

# pneuforce.com®

# VALVES



The N2V Series of direct acting poppet valves are available in both a 2-way and 3-way configuration.

The exhaust port of the N2V035 valves is a 10-32UNF (M5) thread in the top of the solenoid stem.

N

2V

025

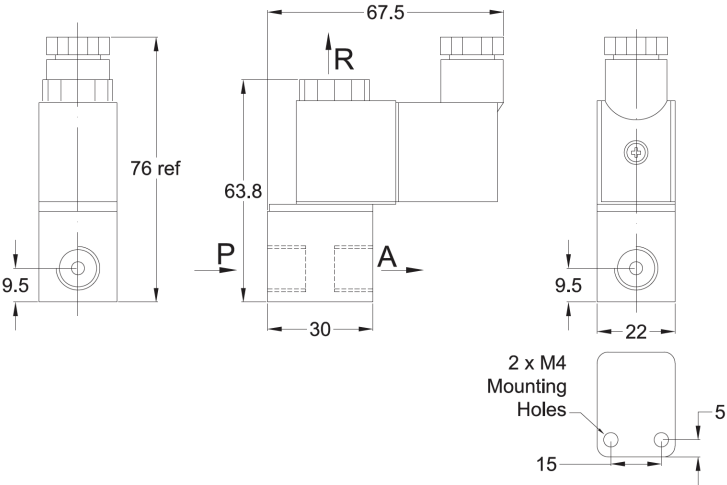
06

24VDC

| Thread Type |      | Valve Series |  | Valve Type |       | Valve Type |     | Coil Voltage |  |
|-------------|------|--------------|--|------------|-------|------------|-----|--------------|--|
|             | BSPP |              |  | 025        | 2-way | 06         | 1/8 |              |  |
| N           | NPT  |              |  | 035        | 3-way | 08         | 1/4 |              |  |



| Dimension                          | N2V025-06-24VDC                                                        | N2V025-08-24VDC | N2V035-06-24VDC | N2V035-06-24VDC |
|------------------------------------|------------------------------------------------------------------------|-----------------|-----------------|-----------------|
| Valve Type                         |                                                                        |                 |                 |                 |
| Port Sizes                         | 1/8                                                                    | 1/4             | 1/8             | 1/4             |
| Cv                                 | 0.23                                                                   |                 | 0.05            |                 |
| Orifice Size                       | Ø2.5mm                                                                 |                 | Ø1.0mm          |                 |
| Working Pressure                   | 100bar(a) to 7bar(g) / 28" Hg to 115psi(g)                             |                 |                 |                 |
| Working Medium                     | Air                                                                    |                 |                 |                 |
| Ambient Temperature                | -5°C - +80°C / 23°F - 176°F                                            |                 |                 |                 |
| Working Temperature                | 5°C - +60°C / 41°F - 140°F (no freezing)                               |                 |                 |                 |
| Cycle rate                         | 10 cycles/sec                                                          |                 |                 |                 |
| Coil Insulation & Protection Class | F Class, IP65 (CE Certification)                                       |                 |                 |                 |
| Coil Duty Cycle                    | 100% ED                                                                |                 |                 |                 |
| Power Consumption                  | AC: 6.5VA DC: 6.5W                                                     |                 |                 |                 |
| Voltage Range                      | +/- 10%                                                                |                 |                 |                 |
| Reaction Time                      | 0.05 sec                                                               |                 |                 |                 |
| Electrical Connection              | D = Form B DIN (LED indicator) or W = Flying Lead Coil (18" Lead Wire) |                 |                 |                 |
| Body Material                      | Hard Anodized Aluminum                                                 |                 |                 |                 |



The N2W series of brass process valves have been designed for general industry. These valves are developed with a coupled diaphragm and therefore can be used without a media pressure differential such as vacuum duty or very low air pressure applications.

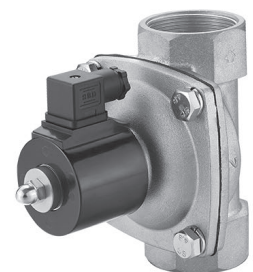
Supplied with a DIN43650 Form A coil these simple and robust valves offer the user unparalleled performance via the over sized orifices. Port sizes from 3/8NPT to 2NPT available.

N2W models are brass and N2S are stainless steel.

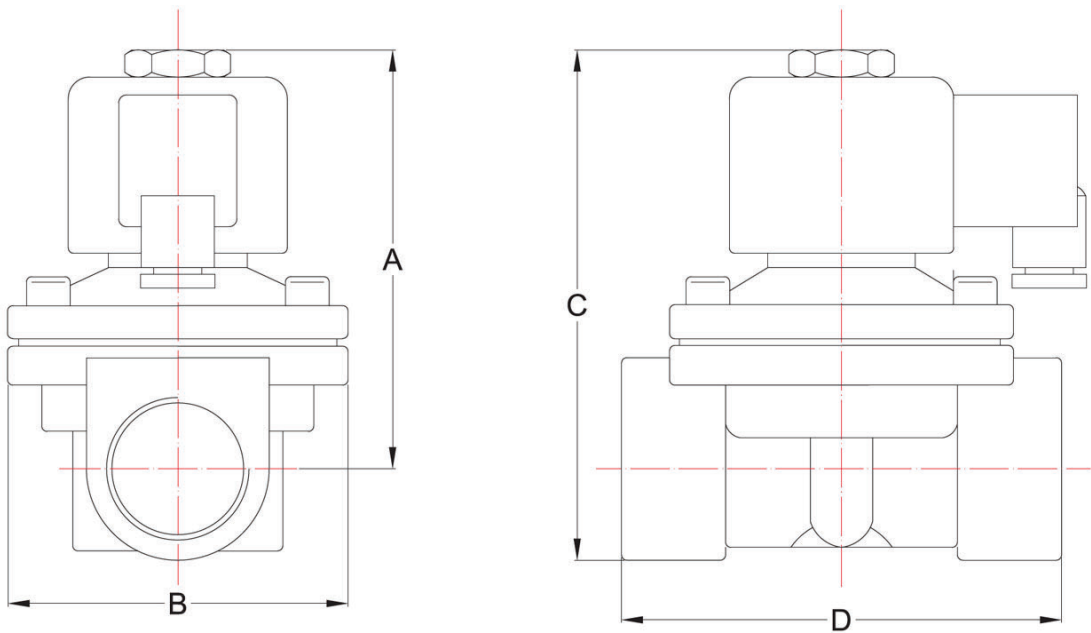


| N           |      | 2W         |       | 160       | 15        | 24VDC        |
|-------------|------|------------|-------|-----------|-----------|--------------|
| Thread Type |      | Valve Body |       | Body Size | Port Size | Coil Voltage |
|             | BSPP | W          | Brass | 160       | 10 3/8    |              |
| N           | NPT  | S          | SS    | 200       | 15 1/2    |              |
|             |      |            |       | 250       | 20 3/4    |              |
|             |      |            |       | 350       | 25 1      |              |
|             |      |            |       | 400       | 35 1 1/4  |              |
|             |      |            |       | 500       | 40 1 1/2  |              |
|             |      |            |       |           | 50 2      |              |

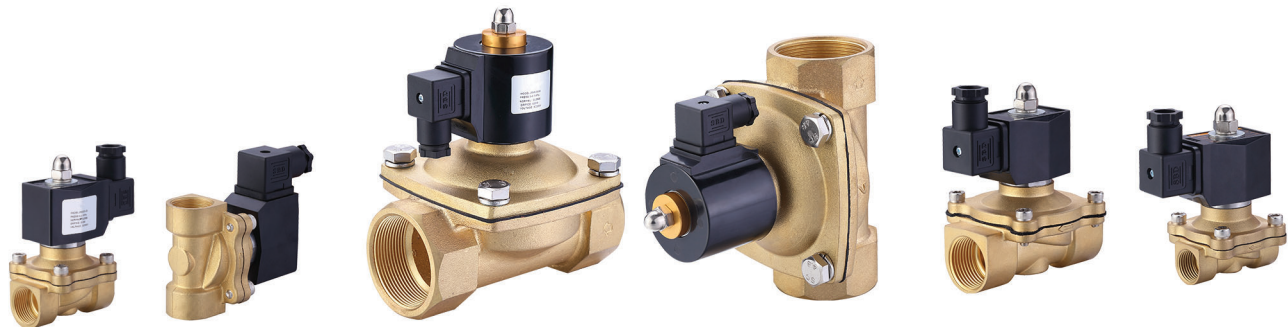
| Dimension               | *2*160-10                                                                                | *2*160-15 | *2*200-20 | *2*250-25 | *2*350-35 | *2*400-40 | *2*500-50 |
|-------------------------|------------------------------------------------------------------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|
| Valve Type              | 2-Way Normally Closed NC                                                                 |           |           |           |           |           |           |
| Orifice Size Ø (mm)     | 16                                                                                       |           | 20        | 25        | 35        | 40        | 50        |
| Cv                      | 4.8                                                                                      |           | 7.6       | 12        | 24        | 29        | 48        |
| Working Pressure        | 0-10bar(g) / 0-150psi(g) 110 & 220VAC Coil 0-8bar(g) / 0-120psi(g) 12/24VDC & 24VAC Coil |           |           |           |           |           |           |
| Working Medium          | Air, Vacuum, Steam and Water                                                             |           |           |           |           |           |           |
| Operating Temperature   | -10 to 80°C / 14 to 176°F NBR Seal   -15 to 120°C / 5 to 248°F Viton Seal                |           |           |           |           |           |           |
| Coil & Protection Class | H Class IP65                                                                             |           |           |           |           |           |           |
| Seal Material           | NBR (Viton Option - please inquire)                                                      |           |           |           |           |           |           |
| Power Consumption       | 14W @ <100psi   20W @ <150psi                                                            |           |           |           |           |           |           |
| Coil Duty               | 100%                                                                                     |           |           |           |           |           |           |
| Electrical Connection   | Form A DIN Connector                                                                     |           |           |           |           |           |           |



DIMENSIONS (mm)



| Model    | Port Size | Cv  | A   | B   | C   | D   | E    | F    | Weight |      |      |
|----------|-----------|-----|-----|-----|-----|-----|------|------|--------|------|------|
| 2*160-10 | 3/8       | 4.8 | 102 | 57  | 117 | 69  | 36   | 56   | 1.6    |      |      |
| 2*160-15 | 1/2       | 4.8 |     |     | 124 | 73  |      |      | 99     | 63.5 | 66.5 |
| 2*200-20 | 3/4       | 7.6 | 107 |     |     |     |      |      |        |      |      |
| 2*250-25 | 1         | 12  | 112 | 74  | 135 | 99  | 63.5 | 66.5 | 3.2    |      |      |
| 2*350-35 | 1 1/4     | 24  | 142 | 95  | 172 | 123 |      |      | 5.7    |      |      |
| 2*400-40 | 1 1/2     | 29  |     |     |     |     |      |      |        |      |      |
| 2*500-50 | 2         | 48  | 172 | 123 | 209 | 168 |      |      |        |      |      |





- Stainless steel and brass body models
- Pneumatic pilot operation
- Normally closed and normally open models
- Single acting and double acting options
- Available in BSPP & NPT threads & Flange
- Port sizes up to 2 1/2"



**G**

| Connection Type |             |
|-----------------|-------------|
| G               | BSPP        |
| N               | NPT         |
| DN              | Flange      |
| BL              | Bolt Flange |

**ASV**

Model Series

**15**

| Orifice (mm) |
|--------------|
| 15           |
| 20           |
| 25           |
| 35           |
| 40           |
| 50           |
| 65           |

**S**

| Body Material |                 |
|---------------|-----------------|
| B             | Brass           |
| S             | Stainless Steel |

**1**

| Actuation |               |
|-----------|---------------|
| 1         | Single Acting |
| 2         | Double Acting |

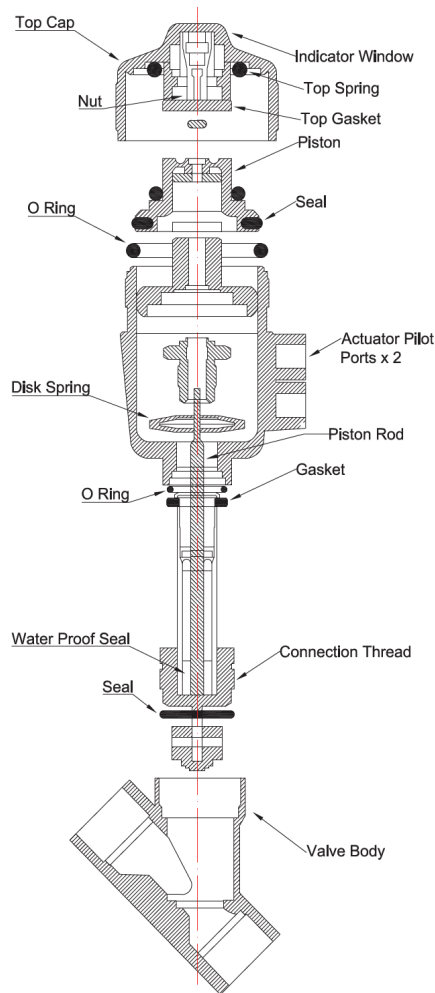
**NC**

| Type |                 |
|------|-----------------|
| NC   | Normally Closed |
| NO   | Normally Open   |

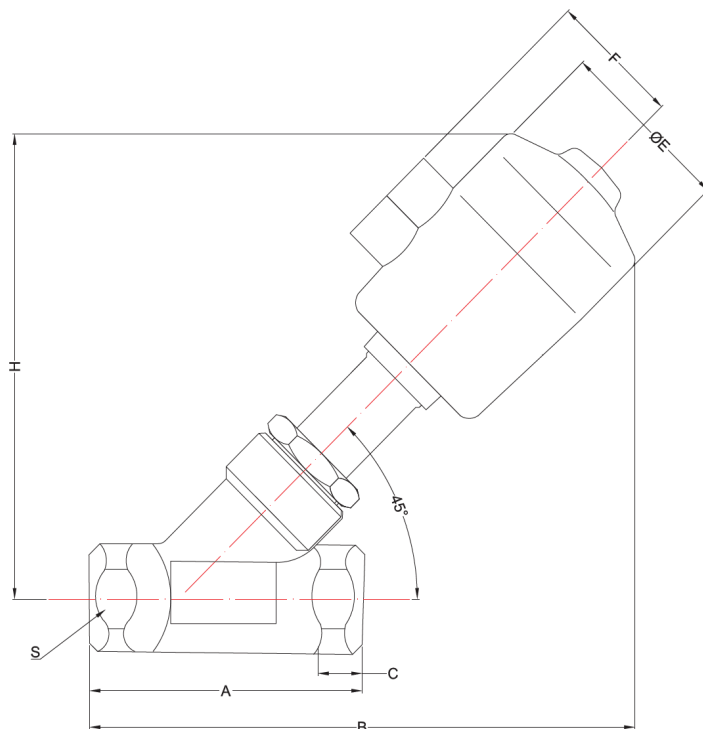
## SPECIFICATIONS

| Orifice (mm) | Thread | Flow m³/hr / CFM | Max Working Pressure bar / psi | Min Operating Pressure bar / psi | Medium Temperature          |
|--------------|--------|------------------|--------------------------------|----------------------------------|-----------------------------|
| 15           | 1/2"   | 4.2 / 2.5        | 16 / 240                       | 0.39 / 5.9                       | -10 to 180°C<br>14 to 356°F |
| 20           | 3/4"   | 8 / 4.7          | 11 / 165                       |                                  |                             |
| 25           | 1"     | 19 / 11.2        |                                | 0.42 / 6.3                       |                             |
| 35           | 1 1/4" | 28 / 16.5        | 15 / 225                       | 0.5 / 7.5                        |                             |
| 40           | 1 1/2" | 42 / 25          | 12.5 / 188                     | 0.44 / 6.6                       |                             |
| 50           | 2"     | 55 / 32.5        | 10 / 150                       | 0.4 / 6                          |                             |
| 65           | 2 1/2" | 65 / 38.5        |                                |                                  |                             |

INTERNAL STRUCTURE

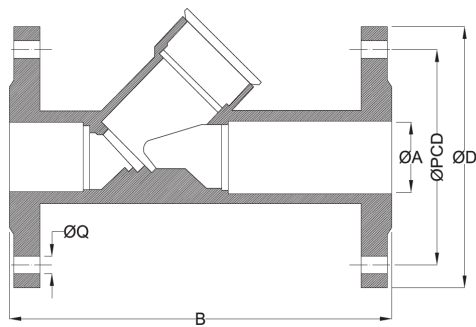


DIMENSIONS



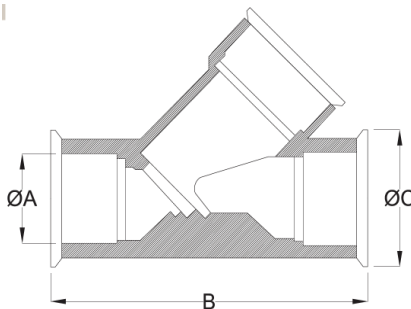
| Orifice (mm) | Port D | A   | B   | C  | ØE  | F  | H   | S  |
|--------------|--------|-----|-----|----|-----|----|-----|----|
| 15           | 1/2"   | 85  | 173 | 12 | 64  | 44 | 137 | 27 |
| 20           | 3/4"   | 95  | 178 |    |     |    | 145 | 32 |
| 25           | 1"     | 105 | 212 | 14 | 80  | 52 | 173 | 41 |
| 32           | 1 1/4" | 118 | 236 | 16 |     |    | 189 | 55 |
| 40           | 1 1/2" | 130 | 230 | 18 |     |    | 250 | 70 |
| 50           | 2"     | 150 | 238 | 20 | 100 | 62 | 265 | 80 |
| 65           | 2 1/2" | 155 | 300 | 25 | 125 |    | 265 | 80 |

BL FLANGE MODELS



| Orifice (mm) | ØA | B   | PCD x 4 | ØQ |
|--------------|----|-----|---------|----|
| DN15         | 19 | 130 | 65      | 14 |
| DN20         | 25 | 150 | 75      |    |
| DN25         | 32 | 160 | 85      |    |
| DN32         | 38 | 180 | 100     | 18 |
| DN40         | 45 | 200 | 110     |    |
| DN40         | 57 | 230 | 125     |    |
| DN65         | 68 | 290 | 145     |    |

DN FLANGE MODELS



| Orifice (mm) | ØA | B   | ØC    |
|--------------|----|-----|-------|
| DN15         | 19 | 120 | 50.50 |
| DN20         | 25 | 130 |       |
| DN25         | 32 | 140 |       |
| DN32         | 38 | 150 |       |
| DN40         | 45 | 180 | 64    |
| DN40         | 57 | 195 |       |
| DN65         | 68 | 230 | 77    |

# N4A & N4V

## 100 Series Spool Valves

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- Solenoid valve uses new design with piston reset for improved reliability, functionality and life.
- Spool passage has a Ra0.1 surface finish for smooth spool movement and extended O ring life.
- HNBR Spool seals
- 5/2 and 5/3 way models
- Pilot actuator models (N4A) available upon request

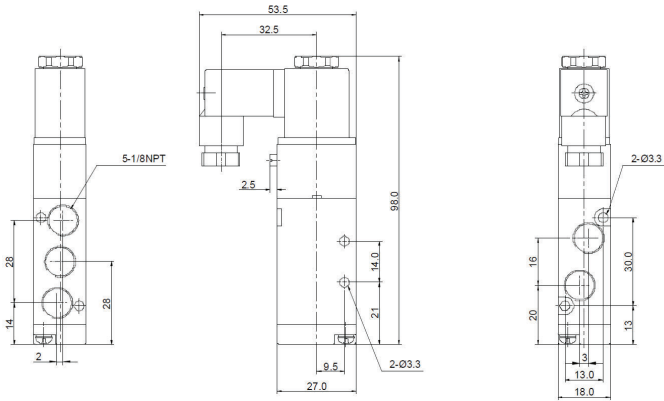
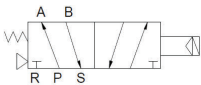


| N4V         |          | 1         | 10              | -                           | 06        | -   | 24VDC   |
|-------------|----------|-----------|-----------------|-----------------------------|-----------|-----|---------|
| Series Type |          | Body Size | Valve Port Size |                             | Port Size |     | Voltage |
| N4V         | Solenoid |           | 10              | Single Actuator 5/2         | 06        | 1/8 | 12VDC   |
|             |          |           | 20              | Double Actuator 5/2         |           |     | 24VDC   |
|             |          |           | 30C             | Double Coil Center Closed   |           |     | 24VAC   |
|             |          |           | 30E             | Double Coil Center Exhaust  |           |     | 110VAC  |
|             |          |           | 30P             | Double Coil Center Pressure |           |     | 230VAC  |

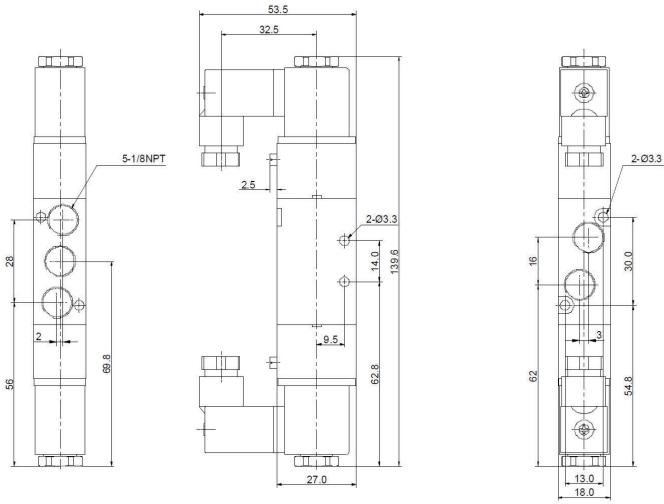
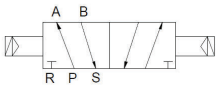
| Valve Model         | N4A110-06                                  | N4A120-06 | N4A130C-06   | N4A130E-06 | N4A130P-06 |
|---------------------|--------------------------------------------|-----------|--------------|------------|------------|
|                     | N4V110-06                                  | N4V120-06 | N4V130C-06   | N4V130E-06 | N4V130P-06 |
| Valve Type          | 5/2                                        |           | 5/3          |            |            |
| Orifice and Cv      | 12mm²   0.67Cv                             |           | 9mm²   0.5Cv |            |            |
| Port Size           | Inlet, Exhaust and Signal Ports all 1/8NPT |           |              |            |            |
| Working Medium      | 40 Micron Filtered Air                     |           |              |            |            |
| Operation           | Internal Pilot                             |           |              |            |            |
| Working Pressure    | 1.5-8bar (g)   22 - 120psi                 |           |              |            |            |
| Test Pressure       | 12bar(g)   180psi                          |           |              |            |            |
| Ambient Temperature | -20°C to 70°C   -4°F to 160°F              |           |              |            |            |
| Solenoid Tolerance  | DC +/-10% AC +/-15%                        |           |              |            |            |
| Power Consumption   | DC 2.5W AC 2.5VA                           |           |              |            |            |
| Insulation          | Class F IP65                               |           |              |            |            |
| Coil Connection     | DIN Connector Form C                       |           |              |            |            |
| Cycle Rate          | 5/sec                                      |           |              |            |            |
| Response Time       | 0.05sec                                    |           |              |            |            |

DIMENSIONS (mm)

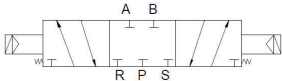
N4V110-06



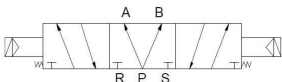
N4V120-06



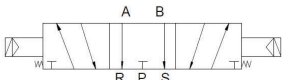
N4V130-06



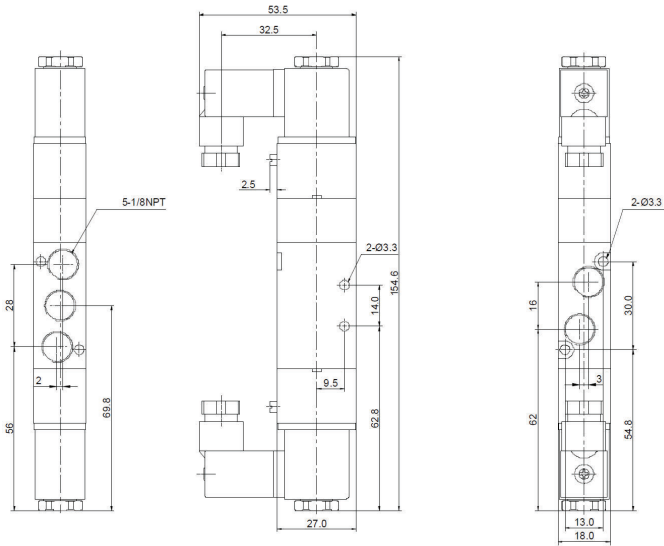
30C



30E



30P





# N4A & N4V

## 200 Series Spool Valves

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- Solenoid valve uses new design with piston reset for improved reliability, functionality and life.
- Spool passage has a Ra0.1 surface finish for smooth spool movement and extended O ring life.
- HNBR Spool seals
- 5/2 and 5/3 way models
- Pilot actuator models (N4A) available upon request

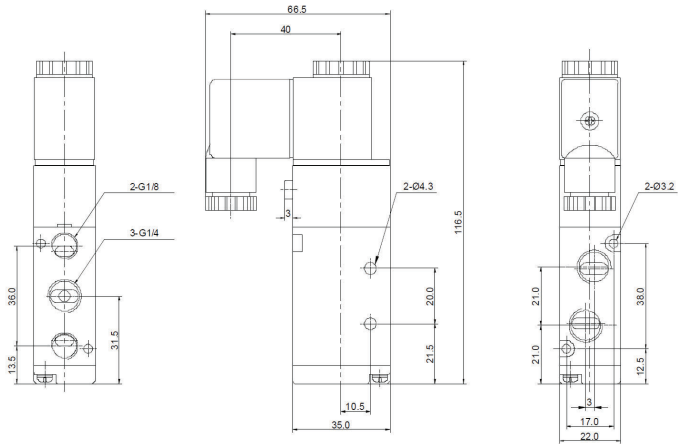
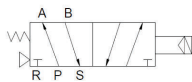


| N4V         |          | 2         | 10              | -                           | 08        | -   | 24VDC   |
|-------------|----------|-----------|-----------------|-----------------------------|-----------|-----|---------|
| Series Type |          | Body Size | Valve Port Size |                             | Port Size |     | Voltage |
| N4V         | Solenoid |           | 10              | Single Actuator 5/2         | 08        | 1/4 | 12VDC   |
| N4A         | Pilot    |           | 20              | Double Actuator 5/2         |           |     | 24VDC   |
|             |          |           | 30C             | Double Coil Center Closed   |           |     | 24VAC   |
|             |          |           | 30E             | Double Coil Center Exhaust  |           |     | 110VAC  |
|             |          |           | 30P             | Double Coil Center Pressure |           |     | 230VAC  |

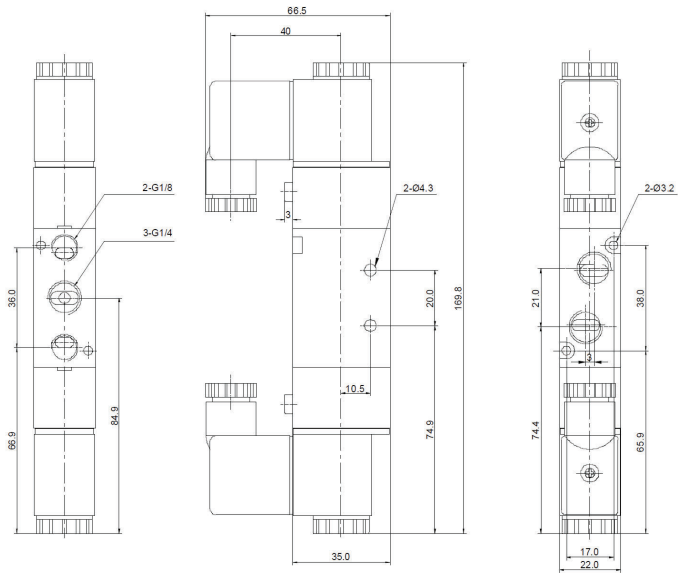
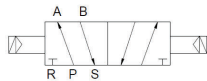
| Valve Model         | N4A210-08                                         | N4A220-08 | N4A230C-08     | N4A230E-08 | N4A230P-08 |
|---------------------|---------------------------------------------------|-----------|----------------|------------|------------|
|                     | N4V210-08                                         | N4V220-08 | N4V230C-08     | N4V230E-08 | N4V230P-08 |
| Valve Type          | 5/2                                               |           | 5/3            |            |            |
| Orifice and Cv      | 16mm²   0.89Cv                                    |           | 12mm²   0.67Cv |            |            |
| Port Size           | Inlet and Signal Ports all 1/4NPT, Exhaust 1/8NPT |           |                |            |            |
| Working Medium      | 40 Micron Filtered Air                            |           |                |            |            |
| Operation           | Internal Pilot                                    |           |                |            |            |
| Working Pressure    | 1.5-8bar (g)   22 - 120psi                        |           |                |            |            |
| Test Pressure       | 12bar(g)   180psi                                 |           |                |            |            |
| Ambient Temperature | -20°C to 70°C   -4°F to 160°F                     |           |                |            |            |
| Solenoid Tolerance  | DC +/-10% AC +/-15%                               |           |                |            |            |
| Power Consumption   | DC 2.5W AC 2.5VA                                  |           |                |            |            |
| Insulation          | Class F IP65                                      |           |                |            |            |
| Coil Connection     | DIN Connector Form C                              |           |                |            |            |
| Cycle Rate          | 5/sec                                             |           |                |            |            |
| Response Time       | 0.05sec                                           |           |                |            |            |

DIMENSIONS (mm)

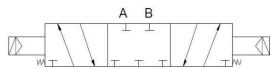
N4V210-06



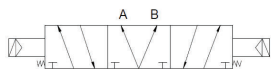
N4V220-06



N4V230-06



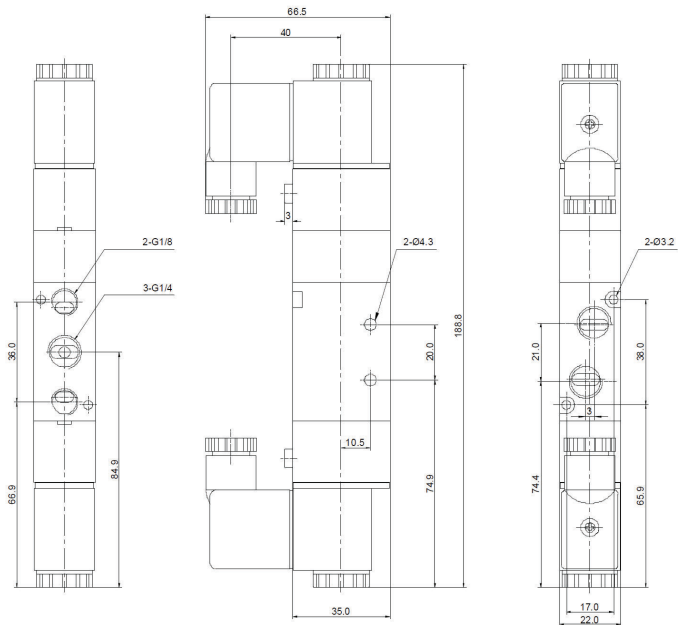
30C



30E



30P



# N4A & N4V

## 300 Series Spool Valves

**pneuforce.com** 

- Solenoid valve uses new design with piston reset for improved reliability, functionality and life.
- Spool passage has a Ra0.1 surface finish for smooth spool movement and extended O ring life.
- HNBR Spool seals
- 5/2 and 5/3 way models
- Pilot actuator models (N4A) available upon request

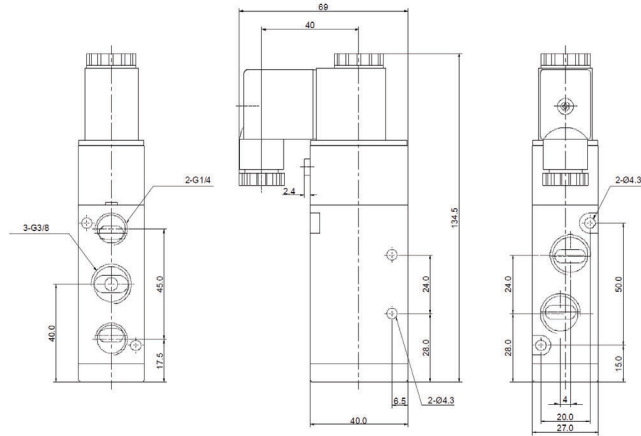
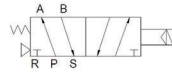


| N4V         |          | 3         | 10              |                             | -         | 10  | -       | 24VDC |
|-------------|----------|-----------|-----------------|-----------------------------|-----------|-----|---------|-------|
| Series Type |          | Body Size | Valve Port Size |                             | Port Size |     | Voltage |       |
| N4V         | Solenoid |           | 10              | Single Actuator 5/2         | 10        | 3/8 | 12VDC   |       |
| N4A         | Pilot    |           | 20              | Double Actuator 5/2         |           |     | 24VDC   |       |
|             |          |           | 30C             | Double Coil Center Closed   |           |     | 24VAC   |       |
|             |          |           | 30E             | Double Coil Center Exhaust  |           |     | 110VAC  |       |
|             |          |           | 30P             | Double Coil Center Pressure |           |     | 230VAC  |       |

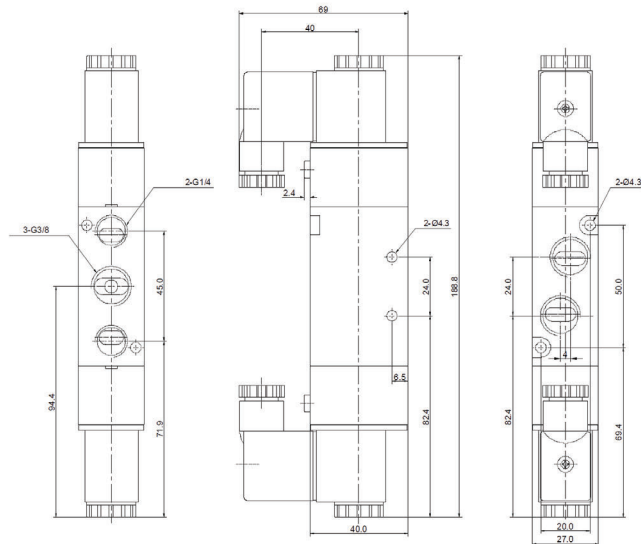
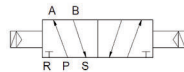
| Valve Model         | N4A310-10                                         | N4A320-10 | N4A330C-10     | N4A330E-10 | N4A330P-10 |
|---------------------|---------------------------------------------------|-----------|----------------|------------|------------|
|                     | N4V310-10                                         | N4V320-10 | N4V330C-10     | N4V330E-10 | N4V330P-10 |
| Valve Type          | 5/2                                               |           | 5/3            |            |            |
| Orifice and Cv      | 25mm²   1.40Cv                                    |           | 30mm²   1.68Cv |            |            |
| Port Size           | Inlet and Signal Ports all 3/8NPT, Exhaust 1/4NPT |           |                |            |            |
| Working Medium      | 40 Micron Filtered Air                            |           |                |            |            |
| Operation           | Internal Pilot                                    |           |                |            |            |
| Working Pressure    | 1.5-8bar (g)   22 - 120psi                        |           |                |            |            |
| Test Pressure       | 12bar(g)   180psi                                 |           |                |            |            |
| Ambient Temperature | -20°C to 70°C   -4°F to 160°F                     |           |                |            |            |
| Solenoid Tolerance  | DC +/-10% AC +/-15%                               |           |                |            |            |
| Power Consumption   | DC 2.5W AC 2.5VA                                  |           |                |            |            |
| Insulation          | Class F IP65                                      |           |                |            |            |
| Coil Connection     | DIN Connector Form C                              |           |                |            |            |
| Cycle Rate          | 5/sec                                             |           |                |            |            |
| Response Time       | 0.05sec                                           |           |                |            |            |

**DIMENSIONS (mm)**

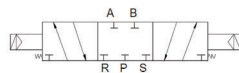
**N4V310-06**



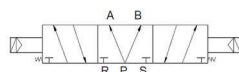
**N4V320-06**



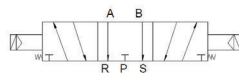
**N4V330-06**



**30C**

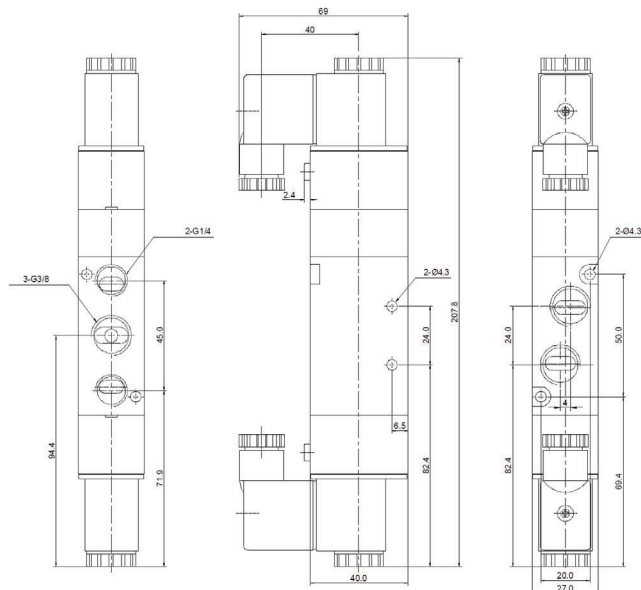


**30E**



**30P**

**N4V310-06**



# N4A & N4V

## 400 Series Spool Valves

**pneuforce.com** 

- Solenoid valve uses new design with piston reset for improved reliability, functionality and life.
- Spool passage has a Ra0.1 surface finish for smooth spool movement and extended O ring life.
- HNBR Spool seals
- 5/2 and 5/3 way models
- Pilot actuator models (N4A) available upon request



**N4V**

**4**

**10**

**15**

**24VDC**

### Series Type

### Body Size

### Valve Port Size

### Port Size

### Voltage

|     |          |
|-----|----------|
| N4V | Solenoid |
| N4A | Pilot    |

|     |                             |
|-----|-----------------------------|
| 10  | Single Actuator 5/2         |
| 20  | Double Actuator 5/2         |
| 30C | Double Coil Center Closed   |
| 30E | Double Coil Center Exhaust  |
| 30P | Double Coil Center Pressure |

|    |     |
|----|-----|
| 15 | 1/2 |
|----|-----|

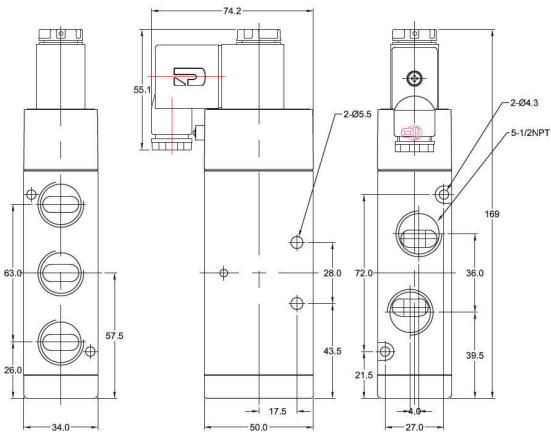
|        |
|--------|
| 12VDC  |
| 24VDC  |
| 24VAC  |
| 110VAC |
| 230VAC |

| Valve Model         | N4A410-06                                  | N4A420-06 | N4A430C-06     | N4A430E-06 | N4A430P-06 |
|---------------------|--------------------------------------------|-----------|----------------|------------|------------|
|                     | N4V410-06                                  | N4V420-06 | N4V430C-06     | N4V430E-06 | N4V430P-06 |
| Valve Type          | 5/2                                        |           | 5/3            |            |            |
| Orifice and Cv      | 50mm²   2.79Cv                             |           | 30mm²   1.68Cv |            |            |
| Port Size           | Inlet, Exhaust and Signal Ports all 1/2NPT |           |                |            |            |
| Working Medium      | 40 Micron Filtered Air                     |           |                |            |            |
| Operation           | Internal Pilot                             |           |                |            |            |
| Working Pressure    | 1.5-8bar (g)   22 - 120psi                 |           |                |            |            |
| Test Pressure       | 12bar(g)   180psi                          |           |                |            |            |
| Ambient Temperature | -20°C to 70°C   -4°F to 160°F              |           |                |            |            |
| Solenoid Tolerance  | DC +/-10% AC +/-15%                        |           |                |            |            |
| Power Consumption   | DC 2.5W AC 2.5VA                           |           |                |            |            |
| Insulation          | Class F IP65                               |           |                |            |            |
| Coil Connection     | DIN Connector Form C                       |           |                |            |            |
| Cycle Rate          | 5/sec                                      |           |                |            |            |
| Response Time       | 0.05sec                                    |           |                |            |            |

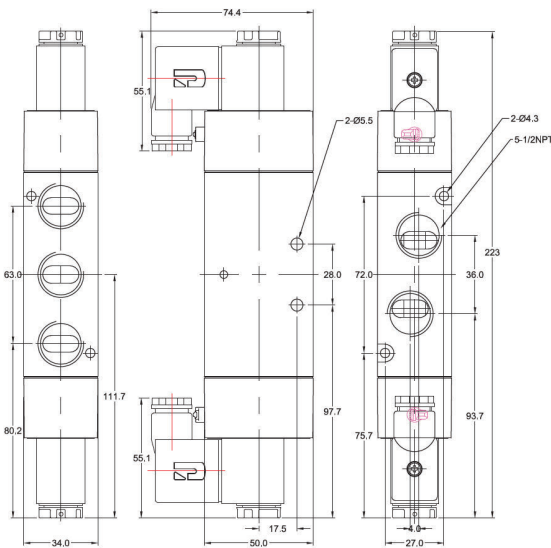


DIMENSIONS (mm)

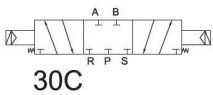
N4V410-06



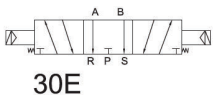
N4V420-06



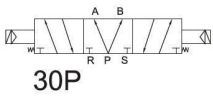
N4V430-06



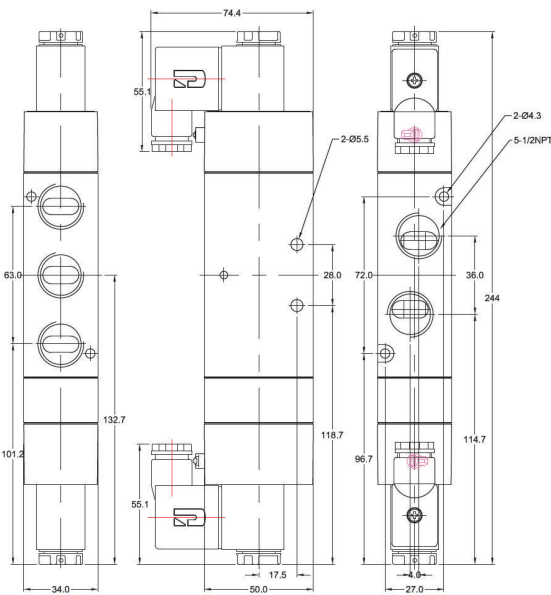
30C



30E



30P



# N4H Hand Lever Valves

- Hand lever valves for use in manual actuator applications.
- Available in 1/4, 3/8 and 1/2 signal ports.
- Spring return or latching versions.
- 5/2 and 5/3 way models



**N**

**N4H**

**2**

**10**

**08**

**L**

## Port Threads

|   |      |
|---|------|
| N | NPT  |
|   | BSPP |

## Series Type

## Body Size

|   |
|---|
| 2 |
| 3 |
| 4 |

## Valve Port Size

|     |                     |
|-----|---------------------|
| 10  | Single Actuator 5/2 |
| 30C | Center Closed       |
| 30E | Center Exhaust      |
| 30P | Center Pressure     |

## Port Size

|    |     |
|----|-----|
| 08 | 1/4 |
| 10 | 3/8 |
| 15 | 1/2 |

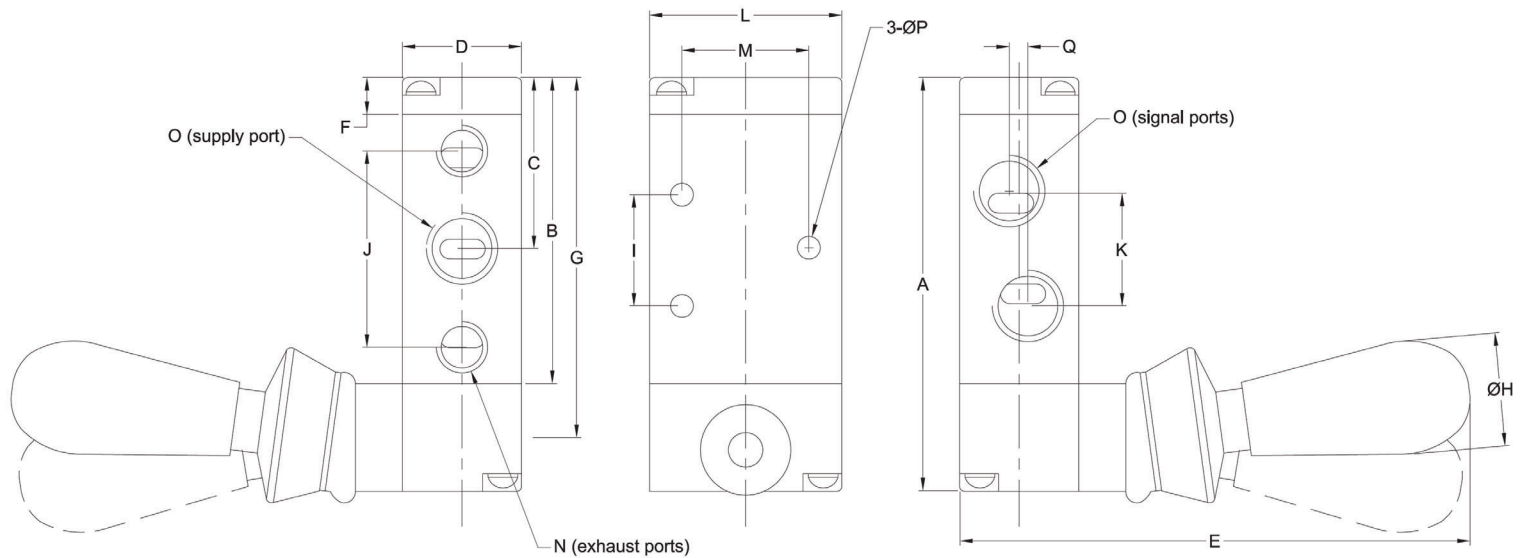
## Detent Option

|   |               |
|---|---------------|
|   | Spring Return |
| L | Latching      |

| Valve Body Size | 210/30 | 310/30 | 410/30 |
|-----------------|--------|--------|--------|
| Pressure Port   | 1/4    | 3/8    | 1/2    |
| Signal Ports    | 1/4    | 3/8    | 1/2    |
| Exhaust Ports   | 1/8    | 1/4    | 1/2    |

| Valve Model         | N4H210-08                  | N4H230-08                | N4H310-10               | N4H330-10               | N4H410-15               | N4H430-15               |
|---------------------|----------------------------|--------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| Valve Type          | 5/2                        | 5/3                      | 5/2                     | 5/3                     | 5/2                     | 5/3                     |
| Orifice and Cv      | 16mm <sup>2</sup> 0.78Cv   | 12mm <sup>2</sup> 0.67Cv | 30mm <sup>2</sup> 1.7Cv | 18mm <sup>2</sup> 1.0Cv | 50mm <sup>2</sup> 2.8Cv | 30mm <sup>2</sup> 1.7Cv |
| Working Medium      | 40 Micron Filtered Air     |                          |                         |                         |                         |                         |
| Working Pressure    | 1.5 - 8bar (22.5 - 120psi) |                          |                         |                         |                         |                         |
| Ambient Temperature | 5-50°C (41-122°F)          |                          |                         |                         |                         |                         |

**DIMENSIONS (mm)**



| Dimensions | N4H210-08  | N4H230-08<br>Spring Return | N4H310-10  | N4H330-10<br>Spring Return | N4H410-15  | N4H430-15<br>Spring Return |
|------------|------------|----------------------------|------------|----------------------------|------------|----------------------------|
|            | N4H230-08L |                            | N4H330-10L |                            | N4H410-15L |                            |
| A          | 76         | 95                         | 96         | 115                        | 126        | 147                        |
| B          | 56.5       | 75.5                       | 72         | 91                         | 102        | 123                        |
| C          | 31.5       | 31.5                       | 40         | 60                         | 55.5       | 76.5                       |
| D          | 22         | 22                         | 27         | 27                         | 34         | 34                         |
| E          | 95         | 95                         | 100        | 100                        | 110        | 110                        |
| F          | 6.5        | 6.5                        | 7.5        | 7.5                        | 7.5        | 7.5                        |
| G          | 66.5       | 85.5                       | 84         | 103                        | 114        | 135                        |
| H          | 18         | 18                         | 18         | 18                         | 18         | 18                         |
| I          | 20         | 20                         | 24         | 24                         | 28         | 28                         |
| J          | 36         | 36                         | 45         | 45                         | 63         | 63                         |
| K          | 21         | 21                         | 24         | 24                         | 36         | 36                         |
| L          | 35         | 35                         | 40         | 40                         | 50         | 50                         |
| M          | 21         | 21                         | 27         | 27                         | 35         | 35                         |
| N          | 1/8NPT     | 1/8NPT                     | 1/4NPT     | 1/4NPT                     | 1/2NPT     | 1/2NPT                     |
| O          | 1/4NPT     | 1/4NPT                     | 3/8NPT     | 3/8NPT                     | 1/2NPT     | 1/2NPT                     |
| P          | 4.3        | 4.3                        | 4.3        | 4.3                        | 5.5        | 5.5                        |
| Q          | 1.5 (-)    | 1.5 (-)                    | 2 (-)      | 2 (-)                      | -          | -                          |

- Hand push pull valves for use in manual actuator applications.
- Available in 1/4, 3/8 and 1/2 signal ports.
- Bi Stable operation
- 5/2 Operation
- Panel mountable



**N**

Port Threads

|   |      |
|---|------|
| N | NPT  |
|   | BSPP |

**4R**

Series Type

**1**

Body Size

|   |
|---|
| 1 |
| 2 |
| 3 |

**10**

Valve Port Size

|    |                     |
|----|---------------------|
| 10 | Single Actuator 5/2 |
|----|---------------------|

**06**

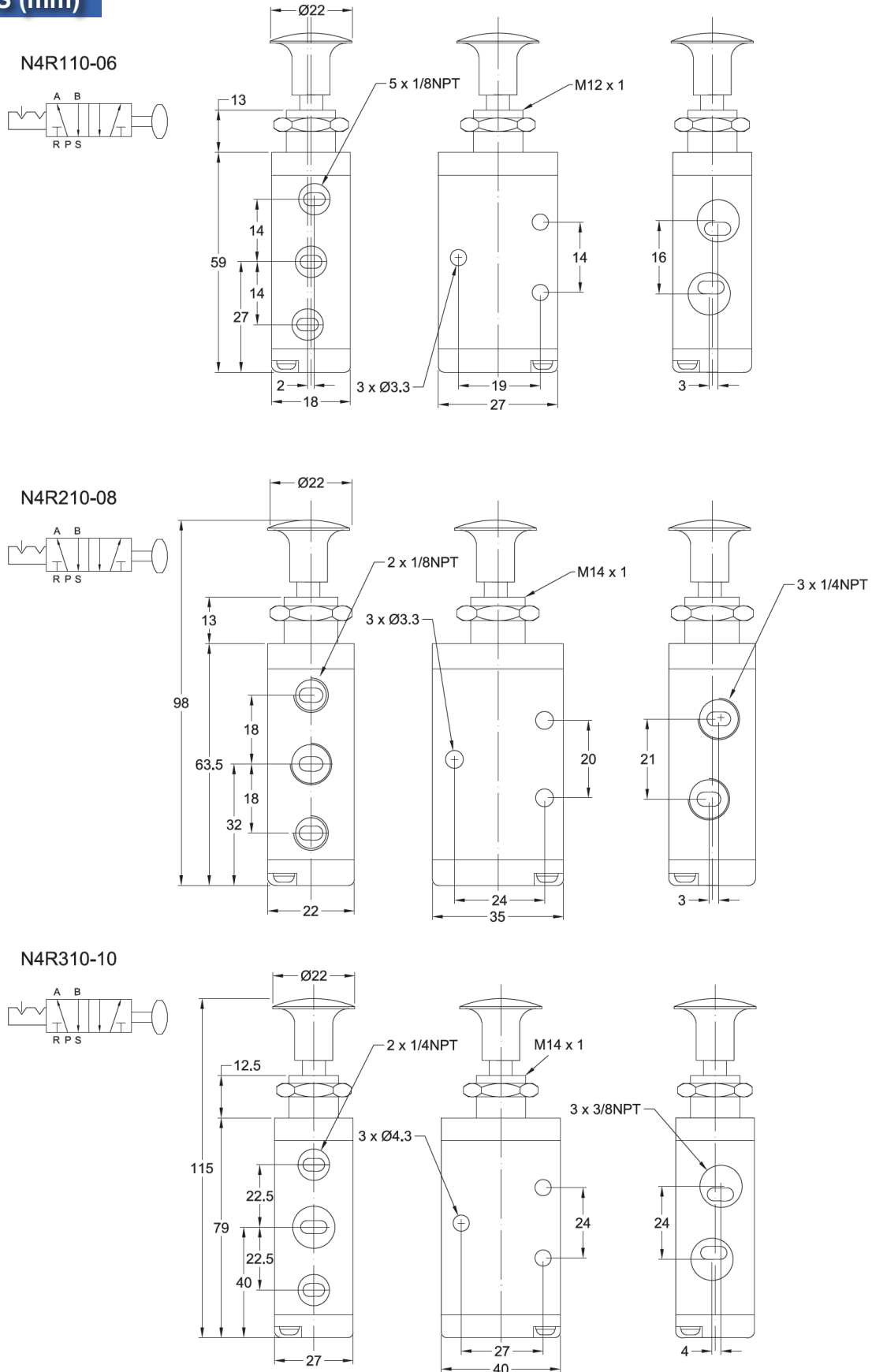
Port Size

|    |     |
|----|-----|
| 06 | 1/8 |
| 08 | 1/4 |
| 10 | 3/8 |

| Valve Body Size | N4R110-06 | N4R210-08 | N4R310-08 |
|-----------------|-----------|-----------|-----------|
| Pressure Port   | 1/8       | 1/4       | 3/8       |
| Signal Ports    | 1/8       | 1/4       | 3/8       |
| Exhaust Ports   | 1/8       | 1/8       | 1/4       |

| Valve Model         | N4R110-06                  | N4R210-08                | N4R310-08               |
|---------------------|----------------------------|--------------------------|-------------------------|
| Valve Type          | 5/2                        |                          |                         |
| Orifice and Cv      | 10mm <sup>2</sup> 0.56Cv   | 16mm <sup>2</sup> 0.89Cv | 30mm <sup>2</sup> 1.7Cv |
| Working Medium      | 40 Micron Filtered Air     |                          |                         |
| Working Pressure    | 1.5 - 8bar (22.5 - 120psi) |                          |                         |
| Ambient Temperature | 5-50°C (41-122°F)          |                          |                         |

DIMENSIONS (mm)



- Rotary hand valves for use in manual actuator applications.
- Available in 1/4, 3/8 and 1/2 signal ports.
- Detented three position valves
- Ceramic valve plate for increased durability



**N4HV**

Series Type

**2**

Body Size

2  
3  
4

**30**

Valve Port Size

30C Closed Mid Position  
30E Exhaust Mid Position  
30P Pressure Mid Position

**08**

Port Size

08 1/4  
10 3/8  
15 1/2

**S**

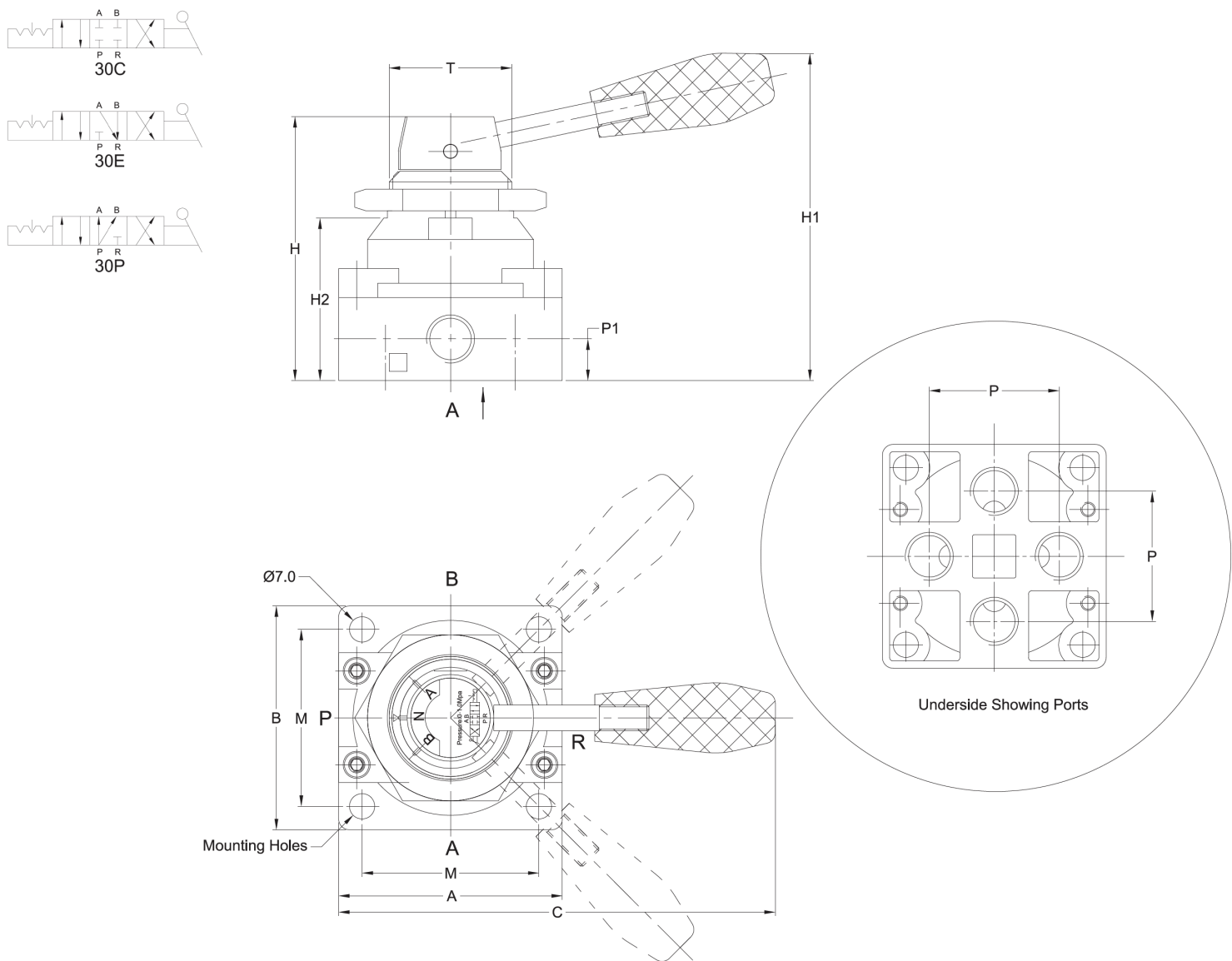
Panel Nut

None  
S Included

| Valve Model         | N4HV230*-08            | N4HV330*-10 | N4HV430*-15 |
|---------------------|------------------------|-------------|-------------|
| Valve Type          | 5/3                    |             |             |
| Port Sizes          | 1/4NPT                 | 3/8NPT      | 1/2NPT      |
| Working Medium      | 40 Micron Filtered Air |             |             |
| Working Pressure    | 10bar (150psi)         |             |             |
| Ambient Temperature | 5-60°C (41-140°F)      |             |             |



DIMENSIONS (mm)

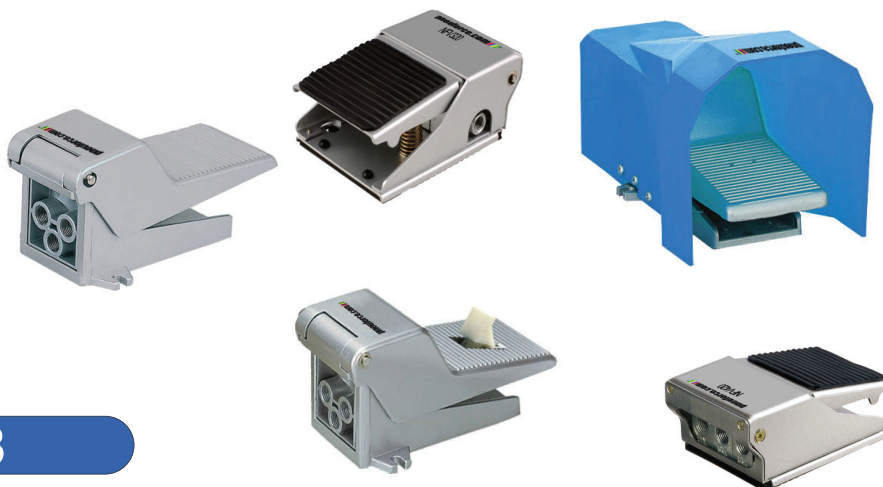


| Dimensions | N4HV230*-08 | N4HV330*-10 | N4HV430*-15 |
|------------|-------------|-------------|-------------|
| A          | 62          | 74          | 102         |
| B          |             |             |             |
| C          | 89          | 103         | 113         |
| H          | 93          | 109         | 128         |
| H          | 73          | 94          | 110         |
| H1         | 93          | 109         | 128         |
| H2         | 45          | 56          | 72          |
| M          | 49          | 64          | 89          |
| P          | 36          | 44          | 46          |
| P1         | 11.5        | 13.5        | 18          |
| T          | M34x1.5     | M40x1.5     | M52x1.5     |

# 4F Foot Pedal Valves

**pneuforce.com**

- 3-Way and 5-Way Models
- 1/4NPT & G1/4 Primary Ports
- Spring Return
- Stainless Steel Spring
- Aluminum Valve
- Painted Steel Shell and Plate
- Rubber Coated Foot Plate



**N**

**FV320**

**08**

## Port Threads

|   |      |
|---|------|
| N | NPT  |
|   | BSPP |

## Valve Type

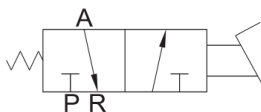
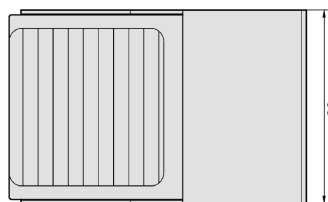
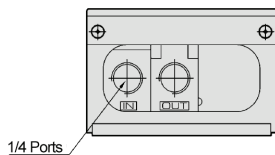
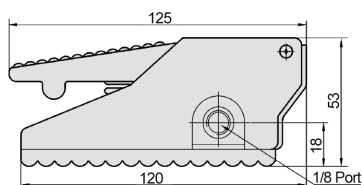
|       |       |
|-------|-------|
| FV320 | 3-way |
| FV420 | 4-way |
| 4F210 | 5-way |

## 5-Way Type

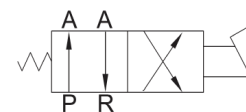
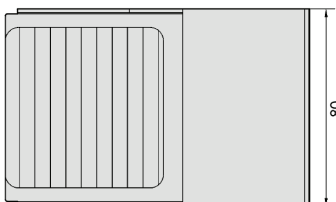
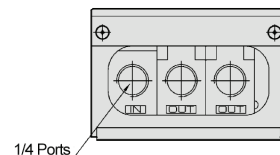
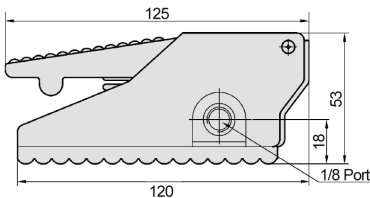
|     |                     |
|-----|---------------------|
| 08  | 1/4 port            |
| 08L | 1/4 port latching   |
| 08G | 1/4 port foot guard |

| Model               | FV320                                   | FV420 | 4F210-08 | 4F210-08L | 4F210-08G |
|---------------------|-----------------------------------------|-------|----------|-----------|-----------|
| Working Medium      | 40 Micron Filtered Air                  |       |          |           |           |
| Type                | 3/2                                     | 4/2   | 5/3      |           |           |
| Port Size           | 1/4NPT Supply & Outlet   1/8NPT Exhaust |       |          |           |           |
| Operation           | Direct                                  |       |          |           |           |
| Working Pressure    | 0-8bar(g)   0-120psi                    |       |          |           |           |
| Working Temperature | 0-60°C   32-140°F                       |       |          |           |           |

**FV320**

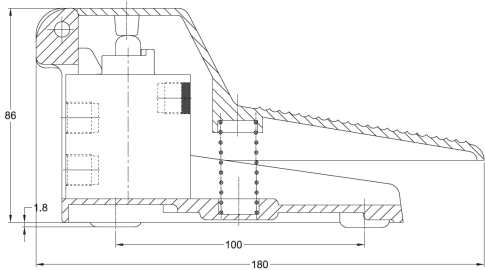
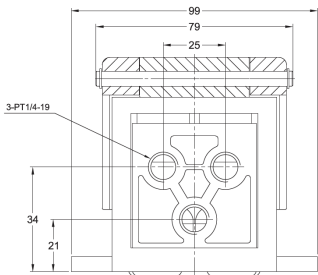
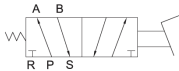


**FV420**

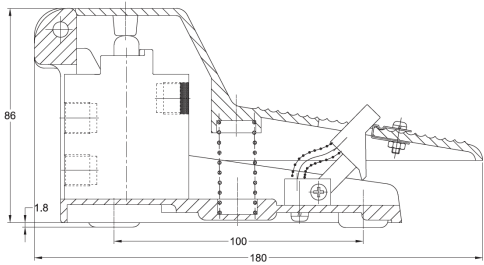
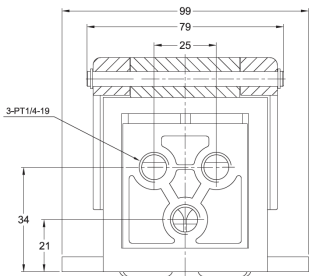
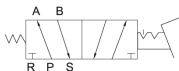


DIMENSIONS (mm)

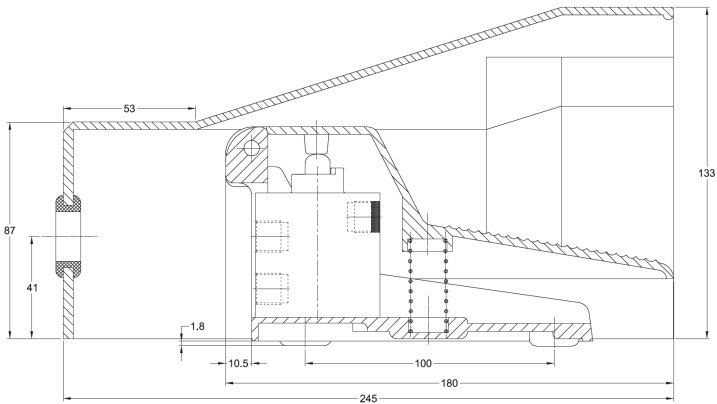
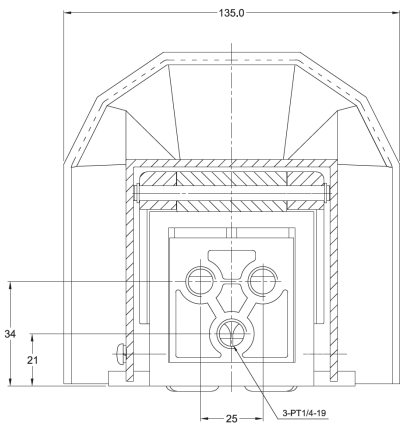
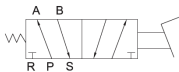
N4F210-08



N4F210-08L



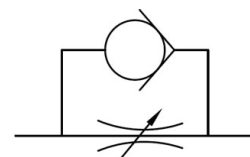
N4F210-08G



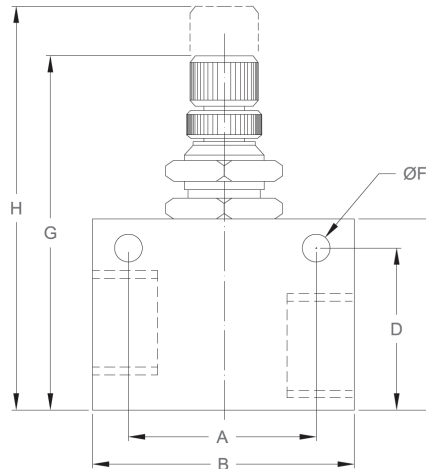
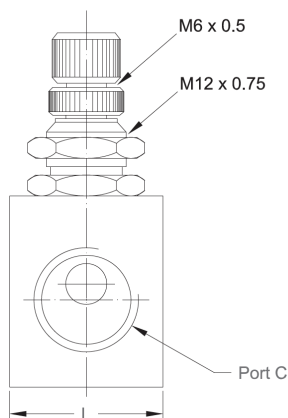
- Precision flow control valves
- Hard anodized aluminum body
- 1/8, 1/4, 3/8 & 1/2 Ports
- Panel mountable
- Unidirectional flow control



| N            |      | ASC        |  | 08        |     |
|--------------|------|------------|--|-----------|-----|
| Port Threads |      | Valve Type |  | Port Size |     |
| N            | NPT  |            |  | 06        | 1/8 |
|              | BSPP |            |  | 08        | 1/4 |
|              |      |            |  | 10        | 3/8 |
|              |      |            |  | 15        | 1/2 |



## DIMENSIONS (mm)



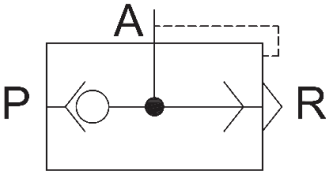
| Model  | A  | B  | C   | D  | E  | F   | G    | H    | K    | L  |
|--------|----|----|-----|----|----|-----|------|------|------|----|
| ASC-06 | 22 | 32 | 1/8 | 22 | 27 | 4.3 | 49.7 | 56.5 | 12   | 18 |
| ASC-08 | 26 | 36 | 1/4 | 22 | 27 | 4.3 | 49.7 | 56.5 | 12   | 18 |
| ASC-10 | 28 | 40 | 3/8 | 25 | 30 | 4.3 | 52.7 | 59.5 | 13   | 22 |
| ASC-15 | 28 | 40 | 1/2 | 30 | 35 | 4.3 | 58.7 | 65.5 | 13.5 | 26 |

Quick exhaust valves are used to increase the speed of pneumatic cylinders by dumping the exhaust stream directly at the cylinder port instead of back through the control valve.

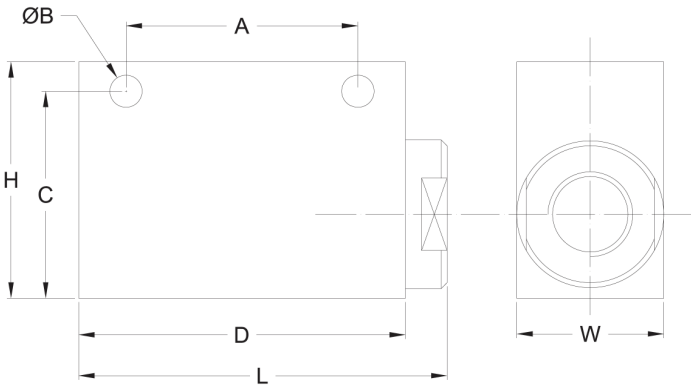
The QE valve is available in 4 port sizes and manufactured in aluminum with an anodized finish.



| N            |      | QE         |  | 08        |     |
|--------------|------|------------|--|-----------|-----|
| Port Threads |      | Valve Type |  | Port Size |     |
| N            | NPT  |            |  | 06        | 1/8 |
|              | BSPP |            |  | 08        | 1/4 |
|              |      |            |  | 10        | 3/8 |
|              |      |            |  | 15        | 1/2 |



DIMENSIONS (mm)



| Model | Ports | L  | W  | H  | A  | B   | C    | D  |
|-------|-------|----|----|----|----|-----|------|----|
| QE-06 | 1/8   | 46 | 20 | 32 | 30 | 4.3 | 27   | 40 |
| QE-08 | 1/4   | 62 | 25 | 40 | 39 | 5.6 | 33.5 | 55 |
| QE-10 | 3/8   | 62 | 25 | 40 | 39 | 5.6 | 33.5 | 55 |
| QE-15 | 1/2   | 98 | 38 | 64 | -  | -   | -    | 90 |