

# 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, 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.

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).
- ✓ Panel mountable.
- ✓ 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

- ✓ Panel mountable.
- ✓ 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

## 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. 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.

## 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. Valve Spindle-PCTFE.
<b>NON-FLUID CONTACTING COMPONENTS:</b>	Shell + Handle - Aluminum (anodized).



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



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 NUMBER	MAXIMUM FLOW [mL/min]		CV	NON WETTED 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 NUMBER	MAXIMUM FLOW [mL/min]		CV	NON WETTED 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.