



Easy & Fast Maintenance

TOP ENTRY BALL VAVES

SW | BW | NPT | FLANGED

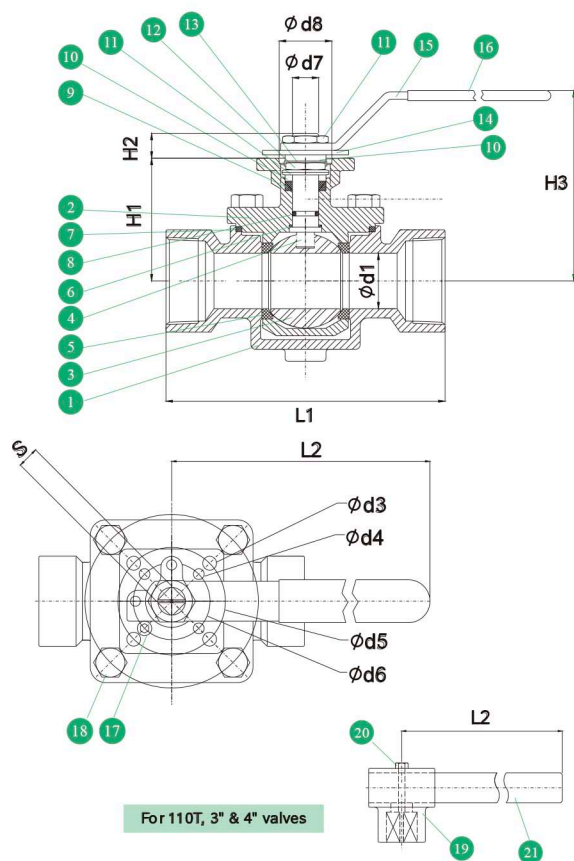


BALL VALVES

TOP-ENTRY BALL VALVE



DIMENSIONS



TFV's 84 Series Top-Entry ball valve is designed for the industries required in-line repairing/ cleaning/ maintaining in very short time for urgent situation. For 110T, size from 1/2" to 4" is the fundamental offering.

84 designed with ISO direct mounting pad, it's convenient for mounting pneumatic/ electric actuator for automatic control.

84 with the patent on the design while the valve is in "OPEN" position, it's easy to draw out the bonnet with the ball & seat at one time without any other tools & devices. And while the valve is in "CLOSE" position, the ball & seat will be compressed together closely without any other devices.

The connection can be thread/ socket weld/ butt weld and 800psi/ PN55 pressure rating.

Fire safe design is available for option, too, with graphite stem packing/ bonnet gasket and SS 316 seat housing replacement.

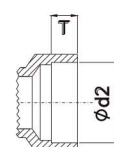
Special alloy such as Hastalloy C/ Alloy 20/ Super Duplex/ Monel are available for media with chlorine or others. The soft kits for 110T, the very well design & high quality top-entry ball valve, we use TFM1600 (TFM) as standard. TFM4215/ UHMWPE (UPE) are both for options.

FEATURES

- Body & end caps quality investment casting.
- Available in stainless steel or carbon steel. with ISO 5211 direct mounting pad.
- Adjustable stem packing.
- Blow-out proof stem design.
- 100% air tested under water at 80-100 psi.
- Working pressure: 800WOG/ Pn55.
- Temperature range -20° F to 450° F.
- With locking function.
- End type: threaded, socket weld, butt weld.

OPTION

- Spring handle (dead man handle).
- Fire safe design (follow API 607 Edition 4).
- Automation application.
- PTFE/ PFA coating (40-70 um).
- Hastalloy C/ Super duplex/ Alloy 20/ Monel.



110T, Socket Weld End



110T, Butt Weld End

BALL VALVES

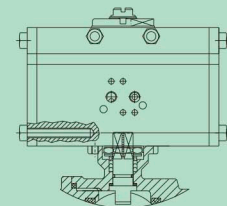
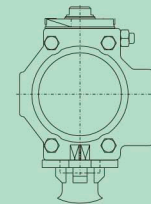
TOP-ENTRY BALL VALVE

MATERIAL LIST (MM) / THREAD / SW / BW ENDS

SIZE	d1	d2	d3	d4	d5	d6	d7	d8	H1	H2	H3	L1 (Thread / SW)	L1 (BW)	L2	S	T	W SCH. 40
1/2"	19.5	21.8	7.2	6.0	50	42	M14	30	65	14	96	127	140	165	11	12.7	15.5
3/4"	19.5	27.1	7.2	6.0	50	42	M14	30	65	14	96	133	152	165	11	14.3	20.5
1"	19.5	33.8	7.2	6.0	50	42	M14	30	65	14	96	140	165	165	11	15.9	26.5
1-1/2"	32	48.7	9.2	7.2	70	50	M18	35	75.5	16	111	172	191	205	14	19.1	35.0
2"	38	61.1	9.2	7.2	70	50	M18	35	80.5	16	111	191	216	205	14	22.2	40.5
3"	57.2	89.9	11.5	9.2	102	70	M22	55	106	23	153	241	283	340	17	25.4	78
4"	76	115.2	11.5	9.2	102	70	M22	55	130	23	153	280	305	340	17	32	102

DIMENSIONS

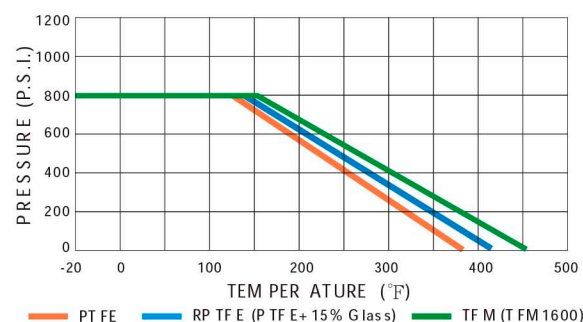
ITEM	PART NAME	MATERIA LS	
1	BODY FLAN GE	CF8M	WCB
2	BONN ET	CF8M	WCB
3	BALL	SS 316	SS 316
4	STEM	SS 316	SS 316
5	SEA T	TFM1 600	TFM1 600
6	THRU ST WASHER	TFM1 600	TFM1 600
7	GASK ET	TFM1 600	TFM1 600
8	O-RIN G	VITO N	VITO N
9	STEM PACKIN G	TFM1 600	TFM1 600
10	SP ACE WASHER	SS 304	SS 304
11	DISK WASHER	SS 301	SS 301
12	STEM NUT	SS 304	SS 304
13	NUT STO P	SS 304	SS 304
14	STOP PER PLA TE	SS 304	SS 304
15	HANDLE	SS 304	SS 304
16	SLEE VE	PLAS TIC	PLAS TIC
17	STOP PIN	SS 304	SS 304
18	BONN ET BOL TS	GRAD E B 8	GRAD E B 7
19	LEVE R HEAD	CF8	CF8
20	SET BOL T	SS 304	SS 304
21	LEVE R	STEE L PIPE	STEE L PIPE
22	SEA T HOUSIN G	SS 316	SS 316



ISO direct mount for actuator assembling directly.

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

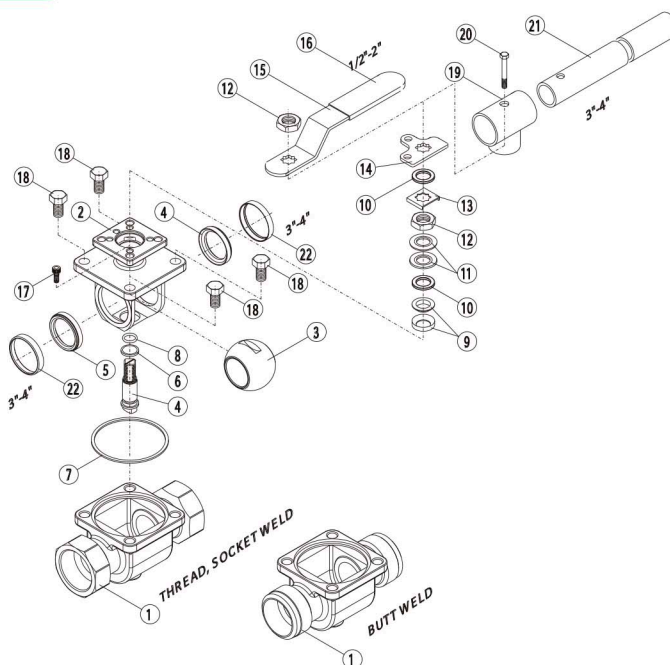
PRESSURE - TEMPERATURE



BALL VALVES

TOP-ENTRY BALL VALVE

MATERIAL LIST



BREAK-TORQUE VALUE FOR PRESSURE BELOW 300 PSI

SIZE	1/2"	3/4"	1"	1 1/2"	2"	3"	4"
GRE ASE	54	76	76	111	160	465	762
NON -GRE ASE	71	102	102	169	257	1,071	1,664

BREAK-TORQUE VALUE FOR PRESSURE OVER 300 PSI

SIZE	1/2"	3/4"	1"	1 1/2"	2"	3"	4"
GRE ASE	80	114	114	167	239	698	1,142
NON -GRE ASE	107	154	154	254	385	1,610	2,490

Note : Strongly suggest increasing at least 30%~40% for safety factor for mounting actuator.

Suggestion!

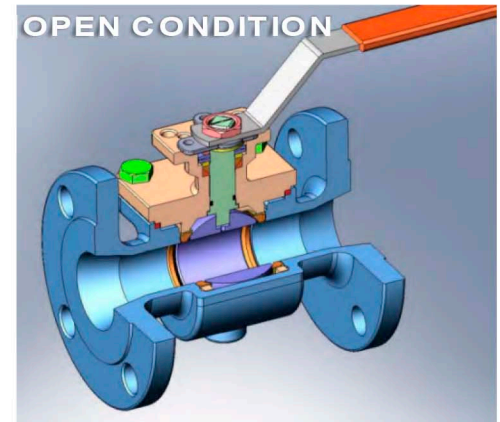
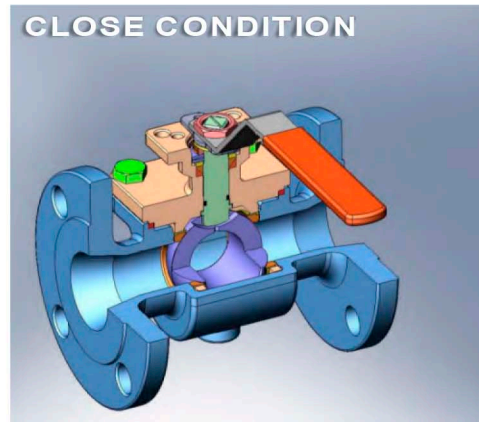
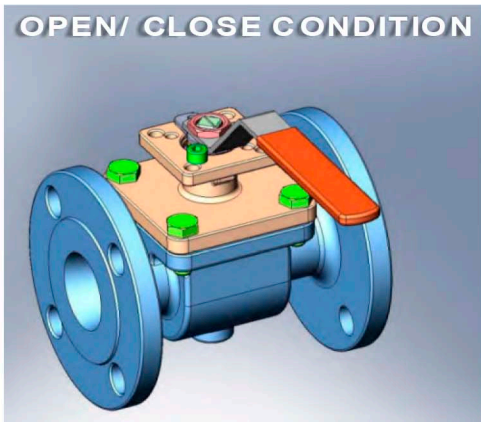
1. As dismantle the ball valve, don't forget to replace new Repair Kits, especially the gasket to prevent from leaking.
2. PTFE is better than RPTFE (+15% Glass) as operate the valve by actuator, for Glass be will hurt the ball and cause the torque value increasing after over 500 times operation. Another good option is TFM or PTFE+25% Carbon.
3. Before welding the valves, make sure the ends were dismantled. And welding the dismantled ends. After all the ends be cool, assemble the ends & use new gasket to prevent from leaking.



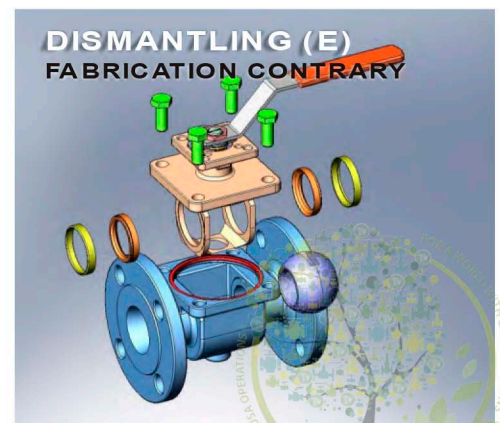
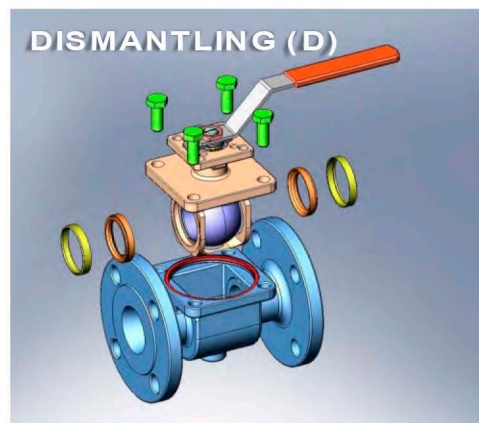
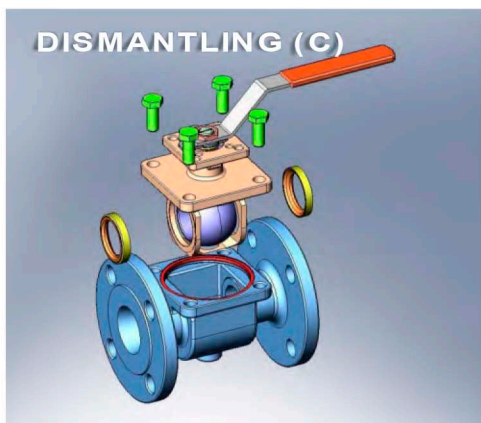
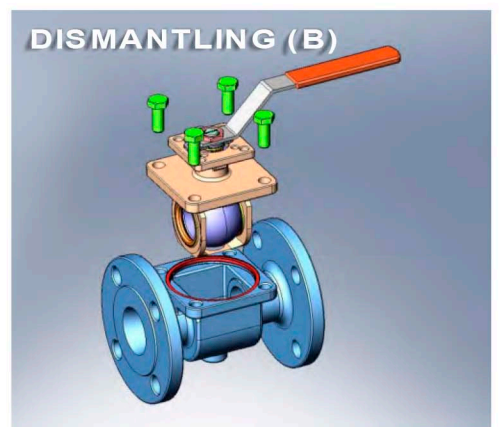
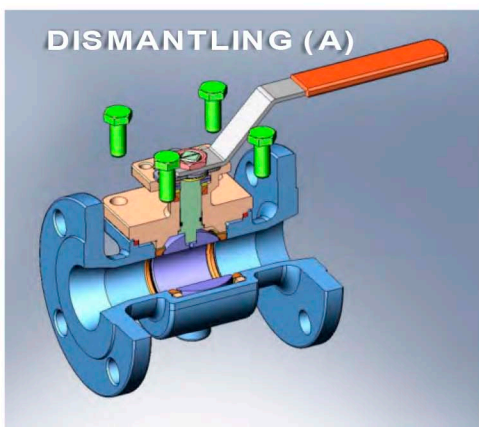
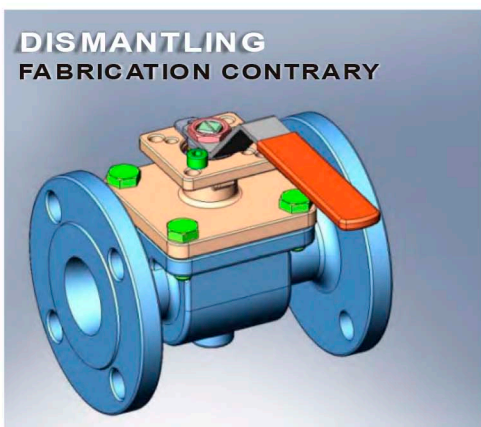
BALL VALVES

TOP-ENTRY BALL VALVE

OPEN / CLOSE CONDITION



DISMANTLING (FABRICATION CONTRARY)





BALL VALVES

TOP-ENTRY BALL VALVE

HOW TO ORDER

SERIES			FEATURES	MATERIAL						ENDS	SIZE	OPERATION				
CLASS	VALVE BODY DESIGN			BODY		TRIM		SEAT								
8 800 WOG	4	Top Entry - Full Port 2 Pcs Ball Valve	NONE	NONE	2	A105	3	316SS	P	PTFE	T	Threaded	0.25	1/4"	L	Manual Lever Operator
			F	Fire Safe API 607	3	316SS	4	304 SS	R	R-PTFE	M	Two different ends to be specify on each order	0.38	3/8"		
					G	Fire Safe API 607 + NACE	4	316SS	5	316L SS			U	UHMWPE	S	50/50 SS Filled PTFE
			O	Oxygen Service			8	ALLOY 20	8	ALLOY 20	S	50/50 SS Filled PTFE	B	Butt Weld		
					FE	Fugitive Emissions	9	HASTELLOY	9	HASTELLOY					F	Flanged RF
			N	NACE			0	MONEL	0	MONEL	C	Carbon Filled PTFE	01.25	1 1/4"		
					T	TITANIUM	T	TITANIUM	M	MG1241						
											D	DELRIN				
															K	PEEK
											B	NBR				
														E	Electric Actuator	

Example

Top Entry Full Port Ball Valve, Body & Trim 316SS, Seats: R-PTFE, Ends: Threaded, 1/2" 800 WOG with Lever.

8433RT0.5L



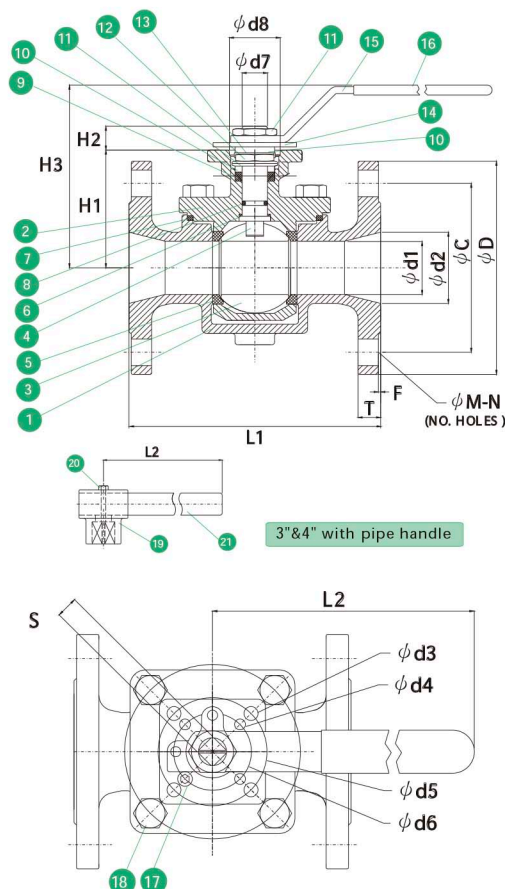
BALL VALVES

TOP-ENTRY BALL VALVE

Series 84M



DIMENSIONS



FEATURES

- Body & end caps quality investment casting.
- Available in stainless steel or carbon steel. with ISO 5211 direct mounting pad.
- Adjustable stem packing.
- Blow-out proof stem design.
- 100% air tested under water at 80-100 psi.
- Working pressure: Class150/Class300/PN16/PN40.
- Temperature range -20° F to 450° F.

CLASS 150 / CLASS 300

- Face to face: ANSI B16.10.
- Flange connection: ANSI B16.50.
- Pressure test: API 598.

PN16 / PN40

- Face to face: DIN 3202-F1.
- Flange connection: DIN2633 (PN16)/DIN2635 (PN40).
- Shell wall thickness: prEN12516-1.
- Pressure test: prEN12266-1 & prEN12266-2.

OPTION

- Spring handle (dead man handle).
- Fire safe design (follow API 607 Edition 4).
- Automation application.
- PTFE/ PFA coating (40-70 um).
- Hastelloy C/ Super duplex/ Alloy 20/ Monel.

BALL VALVES

TOP-ENTRY BALL VALVE

DIMENSIONS (MM) / ANSI 150

SIZE	d1	d2	d3	d4	d5	d6	d7	d8	H1	H2	H3	L1	L2	S	FLANGE DIMENSIONS (CLASS 150)					
															D	BOLT HOLE			T	F
																C	M	N		
3/4"	19.5	19.5	7.2	6.0	50	42	M14	30	65	14	96	117	165	11	98.5	69.9	16	4	11.2	1.6
1"	19.5	25.4	7.2	6.0	50	42	M14	30	65	14	96	127	165	11	108	79.5	16	4	11.2	1.6
1-1/2"	32	38.1	9.2	7.2	70	50	M18	35	75.5	18	111	165	205	14	127	98.5	16	4	14.3	1.6
2"	38	50.6	9.2	7.2	70	50	M18	35	80.5	18	111	178	205	14	152.4	120.7	19	4	15.9	1.6
3"	57.2	78	11.5	9.2	102	70	M22	55	106	23	153	203	340	17	190.5	152.5	19 *	4	19.1	1.6
4"	76	101.6	11.5	9.2	102	70	M22	55	130	23	153	229	340	17	228.6	190.5	19 *	8	23.9	1.6

* Top twoholes in each ange drilled and tapped 5/8"-1 1UNC-2B

DIMENSIONS (MM) / ANSI 300

SIZE	d1	d2	d3	d4	d5	d6	d7	d8	H1	H2	H3	L1	L2	S	FLANGE DIMENSIONS (CLASS 300)					
															D	BOLT HOLE			T	F
																C	M	N		
1/2"	15	15	7.2	6.0	50	42	M14	30	65	14	96	140	165	11	95.3	66.7	16.0	4	14.3	1.6
3/4"	19.5	19.5	7.2	6.0	50	42	M14	30	65	14	96	152	165	11	117.5	82.5	19.0	4	15.9	1.6
1"	19.5	25.4	7.2	6.0	50	42	M14	30	65	14	96	165	165	11	123.9	88.9	19.0	4	17.5	1.6
1-1/2"	32	38.1	9.2	7.2	70	50	M18	35	75.5	18	111	191	205	14	155.6	114.3	22.2	4	20.7	1.6
2"	38	50.6	9.2	7.2	70	50	M18	35	80.5	18	111	216	205	14	165.1	127.0	19.0	8	22.3	1.6
3"	57.2	78	11.5	9.2	102	70	M22	55	106	23	153	283	340	17	209.6	168.3	22.2	8	28.6	1.6
4"	76	101.6	11.5	9.2	102	70	M22	55	130	23	153	305	340	17	254.0	200.0	22.2	8	31.8	1.6

DIMENSIONS (MM) / PN16 (F1)

SIZE	d1	d2	d3	d4	d5	d6	d7	d8	H1	H2	H3	L1	L2	S	FLANGE DIMENSIONS (PN 16)					
															D	BOLT HOLE			T	F
																C	M	N		
1/2"	15	15	7.2	6.0	50	42	M14	30	65	14	96	130	165	11	95	65	14	4	16	2
3/4"	19.5	19.5	7.2	6.0	50	42	M14	30	65	14	96	150	165	11	105	75	14	4	18	2
1"	19.5	25.4	7.2	6.0	50	42	M14	30	65	14	96	180	165	11	115	85	14	4	18	2
1-1/2"	32	38.1	9.2	7.2	70	50	M18	35	75.5	18	111	200	205	14	150	110	18	4	18	3
2"	38	50.6	9.2	7.2	70	50	M18	35	80.5	18	111	230	205	14	165	125	18	4	20	3
3"	57.2	78	11.5	9.2	102	70	M22	55	106	23	153	310	340	17	200	160	18	8	20	3
4"	76	101.6	11.5	9.2	102	70	M22	55	130	23	153	350	340	17	220	180	18	8	20	3

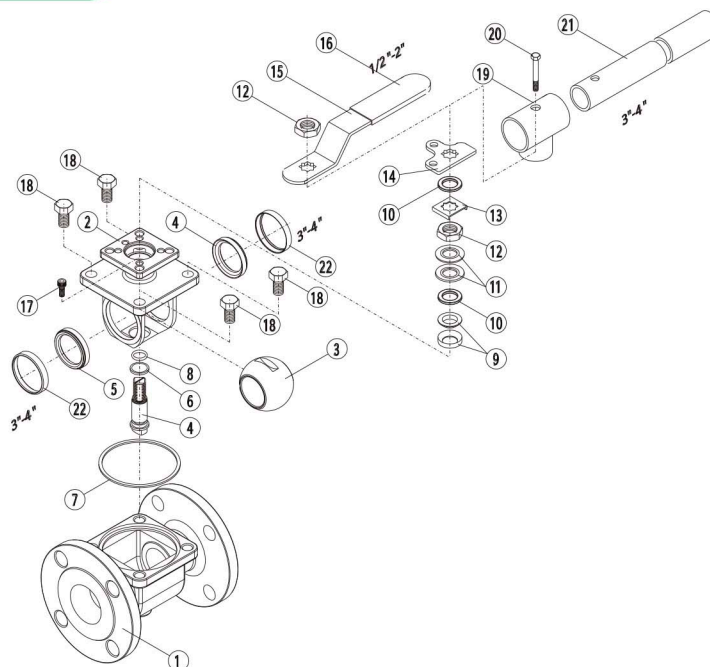
DIMENSIONS (MM) / PN40 (F1)

SIZE	d1	d2	d3	d4	d5	d6	d7	d8	H1	H2	H3	L1	L2	S	FLANGE DIMENSIONS (PN 40)					
															D	BOLT HOLE			T	F
																C	M	N		
1/2"	15	15	7.2	6.0	50	42	M14	30	65	14	96	130	165	11	95	65	14	4	16	2
3/4"	19.5	19.5	7.2	6.0	50	42	M14	30	65	14	96	150	165	11	105	75	14	4	18	2
1"	19.5	25.4	7.2	6.0	50	42	M14	30	65	14	96	180	165	11	115	85	14	4	18	2
1-1/2"	32	38.1	9.2	7.2	70	50	M18	35	75.5	18	111	200	205	14	150	110	18	4	18	3
2"	38	50.6	9.2	7.2	70	50	M18	35	80.5	18	111	230	205	14	165	125	18	4	20	3
3"	57.2	78	11.5	9.2	102	70	M22	55	106	23	153	310	340	17	200	160	18	8	24	3
4"	76	101.6	11.5	9.2	102	70	M22	55	130	23	153	350	340	17	235	190	22	8	24	3

BALL VALVES

TOP-ENTRY BALL VALVE

MATERIAL LIST



MATERIALS LIST / ANSI 150 & 300

ITEM	PART NAME	MATERIA LS
1	BODY FLAN GE	CF8M
2	BONN ET	CF8M
3	BALL	SS 316
4	STEM	SS 316
5	SEA T	TFM1 600
6	THRU ST WASHER	TFM1 600
7	GASK ET	TFM1 600
8	O-RIN G	VITO N
9	STEM PACKIN G	TFM1 600
10	SP ACE WASHER	SS 304
11	DISK WASHER	SS 301
12	STEM NUT	SS 304
13	NUT STO P	SS 304
14	STOP PER PLA TE	SS 304
15	HAND LE	SS 304
16	SLEE VE	PLAS TIC
17	STOP PIN	SS 304
18	BONN ET BOL TS	GRAD E B 8
19	LEVE R HEAD	1.430 8
20	SET BOL T	SS 304
21	LEVE R	STEE L PIPE
22	SEA T HOUSIN G	SS 316

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

MATERIALS LIST / PN 16 & 40

ITEM	PART NAME	MATERIA LS
1	BODY FLAN GE	1.440 8
2	BONN ET	1.440 8
3	BALL	SS 316
4	STEM	SS 316
5	SEA T	TFM1 600
6	THRU ST WASHER	TFM1 600
7	GASK ET	TFM1 600
8	O-RIN G	VITO N
9	STEM PACKIN G	TFM1 600
10	SP ACE WASHER	SS 304
11	DISK WASHER	SS 301
12	STEM NUT	SS 304
13	NUT STO P	SS 304
14	STOP PER PLA TE	SS 304
15	HAND LE	SS 304
16	SLEE VE	PLAS TIC
17	STOP PIN	SS 304
18	BONN ET BOL TS	GRAD E B 8
19	LEVE R HEAD	1.430 8
20	SET BOL T	SS 304
21	LEVE R	STEE L PIPE
22	SEA T HOUSIN G	SS 316

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

BALL VALVES

TOP-ENTRY BALL VALVE

BREAK-TORQUE VALUE FOR ANSI 150 / PN16 (NM / AT 0 PSI)

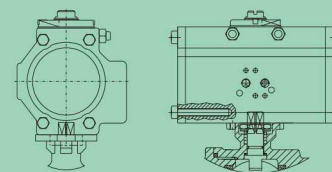
SIZE	1/2"	3/4"	1"	1 1/2"	2"	3"	4"
GREASE	54	76	76	111	160	464	762
NON-GREASE	71	102	102	169	257	1,070.94	1,600

BREAK-TORQUE VALUE FOR ANSI 300 / PN40 (NM)

SIZE	1/2"	3/4"	1"	1 1/2"	2"	3"	4"
GREASE	80	114	999	166	239	698	1,142
NON-GREASE	107	154	1039	253	386	1,610	2,490

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

Note 2: Strongly suggest increasing at least 30%-40% for safety factor for mounting actuator.

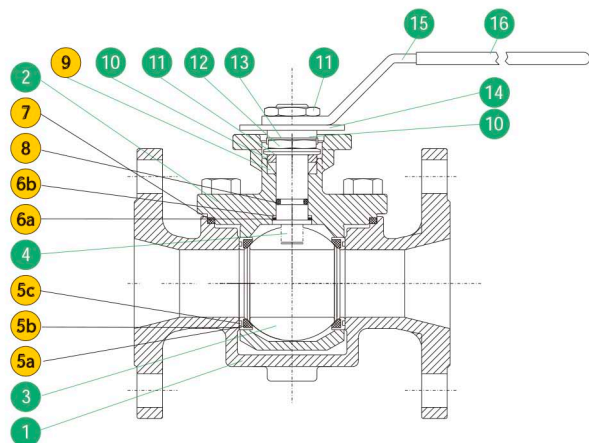


ISO direct mount for actuator
assembling directly

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

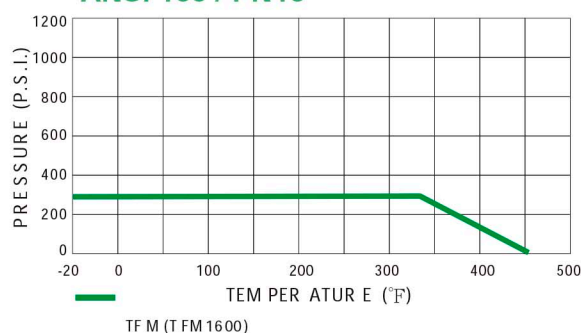
MATERIAL LIST - FIRE SAFE

ITEM	PART NAME	MATERIALS
5a	SEAT	TFM1600
5b	SEAT HOUSING	SS 316
5c	SEAT GASKET	GRAPHITE
6a	THRU ST WASHER	TFM1600
6b	THRU ST WASHER	GRAPHITE
7	GASKET	GRAPHITE
8	O-RING	VITON
9	STEM PACKING	GRAPHITE

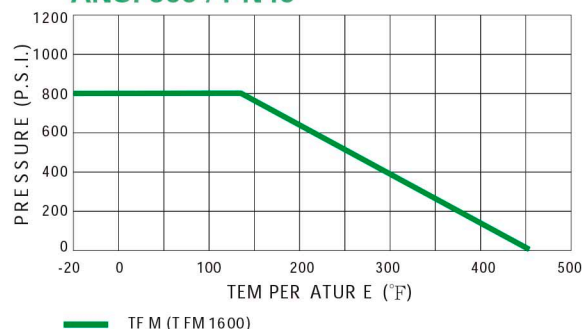


PRESSURE - TEMPERATURE

ANSI 150 / PN16



ANSI 300 / PN40



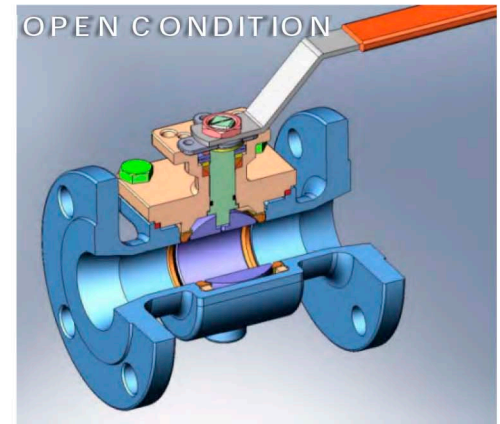
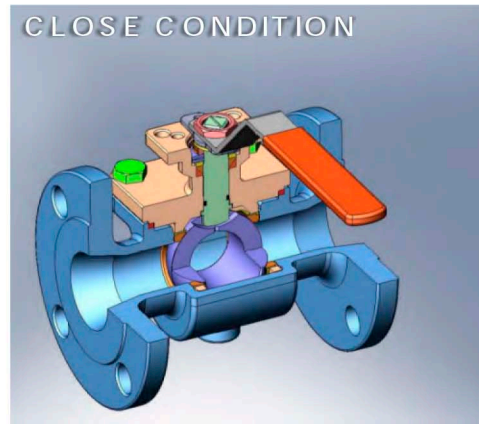
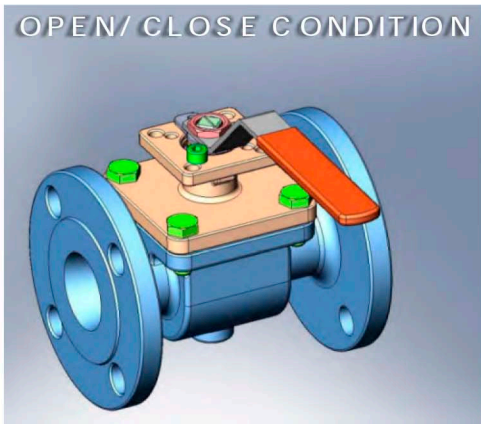
Suggestion!

- As dismantle the ball valve, don't forget to replace new Repair Kits, especially the gasket to prevent from leaking.
- PTFE 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 after over 500 times operation. Another good option is TFM or PTFE+25% Carbon.
- Before welding the valves, make sure the ends were dismantled. And welding the dismantled ends. After all the ends be cool, assemble the ends & use new gasket to prevent from leaking.

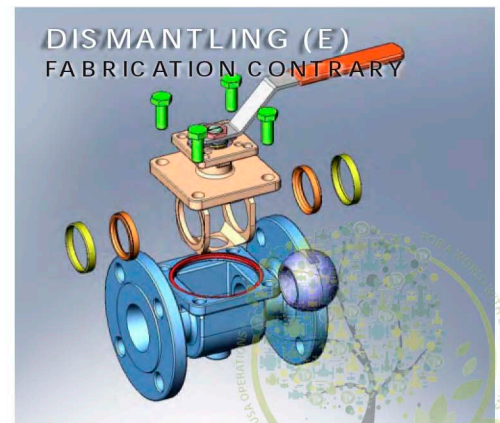
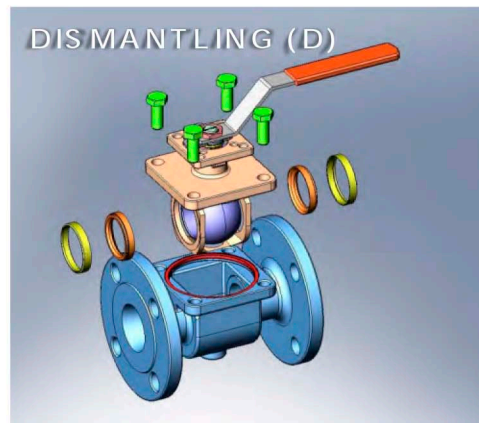
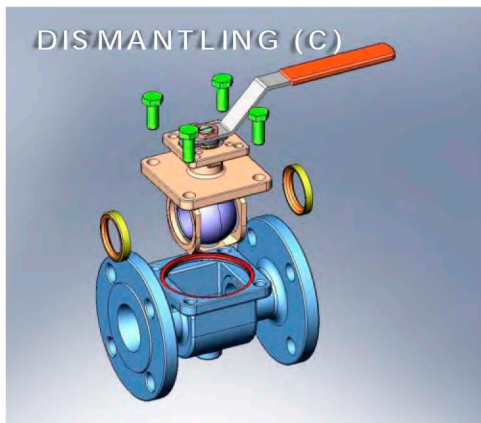
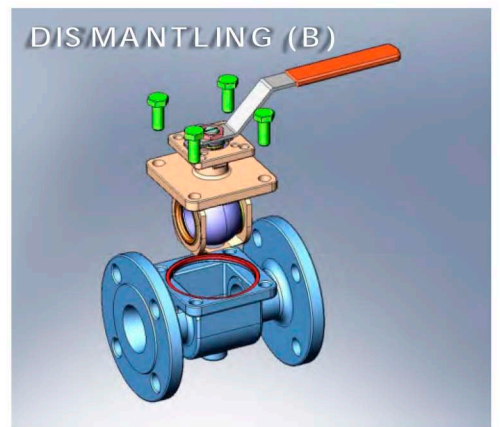
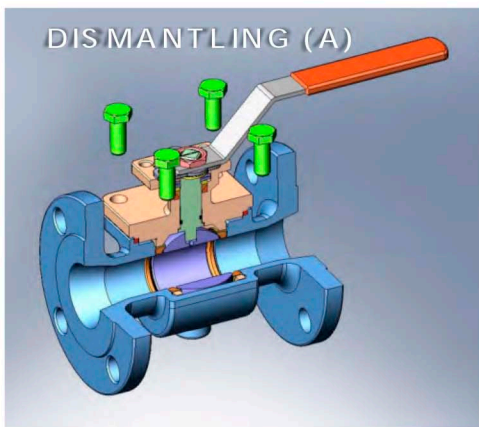
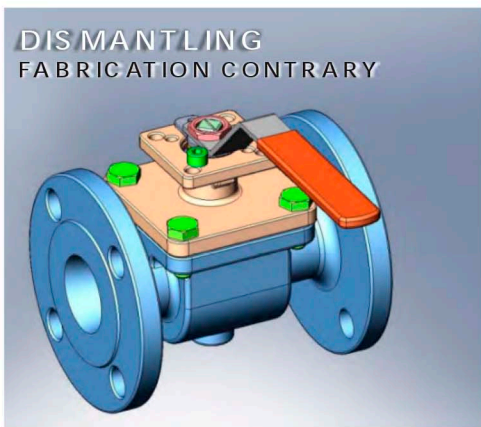
BALL VALVES

TOP-ENTRY BALL VALVE

OPEN / CLOSE CONDITION



DISMANTLING (FABRICATION CONTRARY)





BALL VALVES

TOP-ENTRY BALL VALVE

HOW TO ORDER

VALVE BODY DESIGN (SERIES)	SPECIAL FEATURES		MATERIAL			ENDS	CLASS	SIZE ⁽¹⁾		OPERATION	
			BODY	TRIM	SEAT						
84M Full port 2 pcs Top Entry Ball Valve ISO 5211 MK	NONE	NONE	2 WCB	3 316SS	P PTFE	F Flanged RF	0 ANSI 150#	0.5	1/2"	L	Manual Lever Operator
	F	Fire Safe API 607	3 CF8M	4 304 SS	R R-PTFE		3 ANSI 300#	0.75	3/4"	C	Manual Lever with Locking Device
	FE	Fugitive Emissions	4 CF8	5 316L SS	U UHMWPE		6 ANSI 600#	01	1"	O	Oval Handle
	O	Oxygen Service	5 CF3M	8 ALLOY 20	S 50/50 SS			01.25	1 1/4"	S	Spring Return safety Handle
	N	NACE Fire Safe	8 ALLOY 20	9 HASTELLOY	C Filled PTFE			01.5	1 1/2"	SR	Spring Return Sliding lock
	G	API 607 / NACE	9 HASTELLOY	0 MONEL	M Carbon Filled PTFE			02	2"	X	Economical stem extention
			0 MONEL	T TITANIUM	D DELRIN			02.5	2 1/2"	B	Bare Shaft
			T TITANIUM		K PEEK			03	3"	P	Pneumatic Actuator
								04	4"	E	Electric Actuator
								05	5"		
								06	6"		
								08	8"		
								10	10"		

Example

Top Entry Full Port Ball Valve ISO 5211 Mounting Bracket, Body & Trim 316 SS, Seats: R-PTFE, Fire Safe according with API 607, Ends: Flanged, ANSI Class 150#, Size 2" with Lever and Locking Device

83M-33R-F002C



ACCESORIES

FUGITIVE EMISSIONS BONNET

Accessories FE



TFV's fugitive emission bonnet was designed for keeping from fugitive emission leakage from the stem part of valve. The test port design allow the sniffer to detect any fine emission from the bonnet. This will protect people and environment.

The bonnet with ISO direct mounting pad on both sides, this easy-assembling design will save your working time. With 2 sets of SS 301 spring washer, V-ring packing, thrust washer, O-ring will offer the big help on sealing.

The valve connected side of fugitive emission bonnet is with a gasket (seal) to seal. Just make sure the ISO pad of valve is flat & finishing.

The bonnet can be the normal extended stem. This will be simple in your stocking principle for stocking on bonnet for 2 usages.

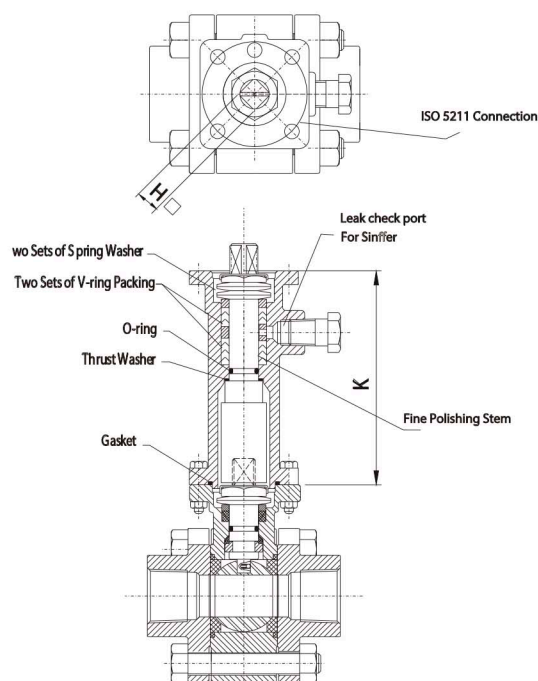
OPTION

- Special alloy is available.

FEATURES

- CF8 (SS304) or CF8M (Ss316) bonnet.
- Investment casting bonnet.
- Leakage test port.
- ISO 5211 direct mounting pad on both sides.
- Two sets of spring washer.
- Two sets of V-ring packing.
- Fine grind on stem part.
- With O-ring design.

DIMENSIONS



FUGITIVE EMISSION & NORMAL EXTENDED BONNET

ITEM	ISO 5211	H	K
F34	F03/ F04	9	4" (101.6)
F45	F04/ F05	11	4" (101.6)
F57	F05/ F07	14	6" (152.4)
F71	F07/ F10	17	6" (152.4)
F101	F10/ F12	22	6" (152.4)

* Zipson use the same casting bonnet for both fugitive emission & normal one.



EXPORT WORLD WIDE

TOP ENTRY BALL VALVE

SW | BW | NPT | FLENGED | ACCESORIES



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