



## The Virginia Graeme Baker Pool & Spa Safety Act Resource Guide

The Virginia Graeme Baker Pool & Spa Safety Act (VGB Act) was enacted by Congress and signed by President Bush on December 19, 2007, with the goal of preventing drownings in pools and spas. It addresses fencing, alarms, and the hazard of suction entrapment, by mandating all suction outlets (main drain covers, mounting hardware, and sumps) to be 3rd party certified, and that the drain covers have not exceeded their installed service life. It also requires public pools and spas with single, block able drains to be equipped with a secondary system designed to prevent suction entrapment. Compliance with the law was mandatory as of December 19, 2008.

The law addresses private and public pools. Residential drain covers/SOFAs must comply when they are installed and replaced. Public pools require retroactive suction system upgrades. The VGB Act provides financial incentives to state and local jurisdictions that adopt and enforce VGB Act policies for all private pools and spas.

All drain covers, riser rings, supports, fasteners, and mounting hardware must be tested, and 3rd party certified to ASME/ANSI A112.19.8-2007. The designation changed in mid-2008 when the American Society of Mechanical Engineers (ASME) requested the standard be transferred to another Standard Development Organization (SDO) and that process was completed in 2011 with the Association of Pool & Spa Professionals (APSP) becoming the new SDO. The name changed to ANSI/APSP 16-2011 without altering any requirements at that time. During the transition, manufacturers were instructed to mark newly certified products with VGB-2008. As a result, certified drain covers/SOFAs were marked with one or more of the following: ASME/ANSI A112.19.8 (2007, 2008a, or 2009b), VGB-2008, or ANSI/APSP 16-2011.

Not all drain covers/SOFAs require one of these marks, as the standard provides for a non-manufactured type of unblock able suction outlet called Field Fabricated Outlets. These large area grates are designed and certified by a Registered Design Professional (RDP) using conventional building materials, manufactured drain cover/SOFA components, or custom fabrication (i.e., weldments). The RDP is the certifier of Field Fabricated Outlets, with VGB Act compliance demonstrated through a written report that must be kept at the facility to show proof of full compliance.

The drain cover standard was revised in 2017 to remain in conformance with American National Standards Institute (ANSI) essential requirements that apply to all ANSI standards. The title of the updated standard is ANSI/APSP/ICC-16 2017. The revision was accepted by the U.S. Consumer Product Safety Commission (CPSC) as being in the public interest, officially making it the VGB Act successor drain cover/SOFA standard under federal law. The effective date was May 24, 2021.

The delay from 2017's revision to the effective date of May 24, 2021, was to allow manufacturers and Registered Design Professionals time to comply with significant new documentation, field-built sump, and product marking requirements. The original 2008 effective date had been retroactive, while the most recently updated version applies as a rolling change. This means that fully compliant VGB-2008 product manufactured and certified before May 24,



2021, remains compliant through its installed service life, provided it is not damaged or significantly discolored. Existing VGB-2008 product may be sold, distributed, and installed, while supplies last.

During the transition it is very important to follow the design and installation instructions associated with the product in hand. While VGBA-2017 instructions can be applied to products certified to a VGB-2008 standard, it is not permissible to use VGB-2008 instructions when installing VGBA-2017 products, even if the products appear identical. Like-for-like replacements are not automatically compliant under the revised federal drain cover/SOFA law. The VGBA-2017 standard defines a "drain cover" as a Suction Outlet Fitting Assembly (SOFA), which is defined as "all components, including the cover/grate, used to attach a cover/grate(s) to the finished surface of a pool and to an individual suction system."

The revised standard further clarifies the legal difference between blockable and unblockable SOFAs, as a blockable SOFA cannot be used alone. Manufactured drain covers/SOFAs will be marked "blockable" or "unblockable." Knowing the difference is required to comply with federal law as blockable drains/SOFAs cannot be used alone for new construction. Also, existing public venues with an active single, blockable drain/SOFA require a secondary system designed to prevent suction entrapment that is authorized by the drain cover/ SOFA manufacturer. Many manufacturers only authorize their drain covers/SOFAs to be installed in dual-drain systems. VGB Act compliance requires following product-specific installation instructions for drain covers/SOFAs and secondary devices. This includes confirming each replacement drain cover/ SOFA is compatible with the existing sump (the space between the cover and the suction pipe). Regardless of it being a manufactured or field-built sump, the sump must meet minimum/maximum sump dimension and suction pipe size-specific flow rating of the replacement drain cover/SOFA.

The VGBA-2017 includes two significant changes impacting public venues. The first is a simple name change from "Field Fabricated Outlet" to "Registered Design Professional SOFA." This is to eliminate confusion between this type of suction outlet and "Field-built sumps." The second is more important to understand and it also deals with field-built sumps. VGBA-2017 deleted the original Figure 2 sump option that authorized sump depths based on 1.5 times the pipe diameter without any testing. These sumps are still allowed, but only after being tested, certified, and documented in the cover/SOFA-specific installation instructions. Diligently following sump depth, pipe size, and the associated flow rating limitations is important to address hair entanglement hazards because hair typically fows with the water through the cover, into the suction pipe.

This important child safety law strives to:

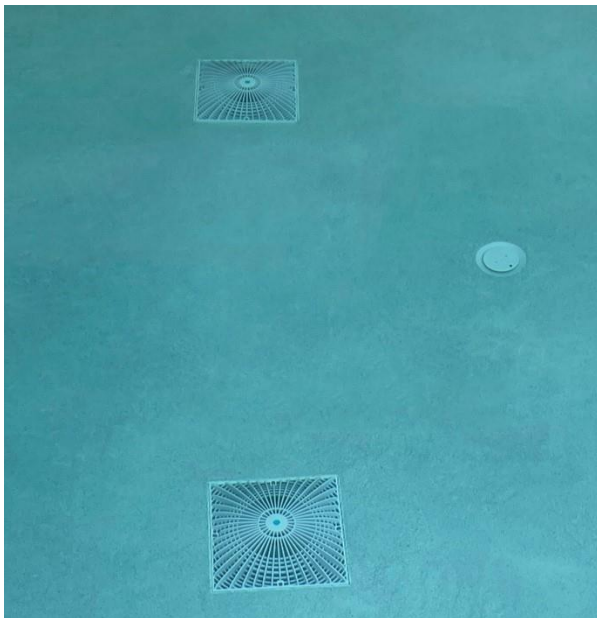
- Enhance the safety of public and private pools and spas  
Reduce child drownings in pools and spas (each year, nearly 300 children younger than five drown)
- Reduce the number of suction entrapment incidents, injuries, and deaths
- Educate the public on the importance of constant supervision of children in and around water



- Encourage the use of multiple safety steps at all pools and spas

### Warning

Under the law, all public pools and spas must have ANSI/APSP-16 or subsequent compliant suction fittings installed. No pool or spa is safe if a drain cover is broken, missing, or cracked, and the pool should be closed until repairs can be made.



### Additional Requirements for Safety Devices or Systems

The VGB Act states "each public pool and spa in the United States with a single main drain/SOFA other than an unblockable drain shall be equipped, at a minimum, with 1 or more of the following devices or systems designed to prevent entrapment by pool and spa drains/SOFAs:"

1. **Safety vacuum release system (SVRS)**—A safety vacuum release system which ceases operation of the pump, reverses the circulation flow, or otherwise provides a vacuum release at a suction outlet when a blockage is detected, that has been tested by an independent 3rd party and found to conform to ASME/ANSI standard A112.19.17 or ASTM standard F2387.
2. **Suction-limiting vent system**— A suction-limiting vent system with a tamper-resistant atmospheric opening.



3. **Gravity drainage system**—A gravity drainage system uses a collector tank.
4. **Automatic pump shut-off system**—A system that automatically shuts off the pump.
5. **Drain disablement**—A device or system that disables the drain.
6. **Other systems**—Any other system determined by the Consumer Product Safety Commission to be equally effective as, or better than, the systems described in (1) through (5) above at preventing or eliminating the risk of injury or death associated with pool drainage.

**Note:** States and subdivisions of states are permitted to limit these options or even specify which of the options are allowed as long as they do not make compliance with the act an impossibility.

## Five Forms of Entrapment

The VGB Act is designed to reduce the risk of five forms of entrapment. The following entrapment categories are the result of analysis of all reported cases of entrapment to CPSC. It is important to note that not all entrapments are caused by suction.

Excessive water flow through a cover/SOFA (certified or not) can entangle and knot hair. Alternatively, the entrapment can be the result of physically becoming stuck in an outlet or submerged pipe. In this case flow is not required, such as in the case of mechanical entrapment. The entrapment categories are:

1. **Body:** a body part, often the torso or bottom, covers a drain/SOFA and is held down by the force of the suction.
2. **Hair:** hair is caught or entangled in a cover/ SOFA that is not certified for the operating pump flow rate, or that is not compatible with the sump depth and/or pipe size.
3. **Limbs:** arms, legs, feet, or fingers are lodged in a pipe, equalizer, vacuum port, or uncovered sump.
4. **Mechanical:** jewelry, bathing suits, or other materials are entangled in a drain cover/ SOFA.
5. **Evisceration/disembowelment:** when suction draws out the intestines and organs.

## Relationship Between Flow Rate and Turnover Rate

### Flow Rate

The measurement of gallons per minute (GPM) of water that is flowing through a circulation system at any given time.

### Turnover Rate

The time (in hours) required for a recirculation system to move the number of gallons equal to the total volume of the pool, spa, or other aquatic venue.

### Turnover and Flow Rates

To understand entrapment and ways in which it can be minimized, flow rates must be measured. Approved drain covers/SOFAs have specific flow rates that must never be exceeded. A faster turnover rate results in a greater flow rate measured in gallons per minute (gpm). Other, non-circulation system drain covers/SOFAs (e.g., for spa therapy

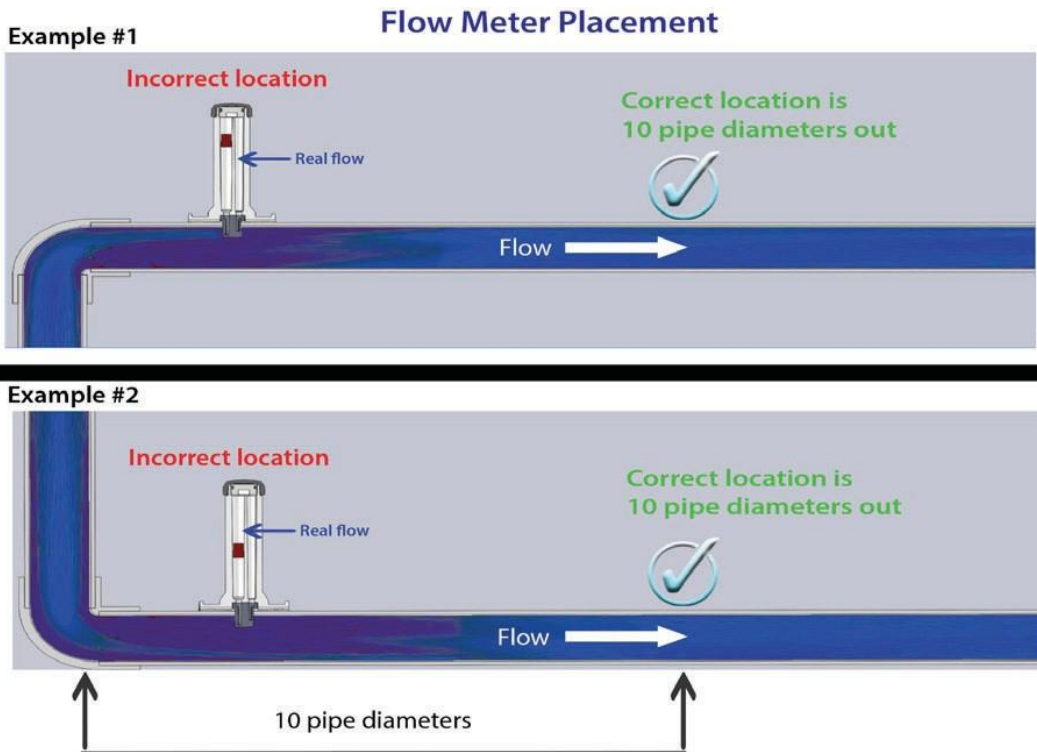


jets) must also be properly sized and installed to handle the full flow rate of the attached pump or pumps.

Certified drain covers/SOFAs are rated in gallons per minute. The actual flow rate of a pumping system must be known before a compatible drain cover/ SOFA can be selected and installed.

Flow rate can be determined by:

- NSF/ANSI 50 certified flow meter that is properly installed and maintained
- Total dynamic head measurement and pump curve



## Flow Meters

Flow meters must be installed correctly, and some require periodic calibration. There are different kinds of flow meters, and the type used greatly affects flow measurement accuracy. A common type is a rotameter that measures the volumetric flow rate of fluid in a closed tube. The inside of the tube has a variable area containing a float that moves up and down proportionally to changes in flow rate. While very accurate, rotameters must be installed vertically as gravity plays an important role in their function.

Where they are installed within a section of straight pipe is also critically important.

Most flow meters, including rotameters, paddle wheels, magnetic, and ultrasonic meters, among others, convert the water velocity inside the pipe to gallons per minute. Pipe fittings, valves, and other equipment cause uneven velocity patterns within the pipe, before and especially after fittings and elbows. For this reason, most flow meters must be installed away from equipment that causes localized velocity disturbances. Typically, flow meter



instructions specify a minimum 10 pipe diameters of straight pipe upstream and 5 pipe diameters downstream.

Flow meters that are not installed according to the manufacturer's instructions should not be used for VGB Act compliance verification. All flow meter installations should be periodically validated using TDH measurement and the pump/impeller specific performance curve.

## Total Dynamic Head

Total Dynamic Head (TDH) is a measure of a system's resistance to flow. Each pool will have a unique flow rate based on the piping and fittings used. The same pump, on different pools, can produce significantly different flow rates. Operational changes to the same pool will also produce different flow rates. For example, cleaning a filter will lower the pool's TDH, causing a higher flow rate. It is the resistance to flow in circulation systems that dictates the flow rate, not just the pump size.

Caution must be used when changing single-speed pumps to variable-speed pumps as a result of the U.S. Department of Energy's 2021 Dedicated Purpose Pool Pump (DPPP) Law that prohibits the manufacturing of most single-speed pumps approximately 1 to 5 horsepower. In almost all cases, the variable-speed pump will have the ability to move much more water than the single-speed pump it is replacing. While the goal of the new law is to save energy by operating pumps at lower speed (the minimum speed needed to achieve the proper turnover rate), they retain the potential to run at high-speed, increasing the risk of suction entrapment that may not have previously existed.

Historically, public health codes prescribed a minimum TDH that was used to size the circulation pump to assure it reliably exceeded the pool's turnover flow rate when the filter was dirty. Today with the increased focus on building code compliance and energy efficiency, systems are being built with larger pipe, valves, and filters. This results in much lower TDH (less resistance) for the same size pool, resulting in much higher flow rates. For this reason, the flow rates associated with health code specified TDH values should never be used to size or validate VGB Act drain cover/SOFA compliance.

Before measuring TDH, the pool must be filled with water, configured to operate properly, and the filter media must be clean. For all other pumping systems, such as spa jet booster pumps, adjust the system to deliver the highest possible flow, i.e., pumps set to their high speed while all return-side control valves are set to the fully open position. If safe to do so, temporarily turn off the skimmers or gutter overflow system to measure the maximum potential flow through VGB Act regulated suction system.

TDH can be measured using the pressure and vacuum gauges on either side of the pump. The vacuum gauge is found on the suction side of the pump and measures vacuum in inches of mercury (in. Hg), provided the pump is above water level. For pumps below water level, a compound pressure gauge is often used because they are capable of reading above (psi) and below (in. Hg) atmospheric pressure. The pressure gauge is found on the discharge side of the pump and is measured in pounds per square inch (psi). All units of measurements are converted to feet of head, the units published by pump manufacturers. Pressure head is calculated by multiplying psi by 2.31; pressure and vacuum head is calculated by multiplying in. Hg by 1.13. These two values are then added together to give total feet of head.

### For example:

21 psi X 2.31 = 48.5 feet of head (pressure side)

6 Hg X 1.13 = 6.8 feet of head (suction side)

Total TDH = 48.5 + 6.8 = 55 feet of head

The TDH value of 55 feet of head can now be used to determine flow rate. Feet of head can be converted to flow rate by going to the pump performance curve supplied by the manufacturer. As the resistance to flow increases, flow rate decreases.



Take your calculated TDH of 55 on the vertical scale of the graph and move horizontally across until it intersects with the pump curve. From there, follow vertically down to the horizontal axis to determine the flow rate. In this example, the flow rate is 80 gpm (see Illustration C1-2).

If the cover was rated at 100 gpm, then this flow rate of 80 gpm would be below the rating of the cover/SOFA and the pool would be compliant. If pressure was measured at 10 psi instead of 21 psi, this, for example, could be the difference between a clean and dirty filter. Now, when calculating TDH, using 10 psi in place of 21 psi, TDH has dropped to 30 feet of head. Using the same pump curve, the flow rate is now 110 gpm, and the SOFA would not be sufficiently rated. This example also serves to illustrate the difference between a health code specified TDH (55) and field verified TDH (30). Newer systems, designed for energy efficiency, will have an even lower TDH measurement.

If the TDH-based flow rate is less than the flow rating associated with the drain cover/SOFA - specific flow rating, then the pool would be in compliance. However, if the TDH-based flow rate is higher, then this SOFA configuration would not be in compliance.

Cover Rating = 100 GPM

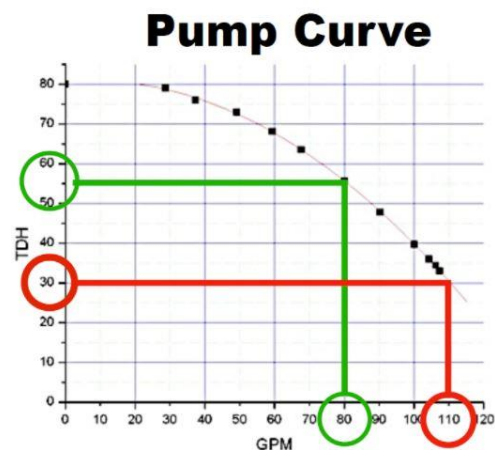
55 TDH = 80 GPM

30 TDH = 110 GPM

80 GPM < 100 GPM < 110 GPM

✓ PASS

✗ FAIL



### VGB Act Compliance and Inspection

Compliance with all versions of the VGB Act Drain Cover/SOFA Standard (VGB-2008 and VGBA-2017) requires that manufactured suction outlet fitting assemblies be certified, listed, and labeled in accordance with the applicable standard at the time the specific product was manufactured. Products certified to either version remain legal to sell, install, and use through their service life. Damaged product must be replaced regardless of remaining service life that begins when installed, with or without water.

Registered Design Professional suction outlet fitting assemblies (RDP SOFA) must also be certified; however, this type of suction outlet is field fabricated under the supervision of the RDP who must be recognized by the local Authority Having Jurisdiction (AHJ). RDP SOFAs do not require physical markings like manufactured product; instead, the standards require RDPs to provide the certification information in the form of engineering/architectural plans and/or a certification report. In both instances, copies of the applicable certification information must be kept on-site, ready for CPSC and local AHJ inspection.

Drain covers/SOFAs manufactured in conformance with the VGB-2008 standard (approximately December 2007 through May 2021) had to be 3rd party tested and certified. What qualifies as a 3rd party was clarified in the updated VGBA-2017 standard. Testing must now be conducted in an ISO 17025 accredited laboratory and the certification must be conducted by an ISO 17065 accredited certification body. This results in products that are certified, listed, and labeled to the VGBA-2017 standard, the terms used by many building and health codes to identify 'approved' products. Manufacturers must also make available a General Certificate of Conformity (GCC) as




required by the U.S. Consumer Product Safety Improvement Act. This is unique to drain covers/SOFAs, as compared to pumps, filters, and other certified pool products, and is one of the easiest and most accurate ways to identify product that fully complies with the VGB Act.

While the VGB Act does not address water quality issues, specifically that materials in contact with recreational water should not impart undesirable levels of contaminants or color to the water, most building and health codes do address these concerns by requiring product conformance with ANSI/NSF 50. This is another product certification backed by additional 3rd party testing. Manufacturers who voluntarily certify to ANSI/NSF 50 typically provide documentation upon request as it is not required for VGB Act compliance.

Identifying product that is properly certified, listed, and labeled is critically important for both safety and compliance, a task complicated by changes to the drain cover/SOFA marking requirements. See Table C1-1.

**Proper installation:** when inspecting any suction fittings, make sure they are installed correctly. This includes the drain covers/SOFAs (floor and wall) and skimmer equalizer line fittings. The VGB Act addresses all fully submerged suction outlets, which include skimmer equalizer lines, usually located beneath the skimmer openings, but sometimes they are located on the floor. All fully submerged suction outlets must be protected by covers or grates that are compatible with the sump and that meet the VGB-2008 or VGBA-2017 standards.

PRODUCT MARKINGS	VGB-2008	VGBA-2017
MANUFACTURER	Name or trademark	Name or trademark
PRODUCT IDENTIFICATION	Model designation	Distinctive part number
CERTIFICATION AGENCY	Certifier's mark	Certifier's mark
VGB ACT STANDARD	ASME/ANSI A112.19.8 – 2007, or VGB-2008, and/or ANSI/APSP-16 2011	VGBA-2017
TYPE OF SERVICE	"For Single or Multiple Outlet Use," or "For Single Use," or "For Multiple Outlet Use Only"  Self-Contained Spa Fittings: "For use in Self-Contained Factory Manufactured Spas Only" and "For Multiple Outlet Use Only"	"Blockable" or "Unblockable"  Self-Contained Spa Fittings: "For Use in Self-Contained Factory-Manufactured Spas Only"
SERVICE LIFE	"Life # Years" where # is years	"Life # Years" where # is years
MANUFACTURING DATE (DO NOT USE FOR SERVICE LIFE START DATE)	Not required	Date indicator (typical) 
FLOW RATINGS	"# GPM," or "Floor # GPM," and/or "Wall # GPM" where # is the flow rating	"For Flow Rating See Instructions," or "# GPM," or "Floor # GPM" and/or "Wall # GPM" where # is the flow rating

## Unblockable Drains

Understanding the difference between blockable and unblockable drain covers/SOFAs is required to determine whether or not a suction system is compliant with the VGB Act. The reason is that single drain systems/SOFAs that are designated as blockable require an additional device or system designed to prevent [body] suction entrapment in order for the installation to qualify as VGB Act compliant.

Blockable suction outlet openings (sumps) are those which can be fully blocked by a mathematical representation of the 18" x 23" Body Blocking Element used for VGB-2008 and VGBA-2017 certification testing.

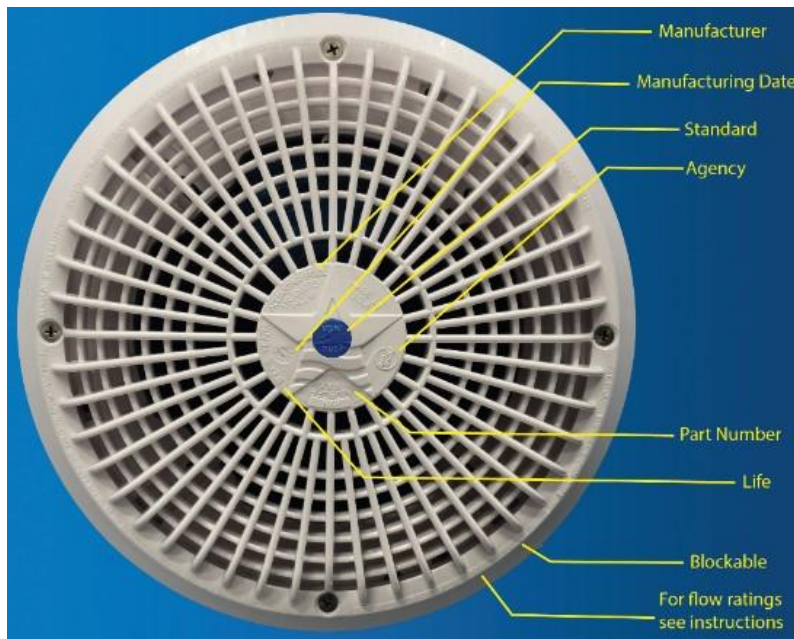




Visualize a floor-mounted drain sump with the Body Blocking Element centered directly over it in the mid-day sun. If the sump opening is fully shadowed, it must be classified as blockable.

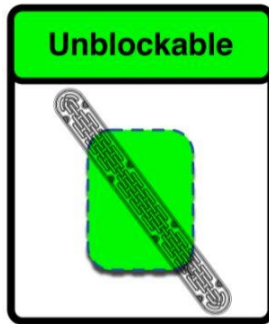
If a portion of the sump protrudes into the sunlight, it can be classified as unblockable, provided there are unblocked flow openings in sufficient quantity to keep the suction levels within expectable limits. This two-part pre-requisite (physical sump measurement and flow testing) was clarified as part of the VGBA-2017 revision. Product certified in conformance with the VGBA-2017 standard can be identified as blockable or unblockable by the applicable mark engraved on the cover/grate and the product's specifications and instructions.

Originally, the VGB Act's language defined an unblockable drain/SOFA as all components, including the sump, cover/grate, and hardware, such that its perforated (open) area could not be shadowed by the VGB-2008 Body Blocking Element and that the rated flow through the remaining open area (beyond the shadowed portion) could not create a suction force in excess of the removal force values in Table 1 of the standard. This policy did not evaluate the size of the sump, allowing larger grates over mathematically blockable sumps to qualify as unblockable.



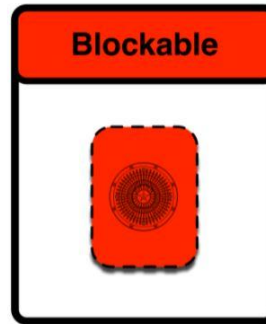
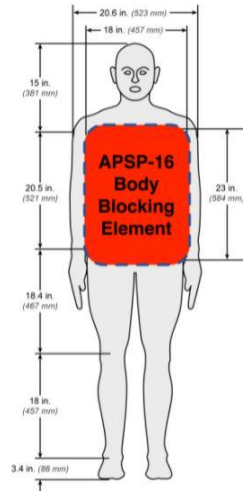
The CPSC voted to change this policy effective October 11, 2011. The result is that the size of a cover/grate cannot be used as the sole means of determining if a pool has a single, blockable drain or not.

The Body Blocking Element test was introduced in the VGB-2008 standard, where the original version, ASME/ANSI A112.19.8M – 1987 (R1996) had no such test. For this reason, it was possible for blockable drain covers that were flat and flush mount to be certified as conforming to the standard. Virginia Graeme Baker lost her life on one of these flat, blockable drain covers despite it being properly certified. Experts recognized it was too easily sealed, driving the creation and addition of the body block test. They also identified another significant risk factor from this case: the drain cover was approximately 10 years old, allowing the plastic to become weak and brittle, breaking just when it was needed the most. This was a driving factor in the service life requirement being added to the standard, and it being enforced by the CPSC.



**Unblockable Drain:**  
 No Additional Requirements

**System Flow Rating:**  
 Single = Cover Flow Rating  
 Multiple = Add All Cover Flow Ratings Together



**Blockable Drain Requirement:**  
 Multiple-Drains, or  
 SVRS, or  
 Suction-Limiting Vent System, or  
 Gravity Drainage System, or  
 Automatic Pump Shut-off System

**System Flow Rating:**  
 Multiple-Drain Systems:  
     Subtract Flow Rating of One Cover  
 Other Systems = Cover Flow Rating

## Sumps

CPSC recognized and supported the technical requirement of the VGB-2008 standard, which authorized, but did not explicitly require, manufacturers to specify the sump onto which the cover/grate was to be attached. When manufacturers did not specify minimum sump size, shape, and most importantly, depth of the suction pipe opening, the standard permitted installers to follow Figure 2 in the standard. This is where sump depths based on 1.5 times the pipe diameter came from in the past. It was always an option and never a requirement as many inside and outside the industry misunderstand even to this day. Over time, as more and more drain covers/SOFAs were tested and certified to the VGB-2008 standard, it became clear that the 1.5 times the pipe diameter sump depth specification was not the best practice, as compared to sumps that had been physically tested. This is especially true for smaller pipe sizes that mathematically can be very close to the underside of the cover/grate. Visualize what happens when a shop vacuum hose is placed too close to the carpeting or mat in your car – the carpet sticks to the vacuum hose opening.

These potential issues are fully address by the VGBA-2017 standard that requires manufacturers to test drain covers/SOFAs over all sumps for which the product is authorized to be used. Old Figure 2 sump configurations remain legal, but only after they have been tested in an ISO 17025 certified lab and given a sump-depth and pipe-size specific flow rating. The practical effect of this testing is that products certified to VGBA-2017 will have various flow ratings based on pipe size and sump depth. The smaller the pipe, the lower the flow rating. Similarly, shallower suction pipe openings can capture more test hair, resulting in the need to lower the flow rating in order to pass the test.

It is important to have and follow the manufacturer's instructions when conducting an inspection to ensure that the installation was carried out correctly. Instructions should also be retained by the facility. Many drain covers/SOFAs come with riser rings that are required to pass the body entrapment test found in both standards; make sure these are installed, otherwise the installation is not compliant. Drain covers/SOFAs and their fasteners (screws) should be observed before each use of the facility.

Retrofitting new covers on old sumps and frames that do not match means the facility is not in compliance. You must not drill new holes in the old frame to attach a new cover, unless it is part of a manufacturer's supplied kit. Many manufacturers require that the old sump or mounting frame be removed and the new one for the new cover



be cemented in place before their drain cover/SOFA can be installed. A proper inspection and installation require verification of the cover, attachment hardware, and sump/frame fully conform to the product-specific installation and maintenance instructions.

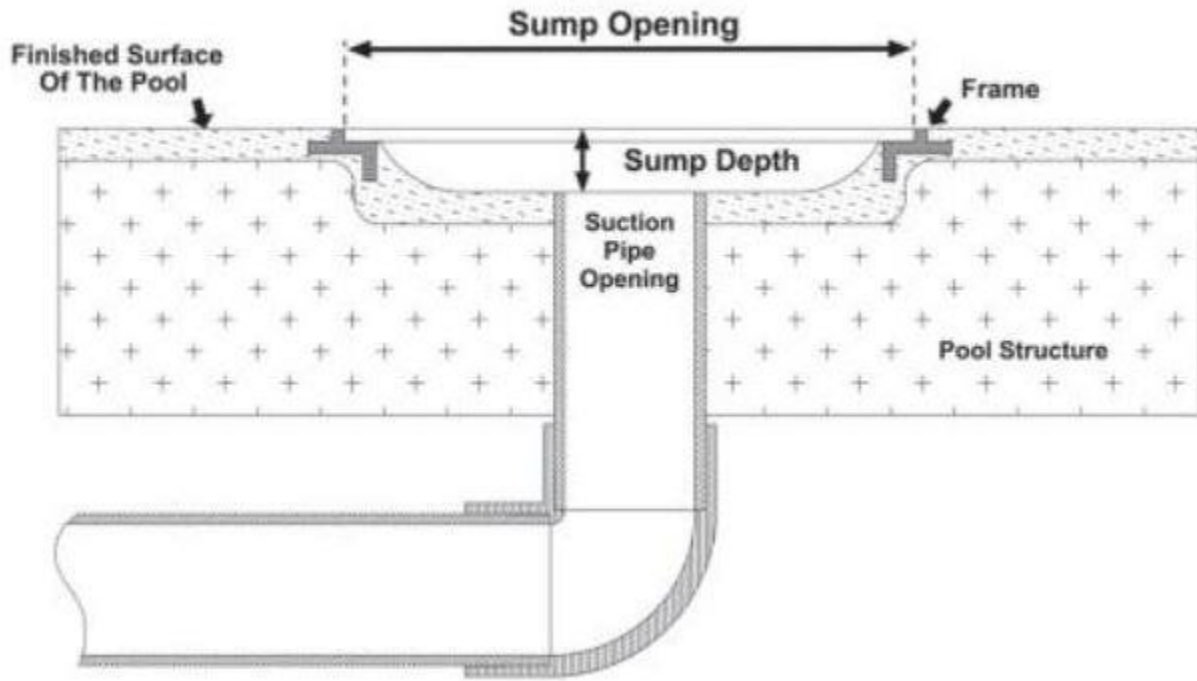
When inspecting a pool that is filled with water, it may be very difficult to see the drain to verify that the drain covers/SOFAs and sump are both compliant. It may also be difficult to see that the drain cover/SOFA is secured in place with the recommended fasteners. This is especially the case in deep pools. Getting a close-up view of the underwater suction outlet is ideal, which would eliminate any glare and reflections. Diving down to inspect the drain cover/SOFA and sump is certainly an option but be certain that the pump has been turned off before any underwater inspection begins. Alternately, a waterproof video camera attached to the end of a pole can be used to record the outlet for later viewing.

### **Enforcement of the VGB Act**

The VGB Act also strengthened the CPSC's civil and criminal penalty authority, giving the agency the ability to shut down pools or spas that are not in compliance with the law. Visit [www.poolsafely.gov](http://www.poolsafely.gov) to download the entire Pool & Spa Safety Act.

Both CPSC and state attorneys general are empowered to enforce the VGB Act. The CPSC is looking to state health and building officials to assist in enforcing the VGB Act. State law can be more restrictive than the federal law as long as the state does not make compliance a physical impossibility.

Figure 2: Field-built sump





### VGB Inspection Checklist

To help the inspector determine whether a facility is in compliance with the Pool & Spa Safety Act, an inspecting checklist may be useful. Here is a sample checklist that can be used. Begin by gathering the information for items 1-5 below, and then answer the remaining questions.

- 1. Determine if the pool has suction outlets (If it does not, the inspection is complete)
- 2. Pump manufacturer and model number:

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3. Measured TDH:

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4. Drain sump measurements:

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5. Drain cover data:

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6. If there are suction outlets, main drains, vacuum fittings, etc., determine the total flow rate generated by all pumps in the system:

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7. Are the drain covers, blockable or unblockable, compliant with the P&SS Act?

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8. If all the covers are blockable, do they need a secondary anti-entrapment device and is one present?

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9. If there are multiple floor drains, are they at least three feet apart, center to center? If not, is there a secondary anti-entrapment device or system?

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10. Are the drain cover flow rate specifications equal to or greater than the flow rate of the system?

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11. Is the drain cover secure and attached to the sump according to the manufacturer's instructions?

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12. If there is a vacuum line present with a compliant cover, CPSC recommends that it be covered whenever the pool is in use.

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13. Do the skimmer equalizer fittings have compliant covers?

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If any of these requirements are not met, corrective action must be taken to ensure safety and compliance with the P&SS Act. A more complete checklist can be found in Appendix B in the latest revision of ANSI/APSP-7 2006 and is available at [www.phta.org](http://www.phta.org)

CPSC's Pool Safely website offers information about the P&SS Act with staff guidance about compliance, lists of manufacturers certified drains covers and other products and public education information. See [www.poolsafely.gov](http://www.poolsafely.gov).