

GVS® Trunnion Mounted Welded Body Ball Valves



FUGITIVE EMISSION CERTIFIED

www.gvs-vci.com

Guide Valve Limited, established in 1980 with its headquarters in Ontario, Canada, specializes in the manufacturing of valves. We are the manufacturer of the trademark brands such as, GVS®, VCI®, Lowe & GVS®-Malema.

Our products are based on the most advanced technologies and are used in all sectors from petrochemical refining, process to transportation and distribution of the end product.

GVS® valves are designed, manufactured & tested according to API 6D, API 6A and CSA Z245.15 and are available to API 608. Our standard product design of Series GW are the trunnion mounted, forged type ball valves of Double Piston Effect (DIB) with our unique Protector/Scraper double soft seated seal feature. This double seat feature was developed to assure a superior seat to ball soft seat shut-off performance and longevity of in-service life.



CANADA

API 6D: 6D-1342
API Spec Q1: Q1-4181
ISO 9001: 2015: 0052985-01

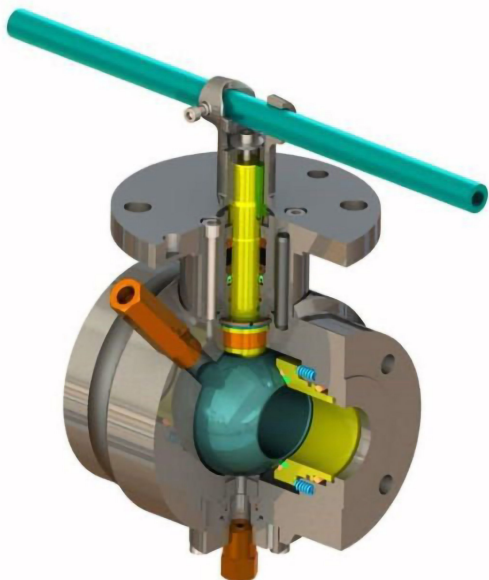


CHINA

API 6D: 6D-1822
API 6A: 6A-2250
API Spec Q1: Q1-3641
ISO 9001: 2015: ISO-3983



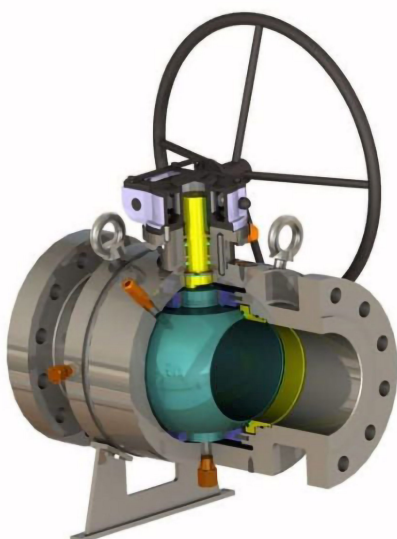
USA



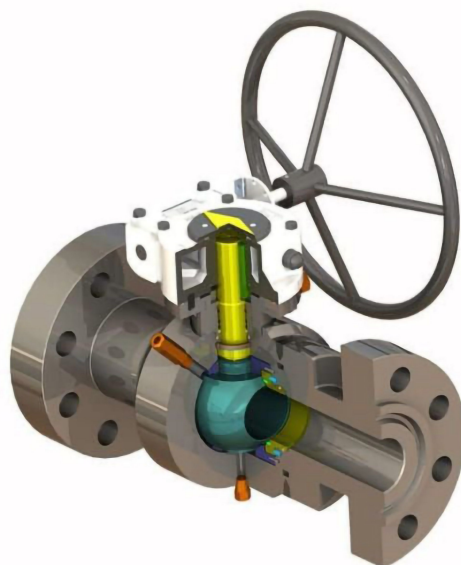
Model GW
Sizes: 2" - 4"
ANSI Class 150#



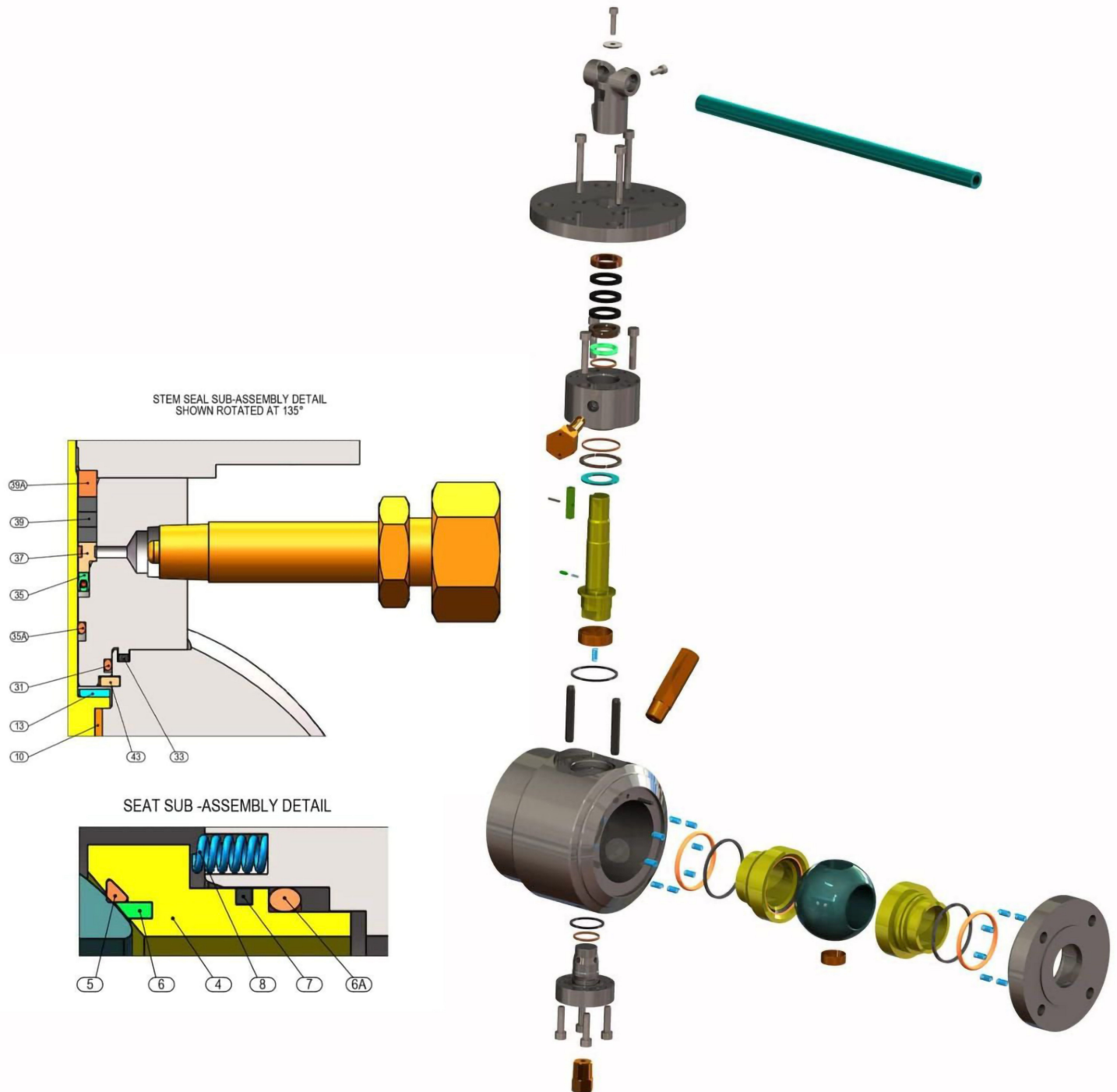
Model GW
Sizes: 2" - 4"
ANSI Class 300 - 1500#

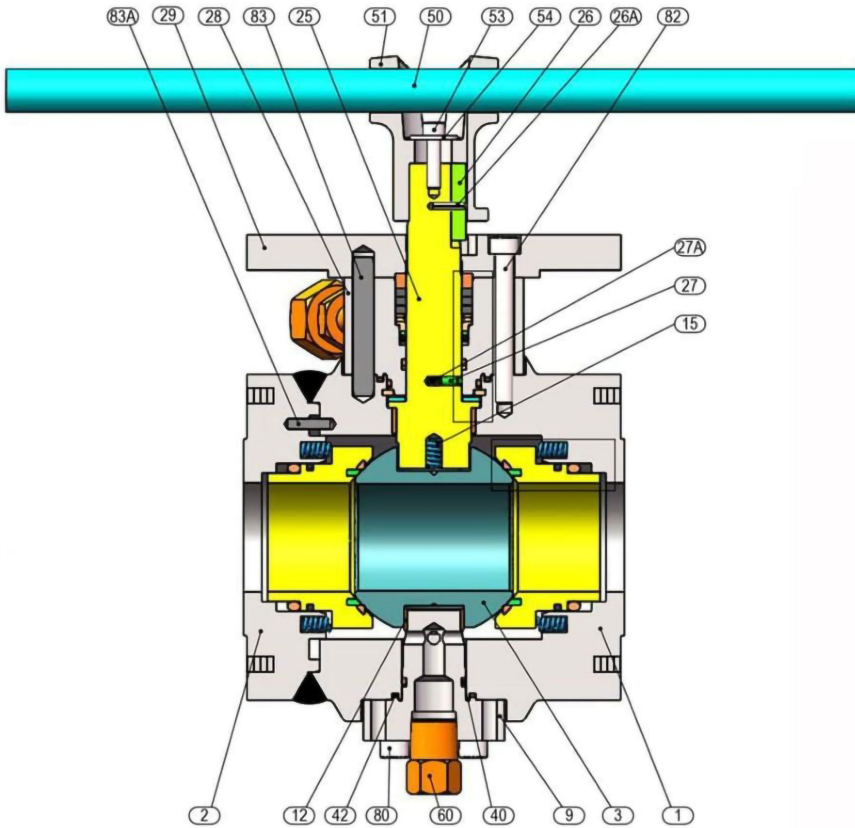


Model GW
Sizes: 6" - 48"
ANSI Class 150 - 2500#



Model GW
Sizes: 2" - 4"
ANSI Class 2500#

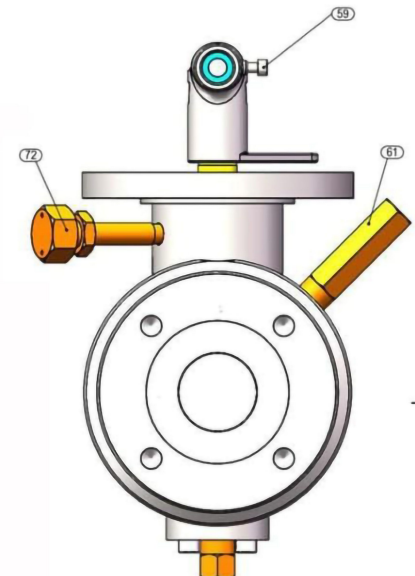
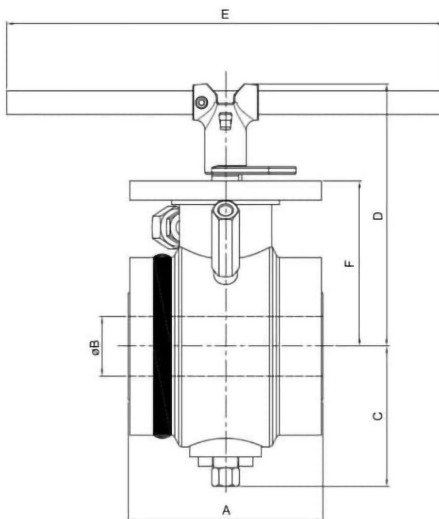


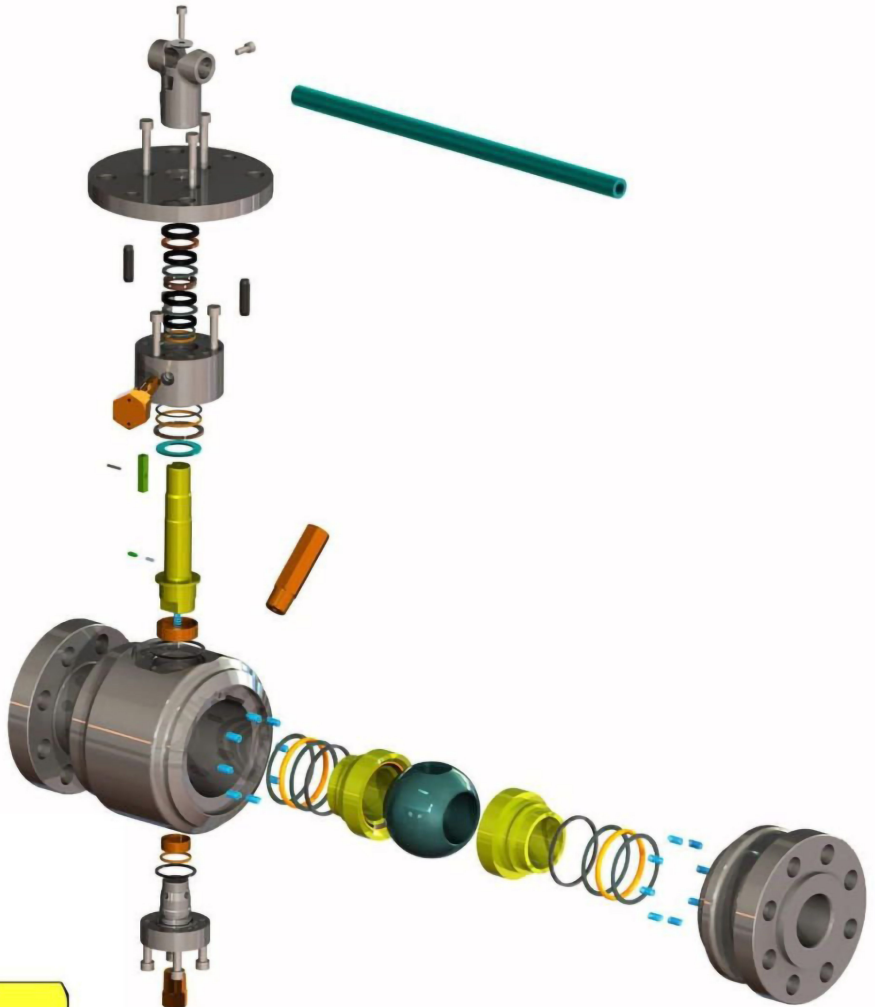


ANSI 150

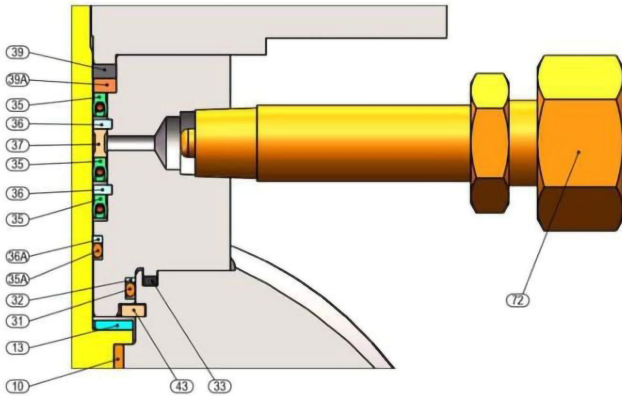
VALVE SIZE	BORE SIZE								WEIGHT
		RF	RTJ	BW	A	C	D	E	
NPS	B	mm	mm	mm	mm	mm	mm	mm	kg
2"	51	178	191	216	120	208	400	129	33
3"	76.2	203	216	283	153	249	500	147	51
4"	102	229	241	305	178	321	700	189	85

Position	Part Description
1	Body
2	End adapter
3	Ball
4	Seat Ring
5	Seat Delta Elastomeric
6	Seat resin
6A	Seat main o-ring
7	Seat fire-safe seal
8	Seat spring
9	Lower trunnion
10	Stem sleeve bearing
12	Trunnion sleeve bearing
13	Stem thrust washer
14	Ball thrust washer
15	Ball antistatic spring
25	Stem
26	Stem key
26A	Stem key dowel pin
27	Stem antistatic spring
27A	Stem antistatic piston
28	Lower stem flange
29	Upper stem flange
31	Stem flange o-ring
33	Stem flange metallic fire-safe seal
35	Stem lip seal
35A	Stem o-ring
37	Lantern ring
39	Stem top fire-safe seal
39A	Spacer ring
40	Lower trunnion o-ring
42	Lower trunnion metallic fire-safe seal
43	Stem anti-blowout split ring
50	Lever tube
51	Lever knuckle (locking type)
53	Lever knuckle - stem capscrew
54	Lever knuckle - stem washer
59	Lever knuckle - lever capscrew
60	Drain valve
61	Safety relief valve
72	Stem grease fitting
80	Lower trunnion capscrew
82	Upper stem flange capscrew
83	Lower stem flange dowel pin
83A	Body/end adapter dowel pin





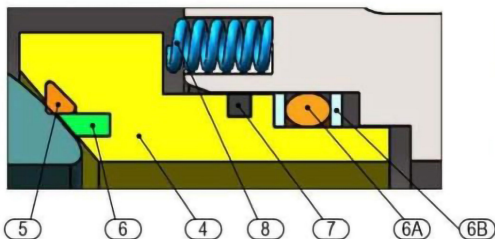
STEM SEAL SUB-ASSEMBLY DETAIL
SHOWN ROTATED AT 135°



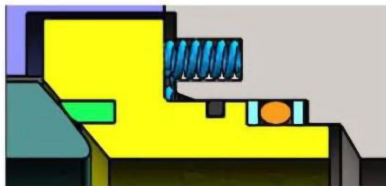
BUTT WELD OPTION



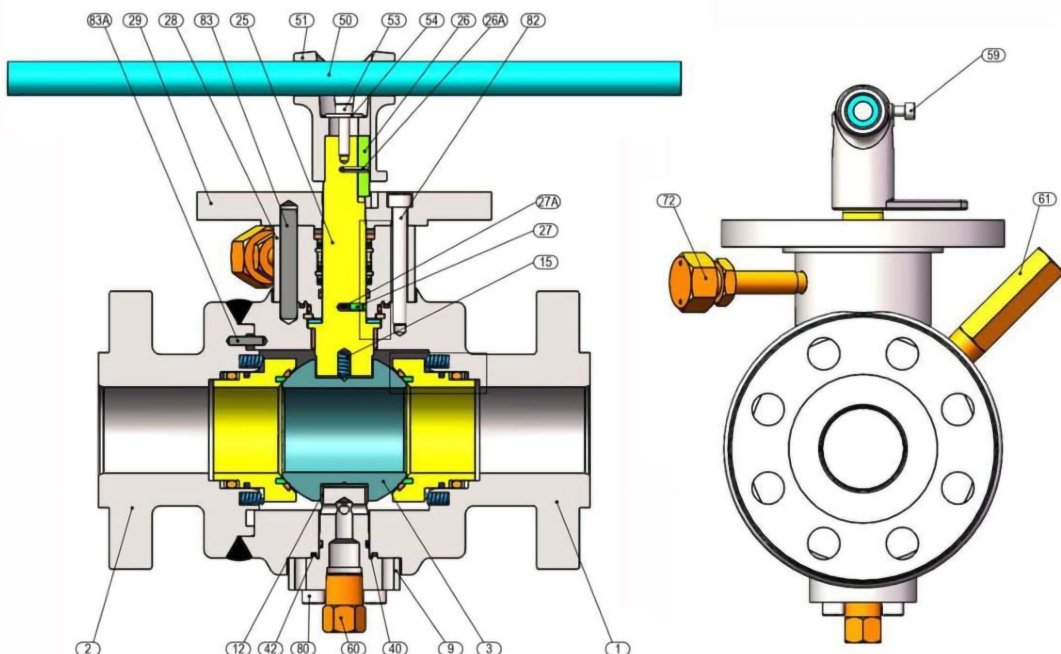
SEAT SUB-ASSEMBLY DETAIL



3" & 4" ANSI CLASS 1500



OPTIONAL EMERGENCY SEAT INJECTION FEATURE



Position	Part Description
1	Body
2	End adapter
3	Ball
4	Seat Ring
5	Seat Delta Elastomeric
6	Seat resin
6A	Seat main o-ring
6B	Seat back-up ring
7	Seat fire-safe seal
8	Seat spring
9	Lower trunnion
10	Stem sleeve bearing
12	Trunnion sleeve bearing
13	Stem thrust washer
14	Ball thrust washer
15	Ball antistatic spring
25	Stem
26	Stem key
26A	Stem key dowel pin
27	Stem antistatic spring
27A	Stem antistatic piston
28	Lower stem flange
29	Upper stem flange
31	Stem flange o-ring
32	Stem flange Back-up ring
33	Stem flange metallic fire-safe seal
35	Stem lip seal
35A	Stem o-ring
36	Stem back-up ring
36A	Stem back-up ring
37	Lantern ring
39	Stem top fire-safe seal
39A	Spacer ring
40	Lower trunnion o-ring
42	Lower trunnion metallic fire-safe seal
43	Stem anti-blowout split ring
50	Lever tube
51	Lever knuckle (locking type)
53	Lever knuckle - stem capscrew
54	Lever knuckle - stem washer
59	Lever knuckle - lever capscrew
60	Drain valve
61	Safety relief valve
72	Stem grease fitting
80	Lower trunnion capscrew
82	Upper stem flange capscrew
83	Lower stem flange dowel pin
83A	Body/end adapter dowel pin

ANSI 300

VALVE SIZE	BORE SIZE	RF							WEIGHT
		A			C	D	E	F	
NPS	B(xb)	mm	mm	mm	mm	mm	mm	mm	kg
2"	51	216	232	216	120	208	400	129	36
3"x2"	76.2x51	283	298	283	120	208	400	129	40
3"	76.2	283	298	283	153	249	500	147	55
4"x3"	102x76.2	305	321	305	153	249	500	147	65
4"	102	305	321	305	178	321	700	189	101
6"x4**	152.4x102	403	419	457	178	321	700	189	138

ANSI 600

VALVE SIZE	BORE SIZE	RF							WEIGHT
		A			C	D	E	F	
NPS	B(xb)	mm	mm	mm	mm	mm	mm	mm	kg
2"	51	292	295	292	120	208	400	129	40
3"x2"	76.2x51	356	359	356	120	208	400	129	45
3"	76.2	356	359	356	153	249	500	147	64
4"x3"	102x76.2	432	435	432	153	249	500	147	86
4"	102	432	435	432	178	321	700	189	132
6"x4**	152.4x102	559	562	559	178	321	700	189	200

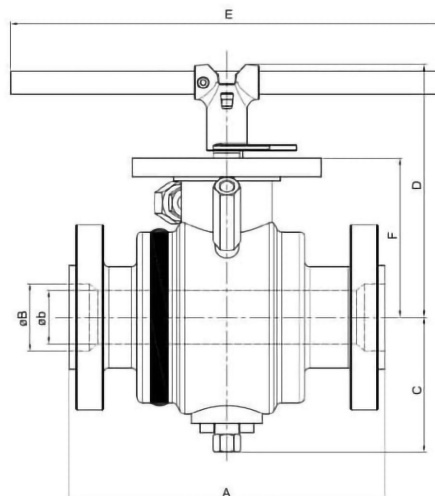
ANSI 900

VALVE SIZE	BORE SIZE	RF							WEIGHT
		A			C	D	E	F	
NPS	B(xb)	mm	mm	mm	mm	mm	mm	mm	kg
2"	51	368	371	368	121	235	500	139	63
3"x2"	76.2x51	381	384	381	121	235	500	139	75
3"	76.2	381	384	381	165	306	700	174	110
4"x3"	102x76.2	457	460	457	165	306	700	174	148
4"	102	457	460	457	187	356	960	214	220
6"x4**	152.4x102	610	613	610	190	356	960	214	264

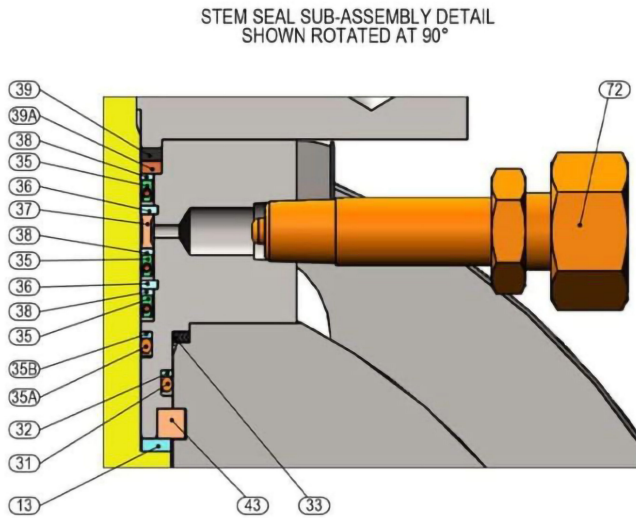
ANSI 1500

VALVE SIZE	BORE SIZE	RF							WEIGHT
		A			C	D	E	F	
NPS	B(xb)	mm	mm	mm	mm	mm	mm	mm	kg
2"	51	368	371	368	121	235	500	139	63
3"x2"	76.2x51	470	473	470	132.5	235	500	139	75
3"	76.2	470	473	470	165	306	700	174	115
4"x3"	102x76.2	546	549	546	165	306	700	174	154
4"	102	546	549	546	187	256	400*	214	225
6"x4"	146.1x102	705	711	705	187	256	400*	214	270

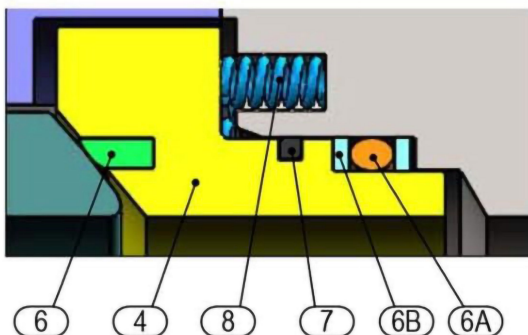
* Gear operated. Handwheel diameter.



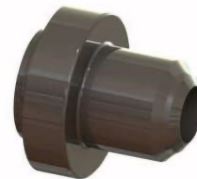
Optional Emergency Seat Injection Feature



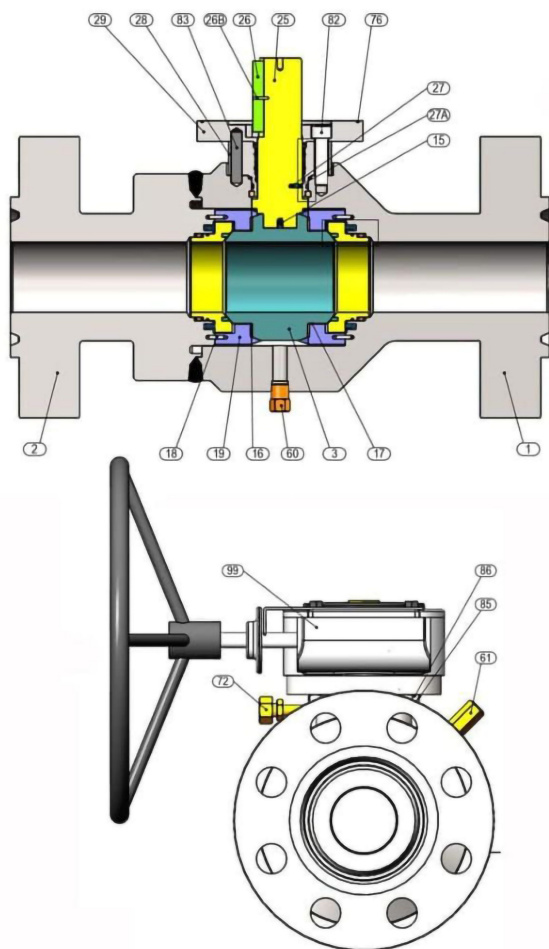
SEAT SUB-ASSEMBLY DETAIL



BUTT WELD OPTION



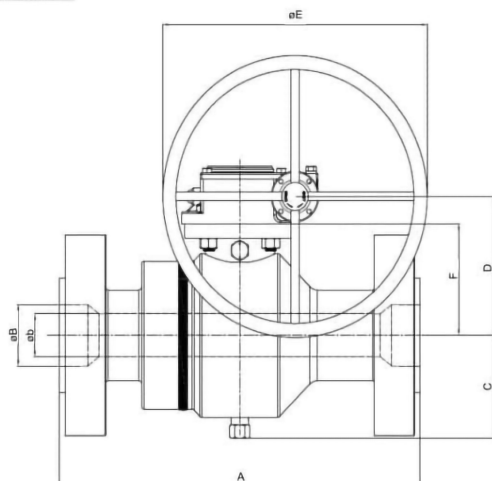
OPTIONAL EMERGENCY SEAT INJECTION FEATURE



ANSI 2500

VALVE SIZE	BORE SIZE								WEIGHT RF/RTJ
		RF	RTJ	BW	C	D	E	F	
NPS	B(xb)	A							
inch	mm	mm	mm	mm	mm	mm	mm	mm	kg
2"	44.5	451	454	451	125	262	700*	149	97
3"x2"	64x44.5	578	584	578	152.5	262	700*	149	126
3"	64	578	584	578	164	232	400	190	230
4"x3"	89x64	673	683	673	178	232	400	190	299
4"	89	673	683	673	189	263	500	215	375
6"x4"	133.4x89	914	927	914	197.5	263	500	215	487

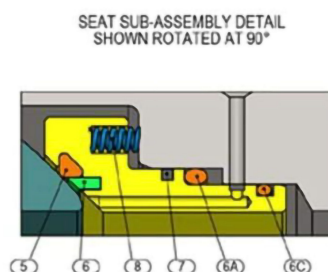
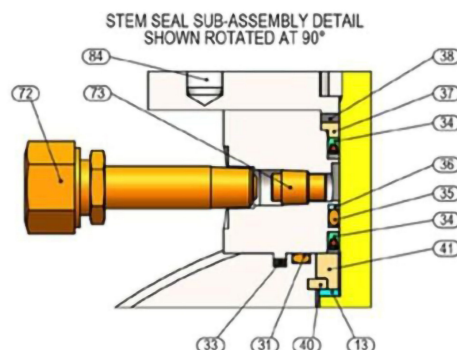
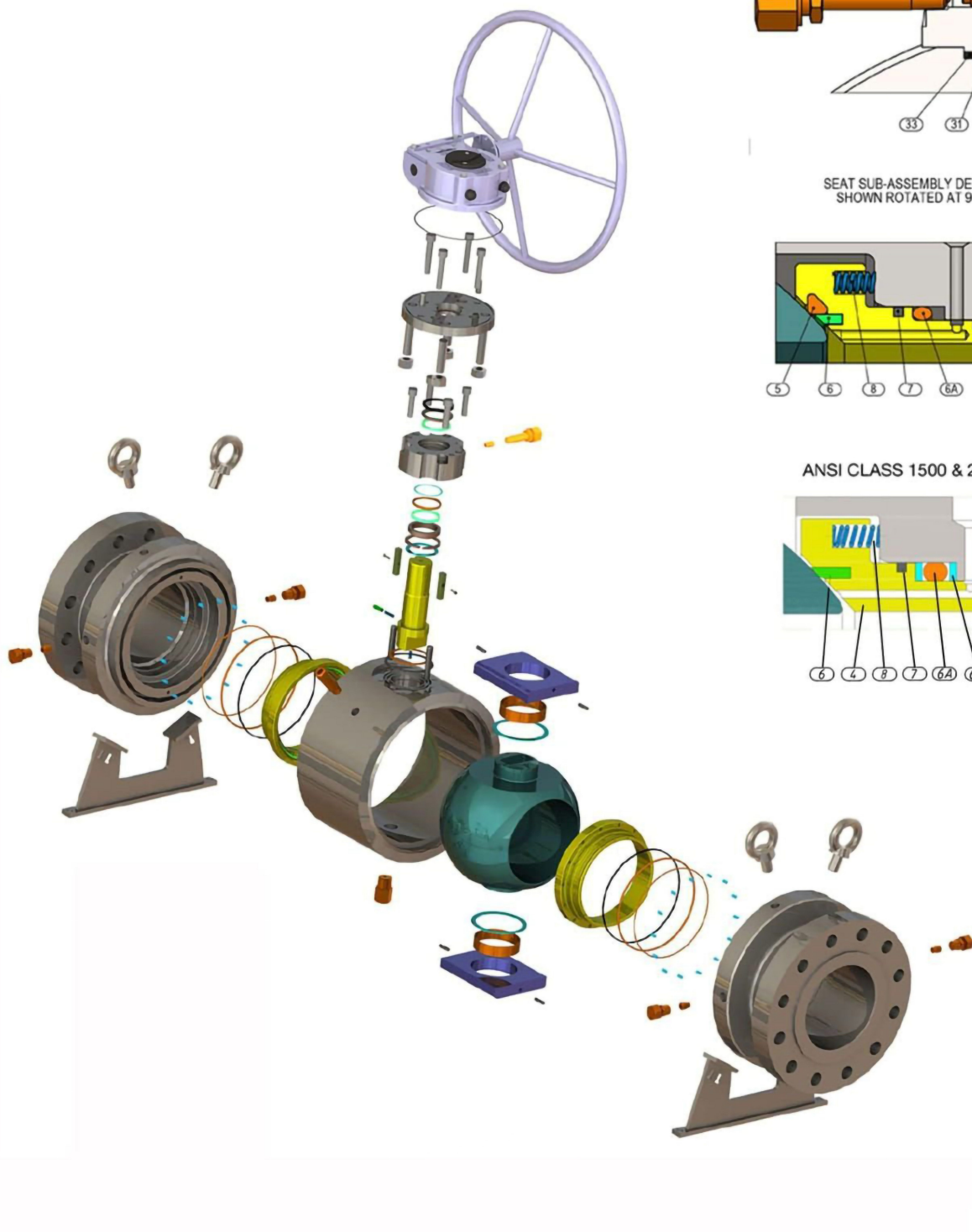
* Level operated. Level length.



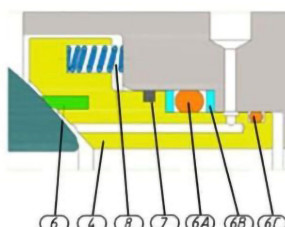
Position	Part Description
1	Body
2	End adapter
3	Ball
4	Seat ring
6	Seat resin
6A	Seat main o-ring
6B	Seat back-up ring
7	Seat fire-safe seal
8	Seat springs
13	Stem thrust washer
15	Ball antistatic spring
16	Trunnion sleeve bearing
17	Ball thrust washer
18	Trunnion support pin
19	Trunnion support
25	Stem
26	Stem key
26B	Stem key capscrew
27	Stem antistatic spring
27A	Stem antistatic piston
28	Lower stem flange
29	Upper stem flange
31	Stem flange o-ring
32	Stem flange back-up ring
33	Stem flange metallic fire-safe seal
35	Stem lip seal
35A	Stem lower o-ring
35B	Stem lower back-up ring
36	Stem back-up ring
37	Lantern ring
39	Stem top fire-safe seal
39A	Spacer ring
43	Stem anti-blowout split ring
60	Drain valve
61	Safety relief valve
70	Seat grease fitting
71	Seat inner check valve
72	Stem grease fitting
73	Seat inner check valve
76	Weather seal
81	Lower stem flange capscrew
82	Upper stem flange capscrew
83	Lower stem flange dowel pin
84	Stem flange/gearbox dowel pin
85	Stem flange/gearbox studs
86	Stem flange/gearbox nuts
99	Gearbox with handwheel(lockable)

ITEMS 81, 84 ARE NOT SHOWN

OPTIONAL EMERGENCY SEAT INJECTION FEATURE

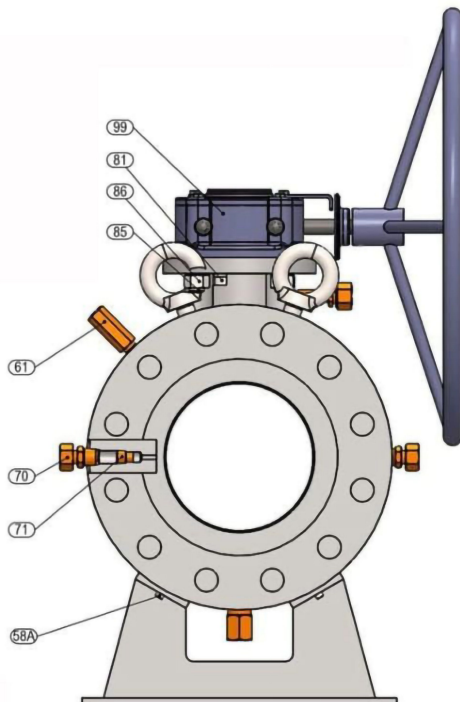
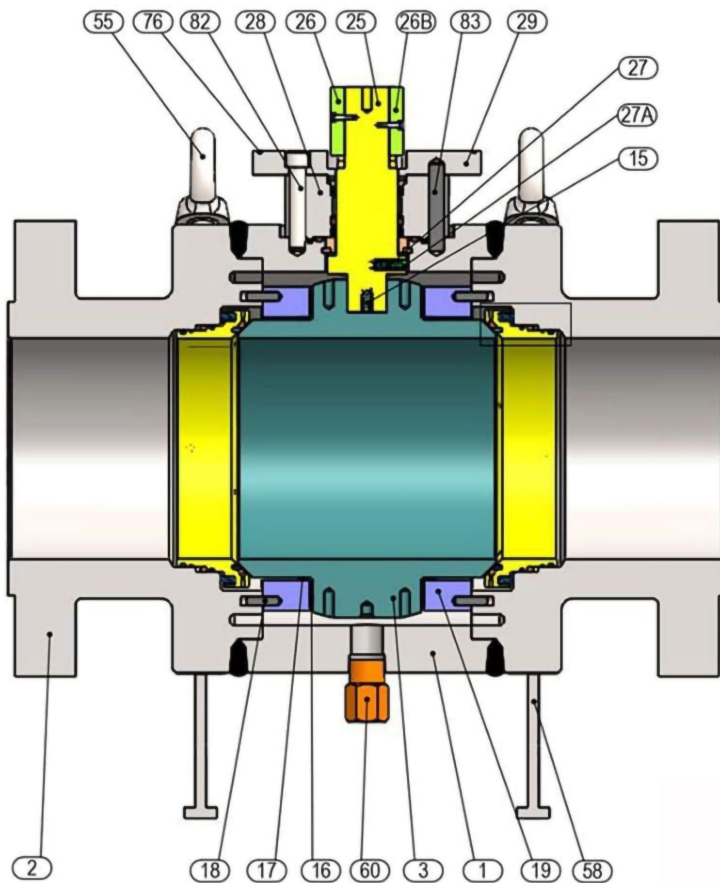


ANSI CLASS 1500 & 2500

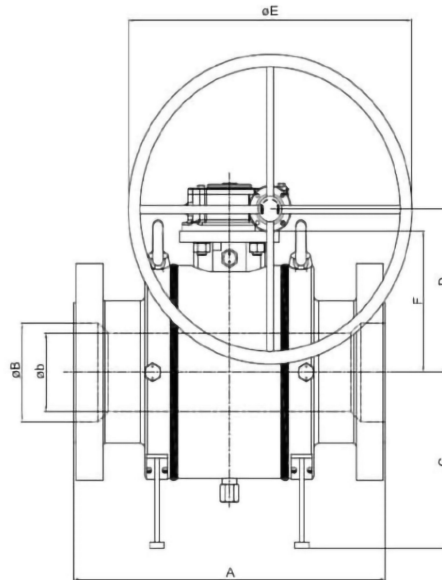


BUTT WELD OPTION





Postion	Part Description
1	Body
2	End adapter RF
3	Ball
4	Seat ring
5	Seat delta ring
6	Seat resin
6A	Seat main o-ring
6C	Seat grease o-ring
7	Seat fire-safe seal
8	Seat springs
13	Stem thrust washer
15	Ball antistatic spring
16	Trunnion sleeve bearing
17	Ball thrust washer
18	Trunnion support pin
19	Trunnion support
25	Stem
26	Stem key
26B	Stem key capscrew
27	Stem antistatic spring
27A	Stem antistatic piston
28	Lower stem flange
29	Upper stem flange
31	Stem flange o-ring
33	Stem flange metallic fire-safe seal
34	Stem lip seal
35A	Stem o-ring
36	Stem back-up ring
37	Spacer ring
38	Stem top fire-safe seal
40	Stem anti-blowout split ring
41	Spacer
55	Eyebolt
58	Valve support leg
58A	Valve support leg capscrew
60	Drain valve
61	Safety relief valve
70	Seat grease fitting
71	Seat inner check valve
72	Stem grease fitting
73	Stem inner check valve
76	Weather seal
81	Lower stem flange capscrew
82	Upper stem flange capscrew
83	Lower stem flange dowel pin
84	Stem flange/gearbox dowel pin
85	Stem flange/gearbox studs
86	Stem flange/gearbox nuts
99	Gearbox with handwheel(lockable)



ANSI 150		BORE SIZE				FACE TO FACE				WEIGHT	
VALVE SIZE	BORE SIZE	RF	RTJ	BW	C	D	E	F	RF / RTJ	WEIGHT	
NPS	B(xb)	A									
inch	mm	mm	mm	mm	mm	mm	mm	mm	mm	kg	
6"	152.4	384	408	457	205	287	400	245	190	190	
8"	203.2	457	470	521	205	287	400	245	228	228	
10"	254	533	546	599	278.5	325.5	400	283.5	366	366	
12"	305	610	622	635	361	396	400	318.5	543	543	
14"	357	686	699	752	361	396	400	318.5	706	706	
16"	406	762	775	828	451	444	600	393	987	987	
18"	457	838	851	904	451	444	600	393	1254	1254	
20"	508	914	927	991	530	557	600	477	1961	1961	
24"	609	1091	1104	1168	590	581.5	600	518	2540	2540	
28"	711	1270	1283	1347	590	581.5	600	518	3313	3313	
30"	762	1343	1356	1420	715	690	700	605	3860	3860	
32"	813	1416	1429	1493	715	690	700	605	4632	4632	
34"	864	1489	1502	1566	715	690	700	605	5404	5404	
36"	915	1562	1575	1639	715	690	700	605	6176	6176	

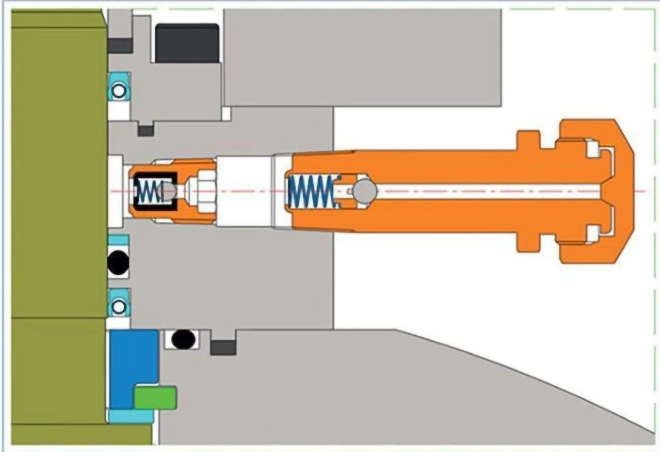
ANSI 300		BORE SIZE				FACE TO FACE				WEIGHT			
VALVE SIZE	BORE SIZE	RF	RTJ	BW	C	D	E	F	RF / RTJ	WEIGHT			
NPS	B(b)	A											
inch	mm	mm	mm	mm	mm	mm	mm	mm	mm	kg			
6"	152.4	403	419	457	205	287	400	245	210	210			
8"	203.2	502	518	521	205	287	400	245	265	265			
10"x8"	254x203.2	568	584	559	330	325.5	600	283.5	510	510			
10"	254	568	584	559	361	361	600	318.5	510	510			
12"x10"	305x254	648	664	635	361	366	600	318.5	681	681			
12"	305	648	664	635	401	407	600	359	790	790			
14"x10"	337x305	762	778	762	361	366	600	318.5	886	886			
14"	337	762	778	762	451	444	600	393	1174	1174			
16"x12"	387x337	838	854	838	401	407	600	359	1021	1021			
16"	387.4	838	854	838	494	480	600	425	1558	1558			
18"	436.2	914	930	914	540	541	700	477	2155	2155			
20"x18"	438x203.2	991	1010	991	494	480	600	425	1907	1907			
20"	489	991	1010	991	534	562	700	518	2832	2832			
24"x20"	514x489	1091	1114	1091	610	610	700	518	3569	3569			
24"	591x489	1143	1165	1143	634	632	700	518	3651	3651			
26"	591	1143	1165	1143	715	690	700	605	4289	4289			
30"x24"	737x591	1397	1422	1397	715	690	700	605	5147	5147			
30"	737	1397	1422	1397	873	826	700	727	6917	6917			
32"	781.4	1524	1553	1524	950	900	700	800	8300	8300			
36"x30"	876x737	1727	1756	1727	873	826	700	727	9952	9952			
36"	876	1727	1756	1727	1035	1036	800	800	12750	12750			

ANSI 600		BORE SIZE				FACE TO FACE				WEIGHT			
VALVE SIZE	BORE SIZE	RF		RTJ		BW		C	D	E	F	RF / RTJ	WEIGHT
NPS	B(xb)	A		A		A		A	A	A	A	A	kg
inch	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	
6"	152.4	559	562	559	291.5	287	600	245	325				325
8"	203.2	660	664	660	291.5	287	600	245	339				339
10"	254	762	767	762	340	325.5	600	283.5	561				561
12"	305	864	869	864	370	374.5	600	318.5	710				710
14"	357	966	971	966	421	415	600	359	930				930
16"	406	1068	1073	1068	421	415	600	359	1107				1107
18"	457	1170	1175	1170	451	444	600	393	1382				1382
20"	508	1272	1277	1272	451	444	600	393	1657				1657
24"	609	1474	1479	1474	530	557	600	477	2284				2284
28"	711	1676	1681	1676	590	581.5	600	518	2911				2911
30"	762	1729	1734	1729	715	690	700	605	3332				3332
32"	813	1782	1787	1782	715	690	700	605	3853				3853
34"	864	1835	1840	1835	715	690	700	605	4374				4374
36"	915	1888	1893	1888	715	690	700	605	4895				4895

ANSI 900											WEIGHT
VALVE SIZE	BOPE SIZE	RF	RTJ	BW	C	D	E	F	RF / RTJ	KG	
NPS	B(xb)	A									
inch	mm	mm	mm	mm	mm	mm	mm	mm	mm	kg	
6"	152.4	610	613	610	294	287	600	245	352	352	
8"	203.2	737	740	737	294	287	600	245	434	434	
10"	254	838	841	838	400	393.5	600	283.5	575	575	
12"	305	938	941	938	470	463.5	600	348.5	1040	1040	
14"	357	1038	1041	1038	470	463.5	600	348.5	1246	1246	
16"	406	1138	1141	1138	500	493.5	600	423	1352	1352	
18"	457	1238	1241	1238	500	493.5	600	423	1558	1558	
20"	508	1338	1341	1338	500	493.5	600	423	1764	1764	
24"	609	1538	1541	1538	500	493.5	600	423	2270	2270	
28"	711	1738	1741	1738	500	493.5	600	423	2776	2776	
30"	762	1788	1791	1788	730	723.5	700	628.5	3282	3282	
32"	813	1838	1841	1838	730	723.5	700	628.5	3788	3788	
34"	864	1888	1891	1888	730	723.5	700	628.5	4294	4294	
36"	915	1938	1941	1938	730	723.5	700	628.5	4800	4800	

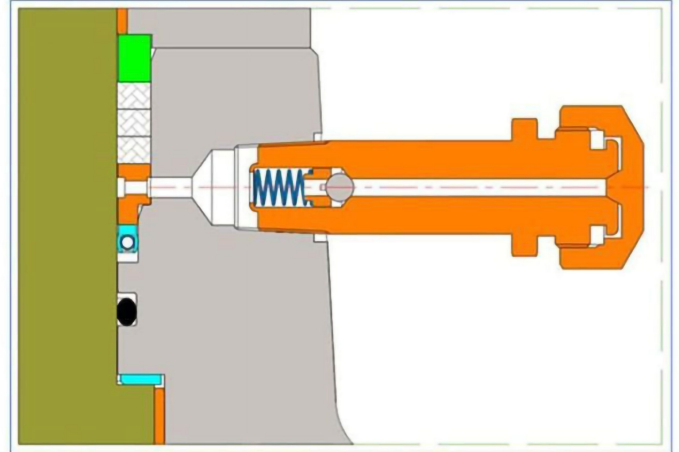
ANSI 1500											WEIGHT	
VALVE SIZE	BORE SIZE	RF	RTJ	BW	C		D		E	F	RF / RTJ	
NPS	B(in)	mm	mm	mm	mm	mm	mm	mm	mm	mm	kg	
inch	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	kg	
6"	154.1	705	711	705	299	316	600	264	488			
8"x6"	194x146.1	832	841	832	299	316	600	264	586			
8"	194	832	841	832	380	361	700	306	776			
10"x8"	241x194	991	1000	991	380	361	700	306	914			
10"	241	991	1000	991	450	469	700	400	1004			
12"x10"	289x241	1130	1146	1130	490	469	700	400	1684			
12"	289	1130	1146	1130	535	510	700	455	1871			
14"x10"	317x241	1257	1276	1257	490	550	700	400	1825			
14"	317	1257	1276	1257	600	550	700	510	2421			
16"x12"	362x241	1387	1407	1387	650	625	700	455	2432			
16"	362	1387	1407	1387	654	626	700	565	2571			
18"	408	1537	1559	1537	710	678	700	590	4184			
20"x16"	450x362	1868	1888	1868	654	826	700	565	3862			
20"	450	1864	1886	1864	755	718	700	635	5397			
24"x20"	508x362	1698	1762	1698	755	718	700	635	6876			
24"	508	1698	1762	1698	859	754	700	671	7066			
26"x24"	549x362	2096	2124	2096	859	754	700	671	8325			
26"	549	2096	2124	2096	918	797	700	714	8850			
28"x26"	581x432	2248	2251	2248	918	839	700	714	9225			
28"	581	2248	2251	2248	988	839	700	756	10000			
30"x28"	630x484	2570	2594	2570	988	839	700	756	12550			
30"	630	2570	2594	2570	1060	1107	800	485	14500			

ISO 15848-1
ENDURANCE CLASS CO3 TIGHTNESS CLASS AM



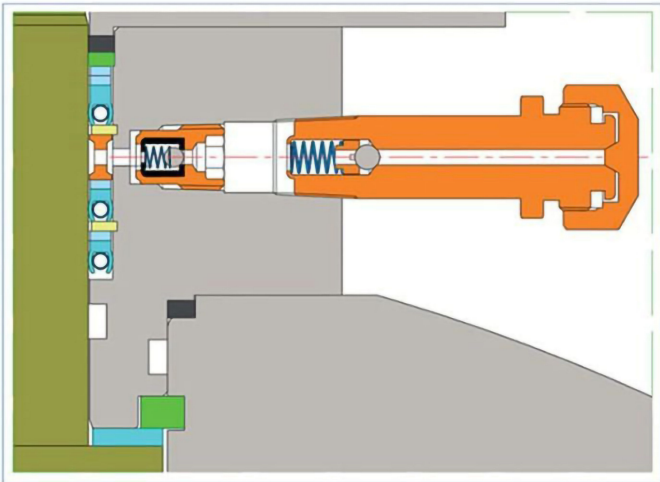
+ 200°C

CERTIFICATION IN PROCESS



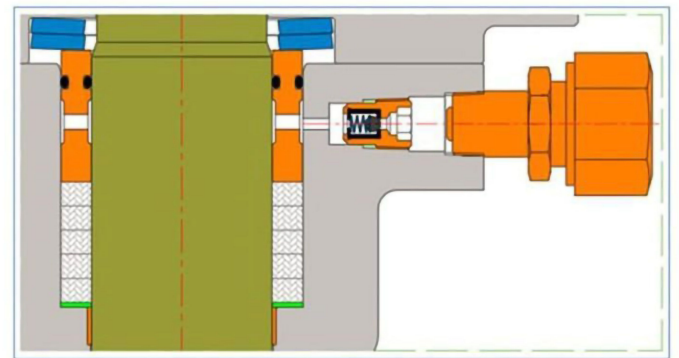
+ 240°C

API STANDARD 641



+ 240°C

API STANDARD 641
ISO 15848-1
ENDURANCE CLASS CO2 TIGHTNESS CLASS CH



+ 350°C

FEATURES

- Welded body type
- Full and reduced bore
- All forged steel components
- Firesafe certified, anti-static devices
- Trunnion mounted, double block and bleed
- Anti-blow out stem design per API 608
- Double piston effect, self-relieving seats, or combination of the two seat design
- Bubble tight seat seals
- Emergency stem and seat sealing
- NACE MR0175 SOUR

Fugitive Emission Certified to:

API STANDARD 641

ISO 15848-1: ENDURANCE CLASS CO3

TIGHTNESS CLASS AM

ISO 15848-1: ENDURANCE CLASS CO2

TIGHTNESS CLASS CH

Firesafe Certified to:

API STANDARD 607

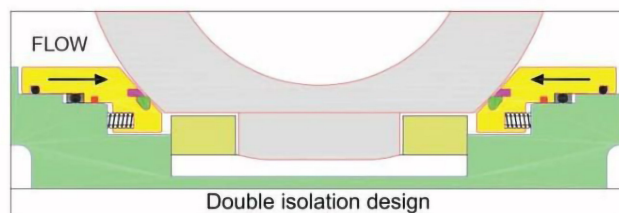
API STANDARD 6FA

B.S. 6755 PART 2

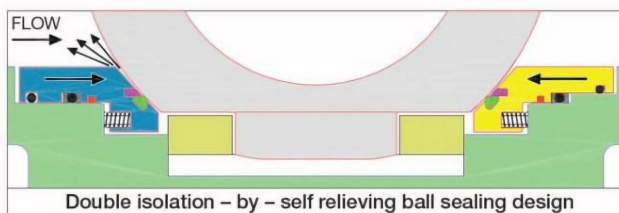
ISO 10497: 2010



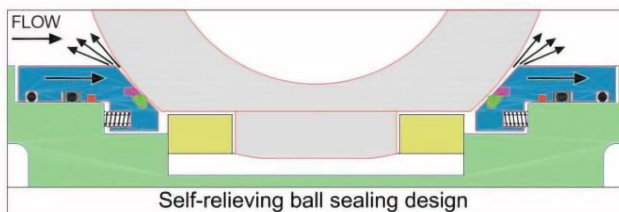
Optional Valve Seat Sealing Designs



DIB-1



DIB-2

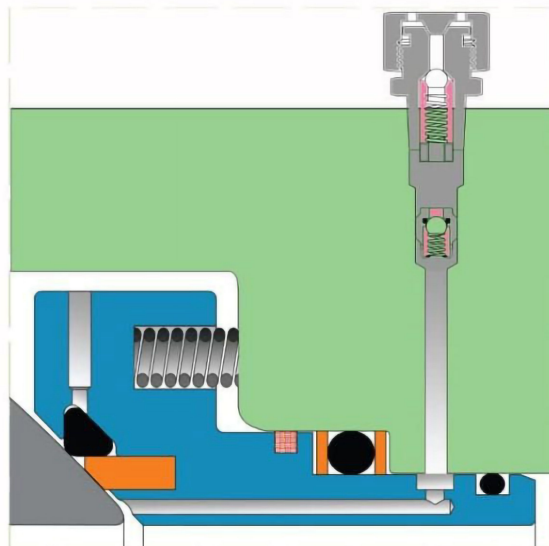


EMERGENCY SEAT SEALING

As an excess of impurities in fluids may have a harmful effect on seat ring seals, GVS® valves are equipped for emergency restoration of sealing.

This consists of special holes and grooves in the seat rings and valve body through which sealants are injected.

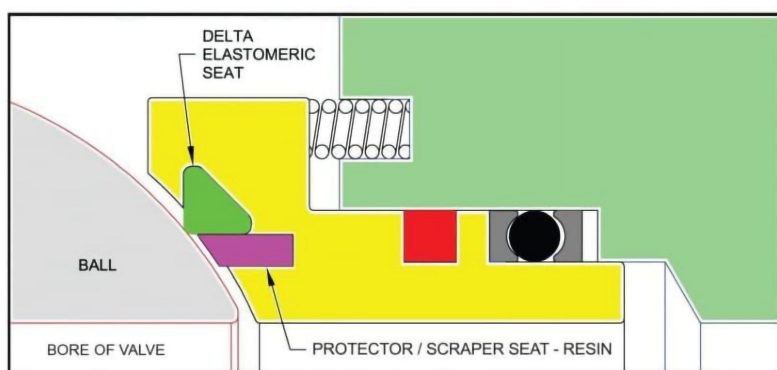
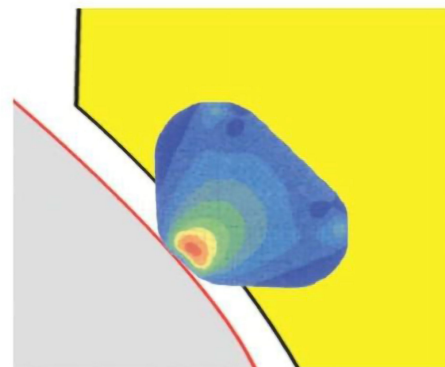
Each body injection port is equipped with an inner check valve and a grease button head fitting.



DELTA SEAT SEAL

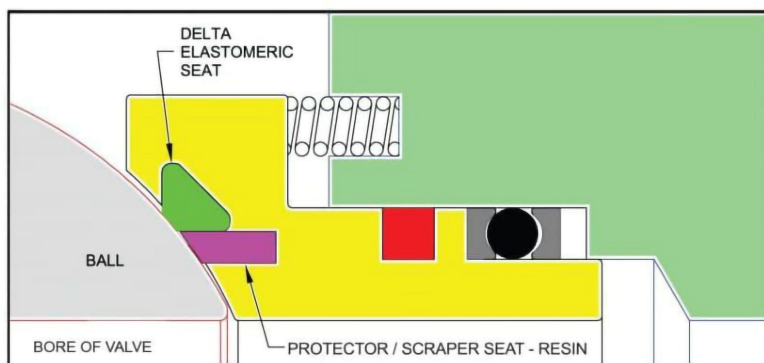
This seat insert is shaped like a triangle “Delta” with rounded corners, which is housed by means of a metal seat. This unique geometry offers several advantages:

Due to the high elasticity of the seat insert, it may ensure sealing even on partly damaged ball surfaces.



At low pressure, the resin seat is more of a "Protector," for it does not touch the ball's outer surface. This is why we state that the insert seat is a protector. The "Delta" elastomeric-shaped seat is always in full contact with the ball at low & high pressure, providing a seat to ball shut-off at all times.

At higher pressure, the complete seat assembly is being pushed against the ball, and the insert resin seat "Protector" eventually does come into contact with the ball's outer surface. At this elevated pressure, the protector acts as a seat seal in addition to being a protector and also acting as a scraper, thus wiping off any debris that may be against the ball's outer surface.



ANTI-EXPLOSIVE DECOMPRESSION SEAL (AED)

All of the elastic compounds present permeability to gases at different levels. The pressured gas penetrates below the o-ring surface, forming air pockets in the intermolecular spaces. The quantity of gas absorbed depends on the type of compound and the gas in contact with it, from the temperature and the exercised pressure.

The instance described previously can be the cause of damage to the o-ring if it is followed by an abrupt reduction in pressure and the consequent dilation of the ring. The gas included in the compound has an explosive behavior. The explosion of the air pockets contained in the compound causes the laceration of the o-ring surfaces.

All o-rings in our GVS Series **W1** & **GW1** are of the **AED** type and possess an Anti-Explosive Decompression Feature that prevents the above from occurring.