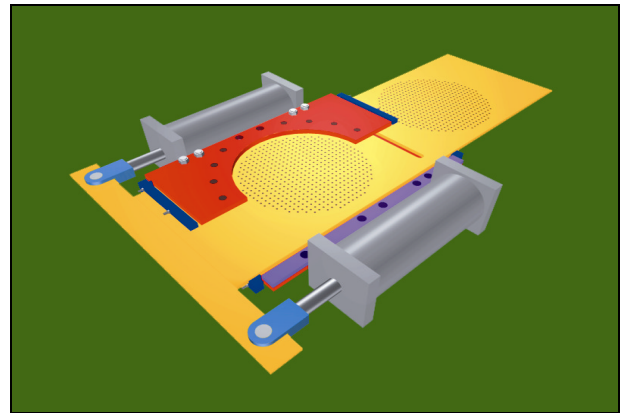
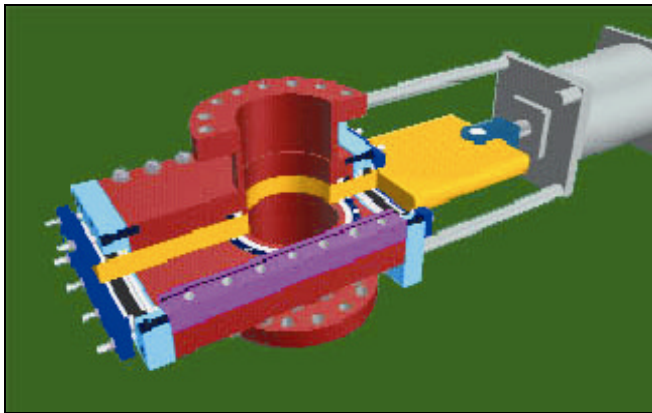


STAINLESS VALVE COMPANY

COMPLETE SOLUTIONS THAT MEET YOUR NEEDS

For almost 30 years, **STAINLESS VALVE CO.** has supplied through port valves of simple design yet made to very tight tolerance requirements resulting in very reliable valves. Using one of the industry's most severe environments as our testing grounds, the resulting developments offered in our SVC Valves are most impressive.



We offer complete solutions that meet your needs.

We work for different industries — **Paper and Pulp, Mining, Chemical Industry**

We offer quality products.

We offer engineering and design for your valves and applications.

We offer repair and maintenance.

We are your partner in manufacturing valves

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STAINLESS VALVE CO. BIG VALVES

Stargate O-Port™ Valve

Big Blow Valve™

Stargate O-Port™ Diverter Valve

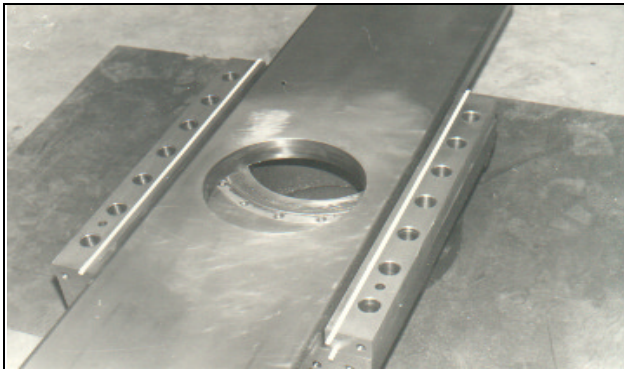
Big Screen™

Stargate O-Port™ Capping Valve

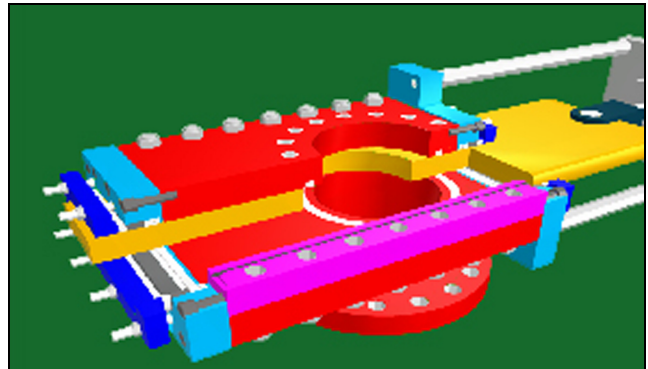
Big Knife™ Valve

The Star of the Valves, the **Stargate -O-Port™** valve.

It is not a knife-gate valve !



Open O-Port Valve



Asymmetric Valve

Applications:

SVC Stargate-O-Port™ valves are used as isolation valves on process gas in PTA manufacturing, mixing pumps, bleaching towers, batch digesters, continuous digesters, blow tanks, washers, stock pumps, liquor heaters, liquor supply lines, lime storage bins, recovery boiler, green liquor, pulp storage tanks, manifolds for high consistency stock, fly ash bin, filling valves on reactors, catalyst recycling reactors etc. In applications where solid matter can be trapped in the seat area, knife gate valves may not close properly. This is where the advantages of the SVC Stargate-O-Port™ valves become very apparent. Since the blade passes through the valve body at both ends, no material can get trapped between the blade and seat so that the valve always seats and seals well. Stargate-O-Port™ valves offer safe sealing and long service life which keeps maintenance and replacement costs down.

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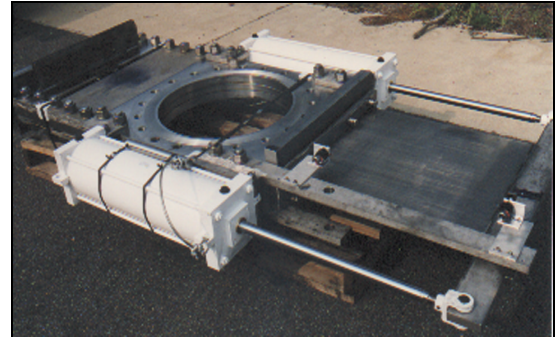
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What Is A SVC Stargate-O-Port™ Valve? What Are The Advantages?

The main characteristic of this type of valve, also called slide-gate valve or through-port valve is the well-guided blade passing through both ends of the valve body, having a hole in the middle of the blade. This basic concept has a series of advantages:

- The valves are the choice for handling solids in flow media. Liquid, gas and solid flow media are accepted.
- Proper actuation of the valve is guaranteed.
- No material gets trapped in the bottom of the valve.
- The valves have a class VI shut-off, independent of the pressure differential between upstream and downstream side.
- The valves do not need lubrication.
- The valves do not require maintenance.
- The valves can be used as shut-off valves, flow control valves and line blinds.
- Even in a partially open position the valves have a straight flow direction, different from ball valves where the flow is re-directed twice.
- Short face to face dimension, a fraction of the space requirement of a ball valves in the flow direction.
- Foreign matter does not get jammed between the gate and the body. This prevents seat damage so that the valves always seat and seals well.
- Long leak free operation, through the valves and from the valves body.
- Pressure shock waves, aggressive flow media are well handled by these valves.
- The valves can be installed in any position in the pipe; they do not have a preferential flow direction.
- Over 97% of the body thickness is solid material, resulting in a very stiff valve body. 3% or less are the gaps between the blade and the side plates.



24" Valve

Characteristics Of The SVC Stargate-O-Port™ Design

- Very rugged design manufactured to tight tolerances for many years of trouble free service.
- No metal-to-metal contact. Blades move in PTFE guides. The PTFE seat in the valves are protected and away from the flow area. They are spring-loaded for tight shut-off, independent of the pressure differential between upstream and downstream side (up to 450 deg F). Higher temperatures are possible with different material selection.
- The blades are sealed by a rope/chevron/u-seal combination. There is a minimum gap between the gate and the body, which prevents foreign matter from getting jammed between the gate and the body.
- The valves have a class VI shut-off, independent of the pressure differential between upstream and downstream side. The tightness of the shut off does not depend on a pressure differential. Spring-loaded followers ensure automatic re-compression of packing for long leak free operation.

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- Locking mechanism locks blade in open and/or closed position for greater safety.
- The valves are made in stainless steel 304, 316, 317, Hastelloy, titanium, carbon steel, and other materials available in plate form.
- The valves are usually actuated by type A pneumatic actuators. Actuation forces are 4000, 6000, 9000, or 12000 lbs for 8", 10" 12" Or 14" actuators respectively. Hydraulic, electric, gear, or manual actuators are optional.
- The opening and closing speed can be varied with the airflow between typically 10 and 60 seconds.
- The valves are mostly laid out for 150, 300 or 600# service, higher pressure ratings are available.
- The 150 psi valves have take-out dimensions as specified in the MSS standard.
- The flanges of the piping are directly bolted onto the side plates of the valves with a total of four bolts reaching through the valve body and through both flanges for improved strength of the assembly.
- For higher temperature applications graphite based seats, blade guides and packing materials are us.
- Full port (discharge area equal to pipe area) is standard even at takeout dimensions of reduced port ball valves or shorter. No flow restrictions exist due to smooth unobstructed discharge area. This assures maximum production capacity.
- The clearance between the body and the blade is very small. Bolted body parts maintain these clearances, yet provide ease of repair should it be required after many years of service.
- Different configurations of the valve layout for applications with space constraints are available. Variations of the basic principle allow manufacture of for example diverter valves with one or two inlets and outlets, purge valves, etc.

Materials

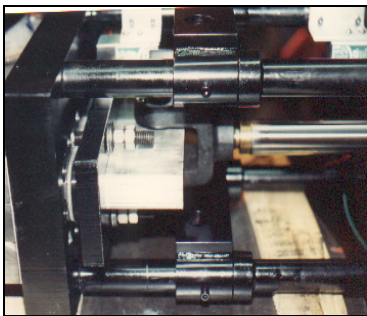
Body, packing glands, and gate are manufactured of solid rolled Hastelloy, titanium, stainless steel 304, 316, 317, or SMO254 (25-6) respectively. It is not cast or lined but solid plate to the thickness and with reinforcement required for the pressure rating and long maintenance-free service.

Valve Seats

The double seats are solid filled PTFE for temperatures to 450 deg F. They are spring loaded for long lasting drip-tight shut off even with abrasive medium. For higher temperatures graphite seats are used.

Valve Actuators

Most valves are actuated by type "A" pneumatic actuators, i.e., the top quality cylinders for longest life even at high cycle rates. The actuators are epoxy-painted; cylinder rods are stainless steel for corrosion resistance. The actuators on valves up to 18" are mounted in-line with the blade. For valves of 20" and above the actuators are mounted in tandem on the small sides of the valves, acting through crossbars attached to the blades. Hydraulic and electric actuators are available, as well as manual hand-wheel and gear operators.

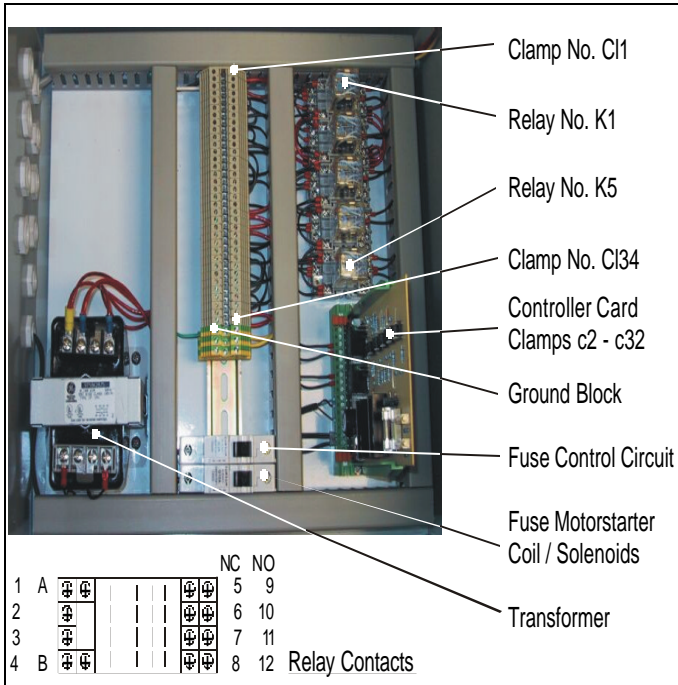


Locking Devices

The valves are supplied with *locking devices LO*, for mechanically locking the valves in the closed position, preventing accidental opening of the valves. This allows work behind the locked valve without the necessity of setting blanks thus decreasing the downtime. The pin of the locking device is heavy enough to allow the valve actuators to be charged with 125 psi air pressure without damage to the locking device. The LO locking device for locking in the open position is available as an option.

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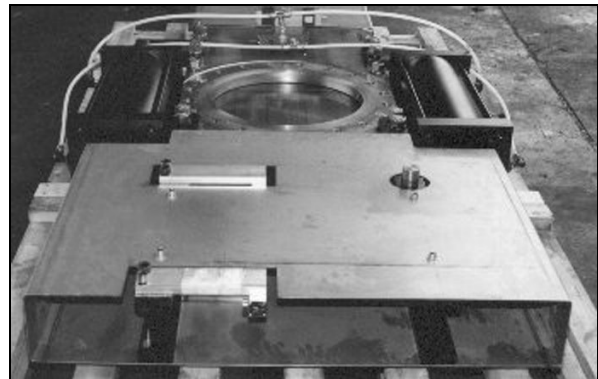
Control Options

- Micro limit switches, Go proximity switches or any other limit switch based on customer preference indicating open or closed position are provided.
- An option is the supply of solenoid valves to activate the cylinders. They are mounted on the valve actuators and connected to the actuator ports. The solenoid valves and limit-switches are directly wired to the customers control station. No control panel is required at the valves
- SVC valves are suitable for throttling services. The most recent option is the electronic positioner developed by Steffen Kuhn, EP 2000. With a 4 to 20 mA input the flow cross section of the valve is controlled. Different port shapes in the body and the blade allow different flow and regulating characteristics.

EP 2000

Further Options

- Take-out dimensions wider than the MSS standard are possible; for example by the manufacture of an asymmetric valve. Spool pieces can thus be avoided.
- If space constraints exist it is possible to supply also the smaller valves with the tandem actuators, mounted on the sides.
- For very abrasive applications a design-option is to exchange the seats without taking the valve out of the line.
- Covers over the ends of the valves can be provided, which prevent persons to be in the way of the valve blade when it is actuated.



20" Ti-Valve with Covers

Refurbishment

After many years of service, SVC valves may require repacking or replacement seats. Stainless Valve Co. has the necessary technical expertise, the personnel, spare parts, and equipment to perform this service fast and economically. Whenever possible products are updated to the latest state of art. Don't trust your valuable investment to anyone else.

Dimensions

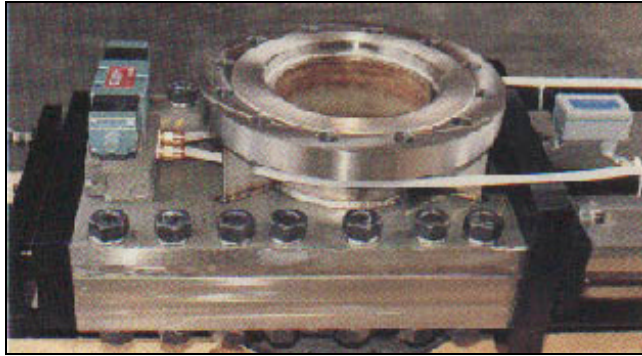
The tables show the basic dimensions of the SVC Valves. Approximate Dimensions in Inches, Metric Valves, JIS Valves and Special Dimensions are available

STAINLESS VALVE CO.

Special Design Products:

— Stainless Valve Co. designs valves to customer requirements —

1. Big Blow™ Valve



Big Blow Valve

Major factors making use of Big Blow™ Valve the first choice:

- Excellent performance with an absolute minimum of maintenance. This valve is built rugged enough to withstand almost any problem related to the batch pulp digesters.
- The Big Blow™ is almost indestructible. It has tremendous resistance to abrasion, corrosion, shock waves, system vibration, and sudden changes in temperature.
- The wear areas are the PTFE seats and packing. They have a normal life of three years. Longer life is common.
- The seats are not exposed. They are inset from the bore and cannot be directly hit by the flow of live steam or the flow of media, not even in the partially open position at the beginning of the blow.
- Even if the seats are worn or destroyed, little leakage can flow through the valve due to the small clearance between the blade and side plates. There is no danger of dewatering.
- A simple locking mechanism is available to mechanically block the valve in the closed position. The lock prevents the valve from being actuated unless unlocked by the person in charge. The Big Blow™ is considered as safe as the installation of a blank.
- Built in safety factors allow maintenance work behind the valve when the LC locking device is engaged. The blade position is always visible even from a distance. Two inches of stainless steel in a 10" Big Blow™ block the port, and cannot be blown to the open position. Only one Big Blow™ valve per digester is required.
- Big Blow™ valves of 10" and 12" size use 12" air cylinders, which generate over 9,000 lbs., thrust at 80 psi air pressure. This assures that the valves will not stick or hang during actuation. Big Blow™ Valves have the capability to shear foreign matter between the blade and side plate.
- Big Blow™ valves open slowly and consistently. The opening time can be controlled from approximately 10 to 60 seconds.

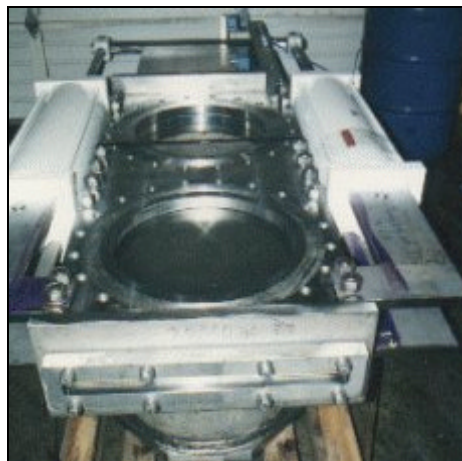
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2. Stargate O- Port™ Diverter Valve

The Three-Way-Valve

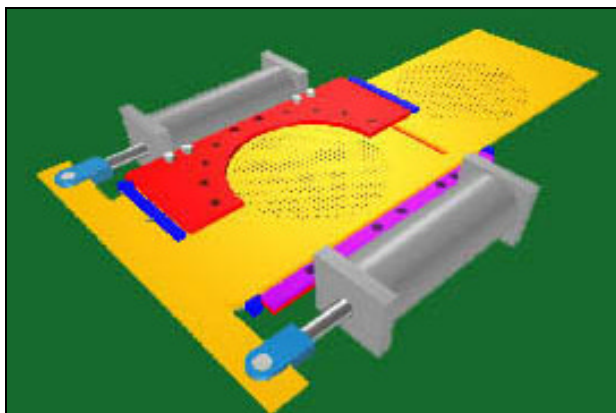
Another example is the Diverter Valve. This valve guarantees uninterrupted media flow when the flow of a positive displacement pump is redirected to a different pipe. This valve can also be supplied with an additional position for complete shut-off, replacing two single valves.



3. Big Screen™

The Automatically Exchangeable Screen

Stop production, take flanges loose, drop pipes and replace screens is a frequent task. Big Screen™ will reduce the down time for maintenance purposes. An example for the application of such a Big Screen™ is the vent on a steaming vessel. There are other possible applications like a back up screen behind the rotary screen for the recovery boiler, reducing possible plugging of the heat exchangers and burners.



The advantages of Big Screen™

- Big Screen™ replaces screens without stopping production, just pressing a button.
 - The actuator moves the screens, bringing the one, which is to be exchanged outside the body and at the same time the clean one into the flow area.
 - While the one screen is outside the body it can be cleaned and prepared for the next exchange while production continues.
 - The cut rings shear the protruding matter from the screen surface.
- The screen blade is guided by glass filled PTFE guides. Expanded PTFE rope packing seals the inside of the Big Screen™ body from the outside.
 - An option is a long face to face dimension with a "man-hole", which allows removing any accumulation, if after several screen exchanges fibers should have accumulated in the screen body on the upstream side.

As an example, Big Screen™ features a screen pattern of 1/4" diameter openings on 1/2" square centerlines. Different Big Screen™ sizes (2" to 72" diameter) with different opening sizes, different spacing and different face to face dimension are available.

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4. SVC Stargate-O-Port™ Capping Valves

For full automation of the filling of the digesters, capping valves are used instead of manually installed blanks.



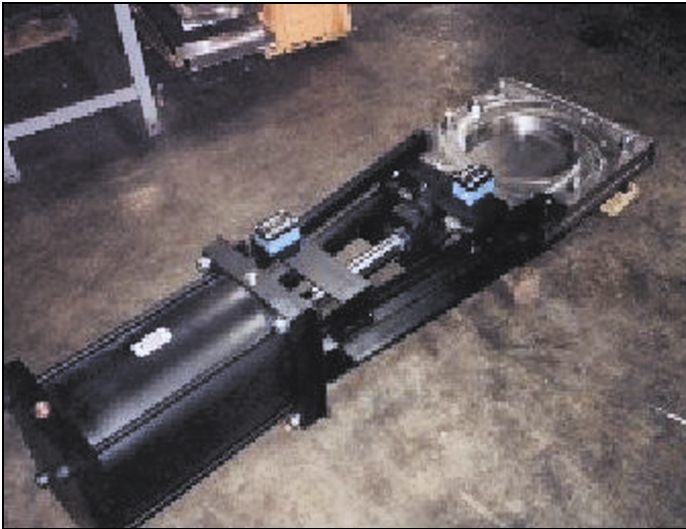
The advantages of the SVC Stargate-O-Port™ valves over ball valves are:

- Very rugged design for long life.
 - Safe operation without hang-ups.
 - No material can be trapped between the blade and seat. This guarantees tight shut-off.
 - The SVC Stargate-O-Port™ valves have very short take-out dimensions. Installation requires only a minimum of changes to the conveyer system and building. It is not necessary to raise the roof of the building!!
 - Generally SVC Stargate-O-Port™ valves have lower prices than ball valves of the same size.
 - The bottom side of the valve has a 300 psi flange with a bolt hole pattern to fit the top flange of the digester.
-
- On the top side, the hopper or a spool piece can be directly bolted against the side plate of the valve body, thus entering the digesters for service without removal of the valve is possible.
 - The SVC Stargate-O-Port™ allows adaptation to the special needs of the application, like pressure switches, automatic locking devices, face to face dimensions, etc.
 - SVC Stargate-O-Port™ 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.

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5. Big Knife™



Big Knife™ valves, are a development to bridge the gap between the typical knife-gate valves, which are often called throw-away valves with all their many technical disadvantages, and the more expensive Stargate -O-Port valves, with some of the advantages of the O-port valves.

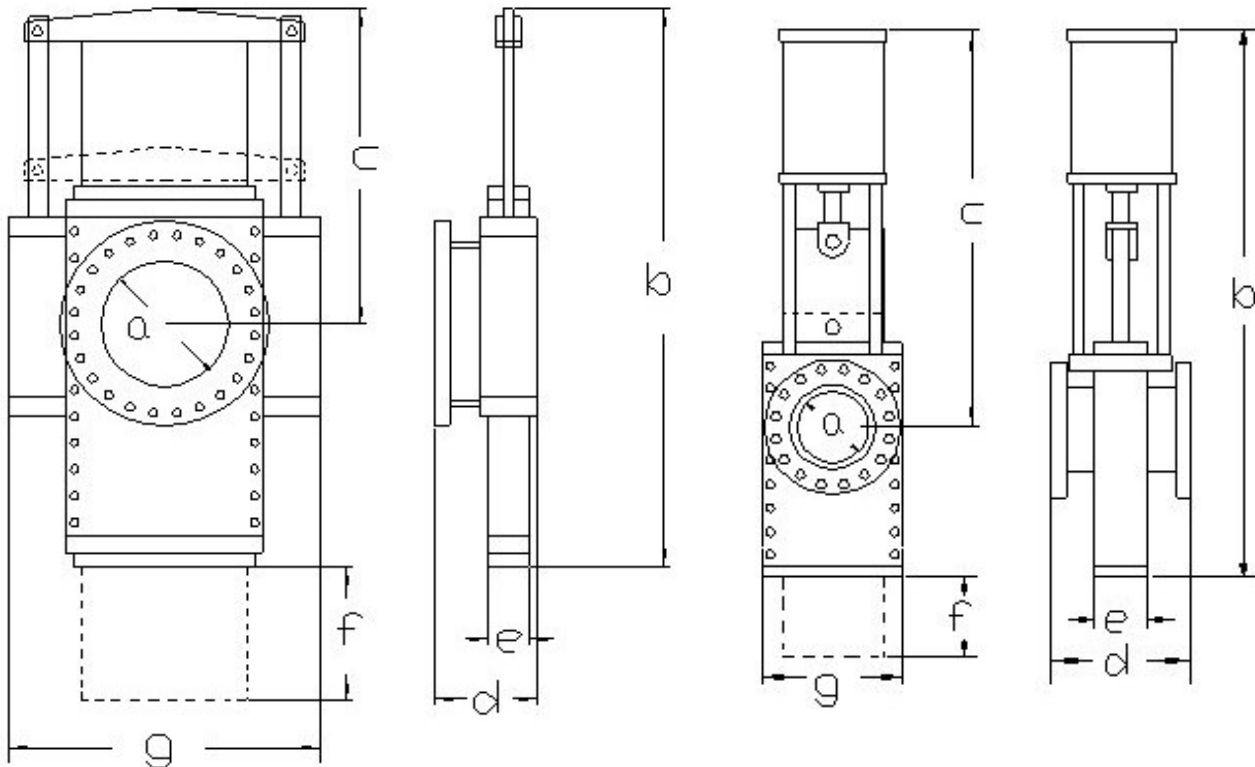
- When knife-gate valves are used in applications with solids in the flow media, these valves tend to press the solids into the seat area, over time preventing the valve from closing all the way. The SVC Big Knife™ valves are designed for applications with low percentage of solids.
 - For higher percentage of solids, frequent actuation of the valves or for valves where the class VI shut-off is required, the Stargate -O-Port™ valves are the technically and economically better solution in spite of the higher purchase price.
-
- SVC Big Knife™ valve are designed to allow solids to accumulate in the bottom of the valve, to a certain extent, as the valve is being closed. The bottom of the valve can be flushed out in order to prevent compaction of material in that area. The amount of accumulated solids depends on valve size, particle size and percentage of solids in the flow.
 - The other advantage of SVC Big Knife™ concept over other knife gate valves is the possibility to clean out the valve bottom if material cannot be flushed out and to do this while the valve is in line. The bottom lid is opened for clean-out.
 - When the SVC Big Knife™ valves are used together with a locking device for blanking off purposes without setting blanks, often a small drainage valve is installed downstream from an isolation valve in order to monitor possible leakage through the isolation valve. With the SVC Big Knife™ valve this installation of a drainage valve not necessary. Opening the bottom of the valve allows the monitoring of the leak proof ness of the Big Knife™ valve. Also there is no pressure build up inside the valve which can give a force component towards the opening direction of the blade; an added benefit for safety.
 - SVC Big Knife™ valves still retain the bi-directional shut-off feature of our other valve designs. The gate is being guided between spring loaded seats through its entire travel.
 - There are no bent gates at high pressure on reverse flow because of the heavy-built of the valve.

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Big Blow™ and Stargate-O-Port Capping Valves™
 Approximate Dimensions in Inches
 Metric Valves, JIS valves and Special Dimensions are available

Size	a	b	c	d	e*	e**	f	g	BHC	Thread	Depth	#
6"	5.75	56	41	15.87		5.00	7.00	15.87	10.62	¾-10	.75	12
8"	7.60	67	47	16.50		6.00	10.00	16.75	13.00	¾-10	.75	12
10"	9.20	71	49	18.00		7.00	11.00	18.00	15.25	1-8	1.00	16
12"	11.00	78	54	19.75	4.50	7.00	13.00	19.50	17.75	1-8	1.00	16
14"	13.00	86	57	18.00	4.50	7.00	15.00	21.00	20.25	1 1/8-7	1.13	16
16"	15.00	90	59	18.00	5.00	7.00	17.00	23.50	22.50	1 1/8 7	1.13	20
18"	17.00	118	66	20.00	5.00	7.50	19.00	25.00	24.75	1 ¼-7	1.25	24
20"	19.00	83	47	20.00	5.50		21.00	46.00	29.25	1 ¼-7	1.25	24
24"	23.00	99	58	20.00	6.00		25.00	49.00	32.00	1 ½-6	1.50	24
30"	29.00	116	66	20.00	7.00		31.00	56.00	39.25	1 ½-6	1.50	28
36"	35.00	134	72	20.00	8.00		37.00	64.00	46.00	1 ½-6	1.50	32

* Stargate-O-Port Capping Valves / ** For Big Blow



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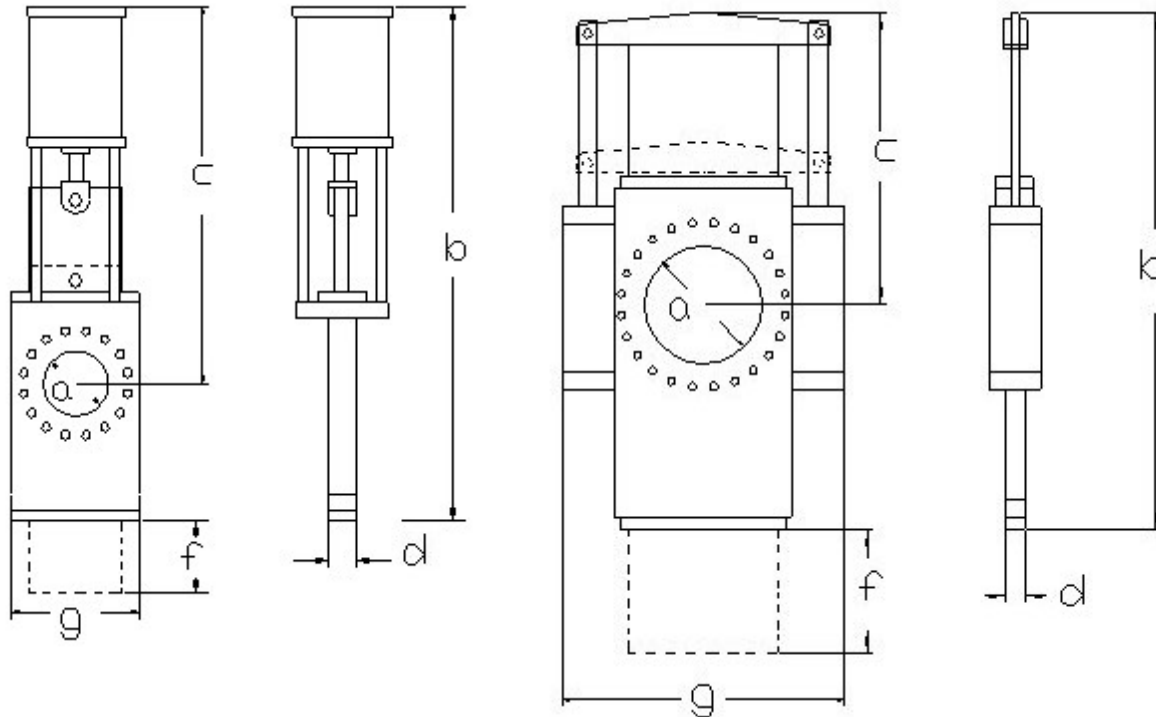
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Stargate-O-Port™ Valves 150#

Stargate-O-Port™ Valves 300#

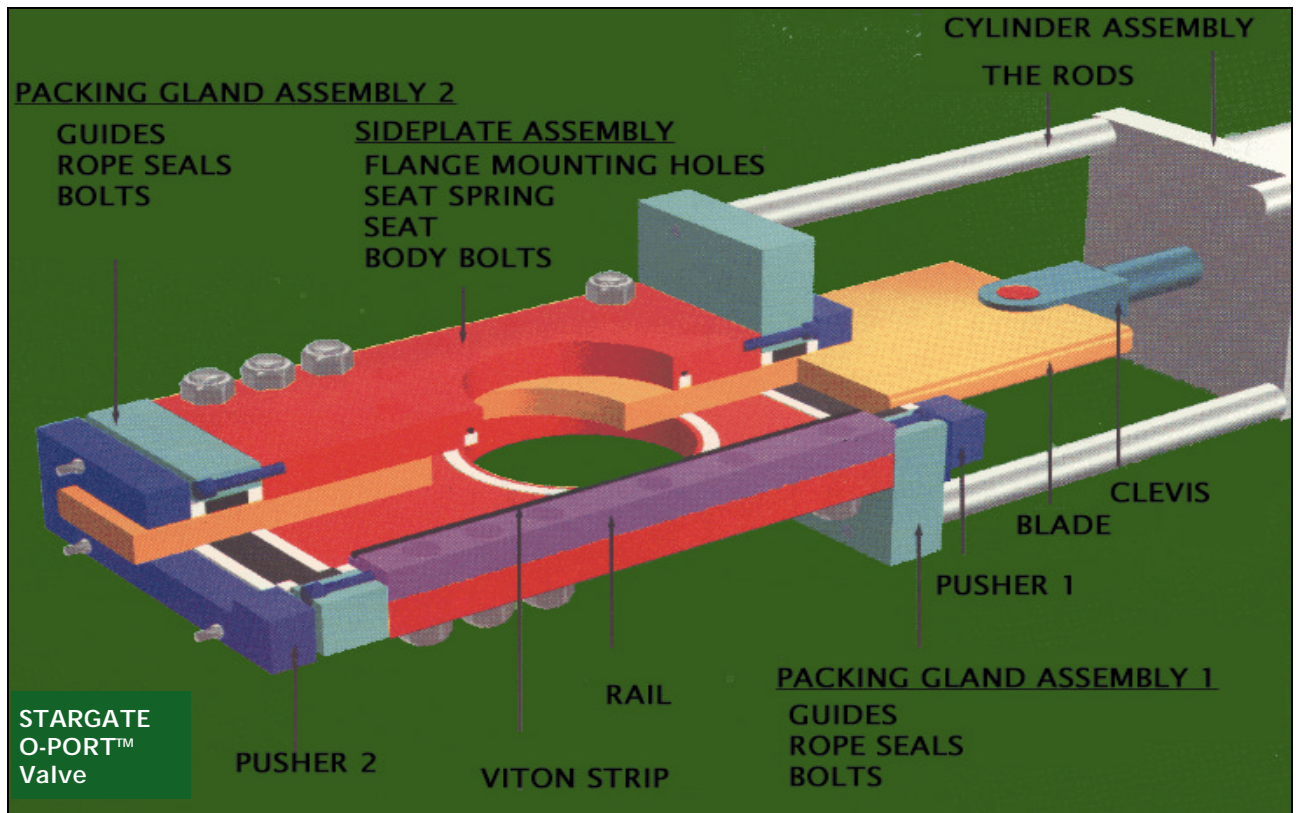
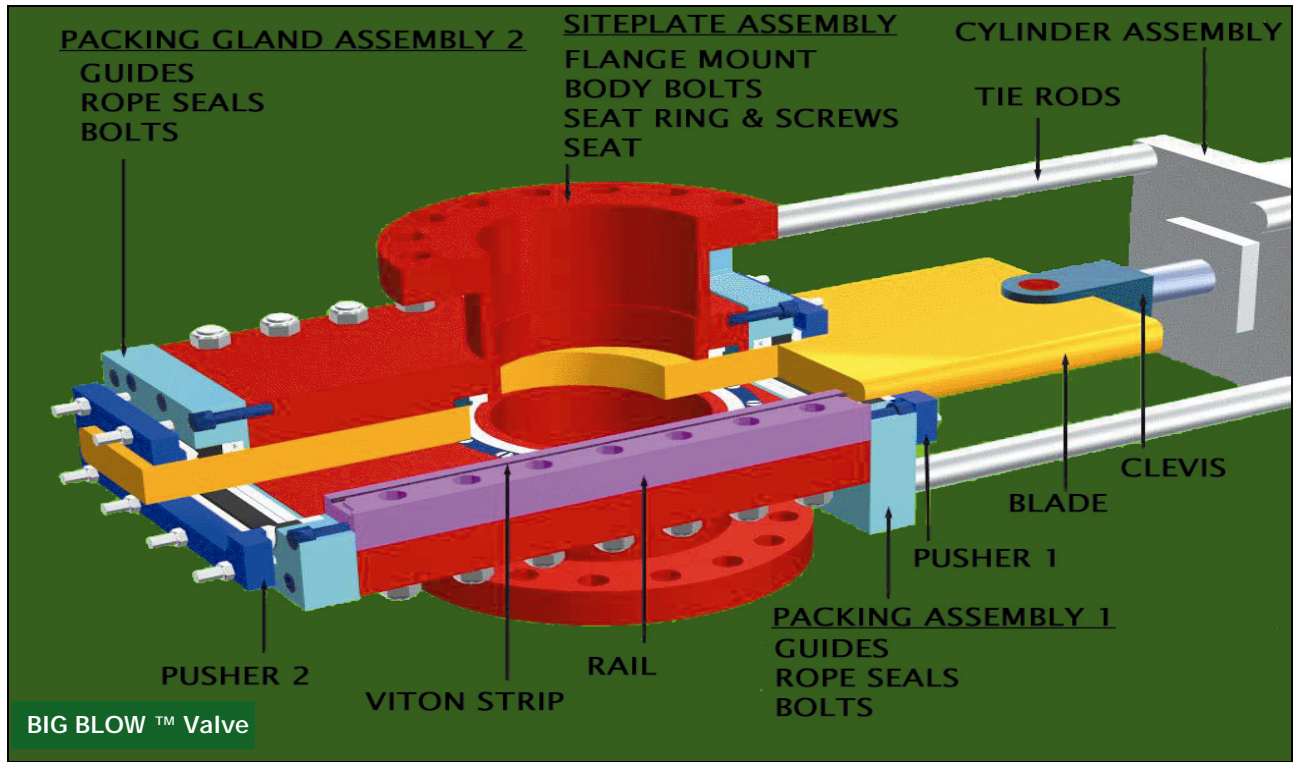
Size	a	b	c	d	f	g	BHC	Thread	Depth	#
2"	1.69	27	19	1.88	3	7	4.75	5/8-11	.63	4
4"	4.03	42	28	2.00	5	8	7.5	¾-10	.60	8
6"	6.07	48	38	2.25	7	11	9.5	¾-10	.60	8
8"	7.98	54	38	2.75	9	13	11.75	¾-10	.60	8
10"	10.02	65	49	2.75	11	17	14.25	7/8-9	.80	12
12"	11.94	75	55	3.00	13	20	17	7/8-9	.80	12
14"	13.13	86	57	3.00	15	21	18.75	1-8	.75	12
16"	15.00	90	60	3.50	17	24	21.25	1-8	1.00	16
18"	16.88	92	64	3.50	19	25	22.75	1 1/8-7	.80	16
20"	18.81	83	47	4.50	21	46	25	1 1/8-7	1.25	20
22"	20.25	91	52	4.50	23	49	27	1 1/8-7	1.25	20
24"	22.63	99	58	4.50	25	51	29.5	1 ¼-7	1.00	20
30"	29.00	116	66	5.00	31	56	36	1 ¼-7	1.50	24
36"	35.00	134	72	5.00	37	64	42.75	1 ½-6	1.00	32
72"	71.00	255	150	8.00	73	101	82.5	1 ¾-6	1.50	60

Size	a	b	c	d	f	g	BHC	Thread	Depth	#
2"	1.90	27	19	2.00	3	7	5.00	5/8 - 11	.63	4
4"	3.80	42	28	2.25	5	8	7.88	¾ - 10	.75	8
6"	5.80	48	38	2.50	7	11	10.62	¾ - 10	.75	12
8"	7.60	54	38	3.50	9	13	13.00	7/8 - 9	1.00	12
10"	9.56	65	49	4.00	11	17	15.25	1 - 8	1.00	16
12"	11.38	75	55	4.50	13	20	17.75	1 1/8 - 7	1.00	16
14"	12.50	86	57	4.50	15	22	20.25	1 1/8 - 7	1.13	20
16"	14.31	90	60	5.00	17	24	22.50	1 1/4 - 7	1.13	20
18"	16.13	92	64	5.00	19	27	24.75	1 1/4 - 7	1.25	24
20"	17.94	83	47	5.50	21	55	27.00	1 1/4 - 7	1.25	24
22"	20.88	91	52	5.50	23	57	29.25	1 1/2 - 6	1.50	24
24"	22.78	99	58	5.50	25	60	32.00	1 1/2 - 6	1.50	24
30"	27.56	116	66	6.00	31	65	39.25	1 3/4 - 6	1.50	28
36"	33.56	134	72	6.00	37	75	46.00	1 ½ - 6	1.50	32
72"	69.00	255	150	10.00	73	120	82.50	2 - 5	2.00	60



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