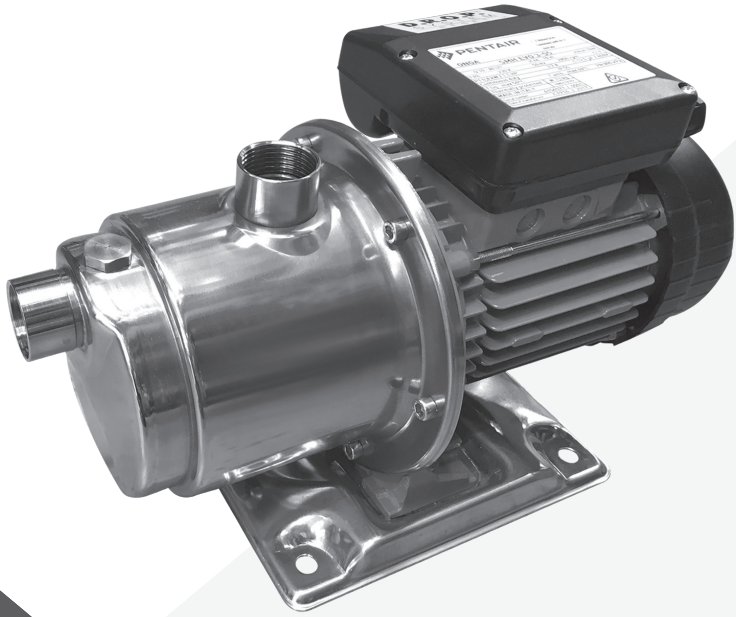
PENTAIR
ONGA®

MULTI EVO - A



Thank you and congratulations! You have purchased a product with excellent quality and service. Secure this service by carrying out the installation works in accordance with the instructions, so that our product can perform its task to your complete satisfaction. Any damage caused by inappropriate use invalidates the guarantee.

This manual is an integral part of the product and must be consulted before first use and to ensure correct use and maintenance. Please adhere to the instructions in this manual.

SUMMARY

CHAPTER 1
SAFETY INSTRUCTIONS

This instruction manual contains essential information that must be observed during installation, operation and servicing. It is therefore important that the installer and the responsible technician/operator read this instruction manual before the equipment is installed and put into operation. The manual must always be available at the location where the pump or the plant is installed.

Failure to observe the safety instructions can lead to the loss of all warranty.

In this instruction manual, safety information is distinctly labelled with particular symbols. Disregarding this information can be dangerous.

DANGER

General danger to people

DANGER - ELECTRIC SHOCK RISK

Warning of electrical voltage

ATTENTION

Danger to equipment and operation

1.1 QUALIFICATION AND TRAINING OF PERSONNEL

All personnel involved with the operation, servicing, inspection and installation of the equipment must be suitably qualified for this work and must have studied the instruction manual in depth to ensure that they are sufficiently conversant with its contents. The supervision, competence and areas of responsibility of the personnel must be precisely regulated by the operator. If the personnel do not have the necessary skills, they must be instructed and trained accordingly.

1.2 SAFETY-CONSCIOUS WORKING

The safety instructions in this instruction manual, the existing national regulations regarding accident prevention, and any internal working, operating and safety regulations must be adhered to.

1.3 SAFETY INSTRUCTIONS FOR THE OPERATOR/USER

All legal regulations, local directives and safety regulations must be adhered to.
The possibility of danger due to electrical energy must be prevented.
Legal regulations must be observed.

1.4 SAFETY INSTRUCTIONS FOR INSTALLATION, INSPECTION AND MAINTENANCE WORKS

As a basic principle, works may only be carried out to the equipment when it is shut down. Pumps or plant that convey harmful substances must be decontaminated.

All safety and protection components must be re-fitted and/or made operational immediately after the works have been completed. Their effectiveness must be checked before restarting, taking into account the current regulations and stipulations.

1.5 UNAUTHORISED MODIFICATIONS, MANUFACTURE OF SPARE PARTS

The equipment may only be modified or altered in agreement with the manufacturer. The use of original spare parts and accessories approved by the manufacturer is important for safety reasons. The use of other parts can result in liability for consequential damage being rescinded. All materials in contact with water have been tested and approved, therefore only original replacement parts should be used.

1.6 UNAUTHORISED OPERATING METHODS

The operational safety of the supplied equipment is only guaranteed if the equipment is used for its intended purpose. The limiting values given in the "Technical Data" section may not be exceeded under any circumstances.

1.7 INSTRUCTIONS REGARDING ACCIDENT PREVENTION

Never work alone. Always wear a hard hat, safety glasses and safety shoes and, if necessary, a suitable safety belt.
Before carrying out welding works or using electrical devices, check to ensure there is no danger of explosion.
For the sake of your health, be sure to pay meticulous attention to cleanliness wherever you are working.
Make sure that there are no toxic gases in the working area.
Observe the relevant occupational health and safety regulations and keep first aid materials available.
In some cases, the pump and the pumping medium may be hot and could cause burns.
For installations in areas subject to explosion hazards, special regulations apply!
This appliance can be used by children aged 8 years or over and by persons with limited physical, sensory or intellectual capabilities, or with limited experience and knowledge, provided that they are supervised or have been instructed in the safe use of the appliance and are aware of the dangers involved. Children must not be allowed to play with the appliance. Cleaning and user maintenance must not be carried out by children unless they are supervised.

DANGER - ELECTRIC SHOCK RISK

The pump must only be connected to sockets that have been installed properly in accordance with the regulations and are protected with a FI-safety switch (RCD,30mA)

DANGER - ELECTRIC SHOCK RISK

Only qualified electricians may carry out electrical works to the pump or the controls.

DANGER - ELECTRIC SHOCK RISK

Always pull out the mains plug before carrying out any work on the pump

DANGER - ELECTRIC SHOCK RISK

Check the rubber hose for mechanical or chemical damage. A damaged or kinked hose must be replaced.

CHAPTER 2
APPLICATION

The Multi Evo-A pump is a multi-stage horizontal manual or self priming pump for pumping clean liquids with no solid suspended particles, fibres or abrasive materials which could chemically or mechanically attack the pump, nor for liquids not compatible with the pump's construction material. The Multi Evo-A pump must not be used for acids or corrosive substances

The pump can be used to pump water in:

- **water distribution systems**
- **irrigation systems**
- **rain water collection systems**

DANGER

Never use the pump for flammable and/or explosive liquids.

DANGER

Improper use of the pump can lead to physical injury and/or material damage. Improper use of the product will render the warranty null and void.

NOTE

The pump is suitable for use with drinking water for human consumption (with AS/NZS 4020 conformance). If the pump has been assigned to uses other than water for human consumption, it may no longer subsequently be used for that purpose.

2.1 APPLICATION LIMITS

- **Temperature of pumped liquid: from +5°C to +50°C in compatibility with the pump materials.**
- **Maximum ambient temperature: +40°C;**
- **Max. operating pressure: 8bar (0.8MPa)**

The data plate lists the specifications:

POS.	DESCRIPTION
1	Type of pump
2	Flow rate range
3	Head range
4	Minimum head
5	Number of phases
6	Voltage
7	Frequency
8	Motor rpm
9	Insulation class
10	Absorbed power of electric pump
11	Rated current
12	Condenser capacity
13	Protection rating
14	Maximum liquid temperature
15	Maximum ambient temperature
16	Maximum operating pressure
17	Weight
18	Serial number
19-	Date of manufacture

2.2 SOUND PRESSURE LEVEL

The sound pressure level is below 70dB (LpA) on the following models: all models

2.3 MAXIMUM HEAD

See appendix

2.4 TRANSPORT AND STORAGE

On delivery, check that the electric pump has not been subject to damage during transport; in this case notify the retailer immediately.

Check procedure phases:

- check the exterior of the packaging;
- remove all product packaging material;
- inspect the product for possible damaged parts;
- contact the retailer if any defects are found.

Use the original packaging to return the product to the retailer in the event of defects; otherwise dispose of all packaging materials according to current local standards.

DANGER

Handle the product in observance of current accident prevention standards.

During storage, protect the product from humidity, dust, heat sources, mechanical damage and external contaminants in order to conserve the quality of the water subsequently placed in contact with the pump.

CHAPTER 3
INSTALLATION

Install the pump on a flat surface and secure to prevent movement during start-up and operation, ensuring that there are no obstructions to the regular flow of cooling air delivered by the motor fan. If installed for use with drinking water, clean the pump prior to installation - also clean if left unused for prolonged periods of time.

The pump must be installed in a well-ventilated area, and relative humidity in the environment must not exceed 50% at 40°C (condensate free).

Ensure that the installation site is sufficiently sized to enable assembly of the pump on the system and future maintenance operations.

Ensure that the pump installation room or site is not subject to the risk of flooding by the leakage of liquids or other events that may cause submersion of the pump itself.

Ensure that the ambient temperature does not exceed the values specified on the data plate.

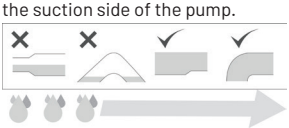
DANGER
To avoid breakdown of the system with the risk of physical injury, use pipelines, connectors and accessories suited to the maximum operating pressure values.

DANGER
All pipeline connections must be made by qualified personnel in conformity with current local standards.

To avoid the need to drain the system in the event of pump maintenance, the installation of a shutoff valve is recommended, on the suction and delivery pipelines.

DANGER
If the pump remains in operation with the delivery valve closed for more than a few seconds, the liquid will overheat. Never use the pump with the shutoff valve closed on the delivery side.

The pump should be installed in such a way to avoid the risk of air pockets in the body or pipelines, in particular on the suction side of the pump.



Pipelines and valves must be correctly sized according to the installation.

Pipelines must not cause excessive mechanical stress on pump suction or delivery with excessive loads and torque values. For drinking water, all materials used upstream and downstream of the pump must also be suitable for contact with drinking water for human consumption

If flexible hoses are used, fit a semi-rigid pipe on suction to avoid the risk of shrinkage due to negative pressure on suction.

It is recommended to fit a filter on the inlet of the suction pipeline where the pump is used for pumping water from a well or tank used for the recovery of rain water.

DANGER
Periodically check the condition of the filter and regularly clean or replace this element.

The pump is installed with positive suction head when it is located below the liquid in suction. Figure 1

- **Shutoff valve**
- **Check valve**
- **Filler cap**

The pump is installed with negative suction head when it is located above the liquid to be received. Figure 2

- Shutoff valve
- Optional check valve or control device with internal check valve on delivery line
- Filler cap
- Foot valve
- Check valve on suction pipeline for self-priming pumps.

Correct pump installation is essential to ensure priming.

- Position the pump in the vicinity of the well or tank to ensure that the suction pipe is as short as possible. In this way, the priming time is reduced, above all in the case of large differences in height between the liquid and suction point.
- Use a pipeline that is at least the same diameter as that of the pump suction port. If the difference between the liquid and suction point is more than 4 meters, use a pipeline with a larger section;
- To avoid the formation of air vortexes, immerse the suction pipe by at least 0.5m in the liquid to be pumped (Figure 2);
- Install a foot valve with filter at the end of the suction pipe (Figure 2) or check valve on the suction port in the case of self-priming pumps.
- Ensure complete sealing of the suction pipe;
- Use wide bends on the suction section;

DANGER

The electrical installation shall be in accordance with the national wiring rules (AS/NZS 3000) for class 1, IP44 rated products.

DANGER

Freezing conditions will damag e the unit, because when water freezes it expands. Ensure that the pump is located so that it is not prone to freezing, or ensure that the product is disconnected and dried of water during cold conditions.

DANGER

Multi EVO-A pumps are electrically connected. Ensure that they are switched off and unplugged from socket outlet during installation and any subsequent service work.

DANGER

The pump is designed to be used with clean water in a residential application. Do not use it with alternative fluids, abrasive, corrosive or explosive fluids. Do not install or operate your pump in an explosive environment or near combustible matter.

DANGER

Fire and burn hazard. Modern motors run at high temperatures. To reduce risk of fire, do not allow leaves, debris, or foreign matter to collect around the pump motor. To avoid burns when handling the motor, let it cool for at least 20 minutes before trying to work on it. Automatic thermal overload cut-out protects the motor for heat damage during operation and it will restart without notice when the motor cools down.

DANGER

The pump is not intended for use by young children or infirm persons without supervision. Young children should be supervised to ensure that they do not play with the pump.

DANGER

The pump should be protected from the weather, floods, chemicals, dust, vermin, insects etc. It is highly recommended that the pump be housed in a weather proof, well vented enclosure. If the pump is not adequately housed the warranty may be deemed void.

SUCTION

- **This is the most important part of the installation as errors will cause significant problems for the system in performance and longevity.**

IMPORTANT: A GATE VALVE MUST BE INSTALLED AT THE TANK OUTLETS.

Figure 1

- **Installations where the tank base is below the pump**

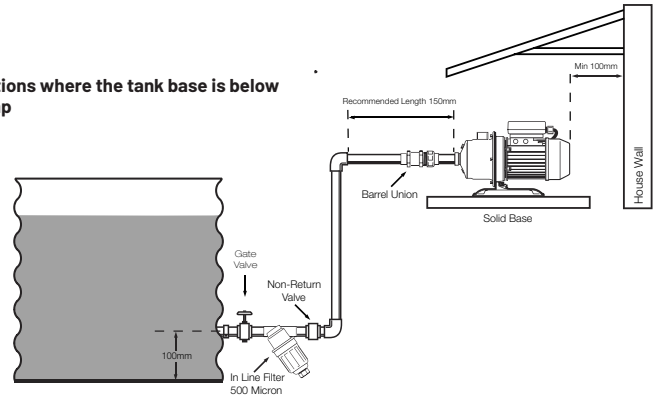
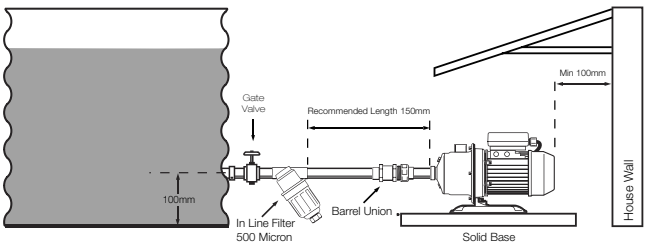


Figure 2

- **Installations where the tank base is level with the pump**



DANGER

- The pump is supplied with a interconnection appliance coupler and standard Australian 10 Ampere plug and cord. Connection to the power supply is a matter of inserting the plug into the suitable socket outlet. Before plugging the power supply cord into the socket outlet, connect the pump to it using the provided IEC appliance connectors on the end of the interconnection cords.
- Ensuring there are no water traces on the connectors push them firmly into each other to ensure intended splash (water) proof protection. This connection shall be separated again only for service purpose and only after the power supply is removed by unplugging the cord from the socket outlet.
- The socket outlet shall be in a dry and flood free location; preferably do not use extension cords for this very reason and because they can cause voltage drop.
- Supply voltage outside limits specified in Model Data can cause motor overheat leading to overload tripping, reduced component life or seriously damage pump and voids warranty.
- We recommend, for additional protection, the pump to be supplied from socket outlet protected by a residual current device – RCD (also known as an Earth Leakage Circuit breaker – ELCB) with a maximum rated residual current of 30mA.

PUMP PRIMING

- Ensure that there is at least 200mm of water in your tank, (i.e. that the tank outlet is covered, and the pump will not draw any air into the system). Open the gate valve on the tank. Check for any leaks, and repair these if necessary.
- If no leaks are present, remove the priming plug to open the priming port on the top of the pump case.
- If the tank is above the level of the pump, water will start to run out of this port. Replace the priming plug carefully. Your pump is now ready to run. (Note: If a check valve is installed in the suction line, water may not fill the pump. If this occurs, follow the instructions below).
- If the tank water level is below the level of the pump, you will need to fill the pump body and suction line. Remove the priming plug and fill the pump body and suction line using a funnel.

CHAPTER 4
ELECTRICAL CONNECTION

DANGER - ELECTRIC SHOCK RISK

- Ensure that the rated voltage and frequency correspond to those of the specifications of the mains power available.
- The electrical connection must be made according to current local standards.
- Before any intervention on the pump, disconnect the electrical mains. Ensure that the electrical power supply cannot be restored inadvertently.
- The electrical cables must be protected, in particular from high temperatures, vibrations and impact, which could cause mechanical or chemical damage.
- The electrical power line must be fitted with a short circuit protection device, and a residual current device RCD with high sensitivity (30mA), protected by means of a slow-acting fuse or a magnetothermic switch.
- The electric power line must be fitted with an external main switch with a contact opening gap compliant with current local standards.

4.1 SINGLE PHASE MOTORS

The single phase motors are protected against temperature and current overload by means of thermal cutout devices in the winding. The motor protection is reset automatically on elapse of the time required for the electric motor to cool down. See "quick troubleshooting guide".

4.2 THREE PHASE MOTORS

In the case of three phase motors, the user is responsible for installing protection.

The electrical protection must be suitably sized to ensure protection against overloads and short circuits.

4.3 ELECTRICAL CONNECTION

Electrical connections should be made according to the diagram provided on the inside of the terminal board cover.

CHAPTER 5
OPERATION

5.1 PUMP PRIMING

DANGER

The pump must only be started up after it is filled with liquid.
If the pump has not been used for a prolonged period, the filling operation should be repeated before starting up.

DANGER

The pump operator or owner must be provided with this owner's manual. This must be read before operation, and followed during operation.

DANGER

The pump is designed to be used with clean water in a residential application. Do not use it with alternative fluids, specifically abrasive, corrosive or explosive fluids. Do not install or operate your pump in an explosive enviroment or near combustible matter.

DANGER

Fire and burn hazard. Modern motors run at high temperatures. To reduce risk of fire, do not allow leaves, debris, or foreign matter to collect around the pump motor. To avoid burns when handling the motor, let it cool for at least 20 minutes before trying to work on it. Automatic thermal overload cut-out protects the motor for heat damage during operation and it will restart without notice when the motor cools down.

CHAPTER 5
OPERATION *(CONTINUED)*

5.2 PUMP INSTALLATION BELOW THE LIQUID LEVEL (NEGATIVE SUCTION HEAD)

- Close the shut-off valve on delivery side
- Open the shut-off valve on suction side
- The electrical cables must be protected, in particular from high temperatures, vibrations and impact, which could cause mechanical or chemical damage.
- The electrical power line must be fitted with a short circuit protection device, and a residual current device RCD with high sensitivity (30mA), protected by means of a slow-acting fuse or a magneto thermic switch.
- Loosen the filler cap to allow air to escape, allow complete filling of the body pump and suction pipe with the fluid, until liquid flows out.
- The electric power line must be fitted with an external main switch contact opening gap compliant with relevant standards.
- Tighten the fill plug.
- Start the pump and slowly open the valve on delivery side, to ensure venting of the residual air left in the pump body and allow pressure to build up

DANGER

The pump must never be operated with the shutoff valve on the delivery side closed. The discharge valve must be opened as soon as the pump has been started up, to prevent damage to the latter by an excessive increase in liquid temperature.

DANGER

If there is no foot valve or check valve on the suction port, filling must be repeated before each start-up.

DANGER

If the pump has difficulty in increasing pressure, repeat operations 1 to 8. If, after several attempts, the pump does not operate correctly, see the fault section "quick troubleshooting guide"

5.3 PUMP START-UP

DANGER

Use the electric pump according to the performance specifications as stated on the data plate. Before using the pump, read Application chapter for a proper use.

DANGER

Always avoid operation of the pump with the upline shutoff valve closed (suction side). Dry running of the pump can lead to overhearing and damage to the pump itself.

DANGER

Never run the pump with the shutoff valve downline (delivery side) completely closed. In this case, the water in the system reaches very high temperatures, with the risk of damage to equipment and scalding in the event of escape of the liquid. In this situation, turn off the pump and leave the system to cool.

DANGER
Never use the pump in the event of cavitation, as this can cause damage to the hydraulic components.

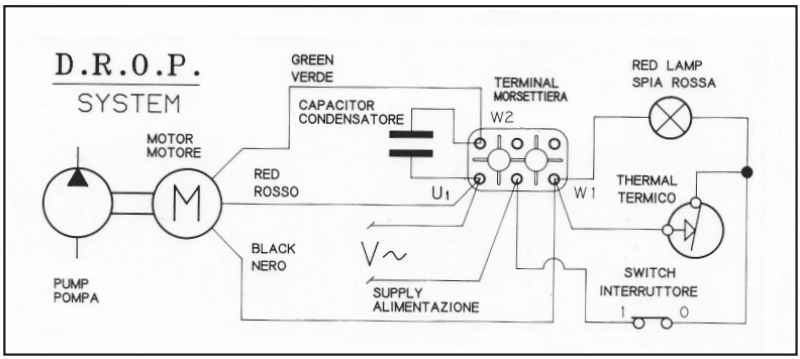
DANGER
Pressure on the downline side of the pump (delivery side) must never exceed the maximum operating pressure PN as indicated on the pump data plate. Pressure downline of the pump is obtained from the sum of the pressure delivered and the pressure on the suction side (gravity for installations with negative suction head, aqueducts, or water system where admissible or required).

- Check that the shutoff valves downline of the pump (delivery side) and upline of the pump are in the open position.
- Start the pump.
- If the pump does not start up correctly, on reaching the operating conditions in a short time, the pump shuts down.
- In this case repeat the "Pump priming" phase.

1 **Start-up operation**
Start the pump and check rotation of the motor. It rotates in a clockwise direction when viewing the fan through the cowl behind the motor.

2 **D.R.O.P (Dry Running Over-Temperature Protection)**
The Onga Multi Evo-A series of pumps are fitted with the internationally patented D.R.O.P system which protects the hydraulic parts from possible damage that can be caused by overheating of the liquid inside the pump casing.
The overheating can be the result of external causes (outside the pump) or occurs because the pump stops priming and as water is pumped out the pump runs dry.

Figure 3



3 **Restoring Operation**
Set the switch to "0", unplug unit from power outlet. Remove cause of malfunction.
Wait a few minutes, allowing all the hydraulic parts to cool down.
Set the switch on the "1", plug the unit into power outlet. The red light goes off and the pump starts operating. If the red light remains on, turn the switch to "0", unplug the unit, wait a few minutes and repeat the start up procedures.

CHAPTER 6
MAINTENANCE

DANGER - ELECTRIC SHOCK RISK
Before any intervention on the pump, disconnect the electrical mains. Ensure that the electrical power supply cannot be restored inadvertently.

DANGER
Refer to the "safety instructions".

- In normal conditions, the electric pumps do not require any scheduled maintenance.
- With a view to prevention of possible faults, it is recommended to periodically check the pressure delivered and current absorption.

A reduction in pressure is symptomatic of pump wear. An increase in current absorption is symptomatic of abnormal mechanical friction in the pump.

- Special maintenance may be required to clean the pump and replace any worn parts.
- If the pump is not used for prolonged periods (e.g. for an entire season) it should be drained completely rinsed with clean water and stored in a dry location.
- If the pump is used for applications with drinking water for human consumption and it is not used for a long period, repeat the procedures listed in Installation chapter.

6.1 SERVICE AND MAINTENANCE

Pump should only be serviced only by qualified personel. For best results, use only genuine service parts. Be sure to prime pump before starting.

To avoid dangerous or fatal electrical shock, turn OFF power to pump and remove plug from outlet before attending the pump.

RCD tripping indicates an electrical problem. If RCD trips and will not reset have a qualified electrician inspect and repair electrical system and/or pump.

If service is required to the power supply cord and/or appliance connectors, they must be replaced with the specialised cord assemblies by Pentair Water service agent or similarly qualified personnel in order to avoid a hazard.

Liquid may be HOT, release pressure with care before servicing.

6.2 GENERAL CARE AND MAINTENANCE

Under normal conditions the Onga Multi Evo-A series of pumps requires only minimal attention.

In order to prevent possible failures, it is advisable to periodically check the pressure supplied and power absorption.

A decrease in pressure is a symptom of wear.

An increase current absorpion is a sign of abnormal mechanical function in the pump and/or motor.

CHAPTER 7
QUICK TROUBLESHOOTING GUIDE

DANGER

Refer to the "safety instructions".

7.1 THE PUMP DOES NOT WORK

- No power supply turn on the switch and check that no electrical connections are loose or defective.
- Check the mains voltage
- Fuse blown check that the cables and relative connections are not defective and replace the fuse if necessary
- The single phase motor thermal cutout has tripped this is reset automatically once the motor has cooled
- Motor overload cutout has tripped check that the cables and relative connections are not defective, check that the pump is not blocked mechanically, or whether the pump winding is damaged (replace if necessary)
- Electrical power line damaged = replace
- Pump blocked mechanically = clean

7.2 THE PUMP STOPS AFTER A SHORT INTERVAL OF OPERATION DUE TO A TRIPPED MOTOR PROTECTION DEVICE

- Excessive current absorption check the operating condition of the pump
- If foreign bodies are present, blocking hydraulics = clean the hydraulic components
- Phase missing on power supply (three phase motor) = check the electrical power supply
- The single phase motor thermal cutout has tripped = this is reset automatically once the motor has cooled; check installation conditions
- Thermal cutout protection setting or fuses not suitable = check protection devices with respect to rated current of pump
- Power cable damaged = replace component
- Motor damaged = replace component

7.3 THE PUMP STARTS UP BUT DOES NOT DELIVER LIQUID

- Pump is not primed repeat the "pump priming" procedure
- The pump takes in air check the liquid level, operation of the foot valve and the suction pipeline
- The foot valve is blocked in the closed position replace or clean the valve
- For self-priming pumps only: The liquid column above the check valve on the delivery pipeline prevents self-priming of the pump = drain the delivery pipeline. Check that check valve does not retain liquid in the delivery pipeline. Repeat the start-up procedure.

7.4 PUMP PERFORMANCE IS REDUCED

- Pipelines obstructed check pipelines
- Incorrect impeller rotation (three phase motor) check direction of rotation
- Pump is not primed correctly repeat the "pump priming" procedure
- For self-priming pumps only: the internal valve has not closed gradually close a valve until there is a visible increase in pressure or flow. Then open the valve gradually until the required flow rate is reached.

7.5 PUMP PERFORMANCE IS UNSTABLE

- Pump suction pressure too low or cavitation check the pump inlet conditions
- Suction pipe is partially obstructed with impurities clean the suction pipe
- Leak from suction pipe repair or replace suction pipe
- Air in suction pipe bleed the suction pipe, repeat the "pump priming" instructions
- For self-priming pumps only: The differential pressure inside the pump is too low = gradually close a valve until delivery pressure stabilizes and the noise level is reduced

7.6 THE PUMP ROTATES IN THE OPPOSITE DIRECTION WHEN SHUT DOWN

- Foot valve or check valve defective or blocked in the open position = remove and clean or replace the valves
- Leak from suction pipe = remove and repair suction pipe

7.7 PUMP DOES NOT OPERATE AND MOTOR DOES NOT RUN

- No Electricity
- Not Plugged in correctly
- Circuit breaker activated

- Verify presence of electricity
- Ensure pump is connected properly
- Reset circuit breaker

7.8 THE PUMP HUMS AND THE THERMAL RELAYS CUT IN AND OUT

- Pump is clogged by debris.
- Capacitor is defective

- Clean suction pipe and foot valve/ strainer. Clean the pump by flushing with water. Remove the priming and drain plugs. If the pump cannot start after several flushings, it must be dismantled and cleaned.
- Replace capacitor.

7.9 PUMP OPERATES BUT DELIVERS NO WATER

- Pump is not filled with water.
- Suction head is too high.
- Foot valve/strainer is not submerged enough.
- Suction pipe is taking in air
- Suction pipe/strainer or non-return valves are clogged with debris
- Pump is clogged with debris.

- Fill the pump with water (see installation section - Priming Pump)
- Reduce the suction head
- Make the suction pipe longer (max 8 metres)
- Check the suction pipe and joints for air leaks.
- Clean the suction pipe/strainer or non-return valve
- Clean the pump of debris

7.10 NOTICEABLE REDUCED PERFORMANCE

- Suction head is too high.
- Foot valve/strainer only partially submerged
- Pump shaft seal is worn or damaged
- Pump is partially blocked with debris
- Pressure switch setting are incorrectly set or faulty.

- Reduce the suction head
- Lengthen suction pipe
- Replace defective parts
- Remove debris and flush pump with clean water

  Check and adjust pressure switch and/or replace faulty parts

Should problems persist, contact your nearest Onga Service Agent.

CHAPTER 8
DISASSEMBLY AND DISPOSAL

DANGER - ELECTRIC SHOCK RISK

Before any intervention on the pump, disconnect the electrical mains. Ensure that the electrical power supply cannot be restored inadvertently.

- Disconnect the pump electrically from the system according to safety standards
- Open the tap nearest to the pump to decrease the system's pressure
- Before disassembly, close the shutoff valves on the delivery side, and if present also close the shutoff valve on the suction side.

DANGER

Note the position of the filler hole, which is also used as a bleed point. Ensure that the liquid on outlet cannot cause damage or physical injury.

- Loosen the filler cap to reduce the pressure of the liquid remaining between the two valves
- Remove the drain cap from the pump body to completely empty the pump

This product or any part of the latter must be disposed of in accordance with local standards using the public or private waste collection authorities as required.

NOTES

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