



AQUATIC SYSTEMS®



For the Installation, Operation and Service of the

CristalFlo II

Sand Filters

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. The pump operator or owner must be provided with this owner's manual.

Cautions and Warnings

	 <p>Hazardous Pressure Incorrectly installed or tested equipment may fail, causing severe injury or property damage. Read and follow instructions in owner's manual when installing and operating equipment. Have a trained pool professional perform all pressure tests.</p>
	<p>All glued fittings and pipe work should be allowed to dry to atmosphere for 24 hours before closing the installation. Failure to do so could cause injury or installation failure.</p>
	<p>The fittings on these filters are constructed of ABS. Some PVC jointing compounds are incompatible with ABS possibly causing failure to the product. Check compound suitability prior to use.</p>

Contents

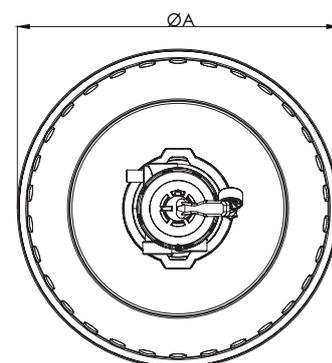
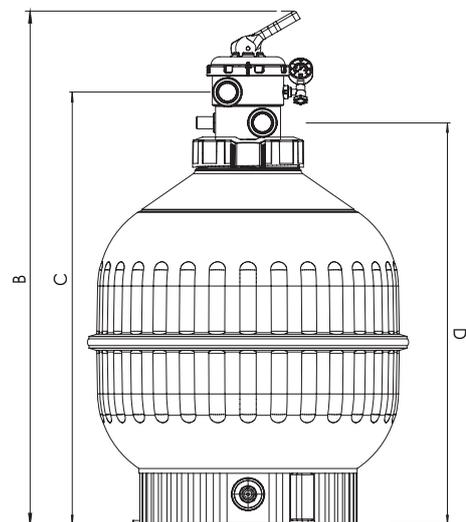
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Specifications

Model	Product	Filter Area ft ² / m ²	Backwash Flow Rate (LPM)	Maximum Flow Rate (LPM)
CFSF-21-40	CristalFlo II Sand Filter 21" / 40mm MPV	2.5 / 0.2	120	180
CFSF-25-40	CristalFlo II Sand Filter 25" / 40mm MPV	3.2 / 0.3	180	280
CFSF-25-50	CristalFlo II Sand Filter 25" / 50mm MPV	3.2 / 0.3	180	300
CFSF-28-50	CristalFlo II Sand Filter 28" / 50mm MPV	4.1 / 0.38	230	340
CFSF-31-50	CristalFlo II Sand Filter 31" / 50mm MPV	5.0 / 0.46	260	400

Model	Sand Required (kg)	Zeolite Required (kg)	Glass Required (kg)	
			Coarse	Fine
CFSF-21-40	80	75	35	45
CFSF-25-40	120	105	45	75
CFSF-25-50	120	105	45	75
CFSF-28-50	150	120	60	90
CFSF-31-50	200	165	75	125

Model	A (inch)	B (mm)	C (mm)	D (mm)	Weight (kg)
CFSF-21-40	560	980	807	747	13
CFSF-25-40	665	1076	902	842	20
CFSF-25-50	665	1076	936	855	20
CFSF-28-50	742	1076	936	855	22
CFSF-31-50	816	1233	1093	1012	28



Installation

General Notes

1. When unpacking the filter, be sure the unit is complete and no visible shipping damage has occurred.
2. Allow sufficient clearance around filter system for access and maintenance.
3. Provide adequate ventilation for pumping equipment, installed in conjunction with filter.
4. Provide solid mounting for filter and pump. If installed outdoors, install the system on a slab or solid concrete base to avoid risk of settlement. Filter systems once located with sand and water can exceed a weight of 250 kg. If installed indoors, ensure doorway allows sufficient clearance should filter tank require replacing.
5. Installation of filters and pumps should be located as close to the pool as possible to avoid excessive piping friction loss.
6. If system is installed below pool level it is important to install isolating valves to prevent risk of flooding from back up water, from the pool or spa.
7. The proper sand selection is critical to good filter performance. Ensure that the media is an approved form of Quartz Silica sand, glass or Zeolite.
8. The installation of filters requires no special tools.
9. Confirm that plumbing lines from pool are correctly identified. This will ensure proper connection to markings on filter valve (i.e. "Pump", "Waste", and "Return").

Loading Sand Filter

Once the filter system has been positioned, the installation of filter sand may be undertaken as follows:

1. Check filter size in order to determine necessary amount of sand required.
2. Double check that the internal system consisting of a lateral hub and stand pipe are intact inside the tank.
3. Fill tank half full with water.
4. Place the disposable loading disc into the upper tank opening and the plastic cover over stand pipe to stabilise the filter and stand pipe. It is important that the stand pipe remains centred through the sand loading procedure to ensure alignment with valve assembly opening.

Installation (Continued)

5. Proceed to load correct volume of dry sand slowly (if sand is saturated loading can be difficult).
6. Once sand is loaded discard loading disc and check to determine if stand pipe is properly centred in tank opening.
7. Fill with sand, glass or other approved sand to the shoulder level of the filter.

Installing Multi-Port Valve

1. Following the sand loading, clean any sand particles or debris from upper surface of tank opening.
2. Install six (6) position selector valve after placing O-Ring in cavity on tank body. Place valve into tank opening while ensuring that the O-Ring has remained in position.
3. Install selector valve into top tank opening and rotate valve to best suit plumbing lines. Once valve positioned, tighten the lock ring firmly by hand. Note: It is not necessary to over tighten.
4. Double check that incoming pool lines are connected to appropriate valve openings as marked on valve port (i.e. pump, return (pool) and waste).
5. The threaded openings on valve are 40mm or 50mm thread which all accommodate barrel unions supplied with the filter. O-rings are supplied to fit between the multiport valve and barrel union. It is only necessary to tighten by hand. THE USE OF TEFLON TAPE IS NOT REQUIRED.
6. Remove plug from side wall of valve and install threaded pressure gauge (if not already fitted) using Teflon tape wrap. Do not over tighten. Minimal hand tightening is adequate to provide a good seal.

Operation

Valve Operation

The operation and the positions of valve settings are as follows:

Valve Settings	Direction of Flow Through Valve
Filter (also during vacuuming)	From pump down through valve, through sand bed, up through stand pipe to valve and back through pool return.
Back Wash	From pump, through valve, down through stand pipe, up through sand bed, and through valve to waste.
Rinse	Flow from pump, through valve, down through sand bed, up through stand pipe, through valve to waste. (Position also used for initial start-up and leveling sand bed after Back-wash)
Waste	From pump, through valve to waste. Also position for lowering water level or assist in draining pool.
Closed	From pump to valve without further circulation. Prevents any flow to filter and pool.
Recirculate	From pump through valve to pool. This position bi-passes the filter and is used for circulation of pool water only.

NOTE: Always "STOP" pump when changing selector valve position.

INITIAL START-UP

1. Make sure the correct amount of sand is in the filter tank.
2. Prime pump.
3. Set valve handle in BACK WASH position.
4. Start pump and operate in BACK WASH cycle for three (3) minutes. This will purge the filter of excess fines in the sand.
5. Turn pump OFF and set valve handle to RINSE. Start pump and run for one (1) minute.
6. Stop pump and set valve handle to FILTER. Restart pump. System is now operating on a normal FILTER cycle.
7. Adjust the valves in the skimmer and main drain lines (if provided) to achieve balanced flow rates.
8. When a pool is filled initially, the filter may have to be BACK WASHED once a day until the water becomes sparkling clear. From that point on, BACK WASH when pressure gauge indicates 30 to 40 kPa higher than at starting pressure.

Operation

OPERATIONAL & INSTALLATION TIPS

1. Always turn pump "OFF" before changing valve positions.
2. Never run pump dry as it depends on water for lubrication.
3. Always maintain minimum water level to ½ way up the skimmer mouth.
4. Clean pump strainer regularly.
5. Maintain a proper chemical balance in the pool.
6. Maximum operating pressure is 250kPa on CA Series and 200 kPa on ECA Series.
7. Ensure pressure gauge on valve is positioned so that rain water cannot collect on glass face.
8. Back wash filter regularly for 3-5 minutes or until sight glass runs clean each time to ensure sand is completely cleaned.
9. Always rinse for 1 minute after each backwash and before returning valve position to filter.

Maintenance

You new product incorporates moving parts and withstands high velocity water with chemicals in it. Some of these parts will wear in the normal course of use and require regular checks and maintenance. Performing these checks and maintenance will identify parts that have worn and require repair/replacement before further serious damage is sustained. A small amount of regular care and attention to your pool equipment will help ensure long life and trouble free performance.

Timing	Maintenance	Service
Fortnightly	Check pressure gauge. If pressure increase is greater than 20kPa cleaning may be required.	Perform backwash according to instructions.
Three Monthly	Check inlet/outlet o-rings for leaks.	Isolate Pump, turn power off, clean and grease O-rings or replace if necessary.
Annually	Compare operating pressure of backwashed filter to initial pressure (when new). If using Zeolite, regenerate filter sand. This is important in commercial applications as it aids in the removal of ammonias.	If pressure is more than 30 – 40 kPa different from new filter, a sand change may be required. Add salt to filter sand per supplier. Allow to sit for 24 hours then backwash, rinse and return to filter.

Troubleshooting

Symptom	Remedy
Filter Startup Pressure High and Water Flow Low	Filter requires backwash - Follow backwash procedure outlined in Manual.
	Return Line restricted - Check for flow at return.
Filter Startup Pressure Low and Water Flow Low	Skimmer Basket full of leaves or debris - Clear Skimmer Basket of all foreign matter and debris.
	Pump Strainer Lid not sealed correctly. - Refer to pump Owners Manual for correct procedure for sealing strainer lid correctly.
	Pool water level too low. - Fill Pool correct level.
	Pump Impeller Blocked - Call an authorised service agent to service pump.
Short Filter Cycles	Filter Dirty - Filter not backwashed for long enough period.
	Replace Media (Sand or Zelbrite)
	Algae present in Pool water. - DON'T RUN FILTER WITH LIVE ALGAE IN POOL. Check the chemical condition of pool water and refer to Pool Water Chemical Treatment. Note: Incorrect chemical treatment will greatly shorten filter cycle.
Leaking From Filter Tank Joint	Tank o-ring dirty
	O-ring incorrectly fitted - or pinched
	Clamp Band not correctly fitted

Notes

CristalFlo II

Sand Filters



IMPORTANT

Please attach your sales invoice/docket here as proof of purchase should warranty service be required.

Purchased from:.....

Purchase date: Serial No.: Model No.:

Head Office

Pentair AU/NZ:

1-21 Monash Drive
Dandenong South,
VIC 3175

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National customer service:	Phone:	1300 137 344
	Fax:	1800 006 688
National dealer locator:	Phone:	1800 664 266
Email:	au.sales@pentair.com	
Web:	www.pentairpool.com.au	

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	Fax:	0800 806 642
National dealer locator:	Phone:	0800 664 269
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