

# Needle Valves

## High Pressure

**30SC, 43SC, 30VM, 40VM, 60VM,  
100VM & 150V Series**

*Pressures to 150,000 psi (10342 bar)*

Since 1945, Parker Autoclave Engineers has designed and built premium quality valves, fittings and tubing. This commitment to engineering and manufacturing excellence has earned Parker Autoclave a reputation for reliable and efficient product performance. Parker Autoclave Engineers has long been established as the worldwide leader in high pressure fluid handling components for the chemical/petrochemical, research, oil and gas, waterjet, and waterblast industries.



**Needle Valves - High Pressure**  
**30SC, 43SC, 30VM, 40VM, 60VM, 100VM & 150V Series**



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# Needle Valves - High Pressure

## High Pressure Valve Features

- Tubing sizes from 1/4" to 1".
- Non-rotating stem prevents stem/seat galling.
- Rising stem/barstock body design.
- Metal-to-metal seating achieves bubble-tight shut-off, longer stem/seat life in abrasive flow, greater durability for repeated on/off cycles and excellent corrosion resistance.
- For dependable stem and body sealing 30SC, 43SC and 30VM valves are furnished with PTFE encapsulated packing; the 40VM and 60VM valves feature nylon/leather packing below threads.
- Stem sleeve and packing gland materials have been selected to achieve extended thread cycle life and reduced handle torque.
- Choice of Vee or Regulating stem tips.

### Series 100VM: Pressures to 100,000 psi (6895 bar) features:

- Cold-worked type 316 or 15-5PH stainless steel body with aluminum bronze packing gland and non-rotating stem.
- Nylon and leather packing below stem threads.

### Series 150V: Pressures to 150,000 psi (10342 bar) features:

- Cylindrical body of high strength 15-5PH stainless steel with stainless steel packing gland. Tool steel non-rotating stem with replaceable seat of nickel maraging steel. Stem must be actuated with torque wrench (refer to Tools, Installation, Operation and Maintenance section).
- Wedge-type PTFE and leather packing below stem threads with beryllium-copper Autoclave Anti-Extrusion Back up Rings.
- Vee stem tip only

Parker Autoclave Engineers valves are complemented by a complete line of high pressure fittings and tubing. The high pressure series uses Parker Autoclave Engineers' coned-and-threaded connections for dependable performance in gas or liquid service.

# Needle Valves - SC Series

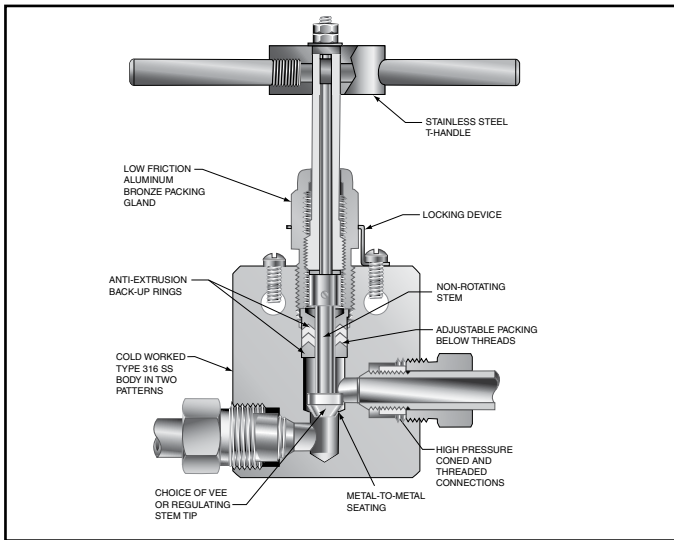
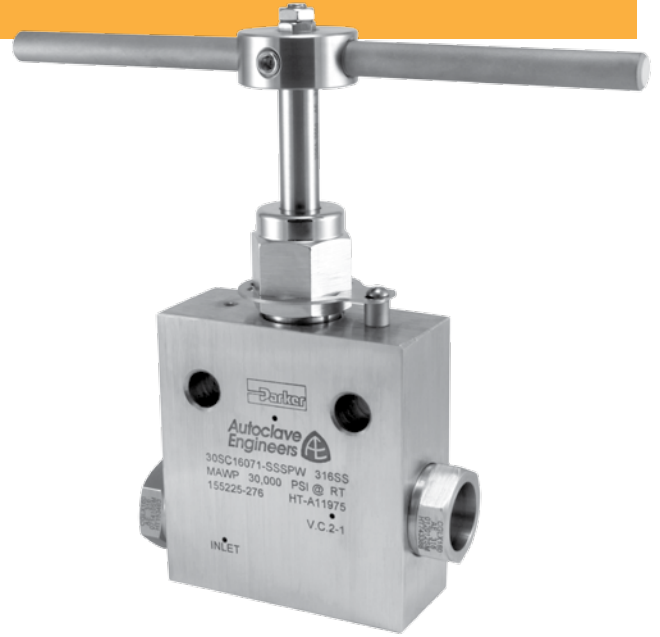
Pressures to 43,000 psi (2965 bar)

| Tube Outside Diameter Size Inches | Connection Type | Orifice Size Inches (mm) | Rated $C_V^*$ | Pressure Rating psi (bar) @ Room Temperature** |
|-----------------------------------|-----------------|--------------------------|---------------|--|
| Series 30SC                       |                 |                          |               |  |
| 1                                 | F1000C43        | .438 (11.12)             | 2.6           | 30,000 (2068)                                  |
| Series 43SC                       |                 |                          |               |  |
| 1                                 | F1000C43        | .438 (11.12)             | 2.6           | 43,000 (2965)                                  |

**Notes:**

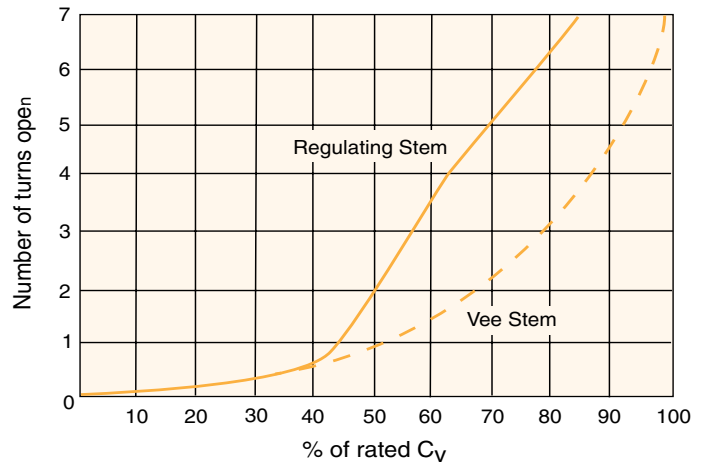
\*  $C_V$  values shown are for 2-way straight valve pattern. For 2-way angle patterns, increase  $C_V$  value 50%.

\*\* For complete temperature ratings see pressure/temperature rating guide in Technical Information section.



To ensure proper fit use Autoclave tubing

Generalized Flow Coefficient Curves ( $C_V$ )



## Ordering Procedure

For complete information on available stem types, optional connections and additional valve options, see Needle Valve Options section or contact your Sales Representative. The 30SC Series valves are furnished complete with connection components, unless otherwise specified.

Typical catalog number: **30SC16071**

| 30SC         | 16                         | 07   | 1   | — | XX  |
|--------------|----------------------------|--|---|---|---|
| Valve Series | Outside Diameter Tube Size | Stem/Seat Type   | Body Pattern                              |   | Options   |
| 30SC<br>43SC | 16-1"                      | 07 - non-rotating Vee stem (on-off service)<br>08 - non-rotating regulating stem (tapered tip for regulating and shutoff)<br>87 - Vee stem with replaceable seat<br>88 - Regulating stem with replaceable seat | 1 - two-way straight<br>2 - two-way angle |   | For extreme temperature and other options, see Valve Options. |

## Valve Options

### Extreme Temperatures

Standard Parker Autoclave Engineers valves with PTFE packing may be operated from 0°F (-17.8°C) to 450°F (232°C). High temperature packing is available for service from -423°F (-252°C) to 1200°F (649°C) by adding the following suffixes to catalog order number.

**TG** - standard valve with PTFE glass packing to 600°F (316°C).

**GY** - standard valve with graphite braided yarn packing to 800°F (427°C).  
8,000 psi (569 bar) max.

**HT** - extended stuffing box valve with graphite braided yarn packing to 1200°F (649°C).

**B** - standard valve with cryogenic trim material and PTFE packing to -100°F (-73°C).

**LT** - extended stuffing box valve with PTFE packing & Cryogenic trim materials to  
-423°F (-252°C).

**K** - anti-vibration collet and gland assembly.

## Valve Maintenance

Repair Kits: add "R" to the front of valve catalog number for proper repair kit.  
(Example: **R30SC16071**)

Valve Bodies: Valve bodies are available. Order using the eight (8) digit part number found in the valve drawing or contact your Sales Representative for information.

Consult your Parker Autoclave Engineers representative for pricing on repair kits and valve bodies. Refer to the Tools, Installation, Operation and Maintenance section for proper maintenance procedures.

| Catalog Number | Stem Type | Outside Diameter Tube | Orifice Diameter | Dimensions - inches (mm) |   |   |   |                |   |   |   |                |    |   |   | Block Thickness | Valve Pattern |
|----------------|-----------|-----------------------|------------------|--------------------------|---|---|---|----------------|---|---|---|----------------|----|---|---|-----------------|---------------|
|                |           |                       |                  | A                        | B | C | D | D <sub>1</sub> | E | F | G | G <sub>1</sub> | H* | M | N |                 |               |

### 2-Way Straight

|           |     |         |         |          |         |         |         |         |          |          |         |         |          |         |         |         |              |
|-----------|-----|---------|---------|----------|---------|---------|---------|---------|----------|----------|---------|---------|----------|---------|---------|---------|--------------|
| 30SC16071 | VEE | 1"      | 0.438   | 4.13     | 2.06    | 0.72    | 3.50    | 2.75    | 4.44     | 10.25    | 1.62    | 0.56    | 8.42     | 1.25    | 1.12    | 1.75    | See Figure 1 |
| 30SC16081 | REG | (25.40) | (11.12) | (104.90) | (52.32) | (18.28) | (88.90) | (69.85) | (112.77) | (260.35) | (41.14) | (14.22) | (213.86) | (31.75) | (28.44) | (44.45) |              |
| 43SC16071 | VEE | 1"      | 0.438   | 4.88     | 2.44    | 0.72    | 3.50    | 2.75    | 4.44     | 10.25    | 1.62    | 0.56    | 8.42     | 1.25    | 1.12    | 2.25    |              |
| 43SC16081 | REG | (25.40) | (11.12) | (123.96) | (61.96) | (18.28) | (88.90) | (69.85) | (112.77) | (260.35) | (41.14) | (14.22) | (213.86) | (31.75) | (28.44) | (57.15) |              |

### 2-Way Angle

|           |     |         |         |          |         |         |         |  |          |          |         |         |          |         |         |         |              |
|-----------|-----|---------|---------|----------|---------|---------|---------|--|----------|----------|---------|---------|----------|---------|---------|---------|--------------|
| 30SC16072 | VEE | 1"      | 0.438   | 4.13     | 2.06    | 0.72    | 2.75    |  | 5.12     | 10.25    | 1.62    | 0.56    | 9.35     | 1.25    | 1.12    | 1.75    | See Figure 2 |
| 30SC16082 | REG | (25.40) | (11.12) | (104.90) | (52.32) | (18.28) | (69.85) |  | (130.04) | (260.35) | (41.14) | (14.22) | (237.49) | (31.75) | (28.44) | (44.45) |              |
| 43SC16072 | VEE | 1"      | 0.438   | 4.88     | 2.44    | 0.72    | 2.75    |  | 5.12     | 10.25    | 1.62    | 0.56    | 9.35     | 1.25    | 1.12    | 2.25    |              |
| 43SC16082 | REG | (25.40) | (11.12) | (123.96) | (61.96) | (18.28) | (69.85) |  | (130.04) | (260.35) | (41.14) | (14.22) | (237.49) | (31.75) | (28.44) | (57.15) |              |

### 2-Way Angle/Replaceable Seat

|           |     |         |         |          |         |         |         |          |          |          |         |         |          |         |         |         |              |
|-----------|-----|---------|---------|----------|---------|---------|---------|----------|----------|----------|---------|---------|----------|---------|---------|---------|--------------|
| 30SC16872 | VEE | 1"      | 0.438   | 4.13     | 2.06    | 0.72    | 2.75    | 4.31     | 5.24     | 10.25    | 1.62    | 0.56    | 10.56    | 1.25    | 1.12    | 1.75    | See Figure 3 |
| 30SC16882 | REG | (25.40) | (11.12) | (104.90) | (52.32) | (18.28) | (71.37) | (109.47) | (133.35) | (260.35) | (41.14) | (14.22) | (268.22) | (31.75) | (28.44) | (44.45) |              |
| 43SC16872 | VEE | 1"      | 0.438   | 4.88     | 2.44    | 0.72    | 2.75    | 4.31     | 5.24     | 10.25    | 1.62    | 0.56    | 10.56    | 1.25    | 1.12    | 2.25    |              |
| 43SC16882 | REG | (25.40) | (11.12) | (123.96) | (61.96) | (18.28) | (71.37) | (109.47) | (133.35) | (260.35) | (41.14) | (14.22) | (268.22) | (31.75) | (28.44) | (57.15) |              |

G - Packing gland mounting hole drill size

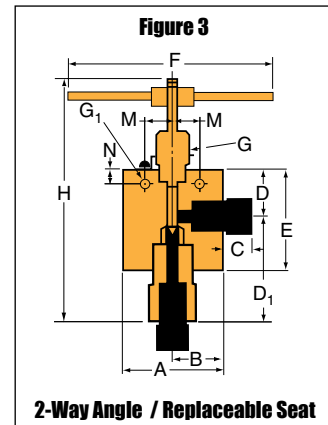
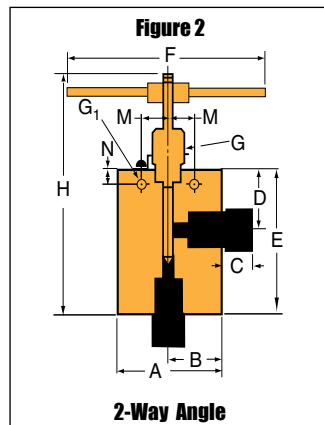
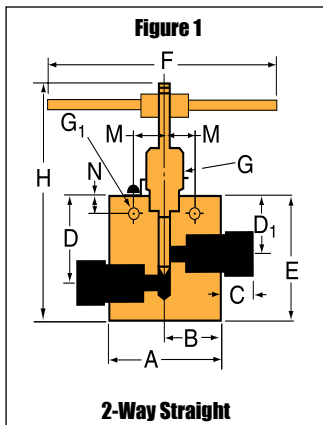
G<sub>1</sub> - Bracket mounting hole size

Panel mounting drill size: 0.22" all valves.

\* H Dimension is with stem in closed position.

All dimensions for reference only and subject to change.

For prompt service, Parker Autoclave Engineers stock select products. Consult factory.



# Needle Valves - 30VM Series

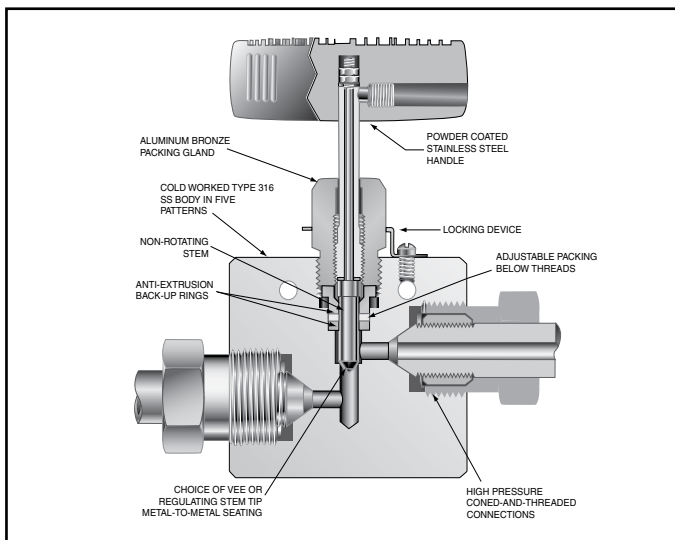
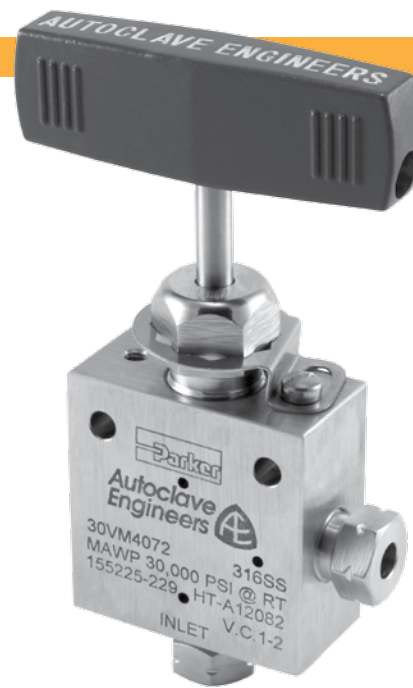
Pressures to 30,000 psi (2068 bar)

| Tube Outside Diameter Size Inches | Connection Type | Orifice Size Inches (mm) | Rated $C_V^*$ | Pressure Rating psi (bar) @ Room Temperature** |
|-----------------------------------|-----------------|--------------------------|---------------|--|
| 1/4                               | F250C           | 0.094 (2.39)             | 0.12          | 30,000 (2068)                                  |
| 3/8                               | F375C           | 0.125 (3.18)             | 0.23          | 30,000 (2068)                                  |
| 9/16                              | F562C           | 0.125 (3.18)             | 0.33          | 30,000 (2068)                                  |

**Notes:**

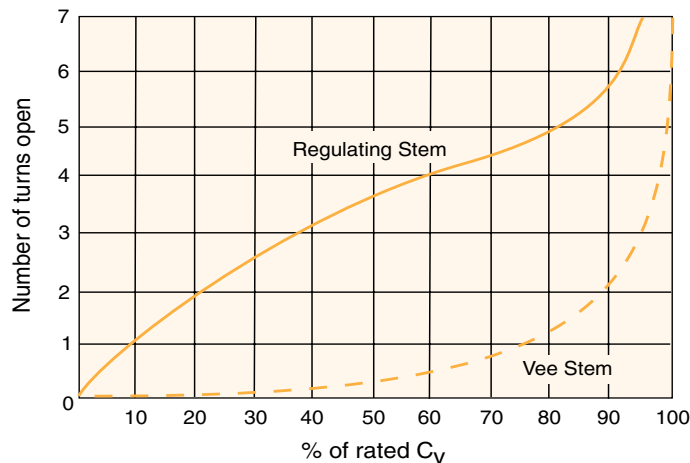
\*  $C_V$  values shown are for 2-way straight valve pattern. For 2-way angle patterns, increase  $C_V$  value 50%.

\*\* For complete temperature ratings see pressure/temperature rating guide in Technical Information section.



To ensure proper fit use Autoclave tubing

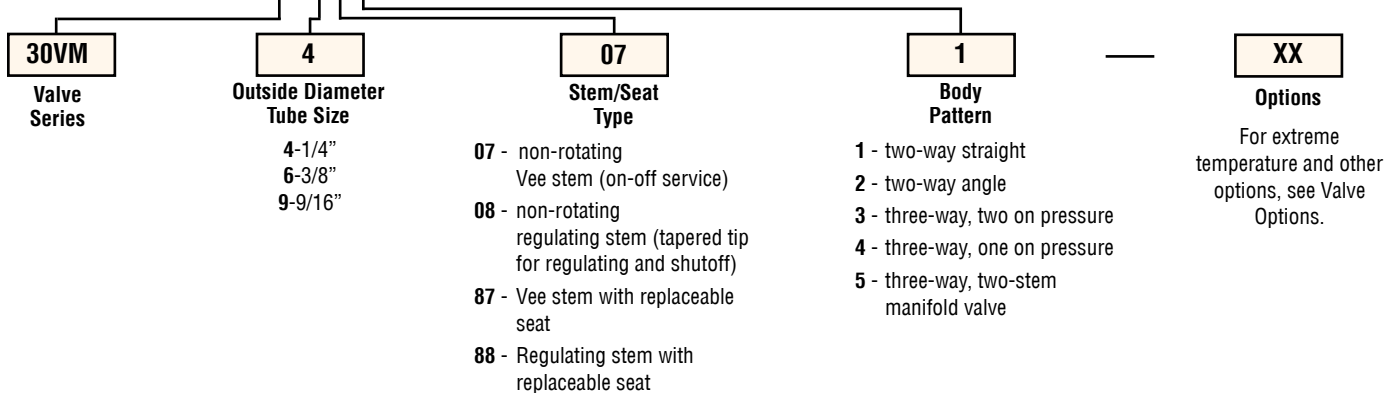
Generalized Flow Coefficient Curves ( $C_V$ )



## Ordering Procedure

For complete information on available stem types, optional connections and additional valve options, see Needle Valve Options section or contact your Sales Representative. The 30VM Series valves are furnished complete with connection components, unless otherwise specified.

Typical catalog number: **30VM4071**



## Valve Options

### Extreme Temperatures

Standard Parker Autoclave Engineers valves with PTFE packing may be operated from 0°F (-17.8°C) to 450°F (232°C). High temperature packing is available for service from -423°F (-252°C) to 1200°F (644°C) by adding the following suffixes to catalog order number.

**TG** - standard valve with PTFE glass packing to 600°F (316°C).

**GY** - standard valve with graphite braided yarn packing to 800°F (427°C).

**HT** - extended stuffing box valve with graphite braided yarn packing to 1200°F (649°C).

**B** - standard valve with cryogenic trim material and PTFE packing to -100°F (-73°C).

**LT** - extended stuffing box valve with PTFE packing & Cryogenic trim materials to -423°F (-252°C).

**K** - anti-vibration collet and gland assembly.

## Valve Maintenance

Repair Kits: add "R" to the front of valve catalog number for proper repair kit.  
(Example: **R30VM4071**)

Valve Bodies: Valve bodies are available. Order using the eight (8) digit part number found in the valve drawing or contact your Sales Representative for information.

Consult your Parker Autoclave Engineers representative for pricing on repair kits and valve bodies. Refer to the Tools, Installation, Operation and Maintenance section for proper maintenance procedures.

| Catalog Number | Stem Type | Outside Diameter Tube | Orifice Diameter | Dimensions - inches (mm) |   |   |   |                |   |   |   |                |    |   |   | Block Thickness | Valve Pattern |
|----------------|-----------|-----------------------|------------------|--------------------------|---|---|---|----------------|---|---|---|----------------|----|---|---|-----------------|---------------|
|                |           |                       |                  | A                        | B | C | D | D <sub>1</sub> | E | F | G | G <sub>1</sub> | H* | M | N |                 |               |

### 2-Way Straight

|          |     |         |        |         |         |         |         |         |         |         |         |        |          |         |        |         |              |
|----------|-----|---------|--------|---------|---------|---------|---------|---------|---------|---------|---------|--------|----------|---------|--------|---------|--------------|
| 30VM4071 | VEE | 1/4     | 0.094  | 2.00    | 1.00    | 0.50    | 1.50    | 1.12    | 2.00    | 3.00    | 1.00    | 0.22   | 4.62     | 0.69    | 0.38   | 1.00    | See Figure 1 |
| 30VM4081 | REG | (6.35)  | (2.39) | (50.80) | (25.40) | (12.70) | (38.10) | (28.45) | (50.80) | (76.20) | (25.40) | (5.59) | (117.35) | (17.53) | (9.65) | (25.40) |              |
| 30VM6071 | VEE | 3/8     | 0.125  | 2.00    | 1.00    | 0.53    | 1.50    | 1.12    | 2.00    | 3.00    | 1.00    | 0.22   | 4.68     | 0.69    | 0.38   | 1.00    |              |
| 30VM6081 | REG | (9.53)  | (3.18) | (50.80) | (25.40) | (13.46) | (38.10) | (28.45) | (50.80) | (76.20) | (25.40) | (5.59) | (118.87) | (17.53) | (9.65) | (25.40) |              |
| 30VM9071 | VEE | 9/16    | 0.125  | 2.62    | 1.31    | 0.81    | 1.56    | 1.12    | 2.44    | 3.00    | 1.00    | 0.28   | 5.06     | 0.69    | 0.38   | 1.50    |              |
| 30VM9081 | REG | (14.29) | (3.18) | (66.55) | (33.27) | (20.57) | (39.62) | (28.45) | (61.98) | (76.20) | (25.40) | (7.11) | (128.52) | (17.53) | (9.65) | (38.10) |              |

### 2-Way Angle

|          |     |         |        |         |         |         |         |  |         |         |         |        |          |         |        |         |              |
|----------|-----|---------|--------|---------|---------|---------|---------|--|---------|---------|---------|--------|----------|---------|--------|---------|--------------|
| 30VM4072 | VEE | 1/4     | 0.094  | 2.00    | 1.00    | 0.50    | 1.12    |  | 2.00    | 3.00    | 1.00    | 0.22   | 4.62     | 0.69    | 0.38   | 1.00    | See Figure 2 |
| 30VM4082 | REG | (6.35)  | (2.39) | (50.80) | (25.40) | (12.70) | (28.45) |  | (50.80) | (76.20) | (25.40) | (5.59) | (117.35) | (17.53) | (9.65) | (25.40) |              |
| 30VM6072 | VEE | 3/8     | 0.125  | 2.00    | 1.00    | 0.53    | 1.12    |  | 2.12    | 3.00    | 1.00    | 0.22   | 4.74     | 0.69    | 0.38   | 1.00    |              |
| 30VM6082 | REG | (9.53)  | (3.18) | (50.80) | (25.40) | (13.46) | (28.45) |  | (53.85) | (76.20) | (25.40) | (5.59) | (120.40) | (17.53) | (9.65) | (25.40) |              |
| 30VM9072 | VEE | 9/16    | 0.125  | 2.62    | 1.31    | 0.81    | 1.12    |  | 2.44    | 3.00    | 1.00    | 0.28   | 5.06     | 0.69    | 0.38   | 1.50    |              |
| 30VM9082 | REG | (14.29) | (3.18) | (66.55) | (33.27) | (20.57) | (28.45) |  | (61.98) | (76.20) | (25.40) | (7.11) | (128.52) | (17.53) | (9.65) | (38.10) |              |

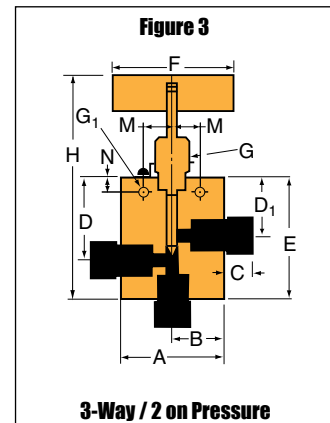
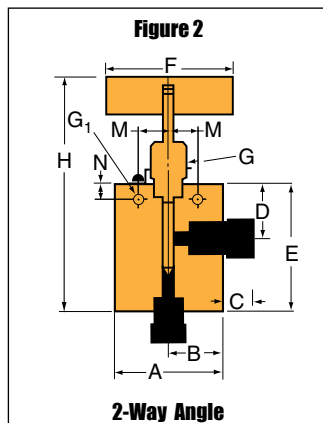
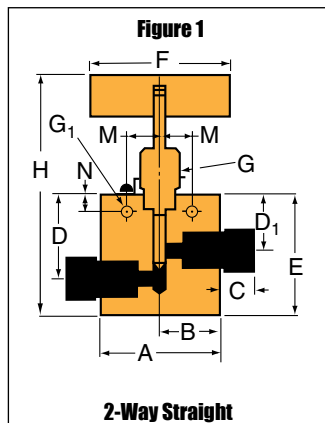
### 3-Way / 2 on Pressure

|          |     |         |        |         |         |         |         |         |         |         |         |        |          |         |        |         |              |
|----------|-----|---------|--------|---------|---------|---------|---------|---------|---------|---------|---------|--------|----------|---------|--------|---------|--------------|
| 30VM4073 | VEE | 1/4     | 0.094  | 2.00    | 1.00    | 0.50    | 1.50    | 1.12    | 2.12    | 3.00    | 1.00    | 0.22   | 4.74     | 0.69    | 0.38   | 1.00    | See Figure 3 |
| 30VM4083 | REG | (6.35)  | (2.39) | (50.80) | (25.40) | (12.70) | (38.10) | (28.45) | (53.85) | (76.20) | (25.40) | (5.59) | (120.40) | (17.53) | (9.65) | (25.40) |              |
| 30VM6073 | VEE | 3/8     | 0.125  | 2.00    | 1.00    | 0.53    | 1.50    | 1.12    | 2.50    | 3.00    | 1.00    | 0.22   | 5.12     | 0.69    | 0.38   | 1.00    |              |
| 30VM6083 | REG | (9.53)  | (3.18) | (50.80) | (25.40) | (13.46) | (38.10) | (28.45) | (63.50) | (76.20) | (25.40) | (5.59) | (130.05) | (17.53) | (9.65) | (25.40) |              |
| 30VM9073 | VEE | 9/16    | 0.125  | 2.62    | 1.31    | 0.81    | 1.56    | 1.12    | 2.88    | 3.00    | 1.00    | 0.28   | 5.49     | 0.69    | 0.38   | 1.50    |              |
| 30VM9083 | REG | (14.29) | (3.18) | (66.55) | (33.27) | (20.57) | (39.62) | (28.45) | (73.15) | (76.20) | (25.40) | (7.11) | (139.45) | (17.53) | (9.65) | (38.10) |              |

G - Packing gland mounting hole drill size  
G<sub>1</sub> - Bracket mounting hole size  
Panel mounting drill size: 0.22" all valves.

\* H Dimension is with stem in closed position.  
All dimensions for reference only and subject to change.

For prompt service, Parker Autoclave Engineers stock select products. Consult factory.



| Catalog Number | Stem Type | Outside Diameter Tube | Orifice Diameter | Dimensions - inches (mm) |   |   |   |                |   |   |   |                |    |   |   | Block Thickness | Valve Pattern |
|----------------|-----------|-----------------------|------------------|--------------------------|---|---|---|----------------|---|---|---|----------------|----|---|---|-----------------|---------------|
|                |           |                       |                  | A                        | B | C | D | D <sub>1</sub> | E | F | G | G <sub>1</sub> | H* | M | N |                 |               |

### 3-Way / 1 on Pressure

|          |     |         |        |         |         |         |         |  |         |         |         |        |          |         |        |         |              |
|----------|-----|---------|--------|---------|---------|---------|---------|--|---------|---------|---------|--------|----------|---------|--------|---------|--------------|
| 30VM4074 | VEE | 1/4     | 0.094  | 2.00    | 1.00    | 0.50    | 1.12    |  | 2.00    | 3.00    | 1.00    | 0.22   | 4.62     | 0.69    | 0.38   | 1.00    | See Figure 4 |
| 30VM4084 | REG | (6.35)  | (2.39) | (50.80) | (25.40) | (12.70) | (28.45) |  | (50.80) | (76.20) | (25.40) | (5.59) | (117.35) | (17.53) | (9.65) | (25.40) |              |
| 30VM6074 | VEE | 3/8     | 0.125  | 2.00    | 1.00    | 0.53    | 1.12    |  | 2.12    | 3.00    | 1.00    | 0.22   | 4.74     | 0.69    | 0.38   | 1.00    |              |
| 30VM6084 | REG | (9.53)  | (3.18) | (50.80) | (25.40) | (13.46) | (28.45) |  | (53.85) | (76.20) | (25.40) | (5.59) | (120.40) | (17.53) | (9.65) | (25.40) |              |
| 30VM9074 | VEE | 9/16    | 0.125  | 2.62    | 1.31    | 0.81    | 1.12    |  | 2.44    | 3.00    | 1.00    | 0.28   | 5.12     | 0.69    | 0.38   | 1.50    |              |
| 30VM9084 | REG | (14.29) | (3.18) | (66.55) | (33.27) | (20.57) | (28.45) |  | (61.98) | (76.20) | (25.40) | (7.11) | (130.05) | (17.53) | (9.65) | (38.10) |              |

### 2-Way Angle / Replaceable Seat

|          |     |         |        |         |         |         |         |         |         |         |         |        |          |         |        |         |              |
|----------|-----|---------|--------|---------|---------|---------|---------|---------|---------|---------|---------|--------|----------|---------|--------|---------|--------------|
| 30VM4872 | VEE | 1/4     | 0.094  | 2.00    | 1.00    | 0.50    | 1.12    | 2.06    | 2.38    | 3.00    | 1.00    | 0.22   | 5.80     | 0.69    | 0.38   | 1.00    | See Figure 5 |
| 30VM4882 | REG | (6.35)  | (2.39) | (50.80) | (25.40) | (12.70) | (28.45) | (52.32) | (60.45) | (76.20) | (25.40) | (5.59) | (147.32) | (17.53) | (9.65) | (25.40) |              |
| 30VM6872 | VEE | 3/8     | 0.125  | 2.00    | 1.00    | 0.53    | 1.12    | 2.31    | 2.38    | 3.00    | 1.00    | 0.22   | 6.05     | 0.69    | 0.38   | 1.00    |              |
| 30VM6882 | REG | (9.53)  | (3.18) | (50.80) | (25.40) | (13.46) | (28.45) | (58.67) | (60.45) | (76.20) | (25.40) | (5.59) | (153.67) | (17.53) | (9.65) | (25.40) |              |
| 30VM9872 | VEE | 9/16    | 0.125  | 2.62    | 1.31    | 0.81    | 1.19    | 2.62    | 2.44    | 3.00    | 1.00    | 0.28   | 6.45     | 0.69    | 0.38   | 1.50    |              |
| 30VM9882 | REG | (14.29) | (3.18) | (66.55) | (33.27) | (20.57) | (30.23) | (66.55) | (61.98) | (76.20) | (25.40) | (7.11) | (163.83) | (17.53) | (9.65) | (38.10) |              |

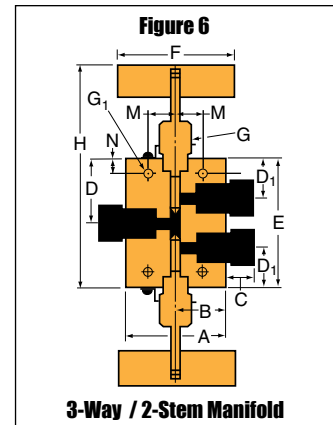
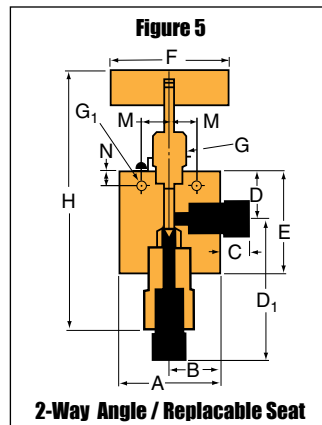
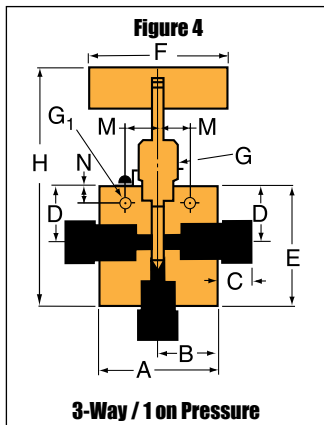
### 3-Way / 2-Stem Manifold

|          |     |         |        |         |         |         |         |         |         |         |         |        |          |         |        |         |              |
|----------|-----|---------|--------|---------|---------|---------|---------|---------|---------|---------|---------|--------|----------|---------|--------|---------|--------------|
| 30VM4075 | VEE | 1/4     | 0.094  | 2.00    | 1.00    | 0.50    | 1.53    | 1.12    | 3.06    | 3.00    | 1.00    | 0.22   | 5.68     | 0.69    | 0.38   | 1.00    | See Figure 6 |
| 30VM4085 | REG | (6.35)  | (2.39) | (50.80) | (25.40) | (12.70) | (38.86) | (28.45) | (77.72) | (76.20) | (25.40) | (5.59) | (144.27) | (17.53) | (9.65) | (25.40) |              |
| 30VM6075 | VEE | 3/8     | 0.125  | 2.00    | 1.00    | 0.53    | 1.62    | 1.12    | 3.25    | 3.00    | 1.00    | 0.22   | 5.87     | 0.69    | 0.38   | 1.00    |              |
| 30VM6085 | REG | (9.53)  | (3.18) | (50.80) | (25.40) | (13.46) | (41.15) | (28.45) | (82.55) | (76.20) | (25.40) | (5.59) | (149.10) | (17.53) | (9.65) | (25.40) |              |
| 30VM9075 | VEE | 9/16    | 0.125  | 2.62    | 1.31    | 0.81    | 1.88    | 1.12    | 3.75    | 3.00    | 1.00    | 0.28   | 6.37     | 0.69    | 0.38   | 1.50    |              |
| 30VM9085 | REG | (14.29) | (3.18) | (66.55) | (33.27) | (20.57) | (47.75) | (28.45) | (95.25) | (76.20) | (25.40) | (7.11) | (161.80) | (17.53) | (9.65) | (38.10) |              |

G - Packing gland mounting hole drill size  
G<sub>1</sub> - Bracket mounting hole size  
Panel mounting drill size: 0.22" all valves.

\* H Dimension is with stem in closed position.  
All dimensions for reference only and subject to change.

For prompt service, Parker Autoclave engineers stock select products. Consult factory.

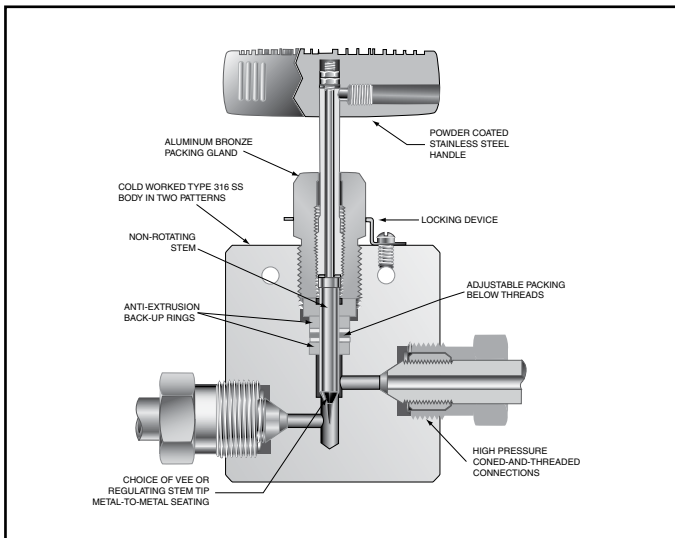


# Needle Valves - 40VM Series

Pressures to 40,000 psi (2760 bar)

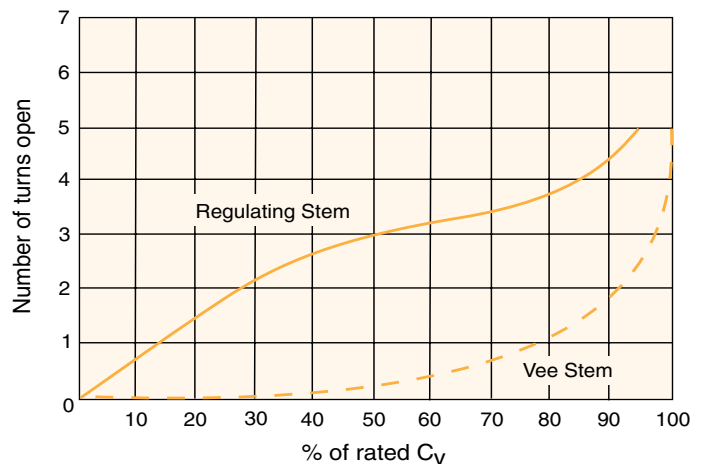
| Tube Outside Diameter Size Inches | Connection Type | Orifice Size Inches (mm) | Rated $C_V^*$ | Pressure Rating psi (bar) @ Room Temperature** |
|-----------------------------------|-----------------|--------------------------|---------------|--|
| 9/16                              | F562C40         | 0.109 (2.77)             | 0.28          | 40,000 (2760)                                  |

*Notes:*  
 \*  $C_V$  values shown are for 2-way straight valve pattern. For 2-way angle patterns, increase  $C_V$  value 50%.  
 \*\* For complete temperature ratings see pressure/temperature rating guide in Technical Information section.



To ensure proper fit use Autoclave tubing

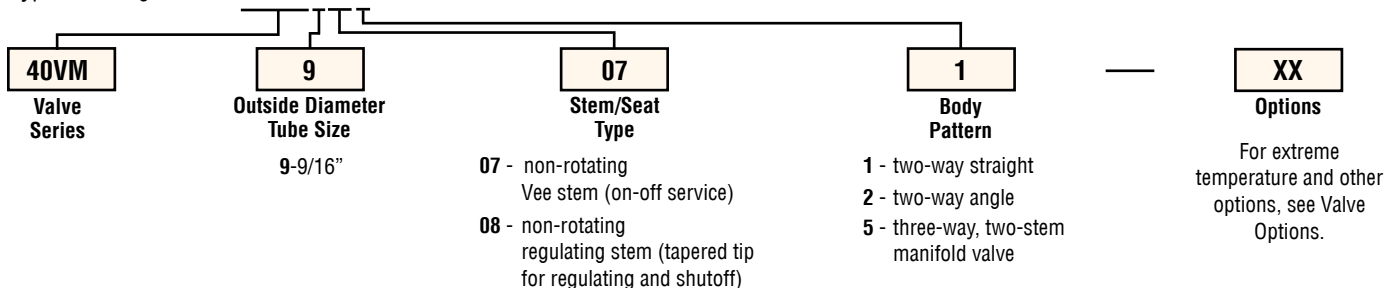
Generalized Flow Coefficient Curves ( $C_V$ )



## Ordering Procedure

For complete information on available stem types, optional connections and additional valve options, see Needle Valve Options Section or contact your Sales Representative. The 40VM Series valves are furnished complete with connection components, unless otherwise specified.

Typical catalog number: **40VM9071**





## Valve Options

### Extreme Temperatures

Standard Parker Autoclave Engineers valves with PTFE packing may be operated from 0°F (-17.8°C) to 450°F (232°C). High temperature packing is available for service from -423°F (-252°C) to 1200°F (649°C) by adding the following suffixes to catalog order number.

**TG** - standard valve with PTFE glass packing to 600°F (316°C). **See note below.**

**GY** - standard valve with graphite braided yarn packing to 800°F (427°C).

**HT** - extended stuffing box valve with graphite braided yarn packing to 1200°F (649°C).

**B** - standard valve with cryogenic trim material and PTFE packing to -100°F (-73°C).

**LT** - extended stuffing box valve with PTFE packing & Cryogenic trim materials to -423°F (-252°C).

**K** - anti-vibration collet and gland assembly.

**Note:** 40VM and 60VM valves supplied with Peak/PTFE Glass/Peek

## Valve Maintenance

**Repair Kits:** add "R" to the front of valve catalog number for proper repair kit.  
(Example: **R40VM9071**)

**Valve Bodies:** Valve bodies are available. Order using the eight (8) digit part number found in the valve drawing or contact your Sales Representative for information.

Consult your Parker Autoclave Engineers representative for pricing on repair kits and valve bodies. Refer to the Tools, Installation, Operation and Maintenance section for proper maintenance procedures.

| Catalog Number | Stem Type | Outside Diameter Tube | Orifice Diameter | Dimensions - inches (mm) |   |   |   |                |   |   |   |                |    |   |   | Block Thickness | Valve Pattern |
|----------------|-----------|-----------------------|------------------|--------------------------|---|---|---|----------------|---|---|---|----------------|----|---|---|-----------------|---------------|
|                |           |                       |                  | A                        | B | C | D | D <sub>1</sub> | E | F | G | G <sub>1</sub> | H* | M | N |                 |               |

### 2-Way Straight

|          |     |        |        |         |         |         |         |         |         |         |         |        |          |         |        |         |              |
|----------|-----|--------|--------|---------|---------|---------|---------|---------|---------|---------|---------|--------|----------|---------|--------|---------|--------------|
| 40VM9071 | VEE | 9/16   | 0.109  | 2.62    | 1.31    | 0.72    | 1.75    | 1.31    | 2.50    | 3.00    | 1.00    | 0.28   | 5.06     | 0.69    | 0.38   | 1.50    | See Figure 1 |
| 40VM9081 | REG | (14.3) | (2.77) | (66.55) | (33.27) | (18.29) | (44.45) | (33.27) | (63.50) | (76.20) | (25.40) | (7.11) | (128.52) | (17.53) | (9.65) | (38.10) |              |

### 2-Way Angle

|          |     |        |        |         |         |         |         |  |         |         |         |        |          |         |        |         |              |
|----------|-----|--------|--------|---------|---------|---------|---------|--|---------|---------|---------|--------|----------|---------|--------|---------|--------------|
| 40VM9072 | VEE | 9/16   | 0.109  | 2.62    | 1.31    | 0.72    | 1.31    |  | 2.81    | 3.00    | 1.00    | 0.28   | 5.37     | 0.69    | 0.38   | 1.50    | See Figure 2 |
| 40VM9082 | REG | (14.3) | (2.77) | (66.55) | (33.27) | (18.29) | (33.27) |  | (71.37) | (76.20) | (25.40) | (7.11) | (136.40) | (17.53) | (9.65) | (38.10) |              |

### 3-Way / 2 Stem Manifold

|          |     |        |        |         |         |         |         |         |          |         |         |        |          |         |        |         |              |
|----------|-----|--------|--------|---------|---------|---------|---------|---------|----------|---------|---------|--------|----------|---------|--------|---------|--------------|
| 40VM9075 | VEE | 9/16   | 0.109  | 2.62    | 1.31    | 0.72    | 2.06    | 1.31    | 4.12     | 3.00    | 1.00    | 0.28   | 6.59     | 0.69    | 0.38   | 1.50    | See Figure 3 |
| 40VM9085 | REG | (14.3) | (2.77) | (66.55) | (33.27) | (18.29) | (52.32) | (33.27) | (104.65) | (76.20) | (25.40) | (7.11) | (167.39) | (17.53) | (9.65) | (38.10) |              |

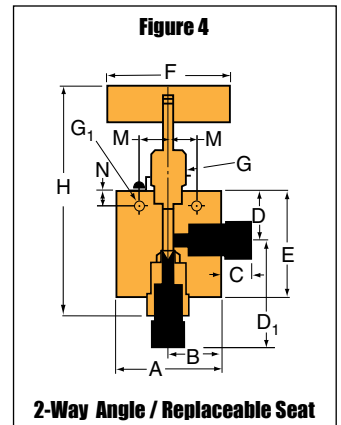
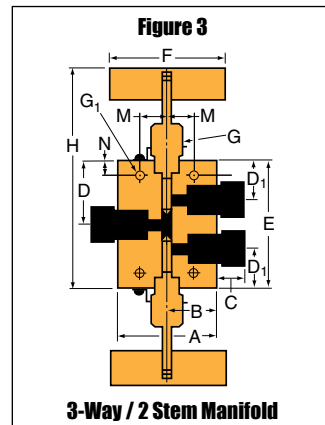
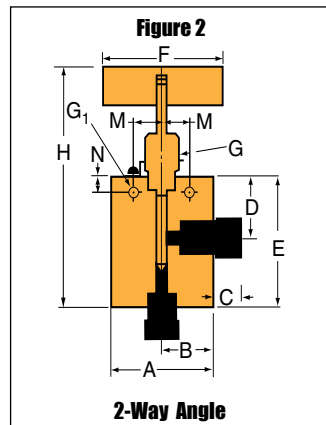
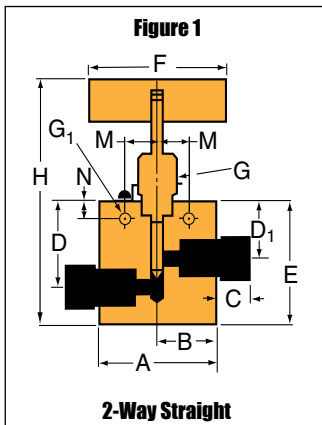
### 2-Way Angle / Replaceable Seat

|          |     |         |        |         |         |         |         |         |         |         |         |        |          |         |        |         |              |
|----------|-----|---------|--------|---------|---------|---------|---------|---------|---------|---------|---------|--------|----------|---------|--------|---------|--------------|
| 40VM9872 | VEE | 9/16    | 0.109  | 2.62    | 1.31    | 0.72    | 1.31    | 2.68    | 2.62    | 3.00    | 1.00    | 0.28   | 6.90     | 0.69    | 0.38   | 1.50    | See Figure 4 |
| 40VM9882 | REG | (14.29) | (2.77) | (66.55) | (33.27) | (18.29) | (33.27) | (68.07) | (66.55) | (76.20) | (25.40) | (7.11) | (175.26) | (17.53) | (9.65) | (38.10) |              |

G - Packing gland mounting hole drill size  
G<sub>1</sub> - Bracket mounting hole size  
Panel mounting drill size: 0.22" all valves.

\* H Dimension is with stem in closed position.  
All dimensions for reference only and subject to change.

For prompt service, Parker Autoclave Engineers stock select products. Consult factory.



# Needle Valves - 60VM Series

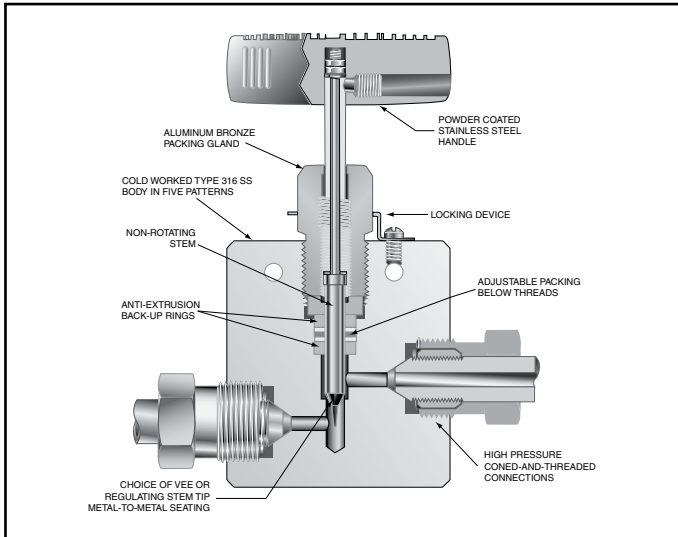
Pressures to 60,000 psi (4137 bar)

| Tube Outside Diameter Size Inches | Connection Type | Orifice Size Inches (mm) | Rated $C_V^*$ | Pressure Rating psi (bar) @ Room Temperature** |
|-----------------------------------|-----------------|--------------------------|---------------|--|
| 1/4                               | F250C           | 0.062 (1.57)             | 0.08          | 60,000 (4137)                                  |
| 3/8                               | F375C           | 0.062 (1.57)             | 0.09          | 60,000 (4137)                                  |
| 9/16                              | F562C           | 0.078 (1.98)             | 0.14          | 60,000 (4137)                                  |

**Notes:**

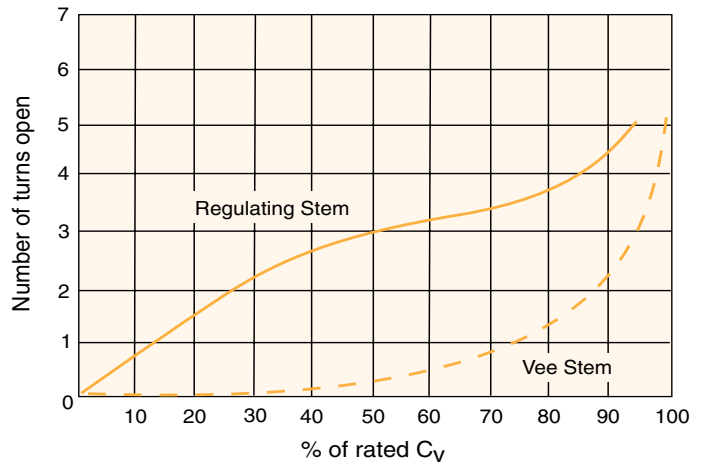
\*  $C_V$  values shown are for 2-way straight valve pattern. For 2-way angle patterns, increase  $C_V$  value 50%.

\*\* For complete temperature ratings see pressure/temperature rating guide in Technical Information section.



To ensure proper fit use Autoclave tubing

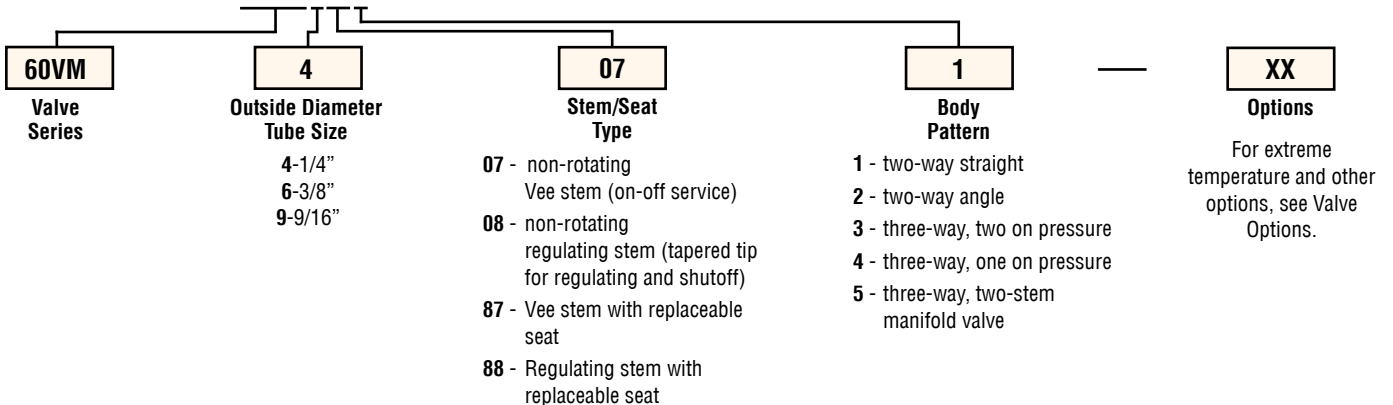
Generalized Flow Coefficient Curves ( $C_V$ )



## Ordering Procedure

For complete information on available stem types, optional connections and additional valve options, see Needle Valve Options section or contact your Sales Representative. The 60VM Series valves are furnished complete with connection components, unless otherwise specified.

Typical catalog number: **60VM4071**



## Valve Options

### Extreme Temperatures

Standard Parker Autoclave Engineers valves with PTFE packing may be operated from 0°F (-17.8°C) to 450°F (232°C). High temperature packing is available for service from -423°F (-252°C) to 1200°F (649°C) by adding the following suffixes to catalog order number.

**TG** - standard valve with PTFE glass packing to 600°F (316°C). **See note below.**

**GY** - standard valve with graphite braided yarn packing to 800°F (427°C).

**HT** - extended stuffing box valve with graphite braided yarn packing to 1200°F (649°C).

**B** - standard valve with cryogenic trim material and PTFE packing to -100°F (-73°C).

**LT** - extended stuffing box valve with PTFE packing & Cryogenic trim materials to -423°F (-252°C).

**K** - anti-vibration collet and gland assembly.

**Note:** 40VM and 60VM valves supplied with Peak/PTFE Glass/Peek

## Valve Maintenance

**Repair Kits:** add "R" to the front of valve catalog number for proper repair kit.  
(Example: **R60VM4071**)

**Valve Bodies:** Valve bodies are available. Order using the eight (8) digit part number found in the valve drawing or contact your Sales Representative for information.

Consult your Parker Autoclave Engineers representative for pricing on repair kits and valve bodies. Refer to the Tools, Installation, Operation and Maintenance section for proper maintenance procedures.

| Catalog Number | Stem Type | Outside Diameter Tube | Orifice Diameter | Dimensions - inches (mm) |   |   |   |                |   |   |   |                |    |   | Block Thickness | Valve Pattern |
|----------------|-----------|-----------------------|------------------|--------------------------|---|---|---|----------------|---|---|---|----------------|----|---|-----------------|---------------|
|                |           |                       |                  | A                        | B | C | D | D <sub>1</sub> | E | F | G | G <sub>1</sub> | H* | M |                 |               |

### 2-Way Straight

|          |     |         |        |         |         |         |         |         |         |         |         |        |          |         |        |         |              |
|----------|-----|---------|--------|---------|---------|---------|---------|---------|---------|---------|---------|--------|----------|---------|--------|---------|--------------|
| 60VM4071 | VEE | 1/4     | 0.062  | 2.00    | 1.00    | 0.50    | 1.69    | 1.31    | 2.12    | 3.00    | 1.00    | 0.22   | 4.75     | 0.69    | 0.38   | 1.00    | See Figure 1 |
| 60VM4081 | REG | (6.35)  | (1.57) | (50.80) | (25.40) | (12.70) | (42.93) | (33.27) | (53.85) | (76.20) | (25.40) | (5.59) | (120.65) | (17.53) | (9.65) | (25.40) |              |
| 60VM6071 | VEE | 3/8     | 0.062  | 2.00    | 1.00    | 0.53    | 1.69    | 1.31    | 2.25    | 3.00    | 1.00    | 0.22   | 4.87     | 0.69    | 0.38   | 1.00    |              |
| 60VM6081 | REG | (9.53)  | (1.57) | (50.80) | (25.40) | (13.46) | (42.93) | (33.27) | (57.15) | (76.20) | (25.40) | (5.59) | (123.70) | (17.53) | (9.65) | (25.40) |              |
| 60VM9071 | VEE | 9/16    | 0.078  | 2.62    | 1.31    | 0.72    | 1.75    | 1.31    | 2.50    | 3.00    | 1.00    | 0.28   | 5.13     | 0.69    | 0.38   | 1.50    |              |
| 60VM9081 | REG | (14.29) | (1.98) | (66.55) | (33.27) | (18.29) | (45.45) | (33.27) | (63.50) | (76.20) | (25.40) | (7.11) | (130.30) | (17.53) | (9.65) | (38.10) |              |

### 2-Way Angle

|          |     |         |        |         |         |         |         |  |         |         |         |        |          |         |        |         |              |
|----------|-----|---------|--------|---------|---------|---------|---------|--|---------|---------|---------|--------|----------|---------|--------|---------|--------------|
| 60VM4072 | VEE | 1/4     | 0.062  | 2.00    | 1.00    | 0.50    | 1.31    |  | 2.38    | 3.00    | 1.00    | 0.22   | 5.00     | 0.69    | 0.38   | 1.00    | See Figure 2 |
| 60VM4082 | REG | (6.35)  | (1.57) | (50.80) | (25.40) | (12.70) | (33.27) |  | (60.45) | (76.20) | (25.40) | (5.59) | (127.00) | (17.53) | (9.65) | (25.40) |              |
| 60VM6072 | VEE | 3/8     | 0.062  | 2.00    | 1.00    | 0.53    | 1.31    |  | 2.62    | 3.00    | 1.00    | 0.22   | 5.25     | 0.69    | 0.38   | 1.00    |              |
| 60VM6082 | REG | (9.53)  | (1.57) | (50.80) | (25.40) | (13.46) | (33.27) |  | (66.55) | (76.20) | (25.40) | (5.59) | (133.35) | (17.53) | (9.65) | (25.40) |              |
| 60VM9072 | VEE | 9/16    | 0.078  | 2.62    | 1.31    | 0.72    | 1.31    |  | 2.81    | 3.00    | 1.00    | 0.28   | 5.44     | 0.69    | 0.38   | 1.50    |              |
| 60VM9082 | REG | (14.29) | (1.98) | (66.55) | (33.27) | (18.29) | (33.27) |  | (71.37) | (76.20) | (25.40) | (7.11) | (138.18) | (17.53) | (9.65) | (38.10) |              |

### 3-Way / 2 on Pressure

|          |     |         |        |         |         |         |         |         |         |         |         |        |          |         |        |         |              |
|----------|-----|---------|--------|---------|---------|---------|---------|---------|---------|---------|---------|--------|----------|---------|--------|---------|--------------|
| 60VM4073 | VEE | 1/4     | 0.062  | 2.00    | 1.00    | 0.50    | 1.69    | 1.31    | 2.38    | 3.00    | 1.00    | 0.22   | 4.75     | 0.69    | 0.38   | 1.00    | See Figure 3 |
| 60VM4083 | REG | (6.35)  | (1.57) | (50.80) | (25.40) | (12.70) | (42.93) | (33.27) | (60.45) | (76.20) | (25.40) | (5.59) | (120.65) | (17.53) | (9.65) | (25.40) |              |
| 60VM6073 | VEE | 3/8     | 0.062  | 2.00    | 1.00    | 0.53    | 1.69    | 1.31    | 2.75    | 3.00    | 1.00    | 0.22   | 4.87     | 0.69    | 0.38   | 1.00    |              |
| 60VM6083 | REG | (9.53)  | (1.57) | (50.80) | (25.40) | (13.46) | (42.93) | (33.27) | (68.86) | (76.20) | (25.40) | (5.59) | (123.70) | (17.53) | (9.65) | (25.40) |              |
| 60VM9073 | VEE | 9/16    | 0.078  | 2.62    | 1.31    | 0.72    | 1.75    | 1.31    | 3.03    | 3.00    | 1.00    | 0.28   | 5.13     | 0.69    | 0.38   | 1.50    |              |
| 60VM9083 | REG | (14.29) | (1.98) | (66.55) | (33.27) | (18.29) | (45.45) | (33.27) | (76.96) | (76.20) | (25.40) | (7.11) | (130.30) | (17.53) | (9.65) | (38.10) |              |

G - Packing gland mounting hole drill size

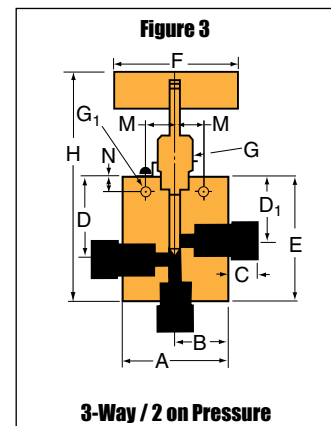
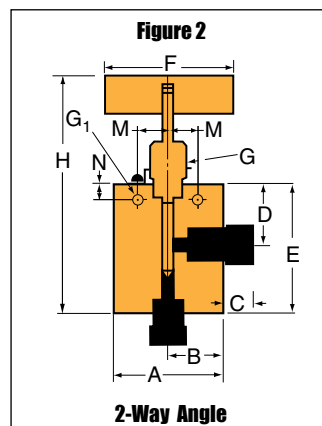
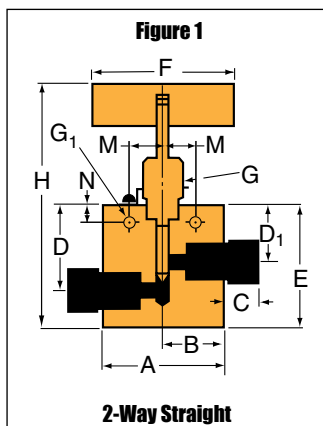
G<sub>1</sub> - Bracket mounting hole size

Panel mounting drill size: 0.22" all valves.

\* H Dimension is with stem in closed position.

All dimensions for reference only and subject to change.

**For prompt service, Parker Autoclave Engineers stock select products. Consult factory.**



| Catalog Number | Stem Type | Outside Diameter Tube | Orifice Diameter | Dimensions - inches (mm) |   |   |   |                |   |   |   |                |    |   |   | Block Thickness | Valve Pattern |
|----------------|-----------|-----------------------|------------------|--------------------------|---|---|---|----------------|---|---|---|----------------|----|---|---|-----------------|---------------|
|                |           |                       |                  | A                        | B | C | D | D <sub>1</sub> | E | F | G | G <sub>1</sub> | H* | M | N |                 |               |

### 3-Way / 1 on Pressure

|          |     |         |        |         |         |         |         |  |         |         |         |        |          |         |        |         |              |
|----------|-----|---------|--------|---------|---------|---------|---------|--|---------|---------|---------|--------|----------|---------|--------|---------|--------------|
| 60VM4074 | VEE | 1/4     | 0.062  | 2.00    | 1.00    | 0.50    | 1.31    |  | 2.38    | 3.00    | 1.00    | 0.22   | 5.00     | 0.69    | 0.38   | 1.00    | See Figure 4 |
| 60VM4084 | REG | (6.35)  | (1.57) | (50.80) | (25.40) | (12.70) | (33.27) |  | (60.45) | (76.20) | (25.40) | (5.59) | (127.00) | (17.53) | (9.65) | (25.40) |              |
| 60VM6074 | VEE | 3/8     | 0.062  | 2.00    | 1.00    | 0.53    | 1.31    |  | 2.62    | 3.00    | 1.00    | 0.22   | 5.25     | 0.69    | 0.38   | 1.00    |              |
| 60VM6084 | REG | (9.53)  | (1.57) | (50.80) | (25.40) | (13.46) | (33.27) |  | (66.55) | (76.20) | (25.40) | (5.59) | (133.35) | (17.53) | (9.65) | (25.40) |              |
| 60VM9074 | VEE | 9/16    | 0.078  | 2.62    | 1.31    | 0.72    | 1.31    |  | 2.81    | 3.00    | 1.00    | 0.28   | 5.44     | 0.69    | 0.38   | 1.50    |              |
| 60VM9084 | REG | (14.29) | (1.98) | (66.55) | (33.27) | (18.29) | (33.27) |  | (71.37) | (76.20) | (25.40) | (7.11) | (138.18) | (17.53) | (9.65) | (38.10) |              |

### 2-Way Angle / Replaceable Seat

|          |     |         |        |         |         |         |         |         |         |         |         |        |          |         |        |         |              |
|----------|-----|---------|--------|---------|---------|---------|---------|---------|---------|---------|---------|--------|----------|---------|--------|---------|--------------|
| 60VM4872 | VEE | 1/4     | 0.062  | 2.00    | 1.00    | 0.50    | 1.31    | 2.12    | 2.62    | 3.00    | 1.00    | 0.22   | 6.28     | 0.69    | 0.38   | 1.00    | See Figure 5 |
| 60VM4882 | REG | (6.35)  | (1.57) | (50.80) | (25.40) | (12.70) | (33.27) | (53.85) | (66.55) | (76.20) | (25.40) | (5.59) | (159.51) | (17.53) | (9.65) | (25.40) |              |
| 60VM6872 | VEE | 3/8     | 0.062  | 2.00    | 1.00    | 0.53    | 1.31    | 2.36    | 2.62    | 3.00    | 1.00    | 0.22   | 6.52     | 0.69    | 0.38   | 1.00    |              |
| 60VM6882 | REG | (9.53)  | (1.57) | (50.80) | (25.40) | (13.46) | (33.27) | (59.94) | (66.55) | (76.20) | (25.40) | (5.59) | (165.60) | (17.53) | (9.65) | (25.40) |              |
| 60VM9872 | VEE | 9/16    | 0.078  | 2.62    | 1.31    | 0.72    | 1.31    | 2.68    | 2.62    | 3.00    | 1.00    | 0.28   | 6.90     | 0.69    | 0.38   | 1.50    |              |
| 60VM9882 | REG | (14.29) | (1.98) | (66.55) | (33.27) | (18.29) | (33.27) | (68.07) | (66.55) | (76.20) | (25.40) | (7.11) | (175.26) | (17.53) | (9.65) | (38.10) |              |

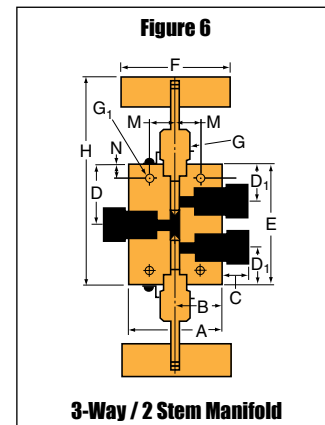
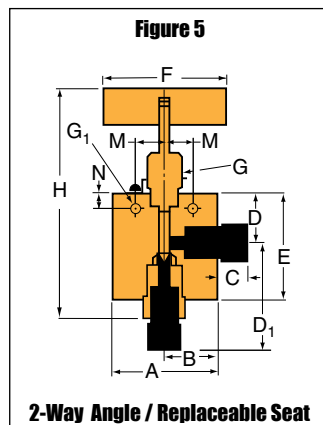
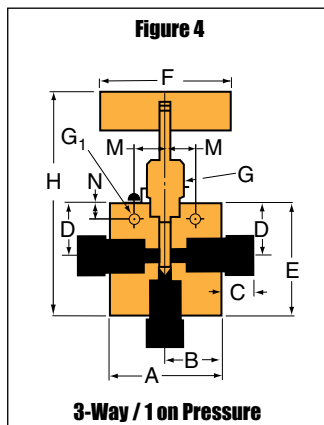
### 3-Way / 2-Stem Manifold

|          |     |         |        |         |         |         |         |         |          |         |         |        |          |         |        |         |              |
|----------|-----|---------|--------|---------|---------|---------|---------|---------|----------|---------|---------|--------|----------|---------|--------|---------|--------------|
| 60VM4075 | VEE | 1/4     | 0.062  | 2.00    | 1.00    | 0.50    | 1.72    | 1.31    | 3.44     | 3.00    | 1.00    | 0.22   | 6.07     | 0.69    | 0.38   | 1.00    | See Figure 6 |
| 60VM4085 | REG | (6.35)  | (1.57) | (50.80) | (25.40) | (12.70) | (43.69) | (33.27) | (87.38)  | (76.20) | (25.40) | (5.59) | (154.18) | (17.53) | (9.65) | (25.40) |              |
| 60VM6075 | VEE | 3/8     | 0.062  | 2.00    | 1.00    | 0.53    | 1.88    | 1.31    | 3.75     | 3.00    | 1.00    | 0.22   | 6.37     | 0.69    | 0.38   | 1.00    |              |
| 60VM6085 | REG | (9.53)  | (1.57) | (50.80) | (25.40) | (13.46) | (47.75) | (33.27) | (95.25)  | (76.20) | (25.40) | (5.59) | (161.80) | (17.53) | (9.65) | (25.40) |              |
| 60VM9075 | VEE | 9/16    | 0.078  | 2.62    | 1.31    | 0.72    | 2.06    | 1.31    | 4.12     | 3.00    | 1.00    | 0.28   | 6.37     | 0.69    | 0.38   | 1.50    |              |
| 60VM9085 | REG | (14.29) | (1.98) | (66.55) | (33.27) | (18.29) | (52.32) | (33.27) | (104.65) | (76.20) | (25.40) | (7.11) | (161.80) | (17.53) | (9.65) | (38.10) |              |

G - Packing gland mounting hole drill size  
G<sub>1</sub> - Bracket mounting hole size  
Panel mounting drill size: 0.22" all valves.

\* H Dimension is with stem in closed position.  
All dimensions for reference only and subject to change.

For prompt service, Parker  
Autoclave Engineers stock  
select products.  
Consult factory.

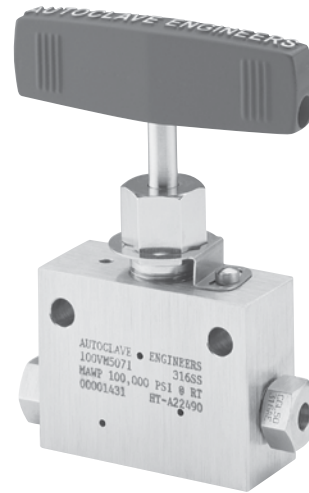


# Needle Valves - 100VM & 150V Series

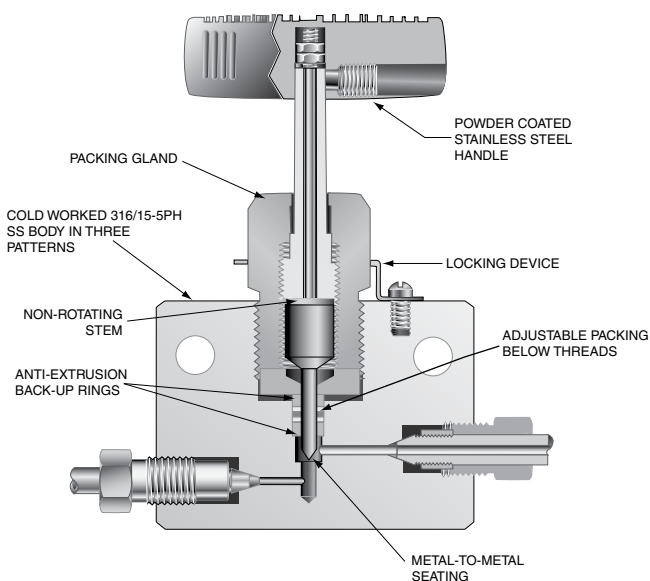
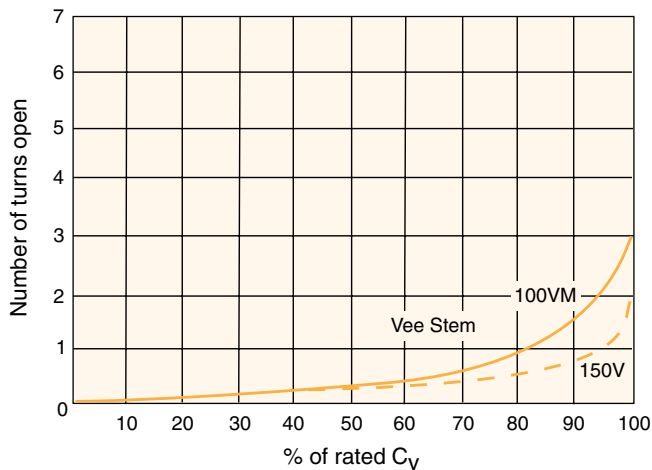
Pressures to 150,000 psi (10350 bar)

| Tube Outside Diameter Size Inches | Connection Type | Orifice Size Inches (mm) | Rated $C_V$ * | Pressure Rating psi (bar) @ Room Temperature** |
|-----------------------------------|-----------------|--------------------------|---------------|--|
| Series 100VM                      |                 |                          |               |  |
| 1/4, 5/16, 3/8                    | F312C150        | 0.062 (1.57)             | .09           | 100,000 (6895)                                 |
| Series 150V                       |                 |                          |               |  |
| 5/16                              | F312C150        | 0.062 (1.57)             | .06           | 150,000 (10342)                                |

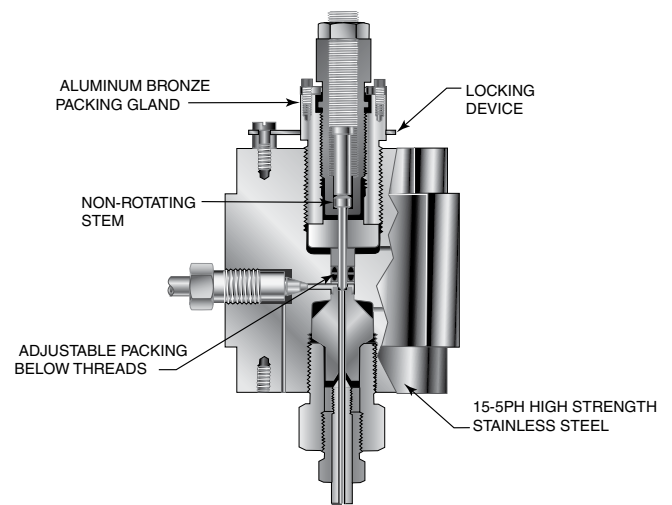
**Notes:**  
 \*  $C_V$  values shown are for 2-way straight valve pattern. For 2-way angle patterns, increase  $C_V$  value 50%.  
 \*\* For complete temperature ratings see pressure/temperature rating guide in Technical Information section.



Generalized Flow Coefficient Curves ( $C_V$ )



100VM Series



150V Series

Notes: Torque wrench required to operate valves.

To ensure proper fit use Autoclave tubing

## Ordering Procedure

For complete information on available stem types, optional connections and additional valve options, see Needle Valve Options section or contact your Sales Representative. The 100V Series valves are furnished complete with connection components, unless otherwise specified.

Typical catalog number: **100VM5071**

| 100VM         | 5                             | 07   | 1   | XX   |
|---------------|-------------------------------|--|---|--|
| Valve Series  | Outside Diameter Tube Size    | Stem Type  | Body Pattern  | Options  |
| 100VM<br>150V | *4-1/4"<br>5-5/16"<br>*6-3/8" | 07 - non-rotating<br>Vee stem (on off service)<br>08 - non-rotating regulating<br>stem (tapered tip for<br>regulating shutoff) | 1 - two-way straight<br>2 - two-way angle<br>3 - three-way, two on pressure | For extreme<br>temperature and other<br>options, see Valve<br>Options. |

\* Note: 1/4" and 3/8" for 100VM only.

## Valve Options

### Extreme Temperatures

Standard Parker Autoclave Engineers valves with PTFE packing may be operated to 450°F (232°C), and to 230°F (110°C) with nylon-leather packing.

**K** - anti-vibration collet and gland assembly.

For other packing options consult the factory.

## Valve Maintenance

Repair Kits: add "R" to the front of valve catalog number for proper repair kit.  
(Example: **R100VM15071**)

Valve Bodies: Valve bodies are available. Order using the eight (8) digit part number found in the valve drawing or contact your Sales Representative for information.

Consult your Parker Autoclave Engineers representative for pricing on repair kits and valve bodies. Refer to the Tools, Installation, Operation and Maintenance section for proper maintenance procedures.

| Catalog Number | Stem Type | Outside Diameter Tube | Orifice Diameter | Dimensions - inches (mm) |   |   |   |                |   |   |   |                |    |   | Block Thickness | Valve Pattern |
|----------------|-----------|-----------------------|------------------|--------------------------|---|---|---|----------------|---|---|---|----------------|----|---|-----------------|---------------|
|                |           |                       |                  | A                        | B | C | D | D <sub>1</sub> | E | F | G | G <sub>1</sub> | H* | M |                 |               |

### 2-Way Straight

|           |     |              |       |         |         |         |         |         |         |          |         |        |          |         |         |         |              |
|-----------|-----|--------------|-------|---------|---------|---------|---------|---------|---------|----------|---------|--------|----------|---------|---------|---------|--------------|
| 100VM4071 | VEE | 1/4" (6.35)  | 0.062 | 3.00    | 1.50    | 0.52    | 1.75    | 1.44    | 2.25    | 4.00     | 1.12    | 0.34   | 5.32     | 1.12    | 0.50    | 1.38    | See Figure 1 |
| 100VM5071 |     | 5/16" (7.93) |       | (76.20) | (38.10) | (13.21) | (44.45) | (36.58) | (57.15) | (101.60) | (28.45) | (8.64) | (135.13) | (28.45) | (12.70) | (35.05) |              |
| 100VM6071 |     | 3/8" (9.53)  |       | (1.57)  |         |         |         |         |         |          |         |        |          |         |         |         |              |

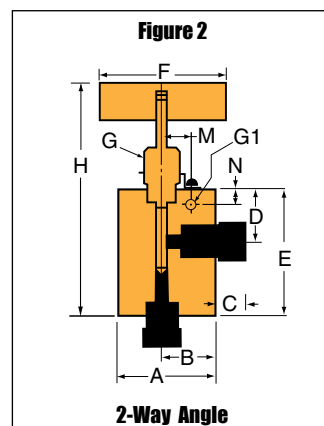
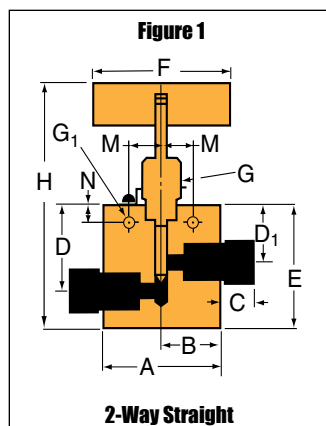
### 2-Way Angle

|           |     |              |       |         |         |         |         |  |         |          |         |        |          |         |         |         |              |
|-----------|-----|--------------|-------|---------|---------|---------|---------|--|---------|----------|---------|--------|----------|---------|---------|---------|--------------|
| 100VM4072 | VEE | 1/4" (6.35)  | 0.062 | 2.25    | 1.50    | 0.52    | 1.44    |  | 3.00    | 4.00     | 1.12    | 0.34   | 6.05     | 0.94    | 0.50    | 1.38    | See Figure 2 |
| 100VM5072 |     | 5/16" (7.93) |       | (57.15) | (38.10) | (13.21) | (36.58) |  | (76.20) | (101.60) | (28.45) | (8.64) | (153.67) | (23.88) | (12.70) | (35.05) |              |
| 100VM6072 |     | 3/8" (9.53)  |       | (1.57)  |         |         |         |  |         |          |         |        |          |         |         |         |              |

G - Packing gland mounting hole drill size  
G<sub>1</sub> - Bracket mounting hole size  
Panel mounting drill size: 0.22" all valves.

\* H Dimension is with stem in closed position.  
All dimensions for reference only and subject to change.

For prompt service, Parker Autoclave Engineers stock select products. Consult factory.



| Catalog Number | Stem Type | Outside Diameter Tube | Orifice Diameter | Dimensions - inches (mm) |   |   |   |                |   |   |   |                |    |   |   | Block Thickness | Valve Pattern |
|----------------|-----------|-----------------------|------------------|--------------------------|---|---|---|----------------|---|---|---|----------------|----|---|---|-----------------|---------------|
|                |           |                       |                  | A                        | B | C | D | D <sub>1</sub> | E | F | G | G <sub>1</sub> | H* | M | N |                 |               |

### 3-Way / 2 on Pressure

|           |     |              |        |         |         |         |         |         |         |          |         |        |          |         |         |         |              |
|-----------|-----|--------------|--------|---------|---------|---------|---------|---------|---------|----------|---------|--------|----------|---------|---------|---------|--------------|
| 100VM4073 | VEE | 1/4" (6.35)  | 0.062  | 3.00    | 1.50    | 0.52    | 1.75    | 1.44    | 3.25    | 4.00     | 1.12    | 0.34   | 6.31     | 1.12    | 0.50    | 1.38    | See Figure 3 |
| 100VM5073 |     | 5/16" (7.93) |        | (76.20) | (38.10) | (13.21) | (44.45) | (36.58) | (82.55) | (101.60) | (28.45) | (8.64) | (160.27) | (28.45) | (12.70) | (35.05) |              |
| 100VM6073 |     | 3/8" (9.53)  | (1.57) |         |         |         |         |         |         |          |         |        |          |         |         |         |              |

### 2-Way Angle/Replaceable Seat

|           |     |              |        |         |         |         |  |         |         |          |         |        |          |         |         |         |              |
|-----------|-----|--------------|--------|---------|---------|---------|--|---------|---------|----------|---------|--------|----------|---------|---------|---------|--------------|
| 100VM4872 | VEE | 1/4" (6.35)  | 0.062  | 2.25    | 1.50    | 0.52    |  | 1.44    | 3.00    | 4.00     | 1.12    | 0.34   | 7.57     | 0.94    | 0.50    | 1.38    | See Figure 4 |
| 100VM5872 |     | 5/16" (7.93) |        | (57.15) | (38.10) | (13.21) |  | (36.58) | (76.20) | (101.60) | (28.45) | (8.64) | (192.30) | (23.88) | (12.70) | (35.05) |              |
| 100VM6872 |     | 3/8" (9.53)  | (1.57) |         |         |         |  |         |         |          |         |        |          |         |         |         |              |

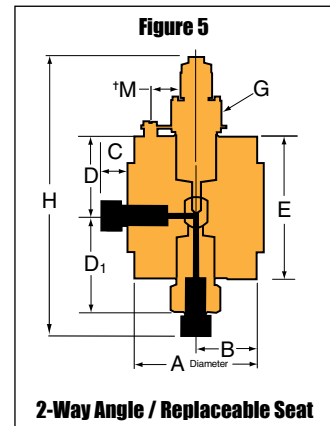
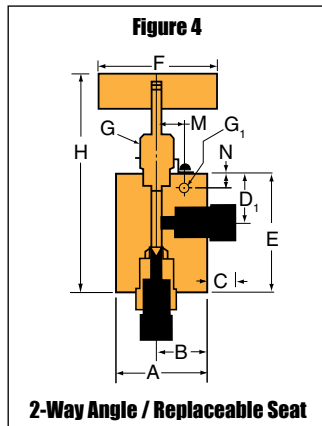
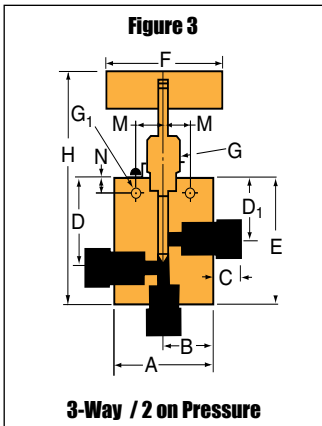
### 2-Way Angle / Replaceable Seat

|          |     |        |        |         |         |         |         |         |          |  |         |  |          |         |  |  |              |
|----------|-----|--------|--------|---------|---------|---------|---------|---------|----------|--|---------|--|----------|---------|--|--|--------------|
| 150V5072 | VEE | 5/16   | 0.062  | 3.75    | 1.88    | .052    | 2.25    | 2.63    | 4.00     |  | 1.650   |  | 7.12     | 1.25*   |  |  | See Figure 5 |
|          |     | (7.93) | (1.57) | (95.25) | (47.63) | (13.21) | (57.15) | (66.80) | (101.60) |  | (41.91) |  | (180.85) | (31.75) |  |  |              |

G - Packing gland mounting hole drill size  
G<sub>1</sub> - Bracket mounting hole size  
Panel mounting drill size: 0.22" all valves.  
See mounting note below for 150V series.

\* H Dimension is with stem in closed position.  
All dimensions for reference only and subject to change.

For prompt service, Parker Autoclave Engineers stock select products.  
Consult factory.



\* (2) 1/4"-20 mounting holes 180° apart and (1) locking device screw 90° apart