

HAYWARD®

S210T1580 SERIES

HIGH-RATE SAND FILTER SYSTEM



Your Hayward Pro Series high-rate sand filter is a high performance, totally corrosion-proof filter that blends superior flow characteristics and features with ease of operation. It represents the very latest in high-rate sand filter technology. It is virtually foolproof in design and operation. When installed, operated and maintained according to instructions, your filter will produce clear, sparkling water with minimal attention and care.

HOW IT WORKS

Your filter uses special filter sand to remove dirt particles from pool water. The filter sand is loaded into the filter tank and functions as the permanent dirt removing media. The pool water, which contains suspended dirt particles, is pumped through your piping system and is automatically directed by the patented filter control valve to the top of the filter tank. As the pool water is pumped through the filter sand, dirt particles are trapped by the sand bed, and filtered out. The cleaned pool water is returned from the bottom of the filter tank, through the control valve and back to the pool through the piping system. This entire sequence is continuous and automatic and provides for total recirculation of pool water through your filter and piping system.

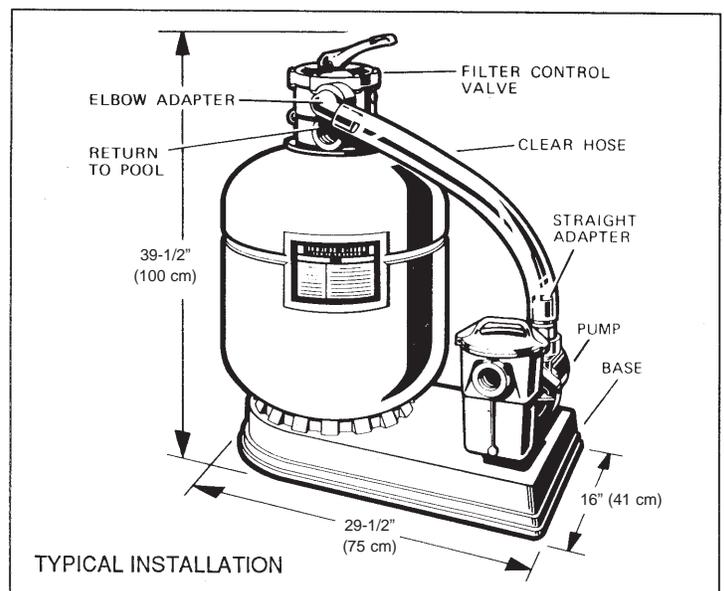
After a period of time, the accumulated dirt in the filter causes a resistance to flow, and the flow diminishes and the pressure gauge rises. This means it is time to clean (backwash) your filter. With the control valve in the backwash position, the water flow is automatically reversed through the filter so that is directed to the bottom of the tank, up through the sand, flushing the previously trapped dirt and debris out the waste line. Once the filter is backwashed (cleaned) of dirt, the control valve is manually positioned to Rinse, and then positioned to Filter to resume normal operation.

INSTALLATION

Only simple tools (screwdriver and wrenches), plus pipe sealant for plastic adapters, are required to install and/or service filter.

1. The filter system must be placed on level, very firm, ground. Position the filter so that the piping connections, control valve and winter drain are convenient and accessible for operation, service and winterizing.

2. Assemble the Pump to the platform base. The adapters must now be installed to connect the pump/filter system.
 - a. Apply Teflon pipe sealant tape or Permatex No. 2 sealant to straight adapter. Screw adapter into pump discharge port. (Do not overtighten.)
 - b. Apply Teflon pipe sealant tape or Permatex No. 2 sealant to elbow adapter. Screw adapter securely into opening in control valve marked PUMP. (Do not overtighten.)
3. Loading sand media. Filter sand media is loaded through the top opening of the filter.
 - a. Loosen flange clamp and remove Filter Control Valve (if previously installed).
 - b. Cap internal pipe with sand shield to prevent sand from entering it. Be sure pipe is securely in place in bottom underdrain hub.
 - c. We recommend filling tank approximately 1/2 way with water to provide a cushioning effect when the filter sand is poured in. This helps protect the underdrain laterals from excessive shock. (Be sure the winter drain cap is securely in place on drain pipe.)



SPECIFICATIONS

MODEL NUMBER	EFFECTIVE FILTRATION AREA		DESIGN FLOW RATE*		PRESSURE LOSS AT DESIGN FLOW RATE		MAXIMUM WORKING PRESSURE		REQUIRED CLEARANCE				MEDIA REQUIRED		
	FT ²	M ²	GPM	LPM	PSI	BAR	PSI	BAR	SIDE		ABOVE		TYPE		AMOUNT
									INCH	MM	INCH	MM	FILTER SAND	LBS	KGS
S210T1580	2.2	0.21	44	167	2	0.14	50	3.45	18	457	18	457	0.45-0.55 mm	200	91

*Based on 20 GPM/ft.² / 813.98 LPM/m² (maximum allowable NSF rating).

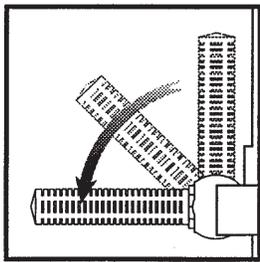
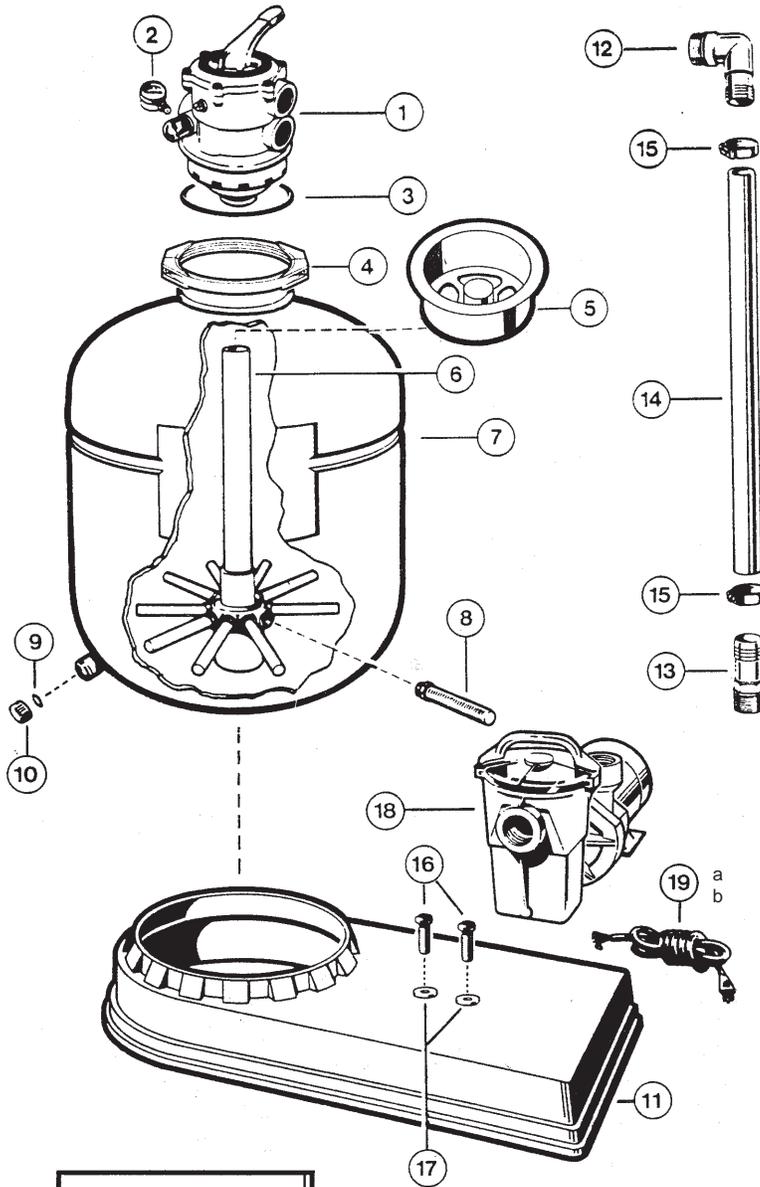


FIGURE A

NOTE: The System Base has provisions for mounting optional timer and optional automatic chlorinator. See dealer for details.

PARTS S210T1580 Filter Systems

REF. NO.	PART NO.	DESCRIPTION	NO. REQ'D.
1	SP0714T	Multiport Valve	1
2	ECX27081	Pressure Gauge	1
3	GMX600F	Valve/Tank O-Ring	1
4	GMX600N	Flange Clamp (Valve-Tank)	1
5	SX202S	Sand Shield	1
6	SX180DA	Lateral Assembly with Center Pipe	1
7	SX210AA2	Filter Tank with Complete Lateral Assembly	1
8	SX200Q	Lateral	10
9	SX180G	Gasket	1
10	SX180H	Drain Cap	1
11	SX180K	System Mounting Base	1
12	SPX1105Z4	1-1/2" Elbow Adapter	1
13	SPX1091Z2	1-1/2" Straight Hose Adapter	1
14	SX160Z3	1-1/2" Hose	1
15	ECX18028	Hose Clamp	2
16	ECX1108	5/16" x 3/4" Mounting Screw	2
17	ECX1109	5/16" Washer	2
18	-----	Power-Flo LX Pump	1
19a	SPX1250WA	6 ft. Cord Set	1
19b	SPXI550WA	3 ft. Twist Lock Cord Set	1

NOTE: NSPI-4 Article V, standard for above-ground and on-ground pools, advises that components such as the filtration system, pumps and heater be positioned so as to prevent their being used as a means of access to the pool by young children.

Note: Check to confirm all laterals are in the down position before loading with sand. (See Figure A on Page 2.)

- d. Carefully pour in correct amount and grade of filter sand, as specified. (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 sand shield from internal pipe.
4. Assemble Filter Control Valve to filter tank.
 - a. Place valve flange clamp around neck of tank. Do not tighten. Wipe filter flange clean.
 - b. Insert Filter Control Valve (with valve/flange O-ring in place) into the tank neck, taking care that the center pipe slips into the hole in the bottom of the valve. Place clamp around valve flange and tank flange just enough so that the valve may be rotated on tank for final positioning.
 - c. Carefully screw pressure gauge, with pipe tape, into 1/4" tapped hole in valve body. Do not overtighten.
 - d. Place hose clamps on clear hose and fit hose over straight and elbow adapters and secure with clamps. If it is difficult to fit hose over adapters, place hose in hot water for several minutes. Connect pump to control valve opening marked PUMP according to instructions. After connections are made, tighten valve flange clamp with screwdriver, tapping around clamp with screwdriver handle to help seat valve flange clamp.
NOTE: To prevent breakage and damage to pump and control valve, use only pipe sealants specifically formulated for plastics. Do not overtighten fittings or adapters.
 5. Connect pool return line to control valve opening marked RETURN. Complete suction line and waste plumbing connections.
 6. Refer to Pump Owners Guide for electrical connections.
 7. Check all connections including winter drain cap for leaks.

INITIAL START-UP OF FILTER

1. Be sure correct amount of filter sand media is in tank and that all connections have been made and are secure.
2. Depress Vari-Flo control valve handle and rotate to BACKWASH position. (To prevent damage to control valve seal, always depress handle before turning.)
3. Prime and start pump according to pump instructions (be sure all suction and return lines are open), allowing the filter tank to fill with water.
CAUTION: All suction and discharge valves must be open before operating the filter system. Failure to do so could cause severe personal injury and/or property damage.
Once water flow is steady out the waste line, run the pump for at least 2 minutes. An initial backwashing of the filter is recommended to remove any impurities or fine sand 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, set valve to FILTER position and restart pump. Your filter is now operating in the normal filter mode, filtering 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 8-10 PSI (0.55-0.69 BAR) higher than the initial "clean" pressure you noted, it is time to backwash (clean) the filter (see BACKWASH under Filter 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.

IMPORTANT: To prevent unnecessary strain on piping system and valves, always shut off pump before switching Filter Control Valve positions.

To prevent damage to the pump and filter and for proper operation of the system, clean pump strainer and skimmer baskets regularly.

FILTER CONTROL VALVE FUNCTIONS

FILTER—Set valve to FILTER for normal filtering. Also use for regular vacuuming.

BACKWASH—For cleaning filter. When filter pressure gauge rises 8-10 PSI (0.55-0.69 BAR) above start-up (clean pressure):

Stop the pump, set valve to BACKWASH. Start pump and backwash approximately 2 minutes or less, depending on dirt accumulation, until water in sight glass is clear. Proceed to RINSE.

RINSE—After backwashing, with pump off, set valve to RINSE. Start pump and operate for about 1/2 to 1 minute. This ensures that all dirty water from backwashing is rinsed out of the filter to waste, preventing possible return to the pool. Stop pump, set valve to FILTER and start pump for normal filtering.

WASTE—To bypass filter for draining or lowering water level and for vacuuming heavy debris directly to waste.

RECIRCULATE—Water is recirculated through the pool system, bypassing the filter.

CLOSED—Shuts off flow from pump to filter.

WINTER—For winterizing.

WINTERIZING

1. Completely drain tank by unscrewing drain cap at base of filter tank. Leave cap off during winter.
2. Depress Vari-Flo control valve handle and rotate to Winter position. This will allow water to drain from the valve. Leave valve in this "inactive" position.
3. Drain and winterize pump according to pump instructions.

SERVICE & REPAIRS

Consult your local authorized *Hayward* dealer or service center. No returns may be made directly to the factory without the expressed written authorization of Hayward Pool Products, Inc.

PLEASE REALIZE . . .

Pure, clear swimming pool water is a combination of two factors—adequate filtration and proper water chemistry balance. One without the other will not give the clean water you desire.

Your filter system is designed for continuous operation. However, this is not necessary for most swimming pools. You can determine your filter operation schedule based on your pool size and usage. Be sure to operate your filtration system long enough

each day to obtain at least one complete turnover of your pool water.

To properly sanitize your pool, maintain a free chlorine level of 1 to 3 ppm and a pH range of 7.2 to 7.6. Insufficient chlorine or an out of balance pH level will permit algae and bacteria to grow in your pool and make it difficult for your filter to properly clean the pool water.

PROBLEM SOLVING LIST

	LOW WATER FLOW	SHORT FILTER CYCLES	POOL WATER WON'T CLEAR UP
REMEDY	<ol style="list-style-type: none"> 1. Check skimmer and pump strainer baskets for debris. 2. Check for restrictions in intake and discharge lines. 3. Check for air leak in intake line (indicated by bubbles returning to pool). 4. Backwash filter. 	<ol style="list-style-type: none"> 1. Check for algae in pool and superchlorinate as required. 2. Be sure chlorine and pH levels are in proper range (adjust as required). 3. Check surface of filter sand for crusting or caking (remove 1" of sand if necessary). 	<ol style="list-style-type: none"> 1. Check chlorine, pH and total alkalinity levels and adjust as required. 2. Be sure flow rate through filter is sufficient. 3. Operate filter for longer periods. 4. Be sure Vari-Flo valve is set on "Filter" position.

POOL CHEMISTRY GUIDELINES

SUGGESTED POOL CHEMISTRY LEVELS		ACTION REQUIRED TO CORRECT POOL CHEMISTRY	
		TO RAISE	TO LOWER
ph	7.2 to 7.6	Add Soda Ash	Add Muriatic Acid or Sodium Bisulphate
TOTAL ALKALINITY	100 to 130 ppm	Add Sodium Bicarbonate	Add Muriatic Acid
CHLORINE (UNSTABILIZED)	0.3 to 1.0 ppm	Add Chlorine Chemical	No action—chlorine will naturally dissipate
CHLORINE (STABILIZED)	1.0 to 3.0 ppm	Add Chlorine Chemical	No action—chlorine will naturally dissipate
CHLORINE (STABILIZED) (Cyanuric Acid)	40 to 70 ppm	Add Stabilizer	Dilution—partially drain & refill pool with water that has not been treated with Cyanuric Acid.



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