

OWNER'S MANUAL



onga[®]

Pentair Water



For the Installation, Operation and Service of

Silentflo Pool Pump

The pump must be supplied from a circuit protected by a residual current device (RCD) with a maximum rated residual current of 30mA

Should the installer or owner be unfamiliar with the correct installation or operation of this type of equipment you should contact the distributor/manufacture 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, 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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Model Data

Part Number	Output Power		Max Total Head (m)
	(W)	(hp)	
SF550100	550	3/4	18
SF750100	750	1	17
SF1100100	1100	1.5	15
SF1500100	1500	2	12

Technical Information

Inlet (Suction): ABS Barrel Union to suit 50mm I.D PVC pipe to AS/NZS 1477

Outlet (Discharge): ABS Barrel Union to suit 50mm I.D PVC pipe to AS/NZS 1477

Max Working Pressure: 260 kPa

Water Temperature Range: 5°C – 38°C

IP Rating: IPX5

Electrical Rating: 230-240V 50Hz single phase

Motor: Built in auto reset overload protection. Flexible power supply cord 10Amp.

Recommended pH Range: 7.2 - 7.8 (Guide Only)

Maximum Ambient temperature: 55°C

Installation



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



The pump should be installed and serviced by a suitably qualified person in order to avoid hazard.



These instructions are a guide only. Should you the installer or owner of the product be unfamiliar with the correct installation or operation of this product you should contact a suitably qualified person for advice.



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

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



Read the following instructions in this owner's manual when installing and operating equipment. Have a trained pool professional perform all pressure tests.

1. Do not connect system to high pressure or mains water system.
2. Use equipment only in a swimming pool or spa pool installation.
3. Install pump with at least 2 hydraulically balanced main drains equipped with correctly installed, screw - fastened, anti-entrapment certified covers according to local regulations.
4. Trapped air in system can cause explosion. Ensure all air is out of the system before operating or testing equipment.



Pressure Testing

(Have a trained pool professional perform all pressure tests).
Before pressure testing, make the following safety checks:

1. Check all clamps, bolts, lids, and system accessories prior to testing.
2. Release all air in system before testing.
3. Tighten trap lid to 4.1kg-m torque for testing.
4. Water pressure for test must be less than 170kPa (25 PSI)
5. Water tempertaure for test must be less than 38°C
6. Limit test to 24 hours. After test, visually check system to be sure it is ready for operation. Remove trap lid and retighten hand tight only.



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 from heat damage during operation.

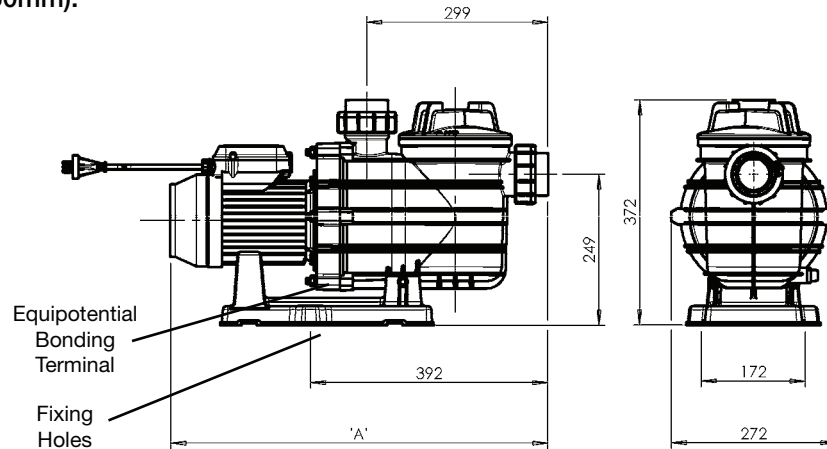
Only qualified, licensed personnel should install pump. The electrical installation shall be in accordance with the national wiring rules (AS/NZS 3000) for class I, IP55 rated products. Refer to page 10 for Electrical Installation.

Pump Mount

Pump mount must:

1. Be located away from corrosive or flammable chemicals. Have enough ventilation to maintain air tempertaure at less than the maximum ambient temperture rating. If this pump is installed in an enclosure/pump house, the enclosure must have adequate ventilation (200sq.cm min, inlet & outlet) and air circulation to keep

the temperature in the enclosure at or below the motor's rated ambient temperature whenever the pump is running. Keep rear of motor clear (150mm).



2. Be solid, level, rigid and vibration free. (To reduce vibration and pipe stress, bolt pump to mount). Fixing holes accept 12mm fasteners.
3. Allow pump suction inlet height to be as far below water level as possible.
4. Allow use of short, direct suction pipe (to reduce friction losses).
5. Allow for shut-off valves in suction and discharge piping.
6. Have adequate floor drainage to prevent flooding.
7. Be protected from excess moisture
8. Allow adequate access for servicing pump and piping.

We recommend mounting the pump on a concrete platform for quietest performance.



Use Teflon tape for making all threaded connections to the pump. DO NOT use pipe dope (glue) as this will cause stress fractures in the pump.



Pump suction and discharge connections have moulded in thread stops. DO NOT screw pipe in beyond these stops.



DO NOT use sealants which are incompatible with pipe fittings.

Teflon Taping Instructions

- Use only new or clean PVC pipe fittings.
- Wrap male pipe threads with a sufficient number of layers of Teflon tape. Cover entire thread portion.
- **Do not** overtighten or tighten past thread stop in pump port.
- If leaks occur, remove pipe, clean off old tape, wrap as previously with one to two additional layers of tape and remake the connection.

Piping



Support all piping connected to the pump.

- Use at least 2" (50mm) PVC pipe. Increase size if a long run is needed.
- To avoid stress on the pump, support both suction and discharge pipes independently.
- Place these supports as close to the pump as possible.
- To avoid a strain left by a gap at the last connection, start all piping at the pump and run pipe away from the pump.
- Never use a suction pipe smaller than pump suction connections (2"/50mm).
- To avoid airlocking, slope suction pipe slightly upward toward the pump.
- Do not use an elbow near the suction port of the pump. Use a straight length of pipe into the suction port.



To prevent flooding when removing pump for service, all flooded suction systems must have shut-off valves in suction and discharge pipes.

Fittings

Fittings restrict flow; for best efficiency use fewest possible fittings. Avoid fittings which could cause an air trap.

Pool Outlets

Use only non-entrapping suction fitting or double suction conforming with the AS1926.3-2003 standard.

WARNING

Pump suction is hazardous and can trap and drown or disembowel bathers. Do not use or operate pump, pool or spa if a suction outlet cover is missing, broken, or loose. Follow the guidelines below for a pump installation which minimises risk to users of pools and spas.

Entrapment Protection

The pump suction system **must** provide protection against hazard of suction entrapment or hair entrapment/entanglement.

Testing and Certification

Suction outlet covers must have been tested by a nationally recognised testing laboratory and found to comply with the latest AS1926.3 standard or ASME/ANSI specification for Suction Fittings For Use in Swimming Pools, Spas, Hot Tubs, and Whirlpool Bathtub Applications.

Outlets Per Pump

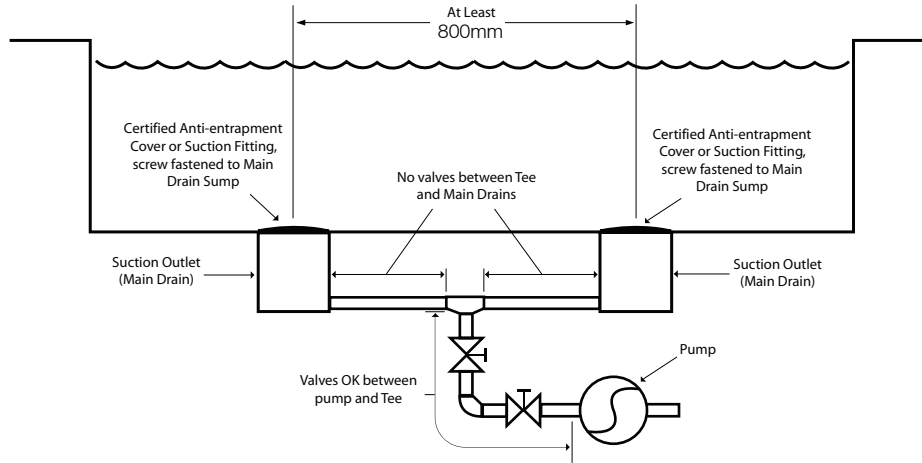
Provide at least two hydraulically balanced main drains, with covers, for each swimming pool pump suction line. The centres of the main drains (suction fittings) must be at least 800mm apart.

The system must be built so that it cannot operate with the pump drawing water from only one main drain (that is, there must be at least two main drains connected to the pump whenever it is running). However, if two main drains run into a single suction line, the single suction line may be equipped with a valve which will shut off both main drains from the pump.

More than one pump can be connected to a single suction line as long as the requirements above are met.

Water Velocity

The maximum water velocity through any suction outlet must comply with the latest AS1926.3 Standard or ASME/ANSI Specification for Suction Fittings For Use in Swimming Pools, Spas, Hot Tubs, and Whirlpool Bathtub Applications.



Electrical

Electrical installation shall be in accordance with the national wiring rules (AS/NZS 3000) taking into account its ratings (Class I, IPX5). The pump is supplied with a standard Australian 10 amp plug and 2 metres of cord. Select the correct Pool Zone for installation.

Using the tapped hole terminal and tin plated copper lug connect the equipotential bonding conductor to the pump if required. The terminal is on the motor side of the flange. Remove paint from the terminal surface and use M5x12 zinc plated screw with lock washer or similar to secure the termination.



An RCD with maximum rated residual current of 30mA is required for the power supply to the pump. Additionally, if a suitable socket outlet is not available a weatherproof socket must be installed by an electrician in a suitable location. RCD tripping indicates an electrical problem. If RCD trips and will not reset have a qualified electrician inspect and repair electrical system.

Do not use extension leads as they are unsafe in

and around the Pool Zone.

Incorrect voltage can cause fire or seriously damage pump and voids warranty. Voltage at pump must not be more than 6% above or 10% below motor nameplate rated voltage or pump may overheat, causing overload tripping and reduced component life. If voltage is less than 90% or more than 106% of rated voltage when pump is running at full load, consult the power company.

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

The power supply cord has a type 'Y' attachment and if service is required to the power cord, it must be replaced with the specialised power cord assembly by Pentair Water service agent or similarly qualified personnel in order to avoid a hazard. Warranty is void if unauthorised modifications are made to any component.

Operation



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



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.



NEVER run pump dry. Running pump dry may damage seals, causing leakage and flooding. Fill pump with water before starting motor.



If pump has been pressure tested, ensure pressure has been released before removing trap lid. Do not block pump suction. To do so with body may cause severe or fatal injury.



Small children using pool must **ALWAYS** have close adult supervision.



Pump suction is hazardous and can trap and drown or disembowel bathers. Do not use or operate pump, pool/spas if a suction outlet cover is missing, broken, or loose. Follow the guidelines below for a pump installation which minimises risk to users of pool and spas.



Fire and burn hazard. Modern motors run at high temperatures. To reduce the 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.

Before removing trap lid:

1. **SWITCH OFF POWER SUPPLY** to pump and unplug from outlet before proceeding.
2. **CLOSE SHUT-OFF VALVES** in suction and discharge pipes.
3. **RELEASE ALL PRESSURE** from pump and piping system.
4. **NEVER** tighten or loosen trap lid while pump is operating.

⚠ CAUTION

An automatic internal thermal overload switch protects the motor from heat damage during operation and if operated can restart without notice.

⚠ IMPORTANT

Maximum ambient temperature for motor operation must not exceed maximum ambient temperature range (See page 4). Switch the pump off at the controller or power point while ambient temperature exceeds maximum.



Priming Pump

Release all air from filter, pump and piping system: refer filter owner's manual. In a flooded suction system (water source higher than pump), pump will prime itself when suction and discharge valves are opened.

If pump is not in a flooded suction system, disconnect power supply to pump follow above instructions for removing trap lid; fill trap and pump with water.

Do not lubricate the trap lid o-ring. The original equipment O'ring contains a permanent internal lubricant.

If the o-ring needs replacement insist on genuine Onga service parts. Clean and inspect o-ring; reinstall on trap. Replace trap lid turn clockwise to tighten by hand only - no wrenches!

Pump should prime now. Priming time will depend on vertical height of suction lift and horizontal length of suction piping. The self-priming time range is 1 to 3 minutes for a height difference of 2 to 3 metres, under normal installation conditions. Normal conditions are understood to be: with suction having an internal diameter of DN 50mm, water temperature at 20°C, and 50Hz mains power supply.

Should the pump not prime, ensure that all valves are open, lint trap is clear of debris and suction pipe end is submerged in water, and that there are no leaks in suction pipe. See troubleshooting guide.

Service & Maintenance



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.

Routine Maintenance requires regular checking of the pump to ensure no water is leaking from joints whilst pump is operating and inspection/cleaning of trap basket. Debris or trash that collects in basket will choke off water flow through the pump.

Do not operate pump with trap basket missing or damaged.

Follow instructions below to clean trap:

1. Switch off power to pump, close valves in suction and discharge, and release all pressure from system before proceeding.
2. Remove trap cover (turn clockwise). If necessary, tap handles gently with a rubber mallet or use a board as a lever.
3. Remove strainer basket and clean. Ensure all holes in basket are clear, flush basket with water and replace in trap with large opening at pipe connection port (between ribs provided). If basket is replaced backwards, the cover will not fit on trap body. To clean transparent cover, use water and neutral soap only. Do not use solvents.
4. Clean and inspect lid o-ring; reinstall on trap.
5. Clean O'ring groove on trap body and replace cover. To help keep cover from sticking, **tighten hand tight only.**
6. Prime pump (refer priming instructions).

Pump Service

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

Before removing clamp or trap cover:

1. **SWITCH OFF POWER** to pump before proceeding.
2. **CLOSE SHUT-OFF VALVES** in suction and discharge pipes.
3. **RELEASE ALL PRESSURE** from pump and piping system.
4. **NEVER** tighten or loosen covers, valves, nuts or bolts while pump is operating!

No lubrication or regular maintenance is needed beyond reasonable care and periodic cleaning of strainer basket. When pump is not in use and there is a risk of frost, empty it completely through the drain plug. If shaft seal is worn or damaged consult your Pentair Water authorised service agent.

Symptom	Cause	Remedy
Low water pressure, low flow from pump.	Suction leaks / lost prime.	Pump must be primed; make sure that the pump casing and strainer are full of water. Refer priming instructions.
		Make sure there are no leaks in suction piping.
		Make sure suction pipe inlet is well below the water level to prevent pump from sucking air.
		Suction lift of 3 to 6 metres will reduce performance. Suction lift of more than 6 metres will prevent pumping and cause pump to lose prime. In either instance, move the pump closer (vertically) to water source. Ensure that the suction pipe diameter is large enough.
	Low voltage.	Check voltage at motor terminals and at meter while pump is running - this check should be performed by a qualified electrician only. If voltage is low check for loose connections or consult your power company.
	Clogged pipe / strainer / impeller / filter system.	Ensure trap is not clogged with debris; clean basket and/or filter.
		Make sure that the impeller is not clogged. This should be checked by qualified personnel only.
Pump may be trying to push too high a column of water. If so, a higher pressure pump is required.		

No water coming from pump (Pump is working)	Air ingress to system	Prime the pump. Check that there are no air leaks in the suction piping or fittings. Ensure the strainer lid is airtight and fitted securely.
Pump does not work.	Motor thermal overload tripped.	Check for required ventilation and cooling. If temperature is above the pump's maximum ambient, turn off pump until it cools down.
	No power at outlet.	Use another electrical appliance that is known to work to check power outlet.
	Blown fuse / Circuit breaker.	Check and call electrician if necessary.
	Motor burnt out due to voltage spike or flooded by water.	The motor may need replacing.
Pump running too slow.	Motor capacitor may be damaged.	Check line voltage; if less than 90% or more than 106% of rated voltage consult a licensed electrician.
Water leaking from between the casing and motor.	Casing bolts are not tightened sufficiently; worn mechanical seal requires replacing.	Switch off the power to the pump. Tighten the casing bolts or replace the mechanical seal as required.

Should problems persist, contact your nearest Pentair Water Service Agent.

Pentair Water Product Warranty

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 36 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;
 - h) water ingress or exposure to abnormal corrosive conditions or "run dry"

Pentair Water Product Warranty (Continued)

- 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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