PENTAIR
ONGA®

JET ASSISTED PUMPS

SUMMARY

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.

CHAPTER 1
CONSTRUCTION MATERIAL & TECHNICAL INFORMATION

PART	MATERIAL
Pump Casing	X5 CrNi 1810 (AISI 304) stainless steel
Motor Bracket	Die-cast aluminium
Impeller	Technopolymer with stainless steel shim ring
Monobloc diffuser Venturi tube nozzle assembly	Technopolymer
Shaft	X12 CrN iS 1809 (AISI 416) stainless steel
Mechanical Seal	Graphite
Counterface	Graphite
Seal Holder Plate	x5 CrNi 1810 (AISI 304) stainless steel
O-ring	NBR 70 Shore

USAGE LIMITATIONS

- Type of liquid: Clean water with no suspended solids or abrasive material
- Maximum liquid temperature: 50°C
- Maximum ambient temperature: 40°C
- Maximum recommended suction height: 8m with foot valve.
- Maximum operating pressure: 6 bar

MOTOR

- Enclosed, externally ventilated
- Level of protection IP44
- Class F insulation
- Single phase power supply with capacitor permanently activated
- Thermal protection built into motor winding
- Speed of rotation 2850 rpm
- Suitable for continuous use

TECHNICAL IMFORMATION	
Inlet Connection	1" BSP Female
Outlet Connection	1" BSP Female
Power Supply	230V
Voltage Limits (+/- 10%)	207-253V
Impeller(s)	Technopolymer
Pump Case	Stainless Steel
Pump Shaft	Stainless Steel
Mechanical Seal	Carbon/Ceramic
Motor	TEFC IP44
Maximum Water Temp (°C)	50
Ambient Temp Range (°C)	1-50

CHAPTER 2
APPLICATION

Onga JS Series pumps are suitable for pumping clean water in a domestic water system, small irrigation applications, and general water transfer. The Onga JS Series Jet-Assisted pumps are fantastic at self- priming, easy to install, and come in a wide range of packages to suit almost any application.

CHAPTER 3
INSTALLATION

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

These instructions are a guide only. Users not familiar with pumping equipment should seek advice from people experienced in pump equipment and installation.

Freezing conditions will damage 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.

The pump is electrically connected. Ensure that it is isolated from electrical supply during installation and any subsequent service work.

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.

Incorrectly installed or tested equipment may fail, causing severe injury or property damage.

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. A thermal overload switch protects the motor for

Read the following instructions in this owner's manual when installing and operating equipment.

CHAPTER 3
INSTALLATION

1. Preparation for Installation

Inspect your pump for shipping damage. Report any damage to your Onga Dealer. Make sure the suction piping is free of air leaks and is laid so that there can be no airlocks.
Warranty of these pumps is void unless they are operated in accordance with this owner's manual.

2. Pump Protection

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

IMPORTANT:

Connection with a mains Pressure Hot Water System
The maximum pump pressure specification is 600kPa. It is important that a reliable pressure relief valve (set to the maximimum specif cation or lower) is installed between the pump control discharge and the mains pressure Hot Water Service.

Failure to install this device may lead to product damage not covered by the manufacturers warranty.

3. Pipe Installation

Pumps can be damaged if care is not taken when connecting pipes. Pipes should be supported so that the pump casing is not strained by the weight or misalignment.
We recommend the pump and pipe are coupled using flexible type polythene pipe, rubber hose or a multi-directional barrel union. This union coupling can also be used to remove the pump for service should it be necessary without having to cut pipes.
Pipe fittings should be carefully screwed onto the pump making sure not to cross-thread or overtighten. We recommend the use of a moulded pipe fitting to connect to the pump as this avoids possible damage to the pump threads and unnecessary replacement of parts.
For best results use tef on tape to join seal joint. Satisfactory sealing can be achieved by hand tightening fittings ensuring that no leaks are evident once under pumping pressure.

4. Locating the Pump

Find a location for your pump as close to your water source as possible.

Ensure that this location is on a seperate footing from your home. To do this you can mount the pump on a concrete tile or concrete base.

5. Power Source

Arrange for an electrician to install an outdoor 10A GPO electrical outlet near the pump if there is not one there already.

CHAPTER 3
INSTALLATION

6. 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**

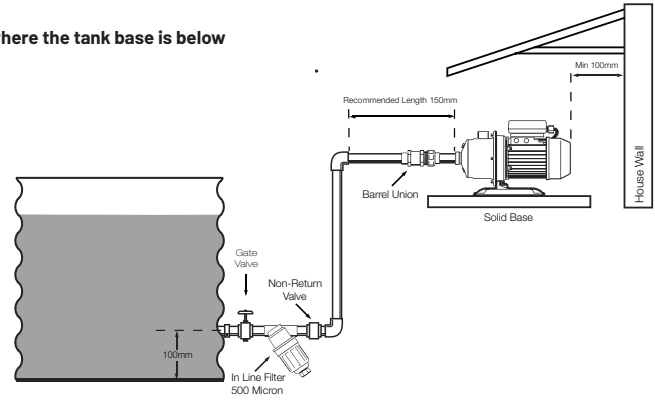
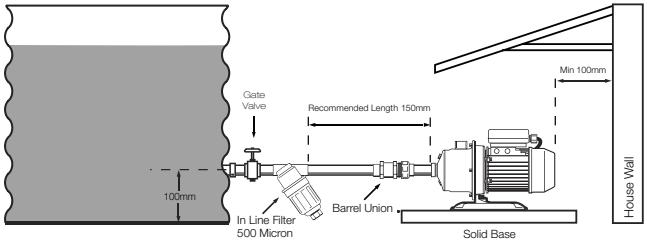


Figure 2

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



To maintain optimum performance from your pump, the suction pipe should be:

- Kept to the shortest distance practical, but not shorter than the recommended length.
- Re-enforced crush resistant (non-collapsable) hose or pipe.
- All fittings should be air tight.
- Pipes should be equal to or larger than the diameter of the suction/inlet port.
- Optional: Fitted with a suction Strainer/Filter

In-line strainers/filters are only recommended for pumps fitted with PressControl. Regular maintenance is required to keep them clean and provide maximum pump pressure.

CHAPTER 3
INSTALLATION

7. Discharge

The length and diameter of the discharge hoses/pipes will affect the pressure and flow rate at which your pump operates. Pressure ratings of all components must exceed the maximum pressure of the pump by an appropriate safety factor. All pipework should be supported independently of the pump.

Connect the fitting at the top of the pressure controller (1"BSP Male) to the household plumbing or garden taps*.
*If you want to test that the pump is operating correctly prior to having the plumbing connected, attach a hose with a trigger nozzle to the top of the pressure controller.

8. 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.

9. Electical Installation

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.

CHAPTER 4
OPERATION

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

Ensure that your pump is filled with water before operating.

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.

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. A thermal overload switch protects the motor for heat damage during operation.

DO NOT RUN PUMP DRY
Ensure that your pump is filled with water before operating

Start-up / Operation

Priming

Prime the pump through the top priming plug port or outlet so that the pump and suction line are full. Discharge pipework attached, turn pump on and allow to operate until primed and all air is flushed out of suction and discharge lines.

JS with PressControls only

When the power is turned on, the pump will start, and stop as soon as it has pressurised the system it is connected to. If the pump does not start, press the 'restart' button on the front of the pressure controller. Open a tap, (or garden hose nozzle) and the pump should start and deliver water. When the tap is closed, the pump will stop once pressure is built up in the system. The system is now working correctly.
If no water is delivered, check the troubleshooting section on Page 10 of this manual, and additionally, refer to the pressure controller installation and operating instructions packaged with the controller.

JS with Pressure Switch only

Pressure Switch

The Pressure Switch should be screwed onto the 3/4" port on the 5 way tee. No sealing tape should be necessary and the locknut should only be just over handtight to seal.
All pressure switches are factory set and will suit most domestic requirements but may require further adjustment accordingly to individual installations.

Aqua Pack Plus

Aqua Packs plus must be charged with air before installation. The air pressure used should be 10% lower than the pressure switch cut-in setting of the pump, (e.g. a pump working on 20-40 psi should have a tank air charge of 18 psi.)
Aqua Packs should be installed under cover, out of the weather, and the air pressure should be regularly maintained.

Aqua Pack Plus Tank Recharge Procedure

The air charge should be checked at least once a year as tanks gradually lose air which causes pump cycling and pressure switch setting problems.
To check air pressure, turn off the electricity to the pump. Turn off the gate valve from the water supply. Turn on a tap so that the water is drained from the pump. Only then, measure the air pressure in the tank using a tyre pressure gauge on the valve. If the pressure is low, recharge using a tyre pump. Do not over charge the tank with air as this will cause tank liner damage, pressure surge problems and/or the system to malfunction.
False readings can be obtained when checking the air pressure unless the pressure tank is completely empty of water. If in doubt, turn off water supply, drain discharge line and then disconnect the tank from the pipe work. When the air pressure is correct, re-install the tank, open gate valve from the supply tank and turn on the electricity. The pump should now operate normally once any air is purged from the lines.

CHAPTER 5
SERVICE AND MAINTENANCE

Pump should only be serviced 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 hazard, turn OFF power to motor and remove plug from power outlet before working on pump or motor.

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

General Care and Maintenance

No lubrication or regular maintenance is needed beyond reasonable care. When pump is not in use for a long period of time, empty the pump, rinse it with clean water and place it in dry storage.

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 absorption is a sign of abnormal mechanical function in the pump and/or motor.

CHAPTER 6
TROUBLESHOOTING

Symptom	Cause	Remedy
Pump does not Start	No Electricity	Ensure that the pump is connected to a live outlet
		Check Circuit breakers and Fuses
	Pressure Controller has detected that there is not water in tank	Check that there is enough water in the tank, then press the "reset" or "Start" button on the pressure controller
	Pump is blocked	Disconnect the pump from the power outlet, and check the pump housing and discharge for foreign matter
	Defective Capacitor	Call qualifed service technician
Pump will not stop, even though there is no taps open	Debris is caught in the pressure controller	Take the pressure controller to your Onga dealer for service
	There are leaks in the household plumbing	Find and fix leaks
No Water From Pump	Pump is not primed	Ensure that pump body and suction line are filled with water before starting.
	Suction line is leaking	Check the suction line for leaks especially at joints
	Blockages in the pump or discharge	Disconnect the pump from the power outlet, and check the pump housing and discharge for foreign matter
	Valves Closed	Check all valves on the tank, pump, and outlets
	Not enough water in the tank to pump	Wait until there is more water in the tank. Press the 'reset' or 'start' button on the pressure controller
	Pump does not produce enough pressure	Check and clean pump
	Pressure Switch is out of adjustment	Check system pressure and adjust accordingly
	In-Line filters or tap filters are blocked	Clean filters

NOTES

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1-21 Monash Drive, Dandenong South, VIC 3175 Australia | 1300 137 344 | onga.com.au

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