PENTAIR

KTM

KTM Firesafe and Anti-Static ASME 150/300 one piece, end entry, flanged ball valve for oil, gas, petrochemical and chemical industries

Features

- Designed to ASME B16.34, API 6D and ISO 17292.
- Single piece end entry body design complies with ASME B16.34 & ASME VIII.
- ISO 5211 top mounting flange.
- Face to Face to API 6D/ASME B16.10/BS 2080/BS EN 558.2.
- Fire tested to API 607 6th edition.
- Flange connection to ASME B16.5 as standard.
- One piece body offers total pipe integrity minimizing the number of potential leak paths.
- Carbon steel or stainless steel body as standard.
- Precision 316 stainless steel ball as standard.
- Blowout proof shouldered shaft.
- Anti-static device.
- Cantilevered E-seat (PTFE/PFA copolymer) as standard.
- A secondary metal 'firesafe' seat.
- Optional cavity pressure bleed / vent fitting.
- External replaceable weather seal.
- Emergency seat and shaft sealant facility (optional).
- Spring energised shaft assembly to compensate for wear and temperature changes.
- Integral padlocking facility as standard.
- Vented ball equalises body cavity pressure in open position and prevents possible seat damage.
- Manufactured under quality system ISO 9001 and API 6D Q1.
- All valves factory hydro/air tested to API 598.
- Certificate of compliance to EN 10204:2004. Type 3.1 are supplied as standard.

General applications

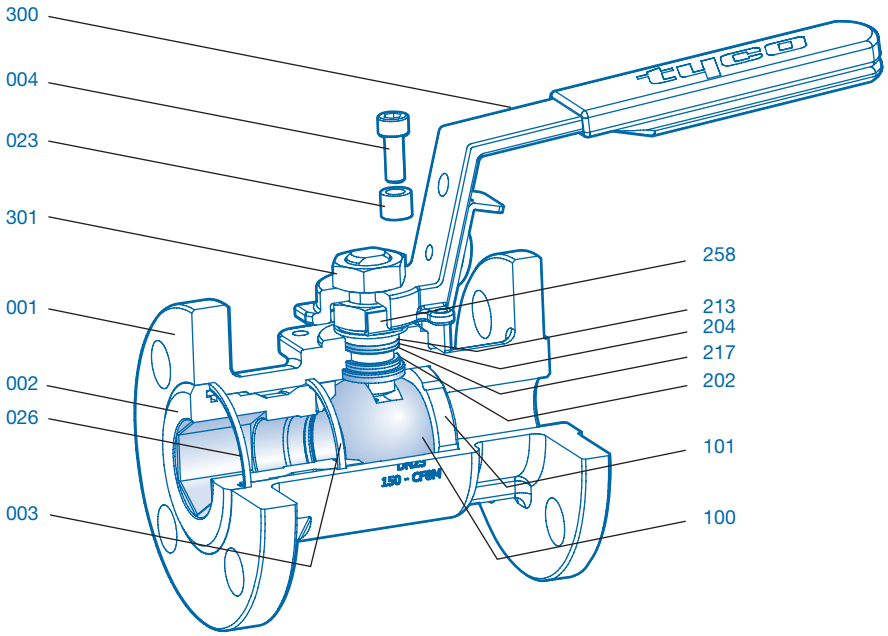
Ideally suited for use in the oil and gas production, refining and chemical applications. Body material and wetted trim components conform to NACE MR0175-2002.

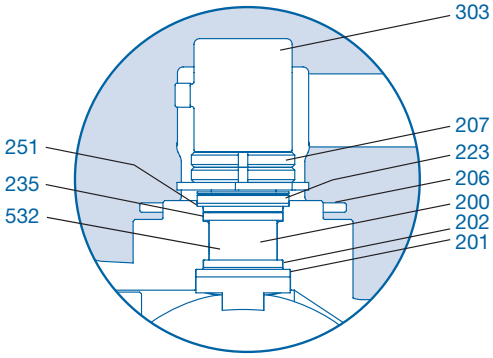
Hazardous areas handling flammable fuels, gases or chemicals where 'fire-safe', or anti-static valves are mandatory or desirable.

Technical data

Models / Sizes	: Full bore EB700 NPS ½ - 1½ Reduced bore EB700 NPS 2 - 8
Pressure rating	: Class 150 & Class 300
End connection	: ASME B16.5 Raised face flange
Temperature	: -20°F to 450°F

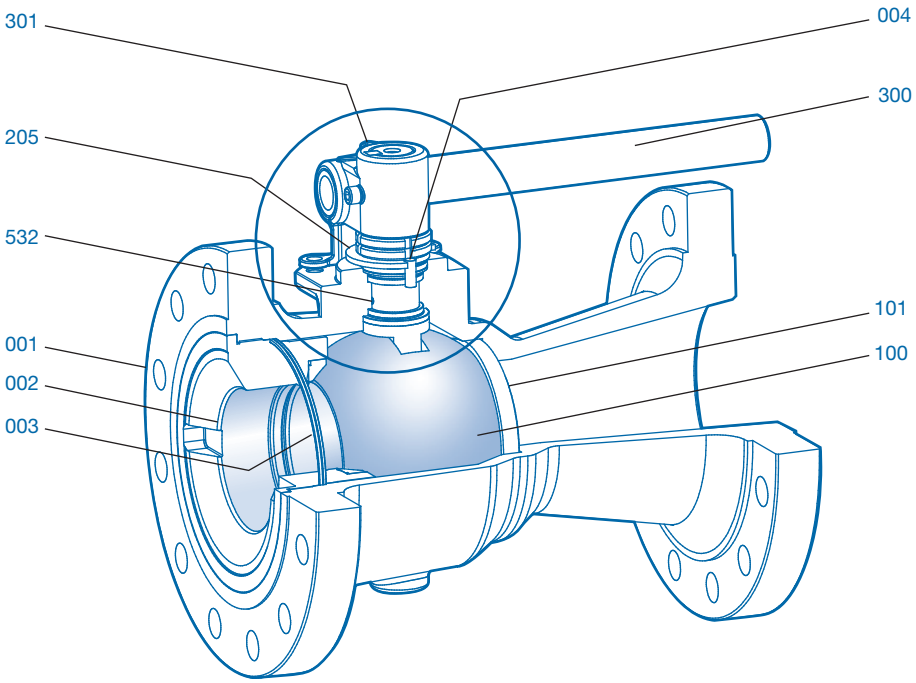
Note: NPS 1 valve illustrated

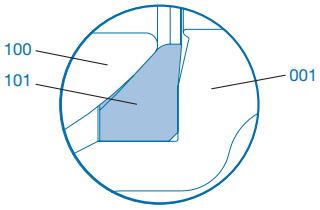




Shaft section detail

Note: NPS 6 valve Illustrated





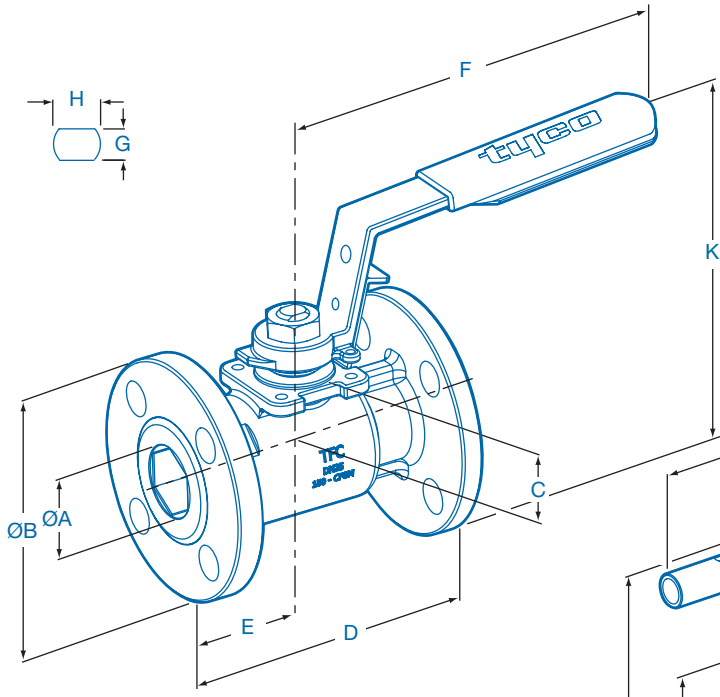
Cantilever seat detail

Parts list

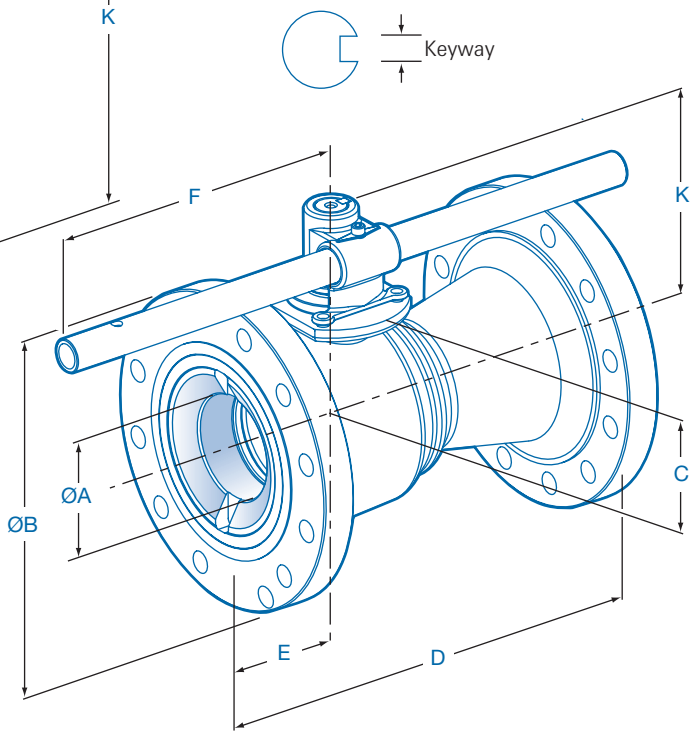
No.	Description	Carbon steel	Stainless steel
001	Body	ASTM A216-WCB/WCC	ASTM A351-CF8M
002	Body insert	ASTM A216-WCB/WCC	ASTM A351-CF8M
003	Body insert seal	Virgin PTFE	Virgin PTFE
004	Stop screw NPS ½ - 2	UNS S31600	UNS S31600
004	Stop pin NPS 3 - 8	Alloy steel	UNS S31600
023	Stop pin spacer NPS ½ - 2	UNS S31600	UNS S31600
026	Firesafe body seal NPS ½ - 1½	Flexible graphite	Flexible graphite
100	Ball	UNS S31600	UNS S31600
101	Seat (Code E - Cantilevered)	PTFE/PFA copolymer	PTFE/PFA copolymer
	Seat (Code G - Cantilevered)	Carbon reinforced PTFE	Carbon reinforced PTFE
200	Shaft (Standard)	UNS S31600	UNS S31600
201	Primary shaft seal	Glass reinforced PTFE	Glass reinforced PTFE
202	Firesafe shaft seal	Flexible graphite	Flexible graphite
204	Shaft thrust washer NPS ½ - 1	Glass reinforced PTFE	Glass reinforced PTFE
205	Stop plate NPS 3 - 8	UNS S31600	UNS S31600
206	Shaft spring	Inconel	Inconel
207	Shaft nut	UNS S31600	UNS S31600
213	Gland NPS ½ - 1	UNS S31600	UNS S31600
217	Gland packing NPS ½ - 1	Flexible graphite	Flexible graphite
223	Shaft seal follower	UNS S31600	UNS S31600
235	Aux. shaft seal NPS 1½ - 8	Virgin PTFE	Virgin PTFE
251	Weather seal NPS 1½ - 8	Comp. carbon fiber	Comp. carbon fibre
258	Lock washer NPS ½ - 2	UNS S31600	UNS S31600
300	Lever NPS ½ - 2	UNS S31600	UNS S31600
	Lever NPS 3 - 8	Carbon steel zinc plated (Optional - UNS S31600)	Carbon steel zinc plated (Optional - UNS S31600)
301	Lever retainer	Carbon steel zinc plated (Optional - UNS S31600)	Carbon steel zinc plated (Optional - UNS S31600)
303	Lever head NPS 3 - 8	S.G. iron (primer coated) (Optional - UNS S31600)	S.G. iron (primer coated) (Optional - UNS S31600)
532	Anti-Static device NPS 1½ - 8	UNS S31600/Inconel	UNS S31600/Inconel

Note: Pressure containing materials conform to NACE standard MR0175-2002.

KTM Unibody Floating Ball Valves
Model EB700 Sizes NPS ½ - 8 Class 150 and 300



Note: NPS 1 valve illustrated



Note: NPS 6 valve illustrated

Dimensions (inches) NPS ½ - 1½ (Full bore)

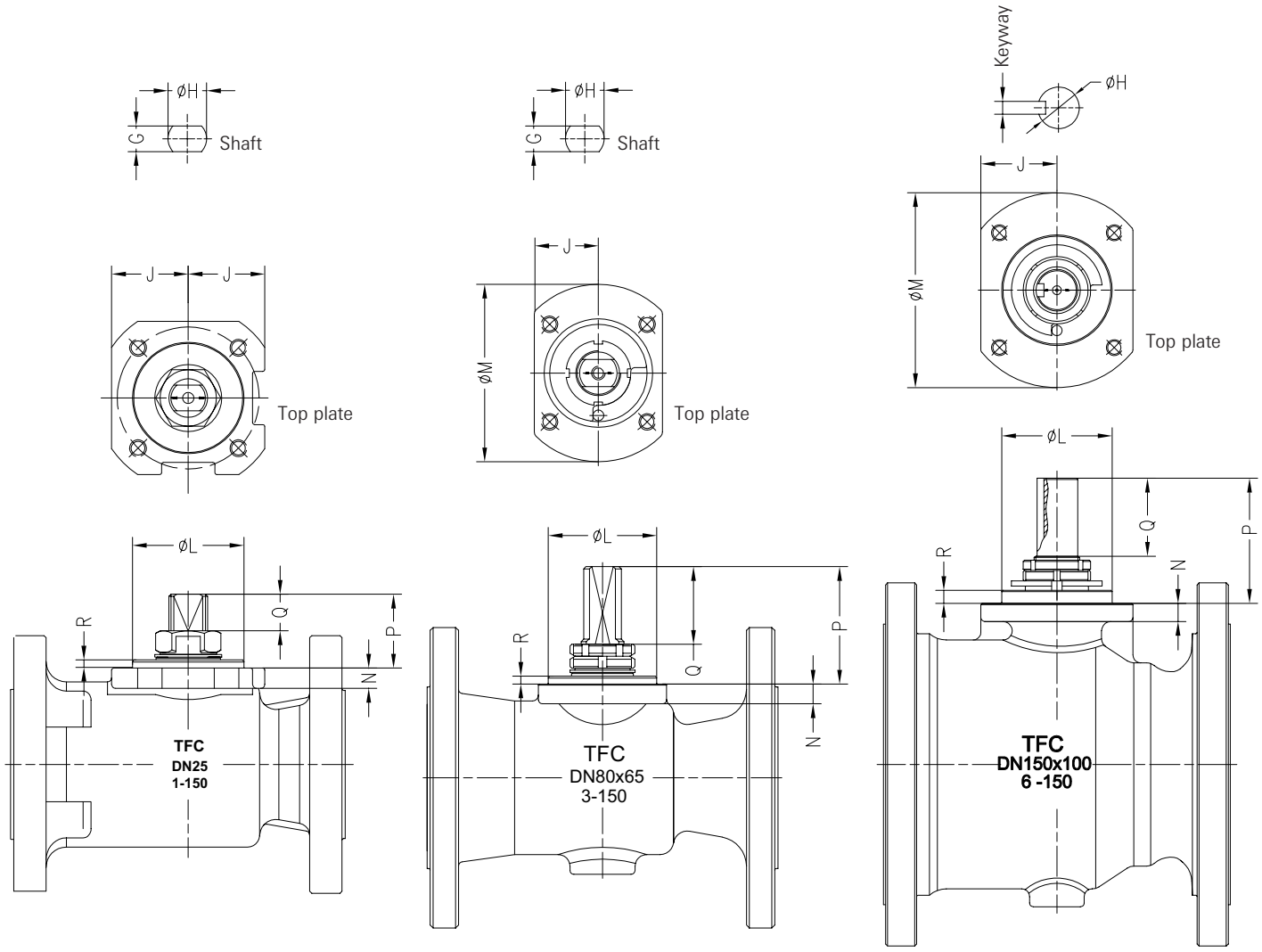
Valve size	Bore	ØB Class			D Class					Shaft conn.		Top plate data No. holes	Hole dia.	PCD	Mass (lbs) Class		Kv@ Class	
NPS	ØA	150	300	C	150	300	E	F	K	ØH x G	Key				150	300	150	300
½	0.5	3.5	3.73	0.886	4.25	5.5	2.21	5.7	3.7	0.373 x 0.247	N/A	4	M6	2.0	4.4	5.5	7.9	
¾	0.75	3.857	4.61	1.170	4.61	6.0	2.48	7.1	4.2	0.562 x 0.373	N/A	4	M6	2.0	5.5	8.8	26.2	
1	1.0	4.25	4.88	1.366	5.0	6.5	2.56	7.1	4.2	0.562 x 0.373	N/A	4	M6	2.0	7.7	11.0	45.3	
1½	1.5	5.0	6.14	1.869	6.5	7.5	3.47	7.9	5.3	0.75 x 0.5	N/A	4	M8	2.75	16.5	22.0	132.0	

Dimensions (inches) NPS 2 - 8 (Reduced bore)

Valve size	Bore	ØB Class			D Class					Shaft conn.		Top plate data No. holes	Hole dia.	PCD	Mass (lbs) Class		Kv@ Class	
NPS	ØA	150	300	C	150	300	E	F	K	ØH x G	Key				150	300	150	300
2	1.50	6.00	6.50	1.87	7.00	8.50	3.50	7.80	5.3	0.75 x 0.5	N/A	4	M8	2.75	18.7	24.3	139	152
3	2.48	7.47	8.27	3.35	7.99	11.14	4.10	16.80	6.2	0.865 x 0.625	N/A	4	M10	4.00	40.8	57.3	351	357
4	3.00	9.00	10.00	3.81	9.00	12.00	4.50	16.80	6.7	0.865 x 0.625	N/A	4	M10	4.00	65.0	89.3	532	600
6	4.00	11.00	12.50	4.88	10.50	15.86	5.25	24.60	8.7	1.259	0.393 x 0.393#	4	M12	4.92	114.6	172.0	578	832
8	5.90	15.00	15.00	6.25	11.50	16.50	6.34	38.00	10.0	1.259	0.393 x 0.393#	4	M12	4.92	216.1	260.1	1280	1558

Notes

F = The lever dimension when the handle is in the extended position.
H = The diameter of the shaft connection.
G = The dimension across the shaft flats.
K_V = The flow rate of water in m^3/hr that will pass through a valve with a pressure drop of 1 bar (100 kPa) @ 68°F.
C_V = $1.155K_V$ **K_V** = Cv/1.155
# = Metric shaft keyway is used on NPS 6 & 8 valves.
Dimensions are nominal to ±0.03.



Note: NPS ½ - 2

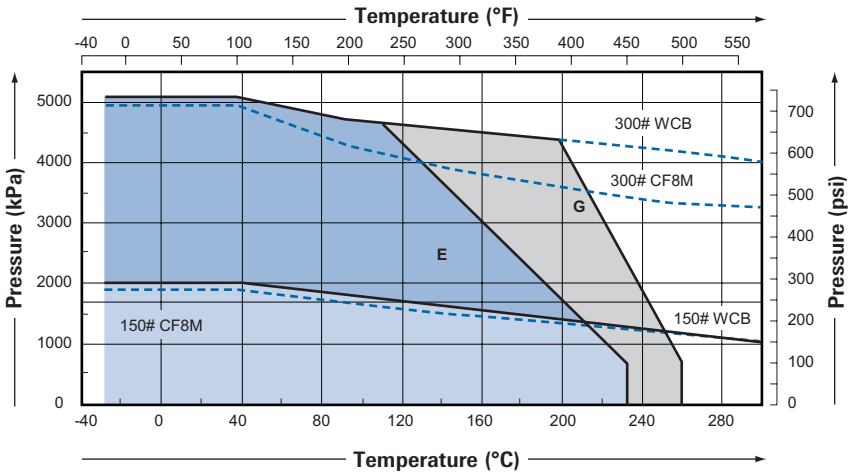
Note: NPS 3 - 4

Note: NPS 6 - 8

Top Work Dimensions (inches) NPS ½ - 8

Valve size	ISO MTG	Shaft conn.		Top plate data No.	Hole				Dimensions				
NPS	code	ØH x G	Key	holes	dia.	PCD	P	Q	M	K	L	N	R
½	F05	0.373 x 0.247	N/A	4	M6	2.00	0.77	0.34	N/A	0.99	1.38	0.26	0.08
¾	F05	0.562 x 0.373	N/A	4	M6	2.00	1.17	0.63	N/A	0.99	1.38	0.26	0.08
1	F05	0.562 x 0.373	N/A	4	M6	2.00	1.17	0.63	N/A	0.99	1.38	0.26	0.08
1½	F07	0.75 x 0.5	N/A	4	M8	2.75	1.46	0.72	N/A	1.48	2.17	0.40	0.16
2	F07	0.75 x 0.5	N/A	4	M8	2.75	1.46	0.72	2.96	1.48	2.17	0.40	0.16
3	F10	0.865 x 0.625	N/A	4	M10	4.00	2.88	2.07	4.96	1.87	2.76	0.40	0.20
4	F10	0.865 x 0.625	N/A	4	M10	4.00	2.88	2.07	4.96	1.87	2.76	0.40	0.20
6	F12	1.259	0.393 x 0.393	4	M12	4.92	3.78	2.56	5.95	2.31	3.35	0.55	0.40
8	F12	1.259	0.393 x 0.393	4	M12	4.92	3.82	2.56	5.95	2.31	3.35	0.59	0.40

Pressure/temperature graph



E - PTFE/PFA copolymer cantilevered seat
G - R'PTFE cantilevered seat

Note:

1. These pressure/temperature ratings displayed are for total valve assembly with the respective seat material fitted.
2. Carbon steel valves have a minimum temperature limitation of minus -20°F.

Pressure/temp ratings

Class 150

PTFE/PFA Copolymer
Carbon Steel:
ASTM A216-WCB
284 PSI max at 100°F
ASTM A216-WCC
287 PSI max at 100°F
Stainless Steel:
ASTM A351-CF8M
276 PSI max at 100°F

Carbon Reinforced PTFE
Carbon Steel:
ASTM A216-WCB
284 PSI max at 100°F
ASTM A216-WCC
287 PSI max at 100°F
Stainless Steel:
ASTM A351-CF8M
276 PSI max at 100°F

Class 300

PTFE/PFA copolymer
Carbon Steel:
ASTM A216-WCB
741 PSI max at 100°F
ASTM A216-WCC
750 PSI max at 100°F
Stainless Steel:
ASTM A351-CF8M
719 PSI max at 100°F

Carbon Reinforced PTFE
Carbon Steel:
ASTM A216-WCB
741 PSI max at 100°F
ASTM A216-WCC
750 PSI max at 100°F
Stainless Steel:
ASTM A351-CF8M
719 PSI max at 100°F

Ordering instructions

NPS 4	– EB762	32	– E	U	15	L	-	S
Valve size	Body style & material	Ball & shaft material	Seat material	Shaft packing	Pressure class	Operator	Connection	Special requirement

Example **EB700 Series Unibody** **Body style:** reduced bore, floating ball. **Body material:** WCB carbon steel. **Ball-shaft material:** 316 SS. **Seat material:** PTFE/PFE copolymer. **Shaft packing:** 25% glass reinforced PTFE & graphite. **Pressure class:** ASME Class150. **Manual operator:** lever or handle.

Code	Body style
EB700	Full bore and reduced bore, floating ball, one piece unibody

Code	Body materials
31	304 SS - CF8
32	316 SS - CF8M - standard
33	316L - CF3M
36	Alloy 20-CN7M
42	Hastelloy® 'C'-CW12MV
43	Monel®-M-35-1
62	WCB/WCC dual certified - standard

Code	Ball/shaft materials*
31	304 SS - CF8
32	316 SS - CF8M - Standard
33	316L - CF3M
36	Alloy 20
42	Hastelloy® 'C'-CW12MV
43	Monel®-M-35-1

* When shaft material is different than ball material, the code number for the shaft material should follow the code number for the ball material.

Code	Seat materials
E	PTFE-PFA copolymer, M.T.F.E (modified T.F.E.)
G	Reinforced PTFE (carbon fiber reinforce)

Code	Shaft packing or seals
U	25% glass reinforced PTFE/graphite

Code	Pressure class
15	ASME 150
30	ASME 300

Code	Manual operator type
L	Lever handle
G	Worm gear operator
W	Oval handwheel

When other than lever or gear operators are desired, a complete description of the actuator should follow the valve coding number.

Code	Connection
---	Raised face standard (specify for all others)

Code	Special
S	Special – give complete detail
SVB	Special vented ball (uni-directional flow required)

Body styles

Floating ball valves

Code	Body style	Bore	Connection	Pressure class	Sizes
EB700	Floating ball, one-piece body, fire-safe	Full bore Reduced bore	Flanged Flanged	ASME 150-300 ASME 150-300	NPS ½ to NPS 1½ NPS 2 to NPS 8