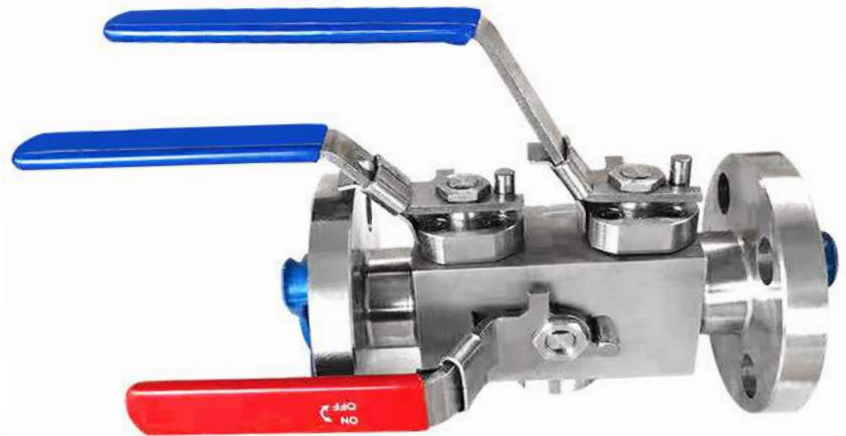


DOUBLE BLOCK AND BLEED BALL VALVE

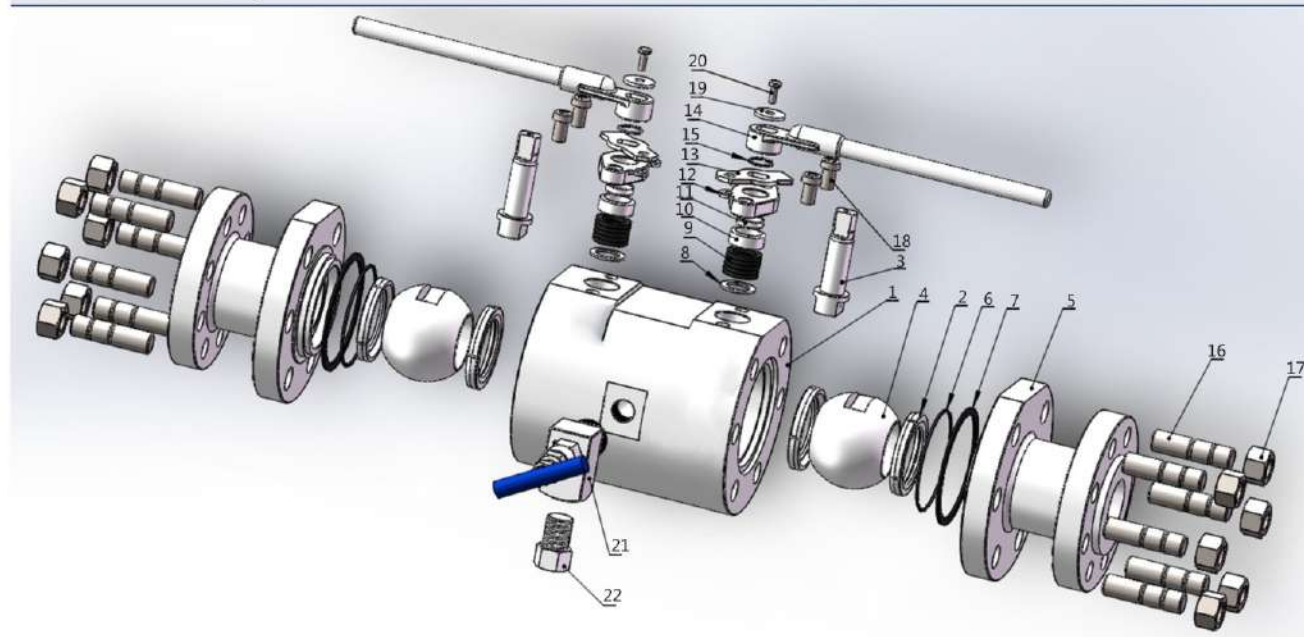
FLOATING DOUBLE BALLS VALVE



STRUCTURE EXAMPLE OF FLOATING DOUBLE BALL VALVE

MATERIAL SELECTION

ITEM	NAME	MATERIAL (Applicable Temperature -29°C~120°C)	MATERIAL (Applicable Temperature -29°C~120°C)	MATERIAL (Applicable Temperature -29°C~120°C)
1	Middle Body	A105	A350 LF2	A182 F304
2	Seat	PTFE/RPTFE/PEEK	PTFE/RPTFE/PEEK	PTFE/RPTFE/PEEK
3	Stem	A182 F304	A182 F304	A182 F304
4	Ball	A182 F304	A182 F304	A182 F304
5	Body Adaptor	A105	A350 LF2	A182 F304
6	O-Ring	Viton	Viton	Viton
7	Flange Gasket	304/316+Graphite	304/316+Graphite	304/316+Graphite
8	Gasket	RPTFE	RPTFE	RPTFE
9	Packing	Flexible Graphite	Flexible Graphite	Flexible Graphite
10	Gland Ring	A276 304	A276 304	A276 304
11	Bearing	PTFE	PTFE	PTFE
12	Gland Flange	A216 WCB	A352 LCB	A351 CF8
13	Limit Block	A36+ENP	A36+ENP	304
14	Lever	AISI 1020	AISI 1020	AISI 1020
15	Retainer Ring	AISI 1566	AISI 1566	AISI 1566
16	Stud	A193 B7	A320 L7	A193 B8
17	Nut	A194 2H	A194 7	A194 8
18	Screw	A193 B7	A320 L7	A193 B8
19	Lever Plate	SS	SS	SS
20	Stud	A193 B7	A320 L7	A193 B8
21	Needle Valve	A105(Trim304)	A350 Lf2(Trim304)	A182 F304(Trim304)
22	Plug	A182 F304	A182 F304	A182 F304



OPERATION MODE OF FLOATING BALLS DBBV

Nominal Diameter in (DN)	Class 150	Class 300	Class 600	Class 900	Class 1500
1/2" (DN15)	◆ ★	◆ ★	◆ ★	◆ ★	◆ ★
3/4" (DN20)	◆ ★	◆ ★	◆ ★	◆ ★	◆ ★
1" (DN25)	◆ ★	◆ ★	◆ ★	◆ ★	◆ ★
1-1/2" (DN40)	◆ ★	◆ ★	◆ ★	◆ ★	◆ ★
2" (DN50)	◆ ★	◆ ★	◆ ★	◆ ★	◆ ★
3" (DN80)	◆ ★	◆ ★	◆ ★	★	★
4" (DN100)	◆ ★	◆ ★	★	★	★
6" (DN100)	★	★	★	★	★

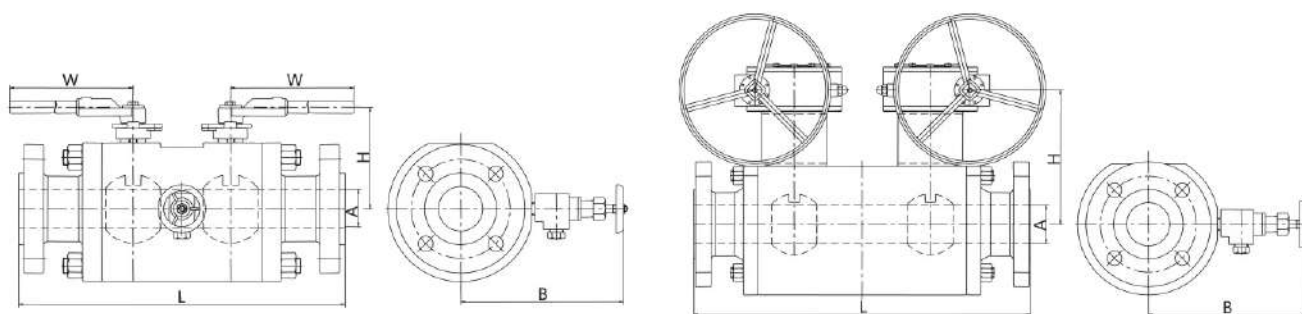


Manual

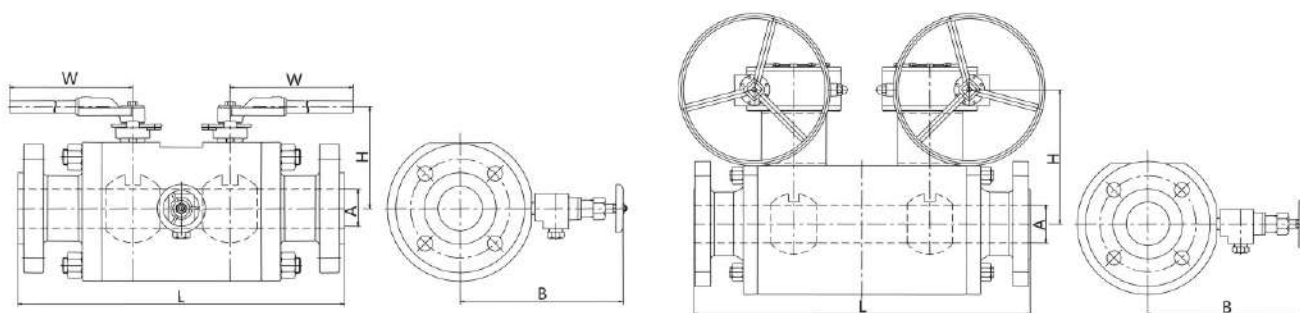


Worm gear, Electric, Pneumatic

MAIN DIMENSIONS AND WEIGHT

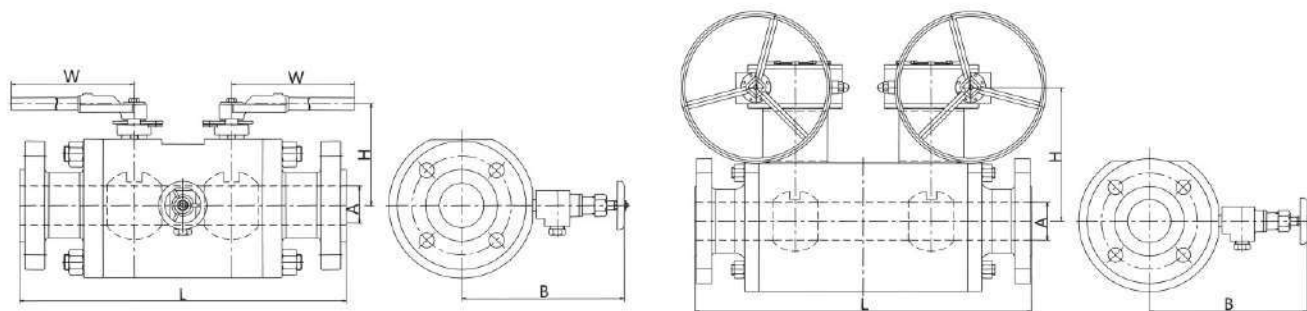


Class 150									
Nominal Diameter in (DN)	L	L (Worm Gear)	W (Manual)	W	H	B	Torque Nm	CV	Weight(KG)
1/2" (DN15)	196	-	150	-	76	150	7	25	4.6
3/4" (DN20)	214	-	150	-	76	155	10	56	5.5
1" (DN25)	229	-	230	-	94	155	13	95	10.3
1-1/2" (DN40)	305	-	300	-	135	180	27	308	20.5
2" (DN50)	316	336	300	200	145/225	187	45	500	23.5/26.8
3" (DN80)	356	376	400	200	170/253	203	90	1360	34/37.3
4" (DN100)	428	428	460	200	196/284	230	132	2500	69/62.3
6" (DN100)	-	652	-	350	342	275	540	5300	172



Class 300									
Nominal Diameter in (DN)	L	L (Worm Gear)	W (Manual)	W	H	B	Torque Nm	CV	Weight(KG)
1/2" (DN15)	240	-	150	-	76	150	7	25	5.1
3/4" (DN20)	245	-	150	-	76	157	10	56	6.2
1" (DN25)	275	-	300	-	117	163	18	95	16
1-1/2" (DN40)	310	365	300	200	136/216	180	40	308	27/30.5
2" (DN50)	352	407	400	200	148/228	187	70	430	34.8/38.4
3" (DN80)	440	469	550	200	173/256	203	122	1100	57.2/60.6
4" (DN100)	505	505	600	200	206/294	230	234	2000	117/121
6" (DN150)	-	664	-	350	367	275	855	5250	231

Class 600									
Nominal Diameter in (DN)	L	L (Worm Gear)	W (Manual)	W	H	B	Torque Nm	CV	Weight(KG)
1/2" (DN15)	260	-	150	-	76	150	8	20	6.8
3/4" (DN20)	305	-	300	-	112	162	20	48	15.2
1" (DN25)	342	-	300	-	120	166	27	64	25.5
1-1/2" (DN40)	402	436	400	200	152	184	55	308	28.3/32.1
2" (DN50)	450	485	550	200	159	190	100	370	35.2/38.6
3" (DN80)	527	537	700	200	180	216	180	1020	60/65.6
4" (DN100)	665	725	850	350	234	240	300	1850	120/128



Class 900									
Nominal Diameter in (DN)	L	L (Worm Gear)	W (Manual)	W	H	B	Torque Nm	CV	Weight(KG)
1/2" (DN15)	347	-	300	-	108	165	20	16	16
3/4" (DN20)	358	-	300	-	114	166	35	34	22.4
1" (DN25)	403	-	500	-	122	176	70	55	27.2
1-1/2" (DN40)	484	530	600	200	150/235	193	82	165	42/46.8
2" (DN50)	550	575	700	200	160/248	204	160	320	60/65.7

Class 1500									
Nominal Diameter in (DN)	L	L (Worm Gear)	W (Manual)	W	H	B	Torque Nm	CV	Weight(KG)
1/2" (DN15)	345	-	300	-	108	165	32	16	16
3/4" (DN20)	358	-	300	-	108	166	45	34	22.4
1" (DN25)	403	-	500	-	120	176	90	55	29.2
1-1/2" (DN40)	483	525	600	200	150/235	193	97	165	43.6/48.3
2" (DN50)	550	572	700	200	167/262	205	207	320	62.5/69.2

DOUBLE BLOCK AND BLEED BALL VALVE

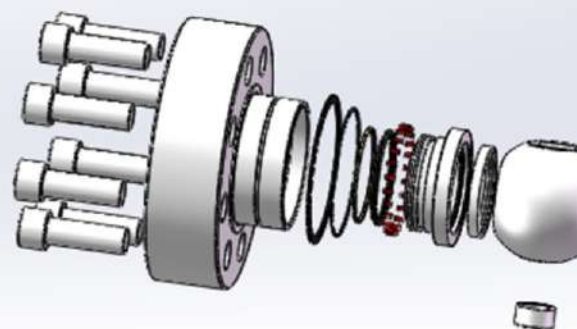
TRUNNION MOUNTED BALLSDBBV

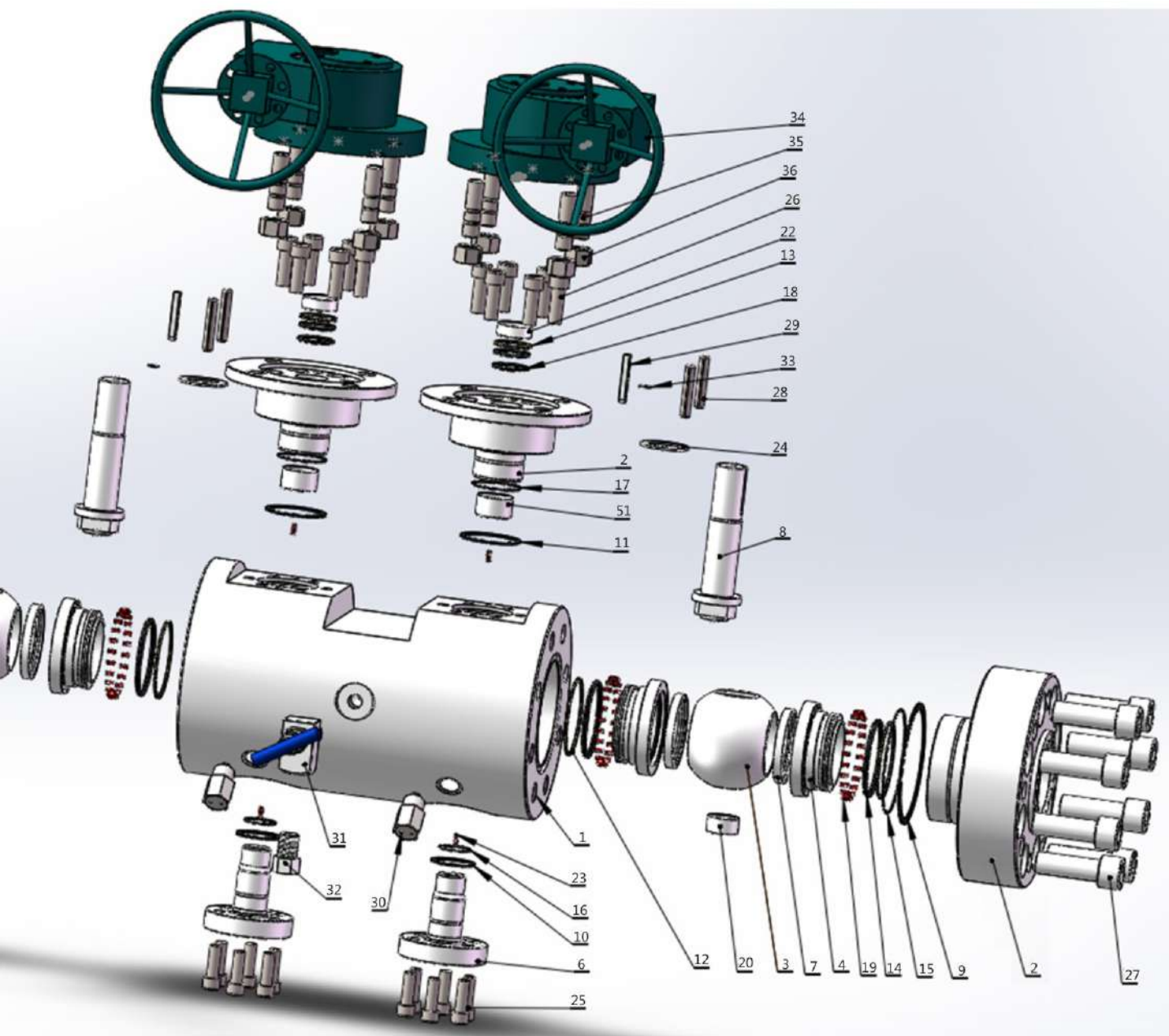


STRUCTURE EXAMPLE OF TRUNNION MOUNTED BALLSDBBV

MATERIAL SELECTION

ITEM	NAME	MATERIAL (Applicable Temperature -29°C~120°C)	MATERIAL (Applicable Temperature -46°C~120°C)	MATERIAL (Applicable Temperature -46°C~120°C)
1	Middle Body	A105	A350 LF2	A182 F304
2	Body Adaptor	A105	A350 LF2	A182 F304
3	Ball	A182 F304	A182 F304	A182 F304
4	Seat	A105+ENP	A350 LF2+ENP	A182 F304
5	Upper Cover	A105+ENP	A350 LF2+ENP	A182 F304
6	Lower Cover	A105+ENP	A350 LF2+ENP	A182 F304
7	Seat Ring	PTFE/RPTFE/PEEK	PTFE/RPTFE/PEEK	PTFE/RPTFE/PEEK
8	Stem	A105+ENP	A182 F304	A182 F304
9	Flange Gasket	304/316+Graphite	304/316+Graphite	304/316+Graphite
10	Flange Gasket	304/316+Graphite	304/316+Graphite	304/316+Graphite
11	Flange Gasket	304/316+Graphite	304/316+Graphite	304/316+Graphite
12	Packing	Flexible Graphite +304	Flexible Graphite +304	Flexible Graphite +304
13	Packing	Flexible Graphite +304	Flexible Graphite +304	Flexible Graphite +304
14	O-ring	Viton	Viton	Viton
15	O-ring	Viton	Viton	Viton
16	O-ring	Viton	Viton	Viton
17	O-ring	Viton	Viton	Viton
18	O-ring	Viton	Viton	Viton
19	Spring	INCONEL X 715	INCONEL X 715	INCONEL X 715
20	Bearing	CS+PTFE	CS+PTFE	304+PTFE
21	Bearing	CS+PTFE	CS+PTFE	304+PTFE
22	Bearing	RPTFE	RPTFE	RPTFE
23	Bearing	316	316	316
24	Gasket	RPTFE	RPTFE	RPTFE
25	Screw	A193 B7	A320 L7	A193 B8
26	Screw	A193 B7	A320 L7	A193 B8
27	Screw	A193 B7	A320 L7	A193 B8
28	Pin	AISI 1566	AISI 1566	AISI 1566
29	Key	AISI 1045	AISI 1045	AISI 1045
30	Bleed Valve	A182 F304	A182 F304	A182 F304
31	Plug	A182 F304	A182 F304	A182 F304
32	Needle Valve	A105(Trim 304)	A350 Lf2(Trim 304)	A182 F304(Trim 304)
33	Pin	AISI 1566	AISI 1566	AISI 1566
34	Worm Gear	Combination	Combination	Combination
35	Stud	A193 B7	A320 L7	A193 B8
36	Nut	A194 2H	A194 7	A194 8



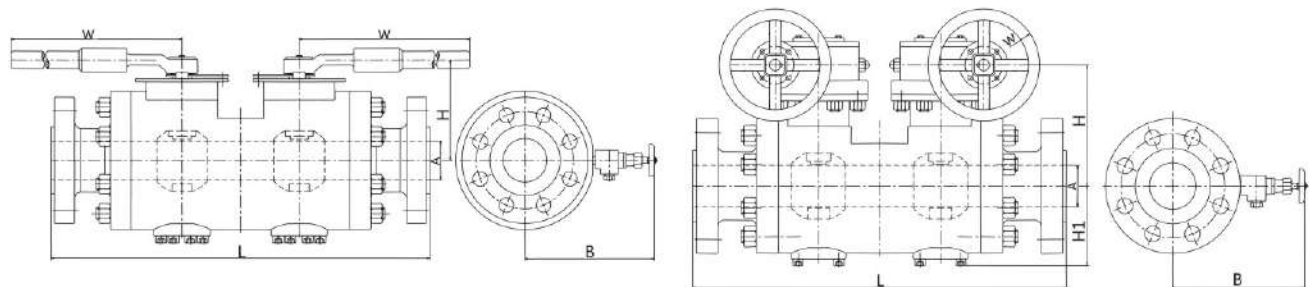


OPERATION OF TRUNNION MOUNTED DBBV

Nominal Diameter in (DN)	Class 150	Class 300	Class 600	Class 900	Class 1500
2" (DN50)	◆ ★	◆ ★	◆ ★	◆ ★	◆ ★
3" (DN80)	◆ ★	◆ ★	◆ ★	◆ ★	★
6" (DN100)	◆ ★	◆ ★	◆ ★	★	★
8" (DN200)	◆ ★	★	★	★	★
10" (DN250)	★	★	★	★	★
12" (DN300)	★	★	★	★	★
14" (DN350)	★	★	★	★	★
16" (DN400)	★	★	★	★	★

◆ Manual ★ Worm gear, Electric, Pneumatic

MAIN DIMENSIONS AND WEIGHTS OF TRUNNION MOUNTED DBBV



Class 150										
Nominal diameter in (DN)	L	L (Worm gear)	W (Manual)	W	B	H	H 1	Torque Nm	CV	Weight(KG)
2" (DN50)	316	332	300	200	176	146/146	78	32	500	29/35.4
3" (DN80)	366	372	400	200	197	192/175	109	54	1360	63/71
4" (DN100)	428	458	450	350	217	222/215	130	110	2500	84/96
6" (DN150)	684	684	750	460	265	265/268	179	310	5300	252/268
8" (DN200)	-	810	-	460	310	306	213	612	10750	462
10" (DN250)	-	965	-	600	350	365	300	850	17500	786
12" (DN300)	-	1110	-	600	381	390	335	1200	26750	1098
14" (DN350)	-	1252	-	600	410	420	357	1600	31850	1629
16" (DN400)	-	1394	-	600	450	484	410	2770	44000	2122

Class 300										
Nominal diameter in (DN)	L	L (Worm gear)	W (Manual)	W	B	H	H 1	Torque Nm	CV	Weight(KG)
2" (DN50)	370	382	300	200	182	166/146	90	59	430	37.4/44.6
3" (DN80)	485	485	500	350	200	199/195	110	82	1100	76.5/92
4" (DN100)	525	525	500	350	220	221/211	130	165	2000	119/138
6" (DN150)	-	736	-	460	265	266	205	522	5250	298
8" (DN200)	-	904	-	600	310	315	243	1000	10100	556
10" (DN250)	-	996	-	600	350	360	300	1748	16820	692
12" (DN300)	-	1140	-	600	388	408	345	2260	25950	1250
14" (DN350)	-	1325	-	600	420	459	388	3200	30900	1975
16" (DN400)	-	1465	-	850	456	500	422	3990	42600	2536

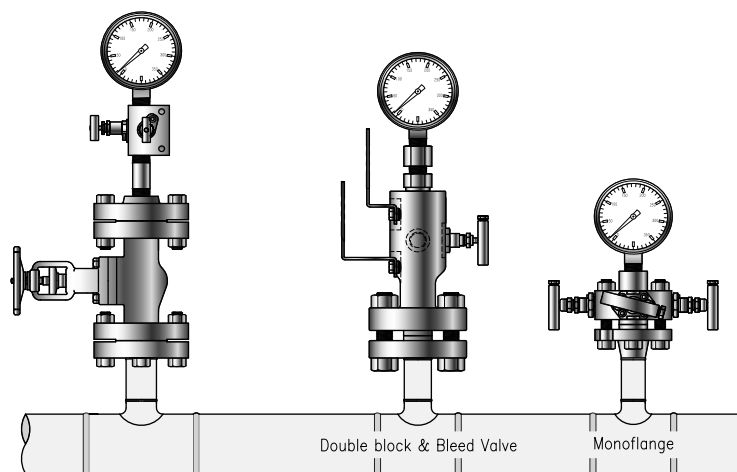
Class 600										
Nominal diameter in (DN)	L	L (Worm gear)	W (Manual)	W	B	H	H 1	Torque Nm	CV	Weight(KG)
2" (DN50)	494	494	500	200	186	170/150	95	92	370	54.5/62
3" (DN80)	582	582	620	350	205	204/200	115	184	1020	95/103.4
4" (DN100)	724	724	860	350	225	225/221	138	306	1850	179/192
6" (DN150)	-	918	-	600	273	218	221	855	4400	442
8" (DN200)	-	1080	-	600	318	279	280	1845	8450	790
10" (DN250)	-	1285	-	600	358	328	326	2556	14250	1275
12" (DN300)	-	1395	-	750	400	520	355	3316	22550	1853

Class 900										
Nominal diameter in (DN)	L	L (Worm gear)	W (Manual)	W	B	H	H 1	Torque Nm	CV	Weight(KG)
2" (DN50)	586	586	600	350	191	178/179	101	156	320	77/86
3" (DN80)	638	638	760	350	205	208/204	115	284	920	133/148
4" (DN100)	-	745	-	465	232	234	200	501	1760	242
6" (DN150)	-	990	-	600	276	283	242	1200	4300	488
8" (DN200)	-	1195	-	600	325	420	283	2408	8475	896
10" (DN250)	-	1355	-	750	367	410	320	3720	14160	1375

Class 1500										
Nominal diameter in (DN)	L	L (Worm gear)	W (Manual)	W	B	H	H 1	Torque Nm	CV	Weight(KG)
2" (DN50)	586	586	640	350	191	178/179	101	190	320	100/108
3" (DN80)	-	740	-	460	224	233	147	394	820	228
4" (DN100)	-	882	-	600	247	261	209	704	1600	334
6" (DN150)	-	1130	-	600	312	363	270	2213	4150	737
8" (DN200)	-	1305	-	750	351	413	320	3172	8010	1024

DOUBLE BLOCK AND BLEED BALL VALVE

INSTRUMENT DOUBLE BLOCK & BLEED VALVES



SUMMARY OF INSTRUMENT DBBV

In addition to the production of the above-mentioned DBBV for process pipelines, S&W also produces DBBV for instruments. Instrument DBBV is a product that connects process instrument and process pipeline smoothly. Features light weight, less leakage, small installation space, small flow resistance, small pressure drop.

APPLICATION

1. Process pipeline isolation point;
2. Direct mount to instrument;
3. Connection between instruments;
4. Double block and bleed.

SIZE AND PRESSURE RANGE

Size: NPS1/2~NPS2

Pressure: Class150~Class2500

END TYPE

Flange / flange, flange / thread, thread / thread, butt welding.

Flange : ASME B16.5、Threaded :ASME B1.20.1、

Welded : ASME B16.25/ASME B16.11.

The threaded end provides 1 / 2NPT direct connection with the instrument.

It can also be provided according to customer requirements, 3 / 4NPT or 1 / 4NPT.

SERVICE TEMPERATURE

Valve application in -29~200°C

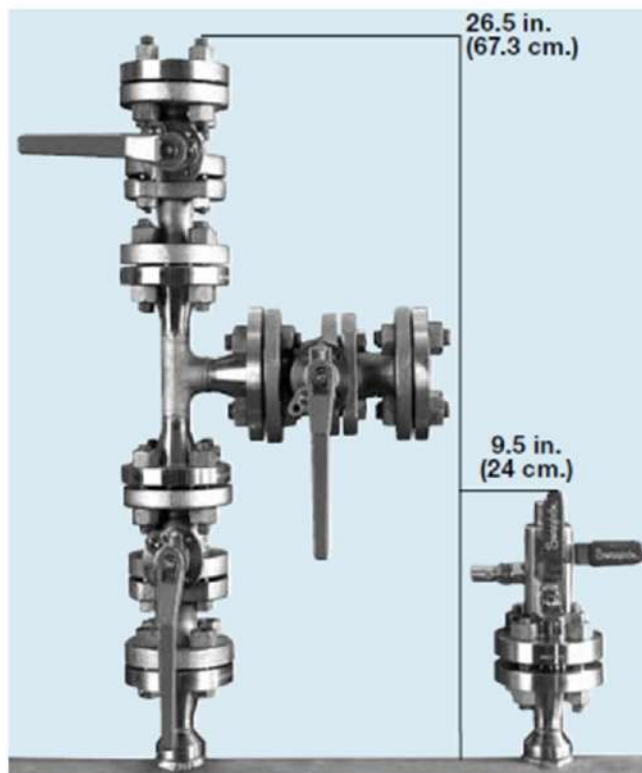
CHARACTERISTIC

Space saving - a single DBBV can replace the functions of a group of valves and reduce the occupied space.

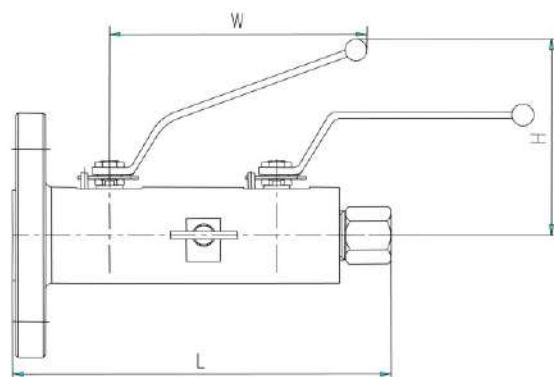
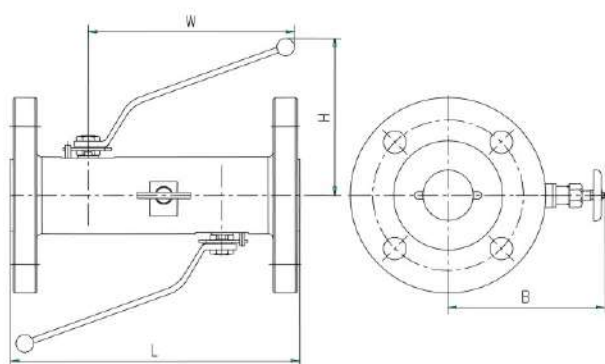
Weight reduction - a single DBBV is much less than a group of valves, without the need to increase the fulcrum, which can save material costs.

It is safer to reduce the leakage point - the traditional multi- valve combination needs many connection points to increase the leakage risk.

Installation and maintenance is more simple - compared with the traditional reduction of many parts installation, leak point inspection.



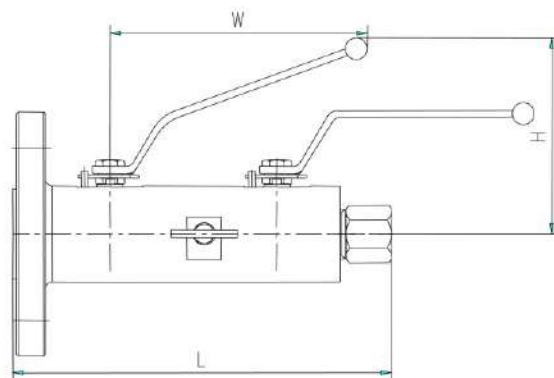
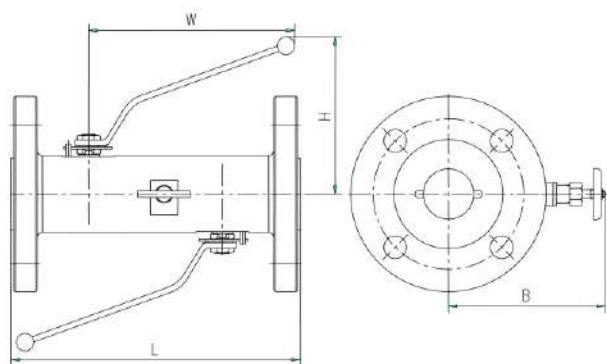
MAIN DIMENSIONS AND WEIGHTS OF INSTRUMENT DBBV



Class 150							
Nominal diameter in (DN)	L	W	H	B	Torque Nm	CV	Weight(KG)
1/2" (DN15)	155	150	105	92	6	9	3.2
3/4" (DN20)	155	150	112	98	8	20	3.8
1" (DN25)	160	150	127	106	10	45	6.1
1-1/2" (DN40)	178	200	144	128	18	82	12.4
2" (DN50)	190	200	166	151	32	180	17.1

Class 300							
Nominal diameter in (DN)	L	W	H	B	Torque Nm	CV	Weight(KG)
1/2" (DN15)	155	150	105	95	6	9	3.7
3/4" (DN20)	155	150	116	106	8	20	4.3
1" (DN25)	160	150	134	118	11	45	7.4
1-1/2" (DN40)	178	200	152	137	22	82	14.1
2" (DN50)	190	200	174	157	48	180	19.6

Class 600							
Nominal diameter in (DN)	L	W	H	B	Torque Nm	CV	Weight(KG)
1/2" (DN15)	155	150	112	95	7	9	5.2
3/4" (DN20)	155	150	122	106	13	20	7.1
1" (DN25)	165	150	136	120	18	43	10.3
1-1/2" (DN40)	185	200	156	142	34	76	18.3
2" (DN50)	200	260	176	162	74	164	25.8



Class 900							
Nominal diameter in (DN)	L	W	H	B	Torque Nm	CV	Weight(KG)
1/2" (DN15)	178	150	130	95	12	7	8
3/4" (DN20)	178	200	136	114	19	16	11.3
1" (DN25)	190	260	152	131	48	38	16.5
1-1/2" (DN40)	210	260	167	148	66	62	26.8
2" (DN50)	230	300	183	167	90	140	38

Class 1500							
Nominal diameter in (DN)	L	W	H	B	Torque Nm	CV	Weight(KG)
1/2" (DN15)	178	150	130	95	18	7	8
3/4" (DN20)	178	200	136	114	34	16	11.3
1" (DN25)	190	260	152	131	62	36	16.5
1-1/2" (DN40)	210	300	167	148	78	58	26.8
2" (DN50)	230	400	183	167	120	130	38