



## ***Virginia Graeme Baker Pool and Spa Safety Act of 2007*** **Training Guide**

On December 19, 2007, President Bush signed into law the *Virginia Graeme Baker Pool and Spa Safety Act of 2007*. A section of the legislation is designed to protect children from life-threatening injuries and horrible deaths from dangerous pool & spa drains. Suction entrapment is one of the most horrific things that can happen to anyone that enters a pool or spa. All public (commercial) pools and spas must be equipped with specific equipment (covered below). The deadline to comply with the law is **December 19, 2008**.

### **What is suction entrapment?**

Suction entrapment will occur in a swimming pool, wading pool or spa when a person's body or parts thereof, block the open source of suction from a pool or a spa to a circulation pump. Suction entrapment can occur at any suction outlet including the main drain, wall outlets for vacuuming and skimmer equalizer lines.

### **How does the *Virginia Graeme Baker Pool and Spa Safety Act of 2007* address the prevention of suction entrapment?**

The law requires that all public (commercial) pools and spas must be equipped with:

1. **Main drain covers comply with the ASME/ANSI A112.19.8-2007 testing standards.**
2. One of the following (A-E) on any pool or spa with a single main drain, other than an unblockable main drain:
  - A. **Safety Vacuum Release System (SVRS) that meets ANSI/ASME A112.19.17 testing standards**
  - B. Gravity drainage system
  - C. Suction-limiting vent system
  - D. Automatic pump shut-off
  - E. Drain disablement

Note: Bolded items are available through Leslie's.

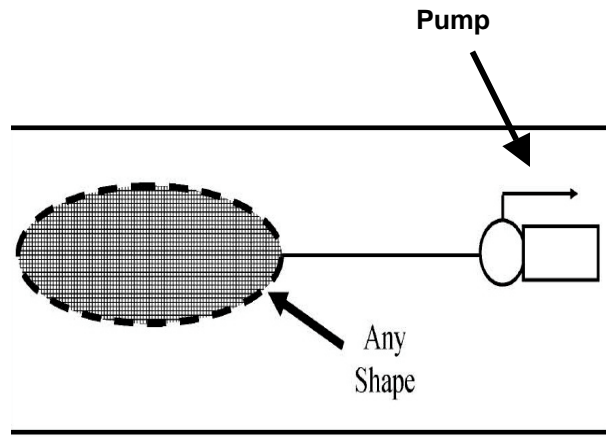
### **What is an unblockable main drain?**

A single, unblockable main drain is a drain of any size or shape that a human body cannot sufficiently block to create a suction entrapment hazard.

An example of an unblockable drain is an 18" x 23" drain grate, which represent the shoulder to waist measurements of the 99th percentile adult male. (See examples on the next page.)



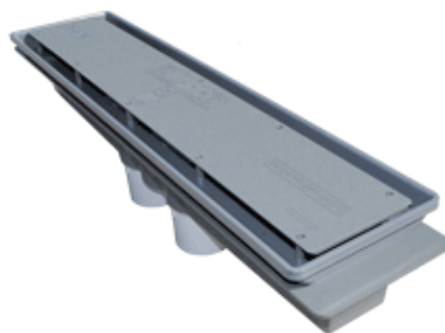
18" x 23" Drain Grate



Example of unblockable drain



24" x 24" Drain Grate



Anti-vortex Single Channel Drain

## What is a Safety Vacuum Release System (SVRS)?

These are electro-mechanical or mechanical devices that detect an increase in suction from a blockage and, in response, either open a vent valve on the suction side of the pump or turn off the pump to prevent body suction-entrapment incidents. These devices act as a redundant back up to the drain covers and are required in numerous states. Note: Per the *National Swimming Pool Foundation* (NSPF), an SVRS is not fast enough to stop an evisceration or limb entrapment.

We sell the two most popular safety vacuum release systems, the Stingl Switch (SKU # 83-863) and the Vac Alert (SKU # 15-130).



### Stingl Switch SKU # 83-863

The pump is wired to the Stingl Switch and the switch is wired to the power source, just like a timer. A vacuum sensor is connected to the pump trap. If the Stingl Switch senses an increase in vacuum due to a blockage, the motor shuts off. This will release the entrapped person.



### Vac Alert (Model VA-2000S) SKU # 15-130

The Vac Alert is plumbed into the suction side of the pump, specifically the main drain line. If there is an increase in vacuum, a piston within the Vac Alert opens and allows air in. This breaks the vacuum and releases the entrapped person.



### Hayward Stratum (Model VR-1000) SKU # 41-015

The Hayward Stratum VRS is the industry's only SVRS to both vent the suction to the atmosphere and turn off power to the pump if an unsafe level of vacuum is detected. The Stratum also automatically restarts the system in protection mode to eliminate nuisance tripping.

## What is an ASME/ANSI A112.19.8-2007 approved main drain cover?

First, let's identify the testing agencies: ANSI is the *American National Standards Institute*; ASME is the *American Society of Mechanical Engineers*. Their standard for drain covers requires that the cover material be tested for structural integrity. The cover also must be tested for hair entrapment and entanglement potential, and is required to display a flow value in gallons per minute (GPM) that indicates the maximum flow rate at which the cover has been approved. The use of a cover under conditions where the maximum allowable flow rate is exceeded can lead to entrapment hazards.

The ASME/ANSI A112.19.8-2007 testing standard requires the cover be stamped with the following:

- (1) ASME/ANSI A112.19.8-2007 or ASME/ANSI A112.19.8a-2008 certification
- (2) "For Single or Multiple Drain Use", "For Single Drain Use", or "For Multiple Drain Use Only".
- (3) Maximum flow rate in gallons per minute (gpm)
- (4) "Wall Only", "Floor Only", or "Wall and Floor" installations
- (5) Cover life (Example: 3 years)
- (6) Manufacturer name or registered trademark, and model designation

Leslie's offers numerous A112.19.8-2007 approved covers for most installations. (White in color unless noted.)

- SKU # 32-870 PARAMOUNT SDX ANTI-ENTRAPMENT COVER (Fits frames 5" to 10")
- SKU # 32-841 DRAINSafe DS-360-M 8" COVER (Fits frames 5" to 8")
- SKU # 32-842 DRAINSafe DS-360-X COVER (Fits 9" x 9" frames)
- SKU # 32-828 AQUASTAR 8" COVER (White)
- SKU # 32-800 AQUASTAR 10" COVER FOR 12" X 12" FRAMES
- SKU # 32-808 AQUASTAR 8" COVER FOR 9" X 9" FRAMES
- SKU # 32-850 STAR MODEL 100 COVER (Fits 5" to 10" frames)
- SKU # 32-860 HAYWARD WGx1048E 8" FLOOR DRAIN COVER (Fits Hayward frames)
- SKU # 32-862 HAYWARD WGx1048EW 8" WALL DRAIN COVER (Fits Hayward frames)
- SKU # 32-932 AQUASTAR WAVE 12" X 12" COVER (Fits Pentair and Aquastar)
- SKU # 32-940 AQUASTAR WAVE 12" X 12" COVER (Fits Hayward, Pac Fab, Sta Rite, American and Waterway)
- SKU # 32-916 AQUASTAR WAVE 9" X 9" COVER (Fits Pentair and Aquastar)
- SKU # 32-924 AQUASTAR WAVE 9" X 9" COVER (Fits Hayward, Pac Fab, Sta Rite, American and Waterway)
- SKU # 32-948 AQUASTAR WAVE 18" X 18" COVER (Fits Pentair and Aquastar)
- SKU # 32-956 AQUASTAR WAVE 24" X 24" COVER (Stainless – includes frame)

The right cover, along with an SVRS, can help prevent swimmer entrapment. Every commercial pool and spa with a single main drain (except single unblockable main drains) must be equipped with these items. This is mandatory. (Remember: Residential pools also have single main drains. These products are a great investment in safety for the homeowner, too.) **Note:** Experts recommend three layers of protection to eliminate suction entrapment: A112.19.8-2007 approved covers on all drains, dual hydraulically balanced fully submerged drains for each pump (with drain cover centers a minimum of 3 feet apart), and an SVRS or other device.

**Important:** The pool or spa must comply with state and local entrapment prevention requirements. Verify that compliance with the federal law does not conflict with local health codes or regulations. For additional information see the "APSP FAQ" enclosure. **Note:** The *Virginia Graeme Baker Pool and Spa Safety Act of 2007* is under review by the CPSC. Therefore, it is subject to additional modifications and amendments. **Additional approved covers will be added when available.**

## ***Virginia Graeme Baker Pool and Spa Safety Act of 2007*** **Compliance Tips**

The following are helpful tips to ensure compliance with the *Virginia Graeme Baker Pool and Spa Safety Act of 2007*:

1. The *Virginia Graeme Baker Pool and Spa Safety Act of 2007* will be regulated at the local level by the state, county or city health department. The compliance date is December 19, 2008. Failure to comply with the act may result in fines, closure and/or suspension or revocation of the operating permit. Pools/spas that close for winter must be compliant prior to opening. (This varies per code – check local requirements.)
2. **ALL** pool and spa outlets (drains, equalizers, etc.) must have ASME/ANSI A112.19.8-2007 approved covers. All pumps connected to single, blockable drains must have an SVRS or other approved device installed. This includes jet pumps, waterfall pumps, and other water feature pumps.
3. **Dual drains:** The standard for dual drains is hydraulically balanced fully submerged drains for each pump, with drain cover centers a minimum of 3 feet apart. Some local standards require that the drains are 3 feet apart from edge of the cover to edge of the cover. Know your local code. Again, **ALL** pool and spa outlets (drains, equalizers, etc.) must have ASME/ANSI A112.19.8-2007 approved covers.
4. The ASME/ANSI A112.19.8-2007 standard requires the drain sump depth to be a minimum of 1-1/2 times the pipe diameter from the end of the pipe to the bottom of the drain cover. Example: 2" pipe – depth should equal 3". (This varies per code – check local requirements.) If the sump does not meet this standard, contact your local health department for guidance. A remodel permit may be required. **NOTE: The Consumer Product Safety Commission (CPSC) will allow a new compliant cover that fits securely into a pre-existing sump if the flow rate does not exceed the cover's maximum flow rate in gallons per minute (gpm).**
5. Drain cover and Safety Vacuum Release System (SVRS) recommendations must **NOT** conflict with local health code standards. Know your local code.
6. Some state and local health codes require that all drain covers (anti-entrapment covers and standard grates) are sized at velocities of 1.5 feet per second (fps) or less. The ASME/ANSI A112.19.8-2007 standard for anti-entrapment covers is 6.0 fps or less. Please contact your local health department for drain cover selection guidance if local standards require cover velocities of 1.5 feet per second (fps) or less, or if the cover will be installed on a gravity drain system. Note: The 1.5 fps requirement was originally intended for grate-type covers to help prevent the formation of vortexes.
7. Some local health departments require that the pool's operating permit is updated and a permit fee is paid prior to installing a new drain cover. Verify this information prior to selling or installing the cover.
8. Prior to selling or installing a cover, confirm that the flow rate of the pool or spa pump(s) with a clean filter. Direct all flow to the main drain(s) and check the flowmeter. Upon completion, return to normal operation. If there is not a flowmeter installed, install one. Select the cover that has a higher flow rating than the verified flow rate.
9. Even with dual drains, the selected cover must be capable of handling the full flow of the pump in the event of one suction outlet being completely blocked.
10. It is recommended that facility owners maintain proof of purchase, cut-sheets and photos of new A112.19.8-2007 approved covers.

## **IMPORTANT**

IF THE SUMP IS INCORRECTLY DESIGNED, OR THE FRAME IS CRACKED, YELLOWED OR DAMAGED, DO **NOT** INSTALL A COVER. REPLACE THE FRAME AND REMODEL THE SUMP IF NECESSARY. THIS ALSO APPLIES TO IMPROPERLY FITTED RETROFIT COVERS. **ALWAYS** INSTALL ALL EQUIPMENT PER THE MANUFACTURER'S SPECIFICATIONS.

### **Examples of A112.19.8-2007 approved covers**



DRAINSAFE DS-360-M  
8" ANTI-ENTRAPMENT  
SUCTION OUTLET COVER  
(Fits round frames 5" to 8")  
\*(SKU # 32-841)



PARAMOUNT SDX RETRO HIGH  
FLOW SAFETY DRAIN A/V COVER  
WHITE  
(Fits round frames 5" to 10")  
\*(SKU # 32-870)



AQUASTAR 8" ANTI-  
ENTRAPMENT SUCTION  
OUTLET COVER  
\*(SKU # 32-828)



AQUASTAR "WAVE" 12" X 12"  
SQUARE COVER (400 GPM @ 1.5 FPS)  
\*(SKU # 32-932 / Fits Pentair and Aquastar)

\* Please contact your local health department for drain cover selection guidance if local standards require cover velocities of 1.5 feet per second (fps) or less, or if the cover will be installed on a gravity drain system.