



FLOWSERVE

VALTEK
Survivor Control Valves

Valtek Survivor Control Valves

Construction

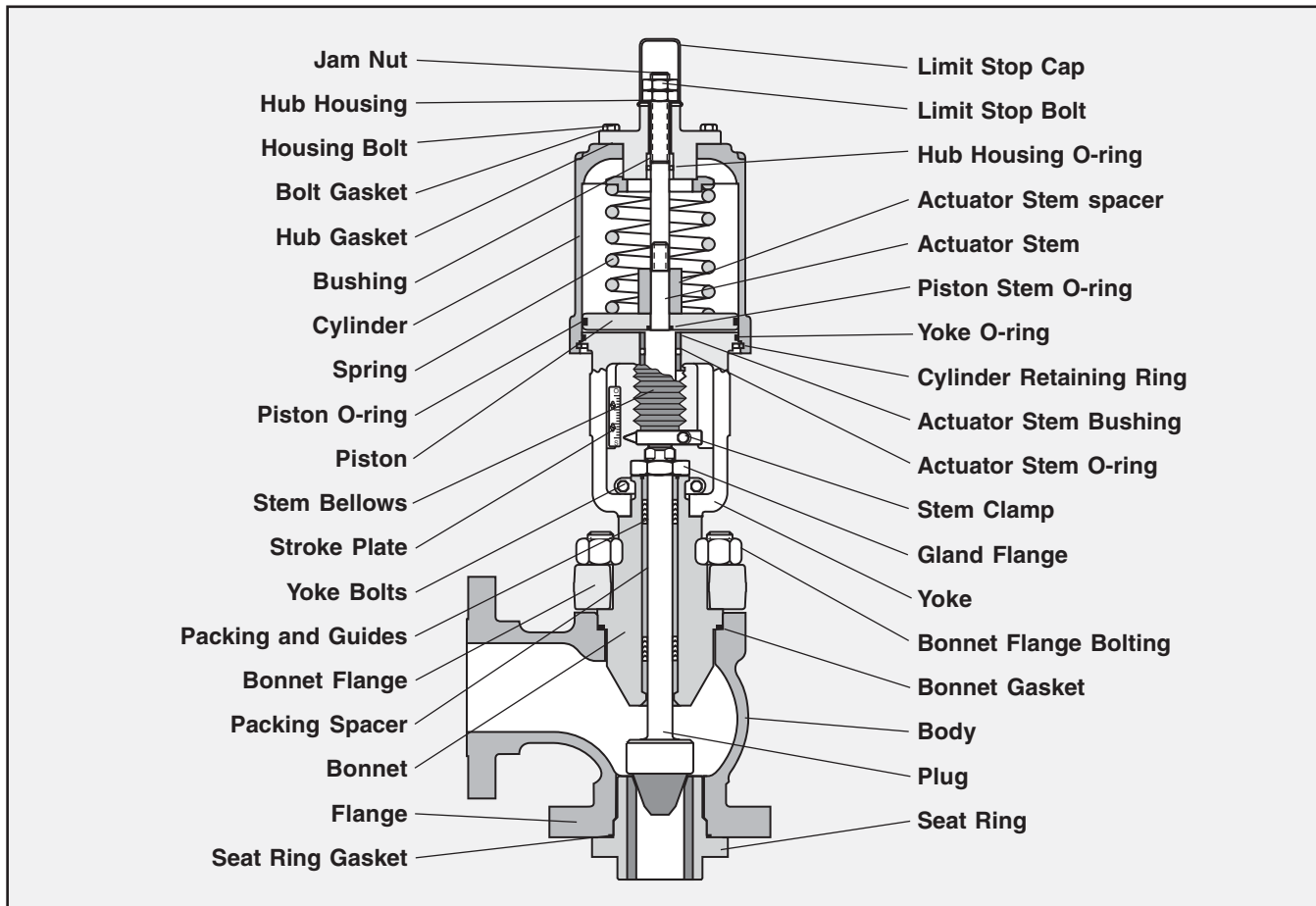


Figure 1: Valtek Survivor Control Valve

Introduction

The Valtek® Survivor™ control valve is a unique severe service control valve specifically designed for use in the harshest erosion, corrosion and flashing applications.

Survivor's unique design allows a wide variety of materials to meet virtually every need. For erosive applications, such as abrasive slurry, the Survivor is available with ceramic trim for maximum life in services that would quickly erode any other material. For corrosive applications, the Survivor offers a wide range of material options from stainless steels to titanium.

The sweep angle design allows the process fluid to flow cleanly, without sharp turns or stagnant points. The unique design of the Survivor directs the energy of flashing process fluids away from critical equipment.

Unlike competing erosive service valves, the Valtek Survivor control valve offers a unique wiper ring design which provides longer packing life by cleaning the stem and

protecting the packing from the harmful effects of the fluid. The exceptionally deep packing box prevents the fluid from contacting the upper guide and provides an extensive variety of packing configurations. Increased flow and superior erosion resistance are realized through the use of a clamped seat design. The clamped seat eliminates both seat retainers and cage guiding.

The Valtek Survivor provides the same high performance, reliable service and simplified maintenance as the Valtek Mark One control valve by incorporating many of the time proven features of the Mark One. These features include such things as top entry for ease of maintenance, heavy-duty double top stem guiding for reliability and high-thrust actuation for superior control.

The Valtek Survivor control valve has proven effective in erosive slurry applications where competitor's valves have lasted only days.

Valtek Survivor Control Valves

Features and Advantages

Features	Advantages
Optional ceramic trim	Provides durable control in corrosive, flashing, slurry, high-velocity or other erosive applications
Exceptionally deep packing box	Allows a wide variety of packing box configurations
Tailor-engineered	Valves are specifically targeted to each application; custom contours and materials are available
Sweep angle design	Provides high flow capacity and minimizes impingement of particles on body
Oversize gallery	Decreases fluid velocity, minimizing erosion
Wiper rings	Prevents particles suspended in fluids from entering the bonnet, reducing damage to guides and surfaces, minimizing packing wear and stem seizure
Clamped seat design	Minimizes erosion, simplifies maintenance, provides higher flow capacities
Extended-venturi seat design	Safely channels the slurry into flash vessels; protects valve body from erosive damage caused by high velocities
Mature technology	Shares the basic design of the time-tested Valtek Mark One control valve

Table I: Materials* of Constructions

Body	Titanium, INCONEL®, Hastelloy®, UNS 2507, carbon steel, stainless steel, other castable alloys on request.
Trim	Tungsten Carbide, Silicon Carbide, PSZ, Alloy 6
Wiper rings	Alloy 6, PSZ, INCONEL

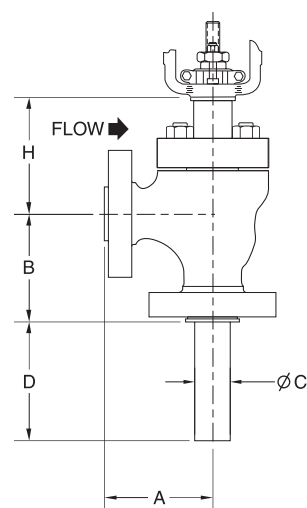
*Contact factory for other available materials.

Table II: Specifications

Sizes	1- to 14-inch
Body form	Sweep Angle
ANSI rating	150 through 1500
End Connections	Separable and integral flanges, RTJ
Packing	PTFE, graphite, AFPI, SafeGuard, SureGuard, customs available
Actuator types	Double-acting cylinder with fail-safe spring (25, 50, 100, 200, 300 square-inch cylinder); Electro-hydraulic
Positioners	Four-way Valtek Beta positioner, Valtek XL series positioner and Logix 1000 and 2000 series digital positioner

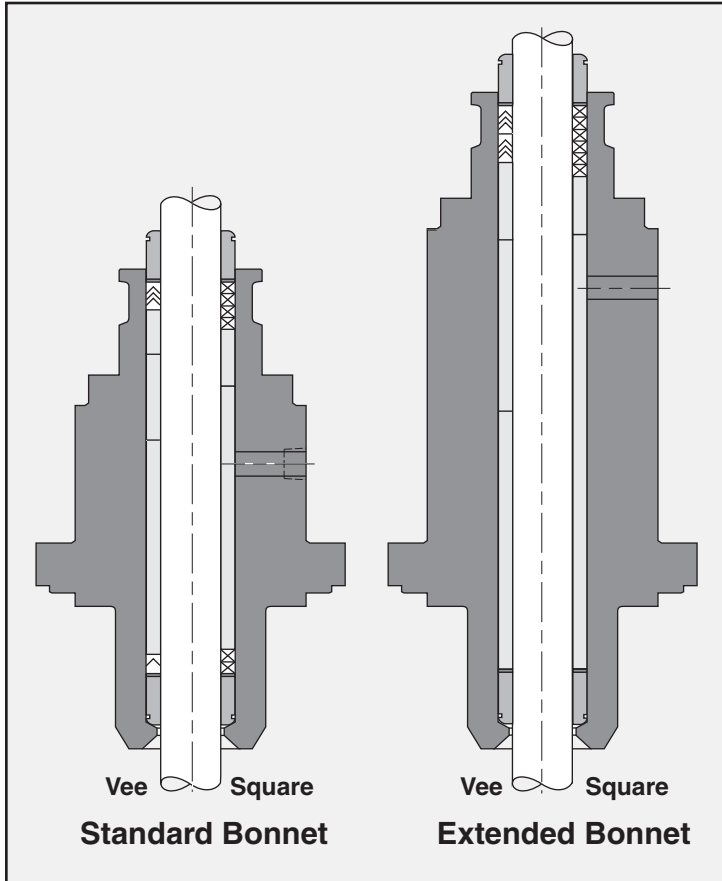
Table III: Body Dimensions (inch / mm)

Body Size (inch)	Body Rating Class	A		B		C Maximum		D Maximum		H				Clearance Required for Disassembly	
		Std.	Ext.	Std.	Ext.	Std.	Ext.	Std.	Ext.	Std. Bonnet	Ext. Bonnet	Std.	Ext.	Std.	Ext.
1	150 - 600	4.3	108	4.3	108	0.88	22	4.50	114	3.3	84	7.8	198	2.5	64
1.5	150 - 600	4.8	121	4.8	121	1.38	35	7.50	191	3.9	100	8.4	214	4.0	102
2	150 - 600	5.8	146	5.8	146	1.88	48	9.50	239	3.9	100	8.4	214	4.5	114
3	150 - 600	7.0	178	7.0	178	2.88	73	14.50	366	5.8	147	11.3	287	5.8	147
4	150 - 600	8.8	222	7.8	197	3.88	98	19.40	493	7.6	193	13.1	333	7.5	190
6	150	12.8	324	12.8	324	5.88	149	17.75	451	7.6	193	13.1	333	10.0	254
	300 - 600	12.8	324	10.9	276	5.88	149	17.75	451	8.2	208	13.7	348	10.0	254
8	300 - 600	15.5	330	15.5	330	7.75	197	19.31	490	10.8	275	16.3	414	13.8	349
10	300 - 600	14.8	376	14.8	376	9.63	244	19.25	489	12.2	310	18.7	475	20.0	508
12	300 - 600	16.1	409	16.1	409	11.63	295	16.88	429	12.8	326	19.3	491	17.5	445
14	150	17.5	445	17.5	445	12.75	334	15.75	400	12.8	324	18.3	464	18.88	480
1	900, 1500	5.5	140	5.5	140	0.75	19	3.75	95	4.7	119	9.2	234	3.6	90
1.5	900, 1500	6.5	165	6.5	165	1.25	32	6.25	159	6.5	165	11.0	279	5.6	142
2	900, 1500	7.3	185	7.3	185	1.75	44	8.75	222	7.8	198	12.3	312	6.1	155
3	900, 1500	9.3	236	9.3	236	2.63	67	13.15	334	10.0	254	17.0	432	8.4	213
4	900, 1500	12.5	318	12.5	318	3.50	89	14.70	373	10.4	264	17.4	442	9.7	246
6	900, 1500	13.9	353	13.9	353	5.25	133	14.75	375	13.3	338	20.3	516	12.2	310
8	900, 1500	16.4	417	16.4	417	6.88	175	14.63	372	14.5	368	21.5	547	16.7	424
10	900, 1500	19.5	495	19.5	495	8.63	219	14.65	370	14.4	366	21.4	544	18.3	465



Valtek Survivor Control Valves

Packing Configurations



NOTE: Valtek Survivor control valves offer a proprietary wiper design. Contact your local Flowserve representative for complete details.

Ordering Information

The following information must be provided when ordering a Valtek Survivor control valve:

1. Preferred body size and critical dimensions
2. Inlet / outlet pressures; temperature, flow rate, fluid's specific gravity / molecular weight, vapor pressure or gas compressibility; percent of entrained solids
3. Maximum operating temperatures and pressures
4. Body pressure rating
5. Materials required for: body, seat insert, seat housing, plug head, plug stem / housing
6. Line size and schedule
7. Seat extension length (where applicable) and inside diameter of mating pipe
8. Actuator requirements: type (pneumatic or electro-hydraulic), failure position, size and minimum air supply
9. Accessories required
10. Limit Close — Limit stop is required for ceramic trim

Flowserve Corporation has established industry leadership in the design and manufacture of its products. When properly selected, this Flowserve product is designed to perform its intended function safely during its useful life. However, the purchaser or user of Flowserve products should be aware that Flowserve products might be used in numerous applications under a wide variety of industrial service conditions. Although Flowserve can (and often does) provide general guidelines, it cannot provide specific data and warnings for all possible applications. The purchaser/user must therefore assume the ultimate responsibility for the proper sizing and selection, installation, operation and maintenance of Flowserve products. The purchaser/user should read and understand the Installation Operation Maintenance (IOM) instructions included with the product, and train its employees and contractors in the safe use of Flowserve products in connection with the specific application.

While the information and specifications presented in this literature are believed to be accurate, they are supplied for informative purposes only and should not be considered certified or as a guarantee of satisfactory results by reliance thereon. Nothing contained herein is to be construed as a warranty or guarantee, express or implied, regarding any matter with respect to this product. Because Flowserve is continually improving and upgrading its product design, the specifications, dimensions and information contained herein are subject to change without notice. Should any question arise concerning these provisions, the purchaser/user should contact Flowserve Corporation at any of its worldwide operations or offices.

INCONEL is a registered trademark of Huntington Alloy. Hastelloy is a registered trademark of Cabit Corporation.

For more information, contact:



Flowserve and Valtek are registered trademarks of Flowserve Corporation.

For more information about Flowserve, contact www.flowserve.com or call USA 972 443 6500

Manufacturing Facilities

1350 N. Mt. Springs Prkwy.
Springville, UT 84663
Phone 801 489 8611
Facsimile 801 489 3719

1300 Parkway View Drive
Pittsburgh, PA 15205 USA
Telephone 412 787 8803
Facsimile 412 787 1944

14 Dalmore Drive
Scoresby, Victoria, 3179
Australia
Phone: (61) 3 9764 8522
Facsimile: (61) 3 9764 0013
Manderscheidstr. 19
45141 Essen, Germany
Telephone (49) 2 01 89 19 5
Facsimile (49) 2 01 891 9600

Allée du Quartz 1
CH-2300 La Chaux-de-Fonds
Switzerland
Telephone (41) 32 925 9700
Facsimile (41) 32 926 5422

Quick Response Centers

5114 Railroad Street
Deer Park, TX 77536 USA
Telephone 281 479 9500
Facsimile 281 479 8511

104 Chelsea Parkway
Boothwyn, PA 19061 USA
Telephone 610 497 8600
Facsimile 610 497 6680

