

## Features / Design



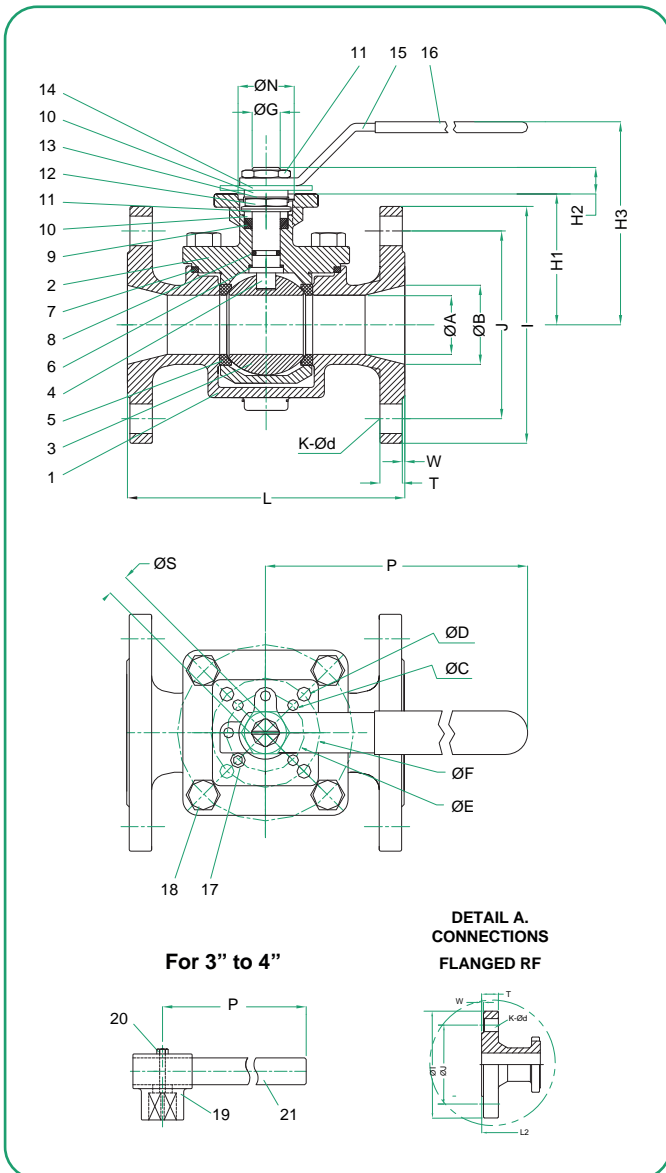
- 1.- **TFV Series 84** Top-Entry Ball Valve is designed for the industries required in-line repairing / cleaning / maintaining in very short time for urgent situation; size from 1/2" to 6" is the fundamental offering.
- 2.- It is designed with ISO direct mounting pad for mounting pneumatic/ electric actuator for automatic control.
- 3.- 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.
- 4.- The flange and connection and pressure rating are ANSI standard 150# / 300#.
- 5.- Fire safe design is available for option, too, with graphite stem packing / bonnet gasket and SS 316 seat housing replacement.
- 6.- Special alloy such as Hastelloy C / Alloy 20 / Super Duplex / Monel are available for media with chlorine or others.
- 7.- For soft kits, we use TFM1600 (TFM) as standard. TFM4215 / UHMWPE (UPE) are both for options.

### 8.- General 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: Class 150 / 300.
- Temperature range: -20 °F to 450 °F.
- End type: Flanged 150 / 300 (ASME B16.5).
- Face to face dimension acc. to ASME B16.10.
- Test and inspection according to API 598.

### 9.- Options:

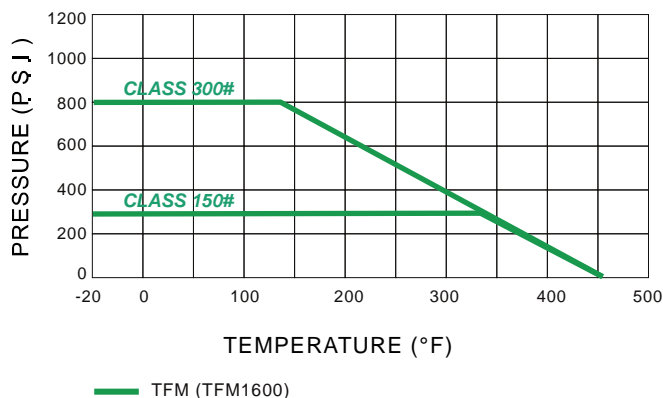
- Spring handle (dead man handle).
- V-Ball for control purpose.
- Fire safe design (follow API 607 Edition 4).
- Automation application.
- PTFE / PFA coating (40-70 um).
- Hastelloy C / Super Duplex / Alloy 20 / Monel.



## Material List

NO.	PART NAME	MATERIAL
1	BODY	A216 WCB / A351 CF8M
2	BONNET	A216 WCB / A351 CF8M
3	BALL	A351 CF8M
4	STEM	SS316
5	BALL SEATS	TFM
6	THRUST WASHER	R-PTFE
7	GASKET	VITON
8	O-RING	PTFE
9	STEM PACKING	SS304
10	SPACE WASHER	SS301
11	DISK WASHER	SS304
12	STEM NUT	SS304
13	NUT STOP	SS304
14	STOPPER PLATE	SS304
15	HANDLE	PLASTIC
16	HANDLE COVER	SS304
17	STOP PIN	A193 B7 / A193 B8
18	BONNET BOLTS	A351 CF8M
19	LEVER HEAD	SS304
20	SET BOLT	STEEL PIPE
21	LEVER	

## Pressure-Temperature Chart



## Dimensions (inches)

### CLASS 150#

SIZE	A (in)	ØB (in)	ØC (in)	ØD (in)	ØE (in)	ØF (in)	ISO5211 (in)	ØG (in)	ØN (in)	H1 (in)	H2 (in)	H3 (in)	L (in)	P (in)	S (in)	I (in)	J (in)	K (in)	Ød (in)	T (in)	W (in)	Weight (Lb)	Torque (Lbf*in) Note1	CV (USGpm)
1/2"	0.689	0.689	0.236	0.283	1.654	1.969	F04/F05	M14	1.181	2.559	0.551	43.780	4.606*	6.496	3.504	3.504	2.382	4	0.630	0.441	0.063	5.952	53.097	15.25
3/4"	0.768	0.768	0.236	0.283	1.654	1.969	F04/F05	M14	1.181	2.559	0.551	3.780	4.606	6.496	3.878	3.878	1.752	4	0.630	0.441	0.063	5.952	75.221	27.93
1"	0.768	1.000	0.236	0.283	1.654	1.969	F04/F05	M14	1.181	2.559	0.551	3.780	5.000	6.496	4.252	4.252	3.130	4	0.630	0.441	0.063	6.504	75.221	35.61
1 1/2"	1.260	1.500	0.283	0.362	1.969	2.756	F05/F07	M18	1.378	3.091	0.709	4.449	6.496	8-071	5.000	5.000	3.878	4	0.630	0.563	0.063	14.396	110.619	86.35
2"	1.496	2.000	0.283	0.362	1.969	1.756	F05/F07	M18	1.378	3.287	0.709	4.646	7.008	8.071	6.000	6.000	4.752	4	0.748	0.626	0.063	18.563	159.292	130.69
3"	2.252	3.071	0.362	0.453	2.756	4.016	F07/F10	M22	2.165	4.311	0.906	6.417	7.992	12.795	7.500	7.500	6.004	4	0.748	0.752	0.063	40.786	464.602	263.33
4"	2.992	4.000	0.362	0.453	2.756	4.016	F07/F10	M22	2.165	5.256	0.906	7.362	9.016	12.795	9.000	9.000	7.500	8	0.748	0.941	0.063	69.666	761.062	435.51

### CLASS 300#

SIZE	A (in)	ØB (in)	ØC (in)	ØD (in)	ØE (in)	ØF (in)	ISO5211 (in)	ØG (in)	ØN (in)	H1 (in)	H2 (in)	H3 (in)	L (in)	P (in)	S (in)	I (in)	J (in)	K (in)	Ød (in)	T (in)	W (in)	Weight (Lb)	Torque (Lbf*in) Note1	CV (USGpm)
1/2"	0.591	0.591	0.236	0.283	1.654	1.969	F04/F05	M14	1.181	2.559	0.551	43.780	5.512	6.496	3.504	3.752	2.626	4	0.630	0.563	0.063	*	79.646	15.25
3/4"	0.768	0.768	0.236	0.283	1.654	1.969	F04/F05	M14	1.181	2.559	0.551	3.780	5.984	6.496	3.878	4.626	3.248	4	0.630	0.626	0.063	*	113.274	27.93
1"	0.768	1.000	0.236	0.283	1.654	1.969	F04/F05	M14	1.181	2.559	0.551	3.780	6.496	6.496	4.252	4.878	3.500	4	0.630	0.689	0.063	*	113.274	35.61
1 1/2"	1.260	1.500	0.283	0.362	1.969	2.756	F05/F07	M18	1.378	3.091	0.709	4.449	7.520	8-071	5.000	6.126	4.500	4	0.630	0.815	0.063	*	166.372	86.35
2"	1.496	2.000	0.283	0.362	1.969	1.756	F05/F07	M18	1.378	3.287	0.709	4.646	8.504	8.071	6.000	6.500	5.000	8	0.748	0.878	0.063	*	238.938	130.69
3"	2.252	3.071	0.362	0.453	2.756	4.016	F07/F10	M22	2.165	4.311	0.906	6.417	11.142	12.795	7.500	8.252	6.626	8	0.748	1.126	0.063	56.438	697.345	263.33
4"	2.992	4.000	0.362	0.453	2.756	4.016	F07/F10	M22	2.165	5.256	0.906	7.362	12.008	12.795	9.000	10.000	7.874	8	0.748	1.252	0.063	87.083	1141.593	435.51

NOTES: \* Please consult with manufacturer. (1) Face to face distance for 1/2" diameter is according to supplier design. (2) Torque value is when valve is greased.



## How to Order

DESIGN (SERIES)	SPECIAL FEATURES	MATERIAL			ENDS	CLASS	SIZE		OPERATION	
		BODY <sup>(3)</sup>	TRIM <sup>(4)</sup>	SEAT						
<b>84M</b> Full Port 2 Pcs Top Entry Ball Valve ISO 5211 MK	<b>None</b> None  <b>F</b> Fire Safe API 607	<b>2</b> WCB	<b>3</b> 316 SS	<b>T1</b> TFM 1600	<b>F</b> Flanged RF	<b>0</b> ANSI 150#	<b>0.5</b>	1/2"	<b>L</b> Manual Lever Operator	
		<b>3</b> CF8M	<b>7</b> Duplex	<b>T4</b> TFM 4215			<b>0.75</b>	3/4"		<b>C</b> Manual Lever with Locking Device
		<b>7</b> Duplex	<b>8</b> Alloy 20	<b>U</b> UHMWPE (UPE)			<b>01</b>	1"		
		<b>8</b> Alloy 20	<b>9</b> Hastelloy C				<b>01.25</b>	1 1/4"		<b>B</b> Bare Shaft
		<b>9</b> Hastelloy C					<b>01.5</b>	1 1/2"		
							<b>02</b>	2"		<b>P</b> Pneumatic Actuator
							<b>02.5</b>	2 1/2"		
							<b>03</b>	3"		<b>E</b> Electric Actuator
							<b>04</b>	4"		

### Example:

Top Entry Full Port Ball Valve, Body & Trim 316 SS, Seats: TFM 1600, Ends: Flanged RF, Size 1/2", Class ANSI 150 with Lever.

**84M33T1F00.5L**

NOTES:  
(3)(4) Other options available like Hastelloy C, Duplex, Super Duplex, Alloy 20, Monel, etc.

