



Features / Design

- 1.- One-Piece (Uni-Body) Direct Mount High Performance Flanged Ball Valve.
- 2.- Design, manufacture and pressure-temperature rating according to ASME B16.34.
- 3.- Standard port.
- 4.- Investment cast from 1/2" to 4" and sand cast body for 6".
- 5.- Patented ISO 5211 Direct Mount Pad allows direct mounting of pneumatic and electric actuators (no brackets and coupling are required).
- 6.- Easy and Low Cost for automated service and extremely high cycle life.
- 7.- TFV Triple – Sealing Stem (High Cycle) Stem Packing System – live loaded maintenance free – extra long cycle life (100,000 cycles and up).– TA-Luft approved.

Primary Seal Pyramidal stem with stem seal.

Secondary Seal Chevron "V" Ring design improves seal and reduce actuation torque.

Self Adjusting Stem Packing System with Belleville Washers (automatically adjust wear temperature and pressure fluctuations).

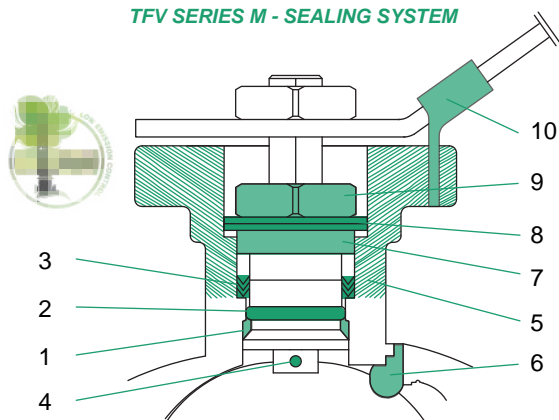
- 8.- Double Anti-Static Device (stem to ball and stem to body) as standard & Blow-Out proof stem.
- 9.- Wide range of valve (body) and seat materials available.

For valve: ASTM A351 Gr. CF8M, WCB, CF3M, Titanium, Duplex, Hastelloy C, Alloy 20.

Seats: PTFE, RPTFE, TFM 1600, Carbon Filled PTFE, 50/50 SS Filled PTFE, UHMWPE, PEEK, Metal Seats... and others.

- 10.- Inspection and testing according to API 598.
- 11.- Fire Safe Design API 607 (upon request).
- 12.- NACE MR0175 (upon request).
- 13.- Locking Device as standard.
- 14.- Approvals available: Fire safe as per API 607 Rev 6, CE 0035 PED 2014/68/EU Category II Module H, TA-Luft, ATEX 2014/34/EU.
- 15.- End connection: Flanged RF according to ASME B16.5 and face to face dimension ASME B16.10.
- 16.- Manufactured in ISO 9001 approved facility.

TFV SERIES M - SEALING SYSTEM



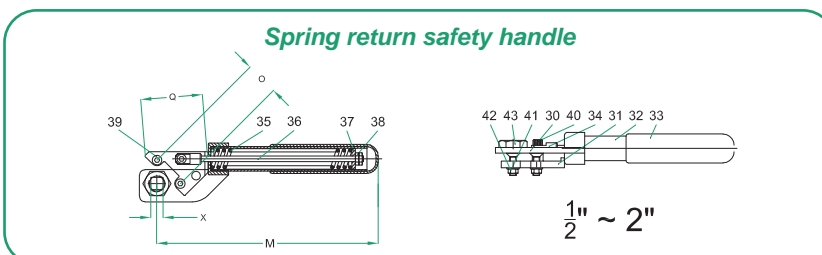
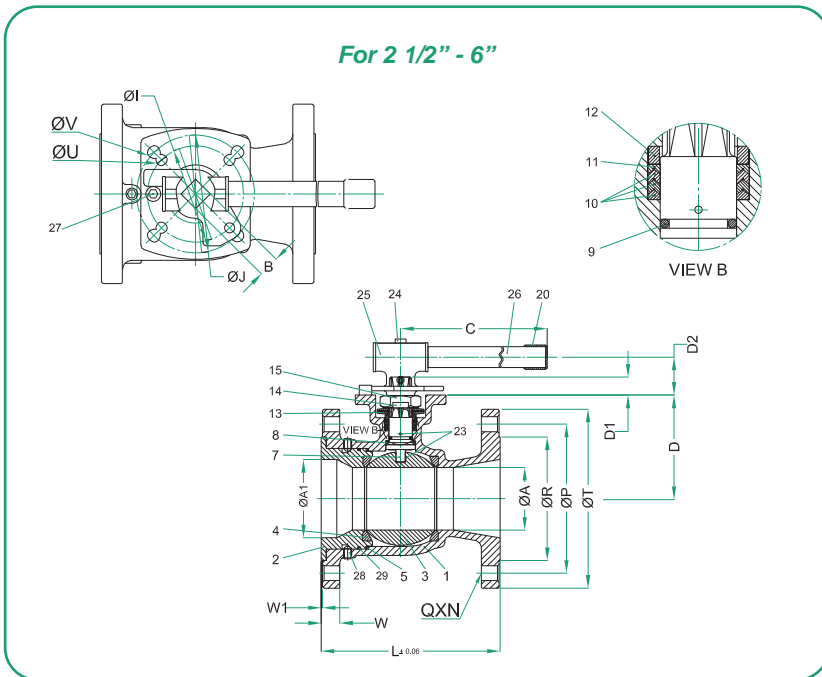
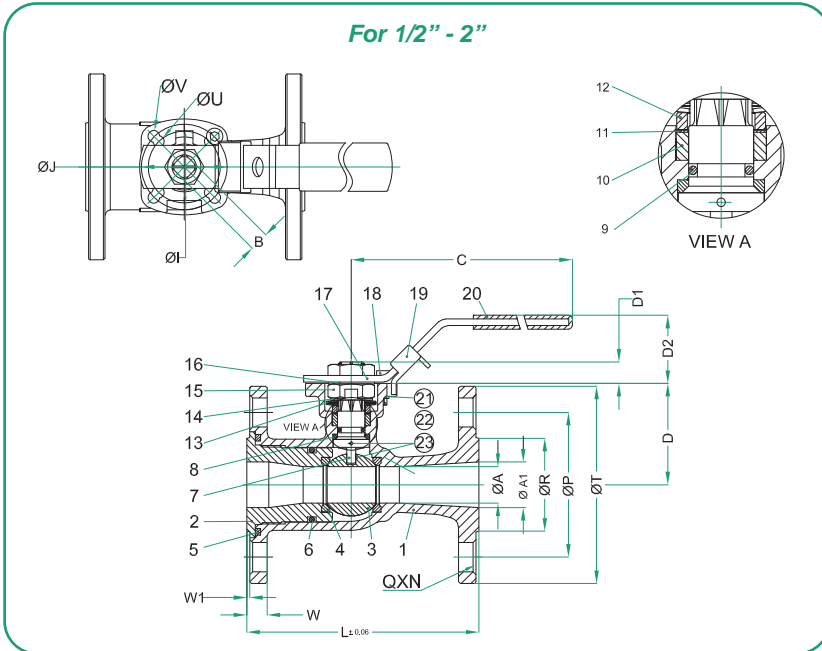
1. **Pyramidal Primary Seal.** Transform the vertical forces to horizontal forces at 360° of stem.
2. **Secondary Seal.** O'Ring Seal located between the primary and secondary seals.
3. **Tertiary Type Chevron Seal.** These seals are under constant expansion to make contact with the stem and the stuffing box.
4. **Static Loads Eliminator.** A double loaded spring is located from stem to the ball and from stem to the body (anti-static device).
5. **Direct Mount ISO 5211.** Coupling part-turn actuators (Part-turn) in industrial valves. Avoid using couplings and mounting plates.
6. **Seat & Seal.** Available in multiple materials for different applications.
7. Static charge distribution ring.
8. Live Loadings. Automatic adjustment against fluctuations in temperature, pressure and wear.
9. Anti-rotation security device.
10. Security Locking Lever avoid unnecessary return of the lever providing security in its operation.



Material List

POS	DESCRIPTION	MATERIAL
1	BODY	A216 WCB / A351 CF8M
2	END CAP	A216 WCB / A351 CF8M
3	BALL	1/2" ASTM A182 F316 3/4" ~ 6" ASTM 351 CF8M
4	SEAT	PTFE
5	JOIN GASKET	PTFE
6	O-RING	VITON
7	STEM	SS316
8	STEM SEAL	R-PTFE
9	O-RING	VITON
10	STEM PACKING	PTFE
11	STEM PACKING	25% GLASS FIBER FI LLED + PTFE
12	GLAND	SS304
13	BELLEVILLE WASHER	SS301
14	LOCK SADDLE	SS304
15	STEM NUT	SS304
16	STEM WASHER	SS304
17	HANDLE	SS304
18	STOP PIN	SS304
19	LOCKING DEVICE	SS304
20	HANDLE SLEEVE	VINYL
21	WASHER	SS304
22	PIN NUT	SS304
23	ANTI-STATIC DEVICE	SS316
24	HANDLE SCREW	SS304
25	HANDLE A	SS304
26	HANDLE B	3" - 4" - SS304 6" - CARBON
27	STOP PIN	SS304
28	SCREW	SS304
29	O-RING	VITON
30	HANDLE PAD	SS304
31	TRIANGLE PAD	SS304
32	TUBE	SS304
33	HANDLE SLEEVE	VINYL
34	SUB. SHAFT	SS304
35	SPRING	1/4" ~ 1 1/4" SWP 1 1/2" ~ 2" CARBON STEEL
36	SHAFT	SS304
37	WASHER	SS304
38	NUT	A194 2HM / A194 8M
39	BOLT	A193 B7M / A193 B8M
40	SCREW	SS304
41	WASHER	SS304
42	NUT	A194 2HM / A194 8M
43	STEM NUT	A194 2HM / A194 8M

Safety Handle Dimensions (inches)	SIZE	M (in)	X (in)	O (in)	Q (in)	Weight ⁽³⁾ (Lb) Note 2
	1/2"	7.677	0.354	1.169	1.7	0.857
3/4"	7.677	0.354	1.169	1.7	0.857	
1"	7.677	0.433	1.390	1.7	0.868	
1 1/2"	10.433	0.551	1.949	2.2	1.653	
2"	10.433	0.551	1.949	2.2	1.653	



Dimensions (inches)

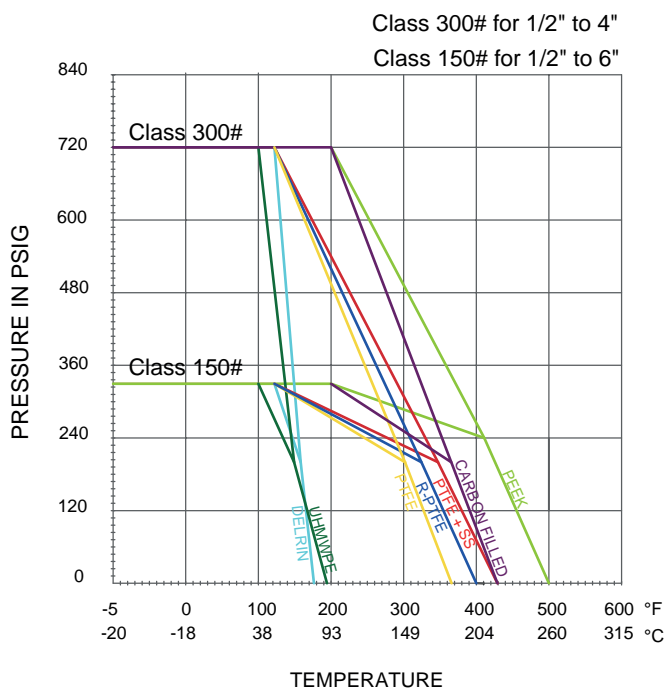
CLASS 150#

SIZE	ØA (in)	ØA1 (in)	B (in)	C (in)	D (in)	D1 (in)	D2 (in)	ØI (in)	ØJ (in)	L (in)	N (in)	ØP (in)	ØQ (in)	ØR (in)	ØT (in)	W (in)	W1 (in)	ØU (in)	ØV (in)	ISO5211	CV (USgal/min)	TORQUE ⁽¹⁾ (Lb*in) PTFE	WT ⁽²⁾ (Lb)
1/2"	0.500	0.591	0.433	6.496	1.839	0.370	1.417	1.654	1.969	4.264	4	2.382	0.630	1.382	3.500	0.441	0.063	0.256	0.276	F04/F05	9.0	89.0	3.6
3/4"	0.591	0.787	0.433	6.496	2.016	0.390	1.417	1.654	1.969	4.618	4	2.752	0.630	1.689	3.882	0.441	0.063	0.256	0.276	F04/F05	15.0	89.0	4.4
1"	0.787	0.984	0.433	6.496	2.185	0.390	1.417	1.654	1.969	5.004	4	3.118	0.630	2.000	4.252	0.441	0.063	0.256	0.276	F04/F05	42.0	124.0	5.7
1 1/2"	1.260	1.496	0.551	8.465	2.858	0.508	1.850	1.969	2.756	6.500	4	3.882	0.630	2.882	5.000	0.563	0.063	0.295	0.354	F05/F07	125.0	204.0	11.9
2"	1.496	1.969	0.669	10.315	3.508	0.713	2.165	2.756	4.016	7.020	4	4.752	0.748	3.618	6.000	0.626	0.063	0.394	0.472	F07/F10	165.0	301.0	17.9
1 1/2"	1.969	2.559	0.669	10.315	3.803	0.748	2.165	2.756	4.016	7.480	4	5.500	0.748	4.118	7.000	0.693	0.063	0.394	0.472	F07/F10	245.0	346.0	26.3
3"	2.559	3.150	0.669	14.370	4.567	0.748	1.744	2.756	4.016	8.012	4	6.000	0.748	5.000	7.500	0.748	0.063	0.394	0.472	F07/F10	350.0	523.0	35.3
4"	3.150	3.937	0.866	14.370	5.217	0.906	1.906	4.016	4.921	9.000	8	7.500	0.748	6.189	9.000	0.941	0.063	0.472	0.551	F10/F12	680.0	851.0	57.3
6"	4.370	6.024	1.063	27.756	7.075	1.122	2.559	4.921	5.512	10.500	8	9.500	0.874	8.500	11.000	1.000	0.063	0.551	0.709	F12/F14	1020.0	1878.0	*

CLASS 300#

SIZE	ØA (in)	ØA1 (in)	B (in)	C (in)	D (in)	D1 (in)	D2 (in)	ØI (in)	ØJ (in)	L (in)	N (in)	ØP (in)	ØQ (in)	ØR (in)	ØT (in)	W (in)	W1 (in)	ØU (in)	ØV (in)	ISO5211	CV (USgal/min)	TORQUE ⁽¹⁾ (Lb*in) PTFE	WT ⁽²⁾ (Lb)
1/2"	0.500	0.591	0.433	6.496	1.917	0.390	1.417	1.654	1.969	5.500	4	2.618	0.630	1.382	3.752	0.563	0.063	0.256	0.276	F04/F05	9.0	89.0	5.2
3/4"	0.591	0.787	0.433	6.496	2.500	0.406	1.457	1.654	1.969	6.000	4	3.252	0.752	1.689	4.618	0.622	0.063	0.256	0.276	F04/F05	15.0	89.0	8.0
1"	0.787	0.984	0.433	6.496	2.500	0.406	1.457	1.654	1.969	6.500	4	3.500	0.752	2.000	4.882	0.693	0.063	0.256	0.276	F04/F05	42.0	124.0	9.8
1 1/2"	1.260	1.496	0.551	8.465	3.138	0.508	1.850	1.969	2.756	7.500	4	4.500	0.874	2.882	6.122	0.807	0.063	0.295	0.354	F05/F07	125.0	204.0	18.12
2"	1.496	1.969	0.669	10.315	3.508	0.713	2.165	2.756	4.016	8.504	8	5.000	0.752	3.618	6.500	0.882	0.063	0.394	0.472	F07/F10	165.0	301.0	24.7
1 1/2"	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	245.0	346.0	/
3"	2.559	3.150	0.669	14.370	4.567	0.748	1.744	2.756	4.016	11.118	8	6.622	0.874	5.000	8.252	1.122	0.063	0.394	0.472	F07/F10	350.0	523.0	53.4
4"	3.150	3.937	0.866	14.370	5.217	0.906	1.906	4.016	4.921	12.000	8	7.882	0.874	6.189	10.000	1.252	0.063	0.472	0.551	F10/F12	680.0	851.0	*
6"	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	1020.0	1878.0	/

Pressure-Temperature chart



How to Order

VALVE BODY DESIGN (SERIES)	SPECIAL FEATURES	MATERIAL			ENDS	CLASS	SIZE		OPERATION
		BODY	TRIM	SEAT					
1M Std Port 1 Pc Ball Valve ISO 5211 MK	None	2	3	P	F Flanged RF	0	0.5	L	
	F	3	5	R		3	0.75	C	
	O	5	8	U		01	1	G	
	G	8	9	S		01.25	1 1/4"	B	
		9	0	C		01.5	1 1/2"	O	
		0	T	M		02	2"	S	
		T		D		02.5	2 1/2"	SR	
				K		03	3"	X	
						04	4"	P	
						05	5"	E	
				06	6"				

Example:

Std Port Ball Valve ISO 5211 Integral Mounting Kit, Body & Trim 316SS, Seats: PTFE, Ends: Flanged ANSI Class 150#, Size 1/2" with Lever and Locking Device.

1M33PF00.5C



Notes:
 (1) The torque es measured based on the conditions of with 30% safety factor, with grease, at 0 bar pressure and ambiental temperature.
 (2) The weight change depending on the type of lever .
 (3) Spring safety handle weight.

