



FMC Technologies

Compact Valves

FMC compact valves are manufactured from quality materials to enhance the total installed value to the customer. All compact valve pressure containing components are manufactured using materials that are fully traceable and charpy impact tested to assure material performance at stated conditions. All valves are pressure tested at the factory before shipment and records are provided in the available valve data books.

VALVES





FMC Technologies original product line of compact valves has been the standard for compact ball and check valves for the last 30 years. The New Generation Compact Floating Ball Valves, Trunnion Mounted Soft-Seat Ball Valves and Swing Check Valves maintain the best of the original conventional compact valve product line, with the addition of many new design features which enhance the safety, compliance, and robust performance of an already great product.

To complement the standard New Generation compact valve product line, FMC manufactures Metal-seated Top Entry Compact Ball Valves, Poppet Diverter Valves, Double Ball Valves and Throttle Valves to allow our customers maximum flexibility to produce the most compact piping systems possible while satisfying their design requirements.

Knowledge-Based solutions engineering



Reliability can make the difference between profit and loss for every one of FMC Technologies' customers. We are committed to providing equipment, solutions, service and QHSE performance that deliver 100 percent of the time.





Compact Valves

Compact

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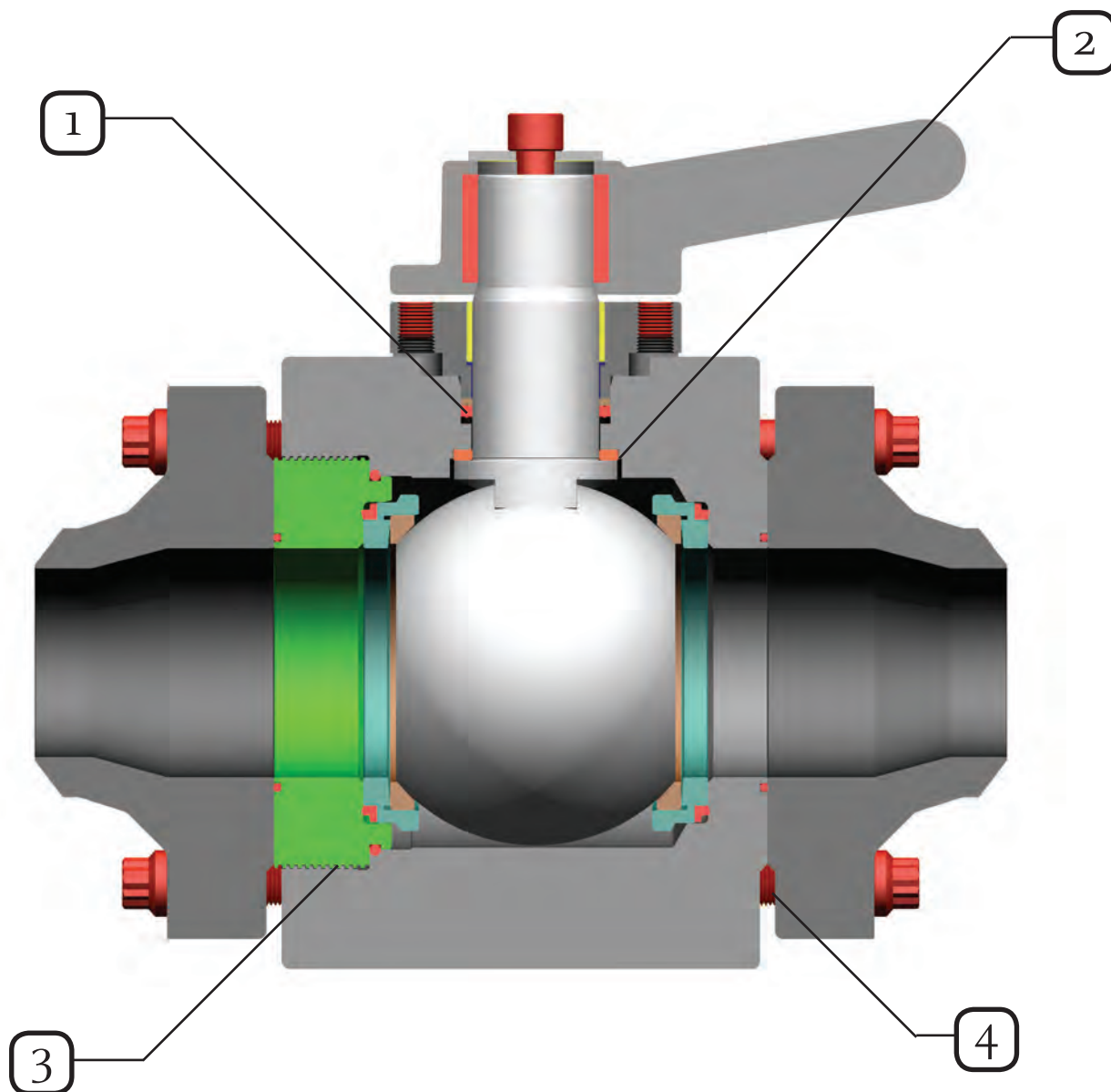
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New Generation

floating compact ball valve features

(ASME 1500, ASME 2500, API 10k) (1" through 4")



- 1 Stem seal seals between stem and body to reduce external leak paths by eliminating a bonnet to body seal.
- 2 Stem retained by body not a bolted bonnet.
- 3 Retainer threaded to body using stub Acme thread - makes valve pressure containing without flanges installed.
- 4 Large flange gap allows for 3-part paint system to prevent corrosion.

Safety

- Retainer threaded to the body using a stub Acme thread for durability and strength. This makes the valve fully pressure containing without an end connection installed on the retainer end of the valve, as is required by conventional compact valves. Retainers are coated with Xylan for corrosion protection and ease of maintenance.
- Stem is retained by a shoulder in the body, not the bonnet, making the stem fully blow-out proof.
- Valves have dedicated, built-in automation mounting locations in the valve body or bonnet to allow field installation of automation without loosening any pressure containing fasteners. Many conventional compact valves require removal and reinstallation of bonnet fasteners in order to install actuator mounting hardware.

Compliance

- New Generation compact ball valves are designed in accordance with API 6A.
- New Generation floating compact ball valves are fully compliant with the latest revision of NACE MR0175-2003 which severely limited the use of 17-4 stainless steels for valve stems and eliminated its use for pressure containing components such as bodies, bonnets, and retainers.
- New Generation compact ball valves incorporate a new “zero line spread” end connection that is fully compliant with ASME B 31.3 Chapter 9 and ASME B 31.8
- New Generation floating compact ball valves use the same sealing technologies of our conventional compact valve which have been fire tested to API 6FA and BS 6755 Part 2.

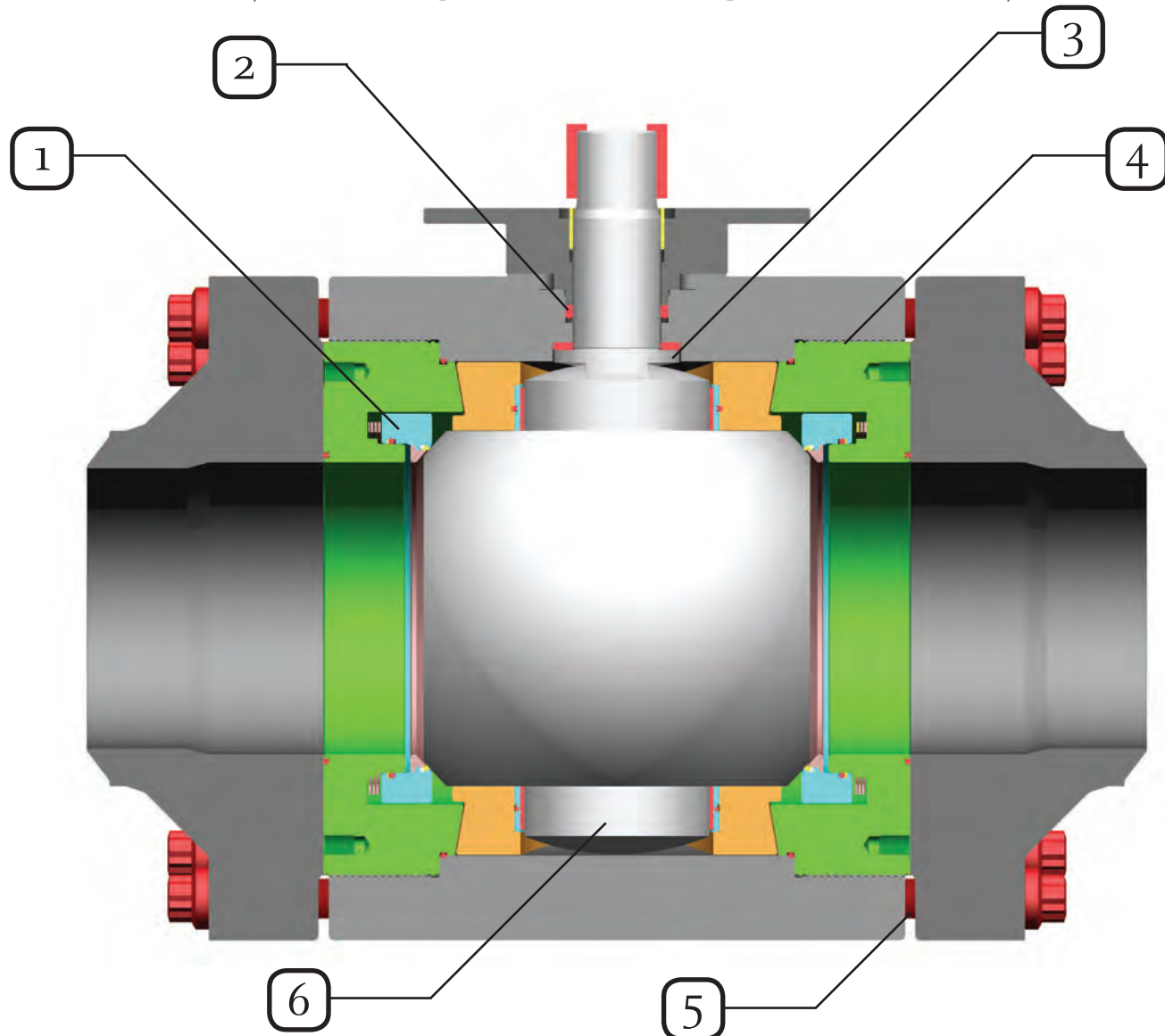
Robust Performance

- Stronger weldneck end connections allow bending loads up to 50% of pipe yield at full working pressure and up to 100% of pipe yield at no pressure assuming a pipe yield strength of 36,000 psi.
- Large 1/4 inch gap between the flange face and the body allows improved corrosion protection, eliminating the need for corrosion gaskets. This allows the use of three part paint systems between the flange and valve, and aides in removing the valve from line for maintenance.
- Incorporates the same bolt pattern on both ends of the valve eliminating assembly issues found in many conventional compact valve designs. Swivel flange fasteners are a different length than weldneck fasteners.
- Handle incorporates wrench flats to allow the valve to be operated without the extension handle and an integral stop plate that is complete with provisions for installing an FMC locking device.
- Automation Interface: stem is round with keyways to simplify adaptation between the actuator and the stem. Stem designed to shear outside of pressure boundary in the event of overload torque. The bonnet is keyed to the body to eliminate rotation when the valve is fitted with an actuator.
- 316 stainless steel nameplates are permanently installed using stainless steel screws.
- Body: body is slightly over-bored allowing easy removal of valves components for maintenance. Carriers can be removed without removing the stem.
- Stem Seal: seals to the body and the stem eliminating the need for a bonnet to body seal - fewer leak paths than conventional compact valves. Valves 3” and larger have easy external access to stem seal by removing bonnet.
- Valve bore sizes are chosen to closely match the most popular pipe bores to minimize flow turbulence in the valve bore.



New Generation

trunnion mounted soft seated
compact ball valve features (4" through 12")
(ASME 1500, ASME 2500, API 10k)



- 1 Spring loaded seats for superb low pressure sealing.
- 2 Stem seal seals to body and stem to reduce external seals.
- 3 Stem retained by body not a bolted bonnet.
- 4 Retainers threaded to body using stub Acme thread. Makes valve pressure containing without flange installed.
- 5 Large flange gap allows for 3 part paint system installation to prevent corrosion.
- 6 Trunnion mounted ball for low torque operation.

Safety

- Retainer threaded to the body using a Stub Acme thread for durability and strength. This makes the valve fully pressure containing with either end connection removed. Retainers are Xylan coated for corrosion protection and ease of maintenance.
- Stem is retained by a shoulder in the body, not the bonnet, making the stem fully blow-out proof.
- New Generation Trunnion Mounted Compact Ball Valves have dedicated, built-in automation mounting locations in the valve bonnet to allow field installation of automation without loosening any pressure containing fasteners. Many conventional compact valves require removal and reinstallation of bonnet fasteners in order to install actuator mounting hardware.
- New Generation Trunnion Mounted Compact Ball Valves have double block and bleed capability as standard. Each valve body is fitted with a stainless body bleed fitting allowing easy bleeding of the body cavity when desired.

Compliance

- New Generation compact ball valves are designed in accordance with API 6A.
- New Generation compact ball valves are fully compliant with the latest revision of NACE MR0175-2003 which severely limited the use of 17-4 stainless steels for valve stems and eliminated its use for pressure containing components such as bodies, bonnets, and retainers.
- New Generation compact ball valves incorporate a new “zero line spread” end connection that is fully compliant with ASME B 31.3 Chapter 9 and ASME B 31.8
- New Generation trunnion mounted ball valves have been fire tested to API 6FA, API 607, and BS 6755 Part 2.

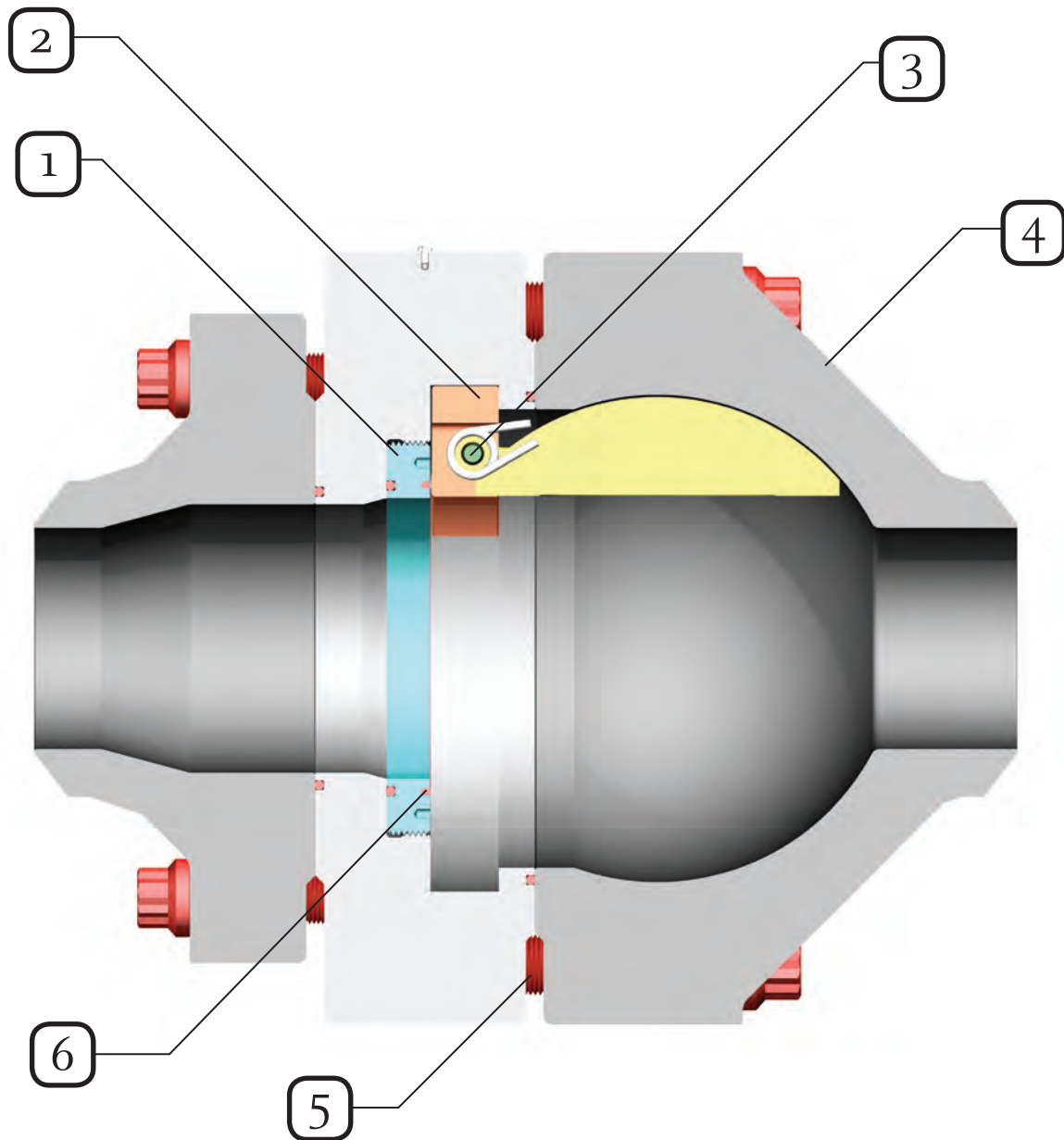
Robust Performance

- Stronger weldneck end connections allow bending loads up to 50% of pipe yield at full working pressure and up to 100% of pipe yield at no pressure assuming a pipe yield strength of 36,000 psi.
- Large 1/4 inch gap between the flange face and the body allows improved corrosion protection, eliminating the need for corrosion gaskets. This allows the use of three part paint systems between the flange and valve, and aides in removing the valve from line for maintenance.
- Incorporates the same bolt pattern on both ends of the valve eliminating assembly issues found in many conventional compact valve designs. Swivel flange fasteners are a different length than weldneck fasteners.
- Handle incorporates wrench flats to allow the valve to be operated without the extension handle and an integral stop plate that is complete with provisions for installing an FMC Technologies' locking device.
- Automation Interface: stem is round with keyways to simplify adaptation between the actuator and the stem. Stem designed to shear outside of pressure boundary in the event of overload torque. The bonnet is keyed to the body to eliminate rotation when the valve is fitted with an actuator.
- 316 stainless steel nameplates are permanently installed using stainless steel screws.
- Stem Seal: seals to the body and the stem eliminating the need for a bonnet to body seal - fewer leak paths than conventional compact valves.
- Trunnion mounted ball reduces actuation torque by as much as 50% compared to conventional compact floating ball valves.
- Trunnion bearings are self lubricating to ensure long life and low valve torque.
- Seat assembly incorporates one piece wave springs for ease of maintenance and reliability.
- Standard PEEK seat insert offers superior chemical and temperature compatibility over other soft seat materials.
- Valve bore sizes chosen to closely match the most popular pipe bores to minimize flow turbulence in the valve bore.

New Generation

compact check valve features

(ASME 1500, ASME 2500, API 10k) (1" through 12")



- 1 Stainless steel seat for superior corrosion resistance.
- 2 Flapper shoe eliminates external leak path.
- 3 Flapper spring loaded for low pressure sealing performance.
- 4 Tailpiece designed to allow valve to fully open while reducing valve length.
- 5 Large flange gap allows for 3 part paint systems to prevent corrosion.
- 6 Seat seal ring out of direct flow path for long life.

Safety

- Reduced external leak paths when compared to conventional compact check valves.
- Blowout proof seat design eliminates need to have downstream end connection installed for pressure containment.

Compliance

- New Generation compact check valves are designed in accordance with API 6A.
- New Generation compact check valves are fully compliant with the latest revision of NACE MR0175-2003 which severely limited the use of 17-4 PH stainless steels for pressure containing components such as valve bodies and pressure containing seats.
- New Generation compact ball valves incorporate a new “zero line spread” end connection that is fully compliant with ASME B 31.3 Chapter 9 and ASME B 31.8
- New Generation check valves 2” through 12” have been fire tested and certified to API 6FD.

Robust Performance

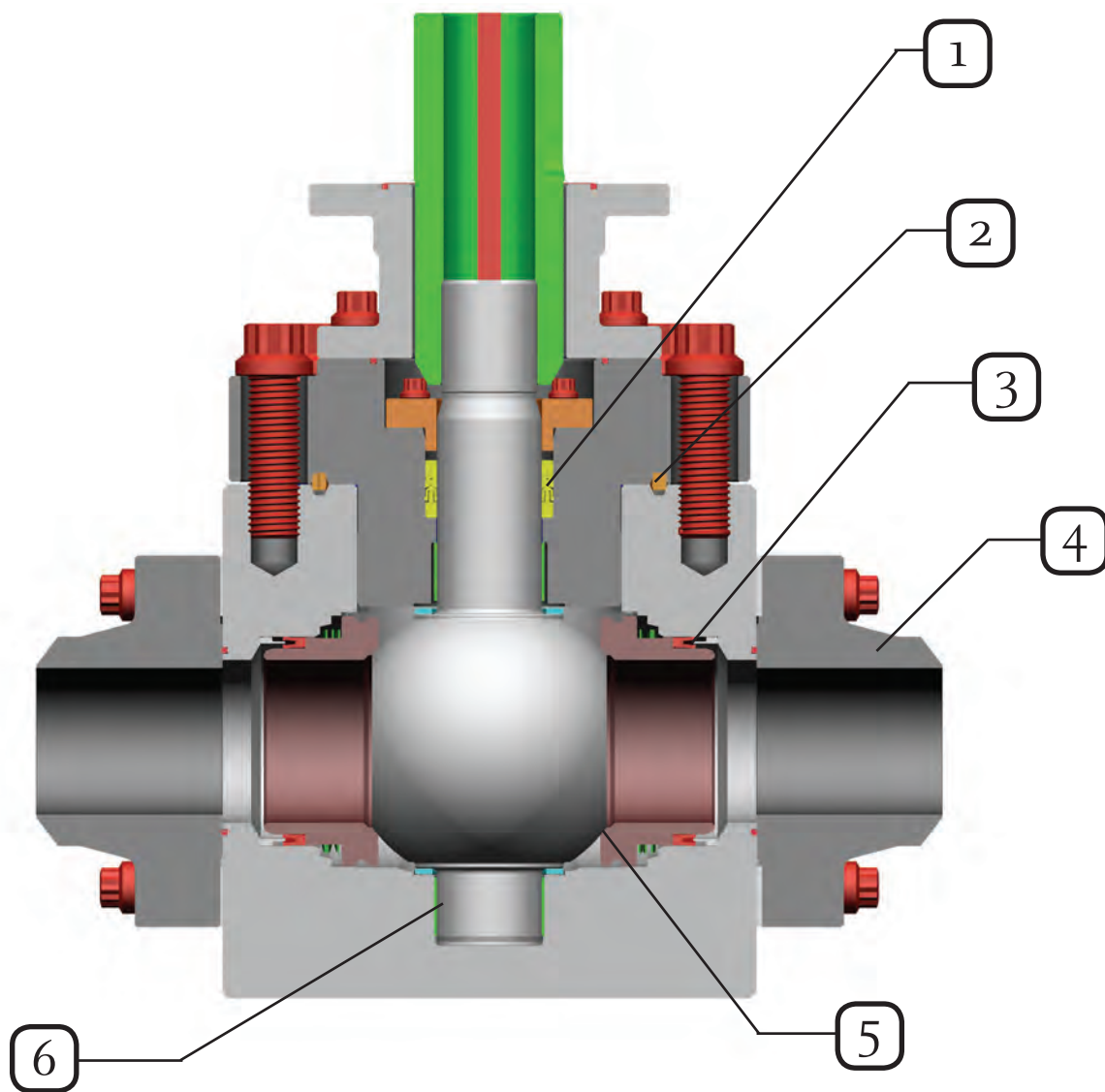
- New Generation check valves incorporate a specially designed tailpiece that allows the wafer style flapper check valve to function as a full opening valve while maintaining the smallest overall length.
- Stronger weldneck end connections allow bending loads up to 50% of pipe yield at full working pressure and up to 100% of pipe yield at no pressure assuming a yield pipe strength of 36,000 psi.
- Large 1/4 inch gap between the flange face and the body allows improved corrosion protection, eliminating the need for corrosion gaskets. This allows the use of three part paint systems between the flange and valve, and aides in removing the valve from line for maintenance.
- 316 stainless steel nameplates are permanently installed using stainless steel screws.
- Valve bore sizes chosen to closely match the most popular pipe bores to reduce or eliminate flow turbulence in the valve bore.



Metal Seated

top entry, ball valve features

(2" through 12" ASME 2500, 2" through 10" API 10k)



- 1 Non-elastomeric UV-style stem seal for long life and complete resistance to explosive decompression.
- 2 Metal to metal bonnet to body joint.
- 3 Non-elastomeric lip seals for seat to body seal offers long life and complete resistance to explosive decompression.
- 4 Variety of end connections available.
- 5 Metal to metal ball to seat sealing with tungsten carbide coating for severe service applications in sandy service.
- 6 Trunnion mounted ball for lower torque operation.

Safety

- Top entry design allows removal of either downstream end connection without loss of pressure containment and allows servicing without removing the valve from the piping.
- Double block and bleed capability to allow in line testing of the valve's sealing performance prior to service work being performed downstream.

Compliance

- Metal seated, top entry compact ball valves are designed in accordance to API 6A.
- Metal seated, top entry compact ball valves are fully compliant with the latest revision of NACE MR0175-2003 which severely limited the use of 17-4 PH stainless steels for valve stems and eliminated its use for pressure containing components such as bodies and bonnets.
- Metal seated, top entry compact ball valves incorporate a new "zero line spread" end connection that is fully compliant with ASME B 31.3 Chapter 9 and ASME B 31.8.
- Metal seated, top entry compact ball valves have been fire tested and certified to API 6FA and BS 6755 Part 2.

Robust Performance

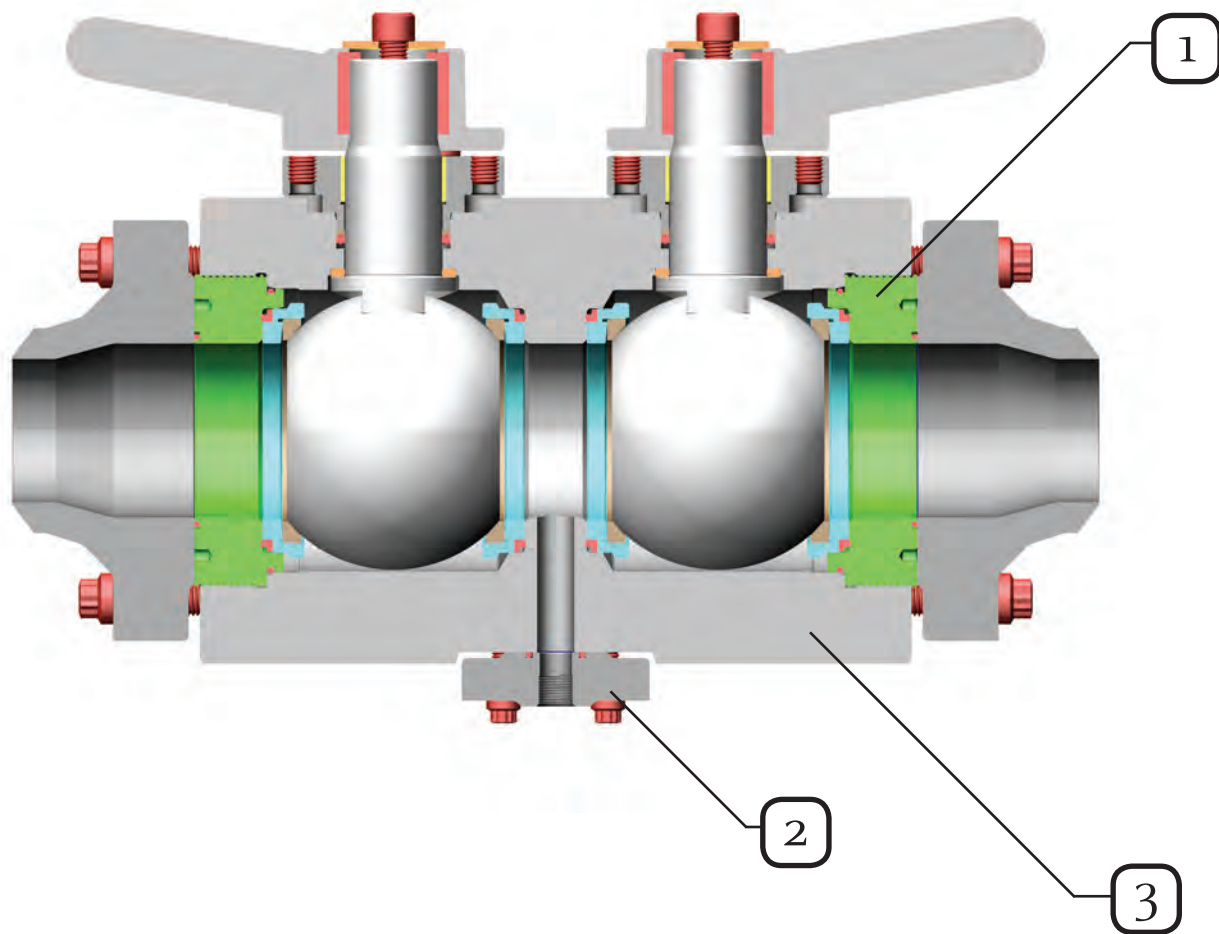
- Metal seated, top entry compact ball valves incorporate a true metal to metal seal between the seats and ball. Ball and seats are hard faced with tungsten carbide for superior performance in severe service conditions.
- Top entry design allows valve repair without removing the valve from the piping system.
- All soft seals are non-elastomeric to eliminate the threat of explosive decompression in gas service.
- Stronger weldneck end connections allow bending loads up to 50% of pipe yield at full working pressure and up to 100% of pipe yield at no pressure assuming a pipe yield strength of 36,000 psi.
- Large 1/4 inch gap between the flange face and the body allows improved corrosion protection, eliminating the need for corrosion gaskets, allows the use of three part paint systems between the flange and valve, and aides in removing the valve from line for maintenance.
- 316 stainless steel nameplates are permanently installed using stainless steel screws.
- Valve bore sizes chosen to closely match the most popular pipe bores to reduce or eliminate flow turbulence in the valve bore.



New Generation

compact double ball valve features

(ASME 1500, ASME 2500, API 10k) (1" through 12")



- * Custom valve design to fit customers space and actuation needs.
Consult factory for valve end to end dimensions.
Available in floating valve design in 1" through 4" sizes.
Available in trunnion valve design in 4" through 12".

- * Trim same as floating and Trunnion valves.

- 1 Threaded retainers have valve fully pressure containing with or without installed end connections.
- 2 Integral bleed port allowing verification of valve sealing with line pressurized.
- 3 Single piece body houses two valves. Creates 2 physical barriers between pressure and downstream work.

Safety

- True double block and bleed safety. Two valves in one solid body allow two physical barriers to pressure when working downstream of the closed valve.
- Retainers are threaded to the body using Stub Acme threads for durability and strength. This feature makes the valve fully pressure containing with either end connection removed. Retainers are Xylan coated for corrosion protection and ease of maintenance.
- Center bleed port between the valves allows testing of either valve's performance prior to conducting maintenance work downstream of the valve.

Compliance

- Double block and bleed valves are designed in accordance with API 6A.
- Double block and bleed compact ball valves are fully compliant with the latest revision of NACE MR0175-2003 which severely limited the use of 17-4 PH stainless steels for valve stems and eliminated its use for pressure containing components such as bodies and bonnets.
- New Generation compact double ball valves incorporate anew "zero line spread" end connection that is fully compliant with ASME B 31.3 Chapter 9 and ASME B 31.8.
- Valves have been fire tested and certified to API 6FA, API 607 and BS 6755 Part 2.

Robust Performance

- Incorporates many of the same design features of the New Generation ball valve with two valves in one solid body.
- Stronger weldneck end connections allow bending loads up to 50% of pipe yield at full working pressure and up to 100% of pipe yield at no pressure assuming a yield strength of 36,000 psi.
- Large 1/4 inch gap between the flange face and the body allows improved corrosion protection, eliminating the need for corrosion gaskets, allows the use of three part paint systems between the flange and valve, and aides in removing the valve from line for maintenance.
- 316 stainless steel nameplates are permanently installed using stainless steel screws.
- Valve bore sizes chosen to closely match the most popular pipe bores to reduce or eliminate flow turbulence in the valve bore.

Compact Poppet diverter valve features

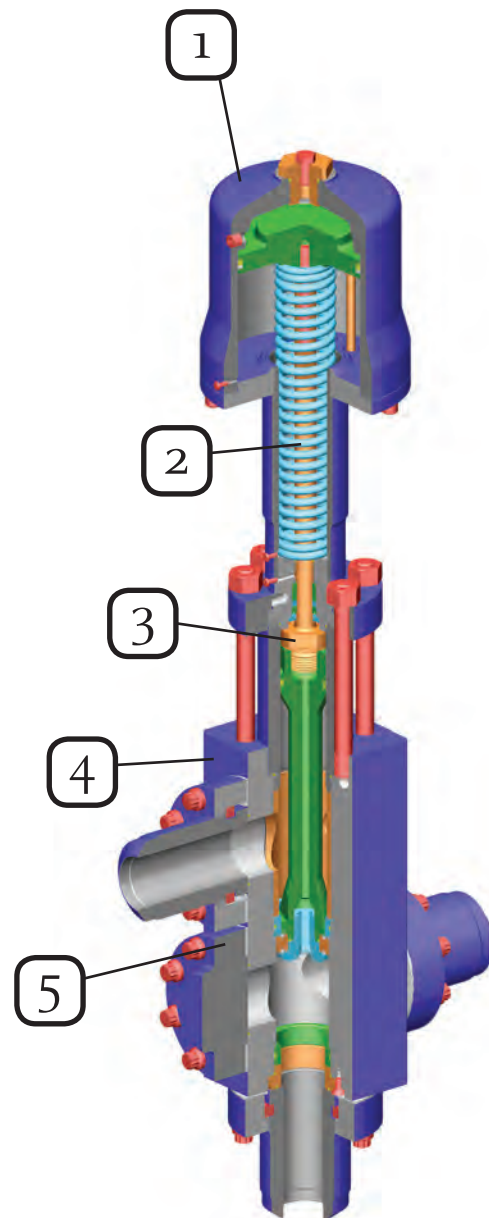
(ASME 1500, ASME 2500) (2" through 6")

Features

- Used in compact manifolds to transform header valves into safety valves.
- Modular design allows inlet to be placed on either side of the valve.
- Built-in fail safe actuation allows remote operation and biases flow to the lower port on loss of actuator pressure.
- Recessed sealing components minimize erosion effects for reduced maintenance.
- Design equalizes pressure across the seats to balance the poppet and reduce actuation forces.
- Utilizes conventional compact flanges



- 1 Integral actuator operates pneumatically, hydraulically or with field gas.
- 2 Positive spring return diverts flow to lower outlet on loss of cylinder pressure.
- 3 Small bleed ports balance pressure across seats to minimize throttling and vibrations
- 4 Modular design allows inlet to be located on either side of valve.
- 5 Sealing components are positioned out of flow stream to minimize erosion.



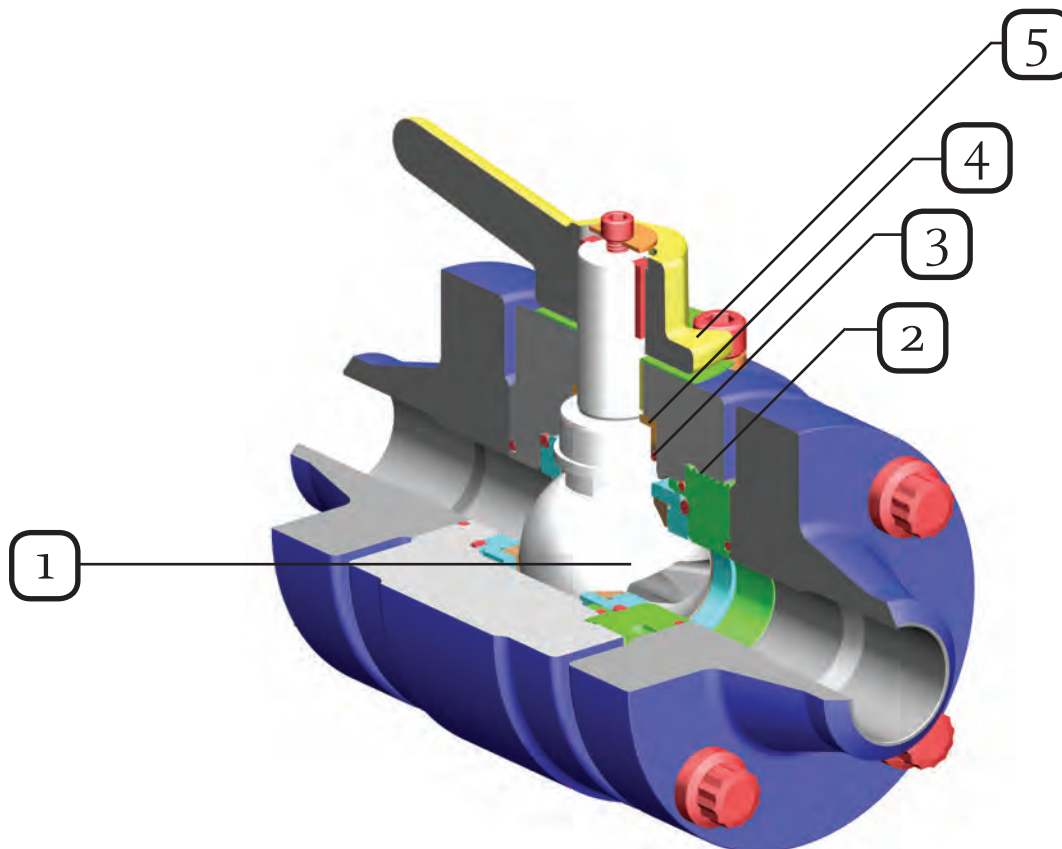


Throttle Valve

(ASME 1500, ASME 2500, API 10k) (1" through 4")

Features

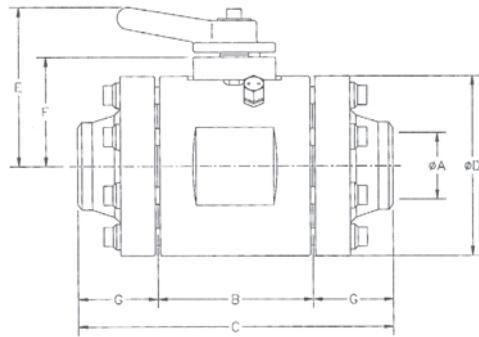
- Throttle ball valves are based on the 1B valves and include modified ball ports to allow flow control.
- Features on 1B valves apply.
- Designed to meet the demands of virtually all throttling applications.
- Flow passage is engineered specifically for high-pressure drop throttling service with precise control throughout the operating range.
- Delivers higher linear flow rates than any equivalent positive choke.
- Flow indicator for precise flow control.
- Ball design enables precise throttling with minimum erosion resistance.



- 1 Flow passage designed specifically for high pressure - drop throttling service with precise control throughout the operating range.
- 2 Retainer threaded to body using stub Acme thread - makes valve pressure containing without flanges installed.
- 3 Stem seal seals between stem and body to reduce external leak paths.
- 4 Stem retained by body not a bolted bonnet.
- 5 Indicator at top of valve for precise control.

Soft-Seated Floating Ball Valve

1" through 4" pipe size (English)



- A. Bore
- B. Valve Group Length
- C. Overall Length (WNF x WNF)
- C. Overall Length (SWF x WNF)
- D. Body Outer Diameter
- E. Handle Height
- F. Bonnet Height
- G. Weldneck Length
- G. Nipple Length

1" Through 4" Dimensions (English)

Ball Valve Model Number	Nominal Pipe Size	Working Pressure (psi)	Weight (lbs)	Bore (inch)	Valve Group Length	Overall Length (WNF x WNF)	Overall Length (SWF x WNF)	Body Outer Diameter	Handle Height	Bonnet Height	Weldneck Length	Nipple Length	
					A	B	C	C	D	E	F	G	G
1B-K0081	1	10000	26	0.81	4.00	8.25	N/A	4.50	4.28	2.25	2.13	N/A	
1B-G0150	2	6250	70	1.50	4.88	12.25	12.69	6.50	5.16	3.13	3.69	4.13	
1B-K0150	2	10000	99	1.50	6.00	15.25	15.88	7.00	5.38	3.28	4.63	5.25	
1B-F0209	3	3750	95	2.09	5.38	14.13	14.25	7.13	5.45	3.44	4.38	4.50	
1B-F0263 *	3	3750	129	2.63	6.63	13.38	13.75	7.88	7.46	4.91	3.38	3.75	
1B-G0230 *	3	6250	151	2.30	6.88	15.63	16.13	7.88	7.33	4.91	4.38	4.88	
1B-G0259 *	3	6250	167	2.59	7.13	15.63	16.50	8.38	7.54	5.11	4.25	5.13	
1B-K0213 *	3	10000	175	2.13	7.75	15.25	15.63	8.50	8.18	5.16	3.75	4.13	
1B-F0344 *	4	3750	196	3.44	7.75	15.25	15.50	9.25	7.98	5.54	3.75	4.00	
1B-F0383 *	4	3750	235	3.83	8.25	16.25	16.88	10.25	9.09	6.03	4.00	4.63	
1B-G0315 *	4	6250	230	3.15	8.38	16.63	17.13	9.50	8.72	5.66	4.13	4.63	
1B-G0363 **	4	6250	327	3.63	9.25	17.63	18.25	11.00	10.07	6.52	4.13	4.75	
1B-K0306 **	4	10000	434	3.06	10.25	19.50	20.00	12.25	10.70	7.15	4.63	5.13	

1" Through 4" Dimensions (Metric)

Ball Valve Model Number	Nominal Pipe Size	Working Pressure (psi)	Weight (kg)	Bore (mm)	Valve Group Length (mm)	Overall Length (WNF x WNF)	Overall Length (SWF x WNF)	Body Outer Diameter (mm)	Handle Height	Bonnet Height	Weldneck Length	Nipple Length	
					A	B	C	C	D	E	F	G	G
1B-K0081	1	10000	11.79	21	102	210	N/A	111	109	57	54	N/A	
1B-G0150	2	6250	31.75	38	124	311	322	165	131	80	94	105	
1B-K0150	2	10000	44.91	38	152	387	403	178	137	83	117	133	
1B-F0209	3	3750	43.09	53	137	359	362	181	138	87	111	114	
1B-F0263 *	3	3750	58.51	67	168	340	349	200	189	125	86	95	
1B-G0230 *	3	6250	68.49	58	175	397	410	200	186	125	111	124	
1B-G0259 *	3	6250	75.75	66	181	397	419	213	192	130	108	130	
1B-K0213 *	3	10000	79.38	54	197	387	397	216	208	131	95	105	
1B-F0344 *	4	3750	88.91	87	197	387	394	235	203	141	95	102	
1B-F0383 *	4	3750	106.60	97	210	413	429	260	231	153	102	118	
1B-G0315 *	4	6250	104.33	80	213	422	435	241	221	144	105	118	
1B-G0363 **	4	6250	148.33	92	235	448	464	279	256	166	105	121	
1B-K0306 **	4	10000	196.86	78	260	495	508	311	272	182	117	130	

* Dimension "F" reflects the standard bonnet provided. Bonnets for close coupling of actuation are available on request. When the close coupling bonnet is provided, dimension "F" increases 0.250 inches.

** 1B-G0363 & 1B-K0306 are not available with handles for lever operation. Close coupling bonnet is provided as standard dimension "F" shown is for close coupling bonnet.

Soft-Seated Floating Ball Valve

trim codes

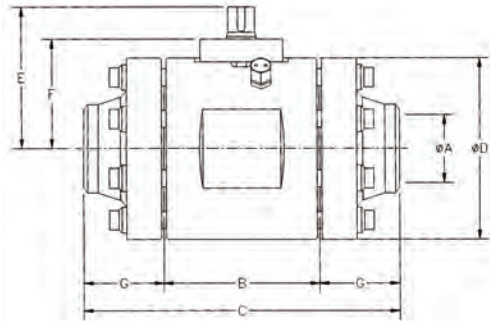
Trim coding for the new valve is also very different from the old system. Ball valve trim is a nine-digit, alphanumeric code that identifies the materials of construction and the type of service, actuation, grease, and other features. The trim code positions are defined below.

Body, Bonnet, and Retainer Material	
Place 1 (Body components) - Standard = 1	
1	4130 Body, Bonnet & Retainer
2	4130 Body, Bonnet & Retainer
A	Duplex Body, Bonnet & Retainer
B	Super Duplex Body, Bonnet & Retainer (Xylan Body & Bonnet)
F	410 SS Body, Bonnet & Retainer
N	Inconel 625 Body, Bonnet & Retainer
P	4130 / Inconel 625 Fully Clad Body, Bonnet & Retainer
Ball Material and Coating	
Place 2 (Ball Material & Coating) - Standard = 1 or 6	
1	A350-LF2 - .003" ENP Standard
3	4130 - .003" ENP Standard
6	17-4PH - .0004" Chrome
7	410 - .0004" Chrome
D	Duplex - .0004" Chrome
H	Super Duplex - .0004" Chrome
N	Inconel 718 - .0004" Chrome
Stem Material and Coating	
Place 3 (Stem Material & Coating) - Standard = 1	
1	4130 - QPQ
D	Duplex
H	Super Duplex
M	Inconel 625
N	Inconel 718
Carrier Material and Coating	
Place 4 (Carrier Material & Coating) - Standard = 1 or 6	
1	4130 Alloy
6	17-4PH
D	Duplex
H	Super Duplex
N	Inconel 625
R	410 Stainless

Carrier and Body Seal Material	
Place 5 (Carrier and Body Seal Material) - Standard = 1 or 5	
1	Nitrile
5	Viton A
A	James Walker Elast-o-Lion 101
B	James Walker Elast-o-Lion 985
H	Greene Tweed 926
Stem Seal and Backup Material	
Place 6 (Stem Seal and Backup Material) - Standard = 1 or 2	
1	Nitrile Jacket / Nitrile O-spring / PEEK Backup
2	Viton Jacket / Viton O-spring / PEEK Backup
R	Virgin Teflon Jacket / Elgiloy Spring / PEEK Backup
Seat Material	
Place 7 (Seat Material) - Standard = C or P	
C	Celcon
P	PEEK
Actuation Style	
Place 8 (Operator and Locking Device) - Standard = 1	
1	Handle or Lever
2	Handle or Lever with Locking Device
6	Bare Stem
F	Gear Operator with Hand wheel
G	Gear Operator with Hand wheel and Locking Device
Service, Grease, and Bonnet Bolting Material	
Place 9 (Service, Grease, and Bonnet Bolting) - Standard = 1	
1	Standard Grease, B7M / L7M Bonnet Bolting
3	Standard Grease, Grade 660 Bonnet Bolting
A	Low Temperature Grease, B7M / L7M Bonnet Bolting
C	Low Temperature Grease, Grade 660 Bonnet Bolting
Y	Oxygen / Air Service Grease, B7M / L7M Bonnet Bolting
Z	Oxygen / Air Grease, Grade 660 Bonnet Bolting

- Nipple and weldneck lengths are not necessarily the same. Valves are typically provided with weldneck flanges at both ends. Nipples / swivel flanges may be used at either end of the valve as an option (except as noted above.)
- Weights listed are approximate and include the standard weldneck flanges at each end. Pipe schedule, swivel flanges, actuation mounting hardware, etc., may affect the final assembly weight.

Trunnion Soft-Seated Ball Valve 4" through 12"



- A. Bore
- B. Valve Group Length
- C. Overall Length (WNF x WNF)
- C. Overall Length (SWF x WNF)
- D. B Meter
- E. Handle Height
- F. Bonnet Height
- G. Weldneck Length
- G. Nipple Length

4" Through 12" Dimensions (English)

Ball Valve Model Number	Nominal Pipe Size	Working Pressure (psi)	Weight (lbs)	Bore (inch)	Valve Group Length	Overall Length (WNF x WNF)	Overall Length (SWF x WNF)	Body Outer Diameter	Stem Height	Bonnet Height	Weldneck Length	Nipple Length
				A	B	C	C	D	E	F	G	G
2B-Fo344	4	3750	192	3.44	8.25	15.75	16.00	9.25	7.27	5.59	3.75	4.00
2B-Fo383	4	3750	257	3.83	9.25	17.25	18.00	10.25	7.64	6.09	4.00	4.75
2B-Go315	4	6250	230	3.15	8.88	17.13	17.63	9.50	7.35	5.72	4.13	4.63
2B-Go363	4	6250	308	3.63	9.75	18.50	18.75	10.63	7.79	6.28	4.38	4.63
2B-Ko306	4	10000	346	3.06	10.50	19.75	20.25	10.88	7.96	6.36	4.63	5.13
2B-Fo406	5	3750	291	4.06	9.00	17.50	18.25	10.63	7.78	6.26	4.25	5.00
2B-Go406	5	6250	420	4.06	11.00	20.50	21.25	11.88	8.46	6.86	4.75	5.00
2B-Fo519	6	3750	487	5.19	11.00	20.50	21.50	12.88	8.96	7.36	4.75	5.75
2B-Go490	6	6250	766	4.90	13.00	24.50	24.75	14.63	10.86	8.73	5.75	6.00
2B-Ko406	6	10000	716	4.06	13.50	25.00	25.00	13.88	10.47	8.34	5.75	5.75
2B-Ko513	6	10000	1227	5.13	16.00	28.50	29.00	16.88	12.44	9.81	6.25	6.75
2B-Fo709	8	3750	937	7.09	14.25	25.75	25.75	16.13	11.61	9.48	5.75	5.75
2B-Go709	8	6250	1271	7.09	16.75	29.75	30.25	17.88	12.95	10.32	6.50	7.00
2B-Ko609	8	10000	1848	6.09	19.00	33.50	34.00	20.13	14.70	11.44	7.25	7.75
2B-Ko709	8	10000	2630	7.09	22.25	39.75	39.75	22.75	16.02	12.76	8.75	8.75
2B-Fo909	10	3750	1673	9.09	17.00	30.50	31.50	19.88	13.98	11.34	6.75	7.75
2B-Go850	10	6250	2193	8.50	20.75	36.25	37.25	21.38	15.35	12.09	7.75	8.75
2B-Go909	10	6250	2485	9.09	21.25	37.75	38.50	22.63	15.86	12.72	8.25	9.00
2B-Ko763	10	10000	3338	7.63	24.25	42.75	42.75	24.63	17.18	13.72	9.25	9.25
2B-F1075	12	3750	2536	10.75	20.00	36.50	37.50	23.25	16.35	13.03	8.25	9.25
2B-G1013	12	6250	3233	10.13	23.00	41.00	42.00	25.13	17.43	13.97	9.00	10.00
2B-G1075	12	6250	3828	10.75	24.00	43.50	44.25	26.25	17.92	14.53	9.75	10.50
2B-F1140	12	3750	3201	11.40	21.25	40.25	40.25	24.75	16.92	13.78	9.50	9.50

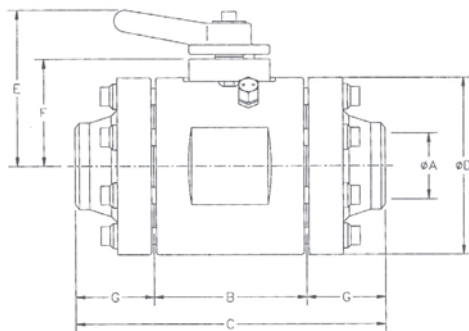
4" Through 12" Dimensions (Metric)

Model Number	Nominal Pipe Size	Working Pressure (psi)	Weight (kg)	Bore (mm)	Valve Length (mm)	Overall Length (WNF x WNF)	Overall Length (SWF x WNF)	Body Outer Diameter (mm)	Stem Height	Bonnet Height	Weldneck Length	Nipple Length
				A	B	C	C	D	E	F	G	G
2B-Fo344	4	3750	87.09	87	203	400	406	235	185	142	95	102
2B-Fo383	4	3750	116.57	97	235	438	457	260	194	155	102	121
2B-Go315	4	6250	104.33	80	225	435	448	241	187	125	105	118
2B-Go363	4	6250	139.71	92	248	470	476	270	198	160	111	118
2B-Ko306	4	10000	156.94	78	267	502	514	276	202	162	117	130
2B-Fo406	5	3750	132.00	103	229	445	464	270	198	159	108	127
2B-Go406	5	6250	190.51	103	279	521	540	302	215	174	121	127
2B-Fo519	6	3750	220.90	132	279	521	546	327	228	187	121	146
2B-Go490	6	6250	347.46	124	330	622	629	371	276	222	146	152
2B-Ko406	6	10000	324.78	103	343	635	635	352	266	212	146	146
2B-Ko513	6	10000	556.56	130	406	724	737	429	316	249	159	171

4" Through 12" Dimensions (Metric) -- continued

Model Number	Nominal Pipe Size	Working Pressure (psi)	Weight (kg)	Bore (mm)	Valve Length (mm)	Overall Length (WNF x WNF)	Overall Length (SWF x WNF)	Body Outer Diameter (mm)	Stem Height	Bonnet Height	Weldneck Length	Nipple Length
				A	B	C	C	D	E	F	G	G
2B-Fo709	8	3750	425.02	180	362	654	654	410	295	241	146	146
2B-Go709	8	6250	576.52	180	425	756	768	454	329	262	165	165
2B-Ko609	8	10000	838.25	155	483	851	864	511	373	291	184	197
2B-Ko709	8	10000	1192.96	180	565	1010	1010	578	407	324	222	222
2B-Fo909	10	3750	758.87	231	432	775	800	505	355	288	171	197
2B-Go850	10	6250	994.74	216	527	921	946	543	390	307	197	222
2B-Go909	10	6250	1127.19	231	540	959	978	575	403	323	210	229
2B-Ko763	10	10000	1514.11	194	616	1086	1086	625	436	348	235	235
2B-F1075	12	3750	1150.32	273	508	927	953	591	415	331	210	235
2B-G1013	12	6250	1466.48	257	584	1041	1067	638	443	355	216	254
2B-G1075	12	6250	1736.37	273	610	1105	1124	667	455	369	248	267
2B-F1140	12	3750	1451.96	290	540	1022	1022	629	430	350	229	241

Trunnion Soft-Seated Ball Valve 4" through 5"



- A. Bore
- B. Valve Group Length
- C. Overall Length (WNF x WNF)
- C. Overall Length (SWF x WNF)
- D. Body Outer Diameter
- E. Handle Height
- F. Bonnet Height
- G. Weldneck Length
- G. Nipple Length

4" Through 5" with Handles Dimensions (English)

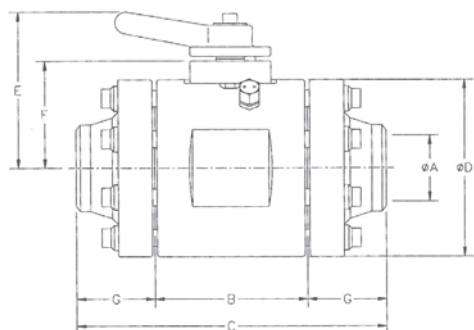
Ball Valve Model Number	Nominal Pipe Size	Working Pressure (psi)	Weight (lbs)	Bore (inch)	Valve Group Length	Overall Length (WNF x WNF)	Overall Length (SWF x WNF)	Body Outer Diameter	Handle Height	Bonnet Height	Weldneck Length	Nipple Length
				A	B	C	C	D	E	F	G	G
2B-Fo344	4	3750	192	3.44	8.25	15.75	16.00	9.25	8.15	5.59	3.75	3.75
2B-Fo383	4	3750	257	3.83	9.25	17.25	18.00	10.25	8.56	6.09	4.00	4.50
2B-Go315	4	6250	230	3.15	8.88	17.13	17.63	9.50	8.27	5.72	4.13	4.38
2B-Go363	4	6250	308	3.63	9.75	18.50	18.75	10.63	8.71	6.28	4.38	4.38
2B-Ko306	4	10000	346	3.06	10.50	19.75	20.25	10.88	8.79	6.36	4.63	4.63
2B-Fo406	5	3750	291	4.06	9.00	17.50	18.25	10.63	8.69	6.26	4.25	5.00
2B-Go406	5	6250	420	4.06	11.00	20.50	21.25	11.88	9.29	6.86	4.75	5.00
2B-Fo519	6	3750	487	5.19	11.00	20.50	21.50	12.88	9.79	7.36	4.75	5.75

- Nipple and weldneck lengths are not necessarily the same. Valves are typically provided with weldneck flanges at both ends. Nipples / swivel flanges may be used at either end of the valve as an option (except as noted above.)
- Dimension "F" reflects the standard bonnet provided. Bonnets for close coupling of actuation are available on request. When the close coupling bonnet is provided, dimension "F" increases 0.250 inches.



Trunnion Soft-Seated Ball Valve

4" through 5"



- A. Bore
- B. Valve Group Length
- C. Overall Length (WNF x WNF)
- C. Overall Length (SWF x WNF)
- D. Body Outer Diameter
- E. Handle Height
- F. Bonnet Height
- G. Weldneck Length
- G. Nipple Length

4" Through 5" with Handles Dimensions (Metric)

Ball Valve Model Number	Nominal Pipe Size	Working Pressure (psi)	Weight (KG)	Bore (mm)	Valve Group Length (mm)	Overall Length (WNF x WNF)	Overall Length (SWF x WNF)	Body Outer Diameter (mm)	Handle Height	Bonnet Height	Weldneck Length	Nipple Length
				A	B	C	C	D	E	F	G	G
2B-Fo344	4	3750	87.09	87.33	210	400	406	235	207	142	95	95
2B-Fo383	4	3750	116.57	97.18	235	438	457	260	217	155	102	114
2B-Go315	4	6250	104.33	80.01	225	435	448	241	210	145	105	111
2B-Go363	4	6250	139.71	92.08	248	470	476	270	221	160	111	111
2B-Ko306	4	10000	156.94	77.80	267	502	514	276	223	162	117	117
2B-Fo406	5	3750	132.00	103.20	229	445	464	270	221	159	108	127
2B-Go406	5	6250	190.51	103.20	279	521	540	302	236	174	121	127
2B-Fo519	6	3750	220.90	131.78	279	521	546	327	249	187	121	146

- Nipple and weldneck lengths are not necessarily the same. Valves are typically provided with weldneck flanges at both ends. Nipples / swivel flanges may be used at either end of the valve as an option (except as noted above.)
- Dimension "F" reflects the standard bonnet provided. Bonnets for close coupling of actuation are available on request. When the close coupling bonnet is provided, dimension "F" increases 0.250 inches.

Trunnion Soft-Seated Ball Valve

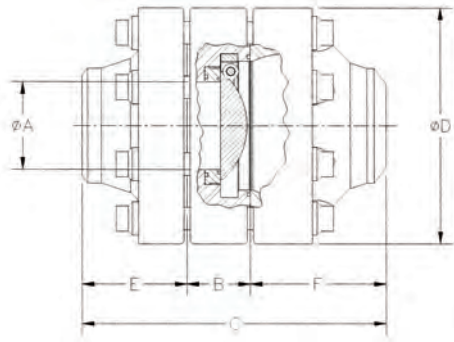
trim codes

Body, Bonnet, and Retainer Material	
Place 1 (Body components) - Standard = 1	
1	4130 Body, Bonnet & Retainer
2	4130 Body, Bonnet & Retainer (Xylan Body & Bonnet)
A	Duplex Body, Bonnet & Retainer
B	Super Duplex Body, Bonnet & Retainer
F	410 SS Body, Bonnet & Retainer
N	Inconel 625 Body, Bonnet & Retainer
P	Full Clad 625
Q	4130 / Inconel 625 Partial Clad Body, Bonnet & Retainer
Ball Material and Coating	
Place 2 (Ball Material & Coating) - Standard = 3 or 6	
3	4130 - .003" ENP Standard
6	17-4PH - .0004" Chrome
7	410 - .0004" Chrome
D	Duplex - .0004" Chrome
H	Super Duplex - .0004" Chrome
N	Inconel 718 - .0004" Chrome
Stem Material and Coating	
Place 3 (Stem Material & Coating) - Standard = 1	
D	Duplex
1	4130 - QPQ
H	Super Duplex
M	Inconel 625
N	Inconel 718
Carrier Material and Coating	
Place 4 (Carrier Material & Coating) - Standard = 1 or 6	
1	4130 Alloy
6	17-4PH
D	Duplex
H	Super Duplex
N	Inconel 625
R	410 Stainless

Carrier and Body Seal Material	
Place 5 (Carrier and Body Seal Material) - Standard = 1 or 5	
1	Nitrile
5	Viton A
A	James Walker Elast-o-Lion 101
B	James Walker Elast-o-Lion 985
H	Greene Tweed 926
Stem Seal and Backup Material	
Place 6 (Stem Seal and Backup Material) - Standard = 1 or 2	
1	Nitrile Jacket / Nitrile O-spring / PEEK Backup
2	Viton Jacket / Viton O-spring / PEEK Backup
R	Virgin Teflon Jacket / Elgiloy Spring / PEEK Backup
Seat Material	
Place 7 (Seat Material) - Standard = P	
P	PEEK
Actuation Style	
Place 8 (Operator and Locking Device) - Standard = 1	
1	Handle or Lever
2	Handle or Lever with Locking Device
6	Bare Stem
F	Gear Operator with Hand wheel
G	Gear Operator with Hand wheel and Locking Device
Service, Grease, and Bonnet Bolting Material	
Place 9 (Service, Grease, and Bonnet Bolting) - Standard = 1	
1	Standard Grease, B7M / L7M Bonnet Bolting
3	Standard Grease, Grade 660 Bonnet Bolting
A	Low Temperature Grease, B7M / L7M Bonnet Bolting
C	Low Temperature Grease, Grade 660 Bonnet Bolting
Y	Oxygen / Air Service Grease, B7M / L7M Bonnet Bolting
Z	Oxygen / Air Grease, Grade 660 Bonnet Bolting



Compact Check Valves 1" through 12"



- A. Bore
- B. Valve Group Length
- C. Overall Length (WNF x TP)
- C. Overall Length (SWF x TP)
- D. Body Outer Diameter
- E. Weldneck Length
- E. Nipple Length
- F. Tailpiece Length

1" Through 12" Dimensions (English)

Check Valve Model Number	Nominal Pipe Size	Working Pressure (psi)	Weight (lbs)	Bore (inch)	Valve Group Length	Overall Length (WNF x TP)	Overall Length (SWF x TP)	Body Outer Diameter	Weldneck Length	Nipple Length	Tailpiece Length
				A	B	C	C	D	E	E	F
C-K0081	1	10000	21.38	0.81	2.13	7.13	N/A	5.25	2.13	N/A	2.88
C-G0150	2	6250	44.79	1.50	2.13	9.38	9.81	6.25	3.69	4.13	3.56
C-K0150	2	10000	57.79	1.50	2.13	10.38	11.00	6.56	4.63	5.25	3.63
C-F0209	3	3750	61.43	2.09	2.38	10.50	10.63	6.88	4.38	4.50	3.75
C-F0263	3	3750	69.34	2.63	2.25	10.13	10.50	7.88	3.38	3.75	4.50
C-G0230	3	6250	86.90	2.30	2.50	11.13	11.63	7.88	4.38	4.88	4.25
C-G0259	3	6250	96.00	2.59	2.50	11.50	12.38	8.38	4.25	5.13	4.75
C-K0213	3	10000	96.86	2.13	2.88	11.13	11.88	8.63	3.75	4.13	4.88
C-F0344	4	3750	113.48	3.44	2.50	11.63	11.88	9.25	3.75	4.00	5.38
C-F0383	4	3750	173.70	3.83	3.13	14.00	14.63	11.00	4.00	4.63	6.88
C-G0315	4	6250	156.71	3.15	3.25	13.00	13.50	10.13	4.13	4.63	5.63
C-G0363	4	6250	236.72	3.63	3.25	14.88	15.50	12.25	4.13	4.75	7.50
C-K0306	4	10000	189.22	3.06	3.50	13.63	14.38	10.38	4.63	5.13	5.75
C-F0406	5	3750	181.54	4.06	3.25	13.50	14.50	11.00	4.00	5.00	6.25
C-G0406	5	6250	265.68	4.06	3.75	15.00	15.75	12.25	4.25	5.00	7.00
C-F0519	6	3750	338.80	5.19	3.75	16.25	17.25	13.50	4.75	5.75	7.75
C-G0490	6	6250	457.48	4.90	3.75	18.00	18.00	14.75	5.75	5.75	8.50
C-K0406	6	10000	527.93	4.06	5.00	19.25	19.25	15.38	5.75	5.75	8.50
C-K0513	6	10000	624.53	5.13	5.00	20.50	20.50	15.88	6.50	6.50	9.00
C-F0709	8	3750	583.52	7.09	4.25	18.75	18.75	17.00	5.75	5.75	8.75
C-G0709	8	6250	832.20	7.09	4.75	22.00	N/A	18.63	7.25	N/A	10.00
C-K0609	8	10000	913.54	6.09	5.75	24.00	N/A	17.75	8.75	N/A	9.50
C-K0709	8	10000	1434.36	7.09	7.25	28.50	N/A	20.00	8.50	N/A	12.75
C-F0909	10	3750	1252.15	9.09	5.75	25.00	N/A	21.50	6.75	N/A	12.50
C-G0850	10	6250	1538.77	8.50	5.75	28.25	N/A	22.00	8.25	N/A	14.25
C-G0909	10	6250	1589.36	9.09	5.75	28.25	N/A	22.00	8.25	N/A	14.25
C-K0763	10	10000	1509.84	7.63	7.25	29.50	N/A	20.00	10.25	N/A	12.00
C-F1075	10	3750	1657.89	10.75	5.75	29.00	N/A	22.88	9.00	N/A	14.25
C-G1013	12	6250	2245.85	10.13	7.50	33.00	N/A	23.88	9.50	N/A	16.25
C-G1075	12	6250	2423.48	10.75	7.75	35.50	N/A	24.50	10.50	N/A	17.25
C-F1140	12	3750	1816.51	11.40	6.25	33.25	N/A	23.88	11.00	N/A	16.00

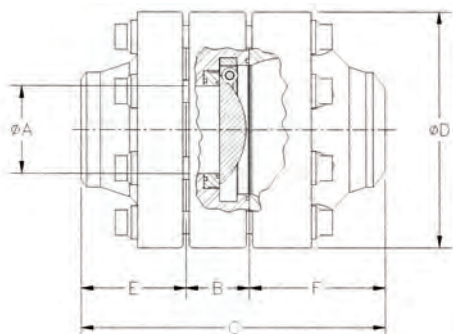
- Nipple and weldneck lengths are not necessarily the same. Valves are typically provided with weldneck flanges at the upstream end. Nipples / swivel flanges may be used at the upstream end of the valve as an option (except as noted above). Tailpieces are always required at the downstream end.
- Weights listed are approximate and include the standard weldneck flanges at the upstream end and a tailpiece at the downstream end. Pipe schedule, swivel flanges, etc., may affect the final assembly weight.
- The following valve models are available with thru-hole bodies for close coupling of the check valve to connectors or other valves. [C-G0150, C-K0150, C-F0209, C-F0263, C-G0230, C-G0259].





Compact Check Valves

1" through 12"



- A. Bore
- B. Valve Group Length
- C. Overall Length (WNF x TP)
- C. Overall Length (SWF x TP)
- D. Body Outer Diameter
- E. Weldneck Length
- E. Nipple Length
- F. Tailpiece Length

1" Through 12" Dimensions (Metric)

Check Valve Model Number	Nominal Pipe Size	Working Pressure (psi)	Weight (kg)	Bore (mm)	Valve Group Length (mm)	Overall Length (WNF x WNF)	Overall Length (SWF x WNF)	Body Outer Diameter (mm)	Weldneck Length	Nipple Length	Tailpiece Length
				A	B	C	C	D	E	E	F
C-K0081	1	10000	9.70	21	54	181	N/A	133	54	N/A	73
C-G0150	2	6250	20.32	38	54	238	249	159	94	105	90
C-K0150	2	10000	26.21	38	54	264	279	167	117	133	92
C-F0209	3	3750	27.86	53	60	267	270	175	111	114	95
C-F0263	3	3750	31.45	67	57	257	267	200	86	95	114
C-G0230	3	6250	39.42	58	64	283	295	200	111	124	108
C-G0259	3	6250	43.55	66	64	292	314	213	108	130	121
C-K0213	3	10000	43.94	54	73	283	302	219	95	105	124
C-F0344	4	3750	51.47	87	64	295	302	235	95	102	137
C-F0383	4	3750	78.79	97	79	356	372	279	102	118	175
C-G0315	4	6250	71.08	80	83	330	343	257	105	118	143
C-G0363	4	6250	107.38	92	83	378	394	311	105	121	191
C-K0306	4	10000	85.83	78	89	346	365	264	117	130	146
C-F0406	5	3750	82.35	103	83	343	368	279	102	127	159
C-G0406	5	6250	120.51	103	95	381	400	311	108	127	178
C-F0519	6	3750	153.68	132	95	413	438	343	121	146	197
C-G0490	6	6250	207.51	124	95	457	457	375	146	146	216
C-K0406	6	10000	239.47	103	127	489	489	391	146	146	216
C-K0513	6	10000	283.28	130	127	521	521	403	165	165	229
C-F0709	8	3750	264.68	180	108	476	476	432	146	146	222
C-G0709	8	6250	377.48	180	121	559	N/A	473	184	N/A	254
C-K0609	8	10000	414.38	155	146	610	N/A	451	222	N/A	241
C-K0709	8	10000	650.62	180	184	724	N/A	508	216	N/A	324
C-F0909	10	3750	567.97	231	146	635	N/A	546	171	N/A	318
C-G0850	10	6250	697.98	216	146	718	N/A	559	210	N/A	362
C-G0909	10	6250	720.93	231	146	718	N/A	559	210	N/A	362
C-K0763	10	10000	684.86	194	184	749	N/A	508	260	N/A	305
C-F1075	10	3750	752.01	273	146	737	N/A	581	229	N/A	362
C-G1013	12	6250	1018.71	257	191	838	N/A	606	241	N/A	413
C-G1075	12	6250	1099.28	273	197	902	N/A	622	267	N/A	438
C-F1140	12	3750	823.96	290	159	845	N/A	606	279	N/A	406

- Nipple and weldneck lengths are not necessarily the same. Valves are typically provided with weldneck flanges at the upstream end. Nipples / swivel flanges may be used at the upstream end of the valve as an option (except as noted above). Tailpieces are always required at the downstream end.
- Weights listed are approximate and include the standard weldneck flanges at the upstream end and a tailpiece at the downstream end. Pipe schedule, swivel flanges, etc., may affect the final assembly weight.
- The following valve models are available with thru-hole bodies for close coupling of the check valve to connectors or other valves. [C-G0150, C-K0150, C-F0209, C-F0263, C-G0230, C-G0259].

Compact Check Valve

trim codes

Check valve trim is a four-digit alphanumeric code that identifies the materials of construction, the type of service, and other features. The trim code positions are defined below.

Body, Material and Coating

Place 1 (Body components) - Standard = 1

1	4130 Alloy
2	4130 Alloy - Xylan Internal
A	Duplex
B	Super Duplex
F	410 Stainless
N	Inconel 625
P	4130 Alloy - Inconel 625 Fully Clad
Q	4130 Alloy - Inconel 625 Partially Clad

Seat Material and Coating

Place 2 (Seat components) - Standard = 2

2	17-4 PH
A	4130 Alloy
D	Duplex
E	Super Duplex
G	Inconel 625

Flapper Material and Coating

Place 3 (Flapper components) - Standard = 2

2	17-4 PH
A	Inconel 718
D	Duplex
E	Super Duplex

Body Seal Materials

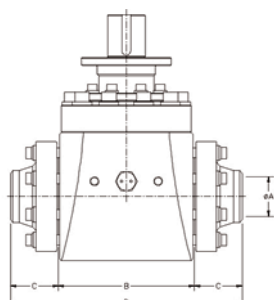
Place 4 (Elastomer Material) - Standard = 1 or 3

1	Nitrile
3	Viton A
A	James Walker Elast-o-Lion 101
B	James Walker Elast-o-Lion 985
H	Greene Tweed 926
H	Super Duplex
N	Inconel 625
R	410 Stainless



Metal-Seated, Top Entry Ball Valve

2" through 12"



- A. Bore (inch)
- B. Valve Group Length
- C. Flange Length
- C. Flange Length
- D. Assembly Length (WNF x WNF)

2" Through 12" Dimensions (English)

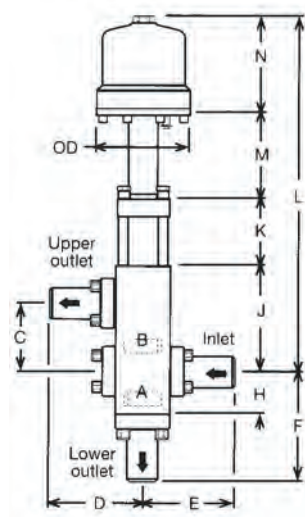
Ball Valve Model Number	Bore (inch)	Nominal Pipe Size (inch)	Working Pressure (psi)	Length (inch)	Length w/Std Flanges	Weight (lbs)
8B-G0150	1.50	2	6250	7.50	14.88	165
8B-G0259	2.59	3	6250	9.00	15.75	350
8B-G0315	3.15	4	6250	11.50	20.25	450
8B-G0490	4.90	6	6250	16.00	31.50	1100
8B-G0709	7.09	8	6250	20.00	33.00	2500
8B-G0850	8.50	10	6250	25.00	40.50	5000
8B-G1013	10.13	12	6250	29.50	49.00	8000
8B-K0150	1.50	2	10,000	7.50	16.75	175
8B-K0213	2.13	3	10,000	9.25	16.75	400
8B-K0306	3.06	4	10,000	12.00	21.25	525
8B-K0513	5.13	6	10,000	17.50	30.00	1400
8B-K0709	7.09	8	10,000	23.00	40.50	3250
8B-K0763	7.63	10	10,000	29.00	47.50	5600

2" Through 12" Dimensions (Metric)

Ball Valve Model Number	Bore (mm)	Nominal Pipe Size (mm)	Working Pressure (psi)	Length (mm)	Length w/Std Flanges (mm)	Weight (kg)
8B-G0150	38.1	2	6250	191	379	75
8B-G0259	65.8	3	6250	227	400	159
8B-G0315	80.0	4	6250	292	514	204
8B-G0490	124.5	6	6250	406	800	499
8B-G0709	180.1	8	6250	508	838	1134
8B-G0850	215.9	10	6250	635	1029	2268
8B-G1013	257.3	12	6250	749	1245	3629
8B-K0150	38.1	2	10,000	191	425	79
8B-K0213	54.1	3	10,000	235	425	181
8B-K0306	77.7	4	10,000	305	540	238
8B-K0513	130.3	6	10,000	445	762	635
8B-K0709	180.1	8	10,000	584	1029	1474
8B-K0763	193.8	10	10,000	737	1207	2540

- Consult factory for Trim Codes.

Poppet Diverter Valve



- A. Seat Dia. Production
- B. Equiv. Seat Dia. Test
- C. Offset Test Outlet
- D. Weld End Test
- E. Weld End Inlet
- F. Weld End Production
- G. Body Width
- H. Body Below Inlet
- J. Body Above Inlet
- K. Bonnet flg. Height
- L. Cylinder Above Inlet
- M. Spring Hsg. Height
- N. Cylinder Height
- P. Nipple O.D. (max)
- OD. Cylinder O.D.

Poppet Diverter Valve Dimensions

Nominal Working Pressure psi (bar)	Nominal Size inches (mm)	Valve Model	Port Diameter inches (mm)	Weight With End Fittings lbs (kg)
3705 (250)	2 (50)	D1860	1 ⁷ / ₈ (47)	125 (56)
	3 (75)	D2536	2 ¹ / ₂ (63)	172 (78)
	4 (100)	D3536	3 ¹ / ₂ (88)	380 (172)
	8 (200)	D7136		
6170 (420)	2 (50)	D1860	1 ⁷ / ₈ (47)	125 (56)
	3 (75)	D2560	2 ¹ / ₂ (63)	260 (117)
	4 (100)	D3560	3 ¹ / ₂ (88)	535 (242)
	6 (150)	D5060	5 (127)	1155 (523)
	8 (200)	D6860		

Poppet Diverter Valve Specifications

Type	A	B	C	D	E	F	G	H	J	K	L	M	N	P	OD
D1860	1 ⁷ / ₈ (47)	1 ¹ / ₂ (38)	5 ¹ / ₂ (139)	8 ³ / ₄ (209)	7 ¹ / ₄ (184)	8 ¹ / ₄ (222)	4 (101)	3 ¹ / ₂ (88)	7 ¹ / ₂ (190)	6 ¹ / ₂ (165)	29 (736)	6 ³ / ₄ (171)	8 ¹ / ₄ (209)	2 ⁷ / ₈ (73)	7 ¹ / ₄ (184)
D2536	2 ¹ / ₂ (63)	2 ¹ / ₁₆ (52)	6 ¹ / ₂ (165)	8 (203)	8 (203)	10 (254)	4 ¹ / ₂ (114)	4 ¹ / ₂ (107)	10 ³ / ₄ (273)	6 ¹ / ₄ (171)	36 (914)	8 ¹ / ₂ (215)	10 (254)	3 ¹ / ₂ (88)	8 ¹ / ₂ (215)
D3536	3 ¹ / ₂ (88)	3 ³ / ₈ (79)	5 ¹ / ₂ (139)	10 ³ / ₄ (260)	10 ¹ / ₃ (260)	11 ¹ / ₂ (292)	7 ¹ / ₂ (190)	5 (127)	10 ¹ / ₂ (266)	5 (127)	34 (863)	8 ¹ / ₂ (215)	10 (254)	5 (127)	8 ¹ / ₂ (215)
D1860	1 ⁷ / ₈ (47)	1 ¹ / ₂ (38)	5 ¹ / ₂ (139)	8 ³ / ₄ (209)	7 ¹ / ₄ (184)	8 ³ / ₄ (222)	4 (101)	3 ¹ / ₂ (88)	7 ¹ / ₂ (190)	6 ¹ / ₂ (165)	29 (736)	6 ³ / ₄ (171)	8 ¹ / ₄ (209)	2 ⁷ / ₈ (73)	7 ¹ / ₄ (184)
D2560	2 ¹ / ₂ (63)	2 ¹ / ₁₆ (52)	6 ¹ / ₂ (165)	8 ³ / ₄ (222)	8 ¹ / ₄ (222)	10 (266)	6 (152)	4 ¹ / ₄ (107)	10 ³ / ₄ (273)	6 ³ / ₄ (171)	36 (914)	8 ¹ / ₂ (215)	10 (254)	3 ¹ / ₄ (951)	8 ¹ / ₂ (215)
D3560	3 ¹ / ₂ (88)	3 (76)	9 (288)	10 ¹ / ₂ (266)	10 ¹ / ₂ (266)	11 ¹ / ₂ (292)	8 (203)	5 (127)	14 (355)	6 ³ / ₄ (171)	43 ¹ / ₄ (1111)	11 ³ / ₄ (298)	11 ¹ / ₄ (285)	5 (127)	9 ¹ / ₄ (247)
D5060	5 (127)	4 (101)	12 (304)	12 (304)	12 (304)	13 ¹ / ₄ (349)	11 (279)	7 ¹ / ₄ (184)	19 ¹ / ₄ (488)	9 ¹ / ₄ (234)	53 ¹ / ₂ (1358)	11 ¹ / ₂ (292)	13 ¹ / ₂ (342)	7 ¹ / ₂ (190)	11 ³ / ₄ (298)

• Consult factory for Trim Codes.



Throttle Valve

1" through 4"

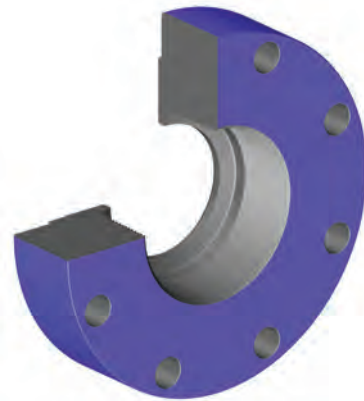
Valve Model Number	Nominal Size (mm)	Max Orifice (mm)	Pressure PSI (bar)	Flowrate B/D (M3/D) at percent open dial readings				
				20%	40%	60%	80%	100%
1B-K0081	1 (25)	5/16 (8)	250 (17)	390 (62)	760 (121)	1,170 (186)	1,450 (231)	1,600 (254)
			500 (34)	550 (87)	1,100 (175)	1,680 (267)	2,060 (328)	2,250 (358)
			1,000 (69)	790 (126)	1,560 (248)	2,400 (382)	2,950 (469)	3,200 (509)
			1,500 (103)	960 (153)	1,930 (307)	2,950 (469)	3,640 (579)	3,950 (628)
			2,000 (138)	1,120 (178)	2,200 (350)	3,400 (541)	4,200 (668)	4,600 (731)
2,500 (172)	1,250 (199)	2,500 (397)	3,800 (604)	4,700 (747)	5,200 (827)			
1B-G0150 1B-K0150	2 (50)	5/8 (16)	250 (17)	980 (156)	2,170 (345)	3,520 (560)	4,510 (717)	5,000 (795)
			500 (34)	1,400 (223)	3,100 (493)	5,000 (795)	6,400 (1,018)	7,100 (1,129)
			1,000 (69)	2,000 (318)	4,400 (700)	7,200 (1,145)	9,100 (1,447)	10,200 (1,622)
			1,500 (103)	2,450 (390)	5,400 (859)	8,800 (1,399)	11,200 (1,781)	12,500 (1,987)
			2,000 (138)	2,850 (453)	6,220 (989)	10,200 (1,622)	13,000 (2,067)	14,400 (2,289)
2,500 (172)	3,200 (509)	6,950 (1,105)	11,400 (1,812)	14,600 (2,321)	16,100 (2,560)			
1B-F0209 1B-G0230	3 (75)	1 1/4 (32)	250 (17)	3,650 (580)	7,300 (1,161)	11,200 (1,781)	14,900 (2,369)	16,700 (2,655)
			500 (34)	5,200 (827)	10,400 (1,653)	15,700 (2,496)	21,000 (3,339)	23,700 (3,768)
			1,000 (69)	7,400 (1,177)	14,800 (2,353)	22,500 (3,577)	30,000 (4,770)	33,700 (5,358)
			1,500 (103)	9,100 (1,447)	18,200 (2,894)	27,500 (4,372)	36,500 (5,803)	41,500 (6,598)
			2,000 (138)	10,500 (1,669)	21,000 (3,339)	31,800 (5,056)	42,000 (6,677)	47,000 (7,472)
2,500 (172)	11,800 (1,876)	23,500 (3,736)	35,600 (5,660)	47,000 (7,472)	52,500 (8,347)			
1B-F0344 1B-G0315	4 (100)	1 7/8 (48)	250 (17)	8,500 (1,351)	17,000 (2,703)	26,100 (4,150)	34,700 (5,517)	38,900 (6,185)
			500 (34)	12,100 (1,924)	24,200 (3,848)	36,600 (5,819)	48,900 (7,775)	55,200 (8,776)
			1,000 (69)	17,200 (2,735)	34,500 (5,485)	52,400 (8,331)	69,900 (11,130)	78,500 (12,481)
			1,500 (103)	21,200 (3,371)	42,400 (6,741)	64,100 (10,191)	85,000 (13,514)	95,500 (15,184)
			2,000 (138)	24,500 (3,895)	48,900 (7,775)	74,100 (11,781)	97,900 (15,565)	109,500 (17,409)
2,500 (172)	27,500 (4,372)	54,800 (8,713)	82,900 (13,180)	109,500 (17,409)	122,300 (19,445)			

- This table is useful in determining which throttle ball valve is appropriate for your application.
- Maximum pressure differential is 2,500 psi.
- Size flowrate for minimum 20% opening.
- Reduced orifices are available for special applications.
- Dimensions are the same as soft seated floating ball valve. (1B-Series)

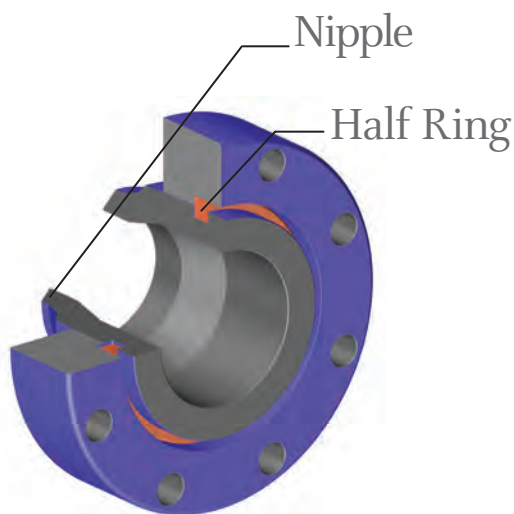
Common End connections



Weldneck Flange



Threaded Flange



Swivel Flange Set



Soft-Seated Floating Ball Valve Flange Data

Ball Valve Model Number	Working Pressure (PSI)	Nominal Pipe Size	Weldneck Flange Name	Blind Flange Name	Swivel Flange Name	Nipple Name	Half Ring Name
1B-K0081	10000	1	01A	01A	01A	N/A	N/A
1B-G0150	6250	2	02A	02A	02A	Ro2A0150	Ro2A
1B-K0150	10000	2	02B	02B	02B	Ro2B0150	Ro2B
1B-F0209	3750	3	03A	03A	03A	Ro3A0209	Ro3A
1B-F0263	3750	3	03D	03D	03D	Ro3D0263	Ro3D
1B-G0230	6250	3	03B	03B	03B	Ro3B0230	Ro3B
1B-G0259	6250	3	03C	03C	03C	Ro3C0259	Ro3C
1B-K0213	10000	3	03E	03E	03E	Ro3E0213	Ro3E
1B-F0344	3750	4	04A	04A	04A	Ro4A0344	Ro4A
1B-F0383	3750	4	04C	04C	04C	Ro4C0383	Ro4C
1B-G0315	6250	4	04B	04B	04B	Ro4B0315	Ro4B
1B-G0363	6250	4	04D	04D	04D	Ro4D0363	Ro4D

Trunnion Soft-Seated Ball Valve Flange Data

Ball Valve Model Number	Working Pressure (PSI)	Nominal Pipe Size	Weldneck Flange Name	Blind Flange Name	Swivel Flange Name	Nipple Name	Half Ring Name
1B-K0306	10000	4	04E	04E	04E	Ro4E0306	Ro4E
2B-F0344	3750	4	04A	04A	04A	Ro4A0344	Ro4A
2B-F0383	3750	4	04G	04G	04G	Ro4G0383	Ro4G
2B-G0315	6250	4	04H	04H	04H	Ro4H0315	Ro4H
2B-G0363	6250	4	04J	04J	04J	Ro4J0363	Ro4J
2B-K0306	10000	4	04E	04E	04E	Ro4E0306	Ro4E
2B-F0406	3750	5	05B	05B	05B	Ro5B0406	Ro5B
2B-G0406	6250	5	05C	05C	05C	Ro5C0406	Ro5C
2B-F0519	3750	6	06B	06B	06B	Ro6B0519	Ro6B
2B-G0490	6250	6	06D	06D	06D	Ro6D0490	Ro6D
2B-K0406	10000	6	06E	06E	06E	Ro6E0406	Ro6E
2B-K0513	10000	6	06F	06F	06F	Ro6F0513	Ro6F
2B-F0709	3750	8	08A	08A	08A	Ro8A0709	Ro8A
2B-G0709	6250	8	08E	08E	08E	Ro8E0709	Ro8E
2B-K0609	10000	8	08F	08F	08F	Ro8F0609	Ro8F
2B-K0709	10000	8	08G	08G	08G	Ro8G0709	Ro8G
2B-F0909	3750	10	10E	10E	10E	R10E0909	R10E
2B-G0850	6250	10	10F	10F	10F	R10F0850	R10F
2B-G0909	6250	10	10G	10G	10G	R10G0909	R10G
2B-K0763	10000	10	10H	10H	10H	R10H0763	R10H
2B-F1075	3750	12	12D	12D	12D	R12D1075	R12D
2B-G1013	6250	12	12E	12E	12E	R12E1013	R12E
2B-G1075	6250	12	12F	12F	12F	R12F1075	R12F
2B-F1140	3750	12	12H	12H	12H	R12H1140	R12H

Check Valve Flange Data

Check Valve Model Number	Working Pressure (PSI)	Nominal Pipe Size	Upstream Weldneck Flange Name	Upstream Blind Flange Name	Upstream Swivel Flange Name	Upstream Nipple Name	Upstream Half Ring Name	Tailpiece Number
C-K0081	10000	1	01A	01A	01A	N/A	N/A	C-K0081
C-G0150	6250	2	02A	02A	02A	R02A0150	R02A	C-G0150
C-K0150	10000	2	02B	02B	02B	R02B0150	R02B	C-K0150
C-F0209	3750	3	03A	03A	03A	R03A0209	R03A	C-F0209
C-F0263	3750	3	03D	03D	03D	R03D0263	R03D	C-F0263
C-G0230	6250	3	03B	03B	03B	R03B0230	R03B	C-G0230
C-G0259	6250	3	03C	03C	03C	R03C0259	R03C	C-G0259
C-K0213	10000	3	03E	03E	03E	R03E0213	R03E	C-K0213
C-F0344	3750	4	04A	04A	04A	R04A0344	R04A	C-F0344
C-F0383	3750	4	04C	04C	04C	R04C0383	R04C	C-F0383
C-G0315	6250	4	04B	04B	04B	R04B0315	R04B	C-G0315
C-G0363	6250	4	04D	04D	04D	R04D0363	R04D	C-G0363
C-K0306	10000	4	04E	04E	04E	R04E0306	R04E	C-K0306
C-F0406	3750	5	05A	05A	05A	R05A0406	R05A	C-F0406
C-G0406	6250	5	05B	05B	05B	R05B0406	R05B	C-G0406
C-F0519	3750	6	06B	06B	06B	R06B0519	R06B	C-F0519
C-G0490	6250	6	06D	06D	06D	R06D0490	R06D	C-G0490
C-K0406	10000	6	06E	06E	06E	R06E0406	R06E	C-K0406
C-K0513	10000	6	06F	06F	06F	R06F0513	R06F	C-K0513
C-F0709	3750	8	08A	08A	08A	R08A0709	R08A	C-F0709
C-G0709	6250	8	08B	08B	08B	N/A	N/A	C-G0709
C-K0609	10000	8	08C	08C	08C	N/A	N/A	C-K0609
C-K0709	10000	8	08D	08D	08D	N/A	N/A	C-K0709
C-F0909	3750	10	10C	10C	10C	N/A	N/A	C-F0909
C-G0850	6250	10	10B	10B	10B	N/A	N/A	C-G0850
C-G0909	6250	10	10A	10A	10A	N/A	N/A	C-G0909
C-K0763	10000	10	10D	10D	10D	N/A	N/A	C-K0763
C-F1075	3750	12	12A	12A	12A	N/A	N/A	C-F1075
C-G1013	6250	12	12C	12C	12C	N/A	N/A	C-G1013
C-G1075	6250	12	12B	12B	12B	N/A	N/A	C-G1075
C-F1140	3750	12	12H	12H	12H	N/A	N/A	C-F1140

Poppet Diverter Flange Data

Check Valve Model Number	Working Pressure (PSI)	Nominal Pipe Size	Swivel Flange Ends		Blind Flange Ends	
			Inlet Connections	Outlet Connections	Inlet Connection	Outlet Connection
D1860	6170	2	16D	16D	16	16
D2536	3705	3	24J	24J	24	24
D2560	6170	3	30K	30K	30	30
D3536	3705	4	42N	42N	42	42
D3560	6170	4	42N	42N	42	42
D5060	6170	6	62R	62R	62	62



Top Entry Flange Data

Ball Valve Model Number	Working Pressure (PSI)	Nominal Pipe Size	Weldneck Flange Name	Blind Flange Name	Swivel Flange Name	Nipple Name	Half Ring Name
8B-G0150	6250	2	02A	02A	02A	R02A0150	R02A
8B-G0259	6250	3	03C	03C	03C	R03C0259	R03C
8B-G0315	6250	4	04H	04H	04H	R04H0315	R04H
8B-G0490	6250	6	06D	06D	06D	R06D0490	R06D
8B-G0709	6250	8	08E	08E	08E	R08E0709	R08E
8B-G0850	6250	10	10F	10F	10F	R10F0850	R10F
8B-G1013	6250	12	12E	12E	12E	R12E1013	R12E
8B-K0150	10000	2	02B	02B	02B	R02B0150	R02B
8B-K0213	10000	3	03E	03E	03E	R03E0213	R03E
8B-K0306	10000	4	04E	04E	04E	R04E0306	R04E
8B-K0513	10000	6	06F	06F	06F	R06F0513	R06F
8B-K0709	10000	8	08G	08G	08G	R08G0709	R08G
8B-K0763	10000	10	10H	10H	10H	R10H0763	R10H



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