

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, its 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

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

#### \*\*MATERIALS OF CONSTRUCTION

<b>BODY</b>	Chrome plated brass or 316 stainless steel.
<b>VALVE NEEDLE</b>	316 stainless steel.
<b>ORIFICE</b>	316 stainless steel with PTFE liner for valve sizes 1, 2 and 3; PCTFE for valve sizes 4,5,6 and 7.
<b>O-RINGS</b>	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.

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).

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

*\*\*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-OA	2400	130	0.011	Aluminum	Brass	1/8" FNPT
VCH-TT-OA	55000	2800	0.250	Aluminum	Brass	1/8" FNPT
VCL-TT-OF	2400	130	0.011	Aluminum	Brass	1/4" Comp.
VCH-TT-OF	55000	2800	0.250	Aluminum	Brass	1/4" Comp.
VCL-TT-OG	2400	130	0.011	Aluminum	Brass	0.390 O.D. Glass Nipples
VCH-TT-OG	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

<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>**MATERIALS OF CONSTRUCTION FLUID CONTACTING</b>	
	Body and o-ring-PTFE.
	Valve spindle-PCTFE.
<b>NON FLUID CONTACTING</b>	
	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.*

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.

### 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.**

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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

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