

Jamesbury™ Value-Line™ 3-piece threaded and socket-weld ball valves, series 3A & 3C

The Jamesbury Value-Line Series 3 three-piece ball valve offers exceptional economy and proven performance. These valves are available in either threaded or socket-weld configuration. The large port size provides high flow while minimizing pressure drop.

Standard body materials for the Series 3 valves are: Carbon steel with 316 stainless-steel trim and all 316 stainless steel. The stainless body caps of the 3-series socket weld valves are furnished with 316L (A351-CF3M) as standard. Seat materials are PTFE and filled PTFE which allow these valves to handle the vast majority of commonly encountered chemicals up to the full body rating, and steam to 250 psi (17 bar) (saturated). Stainless-steel fasteners are standard.

The pressure rating of these Series Value-Line valves is 1000 psi (68 bar) CWP. The seat and seal CWP rating are the same as the valve body. Seat temperature ratings are -60 to +500°F (-50 to +260°C).

The Series 3 is available with a wide variety of factory engineered actuation equipment.

Features

- Three-piece design facilitates easy in-line service and allows welded installation without damaging soft parts.
- A slide-lock handle is standard, meeting the requirement of OSHA 1910.147.
- Flexible-lip seats are self-compensating for wear and the effects of temperature and pressure fluctuations.
- Positive stem retention is provided by an internal entry stem.
- A full complement of standard accessories such as stem extensions and round handles is available. Accessories are interchangeable with those of Series 3000 valves.
- Factory-engineered linkage kits are available to facilitate the mounting of electric and pneumatic actuators.



Specifications

Flow data

The table below provides flow coefficients of Standard-bore Series 3 valves. The Cv values represent the flow of water at +60°F through the valve in U.S. gallons per minute at a pressure drop of 1 psi. The metric equivalent, Kv, is the flow of water at 16°C through the valve in m³/hr at a pressure drop of 1 kg/cm². To convert Cv to Kv, multiply by 0.8569.

| Valve size | | Cv Values | | |
|------------|----|-----------|-----------------------------|--------|
| inches | DN | Cv | Standard bore | |
| | | | Equivalent length of pipe - | |
| | | | feet | meters |
| 1/2 | 15 | 13 | 1.52 | 0.46 |
| 3/4 | 20 | 33 | 1.1 | 0.34 |
| 1 | 25 | 44 | 2.1 | 0.64 |
| 1-1/4 | 30 | 46 | 8.4 | 2.56 |
| 1-1/2 | 40 | 95 | 4.5 | 1.37 |
| 2 | 50 | 111 | 12.0 | 3.66 |

Valve seat ratings

These ratings are based on differential pressure with valve ball in the fully closed position and refer to seats only. Refer to valve body ratings below to be sure that all components are satisfactory for the application.

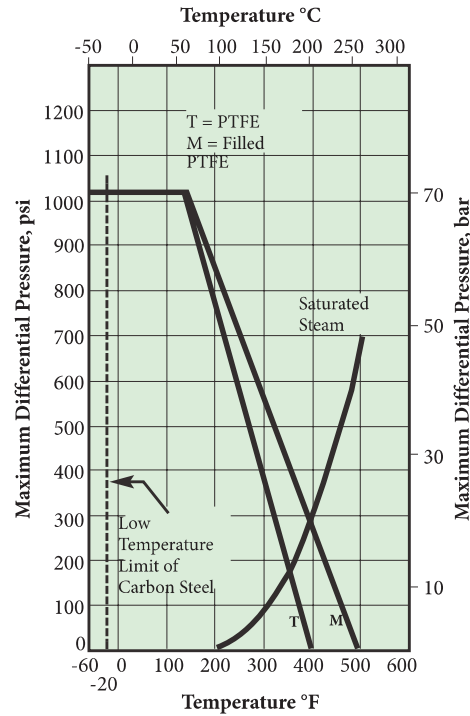
Valves in carbon steel are suitable for service to -20°F (-29°C), valves in 316 stainless steel to -60°F (-51°C).

Valve body ratings

These are the maximum working pressure ratings of the valve body only. The seat ratings determine the practical pressure limitation in actual service. Working pressure rating is at -20°F to +100°F (-29°C to +38°C).

| Valve size | | Working pressure for Body Material: Carbon Steel and 316 Stainless Steel with 300 Series Stainless Steel Bolting | |
|------------|---------|--|-----|
| Inches | DN | psi | bar |
| 1/2 - 2 | 15 - 50 | 1000 | 69 |

1/2" - 2" (DN 15 - 50) Standard Port

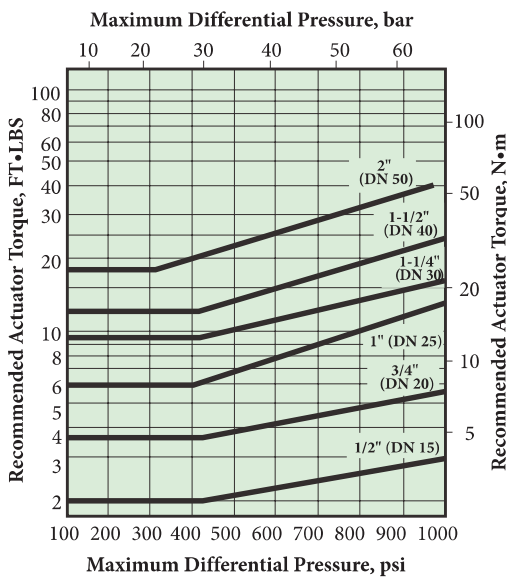


Valve torque data

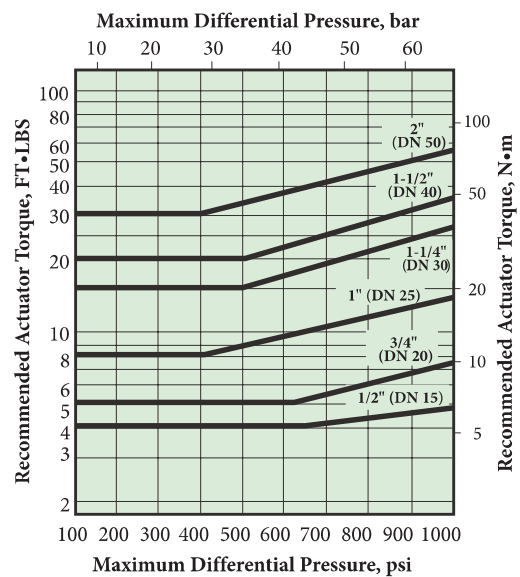
These torque charts for Series 3 valves are to be used as a guide for actuator selection. An actuator should be selected that provides the same or greater torque output than that shown in the appropriate chart. Refer to the bulletins on Jamesbury pneumatic and electric actuators for torque output values and actuator selection tables.

Additional requirements may be imposed by media characteristics, trim, and frequency of valve operation. For clean lubricating fluid service, required torque for PTFE (T) and filled PTFE (M) **seated valves only** may be reduced 20% when the valve is equipped with 316 stainless steel trim. For difficult service (slurries, semi-solids), increase values by 50%. **If in doubt, select a larger actuator.** Values shown in the charts are based on standard factory procedures for valve-actuator assembly.

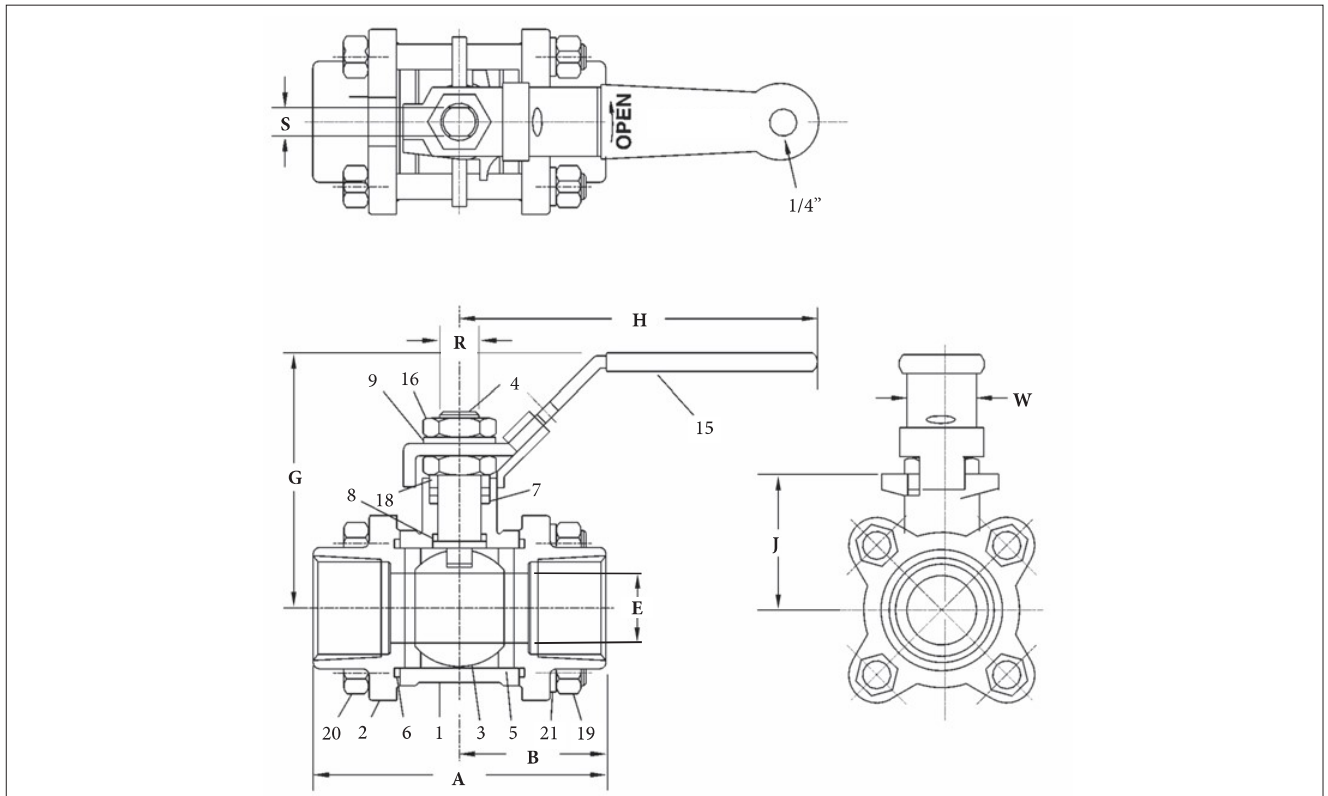
PTFE (T)-Seated Reduced Bore Valves



Filled-PTFE (M)-Seated Reduced Bore Valves



Dimensions



| Valve size inches | Dimensions - inches | | | | | | | | | Approx. weight lb. |
|-------------------|---------------------|------|------|------|------|----|------|------|------|--------------------|
| | A | B | E | G | H | J | R | S | W | |
| 1/2 | 2.38 | 1.19 | 0.50 | 2.20 | 4.00 | NA | 0.31 | 0.18 | 0.75 | 1.0 |
| 3/4 | 2.89 | 1.45 | 0.69 | 2.38 | 4.00 | NA | 0.31 | 0.18 | 0.75 | 1.7 |
| 1 | 3.48 | 1.74 | 0.87 | 3.00 | 5.50 | NA | 0.50 | 0.31 | 0.88 | 3.0 |
| 1-1/4 | 3.69 | 1.84 | 1.00 | 3.13 | 5.50 | NA | 0.50 | 0.31 | 0.88 | 3.7 |
| 1-1/2 | 4.04 | 2.02 | 1.25 | 3.84 | 7.00 | NA | 0.63 | 0.37 | 0.98 | 5.0 |
| 2 | 4.64 | 2.32 | 1.50 | 4.02 | 7.00 | NA | 0.63 | 0.37 | 0.98 | 7.4 |

| Valve size DN | Dimensions - mm | | | | | | | | | Approx. weight kg |
|---------------|-----------------|----|----|-----|-----|----|----|---|----|-------------------|
| | A | B | E | G | H | J | R | S | W | |
| 15 | 60 | 30 | 13 | 56 | 102 | NA | 8 | 5 | 19 | 0.45 |
| 20 | 73 | 37 | 17 | 60 | 102 | NA | 8 | 5 | 19 | 0.77 |
| 25 | 88 | 44 | 22 | 76 | 140 | NA | 13 | 8 | 22 | 1.36 |
| 30 | 94 | 47 | 25 | 80 | 140 | NA | 13 | 8 | 22 | 1.68 |
| 40 | 103 | 51 | 32 | 97 | 178 | NA | 16 | 9 | 25 | 2.27 |
| 50 | 118 | 59 | 38 | 102 | 178 | NA | 16 | 9 | 25 | 3.36 |

Bill of materials and parts list

| Part number | Quantity | Part name | Body material | |
|-------------|----------|-------------------|------------------------------|----------------------------------|
| | | | Carbon Steel | 316 Stainless Steel |
| 1 | 1 | Body | ASTM A216-WCB - Carbon steel | ASTM A351-CF8M - Stainless steel |
| 2 | 2 | Body Cap | ASTM A216-WCB - Carbon steel | ASTM A351-CF3M - Stainless steel |
| 3 | 1 | Ball | | 316 Stainless steel |
| 4 | 1 | Stem | | 316 Stainless steel |
| 5 | 2 | Seat | | PTFE/Filled PTFE |
| 6 | 2 | Body Seal | | PTFE |
| 7 | 2 | Stem Seal | | PTFE |
| 8 | 1 | Stem Bearing | | PTFE |
| 9 | 1 | Shakeproof Washer | Carbon steel | 304 Stainless steel |
| 15 | 1 | Handle | Carbon steel | 304 Stainless steel |
| 16 | 2 | Stem Nut | | 304 Stainless steel |
| 18 | 1 | Compression Ring | | 304 Stainless steel |
| 19 | 4 | Hex Nut | | 300 Stainless steel |
| 20 | 4 | Body Bolt | | 300 Stainless steel |
| 21 | 4 | Lockwasher | | 300 Stainless steel |

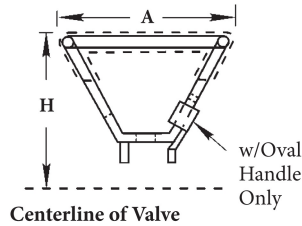
Accessories

Handles

The Series 3 ball valves described in this bulletin have two types of optional handles available, a round handle (not lockable) and a lockable oval handle. Both are available in a choice of carbon steel or stainless steel material. To order handles separately, specify the following part numbers.

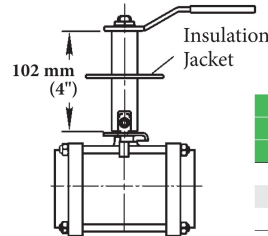
| Handle type | Material | Valve Size | | |
|-----------------------|-----------------|-----------------------------|-----------------------------|-----------------------------|
| | | 1/2" - 3/4" (DN 15 - 20) | 1" - 1-1/4" (DN 25 - 30) | 1-1/2" - 2" (DN 40 - 50) |
| Round Handles | Carbon Steel | 012-0785-22 | 012-0786-22 | 012-0787-22 |
| | Stainless Steel | 012-0785-30 | 012-0786-30 | 012-0787-30 |
| Lockable Oval Handles | Carbon Steel | 012-0794-22 | 012-0795-22 | 012-0796-22 |
| | Stainless Steel | 012-0794-30 | 012-0795-30 | 012-0796-30 |

| Valve size | | Oval and round handle dimensions | | | |
|------------|----|----------------------------------|-----|------|-----|
| Inch | DN | A | | H | |
| | | inch | mm | inch | mm |
| | | 3.35 | 85 | 2.82 | 72 |
| 3/4 | 20 | 3.35 | 85 | 3.00 | 76 |
| 1 | 25 | 4.64 | 118 | 3.49 | 89 |
| 1-1/4 | 30 | 4.64 | 118 | 3.62 | 92 |
| 1-1/2 | 40 | 5.87 | 149 | 4.20 | 107 |
| 2 | 50 | 5.87 | 149 | 4.38 | 111 |



Stem extensions

A standard 102 mm (4") stem extension is offered for Series 3 ball valves for improved accessibility, particularly when used in insulated pipelines. (These extensions should not be confused with extended bonnets customarily used on cryogenic valves). Stem extensions can be provided factory mounted or shipped separately for field mounting.



| Stem extensions | | | Part number |
|-----------------|---------|----|-------------|
| Valve size | | DN | |
| inches | DN | | |
| 1/2 - 3/4 | 15 - 20 | | SE-072 |
| 1 - 1-1/4 | 25 - 30 | | SE-073 |
| 1-1/2 - 2 | 40 - 50 | | SE-074 |

WARNING: As the use of the valve is application specific, a number of factors should be taken into account when selecting a valve for a given application. Therefore, some of the situations in which the valves are used are outside the scope of this manual. If you have any questions concerning the use, application, or compatibility of the valve with the intended service, contact Valmet for more information.

How to order Jamesbury brand 3-piece valves

Specify the valve you require by constructing a 12-character type code from the following information.

EXAMPLE: The valve specified is a 2" size with a standard-bore NPT body style with carbon steel body, 316 stainless-steel ball and stem, PTFE/PTFE seats and seals, and standard 300 stainless steel bolting.

| 1 | 2 | 3 | 4 |
|---|----|----|-----------|
| 2 | 3A | -- | 2236 TT-3 |

| 1 | Size | | | | | |
|--------|------|-----|----|-------|-------|----|
| inches | 1/2 | 3/4 | 1 | 1-1/4 | 1-1/2 | 2 |
| DN | 15 | 20 | 25 | 30 | 40 | 50 |

| 3 | Body/Trim material |
|------|---|
| 2236 | Carbon steel body/316 stainless steel ball & stem |
| 3600 | 316 Stainless steel body, ball & stem |

| 2 | Series and Body style |
|----|--|
| 3A | 3-piece standard-bore screwed NPT ball valve |
| 3C | 3-piece standard-bore socket-weld ball valve |
| 3M | 3-piece standard-bore screwed NPT x socket-weld ball valve |

| 4 | Seat/Seal/Bolting |
|------|---|
| TT-3 | PTFE/PTFE/300-series stainless steel |
| MT-3 | Filled PTFE/PTFE/300-series stainless steel |

Subject to change without prior notice.

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