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Metal Seated Plug Valves



Plug Valve Specialists
Strong Company! Good Company!

WWW.3ZVALVE.COM

三千控制阀网
www.cv3000.com

Design Features

Construction of 3Z Metal Seated Plug Valves

3Z metal seated plug valves are designed to be used for high or low temperature. The plug is contact with raised ribs of the body and create sealing surfaces. These sealing surfaces prevent line leakage, and also prevent stem leakage to assure no external leakage into the atmosphere.

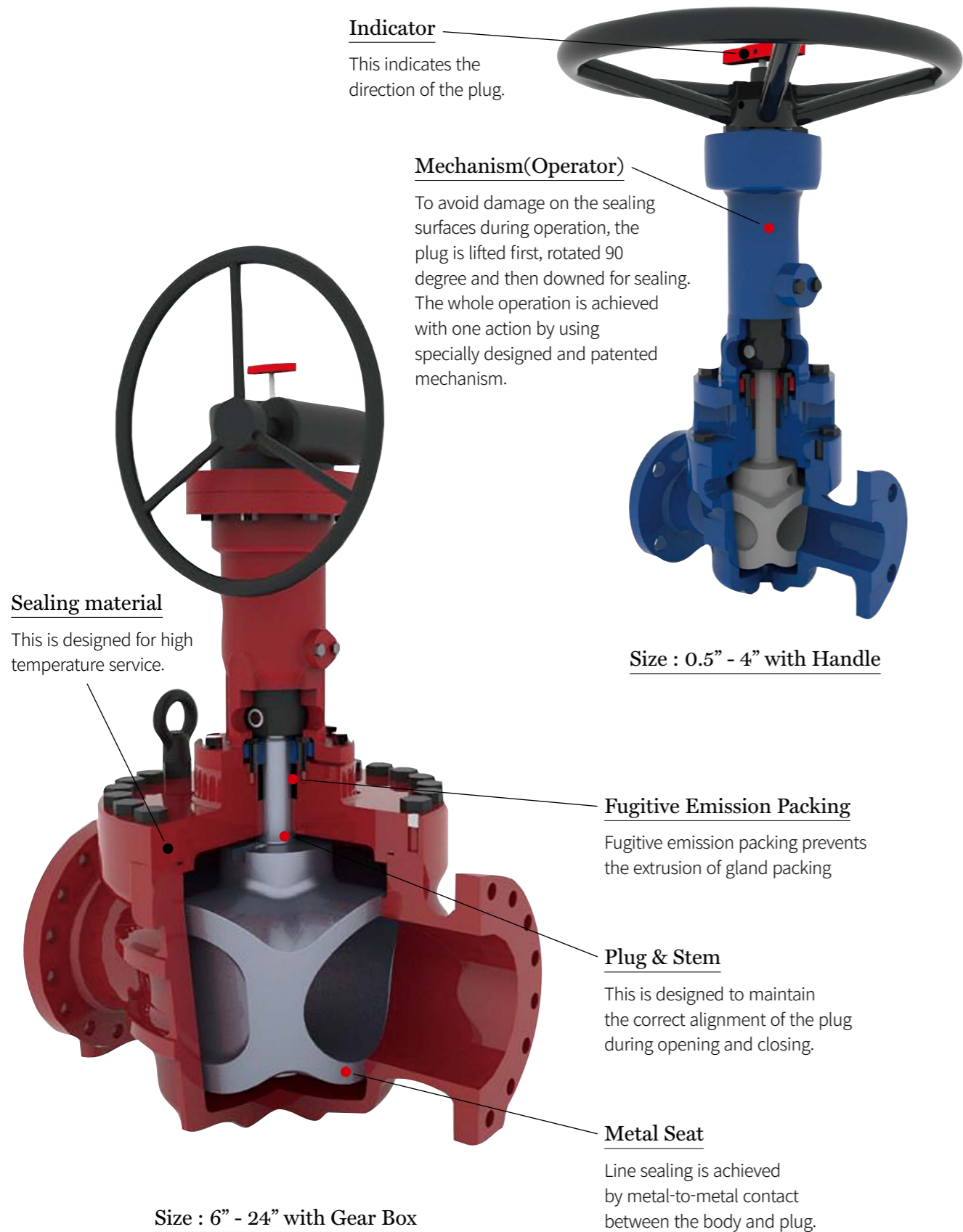


Mechanism(Operator)

Mechanism is very important part for this type of valve. Most of metal seated valve have high friction resulting in high torque. 3Z ball-locking mechanism make the plug away from body seat during opening and closing to provide low torque and smooth, frictionless operation.



Design Features



Indicator

This indicates the direction of the plug.

Mechanism(Operator)

To avoid damage on the sealing surfaces during operation, the plug is lifted first, rotated 90 degree and then downed for sealing. The whole operation is achieved with one action by using specially designed and patented mechanism.

Sealing material

This is designed for high temperature service.

Size : 0.5" - 4" with Handle

Fugitive Emission Packing

Fugitive emission packing prevents the extrusion of gland packing

Plug & Stem

This is designed to maintain the correct alignment of the plug during opening and closing.

Metal Seat

Line sealing is achieved by metal-to-metal contact between the body and plug.

Size : 6" - 24" with Gear Box

How the 3Z Metal Seated Plug Valve Works

The body and plug contacts directly and seated as metal-to-metal.

To prevent the surfaces from galling or abrading, the valve is designed to operate in the following steps :

STEP 1

Lowered & Seated Position : The plug is lowered and seated at fully opened or closed position.

STEP 2

Lifted Position : The plug is lifted slightly to avoid galling or abrasion during this step.

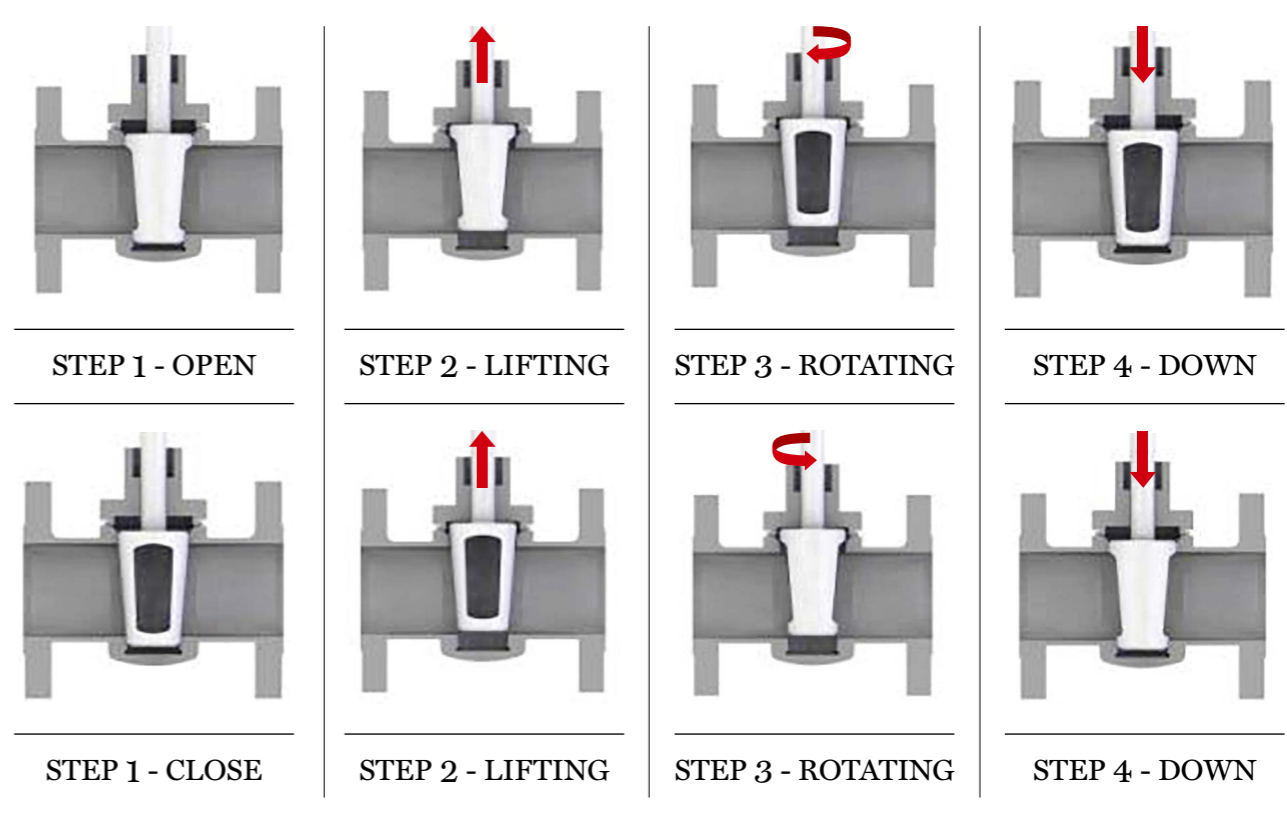
STEP 3

90° Rotated Position : The plug is rotated 90° for opening or closing. No contact between the body and plug during this step. No rubbing, no friction.

STEP 4

Lowered & Seated Position : The plug is lowered and reseated at fully opened or closed position.

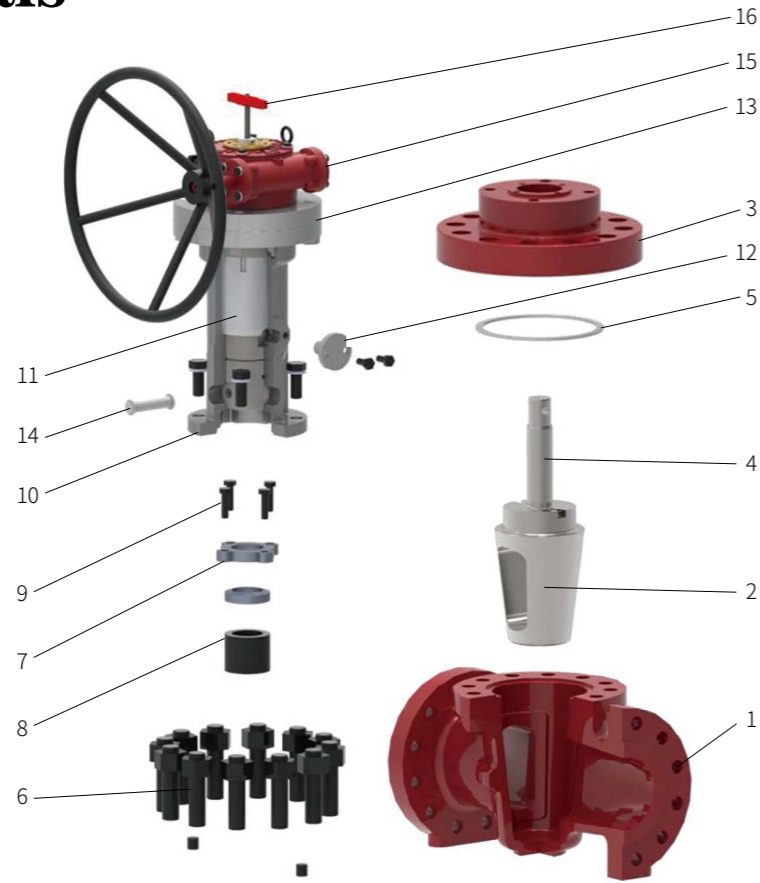
3Z developed a unique patented ball-locking mechanism. The 3Z mechanism provides low torque and smooth, frictionless operation. This mechanism is provided as a standard in 3Z Metal Seated Plug Valves.



Parts and Materials

Construction Materials

A variety of materials are available such as carbon steel, stainless steel, duplex stainless steel and special alloys. Materials are subject to change without notice. Other materials and combinations are also available.



Sample Construction of Material

Carbon Steel

No	Parts	Specification
1	Body	A216 WCB
2	Plug (Hardened)	A217 CA15
3	Cover	A216 WCB
4	Stem	A276 Type 410
5	Gasket	(Graphite + 316) SWG
6	Cover bolt	A193 B7
7	Gland	A217 CA15 / AISI 410
8	Gland packing	Graphite
9	Gland bolt	A193 B7
10	Housing	A216 WCB
11	MECH operator	A322 4140
12	Guide pin	A322 4140
13	Housing cover	AISI 1045
14	Plug pin	A322 4140
15	Gear operator	Ductile iron
16	Indicator	AISI 1020

316 Stainless

No	Specification
1	A351 CF8M
2	A351 CF8M + STELLITE
3	A351 CF8M
4	316
5	(Graphite + 316) SWG
6	A193 B8
7	A217 CA15 / AISI 410
8	Graphite
9	A193 B8
10	A216 WCB
11	A322 4140
12	A322 4140
13	AISI 1045
14	A322 4140
15	Ductile iron
16	AISI 1020

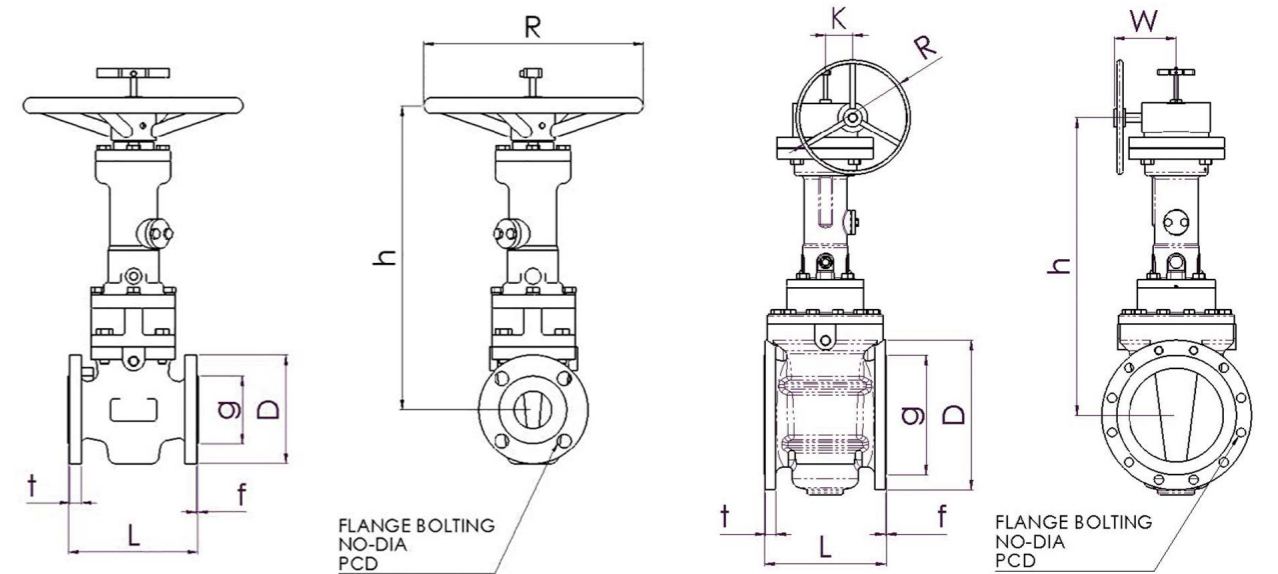
High temperature

No	Specification
1	A217 C12
2	A217 C12
3	A217 C12
4	A276 Type 410
5	(Graphite + 316) SWG
6	A193 B16
7	A217 CA15 / AISI 410
8	Graphite
9	A193 B16
10	A216 WCB
11	A322 4140
12	A322 4140
13	AISI 1045
14	A322 4140
15	Ductile iron
16	AISI 1020

- If additional materials are required, please consult the factory when ordering.

Standard Type Dimensions - Class 150

Figure No. 123P - Class 150 / Size 0.5" - 24" / 70% Port / Raised Face Flange



Unit : mm

Size	L	D	PCD	NO	DIA	g	t	f	h	R	K	W
+0.5	108	90	60.3	4	16	34.9	8	2	325	250	-	-
+0.75	117	100	69.9	4	16	42.9	8.9	2	325	250	-	-
+1	127	110	79.4	4	16	50.8	9.6	2	350	250	-	-
+1.5	165	125	98.4	4	16	73	12.7	2	370	300	-	-
2	178	150	120.7	4	19	92.1	14.3	2	430	300	-	-
2.5	190	180	139.7	4	19	104.8	15.9	2	450	300	-	-
3	203	190	152.4	4	19	127	17.5	2	460	300	-	-
4	229	230	190.5	8	19	157.2	22.3	2	540	400	-	-
6	267	280	241.3	8	22	215.9	23.9	2	700	300	70	230
8	292	345	298.5	8	22	269.9	27	2	790	300	70	230
10	330	405	362	12	25	323.8	28.6	2	930	400	83	260
12	610	485	431.8	12	25	381	30.2	2	1,000	400	83	260
14	686	535	476.3	12	29	412.8	33.4	2	1,140	500	97	294
16	762	595	539.8	16	29	469.9	35	2	1,200	500	97	294
18	864	635	577.9	16	32	533.4	38.1	2	1,300	500	97	294
20	914	700	635	20	32	584.2	41.3	2	1,400	500	97	294
24	1,067	815	749.3	20	35	692.2	46.1	2	1,620	560	112	324

Approx. Weight(kg) and flow characteristics

Size	2	2.5	3	4	6	8	10	12	14	16	18	20	24
Weight	32	39	40	70	120	160	270	380	580	750	990	1,300	2,100
CV	200	300	350	650	1,400	2,500	3,700	5,700	7,000	9,500	13,000	16,000	22,000

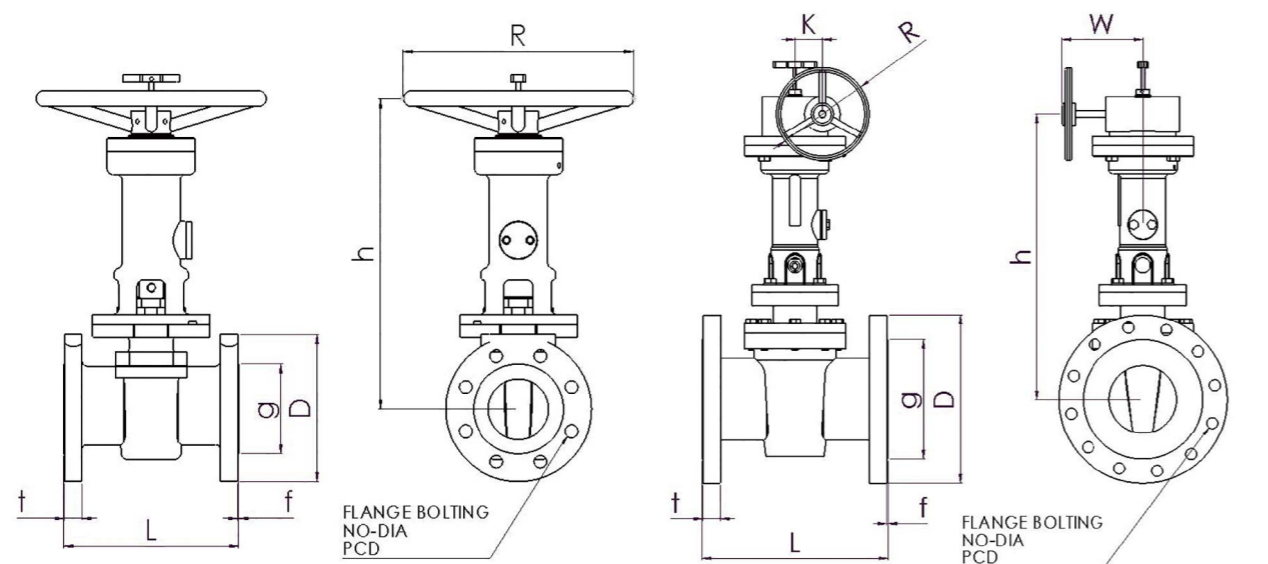
- 0.5"~ 4"(Handle Operated) / 6"~24"(Gear Operated)

+ Port Ratio is less than 70%

- If additional classes and sizes are required, please consult the factory when ordering.

Standard Type Dimensions - Class 300

Figure No. 323P - Class 300 / Size 0.5" - 24" / 70% Port / Raised Face Flange



Unit : mm

Size	L	D	PCD	NO	DIA	g	t	f	h	R	K	W
+ 0.5	140	95	66.7	4	16	34.9	12.7	2	325	250	-	-
+ 0.75	152	115	82.6	4	19	42.9	14.3	2	325	250	-	-
+ 1	165	125	88.9	4	19	50.8	15.9	2	350	250	-	-
+ 1.5	190	155	114.3	4	22	73	19.1	2	370	300	-	-
2	216	165	127	8	19	92.1	20.7	2	440	300	-	-
3	282	210	168.3	8	22	127	27	2	460	300	-	-
4	305	255	200	8	22	157.2	30.2	2	570	400	-	-
6	403	320	269.9	12	22	215.9	35	2	670	300	70	230
8	419	380	330.2	12	25	269.9	39.7	2	860	400	83	260
10	457	445	387.4	16	29	323.8	46.1	2	1,080	500	97	294
12	502	520	450.8	16	32	381	49.3	2	1,150	500	97	294
14	762	585	514.4	20	32	412.8	52.4	2	1,210	500	97	294
16	838	650	571.5	20	35	469.9	55.6	2	1,300	560	97	294
18	914	710	628.6	24	35	533.4	58.8	2	1,380	560	97	294
20	991	775	685.8	24	35	584.2	62.0	2	1,520	560	112	324
24	1,143	915	812.8	24	41	692.2	68.3	2	1,710	630	112	324

Approx. Weight(kg) and flow characteristics

Size	2	3	4	6	8	10	12	14	16	18	20	24
Weight	40	50	80	160	240	420	560	670	900	1,200	1,600	2,600
CV	200	350	650	1,400	2,600	4,000	5,600	7,000	10,000	14,000	16,000	24,000

- 0.5"~ 4"(Handle Operated) / 6"~24"(Gear Operated)

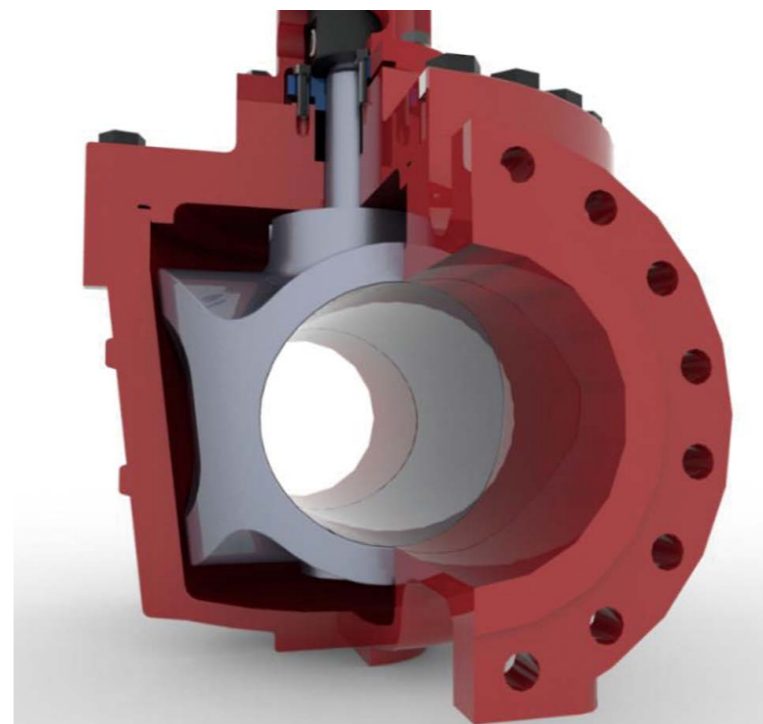
+ Port Ratio is less than 70%

- If additional classes and sizes are required, please consult the factory when ordering.

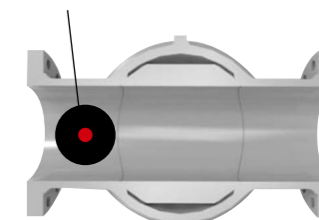
Full Port Metal Seated Plug Valves

Feature

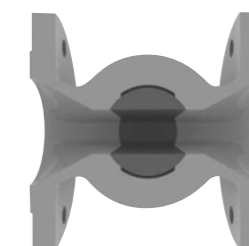
There is no diminished flow with the full bore port, and also easy to pigging. For application such as high viscosity condensable media, high efficiency is demonstrated with full bore port.



Easy-pigging



100% Full bore



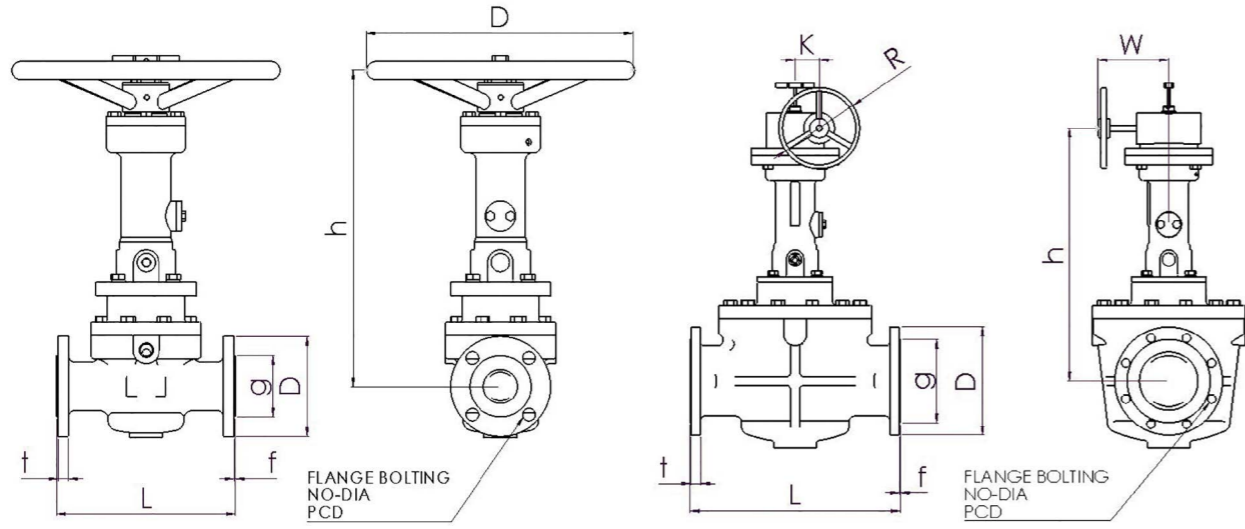
70% Reduced bore

3Z metal seated full bore valves are designed to meet the requirement to minimize pressure drop in chemical plant, such as hydrocarbons, ammonia, ethylene etc... within high or low temperature range.



Full Port Type Dimensions - Class 150

Figure No. 123P FB - Class 150 / Size 0.5" - 24" / 100% Port / Raised Face Flange



Unit : mm

Size	L	D	PCD	NO	DIA	g	t	f	h	R	K	W
0.5	*176	90	60.3	4	16	34.9	8	2	380	300	-	-
0.75	*176	100	69.9	4	16	42.9	8.9	2	380	300	-	-
1	176	110	79.4	4	16	50.8	9.6	2	390	300	-	-
1.5	222	125	98.4	4	16	73	12.7	2	410	300	-	-
2	267	150	120.7	4	19	92.1	14.3	2	440	300	-	-
3	343	190	152.4	4	19	127	17.5	2	550	400	-	-
4	432	230	190.5	8	19	157.2	22.3	2	610	300	70	230
6	546	280	241.3	8	22	215.9	23.9	2	660	300	70	230
8	622	345	298.5	8	22	269.9	27	2	780	400	83	260
10	660	405	362	12	25	323.8	28.6	2	920	500	97	294
12	762	485	431.8	12	25	381	30.2	2	1,030	560	97	294
14	*980	535	476.3	12	29	412.8	33.4	2	1,060	560	97	294
16	*1,100	595	539.8	16	29	469.9	35	2	1,200	560	112	324
18	*1,200	635	577.9	16	32	533.4	38.1	2	1,260	630	112	324
20	*1,300	700	635	20	32	584.2	41.3	2	1,410	630	153	370
24	*1,400	815	749.3	20	35	692.2	46.1	2	1,510	710	153	370

Approx. Weight(kg) and flow characteristics

Size	1.5	2	3	4	6	8	10	12	14	16	18	20	24
Weight	36	40	60	150	250	420	840	1,100	1,400	2,100	2,700	3,600	6,100
CV	290	520	1,100	2,100	5,000	9,700	14,600	21,500	28,000	35,000	52,000	59,000	85,000

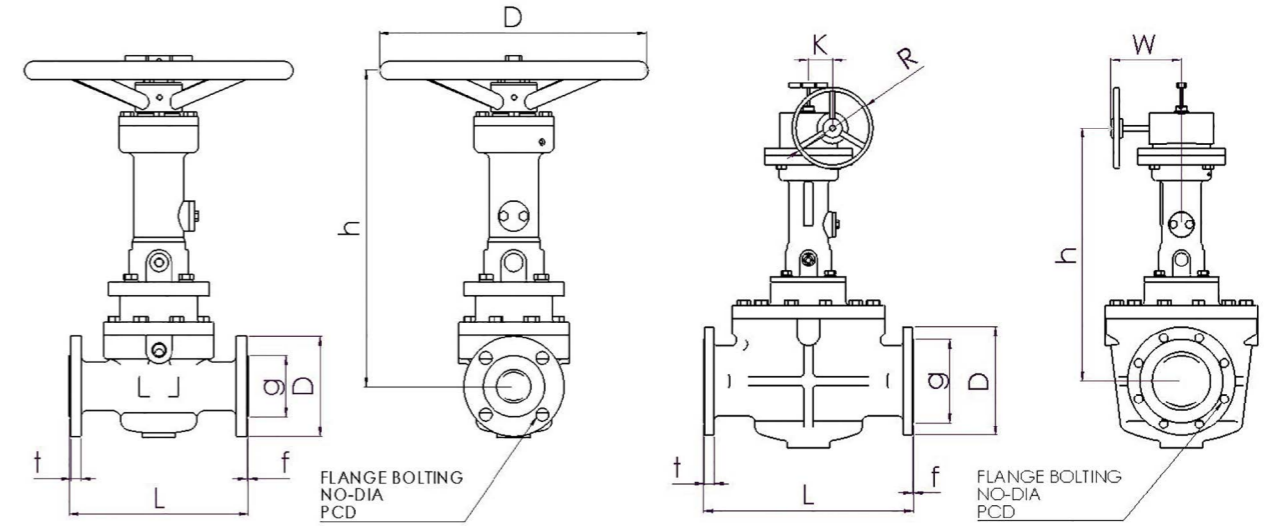
* Manufacturing Standard

- 0.5"~ 3"(Handle Operated) / 4"~24"(Gear Operated)

- If additional classes and sizes are required, please consult the factory when ordering.

Full Port Type Dimensions - Class 300

Figure No. 323P FB - Class 300 / Size 0.5" - 24" / 100% Port / Raised Face Flange



Unit : mm

Size	L	D	PCD	NO	DIA	g	t	f	h	R	K	W
0.5	*190	95	66.7	4	16	34.9	12.7	2	390	300	-	-
0.75	*190	115	82.6	4	19	42.9	14.3	2	390	300	-	-
1	190	125	88.9	4	19	50.8	15.9	2	390	300	-	-
1.5	241	155	114.3	4	22	73	19.1	2	410	300	-	-
2	283	165	127	8	19	92.1	20.7	2	440	300	-	-
3	387	210	168.3	8	22	127	27	2	550	400	-	-
4	457	255	200	8	22	157.2	30.2	2	620	300	70	230
6	559	320	269.9	12	22	215.9	35	2	740	400	83	260
8	686	380	330.2	12	25	269.9	39.7	2	870	500	97	294
10	826	445	387.4	16	29	323.8	46.1	2	930	560	97	294
12	965	520	450.8	16	32	381.0	49.3	2	1,060	560	97	294
14	*980	585	514.4	20	32	412.8	52.4	2	1,130	560	97	294
16	*1,100	650	571.5	20	35	469.9	55.6	2	1,280	560	112	324
18	*1,200	710	628.6	24	35	533.4	58.8	2	1,380	560	112	324
20	*1,300	775	685.8	24	35	584.2	62.0	2	1,480	630	112	324
24	*1,400	915	812.8	24	41	692.2	68.3	2	1,710	630	153	370

Approx. Weight(kg) and flow characteristics

Size	1.5	2	3	4	6	8	10	12	14	16	18	20	24
Weight	51	56	75	170	330	600	900	1,200	1,700	2,500	3,200	4,400	7,800
CV	290	520	1,100	2,100	5,000	9,700	14,600	21,500	28,000	35,000	52,000	59,000	85,000

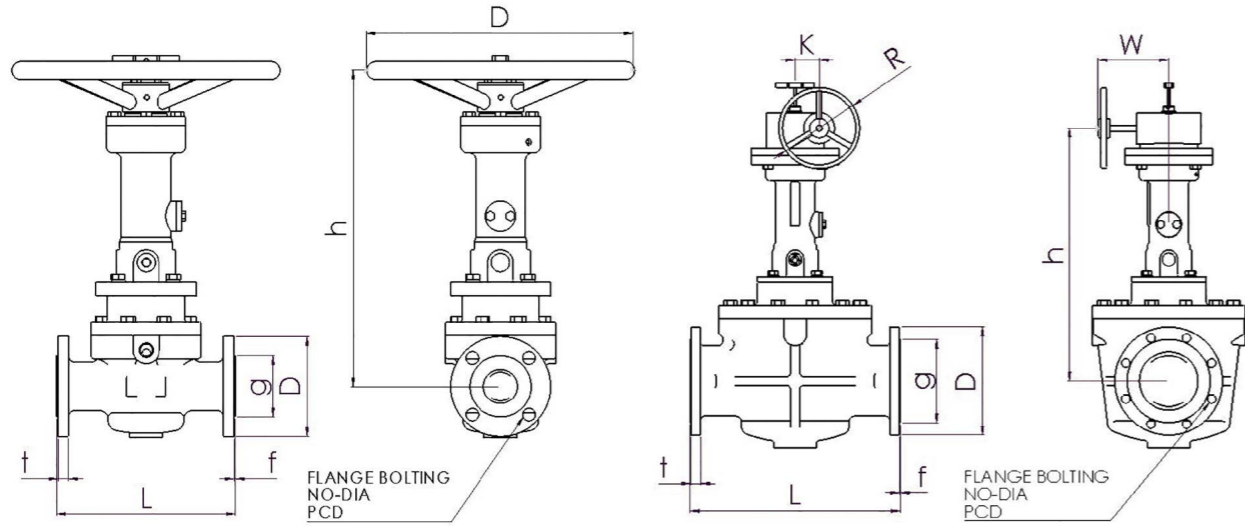
* Manufacturing Standard

- 0.5"~ 3"(Handle Operated) / 4"~24"(Gear Operated)

- If additional classes and sizes are required, please consult the factory when ordering.

Full Port Type Dimensions - Class 600

Figure No. 623P FB - Class 600 / Size 0.5" - 16" / 100% Port / Raised Face Flange



Unit : mm

Size	L	D	PCD	NO	DIA	g	t	f	h	R	K	W
0.5	*254	95	66.7	4	16	34.9	14.3	7	390	300	-	-
0.75	*254	115	82.6	4	19	42.9	15.9	7	390	300	-	-
1	254	125	88.9	4	19	50.8	17.5	7	400	400	-	-
1.5	318	155	114.3	4	22	73	22.3	7	430	300	-	-
2	330	165	127.0	8	19	92.1	25.4	7	550	400	-	-
3	444	210	168.3	8	22	127.0	31.8	7	640	300	70	230
4	508	275	215.9	8	25	157.2	38.1	7	730	400	83	260
6	660	355	292.1	12	29	215.9	47.7	7	830	500	97	294
8	794	420	349.2	12	32	269.9	55.6	7	1,090	560	112	324
10	940	510	431.8	16	35	323.8	63.5	7	1,160	560	112	324
12	1,067	560	489.0	20	35	381.0	66.7	7	1,320	630	153	370
14	*1,200	605	527.0	20	38	412.8	69.9	7	1,440	630	153	370
16	*1,300	685	603.2	20	41	469.9	76.2	7	1,570	710	153	370

Approx. Weight(kg) and flow characteristics

Size	1.5	2	3	4	6	8	10	12	14	16
Weight	59	76	130	260	490	760	1,200	1,600	2,100	3,000
CV	290	520	1,100	2,100	5,000	9,700	14,600	21,500	28,000	35,000

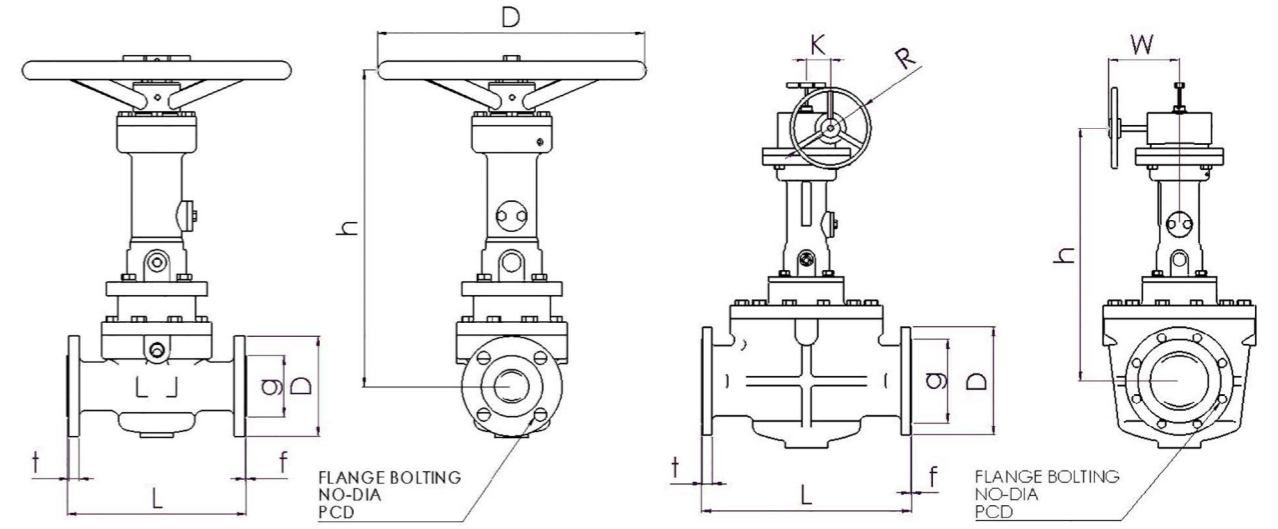
* Manufacturing Standard

- 0.5"~ 2"(Handle Operated) / 3"~16"(Gear Operated)

- If additional classes and sizes are required, please consult the factory when ordering.

Full Port Type Dimensions - Class 900

Figure No. 923P FB - Class 900 / Size 0.5" - 10" / 100% Port / Raised Face Flange



Unit : mm

Size	L	D	PCD	NO	DIA	g	t	f	h	R	K	W
0.5	*305	120	82.6	4	22	34.9	22.3	7	410	300	-	-
0.75	*305	130	88.9	4	22	42.9	25.4	7	410	300	-	-
1	*305	150	101.6	4	25	50.8	28.6	7	420	400	-	-
1.5	356	180	123.8	4	28	73	31.8	7	450	300	-	-
2	381	215	165.1	8	25	92.1	38.1	7	590	400	-	-
3	470	240	190.5	8	25	127	38.1	7	670	300	70	230
4	559	290	235	8	32	157.2	44.5	7	770	400	83	260
6	737	380	317.5	12	32	215.9	55.6	7	1,030	500	97	294
8	813	470	393.7	12	38	269.9	63.5	7	1,160	560	112	324
10	965	545	469.9	16	38	323.8	69.9	7	1,320	630	153	370

Approx. Weight(kg) and flow characteristics

Size	1.5	2	3	4	6	8	10
Weight	84	110	170	350	670	1,100	1,600
CV	290	520	1,100	2,100	5,000	9,700	14,600

* Manufacturing Standard

- 0.5"~ 2"(Handle Operated) / 3"~10"(Gear Operated)

- If additional classes and sizes are required, please consult the factory when ordering.

Jacketed Valves

Jacketed Plug Valve

3Z steam jacketed plug valves are designed to control special chemical service where media has to be required within a specified temperature range. The steam jacketed design prevents the media in the body from cooling down. If cool media become solid, the trim parts, plug and stem will be very hard to operate. The steam jacket keep maintaining required temperature of the valve.



Jacket Connection

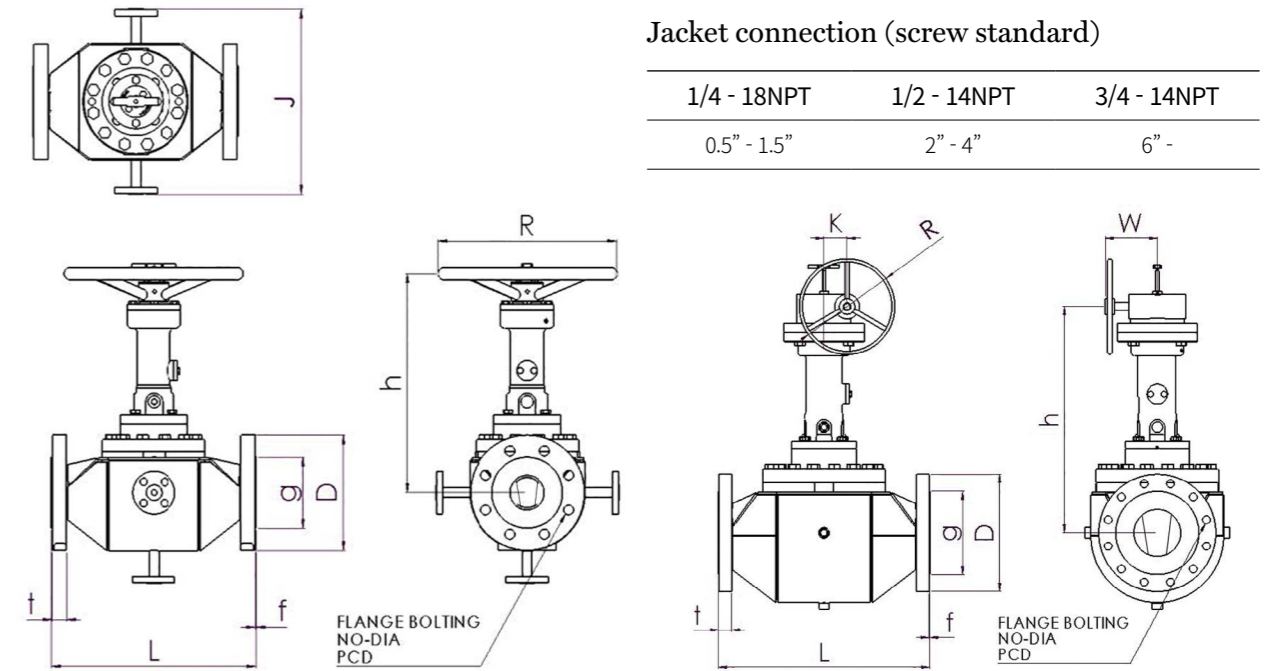
Standard arrangement of jacket connection is located side and bottom



3Z steam jacketed plug valves supply the full jacket and partial type. Full jacket is covered body and flow passage by jacket and partial jacket is covered only body.

Jacketed Valve Dimensions - Class 150

Figure No. 123P FJ - Class 150 / Size 0.5" - 20" / 70% Port / Full Jacket / Raised Face Flange



Jacket connection (screw standard)

1/4 - 18NPT	1/2 - 14NPT	3/4 - 14NPT
0.5" - 1.5"	2" - 4"	6" -

Unit : mm

Size (flange x body)	L	D	PCD	NO	DIA	g	t	f	h	R	K	W	J (SC)	J (FL)
+ 1.5 x 0.5	165	125	98.4	4	16	73	12.7	2	325	250	-	-	110	220
+ 1.5 x 0.75	165	125	98.4	4	16	73	12.7	2	325	250	-	-	110	220
2 x 1	178	150	120.7	4	19	92.1	14.3	2	350	250	-	-	135	245
3 x 1.5	203	190	152.4	4	19	127	17.5	2	370	300	-	-	140	250
3 x 2	203	190	152.4	4	19	127	17.5	2	430	300	-	-	175	275
4 x 3	229	230	190.5	8	19	157.2	22.3	2	450	300	-	-	180	310
6 x 3	267	280	241.3	8	22	215.9	23.9	2	460	300	-	-	180	310
6 x 4	267	280	241.3	8	22	215.9	23.9	2	540	400	-	-	195	330
8 x 6	292	345	298.5	8	22	269.9	27	2	700	300	70	230	255	350
10 x 8	330	405	362	12	25	323.8	28.6	2	790	300	70	230	330	425
12 x 10	610	485	431.8	12	25	381	30.2	2	930	400	83	260	360	455
14 x 12	686	535	476.3	12	29	412.8	33.4	2	1,000	400	83	260	380	475
16 x 14	762	595	539.8	16	29	469.9	35	2	1,140	500	97	294	460	555
18 x 16	864	635	577.9	16	32	533.4	38.1	2	1,200	500	97	294	530	625
20 x 16	914	700	635	20	32	584.2	41.3	2	1,200	500	97	294	545	625
24 x 20	1,067	815	749.3	20	35	692.2	46.1	2	1,400	500	97	294	730	830

Approx. Weight(kg) and flow characteristics

Size	3 x 2	4 x 3	6 x 3	6 x 4	8 x 6	10 x 8	12 x 10	14 x 12	16 x 14	18 x 16	20 x 16	24 x 20
Weight	39	52	60	80	150	190	310	420	650	850	980	1,600
CV	215	380	400	700	1,500	2,700	3,600	5,900	7,500	10,500	11,000	17,000

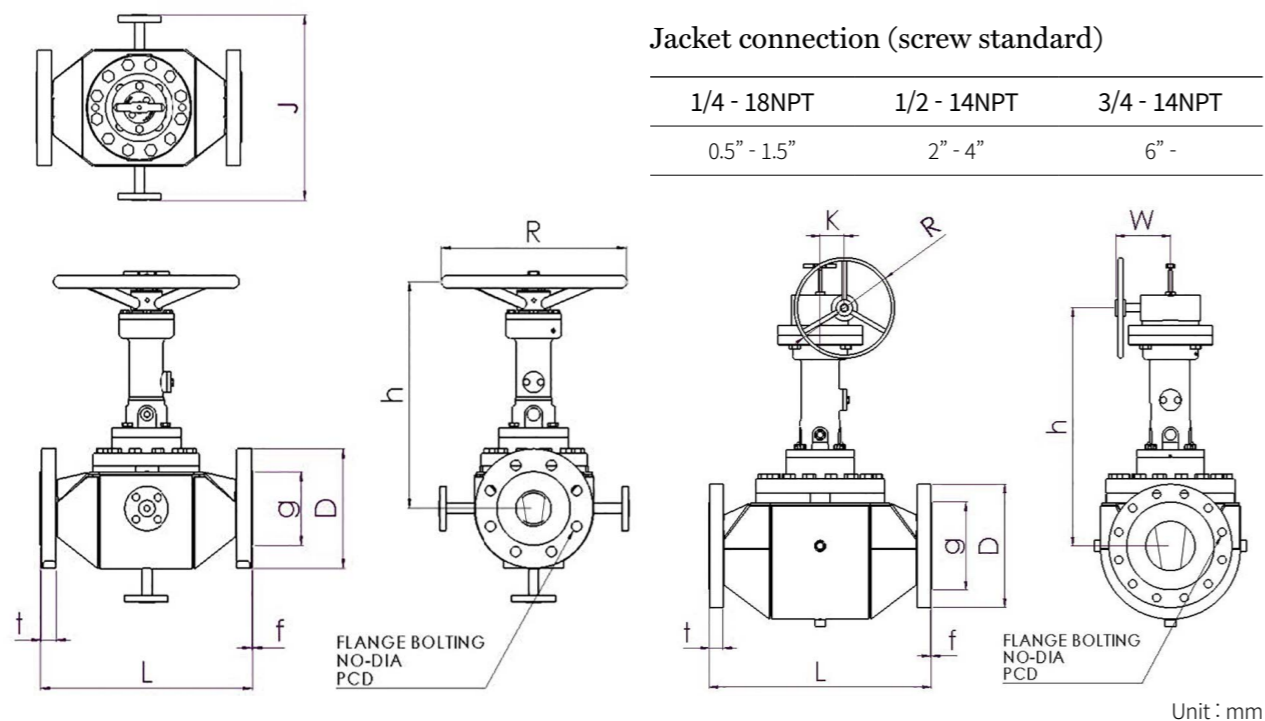
- 0.5"~ 4"(Handle Operated) / 6"~20"(Gear Operated)

+ Port Ratio is less than 70%

- If additional classes and sizes are required, please consult the factory when ordering.

Jacketed Valve Dimensions - Class 300

Figure No. 323P FJ - Class 300 / Size 0.5" - 20" / 70% Port / Full Jacket / Raised Face Flange



Size (flange x body)	L	D	PCD	NO	DIA	g	t	f	h	R	K	W	J (SC)	J (FL)
1.5 x 0.5	190	155	114.3	4	22	73	19.1	2	325	250	-	-	110	220
1.5 x 0.75	190	155	114.3	4	22	73	19.1	2	325	250	-	-	110	220
2 x 1	216	165	127	8	19	92.1	20.7	2	350	250	-	-	135	245
3 x 1.5	282	210	168.3	8	22	127	27	2	370	300	-	-	140	250
3 x 2	282	210	168.3	8	22	127	27	2	440	300	-	-	170	285
4 x 3	305	255	200	8	22	157.2	30.2	2	460	300	-	-	175	310
6x4	403	320	269.9	12	22	215.9	35	2	570	400	-	-	215	330
8 x 6	419	380	330.2	12	25	269.9	39.7	2	670	300	70	230	285	390
10 x 8	457	445	387.4	16	29	323.8	46.1	2	860	400	83	260	325	425
12 x 10	502	520	450.8	16	32	381	49.3	2	1,080	500	97	294	355	455
16 x 12	838	650	571.5	20	35	469.9	55.6	2	1,150	500	97	294	370	505
16 x 14	838	650	571.5	20	35	469.9	55.6	2	1,210	500	97	294	440	555
20 x 16	991	775	685.8	24	35	584.2	62.0	2	1,300	500	97	294	520	625
24 x 20	1,143	915	812.8	24	41	692.2	68.3	2	1,520	560	112	324	730	830

Approx. Weight(kg) and flow characteristics

Size	3 x 2	4 x 3	6 x 4	8 x 6	10 x 8	12 x 10	16 x 12	16 x 14	20 x 16	24 x 20
Weight	40	60	80	180	280	470	630	760	930	1,600
CV	220	370	700	1,500	2,800	4,200	6,000	7,500	10,700	17,000

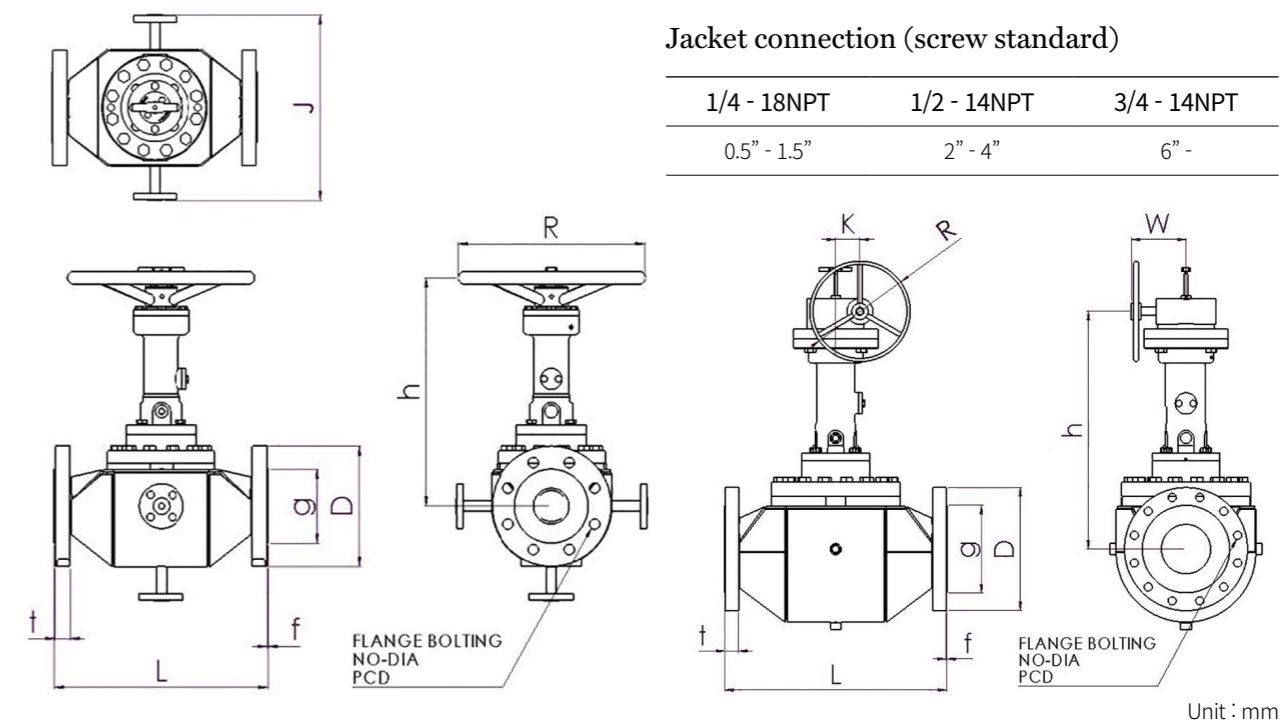
- 0.5"~ 4"(Handle Operated) / 6"~20"(Gear Operated)

+ Port Ratio is less than 70%

- If additional classes and sizes are required, please consult the factory when ordering.

Full Port Jacketed Valve Dimensions - Class 150

Figure No. 123P FB FJ - Class 150 / Size 0.5" - 20" / 100% Port / Full Jacket / Raised Face Flange



Size (flange x body)	L	D	PCD	NO	DIA	g	t	f	h	R	K	W	J (SC)	J (FL)
1.5 x 0.5	222	125	98.4	4	16	73	12.7	2	390	300	-	-	170	280
1.5 x 0.75	222	125	98.4	4	16	73	12.7	2	390	300	-	-	170	280
2 x 1	267	150	120.7	4	19	92.1	14.3	2	390	300	-	-	180	290
3 x 1.5	343	190	152.4	4	19	127	17.5	2	410	300	-	-	250	350
3 x 2	343	190	152.4	4	19	127	17.5	2	440	300	-	-	260	360
4 x 3	432	230	190.5	8	19	157.2	22.3	2	550	400	-	-	295	400
6 x 4	546	280	241.3	8	22	215.9	23.9	2	610	300	70	230	355	470
8 x 6	622	345	298.5	8	22	269.9	27	2	660	300	70	230	445	545
10 x 8	660	405	362	12	25	323.8	28.6	2	780	400	83	260	560	665
12 x 10	762	485	431.8	12	25	381	30.2	2	920	500	97	294	690	795
14 x 12	*980	535	476.3	12	29	412.8	33.4	2	1,030	560	97	294	720	820
16 x 14	*1,100	595	539.8	16	29	469.9	35	2	1,060	560	97	294	790	890
20 x 16	*1,300	700	635	20	32	584.2	41.3	2	1,200	560	112	324	900	1,000
24 x 20	*1,400	815	749.3	20	35	692.2	46.1	2	1,410	630	153	370	1,230	1,330

Approx. Weight(kg) and flow characteristics

Size	3 x 1.5	3 x 2	4 x 3	6 x 4	8 x 6	10 x 8	12 x 10	14 x 12	16 x 14	20 x 16	24 x 20
Weight	38	43	70	170	270	450	900	1,200	1,500	2,300	3,900
CV	290	530	1,100	2,100	5,000	9,700	14,600	21,500	28,000	35,000	59,000

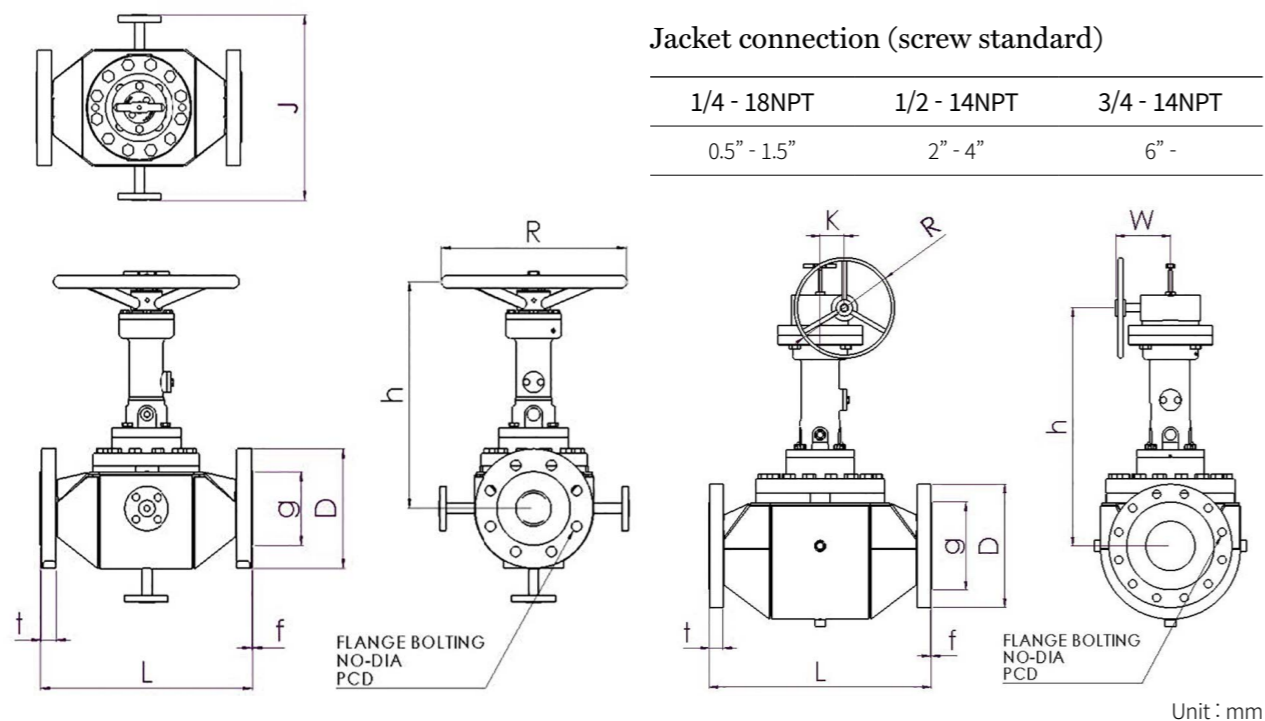
* Manufacturing Standard

- 0.5"~ 3"(Handle Operated) / 4"~24"(Gear Operated)

- If additional classes and sizes are required, please consult the factory when ordering.

Full Port Jacketed Valve Dimensions - Class 300

Figure No. 323P FB FJ - Class 300 / Size 0.5" - 20" / 100% Port / Full Jacket / Raised Face Flange



Size (flange x body)	L	D	PCD	NO	DIA	g	t	f	h	R	K	W	J (SC)	J (FL)
1.5 x 0.5	241	155	114.3	4	22	73	19.1	2	390	300	-	-	170	280
1.5 x 0.75	241	155	114.3	4	22	73	19.1	2	390	300	-	-	170	280
2 x 1	282	165	127	8	19	92.1	20.7	2	390	300	-	-	180	290
3 x 1.5	387	210	168.3	8	22	127	27	2	410	300	-	-	250	350
3 x 2	387	210	168.3	8	22	127	27	2	440	300	-	-	260	360
4 x 3	457	255	200	8	22	157.2	30.2	2	500	400	-	-	295	400
6 x 4	559	320	269.9	12	22	215.9	35	2	615	300	70	230	355	460
8 x 6	686	380	330.2	12	25	269.9	39.7	2	740	400	83	260	470	570
10 x 8	826	445	387.4	16	29	323.8	46.1	2	870	500	97	294	560	665
12 x 10	965	520	450.8	16	32	381	49.3	2	930	560	97	294	690	800
14 x 12	*980	585	514.4	20	32	412.8	52.4	2	1,060	560	97	294	720	820
16 x 14	*1,100	650	571.5	20	35	469.9	55.6	2	1,130	560	97	294	810	910
20 x 16	*1,300	775	685.8	24	35	584.2	62.0	2	1,280	560	112	324	910	1,010
24 x 20	*1,400	915	812.8	24	41	692.2	68.3	2	1,480	630	112	324	1,280	1,380

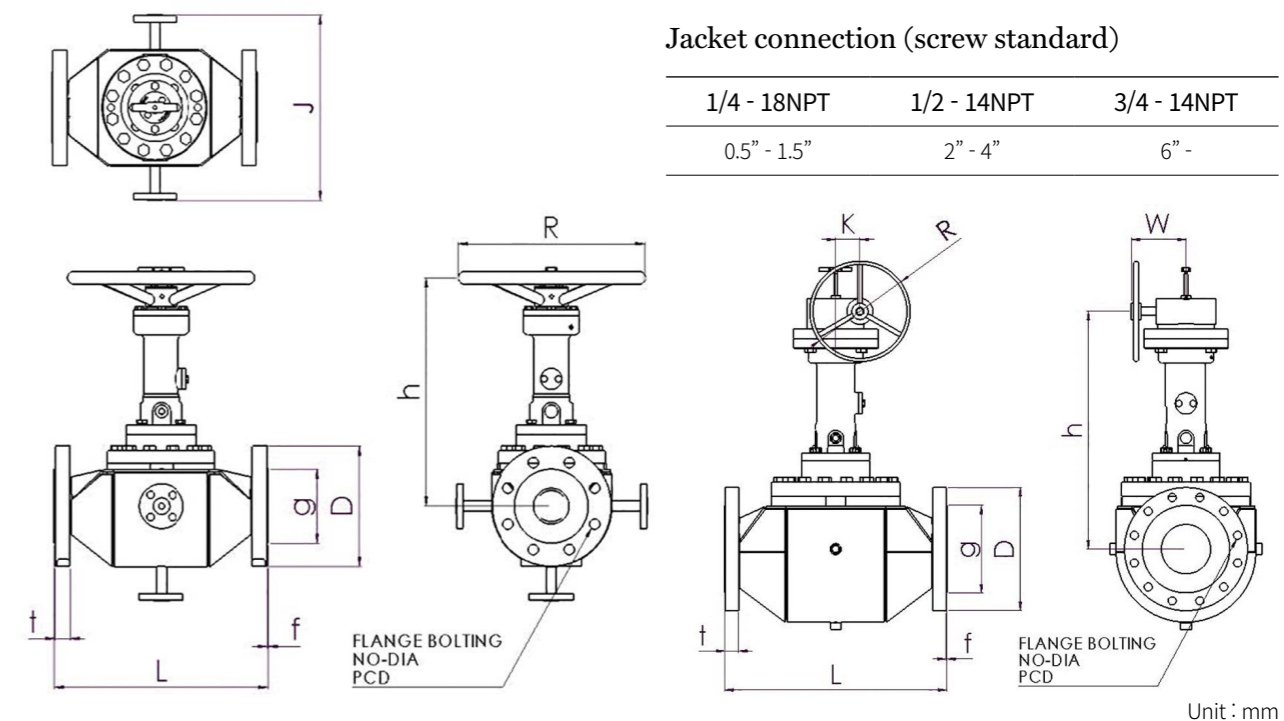
Approx. Weight(kg) and flow characteristics

Size	3 x 1.5	3 x 2	4 x 3	6 x 4	8 x 6	10 x 8	12 x 10	14 x 12	16 x 14	20 x 16	24 x 20
Weight	56	61	80	190	390	650	910	1,300	1,800	2,600	4,800
CV	290	520	1,100	2,100	5,000	9,700	14,600	21,500	28,000	35,000	59,000

* Manufacturing Standard
 - 0.5"~3"(Handle Operated) / 4"~20"(Gear Operated)
 - If additional classes and sizes are required, please consult the factory when ordering.

Full Port Jacketed Valve Dimensions - Class 600

Figure No. 623P FB FJ - Class 600 / Size 0.5" - 14" / 100% Port / Full Jacket / Raised Face Flange



Size (flange x body)	L	D	PCD	NO	DIA	g	t	f	h	R	K	W	J (SC)	J (FL)
1.5 x 0.5	318	155	114.3	4	22	73	22.3	7	390	300	-	-	190	300
1.5 x 0.75	318	155	114.3	4	22	73	22.3	7	390	300	-	-	190	300
2 x 1	330	165	127	8	19	92.1	25.4	7	400	400	-	-	210	320
3 x 1.5	444	210	168.3	8	22	127	31.8	7	430	300	-	-	250	350
3 x 2	444	210	168.3	8	22	127	31.8	7	550	400	-	-	260	360
4 x 3	508	275	215.9	8	25	157.2	38.1	7	640	300	70	230	295	400
6 x 4	660	355	292.1	12	29	215.9	47.7	7	730	400	83	230	355	460
8 x 6	794	420	349.2	12	32	269.9	55.6	7	830	500	97	294	490	590
10 x 8	940	510	431.8	16	35	323.8	63.5	7	1,090	560	112	324	580	680
12 x 10	1,067	560	489	20	35	381	66.7	7	1,160	560	112	324	710	810
14 x 12	*1,200	605	527	20	38	412.8	69.9	7	1,320	630	153	370	770	870
16 x 14	*1,300	685	603.2	20	41	469.9	76.2	7	1,440	630	153	370	840	940

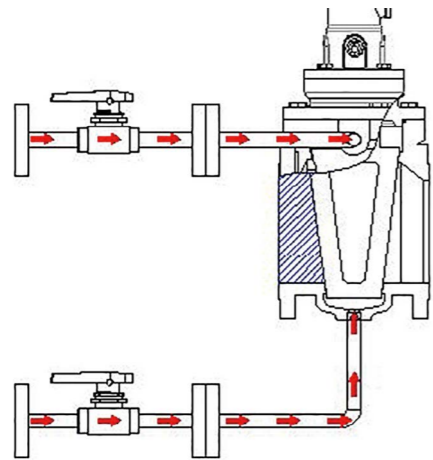
Approx. Weight(kg) and flow characteristics

Size	3 x 1.5	3 x 2	4 x 3	6 x 4	8 x 6	10 x 8	12 x 10	14 x 12	16 x 14
Weight	64	85	140	290	540	820	1,200	1,700	2,200
CV	290	520	1,100	2,100	5,000	9,700	14,600	21,500	28,000

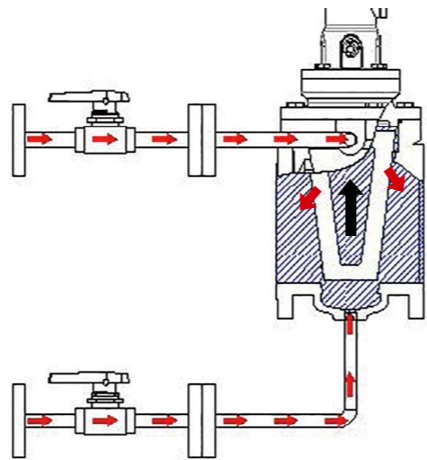
* Manufacturing Standard
 - 0.5"~2"(Handle Operated) / 3"~14"(Gear Operated)
 - If additional classes and sizes are required, please consult the factory when ordering.

Purging Process

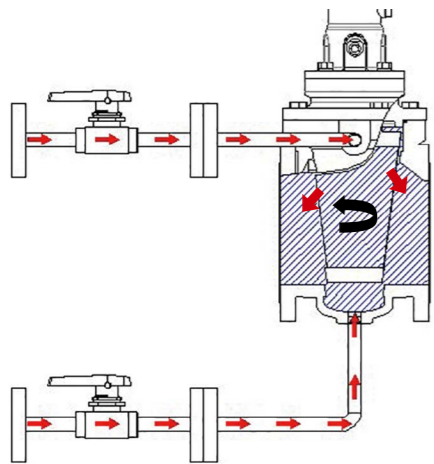
Whenever opening or closing the valve, the plug is lifted, rotated, lowered and seated. When the plug starts being lifted and rotated, purge media, which has higher pressure than line media is provided from the side and bottom port into the space between the body and plug for flushing inside of the valve. When the plug is lowered and seated, the purging action stops automatically. Therefore, the valve can be maintained clean inner surfaces and spaces.



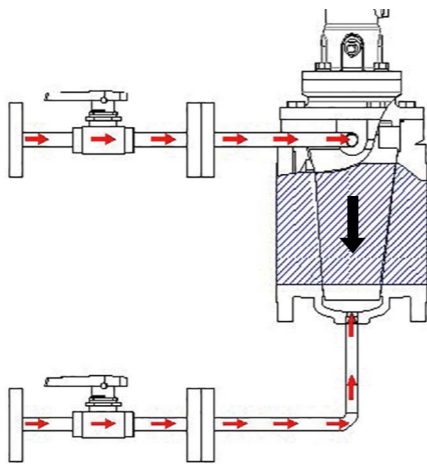
STEP 1 - PLUG CLOSED



STEP 2 - PLUG LIFTING



STEP 3 - PLUG ROTATING



STEP 4 - PLUG OPENED

Operators

3Z Operation

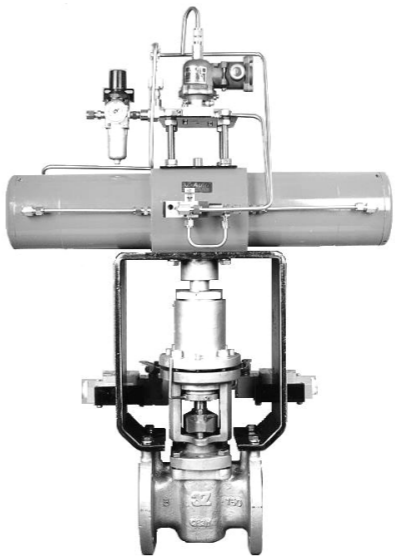
3Z Metal seated plug valves are designed to operate by hand wheel, gear or actuator. 3Z valves can supply variable operators as per customer`s requirements.



Valve with Handwheel



Valve with Gear Operator

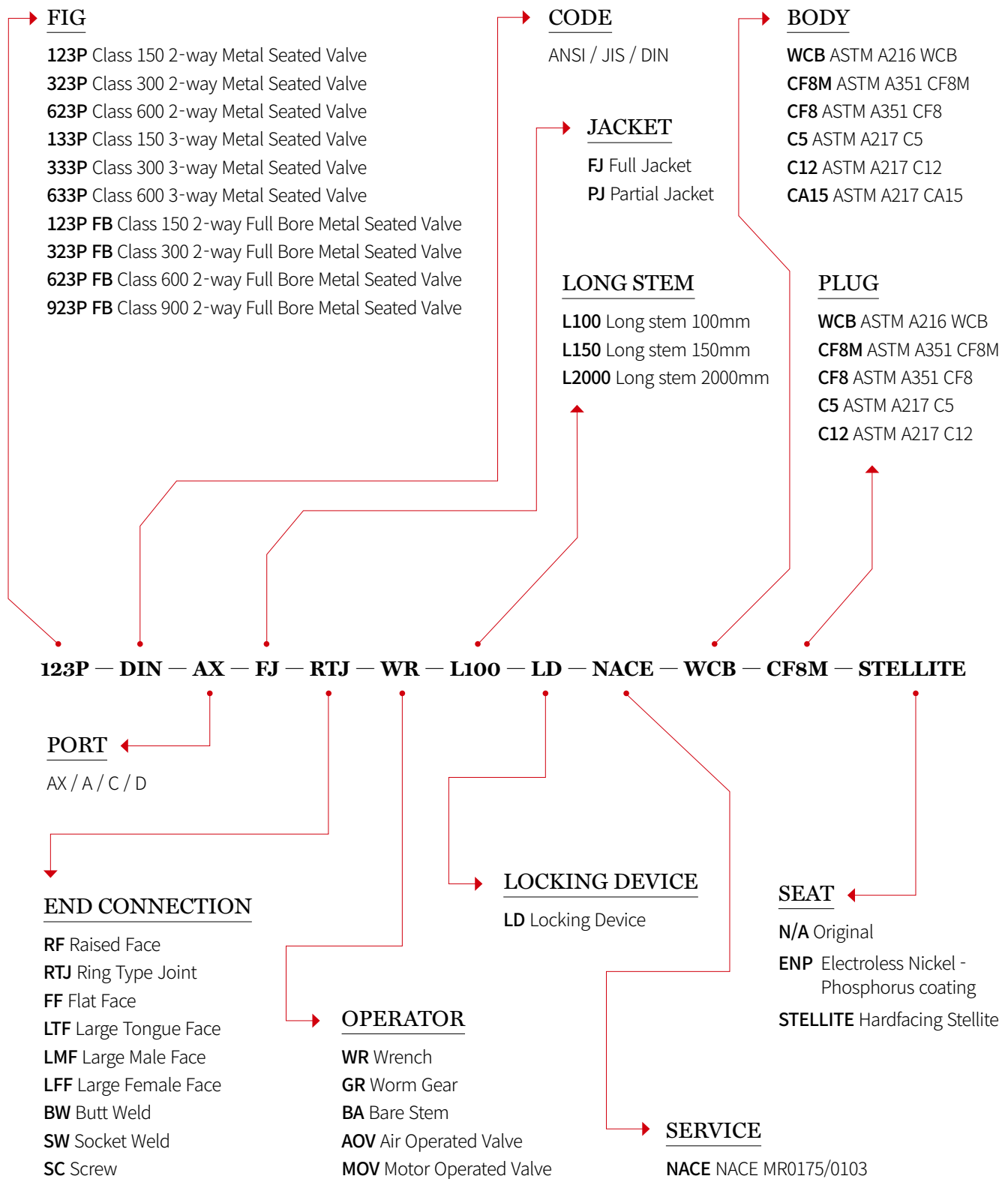


Valve with Pneumatic Actuator



Valve with Motor Actuator

How to Order



- If additional information is required, please consult the factory when ordering.