



# STAINLESS VALVE CO.

Div. of **B+E** Manufacturing Co. Inc.

June 2015

## Stargate-O-Port-Valve® Big Cap™ *Capping without Compromise*



For full automation of batch digester fill operations, capping valves are used instead of manually installed blanks.

The Stargate-O-Port-Valve® Big Cap™ utilizes very rugged, purpose built design characteristics for long life under the unique application challenges.

Replace non-performing, high maintenance, low reliability ball valves, manual caps or automated caps with a purpose built specialty solution.

### Specifications (typical):

14" to 36" (DN100 to DN1200)

150# to 300# (PN10 to PN20)

- *(Larger and smaller sizes and pressure ratings available)*

### Materials:

- 304, 316, 317, 309, 310, 321, 347, 904
- Duplex Stainless Steels: 2304, 2205, 2507
- Alloy 20, Al6XN, Inconel 625, Incoloy 825, Hastelloy C276, Hastelloy C22
- RA330, RA333, Inconel 800H/AT
- Carbon Steel, Aluminum, Thermoplastics
- Any material commercially available in plate form or forged





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## The advantages of the SVC Stargate-O-Port-Valve® Big Cap™:

- Safe, reliable operation without hang-ups, binding, or plugging.
  - Material cannot prevent blade actuation: The Big Cap™ valve handles overfilling of a digester without seat damage by moving overfilled chips into the valve body - pressure free - and bringing back the overfilled material for the next cycle. With knife gate valves, the chips will accumulate in the “bottom” of the valve and prevent proper closure of the capping valve. Ball valves will accumulate chips behind the ball that will eventually damage the seats and prevent proper actuation. The damage to the leading edge of the orifice typically seen on chrome plated ball valves will not occur with the Big Cap™ valve.
  - Safety Interlocks: Interlocks are placed between 1) the automated locking device and one pressure sensor and 2) the actuators and a redundant pressure sensor. This arrangement provides two safety iterations to prevent the capping valve from being opened while there is still pressure in the digester above set-point for safe opening of the capping valve. Full automation of locks and valve actuation eliminates the need for operators on the capping floor where potential hazards exist.
- Superior seals design and wear life for long term reliable operation.
  - Unique seat design: Seal geometries specifically engineered to capping valve application. The feed side of the valve has dual concentric metal and soft seats for superior wear properties while maintaining an absolute shutoff. Both seats are live loaded against the blade to prevent material from becoming trapped between the blade and seat. The metal seat's primary function is protection of the soft seat to ensure tight shutoff. The metal seat provides a Class V shutoff while the soft seat provides a Class VI shutoff. The Big Cap™ valve does not require a water bath on top of the valve to prevent H<sub>2</sub>S emissions. The reactor side seat also provides a Class V shutoff while acting primarily to keep the blade surface clean and free of scale buildup.
  - Optimized packing gland arrangement: The packing gland serves both guiding and sealing of the blade independently of each other.
    - The blade guides properly position the blade within the valve body to optimize the seal capabilities of the seat arrangement in the valve.
    - Packing arrangement is customized for the different sealing demands. The Big Cap™ features a “hybrid” packing arrangement utilizing carbon/carbon fiber, SM636, and reinforced braided PTFE packing to provide optimized sealing and wearability.
  - The blade of the Big Cap™ valve is plated for lubricity and non-stick properties. The lubricity will extend packing and soft seat wear life. The non-stick characteristics will prevent scale formation from damaging the seals of the valve.

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Our company is certified ISO9001:2015 / Certificate No.: CERT-0124291



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## Other features to consider:

- The Big Cap™ has a comparatively short takeout dimension with respect to ball valves typically used in capping applications. The shorter takeout is beneficial to system stack-up dimensions particularly when considering overall roof height available or chip conveying systems that have low overhead clearance. Depending on the design of the digester neck, the Big Cap™ valve is designed with a thru bolt flange to allow for clearances to other equipment at the capping location.
- The Stargate O-Port® Big Cap™ valve requires very minimal maintenance. The only maintenance item is the occasional tightening of pusher bolts to ensure the tight seal around the blade of the valve.
- The SVC Stargate-O-Port® Big Cap™ allows adaptation to the special needs of the application, such as pressure switches, automated locking devices, special face to face dimensions, and space restrictions. Please contact an SVC representative with your specific needs.

## Commercial and MRO

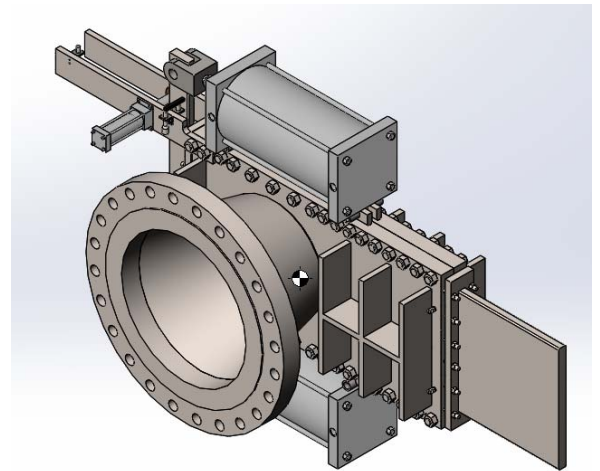
- Generally Stargate-O-Port-Valve® Big Cap™ has lower capital cost than ball valves of the same size.
- The long term cost of ownership is considerably less than that of a comparable ball valve or maintaining operators for manual capping arrangements. Refurbishment and spare parts range from 10-15% the cost of a new valve.

## Contact:

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