

MULTI WAY
M5F - Multi Way Flanged Ball Valve


M5F - 1/2" ~ 2"

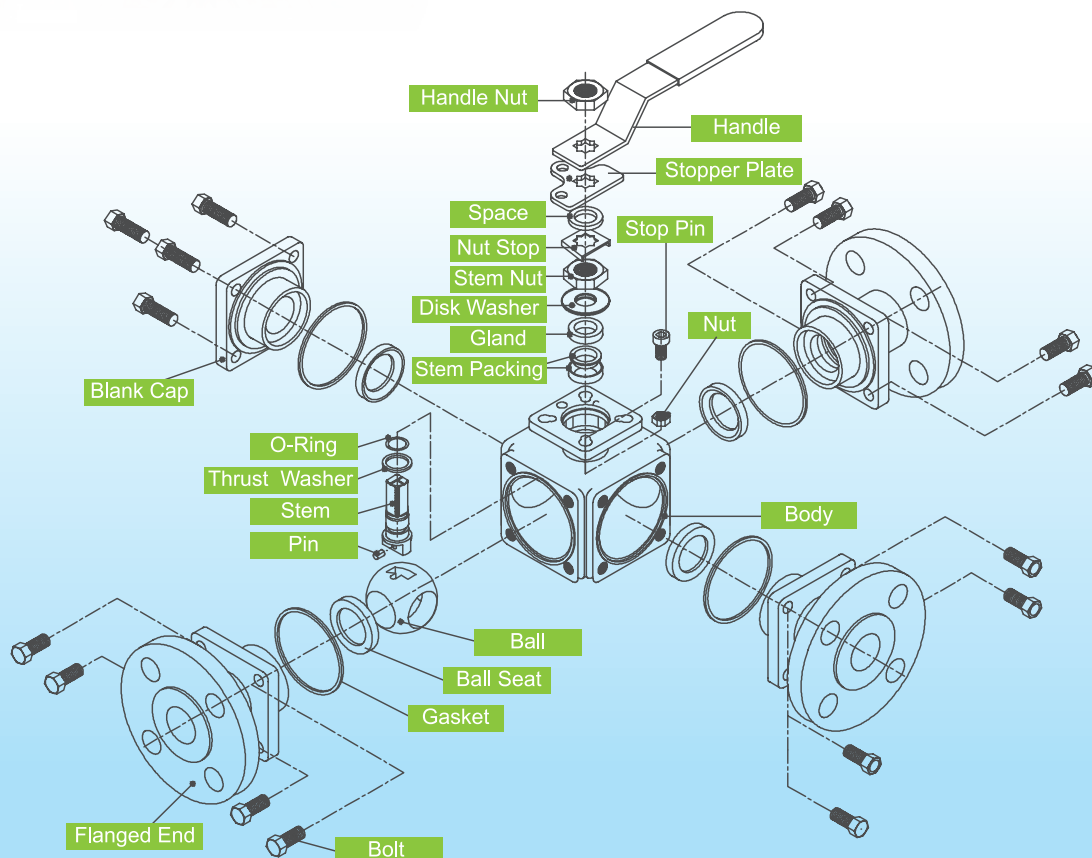
Specification

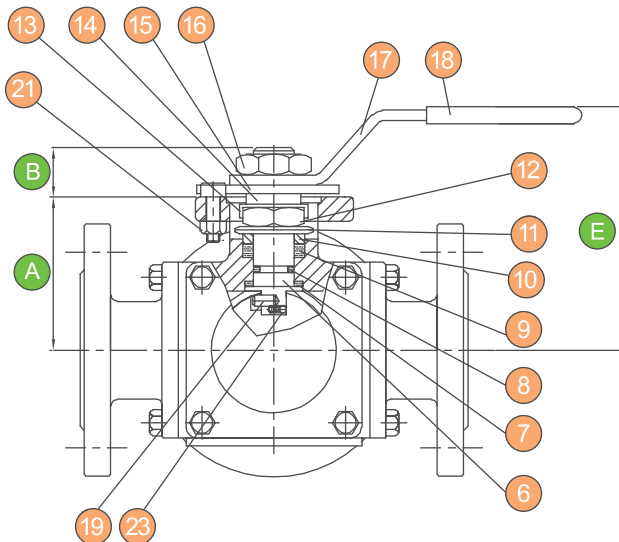
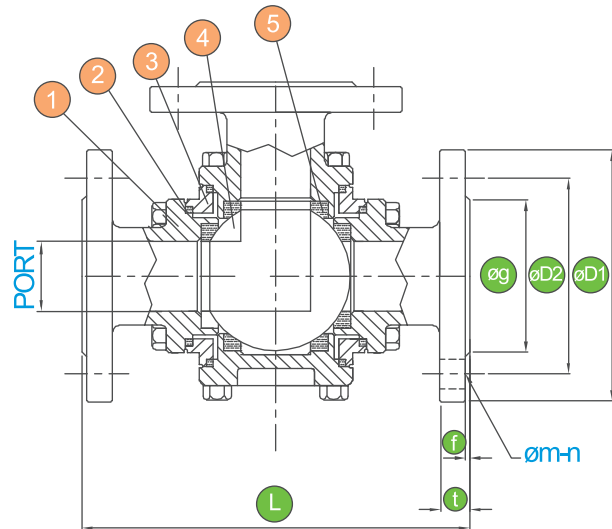
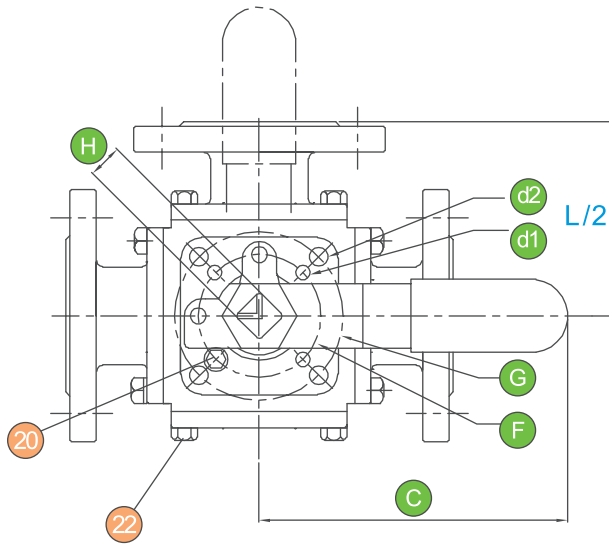
Available Material	CF8M / WCB
Ball Bore	Full / Standard
Available Ball Type	L / T / X / I Port
End Connection	ANSI150 / ANSI300 / PN16 / PN40 / JIS10K / JIS20K
Size Range	Full - 1/2" to 10" Standard - 12"
ISO Mount	Direct

Additional Information

Packing Design	Adjustable
Stem Design	Blow-out proof
Operation	Handle / Actuator / Gear Operator
Options	PTFE Coating / 180° Operation / Steam Jacket / Cavity Filler

Remark : M5F is also available in special alloy materials upon request





MATERIAL LIST

ITEM	PART NAME	MATERIALS
1	Flanged End	A351 Gr.CF8M
2	Gasket	PTFE
3	Body	A351 Gr.CF8M
4	Ball	SS 316
5	Seat	PTEE
6	Stem	SS 316
7	Thrust Washer	RPTFE
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 316
20	Stop Pin	SS 304
21	Stop Pin Nut	SS 304
22	Bolt	B8
23	Anti-Static Device	Option



DIMENSIONS(mm)

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	18	205	7.1	9.2	98	50	70	14	32	208	218	208	208	208	208
1-1/2"	74	18	205	7.1	9.2	108	50	70	14	38	220	234	234	234	220	234
2"	93	23	325	9.2	11.4	140	70	102	17	50	253	273	273	273	254	273

DIMENSIONS(mm), ASME150 / ASME300

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	19	4	165	127	92	25.4	1.6	19	8

DIMENSIONS(mm), PN16 / PN40

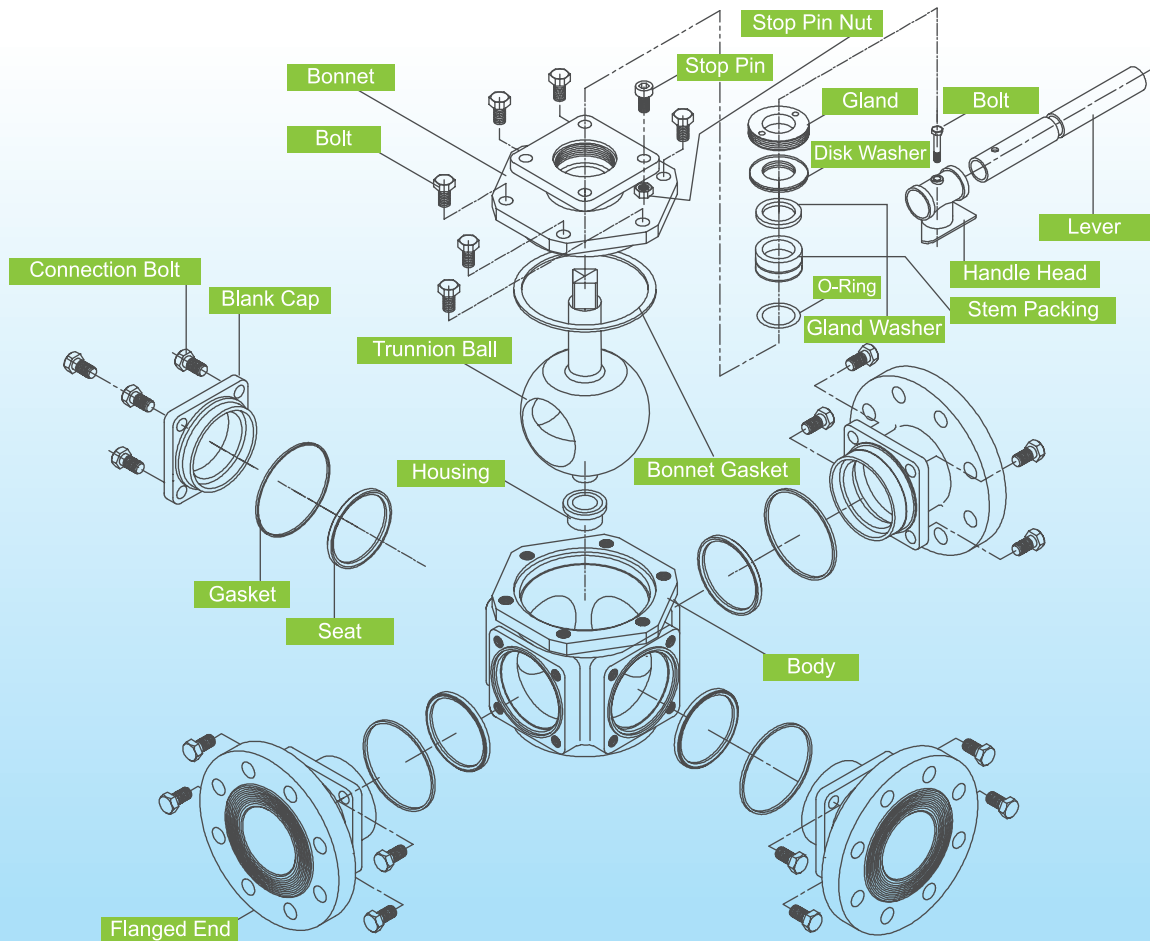
SIZE	PN16							PN40						
	D1	D2	g	t	f	m	n	D1	D2	g	t	f	m	n
1/2"	95	65	45	14	2.0	14	4	95	65	45	16	2.0	14	4
3/4"	105	75	58	16	2.0	14	4	105	75	58	18	2.0	14	4
1"	115	85	68	16	2.0	14	4	115	85	68	18	2.0	14	4
1-1/4"	140	100	78	16	2.0	18	4	140	100	78	18	2.0	18	4
1-1/2"	150	110	88	16	3.0	18	4	150	110	88	18	3.0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

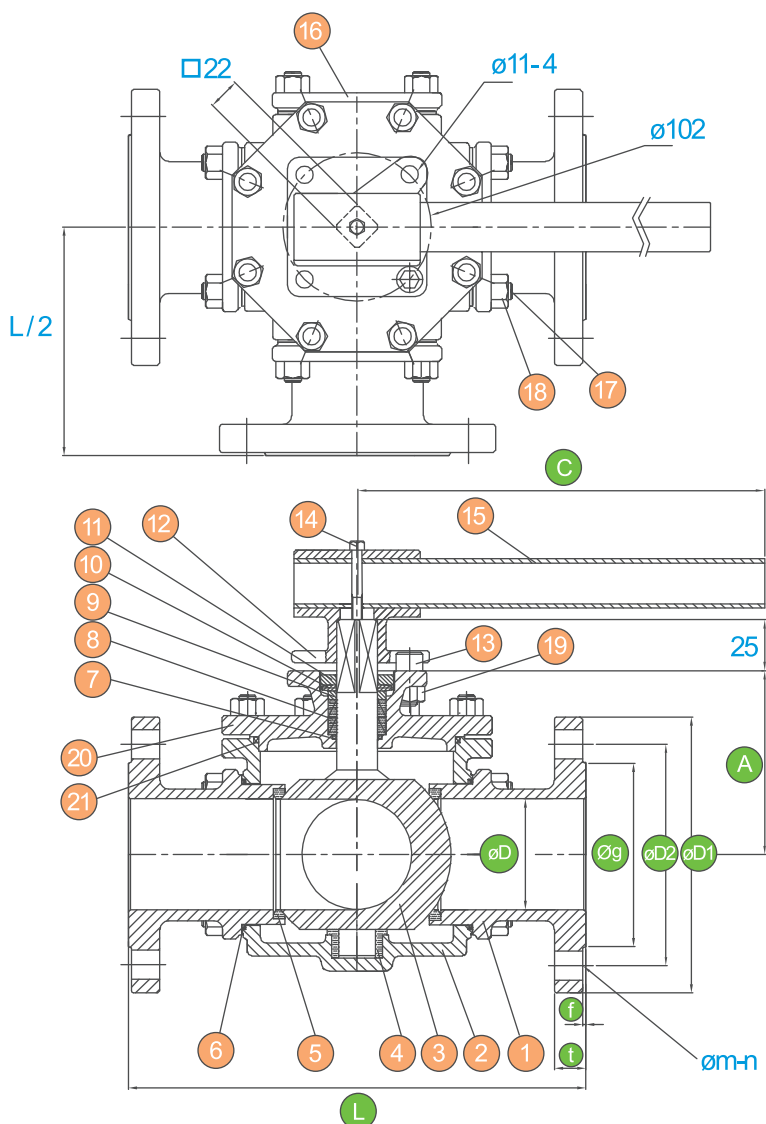
DIMENSIONS(mm), JIS10K / JIS20K

SIZE	JIS10K							JIS20K						
	D1	D2	g	t	f	m	n	D1	D2	g	t	f	m	n
1/2"	95	70	52	12	1.0	15	4	95	70	52	14	1.6	15	4
3/4"	100	75	58	14	1.0	15	4	100	75	58	16	1.6	15	4
1"	125	90	70	14	1.0	19	4	125	90	70	16	1.6	19	4
1-1/4"	135	100	80	16	2.0	19	4	135	100	80	18	1.6	19	4
1-1/2"	140	105	85	16	2.0	19	4	140	105	85	18	1.6	19	8
2"	155	120	100	16	2.0	19	4	155	120	100	18	1.6	19	8



M5F - 2-1/2" ~ 4"




MATERIAL LIST

ITEM	PART NAME	MATERIALS
1	Flanged End	A351 Gr.CF8M
2	Body	A351 Gr.CF8M
3	Ball & Stem	SS 316
4	Housing	PTFE+STAINLESS
5	Seat	PTFE
6	Gasket	PTFE / GRAPHITE
7	O-Ring	VITON
8	Stem Packing	PTFE / GRAPHITE
9	Gland Washer	SS 304
10	Disk Washer	SS 301
11	Gland	SS 304
12	Handle Head	A351 Gr.CF8
13	Stop Pin	SS304
14	Bolt	SS304
15	Lever	CARBON STEEL
16	Blank Cap	A351 Gr.CF8M
17	Connection Bolt	B8
18	Bolt Nut	SS 304
19	Stop Pin Nut	SS 304
20	Bonnet	A351 Gr.CF8M
21	Bonnet Gasket	PTFE

DIMENSIONS (mm)

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

DIMENSIONS (mm), ASME150 / ASME300

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



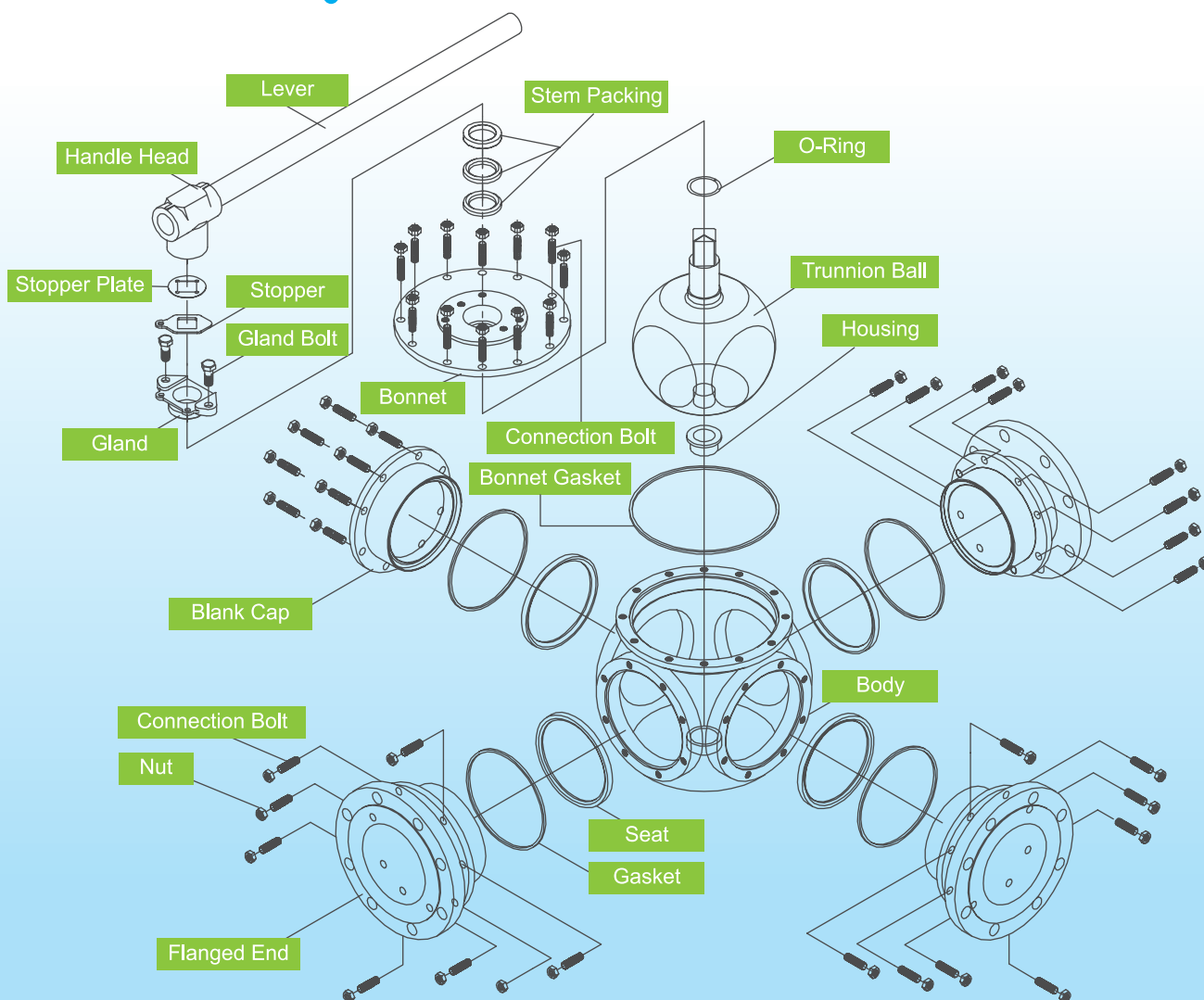
DIMENSIONS(mm), PN16 / PN40

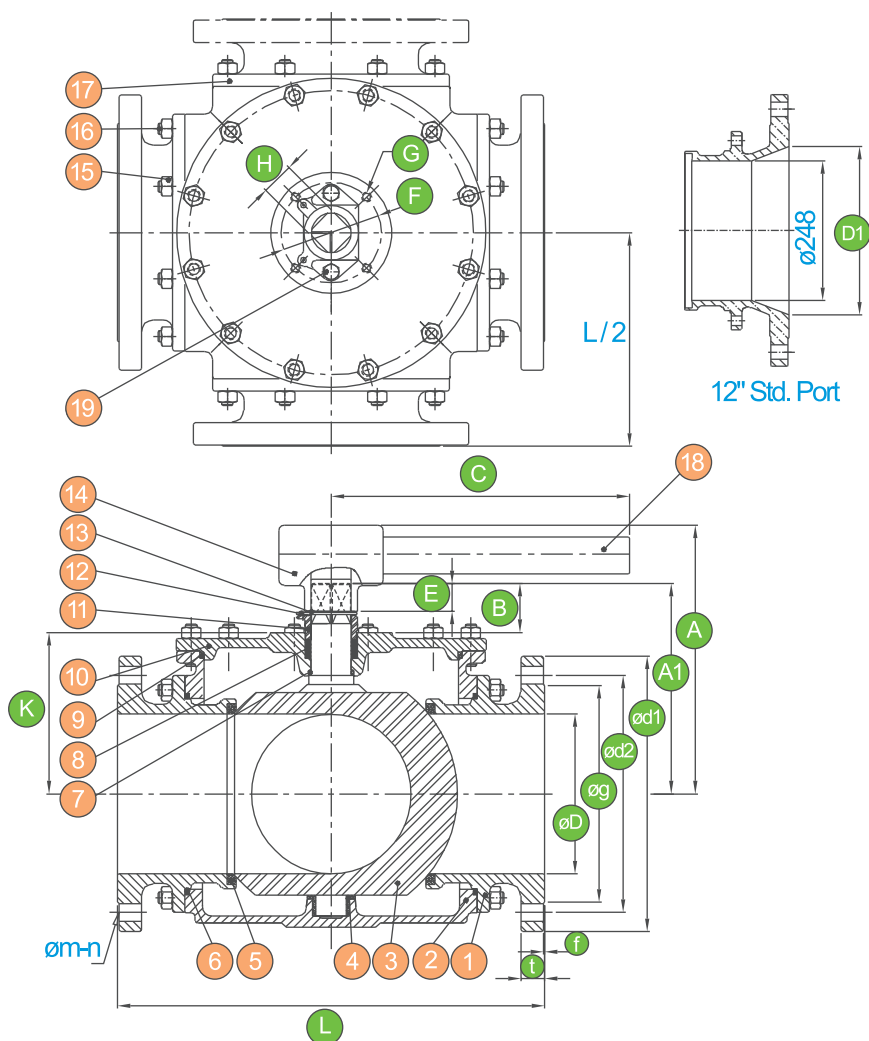
SIZE	PN16							PN40						
	D1	D2	g	t	f	m	n	D1	D2	g	t	f	m	n
2-1/2"	185	145	122	18	3.0	18	4	185	145	122	22	3.0	18	8
3"	200	160	138	20	3.0	18	8	200	160	138	24	3.0	18	8
4"	220	180	158	20	3.0	18	8	235	190	162	24	3.0	22	8

DIMENSIONS(mm), JIS10K / JIS20K

SIZE	JIS10K							JIS20K						
	D1	D2	g	t	f	m	n	D1	D2	g	t	f	m	n
2-1/2"	175	140	120	18	2.0	19	4	175	140	120	20	2.0	19	8
3"	185	150	130	18	2.0	19	8	200	160	135	22	2.0	23	8
4"	210	175	155	18	2.0	19	8	225	185	160	24	2.0	23	8

M5F - 5" ~ 10" & 12" (Std.)




MATERIAL LIST

ITEM	PART NAME	MATERIALS
1	Flanged End	A351 Gr.CF8M
2	Body	A351 Gr.CF8M
3	Ball & Stem	SS 316
4	Housing	PTEE+STAINLESS
5	Seat	PTFE
6	Gasket	PTFE
7	O-Ring	VITON
8	Stem Packing	PTFE
9	Bonnet Gasket	PTFE
10	Bonnet	A351 Gr.CF8M
11	Gland	A351 Gr.CF8
12	Stopper	SS 304
13	Stopper Plate	SS 304
14	Handle Head	FCD45
15	Nut	SS 304 / (B8)
16	Bolt	SS 304 / (B8)
17	Blank Cap	A351 Gr.CF8M
18	Lever	CABON STEEL
19	Gland Bolt	SS 304 / (B8)

DIMENSIONS(mm), ASME150 / PN16

SIZE	A	A1	B	C	D	D1	E	F	G	H	K	L
5"	255	198.5	59	860	125	—	36	125	M12	28	140.5	418
6"	294	222	62	1200	150	—	36	125	M12	36	159.5	427
8"	335	263	62	1500	200	—	36	125	M12	36	201	532
10" & 12"(std.)	408	345	93	2000	248	300	59	140	M16	36	252	660

DIMENSIONS(mm), ASME150 / PN16

SIZE	ASME150							PN16						
	d1	d2	g	m	n	t	f	d1	d2	g	m	n	t	f
5"	254	215.9	186	22	8	23.9	1.6	250	210	188	18	8	22	3
6"	279.3	241.5	216	22	8	25.4	1.6	285	240	212	22	8	22	3
8"	343	298.5	270	22	8	28.6	1.6	340	295	268	22	12	24	3
10"	406.4	362	324	25.4	12	30.2	1.6	405	355	320	26	12	26	3
12" (std.Bore)	483	432	381	26	12	32.5	1.6	460	410	378	26	12	28	4



DIMENSIONS(mm), ASME300 / PN40

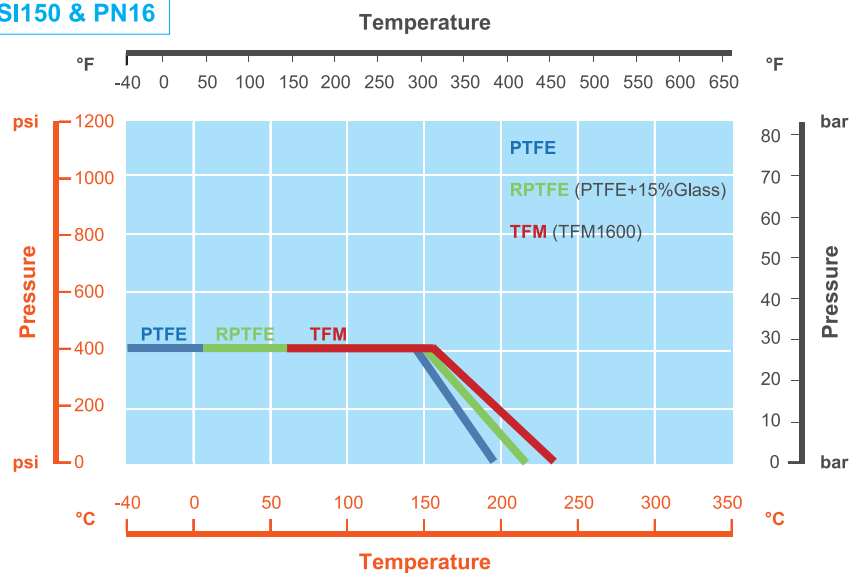
SIZE	A	A1	B	C	D	E	F	G	H	K	L
6"	298	222	62	1200	150	36	125	M12	36	159.5	468

DIMENSIONS(mm), ASME300 / PN40

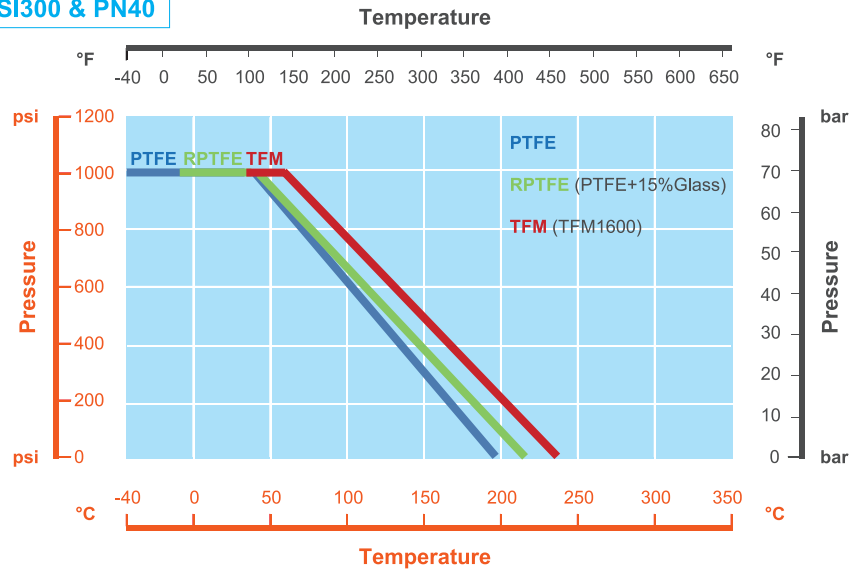
SIZE	ASME300							PN40						
	d1	d2	g	m	n	t	f	d1	d2	g	m	n	t	f
6"	318	270	216	22	12	37	1.6	300	250	218	26	8	28	3.0

PRESSURE & TEMPERATURE

ANSI150 & PN16



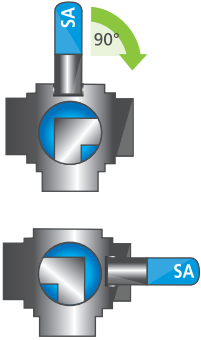
ANSI300 & PN40



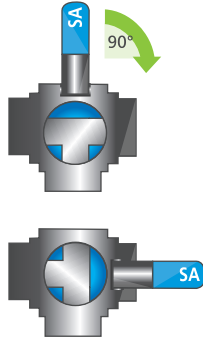
FLOW PATTERN

3 way

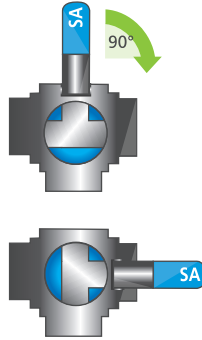
STANDARD
L3 - 90°



STANDARD
T3 - 90°



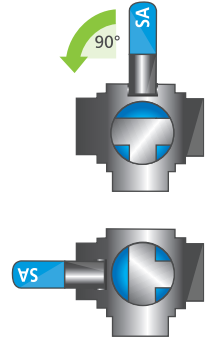
T4 - 90°



T5 - 90°

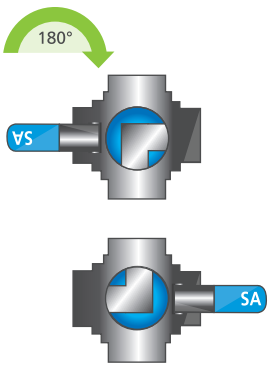


T6 - 90°

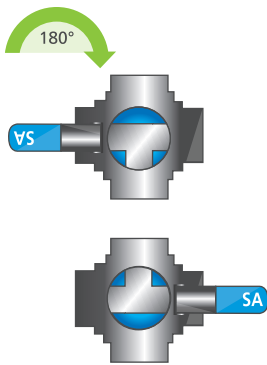


4 way

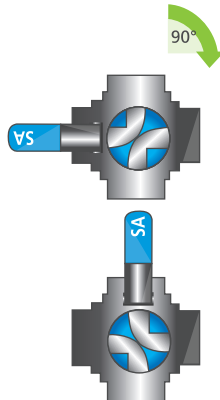
L5 - 180°



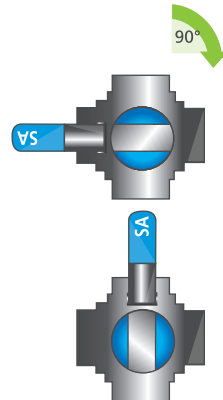
T5 - 180°



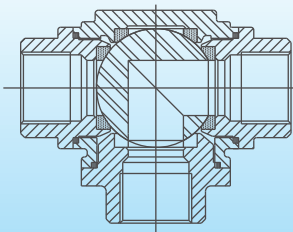
X - 90°



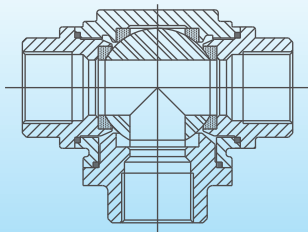
I - 90°



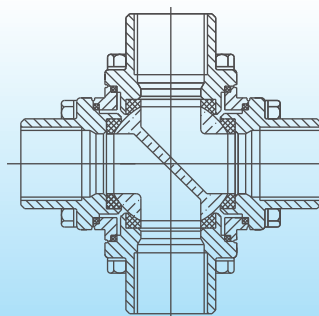
OPTION



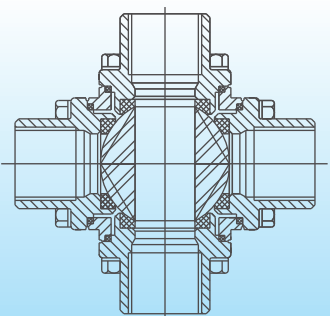
L-port



T-port



X(LL)-port



I-port

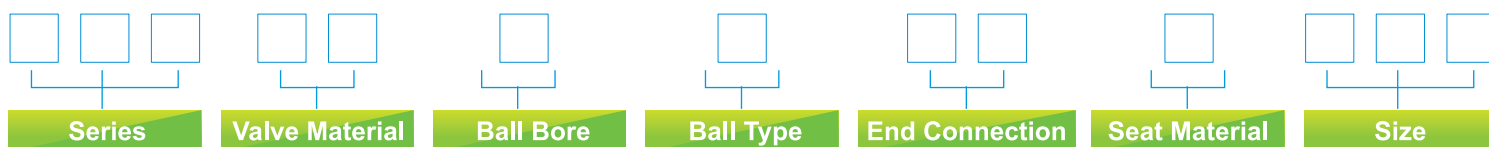


BREAK-TORQUE VALUE (Nm)

	SIZE	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"	2-1/2"	3"	4"	5"	6"	8"	10"
ANSI150 / PN16 / JIS10K	GREASE	18	21	34	47	75	97	182	200	321	608	658	804	1188
	NON-GREASE	22	27	44	56	86	130	310	349	578	1094	1217	1567	1958
ANSI300 / PN40 / JIS20K	GREASE	25	30	47	66	105	136	255	279	449	—	921	—	—
	NON-GREASE	31	37	73	79	120	182	433	489	808	—	1703	—	—

Remark : The above break-torque value has included safety factor (30%~40%)

HOW TO ORDER



Valve Material	
01	CF8M
02	CF3M
03	WCB
04	904L
05	254 SMO
06	2205
07	2507
08	Zeron100
09	Alloy 20
10	Monel 400
11	Hastelloy B
12	Hastelloy B-2
13	Hastelloy C-276

Ball Bore	
F	Full port
S	Standard port

Ball Type	
L	L-port
T	T-port
X	X-port
I	I-port

End Connection	
01	NPT
02	BSP
03	BSPT
04	Socket Weld
05	Butt Weld
06	ANSI150
07	ANSI300
08	PN16
09	PN40
10	JIS10K
11	JIS20K
12	T-clamp end
13	Tube weld end

Seat Material	
A	PTFE
B	RPTFE (PTFE+15%Glass Fiber)
C	PTFE+25%Carbon
D	PTFE+50%SS
E	TFM1600
F	TFM4215 (TFM1600+25%Carbon)
G	DELIRIN
H	PEEK

Size	
08	1/4"
10	3/8"
15	1/2"
20	3/4"
25	1"
32	1-1/4"
40	1-1/2"
50	2"
65	2-1/2"
80	3"
100	4"
125	5"
150	6"
200	8"
250	10"
300	12"

