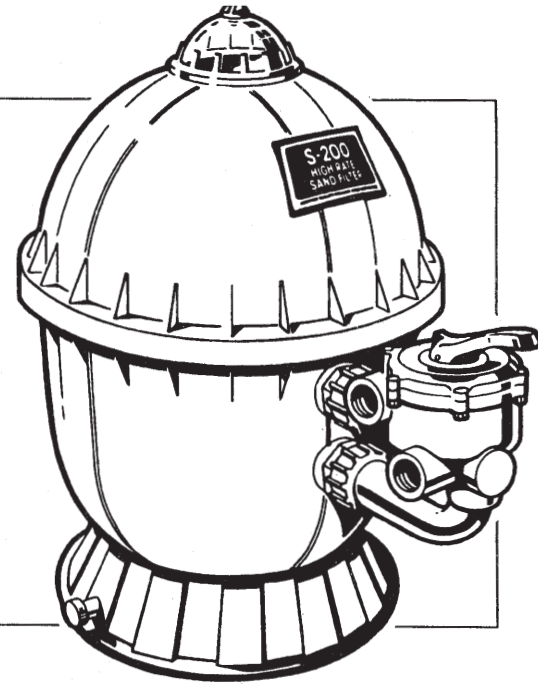


## OWNER'S GUIDE

# HAYWARD® S200 HIGH-RATE SAND FILTER



Your Hayward S200 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 and when installed, operated and maintained according to instructions, your filter will produce clear, sparkling water with only the least attention and care.

## HOW IT WORKS

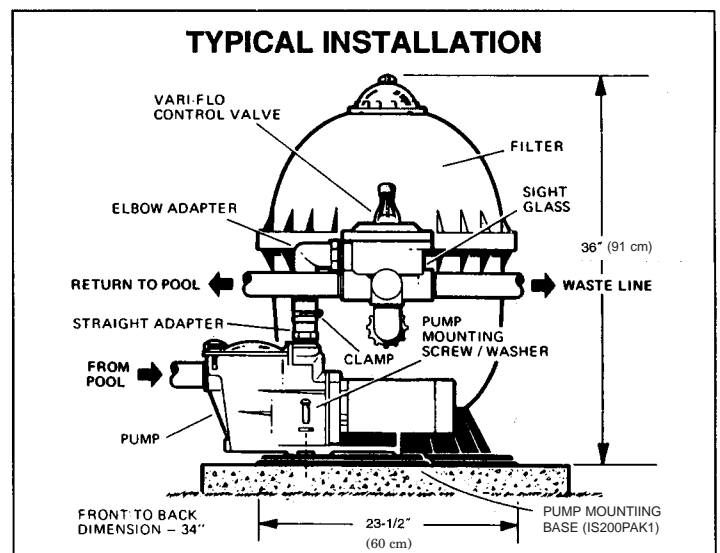
The S200 filter uses special filter sand to remove dirt particles from the water. Filter sand is loaded into the filter tank and functions as the permanent dirt removing media. The pool water, which contains suspended dirt particles, is pumped through your piping system and is automatically directed 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. 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 it 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 resequenced to Rinse, and then Filter, to resume normal filtering.

## INSTALLATION

Only simple tools (screwdriver and wrenches), plus pipe sealant for plastic adapters, are required to install and/or service the S200 filter.

1. The filter system should be placed on a *level* concrete slab, very firm ground, or equivalent, as recommended by your pool dealer. Position the filter so that the piping connections, control valve and winter drain are convenient and accessible for operation, service and winterizing.
2. Assemble Vari-Flo filter control valve to filter. Align the two (2) valve pipe connections, with O-rings in place, with the two openings in the side of the filter tank and press in firmly. Secure the assembly to the tank connections with the two bulkhead locknuts. *Do not overtighten.*



**NOTE:** If rigid return piping is used, installation of a piping union is recommended for ease of future servicing.

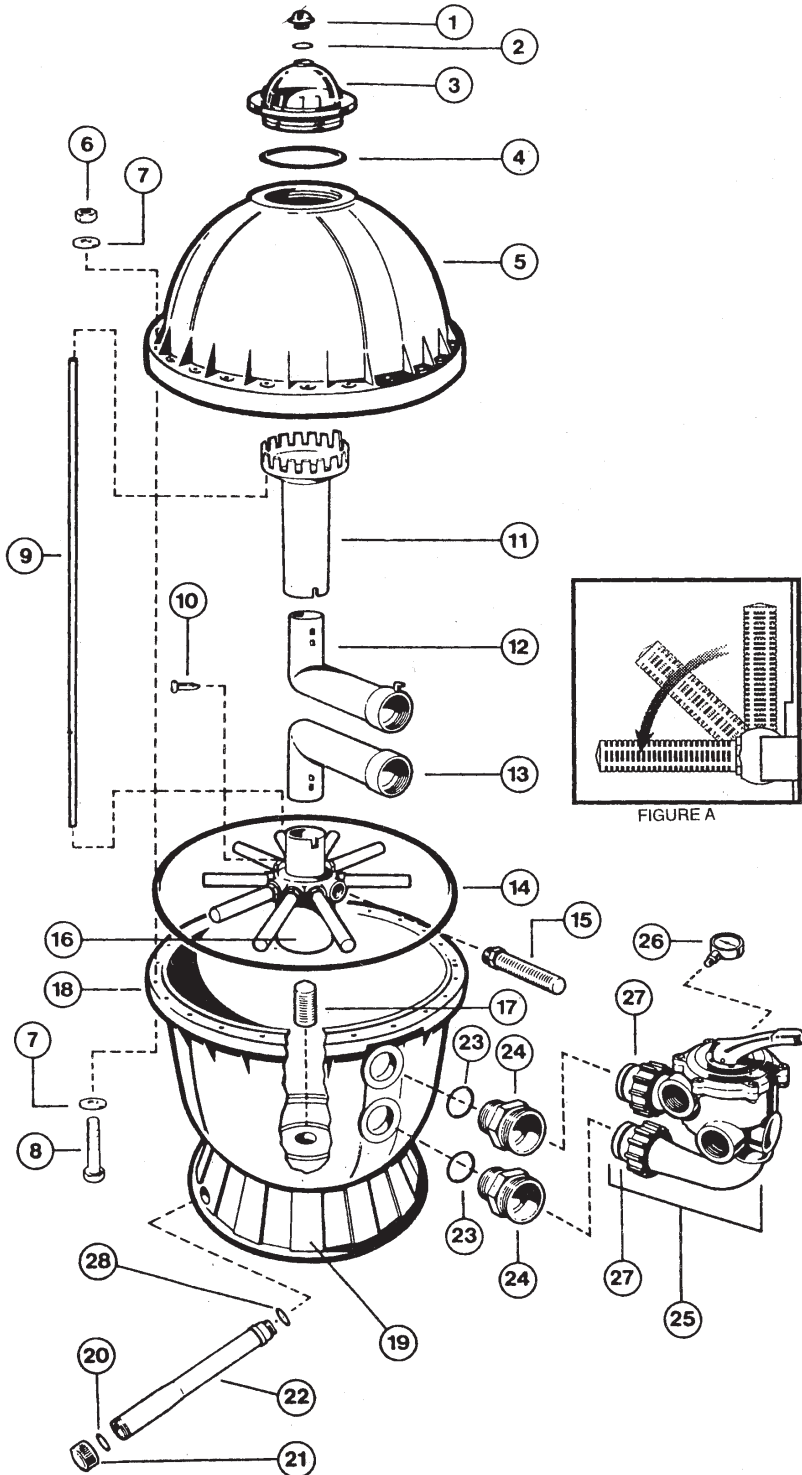
## SPECIFICATIONS

MODEL NUMBER	EFFECTIVE FILTRATION AREA		DESIGN FLOW RATE*		PRESSURE LOSS AT DESIGN FLOW RATE		MAXIMUM WORKING PRESSURE		REQUIRED CLEARANCE				MEDIA REQUIRED		
	FT <sup>2</sup>	M <sup>2</sup>	GPM	LPM	PSI	BAR	PSI	BAR	SIDE		ABOVE		TYPE	AMOUNT	
									INCH	MM	INCH	MM		FILTER SAND**	LBS
S200	2.2	0.21	44	167	3.7	0.26	50	3.45	18	457	24	610	0.45-0.55	200	91

\*Based on 20 GPM/ft.<sup>2</sup> (maximum allowable NSF rating).

\*\* Also known as No. 20 or No. 1/2 Silica Sand.

## PARTS Models S200



REF. NO.	PART NO.	DESCRIPTION	NO. REQ'D.
1	SX200G	Manual Air Relief Cap	1
2	SX200Z5	O-Ring, 13/16" O.D.	1
3	SX200K	Access Dome	1
4	SX200Z6	O-Ring	1
5	SX200BT	Filter Tank Head (Top)	1
6	ECX176855	1/4" - 20 Hex. Nut	24
7	ECX1252	1/4" x 11/16" O.D. Flat Washer	48
8	ECX1642215	1/4" - 20 x 1-3/4" Hex. Head Bolt	24
9	SX200Z1	Plastic Air Tube	1
10	SX200Z2	Air Tube Lock Screw	1
11	SX200L	Top Diffuser	1
12	SX200C	Internal Diffuser Elbow Pipe (Top)	1
13	SX200C1	Internal Elbow Pipe (Bottom)	1
14	SX200Z7	O-Ring	1
15	SX200Q	Lateral	10
16	SX200MA	Lateral Holder Assembly	1
17	SX200H	Bottom Screen	1
18	SX200AA1T	Filter Tank (Bottom) — Less Skirt	1
19	SX200J	Filter Support Stand (Skirt)	1
20	SX200Z9	Gasket	1
21	SX200Z8	Drain Cap	1
22	SX200EB	Drain Pipe Ass'y. w/Cap	1
23	SX200Z3	O-Ring	2
24	SX200D	Bulkhead Fitting	2
25	SPX710X32	Vari-Flo (Control) Valve Assembly with Gauge	1
26	ECX27081	Pressure Gauge	1
27	SX200Z4	O-Ring	2
28	SX200Z14	O-Ring, 1" O.D.	1

**NOTE: ANSI/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.**

3. Assemble pump and pump mounting base (if supplied) to the filter according to instructions packed with the base.
4. Loading sand media. Filter sand media is loaded through the top opening of the filter.
  - a. Remove the top diffuser from the internal diffuser elbow pipe and place flexible automatic air relief tube to the side, out of the way, inside the tank.
  - b. Cap the internal diffuser elbow pipe with sand shield provided to prevent sand from entering it.
  - c. It is good practice to fill 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 drain cap is securely in place on drain pipe. Apply wrench to flats on pipe when tightening cap.) **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. Sand surface should be leveled and should come to about the center of the flange of the filter tank. Use no more than the recommended amount of sand.
  - e. Remove sand shield from internal diffuser elbow pipe.
  - f. Replace diffuser on internal diffuser elbow pipe, positioning automatic air relief tube through the hole provided in the diffuser. Align tab on diffuser with slot in pipe and gently press down.
  - g. Carefully clean off top seal O-ring and screw access dome, with manual air relief, securely into the filter head.
5. Connect pump to control valve opening marked PUMP according to instructions. Make return to pool pipe connection to control valve opening marked RETURN and complete other necessary plumbing connections, suction lines to pump, waste, etc.
6. Make electrical connections to pump per pump instructions.
7. To prevent water leakage, be sure drain cap is securely in place and all pipe connections are tight.

### 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 when starting the 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. This 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 6-8 PSI (0.41-0.55 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 valving, 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 6-8 PSI (0.41-0.55 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.

**VACUUMING**—Vacuuming can be performed directly into the filter. When vacuuming heavy debris loads, set valve to WASTE position to bypass the filter and vacuum directly out to waste.

\*NOTE: For new concrete or gunite pools, or where there is a large amount of plaster dust or debris—start filter in FILTER position (not BACKWASH) to prevent clogging of underdrain laterals.

## WINTERIZING

1. Completely drain tank by unscrewing drain cap at base of filter tank. Leave cap off during winter. **IMPORTANT:** If drain pipe starts to turn when unscrewing cap, place wrench on flats on pipe to hold and prevent drain pipe from unscrewing from the filter tank.
2. Depress Vari-Flo control valve handle and rotate so as to set pointer on valve top between any two positions. 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"> <li>1. Check skimmer and pump strainer baskets for debris.</li> <li>2. Check for restrictions in intake and discharge lines.</li> <li>3. Check for air leak in intake line (indicated by bubbles returning to pool).</li> <li>4. Backwash filter.</li> </ol>	<ol style="list-style-type: none"> <li>1. Check for algae in pool and superchlorinate as required.</li> <li>2. Be sure chlorine and pH levels are in proper range (adjust as required).</li> <li>3. Check surface of filter sand for crusting or caking (remove 1" of sand if necessary).</li> </ol>	<ol style="list-style-type: none"> <li>1. Check chlorine, pH and total alkalinity levels and adjust as required.</li> <li>2. Be sure flow rate through filter is sufficient.</li> <li>3. Operate filter for longer periods.</li> <li>4. Be sure Vari-Flo valve is set on "Filter" position.</li> </ol>

## 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 STABILIZER (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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