

# BARSTOCK VALVES

## BARSTOCK METERING VALVES MFV™

Designed for controlling very low flow rates of liquids and gases, MFV™ Barstock valves are available in seven conveniently overlapping orifice-needle sizes. Offered in straight (T) and 90 degree (L) flow patterns, the MFV™ Barstock Valve includes a “non-rising stem” design, it's unique non-rotating needle is cylindrical with a precision ground tapered metering surface. The needle moves in a rectilinear fashion which accounts for its desirable sixteen- turn high resolution attribute. Hysteresis is virtually eliminated due to the needle design and the closely fitting fine thread on its adjustment plunger. The valve body is precision machined chrome plated brass or type 316 stainless steel.

TABLE 57 ORDERING INFORMATION BARSTOCK METERING VALVES MFV™

| MODEL NUMBER | FLOW PATTERN | MATERIAL  | MAXIMUM FLOW [mL/min] |       | ORIFICE [in] | CV     |
|--------------|--------------|-----------|-----------------------|-------|--------------|--------|
|              |              |           | AIR                   | WATER |              |        |
| 6AMV1101     | Straight     | Brass     | 200                   | 6     | 0.042        | 0.0005 |
| 6AMV1102     | Straight     | Brass     | 400                   | 12    | 0.042        | 0.001  |
| 6AMV1103     | Straight     | Brass     | 1000                  | 30    | 0.042        | 0.0025 |
| 6AMV1104     | Straight     | Brass     | 2500                  | 70    | 0.093        | 0.0061 |
| 6AMV1105     | Straight     | Brass     | 6200                  | 200   | 0.093        | 0.0160 |
| 6AMV1106     | Straight     | Brass     | 21500                 | 650   | 0.093        | 0.054  |
| 6AMV2101     | Straight     | Stainless | 200                   | 6     | 0.042        | 0.0005 |
| 6AMV2102     | Straight     | Stainless | 400                   | 12    | 0.042        | 0.001  |
| 6AMV2103     | Straight     | Stainless | 1000                  | 30    | 0.042        | 0.0025 |
| 6AMV2104     | Straight     | Stainless | 2500                  | 70    | 0.093        | 0.0061 |
| 6AMV2105     | Straight     | Stainless | 6200                  | 200   | 0.093        | 0.0160 |
| 6AMV2106     | Straight     | Stainless | 21500                 | 650   | 0.093        | 0.054  |
| 6AMV1120     | 90 degree    | Brass     | 200                   | 6     | 0.042        | 0.0005 |
| 6AMV1121     | 90 degree    | Brass     | 400                   | 12    | 0.042        | 0.001  |
| 6AMV1122     | 90 degree    | Brass     | 1000                  | 30    | 0.042        | 0.0025 |
| 6AMV1123     | 90 degree    | Brass     | 2500                  | 70    | 0.093        | 0.0061 |
| 6AMV1124     | 90 degree    | Brass     | 6200                  | 200   | 0.093        | 0.0160 |
| 6AMV1125     | 90 degree    | Brass     | 21500                 | 650   | 0.093        | 0.054  |
| 6AMV2120     | 90 degree    | Stainless | 200                   | 6     | 0.042        | 0.0005 |
| 6AMV2121     | 90 degree    | Stainless | 400                   | 12    | 0.042        | 0.001  |
| 6AMV2122     | 90 degree    | Stainless | 1000                  | 30    | 0.042        | 0.0025 |
| 6AMV2123     | 90 degree    | Stainless | 2500                  | 70    | 0.093        | 0.0061 |
| 6AMV2124     | 90 degree    | Stainless | 6200                  | 200   | 0.093        | 0.0160 |
| 6AMV2125     | 90 degree    | Stainless | 21500                 | 650   | 0.093        | 0.054  |

Note: Based on 10 psig (69 kPa) inlet pressure and atmospheric exhaust.

## BARSTOCK UTILITY VALVES CV™

Designed for controlling a broad range of flow rates of liquids and gases, CV™ Utility valves are available in three conveniently overlapping orifice-needle sizes. These versatile, rugged and reliable, valves are suitable for laboratory instrumentation, bench top or OEM flow control purposes. Valves are offered in straight (T) and 90 degree (L) flow patterns. All valves are supplied with 1/8" FNPT inlet and outlet ports. Valve cartridges are also interchangeable with built-in valves of Dakota's series of P, T, S, and G flow meter product line. The valve body is precision machined chrome plated brass or type 316 stainless steel.

TABLE 57-1 ORDERING INFORMATION BARSTOCK UTILITY VALVES CV™

| MODEL NUMBER | FLOW PATTERN | MATERIAL  | MAXIMUM FLOW [mL/min] |       | ORIFICE [in] | CV   |
|--------------|--------------|-----------|-----------------------|-------|--------------|------|
|              |              |           | AIR                   | WATER |              |      |
| 6ACV1101     | Straight     | Brass     | 5000                  | 350   | 0.052        | 0.03 |
| 6ACV1102     | Straight     | Stainless | 5000                  | 350   | 0.052        | 0.03 |
| 6ACV1103     | 90 degree    | Brass     | 5000                  | 350   | 0.052        | 0.03 |
| 6ACV1104     | 90 degree    | Stainless | 5000                  | 350   | 0.052        | 0.03 |
| 6ACV1105     | Straight     | Brass     | 20000                 | 1200  | 0.082        | 0.10 |
| 6ACV1106     | Straight     | Stainless | 20000                 | 1200  | 0.082        | 0.10 |
| 6ACV1107     | 90 degree    | Brass     | 20000                 | 1200  | 0.082        | 0.10 |
| 6ACV1108     | 90 degree    | Stainless | 20000                 | 1200  | 0.082        | 0.10 |
| 6ACV1109     | Straight     | Brass     | 60000                 | 3500  | 0.120        | 0.30 |
| 6ACV1110     | Straight     | Stainless | 60000                 | 3500  | 0.120        | 0.30 |
| 6ACV1111     | 90 degree    | Brass     | 60000                 | 3500  | 0.120        | 0.30 |
| 6ACV1112     | 90 degree    | Stainless | 60000                 | 3500  | 0.120        | 0.30 |

Note: Based on 10 psig (69 kPa) inlet pressure and atmospheric exhaust.

### DESIGN FEATURES

- ✓ Virtually free of hysteresis (see-sawing).
- ✓ Bubble tight shutoff.
- ✓ Straight or 90 degree flow patterns.
- ✓ Brass or 316 stainless steel high resolution.
- ✓ Sixteen turns to full open.



### SPECIFICATIONS FOR MFV VALVE

**MAXIMUM PRESSURE:** 500 psig (3792 kPa).  
**MAXIMUM TEMP.:** 180 °F (82 °C)-brass. 250 °F (121 °C)-stainless.  
**VALVE STEM:** Sixteen turns, non-rising stem.  
**BODY:** Chrome plated brass or 316 stainless steel.  
**VALVE NEEDLE:** 316 stainless steel.  
**ORIFICE:** 316 stainless steel with PTFE liner.  
**CONNECTIONS:** 1/8" female NPT.  
**O-RINGS:** Buna-N (brass valves). FKM (stainless valves).

The selection of materials of construction, is the responsibility of the customer. The company accepts no liability.

### DESIGN FEATURES

- ✓ Bubble tight shutoff.
- ✓ Straight or 90 degree flow patterns.
- ✓ Brass or 316 stainless steel.

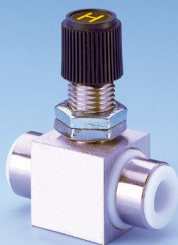


### SPECIFICATIONS FOR MFV VALVE

**MAXIMUM PRESSURE:** 500 psig (3792 kPa).  
**MAXIMUM TEMP.:** 180 °F (82 °C)-brass. 250 °F (121 °C)-stainless.  
**VALVE:** Standard cartridge valve.  
**BODY:** Chrome plated brass or 316 stainless steel.  
**VALVE NEEDLE:** 316 stainless steel.  
**ORIFICE:** 316 stainless steel with PTFE liner.  
**CONNECTIONS:** 1/8" female NPT.  
**O-RINGS:** Buna-N® (brass valves). FKM (stainless valves).

The selection of materials of construction, is the responsibility of the customer. The company accepts no liability.

# PTFE NEEDLE VALVES AND METERING VALVES



**PTFE Needle valve with  
Stainless Shell and FNPT Fittings**



**PTFE Needle valve with  
Aluminum Shell and Glass Nipples**

**TABLE 58, CVT PTFE NEEDLE VALVES**

| MODEL<br>NUMBER | MAXIMUM<br>FLOW [mL/min] |       | CV    | NON WETTED<br>MATERIALS |           | CONNECTIONS               |
|-----------------|--------------------------|-------|-------|-------------------------|-----------|---------------------------|
|                 | AIR                      | WATER |       | SHELL                   | BUSHING   |                           |
| 6ATV0101        | 2400                     | 130   | 0.011 | Aluminum                | Brass     | 1/8" Female               |
| 6ATV0102        | 55000                    | 2800  | 0.250 | Aluminum                | Brass     | 1/8" Female               |
| 6ATV0103        | 2400                     | 130   | 0.011 | Aluminum                | Brass     | 1/4" Compression Fittings |
| 6ATV0104        | 55000                    | 2800  | 0.250 | Aluminum                | Brass     | 1/4" Compression Fittings |
| 6ATV0105        | 2400                     | 130   | 0.011 | Aluminum                | Brass     | Glass Nipples             |
| 6ATV0106        | 55000                    | 2800  | 0.250 | Aluminum                | Brass     | Glass Nipples             |
| 6ATV2101        | 2400                     | 130   | 0.011 | Stainless               | Stainless | 1/8" Female               |
| 6ATV2102        | 55000                    | 2800  | 0.250 | Stainless               | Stainless | 1/8" Female               |
| 6ATV2103        | 2400                     | 130   | 0.011 | Stainless               | Stainless | 1/4" Compression Fittings |
| 6ATV2104        | 55000                    | 2800  | 0.250 | Stainless               | Stainless | 1/4" Compression Fittings |
| 6ATV2105        | 2400                     | 130   | 0.011 | Stainless               | Stainless | Glass Nipples             |
| 6ATV2106        | 55000                    | 2800  | 0.250 | Stainless               | Stainless | Glass Nipples             |

Note: Based on 10 psig (69 kPa) inlet pressure and atmospheric exhaust.

## PTFE Metering Valve



**TABLE 58-1, MVT PTFE NEEDLE VALVES**

| MODEL<br>NUMBER | MAXIMUM<br>FLOW [mL/min] |       | CV    | NON WETTED<br>MATERIALS |          | CONNECTIONS               |
|-----------------|--------------------------|-------|-------|-------------------------|----------|---------------------------|
|                 | AIR                      | WATER |       | SHELL                   | HANDLE   |                           |
| 6ATV3101        | 600                      | 36    | 0.003 | Aluminum                | Aluminum | 1/8" FNPT                 |
| 6ATV3102        | 3000                     | 180   | 0.015 | Aluminum                | Aluminum | 1/8" FNPT                 |
| 6ATV3103        | 30000                    | 1800  | 0.150 | Aluminum                | Aluminum | 1/8" FNPT                 |
| 6ATV3104        | 600                      | 2800  | 0.003 | Aluminum                | Aluminum | 1/4" Compression Fittings |
| 6ATV3105        | 3000                     | 130   | 0.015 | Aluminum                | Aluminum | 1/4" Compression Fittings |
| 6ATV3106        | 30000                    | 2800  | 0.150 | Aluminum                | Aluminum | 1/4" Compression Fittings |
| 6ATV3107        | 600                      | 130   | 0.003 | Aluminum                | Aluminum | Glass Nipples             |
| 6ATV3108        | 3000                     | 2800  | 0.015 | Aluminum                | Aluminum | Glass Nipples             |
| 6ATV3109        | 30000                    | 130   | 0.150 | Aluminum                | Aluminum | Glass Nipples             |

Note: Based on 10 psig (69 kPa) inlet pressure and atmospheric exhaust.

## CVT PTFE NEEDLE VALVES

These compact and reliable PTFE needle valves are designed for laboratory and industrial applications for regulating corrosive gases and liquids or for high purity service. They may also be used as shut off valves.

Pliant PTFE bodies of the valves are reinforced by structurally rigid metallic shells. Fluids contact only PTFE and CTFE materials. Shells are made of anodized aluminum or type 316 stainless steel and bushings are made of plated brass or 316 stainless steel. Where externally corrosive conditions exist stainless steel is recommended.

Valve spindles are made of rigid CTFE to minimize the undesirable material "creeping" normally associated with PTFE. PTFE valves are designed for relatively high flow ranges while still performing well in low flow rates. Valves may be used in pressure or non-critical vacuum service.

The simplicity of design - there are only seven components (including a single PTFE O-ring) - assures reliability and minimizes sources of leakage. It takes seconds to disassemble the valve for cleaning and maintenance.

The PTFE O-ring is radially compressed and due to this unique design feature the degree of compression may be adjusted without disassembly by tightening the hexagonal bushing.

### SPECIFICATIONS FOR CVT VALVE:

|                              |  |
|------------------------------|--|
| <b>MAXIMUM PRESSURE:</b>     | 75 psig (517 kPa).   |
| <b>MAXIMUM TEMPERATURE:</b>  | 150 °F (65 °C).  |
| <b>ORIFICE SIZE:</b>         | 0.125" diameter (3.175 mm).  |
| <b>FLUID CONTACTING:</b>     | Body and O-Ring-PTFE. Valve Spindle-PCTFE.   |
| <b>NON FLUID CONTACTING:</b> | Shell-Aluminum (anodized) or 316 stainless steel.<br>Bushing plated brass, or 316 stainless steel.<br>Adjusting Knob-phenolic. |



The selection of materials of construction, is the responsibility of the customer. The company accepts no liability.

## DESIGN FEATURES

- ✓ Fluids contact PTFE only.
- ✓ Structurally Rigid Metal Shell.
- ✓ One PTFE O-Ring.
- ✓ Brass or 316 stainless steel high resolution.
- ✓ Simplicity - Only Seven Components.

## MVT™ METERING VALVES

Are constructed of PTFE and PCTFE materials. Non-fluid contacting external parts are made of anodized aluminum.

Valves are offered in three conveniently overlapping flow ranges. Safety handle prevents over tightening and facilitates fine metered regulation. MVT™ valves are useful in regulating the flow of corrosive gases and liquids.

They may be used in pressure or non-critical vacuum service and serve as bubble tight shutoff valves.

### SPECIFICATIONS FOR MVT VALVES:

|   |  |
|---|--|
| <b>MAXIMUM PRESSURE:</b>                | 75 psig (517 kPa).                         |
| <b>MAXIMUM TEMPERATURE:</b>             | 150 °F (65 °C).                            |
| <b>ORIFICE SIZE:</b>                    | 0.125" diameter (3.175 mm).                |
| <b>NUMBER OF TURNS TO FULLY OPEN:</b>   | Eight.                                     |
| <b>STEM:</b>                            | Non-rising type.                           |
| <b>FLUID CONTACTING COMPONENTS:</b>     | Body/ O-Ring-PTFE.<br>Valve Spindle-PCTFE. |
| <b>NON-FLUID CONTACTING COMPONENTS:</b> | Shell + Handle - Aluminum (anodized).      |



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