

Model: 77

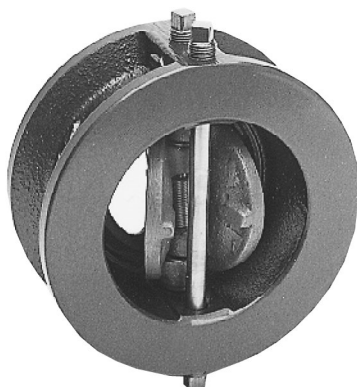
Carbon Steel or Stainless Steel Sure Check™ Valves, Class 900 Sizes: 2"–12" (50 – 300mm)

| Pressure / Temperature – Non-Shock | | |
|------------------------------------|-----------------|--------------------------|
| Model | Material | Rating |
| 77D | Carbon Steel | 2220psi @ -20°F to 100°F |
| | | 153.06 bar @ 37.78°C |
| | | 955psi @ 850°F |
| 77H | Stainless Steel | 65.84 bar @ 454.44°C |
| | | 2160psi @ -20°F to 100°F |
| | | 148.93 bar @ 37.78°C |
| | | 1255psi @ 850°F |
| | | 86.53 bar @ 454.44°C |

*Seat and/or Spring Materials may limit temperature.

77

Class 900



Model 77

Typical Service

- Designed for liquids and gases where flow reversal can cause surge and water hammer.

Features

- Compact design with short face-to-face dimensions for minimum space requirements.
- Dual shaft design allows interchangeability of shafts.
- Torsion springs close the valve prior to flow reversal.
- Torsion springs exert a lifting motion on the discs, enabling the center "heel" to open first. This prevents excessive wear of the seat in this area, and provides a consistent wear pattern and long sealing capability.
- Downstream stop shaft stabilizes the discs at high flow rates and prevents them from striking each other, which can cause premature wear, stress on the shaft, and chattering.

Construction

- Robust cast body is wafer style, featuring compact face-to-face dimensions.
- Designed to fit within ANSI bolt circles.
- Variety of trim and seat materials are available.
- High pressure elastomer seats are available for sizes 4" and up.

Installation

- Can be installed horizontally or vertically.
 - Consult factory for downward vertical flow applications.
 - In horizontal applications, shaft should be in vertical orientation.
- Good piping practice recommends installing a distance of 5 to 10 pipe diameters from elbows, pumps, or others turbulence-creating devices.
- Mueller Steam Specialty strongly recommends the installation of a strainer ahead of the pump to ensure protection of both the pump and the valve from foreign particles.
- Consult factory for applications such as pump suction and volatile liquids.

Special Coatings or Treatments

- For Stainless Steel, pickling and passivation available on request, consult factory

Approvals/Specifications

- Applicable ASTM, ANSI, and API standards

Testing

- API 598

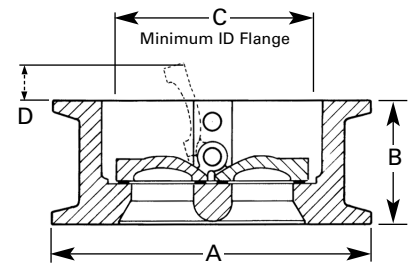
Materials

| | 77D | 77H |
|---------------|--------------------------------|------------------------------------|
| Body: | Carbon Steel ASTM A216 Gr. WCB | Stainless Steel ASTM A351 Gr. CF8M |
| Disc: | Carbon Steel ASTM A216 Gr. WCB | Stainless Steel ASTM A351 Gr. CF8M |
| Shaft/spring: | 316 SS | 316 SS |
| Seat: | Metal to Metal | Metal to Metal |

See Sure Check™ Valves section of the Mueller Steam Specialty Engineering binder for alternate materials and How to Order options.

Dimensions and Weights

| SIZE | | DIMENSIONS | | | | | | WEIGHT | | | |
|-----------------|-----|------------------------------------|-------|------------------|-------|-------------------|-------|-------------------|------|------|------|
| | | A | | B | | C | | D | | | |
| in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | lbs. | kgs. |
| 2 | 50 | 5 $\frac{5}{8}$ | 142.8 | 2 $\frac{3}{4}$ | 69.9 | 1 $\frac{15}{16}$ | 49.2 | — | — | 12 | 5.4 |
| 2 $\frac{1}{2}$ | 65 | 6 $\frac{1}{2}$ | 165.1 | 3 $\frac{1}{4}$ | 82.6 | 2 $\frac{5}{16}$ | 58.7 | — | — | 16 | 7.3 |
| 3 | 80 | 6 $\frac{5}{8}$ | 168.3 | 3 $\frac{1}{4}$ | 82.6 | 2 $\frac{29}{32}$ | 73.8 | $\frac{3}{8}$ | 9.5 | 23 | 10.4 |
| 4 | 100 | 8 $\frac{1}{8}$ | 206.4 | 4 | 101.6 | 3 $\frac{13}{16}$ | 96.8 | 11 $\frac{1}{32}$ | 8.7 | 42 | 19.0 |
| 6 | 150 | 11 $\frac{1}{8}$ | 282.6 | 6 $\frac{1}{4}$ | 158.8 | 5 $\frac{3}{4}$ | 146.1 | 11 $\frac{1}{32}$ | 8.7 | 110 | 50.0 |
| 8 | 200 | 13 $\frac{3}{8}$ | 352.4 | 8 $\frac{1}{8}$ | 206.4 | 7 $\frac{5}{8}$ | 193.7 | 1 $\frac{7}{32}$ | 13.5 | 210 | 95.2 |
| 10 | 250 | 17 $\frac{1}{8}$ | 435 | 9 $\frac{1}{2}$ | 241.3 | 9 $\frac{9}{16}$ | 242.9 | 1 $\frac{5}{16}$ | 23.8 | 365 | 166 |
| 12 | 300 | 19 $\frac{5}{8}$ | 498.5 | 11 $\frac{1}{2}$ | 292.1 | 11 $\frac{3}{8}$ | 289.0 | $\frac{7}{8}$ | 22.2 | 640 | 290 |
| 14 | 350 | Larger Sizes On Application | | | | | | | | | |
| 16 | 400 | | | | | | | | | | |
| 18 | 450 | | | | | | | | | | |
| 20 | 500 | | | | | | | | | | |
| 24 | 600 | | | | | | | | | | |
| 30 | 750 | | | | | | | | | | |



Model 77

Apply for Certified Drawings

Mueller Steam Specialty product specifications in U.S. customary units and metric are approximate and are provided for reference only. For precise measurements, please contact Mueller Steam Specialty Technical Service. Mueller Steam Specialty reserves the right to change or modify product design, construction, specifications, or materials without prior notice and without incurring any obligation to make such changes and modifications on Mueller Steam Specialty products previously or subsequently sold.



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