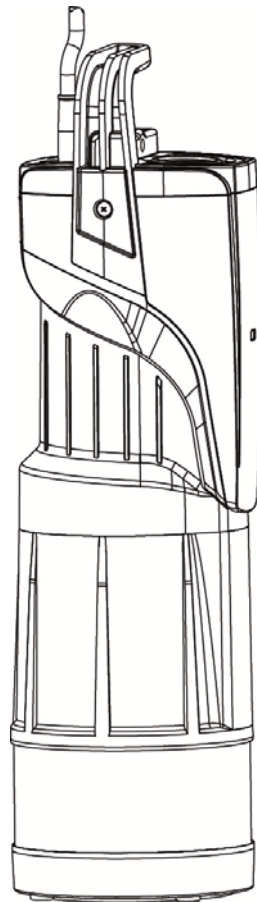
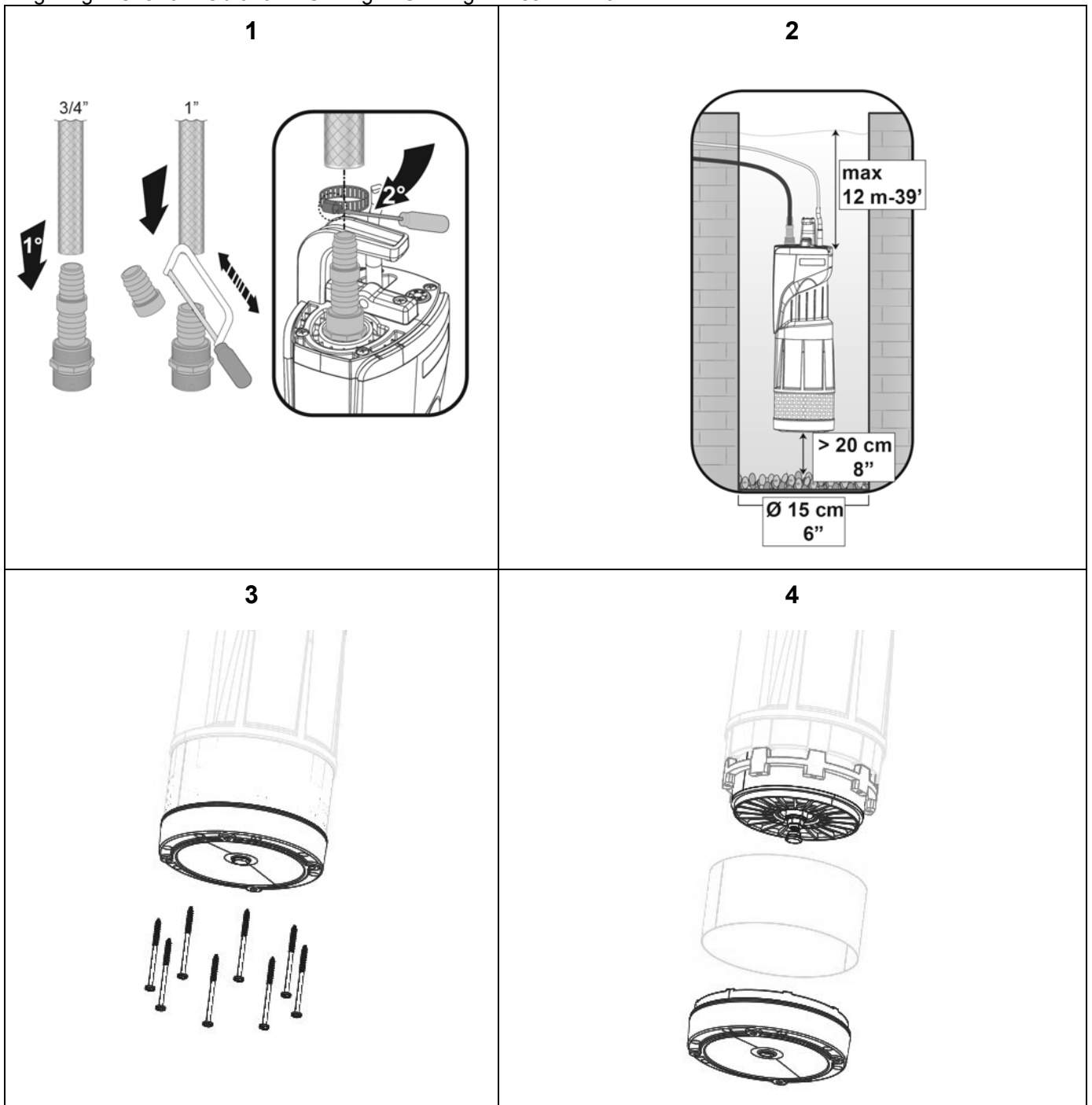

INSTRUCTIONS FOR INSTALLATION AND MAINTENANCE (GB)

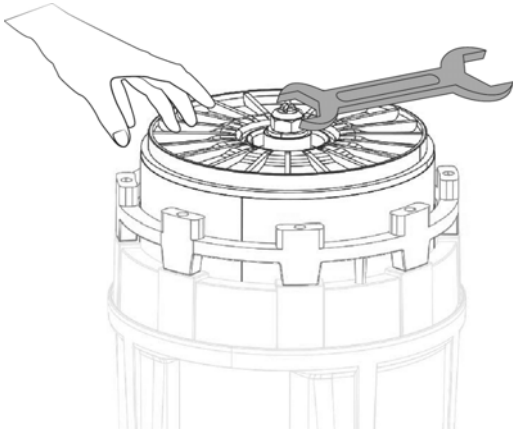


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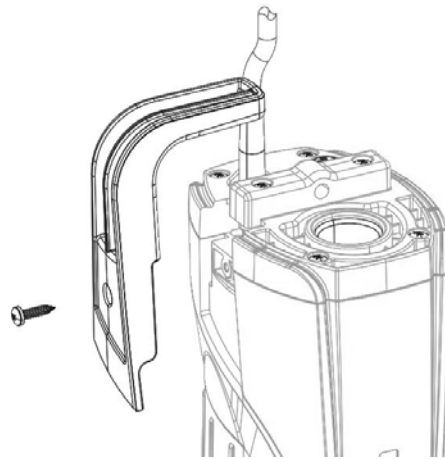
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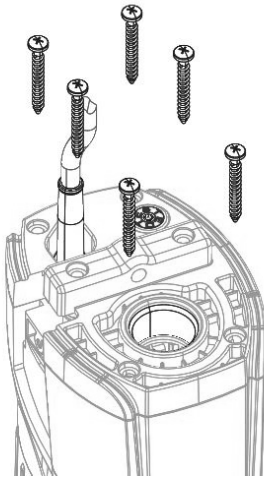
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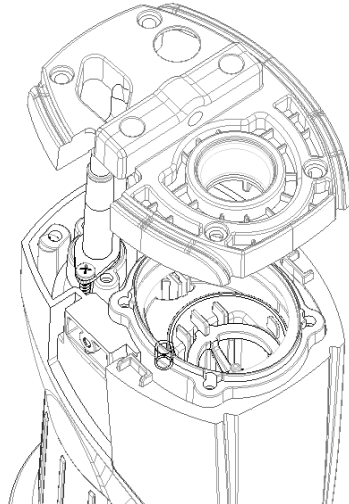
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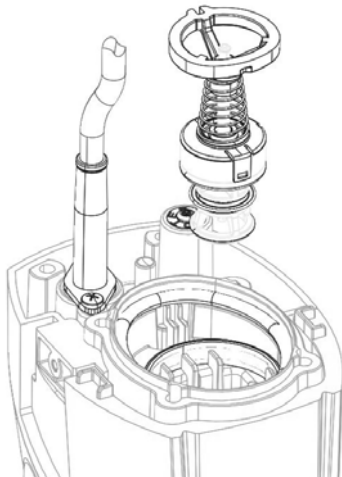
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WARNINGS



Read all this documentation carefully before installation:



Take out the plug before any intervention. Absolutely avoid dry operation: the pump must be activated exclusively when it is immersed in water. If the water is finished, the pump must be deactivated immediately, taking the plug out of the socket.



The pump is equipped with a thermal overload safety device. In the event of any overheating of the motor, this device automatically switches off the pump. The cooling time is roughly 15 to 20 minutes, then the pump automatically comes on again. If the overload cutout is tripped, it is essential to identify and deal with the cause of the overheating. See Troubleshooting.

1. APPLICATIONS

Multistage submerged pump with integrated electronics, ideal for use in rainwater systems and irrigation networks, for pumping water from tanks, cisterns and lakes and for other domestic applications requiring high pressure.

Thanks to their compact and handy shape, they are also used for particular applications as portable pumps for emergency situations such as for drawing water from tanks or rivers, draining swimming pools and fountains. Also suitable for gardening and general hobby activity.



These pumps cannot be used in swimming pools, ponds or basins where people are present, or for pumping hydrocarbons (petrol, diesel fuel, combustible oils, solvents, etc.) in accordance with the acci-dent-prevention regulations in force. They should be cleaned before putting them away. See the chapter "Maintenance and Cleaning".

2. PUMPABLE LIQUIDS

Fresh water	•
Rainwater	•
Clear waste water	○
Dirty water	○
Fountain water	•
River or lake water	•
Max. particle dimension [mm]	Ø 1

Table1

- Suitable
- Not suitable

3. TECHNICAL DATA AND LIMITATIONS OF USE

- **Supply voltage:** 220-240V, see electrical data plate
- **Delayed line fuses (220-240V version):** indicative values (Ampere)
- **Storage temperature:** -10°C +40°C

Model	Line fuses 220-240V 50Hz
P1=900	4
P1=1100	5

Table 2

	Model	P1=900	P1=1100
Electrical data	P1 Rated absorbed power [W]	900	1100
	P2 [W]	650	750
	Mains voltage [V]	220-240V	220-240V
	Mains frequency [Hz]	50	50
	Current [A]	3.8	4.8
	Capacitor [µF]	12.5	12.5
	Capacitor [Vc]	450	450
Hydraulic data	Max. flow rate [l/min]	95	95
	Max. head [m]	36	46
	Max. head [bar]	3.6	4.6
	Max. immersion depth [m]	12	12
	Min. submersion height [cm]	12	12
	Cut in pressure [bar]	2.6+- 0.2	2.6+- 0.2
Range of use	Length of power cable [m]	15	15
	Type of cable	H07 RNF	H07 RNF
	Grade of motor protection	IP 68	IP 68
	Insulation class	B	B
	Liquid temperature range [°C] according to EN 60335-2-41 for domestic use	0 °C / +35 °C	0 °C / +35 °C
	Max. particle dimension [mm]	Ø 1	Ø 1
	Max. ambient temperature [°C]	+40 °C	+40 °C
Weight	DNM GAS	1" F	1" F
	Net/Gross weight approx. [kg]	10.8 / 12.8	10 / 12

Table 3



The pump which does not stand on a base cannot support the weight of the pipes, which must be supported in some other way.

4. MANAGEMENT

4.1 Storage

All the pumps must be stored in a dry covered place, with possible constant air humidity, free from vibrations and dust. They are supplied in their original pack in which they must remain until the time of installation.

4.2 Transport

Avoid subjecting the products to needless impacts and collisions.

4.3 Weight and dimensions

The adhesive plate on the packaging indicates the total weight of the pump and its dimensions.

5. WARNINGS



The pumps must never be carried, lifted or allowed to operate suspended from the power cable; use the handle and cord provided.

- The pump must never be allowed to run when dry.
- The sealing device contains lubricant which is non-toxic but which may alter the characteristics of the water, in the case of pure water, if the pump were to have any leaks.

6. INSTALLATION

Screw on the nipple with coupling supplied in the packaging, which is suitable for pipes with dimensions ¾" and 1"; if you want to use a pipe with a larger diameter, change the coupling. Use a pipe tightening clamp to secure the pipe to the fitting Fig.1

- It is advisable to use pipes having a minimum internal diameter of ¾" mm, to avoid the decrease of pump performance.
- To avoid obstruction of the suction passages, it is recommended to check periodically that no dirt has accumulated in the collection cistern (leaves, sand, etc.). It is advisable to leave a minimum distance of 20 cm to avoid clogging of the suction grid (Fig.2).
- Insert the plug in a socket, main power must be 230V.
- the pump must be activated only if immersed in water. Consider a minimum submersion of 12 cm. If the water is finished the pump must be stopped immediately, taking the plug out of the socket.
- The pump must be placed in a stable position inside a collection cistern or in the lowest part of the place where it is installed.

- Ensure that the minimum dimensions of the collection cistern in which it is housed are as follows:
Min. base dimensions (mm) 150x150 / Min. height (mm) 800 Fig 2
- The dimensions of the cistern must always be in relation to the quantity of water arriving and to the flow of the pump, so as not to subject the motor to excessive starts/hour; it is strongly recommended not to exceed 20 starts/hour.



The pump must be installed in vertical position!

7. ELECTRICAL CONNECTION



The length of the power cable on the pump limits the maximum depth of immersion in use of the pump. Follow the indications on the technical data plate and in this manual, table 3.

8. START-UP

The electronics automatically control starting and stopping (ON/OFF) of the pump depending on the request for water by the user.

The electronics protects the pump against dry running conditions:

- Priming cycle: When started, the pump will perform the following operation until it is primed: four priming trials of 30" (motor ON) with pauses of 3" (motor OFF). If there is no water, i.e. if the priming trials fail, the pump will stop for an hour before trying to prime again. If also this trial fails, there will be a 5 hours pause. Afterwards, if the lack of water persists, the pump will try to prime every 24 hours until it has picked up a prime.
- Normal Operation: If, during the pumps operation, the water supply is inferior to the minimum delivery for more than 40", the pump will go into alarm, and start a priming cycle. In this case the priming trials are made after 1, 5, and 24 hours until the pump picks up a prime.

The electronic unit also protects the pump from damages that could be caused by the blocking of the Not Return Valve (NRV). Such blockings are generally due to dirt deposits, or sand and they cause the pump to operate also if there is no water demand from the end-user. The protection function stops the pump automatically every hour; if no damage is detected the pump re-starts immediately. If the VNR is blocked the pump goes into alarm and stops. In this case the pump can be re-started only after unplugging the pump and removing the obstruction to the VNR.

Flow control:

The flow control deactivates the pump if no water is drawn. If there are leaks on the pressure side (e.g. water tap or hose not watertight), the pump starts and stops at short intervals. If the pump starts and stops more than 7 times in 2 minutes (in case of a leak < 6 l/h), it will switch off completely. Once the leak on the pressure side has been eliminated, switch the pump off and on so that it can be used again.

The best working condition is with the pump be completely submersed in water.

Anyway the motor's cooling system allows the use at the minimum suction height for very short periods.

The pump is equipped with a stainless steel anti-deposit filter.

9. PRECAUTIONS

RISK OF FROST: when the pump remains inactive at a temperature lower than 0°C, it is necessary to ensure that there is no water residue which could freeze, causing cracks in the plastic parts.

If the pump has been used with substances that tend to form a deposit, or with water containing chlorine, rinse it after use with a powerful jet of water in order to avoid the formation of deposits or encrustations which would reduce the characteristics of the pump.

10. MAINTENANCE AND CLEANING

In normal operation the pump does not require any type of maintenance. In any case, all repair and maintenance work must be carried out only after having disconnected the pump from the supply mains. When restarting the pump, ensure that the suction filter is always fitted so as not to create the risk or possibility of accidental contact with moving parts.

10.1 Cleaning the suction filter

- Switch off the electric power supply to the pump.
- Drain the pump.
- Clean with a jet of water and a brush

10.2 Cleaning the impeller

- Switch off the electric power supply to the pump.
- Drain the pump.
- Unscrew the 8 retaining screws on the base of the filter fig.3.
- Remove the base and the filter fig.4
- Holding the impeller, unscrew the nut fig.5
- Take out the impeller, the diffuser, the ring and the O-ring.
- Repeat for all the impellers
- Wash the pump with clean water to remove possible impurities between the motor and the pump jacket.
- Clean the impeller.
- Check that the impeller can turn freely.
- Assemble the parts, proceeding in inverse order to disassembly.

10.3 Cleaning the NRV

(Fig.6)

- Switch off the electric power supply to the pump.
 - Remove the handle, unscrewing the two retaining screws fig.6
 - Unscrew the 6 screws on the delivery cover fig.7
 - Take out the delivery cover and the sand filter fig.8
 - Remove the check valve and clean it to remove any dirt fig.9
- Assemble the parts, proceeding in inverse order to disassembly.

11. TROUBLESHOOTING



Before taking any troubleshooting action, disconnect the pump from the power supply (i.e. remove the plug from the socket). If there is any damage to the power cable or pump, any necessary repairs or replacements must be performed by the manufacturer or his authorized customer support service, or by an equally-qualified party, in order to prevent all risks.

Fault	Possible Cause	Solutions
The pumps does not start	A. The motor is not powered B. The VNR is blocked (pump in alarm mode) C. There is no water (pumps in alarm mode)	A. Check the power supply. B. Clean the valve C. Check the water level
The pump delivers no water	A. The suction grid or piping are clogged B. The impeller is worn or stuck. C. The head required is higher than the pump's characteristics.	A. Remove the obstruction. B. Replace the impeller or remove the obstruction.
The flow rate is too low	A. The suction grid is partially blocked. B. The impeller or delivery pipe are partially blocked or encrusted.	A. Remove any obstruction. B. Remove any obstruction.
The pump stops running (possible intervention of the thermal overload switch).	A. The liquid to be pumped is too dense and overheats the motor. B. The water temperature is too high. C. A solid object is blocking the impeller. D. Power supply doesn't comply with the nameplate's the data.	A.B.C.D. Disconnect the power cord, correct the reason for overheating; then wait until the pump is cooled plug the cord and resume operation.

12. GUARANTEE



Any modification made without prior authorisation relieves the manufacturer of all responsibility. All the spare parts used in repairs must be authentic and all accessories must be authorised by the manufacturer, in order to ensure maximum safety of the machines and of the systems in which they may be installed.

This product is covered by a legal guarantee (in the European Community for 24 months from date of purchase) against all defects that can be assigned to manufacturing faults or to the material used.

The product under guarantee may, at discretion, either be replaced with one in perfect working order or replaced free of charge if the following conditions are observed:

- the product has been used correctly in compliance with the instructions and not attempt has been made to repair it by the buyer or by third parties.
- the product has been consigned to the outlet where it was purchased, attaching a document as proof of purchase (invoice or cash register receipt) and a brief description of the problem found.

The impeller and parts subject to wear are not covered by the guarantee. Intervention under guarantee does not extend the initial guarantee period in any way.