 100 liters, since the regeneration process occurs within a closed circuit, so a small volume of water might be overheated, causing serious damage to the membranes.



SPECIAL MAINTENANCE

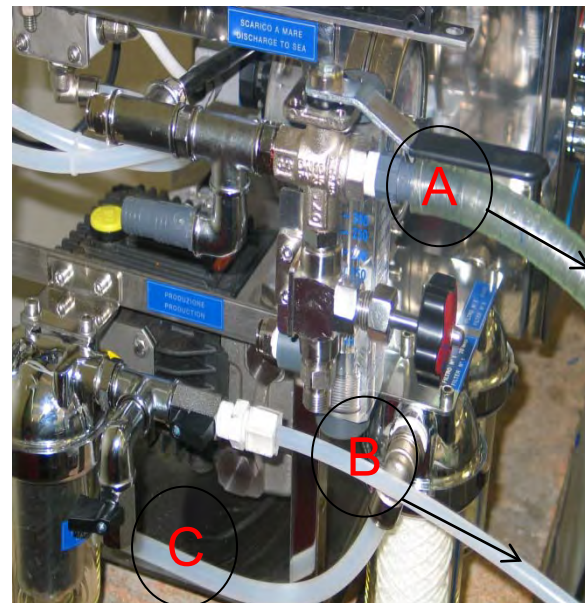
1) Connect a hose (diameter 25) to the outlet connection of the regeneration tank inlet valves. Position the 3- 3 way valves so as to enable correct suction of the regeneration product.



SPECIAL MAINTENANCE

2) Connect a hose (diameter 20) to the discharge outlet connection (A) of the 3-way sea discharge valve and position the valve lever to the hose returning to the regeneration tank.

3) Connect a hose to the outlet connection (B) of the sample-taking valve opening the sampling valve and closing the production valve (C) to the storage tank.



SPECIAL MAINTENANCE

At this point the machine is ready for the closed circuit filter washing cycle.
To start regeneration press the green button and regulate the pressure on the pressure gauge to around 15 ate using the VRP regulation valve.
The wash cycle lasts 30 minutes.
After washing the filters repeat the procedure using the liquid FLD product to sterilize the filters.
This second cycle lasts 10 minutes.



MEMBRANE STORAGE

If the plant is kept off for over 1 month, carry out a storage and membrane preservation processes.

Follow the same steps as required by regeneration: valves and tubes are positioned the same way.

The only difference lies in the product and the quantity of water to use.

Place 100 lt. of fresh water into the container and put inside all the product IDRO55(fluid). Be careful when you handle the product, do not smell it or rub your eyes, if you have touched the product.

Re-start the plant with unchanged pressure and make the product circulate for about 15 minutes

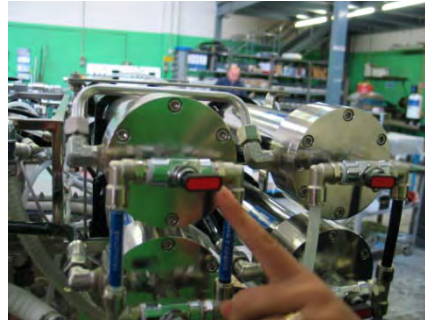
within a closed circuit keeping a 15 BAR pressure.

Then, empty the regeneration basin as above indicated.

At this point the regeneration and storage operations are completed, re-set valves to running position and take off the hoses used for regeneration. Keep valve V1 in horizontal position (closed).

MEMBRANE 2540

On the production side, all membranes are equipped with little red valve. In the position of the drawing, the valve sends produced water to ship's stocking.
All valves are equipped with sample drawing of produced water.
Each valve can be operated separately.



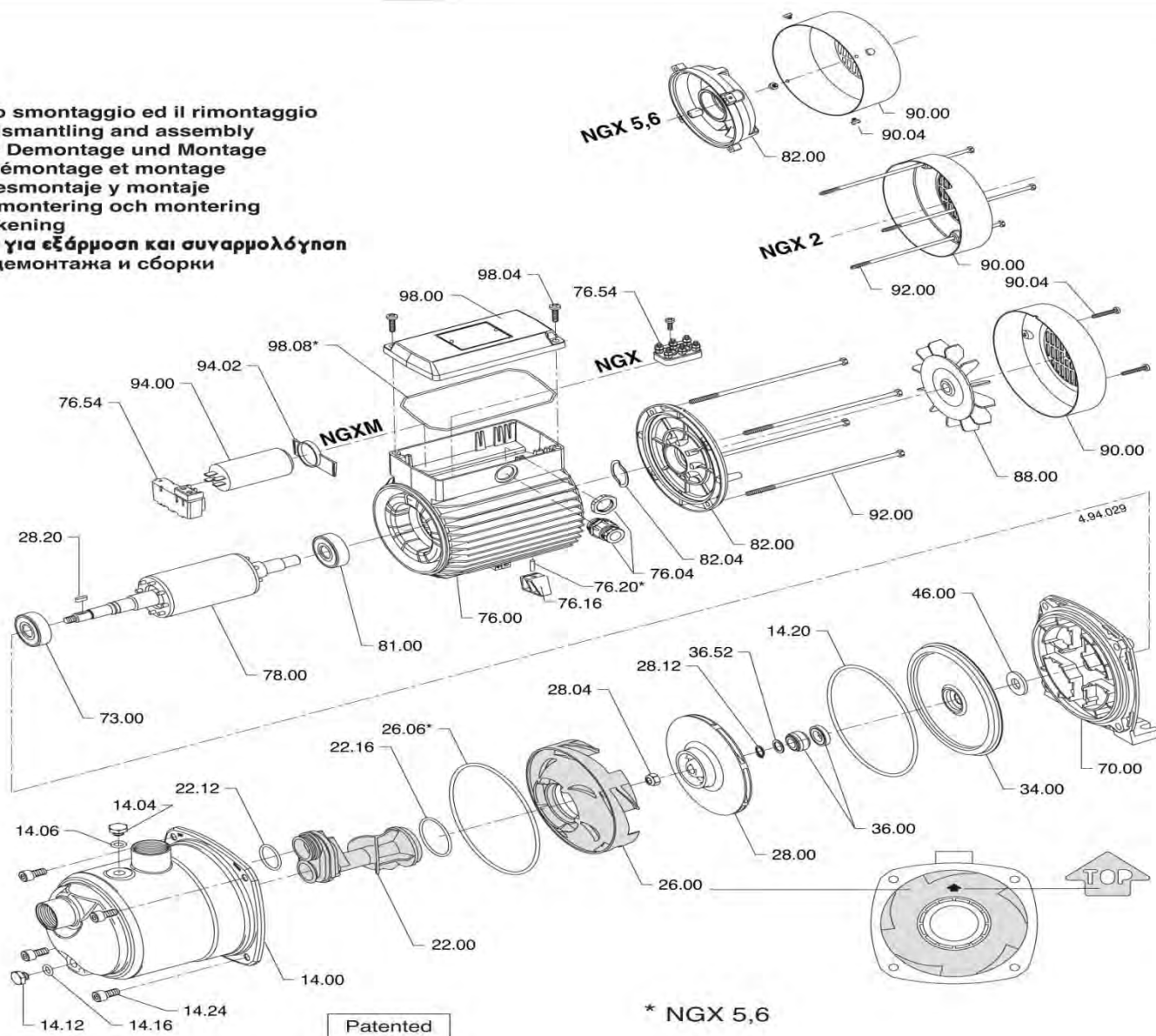
If one membrane don't produce water you have to turn down (180°) the little red valve on the membrane so you can by- pass the membrane in fault and produce the water with the other one.



ATTENTION: don't put the valve in closed position (90°)

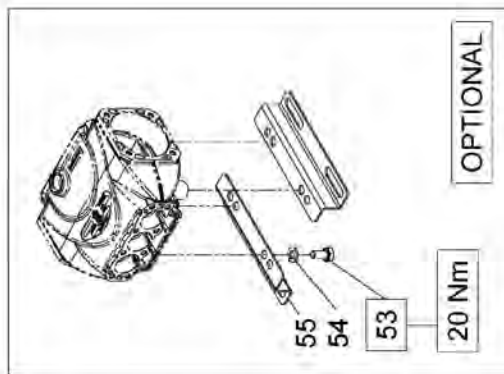
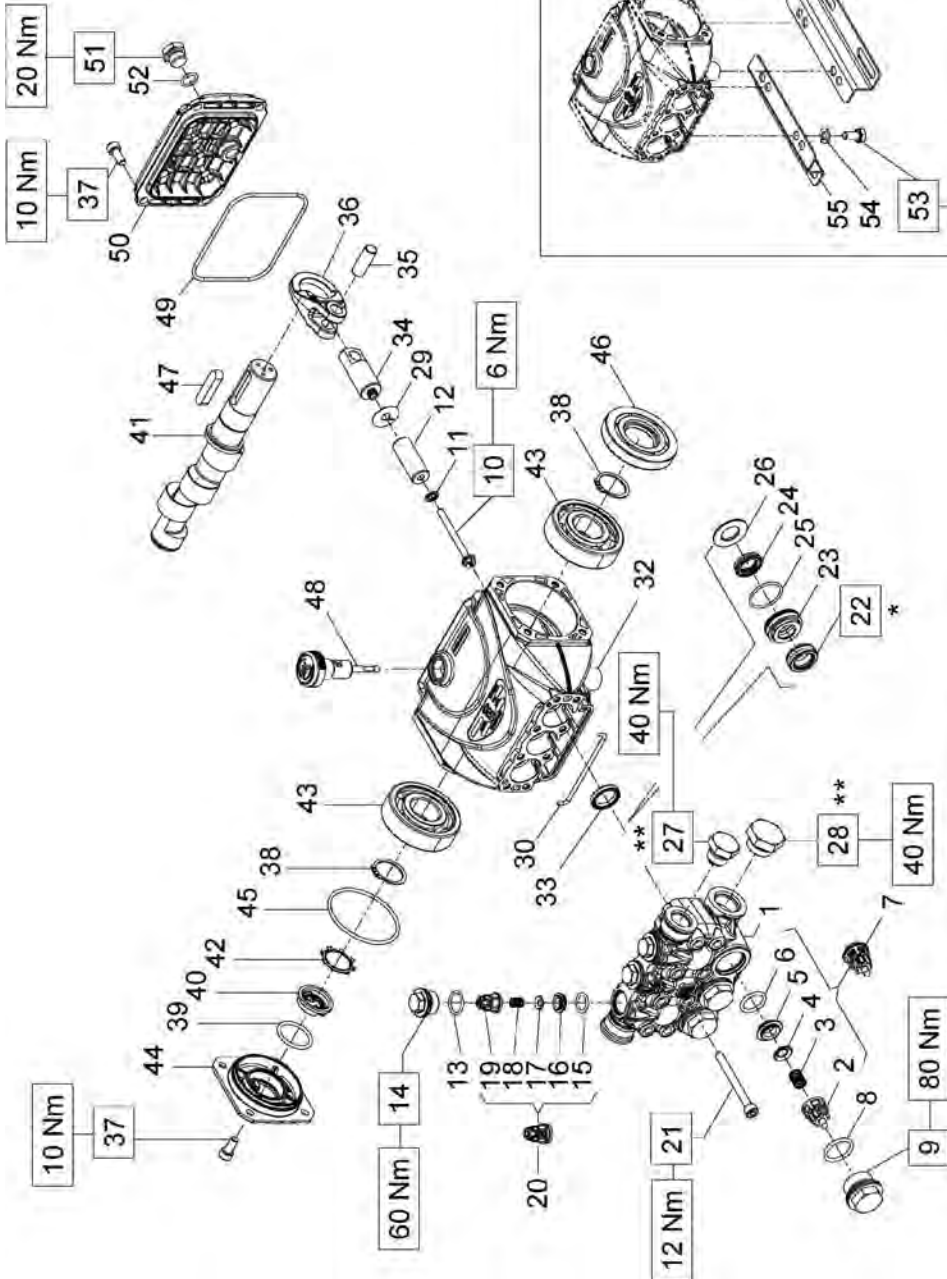
LOW PRESSURE PUMP NGX3

Disegno per lo smontaggio ed il rimontaggio
Drawing for dismantling and assembly
Zeichnung für Demontage und Montage
Dessin pour démontage et montage
Dibujo para desmontaje y montaje
Ritning för demontering och montering
Onderdelentekening
Σχεδιάγραμμα για εξάρτηση και συναρμολόγηση
Чертеж для демонтажа и сборки
拆装与分解图

NGX

LOW PRESSURE PUMP NGX3

Italiano		English		Deutsch		Français		中文	
Nr.	Denominazione	Nr.	Part designation	Nr.	Teile-Benennung	Nr.	Description des pièces	位置号.	名称
14.00	Corpo pompa	14.00	Pump casing	14.00	Pumpengehäuse	14.00	Corps de pompe	14.00	泵壳
14.04	Tappo	14.04	Plug	14.04	Verschlußschraube	14.04	Bouchon	14.04	水堵 (排水)
14.12	Tappo	14.12	Plug	14.12	Verschlußschraube	14.12	Bouchon	14.12	水堵
14.20	O-ring	14.20	O-ring	14.20	Runddichtring	14.20	Joint torique	14.20	O-型圈
14.24	Vite	14.24	Screw	14.24	Schraube	14.24	Vis	14.24	螺栓
22.00	Eiettore	22.00	Ejector	22.00	Ejektor	22.00	Ejecteur	22.00	射流器
22.12	O-ring	22.12	O-ring	22.12	Runddichtring	22.12	Joint torique	22.12	O-型圈
22.16	O-ring	22.16	O-ring	22.16	Runddichtring	22.16	Joint torique	22.16	O-型圈
26.00	Diffusore	26.00	Diffuser	26.00	Leitrad	26.00	Diffuseur	26.00	导叶
26.06	O-ring	26.06	O-ring	26.26	Runddichtring	26.26	Joint torique	28.00	叶轮
28.00	Girante	28.00	Impeller	28.00	Lauftrad	28.00	Roue	28.04	叶轮锁母
28.04	Dado bloccaggio girante	28.04	Impeller nut	28.04	Laufradmutter	28.04	Ecrou de roue	28.12	挡圈
28.12	Anello di sicurezza	28.12	Circlip	28.12	Sicherungsring	28.12	Circlips	28.20	键
28.20	Linguetta	28.20	Impeller key	28.20	Paßfeder	28.20	Clavette	34.00	泵壳盖
34.00	Coperchio del corpo	34.00	Casing cover	34.00	Gehäusedeckel	34.00	Couvercle de corps	36.00	机械密封
36.00	Tenuta meccanica	36.00	Mechanical seal	36.00	Gleitringdichtung	36.00	Garniture mécanique	36.52	弹簧锁圈
36.52	Anello di spallamento	36.52	Shoulder ring	36.52	Schulterring	36.52	Bague d'appui	46.00	挡水圈
46.00	Paraspruzzi	46.00	Deflector	46.00	Spritzring	46.00	Défecteur	70.00	笼形支架
70.00	Lanterna di raccordo	70.00	Lantern bracket	70.00	Antriebslaterne	70.00	Lanterne de raccordement	73.00	泵侧轴承
73.00	Cuscinetto	73.00	Ball bearing	73.00	Wälzlager	73.00	Roulement à billes	76.00	带线包的电机壳体
76.00	Carcassa mot. con avvolg.	76.00	Motor casing with winding	76.00	Motorgehäuse mit Wicklung	76.00	Carcasse avec bobinage	76.16	支脚
76.16	Appoggio	76.16	Support	76.16	Stütze	76.16	Appui	78.00	轴带转子组
76.20	Spina elastica	76.20	Pin	76.20	Paßstift	76.20	Goupille d'accouplement	81.00	风扇侧轴承
78.00	Albero-rotore	78.00	Shaft with rotor packet	78.00	Welle mit Rotorpaket	78.00	Arbre-rotor	82.00	风扇侧电机端盖
81.00	Cuscinetto	81.00	Ball bearing	81.00	Wälzlager	81.00	Roulement à billes	82.04	补偿弹簧
82.00	Coperchio motore	82.00	Motor end shield	82.00	Motorlagergehäuse	82.00	Couvercle de moteur	88.00	电机风扇
82.04	Molla di compensazione	82.04	Compensating spring	82.04	Federscheibe	82.04	Rondelle de compensation	90.00	风扇侧端盖
88.00	Ventola	88.00	Motor fan	88.00	Lüfterrad	88.00	Ventilateur	90.04	螺钉
90.00	Calotta	90.00	Fan cover	90.00	Lüfter-Haube	90.00	Capot	92.00	螺栓
90.04	Vite	90.04	Screw	90.04	Schraube	90.04	Vis	98.00	接线盒盖
92.00	Tirante	92.00	Tie-bolt	92.00	Verbindungsschraube	92.00	Tirant d'assemblage		
98.00	Coperchio scatola morsetti	98.00	Terminal box cover	98.00	Klemmenkastendeckel	98.00	Couvercle de boîte à bornes		
98.08	Guarnizione	98.08	Gasket	98.08	Flachdichtung	98.08	Joint plat		



* Lubrificare con grasso al silicone OCILIS cod. 12.0016.00

** Fissare con Loctite 542 colore ROSSO cod. 12.0062.00

SW1B1505 - SW1B1507 - SW1B1509 - SW1B1511 SW1B1513 - SW1B1514 - SW1C1509 - SW1C1511 SW1C1513 - SW1C1515
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PISTONE - PISTON D. 15		PISTONE - PISTON D. 18	
SW1B1505 - SW1B1507 - SW1B1509 SW1C1509 - SW1C1511		SW1B1511 - SW1B1513 - SW1B1514 SW1C1513 - SW1C1515	

POS	COD.	DESCRIZIONE - DESCRIPTION - KIT		NR
1	53.1215.36 53.1216.36	Testata pistone D. 18 Testata pistone D. 15		1
2	36.2025.51	Guida valvola		341 3
3	94.7373.00	Molla Dm. 9.4x14.8		341 3
4	36.2001.76	Valvola sferica		341 3
5	36.2036.66	Sede valvola		341 3
6	90.3641.00	OR D. 17.13x2.62 NBR 70SH 3068		341 3
7	36.7130.01	Gr. valvola d'aspirazione		341 3
8	90.3847.00	OR D. 20.29x2.62 NBR 90SH 3081		335 3
9	98.2214.20	Tappo M24x1.5x13.2		335 3
10	99.1690.00	Vite M5x55		3 3
11	96.6905.00	Rosetta D.5,0x11.5x0.4		3 3
12	63.0405.09 53.0400.09	Pistone D.18x38.5 Pistone D.15x38.5		3 3
13	90.3593.00	OR D. 15.60x1.78 NBR 70SH 2062		336 3
14	98.2137.20	Tappo M18x1.5x10 D.23 F12		336 3
15	90.3674.00	OR D. 12.00x2.00 NBR 70SH		334 3
16	53.2111.66	Sede valvola		334 3
17	36.2112.76	Valvola sferica		334 3
18	94.7333.00	Molla Dm. 6.7x10.8		334 3
19	36.2111.51	Guida valvola		334 3
20	36.7245.01	Gr. valvola di mandata		334 3
21	99.1992.00	Vite M6x60 UNI 5931		8 3

KIT RICAMBI – SPARE KITS									
KIT Nr.	KIT 341	KIT 334	KIT 311	KIT 335	KIT 336	KIT 381	KIT 383	KIT 382	KIT 384
Posizioni include Positions included	2 - 3 - 4 5 - 6 (7)	15 - 16 17 - 18 19 (20)	33	8 - 9	13 - 14	22 - 24 25	22 - 23 24 - 25 26	22 - 24 25	22 - 23 24 - 25 26
Nr. Pcs.	3	3	3	3	3	3	1	3	1

POS	COD.	DESCRIZIONE - DESCRIPTION - KIT		NR
22	90.2160.00 90.2210.00	Anello. ten. alt. D.15.0x24,0x8.5 HP Anello ten. alt. D.18.0x28,0x10.0 HP		381 383 382 384 3
23	53.2116.56 53.2114.56	Supporto guarnizioni D.15 Supporto guarnizioni D.18		383 384 383 3
24	90.2609.00 90.2650.50	Anello ten. alt. D.15.0x22,0x5.0 LP Anello ten. alt. D.18.0x24,0x5.0 LP		381 383 382 384 3
25	90.3604.00	OR D. 25.12x1.78 NBR 70SH 2100		381 382 383 384 3
26	53.2117.56 53.2115.56	Anello per tenuta D.15 Anello per tenuta D.18		383 384 3
27	98.2100.66	Tappo G3/8"x13		1 1
28	98.2180.00	Tappo G1/2"x10		1 1
29	96.6990.00	Rosetta D.7.5x23,0x0.5		3 3
30	53.2103.82	Guarnizione spugna D.3.0x85.0		1 1
32	53.0101.22	Carter pompa		1 1
33	90.1593.00	Anello rad. D.18.0x24,0x4.0		311 3
34	53.0501.66	Guida pistone		3 3
35	97.7738.00	Spinnotto D.10x26.5		3 3
36	53.0300.22	Biella		3 3
37	99.1838.00	Vite M6x14 UNI 5931		8 8
38	90.0635.00	Anello d'arresto A25		2 2
39	90.3859.00	OK D. 25.07x2.62 NBR 70SH 3100		1 1
40	53.2108.51	Vetrino spia livello olio		1 1
41	60.0207.65 60.0283.35 53.0201.35 53.0200.35	Albero ecc. C.7.2 - SW1B1505 Albero ecc. C.10.0 - SW1B1507 SW1B1511 SW1C1509 SW1C1513 Albero ecc. C.12.0 - SW1B1509 SW1B1513 SW1C1511 SW1C1515 Albero ecc. C.13.0 - SW1B1514		1 1

PANEL ALARMS CAUSES AND SOLUTIONS

ALARM LOW PRESSURE	<p>IT STARTS IN THE EVENT OF NO WATER OR LOW PRESSURE IN THE WATERMAKER</p> <p>YOU MUST CHECK THAT ALL VALVES FROM THE SEAL TO THE PUMP ARE OPEN IF THE SAND FILTER IS PRESENT, CHECK THAT THE FILTER IS NOT BLOCKED OR THE VALVE LEVER IS NOT CORRECTLY POSITIONED</p> <p>THIS ALARM CAN ALSO TURN ON IF THE HP GAUGE NEEDLE DOES NOT EXCEED THE MINIMUM ALARM</p>	<p>AFTER MAKING THE CHECKS, PRESS THE RESET BUTTON, THE LOW PRESSURE PUMP WILL RESTART AND THEN THE HIGH PRESSURE PUMP AFTER THE HIGH PUMP HAS STARTED TURN THE VRP VALVE CLOCKWISE UP TO EXCEED 10 BAR</p>
ALARM HIGH PRESSURE	<p>IT COMES INTO OPERATION WHEN YOU EXCEED THE RED NEEDLE OF THE MANOMETER POSITIONED AT ABOUT 62 BAR IN SOME CASES THE PRESSURE MAY RISE BY ITSELF AND THUS THE ALARM STARTS</p>	<p>TURN THE VRP VALVE ANTI-CLOCKWISE UNTIL THE ALARM IS UNLOCKED (ABOUT 2/3 MM).</p>

PANEL ALARMS CAUSES AND SOLUTIONS

ALARM PRODUCT CLOSED ONLY FOR SENIOR PLANT	IT COMES INTO OPERATION WHEN SOME VALVES ARE CLOSED ALONG THE DELIVERY LINE OF THE WATER PRODUCED TO THE BOXES. IN MANY CASES IT MAY HAPPEN THAT THE SOLENOID VALVE STARTS TO DISCHARGE WATERFALL TYPE; THE SOLENOID VALVE IS MEMBRANE SO AS SOON AS THE VALVE CLOSED ON PRODUCTION IS OPENED THE SOLENOID VALVE WILL RETURN TO NORMAL OPERATION	YOU MUST FIND THE CLOSED VALVE AND OPEN IT ON PRODUCTION, PRESS THE RESET BUTTON AND RESTART THE SYSTEM IF THE PRESSURE SWITCH IS OUT, IT MUST BE RETURNED OR REPLACED
ALARM HIGH SALINITY	IT COMES INTO OPERATION WHEN THE PPM OF THE PRODUCED WATER ARE TOO HIGH ABOVE 900 PPM, IN THIS CASE THE SYSTEM CONTINUES TO OPERATE AND AUTOMATICALLY DRAINS OUTSIDE THE WATER PRODUCED AS IT IS SALTED (WHEN STARTING UP THIS MAY HAPPEN, AFTER ABOUT 30 SEC. TO 2 MINUTES, THE ALARM GOES OFF BY ITSELF)	THIS ALARM MAY BE DUE TO 1) THE MEMBRANES ARE FAULTED THEREFORE YOU MUST TEST THE MEMBRANES 2) THE SALINOMETER PROBE HAS DISCONNECTED AND SO DOES NOT READ SALINITY 3) THE SALINOMETER IS BROKEN AND SO IT MUST BE REPLACED

PANEL ALARMS CAUSES AND SOLUTIONS

LP MAGNETIC SWITCH	<p>IT COMES INTO OPERATION WHEN THE LOW PRESSURE PUMP OVERHEAT, THIS MAY BE DUE:</p> <ul style="list-style-type: none"> - A HIGH TEMPERATURE IN THE ENGINE ROOM - TO AN INCORRECT CALIBRATION OF THE THERMAL T1 FROM THE BURNT ENGINE <p>OR THE LOW PRESSURE PUMP IS BLOCKED</p>	<ol style="list-style-type: none"> 1) TRY TO KEEP THE PUMP OFF FOR 15 MINUTES SO THAT IT COOLS DOWN 2) OPEN THE ELECTRICAL PANEL AND FIND THE THERMAL T1, ON THIS THERMAL THERE IS A SMALL BLUE BUTTON PRESS IT TO RESET THE THERMAL 3) CHECK THE CAPACITOR FOR SINGLE PHASE VOLTAGE 4) REPLACE THE PUMP
HP MAGNETIC SWITCH	<p>IT COMES INTO OPERATION WHEN THE HIGH PRESSURE MOTOR OVERHEATS THIS MAY BE DUE</p> <ol style="list-style-type: none"> 1 FROM A HIGH TEMPERATURE IN THE ENGINE ROOM 2 FROM AN INCORRECT CALIBRATION OF THERMAL T2 3 FROM THE BURNT ENGINE 	<ol style="list-style-type: none"> 1) OPEN THE ELECTRICAL PANEL AND FIND THERMAL T2 ON THIS THERMAL THERE IS A SMALL BLUE BUTTON PRESS IT TO RESET THE THERMAL 2) CHECK THE CAPACITORS OR DISCONNECTOR RELAYS IN THE SINGLE-PHASE HIGH PRESSURE MOTOR AND REPLACE IT IF POSSIBLE 3) CHANGE THE ENGINE
INLET FRESH WATER	IT COMES ON WHEN WASHER WASHER WASHING WITH FRESH WATER IN CASE OF AUTOMATIC SYSTEM	
INLET SEA WATER	INDICATES THAT THE WATERMAKER IS READY TO WORK WITH SEA WATER	

SAND FILTER

A sand filter is used for retaining the roughest impurities contained in sea water. This filter includes 3 different and variously-sized layers of quartz sand. The filter sand lasts for at least 5 years and only needs counter-washing at least once a week.

Its cleaning simply occurs moving the lever of the valve installed onto the filter as described hereunder. While running, water comes in from the top, flows through the 3 sand layers and is sucked by an internal tube and delivered to the plant pre-cleaners.

During the counter-wash, water comes in from inside and comes up to the top and is delivered to the outboard discharge. The pre-treatment of sea water employing multi media filters is good to prepare the raw feeding water for the membrane passage to give less fouling and scaling and to provide for longest possible membrane-life and also lower cartridge consumption on the immediately after plant pre-filtration 5 and 20 micron.

SERVICE AND BACKWASHING PROCEDURE

The sand filter shall be washed once a week at least.

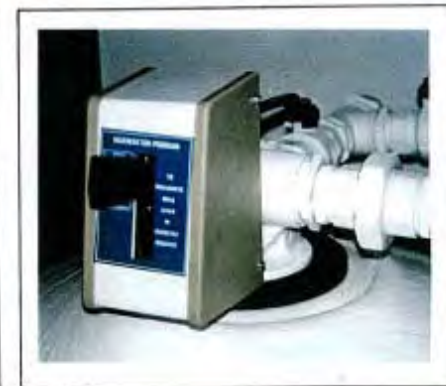
This washing shall be carried out as follows:

BACKWASH

- 1) PLACE V1 VALVE IN SEA INLET POSITION
- 2) PLACE FILTER VALVE IN BACKWASH POSITION
- 3) START THE LOW PRESSURE PUMP BY SELECTOR
- TIME REQUIRED FOR THE OPERATION ABOUT 15 MINUTES

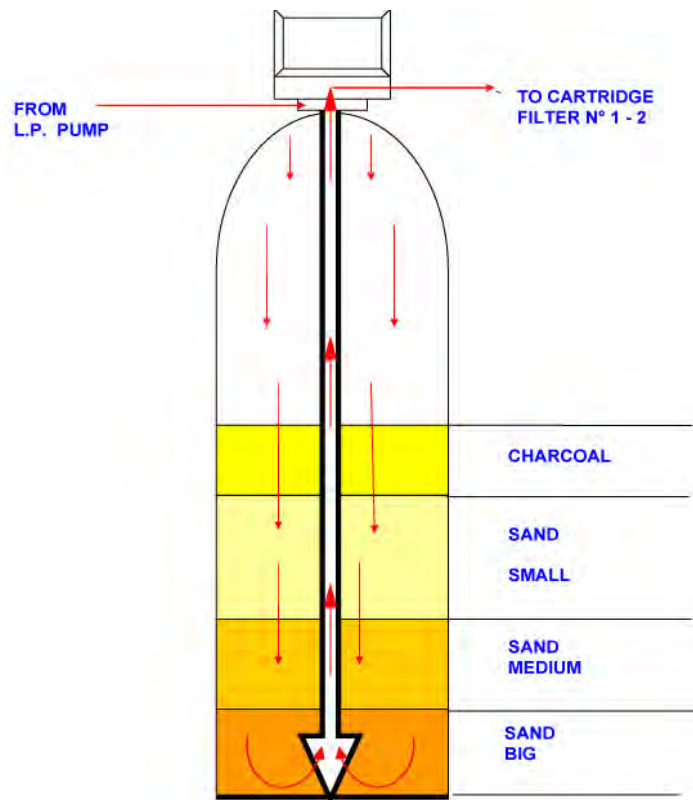
RAPID RINSE

- 4) HALT LOW PRESSURE PUMP
- 5) PLACE FILTER VALVE IN RAPID RINSE POSITION
- 6) RESTART THE LOW PRESSURE PUMP
- TIME REQUIRED FOR THE OPERATION ABOUT 5 MINUTE
- 7) HALT LOW PRESSURE PUMP
- 8) PLACE FILTER VALVE IN SERVICE



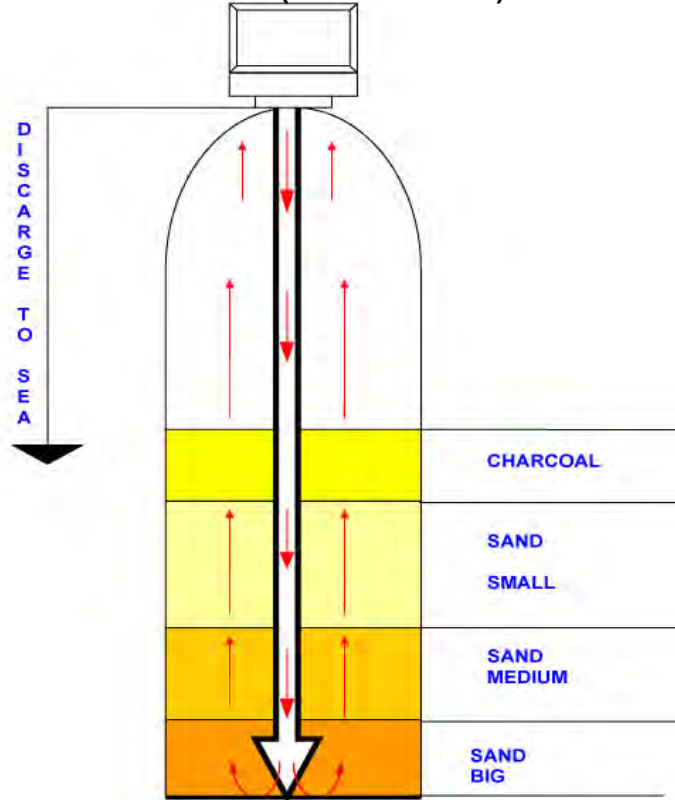
SAND FILTER

FILTER SERVICE



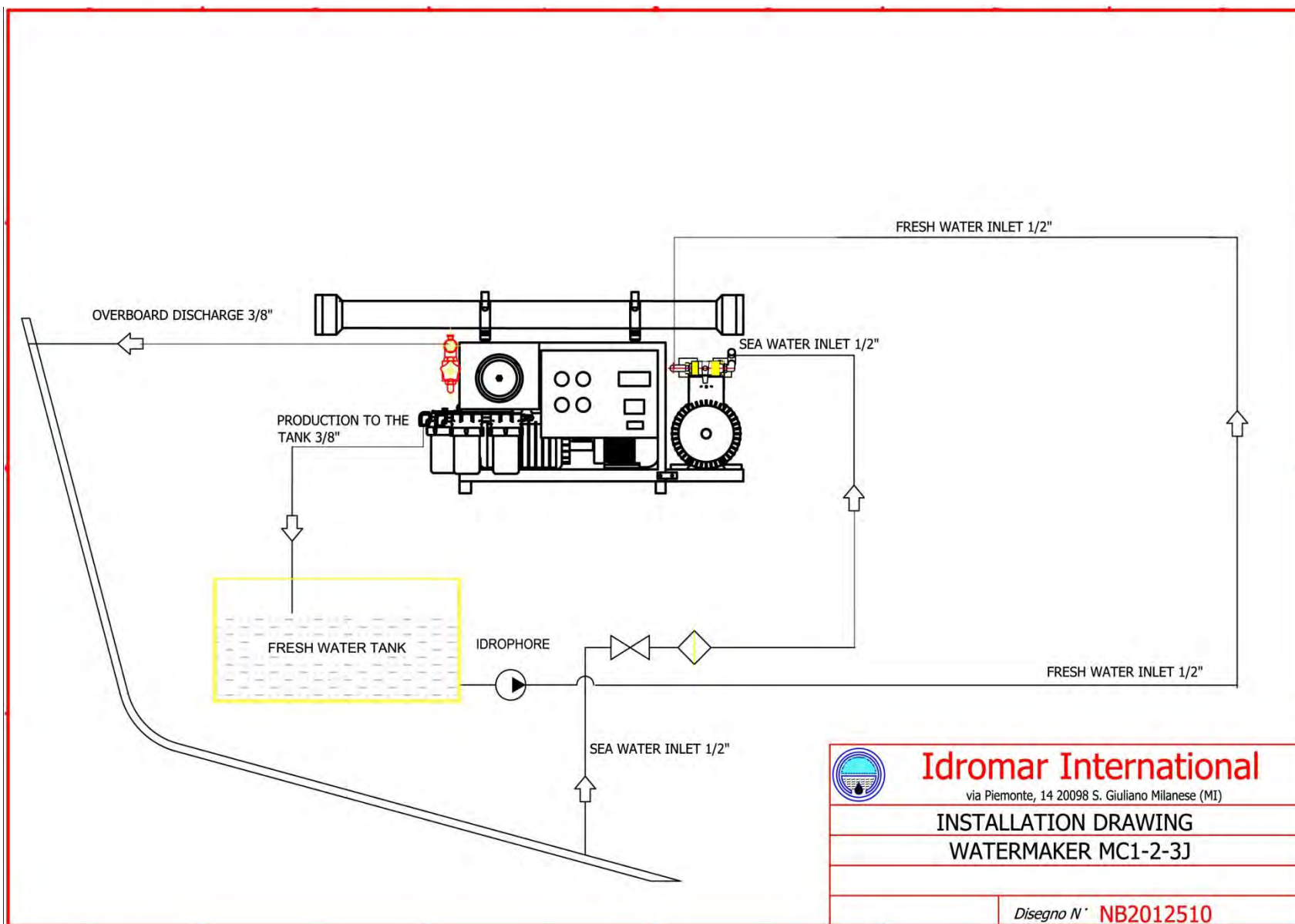
Water flow with sand filter in service

BACKWASH (10 MINUTES)

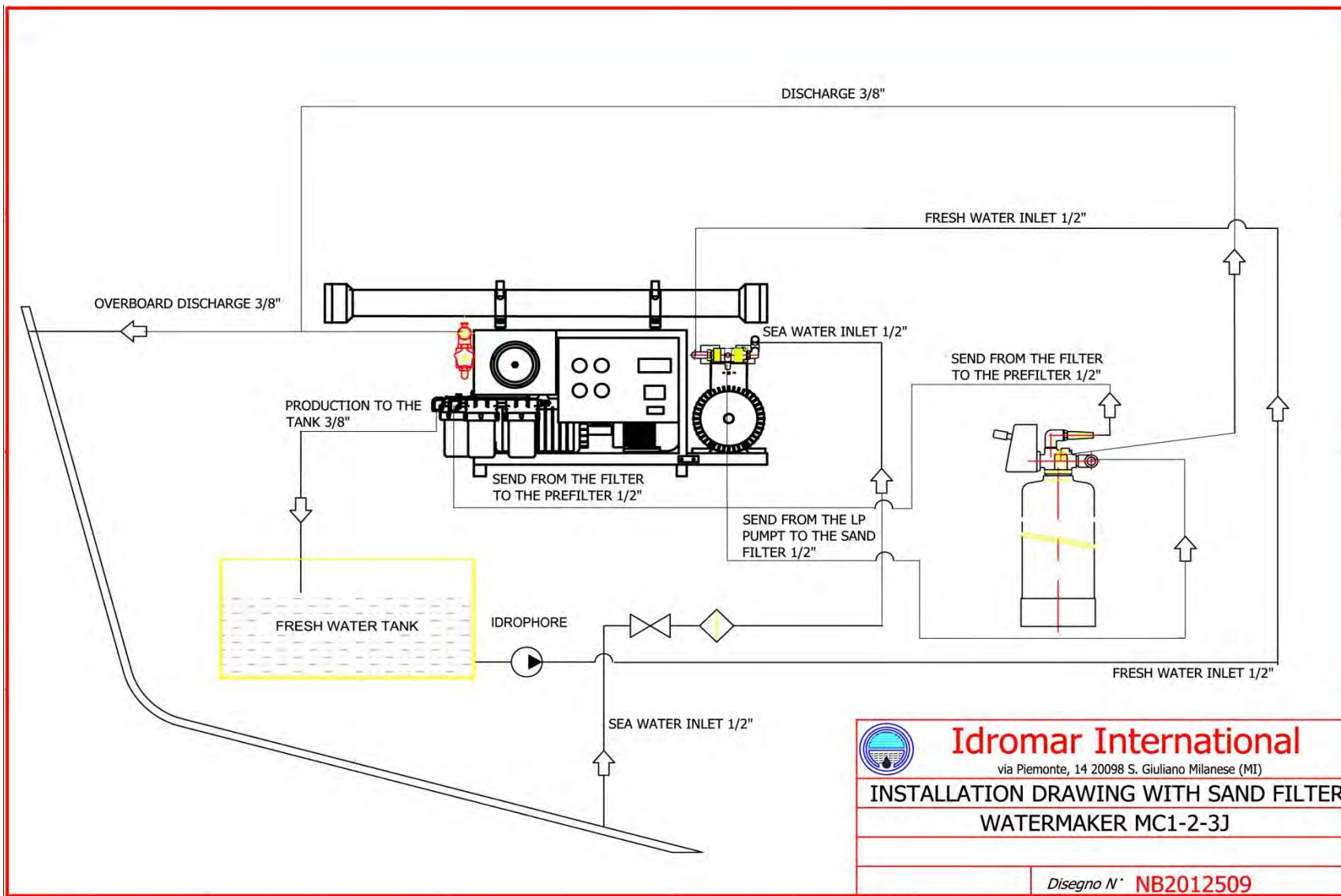


Backwash is needed to remove all the large impurities that remain on the surface and in the first centimetre of sand this procedure is done putting the 2750 manual valve in Backwash position to increase the flow velocity and directly the effluent to overboard discharge.

INSTALLATION DRAWING WITHOUT SAND FILTER



INSTALLATION DRAWING WITH SAND FILTER



Idromar International

via Piemonte, 14 20098 S. Giuliano Milanese (MI)

INSTALLATION DRAWING WITH SAND FILTER

WATERMAKER MC1-2-3J

Disegno N° **NB2012509**

GENERAL SPARE PARTS



Regeneration kit
KIT 01



Glass cup F20



Prefilter
5 e 20 micron
5MP5
5MP20



Carbon cartridge
COA01

GENERAL SPARE PARTS



Flowmeter
0/300



Valve 3-vie



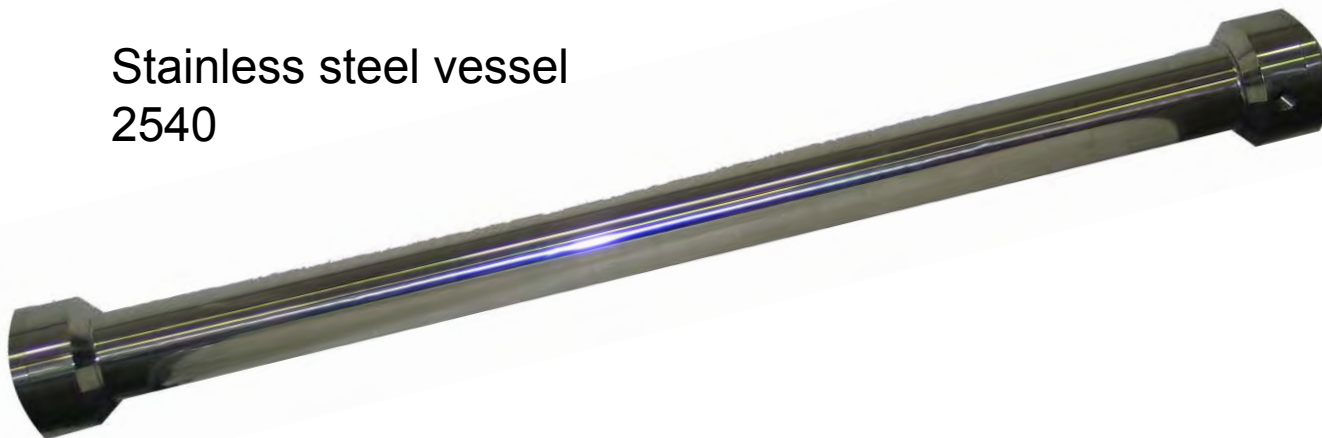
Manometer
0/100 CE



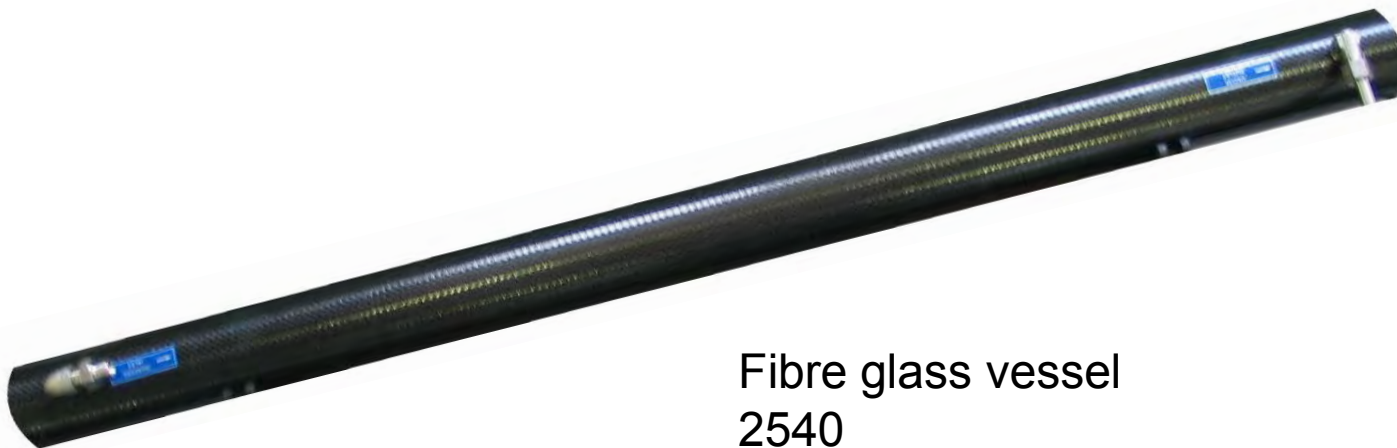
Manometer
0/10

GENERAL SPARE PARTS

Stainless steel vessel
2540



Fibre glass vessel
2540



OPTIONAL SEMIAUTOMATIC PANNEL



Questo pannello consente di accendere e spegnere il dissalatore a distanza; sono inseriti gli allarmi e spie di funzionamento.

OPTIONAL AUTOMATIC PANNELL



Questo pannello consente di azionare il dissalatore a distanza. Nel pannello sono inseriti gli allarmi e la misurazione della pressione operativa. Vi è anche inserito il comando per il lavaggio con acqua dolce.

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