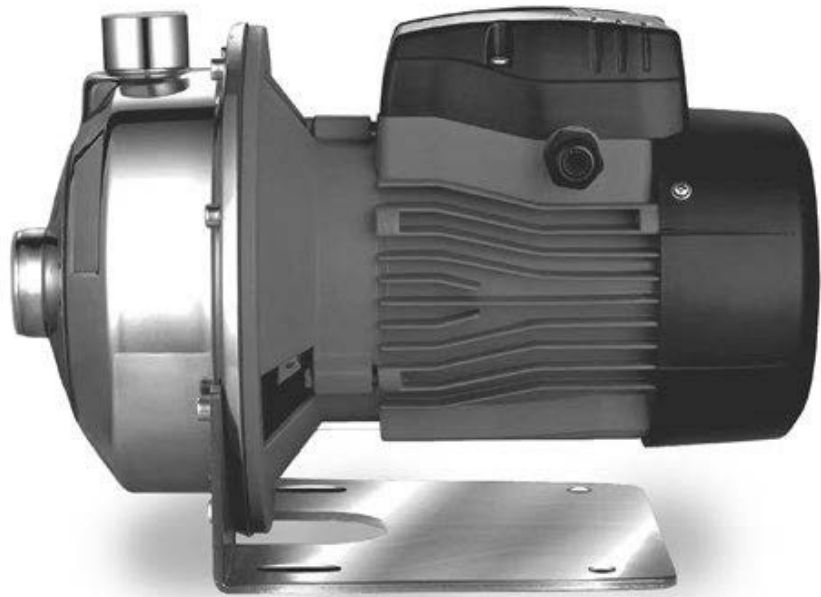


# PENTAIR

## ONGA<sup>®</sup>



### SINGLE STAGE STAINLESS STEEL CENTRIFUGAL PUMPS

## SSS SERIES

SSS702 — SSS2102 — SSS2103 — SSS3703

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### Installation / Operation / Troubleshooting

**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.**

Should you the installer or owner be unfamiliar with the correct installation or operation of this type of equipment you should contact the distributor/manufacturer for the correct advice before proceeding with the installation or operation of this product.

# Relax - you've bought an... **ONGA®**

Congratulations on your decision to purchase an Onga product. Onga is one of the best know brands in its field, with a proud local and international reputation. Onga is a brand for reliability, value for money and technological innovation. You will find Onga product wherever people need to move water in 3 broad markets covering:



## **Residential**

**Technologically advanced solutions for moving and treating water in the Home, Garden and Pool.**



## **Agricultural**

**Innovative Stock and Crop water management solutions for Primary Industries.**



## **Process**

**Water movement products for Building services, Emergency services and Original equipment Manufacturers.**



**ONGA<sup>®</sup>**

### **1. Continual Product Improvement**

We employ the best engineers both in Australia and around the world to develop new and better ways to take water further.

### **2. Operational Excellence**

There is only one standard that we set ourselves for both product quality and the quality of our service. That standard is excellence... to have no-one better than us at what we do... nothing short of that is acceptable. Our commitment to quality is reinforced with our ISO 9001 accreditation.

### **3. A Fair Price**

Onga products are neither the cheapest nor the most expensive in their field. Our products do, on the other hand, always represent very good value for money; they always have and they always will.

### **4. Our Team of Dealers**

The hand picked authorised Onga dealer network throughout Australia and worldwide are second to none. We invest considerable time and resources training and supporting them through the Onga Training Academy.

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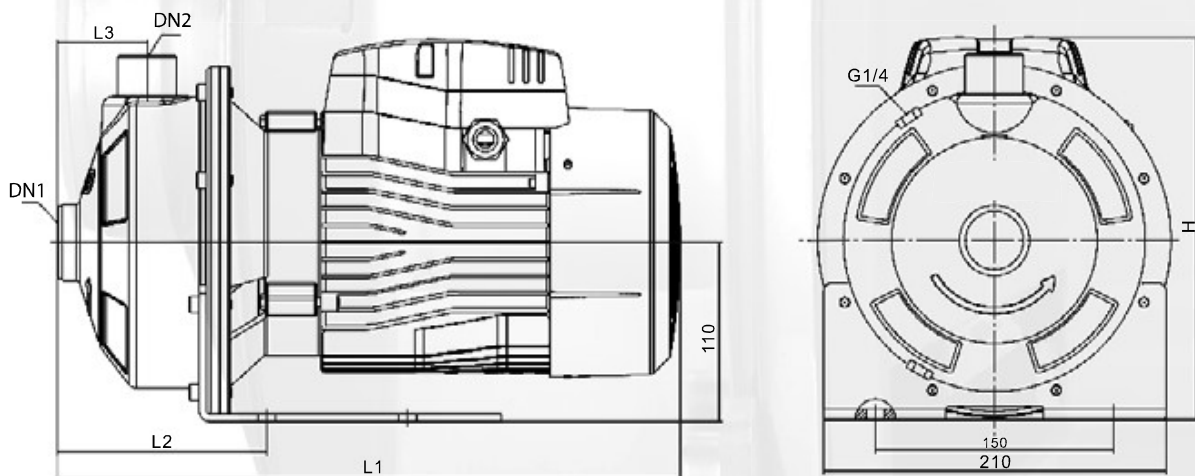
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## Dimensions



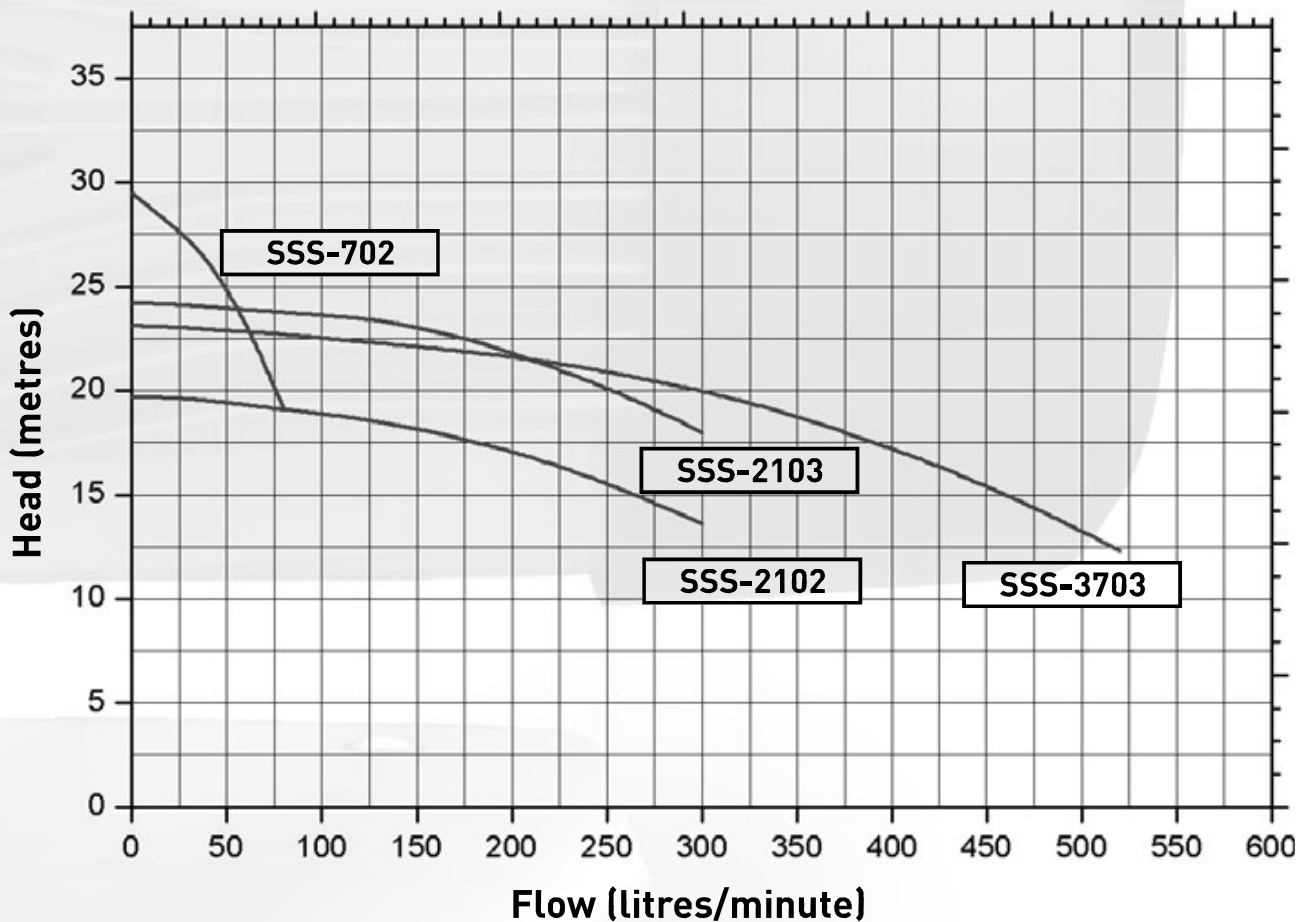
Model	Ports		L (mm)	W (mm)	H (mm)	L <sub>1</sub> (mm)	L <sub>2</sub> (mm)	W <sub>1</sub> (mm)	H <sub>1</sub> (mm)
	DN1	DN2							
<b>SSS702</b>	1¼	1	332	210	224	119	55	149	110
<b>SSS2102</b>	1½	1¼	440	210	250	129	55	149	110
<b>SSS2103</b>	1½	1¼	440	210	250	129	55	149	110
<b>SSS3703</b>	2	1¼	440	210	250	129	55	149	110

# Model data

## Technical information

Model	Inlet (suction)	Outlet (discharge)	Water Temp Range	IP Rating	Electrical Supply	Phase	Max Ambient Temp	Motor (kW)
SSS702	1 ¼	1	0°C - 85°C	IPX4	230V 50Hz	Single	55°C	0.55
SSS2102	1 ½	1 ¼	0°C - 85°C	IPX4	230V 50Hz	Single	55°C	1.1
SSS2103	1 ½	1 ¼	0°C - 85°C	IPX4	230V 50Hz	Single	55°C	1.5
SSS3703	2	1 ¼	0°C - 85°C	IPX4	230V 50Hz	Single	55°C	2.2

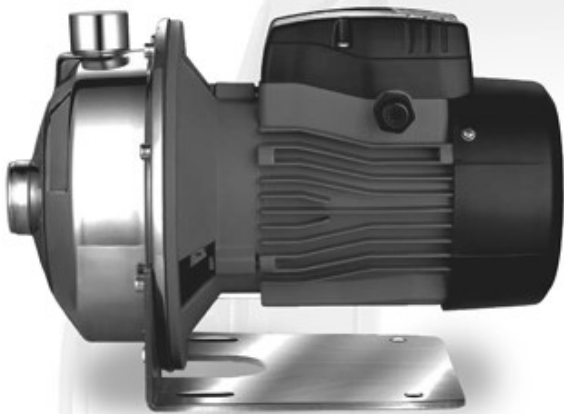
## Performance



## Application

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Onga SSS Series pumps are suitable for pumping clean water in agricultural, horticulture, vat washing, irrigation and light commercial. The all stainless steel construction make it ideally suited for most potable water pumping applications providing longevity and corrosion resistance.



# Installation

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The electrical installation shall be in accordance with the national wiring rules (AS/NZS 3000) for class 1, IP4X 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.



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



The pump is designed to be used with clean water. 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. Automatic thermal overload cut-out protects the motor for heat damage during operation and it will restart without notice when the motor cools down.



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.

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

# **Installation (continued)**

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## **1. Preparation for Installation**

Inspect your pump for shipping damage. Report any damage to your Onga stockist. 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 is not adequately housed the warranty may be deemed void.

## **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 barrel union to connect to the pump as this avoids possible damage to the pump threads and unnecessary replacement of parts.

For best results use teflon tape to seal the 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 separate 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 10AMP (models up to and including 1.5KW) GPO electrical outlet near the pump if there is not one there already. Or a 15AMP plug from models 2.2KW and above.

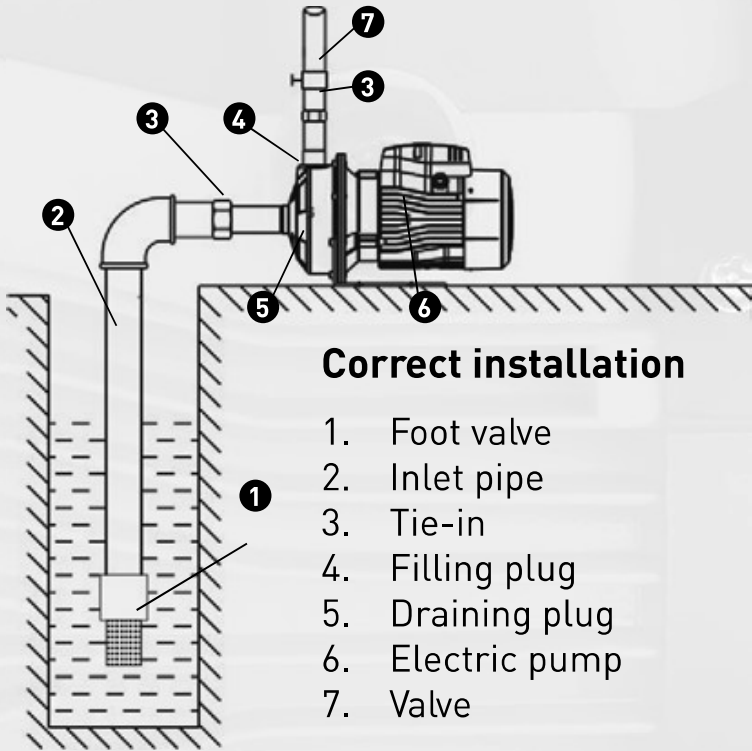


# Installation (continued)

## 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.**

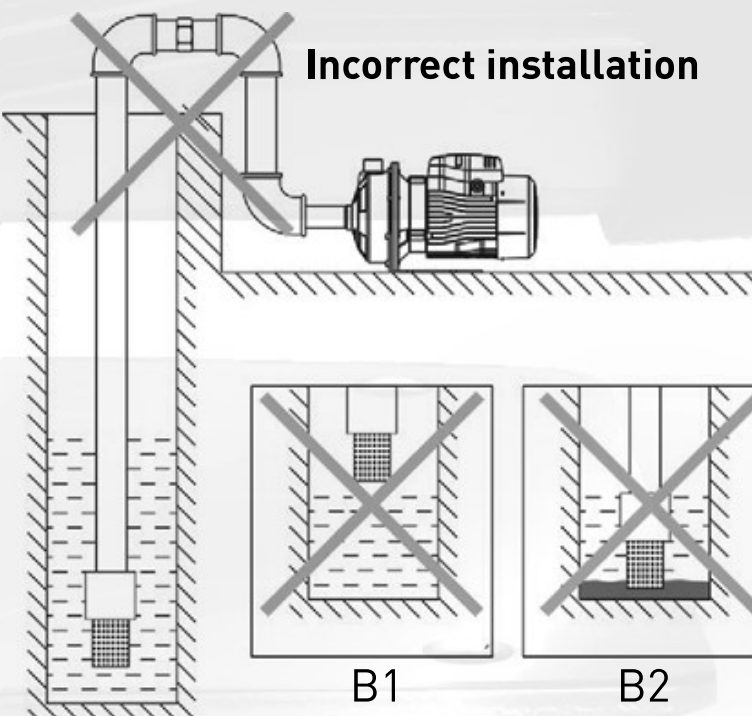


### Correct installation

1. Foot valve
2. Inlet pipe
3. Tie-in
4. Filling plug
5. Draining plug
6. Electric pump
7. Valve

### Installation precautions

1. While installing the electric pump, do not use soft rubber tube for the inlet pipeline, avoid it being sucked flat.
2. The foot valve should be vertically placed and installed 30cm from water bottom to avoid sucking in sands and stones (B2);
3. Joints in the suction pipe should be well sealed with the minimal amounts of elbows used.
4. Diameter of the suction pipe should be at least the same size as the water inlet, so as to avoid too much water loss which will influence outlet performance.
5. Pay attention to the drop of water level while using, the foot valve should not be above the water surface (B1).
6. In case the suction pipe is longer than 10m or its lifting height exceeds 4m, the pipe diameter should exceed diameter of water inlet of the pump.
7. Ensure the pump will not be affected by pipeline pressures while installing the pipelines.
8. A Y Strainer should be installed in inlet pipelines so as to avoid solid particles to enter into the electric pump.



### Incorrect installation

B1

B2

## Installation (continued)

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**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-collapsible) hose or pipe.
- All fittings should be air tight.
- Pipes should be equal to or larger than the diameter of the suction/inlet port.
- Ensure that the suction is completely submerged.

**In-line strainers/filters are only recommended for pumps fitted with Minipress, PressControl or WaterSwitch. Regular maintenance is required to keep them clean and provide maximum pump pressure. Consult your Onga dealer for information regarding the suitability of each SSS pump in an automatic pressure system prior to 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.

### 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. Electrical

The pump is supplied with a interconnection appliance coupler and standard Australian 10AMP or 15AMP plug and cord. 15amp plug and cord for SSS3703 (2.2KW model) Connection to the power supply is a matter of inserting the plug into the suitable socket outlet.

## Installation (continued)

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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 the motor to 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.

## Operation

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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 environment or near combustible matter.



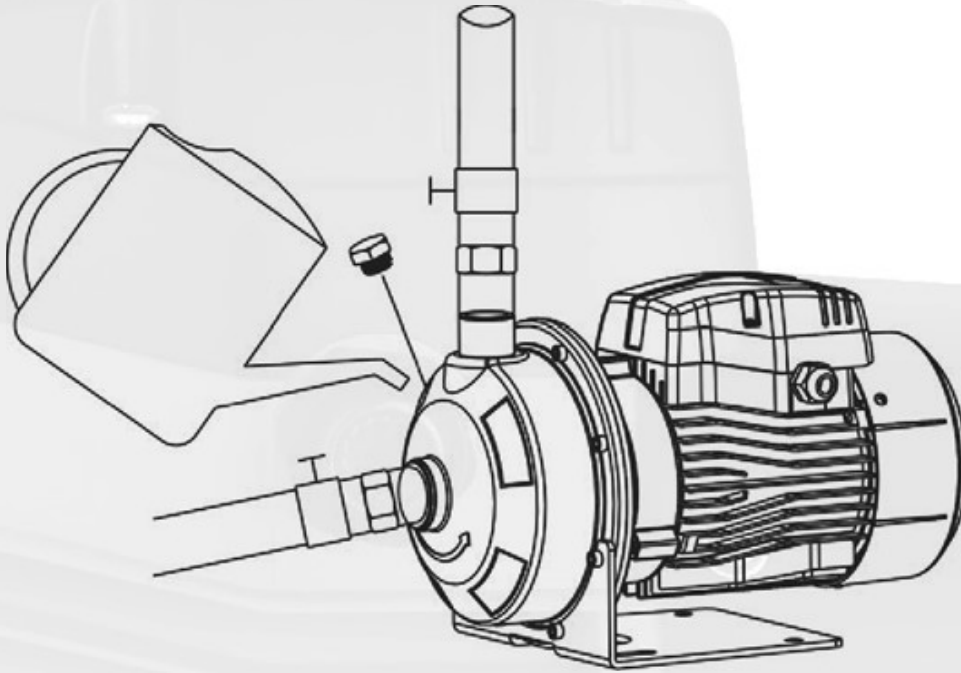
Fire and burn hazard. Modern motors run at high temperatures. To reduce risk of fire, do not allow leaves, debris, or foreign matter to collect around the pump motor. To avoid burns when handling the motor, let it cool for at least 20 minutes before trying to work on it. Automatic thermal overload cut-out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



Do not dismount the pump body unless water in the pump chamber is empty.

## Operation (start-up)

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Rotate the fan blade before startup, check whether the pump rotation is flexible and then unscrew the water-filling plug, fill the pump chamber with clean water from the water injection hole, then tighten the plug screw after air has been completely discharged. The valve should be shut tightly while starting up the pump. After the pump discharges water and operates normally, adjust the valve to the required flow (flow and lift will be displayed on the nameplate).

### **Attention:**

1. In case no water is discharged after being started for more than 5 minutes with water filled, turn off the electric pump, re-fill water or check whether the inlet pipeline has leakages.
2. In case of any frost and ice damages, please open the drain plug to empty water in the pump chamber. When start up the pump again, open the drain plug, fill water and tighten it and then the pump is usable.
3. In case not use for a long time, water in the pump should be emptied. The pump body, impeller and support should be cleaned and coated with anticorrosive oil before they are put in a ventilated and dry place for use.
4. In case the pump is halted for a long time, start it up again according to above diagram.
5. In summer or when the ambient temperature is high, pay attention to ventilation, avoid dew on electrical parts which will result in electrical faults.
6. In case the motor is hot or abnormal, cut off the power immediately and check faults according to the troubleshooting table on page 15.

## Service and Maintenance

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Pump should 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 service agent or similarly qualified personnel in order to avoid a hazard.



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

### General care and maintenance

Under normal conditions the Onga SSS series of pumps require 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 absorption is a sign of abnormal mechanical function in the pump and/or motor.

# Troubleshooting

Symptom	Cause	Remedy
<b>The motor can not be started</b>	Single-phase power supply (3 phase electric motor): a. poor connection of the power switch; b. fuse is burned out; c. loose power lead; d. phase failure of the cable.	a. repair switch contact or replace the switch; b. replace the safety fuse; c. check and tighten the power connector; d. repair or replace cables.
	Capacitor is burned out.	Replace with a same type capacitor (send to the maintenance point for repair).
	The rotating shaft and bearing are jammed.	Replace the bearing (send to the maintenance point for repair).
	Impeller is jammed.	Turn rotating shaft of the fan blade terminal with screw driver to let it rotate flexibly or demount the pump body to clear foreign materials.
	Stator winding is damaged.	Replace winding coils (send to the maintenance point for repair).
<b>The motor is in operation, but no water is discharged</b>	Incorrect direction of pump rotation.	Invert two-phase wirings of the motor (three-phase motor).
	The pump is not fully filled with water.	Re-fill the pump with water.
	The impeller is damaged.	Replace the impeller (send to the maintenance point for repair).
	Leakage of the suction pipe.	Check sealing of various joints of the inlet pipelines.
	Water level is too low.	Adjust installation height of the pump.
	Freeze caused by accumulated water in the pipeline or the chamber.	Start up the pump after ice is melted.
<b>Insufficient pressure</b>	Incorrect pump type.	Select suitable pump.
	The inlet pipeline is too long or with too many bends, pipe diameter is not selected as required.	Apply the pipe with the stipulated diameter, and make the inlet pipe short.
	Inlet pipeline, filter screen or pump chamber is blocked by foreign materials.	Clean pipeline, foot valve or pump chamber, clean foreign materials.
<b>Motor works intermittently or the stator winding is burned out</b>	The impeller is jammed or under overload operation for a long time.	Clean foreign materials in the pump chamber; operate the pump under the rated flow.
	Incorrect grounding, broken cable or the electric pump is hit by lightning.	Correct grounding, or replace broken cable, or replace winding coils.
<b>leakage of mechanical seal</b>	The mechanical seal is worn and torn by impurities.	Clear or replace the mechanical seal.
<b>Abnormal noise from the pump</b>	Noise from the bearing.	Replace with the same type bearing.
	Impeller is jammed.	Remove foreign materials.
	Excessive flow.	Adjust to the range displayed on the nameplate before use.

## IMPORTANT

Please attach your sales invoice/docket here as proof of purchase should warranty service be required Please do not return Warranty Form to Pentair Australia please retain for your records

Purchased From .....

Purchase Date ..... Serial No ..... Model No .....



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Dandenong South, VIC 3175

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Email: au.sales@pentair.com  
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National dealer locator: Phone :0800 664 269

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