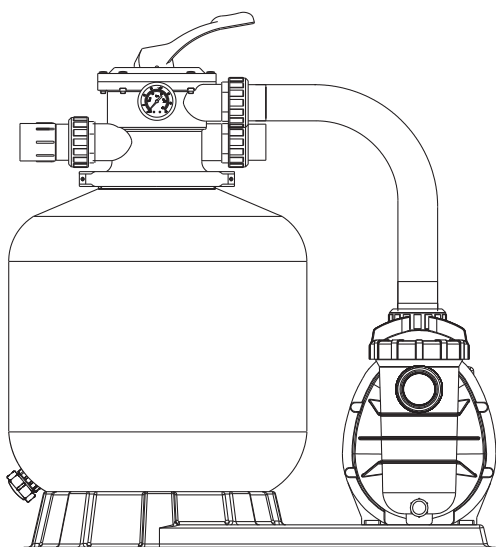




FSF350 / FSF400 / FSF450 / FSF500

FILTER & PUMP COMBO

Installation & Operating Instruction



INSTALLATION

- * Install filtration system including pump, filter tank and multiport valve.
- * The filter system should be installed as close as possible to the swimming pool and preferably at a level of 0.50 metres below the surface of the water in the swimming pool. Make sure there is drainage available at the place where the filter is to be installed.
- * **PUMP**
 - 1) Only qualified, licensed personnel should install pump and wiring.
 - 2) Electrical Contractors Please Note: All 220 volt 50Hz pump must be wired to the main power supply through an approved and correctly rated contractor.
 - 3) Allow for gate valve in suction piping.
 - 4) Pump suction and discharge connections have moulded in thread stops, do not try to screw pipe in beyond these stops.
- * **FILTER TANK and MULTI-PORT VALVE**
 - 1) Loading the sand media. Filter sand media is loaded through the top opening of the filter.
 - a) Loosen the plastic clamps from tank neck.
 - b) Cap internal pipe with plastic cap to prevent sand from entering it.
 - c) We recommend filling tank approximately 1/2 way with water to provide a cushion effect when the filter sand is poured in. This helps protect the under-drain laterals from excessive shock.
 - d) Carefully pour in correct amount and grade of filter sand. Be sure center pipe remains centered in opening. Sand surface should be leveled and should come to about the middle of the filter tank. Remove plastic cap from internal pipe.
 - 2) Assemble filter control valve to filter tank.
 - a) Insert filter control valve (with O-ring in place) into the tank neck, taking care that the center pipe slips into the hole in the bottom of the valve.
 - b) Place two plastic clamps around valve flange and tank neck and tighten just enough so that the valve may be rotated on tank for final positioning.
 - c) Carefully screw pressure gauge (with O-ring in place) into tapped hole in valve body. Do not over-tighten.
 - d) Connect pump to control valve opening marked PUMP with hose. After connections are made, tighten clamps with screwdriver, tapping around clamp with screwdriver handle to help seat valve flange clamp.
 - 3) Make return to pool pipe connection to control valve opening marked RETURN and complete other necessary plumbing connections, suction lines to pump, waste, etc.
 - 4) To prevent water leakage, be sure all pipe connections are tight.



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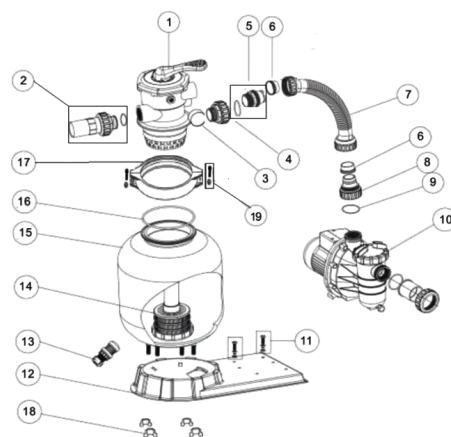
INSTALL/START-UP OF FILTRATION

- 1) Be sure correct amount of filter media is in tank and that all connections have been made and are secure.
- 2) Depress control valve handle and rotate to BACKWASH position. (To prevent damage to control valve seal, always depress handle before returning.)
- 3) Prime and start pump. Never run pump dry! Running pump dry may damage seals, causing leakage and flooding! Fill pump with water before starting motor. (be sure all suction and return lines are open), allowing the filter tank to fill with water. Once water is flowing out of the waste line, run the pump for at least 1 minute. The initial back-washing of the filter is recommended to remove any impurities or fines and particles in the sand media.
- 4) Turn pump off and set valve to RINSE position. Start pump and operate until water in sight glass is clear, about 1/2 to 1 minute. Turn pump off and set valve to FILTER position and restart pump. The filter is now operating in the normal filter mode, filtering dirt particles from the pool water.
- 5) Adjust pool suction and return valves to achieve desired flow. Check system and filter for water leaks and tighten connections, bolts, nuts, as required.
- 6) Note the initial pressure gauge reading when the filter is clean. (It will vary from pool to pool depending upon the pump and general piping system.) As the filter removes dirt and impurities from the pool water, the accumulation in the filter will cause the pressure to rise and flow to diminish. When the pressure gauge reading is 1.5 bar, higher than the initial "clean" pressure you noted, it is time to backwash the filter (see BACKWASH under filter and control valve functions).

NOTE: During initial clean-up of the pool water it may be necessary to backwash frequently due to the unusually heavy initial dirt load in the water.

Parts of FSF350

Key No.	Part No.	Description	QTY
1*	88280105	1.5" Top Mount Valve (Black/ White colour)	1
2*	89280101	1.5" Union with Sight Glass and O-Ring (Black/ White colour)	1
3	06011029	Maximum 40PSI Indication, Stainless Steel Casing	1
3	01111048	Connector for Pressure Gauge/Stopper	1
4*	89280102	1.5" Union Set with O-Ring (Black/ White colour)	1
5	89030204	Hose Adaptor with O-Ring	1
6	02011026	Sleeve for Hose	2
7	89032002	FSF350-6W Plastic Hose with Nut	1
8	01013049	Hose Adaptor with Nut	1
9	02011104	O-Ring for 1.5" Union	1
10	88022402	FSF350-6W Pump (SS033)	1
11	89032001	Pump Assembly Screw	2
12	01111056	FSP/F350-4-6W Combo Base	1
13	89010107	Water Drain Set	1
14	89010106	V350 Lateral Assembly with Center Pipe	1
15	89010115	V350 Filter tank	1
16	02011134	O-Ring for Filter Neck	1
17	01271010	Clamp Lock	2
18	01181052	Fastener for Filter base	4
19	89010119	M6*50 Screws With Nut	2



Notes: 1* 88280105B is 1.5" Top Mount Valve in Black colour

1* 88280105W is 1.5" Top Mount Valve in White colour

2* 89280101B is 1.5" Union with Sight Glass and O-Ring in Black colour

2* 89280101W is 1.5" Union with Sight Glass and O-Ring in White colour

4* 89280102B is 1.5" Union Set with O-Ring in Black colour

4* 89280102W is 1.5" Union Set with O-Ring in White colour

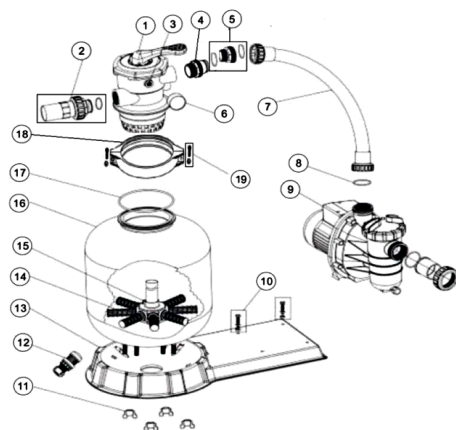




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Parts of FSF400 / FSF450 / FSF500

KeyNo.	Part No.	Description	QTY
1*	88280105	1.5" Top Mount Valve (Black/ White Colour)	1
2*	89280101	1.5" Union with Sight Glass and O-Ring (Black/ White Colour)	1
3	01111048	Connector for Pressure Gauge/Stopper	1
4*	89280102	1.5" Union Set with O-Ring (Black/ White Colour)	1
5	89032102	1.5" Bulkhead Fitting with O-Ring	1
6	06011029	Maximum 40PSI Indication, Stainless Steel Casing	1
7	89032103	FSF400-6W Plastic Hose with Nut	1
7	89032201	FSF450-6W Plastic Hose with Nut	1
7	89032301	FSF500-6W Plastic Hose with Nut	1
7	89032401	FSF650-6W Plastic Hose with Nut	1
8	02011104	O-Ring for 1.5" Union	1
9	88022403	Pump 0.50hp, 220V/50Hz, Single Phase	1
9	88022404	Pump 0.75hp, 220V/50Hz, Single Phase	1
9	88021705	Pump 1.00hp, 220V/50Hz, Single Phase	1
9	88021707	Pump 1.50hp, 220V/50Hz, Single Phase	1
10	89032001	Pump Assembly Screw	2
11	01181052	Fastener for Filter Base	4
12	89010107	Water Drain Set	1
13	01111053	FSP/F400-6W - FSP/F650-6W Combo Base	1
14	01172007	Laterals(115mm)	8
14	01172008	Laterals (126mm)	8
15	89010116	V400 Lateral Assembly with Center Pipe	1
15	89010105	V450 Lateral Assembly with Center Pipe	1
15	89010104	V500 Lateral Assembly with Center Pipe	1
15	89010103	V650 Lateral Assembly with Center Pipe	1
16	89010113	V400 Filter tank	1
16	89010112	V450Filter Tank	1
16	89010111	V500 Filter tank	1
16	89010110	V650 Filter tank	1
17	02011134	O-Ring for Filter Neck	1
18	01271010	Clamp Lock	2
19	89010119	M6*50 Screws With Nut	2



Notes: 1* 88280105B is 1.5" Top Mount Valve in Black Colour

1* 88280105W is 1.5" Top Mount Valve in White Colour

2* 89280101B is 1.5" Union with Sight Glass and O-Ring in Black Colour

2* 89280101W is 1.5" Union with Sight Glass and O-Ring in White Colour

4* 88280102B is 1.5" Union Set with O-ring in Black Colour

4* 88280102W is 1.5" Union Set with O-ring in White Colour

PRIMING PUMP

- ❖ Release all air from filter and piping system.
- ❖ 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, unscrew and remove trap cover; fill trap and pump with water.
- ❖ Clean and inspect Ring; re-install on trap cover.
- ❖ Replace trap cover on trap; turn clockwise to tighten cover.

NOTICE: Tighten trap cover by hand only .Pump should prime now. Priming time will depend on vertical length of suction lift and horizontal length of suction piping.

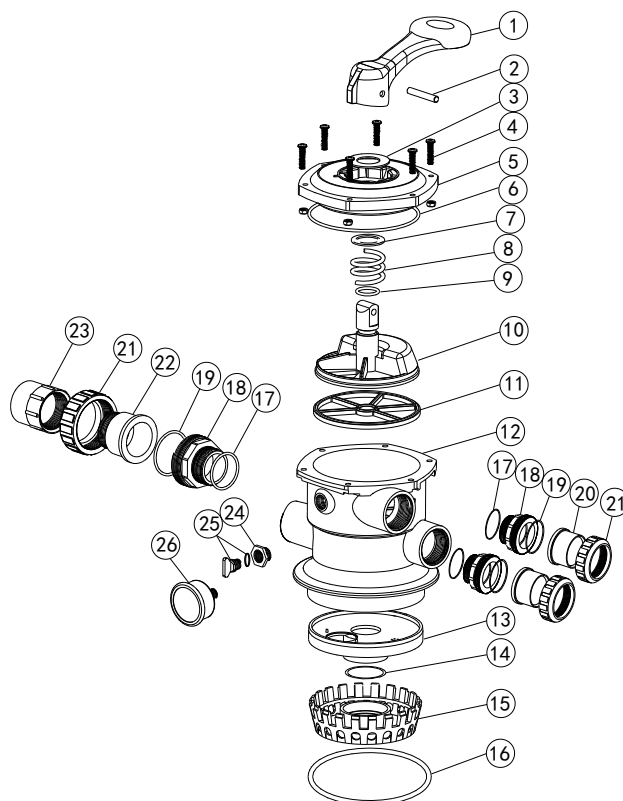




REMORA

VALVE REPLACEMENT PARTS

Item	Part No.	Description	Qty
1	01013003	Handle(Big)	1
2	03018008	Pin for Handle	1
3	01181001	Washer for Handle	1
4	89280107	M6×30 Screw with Nut for Standard Lid	6
5	01013004	1.5"Top Mount Valve Standard Lid (Black)	1
6	02011002	O-Ring for 1.5" Valve Lid	1
7	01181002	Washer for Spring	1
8	03014001	Spring for 1.5" Top Mount Valve	1
9	02011022	O-Ring for 1.5" Valve Rotor	2
10	01021001	1.5" Valve Rotor	1
11	02311002	Spider Gasket	1
12	01013007	1.5"Top Mount Valve Bottom Body Clamp(black)	1
13	01013011	1.5" Diffuser	1
14	02011001	O-Ring for Diffuser	1
15	01013012	1.5"Top Mount Valve Over Drain Diffuser	1
16	02011134	O-Ring	1
17	02020013	O-Ring for 1.5"Connector	3
18	01013015	1.5"Connector (black)	3
19	02011003	O-Ring for 1.5"Union	3
20	01171153	1.5" Union (A/E)	2
21	01013017	1.5" Union Nut (black)	3
22	01041002	1.5"Union With Sight Glass (short)	1
23	01172026	1.5"Union With Sight Glass Holder	1
24	01111048	Connector for pressure gauge/stopper	1
	02011139	O-ring	1
25	89021703	Drain Plug with O-ring	1
26	06011029	Oil Pressure Gauge With O-ring (40Psi)	1



Valve Position	Function
FILTER	Normal Filtration and Vacuuming
BACKWASH	Cleaning Filter by reversing the flow
RINSE	Used after backwash to flush dirt from valve
WASTE	By-passes filter, used for vacuuming to waste or lowering water level
RECIRCULATE	By-passes filter for circulating water to pool
CLOSED	Shuts off all flow to filter or pool

WARNING

- ⚠ THIS FILTER OPERATES UNDER HIGH PRESSURE. WHEN ANY PART OF THE CIRCULATING SYSTEM (e.g., CLAMP, PUMP, FILTER, VALVES, ETC.) IS SERVICED, AIR CAN ENTER THE SYSTEM AND BECOME PRESSURIZED . PRESSURIZED AIR CAN CAUSE THE LID OR VALVE TO BE BLOWN OFF WHICH CAN RESULT IN SEVERE INJURY, DEATH, OR PROPERTY DAMAGE.
- ⚠ TURN PUMP OFF BEFORE CHANGING VALVE POSITION.
- ⚠ TO PREVENT DAMAGE TO THE PUMP AND FOR PROPER OPERATION OF THE SYSTEM.CLEAN PUMP STRAINER AND SKIMMER BASKETS REGULARLY.
- ⚠ DO NOT UNSCREW SCREWS OF FLANGE CLAMP WHILE PUMP IS RUNNING.

