

**MVFUSE**  
MAGNETIC VACUUM RELEASE

**SAFETY VACUUM RELEASE SYSTEM (SVRS)**  
**FOR EXISTING DEBRIS CANISTER APPLICATIONS**  
INSTALLATION MANUAL



Safety compliant according to the Virginia Graeme Baker  
Pool and Spa Safety Act ASME A112.19.17-2002 Listed

U.S. Patent No.: 5,265,631 6,895,608 7,055,189 7,089,606

**Notice to Installers:**

Read and follow these instructions. Give these instructions to the facility owner to keep for future reference. Follow all codes and regulations that apply to the design, installation and use of suction outlet fittings and SVRS devices.

**WARNING:** The drain system and MVFUSE must be installed in accordance with Paramount's written instruction manual, and in conformity with applicable Federal, State, Local and swimming pool industry building safety codes.

MVFUSE RETRO 004-027-8803-00 REV020811

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Pool Life. Simplified.

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# IMPORTANT NOTICES: PLEASE READ



**WARNING**

**KNOWN DROWNING HAZARD!**

**DO NOT GO NEAR THE SUCTION FITTINGS OR DRAINS OF YOUR POOL OR SPA. YOUR HAIR OR BODY MAY BECOME TRAPPED CAUSING PERMANENT INJURY OR DROWNING.**

**DO NOT ENTER THE POOL OR SPA IF SUCTION FITTINGS OR DRAIN COVERS ARE LOOSE BROKEN OR MISSING. INSPECT SUCTION FITTINGS INCLUDING FASTENERS FOR DAMAGE OR TAMPERING BEFORE EACH USE OF THIS FACILITY.**



**WARNING**

**RISK OF SEVERE INJURY OR DROWNING IF SUCTION SYSTEMS ARE NOT INSTALLED PROPERLY!**



**WARNING**

**READ, FOLLOW, AND KEEP THESE SAFETY INSTRUCTIONS FOR FUTURE REFERENCE.**



**WARNING**

**THE MVFUSE IS DESIGNED AND INTENDED TO BE USED AS AN ADDITIONAL “LAYER OF PROTECTION” TO PROTECT AGAINST A SUDDEN ENTRAPMENT EVENT. THE MVFUSE IS NOT A STAND ALONE DEVICE AND SHOULD ONLY BE USED IN CONJUNCTION WITH AN ASME A112.19.8 LISTED SUCTION FITTING RATED APPROPRIATELY FOR THE FLOW RATE OF THE PUMP AND PLUMBING SYSTEM IT IS CONNECTED TO.**



**WARNING**

**IN THE INCIDENT OF A SUDDEN ENTRAPMENT EVENT ALL BATHERS SHOULD EXIT THE POOL AND NOT BE ALLOWED TO REENTER UNTIL SUCH TIME AS THE MVFUSE CAN BE RESET, THE PUMP FULLY PRIMED AND THE REASON FOR THE ENTRAPMENT IS DETERMINED AND CORRECTED!**



**WARNING**

**THE MVFUSE IS DESIGNED TO PROTECT A FULLY PRIMED PUMP AND MAY NOT RELEASE VACUUM DURING PRIMING OF THE PUMP. NO BATHERS SHOULD BE ALLOWED IN THE POOL WHILE THE PUMPS ARE PRIMING!**



**WARNING**

**THE MVFUSE IS DESIGNED TO PROTECT AGAINST A COMPLETELY BLOCKED SUCTION SYSTEM AND MAY NOT DETECT A PARTIAL BLOCKAGE, LIMB OR HAIR ENTRAPMENT. THE MVFUSE IS NOT DESIGNED TO PROTECT AGAINST DISEMBOWELMENT. THE ONLY PROTECTION FROM THESE TYPES OF ENTRAPMENT IS A PROPERLY FASTENED AND INTACT ASME A112.19.8 LISTED SUCTION COVER.**



**WARNING**

**THIS POOL MAY HAVE AN MVFUSE SVRS SYSTEM AS A LAYER OF ANTI-ENTRAPMENT PROTECTION ON THE SUCTION OUTLETS! IF AN MVFUSE SVRS IS INSTALLED ON THIS SYSTEM ATTACH THE ENCLOSED WARNING LABELS TO THE CONTROL PANEL AS INSTRUCTED ON PAGE 9 OF THIS MANUAL. IF THIS POOL OR SPA HAS BEEN WINTERIZED THE MVFUSE SVRS MUST BE INSPECTED AND TESTED WHEN STARTING THE POOL FOR THE SEASON. REMOVE THE WINTERIZING PLUGS FROM THE DEBRIS CANISTER AND INSTALL THE MVFUSE SVRS BEFORE ENERGIZING THE PUMP(S)! TEST THE MVFUSE SVRS BY BLOCKING THE DRAIN. AIR SHOULD ENTER THE PIPE AND CAUSE THE PUMP TO CAVITATE RELEASING THE SUCTION ON THE DRAIN BLOCK. THE MVFUSE IS NOT PROTECTING THE SUCTION WITH THE WINTERIZATION PLUG IN PLACE!**

# IMPORTANT NOTICES: PLEASE READ

Suction can pose a serious hazard to swimmers just as electricity can be a hazard. Both are important for proper water filtration and both must be treated with respect. Suction safety begins with a professional design that includes a quality suction system installed by a certified contractor.

The MVFUSE is only available to certified contractors for the same reason certified electricians are required to connect filtration pumps to public utilities; both require proper training and certification to assure no hidden hazards are built into the project.

Certified builders will address the following issues when designing and installing proper filtration systems:

- Properly bond-grounded pumps, time clocks, switches and any other metal in or near water. This is required to address Electrical Shock Hazards.
- Design the suction piping so there are no single-point suction hazards; single point suction (one drain) is a leading cause of Body Suction Entrapment Hazards. Note: your certified builder has many effective options for addressing this hazard' they may include dual drain systems, like MDX, MDX2 and SDX, skimmers, gutters, and other products and piping designs known to professionals.
- Install only drains, suction covers and debris removal systems listed to the current published revision of the ASME A112.19.8. This is the **ONLY** approved option for preventing Hair Entrapment Hazards, the leading cause of suction related injuries.
- Design and install an effective circulation system (including optional cleaning systems), to direct filtered water to all areas and interior surfaces. NOTE: Suction fittings can NOT clean or direct filtered water for proper sanitation; that can only be done on the pressure (return) side of the filtration system.

While suction injuries are extremely rare, drowning and diving injuries are far too common and there is little your certified builder can do to eliminate these hazards. You must educate yourself and your guests. Below are some important safety issues every swimmer must know and recognize.

- **PREVENT DROWNING:** Watch children at all times, no swimming alone.
- **NO DIVING IN SHALLOW WATER:** You can be permanently injured.
- **PREVENT SUCTION ENTRAPMENT:** Inspect suction covers before swimming, keep swimmers away from suction fittings, protect long hair, don't swim with loose clothing or large and dangling jewelry.

**WARNING:** MVFUSE must be installed in accordance with Paramount's written instruction manual, and in conformity with applicable Federal, State, Local and Swimming Pool Industry building and safety codes.

## **WARNING READ AND FOLLOW SAFETY INSTRUCTION BEFORE INSTALLING MVFUSE.**

Give these instructions to the facility owner to keep for future reference. Follow all codes and regulations that apply to the design, installation and use of suction outlet fittings and SVRS devices.

- SVRS devices shall only be installed in conjunction with an ASME A112.19.8 suction fitting, or a 12 in. x 12 in. (305 mm x 305 mm) drain grate or larger, or an approved channel drain system at each suction outlet or drain outlet.
- Check valves and hydrostatic valves shall not be used in suction systems protected by SVRS devices. **WARNING: The presence of a hydrostatic valve in the suction piping has been shown to prolong the high vacuum present at the drain, even though the drain was protected by an SVRS device.**
- All SVRS devices shall be factory set or field adjusted to site-specific hydraulic conditions. Once installed, the system shall be tested by simulating an entrapment event.
- A test mat shall be used to cover the suction outlet to simulate an entrapment event. There shall be three simulated entrapment test conducted to verify proper adjustment and operation of the device.
- One SVRS device shall be installed for each circulating pump plumbed directly to the suction outlet(s) without the use of valves that could isolate the SVRS device from the suction system.

# SYSTEM DESIGN

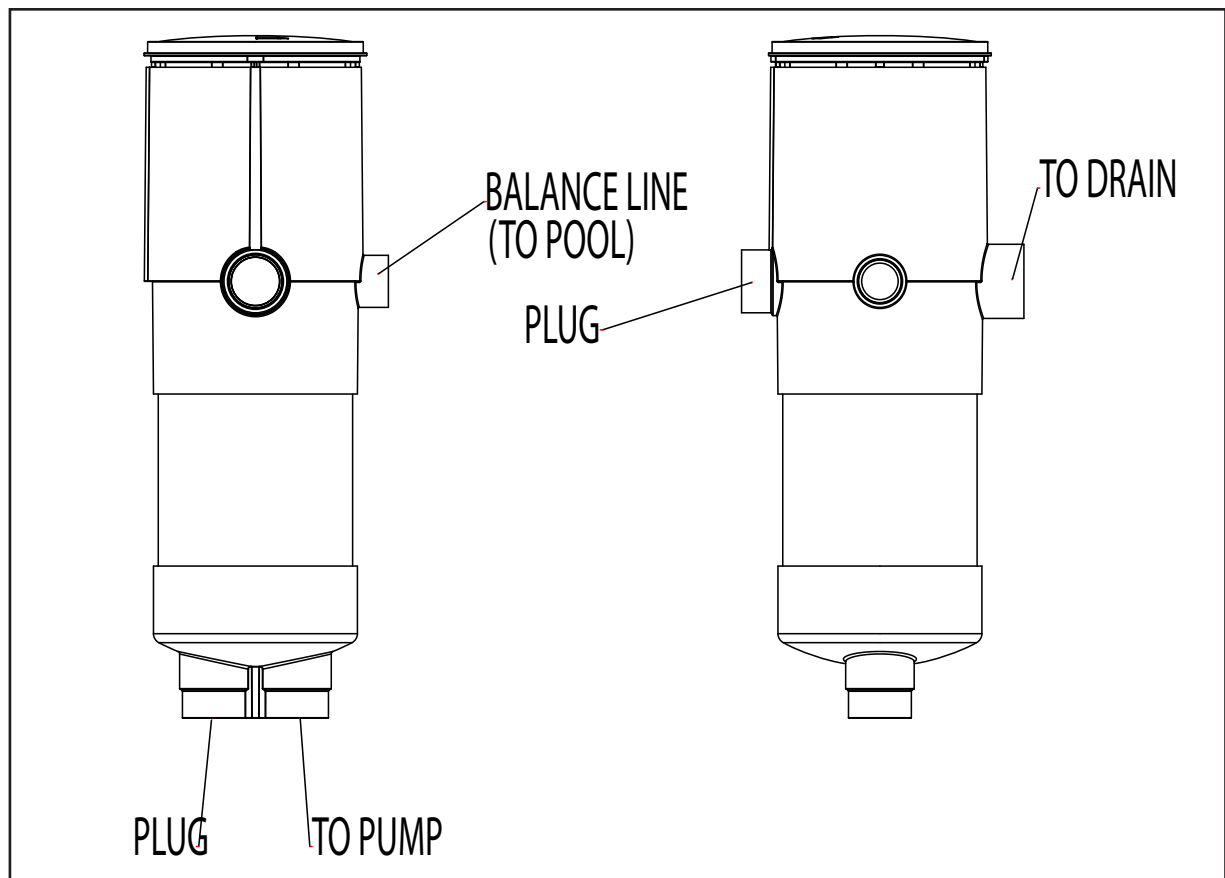
The MVFUSE is an SVRS device listed by IAPMO to conform to the specifications of ASME A112.19.17-2002. It is factory set for specific design criteria. For use in Paramount's in deck debris canister the unit is factory set at setting #3 (9.5 +/- .5 in Hg).

**Warning: MVFUSE is a listed S.V.R.S. (Safety Vacuum Relief System) that is designed to break suction to prevent suction entrapment injuries and death. Removing, tampering with, modifying, and or changing the setting on the MFVFUSE can result in serious injury or death. Please call your pool builder or 1.800.621.5886 for direction.**

The following system design is important for nuisance free operation of factory set MVFUSE devices:

- The suction plumbing system should be designed to not exceed 6 feet per second.
- There should be dual ASME A112.19.8-2007 listed suction outlets a minimum of 3 feet apart at the suction inlet to the suction plumbing per one of the methods listed in ANSI/APSP-7 or other applicable building codes such as the IRC, IBC, Federal, State or Local which may be in force.
- The MVFUSE should be teed into the suction line as close to the drain as possible and mounted next to the pool in the deck.
- The balance line port on the side of the Debris Canister must be stubbed through the side of the pool or the pump will cavitate.

**DO NOY TRY TO INSTALL MVFUSE ON A CANISTER WITH NO BALANCE LINE INSTALLED. IT WILL CAUSE THE PUMP TO CAVITATE!**



# EXISTING DEBRIS CANISTER INSTALLATION

1. Remove the old clear lid.
2. Install the Ring Stop that comes with the MVFUSE canister model.



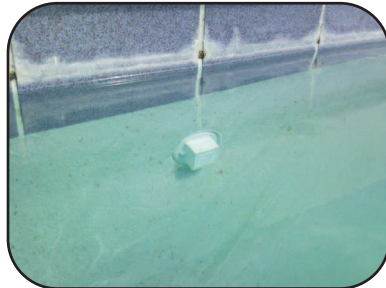
**2-1**  
Shut off the pump system and remove the deck lid from the canister.



**2-2**  
Remove the internal lid and basket from the canister.



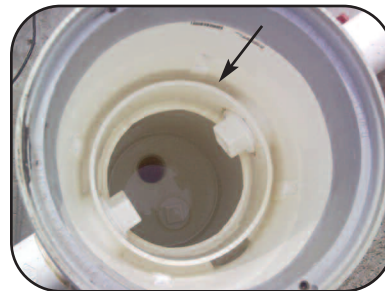
**2-3**  
Plug both 2" threaded side ports with 2" plugs and the 1 1/2" balance line port on the pool wall with an expandable or threaded plug. Plug the 2" port(s) in the bottom of the canister.



Drain the canister of water using a shop vacuum with a narrow tip or cup. The water level must be below the side ports.



**2-4**  
Dry the remainder of water with a towel or rag. Remove any existing tabs with chisel/hammer and/or pliers. Remove any debris in the area below the tabs, between the canister housing and the lid seal ring. This area must be clean and dry.



**2-5**  
Test fit ring with T-wedge. Place ring in canister so wedge notch is on side without a port. The ring feet must sit between the canister wall and the lid seal ring so the ring is level. The ring must tighten in canister at or before bottoming the T-wedge into the notch. The T-wedge must be placed in the ring so the step is toward the inside. Incorrect placement could cause interference between the ring and internal lid.

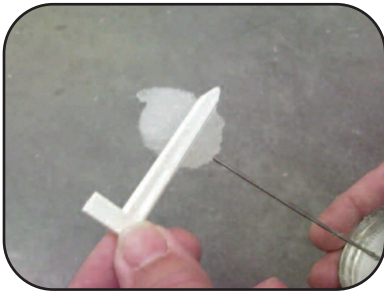


# EXISTING DEBRIS CANISTER INSTALLATION

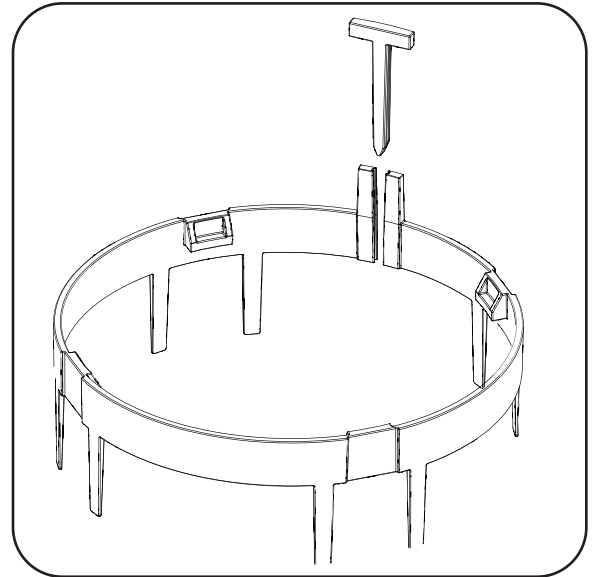


## 2-6

Remove the ring and apply PVC primer and slow/medium set glue, such as IPS Weld-On 705, to ring and canister wall.



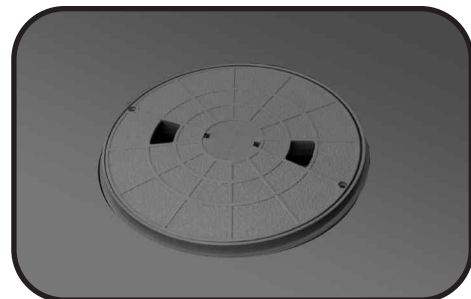
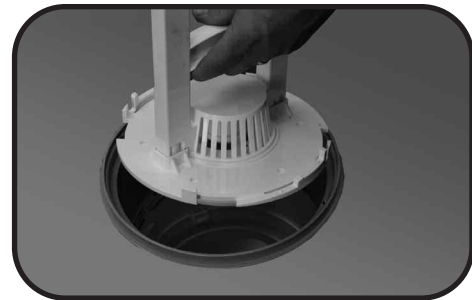
Place the ring into position and then quickly wipe the T-wedge on the glue dauber and fully insert it into the ring notch and ensure that the ring is level.



005-670-6193-01

MVFuse Stop Ring w/ Wedge (White)

- 2-7. Remove all plugs and allow canister to flood
3. Insert MVFUSE lid assembly into canister.
4. Turn lid assembly clockwise until it clicks into place on the retention stops.
5. If the lid assembly is not held securely it will back out or bounce on startup causing the MVFUSE mechanism to open and cavitate the pump.



# TESTING

**WARNING:** The MVFUSE must be tested at the initial startup of the installation. The MVFUSE should be retested for proper operation once every month or every time the pools filter is cleaned which ever is more frequent.

To test the operation of the MVFUSE

1. Start the pump and ensure full prime then proceed to testing the MVFUSE.
2. If the pool has a skimmer attached to the pump close the skimmer valve or plug.  
**Closing the skimmer valve may cause the MVFUSE to trip. If the MVFUSE trips it is functioning properly. You still need to proceed through the rest of the steps to ensure the mat comes free.**
3. Test the MVFUSE for proper setting by blocking the drain(s) with a rubber or vinyl blocking mat.
4. The MVFUSE should open within 3 seconds and allow air into the plumbing causing the pump to cavitate and release the suction on the drain.
5. The rubber mats should be able to be pulled free.
6. This test must be repeated three times.
7. Once you have determined the MVFUSE is functioning properly reset the skimmer valve or unplug.

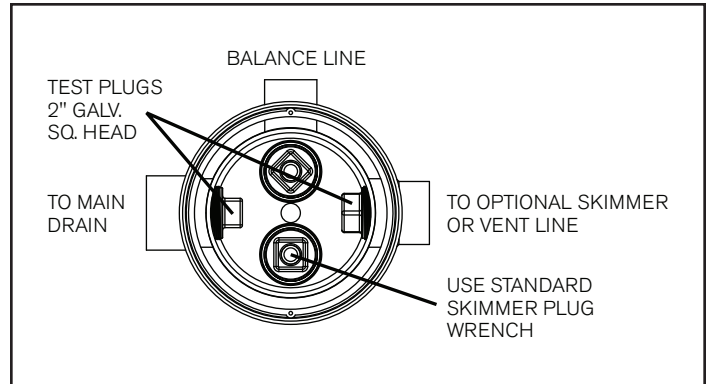
If the MVFUSE does not remain closed at initial startup before the blockage is applied or the MVFUSE does not open and relieve suction upon application of the mat the setting is not correct for your suction system and must be adjusted. Contact Paramount at 1.800.621.5886 for assistance.



# WINTERIZING INSTUCTIONS

To winterize the MVFUSE Canister model

1. Remove MVFUSE AND basket, clean and dry off, and store in same area as modules .
2. Install and secure regular winterization plug in equalizer line of canister to pool at poolside.
3. Install and secure Schrader plug or blow out plug from canister to main drain. Blow out and obtain air lock as previously described, if skimmer is tied into canister, repeat procedure to skimmer.
4. Bottom port of canister to pump may require an extended pipe for ease of blowing out. Install and blow out line from canister to pump. Install and secure plug in pump. Using a wet/dry shop vac, remove all water from within canister components.
5. Extension pipe can be removed and replaced with plug or Gizmo type container if Gizmo not used. Be sure to install device to absorb ice expansion in canister area. Failure to do this may result in potential ice freeze damage to canister.



**Winterization anti-freeze is to be used as necessary or when required.**

**WARNING:** When opening the pool after being winterized the MVFUSE must be checked for proper operation. Go to Test Section for instructions on page 8.

Additional questions should be forwarded to Paramount's corporate office at 800.621.5886..

Fig. 8



## WARNING!

High Suction Atmospheric Vent!

Do not operate pool pump(s) with this pipe plugged!

If necessary to plug vent to winterize the pool do not restart pool until plug is removed!

001-025-0215-00 REV09/08

## VENT TUBE WARNING LABELS

(Figures 8 and 9)

Included in each MVFUSE are two warning labels that need to be placed on the pool equipment if the pool is to be winterized and has a vent tube on any of the drains plumbed on the pool. Attach the smaller label to the vent pipe where it terminates to atmosphere. **(See Fig. 8)**

Attach the larger label to the control panel next to the controller for the pump with the vent tube plumbed to it. **(See Fig. 9)**

Fig. 9

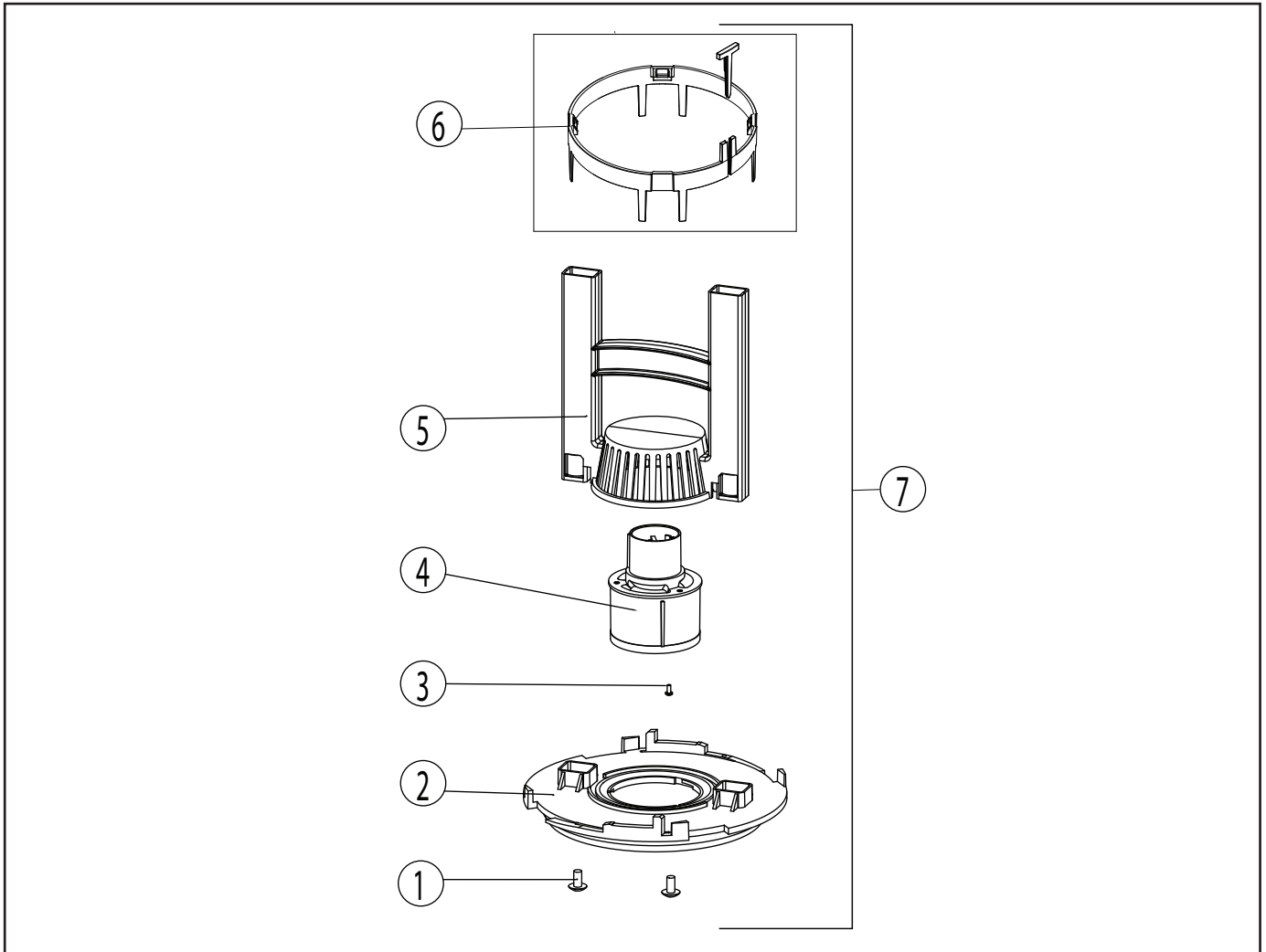


## WARNING!

When starting pool after winterization, remove plug from atmospheric vent pipe before energizing pool pump(s)!

Test vent by blocking drain, Air should enter the pipe and cause the pump to cavitate releasing the suction on the drain block.

001-025-0216-00 REV08/08



Item	Part Number	Description
1	*	Screw 1/4-20 x 1/2 Mach Phil Truss hd 316 SS
2	*	MVFUSE Cansiter Lid
3	*	Screw 4-40 x 1/4 Mach #10 Torx Pr hd 316 SS
4	*	MVFUSE Assembly
5	*	MVFUSE Handle
6	*	MVFUSE Ring Stop
7	004-670-2000-00	MVFUSE with Ring Stop

01 - White 02 - Gray 03 - Beige

\* Not Available Separately

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For technical assistance call 1-800-621-5886 or contact your regional representative.

# NOTES

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