

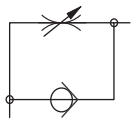
Flow Controls

Unique Inch to Metric Combinations

- Inch Sizes: #10-32, 1/8NPTF, 1/4NPTF
- Metric Sizes: M5, G1/8, G1/4
- #10-32 valves available with a space saving integral barb for 1/8" I.D. tubing.
- Meter Out style valves can be factory installed to your Compact Automation cylinders, guided cylinders, gripper, etc... at no extra charge. See Factory Installed below.

3 Flow Paths

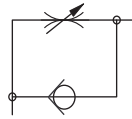
Style "MO" Meter Out



- Metered Output
- Free Flow Input



Style "MI" Meter In



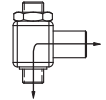
- Metered Input
- Free Flow Output



Style "NV" Needle Valve Meter Both Ways



- Metered Input
- Metered Output



Precision Control

- A unique needle design minimizes turbulence and improves flow control ability.
- A super fine pitch needle thread provides the finest adjustment available.
- Captive needle cannot be adjusted out of the housing.

| Sizes | Needle Pitch | Number of Turns |
|---------|--------------|-----------------|
| # 10-32 | 80 TPI | 6 |
| M5 x .8 | .32mm | |
| 1/8NPTF | 60 TPI | 8 |
| G1/8 | .42mm | |
| 1/4NPTF | 56 TPI | 8 |
| G1/4 | .45mm | |

Model Numbers*

| Port Thread | "MO" Color Code: Black | | | "MI" Color Code: Red | | | "NV" Color Code: Silver | | |
|--------------------|------------------------|-------------|---------------|----------------------|-------------|---------------|-------------------------|-------------|---------------|
| | Model # | Male Thread | Female Thread | Model # | Male Thread | Female Thread | Model # | Male Thread | Female Thread |
| # 10-32 M5 | MO10 | # 10-32 | # 10-32 | MI10 | # 10-32 | # 10-32 | NV10 | # 10-32 | # 10-32 |
| | MO5 | M5 | M5 | MI5 | M5 | M5 | NV5 | M5 | M5 |
| | MO10-5 | # 10-32 | M5 | MI10-5 | # 10-32 | M5 | NV10-5 | # 10-32 | M5 |
| | MO10B | M5 | # 10-32 | MI5-10 | M5 | # 10-32 | NV5-10 | M5 | # 10-32 |
| | MO10B | # 10-32 | 1/8" barb | MI10B | # 10-32 | 1/8" barb | NV10B | # 10-32 | 1/8" barb |
| 1/8-27NPTF G1/8 | MO5B | M5 | 1/8" barb | MI5B | M5 | 1/8" barb | NV5B | M5 | 1/8" barb |
| | MO18 | 1/8NPTF | 1/8NPTF | MI18 | 1/8NPTF | 1/8NPTF | NV18 | 1/8NPTF | 1/8NPTF |
| | MOG18 | G1/8 | G1/8 | MIG18 | G1/8 | G1/8 | NVG18 | G1/8 | G1/8 |
| | MO18-G18 | 1/8NPTF | G1/8 | MI18-G18 | 1/8NPTF | G1/8 | NV18-G18 | 1/8NPTF | G1/8 |
| 1/4-18NPTF G1/4 | MOG18-18 | G1/8 | 1/8NPTF | MIG18-18 | G1/8 | 1/8NPTF | NVG18-18 | G1/8 | 1/8NPTF |
| | MO14 | 1/4NPTF | 1/4NPTF | MI14 | 1/4NPTF | 1/4NPTF | NV14 | 1/4NPTF | 1/4NPTF |
| | MOG14 | G1/4 | G1/4 | MIG14 | G1/4 | G1/4 | NVG14 | G1/4 | G1/4 |
| | MO14-G14 | 1/4NPTF | G1/4 | MI14-G14 | 1/4NPTF | G1/4 | NV14-G14 | 1/4NPTF | G1/4 |
| | MOG14-14 | G1/4 | 1/4NPTF | MIG14-14 | G1/4 | 1/4NPTF | NVG14-14 | G1/4 | 1/4NPTF |

NPTF = National Pipe Thread Dry Seal (1/8NPTF and 1/4 NPTF)

"G" = BSPP British Standard Pipe Parallel (G1/8 and G1/4)

1/8" Barb is for 1/8" ID polyurethane or vinyl tubing

* = All model numbers are available with the Knob Option, add suffix "K" to the end of the part number.

Factory Installed

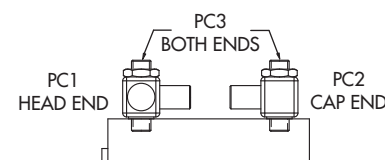
Compact Automation Products will factory install any "MO" model flow control at no charge.

How to Order:

- 1.) Verify "MO" model number required from the chart above.
- 2.) Choose factory installation: "PC1" Head end only, "PC2" Cap end only, "PC 3" Head and cap end
- 3.) Remove "MO" from model number and add "PC" option to the end

Factory Installed part number example: G18-18PC3

Flow control required: MOG18-18
Install at: head and cap end PC3
(Remove MO add PC3 to end)



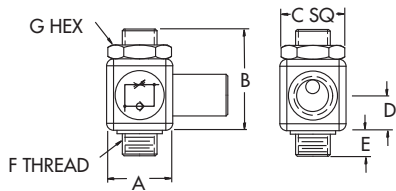
Specify our unique Inch to Metric or Metric to Inch combination flow controls factory installed to convert cylinder ports.

For example, metric cylinder part number WS25x25 - G18-18PC3 would place two metered output flow controls on the cylinder and allow for the use of 1/8-27 NPTF fittings.

Flow Controls

Dimension Information Minimum body length for two part controls - 7/8"

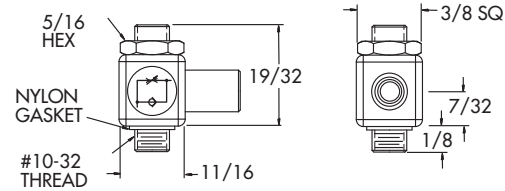
Inch Version



| Model # | A | B | C | D | E | F | G |
|---|-------|-------|-------|------|-----|-------------|-------|
| MO10 MI10 NV10 | 5/8 | 19/32 | 13/8 | 7/32 | 1/8 | # 10-32 | 5/16 |
| MO18 MI18 NV18 | 1.0 | 1.9 | 9/16 | .40 | .18 | 1/8-27 NPTF | 9/16 |
| MO14 MI14 NV14 | 1-1/8 | 1.2 | 11/16 | .50 | .23 | 1/4-18 NPTF | 11/16 |

Barb Fitting for #10-32 or M5 only

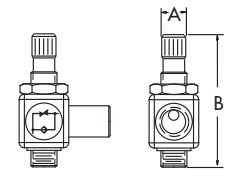
#10-32 or M5 Male to Barb for 1/8" I.D. tubing



| Model Number Examples | MO10B | MI10B | NV10B |
|-----------------------|-------|-------|-------|
| | MO5B | MI5B | NV5B |

Knob Option Available with any valve

Inch Version



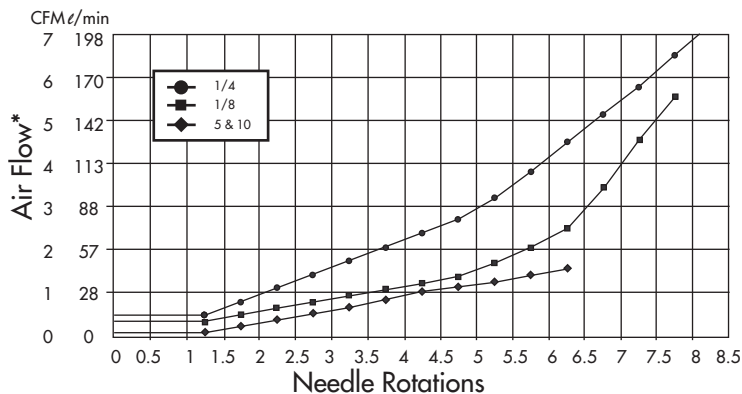
Combination

Important Note

The combination units with Inch and Metric threads are modular versions of both drawings.

| Model Number | MO10K MI10K NV10K | MO18K MI18K NV18K | MO14K MI14K NV14K |
|--------------|-------------------------|-------------------------|-------------------------|
| A | 5/32 | 15/64 | 19/64 |
| B (max.) | 29/32 | 1-5/16 | 1-5/8 |

Flow Chart



* at 60 PSI (4.1 BAR) and 60°F (15°C)

Cv Factor

Cv = Volume of water in gallons at 60°F (15°C) that will flow per minute through the valve with a pressure differential of 1 PSI across the valve.

| Style | Flow Direction (Fully open) | # 10-32 M5 | 1/8-27 G1/8 | 1/4-18 G1/4 |
|-----------|-----------------------------|---------------|----------------|----------------|
| MO | Free Cv | .08 | .25 | .42 |
| | Metered Cv | .05 | .20 | .38 |
| MI | Free Cv | .07 | .23 | .40 |
| | Metered Cv | .06 | .22 | .39 |
| NV | Metered Cv | .05 | .24 | .38 |

Materials and Technical Data

| Size | Housing | Inner Housing | Needle | Seals | Pressure Ratings | Captive Needle | 360° Swivel | Gasket Material |
|-------------|---------------------|---------------------|-----------------|---|-----------------------------|----------------|---|--|
| M5 # 10-32 | Nickel Plated Brass | Nickel Plated Brass | Stainless Steel | Buna-N 0°F to 200°F -15°C to 90°C | 0 to 175 PSI 0 to 12 BAR | Yes | Yes- Prior to tightening 1/8NPTF and 1/4NPTF swivel after mounting | Nylon 0°F to 200°F -15°C to 90°C |
| 1/8 and 1/4 | Anodized Aluminum | | | | | | | |