

WARNING / ATTENTION / AVISO



Read and Follow All Instructions

Failure to Follow Instructions can cause Severe Injury or Death.

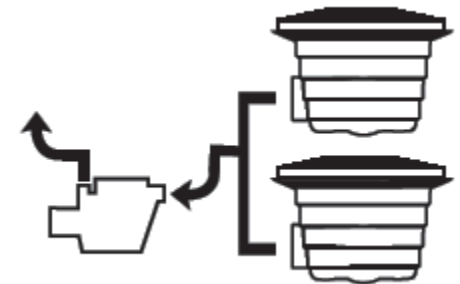
Suction Entrapment Hazard: Suction in suction outlets and/or suction outlet covers which are damaged, broken, cracked, missing, or unsecured can cause severe injury and/or death due to the following entrapment hazards:

- **Hair Entrapment-** Hair can become entangled in suction outlet cover.
- **Limb Entrapment-** A limb inserted into an opening of a suction outlet sump or suction outlet cover that is damaged, broken, cracked, missing or not securely attached can result in a mechanical bind or swelling of the limb.
- **Body Suction Entrapment-** A negative pressure applied to a large portion of the body or limbs can result in an entrapment.
- **Evisceration/ Disembowelment Entrapment-** A negative pressure applied directly to the intestines through an unprotected suction outlet sump or suction outlet cover which is damaged, broken, cracked, missing, or unsecured can result in evisceration/disembowelment entrapment.
- **Mechanical Entrapment-** There is a potential for jewelry, swimsuits, hair decorations, finger, toe or knuckle to be caught in an opening of a suction outlet cover resulting in mechanical entrapment.



To Reduce the Risk of Entrapment Hazards:

- A minimum of two functioning suction outlets per pump must be installed. Suction Outlets in the same plane (i.e. Floor or wall), must be installed a minimum of three feet [1 meter] apart, from near point to near point.
- Dual suction fittings shall be placed in such locations and distances to avoid “dual blockage” by a user.
- Dual suction fittings shall not be located on seating areas or on the backrests for such seating areas.
- The maximum system flow rate shall not exceed the rating of any listed (per ASME/ANSI A112.19.8M-1987, ASME A112.19.8M-2007) suction outlet cover installed.
- Never use Pool or Spa if any suction outlet component is damaged, broken, cracked, missing or not securely attached.
- Replace damaged, broken, cracked, missing, or not securely attached suction outlet components immediately.
- In addition to two or more suction outlets per pump installed in accordance with the latest APSP standards and CPSC guidelines, follow all National, State, and Local codes applicable.
- **CAUTION** – Do not exceed maximum flow rate stated on suction fitting. When replacing pump, use pump with similar flow curve and horsepower.



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**FRAME AND GRATE
INSTALLATION INSTRUCTIONS**

Read Carefully BEFORE Installation

MAXIMUM RATED FLOW RATES – ACCEPTABLE PIPE SIZE

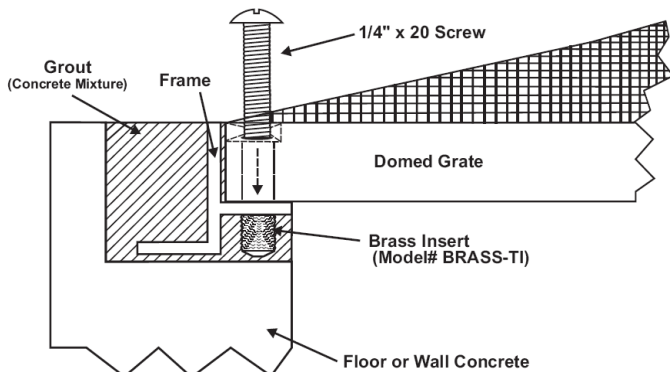
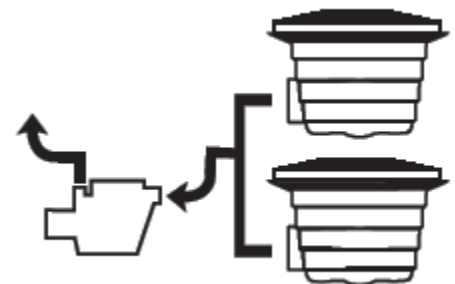
- MLD-SG-1818 (18" X 18") – FLOOR: 816 GPM; WALL: 712 GPM – 8"**
- MLD-SG-1212 (12" X 12") - FLOOR: 365 GPM; WALL: 340 GPM – 6"**
- MLD-SG-0909 (9" X 9") - FLOOR: 261 GPM; WALL: 248 GPM – 4"**

Read instructions before installing. This cover must be properly installed using only supplied stainless steel screws. Close pool immediately if cover breaks or becomes loose and replace with a new cover. Failure to maintain cover can result in severe injury or death.

- During concrete placement, block out for installation of PVC frame
Minimum block-out: **MLD-FGD-0909 – 12" X 12" X 1-1/2"**
MLD-FGD-1212 – 15" X 15" X 1-1/2"
MLD-FGD-1818 – 21" X 21" X 1-3/4"
- When setting frame, use proper concrete mixture to insure frame can only be removed by demolition.
- Use care to keep threaded brass inserts clean.
- Using a #2 square head screwdriver, install the grate and tighten the screws supplied to 60 in/lbs torque.
- Use only stainless steel fasteners provided.
MLD-FGD-0909 – (4) 1/4" X 20 X 5/8" (Model # BOLT-01-SS)
MLD-FGD-1212 – (4) 1/4" X 20 X 5/8" (Model # BOLT-01-SS)
MLD-FGD-1818 - (4) 1/4" X 20 X 15/16" (Model # BOLT-02-SS)
- No other means of fasteners will be approved.
- Total head loss at maximum flow rate is less than **0.1 PSI** for MLD-FGD-0909, MLD-FGD-1212, and **0.3 PSI** for MLD-FGD-1818.



VGB-2008



IMPORTANT

The suction fitting fasteners must be observed for damage or tampering before each use of this facility and/or at least annually

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**FRAME AND GRATE
SUMP AND GRATE
GENERAL SAFETY GUIDELINES**

Read Carefully BEFORE Installation

MAXIMUM RATED FLOW RATES – ACCEPTABLE PIPE SIZE

- FI-SG-1836 (18" X 36") – FLOOR: 2,080 GPM; WALL: 1,496 GPM – 10"**
- MLD-SG-1818 (18" X 18") – FLOOR: 816 GPM; WALL: 712 GPM – 8"**
- MLD-SG-1212 (12" X 12") - FLOOR: 365 GPM; WALL: 340 GPM – 6"**
- MLD-SG-0909 (9" X 9") - FLOOR: 261 GPM; WALL: 248 GPM – 4"**

If there are any doubts about the use, installation, and function of this product, always consult a registered design professional.

1. This product is for use as a submerged suction outlet for multiple drain use only (**FI-SG-1836** is unblockable and can be used for single use).
2. When two or more suction fittings are used on a common suction line, they shall be separated by a minimum of 3 feet. If any are located closer, they shall be located on two different planes (on the bottom and vertical wall) or 2 separate vertical walls.
3. Do not locate suction outlets on seating areas or on the back rests for such seating areas.
4. In the event that one suction outlet is completely blocked, the remaining suction outlets serving the system shall have a flow rating capable of the full flow of the pump(s) for the specific suction system.
5. These sumps are fitted with the appropriate side pipe fitting. The main suction pipe diameter may possibly need to be increased if the collector tank distance is more than 30 feet. Refer to a registered design professional.
6. If a field built sump is to be used, refer to the enclosed AMSE 112.19.8-20078 guidelines for correct sizing and formation of them. These are then to be certified by a registered design professional within the state of installation.
7. For use as in floor or wall mounting positions only.
8. This grate/cover, part # **MLD-GO-1818 (flat)**, **MLD-GOD-1818 (domed)**, **MLD-GOD-1212 (domed)**, and **MLD-GOD-0909 (domed)** is to be replaced after 10 installed years.
9. Many codes differ from ASME/ANSI A 112.19.8 2007 recommendations. It is the responsibility of the installer to choose the proper suction fitting for the application.



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IMPORTANT

The suction fitting fasteners must be observed for damage or tampering before each use of this facility and/or at least annually

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**MAIN DRAIN
INSTALLATION INSTRUCTIONS**

Read Carefully BEFORE Installation

MAXIMUM RATED FLOW RATES

MLD-SG-1818 (18" X 18") – FLOOR: 816 GPM; WALL: 712 GPM

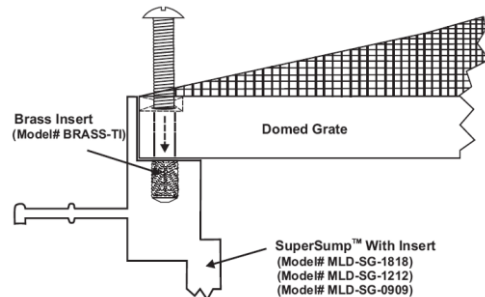
MLD-SG-1212 (12" X 12") - FLOOR: 365 GPM; WALL: 340 GPM

MLD-SG-0909 (9" X 9") - FLOOR: 261 GPM; WALL: 248 GPM

1. Read all general, safety, and installation literature first and then keep them for future reference. If there are any questions or further information is needed, call **1-800-832-8002** for assistance.
2. Install the 2" hydrostatic relief valve with Teflon tape or thread compound.
3. If not required, cap off the outlets with a 2" PVC male threaded plug.
4. Install perforated collection tee into 2" socket on underside of sump. Use PVC primer and glue. Avoid glue contact with hydrostatic valve.
5. Connect the side outlet to the suction line. Use PVC primer and glue.
6. Use a plywood cut-out to avoid concrete and debris following the inside and top of the product.
7. Encase the perforated pipe with 1" free draining gravel.
8. Encase the sump is correctly secured, level and square prior to pour.
9. When the concrete is dry, remove the plywood cover and using the correct tool, insert and screw in place the domed grate cover into the four threaded inserts on the sump using the tamper proof stainless steel fasteners supplied. Check for correct tightness.
10. **CAUTION:** The suction fitting fasteners must be observed for damage or tampering before each use of this facility and/or at least annually.
11. Any missing, broken, or cracked suction fittings must be replaced before using this facility.
12. Do not locate suction outlets on seating areas or on the back rests for such seating areas.
13. The pool shall not be operated if the suction outlet grate is missing, broken, or secured in such a way that it can be removed without the use of tools.
14. Many state codes differ. It is the responsibility of the installer to choose the proper suction fittings for the application.
15. **CAUTION:** Do not exceed maximum flow rate stated on suction fitting. When replacing pump, use pump with similar flow curve and horsepower.
16. **TESTING: MAXIMUM TEST PRESSURE OF 75 PSI.** When testing the piping to the sump, use water test only, not compressed air. The 1/2" NPT machined into the test plate inside the sump can be used to introduce the hydrostatic test, or to purge the air from the pipe for proper testing. If testing by other means use the 1/2" NPT plug (included) to plug the hole. After testing, remove the plug to relieve pressure and to drain off water. Use a Roto-zip or similar tool to cut away the test plate. Do not cut outside the circular groove. If additional testing is required after the test plate has been removed, use a blow up test ball braced into the pipe to keep the ball from sliding.
17. For colder climates as the sump is tapered, it will allow the water to expand upwards and avoids damage by expansion.



- During concrete placement, use caution to keep the threaded brass inserts clean.
- Use a #2 square head screwdriver for fastening stainless steel screws into the four threaded inserts and tighten to 60 in/lbs torque.
 - MLD-SG-0909 – (4) 1/4" X 20 X 5/8" (BOLT-01-SS)**
 - MLD-SG-1212 – (4) 1/4" X 20 X 5/8" (BOLT-01-SS)**
 - MLD-SG-1818 – (4) 1/4" X 20 X 15/16" (BOLT-02-SS)**
- No other means of fasteners will be approved.



- Total head loss at maximum flow rate is less than **0.1 PSI for MLD-FG-0909 and MLD-FGD-1212**, and **0.3 PSI for MLD-FGD-1818**

Link to general certification of conformity to VGB 2008
<http://www.lawsonaquatics.com/certification.htm>