640-231X V MAIN DRAIN OWNER'S MANUAL

For Part Numbers: 640-2310 • 640-2311 • 640-2312 • 640-2317 • 640-2319-DKG • 640-2319-BEI • 640-2319-DKB

VGBA 2017

WARNING:
IMPORTANT SAFETY INSTRUCTIONS. READ, UNDERSTAND, AND FOLLOW ALL WARNINGS AND INSTRUCTIONS. SAVE THESE INSTRUCTIONS.

Read and follow all instructions in this owner's manual and on the equipment. Failure to follow instructions can cause severe injury and/or death.

SOFA INSTRUCTIONS

When installing and using this equipment, basic safety precautions shall always be followed, including the following: IMPORTANT SAFETY INSTRUCTIONS. READ, FOLLOW, AND UNDERSTAND ALL INSTRUCTIONS AND WARNINGS.

Any modification that increases the flow rate of the circulation system shall require re-evaluation of the cover/grate and sump to ensure that the flow rating of the Suction Outlet Fitting Assembly (SOFA) is not exceeded.

Missing, broken, or cracked cover/grates, sumps, mud-frames, or any other SOFA component shall be replaced before bathers are allowed to use the pool.

Loose cover/grates shall be reattached before bathers are allowed to use the pool.
SAVE THESE INSTRUCTIONS.

IMPORTANT SAFETY INSTRUCTIONS



WARNING - 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 potential for jewelry, swimsuit, hair decorations, finger, toe, or knuckle to be caught in an opening of a suction outlet cover resulting in mechanical entrapment.

USE ONLY GENUINE WATERWAY REPLACEMENT PARTS.

Designed, Engineered & Manufactured in the USA.

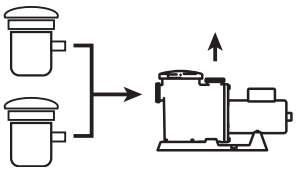
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TO REDUCE THE RISK OF ENTRAPMENT HAZARDS:



• 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 (3') / 1 meter apart, as measured from suction pipe center to suction pipe center.

- 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 backrest for such seating areas.
- The maximum system flow rate shall not exceed the flow rating of any listed (per ANSI/APSP/ICC-16 2017) suction outlet cover installed. In the event of one suction outlet being completely blocked, the remaining suction outlets serving the system shall have a flow rating capable of the full flow of the pump(s).
- Never use a 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.
- Two or more suction outlets per pump should be installed in accordance with latest APSP Standards and CPSC guidelines, and follow all National, State, and Local codes applicable.
- Replace the suction within 7 years from the installation date.
- Installation of a vacuum release system, which relieves entrapping suction, is recommended.

WARNING

Failure to remove pressure test plugs and/or plugs used in winterization of the pool/spa from the suction outlets can result in an increased potential for suction entrapment as described on the previous page.

Failure to keep suction outlet components clear of debris, such as leaves, dirt, hair, paper and other material, can result in an increased potential for suction entrapment as described on the previous page.

Suction outlet components have a finite life. The cover/grate should be inspected frequently and replaced at least every seven years, or if found to be damaged, broken, cracked, missing, or not securely attached.

The 8"/ 640-231x V fitting is rated at 100 GPM for floor and 64 GPM for wall. If the fitting is missing or broken, replace with a fitting of equivalent rating or higher. Use of a lower rated suction fitting could result in entrapment of the body which could result in serious injury including drowning.

Do not use or operate pool, spa, or hot tub if this suction fitting is missing, broken or not secured per instructions. The suction fitting is intended to prevent entrapment of the body. Use of the spa hot tub with a missing, broken or improperly secured suction grate may result in serious personal injury including drowning.

When the pool, spa or hot tub is in operation, suction is created at this fitting. Users of the spa or hot tub must be instructed not to come in contact with this fitting in such a way as to block its orifice. If a user of the spa or hot tub blocks this fitting with his/her body, serious personal injury or drowning may occur.

In order to remove the suction cover (for service or winterization), using a Phillips-head screw driver remove the screws. Inspect both the suction cover and suction fitting for any cracks or damages.

It is imperative to securely attach the suction cover to the wall fittings (use only the original supplied screws or obtain original replacements). Do not over tighten the screws. Inspection of fasteners and observation for damaged/tampered with suction fittings is required.

Any and all broken or missing parts must be replaced prior to starting spa or pool pump. Never operate spa or pool without drain cover in place and properly affixed, death or serious injury can result.

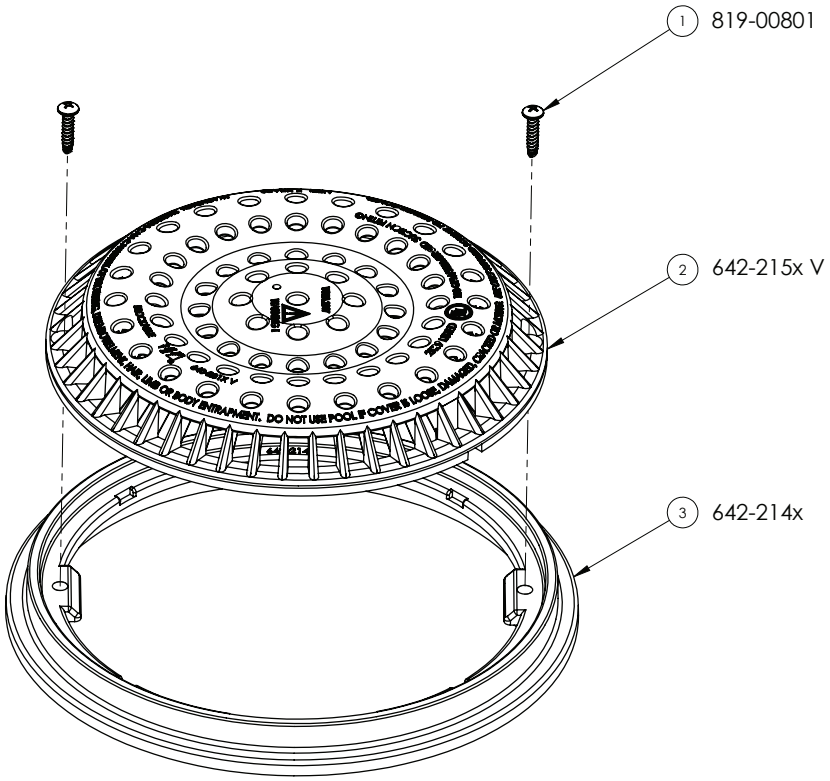
Do not exceed the safe flow rate. Do not increase flow through system by increasing pump size or horsepower.

Do not allow children to sit, play or interact with main drains or suction outlet.

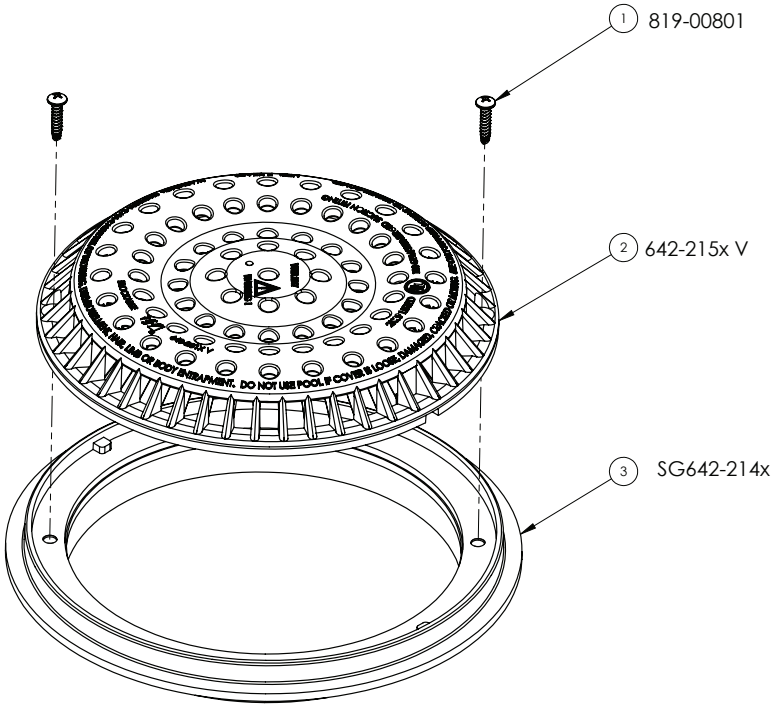
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- **Suction cover life is 7 years, the sump wall fitting life is 14 years, the rest of the components have 25 year life, cover and all SOFA components shall be replaced on or before the end of service life.**
- **The use of adhesives or other attachment methods that prevent access to suction piping or SOFA components is prohibited.**
- **Please refer to Head Loss Curve, suction head measured at the wall fitting.**
- **This is a blockable SOFA as marked on the suction cover.**
- **Hand tighten screwsto 24 in-lbs torque, DO NOT USE POWER TOOLS TO INSTALL FASTENERS. Ensure proper thread engagement to prevent cross-threading.**
- **Ensure proper flatness of installation surface.**
- **When mud-rings, sump and other components are held in place by the interior surface of the pool, the surface should be free of deterioration or voids**
- **Damaged Fasteners shall be replaced with original parts, and must be grade 316 stainless steel. The wall fitting shall be inspected for the presence of any CRACK or material loss. Cracked/damaged mud rings, sumps, or wall fittings shall be replaced.**
- **No unauthorized field modifications.**
- **This product is intended for use on gunite, vinyl, fiberglass, and roto-molded pools, spas and hot tubs.**
- **No modification shall be made to SOFA structure or flow path unless the configuration has been certified as a new SOFA.**
- **Service life begins the month and year in which SOFA components are installed with or without water.**
- **For winterization remove the cover and plug the inlet.**
- **Use screw driver for service and removal of fasteners.**
- **Observe cover/grate/fasteners for damage each operational day.**
- **During installation ensure components and fastener receptacles are clean, free of debris and obstructions.**
- **Hand-check cover/grate for snugness to the sump/frame/wall fitting after installation.**
- **SOFA installation components with crack, chunks, or pieces broken off, stripped screw holes, and/or unusual discoloration should be replaced.**
- **The mounting surface or interior surface of the pool should be free of deterioration.**
- **Start installation of screws by hand to ensure proper thread engagement and to prevent cross-threading.**
- **Do not exceed the safe flow rating of SOFAs as listed.**
- **All SOFAs should be installed in accordance with Waterway installation instructions.**
- **No modification shall be made to SOFA structure or flow path unless new configuration has been certified as a new SOFA.**
- **Under no condition should SOFA special flow rating be exceeded while the pool is open.**
- **The capacity of secondary circulation system (skimmer, cutters, etc) should not be included when evaluating an individual suction system flow rating.**
- **For the flow rating for pools with multiple blockable SOFAs in one body of water without isolation valves: combine all SOFAs, minus the flow rate of one, if all are not equal use the larger flow rate.**
- **"Blockable" SOFAs in new pools shall be installed in multiple-SOFA system ONLY.**
- **"Blockable" SOFAs in existing pools with single SOFA systems shall be installed with an additional anti-entrapment device or system.**

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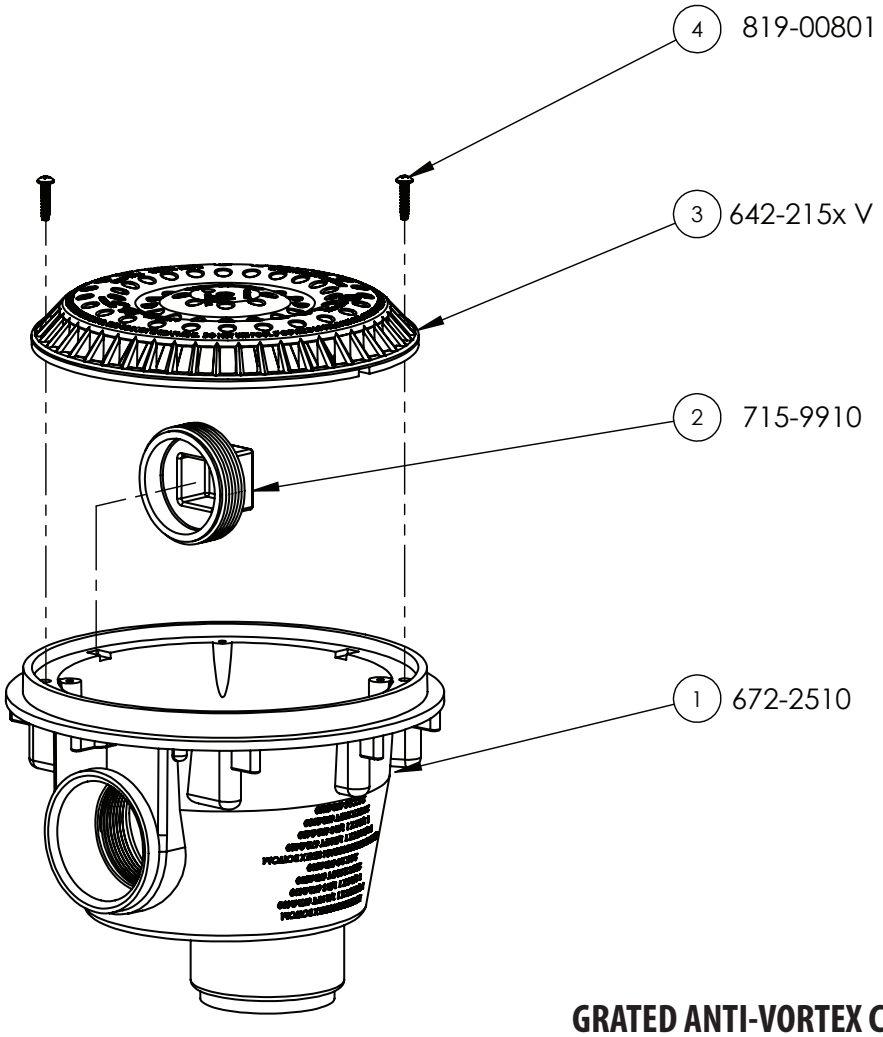
640-2310 V



SG6402310

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INSTRUCTIONS FOR CONCRETE MAIN DRAINS SUMP (DUAL PORT)

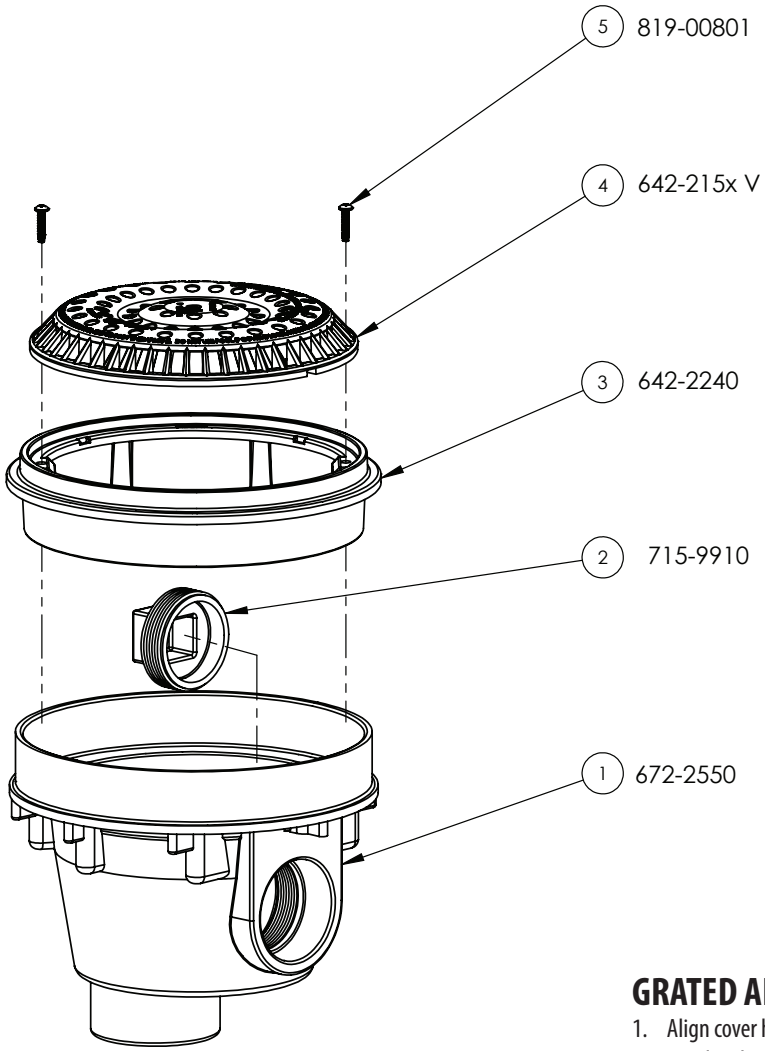


GRATED ANTI-VORTEX CONCRETE ASSEMBLY

1. Align cover holes with brass inserts.
2. Hand-tighten supplied screws. **DO NOT USE POWER TOOLS.**
3. A minimum 2" connecting pipe should be used.

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INSTRUCTIONS FOR CONCRETE MAIN DRAINS WITH ADJUSTABLE COLLAR SUMP (DUAL PORT)



GRATED ANTI-VORTEX CONCRETE ASSEMBLY

1. Align cover holes with brass inserts.
2. Hand-tighten supplied screws. **DO NOT USE POWER TOOLS.**
3. A minimum 2" connecting pipe should be used.

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INSTRUCTIONS FOR VINYL LINER MAIN DRAINS (DUAL PORT)

- **Grated Anti-Vortex Cover is contoured to keep auto-cleaners from sticking**
- **Vinyl liner mounting plate is angled for auto-cleaners to climb over**
- **Body is type 1 PVC: better for glue joints**

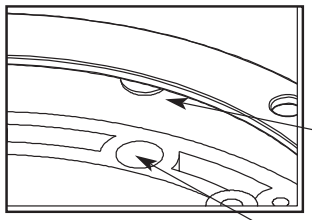
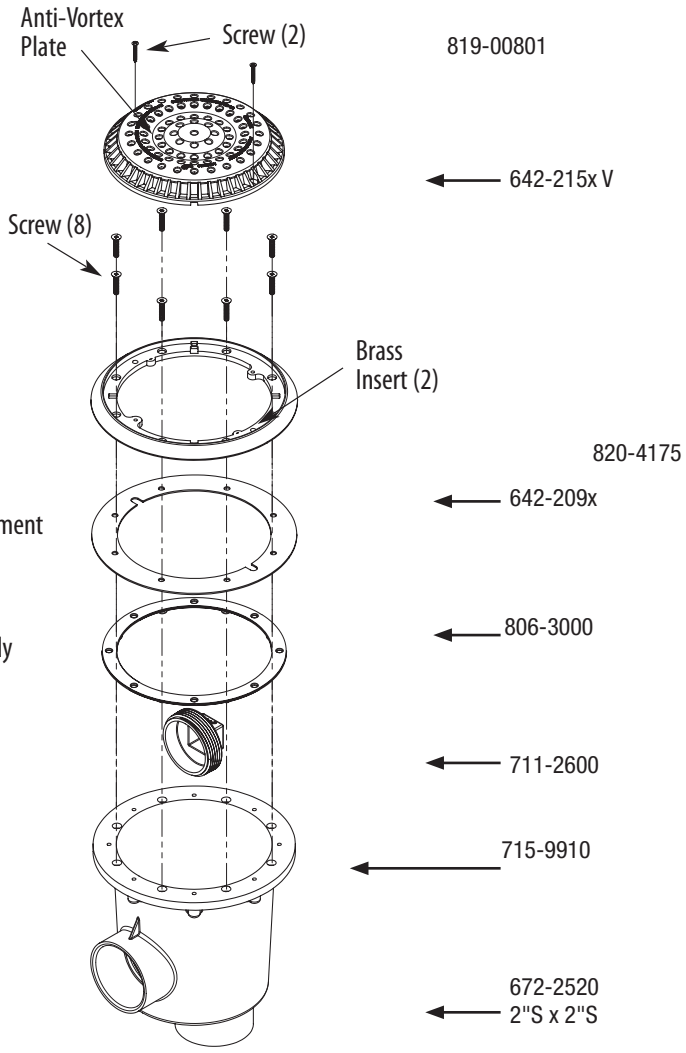


Diagram A

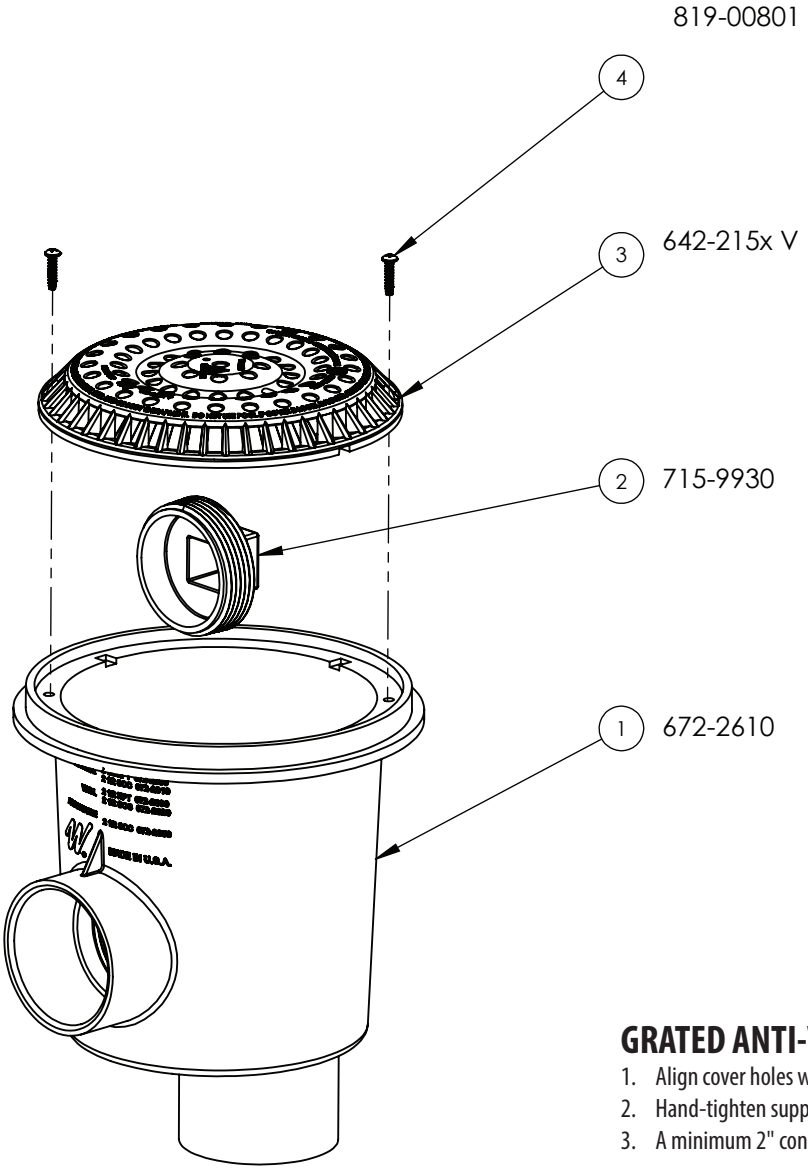


GRATED ANTI-VORTEX VINYL LINER ASSEMBLY

1. Install rubber gasket to body by pushing in raised alignment cups into slots in body (see Diagram A).
2. Lay vinyl liner over main drain.
3. Put fiber gasket and mounting plate on top of vinyl liner over main drain.
4. Install all eight screws. (If this is your first time, ask where purchased this drain exactly how to do it with the pool you brought.)
5. Align cover holes with brass inserts and install screws.

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INSTRUCTIONS FOR CONCRETE MAIN DRAINS WITH DEEP SUMP (DUAL PORT)

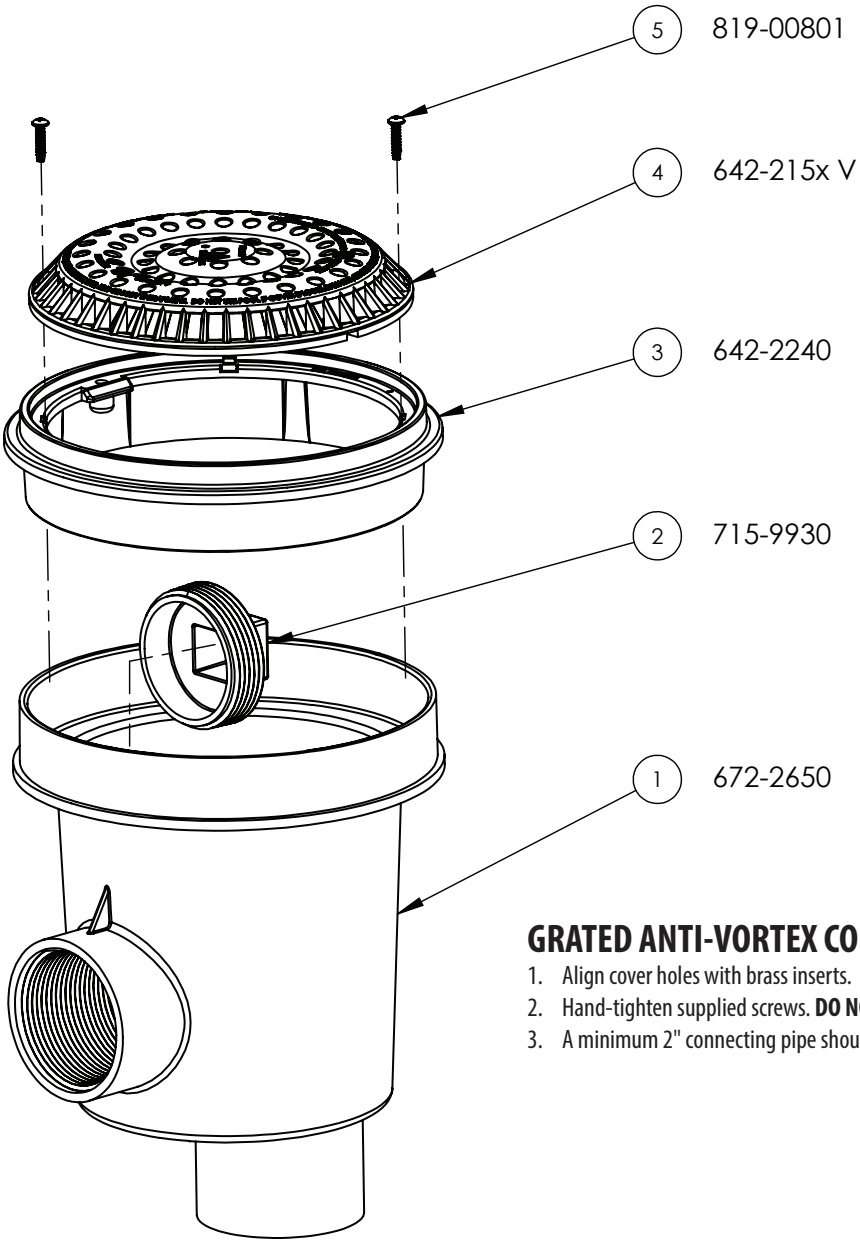


GRATED ANTI-VORTEX CONCRETE ASSEMBLY

1. Align cover holes with brass inserts.
2. Hand-tighten supplied screws. **DO NOT USE POWER TOOLS.**
3. A minimum 2" connecting pipe should be used.

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INSTRUCTIONS FOR CONCRETE MAIN DRAINS WITH ADJUSTABLE COLLAR DEEP SUMP (DUAL PORT)

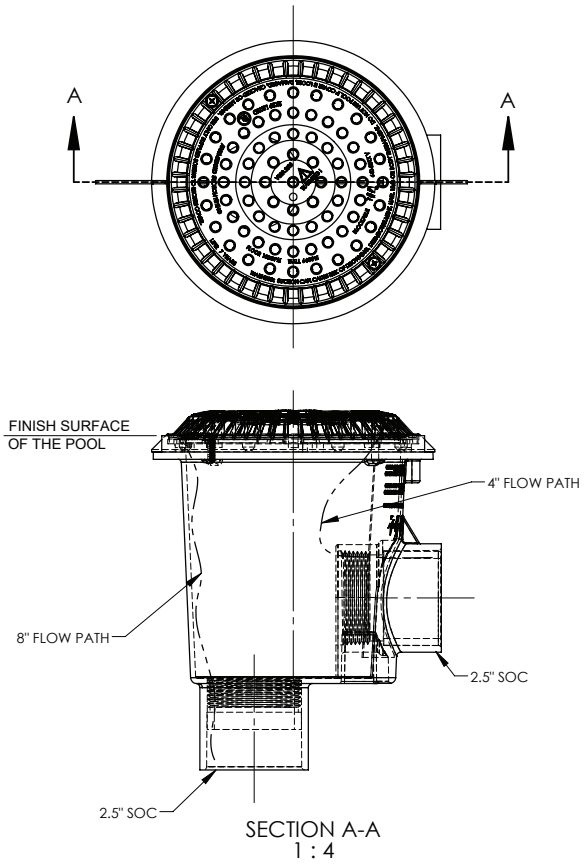


GRATED ANTI-VORTEX CONCRETE ASSEMBLY

1. Align cover holes with brass inserts.
2. Hand-tighten supplied screws. **DO NOT USE POWER TOOLS.**
3. A minimum 2" connecting pipe should be used.

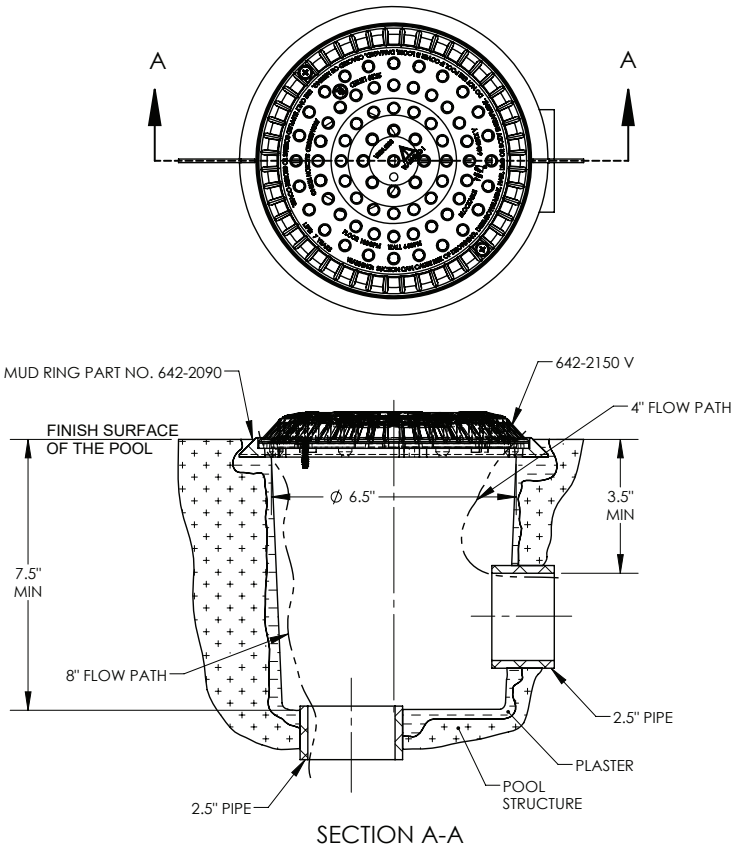
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FLOW PATH (2.5" DEEP SUMP)



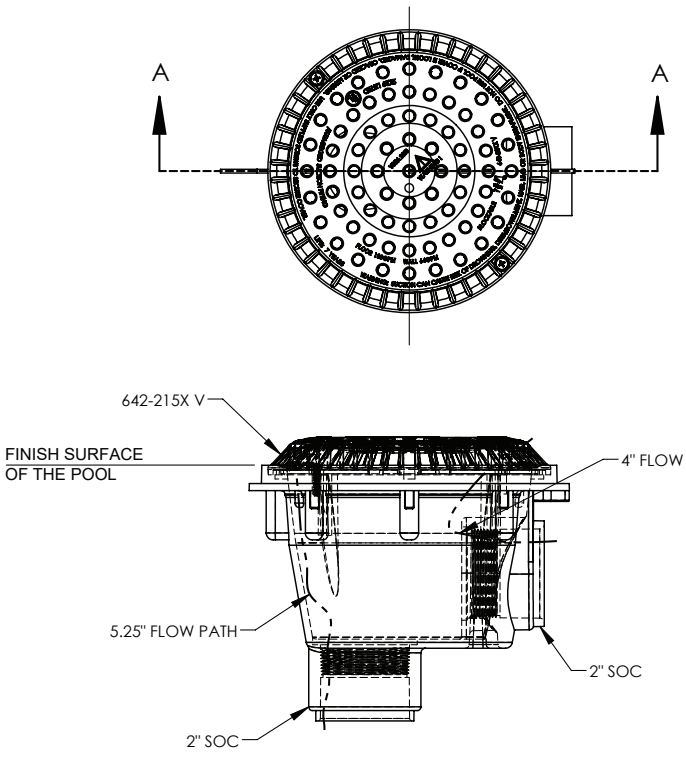
SECTION A-A
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FIELD BUILT DEEP SUMP WITH 2.5" PIPE



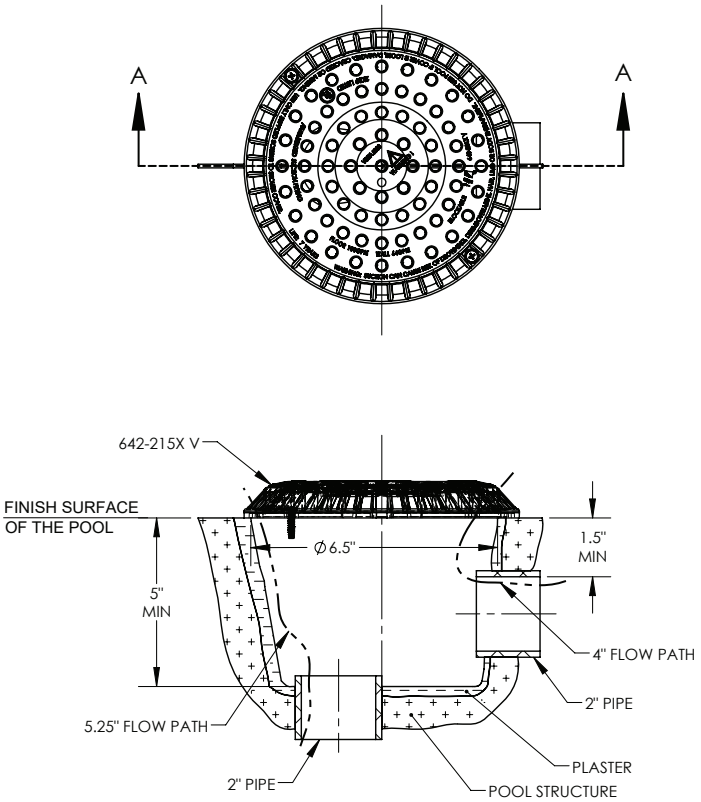
SECTION A-A

FLOW PATH



SECTION A-A

FIELD FABRICATED SUMP



SECTION A-A

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Installation Information Label
Main Drain

Cover/Grate Model#: 640-231x V, Cover Part#: 642-215x V
Life & years from the date of installation: 7 Years

Flow Ratings

Sump Part Numbers	Floor GPM	Wall GPM
672-2510 2"	100	64
672-2550 2"	100	64
672-2520 2"	100	64
672-2610 2½"	100	64
672-2650 2½"	100	64
Field fabricated sumps per installation instructions	100	64

Installer shall fill-in the location of the installed SOFA and the cover/grate installation before giving this information label to the pool owner. This Installation Information Label shall be permanently posted as near feasible to the pump control, and that a copy of this information be given to the pool owner, to be kept with other important pool related documents.

Location of the Installed SOFA, such that it can be successfully identified in the future:

_____

The date the cover/grate was installed in the pool, where the month and year indicators on the label are easily activated in the field:

_____

8" Round Anti-Vortex Suction Outlet: 640-231x V

Floor Flow Rate: 100 GPM Wall Flow Rate: 64 GPM

Removable Tags for Blockable Cover/Grate Packaging
"READ, FOLLOW, AND UNDERSTAND ALL INSTRUCTIONS AND WARNINGS". This VGBA Suction outlet has an installation specific flow rating and this product SHALL NOT be installed on a pumping system that is capable of exceeding this limit, which varies based on the number and location of installed suction outlets. READ and FOLLOW this section of the included installation instructions explaining how to calculate the suction system flow ratings and that of the installed pumping system.

⚠"WARNING! This is a BLOCKABLE VGBA Suction Outlet that must ONLY be installed in a multiple VGBA Suction Outlet System." (9.8.2.1)

This is a BLOCKABLE VGBA Suction Outlet. It must ONLY be installed in a suction system that also includes one or more of the following devices or systems designed to prevent suction entrapment, when and if the suction cover marked for single use and used as the sole source of water for a single suction outlet :

- Safety Vacuum Release System
- Suction Limiting Vent System
- Gravity drainage System
- Automatic Pump Shut-Off System
- Drain Disablement
- Other Systems determined by Consumer Product Safety Commission to be equally effective as, or better than above-mentioned systems at preventing or eliminating the risk of injury or death associated with pool drainage system.

THIS TAG/LABEL IS TO BE CUT & REMOVED BY THE INSTALLER ONLY

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GENERAL CERTIFICATE OF COMPLIANCE

8" ROUND, ANTI-VORTEX SUCTION OUTLET: P/N 640-231x V



Contents: 1

Part Number: **640-231x V**

Description: **Round Anti-Vortex Suction Outlet**
Size: **8**"

Open Area: **11.83 in²**
GPM @ 1.5 fps: **55**
Floor Flow Rate: **100 GPM**
Wall Flow Rate: **64 GPM**

VGBA 2017

For Date of Manufacture please see the manufacture mark on product



Please Note: Service life begins the month and year in which SOFA components are installed with or without water.

Date of Installation: _____

Name of Installer: _____

Signature of Installer: _____

This product has been tested, certified and listed to the requirements of ANSI/APSP - 16. 2017 per §1404 of the Virginia Graham Baker Pool and Spa Safety Act. Certified by: Underwriters Laboratories, Inc., 2929 E. Imperial Highway, Suite 100, Brea, CA 92821-6729

This product is certified to comply with §1404 of the Virginia Graham Baker (VGBA 2017) Pool and Spa Safety Act. A copy of the test results for the above may be found at www.waterwayplastics.com or go to: www.ul.com.

The test results supporting the product certification are maintained by Ray Mirzaei, 2200 Sturgis, Rd, Oxnard , CA 93030
Phone: 805-9810262 **Email**: raym@waterwayplastics.com

This product is manufactured by Waterway Plastics, Oxnard CA 93030

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