

Marlin[®] Fiberglass Sand Filter

Models: TR100 and TR140



Installation and User's Guide

IMPORTANT SAFETY INSTRUCTIONS
READ AND FOLLOW ALL INSTRUCTIONS
SAVE THESE INSTRUCTIONS

Table of Contents

Important Warning and Safety Instructions	ii
Section 1: Installation	3
Installing the Marlin® Fiberglass Sand Filter	3
How your Filter works	3
Installing the Filter Threaded and Oval Closures	5
Initial Start-Up	6
Section 2: Maintenance	7
Filter Care	7
Filter Cleaning	7
Filter Backwash Procedure	8
Chemical Cleaning Procedure	9
Winterizing your Filter	9
Section 3: Troubleshooting	10
Section 4: Replacement Parts	12
Filter Pressure Drop Curve	12
Installing Multiple Marlin® Filters (Tandem Filter Piping Kits)	12
Replacement Parts	13

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IMPORTANT WARNING AND SAFETY INSTRUCTIONS



Important Notice:

This guide provides installation and operation instructions for the Marlin® Series Fiberglass Sand Filters.

Attention Installer: This guide contains important information about the installation, operation and safe usage of this product. This information should be given to the owner and/or operator of this equipment after installation or left on or near the filter.

Attention User: This manual contains important information that will help you in operating and maintaining this filter. Please retain it for future reference.

 **WARNING** — Before installing this product, read and follow all warning notices and instructions which are included. Failure to follow safety warnings and instructions can result in severe injury, death, or property damage.

Consumer Information and Safety

The Marlin® Series Sand Filters are designed and manufactured to provide many years of safe and reliable service when installed, operated and maintained according to the information in this manual and the installation codes referred to in later sections. Throughout the manual, safety warnings and cautions are identified by the “” symbol. Be sure to read and comply with all of the warnings and cautions.

WARNING — THIS FILTER OPERATES UNDER HIGH PRESSURE



When any part of the circulating system, (e.g., closure, pump, filter, valve(s), etc.), is serviced, air can enter the system and become pressurized. Pressurized air can cause the top closure to separate which can result in severe injury, death, or property damage. To avoid this potential hazard, follow these instructions:

1. If you are not familiar with your pool filtering system and/or heater:
 - a. **Do NOT** attempt to adjust or service without consulting your dealer, or a qualified pool technician.
 - b. Read the entire Installation & User's Guide before attempting to use, service or adjust the pool filtering system or heater.
2. Before repositioning valve(s) and before beginning the assembly, disassembly, or any other service of the circulating system: (A) Turn the pump **OFF** and **shut OFF** any automatic controls to ensure the system is NOT inadvertently started during the servicing; (B) open the manual air bleeder valve; (C) stand clear of filter; (D) wait until all pressure is relieved.
3. Whenever installing the filter closure **FOLLOW THE FILTER CLOSURE WARNINGS EXACTLY.**
4. Once service on the circulating system is complete **FOLLOW INITIAL START-UP INSTRUCTIONS EXACTLY.**
5. Maintain circulation system properly. Replace worn or damaged parts immediately, (e.g., closure, pressure gauge, valve(s), o-rings, etc).
6. Be sure that the filter is properly mounted and positioned according to instructions provided.

IMPORTANT WARNING AND SAFETY INSTRUCTIONS (continued)

 **WARNING** — This filter must be installed by a licensed or certified electrician or a qualified pool serviceman in accordance with the National Electrical Code and all applicable local codes and ordinances. Improper installation could result in death or serious injury to pool users, installers, or others and may also cause damage to property.

Always disconnect power to the pool circulating system at the circuit breaker before servicing the filter. Ensure that the disconnected circuit is locked out or properly tagged so that it cannot be switched on while you are working on the filter. Failure to do so could result in serious injury or death to serviceman, pool users or others due to electric shock.

 **WARNING** — Do not operate the filter until you have read and understand clearly all the operating instructions and warning messages for all equipment that is a part of the pool circulating system. The following instructions are intended as a guide for initially operating the filter in a general pool installation. Failure to follow all operating instructions and warning messages can result in property damage or severe personal injury or death.

 **WARNING** — To reduce the risk of injury, do not permit children to use this product unless they are closely supervised at all times.

 **WARNING** — Due to the potential risk that can be involved it is recommended that the pressure test be kept to the minimum time required by the local code. Do not allow people to work around the system when the circulation system is under pressure test. Post appropriate warning signs and establish a barrier around the pressurized equipment. If the equipment is located in an equipment room, lock the door and post a warning sign.



Never attempt to adjust any closures or lids or attempt to remove or tighten bolts when the system is pressurized. These actions can cause the closure to blow off and could cause severe personal injury or death if they were to strike a person.

 **WARNING** — Never exceed the maximum operating pressure of the system components. Exceeding these limits could result in a component failing under pressure. This instantaneous release of energy can cause the closure to blow off and could cause severe personal injury or death if they were to strike a person.



Section 1

Installation

Note: Before installing this product, read and follow all warning notices and instructions starting on page ii.

Installing the Marlin® Fiberglass Sand Filter

Only a qualified service person should install the Marlin Fiberglass Sand Filter. This filter is designed and intended for use to filter water.

Introduction

The following general information describes how to install the Marlin Fiberglass Sand Filter. This filter operates under pressure and if assembled improperly or operated with air in the water circulation system, the top closure can separate and result in an accident causing property damage or serious bodily injury. A warning label has been affixed to the top of the filter and should not be removed. Keep safety labels in good condition and replace if missing or illegible.

How your Filter works

Your high rate sand filter is designed to operate for years with a minimum of maintenance and when installed, operated and maintained in accordance with these instructions, it will provide years of trouble free operation.

Dirt is collected in the filter as the water flows through the control valve at the side of the filter and is directed into the top bulkhead. Dirty water flows into the diffuser at the top of the tank and is directed downward into the top surface of the filter sand bed. The dirt is collected in the sand bed and the clean water flows through the laterals and lower piping at the bottom of the filter up into the lower bulkhead. The flow then goes into the control valve at the side of the filter. Clean water is returned through the piping system into the pool.

The pressure will rise and the flow to the pool will be lowered as the dirt is collected in the filter. Eventually, the filter will become so plugged with dirt that it will be necessary to perform the backwash procedure. It is important to know when to backwash the filter. Backwashing is discussed further under the subsequent sections of this guide.

Please note that a filter removes suspended matter and does not sanitize the pool. The pool water must be sanitized and the water must be chemically balanced for sparkling clear water. Your filtration system should be designed to meet your local health codes. As a minimum, you must be sure that your system will turn over the total volume of water in your pool at least two to four times in a twenty-four hour period.

Refer to **Table 1** for Filter Operation Data.

Table 1.

FILTER MODEL MODEL	FILTER AREA (Sq. Ft.)	FLOW RATE *(GPM) @ 20 GPM/FT ²	TURNOVER CAPACITY (Gallons) (Based on 20 GPM / Sq. Ft.)* *TR100 AND TR140 ARE BASED ON 15 GPM/SQ. FT.			
			4 TURNS PER DAY	3 TURNS PER DAY	2.4 TURNS PER DAY	2 TURNS PER DAY
TR100	4.91	74	26,640	35,520	44,400	53,280
TR140	7.06	106	38,160	50,880	63,600	76,320

⚠ WARNING — Failure to operate your filter system or inadequate filtration can cause poor water clarity obstructing visibility in your pool and can allow diving into or on top of obscured objects which can cause serious personal injury or drowning.

Clear water is the result of proper filtration as well as proper water chemistry. Pool chemistry is a specialized area and you should consult your local pool service specialist for specific details. In general, proper pool sanitation requires a free chlorine level of 1 to 3 PPM and a pH range of 7.2 to 7.6.

⚠ WARNING — Filters should never be tested or subjected to air or gas under pressure. All gases are compressible and under pressure create a danger. Severe bodily injury or property damage could occur if the filter is subjected to air or gas pressure.

1. Check carton for any evidence of damage due to rough handling in shipment. If carton or any filter components are damaged, notify the freight carrier immediately.
2. Carefully remove the accessory package and the filter tank from the carton.
3. Mount the filter on a permanent slab, preferably concrete poured in a form or on a platform constructed of concrete block or brick. **DO NOT** use sand to level the filter or for the pump mounting, as it will wash away.
4. Provide space and lighting for routine maintenance access. Do not mount electrical controls over the filter. One needs to be able to stand clear of the filter when starting the pump. Minimum space requirements may be found on the large nameplate on the filter.
5. Position filter so that the port locations are in the desired final positions. Follow valve installation procedures.
6. If you have a Multiport Valve, assemble the valve to the tank, being sure the o-ring on the valve fittings are in place and are clean. Use a lubricant, applied lightly, such as silicone grease on o-rings and o-ring grooves prior to assembly.
7. If you have a two position slide valve, align the valve with the tank so that the handle is toward the top of the tank, push valve into ports and turn the valve nuts snugly on the tank fittings. It is not necessary to cinch the valve nuts to the tank fitting beyond hand tightness.
8. Sand specifications – be certain the proper sand is used as described in Table 2. Before pouring the sand into the filter, look inside and check the lower under-drain for broken or loose laterals (or fingers), which may have been accidentally damaged by rough handling during shipment. Replace any broken parts if necessary.

NOTE: The free board distance is the most important variable and should be maintained. Sand density will vary and therefore sand amount is given as a reference.

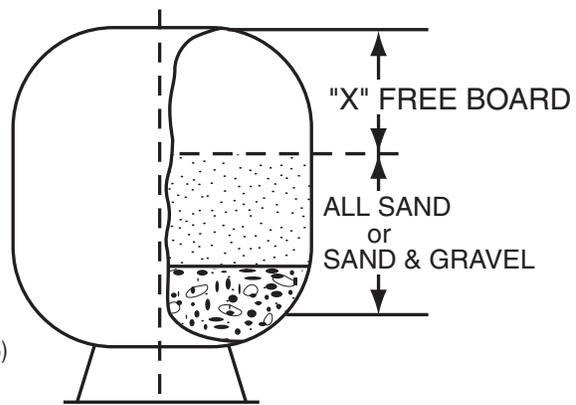
Table 2.

MODEL	FREE BOARD "X"	ALL SAND* (POUNDS)	FILTER MEDIA† (POUNDS)	
			PEA GRAVEL ‡	SAND
TR100	11 1/4"	600	150	450
TR140	13 1/2"	925	275	650

† Media required to meet NSF requirements.

‡ Pea Gravel to be 1/4" to 1/8" diameter.

* Sand to be No. 20 standard silica (uniformity coefficient not greater than 1.75)
.018-.020 in diameter particle size.



⚠ WARNING — Failure to position the Automatic Air Vent inside of the Closure will allow excessive trapped air to accumulate in the filter. Trapped air and the closure not properly closed can cause the closure to separate and could cause severe bodily injury and/or property damage.

- Pivot the diffuser out of the center of the tank on the TR100 and TR140 by rotating the diffuser assembly counter clockwise. After installing the filter media as described below, check to make sure the tops on the diffusers are parallel to the top of the sand bed.) Fill the tank about half full of water. Pour pea gravel first (if used) and then the sand into the top of the filter at a slow rate so that the impact of the filter media does not damage the laterals. See Table 2 for the proper amounts of sand and gravel. Fill filter to the proper level to maintain freeboard, as shown in Table 2. Pivot the diffuser assembly back to its vertical position if it was moved. Be certain the automatic air vent is protruding into the top of the closure as indicated below in Figure 1. Ensure that the automatic air vent is in the center of the filter closure. Wash away all sand around the threaded opening at the top of the tank.

⚠ WARNING — **For Threaded Closures**



Use care when installing closure. The closure should turn freely in the filter, if resistance to closure insertion is felt, then slowly remove the closure by turning counter-clockwise. The starting thread of the tank and closure must engage properly in order to secure the closure. *Do not cross-thread closure.*

Failure to install the closure properly can cause the closure to separate and could cause severe bodily injury and/or property damage.

- Assemble the pressure gauge and bleeder valve to the closure lid. Clean the lid o-ring and lubricate with silicone grease lubricant. Place the closure lid on the filter and tighten, making certain the air vent is up inside the dome of the closure.
- With the plastic wrench, provided with the filter, tighten the closure as tight as possible using two hands on the wrench handles. As a minimum, the closure must be hand tight + 1/4 turn.
- Assemble piping and pipe fittings to pump and valve. All piping must conform to local and state plumbing and sanitary needs.
- Use sealant compounds on all male connections of pipe and fittings. Use only pipe compounds suited for plastic pipe. Support pipe to prevent strains on filter, pump or valve.
- Long piping runs and elbows restrict flow. For best efficiency, use the fewest possible number of fittings, and large diameter pipe (at least 2" for TR100 and TR140).

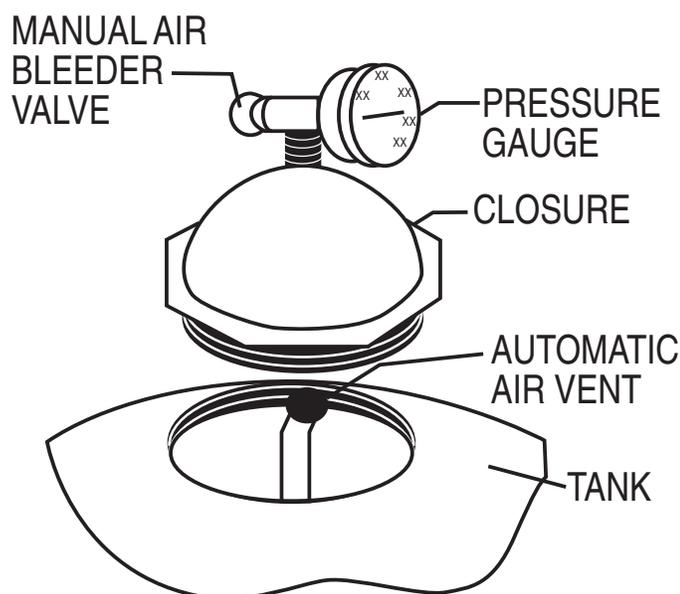


Figure 1.

⚠ CAUTION — Operating at excessive vacuum levels can cause the tank to crack and could cause property damage.

17. When installing backwash lines, it is recommended that a vacuum breaker be installed on installations where the backwash line length exceeds 40 ft. or the backwash line discharges more than 10 ft. lower than the surface of the pool. Alternately a vacuum break pit should be provided.
18. A check valve is recommended between the filter and heater to prevent hot water “back-up” which will damage the filter and valve.
19. The maximum operating pressure of the unit is 50 pounds per square inch (psi). Never operate this filter above these pressures or attach a pump to this filter that has more than 50 psi shut off pressure.
20. A positive shut off valve is not recommended at the outlet of the filtering system. If the system is ever run with such a valve closed, the internal air relief system becomes inoperative and an explosive situation could exist. Additionally, running the system with no flow will seriously damage the equipment.

Initial Start-up

1. On a new pool, clean the pool before filling the pool with water. Excessive dirt and large particles can cause damage to the pump and filter.
2. Ensure the backwash line is open so that water is free to come from the pool and flow out the backwash line. Set the valve position as follows:
 - a. If using a Multiport valve, set valve to backwash position.
 - b. If using a Two Position Slide Valve, push handle down to backwash position and engage lock by twisting handle.
3. Check pump strainer pot to be sure it is full of water.

⚠ WARNING — Air entering the filter and the tank closure not installed properly can cause the closure to separate and could cause severe bodily injury and/or property damage.

4. Check closure on filter for tightness.
5. Open the manual air bleeder on the filter closure. Stand clear of the filter and start the pump allowing it to prime.
6. Close the air bleeder on the closure when all the air is removed from the filter and a steady stream of water emerges.

NOTE: Pool filter sand is typically pre-washed and should not require extensive backwashing. However, the shipping process may cause excessive abrasion which could require an extended backwash cycle at initial start-up; continue to backwash until the backwash water is as clear as the pool water.

⚠ CAUTION — To prevent equipment damage and possible injury, always turn the pump off before changing the valve position.

7. Stop the pump. Set the valve position as follows:
 - a. If using a Multiport valve, set the valve to the filter position.
 - b. If using the Two Position Slide Valve, raise the handle to filter position and engage valve lock by twisting handle.
8. Ensure all suction and pool return lines are open so that water is free to come from the pool and return to the pool.
9. Open the manual air bleeder on the filter closure. Stand clear of the filter and start the pump.
10. Close the air bleeder on the filter closure when all the air is removed from the filter and a steady stream of water emerges.
11. The filter has now started its filtering cycle. You should ensure that water is returning to the pool and take note of the operating pressure when the filter is clean.

Section 2

Maintenance

This section describes how to maintain your Marlin® Fiberglass Sand Filter.

Filter Care

The filter is a very important part of the pool equipment and installation. Proper care and maintenance will add many years of service and enjoyment to the pool. Follow these suggestions for long trouble-free operations:

1. To clean the exterior of the filter of dust and dirt, wash with a mild detergent and water then hose off. Do not use solvents.
2. If internal maintenance is required, sand may be removed by removing the sand drain from the bottom of the filter and flushing with a garden hose.
3. If after a number of years, the filter tank appears foggy in color or rough in texture, the tank surface can be painted. We recommend the use of a Quick Dry Spray Enamel. **Do NOT paint the valve.**

 **WARNING** — Always visually inspect filter components during normal servicing to ensure structural safety. Replace any item which is cracked, deformed or otherwise visually defective. Defective filter components can allow the filter top or attachments to separate and could cause severe bodily injury or property damage.

4. The filter closure on your Marlin Sand Filter was manufactured with high quality corrosion resistant materials. This part should be carefully inspected whenever servicing your filter. If excessive leakage is noted coming from the closure/tank interface, the closure and o-ring should be carefully inspected and replaced if any signs of deterioration exist.
5. Your filter is a pressure vessel and should never be serviced while under pressure. Always relieve tank pressure and open air bleeder on the filter closure before attempting to service your filter.
6. When restarting your filter, always open the manual air bleeder on the filter closure and stand clear of the filter.

Cleaning Frequency

1. The filter on a new pool should be backwashed, and cleaned after approximately 48 hours of operation to clean out plaster dust and/or construction debris.
2. There are three different ways to identify when the filter needs backwashing.
 - a. The most accurate indicator on pool systems with a flow meter is to backwash when the flow decreases 30% from the original (clean filter) flow. For example, if the original flow was 60 GPM, the filter should be backwashed when the flow is reduced by about 20 GPM (or 30%) to 40 GPM.
 - b. A more subjective and less accurate indicator is to observe the amount of water flowing from the flow directionals located in the wall of the pool. The filter should be backwashed once it is detected that the flow has been reduced by about 30%.
 - c. The most commonly used but less accurate indicator is to backwash when the filter gauge reading increases 10 PSI over the initial (clean filter) reading.
3. It is important not to backwash the filter solely on a timed basis such as every three days. It is also important to note that backwashing too frequently actually causes poor filtration. Factors like weather conditions, heavy rains, dust or pollen, and water temperature all affect the frequency of backwash. As you use your pool, you will become aware of these influences.
4. If at any time the starting pressure after backwashing the filter indicates 4 to 6 PSI higher than normal starting pressure, it is time to perform a chemical cleaning procedure.

Filter Backwash Procedure

 **WARNING** —To prevent equipment damage and possible injury, always turn off pump before changing valve positions.

1. Stop the pump.
2. Ensure that the suction and backwash lines are open so that water is free to come from the pool and flow out the backwash line. Set control valve position as follows:
 - a. If using a Multiport Valve, set valve to backwash position.
 - b. If using a Two Position Slide Valve, push handle down to backwash position and engage lock by twisting handle.
3. **Stand clear of the filter** and start pump.
4. Backwash filter for approximately 3 to 5 minutes or until backwash water is clean.
5. Stop the pump.
 - a. If using a Multiport Valve, set valve to rinse position and continue with remaining steps.
 - b. If using a Two Position Slide Valve, skip to step 8.
6. **Stand clear of the filter** and start pump.
7. Rinse filter for approximately 30 seconds.
8. Stop the pump and set valve as follows:
 - a. If using a Multiport Valve, set valve to filter position.
 - b. If using a Two Position Slide Valve, raise handle to filter position and engage valve lock by twisting handle.
9. Ensure that pool return line is open so that water may freely flow from the pool back to the pool.
10. Open manual air bleeder on the closure. Stand clear of filter and start pump.
11. Close manual air bleeder of the closure when all the air is removed and a steady stream of water emerges from the bleeder.
12. The filter has now started its filtering cycle. You should ensure that water is returning to the pool and take note of the filter pressure.
13. The filter pressure, in the above Step 12, should not exceed the pressure originally observed on the filter when it was initially started. If after backwashing, the pressure is 4 to 6 PSI above the start condition, it will be necessary to chemically clean the sand bed.

Chemical Cleaning Procedure

1. It is recommended that an approved cleaner be used. Please contact your local pool chemical supplier or retail store for the proper cleaner.

These cleaners will remove oils, scale and rust from the sand bed in one cleaning operation.

2. Mix a solution following the manufacturers instructions on the label.
3. Backwash the filter as outlined on [page 6](#).
4. If the filter is below pool level, shut off the pump and close appropriate valving to prevent draining the pool.
5. Shut off pump, open filter drain and let filter drain. Place valve in backwash position.
6. After filter has drained, close filter drain and remove the pump strainer pot lid.
7. Ensure that the backwash lines are open.
8. Turn the pump on and slowly pour the cleaning solution into the pump strainer with the pump running.
9. Continue adding solution until the sand bed is saturated with cleaning solution. Replace lid on pump.
10. Shut off the pump and leave filter in backwash position. Allow filter to stand overnight (12 hours).
11. Replace the pump lid and follow backwash procedures on [page 6](#).
12. Do not allow the cleaning solution to get into the pool.

Winterizing your Filter

1. In areas that have freezing winter temperatures, protect the pool equipment by backwashing the filter.
2. After backwashing, shut the pump off, open the manual air bleeder on the closure and adjust the valve as follow:
 - a. On the Multiport Valves, move the handle of the valve to the Winterize Position (*).
 - b. On the Two Position Slide Valve, if possible, remove the valve piston assembly; clean, lubricate and store in a dry location for the winter.

***NOTE:** The Multiport valve should be left in the winterize position during shutdown season so the valve diverter has no pressure on the rubber seal.

3. On the TR100 and TR140 remove the 1½” drain plug cap. The filter will drain very slowly, and therefore, it is recommended that the drain plug be left out.
4. Drain all appropriate system piping.
5. We recommend covering the equipment with a tarpaulin or plastic sheet to inhibit deterioration from weather. Do **NOT** wrap pump motor with plastic.

Section 3

Troubleshooting

Use the following troubleshooting information to resolve possible problems with your Marlin® Filter.



WARNING — THIS FILTER OPERATES UNDER HIGH PRESSURE

When any part of the circulating system, (e.g., closure, pump, filter, valve(s), etc.), is serviced, air can enter the system and become pressurized. Pressurized air can cause the top closure to separate which can result in severe injury, death, or property damage. To avoid this potential hazard, follow these instructions:

1. If you are not familiar with your pool filtering system and/or heater:
 - a. **Do NOT** attempt to adjust or service without consulting your dealer, or a qualified pool technician.
 - b. Read the entire Installation & User's Guide before attempting to use, service or adjust the pool filtering system or heater.
2. Before repositioning valve(s) and before beginning the assembly, disassembly, or any other service of the circulating system: (A) Turn the pump **OFF** and **shut OFF** any automatic controls to ensure the system is NOT inadvertently started during the servicing; (B) open the manual air bleeder valve; (C) stand clear of filter; (D) wait until all pressure is relieved.
3. Whenever installing the filter closure **FOLLOW THE FILTER CLOSURE WARNINGS EXACTLY**.
4. Once service on the circulating system is complete **FOLLOW INITIAL START-UP INSTRUCTIONS EXACTLY**.
5. Maintain circulation system properly. Replace worn or damaged parts immediately, (e.g., closure, pressure gauge, valve(s), o-rings, etc).
6. Be sure that the filter is properly mounted and positioned according to instructions provided.

Note: Turn off power to unit prior to attempting service or repair.

Problems and Corrective Actions

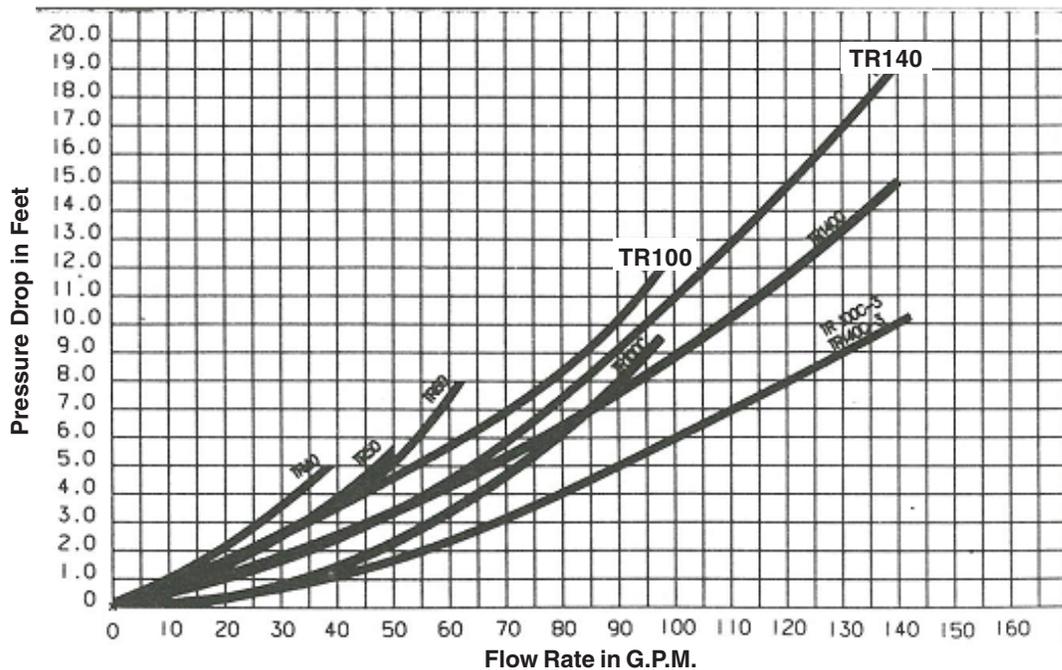
PROBLEM	CAUSE	REMEDY
Pool water not sufficiently clean	<ol style="list-style-type: none"> 1. Pool chemistry not adequate to inhibit algae growth. 2. Too frequent a backwash cycle. 3. Improper amount or wrong sand size. 4. Inadequate turnover rate. 	<p>Maintain pool chemistry or consult pool service technician.</p> <p>Allow pressure to build to 10 psi above clean filter condition before backwashing.</p> <p>Check sand bed Freeboard and sand size or consult a pool service technician.</p> <p>Run system for longer time or consult dealer or pool service technician.</p>
High filter pressure	<ol style="list-style-type: none"> 1. Insufficient backwashing. 2. Sand bed plugged with mineral deposits. 3. Partially closed valve. 	<p>Backwash until effluent runs clear.</p> <p>Chemically clean filter.</p> <p>Open valve or remove obstruction in return line.</p>
Short cycles	<ol style="list-style-type: none"> 1. Improper backwash. 2. Pool chemistry not adequate to inhibit algae growth. 3. Plugged sand bed. 4. Flow rate too high. 	<p>Backwash until effluent runs clear.</p> <p>Maintain pool chemistry or consult pool service technician.</p> <p>Manually remove top 1" surface of sand bed, replace with new sand and chemically clean entire sand bed as described in the Chemical Cleaning Procedure.</p> <p>Restrict flow to capacity of filter.</p>

PROBLEM	CAUSE	REMEDY
Return flow to pool diminished, low filter pressure	<ol style="list-style-type: none"> 1. Obstruction in pump hair and lint strainer. 2. Obstruction in pump. 3. Obstruction in suction line to pump. 	<p>Clean basket in pump strainer.</p> <p>Disassemble and clean pump.</p> <p>Clean skimmer basket. Remove obstruction in lines.</p> <p>Open valves in suction line.</p>
Sand returning to pool	<ol style="list-style-type: none"> 1. Broken under drain lateral. 	<p>Replace broken or damaged laterals.</p>
Sand loss to waste	<ol style="list-style-type: none"> 1. Backwash rate too high. 2. Improper sand size. 3. Air strainer is damaged or missing. 	<p>Reduce backwash flow rate.</p> <p>Change to proper sand.</p> <p>Replace damage components.</p>
Leak at closure	<ol style="list-style-type: none"> 1. Improperly tightened closure. 2. Dirt or contamination on sealing surface. 3. Damaged part. 	<p>Shut off pump, relieve tank pressure, open air bleeder, tighten closure properly.</p> <p>Shut off pump, relieve tank pressure, open air bleeder, remove closure and clean all sealing surfaces. Reassemble closure properly.</p> <p>Same as above except replace damaged o-ring, closure, tank or any combination of parts as required.</p>
Leak at bulkhead	<ol style="list-style-type: none"> 1. Improperly tightened bulkhead assembly. 2. Dirt or contamination on sealing surfaces. 3. Damaged part. 	<p>Shut off pump, relieve tank pressure, open air bleeder, remove closure and remove sand to access leaking bulkhead on the TR100 and TR140. Hold the 2" bulkhead and tighten the 2" internal locknut.</p> <p>Shut off pump, relieve tank pressure, open air bleeder, remove closure and remove sand to access leaking bulkhead. Remove attached tank internals and remove bulkhead assembly. Clean all mating surfaces and seals. Replace the bulkhead assembly, being careful to assemble properly. Tighten assembly as indicated above.</p> <p>Same as above except replace damaged part or combination of parts.</p>

Section 5

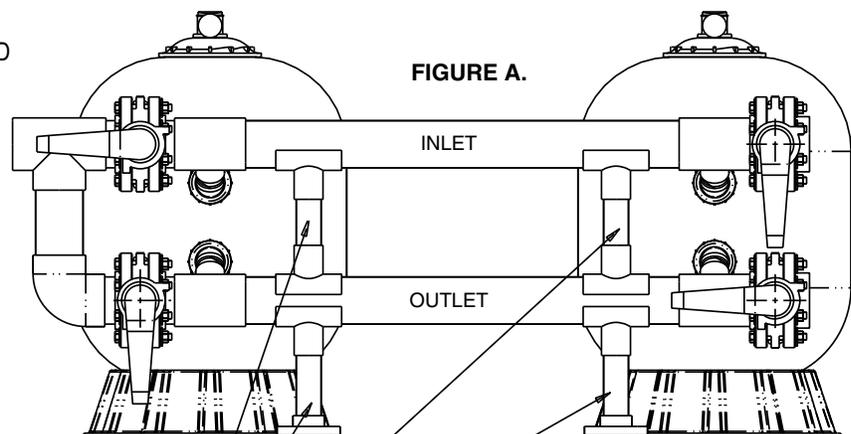
Replacement Parts

Pressure Drop Curve for the Marlin® TR100 and TR140 Sand Filters

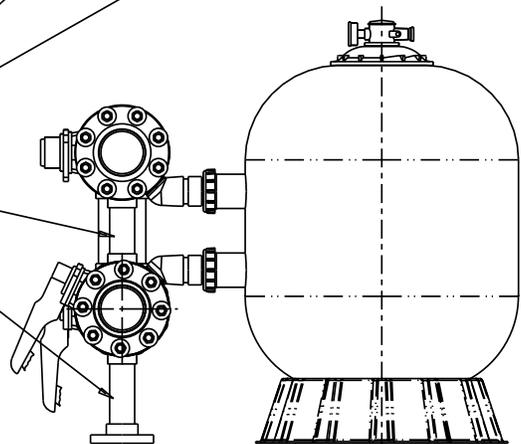


Installing Multiple Filters with Tandem Filter Piping Kits

CAUTION: WHEN MULTIPLE FILTERS ARE INSTALLED, WE HIGHLY RECOMMEND THE USE OF A TANDEM FILTER PIPING KIT. THESE KITS INCLUDE PLUMBING SUPPORTS (BETWEEN INLET AND OUTLET PIPING AND BETWEEN OUTLET PIPING AND FLOOR) TO ASSURE INTEGRITY OF THE INSTALLATION. SEE FIGURE A.

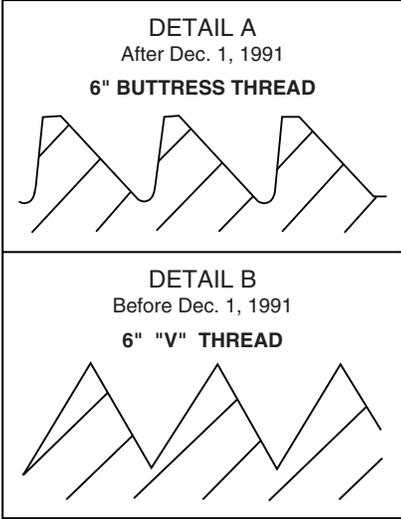
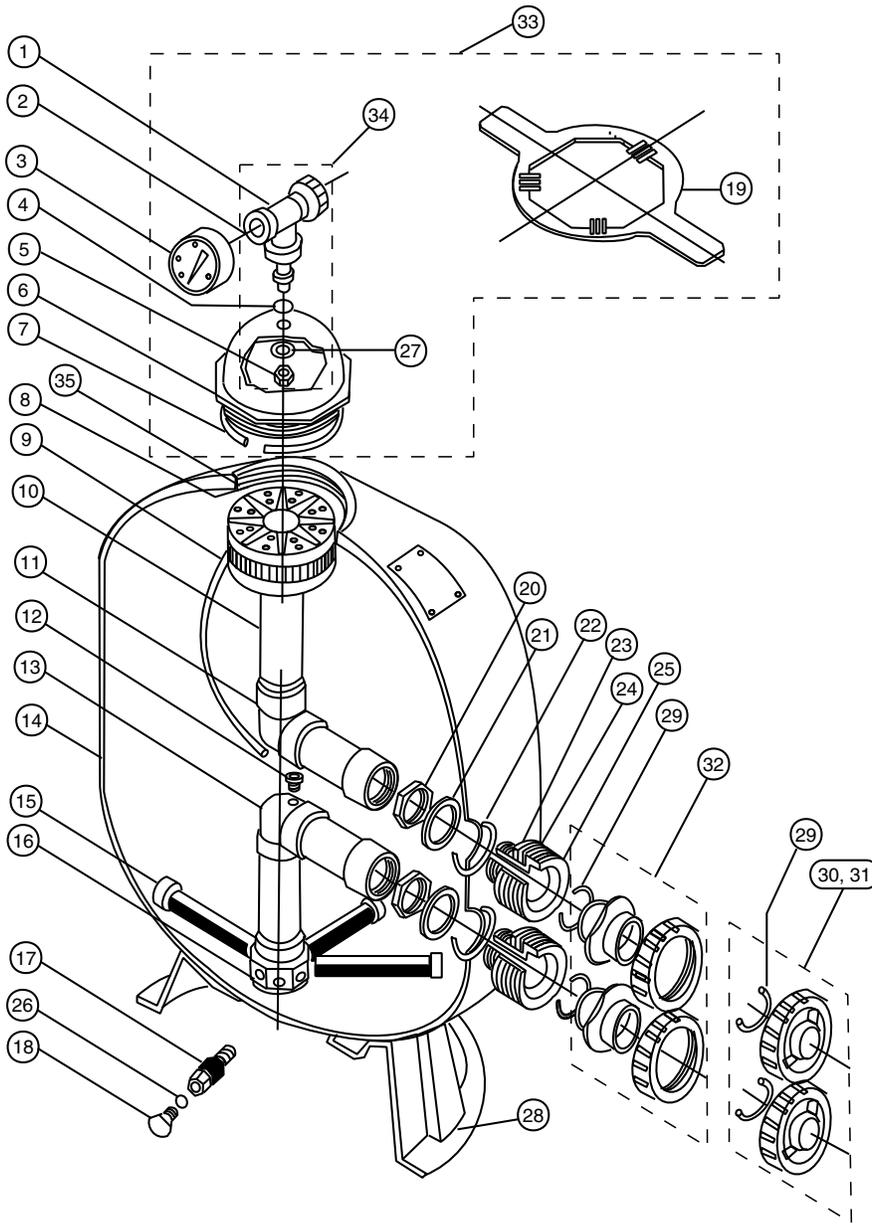


CAUTION: USE A TANDEM FILTER PIPING KIT(S) OR SOME SORT OF PLUMBING SUPPORT TO ASSURE PLUMBING INTEGRITY. FAILURE TO INCLUDE THESE SUPPORTS COULD VOID YOUR WARRANTY.



MARLIN® FIBERGLASS SAND FILTER (TR100 and TR140)

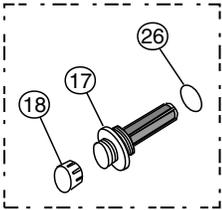
Replacement Parts



Filters manufactured after Dec 1, 1991 utilize a 6 in. buttress thread in the filter tank top opening and on the closure, see Detail A.

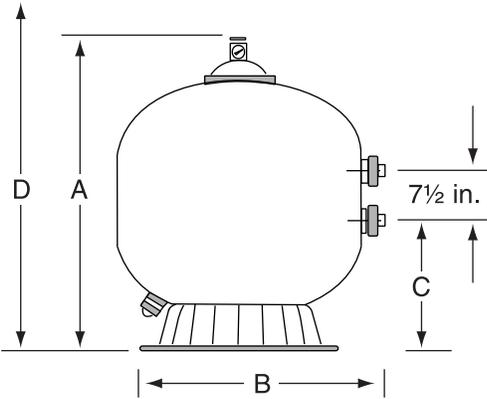
Filters manufactured before Dec 1, 1991 utilize a 6 in. "V" type thread, see Detail B.

6 in. closures in Detail A. and B. are NOT interchangeable.



★ Used on TR100 and TR140 filters.

Vertical Clearance Required



MODEL	A DIM.	B DIM.	C DIM.	D DIM.
TR100	39 3/4 in.	30 1/2 in.	16 1/4 in.	41 3/4 in.
TR140	45 1/4 in.	36 1/2 in.	18 3/4 in.	47 1/4 in.

MARLIN® FIBERGLASS SAND FILTER Replacement Parts

Item No.	Part No.	MARLIN SAND FILTERS Description	Item No.	Part No.	MARLIN SAND FILTERS Description
1	154689	Air bleeder/tee assy.	15	152202	Lateral - 9 1/8 in. L TR100, 8 req. ②
2	154700	Adapter - brass air bleeder	15	154543	Lateral - 6½ in. L TR100, 8 req. ①
3	155050	Gauge - back mount pressure	15	154540	Lateral - 12 in. L TR140, 8 req.
3	991481	Gauge - HD ⑦	16	154453	Hub Lateral TR100/140
4	154661	O-ring - air bleeder adapter	17	152220	Sand drain 2 in. ⑥
5	154664	Nut - 3/8 in. - 16 s/s	17	154698	Spigot ¾ in. NPT sand drain ④
6	154570	Closure - 6 in. buttress thread, see Detail A	17	154685	Spigot ½ in. NPT sand drain ⑤
6	154559	Closure - 6 in. "V" thread Blk., see Detail B	18	154871	Cap thd. 1½ in. ⑥
7	154493	O-ring closure, white	18	357161	Plug ¼ in. NPT drain
8	150035	Strainer ECL/TR	19	154512	Wrench 6 in. closure
9	150041	Tube air relief TR100	19	154510	Wrench closure aluminum
9	150042	Tube air relief TR140	19	151608	Wrench 8½ in. closure aluminum
10	154462	Diffuser assy. TR100	20	154412	Locknut 2 in. internal, 2 req.
10	154906	Diffuser assy. TR140	21	154416	Spacer 2 in. internal, 2 req.
11	154426	Piping assy. upper TR100	22	154492	O-ring 2 in. bulkhead, 2 req.
11	154500	Piping assy. upper TR140	23	154408	Spacer 2 in. external, 2 req.
12	150036	Connector air relief tube	24	154538	Gasket 2 in. bulkhead, 2 req.
13	154807	Piping assy. lower TR100	25	154405	Bulkhead 2 in., 2 req.
13	154489	Piping assy. lower TR140	26	274494	O-ring 3/16 in. X 2 5/8 in. i.d. ⑥
14	154639	Tank & ft. assy. TR100 - 6 in. btr. thd., Detail A	26	192115	O-ring #2-12 air adapter
14	154640	Tank & ft. assy. TR140 - 6 in. btr. thd., Detail A	27	154418	Washer 3/8 in. s/s
			28	154596	Foot 24 in. dia., TR100/140 (see NOTE 1)
			29	274494	O-ring valve adptr., 2 req.
			30	271092	2 in. thd. adptr. kit ⑤
			31	271094	1½ in. thd. adptr. kit ⑤
			32	271096	1½ in. & 2 in. slip adptr. kit ⑤
			33	154641	Kit closure, 6 in. buttress thd., Blk., DETAIL A
			33	154697	Kit closure, 6 in. "V" thd., Tan, DETAIL B
			33	154856	Kit closure, 8½ in. buttress thd., Blk.
			33	155738	Kit closure, 8½ in. HD ⑦
			34	154687	Fitting package complete (see NOTE 2)
			35	154613	Spacer air vent strainer 5½ in. TR100
			35	154614	Spacer air vent strainer 5 in. TR140
				154407	Tape ft. mounting TR100/140, 3 req.
				151602	Bulkhead wrench 2 in.
				154714	Bulkhead kit, include items 20-25

Warranty Policy

- Warranty period starts from date of purchase and must be validated with copy of original purchase receipt.
- Warranty requests by phone will not be honored.
- Warranty items returned without copy of original purchase receipt will not be honored.
- Products purchased from EBay, Craig's List, etc. cannot be honored for warranty unless returned by original purchaser with proof of purchase.
- All items must first be returned to Lifeguard Aquatics for inspection, evaluation, and processing to determine if product qualifies for warranty replacement or repair. No warranty (repair, replacement, or credit) will be issued prior to inspection of product.
- **Please contact us first for warranty assistance. Many times the product can be repaired without the cost and time involved in sending it back.** If absolutely necessary, return product **FREIGHT PREPAID** for warranty evaluation and processing. Call or email our office to obtain RMA number and shipping address.

Lifeguard Aquatics

Tel (562)404-4129

Fax (562)404-4159

Email: info@lifegardaquatics.com

- **3 year warranty** from date of purchase on **Quiet One Pump Motors Only.**
 - **60 day warranty** from date of purchase **on Shafts and Impellers for All Types of Pumps.**
 - **60 day warranty** from date of purchase on all **Ultraviolet Bulbs.**
 - **60 day warranty** from date of purchase on all **Test Strips.**
 - **1 year warranty** from date of purchase on **All Other Products.**
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