

# Ball Valves up to 3,000 psi

## **MA Series**

*Miniature ball valves rated up to 2000 psi*

## **A Series**

*Compact ball valves rated up to 2,000 psi*

## **B Series**

*Medium pressure ball valves rated 1,000 psi to 3,000 psi*

## **SB Series**

*Panel mounting ball valves rated 1,000 psi to 3,000 psi*

## **B & SB (Compression Ended)**

*Rated 1,000 psi to 3,000 psi*

## **S Series**

*Sandwich style ball valve rated 1,000 psi to 3,000 psi*

## **SSB Series**

*Fire safe ball valves rated up to 3,000 psi*

## **How to order the above**

*An explanation of the part numbering system*

# MA Series



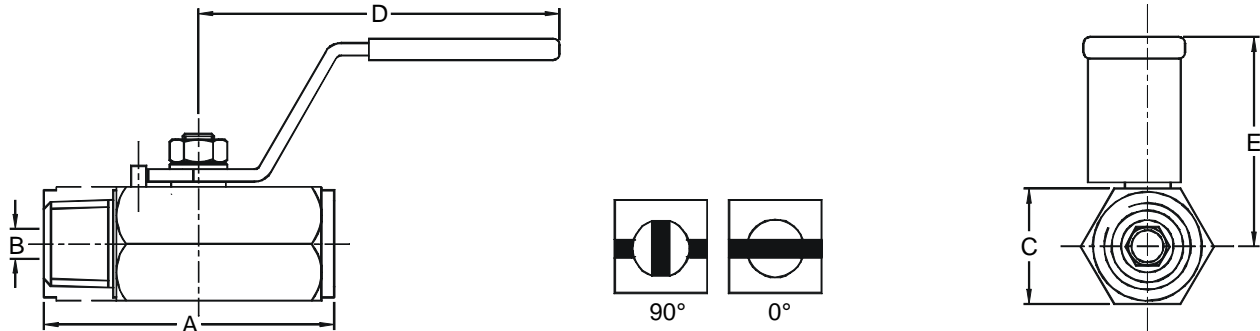
## General Information

### Miniature ball valves Rated up to 2,000 psi

High integrity barstock miniature ball valve, proven to be better than cast type products at this size. The MA series ball valve is a miniature version of the larger "A" series range. The "MA" series has been designed to be lighter and more compact at 1/4" size than the standard "A" series range of valves. The "MA" Series is available in a variety of configurations to suit many applications within the instrumentation, air distribution and general engineering industries. The "MA" series is 2,000 psi as standard. The valves come with a stainless steel lever handle as standard. Other options such as a base mounting bracket are available.

## Design Features

- One piece design - prevents accidental removal of the internals when fitting or removing the valve from the pipeline.
- Bi-directional floating ball design to ensure leak-proof shut-off on pressure or vacuum.
- Manufactured from high integrity, certified (316ss) barstock material.
- Smooth low torque 90° operation.
- Value for money, compact economical design.
- Compact overall length, reduced weight.
- Choice of trim materials.
- Available NPT, BSPP or BSPT threads.
- Temperature rating -50°C to 230°C.
- Available in female x female and male x female versions.
- Available in 316 stainless steel, other materials available.
- Anti-blow-out internally loaded stem for safety.
- Handle indicates open / closed position at a glance.
- Many options available such as locking devices, mounting brackets, 'C' shaped handle.
- Full material traceability.
- 100% Hydrostatic factory testing.
- Materials of construction can be supplied to meet the requirements of NACE MR-01-75 latest revision.



## Part Numbers & Dimensional Details

St/St Part No.	Connections Size	A	B (Bore)	C	D	E	Cv	Kv	Weight (Kgs)
<b>Female / Female</b>									
MA2NS	1/4" NPT	46	5	18	56	32	1.7	1.4	0.1
MA2PS	1/4" BSPP	46	5	18	56	32	1.7	1.4	0.1
MA2TS	1/4" BSPT	46	5	18	56	32	1.7	1.4	0.1
<b>Male / Female</b>									
MA2NS-1M	1/4" NPT	46	5	18	56	32	1.7	1.4	0.1
MA2PS-1MP	1/4" BSPP	46	5	18	56	32	1.7	1.4	0.1
MA2TS-1M	1/4" BSPT	46	5	18	56	32	1.7	1.4	0.1

Stainless steel lever handle only.

Seat materials: 2000psi = RTFE Seal materials: Stem = RTFE

Dims are in mm (Appx)

See technical section for important additional valve data.

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REV: 00

# A Series

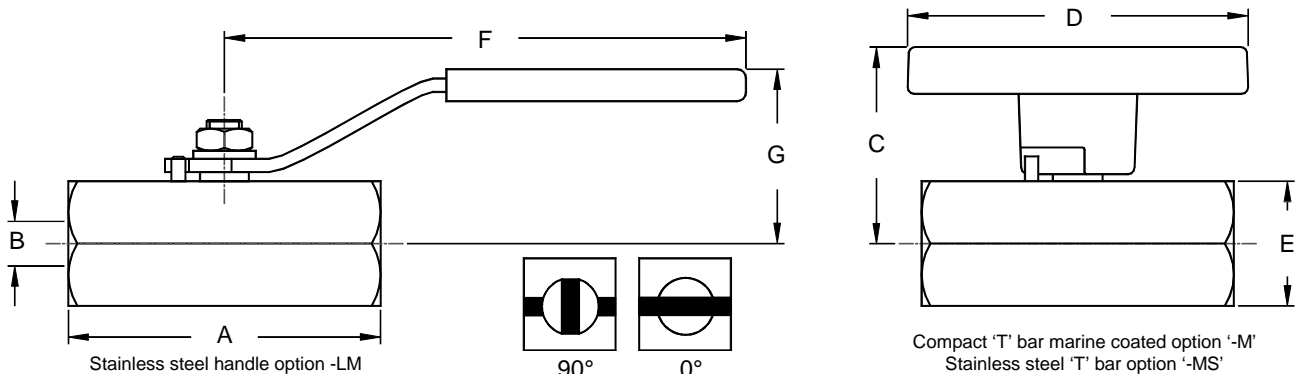
## General Information

### Compact ball valves Rated up to 2,000 psi

High integrity barstock ball valves proven to be better than cast type products. The high quality 'A' series low to medium pressure ball valve range is an economically designed valve with the internals being loaded through the threads. This design offers a safe and inexpensive style of valve suitable for a wide range of applications. It also offers fewer potential leak paths than cast or 3 piece valves and it is a rugged one piece solid body format. This valve is suitable for water, oil or gas applications. It comes with the compact 'T' bar handle as standard with many more options available such as lever handle or locking device etc.

## Design Features

- One piece design - prevents accidental removal of the internals when fitting or removing the valve from the pipeline.
- Bi-directional floating ball design to ensure leak-proof shut-off on pressure or vacuum.
- Manufactured for high integrity, certified (316ss) barstock material.
- Smooth low torque 90° operation.
- Value for money, compact economical design.
- Compact overall length, reduced weight.
- Anti blow-out internally loaded stem for safety.
- Available NPT, BSPP or BSPT threads.
- Temperature rating -50°C to 230°C.
- Pressure rating 2,000 psi (138) bar as standard.
- Choice of body and trim materials. Available in 316ss Monel / Duplex / Titanium / Ali-Bronze.
- Can be supplied male/female to order.
- Handle indicates open / closed positions at a glance.
- Many options available (such as locking devices)
- Full material traceability.
- 100 % Hydrostatic testing.
- Materials of construction can be supplied to meet the Requirements of NACE MR-01-75 latest revision.



## Part Numbers

St/St Part No.	Connections Size	A	B (Bore)	C	D	E	F	G	Cv	Kv	Weight (Kgs)
A2NS	1/4" NPT	70	10	44	77	28	115	41	4.2	3.6	0.2
A3NS	3/8" NPT	70	10	44	77	28	115	41	4.4	3.8	0.2
A4NS	1/2" NPT	70	10	44	77	28	115	41	4.5	3.9	0.2
A6NS	3/4" NPT	76	13	46	77	32	115	43	7.8	6.7	0.3
A8NS	1" NPT	89	16	49	77	38	115	45	11.8	10.2	0.4
A12NS	1 1/2" NPT	99	25	58	100	57	150	50	23	19.9	1.0
A16NS	2" NPT	115	32	-	-	70	165	75	49	42.4	2.0

For BSPP threads change 'N' to 'P' i.e. A4PS

For BSPT threads change 'N' to 'T' i.e. A4TS

Lever handles standard on 2" version, sizes above 1" may be round Dia body

Seat materials: 2000psi = RTFE Seal materials: Stem = RTFE

Dims are in mm (Appx)

See technical section for important additional valve data.

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# B Series



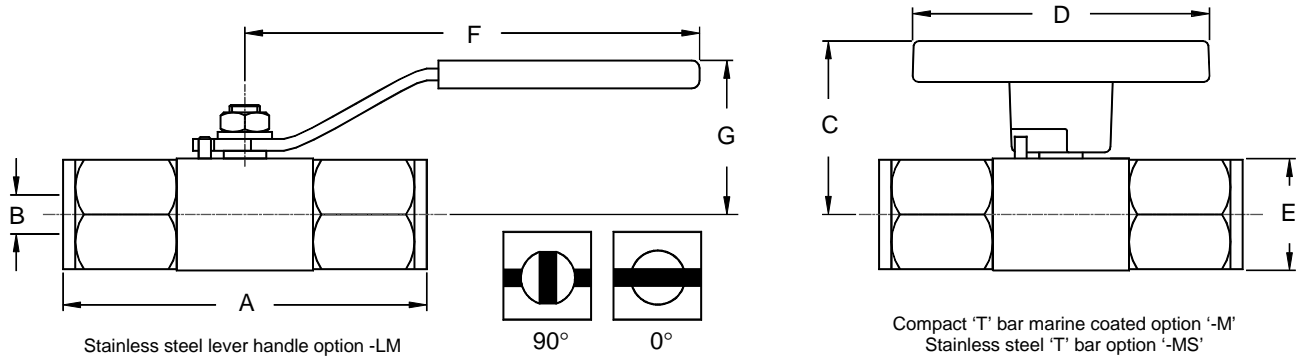
## General Information

### Medium pressure ball valves 1,000 psi to 3,000 psi versions

The B-Series is the original 3-piece screw together barstock range of valve. It is a flexible design with many options of end connection styles available, with a 1,000 psi as standard that can be up-rated to 3,000 psi. Also the benefit of having a three piece construction allows maintainability with service kits which are readily available. The Alco "B" series is a flexible design, with many possible combinations of end connectors available, "the original and still the best".

## Design Features

- Flexible 3 piece design for easy maintenance.
- Full material traceability.
- 90° smooth, light positive action.
- Bi-directional floating ball design to ensure leak-proof shut-off on pressure or vacuum.
- Available in 316 ss / Monel / Duplex / 6Mo / Titanium / Hastalloy / Zirconium / Carbon Steel / Ali-Bronze.
- Anti-blow-out internally loaded stem for extra safety.
- Handle indicates open / closed positions at a glance.
- Pressure / Temperature rating -50°C to 230°C - temperature differs for 3,000psi version.
- Repair kits available should the valve need servicing to prolong its life.
- 100% hydrostatic testing.
- A choice of handles and trim materials.
- Many options available such as locking device.
- Materials of construction can be supplied to meet the requirements of NACE MR-01-75 latest revision.



## Part Numbers

St/St Part No.	Connections Size	A		B (Bore)	C	D	E	F	G	Cv	Kv	Weight (kgs)
		BSPP	NPT									
B2NS	1/4"	61	68	10	43	77	25	115	38	4.2	3.6	0.3
B3NS	3/8"	74	74	10	43	77	25	115	38	4.4	3.8	0.3
B4NS	1/2"	78	93	10	43	77	28	115	38	4.5	3.9	0.3
B6NS	3/4"	85	95	13	45	77	32	115	40	7.8	6.7	0.5
B8NS	1"	109	116	19	56	100	42	150	50	16.7	14.4	1.1
B10NS	1 1/4"	110	110	25	64	100	Ø61	150	55	23	19.9	1.6
B12NS	1 1/2"	120	120	32	-	-	Ø70	165	80	49	42.4	3.0
B16NS	2"	150	150	38	-	-	Ø76	165	95	70	60.5	3.5
B20NS	2 1/2"	150	150	50	-	-	Ø110	140	110	119	103	6.0

For BSPP threads change 'N' for 'P' i.e. B4PS.

For BSPT threads change 'N' for 'T' i.e. B4TS

Sizes above 1" are round bodied, 2-piece design.

Lever handles standard on 1 1/2", 2" & 2 1/2" valves.

For higher pressure 3,000 psi version add prefix 'H' i.e. HB4NS.

Seat materials: 1000psi = PTFE - 2000psi = RTFE - 3000psi = Acetal Seal materials: Body = PTFE - Stem = RTFE

Dim's are in mm (Appx)

See technical section for important additional valve data.

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# SB Series

## General Information

### Panel mounting ball valves 1,000 psi to 3,000 psi versions

The Panel Mount range or the 'SB' series is a variation of the standard 'B' series and as such retains its flexibility of end connections with the added advantage of the panel mounting facility onto a flat face. Using this flat face, the valve is easy to mount to a control panel or actuator. The major benefits of using four panel mount holes instead of one single nut type are that this design eliminates the possibility of the valve turning underneath a panel. This would cause undue stressing of a thread joint. Also four small holes can be beneficial for positioning, if access to the panel is reduced only two holes (diagonally opposite) can be used.

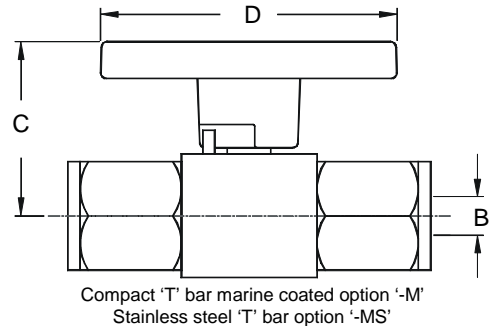
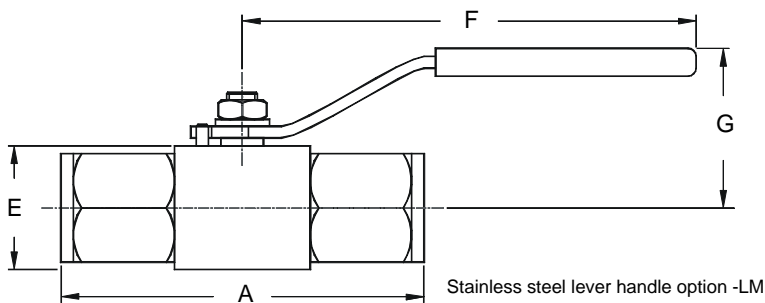
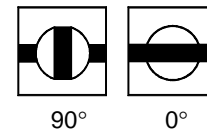
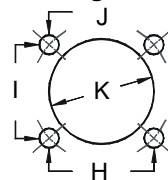
## Design Features

- Bi-directional floating ball design to ensure leak-proof shut off on pressure or vacuum.
- Flexible 3 piece design for easy maintenance.
- Anti-blow-out system for safety.
- 90° quick action, indicates position.
- Choice of end connections.
- Repair kits available should the valve need servicing.
- Choice of handles and trim materials.
- Pressure / Temperature rating -50°C to 230°C - temperature differs for 3,000psi version.
- Panel mounting style – can be supplied suitable for actuation if specified.
- Full material traceability.
- 100% hydrostatic testing.
- Materials of construction can be supplied to meet the requirements of NACE MR-01-75 latest revision.

VALVE SIZE	H	I	J	K
1/4"-3/4"	27	24	5	27
1"	38	38	5	38

4 – off M4 x 10 Mounting Holes

### Mounting Details



## Part Numbers

St/St Part No.	Connections Size	A		B (Bore)	C	D	E	F	G	Cv	Kv	Weight (Kgs)
		BSP	NPT									
SB2NS	1/4"	61	68	10	43	77	32	115	38	4.2	3.6	0.4
SB3NS	3/8"	74	74	10	43	77	32	115	38	4.4	3.8	0.4
SB4NS	1/2"	78	93	10	43	77	32	115	38	4.5	3.9	0.5
SB6NS	3/4"	85	95	13	45	77	38	115	40	7.8	6.7	0.7
SB8NS	1"	109	116	19	56	100	51	150	50	16.7	14.4	1.0

For BSPP version change N for P i.e. SB4PS.

For BSPT version change "N" for "T" i.e. SB4TS

For 3,000 psi version add prefix 'H' i.e. HSB4NS.

Seat materials: 1000psi = PTFE - 2000psi = RTFE - 3000psi = Acetal Seal materials: Body = PTFE - Stem = RTFE

Dims are in mm (Appx)

See technical section for important additional valve data.

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# B & SB Compression Ended

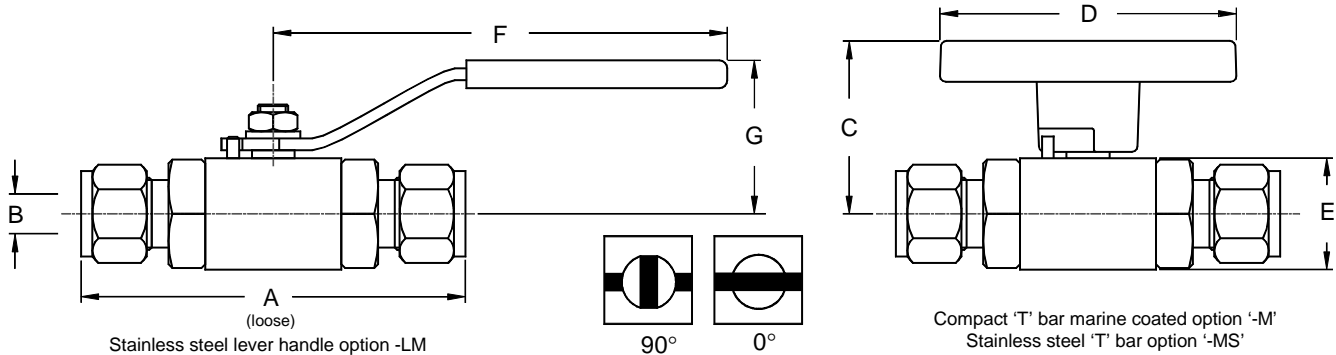
## General Information

### 1,000 psi to 3,000 psi

The 'B' & 'SB' are three piece screw together barstock ranges of valve. They are a flexible design with options of single or twin ferrule compression type tube connector ends, with a 1,000 psi pressure rating as standard that can be up rated to 3,000 psi. The "SB" offers the opportunity to mount the valve to a control panel or actuator. The major benefits of using four panel mount holes instead of one single nut type are that this design eliminates the possibility of the valve turning underneath a panel.

## Design Features

- Three piece design for easy maintenance.
- Instant installation into tubing pipework, no pipe thread or sealing problems.
- Bi-directional floating ball design to ensure leak-proof shut-off on pressure or vacuum.
- Choice of single or twin ferrule ends to suit the requirements of most systems.
- Positive 90° action-position indication.
- Panel mount style can be supplied suitable for actuation.
- Repair kits available to extend valve life.
- Anti blow-out internally loaded stem for extra safety.
- Versatile design allows mixture of pipe threads, types and compression ends of different sizes.
- Full material traceability, valves 100 % tested.
- Pressure / Temperature rating -50°C to 230°C temperature differs for 3,000 psi version.
- Materials of construction can be supplied to meet the requirements of NACE MR-01-75 latest revision.



Note: for panel mount details see page 5

## Part Numbers

Twin ferrule Part No.	Connection Size O.D.	A (loose)	B (Bore)	C	D	E	F	G	Cv	Kv	Weight (kgs)
<b>Imperial tube connections</b>											
B2KS	1/4" O.D	92	10	39	75	28	115	44	4.2	3.6	0.30
B3KS	3/8" O.D	92	10	39	75	28	115	44	4.4	3.8	0.32
B4KS	1/2" O.D	102	10	39	75	28	115	44	4.5	3.9	0.35
B6KS	3/4" O.D	105	13	42	75	35	115	46	9.5	8.2	0.45
B8KS	1" O.D	127	19	52	100	42	150	60	19	16.4	0.9
<b>Metric tube connections</b>											
BM6KS	6mm O.D	92	10	39	75	28	115	44	2.1	1.8	0.30
BM8KS	8mm O.D	94	10	39	75	28	115	44	2.6	2.2	0.32
BM10KS	10mm O.D	95	10	39	75	28	115	44	3.8	3.3	0.35
BM12KS	12mm O.D	102	10	39	75	28	115	44	4.2	3.6	0.45
BM15KS	15mm O.D.	102	10	39	75	28	115	44	4.4	3.8	0.45
BM20KS	20mm O.D.	127	13	51	100	48	150	60	9.5	8.2	0.9
BM22KS	22mm O.D.	127	19	51	100	48	150	60	19	16.4	0.9

Other sizes are available  
For 3,000 psi version add H i.e. HB4KS  
For single ferrule change K to Q i.e. B2QS  
Bore is through the ball

Dimensions in mm (Appx)

Seat materials: 1000psi = PTFE - 2000psi = RTFE - 3000psi = Acetal Seal materials: Body = PTFE - Stem = RTFE

See technical section for important additional valve data.  
Note: Bore may vary dependant upon end connection selected.

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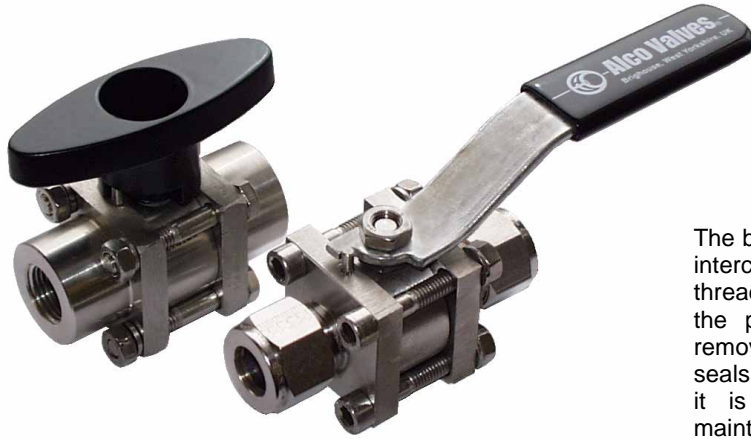


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# S Series



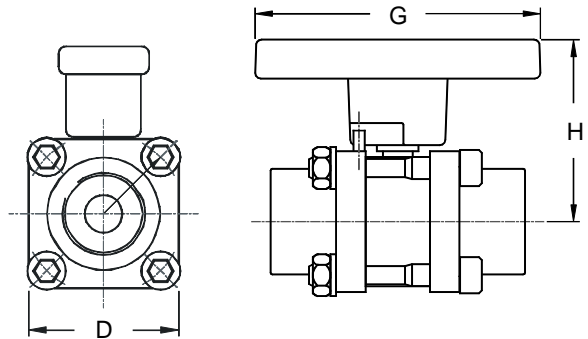
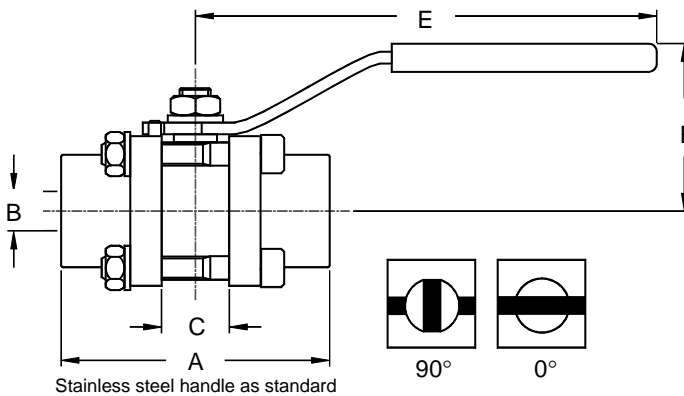
## General Information

### Sandwich style ball valve 1,000 psi to 3,000psi

The bolt together style or 'S' Series valve offers flexibility and interchangeability. It is manufactured with the choice of threaded, socket or butt weld ends for installing the valve into the pipeline. Once installed, it is easily maintained by removal of the centre section for renewal of the seats and seals prolonging the valve life. Being a 'Bolt together' design it is readily converted to actuator control. To ease maintenance, the centre section is sold separately, as are the maintenance / repair kits.

## Design Features

- Bi-directional floating ball design to ensure leak-proof shut-off on pressure or vacuum.
- Anti-blow-out internally loaded stem for safety.
- Replaceable centre section for economy.
- Can be actuated.
- Positive 90° action-position indication.
- Available in 3 pressure ranges S = 1,000 psi / RS = 2,000 psi / HS = 3,000 psi.
- Pressure / Temperature rating -50°C to 230°C, temperature differs for 3,000 psi version
- Full material traceability.
- Repair kits available to prolong valve life.
- 100% Hydrostatic testing.
- Materials of construction can be supplied to meet the requirements of NACE MR-01-75 latest revision.



## Part Numbers

St/St Part No.	Connections Size	A	B (Bore)	C	D	E	F	G	H	CV	KV	Weight (kgs)
S2NS	1/4" NPT	68	10	17.4	38	115	37	75	47	4.2	3.6	0.4
S3NS	3/8" NPT	68	10	17.4	38	115	37	75	47	4.4	3.8	0.4
S4NS	1/2" NPT	68	10	17.4	38	115	37	75	47	4.5	3.9	0.4
S6NS	3/4" NPT	73	13	22.2	40	115	38	75	45	9.5	8.2	0.65
S8NS	1" NPT	102	19	32.5	50	150	44	75	52	19	16.4	1.0
S10NS	1 1/4" NPT	109	25	38.6	60	150	55	75	64	30	26	1.50
S12NS	1 1/2" NPT	118	32	47.6	76	170	90	-	-	49	42.4	2.70
S16NS	2" NPT	130	38	60.3	83	170	94	-	-	70	60.5	3.25
S20NS	2 1/2" NPT	150	50	69.9	114	215	83	-	-	119	103	6.00

For 3,000 psi version add 'H' i.e. HS4NS  
 For Socket Weld Substitute 'S' for 'P' i.e. S16SS.  
 For Butt Weld Substitute 'B' for 'P' i.e. S16BS.  
 For Centre Section Only Substitute 'O' for 'P' i.e. S16OS.  
 For 2,000 psi version add 'R' i.e. RS4NS  
 Seat materials: 1000psi = PTFE - 2000psi = RTFE - 3000psi = Acetal Seal materials: Body = PTFE - Stem = RTFE  
 Note: 1 1/4" sizes and above are rated 2,000 psi max.

Dim's are in mm (Appx)

See technical section for important additional valve data.

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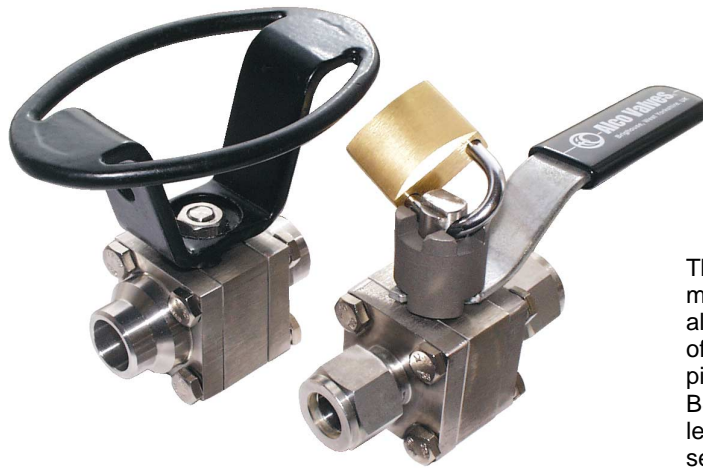


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REV: 01

# SSB Series



Shown with oval Anti-accidental operation handle. Option -OVH      Shown with St/St Security locking kit. Option -LLK-PAD

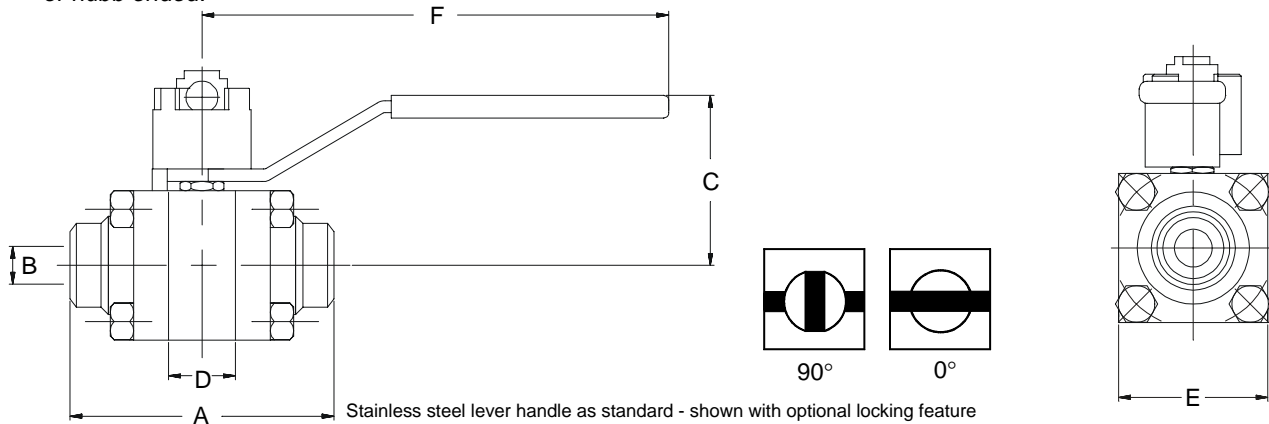
## General Information

### Fire safe ball valves Rated up to 3,000 psi

The rugged SSB range of Fire Safe Ball Valve is manufactured in 316 stainless steel (and certain super alloys). Available in sizes from 1/4" to 1". The SSB range offers Drop-centre accessibility for welding / positioning / pipe access or maintenance purposes. Fire safe tested to BS 6755 Part 2 and API 6FA / API 607. Available with lever handle and locking device for a higher level of security. The range can be fitted with pneumatic or electric actuators at our factory.

## Design Features

- Pressure rated up-to 3,000psi as standard.
- Fire Safe to BS6755 Part-2 and API 607.
- All metallic sealing in fire conditions, with SLG / PTFE primary soft sealing for bubble tight shut off.
- Bi-directional floating ball design to ensure leak-proof shut-off on pressure or vacuum.
- 90° smooth action, low torque operation.
- Compact 3 piece, drop centre flexible design.
- Available in 316ss / Monel / Duplex / Hastalloy / 6MO
- Sizes from 1/8" to 1".
- Available with weld ends, threaded, flanges, compression or hubb ended.
- Pressure / Temperature rating -50°C to 230°C
- Bore sizes 10mm to 19mm.
- Repair kits sold separately for easy maintenance to extend service life.
- Highly flexible combinations of end connections due to 3 piece design i.e. 1" NPT female x 1/2" socket weld.
- Available with pneumatic, electric or hydraulic actuators.
- Full material traceability.
- 100% Hydrostatic testing.
- Materials of construction can be supplied to meet the requirements of NACE MR-01-75 latest revision.



## Part Numbers

St/St Part No.	Connections Size	A	B (Bore)	C	D	E	F	Cv	Kv	Weight (Kgs)
SSB2NS	1/4" NPT	68	10	45	18	50	115	2.5	2.2	0.7
SSB3NS	3/8" NPT	68	10	45	18	50	115	3.0	2.6	0.7
SSB4NS	1/2" NPT	68	10	45	18	50	115	4.2	3.6	0.65
SSB6NS	3/4" NPT	74	13	56	22	54	150	7.8	6.7	0.9
SSB8NS	1" NPT	102	19	60	32	64	150	16.7	14.4	1.8

Dims are in mm (Appx)

For socket weld version change 'N' to 'S' i.e. SSB4SS

For butt weld version change 'N' to 'B' i.e. SSB4BS

For locking device and padlock add -LLK-PAD i.e. SSB4NS-LLK-PAD

Seat materials: 1000psi = PTFE - 2000psi = RTFE - 3000psi = Acetal      Seal materials: Body = Graphoil - Stem = Graphoil

See technical section for important additional valve data.

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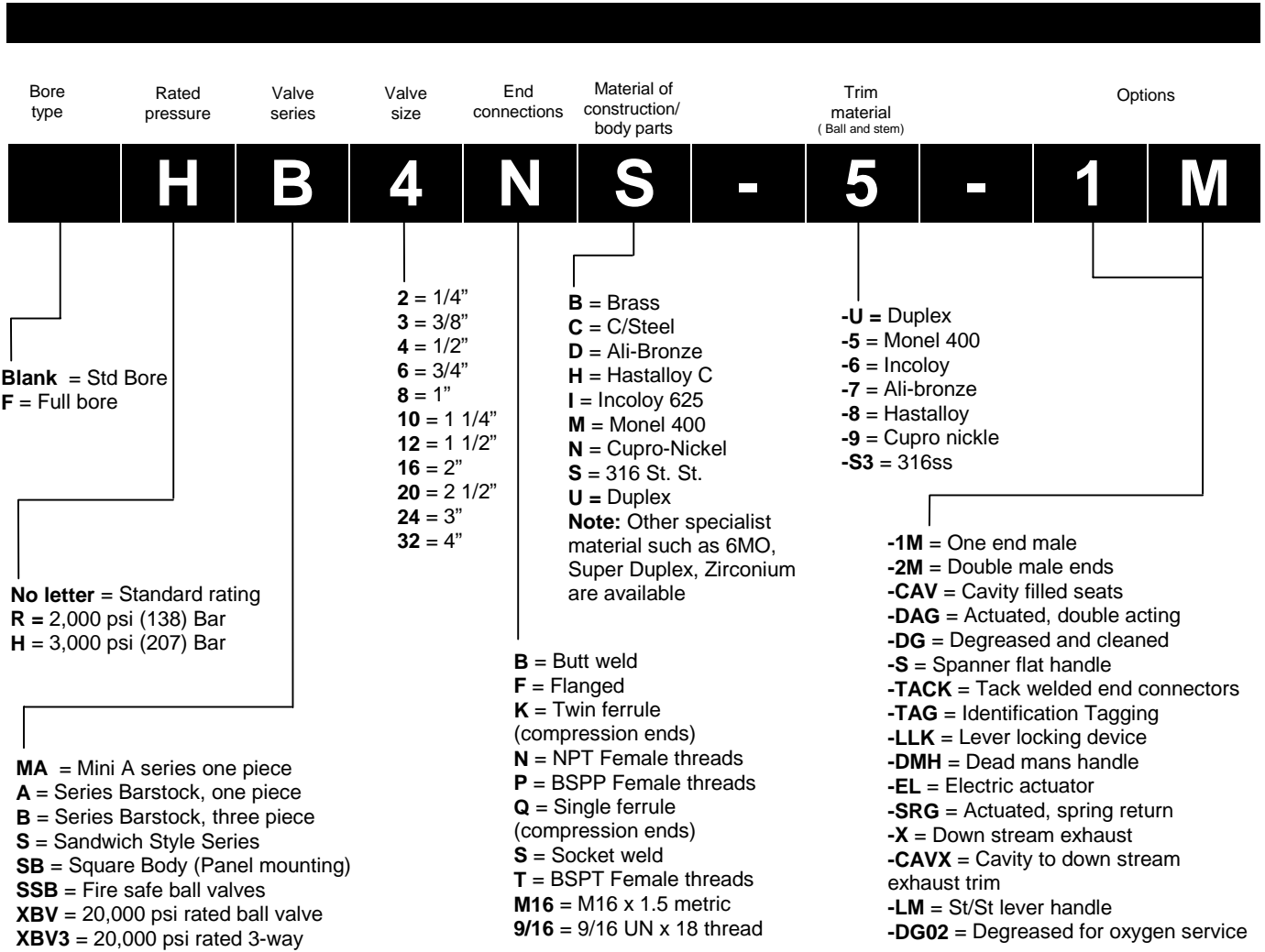


# How to order valves up to 3,000 psi

Our part number system is made up of alphanumeric / generic code system as explained below.  
An example is :-

## 1/2" NPT male x female 316 Stainless Steel bodied 'B' series ball valve, Monel® ball & stem, compact "T" bar handle rated 207 Bar (3,000 psi).

The part number shown below is made up using the system :-



Socket weld and butt weld end connectors may be extended for thermal protection of the valve internals

**NOTE 1:** The pressure ratings quoted within our literature are maximum hydrostatic pressure ratings for the valves. Certain options available are the products / designs of other manufacturers, Alco valves cannot accept any responsibility for these products unsuitability or failure in service.

**NOTE 2:** 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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