

Options for Ball Valves

Ball Valve Features & Advantages

Physical features and design advantages of a typical 'B' Series

Trunnion & SSB Features & Advantages

Physical features of the trunnion 3-way & SSB firesafe ball valves

Options for Ball Valves (1)

Locking devices, handle types, end connections & more

Options for Ball Valves (2)

Actuators, colour coded handles, manual override features & more

Options for Ball Valves (3)

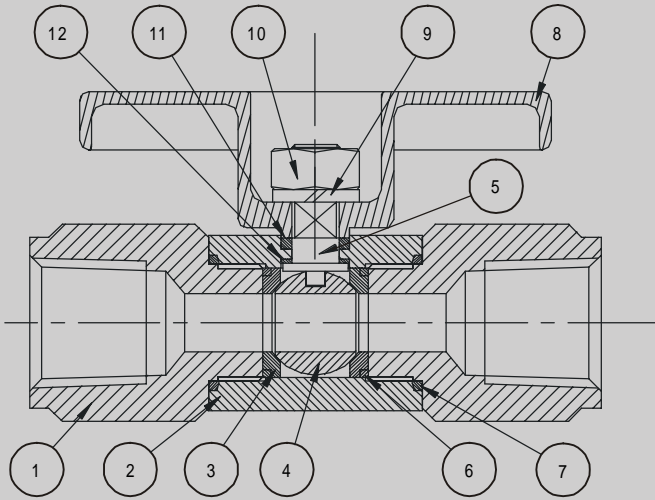
Double Flanges, ball types, bleed screws & more

Options for Ball Valves (4)

Low emission packing, flanged ball valves & more

Ball Valve Features & Advantages

Physical Features - Typical 'B' Series for liquids or gases

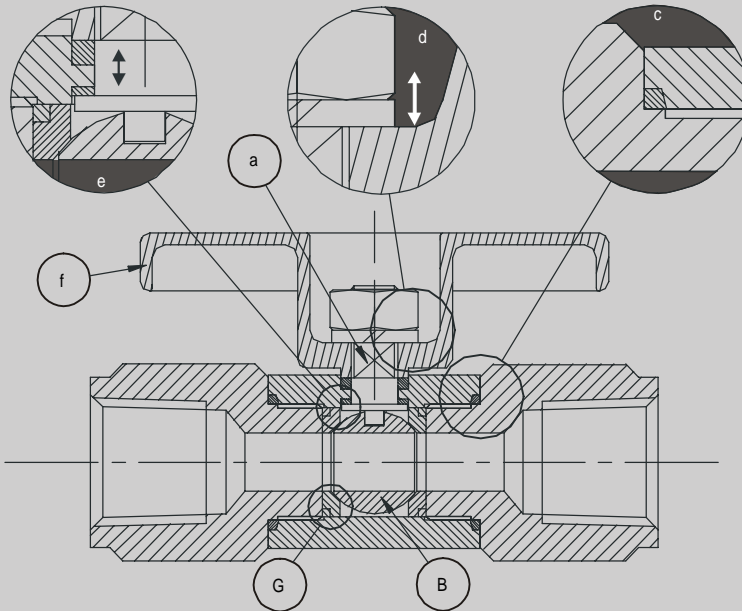


Standard Parts

- | | |
|-----|---|
| 1) | Precision made female end connectors |
| 2) | Valve body |
| 3) | Valve seat, pressure dynamic - gas tight |
| 4) | Floating ball - high quality finish for superior bubble tight sealing |
| 5) | Pressure active, anti-blowout stem |
| 6) | Pressure energised backup ring (HP only) |
| 7) | Primary end connector seal |
| 8) | Compact "T" bar handle - lever handle also available |
| 9) | Handle / stem spring washer |
| 10) | Handle retaining nut |
| 11) | Top stem seal and bearing |
| 12) | Bottom stem seal and bearing |

NB: this design is approved and widely used by many internationally recognised bodies. All 'B' series valves are 100% tested on gas.

Design Advantages - Typical 'B' Series



Standard Advantages

- | | |
|----|--|
| a) | Pressure dynamic anti-blow out stem for safety and protection should accidental over pressurisation or upstream component failure occur. |
| b) | Clear bore, precision made, pressure dynamic floating ball, the higher the pressure becomes, the greater the sealing effect becomes. |
| c) | Primary soft seal and high integrity secondary metal to metal end connector seal. |
| d) | Dual action spring washer and retainer keeps stem packing in compression & retaining nut locked. |
| e) | High pressure, high integrity stem seals / stem packings are under constant compression, line pressure energised bottom stem seal. Top seal is under compression at all times by the action of the spring washer. Dual action. |
| f) | Compact "T" bar handle which does not over extend the valve, helpful in tight panel work. Lever handle available as an option. |
| g) | Valve seat available in several materials to suit your application. The seat also acts as a thread seal. Seats and seals are replaceable should servicing or maintenance be required to extend field life even further. |

Note: The above details are included in standard valves. Not all features and advantages apply to all variations, sizes, designs, specifications. For instance "B" series valves above 1" are two piece body design for safety. "T" bar handles are only available on valves up to 1".

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REV: 00

Options for ball valves

The following table shows the versatility of the Alco range and the many different types of end connections or options that can be used to build a valve to suit your requirements. Examine at your leisure the different options displayed below, perhaps you will find just what you need – if not please feel free to contact us for further details.



Security 'T' handle locking facility.



Security lever handle locking facility.



Lever handle for easy use.



Compact 'T' bar handle.



Extension handles (Up to 40" inches).



Anti-tamper spanner flat handle for safety (British gas approved).



Compact "C" shaped handle for reduced space envelopes.



Panel mounting facility (4 holes).



Stand pipe connections for direct connection to a compression fitting.



Metric and imperial compression end connections (single or twin ferrule).



Female end connection reduced or full bore.



Eliminate the use of fittings with male end connections.



Tacked ends to prevent accidental removal of end connectors.



Double acting or spring return actuation, Pneumatic, electric or Hydraulic.



Compact locking device for large bore valves.



Oval hand wheel option that helps reduce accidental operation. (-OVH)



Safety, spring return "dead mans handle". Can be set to spring close or open automatically.



Degreased valves for special gas services to several standards.



Extended end connections to suit pipe gap or to prevent thermal seat distortion when welding.



ALCO VALVES LTD. (UK)
PART NO.
ALCO WORKS ORDER
YOUR JOB NO.
YOUR PART NO.

Site identification tagging.

NOTE: It is always advisable to refer to specific product literature or contact our technical sales department when ordering valves as some of these options are available only on certain styles of valves. Any special end connections such as compression ends or butt / socket weld may limit the rated working pressure of the valve or component supplied in accordance with the relevant specification of design or use of that method of connection. The valve or component will still carry the maximum working pressure markings in accordance with the valve or component design not the connection method as they vary.

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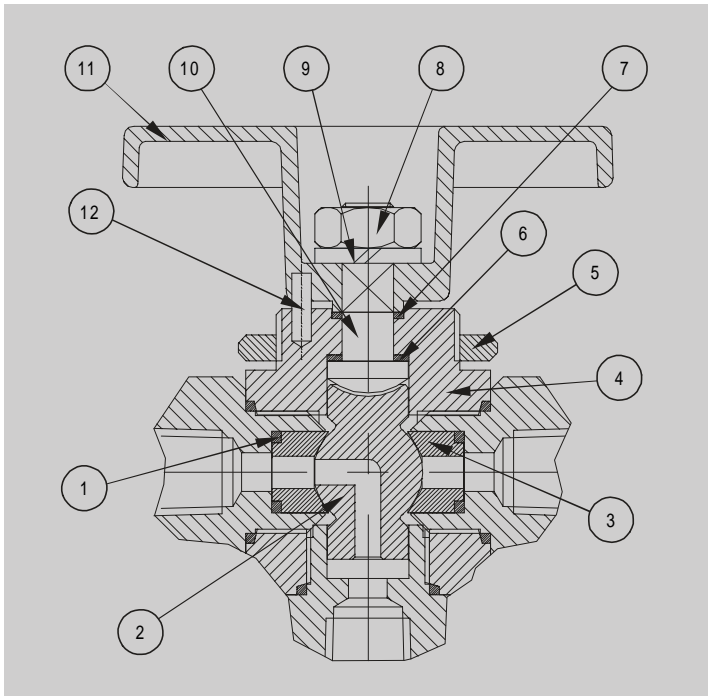
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Trunnion & SSB Features & Advantages

Physical Features - Typical Trunnion 3-Way Ball Valve



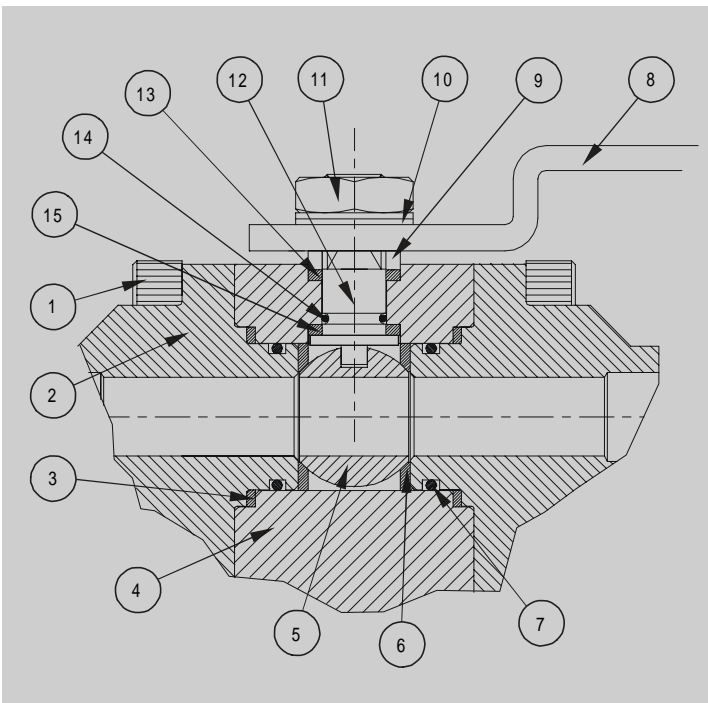
High Pressure Trunnion Ball Valves

The high pressure trunnion mounted ball valve from Alco Valves has pressure activated / dynamic seats which the line pressure energises. This system offers low torque, bubble tight, first time line isolation, or in the 3-way format line diversion. Available in two and 3-way designs, see pages 2, 3 & 9.

Trunnion Ball Valve

- | | |
|------------------------|----------------------|
| ● (1) Seat Backup Ring | ● (7) Top Stem Seal |
| ● (2) Trunnion Ball | ● (8) Handle Nut |
| ● (3) Valve Seat | ● (9) Spring Washer |
| ● (4) Valve Body | ● (10) Stem |
| ● (5) Mounting Nut | ● (11) T' bar Handle |
| ● (6) Bottom Stem Seal | ● (12) Stop Pin |

Physical Features - Typical SSB Series Ball Valve



SSB Series Ball Valves Fire-safe

The high performance SSB fire-safe design is a 3 piece bolt together or sandwich body and end cap configuration. This utilises the latest in high temperature and fire-proof sealing materials with high integrity primary soft sealing, and metal to metal secondary sealing. Tested and certified to API 6FA / API 607 and BS6755 Part 2.

SSB Series Ball Valves

- | | |
|------------------------|----------------------------|
| ● (1) Cap Screws | ● (9) Spacer |
| ● (2) End Flange | ● (10) Belleville Washer |
| ● (3) Flange Seal | ● (11) Nut |
| ● (4) Body | ● (12) Stem |
| ● (5) Ball | ● (13) Top Stem Seal |
| ● (6) Seat | ● (14) Stem Seal & Bearing |
| ● (7) Primary End Seal | ● (15) Bottom Stem Seal |
| ● (8) Handle | |

See technical section for important additional valve data.

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Options for ball valves

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Compact Pneumatic or Electric Actuators.



Position Indicators on manual valves to signal the orientation and status of remote valving.



Manual override features on actuated valves.



Compact marine handle
Coated to reduce corrosion
(choice of colours, see chart below).



Colour coded lever handles
For quick and easy use
(choice of colours see chart below).



Flow indicating handle
Manufactured in 316ss for high corrosion resistance.
Pt. No. -SAH.



Blank plug Pt. No. -BP
Vent plug Pt. No. -VP
Vent plug with 'T' bar Pt. No. -CVP



Mini vent valve
Viton packing 6,000 psi rated.
Pt. No. NVP4NS
Mini vent valve
with directional vent tube 6,000 psi rated.
Pt. No. NVP4NS-P



'T' bar handle
Manufactured in 316ss for high corrosion resistance.
Pt. No. -MS

All handles can be colour coded. The colour of the handle or sleeve offers a good visual indication of the pressure rating of the valves to which they are fitted according to the following:-

Handle Colour	Pressure Ratings	Bar	KPa	Kg/Cm ²
Black	1,000 psi	69 BAR	6,890	70.3
Blue	2,000 psi	138 BAR	13,800	141
Red	3,000 psi	207 BAR	20,700	211
Yellow	6,000 psi	414 BAR	41,400	422
Black	10,000 psi	689 BAR	68,900	703
Black / Stainless	15,000 psi	1030 BAR	103,000	1050
Black / Stainless	20,000 psi	1360 BAR	138,000	1410

Valve pressure ratings are cold working, non-shock at ambient temperature of 24° Celsius.

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Options for ball valves

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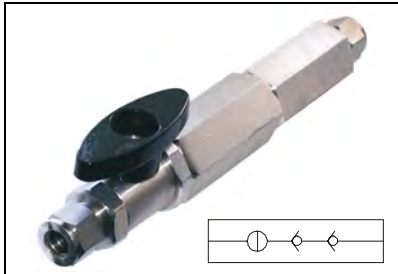
Different end sizes
(1/4" x 1/2") - flexibility when fitting.



Socket & butt weld end connections mixed.



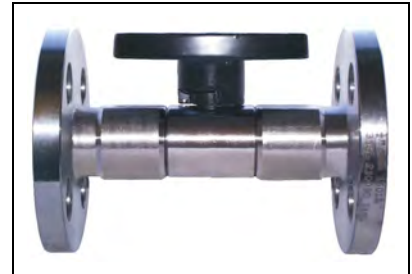
Ball Valve With Bleed Screw.



Ball valve isolation with single or double safety check valve (in one unit)



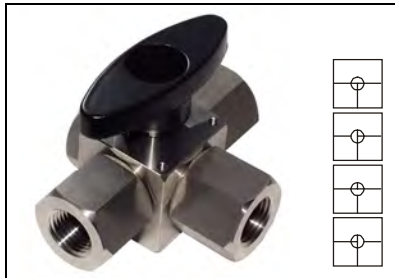
Angle style ball valve



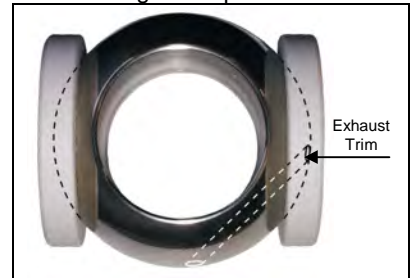
3 piece ball valve with rotating flanged ends - to solve installation / alignment problems



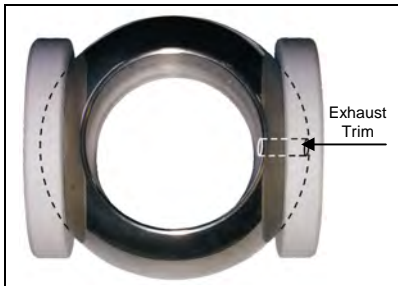
Ball valve with S.A.E ends.



3-Way 'T' port ball valve.



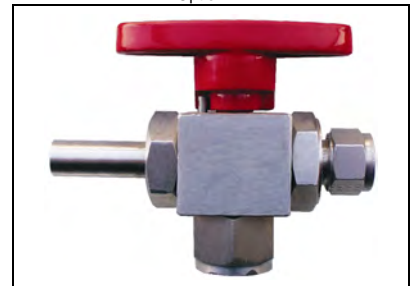
Downstream to atmosphere exhaust trim (100 psi max).
Option -X



Cavity to downstream exhaust trim
Option Cav-X



90° operation ball valve with flow Control or "V" seat.



2 & 3-way highly flexible designs, different ends.

Other options can be supplied

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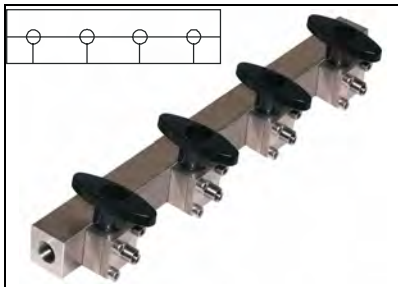
Hand Wheel.
Option - BVHW



Fast and easy assembly or removal using face seal. Can be remade hundreds of times over.



Bolt Together Flanged Ball Valve
Various Sizes up to 4" Bore.



High integrity modular
Distribution Manifold.

Note: the valves mount directly to the manifold. Flexible, serviceable and compact up to 20 take-offs. Single or double sided.



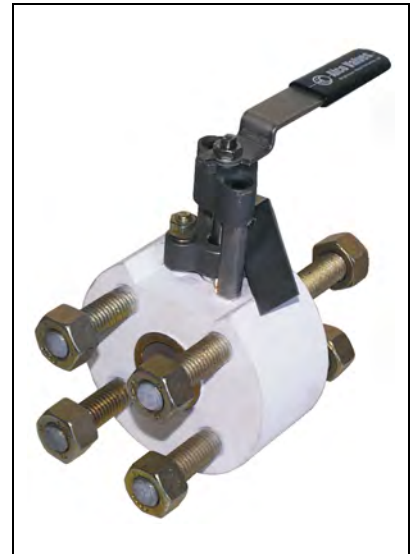
1 & 2 Piece Fire Safe Flanged
Ball Valve with Oval Handle.



Compact Flanged Ball Valve.



Ball Valve Low Emission Packing
& Outside Screw & Yoke - Fire
Safe Butt Weld Ends.



Ball Valve Wafer Type for Direct
Connection To / Between Flanges.

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