

ZIPSON'S 501F, multi-way flanged ball valve with ISO direct mount is a smart way to save the cost on pipe line and space. With T/L/X/I-port for 3/4/5-way block body type, and various flange connection for option (ASME150 & 300/ PN16 & 40/ JIS10K & 20K). This will be helpful to find a suitable valve type for any application. The 501F designed with ISO direct mount (1/2" to 4") for assembling the actuator directly. 5" to 8" valves was required bracket & adaptor for automation connection.

501F valve is 4 seats design, this will help to keep the ball position stably. The floating type (1/2" to 2") designed with a insert pin between the stem & ball to make sure the ball will not leaning after hundreds of operation. Size over 2-1/2" are trunnion type to keep the valve stable for thousands of operation. The 4 windows on the neck will let the media leak from while the valve leaks. This will protect the actuator to keep from damage by the media. And a good way to keep the working temperature lower, this will help to increase the life time of actuator.

Sizes are available from 1/2" to 8" in ASME150/ PN16/ JIS10K pressure rating. 1/2" to 6" in ASME 300/ PN40/ JIS20K pressure rating. 501F valve can be with cavity fillers to filled the valve cavity. This will help to keep the media from leaving in the cavity for easy cleaning & anti-sticky of the ball. This was required the internal body machining. Zipson can offer up to 6" valve with cavity filler at present.

Uncommon size, 5" is available for ASME150/ PN16/ JIS10K Valves. Zipson will try to offer up to 10" for the mature market.

As for the soft kits, pure PTFE/ PTFE+25% Carbon/ TFM1600/ TFM4215/ UPE (UHMWPE) are available for different application. Sometimes we

ASME150 & 300/ PN16 & 40/ JIS10K & 20K
SIZE: 1/2"-12"

can offer PEEK seats, but not for size over 1-1/4". The PEEK will increase the torque much, replace the stem to be 17-4 may necessary after estimating.

Valve with PTFE/ PFA coating are available while required. It helps to be anti-sticky on both external & internal body, ball, and stem.

Extraordinary material such as Hastelloy C, Monel, Alloy 20, Duplex are available, too, for special media or environment.

SPECIFICATION

- * Body & end caps quality investment/ sand casting
Investment casting: 1/2" to 5" both in CF8M & WCB
Sand casting: 6" to 8" both in CF8M & WCB
- * Available in stainless steel or carbon steel
- * with ISO 5211 direct mounting pad (1/2" to 4")
- * Adjustable stem packing
- * Blow-out proof stem design
- * Available in L/ T/ X/ I-port
- * Available in 3/ 4/ 5-way in block body type.
- * 100% air tested under water at 80-100 psi
- * Temperature range -20°F to 450°F
- * End connection: ASME150/ 300 & PN16/ 40 & JIS10K/ 20K
- * with locking function

CLASS150/ 300

- * Valve Design: ASME B16.34
- * Steel Casting: MSS SP-55
- * Flange connection: ASME B16.50
- * Pressure test: API 598 (ISO 5208)
- * Sulfide stress cranking: NACE MR-01-75

PN16/ 40

- * Valve Design: EN 12516-1
- * Steel Casting: EN 12680-1/ MSS SP-55
- * Flange connection: DIN2633 (PN16)/DIN2635 (PN40)
- * Pressure test: EN12266-1 (ISO 5208)

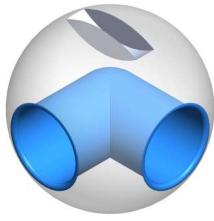
JIS10K/ 20K

- * Valve Design: ASME B16.34
- * Steel Casting: MSS SP-55
- * Flange connection: JIS B 2212
- * Pressure test: JIS B 2003 (API 598)

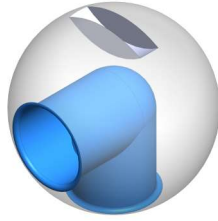
OPTION

- * Automation application
- * PTFE/ PFA coating (40-70 um)
- * TFM1600/ TFM4215/ UPE (UHMWP) soft kits
- * Cavity filler
- * 180 degree operation stop plate
- * Hastelloy C, Alloy 20, Super Duplex, Monel
- * Fire safe design

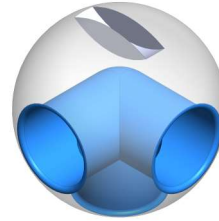
BALL TYPES



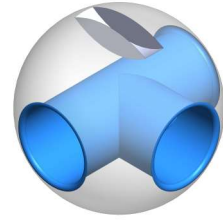
L-Horizontal



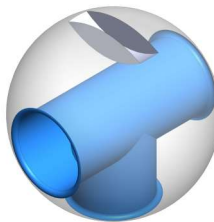
L-Vertical



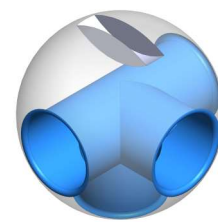
LL-Port



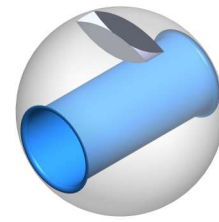
T-Horizontal



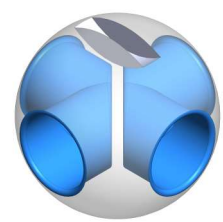
T-Vertical



TT-Port



I-Port

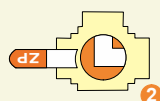
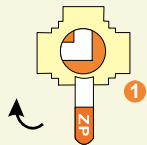


X-Port (Double L)

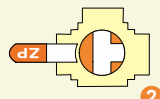
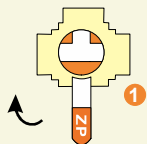
FLOW PATTERN

3-WAY

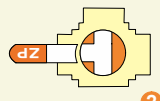
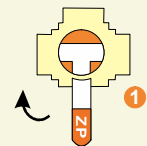
**L3-90°
STANDARD**



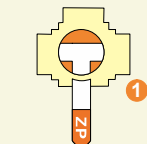
**T3-90°
STANDARD**



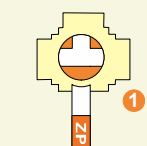
T4-90°



T5-90°

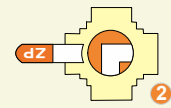
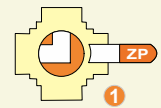


T6-90°

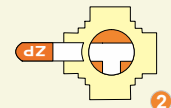
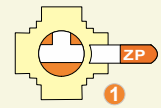


4-WAY

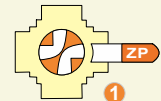
L5-180°



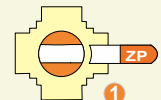
T5-180°



X-90°

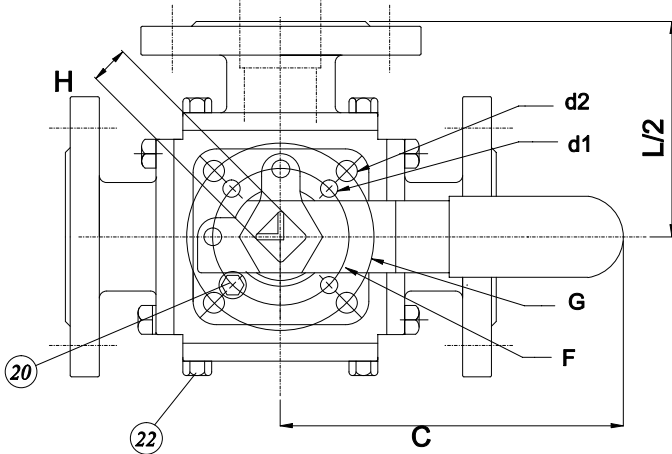
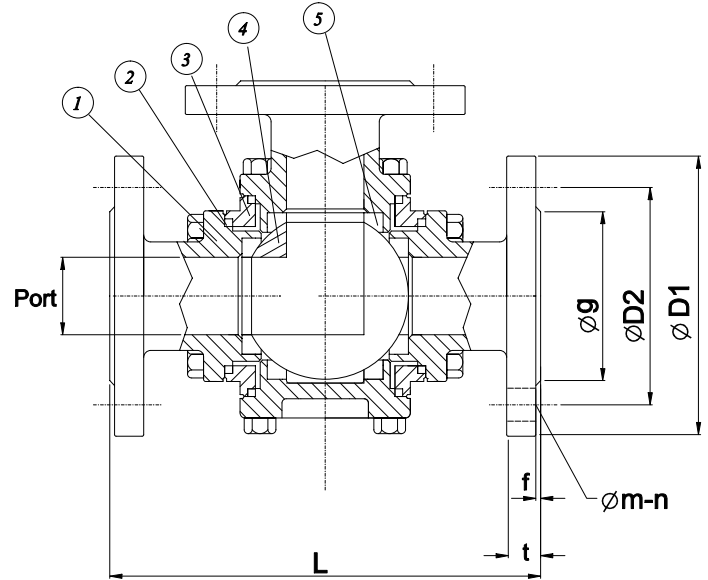
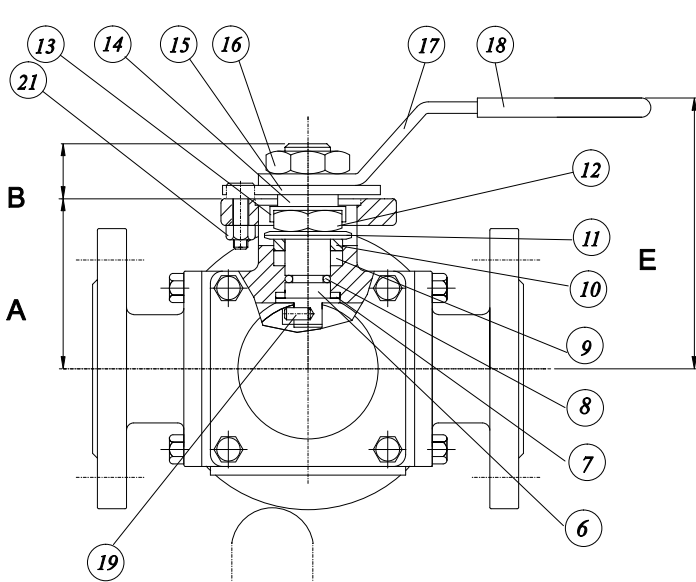


I-90°



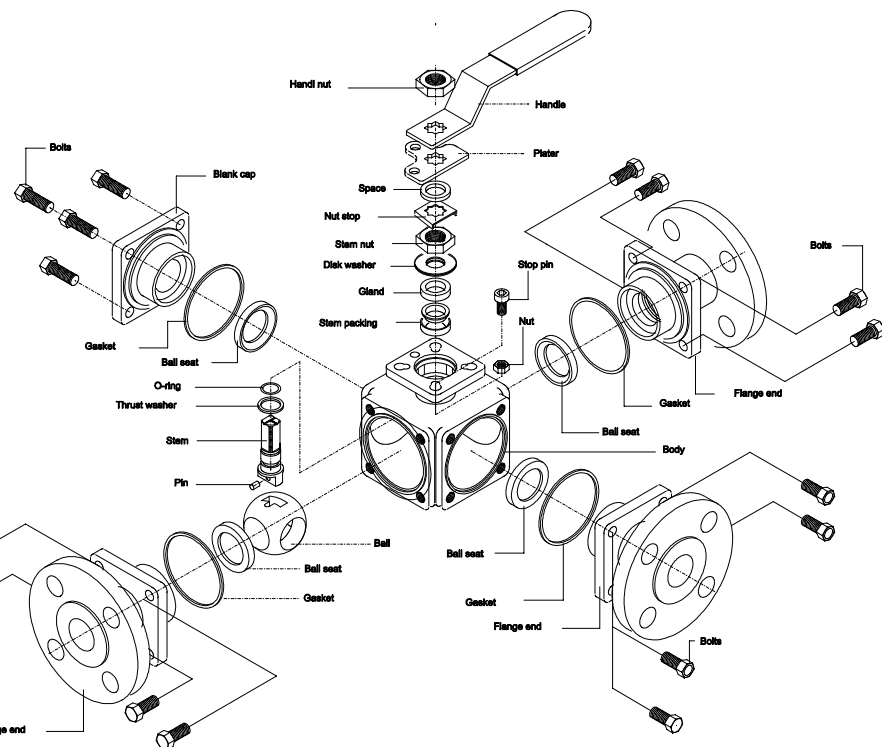
T-port 90° operation (T3/ T4/ T5/ T6) can be suitable for 4-way valve.

The wise use of 3-way or multi-way ball valve will help to save much cost on pipe line installation & the cost of place.



MATERIALS LIST, 1/2" to 2"

ITEM	PART NAME	MATERIALS
1	FLANGED END	CF8M/ WCB
2	GASKET	PTFE
3	BODY	CF8M/ WCB
4	BALL	SS 316/ SS 304
5	SEAT	PTFE
6	THRUST WASHER	RPTFE
7	STEM	SS 316/ SS 304
8	O-RING	VITON
9	STEM PACKING	PTFE
10	GLAND	SS 304
11	DISK WASHER	SS 301
12	STEM NUT	SS 304
13	NUT STOP	SS 304
14	SPACE WASHER	SS 304
15	STOPPER PLATE	SS 304
16	HANDLE NUT	SS 304
17	HANDLE	SS 304
18	SLEEVE	PLASTIC
19	INSERT PIN	SS 304
20	STOP PIN	SS 316
21	STOP PIN NUT	SS 304
22	BOLTS	SS 304



DIMENSIONS (mm)/ 501F (1/2" to 2")

SIZE	A	B	C	d1	d2	E	F	G	H	Port	L					
											#150	#300	PN16	PN40	10K	20K
1/2"	41	11	130	6.0	6.0	62	36	42	9	15	152	160	160	160	152	160
3/4"	49	14	165	6.0	7.1	82	42	50	11	20	167	177	177	177	167	177
1"	55	14	165	6.0	7.1	89	42	50	11	25	190	200	190	190	190	190
1-1/4"	63	17	205	7.1	9.2	98	50	70	14	32	208	208	208	208	208	208
1-1/2"	74	16	205	7.1	9.2	108	50	70	14	38	220	234	234	234	220	234
2"	93	21	325	9.2	11.4	140	70	102	17	50	253	273	273	273	253	273

DIMENSIONS (mm)/ ASME150/ 300 (1/2" to 2")

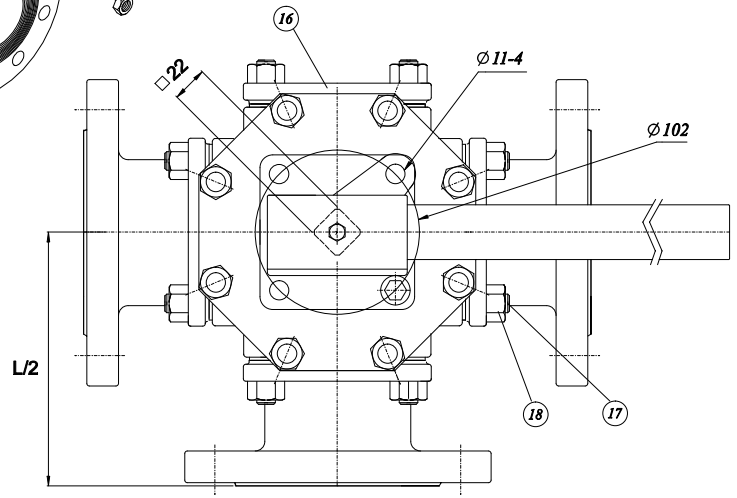
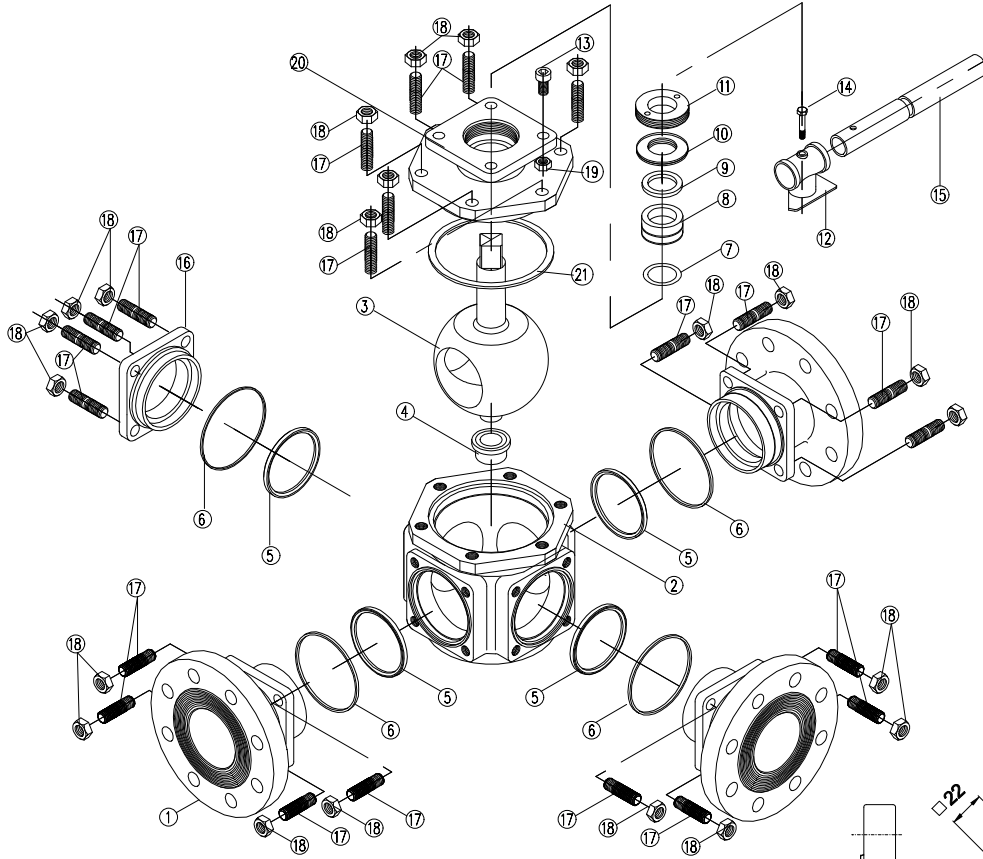
SIZE	Class150							Class300						
	D1	D2	g	t	f	m	n	D1	D2	g	t	f	m	n
1/2"	89	60.5	35	11.2	1.6	16	4	95	66.5	35	14.5	1.6	16	4
3/4"	98	70	43	11.2	1.6	16	4	117	82.5	43	16.0	1.6	19	4
1"	108	79.5	51	11.2	1.6	16	4	124	89	51	17.5	1.6	19	4
1-1/4"	117	89	64	12.7	1.6	16	4	134	98.5	64	20.5	1.6	19	4
1-1/2"	127	98.5	73	14.3	1.6	16	4	156	114.5	73	22.5	1.6	22	4
2"	152	120.5	92	15.8	1.6	16	4	165	127	92	25.4	1.6	19	8

DIMENSIONS (mm)/ PN16/ 40 (1/2" to 2")

SIZE	PN16							PN40						
	D1	D2	g	t	f	m	n	D1	D2	g	t	f	m	n
1/2"	95	65	45	14	2.0	14	4	95	65	45	16	2.0	14	4
3/4"	105	75	58	16	2.0	14	4	105	75	58	18	2.0	14	4
1"	115	85	68	16	2.0	14	4	115	85	68	18	2.0	14	4
1-1/4"	140	100	78	16	2.0	18	4	140	100	78	18	2.0	18	4
1-1/2"	150	110	88	16	3.0	18	4	150	110	88	18	3.0	18	4
2"	165	125	102	18	3.0	18	4	165	125	102	20	3.0	18	4

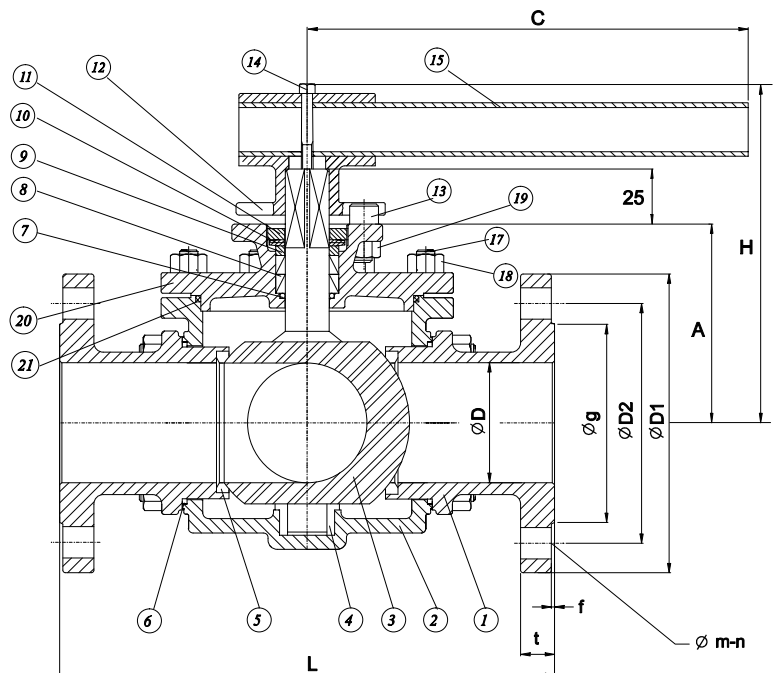
DIMENSIONS (mm)/ JIS10K/ 20K (1/2" to 2")

SIZE	JIS10K							JIS20K						
	D1	D2	g	t	f	m	n	D1	D2	g	t	f	m	n
1/2"	95	70	51	14	1.0	15	4	95	70	51	14	1.0	15	4
3/4"	100	75	56	16	1.0	15	4	100	75	56	16	1.0	15	4
1"	125	90	67	14	1.0	19	4	125	90	67	16	1.0	19	4
1-1/4"	135	100	76	18	2.0	19	4	135	100	76	18	2.0	19	4
1-1/2"	140	105	81	16	2.0	19	4	140	105	81	18	2.0	19	4
2"	155	120	96	18	2.0	19	4	155	120	96	18	2.0	19	8



MATERIALS LIST, 2-1/2" to 4"

ITEM	PART NAME	MATERIALS
1	FLANGED END	CF8M/ WCB
2	BODY	CF8M/ WCB
3	BALL & STEM	SS 316/ SS 304
4	HOUSING	PTFE + STAINLESS
5	SEATS	PTFE
6	GASKET	PTFE
7	O-RING	VITON
8	STEM PACKING	PTFE
9	GLAND WASHER	SS 304
10	DISK WASHER	SS 301
11	GLAND	SS 304
12	HANDLE HEAD	A351 Gr. CF8
13	STOP PIN	SS 304
14	BOLT	SS 304
15	HANDLE	STEEL PIPE
16	BLANK CAP	CF8M/ WCB
17	STUD	SS 304
18	NUT	SS 304
19	STOP PIN NUT	SS 304
20	BONNET	CF8M/ WCB
21	BONNET GASKET	PTFE



DIMENSIONS (mm)/ 501F (2-1/2" to 4")

SIZE	A	C	D	H	L					
					#150	#300	PN16	PN40	10K	20K
2-1/2"	118.5	400	62	210	300	300	300	300	300	300
3"	136.5	500	76	228	305	330.4	305	330.4	305	330.4
4"	156.5	650	96	248	368.5	393.8	368.5	393.8	368.5	393.8

DIMENSIONS (mm)/ ASME150/ 300 (2-1/2" to 4")

SIZE	Class150							Class300						
	D1	D2	g	t	f	m	n	D1	D2	g	t	f	m	n
2-1/2"	178	139.5	105	17.8	1.6	19	4	190	149	105	25.4	1.6	22	8
3"	190	152.5	127	19.1	1.6	19	4	210	168	127	28.6	1.6	22	8
4"	229	190.5	157	24	1.6	19	8	254	200	157	32	1.6	22	8

DIMENSIONS (mm)/ PN16/ 40 (2-1/2" to 4")

SIZE	PN16							PN40						
	D1	D2	g	t	f	m	n	D1	D2	g	t	f	m	n
2-1/2"	185	145	122	18	3.0	18	4	185	145	122	22	3.0	18	8
3"	200	160	138	20	3.0	18	8	200	160	138	24	3.0	18	8
4"	220	180	158	20	3.0	18	8	235	190	162	24	3.0	22	8

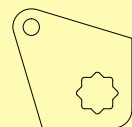
DIMENSIONS (mm)/ JIS10K/ 20K (2-1/2" to 4")

SIZE	JIS10K							JIS20K						
	D1	D2	g	t	f	m	n	D1	D2	g	t	f	m	n
2-1/2"	175	140	116	18	2.0	19	4	175	140	116	20	2.0	19	8
3"	185	150	126	18	2.0	19	8	200	160	132	22	2.0	23	8
4"	210	175	151	18	2.0	19	8	225	185	160	24	2.0	23	8



501F, multi-way flanged ball valve can be with cavity filler in internal body to fill the inner cavity. This may keep the body cavity clean and easy to cleanse. The cavity filler will keep the ball operation from sticking for glue-like media.

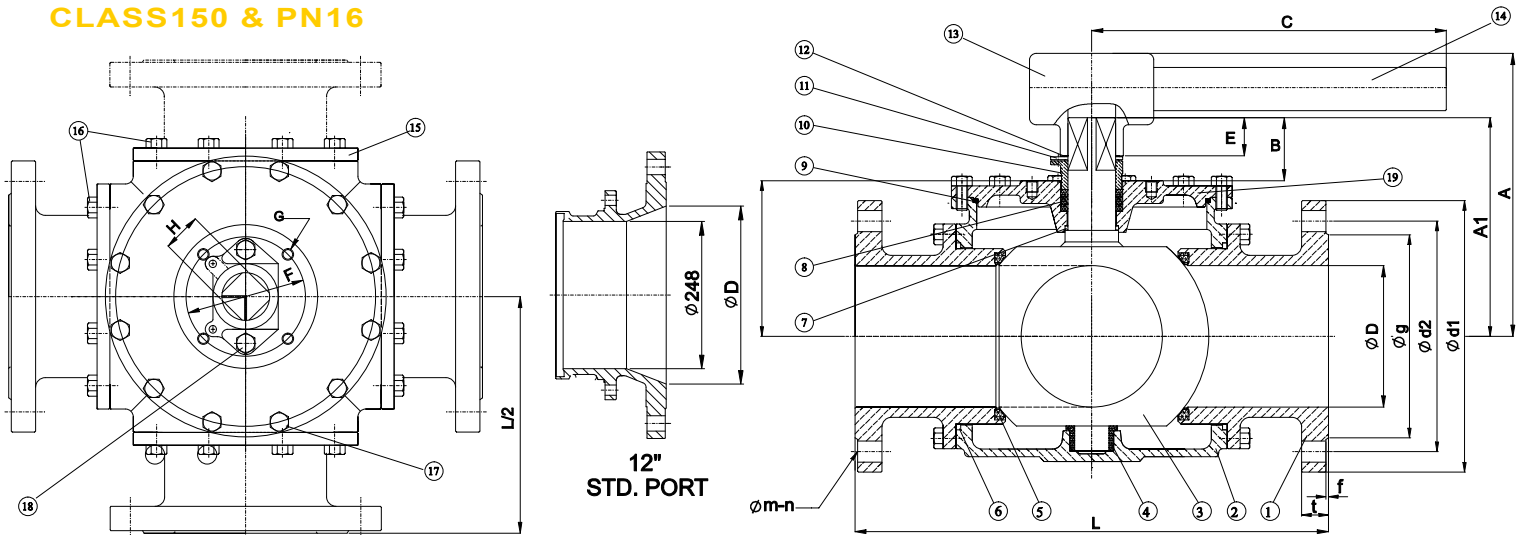
180° Operation Option



180° stop plate

501T ball valve is available for 180° operation. This design will allow more flow patterns to be use in your pipe works. Customer just have to change a 180° stop plate for this option.

CLASS150 & PN16

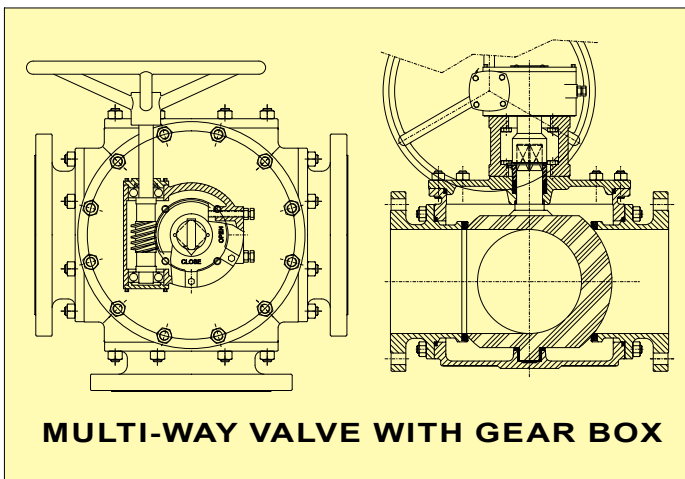


DIMENSIONS (mm)/ 501F, ASME150 & PN16 (5" to 12" & 12" std. bore)

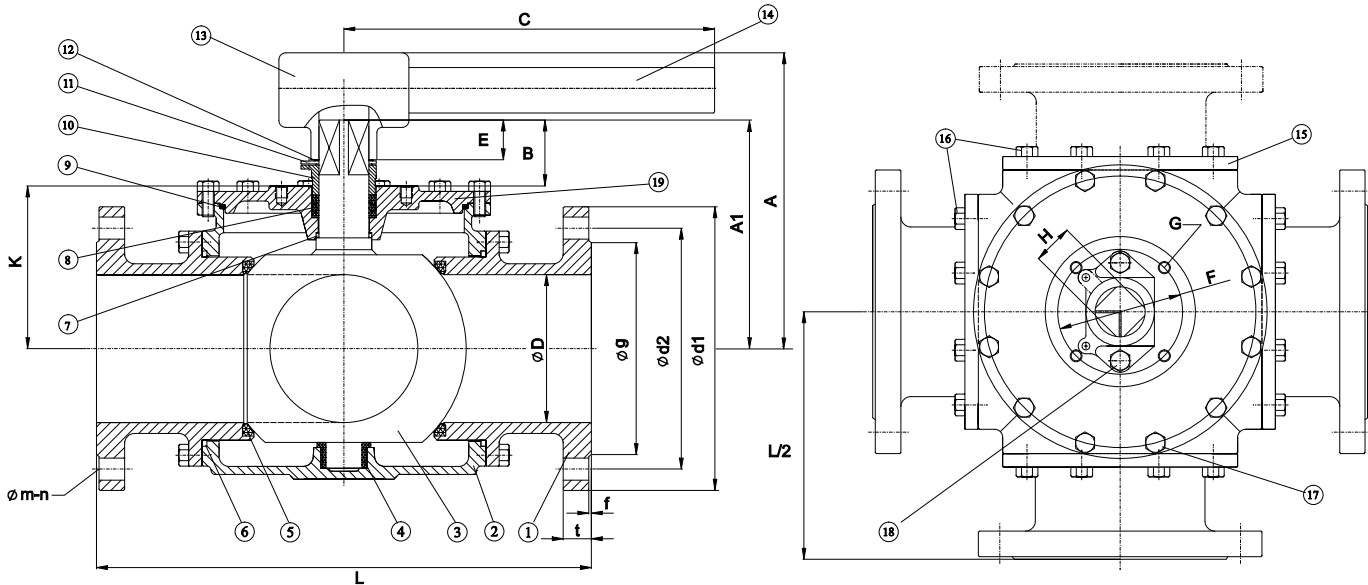
SIZE	A	A1	B	C	D	D1	E	F	G	H	K	L
5"	255	198.5	59	860	125	-	36	125	M12	27	140	418
6"	294	222	62.5	1200	150	-	36	125	M12	36	159.5	426
8"	335	263	62	1500	200	-	36	125	M12	36	201	532
10"	395	330	76.5	2000	248	-	43	140	M16	36	253.5	660
12"	500	413	110	2000	296	-	70	165	M20	46	304	802
12" (std)	395	330	76.5	2000	300	248	43	140	M16	36	253.5	660

DIMENSIONS (mm)/ ASME150 & PN16

SIZE	ASME150							PN16						
	d1	d2	g	m	n	t	f	d1	d2	g	m	n	t	f
5"	254.0	215.9	186.0	22.0	8	23.9	1.6	250	210	188	18	8	22	3
6"	279.3	241.5	216.0	22.0	8	25.4	1.6	285	240	212	22	8	22	3
8"	343.0	298.45	270.0	22.0	8	28.6	1.6	340	295	268	22	12	24	3
10"	406.5	362.0	324.0	25.4	12	30.2	1.6	405	355	320	26	12	26	3
12" (full & std)	483.0	432.0	381.0	26.0	12	32.5	1.6	460	410	378	26	12	28	4



CLASS300 & PN40



DIMENSIONS (mm)/ 501F, ASME300 & PN40 (6")

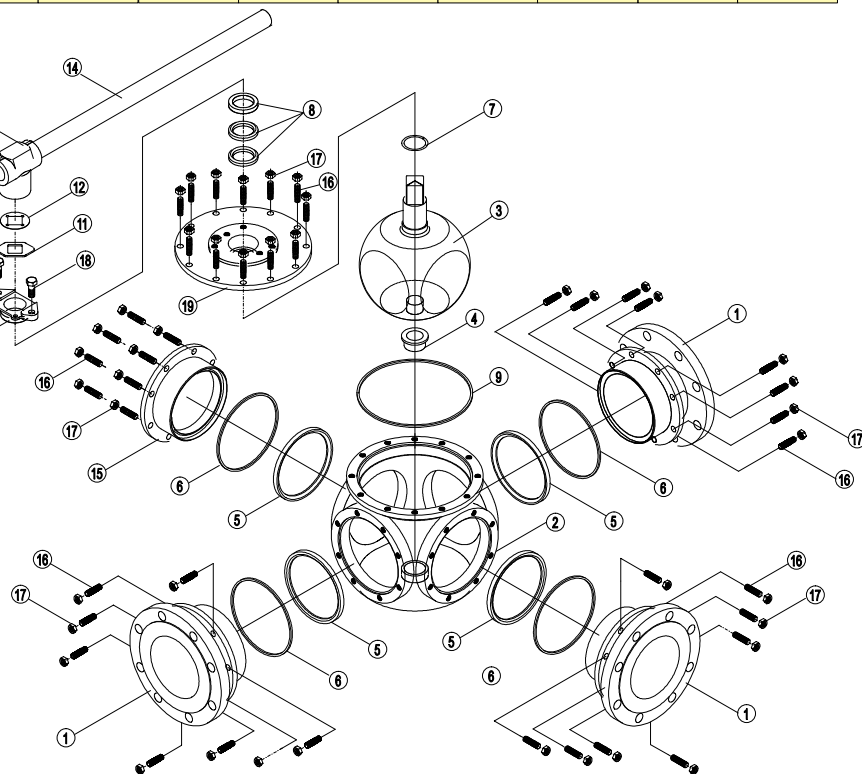
SIZE	A	A1	B	C	D	E	F	G	H	K	L
6"	298	222	62	1200	150	36	125	M12	36	159.5	468
8"	339	263	61	1500	200	36	125	M12	36	201	597

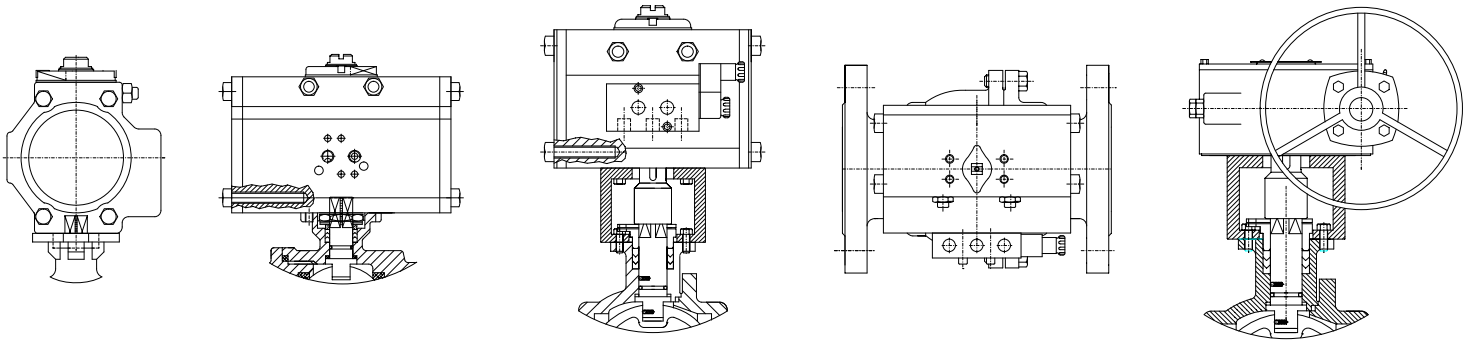
DIMENSIONS (mm)/ ASME300 & PN40

SIZE	ASME300							PN40						
	d1	d2	g	m	n	t	f	d1	d2	g	m	n	t	f
6"	318	270	216	22	12	37	1.6	300	250	218	27	8	28	3.0
8"	318	330	270	26	12	41.4	1.6	-	-	-	-	-	-	-

MATERIALS LIST, 5" to 8"

ITEM	PART NAME	MATERIALS
1	FLANGED END	CF8M/ WCB
2	BODY	CF8M/ WCB
3	BALL & STEM	SS 316/ SS 304
4	HOUSING	PTFE + STAINLESS
5	SEATS	PTFE
6	GASKET	PTFE
7	O-RING	VITON
8	STEM PACKING	PTFE
9	BONNET GASKET	PTFE
10	GLAND	SS 304
11	STOP	SS 304
12	STOP RING	SS 304
13	HANDLE HEAD	DUCTILE IRON
14	HANDLE	STEEL PIPE
15	BLANK CAP	CF8M/ WCB
16	FLANGE END BOLT	SS 304
17	BONNET BOLT	SS 304
18	GLAND BOLT	SS 304
19	BONNET	CF8M/ WCB





ISO direct mount for actuator assembling directly from 1/2" to 4". Size over 5" are required the bracket & coupler.

* Pneumatic (DA or SR)/ Electric actuator * Solenoid valve/ Limit Switch Box/ EP

501F with Gear Operator with Bracket & Adaptor for size over 2-1/2"

BREAK-TORQUE VALUE (Nm)

ASME150/ PN16/ JIS10K

SIZE (FULL BORE)	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"	2-1/2"	3"	4"	5"	6"	8"	10"
GREASE	12.8	15.4	25.0	34.6	55.2	71.8	134.7	147.5	237.3	450	477	583	880
NON-GREASE	16.2	19.5	32.2	41.3	63.4	96.2	175.1	250.4	302.5	810	901	1160.3	1450

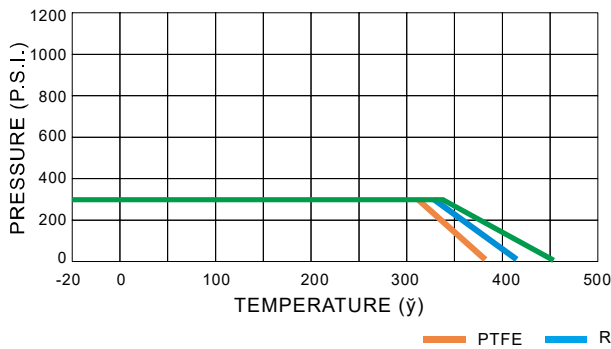
ASME300/ PN40/ JIS20K (@500 psi)

SIZE (FULL BORE)	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"	2-1/2"	3"	4"	6"
GREASE	15.4	19.2	37.8	44.9	64.8	100.0	157.1	234.1	330.3	692.0

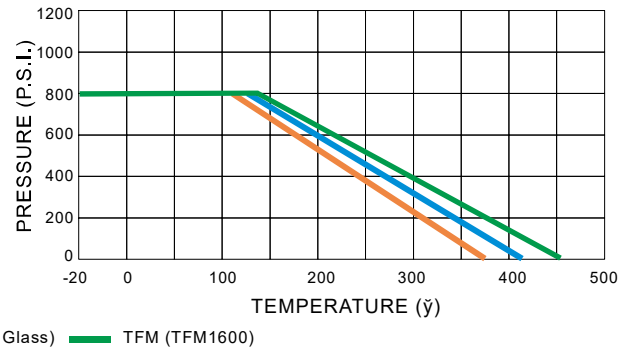
Note 1: The greases ZIPSON use including lubricant & anti-seize grease are both SILICONE-FREE.

Note 2: Strongly suggest increasing at least 30% for safety factor for mounting actuator.

PRESSURE/ TEMPERATURE ANSI150/ PN16



PRESSURE/ TEMPERATURE ANSI300/ PN40



CAUTION!

1. As dismantle the ball valve, don't forget to replace new Repair Kits, especially the gasket to prevent from leaking.
2. PTFE/ TFM is better than RPTFE (+15% Glass) as operate the valve by actuator, for Glass fiber will hurt the ball and cause the torque value increasing.
3. Before welding, make sure the ends were dismantled for welding.
4. For multi-way valve, when the media is AIR and over 30 bar, please ask Zipson to make SS housing to protect the seat.