



SILENTFLO™ POOL PUMP

OWNER'S MANUAL



IMPORTANT

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/manufacturer for the correct advice before proceeding with the installation or operation of this product.

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MODEL DATA

Operating Conditions	
Water (Swim Pool) Temperature	5°C-40°C.
Max. Ambient Temperature	55°C.

Motor	
Type	TEFC, 2-Pole, Continuous Duty, IPX5, Internal Auto Reset Thermal Overload, Deep Groove Ball Bearings with Double-Contact Lip Seal (NSK or SKF only).

Construction Materials	
Component	Material
Pump Casing	Dura-Glas composite resin
Pump internals and base	Glass reinforced polypropylene
Motor Shaft	Stainless Steel 303
Motor	Cast Aluminium
Strainer Basket	High Impact Polystyrene
O-rings	Low Friction Nitrile
Strainer Pot Lid	Polycarbonate
Barrel Unions	ABS
Mechanical Seal	3/4" Carbon Ceramic Nitrile bellows 316 SS spring

Model Data								
Part	Pump Power (W)		Supply Voltage (V 50Hz)	Nominal Motor Power (hp)	Sound Pressure Level (dBA*)	Full Load (A)	Locked Rotor Current	Capacitor (µF)
	P1	P2						
SF550100	600	450	230-240V	0.75	56	2.6	14	30
SF750100	740	550	230-240V	1.0	56	3.3	14	30
SF1100100	1050	790	230-240V	1.5	59	5.0	22	25
SF1500100	1590	1190	230-240V	2.0	61	6.7	28	35

* dB@ 1 metre

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.



This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.



Children should be supervised to ensure that they do not play with the appliance.



If the supply cord is damaged, it must be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard.

INSTALLATION



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



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.



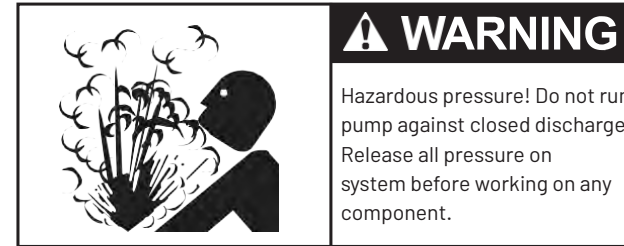
Fire and burn hazard. Modern motors run at high temperatures. To reduce the risk of fire, do not allow leaves, debris, or foreign matter to collect around the pump motor. To avoid burns when handling the motor, let it cool for at least 20 minutes before trying to work on it.

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, antientrapment 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.



(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 temperature 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.

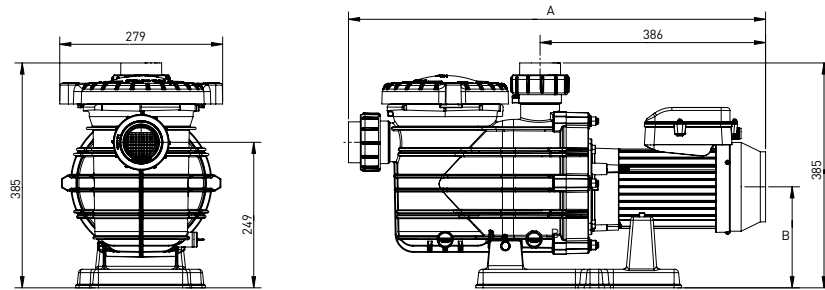
⚠ WARNING

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 must:

1. Be located away from corrosive or flammable chemicals. Have enough ventilation to maintain air temperature at less than the maximum ambient temperature 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).



Pump Model	SF550	SF750	SF1100	SF1500
A (mm)	616	616	637	677
B (mm)	173	173	179	179

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.

⚠ WARNING If making connections to the internal threaded ports, use Teflon tape do not use glue as this will cause stress fractures in the pump • 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

⚠ IMPORTANT

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.
- Use only new or clean PVC pipe fittings.

⚠ WARNING

DO NOT use sealants which are incompatible with pipe fittings.

⚠ IMPORTANT

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 2010 (R2016) 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 or 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

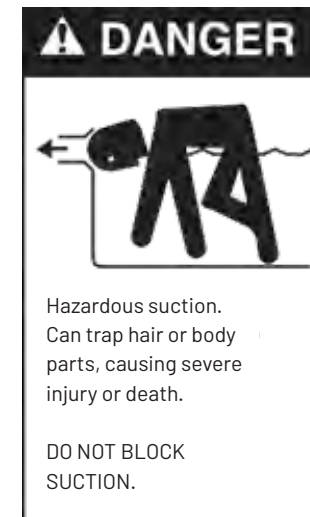
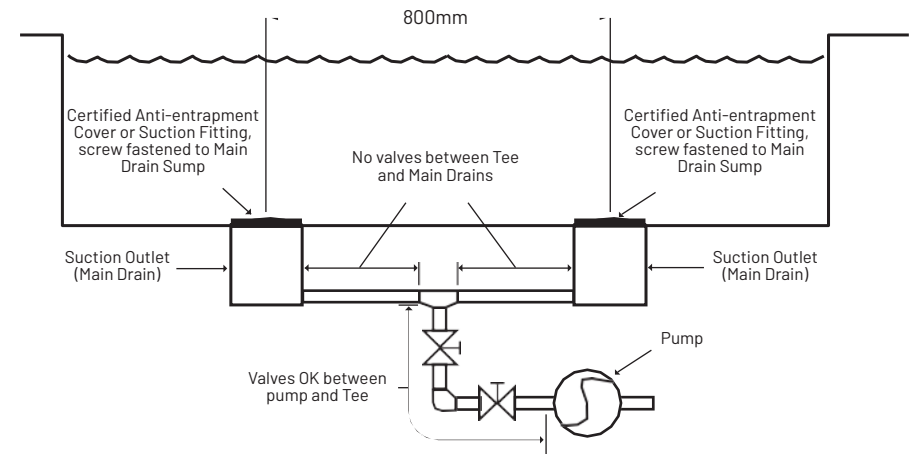
Provide at least two hydraulically balanced main drains, with covers, for each swimming pool pump suction line. The centres of the main drains (suction fittings) must be at least 800mm apart.

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 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.

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.

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.

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 and suction pipe end is submersed 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 personnel. 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!

TROUBLESHOOTING

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.

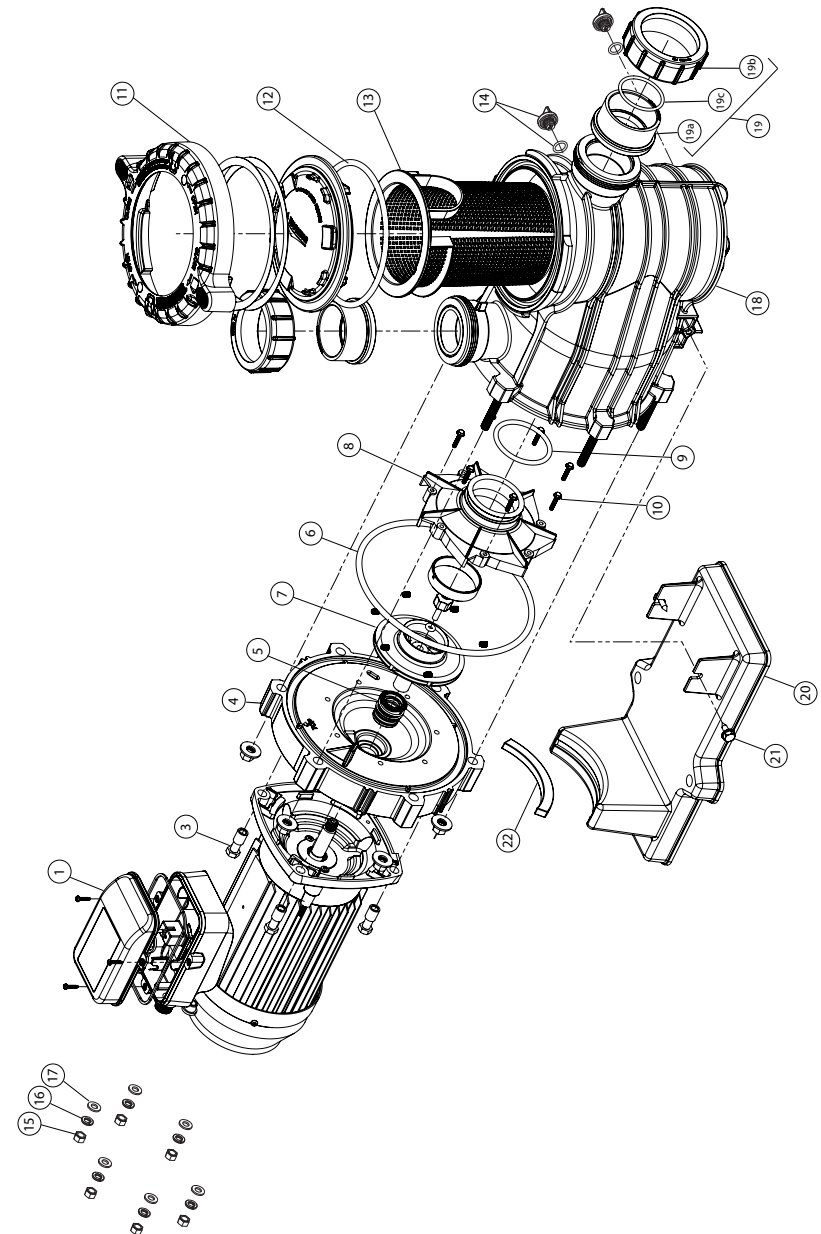
Symptom	Cause	Remedy
Low water pressure, low flow from pump.	Suction leaks / lost prime.	Pump must be primed; make sure that the pump casing and strainer are full of water. Refer priming instructions.
		Make sure there are no leaks in suction piping.
		Make sure suction pipe inlet is well below the water level to prevent pump from sucking air.
Low water pressure, low flow from pump.	Low voltage.	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.
		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.

TROUBLESHOOTING

Symptom	Cause	Remedy
Low water pressure, low flow from pump.	Clogged pipe / strainer / impeller / filter system.	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.

PARTS BREAKDOWN



PARTS BREAKDOWN

Item	Description	Part No.	Part No.	Part No.	Part No.
		SF550100	SF750103	SF1100100	SF1500100
1	MOTOR	801418	801418	801419	801420
2	SLINGER		801429		
3	SCREW 3/8"UNC x 1" HEX SS		See Motor Fasteners Kit		
	MOTOR FASTENERS KIT (INCLUDES ITEM 3 x4, 17x4)	801279	801279	801279	801279
4	SEAL PLATE	C3-184P	C3-184P	C3-184P	C3-184P
5	MECHANICAL SEAL	801428	801428	801428	801428
	MECHANICAL SEAL (25 PACK)	800900	800900	800900	800900
6	O-RING PUMP CASING	U9-373	U9-373	U9-373	U9-373
7	IMPELLER	801424	801425	801426	801427
8	DIFFUSER		See Diffuser and O-Ring Kit		
9	O-RING DIFFUSER		See Diffuser and O-Ring Kit		
10	SCREW 8/32" x 22mm SS PHILLIPS HEAD		See Diffuser and O-Ring Kit		
	DIFFUSER & O-RING KIT (INCLUDES ITEM 8, 9&10 x7)	801421	801422	801423	801423
11	LID (Before July 2010)	C3-185P	C3-185P	C3-185P	C3-185P
11	LID (After July 2010)	17307-0111S	17307-0111S	17307-0111S	17307-0111S
12	O-RING LID	35505-1440	35505-1440	35505-1440	35505-1440
13	BASKET	C8-58P	C8-58P	C8-58P	C8-58P
14	DRAIN PLUG & O-RING	U178-920P	U178-920P	U178-920P	U178-920P
15	NUT 3/8" SS		See Pump Fasteners Kit		
16	WASHER SPRING M10 SS		See Pump Fasteners Kit		
	PUMP FASTENERS KIT		See Pump Fasteners Kit		
17	FLAT WASHER 3/8" x 3/4" x 18G		See Pump Fasteners Kit or Motor Fasteners Kit		
18	PUMP CASING		See Pump Casing Assembly		
	PUMP CASING ASSEMBLY	C176-71P	C176-71P	C176-71P	C176-71P
19	BARREL UNION KIT (INCLUDES 19a, 19b & 19c) x2 required	801245K	801245K	801245K	801245K
19a	Collar - Barrel Union 2" SLIP		U11-196PS		
19b	NUT Barrel Union		U11-200PS		
19c	ORING - Barrel Union		702192		
20	BASE		See Pump Base Kit		
21	SCREW 5/16-14" x 1"		See Pump Base Kit		
22	MOTOR PAD		See Pump Base Kit		
	BASE KIT (INCLUDES 20, 21& 22)	801281	801281	801281	801281

Model and serial number of pumps must be given when ordering spare parts

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 - Retain for your records.

PURCHASED FROM:
PURCHASE DATE:
SERIAL NO:
MODEL NO:



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