

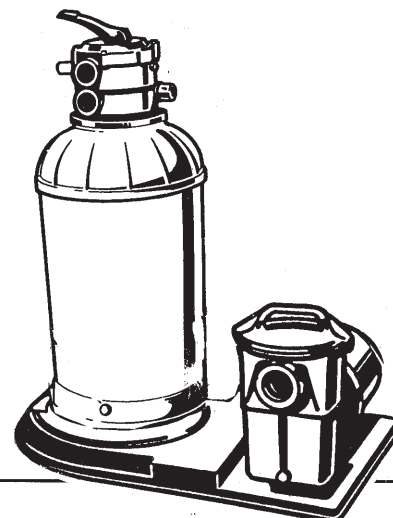
OWNER'S GUIDE

HAYWARD®

GM SERIES

HIGH-RATE SAND FILTERS

GM140, GM142, GM152 SERIES



Your GM 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 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

Your filter uses special filter sand to remove dirt particles from pool 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.

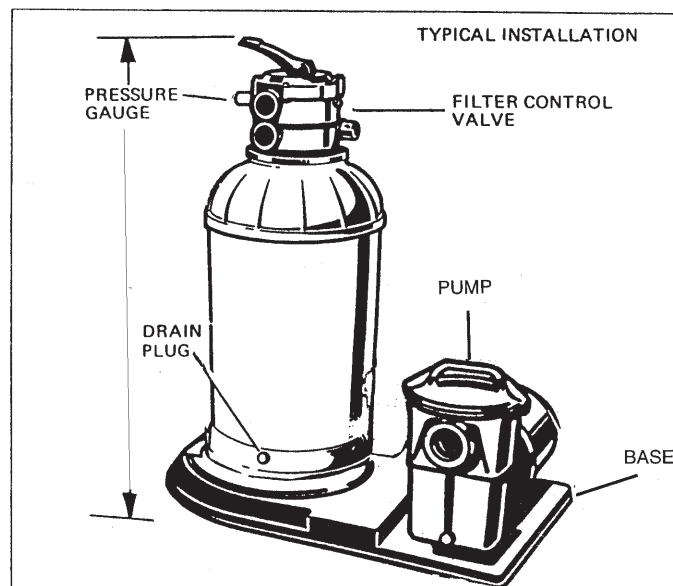
After a period of time, the accumulated dirt in the filter causes a resistance to flow, and the flow diminishes. This means it is time to clean (backwash) your filter. With the control valve in the backwash position, the water flow is automatically reversed through the filter so that it is directed to 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 your GM filter.

IMPORTANT: All threaded fittings should be wrapped with Teflon pipe sealant tape before assembly. Wrap 3-4 turns in a clockwise direction, then assemble the fittings as far as possible. Then tighten with a small wrench one additional turn. (Tighten pressure gauge by hand only!) Damage to any part caused by over-tightening or use of any sealant other than Teflon tape, or approved plastic pipe sealant is not covered under warranty.

1. The filter system should be placed on very firm ground, or equivalent, as recommended by your pool dealer. Position filter so that the piping connections, control valve and winter drain are convenient and accessible for operation, service and winterizing.
2. Assemble pump and pump mounting base, if supplied, to the filter according to instructions packed with the base.
3. Be sure standpipe is centered in the tank opening, and that protective cap is in position as shown. Also make sure that standpipe is seated in bottom of tank.



SPECIFICATIONS

MODEL #	EFFECTIVE FILTRATION AREA		AVERAGE FLOW RATE		MAXIMUM WORKING PRESSURE		SUGGESTED CLEARANCE				MEDIA REQUIRED		
	FT ²	M ²	GPM	LPM	PSI	BAR	SIDE		ABOVE		TYPE*	AMOUNT	
GM140 SERIES	1.07	0.1	25-35	95-133	50	3.45	18	46	18	46	.45-.55 FILTER SAND	40	18
GM142 SERIES	1.07	0.1	25-35	95-133	50	3.45	18	46	18	46		50	23
GM152 SERIES	1.23	0.12	30-35	114-133	50	3.45	18	46	18	46		50	23

*Also known as #20 Silica Sand

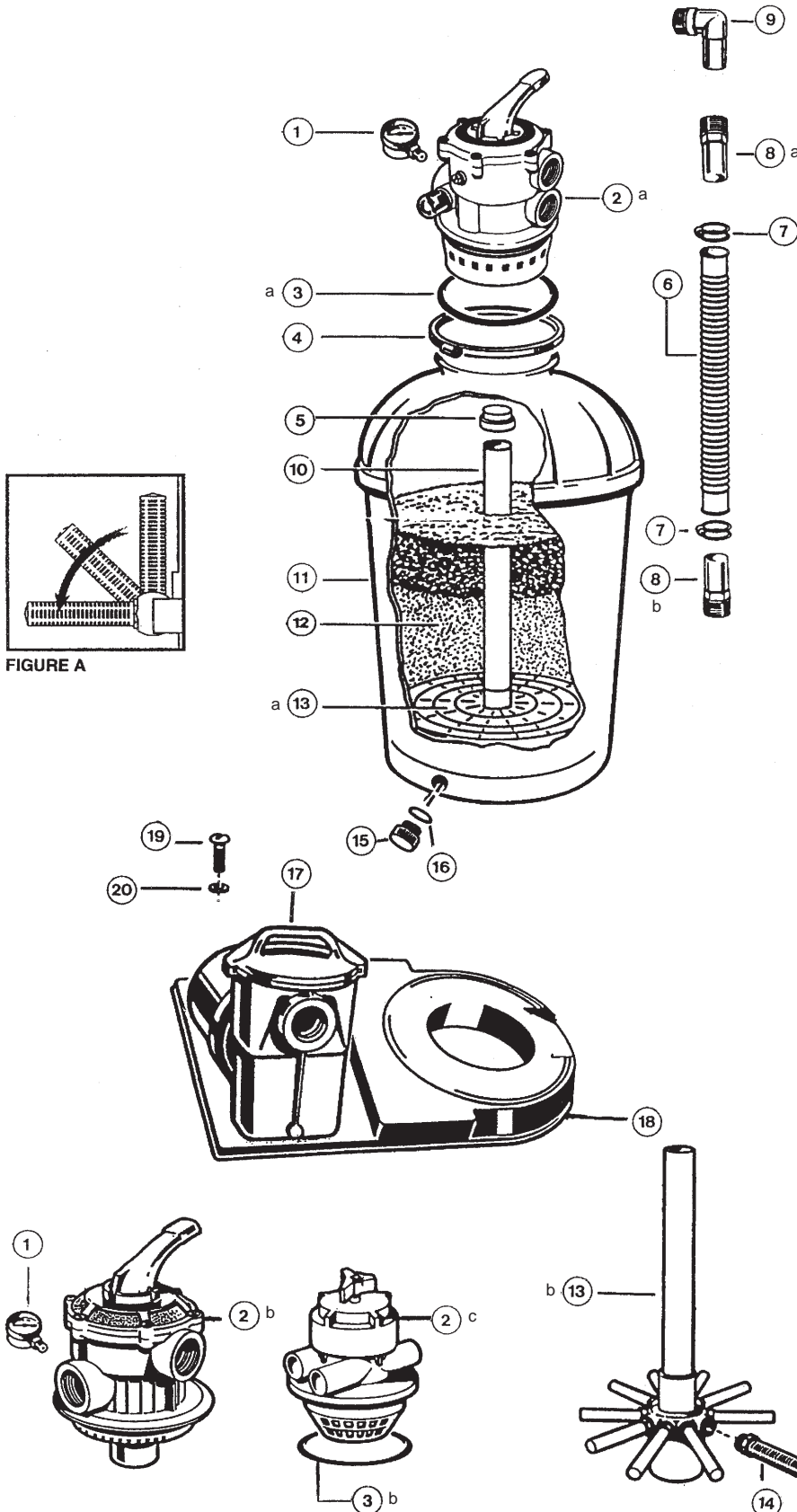


FIGURE A

REF. NO.	PART NO.	DESCRIPTION	NO. REQ'D.
1	ECX27081	Pressure Gauge	1
2a	SP0714T	Multiport Valve (6-Way)	1
2b	SP0704	Multiport Valve (4-Way)	1
2c	GM400	Multiport Valve (4-Way)	1
3a	GMX600F	Valve/Tank O-Ring (SP0714T & SP0704)	1
3b	GMX400-F	Valve/Tank O-Ring (GM400)	1
4	GMX600N	Valve/Tank Flange Clamp (SP0714T & SP0704)	1
----	GMX400K	Valve/Tank Flange Clamp (GM400, Not Shown)	1
5	SX202S	Sand Shield (GM152 Series)	1
----	GMX142Z1	Protector Cap 1-1/4"	1
----	GMX152Z1	Protector Cap 1-1/2"	1
6	GMX152Z15	Pump Connecting Hose 1-1/2" x 27"	1
----	GMX140Z2	Pump Connecting Hose 1-1/4" x 20"	1
----	GMX142Z15	Pump Connecting Hose 1-1/4" x 24"	1
----	SX160Z4	Pump Connecting Hose 1-1/2" x 26"	1
----	----	Clear (GM152K) - Not Shown	1
7	SPX1091Z6	Hose Clamp	2
----	SPX1091Z3	Hose Clamp (GM140) - Not Shown	2
----	ECX18028	Hose Clamp (GM152) - Not Shown	2
8a	SPX1091Z41	1-1/2" Straight Hose Adapter (GM1426 & GM152)	1
----	SPX1091Z4	1-1/2" Straight Hose Adapter (GM140HV)	2
8b	SPX1091Z7	Combo Hose Adapter (GM140B & GM142LB)	1
9	SPX1105Z3	90° Elbow Hose Adapter (Only for GM1426 & GM152 Series)	1
10	----	Standpipe (Part of Tank Ass'y.)	1
11	----	Filter Tank w/Underdrain & Pipe (See below for specific Part No.)	1
12	----	.44 mm - .55 mm Filter Sand Supplied Separately	1
13a	----	Underdrain (Part of Tank Ass'y. for 140 & 142 Series).	1
13b	GMX152DA	Lateral Ass'y. w/Center Pipe (for GM152 Series)	1
14	SX200Q	Lateral for GM152 Series	10
15	GMX152Z4	Tank Drain Plug (3/4")	1
16	GMX152Z5	Drain Plug O-Ring	1
17	----	Hayward Above-Ground Pump	1
18	EC1161	Platform Econo Base	1
19	ECX1306	Pump Mounting Screw	1
20	ECX1109	Washer	1

The chart below is an easy reference guide to help distinguish the valve and tank numbers for your specific filter.

GM SAND FILTER TANK & VALVE SELECTION		
FILTER SERIES	TANK	VALVE
GM140	GMX140AB1	GM400
	GMX140ABK1	SP0704 or SP0714T
GM142	GMX142AB1	GM400
	GMX142ABK1	SP0704 or SP0714T
GM152	GMX152AB1	SP0704 or SP0714T

4. If you own a GM152 Series filter, fill the tank 1/2 way with water to provide a cushioning effect when the filter sand is poured in. **Note: Check to confirm all laterals are in the down position before loading with sand. (See Figure A on Page 2).**
- 4a. Loading Sand Media. Sand Media (.45mm-.55mm) is loaded through the top opening of the filter. Sand surface should be leveled and the distance from the surface of the sand top of the tank should be at least 12 inches. Use no more than the recommended amount of sand.
5. Center the standpipe in the opening and remove the protective cap. Place stainless steel flange clamp around neck of tank. Check to be sure that O-ring is in place on valve flange as shown.
6. Screw straight adapter, using Teflon pipe sealant or Permatex No. 2, securely into pump discharge. (Do not overtighten).
7. Screw elbow or straight adapter, using Teflon pipe sealant tape or Permatex No. 2, securely into opening in control valve marked PUMP. (Do not overtighten). For those with elbow adapter, elbow should point toward pump at approximately 45° angle.

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.

8. Insert the valve into the tank neck taking care that standpipe slips into hole in bottom of valve. Snap flange clamp around valve flange and tank neck. Do not tighten.
9. Slip hose clamps on ends of plastic hose. Rotate valve so that elbow or straight adapter and pump adapter are aligned and connect the two by pushing the ends of the plastic hose over the adapters and tightening the hose clamps.
10. Tap all around stainless steel valve flange clamp and tighten with screwdriver. Carefully screw pressure gauge with pipe tape, into 1/4" tapped hole in the valve body, or the tank body if using GM400 valve.
11. Make connections from valve opening marked RETURN to the pool inlet. Connect skimmer and/or main drain to suction side of pump.
12. Make electrical connections to pump per pump instructions.
13. To prevent water leakage, be sure winter 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 valve handle and rotate to BACKWASH position.
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 pump. 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 1 minute. The initial backwashing of the filter is recommended to remove any impurities or fine sand particles in the sand media.
- 3a. (This step only for those with 6-position valve). 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.

4. 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.

CAUTION: 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 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. (Option only available with 6-position valve).

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. (Option only available with 6-position valve).

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.

DRAIN—To lower water level or drain pool by gravity (pump must be OFF).

*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.
2. Depress filter 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 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 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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