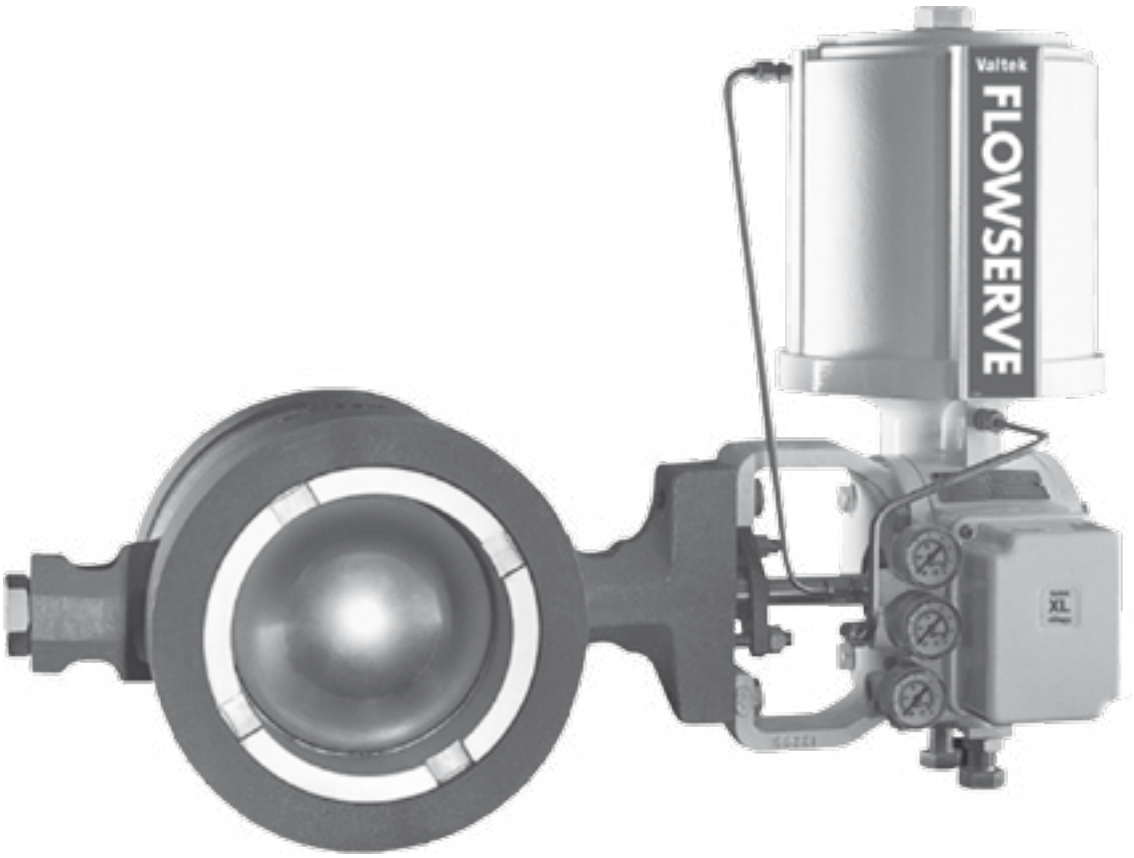
FLOWSERVE

TECHNICAL BULLETIN

Valtek ShearStream HP Control Valves
Segmented V-Port Ball Valves

FCD VLENTB0027-14 05/2014



Experience In Motion

Control Valves

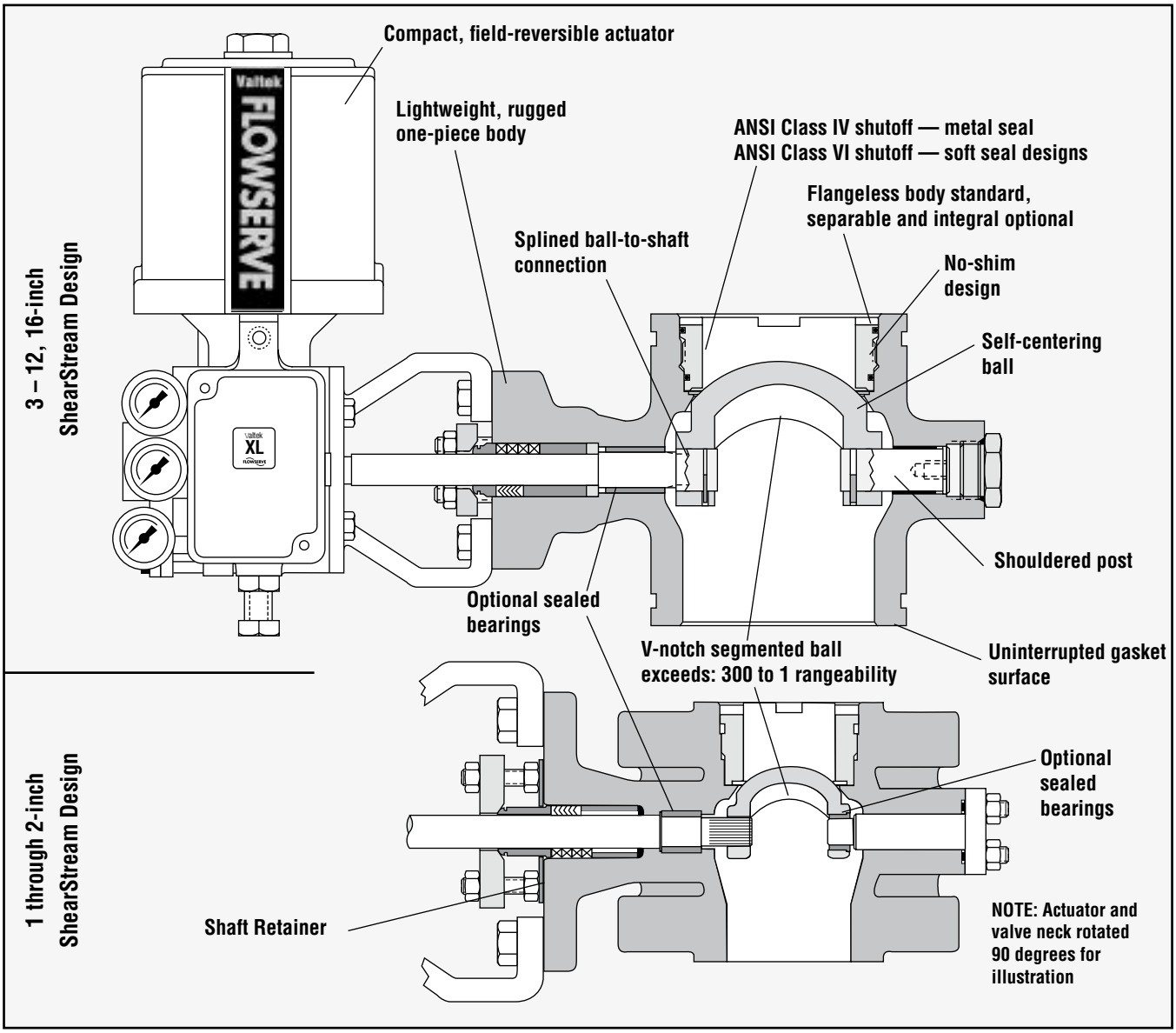


Figure 1: ShearStream Design

"Rugged" describes the Valtek® ShearStream™ ball valve. Designed to overcome the problems of harsh, particle entrained processes, ShearStream also provides accurate, reliable control in a broad range of applications, such as chemical, power and petroleum.

ShearStream addresses and solves many long-standing challenges faced by traditional ball valves, such as:

- **Piping forces that unevenly load the seal**
- **Low rangeability due to limited orifice characterization**
- **Unsatisfactory shutoff capabilities**

ShearStream achieves Class IV shutoff with a metal seal and Class VI with soft seal. A spring-loaded heavy duty seat is available for high pressure applications in metal and soft seat configurations. In addition to the standard wafer body design, ShearStream is available with separable or integral flanges. ShearStream is available in sizes 1 through 12 and 16-inch, ANSI Classes 150, 300, and 600, and in stainless steel, carbon steel and other alloys.

Features and Advantages

ShearStream utilizes numerous features for ruggedness and high performance:

Features	Advantages
One-piece body	High performance ensured regardless of flange torque loads Seal tightness not altered by piping forces, as in two-piece bodies One leak path eliminated
Segmented V-notch ball	Clogging reduced "V" shaped orifice exceeds 300:1 rangeability Excellent shearing action in fibrous fluid mediums
Tight shut-off seats	Metal seal provides greater than ANSI Class IV shutoff Soft seals achieve ANSI Class VI shutoff
Self-centering ball	Seal installation improved and simplified Shutoff further improved
No-shim seal	Servicing and installation problems reduced
Thick-walled retainer	Valve's normal service life extended in erosive environments
Flangeless design standard	Reduced cost
Separable flange option	Bolt length reduced, avoiding bolt stretch and leakage in event of fire Flange bolting aligns easier Reduced cost with alloys
Integral flange option	Bolt length reduced, avoiding bolt stretch and leakage in event of fire

ShearStream has additional features for increased performance and serviceability:

Interchangeability	Standard face-to-face dimensions allow for easy field retrofitting of other manufacturers product lines Actuator is interchangeable with Valtek Valdisk™ eccentric disc valve
Seal replaceable without removing ball and shaft	Maintenance is fast and easy
Shaft serviceable from outboard end of ball (3 – 12, 16-inch only)	The need for actuator removal to replace ball and shaft is eliminated Shaft protected from blowout
Full, uninterrupted gasket surface	Gasket alignment problems reduced Wider range of gaskets possible, including spiral-wound

ShearStream also capitalizes on established features of Valtek quality:

Double acting, cylinder actuator	High-thrust, compact, lightweight Actuator fully interchangeable with Valdisk rotary valve actuator Actuator air pressures allowable up to 150 psi / 10.3 bar
Modular spool-type, four-way positioner	Calibration and maintenance are simple Convertible between pneumatic and electro-pneumatic
Clamped splined shaft	Extra strength provided with no lost motion or dead band
Available in variety of materials	Materials include carbon steel, 316 stainless steel and other alloys

Each ShearStream feature contributes to a product measurably superior to other ball valves, as illustrated by the following pages which contain additional information and specifications.

Seat Design Options

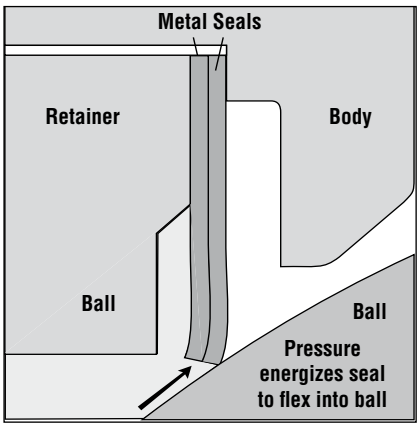


Figure 2: Metal seat: shaft downstream

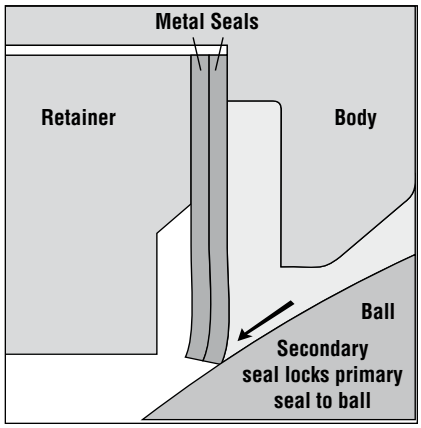


Figure 3: Metal seat: shaft upstream

Metal Seat

The metal seat uses the pressure drop across the seal to enhance its shutoff characteristics in the shaft downstream flow direction. And in the shaft upstream direction the second metal seal locks the primary seal to the ball. In both cases the flexible seal conforms to the surface of the ball. As differential pressure increases, the metal seat uses the pressure to increase sealing force.
Shut-off: ANSI Class IV

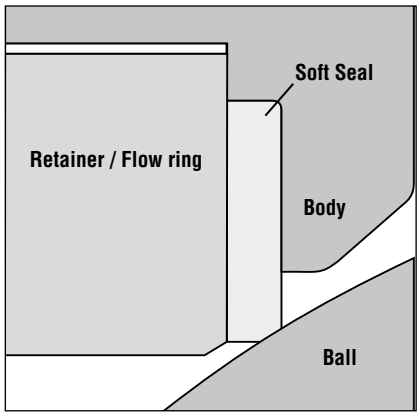


Figure 4: Soft seat and flow ring

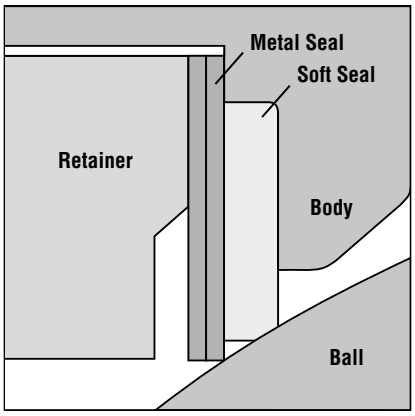


Figure 5: Dual

Soft Seat

The soft seat utilizes PTFE or PEEK soft seal. The soft seat is also available with a metal back-up seal in the dual seat configuration for fire-safe applications.
Shut-off: ANSI Class VI

Hardened flow ring design is available without a soft seal for severe applications. The seat groove in the body is removed.
Shut-off: ANSI Class II approx.

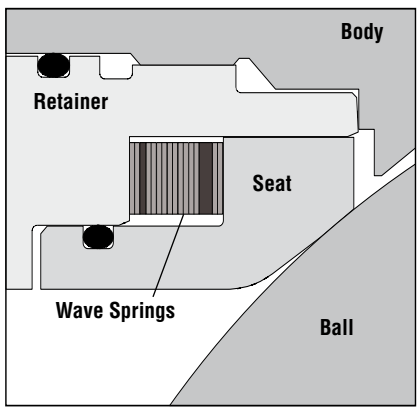


Figure 6: Heavy duty metal seat

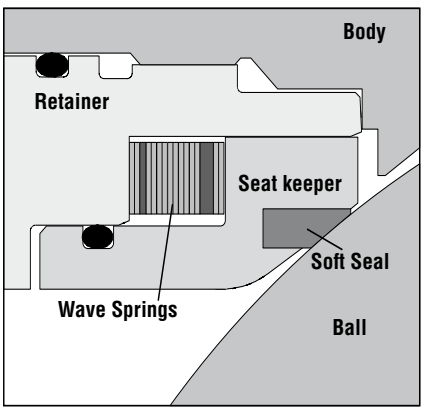


Figure 7: Heavy duty soft seat

Heavy Duty Seat

For applications requiring high pressure drops, the heavy duty seat provides tight shut-off and reliability in the shaft downstream flow direction. The sealed wave springs give the seat consistent seating pressure that is long-lasting. Optional o-ring available to seal wave springs for dirty service applications. The soft seat utilizes a UHMWPE or PTFE or PEEK soft seal.
Shut-off: Metal, ANSI Class IV
Soft, ANSI Class VI

Specifications

Table I: Material Selection

Part	Material
Body	Carbon Steel, 316 SS, 316L SS, 304 SS, 304L SS, Monel, Hastelloy C, Hastelloy B/B-3, Alloy 20, Titanium
Ball	Chrome Plated 317 SS, Solid Alloy 6 up to 6˝ and overlay for sizes thereafter, Chrome Plated 316L SS, Chrome Plated 304 SS, Chrome Plated 304L SS, Hastelloy C, Monel, Nickel Plated 317 SS, Alloy 20, Hastelloy B/B-3, Titanium
Shaft / Pin	17-4 PH, Nitronic 50, Nitonic 50/Alloy 6, Hastelloy C, K-Monel, Alloy 20, Hastelloy B/B-3, Titanium
Bearings	MBT, Alloy 6, Ultimet
Seat Ring	316 SS, Inconel, Alloy 6*
Soft Seat	Glass filled PTFE, PEEK, TEFZEL®, UHMWPE
Packing	PTFE V-Ring, QuickSet 9001®, AFPI, SafeGuard, SureGuard, SureGuard XT, 1303 FEP®, Graphite Rib/Braid, TFE/Glass V-Ring
Seat Retainer	Chrome Plated 316L SS, 316 SS w/Stellite, Chrome Plated 316L SS, 316L w/Alloy 6, Chrome Plated 304 SS, Chrome Plated 304L SS, Monel, Hastelloy C, Alloy 6, Hastelloy B/B-3, Titanium,
End Plug	Carbon Steel, 316 SS, 316L SS, 304 SS, 304L SS, Alloy 20, Hastelloy C, Hastelloy B/B-3, Monel, Titanium
End Seal	Viton O-Ring, Graphite
Yoke Bolting	Carbon Steel, Stainless Steel

*Alloy 6 is only available with heavy duty seats

Table II: Flow Coefficients
(Ball rotated 90°)

Body Size (inch)	C_v 90° Rotation	
	Shaft Downstream	Shaft Upstream
1	24	25
1.5	50	51
2	104	107
3	275	272
4	445	444
6	844	836
8	1338	1370
10	2710	2702
12	4150	4150
16	7150	7120

Table III: Seat Configurations

Seat Type	Description	Shaft Orientation	ANSI Class Shut-off
Metal	Two metal seat rings[1]	Upstream or Downstream	IV
Soft	One soft seat	Upstream	VI
		Downstream	IV
Dual	One soft seat plus two metal backup seats[1]	Upstream	VI
		Downstream	IV
Heavy Duty, Metal	Spring loaded metal seal	Downstream	IV
Heavy Duty, Soft	Spring loaded soft seal	Downstream	VI
Flow Ring[2]	No seat	Upstream or Downstream	II

Note:

1. For sizes 1˝ and 1.5˝ there is only one metal seat ring.

2. Flow rings are not intended for application operating close to the seat. Leakage when fully closed is approximately ANSI class II.

SHAFT DIRECTION KEY
SU = Shaft upstream
SD = Shaft downstream
SUD = Shaft upstream double metal seat
SDS = Shaft downstream single metal seat
SDD = Shaft downstream double metal seat

Table IV: ShearStream Maximum Pressure Drop Table (psig)

PTFE Packing

1-inch	Shaft Material																Seat Material										Bearing Material		
	17-4 ph		Nitronic		Inconel		Monel		Hast C276		Hast B2		Alloy 20		Titanium		PTFE/Tefzel		PEEK/Zymax		316 SS			Inconel			MBT	Ultimet	Stellite
Temp(F)	SU	SD	SU	SD	SU	SD	SU	SD	SU	SD	SU	SD	SU	SD	SU	SD	SU	SD	SU	SD	SUD	SDS	SDD	SUD	SDS	SDD			
-50	1120	935	965	800	1325	1110	1030	860	410	270	520	410	515	325	415	330	925	925	925	925	1500	1500	1500	1500	1500	1500	925	925	925
100	1120	935	965	800	1325	1110	1030	860	410	270	520	410	515	325	415	330	925	925	925	925	1500	1500	1500	1500	1500	1500	740	925	925
200	1075	895	785	650	1285	1075	990	825	370	215	500	380	460	255	400	320	600	600	600	600	1500	1350	1350	1500	1450	1450	600	875	875
300	1025	855	740	610	1240	1035	970	810	330	180	470	345	415	230	375	300	400	400	400	400	1455	1210	1210	1455	1280	1280	490	825	825
400	975	815	695	570	1190	995	950	790	285	145	445	310	370	185	350	275	–	–	400	400	1410	1135	1135	1410	1165	1165	375	750	775
500	935	775	655	535	1130	945	935	775	230	115	415	275	340	165	335	260	–	–	400	400	1330	1075	1075	1330	1130	1130	–	650	700
600	890	736	615	500	1065	890	915	760	175	85	390	240	315	155	320	250	–	–	–	–	1210	1025	1025	1210	1090	1090	–	500	625

1.5-inch	Shaft Material																Seat Material										Bearing Material		
	17-4 ph		Nitronic		Inconel		Monel		Hast C276		Hast B2		Alloy 20		Titanium		PTFE/Tefzel		PEEK/Zymax		316 SS			Inconel			MBT	Ultimet	Stellite
Temp(F)	SU	SD	SU	SD	SU	SD	SU	SD	SU	SD	SU	SD	SU	SD	SU	SD	SU	SD	SU	SD	SUD	SDS	SDD	SUD	SDS	SDD			
-50	635	615	545	530	750	730	585	565	265	250	335	320	295	275	240	225	615	700	615	702	775	1000	1000	780	1500	1500	925	925	925
100	635	615	545	530	750	730	585	565	265	250	335	320	295	275	240	225	615	700	615	702	775	1000	1000	780	1500	1500	740	925	925
200	610	590	445	430	730	705	565	545	240	225	320	305	260	245	230	220	600	600	600	600	770	900	900	780	1430	1430	600	875	875
300	585	565	420	405	705	680	555	535	220	210	300	285	240	225	215	205	400	400	400	400	765	795	795	775	1320	1320	490	825	825
400	555	535	395	380	675	655	540	520	200	190	285	270	220	210	200	190	–	–	400	400	765	695	695	775	1195	1195	375	750	775
500	530	510	375	360	640	620	530	510	190	175	265	250	210	200	195	185	–	–	400	400	760	595	595	775	1070	1070	–	650	700
600	505	485	350	335	605	585	520	500	175	160	250	235	195	185	185	175	–	–	–	–	755	490	490	770	945	945	–	500	625

2-inch	Shaft Material																Seat Material										Bearing Material		
	17-4 ph		Nitronic		Inconel		Monel		Hast C276		Hast B2		Alloy 20		Titanium		PTFE/Tefzel		PEEK/Zymax		316 SS			Inconel			MBT	Ultimet	Stellite
Temp(F)	SU	SD	SU	SD	SU	SD	SU	SD	SU	SD	SU	SD	SU	SD	SU	SD	SU	SD	SU	SD	SUD	SDS	SDD	SUD	SDS	SDD			
-50	465	445	400	380	550	525	425	410	185	170	240	225	210	190	165	155	500	550	500	550	400	395	395	410	1500	765	925	925	925
100	465	445	400	380	550	525	425	410	185	170	240	225	210	190	165	155	500	550	500	550	400	395	395	410	765	765	740	925	925
200	445	425	325	310	530	510	410	390	165	150	230	215	180	165	160	150	500	550	500	550	400	285	285	410	685	685	600	875	875
300	425	405	305	290	510	490	400	385	155	140	215	200	170	150	150	140	400	400	400	400	395	265	265	405	605	605	490	825	825
400	405	385	285	270	490	470	390	375	140	125	200	185	155	140	140	130	–	–	400	400	395	240	240	405	525	525	375	750	775
500	385	370	270	255	465	445	385	370	130	115	185	170	145	130	135	120	–	–	400	400	390	200	200	400	440	440	–	650	700
600	365	350	250	240	440	420	380	360	115	100	175	160	135	120	130	115	–	–	–	–	385	160	160	400	340	340	–	500	625

3-inch	Shaft Material																Seat Material										Bearing Material		
	17-4 ph		Nitronic		Inconel		Monel		Hast C276		Hast B2		Alloy 20		Titanium		PTFE/Tefzel		PEEK/Zymax		316 SS			Inconel			MBT	Ultimet	Stellite
Temp(F)	SU	SD	SU	SD	SU	SD	SU	SD	SU	SD	SU	SD	SU	SD	SU	SD	SU	SD	SU	SD	SUD	SDS	SDD	SUD	SDS	SDD			
-50	1500	1500	1500	1500	1500	1500	1500	1500	965	460	1205	650	1065	535	1300	730	350	240	350	480	590	180	370	625	240	500	925	925	925
100	1500	1500	1500	1500	1500	1500	1500	1500	965	460	1205	650	1065	535	1300	730	350	240	350	480	590	180	370	625	240	500	740	925	925
200	1500	1500	1500	1500	1500	1500	1500	1500	870	380	1160	615	945	440	1255	690	350	240	350	480	576	170	350	610	225	470	600	875	875
300	1455	1455	1455	1455	1455	1455	1455	1455	810	335	1100	565	880	390	1190	645	350	235	350	470	565	160	330	605	215	445	490	825	825
400	1410	1410	1410	1410	1410	1410	1410	1410	750	285	1040	515	825	345	1135	595	–	–	350	470	555	150	310	600	200	420	375	750	775
500	1330	1330	1330	1330	1330	1330	1330	1330	705	250	980	465	800	325	1100	520	–	–	350	470	540	140	295	590	190	395	–	650	700
600	1210	1210	1210	1210	1210	1210	1210	1210	655	210	920	420	775	305	965	460	–	–	–	–	530	130	280	585	180	370	–	500	625

4-inch	Shaft Material																Seat Material										Bearing Material		
	17-4 ph		Nitronic		Inconel		Monel		Hast C276		Hast B2		Alloy 20		Titanium		PTFE/Tefzel		PEEK/Zymax		316 SS			Inconel			MBT	Ultimet	Stellite
Temp(F)	SU	SD	SU	SD	SU	SD	SU	SD	SU	SD	SU	SD	SU	SD	SU	SD	SU	SD	SU	SD	SUD	SDS	SDD	SUD	SDS	SDD			
-50	1500	1055	1455	775	1500	1100	1160	560	130	55	335	140	210	90	420	175	280	185	280	370	160	115	235	200	180	375	925	925	925
100	1500	1055	1455	775	1500	1100	1160	560	130	55	335	140	210	90	420	175	280	185	280	370	160	115	235	200	180	375	740	925	925
200	1500	1000	1160	560	1500	1065	1140	540	45	20	295	120	110	45	375	155	280	180	280	360	150	110	230	180	170	355	600	875	875
300	1455	945	1075	495	1455	1035	1130	535	25	10	140	100	60	30	325	135	275	180	275	360	130	105	225	170	160	345	490	825	825
400	1410	885	985	430	1410	1005	1115	525	–	–	190	80	15	10	275	115	–	–	275	360	120	100	220	170	150	335	375	750	775
500	1330	835	920	395	1330	955	1105	515	–	–	140	60	–	–	150	80	–	–	275	360	110	95	215	160	140	330	–	650	700
600	1210	780	850	355	1210	900	1090	505	–	–	85	35	–	–	130	55	–	–	–	–	90	90	210	150	135	325	–	500	625

SHAFT DIRECTION KEY
SU = Shaft upstream
SD = Shaft downstream
SUD = Shaft upstream double metal seat
SDS = Shaft downstream single metal seat
SDD = Shaft downstream double metal seat

Table IV: ShearStream Maximum Pressure Drop Table (psig) – Continued

PTFE Packing

6-inch	Shaft Material																Seat Material										Bearing Material		
	17-4 ph		Nitronic		Inconel		Monel		Hast C276		Hast B2		Alloy 20		Titanium		PTFE/Tefzel		PEEK/Zymax		316 SS			Inconel			MBT	Ultimet	Stellite
Temp(F)	SU	SD	SU	SD	SU	SD	SU	SD	SU	SD	SU	SD	SU	SD	SU	SD	SU	SD	SU	SD	SUD	SDS	SDD	SUD	SDS	SDD			
-50	1500	1030	1500	850	1500	1170	1220	640	310	145	490	230	385	180	560	265	270	180	270	360	250	120	245	280	175	360	925	925	925
100	1500	1030	1500	850	1500	1170	1220	640	310	145	490	230	385	180	560	265	270	180	270	360	250	120	245	280	175	360	740	925	925
200	1500	980	1220	640	1500	1135	1195	625	240	115	455	215	295	140	525	245	265	175	265	355	240	115	240	270	165	340	600	875	875
300	1455	930	1130	580	1455	1105	1185	620	195	95	410	190	250	115	480	225	260	175	260	350	230	115	235	260	160	330	490	825	825
400	1410	875	1035	515	1410	1075	1170	610	150	70	365	170	205	95	435	205	–	–	260	350	220	110	230	260	155	320	375	750	775
500	1330	830	980	480	1330	1025	1160	600	115	55	315	150	185	90	370	175	–	–	260	350	210	110	225	250	150	315	–	650	700
600	1210	780	925	440	1210	975	1145	590	80	35	275	130	170	80	310	145	–	–	–	–	200	105	220	250	145	310	–	500	625

8-inch	Shaft Material																Seat Material										Bearing Material		
	17-4 ph		Nitronic		Inconel		Monel		Hast C276		Hast B2		Alloy 20		Titanium		PTFE/Tefzel		PEEK/Zymax		316 SS			Inconel			MBT	Ultimet	Stellite
Temp(F)	SU	SD	SU	SD	SU	SD	SU	SD	SU	SD	SU	SD	SU	SD	SU	SD	SU	SD	SU	SD	SUD	SDS	SDD	SUD	SDS	SDD			
-50	1225	610	945	500	1235	700	755	370	135	65	245	115	180	85	290	135	280	180	280	360	220	125	260	240	170	355	925	925	925
100	1225	610	945	500	1235	700	755	370	135	65	245	115	180	85	290	135	280	180	280	360	220	125	260	240	170	355	740	925	925
200	1175	580	755	375	1205	675	740	360	90	45	225	105	125	60	265	125	275	175	275	355	110	120	245	230	160	335	600	875	875
300	1120	550	685	335	1180	660	735	355	65	35	195	90	95	45	235	110	270	175	270	350	200	115	230	230	150	320	490	825	825
400	1065	515	615	290	1150	640	725	350	35	20	170	80	70	35	210	100	–	–	270	350	190	105	220	220	140	305	375	750	775
500	1020	490	570	270	1105	610	720	345	20	10	140	65	60	30	170	80	–	–	270	350	180	100	210	220	135	290	–	650	700
600	970	460	520	245	1060	580	710	340	–	–	115	55	50	25	135	65	–	–	–	–	180	95	200	220	130	280	–	500	625

10-inch	Shaft Material																Seat Material										Bearing Material		
	17-4 ph		Nitronic		Inconel		Monel		Hast C276		Hast B2		Alloy 20		Titanium		PTFE/Tefzel		PEEK/Zymax		316 SS			Inconel			MBT	Ultimet	Stellite
Temp(F)	SU	SD	SU	SD	SU	SD	SU	SD	SU	SD	SU	SD	SU	SD	SU	SD	SU	SD	SU	SD	SUD	SDS	SDD	SUD	SDS	SDD			
-50	990	560	725	430	1000	590	540	320	115	65	185	110	145	85	215	125	275	120	275	235	90	90	185	100	115	235	925	925	925
100	990	560	725	430	1000	590	540	320	115	65	185	110	145	85	215	125	275	120	275	235	90	90	185	100	115	235	740	925	925
200	940	535	540	320	970	575	530	310	85	50	170	100	105	65	200	120	270	115	270	230	80	85	180	100	115	235	600	875	875
300	890	505	490	290	945	560	525	310	70	40	150	90	85	55	180	105	265	115	265	230	80	85	180	90	110	230	490	825	825
400	840	475	435	255	920	545	515	305	50	30	135	80	70	45	165	95	–	–	265	230	70	80	175	90	110	230	375	750	775
500	795	450	405	240	880	520	510	300	35	20	120	70	65	40	130	80	–	–	265	230	60	80	175	90	105	225	–	650	700
600	745	425	370	220	835	490	500	295	20	10	100	60	55	35	115	65	–	–	–	–	60	75	170	80	100	220	–	500	625

12-inch	Shaft Material																Seat Material										Bearing Material		
	17-4 ph		Nitronic		Inconel		Monel		Hast C276		Hast B2		Alloy 20		Titanium		PTFE/Tefzel		PEEK/Zymax		316 SS			Inconel			MBT	Ultimet	Stellite
Temp(F)	SU	SD	SU	SD	SU	SD	SU	SD	SU	SD	SU	SD	SU	SD	SU	SD	SU	SD	SU	SD	SUD	SDS	SDD	SUD	SDS	SDD			
-50	955	935	735	720	965	940	590	575	240	230	300	290	265	255	320	315	280	85	280	170	70	65	140	60	80	170	925	925	925
100	955	935	735	720	965	940	590	575	240	230	300	290	265	255	320	315	280	85	280	170	70	65	140	60	80	170	740	925	925
200	915	895	590	575	940	915	575	565	215	205	285	280	235	225	310	300	280	85	280	170	60	65	140	60	80	170	600	875	875
300	875	855	545	530	920	895	570	560	200	195	270	265	220	210	295	285	275	80	275	165	60	60	135	60	75	165	490	825	825
400	830	815	500	485	895	875	565	550	185	180	255	250	205	195	280	270	–	–	275	165	60	60	130	60	75	165	375	750	775
500	795	775	475	460	860	840	560	545	175	170	240	235	200	190	260	245	–	–	275	165	60	55	130	60	70	155	–	650	700
600	755	735	445	435	825	805	555	540	160	155	225	220	190	185	240	230	–	–	–	–	50	55	125	50	70	150	–	500	625

SHAFT DIRECTION KEY
SU = Shaft upstream
SD = Shaft downstream
SUD = Shaft upstream double metal seat
SDS = Shaft downstream single metal seat
SDD = Shaft downstream double metal seat

Table IV: ShearStream Maximum Pressure Drop Table (barg)

PTFE Packing

25 mm	Shaft Material																Seat Material										Bearing Material		
	17-4 ph		Nitronic		Inconel		Monel		Hast C276		Hast B2		Alloy 20		Titanium		PTFE/Tefzel		PEEK/Zymax		316 SS			Inconel			MBT	Ultimet	Stellite
Temp(C)	SU	SD	SU	SD	SU	SD	SU	SD	SU	SD	SU	SD	SU	SD	SU	SD	SU	SD	SU	SD	SUD	SDS	SDD	SUD	SDS	SDD			
-45.5	77.2	64.48	66.5	55	91	76	71	59	28	19	35.9	28	35.5	22	28.6	23	63.8	63.8	63.8	63.8	103	103	103	103	103	103	63.8	63.8	63.8
37.7	77.2	64.5	66.5	55	91	76	71	59	28	19	35.9	28	35.5	22	28.6	23	63.8	63.8	63.8	63.8	103	103	103	103	103	103	51	63.8	63.8
93.3	74.13	61.7	54.1	44	88	74	68	56	26	15	34.5	26	31.7	18	27.6	22	41.4	41.4	41.4	41.4	103	93.1	93.1	103	100	100	41.4	60.3	60.3
148.8	36.2	30.2	51	42	85	71	66	55	23	12	32.4	24	28.6	16	25.9	21	27.6	27.6	27.6	27.6	100	83.4	83.4	100	88.3	88.3	33.8	56.9	56.9
204.4	67.24	56.2	47.9	39	82	68	65	54	20	10	30.7	21	25.5	13	24.1	19	–	–	27.6	27.6	97.2	78.3	78.3	97.2	80.3	80.3	375	51.7	53.4
260	64.4	53.4	45.17	36	77	65	64	53	16	8	28.6	19	23.4	11	23.1	18	–	–	27.6	27.6	91.7	74.1	74.1	91.7	77.9	77.9	–	44.8	48.3
315.5	61.3	50.7	42.4	34.4	73	61	63	52	12	6	26.9	17	21.7	11	22.1	17	–	–	–	–	83.4	70.7	70.7	83.4	75.2	75.2	–	34.5	43.1

40 mm	Shaft Material																Seat Material										Bearing Material		
	17-4 ph		Nitronic		Inconel		Monel		Hast C276		Hast B2		Alloy 20		Titanium		PTFE/Tefzel		PEEK/Zymax		316 SS			Inconel			MBT	Ultimet	Stellite
Temp(C)	SU	SD	SU	SD	SU	SD	SU	SD	SU	SD	SU	SD	SU	SD	SU	SD	SU	SD	SU	SD	SUD	SDS	SDD	SUD	SDS	SDD			
-45.5	43.8	42.4	37.6	36.6	51.7	50.3	40.3	39	18	17	23.1	22	20.3	19	16.6	16	42.4	48.3	42.4	48.4	53.4	69	69	53.8	103	103	63.8	63.8	63.8
37.7	43.8	42.4	37.6	36.6	51.7	50.3	40.3	39	18	17	23.1	22	20.3	19	16.6	16	42.4	48.3	42.4	48.4	53.4	69	69	53.8	103	103	51	63.8	63.8
93.3	42.1	40.7	30.7	29.7	50.3	48.6	39	37.6	17	16	22.1	21	17.9	17	15.9	15	41.4	41.4	41.4	41.4	53.1	62.1	62.1	53.8	98.6	98.6	41.4	60.3	60.3
148.8	40.3	39	29	27.9	48.6	46.9	38.3	36.9	15	14	20.7	20	16.6	16	14.8	14	27.6	27.6	27.6	27.6	52.8	54.8	54.8	53.4	91	91	33.8	56.9	56.9
204.4	38.3	36.9	27.2	26.2	46.6	45.2	37.2	35.9	14	13	19.7	19	15.2	14	13.8	13	–	–	27.6	27.6	52.8	47.9	47.9	53.4	82.4	82.4	22.9	51.7	53.4
260	36.6	35.2	25.9	24.8	44.1	42.8	36.6	35.2	13	12	18.3	17	14.5	14	13.4	13	–	–	27.6	27.6	52.4	41	41	53.4	73.8	73.8	–	44.8	48.3
315.5	34.8	33.4	24.1	23.1	41.7	40.3	35.9	34.5	12	11	17.2	16	13.4	13	12.8	12	–	–	–	–	52.1	33.8	33.8	53.1	65.2	65.2	–	34.5	43.1

50 mm	Shaft Material																Seat Material										Bearing Material		
	17-4 ph		Nitronic		Inconel		Monel		Hast C276		Hast B2		Alloy 20		Titanium		PTFE/Tefzel		PEEK/Zymax		316 SS			Inconel			MBT	Ultimet	Stellite
Temp(C)	SU	SD	SU	SD	SU	SD	SU	SD	SU	SD	SU	SD	SU	SD	SU	SD	SU	SD	SU	SD	SUD	SDS	SDD	SUD	SDS	SDD			
-45.5	32.1	30.7	27.6	26.2	37.9	36.2	29.3	28.3	13	12	16.6	16	14.5	13	11.4	11	34.5	37.9	34.5	37.9	27.6	27.2	27.2	28.3	103	52.8	63.8	63.8	63.8
37.7	32.1	30.7	27.6	26.2	37.9	36.2	29.3	28.3	13	12	16.6	16	14.5	13	11.4	11	34.5	37.9	34.5	37.9	27.6	27.2	27.2	28.3	52.8	52.8	51	63.8	63.8
93.3	30.7	29.3	22.4	21.4	36.6	35.2	28.3	26.9	11	10	15.9	15	12.4	11	11	10	34.5	37.9	34.5	37.9	27.6	19.7	19.7	28.3	47.2	47.2	41.4	60.3	60.3
148.8	29.3	27.9	21	20	35.2	33.8	27.6	26.6	11	9.7	14.8	14	11.7	10	10.3	9.7	27.6	27.6	27.6	27.6	27.2	18.3	18.3	27.9	41.7	41.7	33.8	56.9	56.9
204.4	27.9	26.6	19.7	18.6	33.8	32.4	26.9	25.9	9.7	8.6	13.8	13	10.7	9.7	9.66	9	–	–	24.1	32.4	38.3	10.3	21.4	41.4	13.8	29	25.9	51.7	53.4
260	26.6	25.5	18.6	17.6	32.1	30.7	26.6	25.5	9	7.9	12.8	12	10	9	9.31	8.3	–	–	24.1	32.4	37.2	9.66	20.3	40.7	13.1	27.2	–	44.8	48.3
315.5	25.2	24.1	17.2	16.6	30.3	29	26.2	24.8	7.9	6.9	12.1	11	9.31	8.3	8.97	7.9	–	–	–	–	36.6	8.97	19.3	40.3	12.4	25.5	–	34.5	43.1

80 mm	Shaft Material																Seat Material										Bearing Material		
	17-4 ph		Nitronic		Inconel		Monel		Hast C276		Hast B2		Alloy 20		Titanium		PTFE/Tefzel		PEEK/Zymax		316 SS			Inconel			MBT	Ultimet	Stellite
Temp(C)	SU	SD	SU	SD	SU	SD	SU	SD	SU	SD	SU	SD	SU	SD	SU	SD	SU	SD	SU	SD	SUD	SDS	SDD	SUD	SDS	SDD			
-45.5	103	103	103	103	103	103	103	103	67	32	83.1	45	73.4	37	89.7	50	24.1	16.6	24.1	33.1	40.7	12.4	25.5	43.1	16.6	34.5	63.8	63.8	63.8
37.7	103	103	103	103	103	103	103	103	67	32	83.1	45	73.4	37	89.7	50	24.1	16.6	24.1	33.1	40.7	12.4	25.5	43.1	16.6	34.5	51	63.8	63.8
93.3	103	103	103	103	103	103	103	103	60	26	80	42	65.2	30	86.6	48	24.1	16.6	24.1	33.1	39.7	11.7	24.1	42.1	15.5	32.4	41.4	60.3	60.3
148.8	100	100	100	100	100	100	100	100	56	23	75.9	39	60.7	27	82.1	44	24.1	16.2	24.1	32.4	39	11	22.8	41.7	14.8	30.7	33.8	56.9	56.9
204.4	97.2	97.2	97.2	97.2	97.2	97.2	97.2	97.2	52	20	71.7	36	56.9	24	78.3	41	–	–	24.1	32.4	38.3	10.3	21.4	41.4	13.8	29	25.9	51.7	53.4
260	91.7	91.7	91.7	91.7	91.7	91.7	91.7	91.7	49	17	67.6	32	55.2	22	75.9	36	–	–	24.1	32.4	37.2	9.66	20.3	40.7	13.1	27.2	–	44.8	48.3
315.5	83.4	83.4	83.4	83.4	83.4	83.4	83.4	83.4	45	14	63.4	29	53.4	21	66.6	32	–	–	–	–	36.6	8.97	19.3	40.3	12.4	25.5	–	34.5	43.1

100 mm	Shaft Material																Seat Material										Bearing Material		
	17-4 ph		Nitronic		Inconel		Monel		Hast C276		Hast B2		Alloy 20		Titanium		PTFE/Tefzel		PEEK/Zymax		316 SS			Inconel			MBT	Ultimet	Stellite
Temp(C)	SU	SD	SU	SD	SU	SD	SU	SD	SU	SD	SU	SD	SU	SD	SU	SD	SU	SD	SU	SD	SUD	SDS	SDD	SUD	SDS	SDD			
-45.5	103	72.8	100	53.4	103	75.9	80	38.6	9	3.8	23.1	9.7	14.5	6.2	29	12	19.3	12.8	19.3	25.5	11	7.93	16.2	13.8	12.4	25.9	63.8	63.8	63.8
37.7	103	72.8	100	53.4	103	75.9	80	38.6	9	3.8	23.1	9.7	14.5	6.2	29	12	19.3	12.8	19.3	25.5	11	7.93	16.2	13.8	12.4	25.9	51	63.8	63.8
93.3	103	69	80	38.6	103	73.4	78.6	37.2	3.1	1.4	20.3	8.3	7.59	3.1	25.9	11	19.3	12.4	19.3	24.8	10.3	7.59	15.9	12.4	11.7	24.5	41.4	60.3	60.3
148.8	100	65.2	74.1	34.1	100	71.4	77.9	36.9	1.7	0.7	9.66	6.9	4.14	2.1	22.4	9.3	19	12.4	19	24.8	8.97	7.24	15.5	11.7	11	23.8	33.8	56.9	56.9
204.4	97.2	61	67.9	29.7	97.2	69.3	76.9	36.2	–	–	13.1	5.5	1.03	0.7	19	7.9	–	–	19	24.8	8.28	6.9	15.2	11.7	10.3	23.1	25.9	51.7	53.4
260	91.7	57.6	63.4	27.2	91.7	65.9	76.2	35.5	–	–	9.66	4.1	–	–	10.3	5.5	–	–	19	24.8	7.59	6.55	14.8	11	9.66	22.8	–	44.8	48.3
315.5	83.4	53.8	58.6	24.5	83.4	62.1	75.2	34.8	–	–	5.86	2.4	–	–	8.97	3.8	–	–	–	–	6.21	6.21	14.5	10.3	9.31	22.4	–	34.5	43.1

SHAFT DIRECTION KEY
SU = Shaft upstream
SD = Shaft downstream
SUD = Shaft upstream double metal seat
SDS = Shaft downstream single metal seat
SDD = Shaft downstream double metal seat

Table IV: ShearStream Maximum Pressure Drop Table (barg) – Continued

PTFE Packing

150 mm	Shaft Material																Seat Material										Bearing Material		
	17-4 ph		Nitronic		Inconel		Monel		Hast C276		Hast B2		Alloy 20		Titanium		PTFE/Tefzel		PEEK/Zymax		316 SS			Inconel			MBT	Ultimet	Stellite
Temp(C)	SU	SD	SU	SD	SU	SD	SU	SD	SU	SD	SU	SD	SU	SD	SU	SD	SU	SD	SU	SD	SUD	SDS	SDD	SUD	SDS	SDD			
-45.5	103	71	103	58.6	103	80.7	84.1	44.1	21	10	33.8	16	26.6	12	38.6	18	18.6	12.4	18.6	24.8	17.2	8.28	16.9	19.3	12.1	24.8	63.8	63.8	63.8
37.7	103	71	103	58.6	103	80.7	84.1	44.1	21	10	33.8	16	26.6	12	38.6	18	18.6	12.4	18.6	24.8	17.2	8.28	16.9	19.3	12.1	24.8	51	63.8	63.8
93.3	103	67.6	84.1	44.1	103	78.3	82.4	43.1	17	7.9	31.4	15	20.3	9.7	36.2	17	18.3	12.1	18.3	24.5	16.6	7.93	16.6	18.6	11.4	23.4	41.4	60.3	60.3
148.8	100	64.1	77.9	40	100	76.2	81.7	42.8	13	6.6	28.3	13	17.2	7.9	33.1	16	17.9	12.1	17.9	24.1	15.9	7.93	16.2	17.9	11	22.8	33.8	56.9	56.9
204.4	97.2	60.3	71.4	35.5	97.2	74.1	80.7	42.1	10	4.8	25.2	12	14.1	6.6	30	14	–	–	17.9	24.1	15.2	7.59	15.9	17.9	10.7	22.1	25.9	51.7	53.4
260	91.7	57.2	67.6	33.1	91.7	70.7	80	41.4	7.9	3.8	21.7	10	12.8	6.2	25.5	12	–	–	17.9	24.1	14.5	7.59	15.5	17.2	10.3	21.7	–	44.8	48.3
315.5	83.4	53.8	63.8	30.3	83.4	67.2	79	40.7	5.5	2.4	19	9	11.7	5.5	21.4	10	–	–	–	–	13.8	7.24	15.2	17.2	10	21.4	–	34.5	43.1

200 mm	Shaft Material																Seat Material										Bearing Material		
	17-4 ph		Nitronic		Inconel		Monel		Hast C276		Hast B2		Alloy 20		Titanium		PTFE/Tefzel		PEEK/Zymax		316 SS			Inconel			MBT	Ultimet	Stellite
Temp(C)	SU	SD	SU	SD	SU	SD	SU	SD	SU	SD	SU	SD	SU	SD	SU	SD	SU	SD	SU	SD	SUD	SDS	SDD	SUD	SDS	SDD			
-45.5	84.5	42.1	65.2	34.5	85.2	48.3	52.1	25.5	9.3	4.5	16.9	7.9	12.4	5.9	20	9.3	19.3	12.4	19.3	24.8	15.2	8.62	17.9	16.6	11.7	24.5	63.8	63.8	63.8
37.7	84.5	42.1	65.2	34.5	85.2	48.3	52.1	25.5	9.3	4.5	16.9	7.9	12.4	5.9	20	9.3	19.3	12.4	19.3	24.8	15.2	8.62	17.9	16.6	11.7	24.5	51	63.8	63.8
93.3	81	40	52.1	25.9	83.1	46.6	51	24.8	6.2	3.1	15.5	7.2	8.62	4.1	18.3	8.6	19	12.1	19	24.5	7.59	8.28	16.9	15.9	11	23.1	41.4	60.3	60.3
148.8	77.2	37.9	47.2	23.1	81.4	45.5	50.7	24.5	4.5	2.4	13.4	6.2	6.55	3.1	16.2	7.6	18.6	12.1	18.6	24.1	13.8	7.93	15.9	15.9	10.3	22.1	33.8	56.9	56.9
204.4	73.4	35.5	42.4	20	79.3	44.1	50	24.1	2.4	1.4	11.7	5.5	4.83	2.4	14.5	6.9	–	–	18.6	24.1	13.1	7.24	15.2	15.2	9.66	21	25.9	51.7	53.4
260	70.3	33.8	39.3	18.6	76.2	42.1	49.7	23.8	1.4	0.7	9.66	4.5	4.14	2.1	11.7	5.5	–	–	18.6	24.1	12.4	6.9	14.5	15.2	9.31	20	–	44.8	48.3
315.5	66.9	31.7	35.9	16.9	73.1	40	49	23.4	–	–	7.93	3.8	3.45	1.7	9.31	4.5	–	–	–	–	12.4	6.55	13.8	15.2	8.97	19.3	–	34.5	43.1

250 mm	Shaft Material																Seat Material										Bearing Material		
	17-4 ph		Nitronic		Inconel		Monel		Hast C276		Hast B2		Alloy 20		Titanium		PTFE/Tefzel		PEEK/Zymax		316 SS			Inconel			MBT	Ultimet	Stellite
Temp(C)	SU	SD	SU	SD	SU	SD	SU	SD	SU	SD	SU	SD	SU	SD	SU	SD	SU	SD	SU	SD	SUD	SDS	SDD	SUD	SDS	SDD			
-45.5	68.3	38.6	50	29.7	69	40.7	37.2	22.1	7.9	4.5	12.8	7.6	10	5.9	14.8	8.6	19	8.28	19	16.2	6.21	6.21	12.8	6.9	7.93	16.2	63.8	63.8	63.8
37.7	68.3	38.6	50	29.7	69	40.7	37.2	22.1	7.9	4.5	12.8	7.6	10	5.9	14.8	8.6	19	8.28	19	16.2	6.21	6.21	12.8	6.9	7.93	16.2	51	63.8	63.8
93.3	64.8	36.9	37.2	22.1	66.9	39.7	36.6	21.4	5.9	3.4	11.7	6.9	7.24	4.5	13.8	8.3	18.6	7.93	18.6	15.9	5.52	5.86	12.4	6.9	7.93	16.2	41.4	60.3	60.3
148.8	61.4	34.8	33.8	20	65.2	38.6	36.2	21.4	4.8	2.8	10.3	6.2	5.86	3.8	12.4	7.2	18.3	7.93	18.3	15.9	5.52	5.86	12.4	6.21	7.59	15.9	33.8	56.9	56.9
204.4	57.9	32.8	30	17.6	63.4	37.6	35.5	21	3.4	2.1	9.31	5.5	4.83	3.1	11.4	6.6	–	–	18.3	15.9	4.83	5.52	12.1	6.21	7.59	15.9	25.9	51.7	53.4
260	54.8	31	27.9	16.6	60.7	35.9	35.2	20.7	2.4	1.4	8.28	4.8	4.48	2.8	8.97	5.5	–	–	18.3	15.9	4.14	5.52	12.1	6.21	7.24	15.5	–	44.8	48.3
315.5	51.4	29.3	25.5	15.2	57.6	33.8	34.5	20.3	1.4	0.7	6.9	4.1	3.79	2.4	7.93	4.5	–	–	–	–	4.14	5.17	11.7	5.52	6.9	15.2	–	34.5	43.1

300 mm	Shaft Material																Seat Material										Bearing Material		
	17-4 ph		Nitronic		Inconel		Monel		Hast C276		Hast B2		Alloy 20		Titanium		PTFE/Tefzel		PEEK/Zymax		316 SS			Inconel			MBT	Ultimet	Stellite
Temp(C)	SU	SD	SU	SD	SU	SD	SU	SD	SU	SD	SU	SD	SU	SD	SU	SD	SU	SD	SU	SD	SUD	SDS	SDD	SUD	SDS	SDD			
-45.5	65.9	64.5	50.7	49.7	66.6	64.8	40.7	39.7	17	16	20.7	20	18.3	18	22.1	22	19.3	5.86	19.3	11.7	4.83	4.48	9.66	4.14	5.52	11.7	63.8	63.8	63.8
37.7	65.9	64.5	50.7	49.7	66.6	64.8	40.7	39.7	17	16	20.7	20	18.3	18	22.1	22	19.3	5.86	19.3	11.7	4.83	4.48	9.66	4.14	5.52	11.7	51	63.8	63.8
93.3	63.1	61.7	40.7	39.7	64.8	63.1	39.7	39	15	14	19.7	19	16.2	16	21.4	21	19.3	5.86	19.3	11.7	4.14	4.48	9.66	4.14	5.52	11.7	41.4	60.3	60.3
148.8	60.3	59	37.6	36.6	63.4	61.7	39.3	38.6	14	13	18.6	18	15.2	14	20.3	20	19	5.52	19	11.4	4.14	4.14	9.31	4.14	5.17	11.4	33.8	56.9	56.9
204.4	57.2	56.2	34.5	33.4	61.7	60.3	39	37.9	13	12	17.6	17	14.1	13	19.3	19	–	–	19	11.4	4.14	4.14	8.97	4.14	5.17	11.4	25.9	51.7	53.4
260	54.8	53.4	32.8	31.7	59.3	57.9	38.6	37.6	12	12	16.6	16	13.8	13	17.9	17	–	–	19	11.4	4.14	3.79	8.97	4.14	4.83	10.7	–	44.8	48.3
315.5	52.1	50.7	30.7	30	56.9	55.5	38.3	37.2	11	11	15.5	15	13.1	13	16.6	16	–	–	–	–	3.45	3.79	8.62	3.45	4.83	10.3	–	34.5	43.1

Dimensions

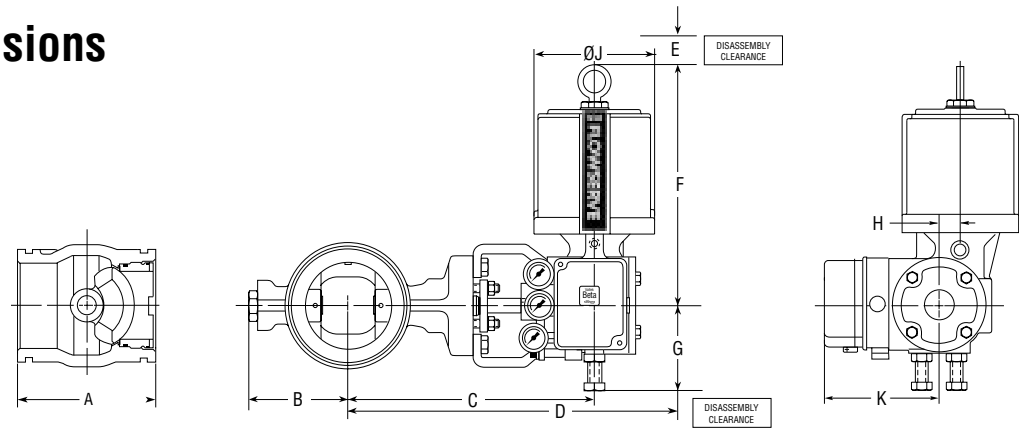


Table V: ShearStream Dimensions (inches/mm)

Body Classes 150, 300, 600 (with Class 150 or 300 ball and shaft

Valve Size	Actuator Size*	Spline Size*	A		B		C		D		E		F		G		H		J		K	
1	25	0.44	4.00	101.6	3.3	85	10.6	269	21.2	538	5.3	135	13.3	338	4.5	114	1.1	28	6.5	165	6.5	165
1.5	25	0.62	4.50	114.3	3.9	99	11.1	282	21.7	551	5.3	135	13.3	338	4.5	114	1.1	28	6.5	165	6.5	165
2	25	0.62	4.94	125.5	4.3	109	11.4	290	22.0	559	5.3	135	13.3	338	4.5	114	1.1	28	6.5	165	6.5	165
3	25	0.75	6.50	165.1	5.0	127	12.5	318	23.1	587	5.3	135	13.3	338	4.5	114	1.1	28	6.5	165	6.5	165
	50	0.75	6.50	165.1	5.0	127	12.5	318	23.3	592	7.5	191	18.3	465	5.8	147	2.0	51	9.1	231	7.4	188
4	25	0.75	7.62	193.5	5.5	140	13.7	348	24.3	617	5.3	135	13.3	338	4.5	114	1.1	28	6.5	165	6.5	165
	50	0.75	7.62	193.5	5.5	140	13.7	348	24.5	622	7.5	191	18.3	465	5.8	147	2.0	51	9.1	231	7.4	188
6	25	0.88	9.00	228.6	7.9	201	15.9	404	26.5	673	5.3	135	13.3	338	4.5	114	1.1	28	6.5	165	6.5	165
	50	0.88	9.00	228.6	7.9	201	15.9	404	26.7	678	7.5	191	18.3	465	5.8	147	2.0	51	9.1	231	7.4	188
	100	0.88	9.00	228.6	7.9	201	15.9	404	30.2	767	8.5	216	22.9	582	7.5	191	2.4	61	12.5	318	8.4	213
8	50	0.88	9.62	244.3	8.7	221	16.7	424	33.5	851	7.5	191	18.3	465	5.8	147	2.0	51	9.1	231	7.4	188
	100	0.88	9.62	244.3	8.7	221	16.7	424	37.0	940	8.5	216	22.9	582	7.5	191	2.4	61	12.5	318	8.4	213
10	50	1.12	11.70	297.2	11.0	279	17.7	450	28.5	724	7.5	191	18.3	465	5.8	147	2.0	51	9.1	231	7.4	188
	100	1.12	11.70	297.2	11.0	279	17.7	450	32.0	813	8.5	216	22.9	582	7.5	191	2.4	61	12.5	318	8.4	213
	200	1.12	11.70	297.2	11.0	279	17.7	450	34.5	876	9.0	229	24.3	594	7.5	191	2.4	61	12.5	318	8.4	213
12	100	1.50	13.30	337.8	12.0	305	17.7	450	32.0	813	8.5	216	22.9	582	7.5	191	2.4	61	12.5	318	8.4	213
	200	1.50	13.30	337.8	12.0	305	17.7	450	34.5	876	9.0	229	24.3	594	7.5	191	2.4	61	12.5	318	8.4	213
16	100	1.75	15.80	400.0	16.6	422	26.1	663	42.0	1067	8.5	216	22.9	582	7.5	191	2.4	61	12.5	318	8.4	213
	200	1.75	15.80	400.0	16.6	422	26.1	663	44.5	1130	9.0	229	24.3	594	7.5	191	2.4	61	12.5	318	8.4	213

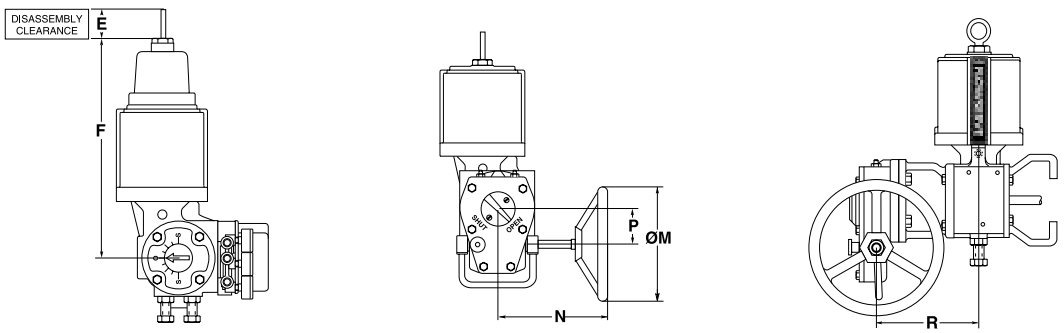


Table VI: Handwheel and Extended, Heavy-duty Spring Dimensions (inches/mm)

Actuator Size (sq. in.)	E		F		M		N		P		R	
25	9.3	236	17.3	439	10.0	254	10.6	270	2.9	74	7.4	188
50	9.8	249	23.8	605	12.0	305	11.6	295	5.2	132	10.1	257
100	8.5	216	23.0	584	18.0	457	14.6	371	5.5	140	9.7	246
200	9.0	229	24.3	617	18.0	457	14.6	371	5.5	140	9.7	246

Specifications

Table VII: Estimated Shipping Weights with Standard Actuator and Positioner

Valve Size (inch)	Flangeless Body		Flanged Body*	
	(lbs.)	(kg.)	(lbs.)	(kg.)
1	41	19	47	22
1.5	45	21	55	25
2	47	22	59	27
3	61	28	80	36
4	80	36	111	50
6	146	66	197	89
8	186	84	266	121
10	278	126	400	181
12	496	225	653	296
16	908	412	1259	571

*Estimates based on Class 300 flanges.

Table VIII: End Connections

Size (inch)	ANSI Class	End Connection
1	150 - 600	Integral, Flangeless
1.5	150 - 600	Integral, Flangeless
2	150 - 600	Separable*, Integral, Flangeless
3	150 - 600	Separable, Integral, Flangeless
4	150 - 600	Separable, Integral, Flangeless
6	150 - 600	Separable**, Integral, Flangeless
8	150 - 600	Separable**, Integral, Flangeless
10	150 - 600	Integral, Flangeless
12	150 - 600	Integral, Flangeless
16	150 - 600	Integral, Flangeless

Notes:
* Separable flange not offered in ANSI Class 600
** Separable flange not offered in ANSI Class 150
Flange bolt holes are threaded for the following sizes:
2" CL 300-600 Separable and Integral Flange
3" CL 600 Separable Flange
6" CL 600 Separable and Integral Flange
8" CL 600 Separable Flange
10"- 16" CL 600 Integral Flange

Table IX: Valve Actuator Compatibility

Actuator Size (sq. in.)	Spring Size	Valve Size (inch)									
		1	1.5	2	3	4	6	8	10	12	16
25	Standard	■	■	■	■	■	■				
	Extended	■	■	■	■	■	■				
50	Standard				■	■	■	■	■		
	Extended				■	■	■	■	■		
100	Standard						■	■	■	■	■
	Extended						■	■	■	■	■
200	Standard								■	■	■
	Extended								■	■	■

Table X: Additional Specifications

Characteristic: Equal percent / Linear (characterization with positioner
Ball Rotation: Counterclockwise to open when viewed from actuator

ShearStream Sizing

Procedures and data to size ShearStream valves including determining actuator size, are contained in *Performance!* valve selection software.

Seperable Flange & Half Rings

size	Pressure Class			
	Part	CL 150	CL 300	CL 600
1	Flange	N/A	N/A	N/A
	Half Ring			
1-1/2	Flange	N/A	N/A	N/A
	Half Ring			
2	Flange	001082	063858	N/A
	Half Ring	001018	001018	
3	Flange	089298	094440	094441
	Half Ring	089297	089297	089297
4	Flanged	001200	001201	070979
	Half Ring	001203	001203	001203
6	Flanged	N/A	001643	070428
	Half Ring		001644	034807
8	Flanged	N/A	001801	072211
	Half Ring		001803	034822

Integral Flange, Thru Hole or Threaded Hole on Flange

Size	Pressure Class		
	CL 150	CL 300	CL 600
1	Thru	Thru	Thru
1-1/2	Thru	Thru	Thru
2	Thru	Threaded	Threaded
3	Thru	Thru	Thru
4	Thru	Thru	Thru
6	Thru	Thru	Threaded
8	Thru	Thru	Thru
10	Thru	Thru	Threaded
12	Thru	Thru	Threaded

Separable Flange, Thru Hole or Threaded Hole on Flange

Size	Pressure Class		
	CL 150	CL 300	CL 600
1	N/A	N/A	N/A
1-1/2	N/A	N/A	N/A
2	Thru	Threaded	N/A
3	Thru	Thru	Threaded
4	Thru	Thru	Thru
6	N/A	Thru	Threaded
8	N/A	Thru	Threaded
10	N/A	N/A	N/A
12	N/A	N/A	N/A

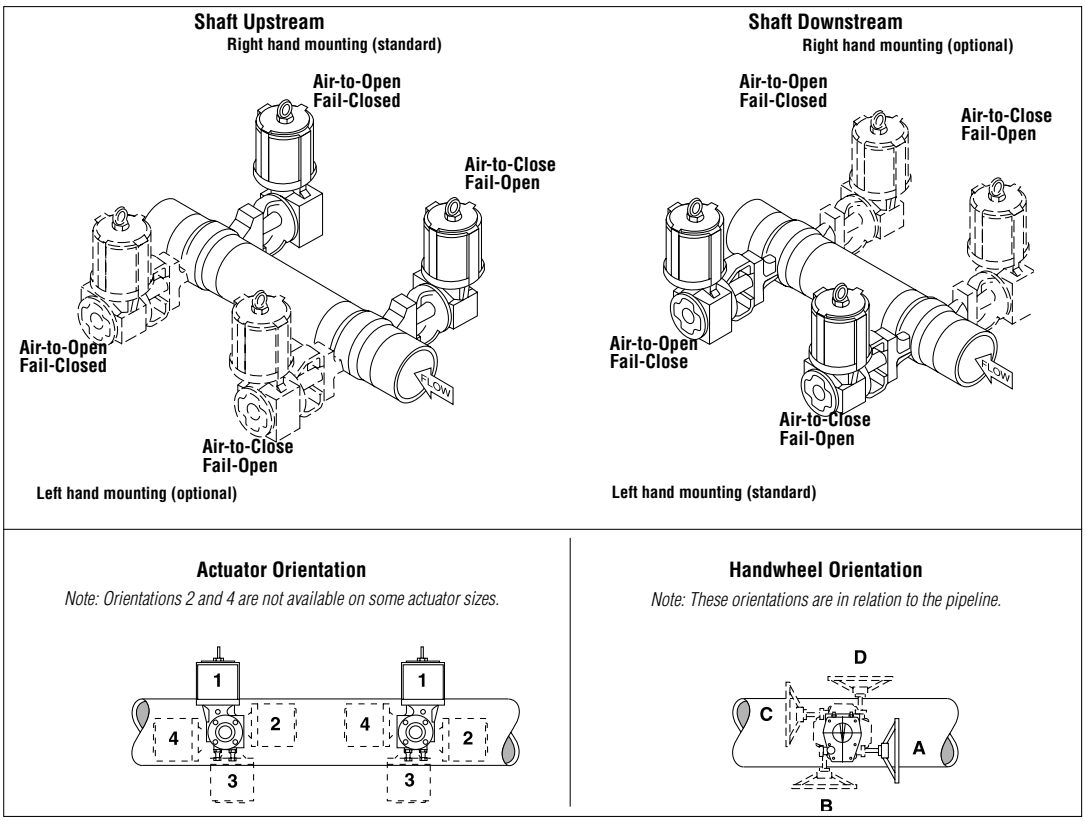


Figure 8: ShearStream Transfer Case Mounting

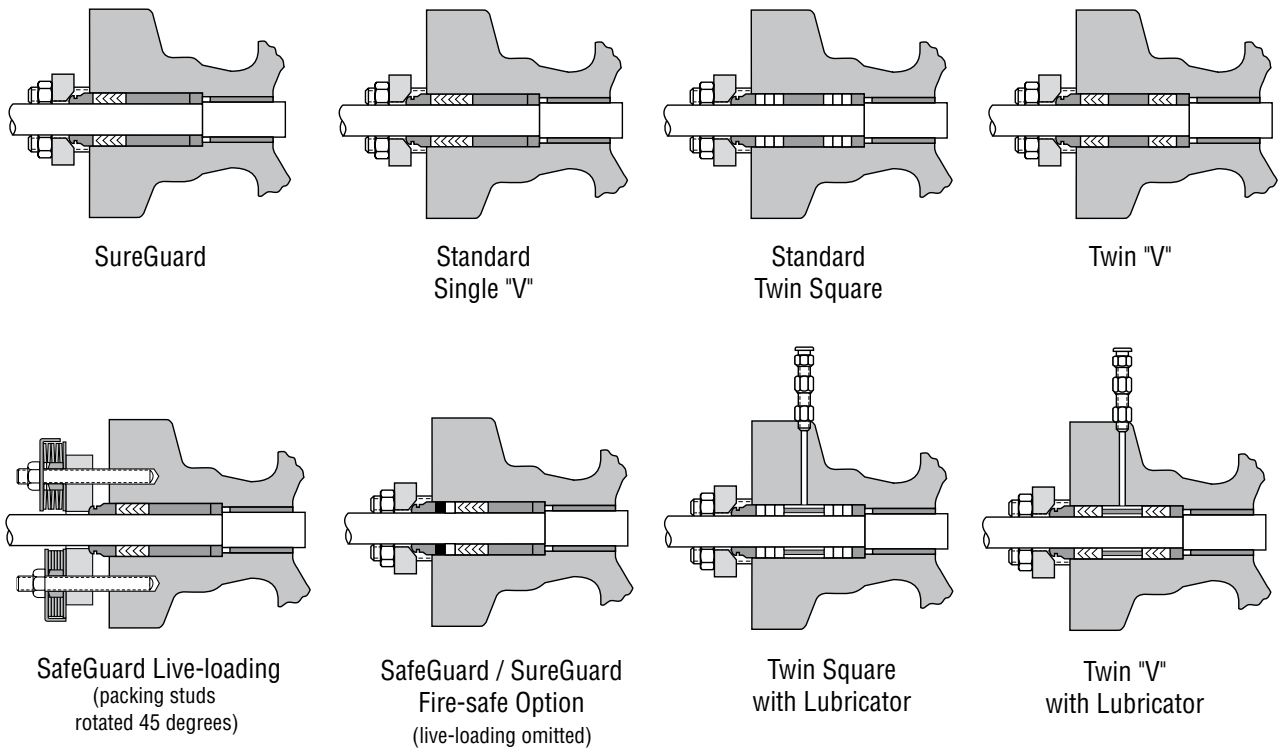


Figure 9: ShearStream Packing Configurations

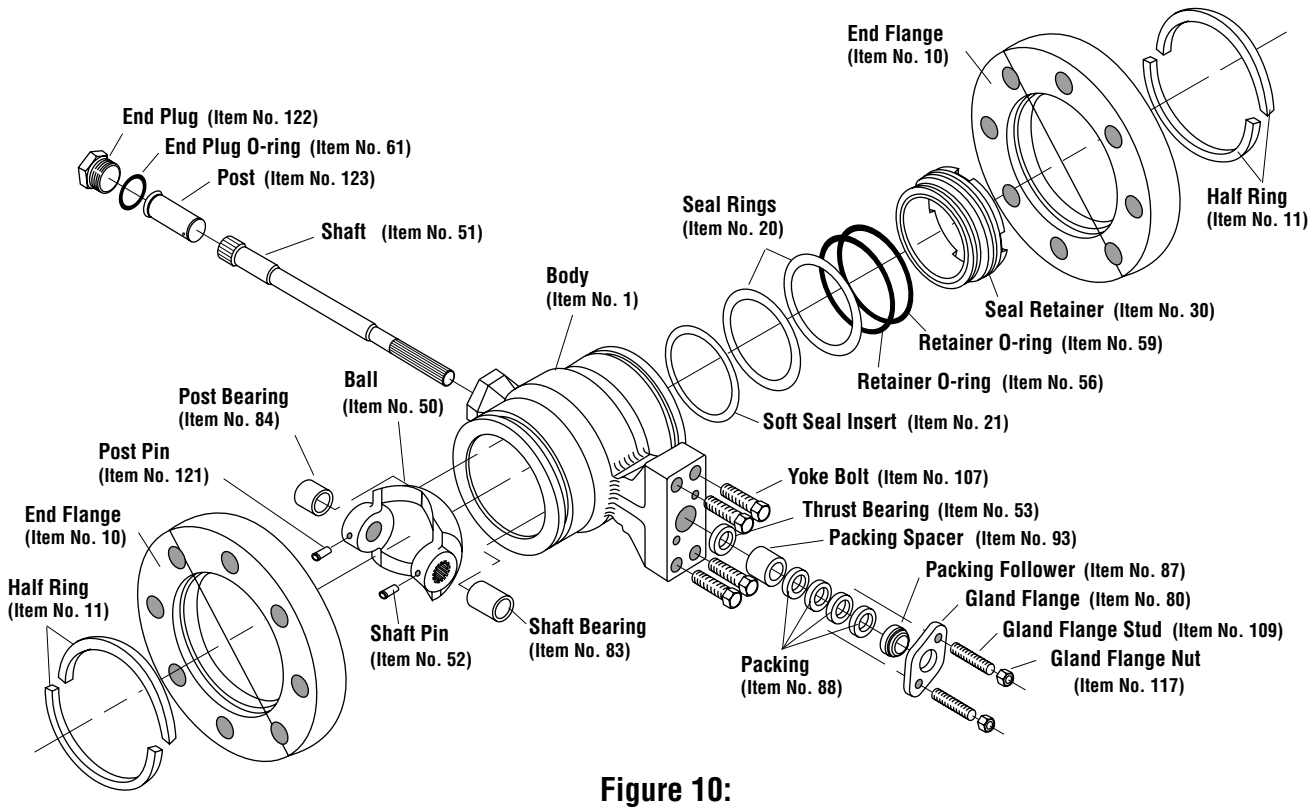


Figure 10:
Exploded Body Subassembly, 3 – 12-inch and 16-inch Rotating Post Design
NOTE: Item numbers correspond directly to the valve's bill of material. Refer to it for specific part numbers.

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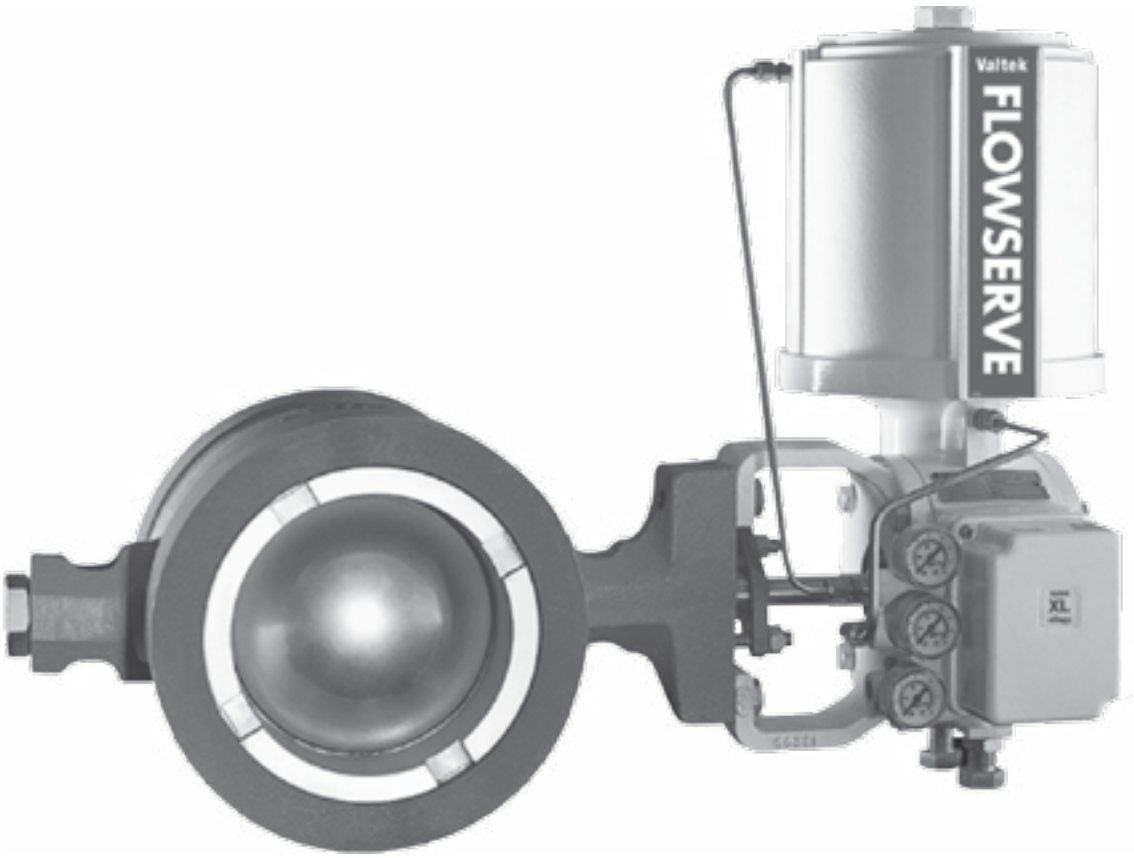

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