



Everyone wants to make sure they comply with the new **VGB 2008 Pool and Spa Safety Act**. However, just having a drain or suction cover that fits the hole doesn't mean it will fulfill all of the requirements of the Safety Act. It is equally or even more important to make sure that the cover that is replacing the existing system also "fits" the existing flow requirements of the system as originally designed. The easiest way to compare a grate or cover is to compare its flow rate at a constant velocity. **The purpose of this worksheet is to simplify that issue for you.**

## Pool Drain Covers and Grates

| Manufacturer | Part Number       | Description | Size      | Floor Flow Rate<br>GPM @ Velocity (fps) | Wall Flow Rate<br>GPM @ Velocity (fps) | <b>GPM @ 1.5 fps</b> | Open Area<br>(sq. in.) | Replaces                                                                   |
|--------------|-------------------|-------------|-----------|-----------------------------------------|----------------------------------------|----------------------|------------------------|----------------------------------------------------------------------------|
| Waterway     | <b>640-231x V</b> | Anti-Vortex | 8"        | 100 @ 2.72 ft/sec                       | 64 @ 1.73 ft/sec                       | <b>55</b>            | 11.83                  | Waterway, Hayward <sup>1</sup> , Pentair, American Products, AquaStar, CMP |
| Waterway     | <b>640-311x V</b> | Anti-Vortex | 10"       | 180 @ 4.04 ft/sec                       | 100 @ 2.24 ft/sec                      | <b>67</b>            | 14.34                  | Waterway, AquaStar                                                         |
| Waterway     | <b>640-470x V</b> | Grate       | 9" x 9"   | 289 @ 2.33 ft/sec                       | 198 @ 1.59 ft/sec                      | <b>186</b>           | 39.9                   | Waterway, Hayward, Pentair, American Products                              |
| Waterway     | <b>640-472x V</b> | Grate       | 12" x 12" | 356 @ 1.83 ft/sec                       | 280 @ 1.44 ft/sec                      | <b>292</b>           | 62.4                   | Waterway, Hayward, Pentair <sup>2</sup> , American Products                |

## Spa Suctions

| Manufacturer | Part Number       | Description | Size     | Floor Flow Rate<br>GPM @ Velocity (fps) | Wall Flow Rate<br>GPM @ Velocity (fps) | <b>GPM @ 1.5 fps</b> | Open Area<br>(sq. in.) | Replaces |
|--------------|-------------------|-------------|----------|-----------------------------------------|----------------------------------------|----------------------|------------------------|----------|
| Waterway     | <b>640-358x V</b> | SPC-3 V     | 5" Round | N/A                                     | 180 @ 6.42 ft/sec                      | <b>42</b>            | 9.02                   | Waterway |

### NOTES:

<sup>1</sup> Replaces Hayward's vinyl frame & cover (requires Waterway P/N 642-209x)

<sup>2</sup> Replaces Pentair / PacFab #2 Model

- Flow Rate Formula - 3.12 GPM x 1 sq.in. of open area x 1 ft per sec (fps)
- Industry standard velocities for commercial grates is rated @ 1.5 fps

