



ELECTRIC PUMPS

CHAP. 1 DESCRIPTION OF THE MACHINE

1.1 General description

The electric pumps are quite similar to each other as regards function and construction; the differences are: Voltage = V...(ref. 1), Power = KW o HP...(ref. 2), Input power = [W]...(ref. 4), Capacitor (where foreseen) = F (ref. 3), Input current = A...(ref. 1), Rate of flow = l/1'...(ref. 5), Head = H m...(ref. 5), Weight and dimensions = kg, DNM...(ref.7), Insulation class =...(ref. 8), Protected to = IP...(ref. 9), For your electric pump data, see plate on the pump & enclosure (A), following the reference number.

1.2 Motor construction features

Closed electric two poles motor. Single phase version with incorporated motor protector and permanently connected capacitor (single phase version 110/220 V, 60 Hz and three phase version do not incorporate overload protection, therefore the protection must be provided by the user). Continuous duty. Max. starts per hour 50 times.

CHAP. 2 GENERAL SAFETY WARNINGS

The manufacturer declines all liability for accidents to persons or animals or damage to property or the electric pump if the warnings do not comply with or if the electric pump is tampered with. The above will also render the guarantee invalid.

2.1 Preventive measures

The user must comply with all accident prevention regulations in force and must scrupulously follow the instructions contained in the following chapters.

- a) Always remember to remove the plug from the socket before carrying out any operations on the electric pump;
- b) Do not move the electric pump while it is working;
- c) Before using the electric pump, always check that the power cable and all the electric devices are in perfect conditions;
- d) Never start the electric pump in your bare feet, with wet hands or even worse with your feet, also partially, in the water;
- e) The electric pumps are built so that all moving parts are protected with covers. When the electric pump is working, do not remove these parts;
- f) The main switch to which the electric pump is connected must be out of reach of jets of water, rain, other liquids or atmospheric agents in general.

 Never use the pump when persons or animals are, not even if partially, in the water.

CHAP.3 CORRECT AND INCORRECT USE

3.1 Correct use

Proper use for Venezia, Skuba, Spring pumps

The electric pumps have been designed to pump clean or slightly dirty water, chemically compatible with the pumps' parts materials. The Venezia 300 and the Venezia 500 may be used to suck liquids up to a minimum level of 2 mm with the float switch disconnected (MAN position of the switch).

Proper use for Venezia Vortex, SA, DVJ, DVX, DV 25, DV 30, DA, DAX pumps

The pumps may be used to pump dirty liquids, chemically compatible with the pumps' parts materials, containing suspended solids max. Ø4 mm (DAX type), max. Ø 10 mm (SA, DA type), max. Ø 25 mm (Venezia Vortex type), max. Ø 40 mm (DVJ type), max. Ø 50 mm (DVX type), max. Ø 62 mm (DV 25 type) and max. Ø 67 mm (DV 30 type).

 Important: The following conditions must be observed when using the electric pump:

- a) Max. water temperature = $0^{\circ} \div 35^{\circ}\text{C}$;
- b) Max. ambient temperature = 40°C ;
- c) Max. operating pressure = (ref.6);
- d) Voltage variation allowed = $\pm 5\%$;
- e) Max. immersion depth = (ref.).

3.2 Incorrect use

All uses not mentioned in paragraph 4.1 are generally forbidden; the electric pump should especially not be used for the following:

- a) Pumping water or liquids with temperatures higher than those contemplated;
- b) Pumping alimentary liquids;
- c) Pumping explosive, inflammable and other dangerous liquids.

CHAP. 4 HANDLING & TRANSPORT

4.1 Unpacking

If the packing is not in good condition, after removing the electric pump make sure it has not been damaged during transport or handling. Any breakages or faults should be reported to the dealer within and not after 8 days from delivery.

 **ATTENTION:** before installing and using the electric pump, check the rating plate to make sure that the model and its characteristics correspond to your order.

4.2 Handling, uninstalling and transport

- a) Never move the electric pump without first removing the plug from the socket or interrupting the mains power;
- b) Unscrew and remove the hose;
- c) Free the electric pump from its possible fixings;
- d) Roll up the electric power cable and hold it in your hand;

 e) Do not transport or drag the electric pump with the power cable, a rope or a chain must be used.

CHAP. 5 PREPARATION FOR USE

5.1 Electric wiring

The pump is supplied with an electric power cable suitable for the power of the machine.

5.2 Electric connection

Before connecting the electric pump to the mains power supply, check if it is suitable to support the required motor consumptions, see plate on the pump and enclosure "A" (ref. 4). It is also fitted with a high sensitivity differential switch (with a minimum protection of 30mA as DIN standards). The single phase electric pumps that are already supplied with a cable and plug must be connected to a mains socket suitable for EEC standards plug with earth connection. For no reason the standard supplied plug must be cut and/or replaced, otherwise warranty will be invalid. Adapters for this kind of plugs are easy to find in the shops. The three phase version has a power cable with a yellow/green earth lead (compulsory). Use the electric panels provided by the manufacturer to keep the guarantee valid.

5.3 Operating checks

Before installing the electric pump perform a no load test on the motor. Make sure that all the electrical contacts are well sealed. On three phase motors check the correct direction of rotation of the motor as follow:

- a) The pump must be placed on a level surface;
- b) Start up the motor for only few seconds;
- c) Observe the rebound at the starting, looking downwards at the pump. If the pump turns anti clockwise it means that the direction of rotation is correct (fig.1). To perform such check with the pump installed observe the following instructions:
 - a) Connect and start the pump;
 - b) Check the flow of the liquid;
 - c) Switch off the pump;
 - d) Invert the two phases and restart the pump;
 - e) Compare the flow of the liquid;
 - f) Switch off the pump;

The connection that guarantees the correct direction of rotation is the one that gives the highest flow rate.

CHAP. 6 INSTALLATION

 Never use the power cord to lift or to lower the electric pump, a rope or a chain must be used.

6.1. Installation

- a) On pumps supplied with external float switch must be regulated to permit an immediate intervention (fig. 3). The Venezia pump is provided with an integrated already adjusted automatic float switch; operate on the switch to disconnect it (fig. 2);
- b) Pay attention when positioning the pump not to damage the power cord. To tie the cord to the delivery hose with proper clamps is recommended;
- c) Use pipes with a high degree of resistance;
- d) If flexible pipes are used, avoid twisting them in order not to cause any obstructions;
- e) Use pipes with a diameter not smaller than the one of the holes of the electric pump;
- f) Fix the pipes so that their weight and vibrations do not affect the electric pump.

6.2. Positioning

- a) The electric pumps must be positioned on a perfectly level and stable surface;
- b) Before placing the pump in position ensure that the suction is not totally or partially blocked by mud, sediments or similar substances;
- c) When choosing the position make sure to observe the minimum required distances from the walls (fig.4).

CHAP. 7 USE AND START UP

7.1 Start up

- a) First of all check again that the electric connections are well sealed and that the power cable has not been damaged during the installation;
- b) Insert the plug in the socket or turn on the main switch. Before starting this operation, pay attention to the contents of chapter 3, paragraph 3.1;
- c) The electric pump starts working.

7.2 Important warnings

- a) Avoid that the pump runs dry (without water inside the pump body);
- b) Remove the plug from the socket or turn off the main switch in case of a power failure.

7.3 Stopping

- a) The electric pump with float switch will stop automatically when the water level reached the foreseen minimum;
- b) If the electric pump is to remain inactive for a long period, the water should be emptied from the pump body and, if possible, the pump body rinsed out with clean water.

ATTENTION: the pump must be emptied when there is a risk of frost caused by ambient temperatures below 0 °C.



CHAP. 8 ASSEMBLY AND DISMANTLING

The electric pump has no separate accessories so that no assembly is required. Dismantling, feeding cable installation or substitution must be executed only at service centres or by qualified technicians.

CHAP. 9 MAINTENANCE AND REPAIRS

9.1 Maintenance

Before carrying out any maintenance operations, remove the plug. The pump does not require special maintenance, so it is not necessary to dismantle it. It is very important, however, that the suction and delivery parts are always kept perfectly clean and free from obstructions.

9.2 Troubleshooting

FAULTS	REASONS	REMEDIES
The pump does not work	1) No mains voltage. 2) Impeller blocked. 3) The float switch does not work (only automatic versions).	1) Check if the socket is under voltage and if the plug is well inserted. 2) Check that suspended bodies do not block the impeller. 3) Check the float switch lifting it by hand (for the Venezia and Venezia Vortex pump set the switch on MAN position).
The pump works, but it does not deliver water.	1) Water level under min. suction level. 2) Air bubble in the pump created during immersion. This might happen when the float switch is not well regulated and does not stop the pump at the min. level so that it sucks air. 3) Suction hole blocked. 4) Delivery hose blocked.	1) Switch off the pump. 2) Get the air out by plunging again the pump while in a tilted position, then shake the pump. 3) Clean the hydraulic part. 4) Take off the hose and clean it.
The thermal overload protector switches off the pump due to overheating.	1) The voltage does not correspond to the indication shown on the motor plate. 2) A solid object has blocked the impeller. 3) The pump has run dry for more than 15 minutes	1) Check voltage. 2) Remove the object. 3) Cool down the pump and start it up again.
The "Aut" version of the pump does not stop	1) The float switch does not operate.	1) Check that the float switch has sufficient space (Venezia and Venezia Vortex excluded).

CHAP. 10 MECHANICAL RISKS

10.1 Mechanical parts subject to wear

- a) The mechanical seal (dr. 17) must be replaced even if it has only been removed for inspection;
- b) Bearings (dr. 8);
- c) Impellers (dr. 16).

! ATTENTION: The above spare parts may only be replaced by qualified technicians or at service centres and only original spare parts may be used.

10.2 Risks due to extreme temperatures

- a) The liquid inside the electric pump may freeze at low temperatures (under 0 °C). This is very dangerous for all the parts of the electric pump and may cause serious damage to it;
- b) A temperature higher than 40 °C may be dangerous for the motor.

CHAP. 11 INFORMATION ON AIR BORNE NOISE

The weighted sound pressure level A produced by the electric pump working with liquids inside the pump body does not exceed 70 dB (A) established by the 98/037/EEC.

Attention!!! Failure to comply with the a/m instructions will render the guarantee invalid.

DECLARATION CE OF CONFORMITY

We, SEA-LAND S.R.L., declare under our own responsibility that our products here included, comply with the directives 2006/42/CE, 2004/108/CE, 2006/95/CE, 2011/65/UE, 2000/14/CE, 2005/88/CE, UNI EN 809, UNI EN ISO 12100, CEI EN 60335-1, CEI EN 60335-2-41, EN 61000-6-1, EN 61000-6-3, UNI EN ISO 3744.

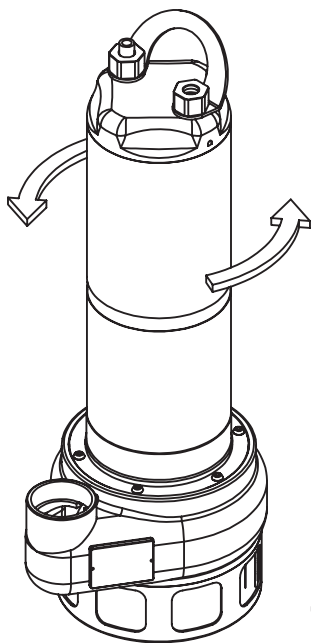
Torreglia, 17 dicembre 2014 Product Manager: Enrico Romanato

TABELLA 50 HZ

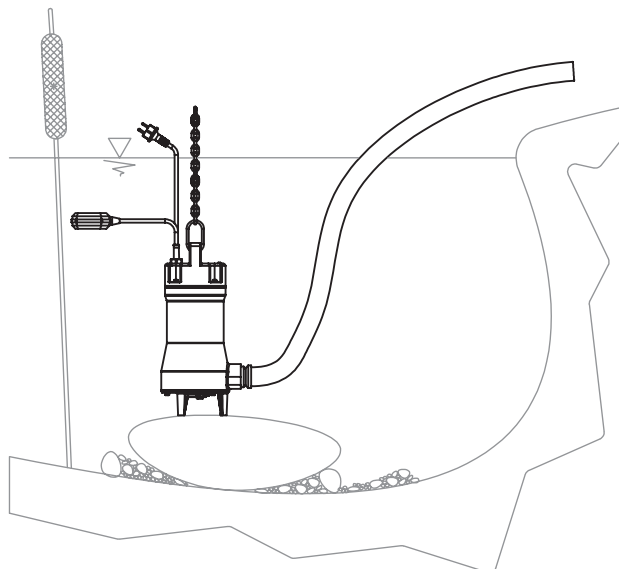
Single-phase a	Three-phase b	kW (2)	HP (3)	Ins.Cl. (8)	(1) A 1~ 230 V 3~ 400 V		Ø DNA	Ø DNM (7)	[kg]	Q l/min (5)	H m (6)	H max m (11)	H min m (10)	°C (10)	S Max.
VENEZIA 300	-	0,26	0,40	F	1,4	-	-	1" 1/4	5,3	90-30	2,5-5,3	6,4	2,5	35	5
VENEZIA 500	-	0,37	0,50	F	2	-	-	1" 1/4	5,7	120-40	3-7	8,5	3	35	5
VENEZIA 700	-	0,51	0,70	F	2,5	-	-	1" 1/4	6,6	190-70	2,5-8,5	11	2,5	35	5
VENEZIA 900	-	0,59	0,80	F	3,2	-	-	1" 1/4	7,6	220-70	2,5-10	12,4	2,5	35	5
VENEZIA Vortex 525	-	0,37	0,50	F	2,1	-	-	1" 1/4	5,8	120-30	2-4,5	6,2	2	35	5
VENEZIA Vortex 925	-	0,59	0,80	F	2,7	-	-	1" 1/4	7,8	150-30	2-7,2	8,5	2	35	5
SKUBA 35	-	0,26	0,35	F	1	-	-	1"	4,1	80-30	0,2-4,1	6	1,5	35	3
SA 100 M	SA 100 T	0,74	1,00	F	5,1	2,1	-	1" 1/4	18,5	300-100	3-9	11,4	3	35	5
SA 120 M	SA 120 T	0,88	1,20	F	6,8	2,3	-	1" 1/4	19,3	320-100	4-10,9	13,4	4	35	5
SA 150 M	SA 150 T	1,1	1,50	F	7,7	2,8	-	1" 1/2	27,8	410-110	3-12,5	14,1	3	35	5
SA 200 M	SA 200 T	1,47	2,00	F	9,2	3,3	-	1" 1/2	28,6	450-100	3-14	15,9	3	35	5
STR 150 M	STR 150 T	1,1	1,50	F	8,5	2,7	-	1" 1/2	28,4	180-60	6-13,8	14,9	6	35	5
-	STR 200 T	1,47	2,00	F	-	3,6	-	1" 1/2	29,2	200-60	8-16,7	19,1	8	35	5
DVJ 100 M	-	0,74	1,00	F	4,6	-	-	2"	14,8	300-100	1,4-6	8,2	1,4	35	3
DVJ 120 M	DVJ 120 T	0,88	1,20	F	6,8	2,9	-	2"	16	400-100	2-7,5	10	2	35	5
DVX 120	DVX 120 T	0,88	1,20	F	7,2	3,3	-	2"	23,5	300-100	4,3-7,5	9,8	4,3	35	5
DVX 150	DVX 150 T	1,1	1,50	F	7,8	3,5	-	2"	24	450-100	2,5-10	12,4	2,5	35	5
DVX 200	DVX 200 T	1,47	2,00	F	10,9	4,4	-	2"	26,2	550-100	3,5-12	15,2	3,5	35	5
-	DV 25/251 T2	1,85	2,5	F	-	4,4	-	2" 1/2	67	700-150	3,5-13,1	14,9	3,5	35	5
-	DV 25/251 T4	1,85	2,5	F	-	4,4	-	2" 1/2	62	700-150	2,7-8,7	9,9	2,7	35	5
-	DV 25/301 T2	2,2	3	F	-	5,4	-	2" 1/2	58	800-150	3,8-14,8	17,4	3,8	35	5
-	DV 25/401 T2	3	4	F	-	6,8	-	2" 1/2	62	900-150	2,8-16,5	19,1	2,8	35	5
-	DV 25/551 T2	4	5,5	F	-	10,0	-	2" 1/2	80	1300-300	7-20,3	24	7	35	5
-	DV 30/301 T2	2,2	3	F	-	5,4	-	3"	71	1000-333	2,3-11,1	14,8	2,3	35	5
-	DV 30/301 T4	2,2	3	F	-	5,2	-	3"	76	1300-333	2,1-10,7	11,6	2,1	35	5
-	DV 30/401 T2	3	4	F	-	6,8	-	3"	75	1000-333	3,5-13,7	17,5	3,5	35	5
-	DV 30/551 T2	3,7	5	F	-	6,5	-	3"	103	1400-333	4,3-16,8	20,2	4,3	35	5
-	DV 30/751 T2	5,5	7,5	F	-	12,5	-	3"	108	1500-500	6,5-20,5	26,1	6,5	35	5
-	DV 30/1001 T2	7,5	10	F	-	16,8	-	3"	110	1600-500	9,1-25,3	31	9,1	35	5
-	DV 40/751 T2	5,5	7,5	F	-	12,5	-	4"	110	1600-500	7,9-20,5	25,1	7,9	35	5
-	DV 40/1001 T2	7,5	10	F	-	16,8	-	4"	112	1600-500	10-25	29,8	10	35	5
-	DV 40/401 T4	3	4,0	F	-	7,0	-	4"	105	1500-666	2,5-8,6	12,5	2,5	35	5
-	DV 40/551 T4	4	5,5	F	-	8,6	-	4"	110	1600-666	2,9-10,4	13,9	2,9	35	5
DA 100 M	-	0,74	1,00	F	5,3	-	-	1" 1/2	14,8	400-100	7,5-13,3	13,5	7,5	35	5
DA 120 M	DA 120 T	0,88	1,20	F	6,8	2,9	-	1" 1/2	16	400-100	9,3-14,5	15	9,3	35	5
DAX 150 M	DAX 150 T	1,1	1,50	F	9,1	4,0	-	2"	24	550-100	3-14,5	17	3	35	5
DAX 200 M	DAX 200 T	1,47	2,00	F	10,6	5,2	-	2"	26,2	550-100	5-18,5	21,4	5	35	5

TABELLA 60 HZ

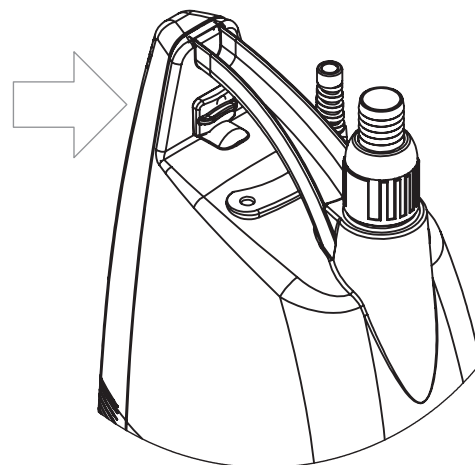
Single-phase a	Three-phase b	(2) kW HP	(8) Ins.CL	(1) A 1~ 220 V 3~ 380 V	(7) Ø DNA Ø DNM [kg]	(5) Q l/min H m	(6) H max m	(11) H min m	(10) °C	S Max.
VENEZIA 300	-	0,26 0,35	B	1,6 -	- 1" 1/4 5,3	90-30 4,3-6,1	6,7	4,3	35	3
VENEZIA 500	-	0,37 0,50	F	1,9 -	- 1" 1/4 5,7	120-40 4-6,6	7,7	4	35	3
VENEZIA 700	-	0,51 0,70	F	2,6 -	- 1" 1/4 6,6	190-70 1,8-7,8	9,8	1,8	35	3
VENEZIA 900	-	0,59 0,80	F	3,8 -	- 1" 1/4 7,6	220-70 4-10,1	12,0	4	35	3
VENEZIA Vortex 525	-	0,37 0,50	F	2,2 -	- 1" 1/4 5,8	120-30 2,5-5	5,6	2,5	35	3
VENEZIA Vortex 925	-	0,59 0,80	F	3,23 -	- 1" 1/4 7,8	150-30 3-8,5	9,9	3	35	3
SKUBA 35	-	0,26 0,35	B	1,52 -	- 1" 4,1	70-40 1,2-5,2	9,5	1,2	35	3
SA 100 M	SA 100 T	0,74 1,00	F	5,1 1,4	- 1" 1/4 18,5	250-100 4-8,8	10,9	4	35	5
SA 120 M	SA 120 M	0,88 1,20	F	5,8 1,6	- 1" 1/4 19,3	320-100 4-11	13,3	4	35	5
SA 150 M	SA 150 MT	1,1 1,50	F	9,1 3,3	- 1" 1/2 27,8	350-100 6-13	14,1	6	35	5
SA 200 M	SA 200 MT	1,5 2,00	F	11,4 3,6	- 1" 1/2 28,6	450-100 4-16,1	17,2	4	35	5
DVJ 100 M	DVJ 100 T	0,74 1,00	F	4,7 2,5	- 2" 14,8	300-100 2-6,5	9,5	2	35	5
DVJ 120 M	DVJ 120 T	0,88 1,20	F	7,6 3,3	- 2" 16	300-100 2,5-8,5	11,9	2,5	35	5
DVX 120	DVX 120 T	0,88 1,20	F	8,4 2,9	- 2" 23,5	300-100 3,7-7	10	3,7	35	5
DVX 150	DVX 150 T	1,1 1,50	F	10,9 3,5	- 2" 24	450-100 1,2-9,8	12,7	1,2	35	5
DVX 200	DVX 200 T	1,47 2,00	F	13 4,3	- 2" 26,2	500-100 3,1-12,6	15,1	3,1	35	5
-	DV 25/251 T2	1,85 2,5	F	- 4,4	- 2" 1/2 67	700-150 3,5-13,1	14,9	3,5	35	5
-	DV 25/251 T4	1,85 2,5	F	- 4,4	- 2" 1/2 62	700-150 2,7-8,7	9,9	2,7	35	5
-	DV 25/301 T2	2,2 3	F	- 5,4	- 2" 1/2 58	800-150 3,8-14,8	17,4	3,8	35	5
-	DV 25/401 T2	3 4	F	- 6,8	- 2" 1/2 62	900-150 2,8-16,5	19,1	2,8	35	5
-	DV 25/551 T2	4 5,5	F	- 10,0	- 2" 1/2 80	1300-300 7-20,3	24	7	35	5
-	DV 30/301 T2	2,2 3	F	- 5,4	- 3" 71	1000-333 2,3-11,1	14,8	2,3	35	5
-	DV 30/301 T4	2,2 3	F	- 5,2	- 3" 76	1300-333 2,1-10,7	11,6	2,1	35	5
-	DV 30/401 T2	3 4	F	- 6,8	- 3" 75	1000-333 3,5-13,7	17,5	3,5	35	5
-	DV 30/551 T2	3,7 5	F	- 6,5	- 3" 103	1400-333 4,3-16,8	20,2	4,3	35	5
-	DV 30/751 T2	5,5 7,5	F	- 12,5	- 3" 108	1500-500 6,5-20,5	26,1	6,5	35	5
-	DV 30/1001 T2	7,5 10	F	- 16,8	- 3" 110	1600-500 9,1-25,3	31	9,1	35	5
-	DV 40/751 T2	5,5 7,5	F	- 12,5	- 4" 110	1600-500 7,9-20,5	25,1	7,9	35	5
-	DV 40/1001 T2	7,5 10	F	- 16,8	- 4" 112	1600-500 10-25	29,8	10	35	5
-	DV 40/401 T4	3 4,0	F	- 7,0	- 4" 105	1500-666 2,5-8,6	12,5	2,5	35	5
-	DV 40/551 T4	4 5,5	F	- 8,6	- 4" 110	1600-666 2,9-10,4	13,9	2,9	35	5



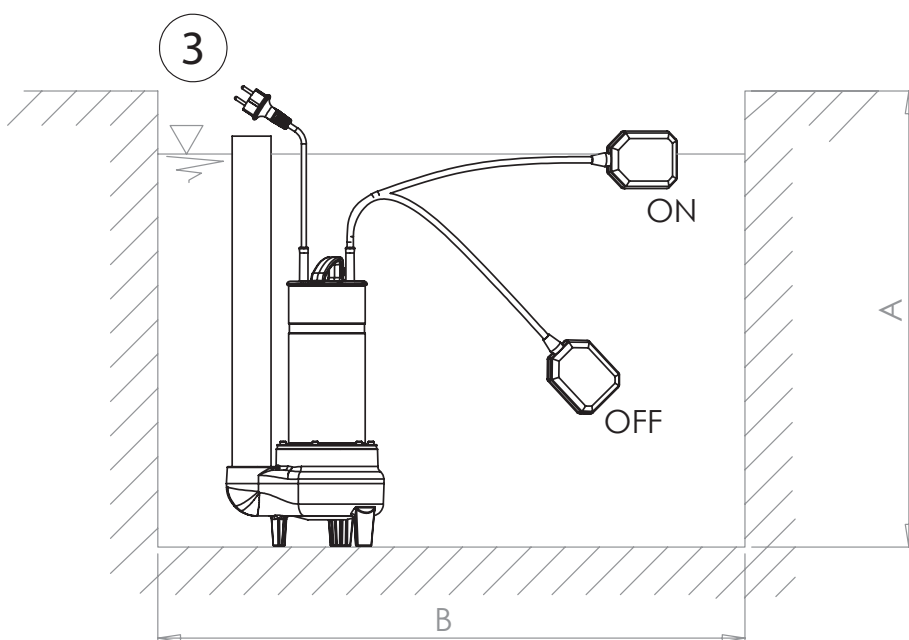
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		SEA - LAND S.r.l. www.sea - land.it		 MADE IN ITALY	
Type					
H	(rif.5)	m	Q	(rif.5)	l/1'
Hmin	(rif.11)	m	Hmax	(rif.6)	m
	(rif.2)	HP	(rif.2)	kW	(rif.1)
~	(rif.1)	V	Hz		Rpm
μF	(rif.3)	V	IP	(rif.9)	(rif.7)
					kg
S/N				Ins.Cl.	(rif.8)
Servizio continuo			Continuous duty		



2



	A	B
SKUBA	480	400
SPRING	480	400
SA - STR	700	700
DVX - DVJ	700	700
DV25 - DV30	700	700
VENEZIA	480	400
VENEZIA Vortex	480	400