



Designed for controlling very low flow rates of liquids and gases, MFV™ Barstock valves are available in six conveniently overlapping orifice-needle sizes.



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.

BARSTOCK METERING VALVES MFV™

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.

SPECIFICATIONS

| | |
|----------------------------|---|
| MAXIMUM PRESSURE | 500 psig (3792 kPa). |
| MAXIMUM TEMPERATURE | 180 °F (82 °C)-brass. 250 °F (121 °C)-stainless. |
| VALVE STEM | Sixteen turns, non-rising type. |

**MATERIALS OF CONSTRUCTION

| | |
|---------------------|--|
| BODY | Chrome plated brass or 316 stainless steel. |
| VALVE NEEDLE | 316 stainless steel. |
| ORIFICE | 316 stainless steel with PTFE liner for valve sizes 1, 2 and 3; PCTFE for valve sizes 4,5,6 and 7. |
| O-RINGS | Buna-N® (brass valves). Viton® (stainless valves). |

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



ORDERING INFORMATION BARSTOCK METERING VALVES MFV™

| MODEL NUMBER | FLOW PATTERN | MATERIAL | MAXIMUM FLOW [mL/min] | | ORIFICE [in] | CV |
|--------------|--------------|-----------|-----------------------|-------|--------------|--------|
| | | | Air | Water | | |
| VM1-BB-1A | Straight | Brass | 200 | 6 | 0.042 | 0.0005 |
| VM2-BB-1A | Straight | Brass | 400 | 12 | 0.042 | 0.001 |
| VM3-BB-1A | Straight | Brass | 1000 | 30 | 0.042 | 0.0025 |
| VM4-BB-1A | Straight | Brass | 2500 | 70 | 0.093 | 0.0061 |
| VM5-BB-1A | Straight | Brass | 6200 | 200 | 0.093 | 0.016 |
| VM6-BB-1A | Straight | Brass | 21500 | 650 | 0.093 | 0.054 |
| VM7-BB-1A | Straight | Brass | 46090 | 1410 | 0.093 | 0.118 |
| VM1-SV-2A | Straight | Stainless | 200 | 6 | 0.042 | 0.0005 |
| VM2-SV-2A | Straight | Stainless | 400 | 12 | 0.042 | 0.001 |
| VM3-SV-2A | Straight | Stainless | 1000 | 30 | 0.042 | 0.0025 |
| VM4-SV-2A | Straight | Stainless | 2500 | 70 | 0.093 | 0.0061 |
| VM5-SV-2A | Straight | Stainless | 6200 | 200 | 0.093 | 0.016 |
| VM6-SV-2A | Straight | Stainless | 21500 | 650 | 0.093 | 0.054 |
| VM7-SV-2A | Straight | Stainless | 46090 | 1410 | 0.093 | 0.118 |
| VM1-BB-6A | 90 degree | Brass | 200 | 6 | 0.042 | 0.0005 |
| VM2-BB-6A | 90 degree | Brass | 400 | 12 | 0.042 | 0.001 |
| VM3-BB-6A | 90 degree | Brass | 1000 | 30 | 0.042 | 0.0025 |
| VM4-BB-6A | 90 degree | Brass | 2500 | 70 | 0.093 | 0.0061 |
| VM5-BB-6A | 90 degree | Brass | 6200 | 200 | 0.093 | 0.016 |
| VM6-BB-6A | 90 degree | Brass | 21500 | 650 | 0.093 | 0.054 |
| VM7-BB-6A | 90 degree | Brass | 46090 | 1410 | 0.093 | 0.118 |
| VM1-SV-7A | 90 degree | Brass | 200 | 6 | 0.042 | 0.0005 |
| VM2-SV-7A | 90 degree | Brass | 400 | 12 | 0.042 | 0.001 |
| VM3-SV-7A | 90 degree | Brass | 1000 | 30 | 0.042 | 0.0025 |
| VM4-SV-7A | 90 degree | Brass | 2500 | 70 | 0.093 | 0.0061 |
| VM5-SV-7A | 90 degree | Brass | 6200 | 200 | 0.093 | 0.016 |
| VM6-SV-7A | 90 degree | Brass | 21500 | 650 | 0.093 | 0.054 |
| VM7-SV-7A | 90 degree | Brass | 46090 | 1410 | 0.093 | 0.118 |

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



BARSTOCK VALVES

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.

BARSTOCK \ UTILITY VALVES CV™

These versatile, rugged and reliable valves are suitable for laboratory instrumentation, bench top or OEM flow control purposes.



| SPECIFICATIONS | |
|---------------------|---|
| MAXIMUM PRESSURE | 500 psig (3792 kPa). |
| MAXIMUM TEMPERATURE | 180 °F (82 °C) - (brass valves). 250 °F (121 °C) - (stainless valves). |

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 Aalborg'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.

| **MATERIALS OF CONSTRUCTION | |
|-----------------------------|---|
| CONNECTIONS | 1/8" female NPT. |
| O-RINGS | PTFE and Buna-N® (brass valves). PTFE and Viton® (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.

| ORDERING INFORMATION BARSTOCK UTILITY VALVES CV™ | | | | | | |
|--|--------------|-----------|-----------------------|-------|--------------|------|
| MODEL NUMBER | FLOW PATTERN | MATERIAL | MAXIMUM FLOW [mL/min] | | ORIFICE [in] | Cv |
| | | | Air | Water | | |
| VCL-BB-1A | Straight | Brass | 5000 | 350 | 0.052 | 0.03 |
| VCL-SV-2A | Straight | Stainless | 5000 | 350 | 0.052 | 0.03 |
| VCL-BB-6A | 90 degree | Brass | 5000 | 350 | 0.052 | 0.03 |
| VCL-SV-7A | 90 degree | Stainless | 5000 | 350 | 0.052 | 0.03 |
| VCM-BB-1A | Straight | Brass | 20000 | 1200 | 0.082 | 0.10 |
| VCM-SV-2A | Straight | Stainless | 20000 | 1200 | 0.082 | 0.10 |
| VCM-BB-6A | 90 degree | Brass | 20000 | 1200 | 0.082 | 0.10 |
| VCM-SV-7A | 90 degree | Stainless | 20000 | 1200 | 0.082 | 0.10 |
| VCH-BB-1A | Straight | Brass | 60000 | 3500 | 0.120 | 0.30 |
| VCH-SV-2A | Straight | Stainless | 60000 | 3500 | 0.120 | 0.30 |
| VCH-BB-6A | 90 degree | Brass | 60000 | 3500 | 0.120 | 0.30 |
| VCH-SV-7A | 90 degree | Stainless | 60000 | 3500 | 0.120 | 0.30 |

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

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 PCTFE 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 PCTFE 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.

ORDERING INFORMATION PTFE NEEDLE VALVES

| MODEL NUMBER | MAXIMUM FLOW [ml/min] | | CV | NON WETTED MATERIALS | | CONNECTIONS |
|--------------|-----------------------|-------|-------|----------------------|-----------|--------------------------|
| | AIR | WATER | | SHELL | BUSHING | |
| VCL-TT-0A | 2400 | 130 | 0.011 | Aluminum | Brass | 1/8" FNPT |
| VCH-TT-0A | 55000 | 2800 | 0.250 | Aluminum | Brass | 1/8" FNPT |
| VCL-TT-0F | 2400 | 130 | 0.011 | Aluminum | Brass | 1/4" Comp. |
| VCH-TT-0F | 55000 | 2800 | 0.250 | Aluminum | Brass | 1/4" Comp. |
| VCL-TT-0G | 2400 | 130 | 0.011 | Aluminum | Brass | 0.390 O.D. Glass Nipples |
| VCH-TT-0G | 55000 | 2800 | 0.250 | Aluminum | Brass | 0.390 O.D. Glass Nipples |
| VCL-TT-2A | 2400 | 130 | 0.011 | Stainless | Stainless | 1/8" FNPT |
| VCH-TT-2A | 55000 | 2800 | 0.250 | Stainless | Stainless | 1/8" FNPT |
| VCL-TT-2F | 2400 | 130 | 0.011 | Stainless | Stainless | 1/4" Comp. |
| VCH-TT-2F | 55000 | 2800 | 0.250 | Stainless | Stainless | 1/4" Comp. |
| VCL-TT-2G | 2400 | 130 | 0.011 | Stainless | Stainless | 0.390 O.D. Glass Nipples |
| VCH-TT-2G | 55000 | 2800 | 0.250 | Stainless | Stainless | 0.390 O.D. Glass Nipples |

design features

- ✓ Fluids contact PTFE and PCTFE only.
- ✓ Structurally Rigid Metal Shell.
- ✓ One PTFE o-ring.
- ✓ Simplicity only seven components.

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



PTFE Needle valve with Stainless Shell and FNPT Fittings

SPECIFICATIONS

| | |
|---|--|
| MAXIMUM PRESSURE | 75 psig (517 kPa) |
| MAXIMUM TEMPERATURE | 150 °F (65 °C) |
| ORIFICE SIZE | 0.125" diameter (3.175 mm) |
| **MATERIALS OF CONSTRUCTION FLUID CONTACTING | |
| | Body and o-ring-PTFE. |
| | Valve spindle-PCTFE. |
| NON FLUID CONTACTING | |
| | Shell - Aluminum (anodized) or 316 stainless steel. Bushing plated brass, or 316 stainless steel. Adjusting Knob-phenolic. |

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



PTFE NEEDLE VALVES

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.



PTFE Needle valve with Aluminum Shell and Glass Nipples



PTFE Metering Valve

ORDERING INFORMATION PTFE METERING VALVE

| MODEL NUMBER | MAXIMUM FLOW [ml/min] | | Cv | CONNECTIONS |
|--------------|-----------------------|-------|-------|--------------------------|
| | Air | Water | | |
| VM1-TT-0A | 600 | 36 | 0.003 | 1/8" FNPT |
| VM3-TT-0A | 3000 | 180 | 0.015 | 1/8" FNPT |
| VM6-TT-0A | 30000 | 1800 | 0.150 | 1/8" FNPT |
| VM1-TT-0F | 600 | 36 | 0.003 | 1/4" Comp. |
| VM3-TT-0F | 3000 | 180 | 0.015 | 1/4" Comp. |
| VM6-TT-0F | 30000 | 1800 | 0.150 | 1/4" Comp. |
| VM1-TT-0G | 600 | 36 | 0.003 | 0.390 O.D. Glass Nipples |
| VM3-TT-0G | 3000 | 180 | 0.015 | 0.390 O.D. Glass Nipples |
| VM6-TT-0G | 30000 | 1800 | 0.150 | 0.390 O.D. Glass Nipples |

SPECIFICATIONS

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

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

6mm PTFE NEEDLE VALVES

design features

- ✓ Fluids contact PTFE and PCTFE only.
- ✓ One PTFE o-ring.
- ✓ Simplicity, only six components.

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.

Fluids contact only PTFE and PCTFE materials. Bushings are made of 316 stainless steel.

Valve spindles are made of rigid PCTFE 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 six 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 bushing.

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



6mm PTFE Needle Valves

ORDERING INFORMATION FOR 6mm PTFE NEEDLE VALVES

| MODEL NUMBER | MAXIMUM FLOW LPM | | CV | CONNECTIONS |
|--------------|------------------|-------|-------|-------------|
| | AIR | WATER | | |
| VT6-TT-0 | 300 | 9 | 0.765 | 3/8" FNPT |

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

SPECIFICATIONS

| | |
|---|--|
| MAXIMUM PRESSURE | 75 psig (517 kPa) |
| MAXIMUM TEMPERATURE | 150 °F (65 °C) |
| ORIFICE SIZE | 6.0 mm (0.250") diameter. |
| **MATERIALS OF CONSTRUCTION FLUID CONTACTING | Body and o-ring-PTFE. Valve spindle-PCTFE. |
| NON FLUID CONTACTING | Bushings 316 stainless steel. Mounting Nut and Adjusting Knob Delrin. |