

DESIGNER PRO SERIES SUCTION INSTALLATION INSTRUCTIONS

For Model Numbers: 640-52xx VP & 640-52xx S

**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.

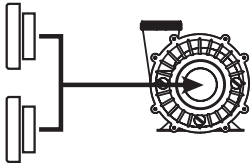
USE ONLY GENUINE WATERWAY REPLACEMENT PARTS.



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www.waterwayplastics.com • waterway@waterwayplastics.com

TO REDUCE THE RISK OF ENTRAPMENT HAZARDS:



- Installation of a vacuum release system, which relieves entrapping suction, is recommended.
- SOFA(s) should be chosen so that the individual suction system flow rate is > pumping system's MAX system flow rate.
- Never use a pool or spa if any suction outlet component is damaged, broken, cracked, missing, or not securely attached.
- Replaced damaged, broken, cracked, missing, brittle, or not securely attached suction outlet components immediately.

All other applicable National, State, and local codes and requirements shall be followed.

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.



This suction outlet is rated at 252 GPM when used as a dual outlet with 2 ½" fittings 215-5210 for portable spas only. This suction outlet is rated at 180 GPM when used as a dual outlet with the 2" 215-5200 fitting for portable spas only. 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 spa/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 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.

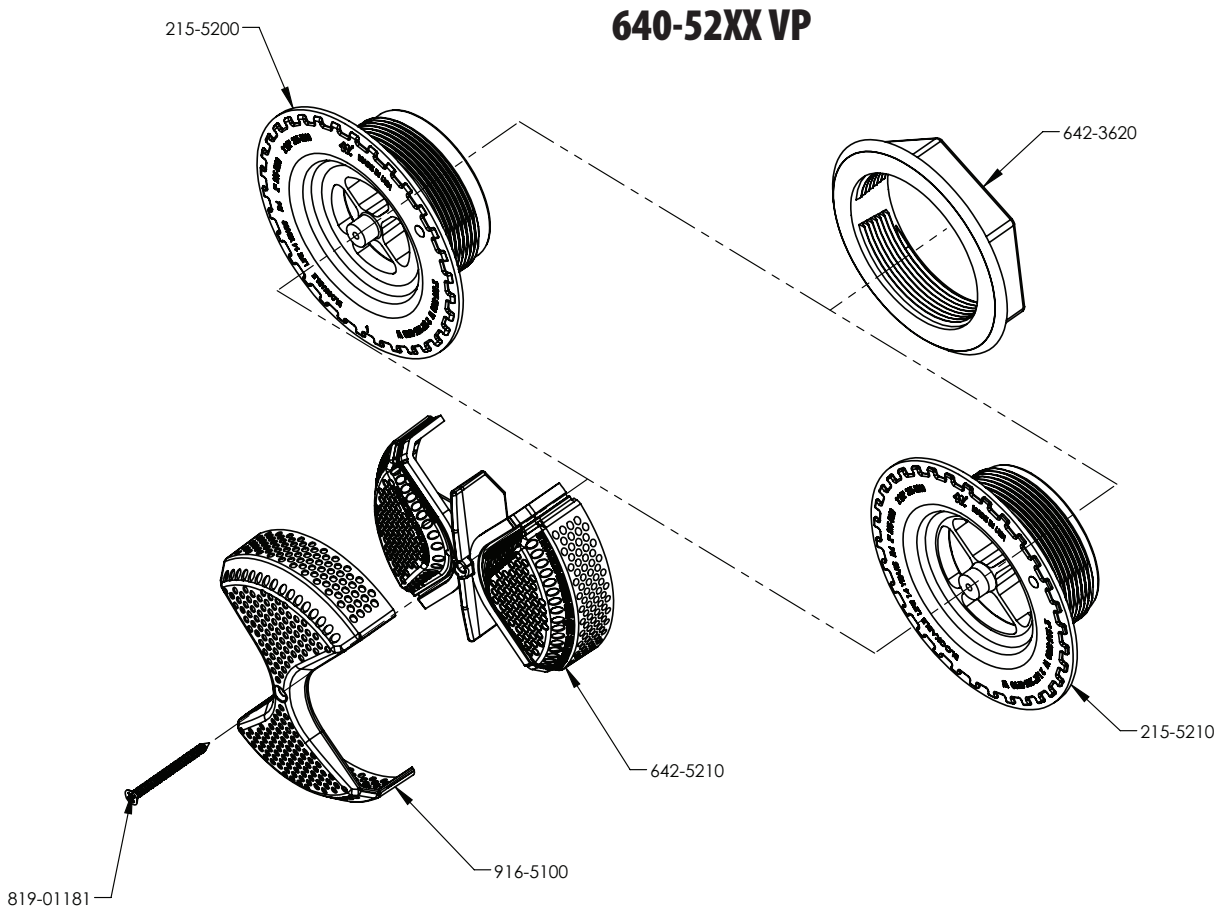
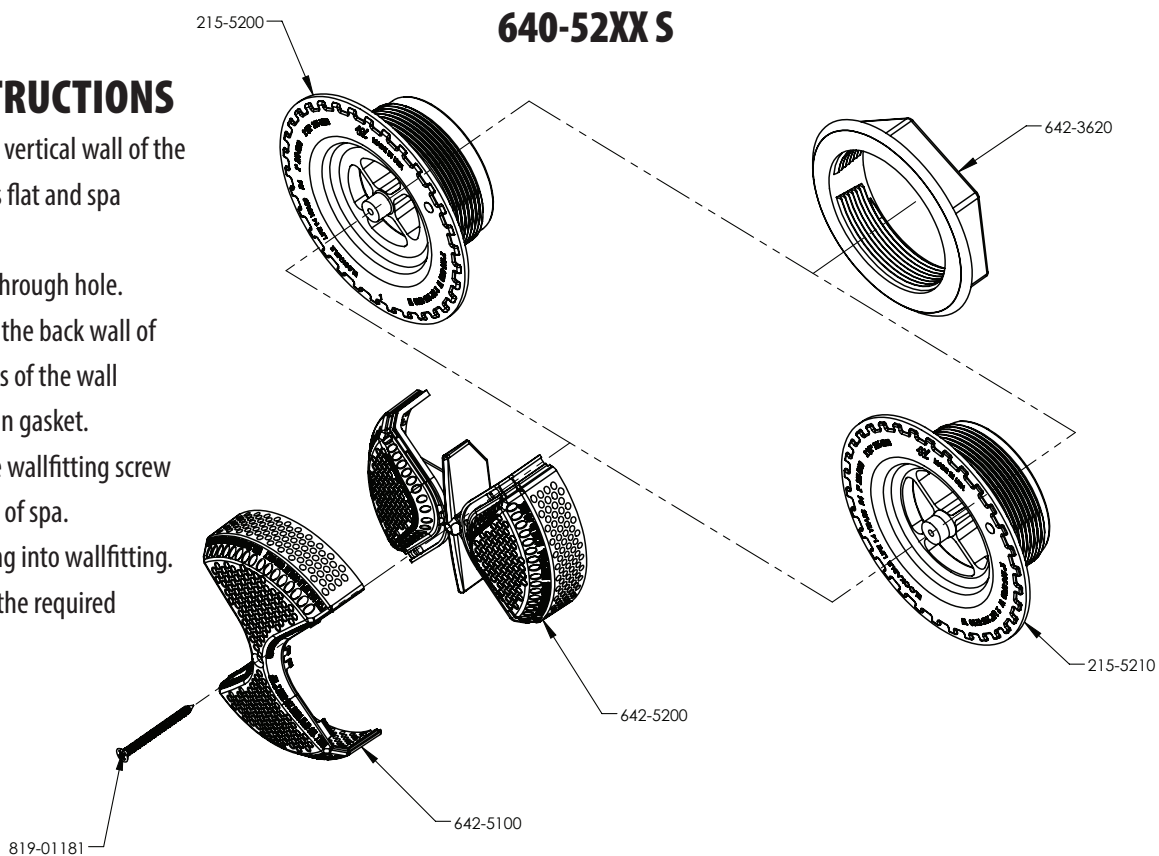
- Self-contained spa SOFAs shall be used only in self-contained factory-manufactured spas tested and certified in accordance with ANSI/UL 1563.
- Self-contained spa SOFAs shall be installed into the body or shell of the spa at the time that the spa is manufactured.
- At least two self-contained spa SOFAs shall be piped so that the water is drawn through them simultaneously through a common line to the related pump(s). The use of valves or fittings capable of isolating one self-contained spa SOFA from any other on the common line to the related pump is prohibited.
- Self-contained spa SOFAs shall be connected to a tee leading to the pump utilizing only the SOFA manufacturer's specified size(s) of PVC hose or pipe.
- The maximum hose length difference between any self-contained spa SOFA and the tee leading to the pump shall not exceed 13 feet (3.96 m).
- The suction pipe size between self-contained spa SOFAs shall be specified for each SOFA model.
- 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.
- This is a blockable SOFA as marked on the suction cover.
- Hand tighten screws, DO NOT USE POWER TOOLS TO INSTALL FASTENERS. Ensure proper thread engagement to prevent cross-threading. Torque to 17 in-lbs.
- 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. Unauthorized modifications will void certification.
- 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.
- 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.
- SOFA(s) should be chosen so that the individual suction system flow rate is greater than the pumping systems maximum system flow rate.
- The flow rating for existing pools with a single blockable SOFA is the flow rating of the SOFA when installed with an additional device to prevent suction entrapment.
- A single blockable SOFA in a system that does not have an additional device or systems shall result in a flow rate of zero.



WARNING: This is a PVC to PVC connection. Improper gluing or improper cement selection can cause leaks at glued connection which can result in property damage.

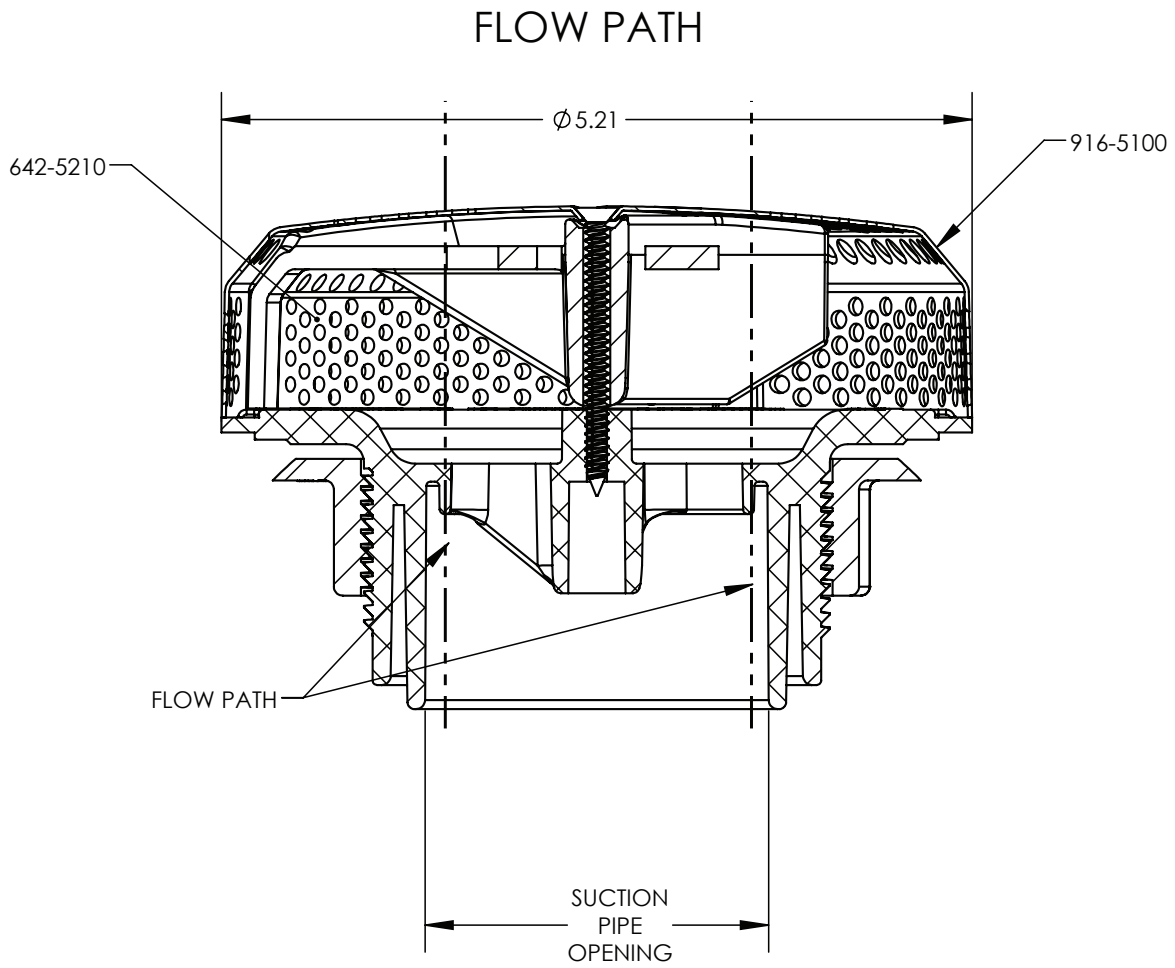
INSTALLATION INSTRUCTIONS

1. Locate and cut a 3 1/4" hole in a vertical wall of the spa. Be sure the area located is flat and spa laminate thickness is uniform.
2. Insert wallfitting with gasket through hole.
3. Apply a bead of silicon against the back wall of the spa and around the threads of the wall fitting. Avoid getting sealant on gasket.
4. Install nut and tighten. Be sure wallfitting screw studs are horizontal to bottom of spa.
5. Glue elbow supplied with fitting into wallfitting. Be sure to orient the elbow in the required direction while gluing.



FLOW PATH ZONE DIMENSIONS:

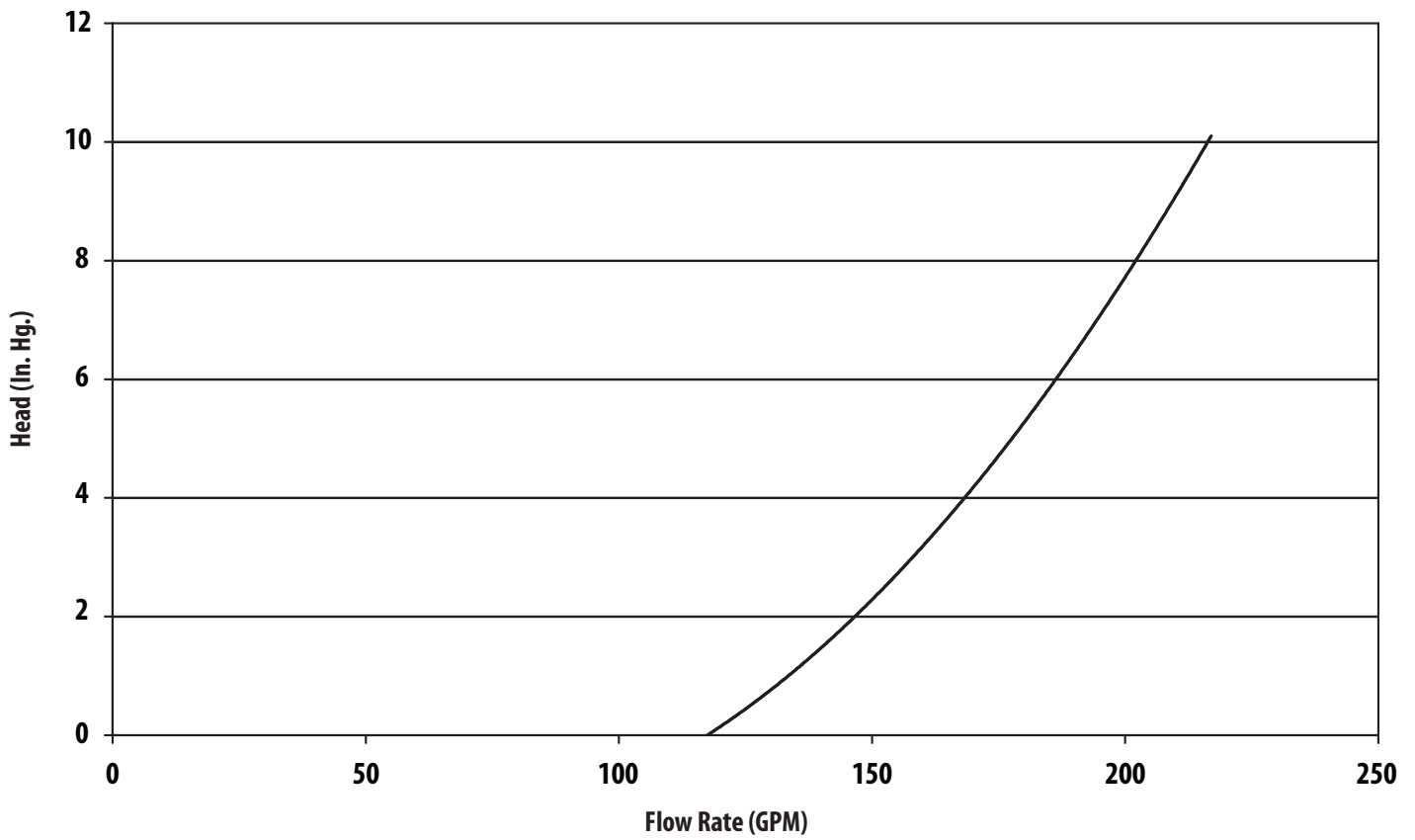
This is a sumpless drain.



The size of the suction plumbing shall not be reduced.

NOTE: Use of field fabricated sumps is not permitted

640-520x V Head Loss Curve



WARRANTY

For product registration visit: www.waterwayplastics.com.
For Warranty questions or claims please contact point of purchase.

Installation Information Label

5" Designer Pro Series Suction

Cover/Grate Model#: 640-52xx VP and 640-52xx S
Life & years from the date of installation: 7 Years

Flow Ratings

Wall Flow Rate: 252 GPM with 215-5210 2 1/2" wall fitting
180 GPM with 215-5200 2" wall fitting

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:

5" Designer Pro Series Suction: 640-52xx VP and 640-52xx S

Wall Flow Rate: 252 GPM with 215-5210 2 1/2" wall fitting, 180 GPM with 215-5200 2" wall fitting

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

CERTIFICATION OF COMPLIANCE

5" DESIGNER PRO SERIES SUCTION: P/N 640-52xx

Contents: 1

Part Number: **640-52xx VP**
640-52xx S

Description: **Designer Pro
Series Suction**

Size: **5"**

Floor Flow Rate: **252 GPM with 215-5210, 2 ½" wall fitting**
180 GPM with 215-5200, 2" wall fitting



**VGBA
2017**

For Date of Manufacture please see the manufacture mark on product



Date of Installation: _____

Name of Installer: _____

Signature of Installer: _____

This product has been tested to ANSI/ASME 112.19.8-2007 (ANSI/APSP - 16. 2017) per §1404 of the Virginia Graham Baker (VGBA 2017) Pool and Spa Safety Act. Certified by: NSF International, Inc., 729 N. Dixboro Rd., Ann Arbor, MI 48105, 734-769-8670. Testing report from May, 2021.

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.nsf.org. This product is manufactured by Waterway Plastics, Oxnard, CA 93030. Test records are kept by Ray Mirzaei at Waterway Plastics.



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