

# BLOCK & BLEED VALVE

High Technology Valve & Fitting Series

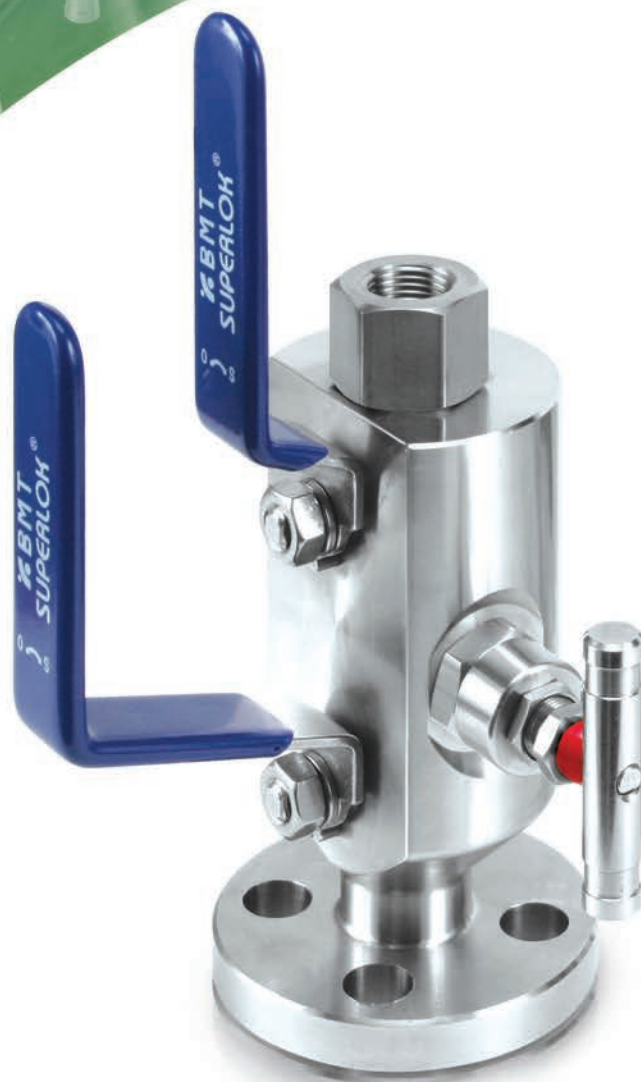


# INTEGRAL BLOCK & BLEED VALVES



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## INTRODUCTION

SUPERLOK's response to the demand for reduction in leakage paths has been the combination of primary and secondary valves into one compact unit. The combining of piping and instrument valves into a single unit has benefitted various markets.

SUPERLOK can offer the special combination of double block and bleed valve systems together with fittings, both being designed and produced by BMT. Choise of this combination results in the elimination of taper thread connections and the need for thread sealant.

# APPLICATION & INSTALLATION

## SOLUTIONS

SUPERLOK instrumentation products provided the ultimate suitable solutions for a integral block & bleed valve, which is consist of one piece forged body it provide many merits, featuring a choice of end connections, body style and

### Conventional Installation <1>

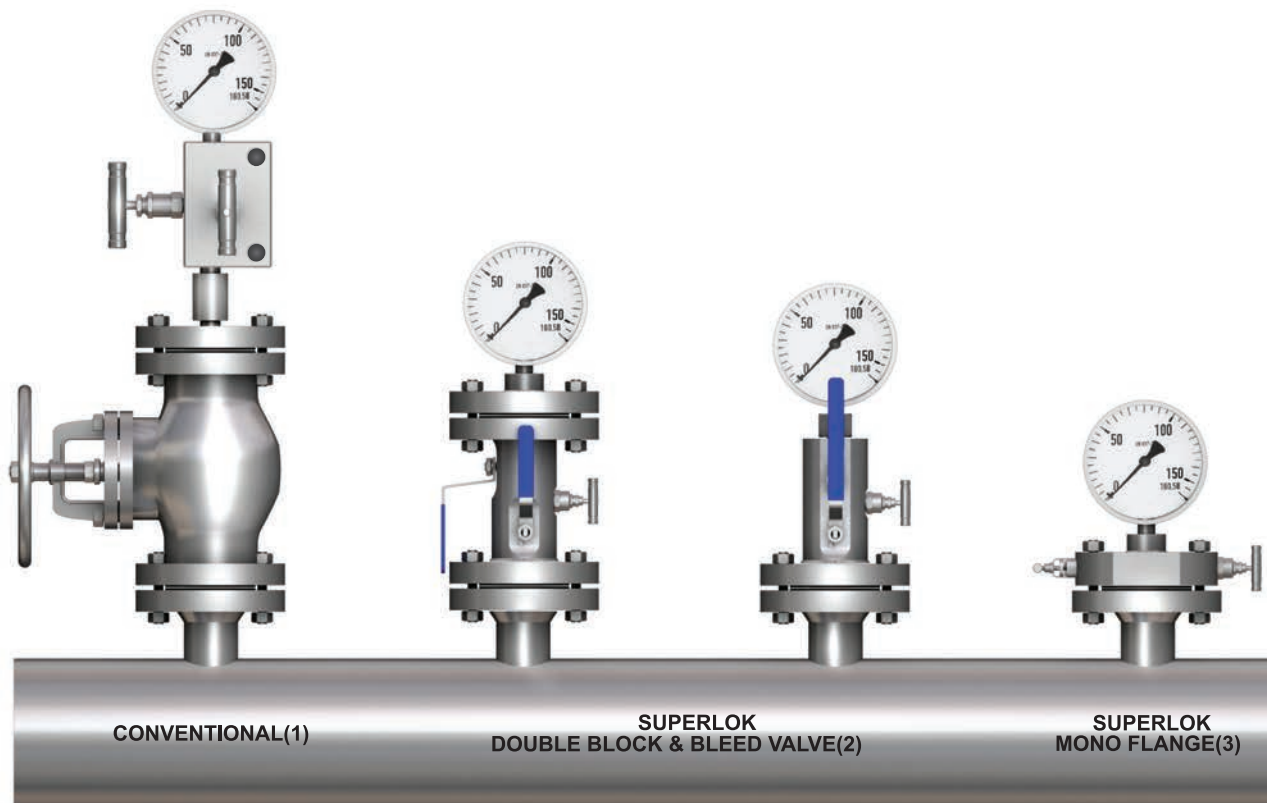
- A welded flange, connected to a primary ANSI class isolating valve. The primary valve will be connected to a secondary instrument valve. A pressure gauge or transmitter will then be installed downstream of the instrument valve.

### SUPERLOK BLOCK & BLEED Valve <2>

- A one-piece integral forging incorporating up 3 ball valve or mixture of ball and needle design.
- Improved safety : leak paths reduced by up to 60%
- Reduced costs : installation and component costs reduced by up to 70%
- Reduced weight : by up to 80%
- Reduced susceptibility to problems caused by vibration.

### SUPERLOK Monoflange <3>

- More compact then SUPERLOK DBB valve, adding further space and weight saving possibilities.
- Improved safety : leak paths reduced by up to 60%, less susceptibility to vibration
- Reduced costs : installation and component costs saving up to 80%
- Reduced weight : up to 85%

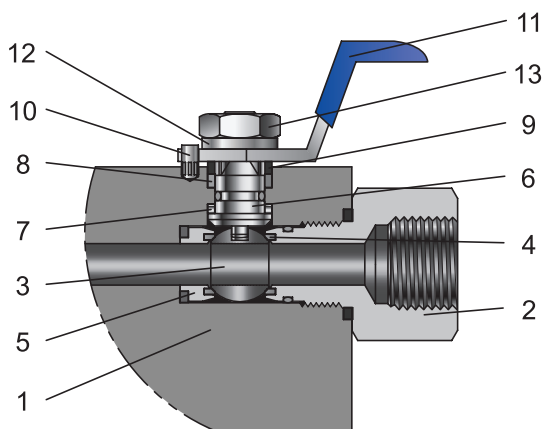


# SPECIFICATION

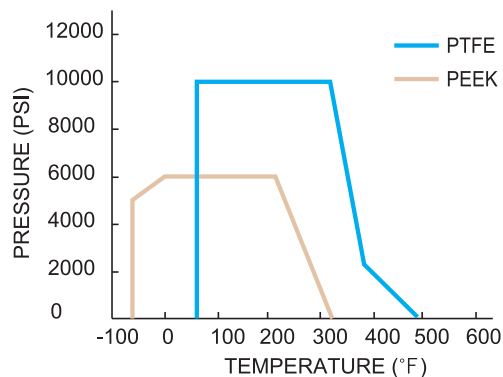
## Design codes

- ANSI / ASME B 16.34 - Designed to meet the pressure and temperature requirements
- ANSI / ASME B 16.5 - Flange dimensions
- ANSI / ASME B 1.20.1 - National pipe threads
- API 607 / BS 6755 - Fire safe designed

## Ball Valve



| DESCRIPTION |                 | BODY MATERIAL        |              |                        |
|-------------|-----------------|----------------------|--------------|------------------------|
|             |                 | STAINLESS STEEL      | CARBON STEEL | DUPLEX STAINLESS STEEL |
| 1           | BODY            | A182 F316            | A350 LF2     | A182 F51               |
| 2           | OULET CONNECTOR | A182 F316            | A350 LF2     | A182 F51               |
| 3           | BALL            | A479 TP316           |              | S31803                 |
| 4           | BALL SEAL       | PTFE / R.PTFE / PEEK |              |                        |
| 5           | SEAT CAPSULE    | A479 TP316           |              | S31803                 |
| 6           | STEM            | A479 TP316           |              | S31803                 |
| 7           | LOWER STEM SEAL | PTFE                 |              |                        |
| 8           | UPPER STEM SEAL | GRAPHITE             |              |                        |
| 9           | PACKING GLAND   | A479 TP316           |              | S31803                 |
| 10          | STOP PIN        | SS 316               |              | S31803                 |
| 11          | HANDLE          | SS 316               |              |                        |
| 12          | STEM WASHER     | SS 316               |              |                        |
| 13          | STEM NUT        | A194 8M              |              |                        |

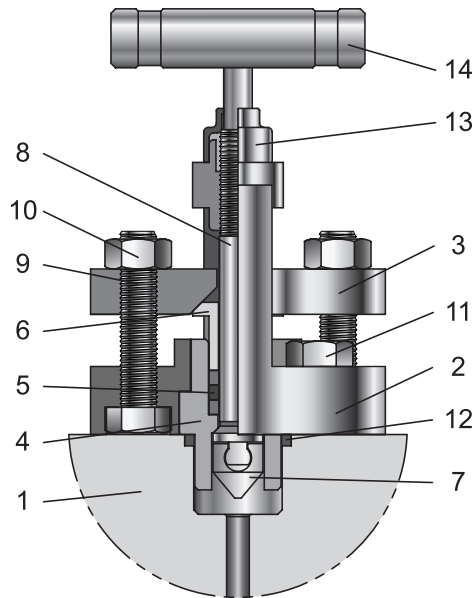


- 316 Stainless steel construction.
- Maximum cold working pressure rating 6,000 psig(414 bar) with PTFE seats.
- Temperature rating PTFE seats -54°C to 204°C (-65°F to 400°F)
- Maximum cold working pressure rating 10,000 psig(689 barg) with PEEK seats.
- Temperature rating PEEK seats -54°C to 232°C (-65°F to 450°F)

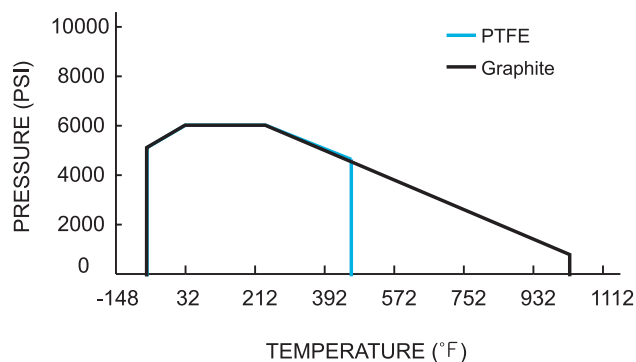
## Features

- Two piece body design - minimize leakage paths.
- Designed to comply with requirements of ANSI/ASME B16.34.
- Bi-directional.
- Ball seats choice of seat materials : PTFE(virgin or filled)PVDF , NYLON or PEEK.
- Bubble tight shutoff.
- Floating ball principal with dynamic response seats featuring inherent self relief.
- Anti blowout stem.
- Integral compression ends available eliminating taper threads and thread sealants.
- Low torque operation.
- Connector thread environmentally sealed.
- Anti static design as standard.
- Firesafe designed to meet BS 6755 Part2 / API 607,(optional).

# Outside screw and yoke(OS&Y) needle valve



| DESCRIPTION |               | BODY MATERIAL   |              |                        |
|-------------|---------------|-----------------|--------------|------------------------|
|             |               | STAINLESS STEEL | CARBON STEEL | DUPLEX STAINLESS STEEL |
| 1           | BODY          | A182 F316       | A350 LF2     | A182 F51               |
| 2           | OS & Y BONNET | A351 CF8M       | A352 LCC     | A182 F51               |
| 3           | GLAND FLANGE  | A351 CF8M       | A352 LCC     | A182 F51               |
| 4           | INSERT        | A479 TP316      |              | S31803                 |
| 5           | PACKING       | GRAPHITE        |              |                        |
| 6           | BUSHING       | A479 TP316      |              | S31803                 |
| 7           | VEE TIP       | SS630 + Hard Cr |              |                        |
| 8           | STEM          | A479 TP316      |              | S31803                 |
| 9           | FLANGE BOLT   | A193 B8M        | A320 L7M     | A453 Gr.660            |
| 10          | FLANGE NUT    | A194 8M         | A194 Gr.7    |                        |
| 11          | BONNET BOLT   | A193 B8M        | A320 L7M     |                        |
| 12          | BONNET SEAL   | GRAPHITE        |              |                        |
| 13          | DUST CAP      | NYLON           |              |                        |
| 14          | BAR HANDLE    | A276 TP316      |              | S31803                 |

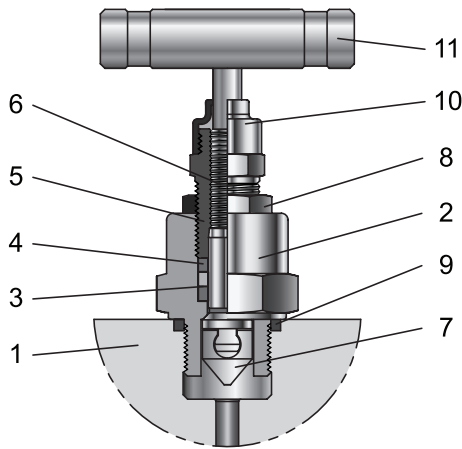


- 316 Stainless steel construction.
- Maximum cold working pressure rating 10,000 psig(690 bar).
- Temperature rating -54°C to 538°C (-65°F to 1000°F).

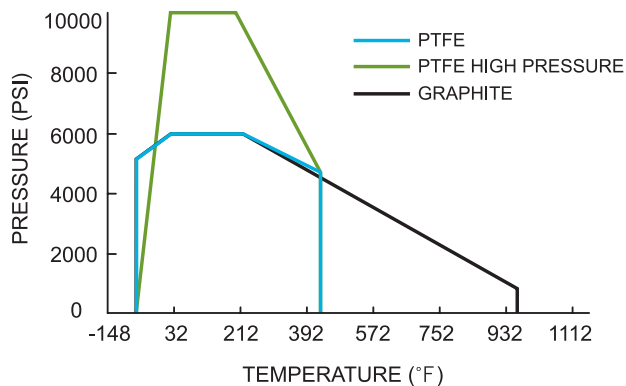
## Features

- Externally adjustable gland.
- PTFE or Graphite packing for bubble tight sealing.
- Self centering crimped needle tip for bubble tight shut off and repeatability.
- All componets stainless steel .
- Firesafe certified to BS6755 part 2/API 607.
- Flange gasket seal ensures a bubble-tight between body and yoke.
- Back seat design provides secondary stem sealing and prevents stem blow out.
- Rolled stem operating threads.
- Independent stem thread bush with maximum female thread interface.
- Colour coded close contact dust cap and function label for easy indentification.

# Glove style needle valve



| DESCRIPTION |               | BODY MATERIAL   |              |                        |
|-------------|---------------|-----------------|--------------|------------------------|
|             |               | STAINLESS STEEL | CARBON STEEL | DUPLEX STAINLESS STEEL |
| 1           | BODY          | SS 316          | A350 LF2     | A182 F51               |
| 2           | BONNET        | SS 316          | A350 LF2     | A182 F51               |
| 3           | PACKING       | GRAPHITE        |              |                        |
| 4           | PACKING GLAND | A479 TP316      |              | S31803                 |
| 5           | PACKING BOLT  | SS 316          | A350 LF2     | S31803                 |
| 6           | STEM          | A479 TP316      |              | S31803                 |
| 7           | VEE TIP       | SS630 + Hard Cr |              |                        |
| 8           | LOCK NUT      | SS 316          | A350 LF2     | S31803                 |
| 9           | BONNET SEAL   | GRAPHITE        |              |                        |
| 10          | DUST CAP      | NYLON           |              |                        |
| 11          | BAR HANDLE    | A276 TP316      |              | S31803                 |



- 316 Stainless steel construction.
- Maximum cold working pressure rating 10,000 psig(690 bar).
- Temperature rating -54°C to 538°C (-65°F to 1000°F).

## Features

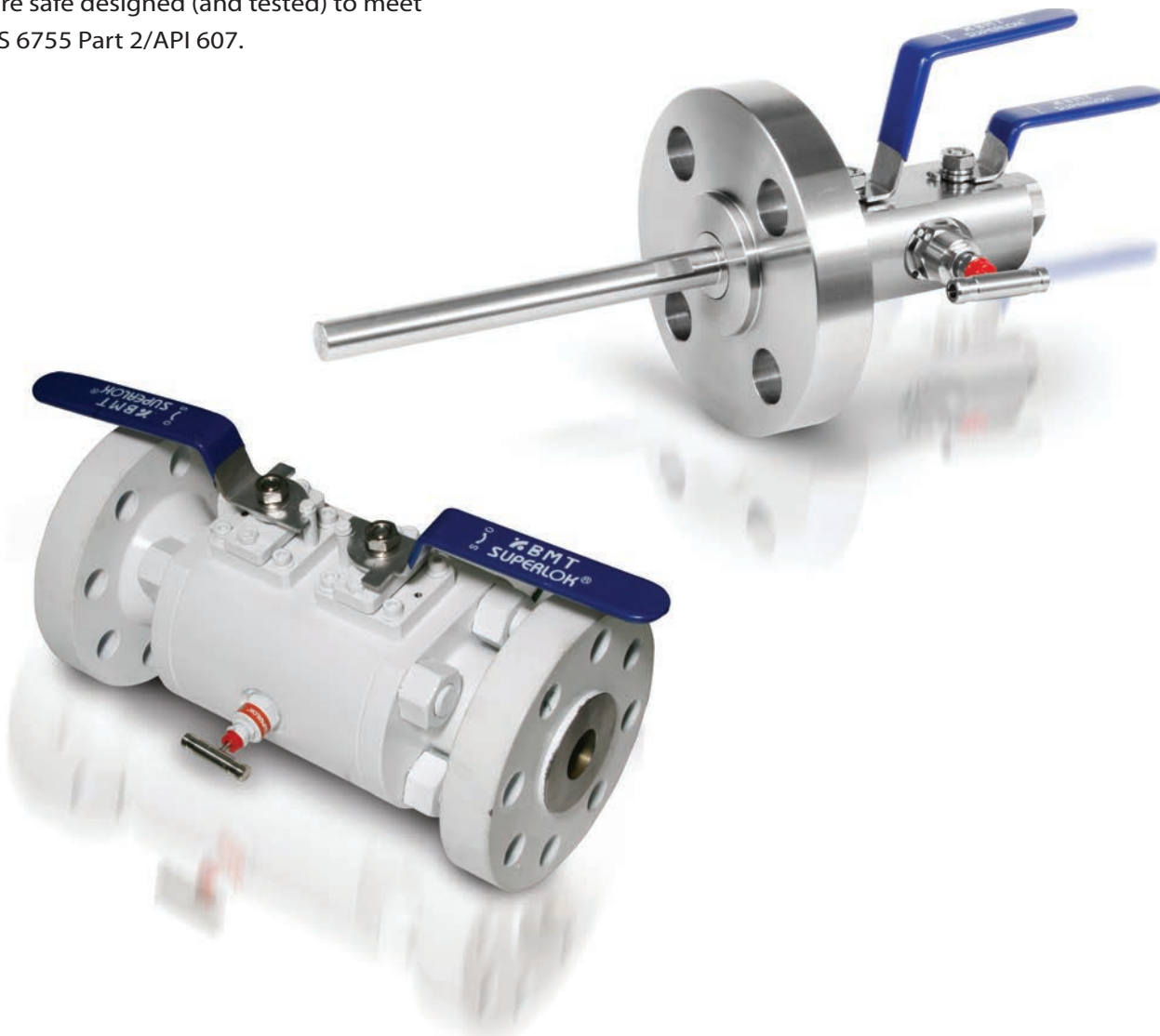
- Rolled stem operating threads for low torque operation.
- Gland packing in PTFE or Graphite for bubble tight sealing.
- Colour coded close contact dust cap and function label for easy identification.
- Self centering crimped needle tip for bubble tight seat sealing.
- Close contact dust cap for operating thread protection.
- Packing bolt with easy access.
- Lock nut for vibration protection.



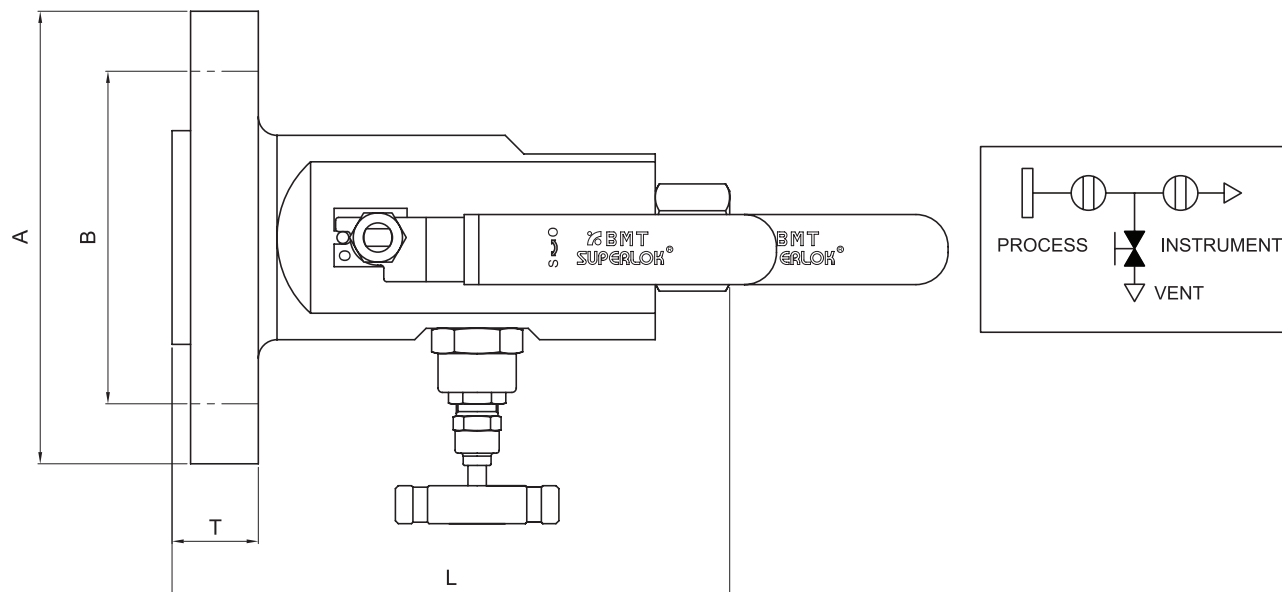
# Block & Bleed valve

## Features

- ANSI B16.5 flanged inlet connections 1/2" to 3" sizes.
- Class 150 rated to class 2500 rated.
- 1/2"-14 to 1"-11.5 NPT(female) standard outlet (depending on bore size).
- 1/2" NPT(female) standard vent.
- Standard materials of connection: Stainless steel ASTM A182 F316/F316L, Carbon steel ASTM A350 LF2/A105, Duplex ASTM A182 F51.
- Optional materials on request. Stainless steel ASTM A182 F316/F316L. Carbon steel ASTM A350 LF2/A105. Duplex ASTM A182 F51.
- Raised face and ring type joint flange face styles.
- One-piece forged construction flange as standard.
- Fire safe designed (and tested) to meet BS 6755 Part 2/API 607.
- 304 stainless steel handles and trim as standard to reduce the risk of corrosion.
- Designed to meet the pressure and temperature requirements of ASME/ANSI B16.34/B16.5.
- Pressure boundary designs calculated to ASME VIII Div 1 and verified by testing.
- Heat code traceable material to EN 10204.3.1.
- Bubble tight shut off.
- locking and anti tamper devices for all valve types available option.
- Positive lever stop.
- User preferred handles.
- Permanent affixed reference label.



# DB-S1/S2 SERIES



## Dimensions

(10mm BORE)

| SIZE<br>(inch)  | RATING<br>(lb) | DIMENSION (mm) |     |       |      |
|-----------------|----------------|----------------|-----|-------|------|
|                 |                | DB - S1        | A   | B     | T    |
|                 |                | L (RF)         |     |       |      |
| 1/2<br>(DN15)   | 150            | 170            | 89  | 60.3  | 11.2 |
|                 | 300            |                | 96  | 66.7  | 14.2 |
|                 | 600            | 179            |     |       | 20.6 |
|                 | 900/1500       | 186            | 121 | 82.5  | 28.8 |
|                 | 2500           |                | 134 | 88.9  | 36.6 |
| 3/4<br>DN(20)   | 150            | 175            | 99  | 69.8  | 12.7 |
|                 | 300            |                | 118 | 82.5  | 15.7 |
|                 | 600            |                |     |       | 22.1 |
|                 | 900/1500       | 179            | 130 | 88.9  | 31.8 |
|                 | 2500           | 186            | 140 | 95.2  | 38.2 |
| 1<br>(DN25)     | 150            | 170            | 108 | 79.4  | 14.2 |
|                 | 300            |                | 124 | 88.9  | 17.5 |
|                 | 600            | 179            |     |       | 23.9 |
|                 | 900/1500       | 186            | 150 | 101.6 | 34.8 |
|                 | 2500           |                | 159 | 108.0 | 41.5 |
| 1-1/2<br>(DN40) | 150            | 170            | 127 | 98.4  | 17.5 |
|                 | 300            | 179            | 156 | 114.3 | 20.6 |
|                 | 600            |                |     |       | 27.0 |
|                 | 900/1500       | 186            | 178 | 124.0 | 38.2 |
|                 | 2500           | 200            | 203 | 146.1 | 50.9 |
| 2<br>(DN50)     | 150            | 179            | 152 | 120.6 | 22.4 |
|                 | 300            |                | 165 | 127.0 | 24.0 |
|                 | 600            | 186            |     |       | 30.4 |
|                 | 900/1500       | 200            | 216 | 165.1 | 44.5 |
|                 | 2500           | 208            | 235 | 171.5 | 57.2 |

\*Dimensions are for reference only and are subject to change.



## Dimensions

### (14mm BORE)

| SIZE<br>(inch)  | RATING<br>(lb) | DIMENSION (mm) |     |       |      |
|-----------------|----------------|----------------|-----|-------|------|
|                 |                | DB - S1        | A   | B     | T    |
|                 |                | L (RF)         |     |       |      |
| 3/4<br>DN(20)   | 150            | 208            | 99  | 69.8  | 12.7 |
|                 | 300            |                | 118 | 82.5  | 15.7 |
|                 | 600            |                |     |       | 22.1 |
|                 | 900/1500       | 218            | 130 | 88.9  | 31.8 |
|                 | 2500           | 224            | 140 | 95.2  | 38.2 |
| 1<br>(DN25)     | 150            | 208            | 108 | 79.4  | 14.2 |
|                 | 300            |                | 124 | 88.9  | 17.5 |
|                 | 600            | 218            |     |       | 23.9 |
|                 | 900/1500       | 224            | 150 | 101.6 | 34.8 |
|                 | 2500           | 227            | 159 | 108.0 | 41.5 |
| 1-1/2<br>(DN40) | 150            | 208            | 127 | 98.4  | 17.5 |
|                 | 300            | 218            | 156 | 114.3 | 20.6 |
|                 | 600            |                |     |       | 27.0 |
|                 | 900/1500       | 224            | 178 | 124.0 | 38.2 |
|                 | 2500           | 238            | 203 | 146.1 | 50.9 |
| 2<br>(DN50)     | 150            | 218            | 152 | 120.6 | 22.4 |
|                 | 300            |                | 165 | 127.0 | 24.0 |
|                 | 600            | 224            |     |       | 30.4 |
|                 | 900/1500       | 238            | 216 | 165.1 | 44.5 |
|                 | 2500           | 246            | 235 | 171.5 | 57.2 |

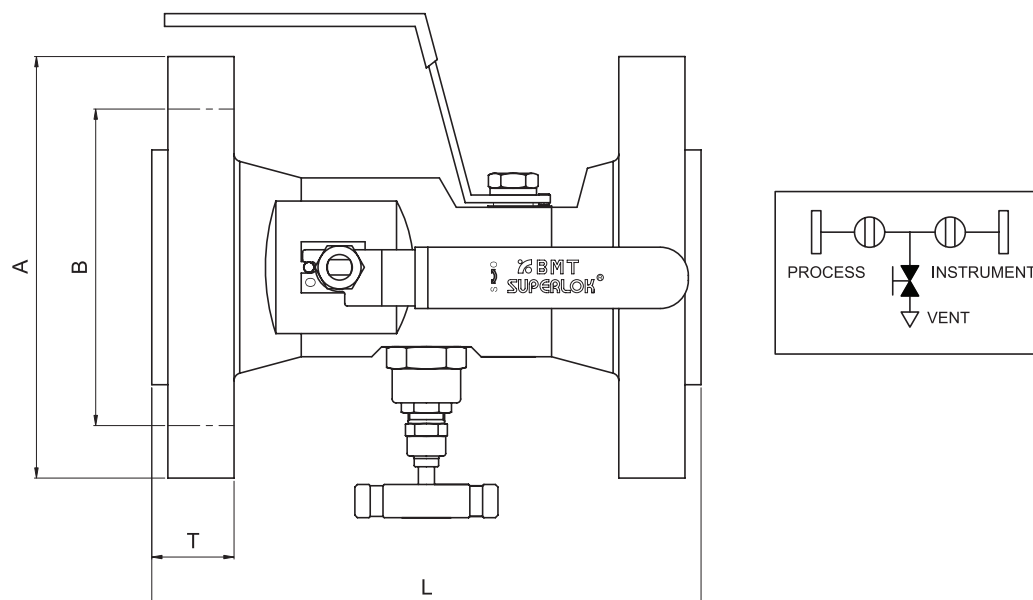
\*Dimensions are for reference only and are subject to change.

### (20mm BORE)

| SIZE<br>(inch)  | RATING<br>(lb) | DIMENSION (mm) |     |       |      |
|-----------------|----------------|----------------|-----|-------|------|
|                 |                | DB - S1        | A   | B     | T    |
|                 |                | L (RF)         |     |       |      |
| 1<br>(DN25)     | 150            | 235            | 108 | 79.4  | 14.2 |
|                 | 300            |                | 124 | 88.9  | 17.5 |
|                 | 600            |                |     |       | 23.9 |
|                 | 900/1500       | 251            | 150 | 101.6 | 34.8 |
|                 | 2500           |                | 159 | 108.0 | 41.5 |
| 1-1/2<br>(DN40) | 150            | 235            | 127 | 98.4  | 17.5 |
|                 | 300            | 244            | 156 | 114.3 | 20.6 |
|                 | 600            |                |     |       | 27.0 |
|                 | 900/1500       | 251            | 178 | 124.0 | 38.2 |
|                 | 2500           | 265            | 203 | 146.1 | 50.9 |
| 2<br>(DN50)     | 150            | 244            | 152 | 120.6 | 22.4 |
|                 | 300            |                | 165 | 127.0 | 24.0 |
|                 | 600            | 251            |     |       | 30.4 |
|                 | 900/1500       | 265            | 216 | 165.1 | 44.5 |
|                 | 2500           | 273            | 235 | 171.5 | 57.2 |

\*Dimensions are for reference only and are subject to change.

# DB-D1/D2 SERIES



## Dimensions

(10mm BORE)

| SIZE<br>(inch)  | RATING<br>(lb) | DIMENSION (mm)    |     |       |      |
|-----------------|----------------|-------------------|-----|-------|------|
|                 |                | DB - S1<br>L (RF) | A   | B     | T    |
| 1/2<br>(DN15)   | 150            | 235               | 89  | 60.3  | 11.2 |
|                 | 300            |                   | 96  | 66.7  | 14.2 |
|                 | 600            |                   |     |       | 20.6 |
|                 | 900/1500       | 254               | 121 | 82.5  | 28.8 |
|                 | 2500           | 267               | 134 | 88.9  | 36.6 |
| 3/4<br>DN(20)   | 150            | 235               | 99  | 69.8  | 12.7 |
|                 | 300            |                   | 118 | 82.5  | 15.7 |
|                 | 600            |                   |     |       | 22.1 |
|                 | 900/1500       | 254               | 130 | 88.9  | 31.8 |
|                 | 2500           | 267               | 140 | 95.2  | 38.2 |
| 1<br>(DN25)     | 150            | 235               | 108 | 79.4  | 14.2 |
|                 | 300            |                   | 124 | 88.9  | 17.5 |
|                 | 600            |                   |     |       | 23.9 |
|                 | 900/1500       | 267               | 150 | 101.6 | 34.8 |
|                 | 2500           |                   | 159 | 108.0 | 41.5 |
| 1-1/2<br>(DN40) | 150            | 235               | 127 | 98.4  | 17.5 |
|                 | 300            | 254               | 156 | 114.3 | 20.6 |
|                 | 600            |                   |     |       | 27.0 |
|                 | 900/1500       | 267               | 178 | 124.0 | 38.2 |
|                 | 2500           | 314               | 203 | 146.1 | 50.9 |
| 2<br>(DN50)     | 150            | 254               | 152 | 120.6 | 22.4 |
|                 | 300            |                   | 165 | 127.0 | 24.0 |
|                 | 600            |                   |     |       | 30.4 |
|                 | 900/1500       | 314               | 216 | 165.1 | 44.5 |
|                 | 2500           | 334               | 235 | 171.5 | 57.2 |

\*Dimensions are for reference only and are subject to change.

## Dimensions

### (14mm BORE)

| SIZE<br>(inch)  | RATING<br>(lb) | DIMENSION (mm) |     |       |      |
|-----------------|----------------|----------------|-----|-------|------|
|                 |                | DB - S1        | A   | B     | T    |
|                 |                | L (RF)         |     |       |      |
| 3/4<br>DN(20)   | 150            | 235            | 99  | 69.8  | 12.7 |
|                 | 300            |                | 118 | 82.5  | 15.7 |
|                 | 600            |                |     |       | 22.1 |
|                 | 900/1500       | 254            | 130 | 88.9  | 31.8 |
|                 | 2500           | 267            | 140 | 95.2  | 38.2 |
| 1<br>(DN25)     | 150            | 235            | 108 | 79.4  | 14.2 |
|                 | 300            |                | 124 | 88.9  | 17.5 |
|                 | 600            |                |     |       | 23.9 |
|                 | 900/1500       | 267            | 150 | 101.6 | 34.8 |
|                 | 2500           | 273            | 159 | 108.0 | 41.5 |
| 1-1/2<br>(DN40) | 150            | 235            | 127 | 98.4  | 17.5 |
|                 | 300            | 254            | 156 | 114.3 | 20.6 |
|                 | 600            |                |     |       | 27.0 |
|                 | 900/1500       | 267            | 178 | 124.0 | 38.2 |
|                 | 2500           | 334            | 203 | 146.1 | 50.9 |
| 2<br>(DN50)     | 150            | 254            | 152 | 120.6 | 22.4 |
|                 | 300            |                | 165 | 127.0 | 24.0 |
|                 | 600            |                |     |       | 30.4 |
|                 | 900/1500       | 334            | 216 | 165.1 | 44.5 |
|                 | 2500           |                | 235 | 171.5 | 57.2 |

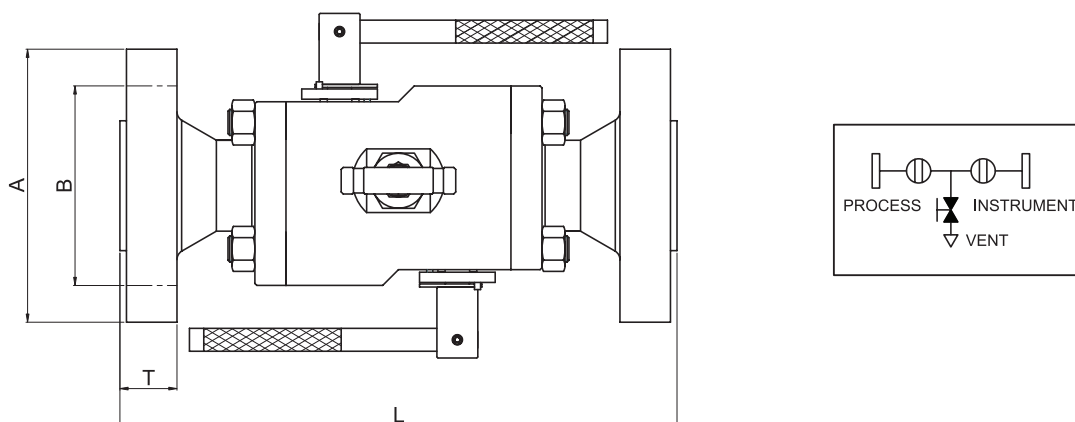
\*Dimensions are for reference only and are subject to change.

### (20mm BORE)

| SIZE<br>(inch)  | RATING<br>(lb) | DIMENSION (mm) |     |       |      |
|-----------------|----------------|----------------|-----|-------|------|
|                 |                | DB - S1        | A   | B     | T    |
|                 |                | L (RF)         |     |       |      |
| 1<br>(DN25)     | 150            | 235            | 108 | 79.4  | 14.2 |
|                 | 300            |                | 124 | 88.9  | 17.5 |
|                 | 600            |                |     |       | 23.9 |
|                 | 900/1500       | 267            | 150 | 101.6 | 34.8 |
|                 | 2500           | 273            | 159 | 108.0 | 41.5 |
| 1-1/2<br>(DN40) | 150            | 235            | 127 | 98.4  | 17.5 |
|                 | 300            | 254            | 156 | 114.3 | 20.6 |
|                 | 600            |                |     |       | 27.0 |
|                 | 900/1500       | 268            | 178 | 124.0 | 38.2 |
|                 | 2500           | 334            | 203 | 146.1 | 50.9 |
| 2<br>(DN50)     | 150            | 254            | 152 | 120.6 | 22.4 |
|                 | 300            |                | 165 | 127.0 | 24.0 |
|                 | 600            |                |     |       | 30.4 |
|                 | 900/1500       | 334            | 216 | 165.1 | 44.5 |
|                 | 2500           |                | 235 | 171.5 | 57.2 |

\*Dimensions are for reference only and are subject to change.

## Dimensions



### (REDUCER BORE)

| SIZE<br>(inch)  | BORE<br>(mm) | RATING<br>(lb) | DIMENSION (mm) |      |            |      |           |               |
|-----------------|--------------|----------------|----------------|------|------------|------|-----------|---------------|
|                 |              |                | RF FLANGE      |      | RTJ FLANGE |      | A         | B             |
|                 |              |                | L              | T    | L          | T    |           |               |
| 1-1/2<br>(DN40) | 25.4         | 150            | 279            | 19.5 | 292        | 25.9 | 127       | 98.4          |
|                 |              | 300            | 285            | 22.6 | -          | -    | 156       | 114.3         |
|                 |              | 600            | 301            | 30.8 | 301        | 30.8 |           |               |
|                 |              | 900/1500       | 370            | 40.2 | 370        | 40.2 | 178       | 124.0         |
|                 |              | 2500           | 396            | 52.9 | 399        | 54.4 | 203       | 146.1         |
| 2<br>(DN50)     | 38.1         | 150            | 364            | 21.1 | 377        | 27.5 | 152       | 120.6         |
|                 |              | 300            | 372            | 27.9 | -          | -    | 165       | 127.0         |
|                 |              | 600            | 390            | 33.8 | 393        | 35.3 |           |               |
|                 |              | 900/1500       | 415            | 46.5 | 418        | 48.0 | 216       | 165.1         |
|                 |              | 2500           | 475            | 59.2 | 478        | 60.7 | 235       | 171.5         |
| 3<br>(DN75)     | 50.8         | 150            | 400            | 25.9 | 413        | 32.3 | 191       | 152.4         |
|                 |              | 300            | 410            | 30.9 | -          | -    | 210       | 168.1         |
|                 |              | 600            | 428            | 40.2 | 431        | 41.7 |           |               |
|                 |              | 900/1500       | 441            | 46.5 | 444        | 48.0 | 241 / 267 | 190.5 / 203.2 |
|                 |              | 2500           | 500            | 56.2 | 503        | 57.7 | 305       | 228.6         |

\*Dimensions are for reference only and are subject to change.

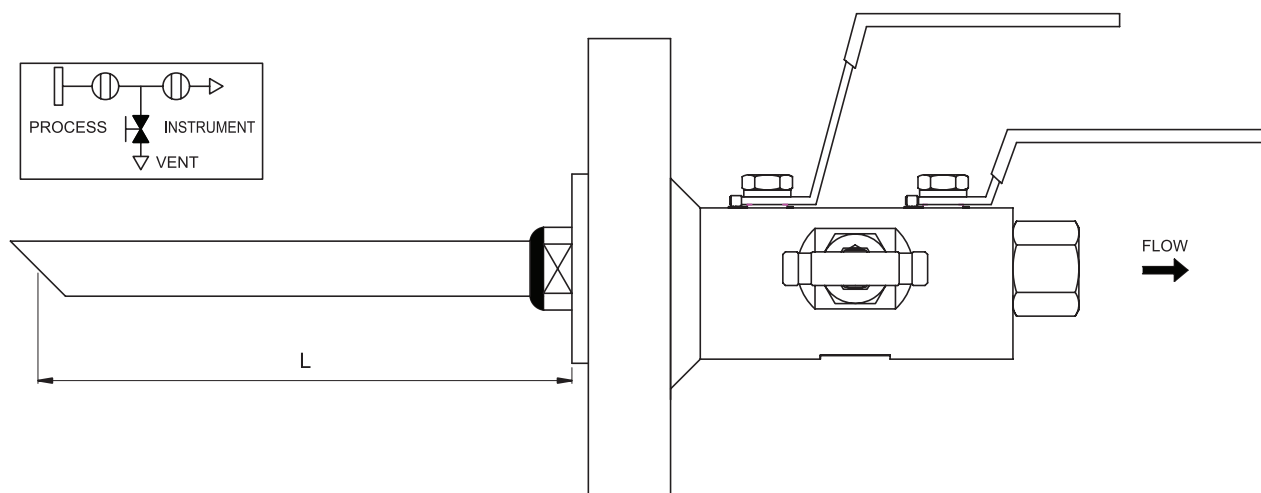
### (FULL BORE)

| SIZE<br>(inch)  | BORE<br>(mm) | RATING<br>(lb) | DIMENSION (mm) |      |            |      |     |       |
|-----------------|--------------|----------------|----------------|------|------------|------|-----|-------|
|                 |              |                | RF FLANGE      |      | RTJ FLANGE |      | A   | B     |
|                 |              |                | L              | T    | L          | T    |     |       |
| 1<br>(DN25)     | 25.4         | 150            | 272            | 16.2 | 285        | 22.6 | 108 | 79.4  |
|                 |              | 300            | 279            | 19.5 | -          | -    | 124 | 88.9  |
|                 |              | 600            | 292            | 25.9 | 292        | 25.9 |     |       |
|                 |              | 900/1500       | 364            | 36.8 | 364        | 36.8 | 150 | 101.6 |
|                 |              | 2500           | 377            | 43.5 | 377        | 43.5 | 159 | 108.0 |
| 1-1/2<br>(DN40) | 38.1         | 150            | 361            | 19.5 | 374        | 25.9 | 127 | 98.4  |
|                 |              | 300            | 367            | 22.6 | -          | -    | 156 | 114.3 |
|                 |              | 600            | 384            | 30.8 | 384        | 30.8 |     |       |
|                 |              | 900/1500       | 402            | 40.2 | 402        | 40.2 | 178 | 124.0 |
|                 |              | 2500           | 463            | 52.9 | 466        | 54.4 | 203 | 146.1 |
| 2<br>(DN50)     | 50.8         | 150            | 390            | 21.1 | 403        | 27.5 | 152 | 120.6 |
|                 |              | 300            | 398            | 24.9 | -          | -    | 165 | 127.0 |
|                 |              | 600            | 416            | 33.8 | 419        | 35.3 |     |       |
|                 |              | 900/1500       | 481            | 46.5 | 484        | 48.0 | 216 | 165.1 |

\*Dimensions are for reference only and are subject to change.

## SAMPLING VALVE

This manifold range is designed to replace conventional multiple-valve installations where sampling of the process stream is required. This design has been developed to remove a sample directly from the process stream at full system pressure.



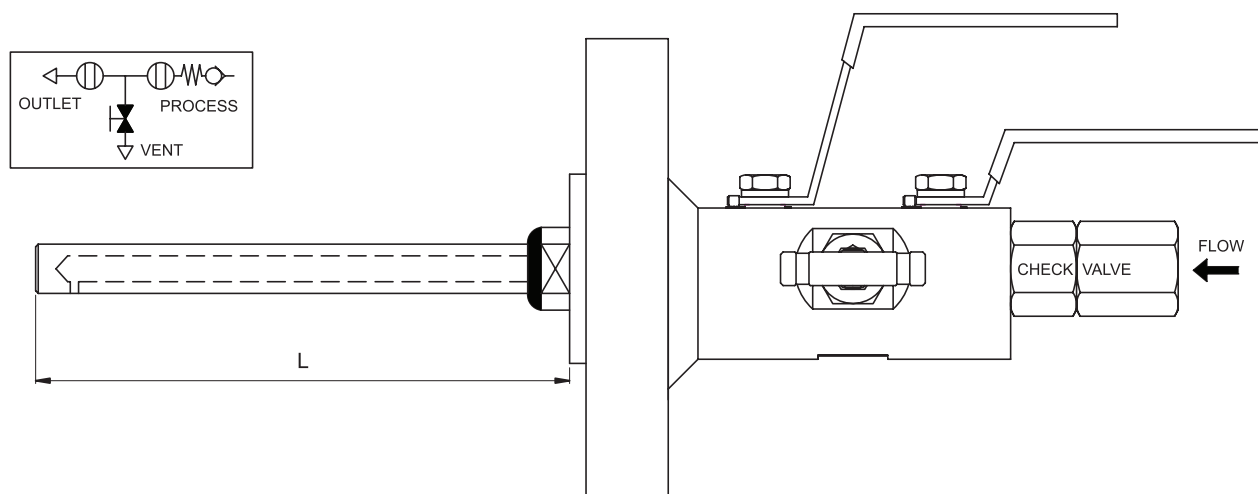
### Sampling probe

The probe length must be specified from the raised face to the end of the probe in mm , to the nearest mm.

Probes are supplied to suit the insertion length required by the pipeline and thus must be specified by the customer

## CHEMICAL INJECTION VALVE

This manifold range is designed to replace conventional multiple-valve installations where injection into the process stream is required. This design has been developed to inject directly into the process stream at full system pressure.



### Injection quill

The probe length must be specified from the raised face to the end of the probe in mm .

Probes length shall be decided in consideration of injection insert length in the pipeline and customer's request.

### Non return check valve

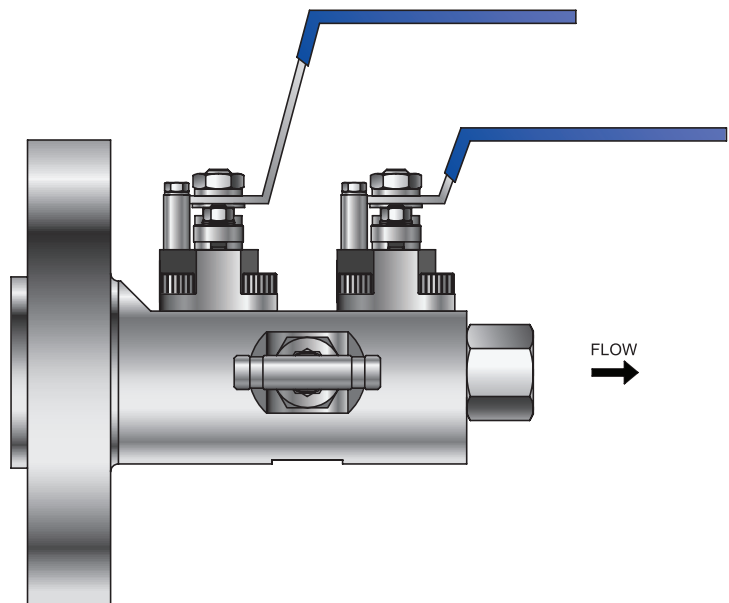
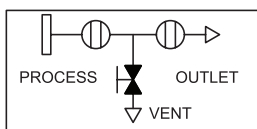
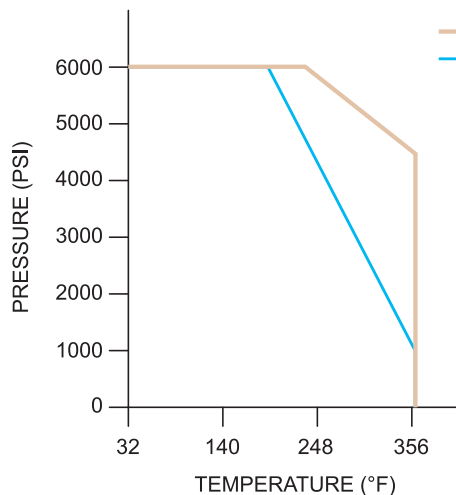
This poppet type spring return valve has a viton soft seal(SUPERLOK standard)

# FUGITIVE EMISSION

ISO 15848 parts 1&2 (defining a classification system and qualification procedures, and production acceptance test of industrial valves, respectively) specify new ultra low standards for emissions. This standard is becoming the requirement for oil and gas and petrochemical organizations worldwide. The standard was originally created for process valves and control valves but is now being applied to Instrument valves which include primary isolation valves, especially on environmentally sensitive projects. Meeting these low levels is a challenge, which BMT Instrument has solved with the new ball and needle valve designs used in these DBB valves and mono flanges. These designs meet the highest class 'A' level over the temperature range -29°C to +180°C, alongside the standard instrumentation manifold pressure ranges. Production testing and certification is available upon request. Please specify sample quantity required for production testing with your order.

## Valve Specification

- Tightness class A  $>1 \times 10^{-6}$  mg.s-1.m-1.
- Maximum cold working pressure rating 6,000 psig.
- Temperature rating -29°C to 180°C (-20°F to 356°F)
- ISO15848-1 prototype tested using global helium vacuum method.
- Performance class -ISO FE AH-CO1-SSA1-t(RT, 180°C)-ANSI2500-ISO 15848-1



The ISO 15848 standard effectively sets a requirement for zero emissions for processes involving volatile air pollutants and hazardous fluids. This design has been developed to minimise fugitive emissions.



## Ordering Information

Example-1) : **DB-S11-F8R1N8-PE-FS-SS**

1                      3 4 5    3 4    6    7    8

Example-2) : **DB-D11-FB-F8R3-PE-FE-M**

1                      2    3 4 5    6    7    8

### 1. Valve Series

| SERIES   |                                   |         |   | 1st ISOLATE | 2st ISOLATE | VENT   |
|----------|-----------------------------------|---------|---|-------------|-------------|--------|
| IDENTIFY |                                   |         |   |             |             |        |
| SB       | SINGLE BLOCK<br>&<br>BLEED VALVES | S1 / D1 | 1 | BALL        | -           | NEEDLE |
|          |                                   |         | 2 |             |             | OS & Y |
|          |                                   |         | 3 |             |             | BALL   |
|          |                                   | S2 / D2 | 1 | OS & Y      |             | OS & Y |
|          |                                   |         | 2 |             |             | NEEDLE |
|          |                                   |         | 3 | NEEDLE      |             |        |
| DB       | DOUBLE BLOCK<br>&<br>BLEED VALVES | S1 / D1 | 1 | BALL        | BALL        | NEEDLE |
|          |                                   |         | 2 |             |             | OS & Y |
|          |                                   |         | 3 |             |             | BALL   |
|          |                                   |         | 4 |             | NEEDLE      | NEEDLE |
|          |                                   |         | 5 |             | BALL        | -      |
|          |                                   |         | 6 |             | NEEDLE      |        |
|          |                                   | S2 / D2 | 1 | OS & Y      | OS & Y      | OS & Y |
|          |                                   |         | 2 |             |             |        |
|          |                                   |         | 3 |             | NEEDLE      | NEEDLE |
|          |                                   |         | 4 | NEEDLE      |             | NEEDLE |

### 2. Bore size (mm)

(NIL) - 10mm(STANDARD)  
14 - 14mm  
20 - 20mm  
RB - Reducing Bore  
FB - Full Bore

### 3. Connection type

F - RAISED FACE FLANGE  
J - RING JOINT FLANGE  
N - FEMALE NPT  
M - MALE NPT  
FF - FLAT FACE FLANGE  
BW - BUTT WELD  
SW - SOCKET WELD

### 4. Connection size (inch)

4 - 1/4"      16 - 1"  
6 - 3/8"      24 - 1-1/2"  
8 - 1/2"      32 - 2"  
12 - 3/4"      48 - 3"

### 5. Flange rating (class)

R1 - 150      R4 - 900  
R2 - 300      R5 - 1500  
R3 - 600      R6 - 2500

### 6. Ball seat material

(NIL) - R.PTFE(STANDARD)  
PV - PVDF  
PE - PEEK  
PC - PCTFE  
DE - DEVLON-V

### 7. Option

SP - SAMPLING PROBE  
IQ - INJECTION QUILL  
FE - FUGITIVE EMISSION  
LD - LOCKING DEVICE  
AT - ANTI TAMPER KEY  
FS - FIRE SAFETY

### 8. Body material

SS(NIL) - ASTM A182 F316  
105 - ASTM A105  
LF2 - ASTM A350 LF2  
F51 - ASTM A182 F51  
M - MONEL ALLOY 400

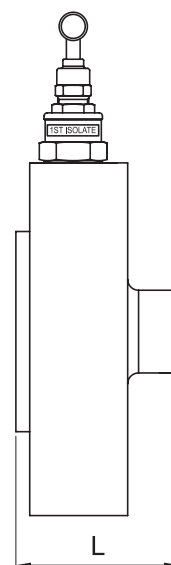
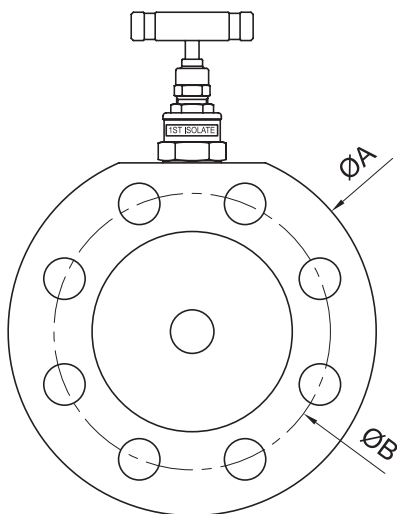
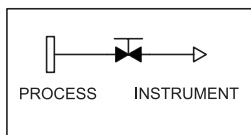
# Monoflange valve

## Features

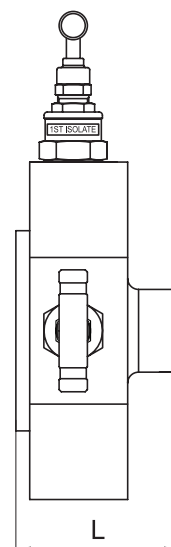
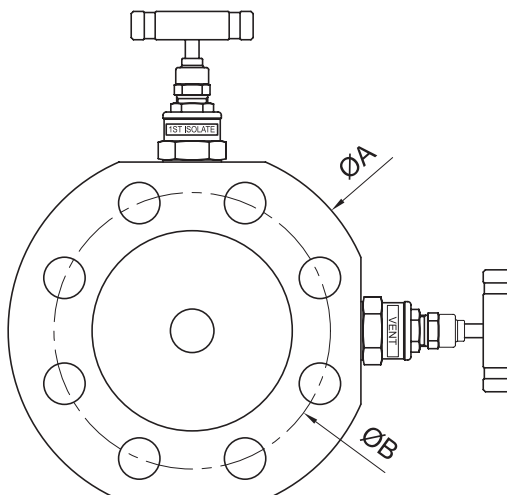
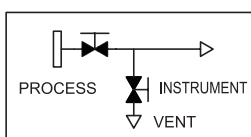
- ANSI B16.5 flanged inlet connections 1/2" to 2" sizes.
- Class 150 rated to class 2500 rated.
- 1/2"-14 NPT(female) standard outlet.
- 1/4"-18 NPT(female) standard vent.
- Standard materials of connection: Stainless steel
- Optional materials on request.  
Stainless steel ASTM A182 F316/F316L  
Carbon steel ASTM A350 LF2/A105  
Duplex ASTM A182 F51, Super Duplex  
Monel, Hastelloy, 6Mo, Incoloy.
- Combined needle and OS & Y valves available.
- Raised face and ring type joint flange face styles.
- One-piece forged construction flange as standard.
- Fire safe designed to meet BS 6755 Part 2 / API 607.  
(As option)
- Pressure boundary designs calculated to ASME VIII Div 1 and verified by testing.
- Heat code traceable material to EN 10204.3.1.
- Bubble tight shut off valve seats 17-4 PH tips standard.
- Optional PEEK tips available.
- Colour coded functional valves.
- Locking and anti tamper devices for all valve types available. (as option)
- Permanent marked body with full order and specification details.



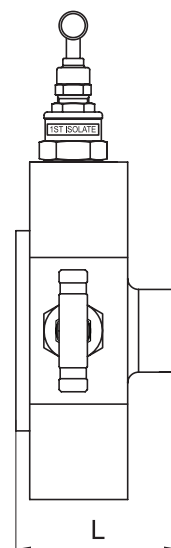
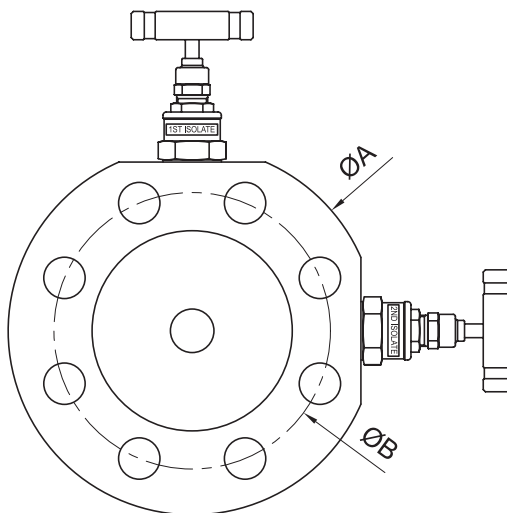
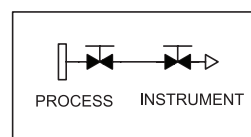
## MF-V1 Series



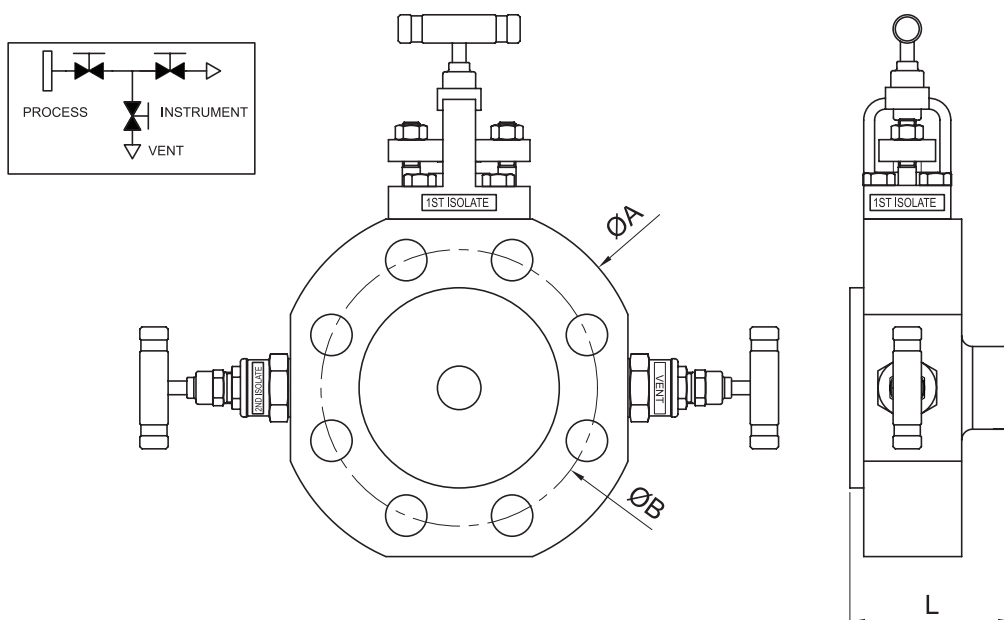
## MF-V2 Series



## MF-V3 Series



# MF-V4 SERIES



## Dimensions

| SIZE<br>(inch)  | RATING<br>(lb) | DIMENSION (mm) |        |       |       |
|-----------------|----------------|----------------|--------|-------|-------|
|                 |                | L(RF)          | L(RTJ) | A     | B     |
| 1/2<br>(DN15)   | 150            | 64             | -      | 89    | 60.3  |
|                 | 300            |                | 64     | 96    | 66.7  |
|                 | 600            | 121            |        | 82.5  |       |
|                 | 900/1500       | 134            |        | 88.9  |       |
|                 | 2500           |                |        |       |       |
| 3/4<br>DN(20)   | 150            | 64             | -      | 99    | 69.8  |
|                 | 300            |                | 68     | 118   | 82.5  |
|                 | 600            | 130            |        | 88.9  |       |
|                 | 900/1500       |                |        |       |       |
|                 | 2500           | 73             | 73     | 140   | 95.2  |
| 1<br>(DN25)     | 150            | 64             | 68     | 108   | 79.4  |
|                 | 300            |                |        | 124   | 88.9  |
|                 | 600            | 68             | 73     | 150   | 101.6 |
|                 | 900/1500       | 73             |        | 159   | 108.0 |
|                 | 2500           |                |        |       |       |
| 1-1/2<br>(DN40) | 150            | 64             | 68     | 127   | 98.4  |
|                 | 300            | 69             | 69     | 156   | 114.3 |
|                 | 600            | 73             | 73     |       |       |
|                 | 900/1500       |                | 178    | 123.8 |       |
|                 | 2500           | 82             | 84     | 203   | 146.1 |
| 2<br>(DN50)     | 150            | 69             | 73     | 152   | 120.6 |
|                 | 300            |                | 75     | 165   | 127.0 |
|                 | 600            | 73             |        |       |       |
|                 | 900/1500       | 82             | 84     | 216   | 165.1 |

\*Dimensions are for reference only and are subject to change.

## Ordering Information

Example) : **MF - V11 - F8R1N8-SS-AT**

1
2 3 4
2 3
5
6

### 1. Valve Series

| SERIES   |    |   | 1st ISOLATE | 2st ISOLATE | VENT   |
|----------|----|---|-------------|-------------|--------|
| IDENTIFY |    |   |             |             |        |
| MF       | V1 | 1 | NEEDLE      | -           | -      |
|          |    | 2 | OS & Y      |             |        |
|          | V2 | 1 | NEEDLE      | -           | NEEDLE |
|          |    | 2 | OS & Y      |             |        |
|          | V3 | 1 | NEEDLE      | NEEDLE      | -      |
|          |    | 2 | OS & Y      |             |        |
|          | V4 | 1 | NEEDLE      | NEEDLE      | NEEDLE |
|          |    | 2 |             | OS & Y      |        |
|          |    | 3 | OS & Y      | NEEDLE      |        |
|          |    | 4 |             | OS & Y      |        |

### 2. Connection type

F - RAISED FACE FLANGE  
J - RING TYPE JOINT FLANGE  
N - NPT  
BW - BUTT WELD  
SW - SOCKET WELD

### 3. Connection size (inch)

4 - 1/4"      16 - 1"  
6 - 3/8"      24 - 1-1/2"  
8 - 1/2"      32 - 2"  
12 - 3/4"

### 4. Flange rating (class)

R1 - 150      R4 - 900  
R2 - 300      R5 - 1500  
R3 - 600      R6 - 2500

### 5. Body Material

SS(NIL) - ASTM A 182 F316  
105 - ASTM A105  
LF2 - ASTM A350 LF2  
F51 - ASTM A182 F51  
M - MONEL ALLOY 400

### 6. Option

BB - BOLTED BONNET  
FE - FUGITIVE EMISSION  
LD - LOCKING DEVICE  
AT - ANTI TAMPER KEY  
FS - FIRE SAFETY



## Valve Series

- Key Operation Ball Valves
- Key Operation Needle Valves
- Ball Valves
- Integral Bonnet Needle Valves
- Union Bonnet Needle Valves
- Check Valves
- High Pressure Check Valves
- High Pressure Needle Valves
- Plug Valves
- Manifold Valves
- Vacuum Clamps
- Water Regulators
- Flexible Hoses
- Double Block & Bleed Valves
- Swing-Out Ball Valves
- Toggle Valves
- Bleed & Purge Valves
- Quick Connectors
- High Pressure Ball Valves
- Hydraulic Ball Valves
- Trunnion Ball Valves
- Rising Plug Valves
- Relief Valves
- Cryogenic Needle Valves
- Cryogenic Ball Valves
- Micron in-Line Filters
- Gauge Root Valves
- Hydraulic Flange and Components

## Fitting Series

- Tube Fittings (Compression Type)
- Instrument Thread Fittings
- Forged Fittings
- Bite Type Tube Fittings (DIN2353)
- Bite Type Tube Fittings (JIS B2351)
- 37° Flared Tube Fittings (SAE J514)
- O-Ring Face Seal Fittings
- Hose Connectors & Push-On Hose Fittings

## Electric

- MCPD(Molded Case Power Distributor)



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