

**onga**<sup>®</sup>

**Pentair Water**



# Water**Switch**

Automatic Rainwater Controller



WaterMark

WMKA 21068 in accordance with ATS5200.477-2006

Should the installer or operator 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 **ongá**® ...

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, Pool and Spa.



## Agricultural

Innovative Stock and Crop water management solutions for Primary Industries.



## Process

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

## 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 9001:2000 accreditation.

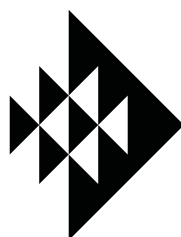


## 3. **A Fair Price**

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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**Pentair Water**

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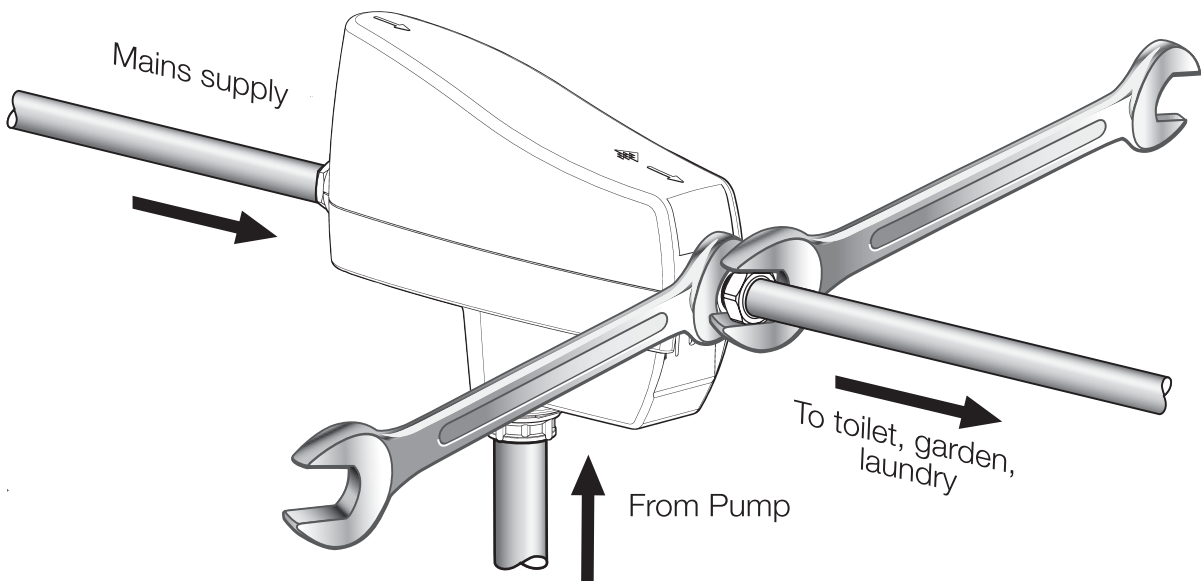
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# Model Data

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## Technical Information

Mains Water Supply inlet:	3/4" BSPF thread
Pump connection:	3/4" BSPF thread
Water outlet connection:	3/4" BSPF thread



Grip and Brace the connection while fitting pipework

Maximum Pressure:	500 kPa
Rated Supply Voltage	230-240Va.c.
Maximum electrical load:	10A
Water temperature range:	1°C to 40°C
Ambient Temperature range:	1°C to 40°C
Power consumption (Mains):	1W
Power consumption (Tank):	18W
Minimum Flow Rate:	3 lpm

## Accessories

Wall bracket	Part number 801390
WaterSwitch Union Kit	Part number 801439

# Application

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WaterSwitch is designed to select between stored rainwater (when available) and mains supply water, and send this water to your toilet cistern, washing machine, garden and other household applications. It features automatic pump control to minimise the use of electricity while saving water.

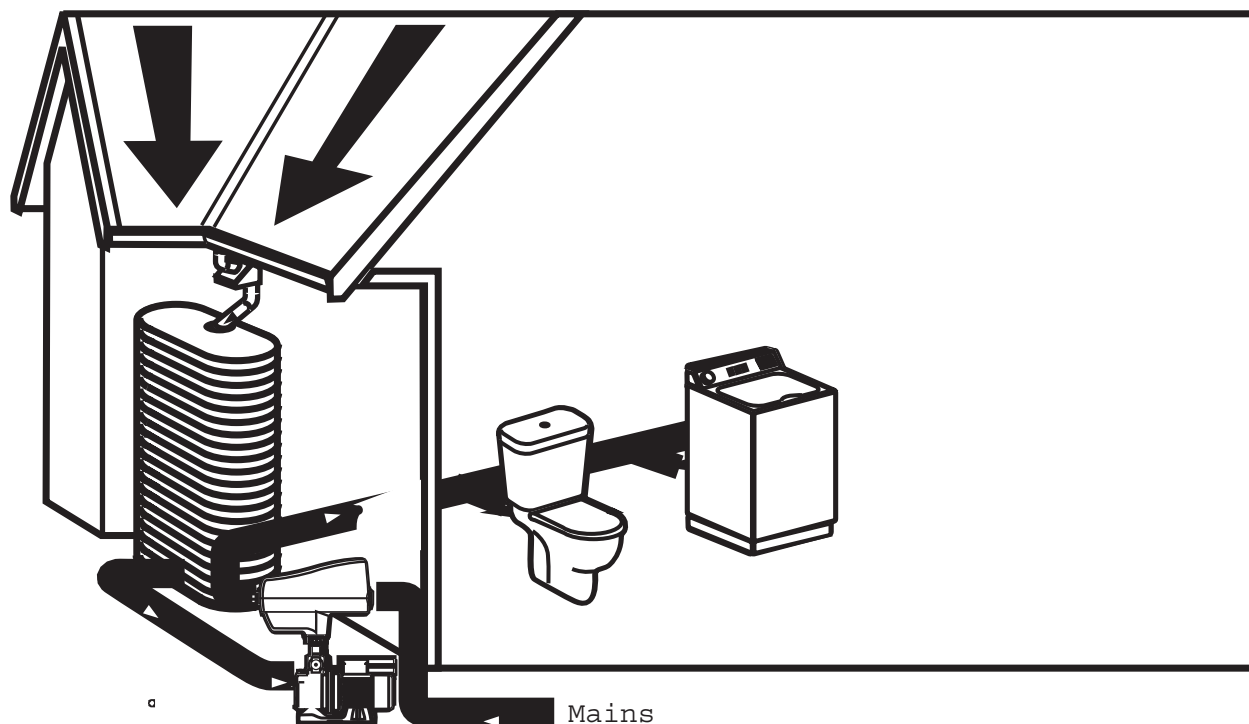
Rain water is used in preference so that:

- your water rates are minimised
- you use as little water from the city catchments as possible
- there is as much space as possible in your rainwater tank during the next rain shower

When your tank is empty, WaterSwitch seamlessly switches to mains supply so that there is no interruption of water to your toilet cistern or washing machine.

Do not use WaterSwitch for liquids other than clean water. Using corrosive, abrasive or explosive fluids will damage the unit, and may cause personal injury or death.

Do not connect WaterSwitch to any outlet that is used for drinking water.



# Installation

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These instructions are a guide only. Users not familiar with the installation and maintenance of electrical and pumping equipment should seek advice from people with experience in pump installation and operation.



Freezing conditions will damage the unit, as water expands as it freezes. Ensure that the WaterSwitch is located so that it is not prone to freezing, or ensure that the product is disconnected and dried of water during cold conditions.



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



Do not install or operate WaterSwitch in an explosive environment or near combustible matter.



Brace inlet and outlet connections while fitting WaterSwitch. Any movement of connections may disturb internal seals and cause leakage.

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## Preparation for installation

Read these instructions first. Inspect WaterSwitch for shipping damage. Report any damage to your Pentair Water dealer.

If the incoming mains pressure to your property is greater than 500kPa, please fit a pressure reduction valve of appropriate capacity upstream of WaterSwitch. This pressure reduction valve must bring the pressure to below 500kPa. A recommended pressure is 450-500kPa. Fitting this type of device to your entire household will extend the life of other appliances such as washing machines, hot water service and dishwashers.

Ensure installation is in accordance with AS/NZS 3500.1 - Plumbing and Drainage - Water Services

## **Fittings and accessories**

Ensure that you have all required fittings and accessories prior to installing WaterSwitch.

### **Surface Pumps**

For installation using 3/4" copper tube we recommend the following items:

- threadseal tape
- 3/4" flare – 3/4" BSPM brass connectors [x2]
- WaterSwitch Union Kit 801439 (included in package)

For installation using polyethylene tube, we recommend the following items

- threadseal tape
- 3/4" BSPM fitting with appropriate hose barb
- hose clamps
- WaterSwitch Union Kit 801439 (included in package)

### **Submersible Pumps**

Mounting WaterSwitch on a wall is made easy with the optional wall mounting kit (Part Number 801390 - Included in package) In addition, flexible hose (at least 25mm diameter), barbed hose connectors and hose clamps may also be required.

It is recommended to fit isolating valves on the mains supply inlet to WaterSwitch, and the water outlet to help in commissioning and testing, and if service is required later. If there is no downstream outlet close to WaterSwitch, fitting a tap near the outlet helps in checking operation.

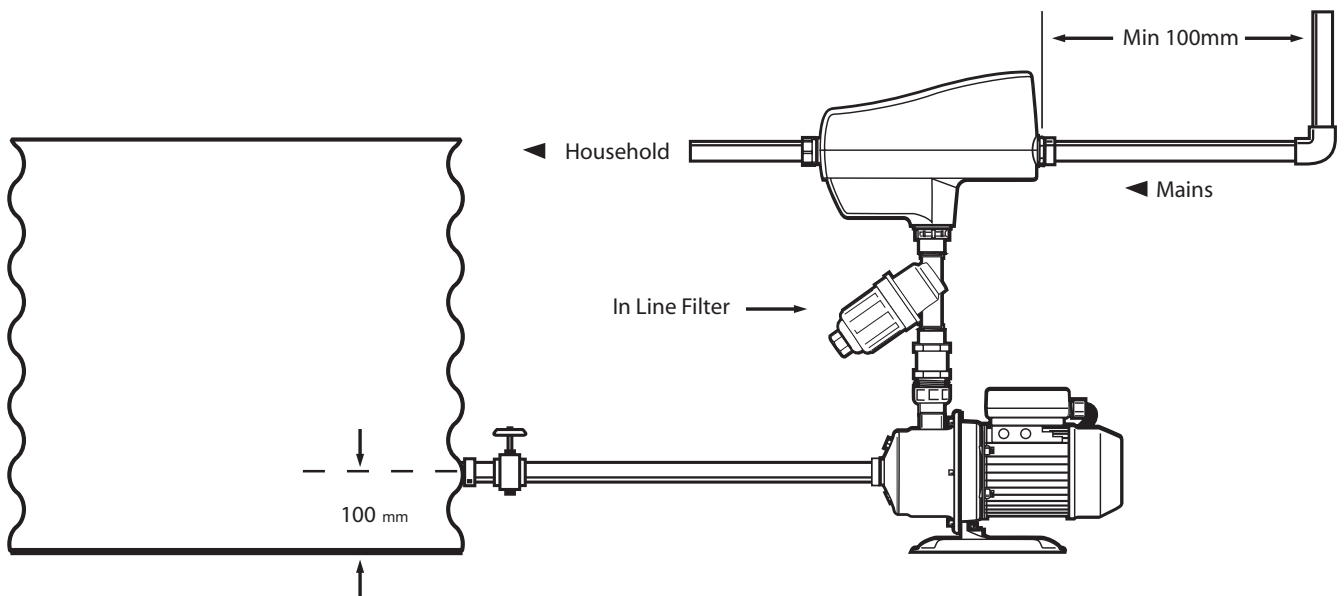
### **Protection**

Warranty of this WaterSwitch is void unless it is operated in accordance with this owner's manual. The pump and WaterSwitch should be housed in a weather proof, well ventilated enclosure, to protect from the weather, flooding, chemicals, dust, vermin, insects etc.

### **Installation Recommendations**

1. Onga highly recommends the installation of a 500-800 Micron in-line filter between the pump and the WaterSwitch.

2. Onga recommends the height of the tank outlet from the base of the tank be set at 100mm.
3. Onga recommends a minimum distance of 100mm of straight pipe at the WaterSwitch mains water inlet.
4. Clean water is essential for the reliable operation of your WaterSwitch system. Onga recommend the installation of first flush diverters and leaf guards on your water collection system.



Recommended Installation

## Mounting

The pump and WaterSwitch must be mounted on a solid, level, vibration free surface.

The WaterSwitch can be mounted in one of two ways:

1. Mount directly to the top of the pump with PN 801439 - WaterSwitch Union Kit
2. Mount remote from the pump with wall bracket PN 801390

## Connecting the WaterSwitch to the Pump Using the Union Kit (Where Supplied)

1. Wrap a reasonable amount of thread seal tape around both ends of the 1" Nipple.

2. Connect one end of the nipple into the pump discharge, threading it until it is watertight. (DO NOT OVERTIGHTEN)
3. Connect the 1" Female end of the complete barrel union onto the protruding end of the 1" Nipple until it is watertight (DO NOT OVERTIGHTEN)
4. Wrap a reasonable amount of threadseal tape around the 3/4" end of the union nipple. Thread it into the base of the WaterSwitch until watertight (DO NOT OVERTIGHTEN). If you are unable to screw the WaterSwitch on top due to space limitations, unscrew the barren union nut releasing the nipple from the union, then thread the nipple into the WaterSwitch (Make sure the Union nut remains on the nipple). Rejoin the union to complete the connection.

## Mains Inlet Connection

WaterSwitch has a 3/4" BSPF fitting to connect the incoming mains supply water. This end is marked with an arrow pointing into the unit (showing water flow direction). Brace this fitting to prevent movement while connecting to the mains supply. Any movement of this fitting may disturb internal seals and cause leakage.



## Water Outlet Connection

WaterSwitch has a 3/4" BSPF fitting to connect to household plumbing for uses such as filling toilet cisterns, the washing machine, and garden taps. This end is marked with an arrow pointing out of the unit (showing water flow direction). Brace this fitting to prevent movement while connecting to the mains supply. Any movement of this fitting may disturb internal seals and cause leakage.

## Pipe Marking

In accordance with AS/NZS 3500.1:2003, pipes and outlets connected to WaterSwitch must be marked as follows:

Outlets that are connected to your WaterSwitch must be marked with the wording "RAINWATER". The piping system connected to WaterSwitch must be clearly marked at 1m spacings with the wording "RAINWATER"

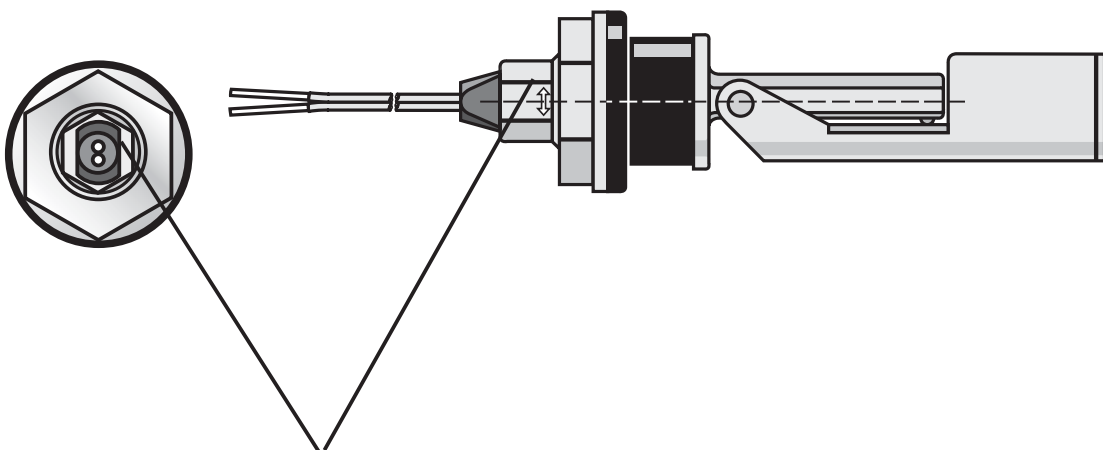
## Water Level Sensor Connection to Tank

WaterSwitch includes a level sensor to determine when to switch from the rain water tank to mains supply water. This must be installed in the tank as follows:

The level switch should be installed no closer than 150mm horizontally from the tank outlet to the pump, and at least 40mm above the height of the tank outlet. It should also be placed as far away as possible from the entry into the tank, so as to limit interference with the level switch from incoming flows.

Using a hole saw the level switch must be inserted via a circular hole of at least 21.5 mm diameter and no more than 22mm diameter. Clean away swarf from the hole for a clean surface.

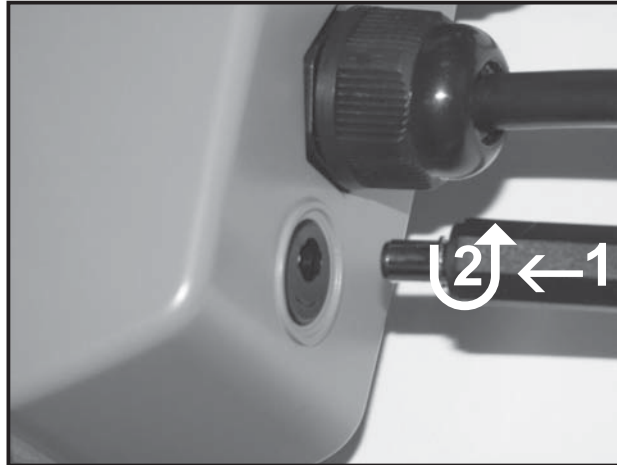
Insert the the level switch into the hole until gasket butts against tank wall. Tighten compression nut to seal the unit. For correct operation water level switch must be installed as shown in the orientation below.



There is a marking near the wire gromet that can be used to check orientation once installed. For correct operation the marking which reads "N.O." must be installed uppermost.

## Water Level Sensor connection to WaterSwitch

The level sensor has a bayonet style plug for connection to the WaterSwitch. This means that a quarter-turn is required to fix the plug into the WaterSwitch.



## WaterSwitch Electrical Connection



To avoid dangerous or fatal electrical shock, turn OFF power to WaterSwitch before working on any electrical connections.

Supply voltage for WaterSwitch must not be more than 6% above its upper voltage range rating and no less than 10% below its lower voltage range rating or WaterSwitch may overheat, causing overload tripping and reduced component life. If you suspect the voltage is less than 90% or more than 106% of the rated voltage when WaterSwitch is running at full load, consult a qualified electrician or your Power Company. Incorrect voltage can cause fire or seriously damage to WaterSwitch and will void its warranty.

If the power supply cord or pump interconnection cord is damaged, it must be replaced by an authorised Pentair Water Service Agent or a similarly qualified person in order to avoid hazard.

Before connecting WaterSwitch to an electrical power supply, connect the

pump to the WaterSwitch using the provided IEC appliance connectors on the end of the interconnection cords. Ensuring there are no traces of water on the connectors, push them firmly into each other to ensure splash proof protection. This connection should only be separated for servicing purposes, and only after the power supply of the WaterSwitch is removed either through an isolation switch or by unplugging.

Ensure that the tank level sensor is securely connected to the base of the unit using bayonet fitting. (As specified in section headed: Water Level Sensor)

WaterSwitch is supplied with a standard Australian 10A plug and cord, and connection to the power supply is a matter of inserting the plug into the suitable socket outlet. If local authorities require the WaterSwitch and pump to be hard wired, the electrical connection must be done by a qualified electrician with pump knowledge according to the National Wiring rules (AS/NZS 3000) and/or any local council requirements.

We recommend to connect WaterSwitch to a socket outlet protected by a residual current device - RCD (Also known as an Electrical Leakage Circuit Breaker – ELCB) with a rated tripping current not exceeding 30mA. Contact a qualified electrician if you cannot verify that the socket outlet is protected by RCD. RCD tripping indicates an electrical problem. If the RCD trips and will not reset have a qualified electrician inspect and repair electrical system

Once installation is completed, switch on the socket outlet switch (or the isolating switch in the installation) on.

Refer to pump manual for further installation details.

# Operation

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



These instructions are a guide only. Users not familiar with the installation and maintenance of electrical and pumping equipment should seek advice from people with experience in pump installation and operation.



WaterSwitch is designed to be used with clean water in a residential application. Do not use with alternative fluids, specifically abrasive, corrosive or explosive fluids.



WaterSwitch 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 appliance.

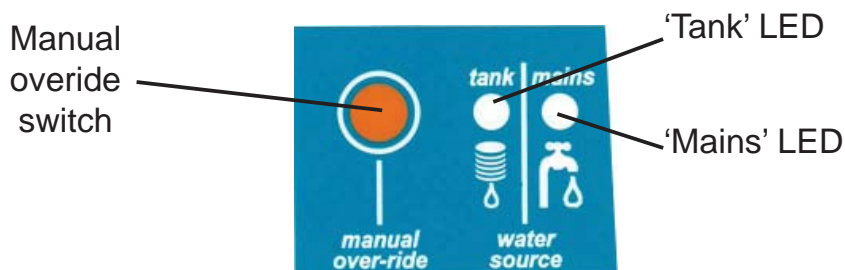
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## Commissioning

Put a small amount of water in the tank (just above the level of the tank sensor). Open a tap on the outlet side of the WaterSwitch (or have someone flush the toilet). The pump will start, and 'tank' LED will light up. Turn off the tap, and the pump will stop and the 'tank' LED will go off.

Temporarily disconnect the level sensor connection (Bayonet fitting in base). This indicates to the WaterSwitch that there is no water in the tank, and that it will switch to mains supply operation.

Again, open the tap or flush the toilet. Main supply water will fill the cistern, and the 'mains' LED will light up. Close the tap, and replace the level sensor connection. If there are any variations to these outcomes, please see the troubleshooting section on page 16.



## **Fault Mode**

WaterSwitch has a mechanism to prevent the pump from running with no water. If the level sensor detects water in the tank, but there is a blockage or partial blockage somewhere in the system the following process will occur:

1. If WaterSwitch is supplying water and also senses water in the tank, it will activate the pump to supply rain water.
2. If no rain water is delivered from the tank within 15 seconds, WaterSwitch will switch to supplying mains water.
3. After a 30 second delay, it will operate the pump for a further 15 seconds.
4. If no water is delivered from the tank it will repeat step 2 and step 3 four times. If there is still no water delivered, WaterSwitch will run in 'lost prime' mode.
5. WaterSwitch will light the 'mains' LED and flash the 'tank' LED to warn that abnormal conditions exist. It also locks out the pump from further operation to protect the pump from dry running, and to ensure that the house has continuous water supply.

## **General Operation**

Your WaterSwitch operates entirely automatically without intervention. If electrical supply is cut in your neighbourhood, WaterSwitch will automatically revert to mains supply water, as there is no power to drive the pump. When power resumes, WaterSwitch will continue to operate normally.

If town supply water is shut off in your area, WaterSwitch might not be able to detect water demand in the household (e.g. if the toilet cistern needs refilling). By pressing the orange override button, you can override normal control and start the pump to supply water out of the rain water tank.

# Service and Maintenance

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WaterSwitch is a warm, dry environment for hibernating insects. These can cause electrical malfunction. Ensure that your property is vermin free.



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



WaterSwitch should only be serviced by a Pentair Water service agent.

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## WaterSwitch Service

Before removing WaterSwitch for service:

1. Switch off power to WaterSwitch before proceeding.
2. Close shut off valves at inlet, outlet and water tank gate valve.
3. Carefully release all pressure from the pump and piping system.
4. Never tighten or loosen fittings while the pump is operating.

**To reset from 'lost prime' mode**

A) Turn off power for 10 seconds.

B) Turn power supply back on.

C) Reprime the pump. Check for blockages in the suction line.

WaterSwitch should resume normal operation

# Trouble Shooting

Symptom	Cause	Remedy
No water is being delivered from pump	Water tank is empty	Wait until the tank has some water in it.
	No power at outlet	Check power supply, circuit breakers and plug.
	Bad signal from level sensor	Check installation and operation of the level sensor.
	Pump has overheated	Allow pump to cool
	Pump is worn by abrasive or chemically aggressive materials	Have pump serviced by professional. Check rain water system for source of materials.
No water is being delivered from pump: [WaterSwitch has gone into 'lost prime' mode (mains LED on, tank LED flashing)]	Gate valve at tank outlet is closed, or other tap is closed.	Open gate valve. Check other taps (e.g. Toilet water cistern tap) to make sure they are fully open.
	Pump is not primed	See Pump owner's manual for details on priming pump. Prime the pump before connecting WaterSwitch.
	Filter cartridge is at end of life	Replace filter cartridge
No water supply at all	Valves are closed	Open all valves
	Blockage in system	Clean tank interior, unblock all pipes
	Incoming mains water pressure is greater than 500kPa	Fit a pressure reduction valve to reduce incoming mains pressure.
Poor water pressure	Filter cartridge at end of life	Replace filter cartridge
	Too much flow through WaterSwitch.	Have a pump professional look at flow rate
	Pump is too small for application	Have a pump professional recommend a larger pump

## Pentair Water Product Warranty

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Pentair Water warrants that, when this product is used for the purpose it was designed, is correctly housed and vented against weather, vermin, dust etc., that it will be free of material and manufacturing defects at the time of the original purchase. This warranty is limited to the cost of the product and does not cover third party costs including the costs of electricians, plumbers, etc. unless authorised by Pentair Water.

### TERMS AND CONDITIONS APPLICABLE INTERNATIONALLY

How long the warranty is effective Internationally

1) This Pentair Water product is warranted for 12 months for all parts from the date of the first consumer purchase. Should any parts fail as a result of such defects within the specified period, the part will be replaced free of charge. (This does not include travel charges, removal and reinstallation charges.)

### TERMS AND CONDITIONS APPLICABLE IN AUSTRALIA AND NEW ZEALAND

- 1) YOU SHOULD CAREFULLY READ THE INSTRUCTIONS SUPPLIED PRIOR TO USING THIS PENTAIR WATER PRODUCT.  
This product is to be installed and operated in accordance with the instructions provided. This warranty will not apply if it is used in a manner other than in accordance with the instructions.

What the warranty covers:

Pentair Water warrants its products to be free of defects in material and workmanship during the warranty period. If a product proves to be defective in material or workmanship during the warranty period, then Pentair Water will, at its sole option repair or replace the product with a like product. Replacement product or parts may include re-manufactured or refurbished parts or components.

How long the warranty is effective:

- 1) This Pentair Water product is warranted for 24 months for all parts from the date of the first consumer purchase.
- 2) Authorised workshop labour will be free of charge for the first 12 month period from date of the first consumer purchase when unit is found to have failed due to defective workmanship or material supplied by Pentair Water Australia.  
Infield service by an authorised Pentair Water Service Agent will incur a travel, removal & reinstallation fee payable by customer.
- 3) Where this Pentair Water product is sold for commercial application as defined in the relevant Trade Practices and Consumer Protection legislation the warranty shall be for a period of six months from the date of purchase by the end user.

Who the warranty protects:

This warranty is valid only for the consumer purchaser.

What the warranty does not cover:

- 1) Damage, deterioration or malfunction resulting from:
  - a) accident, misuse, negligence, fire, water, lightning, or other acts of nature, unauthorised product modification or failure to follow instructions supplied with the product;
  - b) repair or attempted repair by anyone not authorised by Pentair Water;
  - c) any damage to the product due to shipment;
  - d) removal or installation of the product;
  - e) causes external to the product such as electric power fluctuations or failure;
  - f) use of supplies or parts not meeting Pentair Water specifications;
  - g) normal wear and tear;

## Pentair Water Product Warranty (Continued)

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- h) water ingress or exposure to abnormal corrosive conditions or "run dry" conditions;
  - i) any other cause which does not relate to a product defect.
- 2) Damage caused to the product as a consequence of use of another manufacturer's product used in conjunction with Pentair Water and affiliate companies.
  - 3) Ingress of insects into the unit causing electrical malfunction is not warranted, care should be taken to avoid this occurrence.

### Spare Parts:

Spare parts are usually stocked for a reasonable period of time following last production.

Pentair Water does not warrant that spare parts will be made available for the whole of the reasonable period and reserves its right to cease supplying spare parts or providing facilities for repair of spare parts in circumstances which are beyond its control including the requirement to remove spare parts from sale as a consequence of changes in the law or otherwise as it deems fit.

### How to get service:

In Australia please contact 1800 664 266 In New Zealand please contact 0800 664 269

Claims under this warranty must give evidence of date of purchase, model and serial number of the product and the claimants name, address and telephone number.

- 1) To obtain warranted service, you will be required to provide to either Pentair Water state office or recommended service agent:-
  - a) the product;
  - b) confirmation in writing specifying the nature of your claim;
  - c) proof providing date of original purchase;
  - d) full contact details including name and address;
  - e) the serial number of the product if any.
- 2) The product is to be forwarded by the customer freight paid to an Authorised Pentair Water service agent.
- 3) Warranty service work will be denied or suspended, on equipment not readily accessible to service personnel, that is products that are behind barriers, tiled or bricked in, installed in roofs or second story external walls including inaccessible power points.
- 4) Any service of any product which is found to be faulty due to abuse, fair wear & tear, misuse or improper installation will be charged to the owner at the service agents current servicing hourly rate.

### Limitation of implied warranties:

THERE ARE NO WARRANTIES, EXPRESSED OR IMPLIED, WHICH EXTEND BEYOND THE DESCRIPTION CONTAINED HEREIN INCLUDING THE IMPLIED WARRANTY OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

Exclusion of damages:

PENTAIR WATER'S LIABILITY IS LIMITED TO THE COST OF REPAIR OR REPLACEMENT OF THE PRODUCT. ONGA SHALL NOT BE LIABLE FOR:

- 1) DAMAGE TO OTHER PROPERTY CAUSED BY ANY DEFECTS IN THE PRODUCT, DAMAGES BASED UPON INCONVENIENCE, LOSS OF USE OF THE PRODUCT, LOSS OF TIME, LOSS OF PROFITS, LOSS OF BUSINESS OPPORTUNITY, LOSS OF GOODWILL, INTERFERENCE OF BUSINESS RELATIONSHIPS, OR OTHER COMMERCIAL LOSS, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.
- 2) ANY OTHER DAMAGES, WHETHER INCIDENTAL, CONSEQUENTIAL OR OTHERWISE.
- 3) ANY CLAIM AGAINST THE CUSTOMER BY ANY OTHER PARTY.

### Effective law:

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state. Nothing in this warranty limits or restricts, or is intended to derogate from, any right or remedy which the purchaser or ultimate user of the product may have pursuant to Australian state and/or Australian federal consumer protection legislation, New Zealand Sale of Goods Act, Consumer Guarantees Act, Fair Trading Act or any other relevant and applicable New Zealand legislation or authority and where necessary shall so be read and construed.

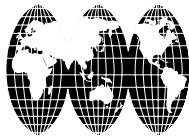
**IMPORTANT**

Please attach your sales invoice/docket here as proof of purchase should warranty service be required.

Please do not return Warranty - Retain for your records.

Purchased From .....

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



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