Baumann™ 89000 Sanitary Control Valve

Baumann 89000 sanitary control valves provide control solutions for various sanitary process systems. These valves meet FDA and USP CLVI standards. All metal parts in contact with the media are made of S31603 stainless steel and each valve comes standard with a stainless steel actuator to resist corrosion from caustic wash down.

The 89000 control valve is designed for use in a wide range of applications in many industries, including biotechnology, pharmaceutical, food & beverage, cosmetics, and others where cleanliness and sterility are required. The valves have a modular design allowing for quick assembly and easy maintenance and calibration.

Features

- Sizes ranging from NPS 1/2 to 6
- Elastomers meet FDA and USP CLVI standards
- Internal surface finish of 20 Ra (0.5 µm) available
- Stainless steel diaphragm actuators with an electropolish finish come standard
- Actuators are optimally matched to each valve size to suit many processes
- A robust stainless steel yoke construction connects the valve with its actuator and allows the Fisher® FIELDVUE™ digital valve controller to be attached
- The entire valve assembly can be easily disassembled for inspection and maintenance

Specifications

See table 2 for technical specifications and table 3 for actuator specifications.



Baumann 89000 NPS 1/2 Sanitary Control Valve Shown with FIELDVUE DVC2000 Digital Valve Controller



W9851-2

Baumann 89000 NPS 3 Sanitary Control Valve Shown with FIELDVUE DVC6200 Digital Valve Controller





Figure 1. Baumann 89000A Angle Valve Assembly

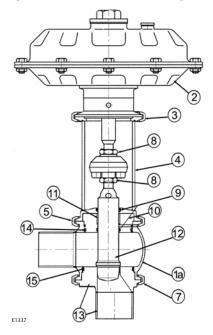


Figure 2. Baumann 89000I Inline Valve Assembly

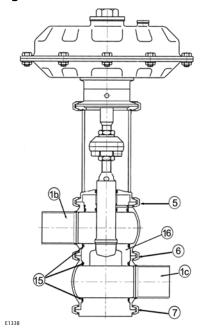
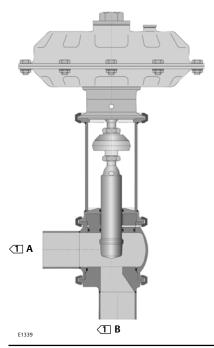


Table 1. Materials of Construction

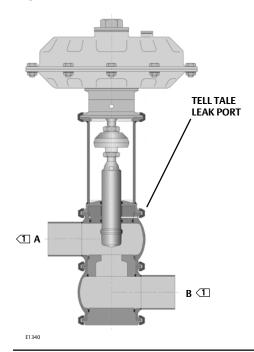
| Key Number | Description | Material |
|---------------|--|------------------------|
| 1a | Angle Valve Body | |
| 1b | Upper Inline Valve Body | S31603 Stainless Steel |
| 1c | Lower Inline Valve Body | |
| 2 | Diaphragm Actuator | |
| 3 | Actuator Clamp | |
| 4 | Yoke | |
| 5 | Upper Body Clamp | S30400 Stainless Steel |
| 6 | Middle Body Clamp | |
| 7 | Lower Body Clamp | |
| 8 | Stem Locknut | |
| 9 | O-Ring | EPDM |
| 10 | Bonnet | S31603 Stainless Steel |
| 11 | Bearing | PTFE/Bronze |
| 12 | Valve Plug with Seat | |
| 13 | Angle Valve Seat/Lower Pipe Connection (1pc) | S31603 Stainless Steel |
| 14 | O-Ring | EDDM |
| 15 | O-Ring | EPDM |
| 16 | Inline Valve Seat | S31603 Stainless Steel |

Figure 3. Baumann 89000A Angle Valve Body



☐ Installed with flow from Port B to Port A. Flow from Port A to Port B is not recommended.

Figure 4. Baumann 89000I Inline Valve Body



☐ Installed with flow from Port B to Port A. Flow from Port A to Port B is not recommended

Table 2. Technical Specifications

| Nominal Size | NPS 1/2 through 6 | | | | | | |
|---|---|--|--|--|--|--|--|
| Valve Body Material | S31603 Stainless Steel | | | | | | |
| Internal Valve Body Finish | =20Ra Microinch / 0.50Ra Micron</th | | | | | | |
| Connections | Tri-Clamp Standard (Weld Ends, ISO Clamps and others available) | | | | | | |
| Rangeability | 50:1 | | | | | | |
| Bonnet | Clamped | | | | | | |
| Characteristics | Modified Equal Percentage | | | | | | |
| Seat Leakage | ANSI / FCI 70-2, CLIV (Metal Seat) | | | | | | |
| Maximum Operating Pressure | 17 bar (250 Psi) | | | | | | |
| Maximum Operating Temperature, Fluids, and Gases (Non-Steam) | 135°C (275°F) | | | | | | |
| Maximum Operating Temperature, Steam | 160°C (320°F) | | | | | | |

Table 3. Actuator Specifications

| Туре | 20 | 50 | 50H | 112 | | | | | |
|------------------------------|------------------------|-------------|-------------|----------|--|--|--|--|--|
| Travel, mm (Inches) | 20 (| 0.8) | 30 (1.2) | 60 (2.4) | | | | | |
| Air Failure | Open or Closed | | | | | | | | |
| Ambient Temperature Range | | -20 to 80°C | 0 to 175°F) | | | | | | |
| Maximum Air Pressure | 80 Psi | | | | | | | | |
| Spring Cases | S30400 Stainless Steel | | | | | | | | |
| Yoke | S30400 Stainless Steel | | | | | | | | |

Table 4. Allowable Pressure Drops

| i able 4. Alic | wable Pressu | ге ргорѕ | | | | | | | | |
|-------------------------------------|----------------------|-------------------------|--------------------|------------------------------|-----------|---------------|-------------------------|-----------|--|--|
| | | | | ACTUATOR SIZE | 20 | 50 | 50H | 112 | | |
| | AID TO | ODEN | | Bench Range (bar) | 0.8 - 4.0 | 1.5 - 3.0 | 1.5 - 3.0 | 1.4 - 3.0 | | |
| | AIK-10 | O-OPEN | | Bench Range (psi) | 12 - 58 | 22 - 44 | 22 - 44 | 45 - 75 | | |
| | | | | Valve Stroke, mm (Inches) | 20 (| (0.8) | 30 (1.2) | 60 (2.4) | | |
| VALV | E SIZE | | | Port | | ALLOWABLE SHU | TOFF PRESSURES | 5 | | |
| DN | NPS | Cv | Kv | Diameter mm (Inches) | | bar | (psi) | | | |
| 15 | 1/2 | 0.29 | 0.25 | 7 (0.28) | 16 (230) | | | | | |
| 15 | 1/2 | 1.2 | 1.0 | 7 (0.28) | 16 (230) | | | | | |
| 20 | 2/4 | 1.9 | 1.6 | 8.5 (0.33) | 16 (230) | 1 | | | | |
| 20 | 3/4 | 4.7 | 4.0 | 16 (0.63) | 16 (230) | 1 | | | | |
| 25 | 1.0 | 10 | 9.0 | 24 (0.94) | | 16 (230) | | | | |
| 40 | 1-1/2 | 21 | 18 | 32 (1.26) | | 16 (230) | | | | |
| F0 | 3 | 21 | 18 | 32 (1.26) | | 16 (230) |] | | | |
| 50 | 2 | 33 | 28 | 48 (1.89) | | 16 (230) |] | | | |
| | 3 | 79 | 68 | 62 (2.44) | | | 11 (155) | 16 (230) | | |
| 80 | | 99 | 85 | 73 (2.87) | | | 7.7 (110) | 16 (230) | | |
| 100 | 4 | 209 | 180 | 90 (3.54) | | | 5 (70) | 16 (230) | | |
| 150 | 6 (A) | 442 | 380 | 135 (5.31) | | | | 8 (115) | | |
| | | | ACTUAT | FOR SIZE | 20 | 50 | 50H | 112 | | |
| | | | Bench Ra | ange, bar | 0.8 - 4.0 | 1.5 - 3.0 | 1.5 - 3.0 | 1.4 - 3.0 | | |
| | | | | ange, psi | 12 - 58 | 22 - 44 | 22 - 44 | 45 - 75 | | |
| | AIR-TO-CLOSE | | Valve Stroke | , mm (Inches) | 20 (| (0.8) | 30 (1.2) | 60 (2.4) | | |
| | Aux 10-CLOSE | | | E SIZE | | Allowable Sh | utoff Pressure (psi) | | | |
| | | | DN | NPS | | | | | | |
| | | | 25 - 100 | 1 - 4 | 160 (230) | | | | | |
| | | | 150 | 6 ⁽¹⁾ | | 10 (| 145) | | | |
| Consult your Er | nerson Process Manag | jement sales office for | NPS6 availability. | | | | | | | |

Figure 5. Dimensions for Baumann 89000A Angle Valve with FIELDVUE DVC6200 Digital Valve Controller

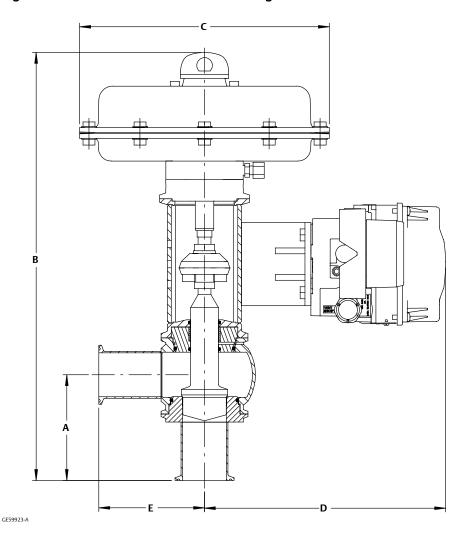


Table 5. Baumann 89000A Angle Valve Dimensions

| | VALVE SIZE | | | DIMENSIONS | | | | | | | | | | | | | | |
|------------|------------|------------------------|-------|------------|-------------|------|------------|----------|-----------|--------|----------|-----------|------------|----------|------------|------|--------|------|
| VALVE SIZE | | Tri-Clamp A Weld End A | | End A | Tri-Clamp B | | Weld End B | | С | | D | | Tr-Clamp E | | Weld End E | | | |
| DN | NPS | Capacity | mm | Inch | mm | Inch | mm | Inch | mm | Inch | mm | Inch | mm | Inch | mm | Inch | mm | Inch |
| 15 | 1/2 | 0.29 | 62.7 | 2.5 | 50 | 1.97 | 344 | 13.5 | 331 | 13 | 165 | 6.5 | 261 | 10.3 | 65.40 | 2.57 | 52.70 | 2.07 |
| 15 | 1/2 | 1.2 | 62.7 | 2.5 | 50 | 1.97 | 344 | 13.5 | 331 | 13 | 165 | 6.5 | 261 | 10.3 | 63.90 | 2.52 | 51.20 | 2.01 |
| 20 | 3/4 | 1.9 | 62.7 | 2.5 | 50 | 1.97 | 344 | 13.5 | 331 | 13 | 165 | 6.5 | 261 | 10.3 | 66.35 | 2.61 | 53.65 | 2.11 |
| 20 | 3/4 | 4.7 | 62.7 | 2.5 | 50 | 1.97 | 344 | 13.5 | 331 | 13 | 165 | 6.5 | 261 | 10.3 | 62.70 | 2.47 | 50.00 | 1.97 |
| 25 | 1 | 10 | 62.7 | 2.5 | 50 | 1.97 | 344 | 13.5 | 331 | 13 | 270 | 10.6 | 261 | 10.3 | 61.75 | 2.43 | 49.05 | 1.93 |
| 40 | 1-1/2 | 21 | 102.7 | 4 | 90 | 3.54 | 445 | 17.5 | 432 | 17 | 270 | 10.6 | 261 | 10.3 | 104.10 | 4.1 | 91.40 | 3.60 |
| 50 | 2 | 33 | 112.7 | 4.4 | 100 | 3.94 | 459 | 18.1 | 446 | 17.6 | 270 | 10.6 | 261 | 10.3 | 112.70 | 4.44 | 100.00 | 3.94 |
| | 3 | 79 | 142.7 | 5.6 | 130 | 5.12 | 531 | 20.9 | 519 | 20.4 | 270 | 10.6 | 261 | 10.3 | 148.15 | 5.83 | 135.45 | 5.33 |
| 80 | | 99 | 142.7 | 5.6 | 130 | 5.12 | 531 | 20.9 | 519 | 20.4 | 270 | 10.6 | 261 | 10.3 | 142.70 | 5.62 | 130.00 | 5.12 |
| 100 | 4 | 209 | 155.9 | 6.1 | 140 | 5.50 | 552 | 21.7 | 536 | 21.1 | 270 | 10.6 | 261 | 10.3 | 155.90 | 6.14 | 150.00 | 5.91 |
| 150 | 6 | 442 | | | | Cor | ntact you | r Emerso | n Process | Manage | ment sal | es office | for NPS 6 | availabi | lity. | | | |

Figure 6. Dimensions for Baumann 89000I Inline Valve with FIELDVUE DVC2000 Digital Valve Controller

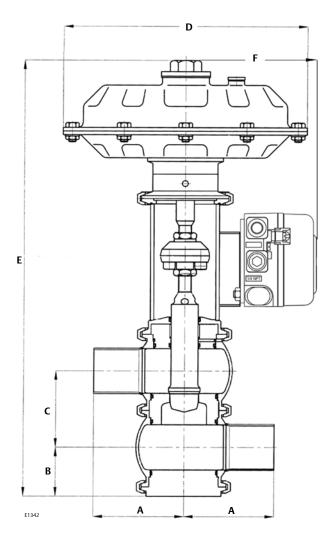


Table 6. Baumann 89000I Inline Valve Dimensions

| | - abit of building object times full object to | | | | | | | | | | | | | | | |
|------|--|--------|-------------|-----|------------|------------|-------------|-----------|------------|------------|-------------|----------|------|-----|------|--|
| VALV | VALVE SIZE | | DIMENSIONS | | | | | | | | | | | | | |
| VALV | | | Tri-Clamp A | | Weld End A | | В | | C | | D | | E | | = | |
| DN | NPS | mm | Inch | mm | Inch | mm | Inch | mm | Inch | mm | Inch | mm | Inch | mm | Inch | |
| 15 | 1/2 | 62.7 | 2.5 | 50 | 1.97 | 34.5 | 1.36 | 50 | 1.97 | 165 | 6.5 | 366 | 14.4 | 127 | 5 | |
| 20 | 3/4 | 62.7 | 2.5 | 50 | 1.97 | 34.5 | 1.36 | 50 | 1.97 | 165 | 6.5 | 366 | 14.4 | 127 | 5 | |
| 25 | 1 | 102.7 | 4 | 90 | 3.54 | 48 | 1.89 | 74 | 2.91 | 165 | 6.5 | 464 | 18.3 | 153 | 6 | |
| 40 | 1-1/2 | 102.7 | 4 | 90 | 3.54 | 48 | 1.89 | 74 | 2.91 | 270 | 10.6 | 464 | 18.3 | 153 | 6 | |
| 50 | 2 | 112.7 | 4.4 | 100 | 3.94 | 56 | 2.20 | 85 | 3.35 | 270 | 10.6 | 488 | 19.2 | 153 | 6 | |
| 80 | 3 | 147.7 | 5.6 | 130 | 5.12 | 78 | 3.07 | 116 | 4.57 | 270 | 10.6 | 581 | 22.9 | 153 | 6 | |
| 100 | 4 | 1553.9 | 6.1 | 140 | 5.50 | 86 | 3.39 | 136 | 5.35 | 270 | 10.6 | 617 | 24.3 | 153 | 6 | |
| 150 | 6 | | | | Contac | t your Eme | erson Proce | ss Manage | ment sales | office for | NPS 6 avail | ability. | | | | |

Table 7. Model Numbering System

| | 89 | | 588 | | | | |
|---------------|------------|-------------|----------------------------------|--------------|------------------|--------|--|
| ACTUATOR TYPE | VALVE BODY | PLUG SERIES | CHARACTERISTIC | SEAT LEAKAGE | VALVE BODY STYLE | | |
| 20 | | 588 | Equal % / Metal Seat (S31603) | IV | А | Angle | |
| 50 | | | | | | Inline | |
| 50H | | | | | | | |
| 112 | | | | | | | |

March 2014

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