

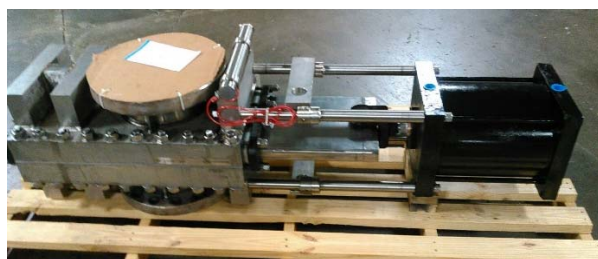


STAINLESS VALVE CO.

Wednesday, October 27, 2021

Big Blow™ SuperMod

Re-vitalize a valued asset



10" 300# Big Blow™ SuperMod

Forty Eight Years of Un-Matched Application Specific Service

The Big Blow™ valve has a long history of providing un-matched reliability and low maintenance requirements in one of the most severe, critical, and demanding services in the pulp and paper industry. The batch digester blow down valve is central to the efficient, safe, and reliable operation of batch digesters, whether the mill has common headers or individual blow lines.

The digester blow valve application is quite violent. Shockwaves of over 10,000psi have been measured as a result of vapor flashing and accelerated material mass impacting valves in common header systems. Digester and blow line movement adds to the stresses that the blow down valve must accommodate.

Design

As with any engineered product, improvements are made over time. The Big Blow™ valve is installed in numerous pulp mills and in a variety of different piping layouts. SVC has always

taken the stance that it is best to anticipate the most severe conditions and design the valve accordingly. Over the 45 years that the Big Blow™ has been in service, we have significant data that has allowed us to account for the most extreme conditions in the digester blow down service. The most recent major re-design of the Big Blow™ valve came in 2011 and has morphed into a very unique opportunity for our Big Blow™ valve customers: The Big Blow™ SuperMod.

What is a "SuperMod"?

So named by a customer, a "SuperMod" is the process of taking an existing Big Blow™ valve (or even a knock off of the Big Blow™ and transforming it into the new generation design Big Blow™ valve.

During the SuperMod process, the user gets an "as new" valve without committing the user to the purchase of a new valve while offering all of the benefits of design improvements in the new generation design of the Big Blow™ valve. The cost of a SuperMod is ~60% of the cost of a new Big Blow™ valve.

What is re-used:

- Blade
- Actuator and top works (limit switches, locking device, tie bars)
- Pushers (packing followers)
- Flanges
- Seat Rings

What is new:

- Side Plates
- Nipples
- Ribs
- All soft goods (Seats, Packing, Blade Guides, Self Mold, Rail Strips, and Actuator Seal Kit)
- All Fasteners

STAINLESS VALVE CO. Inc. - Division of B+E Manufacturing Co. Inc.

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Our company is certified ISO9001:2015 / Certificate No.: CERT-0124294

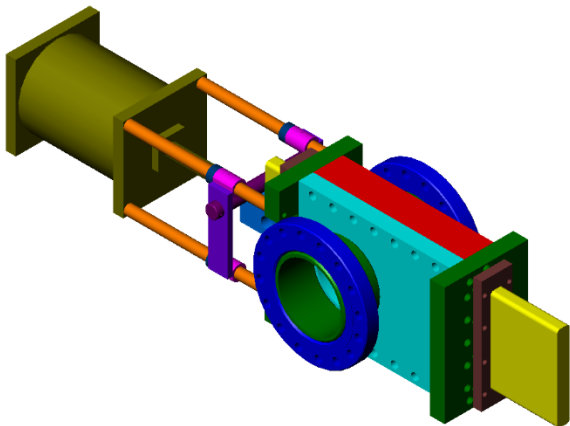




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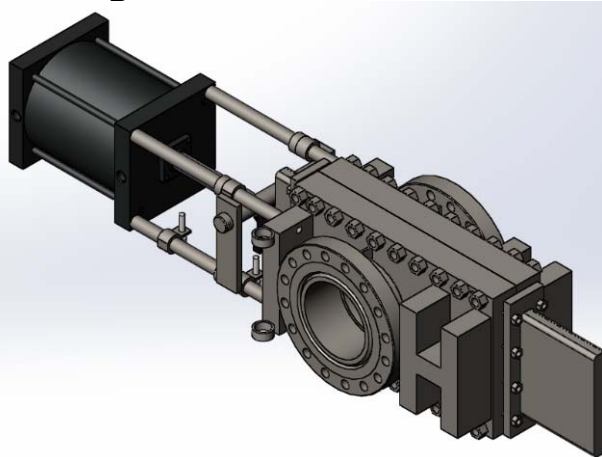
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Original Big Blow™ Design



- **Separate Glands:** Issues with shock waves resulting in stretched gland bolts. The decreased load from the gland bolts results in premature gland gasket failure.
- **Minimal Packing Reinforcement:** Interference with flange prevents the full reinforcement of the packing on the actuator end of the valve. Many users observe higher packing maintenance requirements on the actuator end of the valve.
- **Minimal body reinforcement:** In heavy shock wave applications, plastic deformation of valve body is possible. Main concern is that more re-machining is required during refurbishments.
- **No Flange Gussets:** No monitoring of the integrity of the flange-nipple-body welds. Requires visual weld inspection.
- **Valve Body Seal Weld:** The rail is welded to one side plate. Additional weld that needs to be monitored for integrity.

New Generation Big Blow™ Design



- **Integrated Glands:** Eliminates the gland gasket and the corresponding leak point
- **Additional Body reinforcement:** Allows valve body to handle higher shock wave loads without plastic deformation. Lower machining requirements during refurbishment and longer seal life between refurbishments.
- **Additional Packing reinforcement:** Less body deflection thus requiring less packing force to maintain a tight seal. Packing has more uniform load for superior seal.
- **Flange Gussets:** Provide preventative maintenance inspection point for valve health.
- **Spare Parts:** The Big Blow™ SuperMod has spare parts uniformity with the old style Big Blow™. The only exception is the gland gaskets as they are no longer needed on the Big Blow™ SuperMod..
- **No Valve Body Seal Weld:** No seal welds to monitor.

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Details lead to Un-rivaled Performance

- Integrated and reinforced packing glands: Developments by SVC and New England Braiding have brought about a material that maintains the seal even under elastic deformation of the valve body. This material is used in addition to Self-Mold to ensure that there is no leakage from the valve despite heavy shock waves and slurry material in the line.
- Soft seats: Reinforced and modified PTFE seats fully retained to maintain position despite shock waves. Preloaded seats maintain a tight shutoff regardless of pressure differential. The Big Blow™ valve can successfully utilize soft seats where ball valves must resort to metal seated designs that are susceptible to damage from direct impacts on the ball and seat surfaces.
- Reinforcement Ribs: Taking from the design of the Stargate-O-Port-Valve, the ribs are added to provide reinforcement to the packing and the seals in the valve. Ribs add to the meantime between refurbishment by reducing the loads applied to the seals from elastic deformation of the valve body.
- Proprietary weld design: Flanges-Nipple-Body welds are designed specifically to handle external forces from digester system on the valve. Indicator gussets provide visual indication of the loads placed on the valve and when the valve should be pulled for evaluation
- Auto-adjusting blade guides: Specifically suited for handling abrasive, erosive media along with vapor flashing and mechanical shock waves. Proper guiding of blade ensures optimized seal performance and wear life.
- Loaded Seats: fully loaded seats prevent process material from getting under the seats and causing binds or premature seat wear.

Performance Guarantee

The Big Blow™ SuperMod is in a lot of ways a new valve. With the design changes applied, the Big Blow™ SuperMod significantly increases the mean time between refurbishments thus lowering the overall cost of ownership. A 50% increase in the mean time between refurbishments is a conservative (and proven) measure.

Each Big Blow™ SuperMod is supplied with the same unsurpassed Performance Guarantee as a new Big Blow™ valve: 10 years on the valve and 3 years on the wear parts. SVC stands behind our product and have full confidence in the long term performance of the Big Blow™ valve whether it is a new Big Blow or a Big Blow™ SuperMod. The Big Blow™ valve will offer the lowest long term cost of ownership of any valve product in the digester blow down application.

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