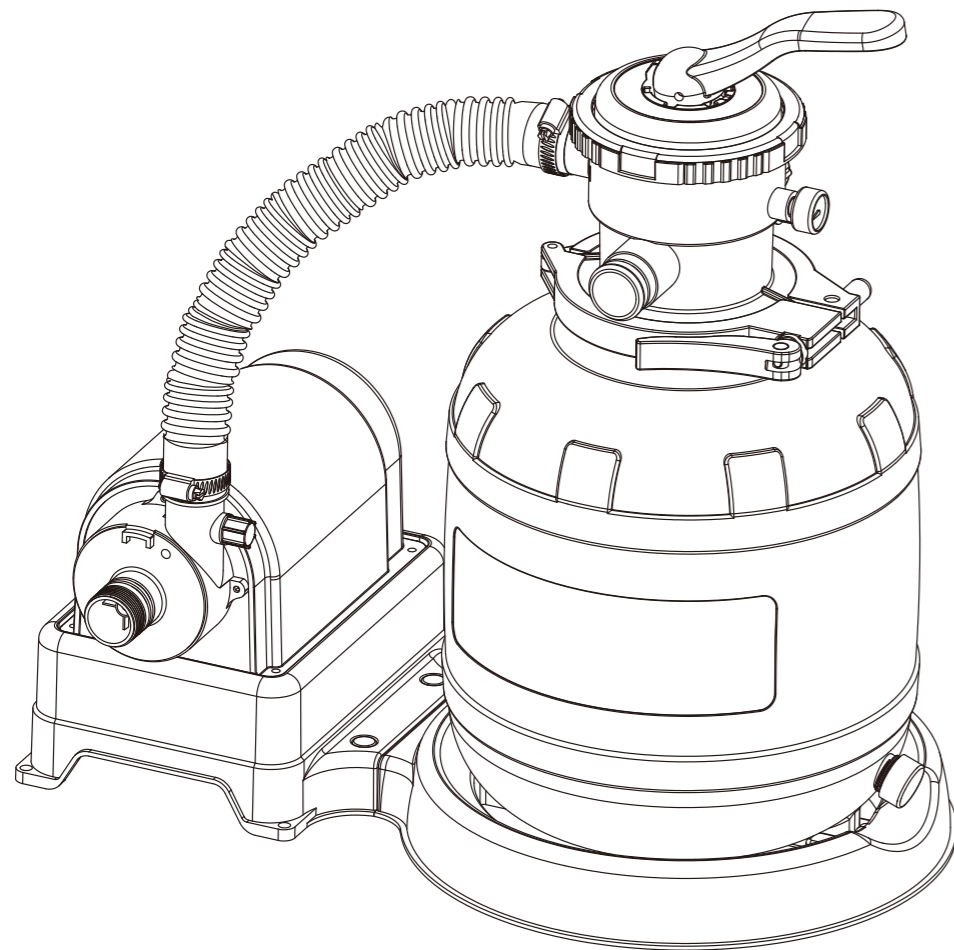


OWNER'S MANUAL

ST1600 SAND FILTER PUMP

FOR ABOVE GROUND SWIMMING POOLS



ST1600

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IMPORTANT SAFETY INSTRUCTIONS

When installing and using this electrical equipment, basic safety precautions should always be followed, including the following:

READ AND FOLLOW ALL INSTRUCTIONS



- WARNING** - To reduce the risk of electric shock, do not use extension cords, timers, plug adaptors or converted plugs to connect unit to electric supply; provide a properly located outlet.
- WARNING** - Do not attempt to plug in or unplug this product while standing in water or when your hands are wet.
- WARNING** - Never operate this product above the maximum working pressure stated on the filter tank.
- WARNING** - Always switch off pump before changing the 6-way valve position.
- WARNING** - Operating this product without water flowing through the system can cause a build up of hazardous pressure which can result in an explosive situation, serious injury, property damage or death.
- WARNING** - Never test this pump with compressed air. Never operate the system with water temperature above 35° C (95°F).
- WARNING** - There is a CLOSED position on the 6-Port Valve. DO NOT power up the pump when engaged in the "CLOSED" position. It will cause EXPLOSION and PERSONAL INJURY.



- CAUTION** - To reduce the risk of electric shock the pool must be installed no closer than 6 feet (1.8 m) from any electrical outlet. Do not place portable appliances closer than 5 feet (1.5 m) from the pool.
- CAUTION** - This pump is for use with storable pools only. Do not use with permanently-installed pools. A storable pool is constructed so that it is capable of being readily disassembled for storage and reassembled to its original integrity. A permanently-installed pool is constructed in or on the ground or in a building such that it cannot be readily disassembled for storage.
- CAUTION** - Do not bury cord. Locate cord to minimize abuse from lawn mowers, hedge trimmers, and other equipment.
- CAUTION** - This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved. Children shall not play with the appliance. Cleaning and user maintenance shall not be made by children without supervision.
- CAUTION** - 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.
- CAUTION** - The pump must not be used when people are in the water;
- CAUTION** - The pump must be supplied through a residual current device (RCD) having a rated residual operating current not exceeding 30 mA.
- CAUTION** - Correct Disposal of this product.



This marking indicates that this product should not be disposed with other household wastes throughout the EU. To prevent possible harm to the environment or human health from uncontrolled waste disposal, recycle it responsibly to promote the sustainable reuse of material resources. To return your used device, please use the return and collection systems or contact the retailer where the product was purchased. They can take this product for environmental safe recycling.

1. **READ ALL INSTRUCTIONS CAREFULLY** and get a thorough understanding of what is required to assemble your ST series Filter Pump.
2. Before you begin to assemble the pool, identify, count, and check all parts needed for assembly.
3. It is recommended that you have some PETROLEUM JELLY on hand for lubricating the gaskets.
4. Installer shall follow written instructions provided for operation of the filter pump systems.
5. All electrical components shall be installed in accordance with Article 680 of the National Electrical Code (NEC) "Swimming Pools, Fountains and Similar Installations" or its latest approved edition.
6. The Pump are manufactured by Polygroup and ETL control number 4000608 and 4006317 - double insulated and grounded - 220V - 240V. A.C. - 50 Hz. (ALL Units must have a minimum of 200 V.A.C. to start and run properly.)

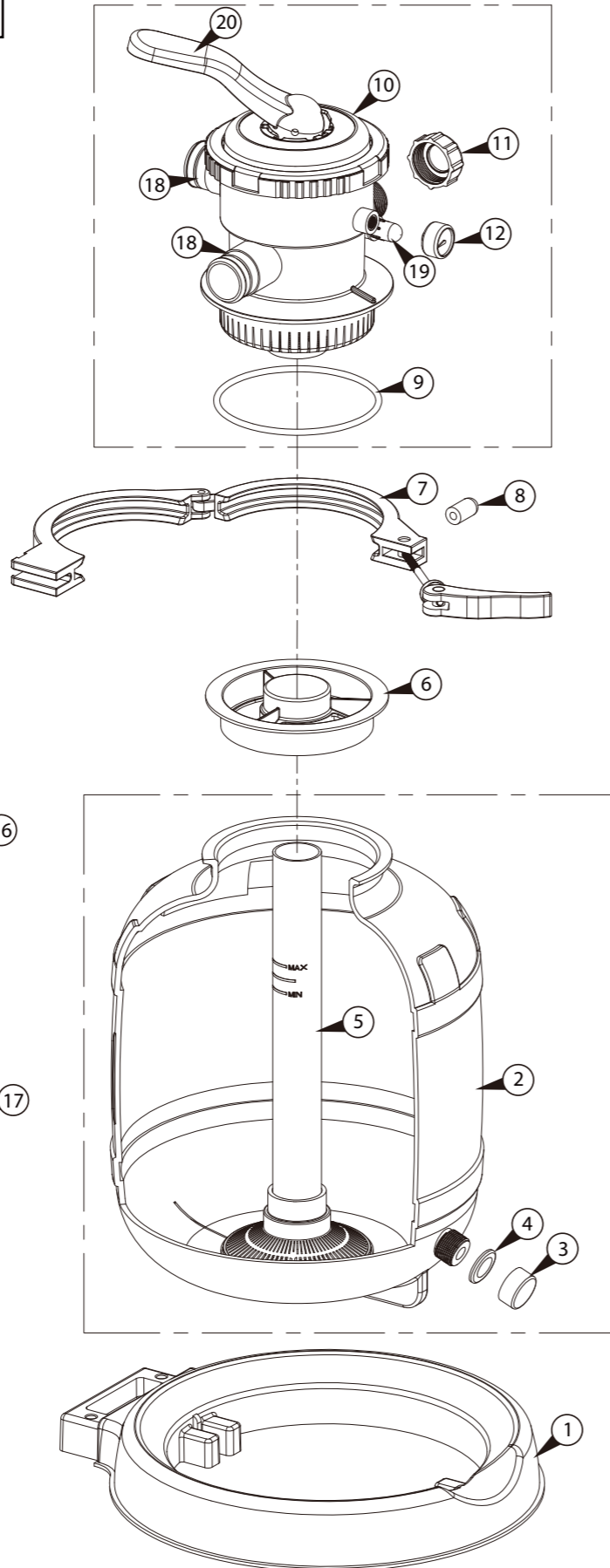
SAVE THESE INSTRUCTIONS

1 FILTER PUMP POWER INFORMATION

MODEL	VOLTAGE	RATED POWER
ST1600 SAND FILTER PUMP (WITH CP2000 PUMP)	230V 50Hz	250W

2 PART LIST

Item	Part Name	Qty
1	Sand Tank Base	1
2	Sand Tank	1
3	Drain Valve Cap	1
4	Drain Valve O-Ring	1
5	Center Pipe	1
6	Sand Guard	1
7	Clamp	1
8	CAM-SHAFT Bolt Cap	1
9	6-Port Valve O-Ring	1
10	6-Port Valve	1
11	6-Port Valve Drain Outlet Cap	1
12	Pressure Gauge	1
13	59" Hose	2
14	20" Hose	1
15	Hose Clamp	7
16	Locking Pin	2
17	Pump	1
18	1.5" Fitting O-Ring	6
19	6-Port valve Drain Outlet Window	1
20	6-Port Valve Handle	1

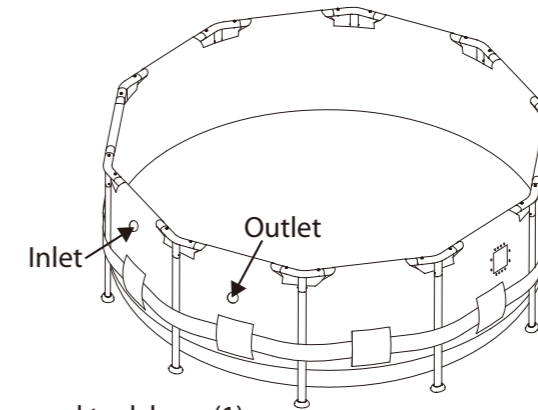


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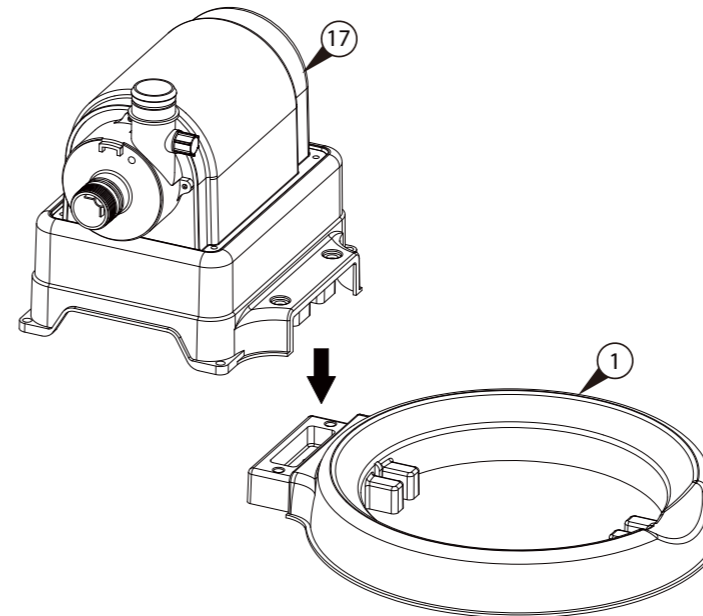
3 SAND FILTER PUMP INSTALLATION INSTRUCTIONS

⚠ WARNING - Position this product away from the pool, so as to prevent children from climbing on it and accessing the pool.

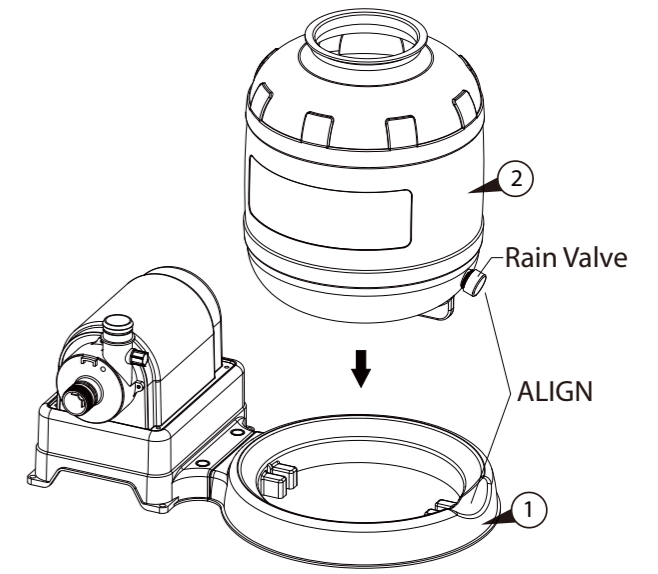
1 Set up the pool by following all instructions comes with the pool. Do not fill water until the Filter Pump is properly installed. Locate the Outlet and Inlet openings on the pool wall.



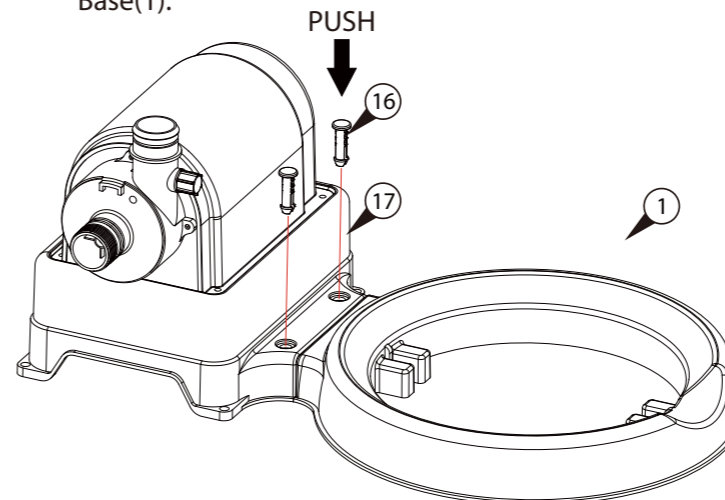
2 Snap the pump (17) on to the sand tank base (1).



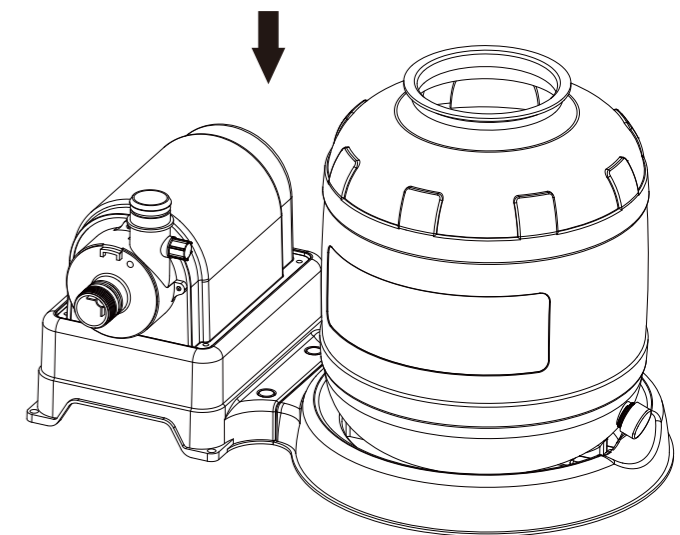
4 With the drain valve of the Sand Tank(2) pointing outward. Place the sand tank on the sand tank base.



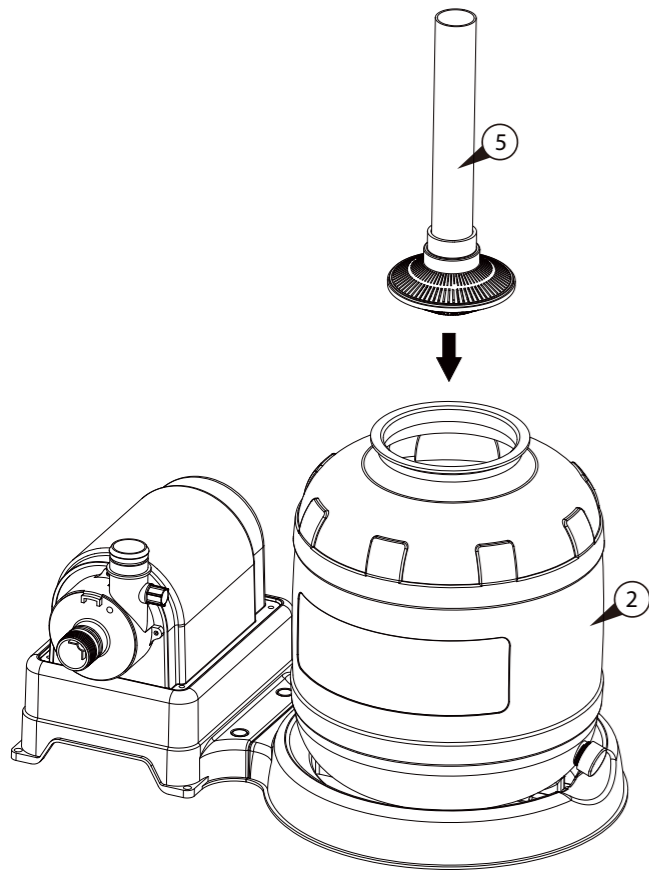
3 Insert and push the Locking Pins(16) all the way down to secure the Pump(17) with the Sand Tank Base(1).



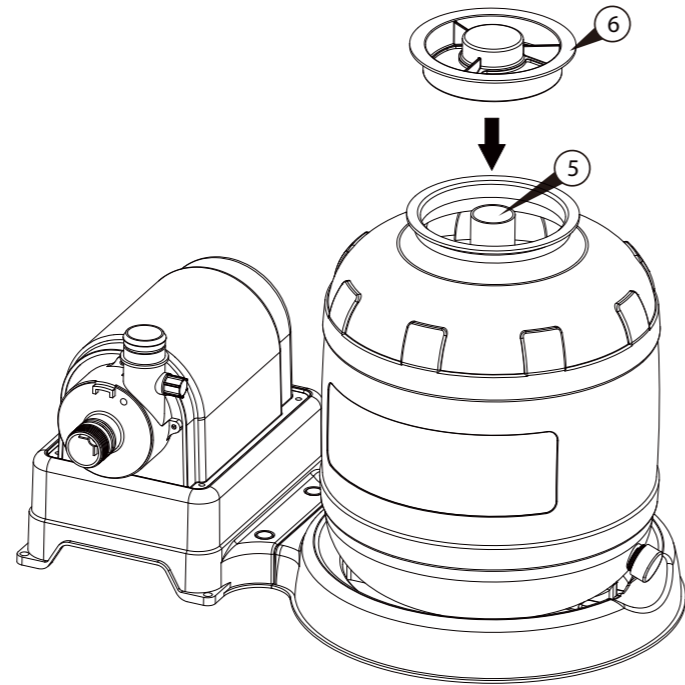
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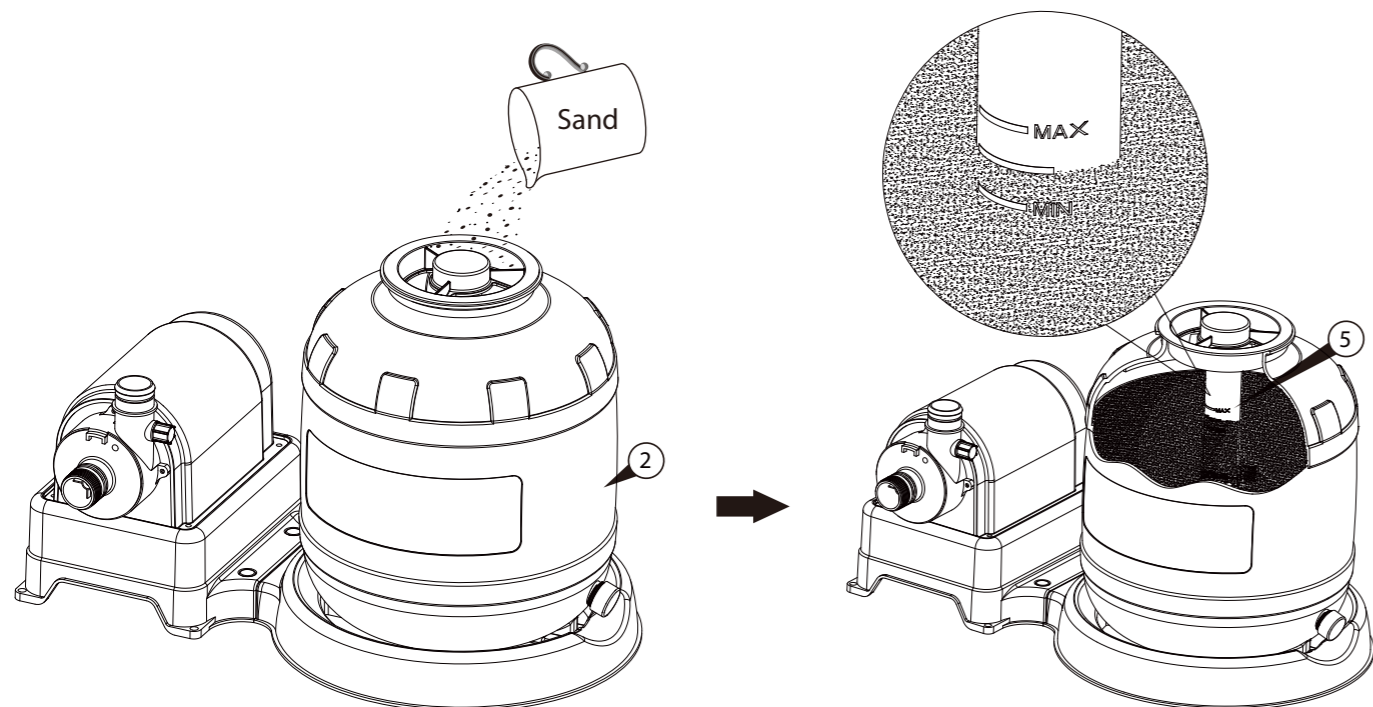
5 Put the Center Pipe(5) inside the Sand Tank(2). Let the Center Pipe(5) seats at the center of the Sand Tank(2).



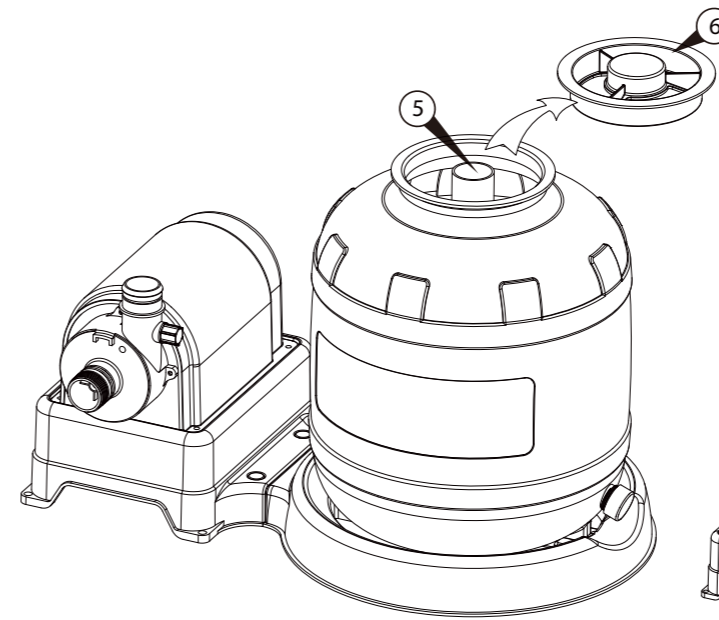
6 Attach the Sand Guard(6) to the top opening of the Center Pipe(5).



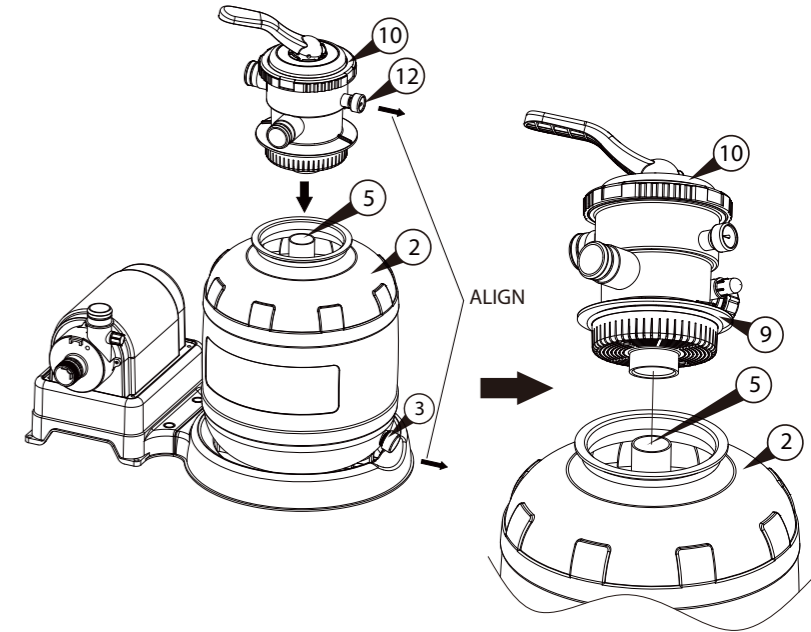
7 Fill the tank with #20 silica sand. You can purchase the sand from your local home improvement or building material store. Slowly pour sand into the Sand Tank(2) until the sand level is between the Min and Max marks on the Center Pipe(5).



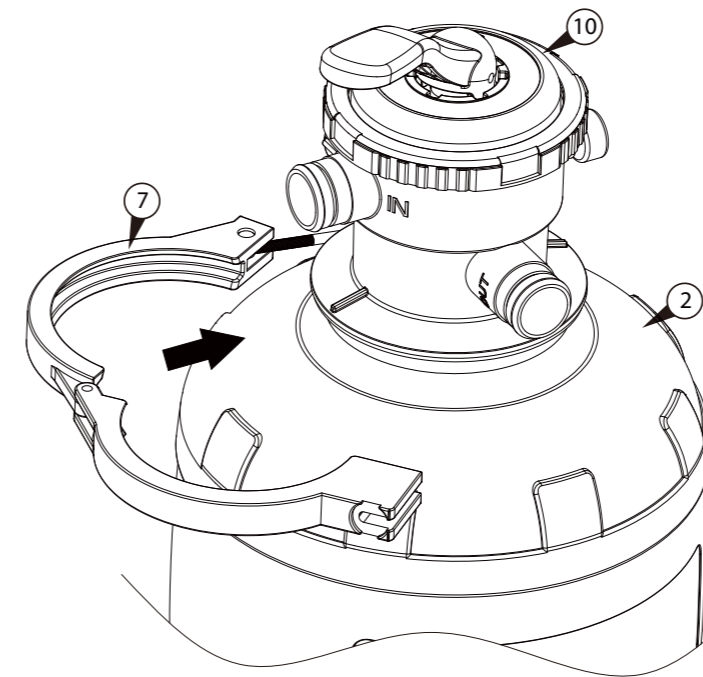
8 Remove the Sand Guard(6) and save for future use.



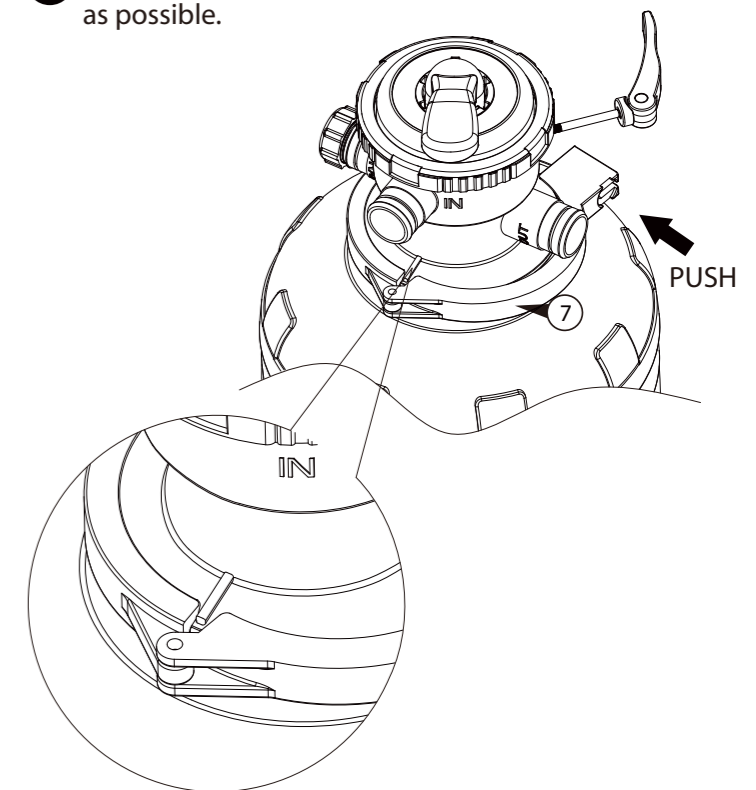
9 Place the 6-Port Valve(10) to the Sand Tank (2). Make sure the O-Ring(9) is present at the bottom flange of the 6-Port Valve(10). Make sure the center tube extending from the valve fits securely with the Center Pipe(5). Rotate the 6-Port Valve(10) so that the pressure gauge (12) is facing the same direction as the drain valve (3).



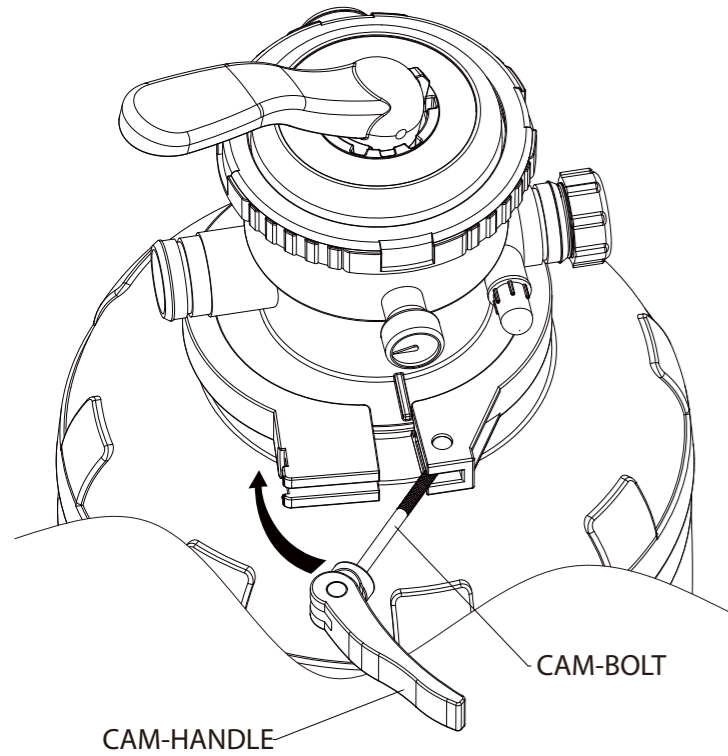
10 Apply the Clamp(7) to the flange of the 6-Port Valve(10) and Sand Tank(2).



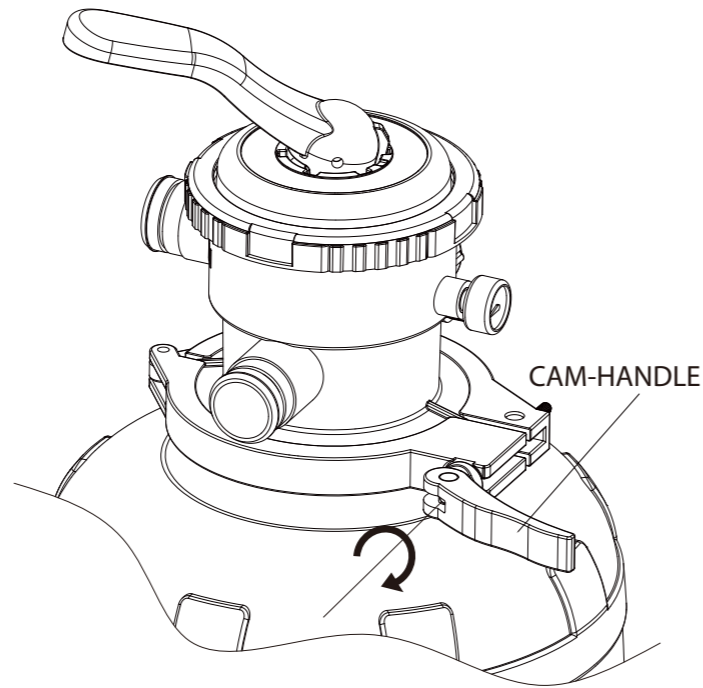
11 Close the clamp (7) push the 2 jaws as close together as possible.



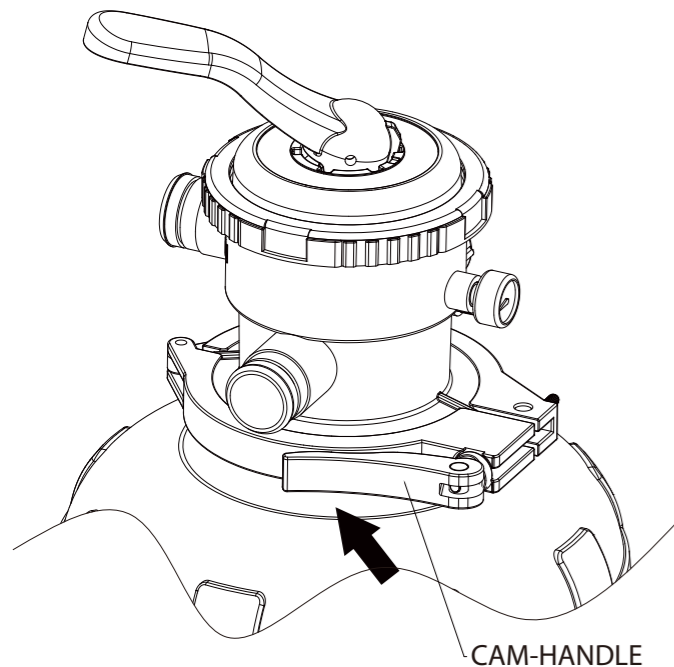
12 Turn the CAM-HANDLE so that the CAM-BOLT is inserted into the slot on the other jaw.



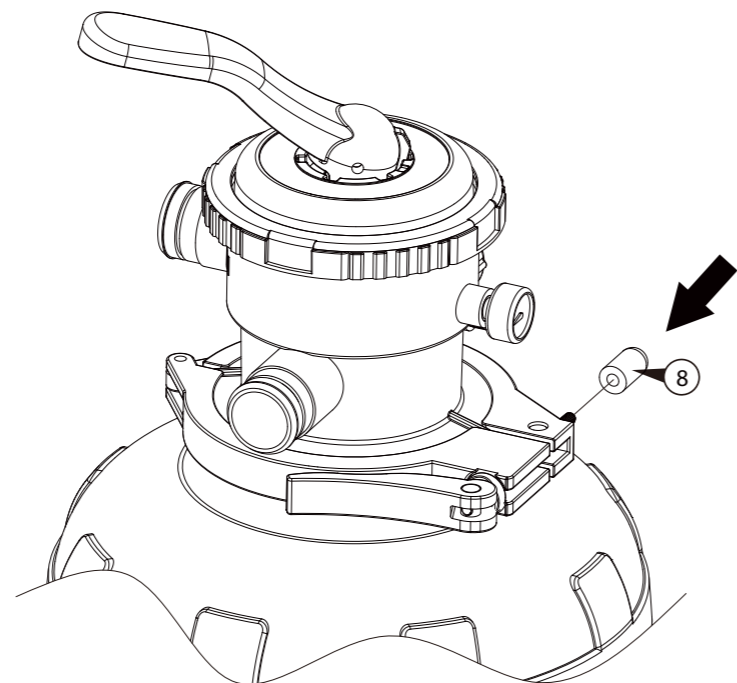
13 Hold the CAM-HANDLE with one hand and start turning in clockwise direction.



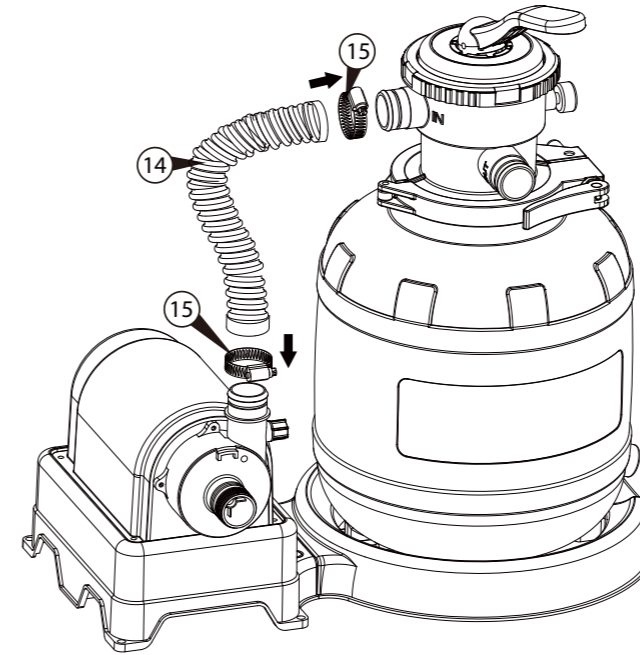
14 Continue to turn the CAM-HANDLE to tighten the jaw until no more turns can be made. Align the CAM-HANDLE with the clamp and push the CAM-HANDLE toward the sand tank.



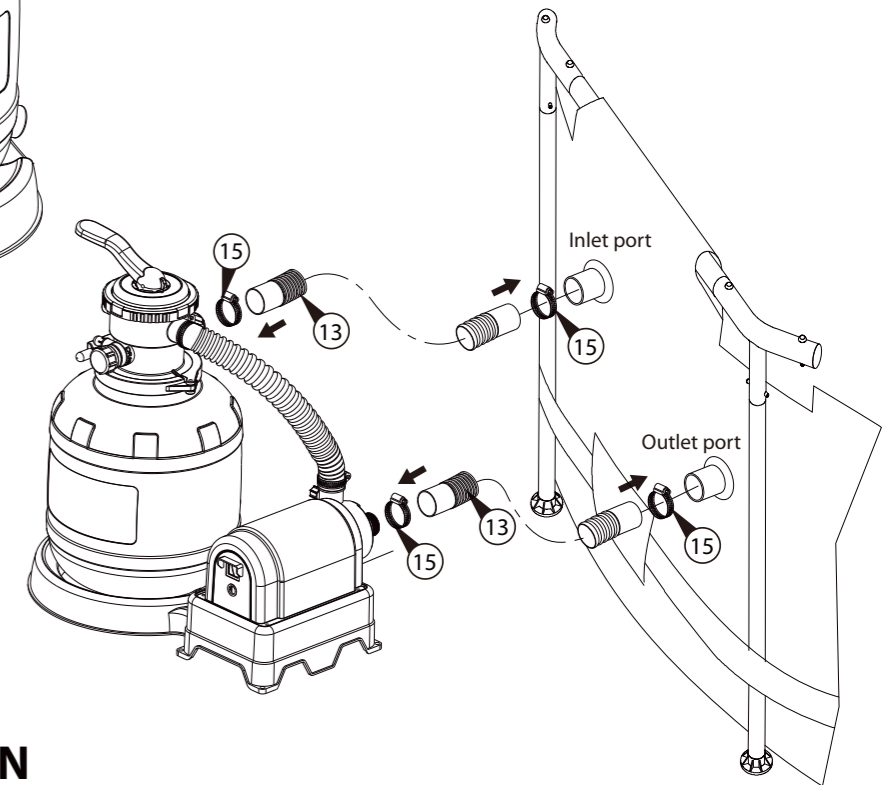
15 Insert the CAM-BOLT Cap (8) to the end of the CAM-BOLT.



16 Connect the 20" hose (14) between the Pump Outlet and the 6-port valve inlet. Tighten the hose clamp (15) with a flat blade screwdriver.

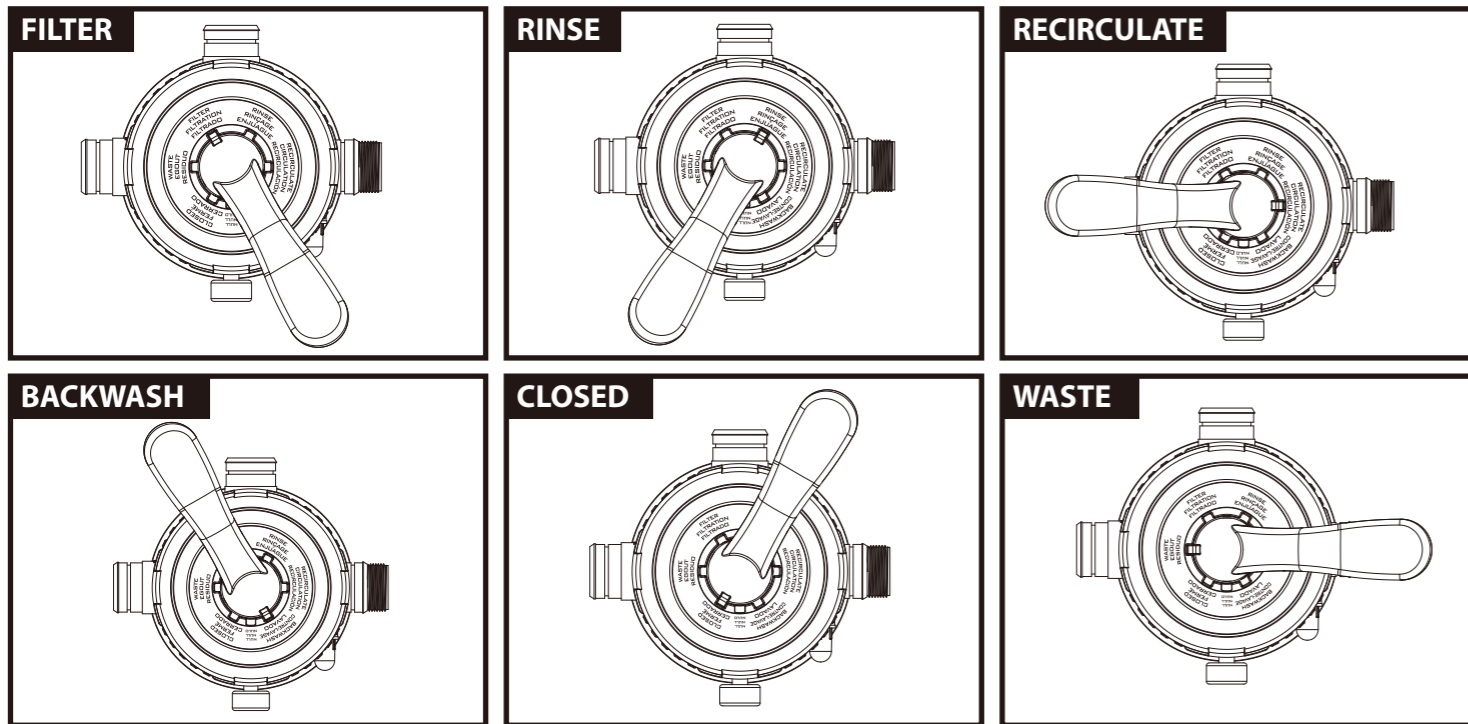


17 The sand filter pump is now fully assembled. Connect the sand filter pump to the pool with the 59" hoses (13) supplied with the pump. Connect the pool outlet to the pump inlet. And tighten the hose clamp (15) with a flat blade screwdriver. Connect the 6-valve port outlet to the pool inlet. Tighten the hose clamp (15) with a flat blade screwdriver.



4 OPERATING INSTRUCTION
FUNCTIONS OF THE 6-PORT VALVE

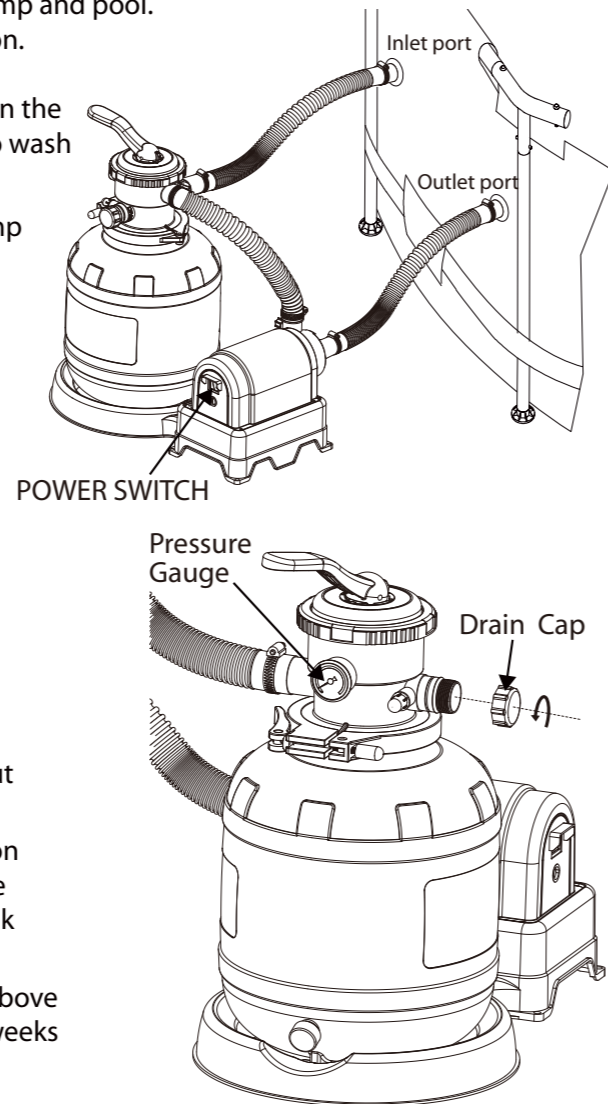
Valve Position	Function	Water Flow Direction
FILTER	Normal filtration and regular vacuuming of pool.	Pool > Pump > Sand (Forward) > Pool
BACKWASH	Reverses water flow to clean the sand bed.	Pool > Pump > Sand (Backward) > Drain Outlet
RINSE	For initial startup cleaning of the sand, and leveling the sand bed after backwashing.	Pool > Pump > Sand (Forward) > Drain Outlet
WASTE	For vacuuming directly to the drain outlet, lowering pool level or to drain the pool.	Pool > Pump > Drain Outlet Sand by-passed
RECIRCULATE	For circulating water back to pool without going filtering.	Pool > Pump > Pool Sand by-passed
CLOSED	Shuts off all flow to filter and pool. Never turn on the pump at this "CLOSED" position.	No flow. Never turn on the pump at this "CLOSED" position.



IMPORTANT SAFETY INFORMATION

- Make sure all the hoses (13,14) are secured to the fittings on the pump and pool.
- Always press down the 6-port valve handle before switching position.
- Always turn off the pump power when switching position.
- It is critical to backwash the sand before using the pump to clean the pool water. This will prevent fine sand to flow into the pool and also wash off any dirt or debris within the sand.

- Make sure the power switch is at the "OFF" position. Plug in the pump to a grounded power outlet.
- Fill the pool until the water level reaches the pool fill line.
- Follow the following steps to BACKWASH the sand before first use:
 - Remove the Drain Cap from the 6-Port Valve. (Optionally, a 1.5" [38mm] hose can be connected to the drain port to direct the waste water to a nearby drain.)
 - Press down the 6-Port Valve handle and turn to the "BACKWASH" position.
 - Turn on the power of the pump.
 - Pool water is now circulating backward through the sand bed to the drain outlet. Continue BACKWASH until the drain water becomes clean and clear.
 - Turn off the pump and switch the handle to the "RINSE" position. Turn on the pump for ONE minute, this will clean up and level out the sand bed. Turn off the pump when done.
- To start filtering the pool, turn the port handle to the "FILTER" position and then switch on the pump. Record down the sand tank pressure ready from the pressure gauge. This reading indicates the initial tank pressure when the sand bed is clean.
- BACKWASH the tank when the pressure is 1-1.5 bar (14.5 - 21.8 Psi) above the initial pressure. Or, BACKWASH the sand tank once every TWO weeks to maintain water cleanliness.



5 PUMP MOTOR PROTECTION

IMPORTANT! Your filter pump is protected by a thermal switch. The switch senses the temperature of the filter pump. If it gets too hot, the switch will stop the pump from running until it cools off. It will automatically turn back on when the filter pump has cooled down. This is a safety device to prevent pump damage and prolong service life. If your pump is automatically turning off, it is because of high pool water temperature and/or low water flow through the pump. If this happens you need to check the water flow and correct it if needed, as this filter pump uses the water flow for cooling. You may also want to run the pump at night when the temperature is lower.

6 POOL MAINTENANCE

- BACKWASH the sand bed when the pressure reading is 1-1.5 bar (14.5 - 21.8 Psi) above the initial pressure; or, BACKWASH the sand bed at least once TWO weeks.
- Discard all the sand at the end of the season, wash the pump components, sand tank and 6-port valve thoroughly with fresh water before storage. Fill up with new sand at the beginning of the swimming season.
- Check and adjust pH and chlorine levels daily using required chemicals. See below Section 7 "POOL WATER CARE".
- Check filter pump output daily. If flow is reduced, see Symptom 2 in Section 8 "TROUBLE SHOOTING GUIDE".
- Check filter pump, hoses, fitting for leaks. If a leak is found, see Symptom 4 in Section 8 "TROUBLE SHOOTING GUIDE".
- Check seams in pool periodically. Minor repairs may be made with the repair patch kit (supplied with pool). Additional patches are available from Polygroup or your local pool supply store.

7 POOL WATER CARE

1. The following items are required and readily available from your local pool supply store:

- TEST KIT - Used to check chlorine and pH levels.
- 1" CHLORINE TABLETS - Used to disinfect pool water and help control the growth of algae.
- pH CONTROL CHEMICALS - Used to adjust pH levels Up (Soda Ash) or Down (Acid).
- ALGAECIDES - Used to eliminate algae.
- SUPERCHLORINATOR - Used to destroy combined chlorine, ammonia, nitrogen, and organic compounds.
- LEAF NET with handle - Used to remove leaves, trash, insects, etc. from pool.

2. Use test kit daily to check pH and chlorine levels. Adjust accordingly using the required chemicals.

NOTE: Excessive levels of chlorine or low pH levels will damage pool liner.

3. The pool can be cleaned using a garden hose powered vacuum from Polygroup or a pool supply store.

4. Using a foot bath near the pool to wash off your feet prior to entering the pool will assist in keeping the pool clean.

5. Well water often presents special problems with water chemistry. If you must use well water, take a sample to your local pool chemical supplier for analysis before adding ANY chemicals.

6. Refer to the POOL'S USER MANUEL for the capacity of your pool. You will need this information to determine the amount of chemicals you will need to correct the pool water. **NOTE:** It is recommended to use a 5 gallon (19 liter) bucket of water to mix and dissolve your chemicals and then applying directly to the pool water. Follow manufacturers label directions on all chemicals. *Most pool supply stores will test your pool water for free and advise you of what chemicals you need, and the correct amount to use for your pool. You will need to tell them the pool capacity in gallons.

7. **IMPORTANT** - We cannot over-stress the importance of proper and adequate daily chemical treatment. Chlorine and pH levels must be properly maintained at all times. PUMP AND FILTER ALONE WILL NOT PREVENT ALGAE FROM GROWING IN POOL WATER; THIS CAN ONLY BE DONE BY MAINTAINING PROPER CHLORINE AND pH LEVELS AT ALL TIMES.

- Maintain pH level between 7.3 and 7.8.
- Maintain chlorine level between 1.0 and 1.6 ppm (parts per million).
- Superchlorinate your pool at least every other week.

NOTE:

- * Hot weather/heavy use may require pH and chlorine levels to be maintained on the upper side of the scale and super-chlorination of the pool every week.
- * Using a pool cover and/or solar cover will assist in maintaining your pH and chlorine levels by reducing the amount of evaporation from your pool.

CAUTION - Concentrated chlorine levels and low pH levels will damage pool. You must follow the instructions for the pool chemicals you use, as to quantity and recommended usage.

NEVER drop lumps or pellets of chemicals in pool; this may present a hazard to swimmers and/or damage your liner.

8 TROUBLE SHOOTING GUIDE

⚠ WARNING UNPLUG THE POWER CORD BEFORE TROUBLE SHOOTING THE FILTER PUMP.

TROUBLE	CAUSE	SOLUTION
1 PUMP MOTOR FAILS TO START	A) The motor is not plugged in.	A) Power cord must be plugged into a grounded power outlet.
	B) Low voltage.	B) Check the line voltage, it must be in the range of 200 to 240V.
	C) Motor too hot and overload protection is shut off.	C) Let the motor cool down and restart again.
2 SAND FILTER DOESN'T CLEAN POOL	A) Improper chlorine or pH levels.	A) Adjust the chlorine and pH level. Consult your local swimming pool supply stores.
	B) No filtering media in tank.	B) Load with filter sand, see "sand loading instructions".
	C) Wrong 6-way valve setting position.	C) Set valve to "FILTER" position.
	D) Excessively dirty pool.	D) Operate the filter for longer periods.
	E) Obstructed pool outlet fitting is restricting the water flow	E) Clean the strainer at the pool outlet fitting
3 SAND FILTER DOESN'T PUMP WATER OR FLOW IS VERY SLOW	A) Clogged inlet or discharge.	A) Clear any obstructions in the pool outlet fitting and pump intake hose.
	B) An air leak on the intake line.	B) Tighten hose clamps, check hoses for damage and check pool water level.
	D) Sand media clogged with dirt.	D) Backwash the sand bed more frequently.
	E) Crusting or caking on the filtering sand surface.	E) Replace about 1" (25mm) of sand. Replace all the sand if problem persists.
	F) Pool vacuuming device attached to the system.	F) Remove any pool vacuuming device attached to the system line.
4 PUMP DOESN'T WORK	A) Low water level.	A) Fill pool to correct water level.
	B) Strainer screen clogged up.	B) Clean strainer screens at pool inlet.
	C) An air leak on the intake hose.	C) Tighten hose clamps, check hose for damage.
	D) Faulty motor or the impeller is jammed.	D) Contact Customer Service.
5 6-WAY VALVE/COVER LEAKING	A) Sand tank o-ring missing.	A) Remove 6-way valve and ensure the o-ring is in present.
	B) Sand tank o-ring dirty.	B) Clean sand tank o-ring with garden hose water.
	C) Hose clamps not tight.	C) Tighten the hose clamps.
	D) 6-port valve damage.	D) Contact Customer Service.
6 HOSE LEAKING	A) Hose clamps not securely tight.	A) Tighten/reinstall hoses clamp.
	B) Hose connection fitting o-ring missing.	B) Ensure o-ring is in place and not damaged.
7 PRESSURE GAUGE DOESN'T WORK	A) Clogged inlet of the pressure gauge.	A) Clear any obstructions in the intake by unscrewing it from the 6-port valve.
	B) Pressure gauge damage.	B) Contact Customer Service.
8 SAND IS FLOWING BACK INTO THE POOL	A) Sand is too small.	A) Use only No.20 silica sand with particle size range 0.45 to 0.85mm(0.018 to 0.033 inches)and a Uniformity Coefficient less than 1.75.
	B) Sand bed is calcified.	B) Discard all the used sand and replace with new sand.

9 REPLACEMENT PART ORDERING INFO

Key#	Description	ST1600
		Part #
1	Sand Tank Base	P58PP1782E09
2	Sand Tank	P58000000W05
3	Drain Valve Cap	P58PF0800W05
4	Drain Valve O-Ring	P58PF1731K01
5	Center Pipe	P586402000W1
6	Sand Guard	P58PF8891P01
7	Clamp	P58897023E09
8	CAM-SHAFT Bolt Cap	P58PP2021K01
9	6-Port Valve O-Ring	P58138000K01
10	6-Port Valve	P58PF8880E09
11	6-Port Valve Drain Outlet Cap	P58PF8910E09
12	Pressure Gauge	P58340000000
13	59" Hose	P584150006W1
14	20" Hose	P584150011W1
15	Hose Clamp	P5842504500A
16	Locking Pin	P58PP1759E09
17	Pump	P530C200SRW5
18	1.5" Fitting O-Ring	P58037000K01
19	6-Port valve Drain Outlet Window	P58PF8960C01
20	6-Port Valve Handle	P58PF8950E09