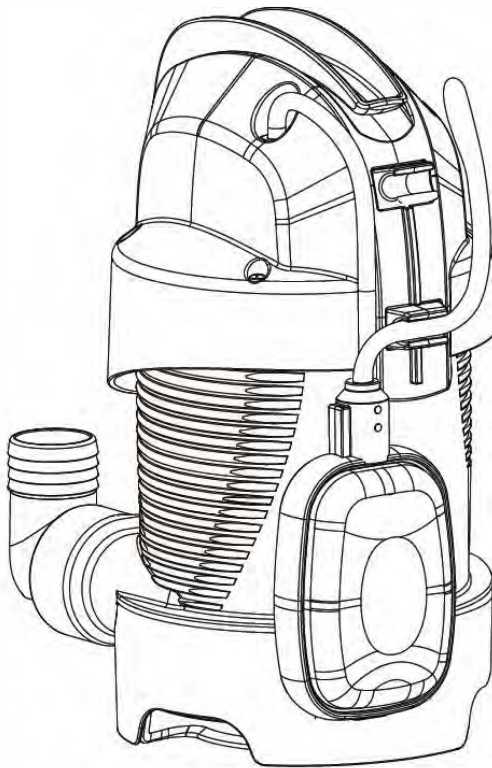


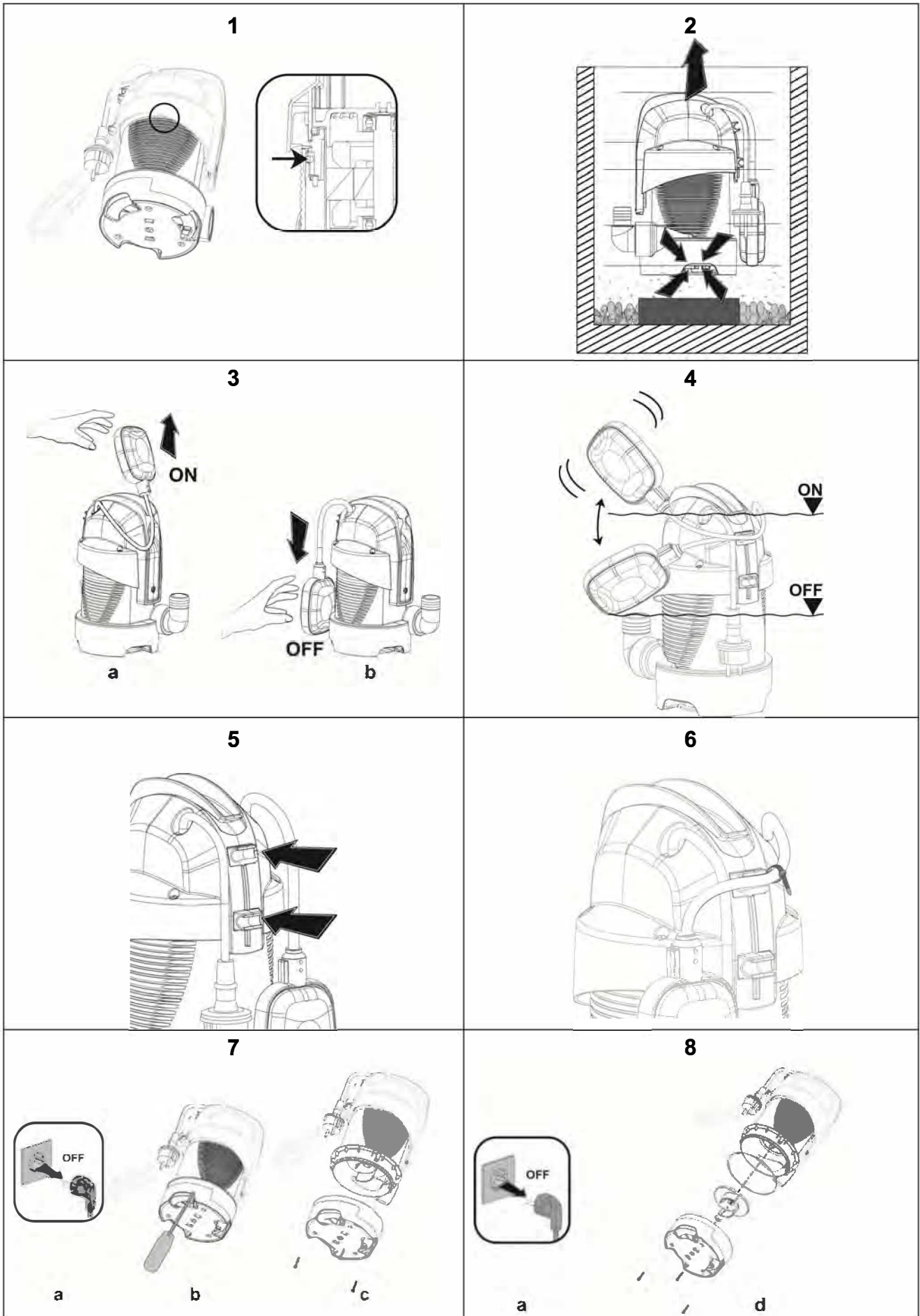
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**INSTRUCTIONS FOR INSTALLATION AND MAINTENANCE**

**EcoSub 7**



Fig



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## WARNINGS



Read all this documentation before installation: carefully



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.

### 1. APPLICATIONS

The pumps are of the submersible type, designed and made for pumping cloudy water without fibres, for domestic uses, with manual or automatic operation, for drying basements and garages subject to flooding, for pumping drainage wells, pumping rainwater collecting traps or infiltrations from roof gutters, etc.

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, excavations or underpasses. 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 accident-prevention regulations in force. They are not designed for continuous use, but for emergency use over a limited period. 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	•
Foul waste water containing solid bodies with long fibres	○
Fountain water	•
River or lake water	•
Max. particle dimension [mm]	Ø 30

Table 1

- Suitable
- Not suitable

The pump is watertight and must be immersed in liquid to a maximum depth of 7m. See Table 3.

### 3. TECHNICAL DATA AND LIMITATIONS OF USE

The pump unit is only to be installed in an electrical supply conforming to Australian Electrical Regulations 2002. This must include a  $\Delta n = 30\text{mA}$  safety switch. All electrical installations are to be performed by a Licensed Electrician.

	Model	Draining dirty water	
		P1=330	EcoSub 7
Electrical data	P1 Rated absorbed power [W]	330	440
	Mains voltage [V]	220-240 AC	
	Mains frequency [Hz]	50	
	Current [A]	1.5	1.6
	Capacitor [ $\mu$ F]	8	
	Capacitor [Vc]	450	
Hydraulic data	Max. flow rate [l/min]	130	140
	Max. head [m]	5.5	7
	Max. head [bar]	0.55	0.7
	Max. immersion depth [m]	7	
	Min. AUT starting height [mm]	260	
	Min/max. stopping height [mm]	100/150	
	Residual water height [mm]	10	
Range of use	Length of power cable [m]	10	
	Type of cable	H05 RNF	
	Grade of motor protection	IP X8	
	Insulation class	B	
	Liquid temperature range [°C] according to EN 60335-2-41 for domestic use	0 °C / +35 °C	
	Max. particle dimension [mm]	Ø 30	
	Max. ambient temperature [°C]	+40°C	
Weight	DNM GAS	1" 1/4 F	
	Net/Gross weight approx. [kg]	4.2/5.15	4.65 / 5.6

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 provided.

- The pump must never be allowed to run when dry.
- On the body there is a venting hole to avoid phenomena of cavitation when starting the pump. It is therefore normal for a small amount of water to come out of the pump during operation. (Fig.1).
- 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 elbow with hoesetail fitting provided in the packaging. For the dirty water version only the fitting for 30 mm pipes; if you want to use a pipe with a larger diameter, change the elbow coupling. Use a pipe tightening clamp to secure the pipe to the fitting.

- It is advisable to use pipes having an internal diameter of 30 mm to avoid the decrease of pump performance and the possibility of blocking.
- If the bottom of the trap where the pump is to be placed is particularly dirty, a raised support should be provided so as to avoid blocking of the suction grid (Fig.2)
- Totally immerse the pump in the water.
- Ensure that the minimum dimensions of the trap in which it is housed are as follows:  
**Min. base dimensions (mm) 460x460 / Min. height (mm) 400**

## ENGLISH

- Pay attention to ensure that the float is free to move, leave at least 5 cm from the wall of the trap.
- The dimensions of the trap 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

There are two operating modes:

#### • **MANUAL (A)**

Although they have a float, the pumps can be used in manual mode Fig.3

- 1) Fix the float switch so that it remains vertical above the pump (with the cable below) (a). As long as the float switch remains raised, the pump keeps operating irrespective of the water level.
- 2) Insert the plug of the power cable in a 220-240V power socket.
- 3) The pump will start up; ensure that it is immerse in the liquid to be pumped.

Pay attention because the pump will not switch off automatically once it reaches the minimum level; it must be switched off manually by the user, either by taking the power out of the socket or by lowering the float (automatic operation).

The maximum suction level is reached only during manual operation because, in automatic operating condition, the automatic float switch stops the pump before it reaches that level.

#### • **AUTOMATIC (B)**

The models with a float switch are started automatically when the water level rises and will switch off when the required minimum level is reached (Fig.4).

- 1) Leave the float free to move.
- 2) Insert the plug of the power cable in a 220-240V power socket.
- 3) When the float reaches the ON level the pump will start and will continue operating until it reaches the OFF level.

#### **Regulating the starting/stopping height:**

(To know the minimum starting and stopping height, see the Technical Data chapter.)

The cable length must on one hand allow the float switch to move freely and, on the other, prevent it resting on the bottom. The portion of cable between the float switch and the cable stay notch must not be less than 10 cm long. The shorter the portion of cable between the float switch and the cable stay notch, the lower will be the starting height and the higher the stopping height. The fixing point can be changed, for example on the lower clip, with the same length, this will give a lower stopping and starting level (Fig.5). The pump is supplied with a clamp (Fig. 6) that fixes the float cable and prevents it sliding in the clip; if you decide to lengthen or shorten the free float cable, shift the corresponding clamp if it cannot be replaced. The single-phase motors are equipped with built-in thermal overload protection and can be connected directly to the mains. NB: if the motor is overloaded it stops automatically. Once it has cooled it starts again automatically without requiring any manual intervention.

A filter is designed in such a way as to regulate the free passage from 30 mm to 5 mm; if it is used with clear water, just turn it and lower it.

### 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 grid

(Fig.7)

- Switch off the electric power supply to the pump.
- Drain the pump.
- Unscrew the retaining screws on the filter (b).
- Remove the suction grid (c)
- Clean and reassemble the suction grid.

### 10.2 Cleaning the impeller

(Fig.8)

- Switch off the electric power supply to the pump.
- Drain the pump.
- Unscrew the retaining screws on the filter (b).
- Remove the suction grid (c)
- Wash the pump with clean water to remove possible impurities between the motor and the pump jacket. (d).
- Clean the impeller (d).
- Check that the impeller can turn freely.
- 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.

FAULTS		CHECKS (possible causes)	REMEDIES
1	The motor does not start and does not make any noise.	A. Check that voltage is reaching the motor. B. Check the protection fuses. C. The switch is not activated by the float.	A. Verify that the plug is properly inserted  B. If burnt out, change them. - If burnt out, change them. Place it facing up. - Increase the depth of the trap.
2	The pump does not deliver flow	A. The suction grid or the pipes are blocked. B. The impeller is worn or blocked. C. The head required is higher than the pump's characteristics. D. Presence of air	A. Remove the obstructions or straighten the hose if it is twisted. B. Replace the impeller or remove the obstruction. C. Replace it with one with a higher head. D. Wait at least 1 minute until it is eliminated
3	The pump does not stop.	A. The switch is not deactivated by the float	A. Check that the float can move freely.
4	The flow rate is insufficient	A. Check that the suction grid is not partially blocked B. Check that the impeller or the delivery pipe are not partly blocked or encrusted. C. Ensure that the check valve (if contemplated) is not partially blocked	A. Remove any obstructions. B. Remove any obstructions. C. Accurately clean the check valve
5	The pump stops after having run for a short time.	A. The thermal overload protection device stops the pump.	A. Check that the fluid to be pumped is not too dense as it would cause overheating of the motor.  B. Check that the water temperature is not too high.

## 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.**

Clayton Engineering warrant this product for 3 years from the date of purchase. The warranty covers manufacturer's defects in material or workmanship. The warranty does not cover malfunctions due to misuse or due to failure to follow the instructions in the instruction manual. Any alterations to the product are to be performed by a Clayton Engineering approved service agent. Any repairs performed by non approved personnel may void the warranty.

To make a claim, contact Clayton Engineering, 26 French Ave, Brendale 4500 on phone 1300 798 022 or email [sales@claytonengineering.com.au](mailto:sales@claytonengineering.com.au). You will be asked to provide proof of purchase and then will be instructed on the procedure for repairing or replacement of the product under warranty. All costs incurred for repair or replace, and additional claims can be discussed at this stage.

This warranty is provided in addition to other rights and remedies you have under law: Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and for compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure.

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