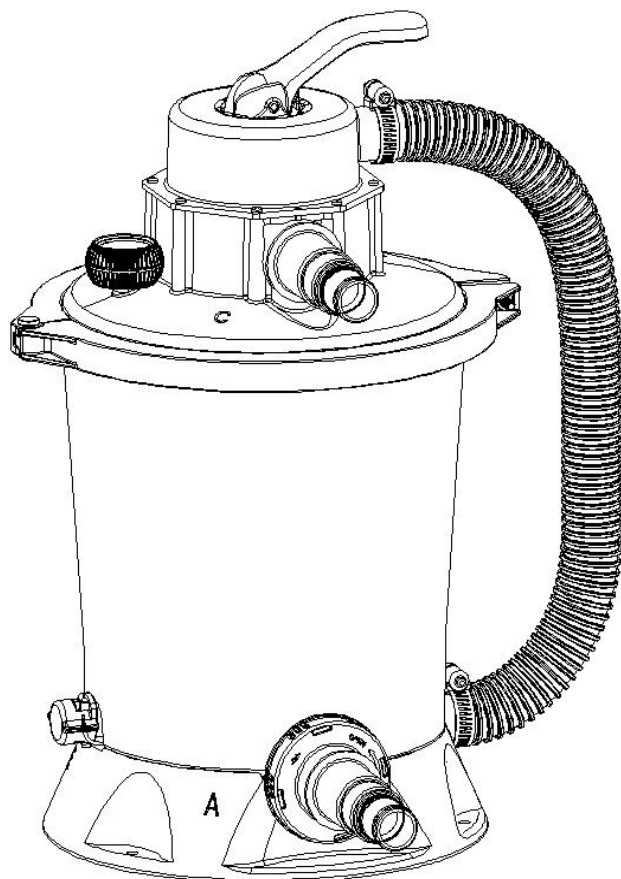


PUMP + SAND FILTER COMBO

Sand filter manual



Product Specifications		
Model	PSP90W	PSP90W
Voltage	220-240V	
Power	60W	90W
Maximum operating pressure	<0.2bar (3psi)	<0.3(4.5psi)
Effective filtering area	0.058m ² (0.62ft ²)	0.058m ² (0.62ft ²)
Maximum water flow rate	800 gallons/hr (3028 l / h)	1000 gallons/hr (3785 l / h)
Maximum water temperature	35°C	
Recommended filter media	quartz sand or glass sand, with particle size of 0.45-0.85 mm, (i.e. 0.018-0.033 inches) , and an overall particle uniformity coefficient smaller than 1.75.	
Recommended quantity of media	Quartz sand or glass sand, 10 kg	
Please read carefully and save it for future reference		
For e-manual , please log in to our official website www.spaceindustries.co.nz		
12 MONTH WARRANTY - COVERS FAULTY PARTS & MANUFACTURING DEFECTS		

Safety Instructions

Always follow the basic safety precautions for installation and use of this electrical equipment as follows.

WARNING: 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.

WARNING: This product is not a toy.

WARNING: The product should be kept away from the pool, sufficient to avoid children using it to climb into pool.

WARNING: There is risk of electric shock. This product must only be connected to an outlet with grounding protection. If it can not be confirmed, please contact an experienced electrician for installation.

Do not use an extension cord.

WARNING: The pump is to be supplied through a residual current device (RCD) having a rated residual operating current not exceeding 30 mA.

WARNING: Before cleaning, maintenance or adjustment, unplug the power plug from the outlet.

WARNING: Do not bury the power cable. Arrange it in a safe location where it can not be damaged by the lawn mower and other equipment.

WARNING: The supply cord cannot be replaced. If the cord is damaged the appliance should be discarded.

WARNING: To reduce the risk of electric shock, do not connect any extension wire, timer, plug adapter or converter to the filter body. Please provide a fixed outlet.

WARNING: Do not attempt to unplug, if hands are wet or you are standing on a wet surface.

WARNING: After this product is installed, the installation position of the plug should be visible to the user and easy to access.

WARNING: When the pool is in use, turn it off.

WARNING: Only adults can install and disassemble this product.

WARNING: This product can only be used with an above ground pool. Do not use it in conjunction with an in ground pool.

WARNING: To avoid damage to the product and the risk of injury, please turn off the product, before the rotating of the control valve position.

WARNING: Do not play or swim near the pool filter inlet. Your body or hair maybe sucked in and cause permanent injury or drownng.

WARNING: When the reading displayed on the pressure gauge of the body exceeds a predetermined maximum level, do not operate this product.

WARNING: Improper installation of the cylinder head can cause damage or a risk of over pressure resulting in serious injury,death or damage to any property.

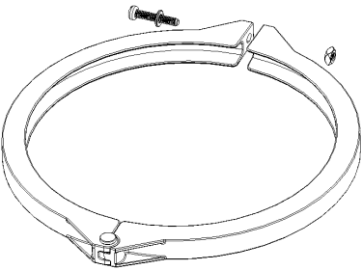
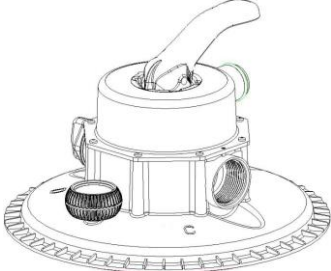
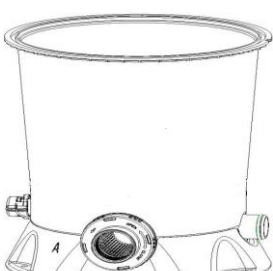
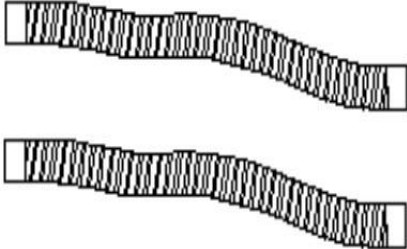
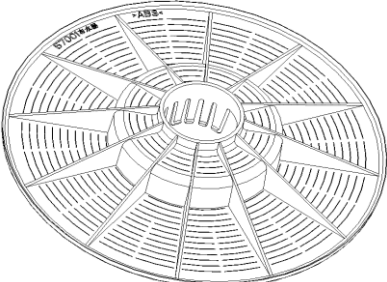
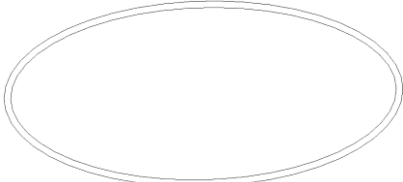


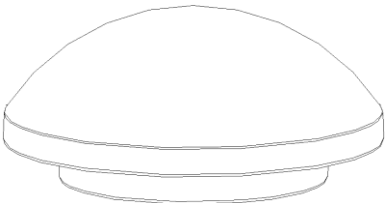


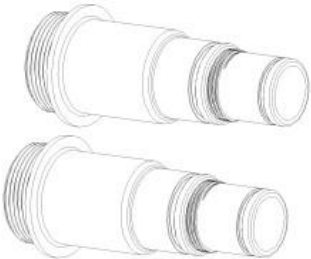
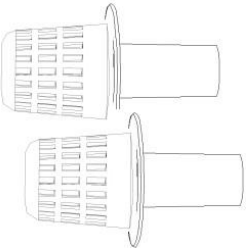
WARNING: The maximum total head : 1.5m.

NOTE: this product is limited to those purposes described in the specification.

[Mind all the safety requirements and recommendations described in the manual;](#)

Important safety instructions, Read and follow all safety precautions

List of parts in the package box

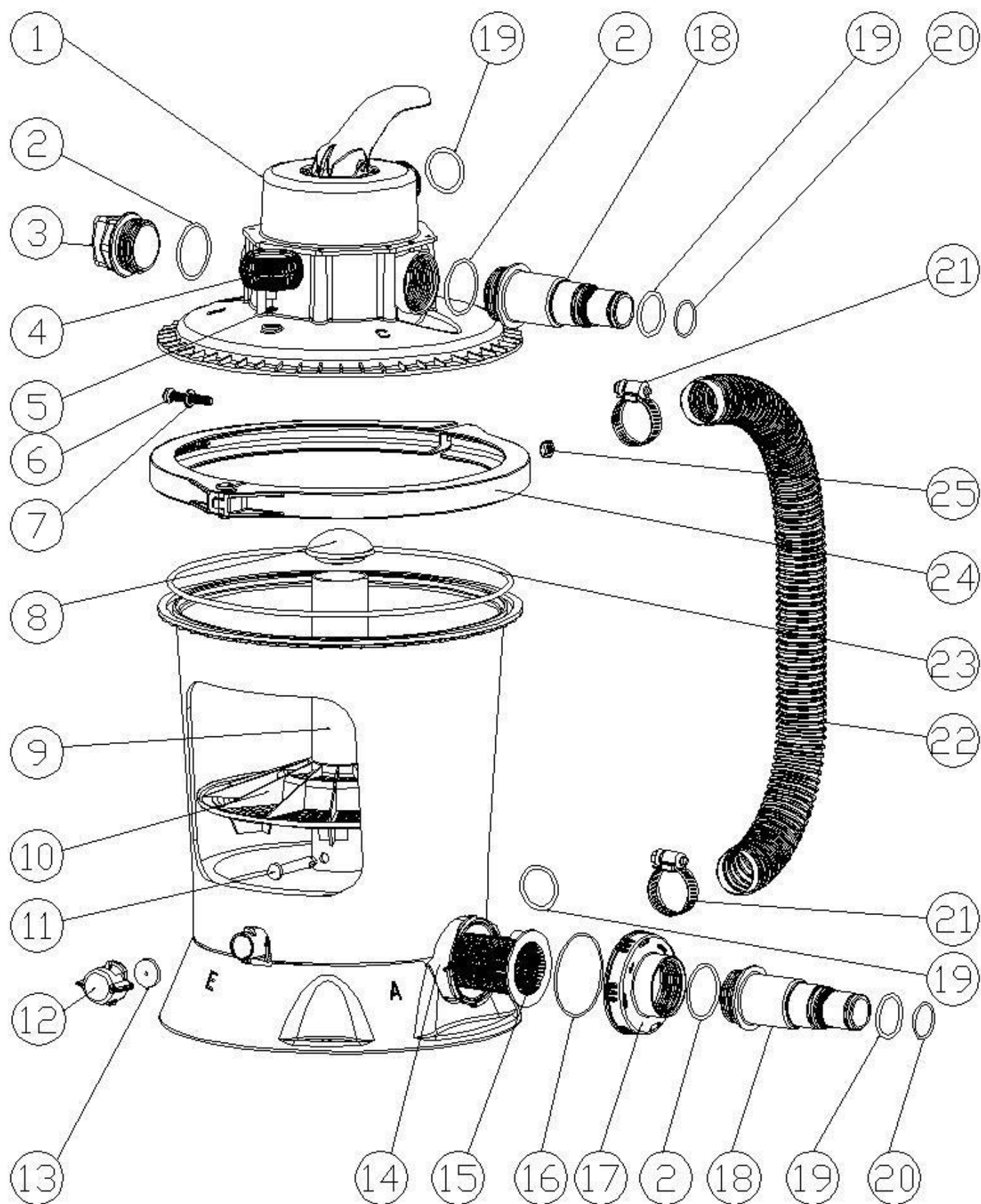


Fig. 01

Part reference table

No.	Name	Quantity	No.	Name	Quantity
1	Control valve	1	16	Filter cartridge buckle seal	1
2	Plug seal	3	17	Filter cartridge buckle	1
3	Plug	1	18	3238 straight connector	1
4	Pressure gauge	1	19	38 seal	3
5	Pressure gauge seal	1	20	32seal	2
6	M8 connector bolt	1	21	32-50 hose clamp	2
7	Gasket	1	22	38mm black hose	1
8	Center connecting tube cap	1	23	Upper cover seal	1
9	Center connecting tube	6	24	Hoop	1
10	Water distributor	1	25	M8 quadrilateral nut	1
11	Connecting pin	1	26	Strainer	2
12	Drain tube cap	1	27	Strainer connector	2
13	Seal	1	28	25-42 hose clamp	4
14	Motor unit	1	29	32mm white hoses	2
15	Filter sieve	1			

Preparations before installation

Tools required: 1 slotted screwdriver

Product installation location and assembly:

- This product must be installed on a firm and level surface.
- Ensure adequate access, space and light for ease of routine maintenance.
- The motor must be vented and cooled. Do not place the product in damp and/ or poorly ventilated environs. It is recommended installation be two person activity.

Installation notes:

1. Place the product in your chosen spot.

Important notes: Particularly in some EC countries, the product is required to be placed on the ground on a permanent raised base! To confirm whether there are related regulations about the ground pool filter in the area, please consult the local authorities. If specified, the filter should be fixed on the base platform via three drilled holes. (shown in Fig. 02)

The sand filter can be mounted on a concrete base or a wooden platform, to prevent being a trip hazard.

Note: On the base, the hole diameter should be 8mm.

Note: The maximum diameter of two screws and lock nuts should be 8mm.

2. The water circulation installation shall comply with the European as well as national/local regulations, especially when dealing with electrical issues;

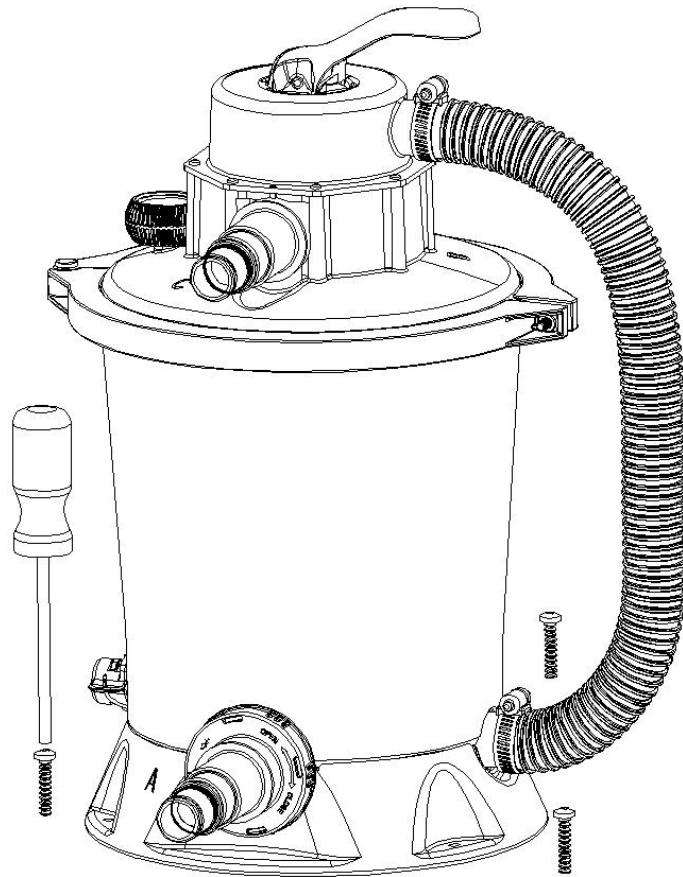


Fig. 02

Sand loading:

Note: Use No. 20 silica sand or glass sand, with the particle size of 0.45-0.85 mm. (i.e. 0.018-0.033 inches) , and an overall particle uniformity coefficient smaller than 1.75.

Step I

Before filling the sand, connect the central connecting tube (9) and the water distributor (10) as shown in Fig. 03, Align the connecting pin on A position with the big gap on water distributor B position, and press the water distributor into place in the arrow direction (as shown in Fig. 04, if the water distributor hook is connected to the endface of the center connecting tube, it is assembled in place). Then place the assembled water distributor components into the body, as shown in Fig. 05.

Fig. 03

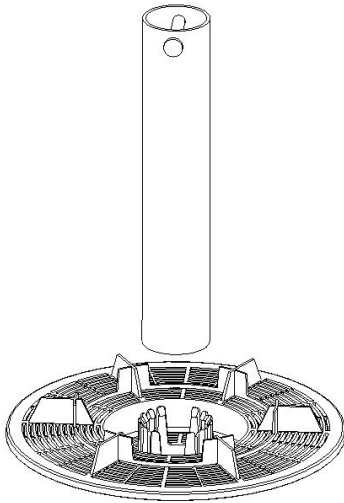


Fig. 04

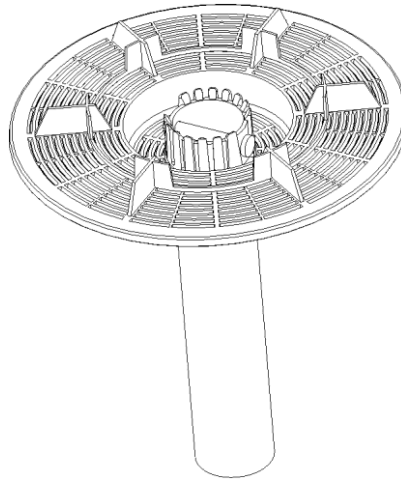


Fig. 05

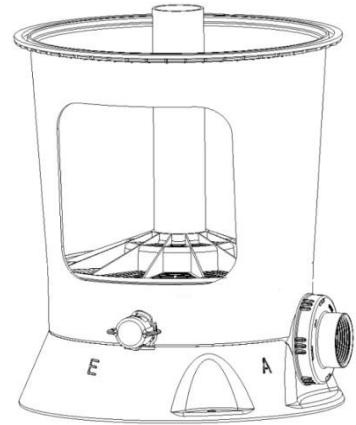


Fig. 06

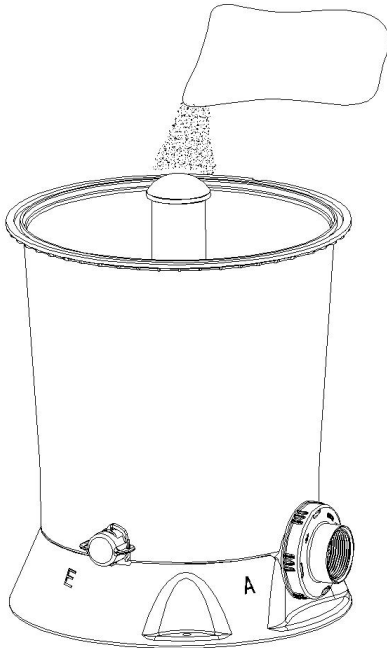


Fig. 07

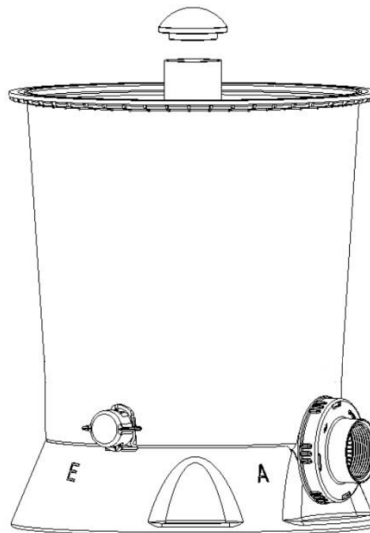
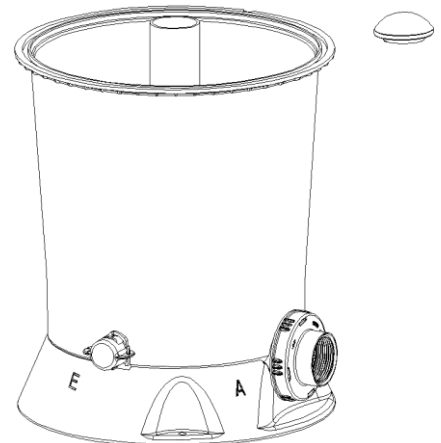


Fig. 08



Step II

Install the central connecting tube cap (8) onto the end of the center connecting tube in the arrow direction (Fig. 06).

Step III

Fill 10kg sand into the body at a slow rate, and manually level the sand. Note that the sand must not enter the central tube or seal groove. In the event any does - ensure it is removed (Fig. 07).

Step VI

Remove the center connecting tube cap (8) (Fig. 08). Store cap for future sand removal/replacement.

Control valve unit installation:

Fig. 09



Fig. 10

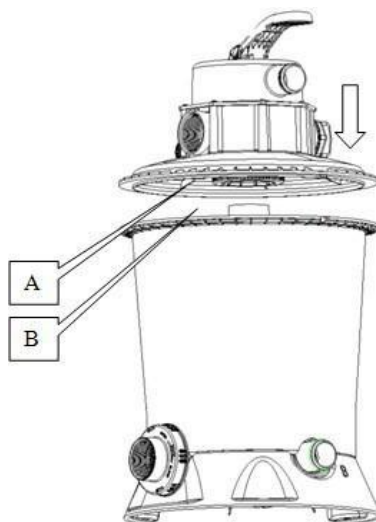
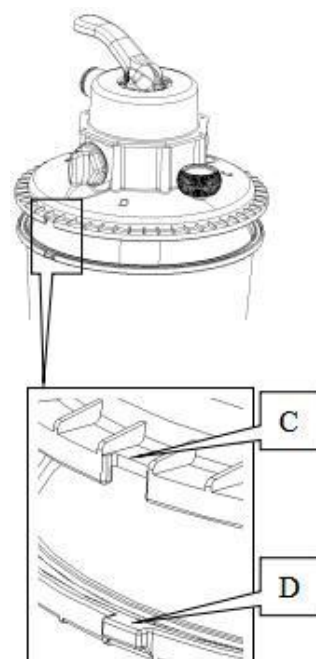


Fig. 11



Step I

Thoroughly clean any sand and impurities out of the groove, and slowly place the upper cover seal (24) into the groove.

Step II

As shown in Figs 10 and 11, align the center hole (A) of the control valve unit and shield cover with the outer circle (B) of the center connecting tube, center the gap in the control valve cover group (C) over point (D) and press down in place.

Fig. 12

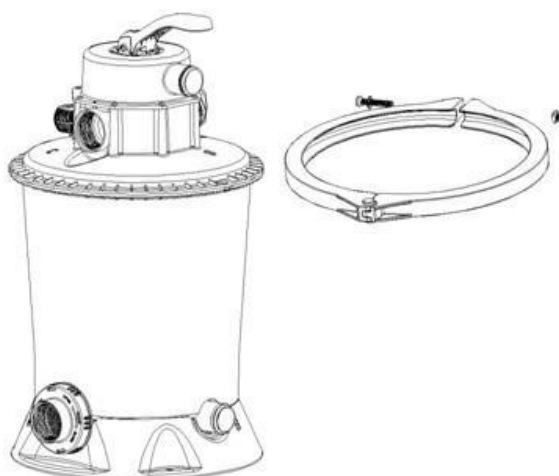
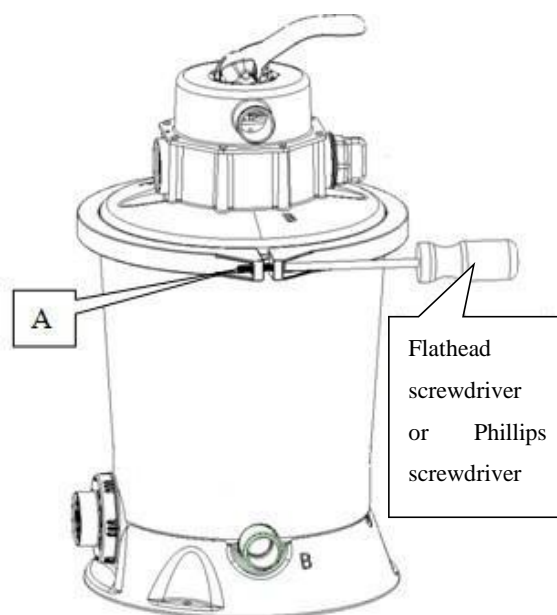


Fig. 013



Step III

As shown in Figs 12 and 13, remove M8 adjustment bolt, washer and M8 quadrilateral nut (6, 7, 25) from the hoop, install the hoop around the flange between the body and the control valve unit, install M8 adjustment bolt and washer into the M8 quadrilateral nut hole of the hoop.

Tighten clockwise with a slotted or Phillips screwdriver (not provided with the product); When beginning to tighten it, hold M8 quadrilateral nut in A position, to prevent it from falling out.

Fig. 14

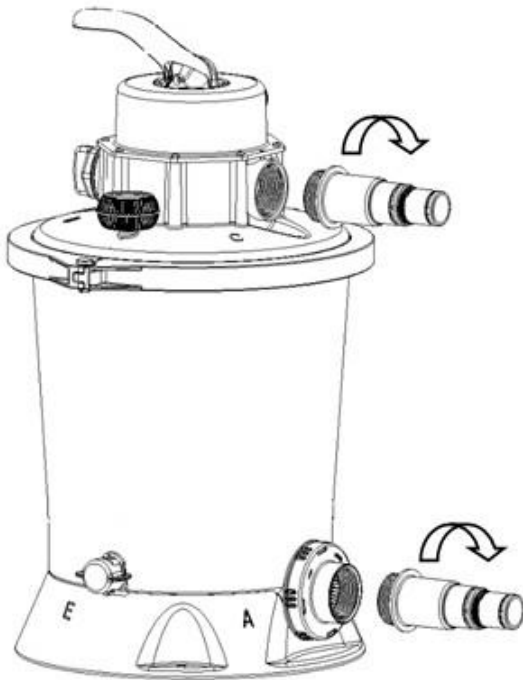


Fig. 15



Step VI

As shown in Fig. 14, clockwise tighten 3238 straight connectors (18) and the result is shown in Fig. 15.

Fig. 16

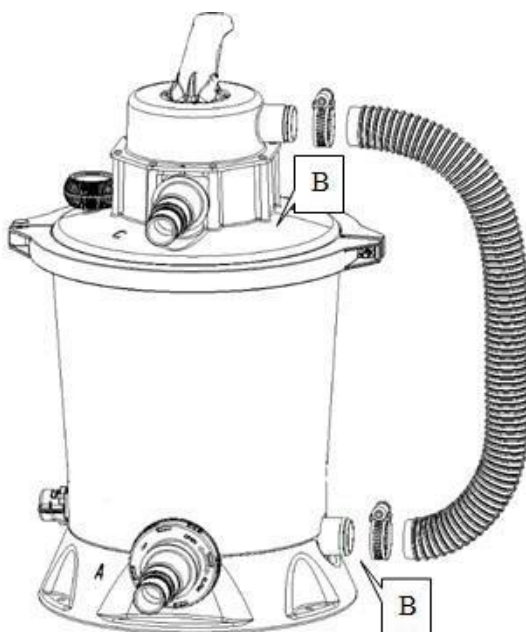
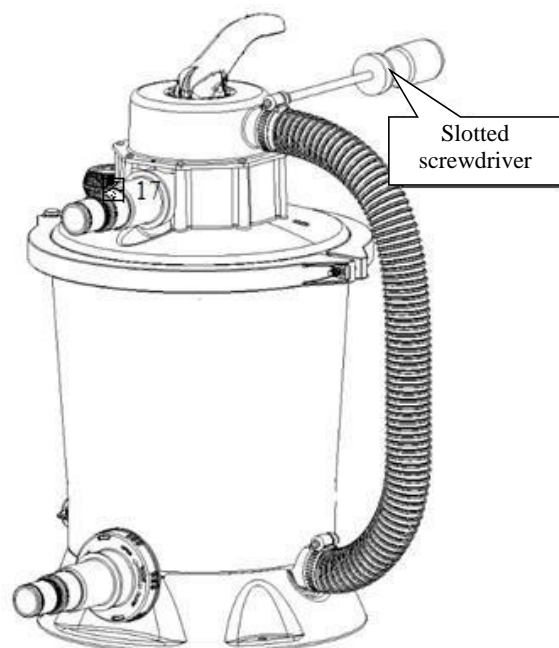


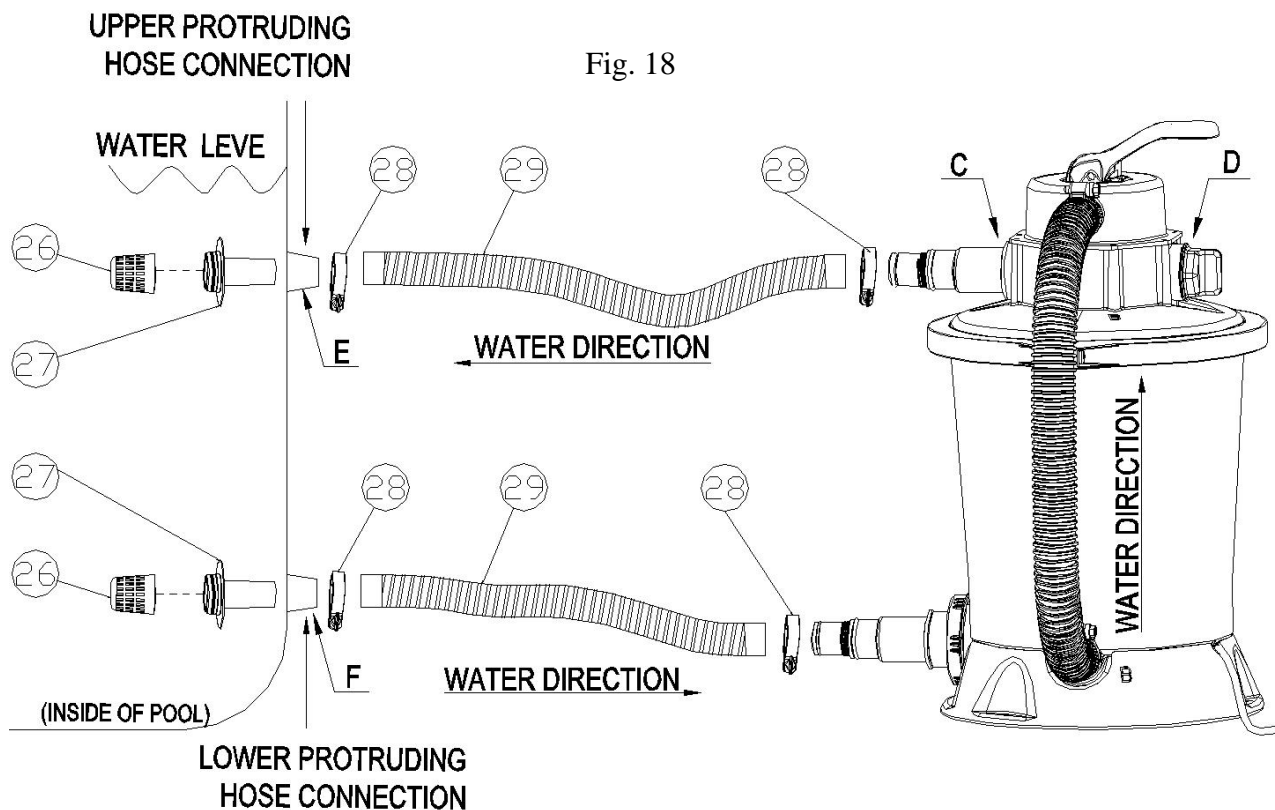
Fig. 17



Step V

As shown in Figs 16 and 17, connect 38mm black hose (23) between the control valve B port and the motor B port, and tighten 32-50 hoop (21) with a flathead screwdriver.

Sand filter pump and pool installation:



Installation steps: As shown in Fig 12, connect 32mm white hose to the pool and the sand filter pump, tighten clockwise 25-42 hose clamps (28) with a flathead screwdriver; and then power on the sand filter pump to filter the water in the pool. (Be sure to follow the instructions to connect the pump and pool, any change of valve position, pump size, grille size can cause a change of the flow and the suction velocity can be affected)

Control valve position and functions

Control valve position	Functions	Water flow direction
FILTER	Pool with normal filtering	The water flows into the Pool via the sand filter layer.
BACKWASH	Backwash the filter layer	After the water is filtered via the sand filter, the waste is drained directly from the waste drainage outlet.
RINSE	It is used to clean the sand in the sand cylinder and level the backwashed sand	The water flows through the sand filter layer and is drained directly from the waste drainage outlet

WASTE	Drains directly from the waste discharge outlet, to reduce the water level or drain the water in the pool	It is drained directly from the waste discharge outlet, without flowing through the filter layer
RECIRCULATE	Circulates pool water without flowing through the filter media	The water flows directly from and back into the pool via the water control valve, without flowing through the filter layer
CLOSED	Closes off all flow through the filter	

Operation steps

1. Ensure that the product is powered off.
2. Turn off the plug (3) on D position, and connect 3238 straight connector (18) and hose (30) on C position to D position.
3. Press down the control valve handle and turn it to the discharge position, and power on the product for waste drainage (Fig. 20). After the waste drainage is completed, please power off the product.
4. Turn the control valve handle to the backwash position and turn on the power supply, until the clean water is drained. (Fig. 20)
5. Disconnect the power supply. Remove 3238 straight connector (18) and the hoses (29), connect them together in C position, connect the other end of the tube to the water pool E position, and lock it with the hose clamp. (See Fig. 18)
6. Install the plug (3) on D position. (See Fig. 18)
It will cause leakage.

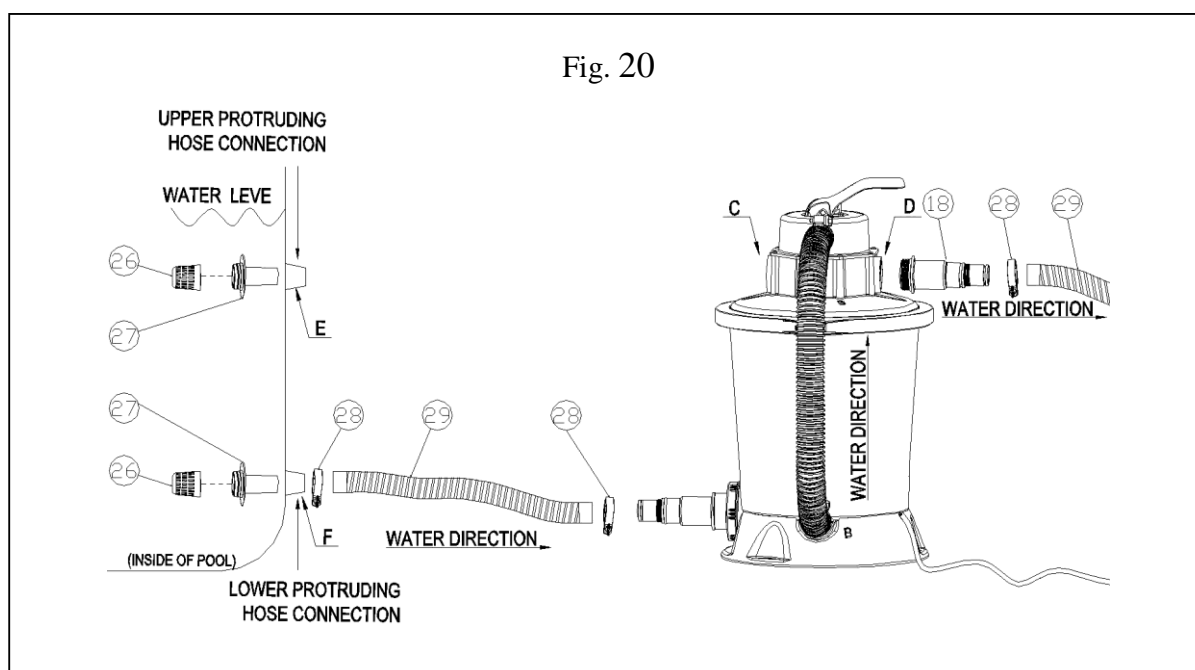
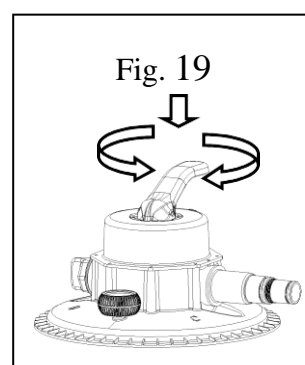
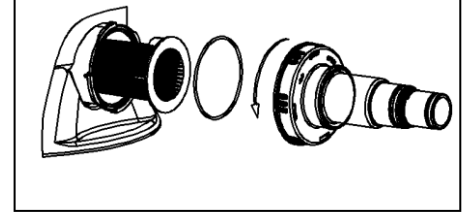


Fig. 21



Motor filter screen cleaning and maintenance

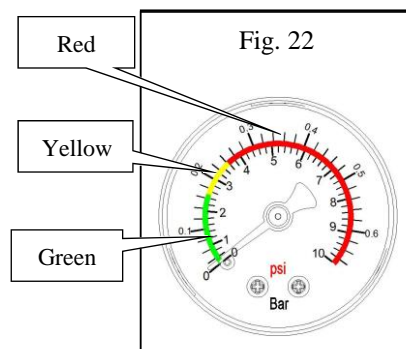
1. Ensure that the power is unplugged from the outlet.
2. As shown in Fig. 21, the filter cartridge buckle (17) and remove the filter screen (15) and the filter cartridge buckle seal (16).
3. The filter screen (15) and the filter cartridge buckle seal (16); if necessary, brush to scrub the impurities on the filter screen (15). Do not use a metal brush.
4. Reinstall the filter screen (15), the filter cartridge buckle seal (16) and the filter cartridge buckle (17) sequentially (Fig. 01).

NOTE: You must empty and regularly clean the filter. A dirty or blocked filter will reduce the performance of sand filter pump.

Sand filter pump operations

1. After the preparations are completed, the sand filter pump can be used. Set the filtering performance of the control valve.
2. Insert the plug into the appropriate outlet to operate the sand filter pump.

Note: During the sand filter pump operation, check the pressure gauge (4); if the pointer is within the green range it indicates a normal operation.



Sand filter pump maintenance

Notes:

Before maintenance, you must unplug the power supply for the sand filter pump; otherwise it may cause risk of serious personal injury or death.

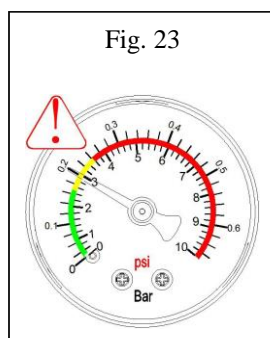
Notes:

When the pressure gauge pointer is within the yellow range, you must clean the sand bed or replace the sand. You can use “Backwash” and “Cleaning” functions.

Notes:

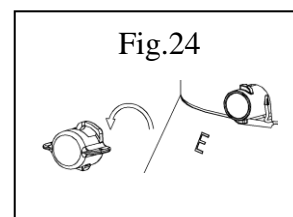
It is recommended to regularly clean once a week or as you notice water flow into pool decreases significantly. Periodically check #15-Filter sieve and remove any collected debris as necessary.

Fig. 23



Long-term storage and winter storage

If the pool is iced, the use of this product will cause its damage and its warranty will be invalid.



1. Turn off the product switch and unplug the power plug.
2. As shown in Fig. 26, counterclockwise unscrew the drain tube cap (12) to thoroughly drain the water in the body.
3. After the water is drained fully, remove all filter covers connected to the sand filter pump, the hoses and the pool wall.
4. Dry the sand filter parts and bellows in the air.
5. The best way is to store all accessories and motor in their original packaging. To avoid shrinkage or corrosion problems, do not use any plastic bag to cover or wrap the motor.
6. Please store the motor and accessories in a dry location at the temperature of $0^{\circ}\text{C} \sim 40^{\circ}\text{C}$
7. Discard & replace sand annually.

Fault detection and troubleshooting		
Fault	Detection	Solution
The motor can not be started normally	The power supply is not plugged properly The leakage protection is disconnected The motor is overheated or overloaded, resulting in its shutdown	Ensure the power cord is plugged in 3-wire metal outlet with grounding protection Reset the circuit breaker switch. If the problem continues, there may be a power supply problem, it should be turned off and contact a power supply expert for processing Cool down the motor in the air and restart it
Filter The pool can not be cleaned	There is no sand in the body The control valve position is incorrect There is excessive dirt in the water The filter element is blocked	For sand filling, see the sand filling instructions The control valve is turned to FILTER position The running time is extended Clean the filter element

The filter can not be drained or drains slowly	<p>There are obstacles at the entrance</p> <p>There is air leakage at the entrance</p> <p>There is excessive dirt in the water</p> <p>The filter medium is clogged with impurities</p> <p>The tank is attached with the cleaning device</p>	<p>Check and clean the obstacles in inlet and outlet tubes</p> <p>Tighten the tube port nut and check the damaged point and water level</p> <p>Clean the strainer</p> <p>Backwash</p> <p>Remove the cleaning device attached to the tank</p>
The filter can not be operated	<p>The water level is too low</p> <p>The strainer is clogged</p> <p>The inlet tube is leaked</p> <p>The motor is blocked or the impeller is blocked</p>	<p>Add the water to adjust the water level</p> <p>Clean the strainer in the tank</p> <p>Tighten the tube port and check the damaged point</p> <p>Please contact Customer Service Center for replacement</p>
The control valve or its upper cover is leaking	<p>The body seal is lost</p> <p>The body seal is too dirty</p> <p>The control valve buckle is not fastened</p> <p>The control valve is damaged</p>	<p>Remove the upper control valve cover and install the body seal</p> <p>Use a water hose to clean the body seal</p> <p>Use a screwdriver to tighten the bolt</p> <p>Please contact Customer Service Center for replacement</p>
The hose is leaking	<p>The hose clip is not tightened</p> <p>The water port seal is lost</p>	<p>Tighten the hoop</p> <p>The water port seal is no damaged in place</p>
The pressure gauge does not work	<p>The inner wall of the pressure gauge is blocked</p> <p>Pressure gauge damage</p>	<p>Remove the pressure gauge from the control valve and clean the impurities on the inner wall</p> <p>Please contact Customer Service Center for replacement</p>
The sand enters into the tank	<p>The sand particles are too fine</p>	<p>Use only No. 20 silica sand, with the sand particle size of 0.45-0.85 mm, (i.e. 0.018-0.033 inches), and an overall particle uniformity coefficient smaller than 1.75.</p> <p>Or replace the sand</p>

(In case of doubt on the pump or any circulation devices, please contact After Sales Service directly, contact details in the following appendix.

the address or telephone number where the consumer/installer can obtain additional information during the installation in the event of problems.)