

EMERGENCY SHUTOFF AND FIRESAFE VALVES FIGURE 1075

The Jamesbury brand FM (Factory Mutual) approved Emergency Shutoff and Firesafe Valves Figure 1075 are manual assemblies consisting of the Jamesbury Fire-Tite® valves and the Jamesbury Torque Handles®. These assemblies provide automatic closure of a normally open valve in the event of a fire or excessive temperature. These assemblies are used for all types of media including flammable gases, liquids, and toxic fluids.

Figure 1075 assemblies carry FM approval as Firesafe Valves, specifically designed for flammable liquid service. To meet the requirements of this category, the Jamesbury FIRE-TITE valves have been tested and qualified to resist direct exposure typical of uncontrolled fire for at least 15 minutes.

Included in the line of Figure 1075 Emergency Shutoff Valve assemblies are 1/2"-2" (DN 15-50) Series 5150 flanged ball valves and 1"-2" (DN 25-50) Series 2000 Clincher® screwed-end ball valves equipped with TORQ-HANDLE spring-return handles and a choice of fusible links for specific temperature requirements.

FEATURES

- Automatic closure in the event of a fire.
- FM approved for Emergency Shutoff service.
- FM approved as Firesafe Valves for flammable liquid service.
- Quarter-turn operation for quick shutoff in the event of an emergency.
- Flexible-lip seat design for reliable long-lasting sealing.
- PTFE seats and seals for easy cycling, even when operated infrequently.

ACCESSORIES

Limit switches can be provided for remote indication of valve position or for various electrical interlocks. Switch arrangements available with these assemblies are:



| Switch Ratings in Amperes | | |
|---------------------------|-------------------|-------------------|
| Voltage | QZM2VB1DSS (SPDT) | QZM14B1DSS (DPDT) |
| 125V AC | 10 | 10 |
| 250V AC | 10 | 10 |
| 125V AC | .50* | .50* |

* Not recommended for electrical circuits operating at less than 20mA @ 24 VDC.

Approved for Watertight and Hazardous Location

- The limit switch housing assemblies are also CSA approved, filling NEMA 4, 4x, 6 and 7 Class I Groups C & D, and 9 Class II Groups E, F and G Div. 1 specifications for combined watertight and hazardous location design.

Unless otherwise specified, assemblies with limit switches are adjusted at the factory so that one switch is actuated when the valve is closed, and the other when the valve is fully open.

Spring-return handles may be specified with optional accessories when FM approval is not a consideration. Locking devices to padlock the handle in position or electrothermal links to allow connection to a remote device like a smoke or heat detector are available. See Bulletin B160-1 for non-FM-approved standard spring-return handles and various accessories.

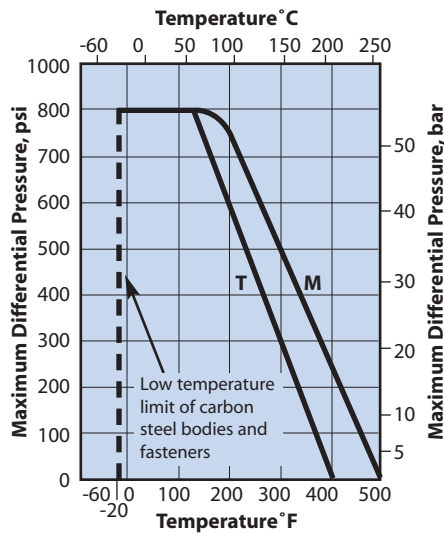
SPECIFICATIONS

Valve Seat Ratings

Seat ratings, indicated by solid lines in the charts, are based on differential pressure with the valve ball in the fully closed position and refer to seats only. In the charts below the dotted lines indicate maximum working pressures for carbon steel valve bodies. Maximum working pressure of 316 stainless steel bodies are shown below. The combination of dotted and solid lines indicates the

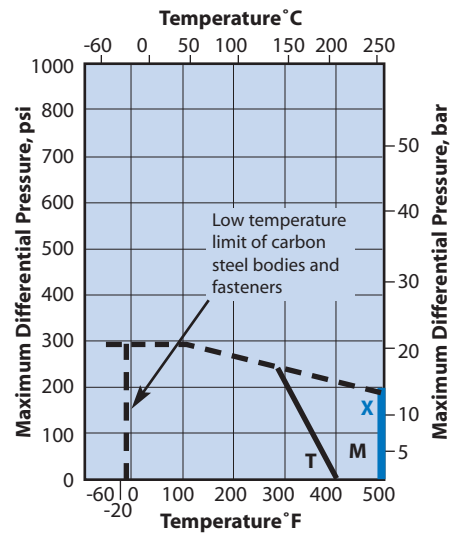
maximum valve rating at specific pressure and temperature conditions. Valves with PTFE, XTREME™ and filled PTFE seats can be used in service to -60°F (-51°C) provided the valve body material and body fasteners are suitable for such temperatures. **Note:** Fasteners for FM-approved Series 2000 valves are rated for -20°F only.

1"-2" (DN 25-50) Series 2000 Valves



T - PTFE M - Filled PTFE X - XTREME

1/2"-2" (DN 15-50) Series 5150 Valves



VALVE BODY RATINGS

These are maximum working pressure ratings of the valve body only. The seat ratings, shown above, determine the practical pressure limitations according to actual service conditions. Test pressures are for hydrostatic test with ball half open.

| 1"-2" (DN 25-50) Series 2000 Valves Body Ratings | | | | |
|--|-------------|------------|---|-----|
| Parameter | °F | °C | Carbon Steel or 316 Stainless Steel Body with ASTM A193 Gr. B7 Body Bolts | |
| | | | psi | bar |
| Working pressure | -20 to +100 | -29 to +38 | 800 | 55 |
| Test pressure | | | 1200 | 83 |

| 1/2"-2" (DN 15-50) Series 5150 Valves Body Ratings | | | | | | |
|--|-------------|------------|--------------|-----|---------------------|-----|
| Parameter | °F | °C | Carbon Steel | | 316 Stainless Steel | |
| | | | psi | bar | psi | bar |
| Working Pressure | -20 to +100 | -29 to +38 | 285 | 20 | 275 | 19 |
| | 200 | 93 | 260 | 18 | 240 | 17 |
| | 300 | 149 | 230 | 16 | 215 | 15 |
| | 400 | 214 | 200 | 14 | 195 | 13 |
| | 500 | 260 | 170 | 12 | 170 | 12 |
| Test Pressure | | | 450 | 31 | 425 | 29 |

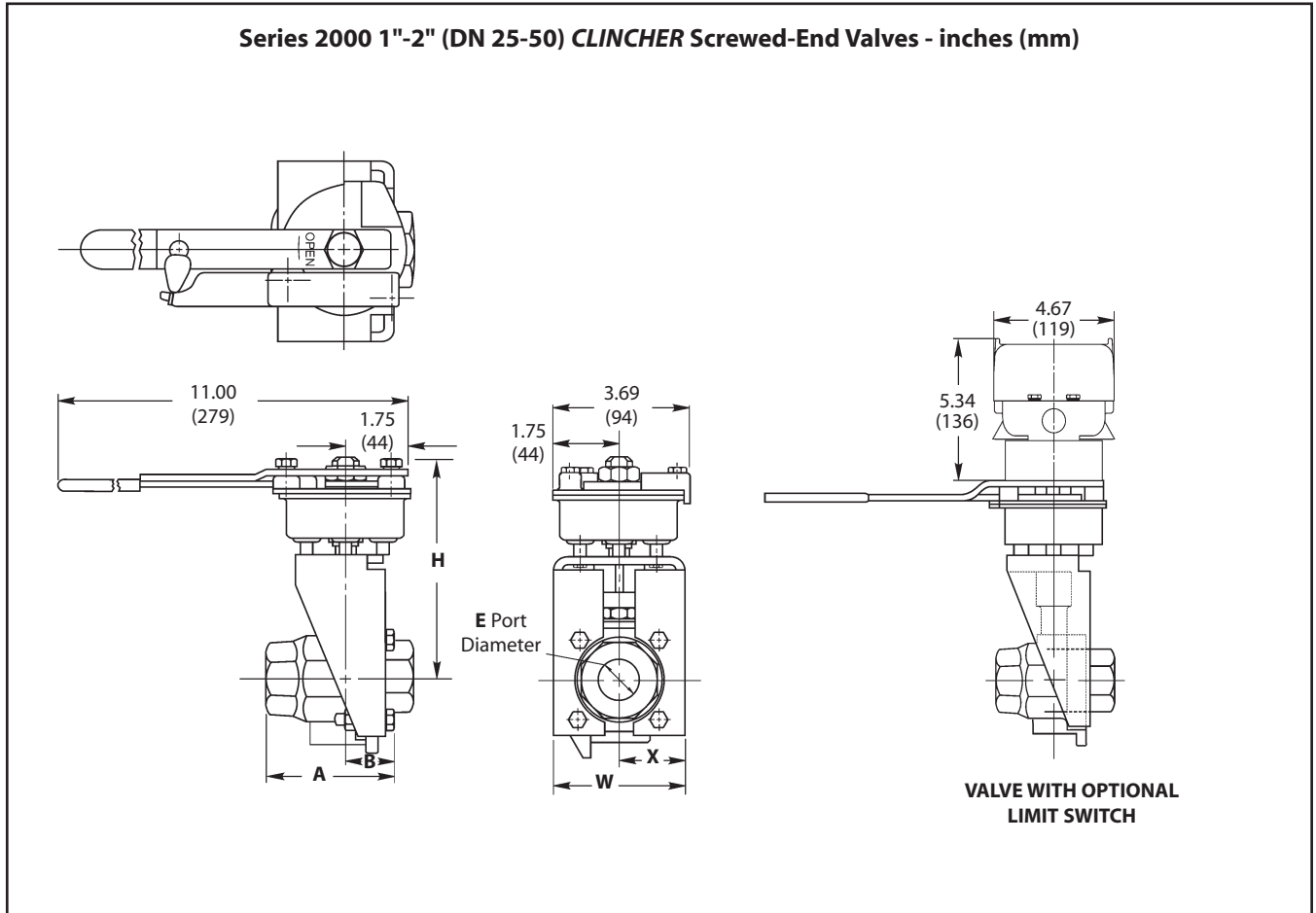
FLOW DATA

The tables to the right provide flow coefficients for Jamesbury valves covered in this section. 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 cubic meters per hour at a pressure drop of 1 kg/cm³. To convert Cv to Kv, multiply by 0.8569

| Series 2000 Valves | | |
|--------------------|----|-----|
| Valve Size | | Cv |
| Inches | DN | |
| 1 | 25 | 49 |
| 1-1/4 | 30 | 49 |
| 1-1/2 | 40 | 100 |
| 2 | 50 | 115 |

| Series 5150 Valves | | |
|--------------------|----|-----|
| Valve Size | | Cv |
| Inches | DN | |
| 1/2 | 15 | 9 |
| 3/4 | 20 | 19 |
| 1 | 25 | 45 |
| 1-1/2 | 40 | 125 |
| 2 | 50 | 165 |

DIMENSIONS

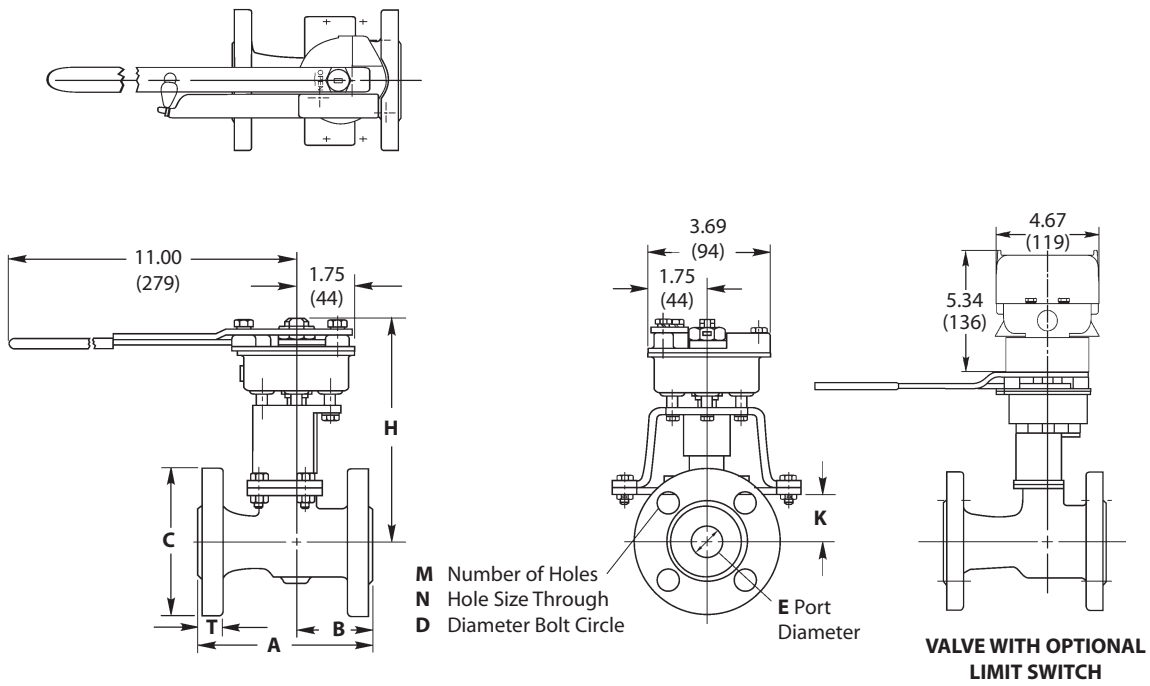


| Approximate Dimensions - inches | | | | | | | |
|---------------------------------|------|------|------|------|------|------|--------------------|
| Valve Size inches | A | B | W | X | E | H | Approx. Weight lb. |
| 1 | 3.41 | 1.70 | 3.63 | 1.81 | 0.88 | 6.13 | 7.6 |
| 1-1/4 | 3.75 | 1.88 | 3.63 | 1.81 | 1.00 | 6.25 | 9.2 |
| 1-1/2 | 4.03 | 2.02 | 3.88 | 1.94 | 1.25 | 6.75 | 11.3 |
| 2 | 4.38 | 2.19 | 4.25 | 2.13 | 1.50 | 7.00 | 13.3 |

| Approximate Dimensions - mm | | | | | | | |
|-----------------------------|-----|----|-----|----|----|-----|--------------------|
| Valve Size DN | A | B | W | X | E | H | Approx. Weight kg. |
| 25 | 87 | 43 | 92 | 46 | 22 | 156 | 3 |
| 30 | 95 | 48 | 92 | 46 | 25 | 159 | 4 |
| 40 | 102 | 51 | 99 | 49 | 32 | 171 | 5 |
| 50 | 111 | 56 | 108 | 54 | 38 | 178 | 6 |

DIMENSIONS

Series 5150 1/2"- 2" (DN 15-50) ANSI Class 150 Flanged Valves - Inches (mm)



Approximate Dimensions - inches

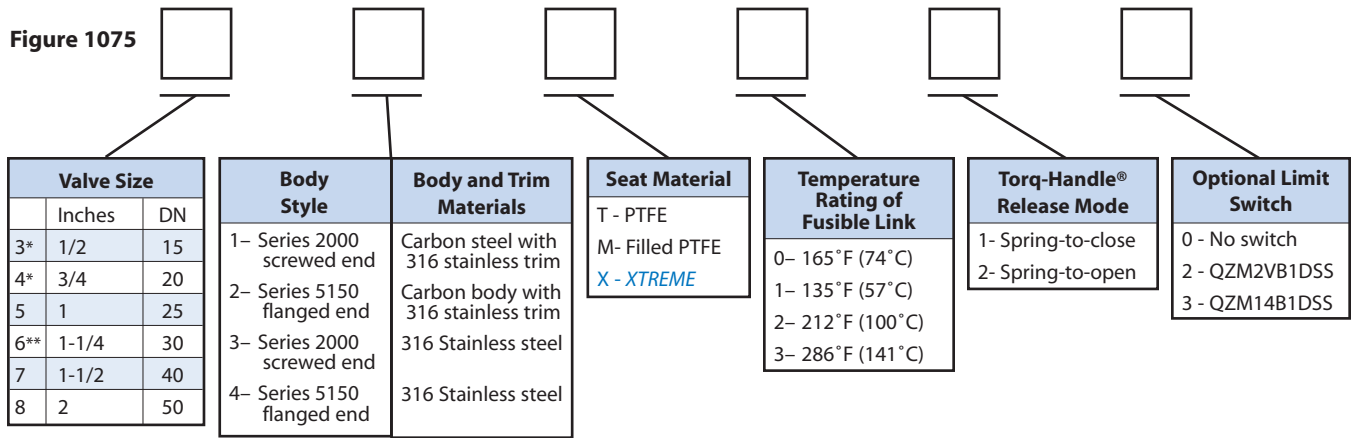
| Valve Size inches | A | B | C | D | E | H | K | M | N | T | Approx. Weight lb. |
|-------------------|------|------|------|------|------|------|------|------|------|------|--------------------|
| 1/2 | 4.25 | 1.81 | 3.50 | 2.38 | 0.50 | 6.25 | 0.88 | 4.00 | 0.63 | 0.44 | 8.1 |
| 3/4 | 4.63 | 2.00 | 3.88 | 2.75 | 0.68 | 6.38 | 1.00 | 4.00 | 0.63 | 0.44 | 9.1 |
| 1 | 5.00 | 2.19 | 4.25 | 3.13 | 0.88 | 6.88 | 1.38 | 4.00 | 0.63 | 0.63 | 12.9 |
| 1-1/2 | 6.50 | 2.44 | 5.00 | 3.88 | 1.25 | 7.75 | 2.19 | 4.00 | 0.63 | 0.63 | 16.5 |
| 2 | 7.00 | 2.44 | 6.00 | 4.75 | 1.50 | 7.88 | 2.38 | 4.00 | 0.75 | 0.69 | 21.1 |

Approximate Dimensions - mm

| Valve Size DN | A | B | C | D | E | H | K | M | N | T | Approx. Weight kg. |
|---------------|-----|----|-----|-----|----|-----|----|-----|----|----|--------------------|
| 15 | 108 | 46 | 89 | 60 | 13 | 159 | 22 | 102 | 16 | 11 | 4 |
| 20 | 118 | 51 | 99 | 70 | 17 | 162 | 25 | 102 | 16 | 11 | 4 |
| 25 | 127 | 56 | 108 | 30 | 22 | 175 | 35 | 102 | 16 | 16 | 6 |
| 40 | 165 | 62 | 127 | 99 | 32 | 197 | 56 | 102 | 16 | 16 | 7 |
| 50 | 178 | 62 | 152 | 121 | 38 | 200 | 60 | 102 | 19 | 18 | 10 |

HOW TO ORDER EMERGENCY SHUTOFF AND FIRESAFE VALVES

The designation for Emergency Shutoff Valves is made up of numbers and letters that fully describe all features of the available variations of these units. Coding is as follows:



* Series 5000 valves only

** Series 2000 valves only

Example: A 1-1/2" (DN 40) Emergency Shutoff Valve Assembly Series 2000, screwed end in carbon steel with 316 stainless trim and PTFE seats with +165°F (74°C) fusible link and TORQ-HANDLE set for spring-to-close operation without limit switches is designated as Figure 1075-71T010.

| Available Sizes by Valve Type and Seat Material | | | | |
|---|----------------|-------|---------|-------|
| Style | X* and T Seats | | M Seats | |
| | Inches | DN | inches | DN |
| 2000 | 1-2 | 25-50 | 1-1-1/4 | 25-30 |
| 5150 | | | | |
| 5150 | 1/2-2 | 15-50 | 1/2-1 | 15-25 |

* Series 5000 valves only

Installation Instructions, Maintenance and Operation

IMO's (Installation, Maintenance, and Operating instructions) or AMI's (Assembly, Mounting, and Installation instructions) are shipped with the products. Additional copies of these instructions are available. Call your local Metso Automation Distributor, or visit our web site.

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