

pneuforce.com ®





Vacuforce started as an importer of European vacuum products. Our founder, originally from the UK, brought together over 20 years of vacuum applications, engineering and international procurement expertise to start the Vacuforce brand of products as shown in this catalog.

With generic fit, form and function products as well as innovative vacuum solution packages, Vacuforce offers the user a one stop shop for all vacuum handling applications. Vacuforce is focused on customer service. With fast reaction to inquiries and order processing, Vacuforce has undertaken the task of being the premier vacuum solution provider in the USA and Canada through service, innovation and competitive vacuum solutions.

The headquarters of Vacuforce LLC are in Indianapolis Indiana, the distribution hub of the USA. With 75% of the nation's population within a one day truck drive, Vacuforce is positioned to have the best distribution program in the industry. In addition to our centralized location, Vacuforce has over 300 distribution partners across the USA stretching from Portland, Maine to San Diego, California and Anchorage, Alaska to Miami, Florida. These stocking, authorized distribution locations, enable immediate delivery of Vacuforce product solutions to customers across the nation.



The Pneuforce pneumatic product line compliments the Vacuforce vacuum offering.

These two product lines of vacuum pick and place products and pneumatic components enables our network of distributors to offer the automation user a complete turnkey package.

Pneuforce specializes in the supply of high quality, competitively priced pneumatic products, all of which are warehoused in the USA at our Indianapolis Distribution Center.

The pneuforce.com online store enables all customers to view the inventory and pricing of the complete Vacuforce and Pneuforce product line along with datasheets and 3D CAD models for immediate download.



Vacuforce LLC, Indianapolis, USA



Vacuforce LLC | 933 Western Drive | Indianapolis IN | 46241 | USA
T 1.866.280.3766 | F 1.866.280.4829 | www.vacuforce.com | www.pneuforce.com
orders@pneuforce.com

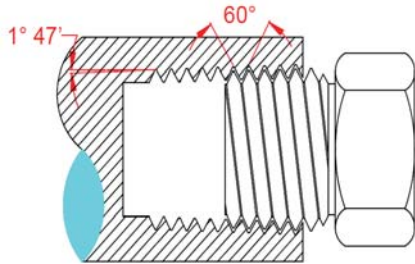
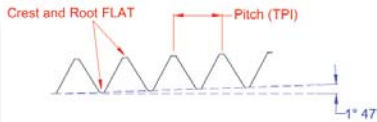
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In the pneumatics industry there are four main types of thread forms in use today. This page highlights the technical data of each which should be understood when applying the push to connect fittings shown in this catalogue to applications found in the field.

National Pipe Taper (NPT)

Referred to as NPT, this American pipe thread is by far the most common thread type used on machinery manufactured and used in North America. This tapered thread seals using a thread sealant or tape. The Pneuforce BSPT male threaded fittings have a pre-coated thread sealant which offers speed of connection to female threaded ports as additional thread sealing tape is not required.

Thread Taper Angle $1^{\circ} 47'$
 Thread Angle 60°
 Thread Crest & Root Flat

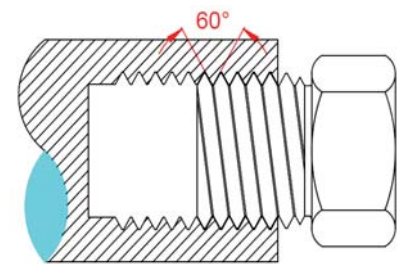
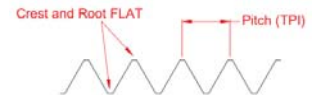


	1/8NPT	1/4NPT	3/8NPT	1/2NPT
TPI	27	18	18	14
Major Ø (mm)	10.3	13.7	17.1	21.3
Pitch (mm)	0.94	1.41	1.41	1.81

National Pipe Straight (NPS)

The NPS thread has the same fundamental characteristics as NPT except that it is a parallel thread. NPSF (National Pipe Straight Fuel) is used for female threads in fuel line connections but in the pneumatics industry it is often used in component bodies made of plastic where a tapered thread could split the component body as the fitting is tightened.

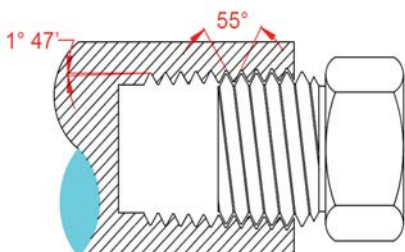
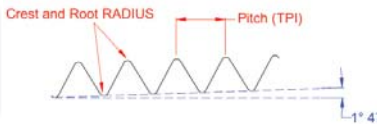
Thread Taper Angle 0°
 Thread Angle 60°
 Thread Crest & Root Flat



British Standard Pipe Taper (BSPT)

Often referred to as an "R" thread, the BSPT Thread is the standard for pipe thread across the world except for countries in North America which use NPT. BSPT is a tapered thread and is used in male threaded components for connection to female BSPT and BSPP thread forms. Using a BSPT male with BSPT female threads is the preferred method which offers a full tapered seal but are often used to attach to female BSPP threads. BSPT threads require a thread sealant to seal. The Pneuforce BSPT male threaded fittings have a pre-coated thread sealant which offers speed of connection to female threaded ports as additional thread sealing tape is not required.

Thread Taper Angle $1^{\circ} 47'$
 Thread Angle 55°
 Thread Crest & Root Radius

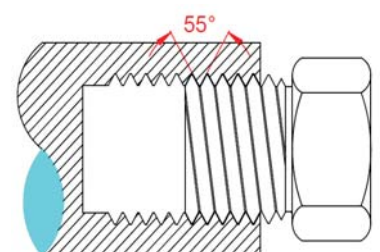
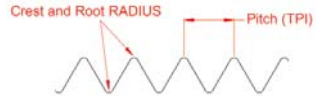


	1/8BSP	1/4BSP	3/8BSP	1/2BSP
TPI	28	19	19	14
Major Ø (mm)	9.7	13.2	16.6	20.9
Pitch (mm)	0.91	1.34	1.34	1.81

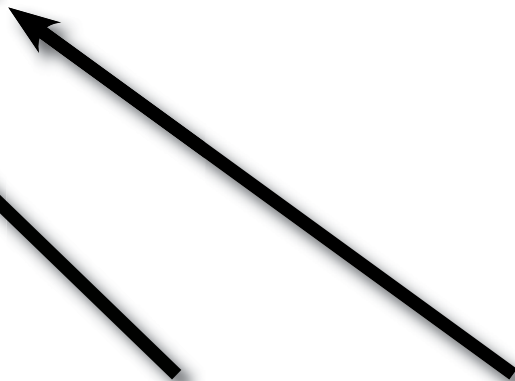
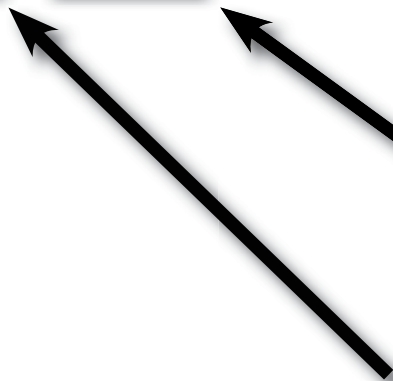
British Standard Pipe Parallel (BSPP)

Often referred to as a "G" thread, the BSPP thread form is by far the most popular female thread for pneumatic components except in North America where NPT is the standard. A parallel thread, the male fittings seal with an O ring ensuring an air tight seal and with multiple connections such as a manifold, this sealing method ensures a common fitting height. A further advantage is that the male fitting can be used repeatedly without the need for reapplying thread sealant. Male G threads cannot be connected to female BSPT thread ports.

Thread Taper Angle 0°
 Thread Angle 55°
 Thread Crest & Root Radius



B P C 1/4 - N1



Brass Threads + Body and Collet

Brass Threads + Plastic Body and Collet

JSC	90° Flow Control
JSU	Inline Flow Control
B	Branch Tee
C	Straight Male Stud
CF	Female Connector
D	Run Tee
E	Union Tee
EG	Reducing Tee Union
G	Reducing Straight Union
GJ	Plug in Reducer
H	Universal Elbow
HF	Universal Female Elbow
IG	Reducing Nipple
IJ	Nipple
L	Male Elbow
LF	Female Elbow
LGJ	Plug In Reducing Elbow
LH	Male 45° Elbow
LJ	Plug In Elbow
LL	Extended Male Elbow
M	Bulkhead Union
MF	Female Bulkhead
OC	Male Round Connector
P	Plug
U	Straight Union
V	Union Elbow
W	Reducing Union Y
WJ	Plug In Reducing Elbow
X	Branch Y
Y	Union Y
YJ	Plug In Y
ZA	Union Cross

TUBE SIZE **THREAD SIZE**

1/8
3/16
5/32
1/4
5/16
3/8
1/2
4mm
6mm
8mm
10mm
12mm
16mm

U	10-32UNF (M5)*
M5	M5
N1	1/8NPT
N2	1/4NPT
N3	3/8NPT
N4	1/2NPT
U01	1/8 Universal
U02	1/4 Universal
U03	3/8 Universal
U04	1/2 Universal
G01	1/8BSPP
G02	1/4BSPP
G03	3/8BSPP
G04	1/2BSPP
01	1/8BSPT
02	1/4BSPT
03	3/8BSPT
04	1/2BSPT

It should be noted that 5/32" is the same diameter as 4mm and 5/16" is the same diameter as 8mm tubing.

**10-32UNF Male fits an M5 Female thread*



One touch “push in” fittings are used to connect pneumatic tubing, such as polyurethane and nylon, to various control valves, cylinders and other associated equipment. The Pneuforce fitting allows tubing to be connected and reconnected repeatedly without damaging the tube or fitting. All fittings threads are nickel plated brass. NPT and BSPT tapered threads have a pre-coated thread sealant applied for speed and consistency of assembly.

Universal Tri Thread fittings and M3, M5, M6 and 10-32UNF are parallel threads and therefore utilize an NBR O Ring seal.

- Fluid Medium Air
- Working Pressure 0-150 psi(g) / 10bar(g)
- Proof Pressure 450psi(g) / 30bar(g)
- Vacuum Duty 29.5”Hg / 14mbar(a)
- Working Temperature 32-140°F / 0-60°C *(high temperature models available upon request)*
- All Metal Fittings -40-248°F / -40-120°C *(pg.13)*

NPT FITTINGS

The Pneuforce NPT fittings are suitable for connection of inch size tubing to NPT threads.

TUBE SIZES

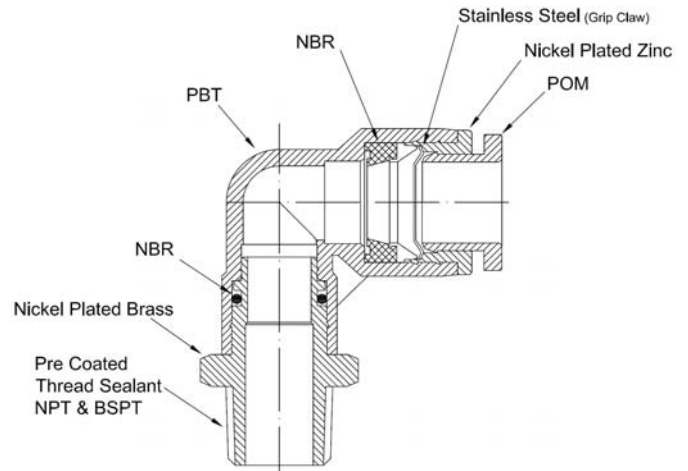
- 1/8”
- 5/32”
- 3/16”
- 1/4”
- 5/16”
- 3/8”
- 1/2”

It should be noted that 5/32” is the same diameter as 4mm and 5/16” is the same diameter as 8mm tubing.

THREAD SIZES

- 10-32UNF
- 1/8”
- 1/4”
- 3/8”
- 1/2”

It should also be noted that 10-32UNF is the same thread form as the metric M5 model.



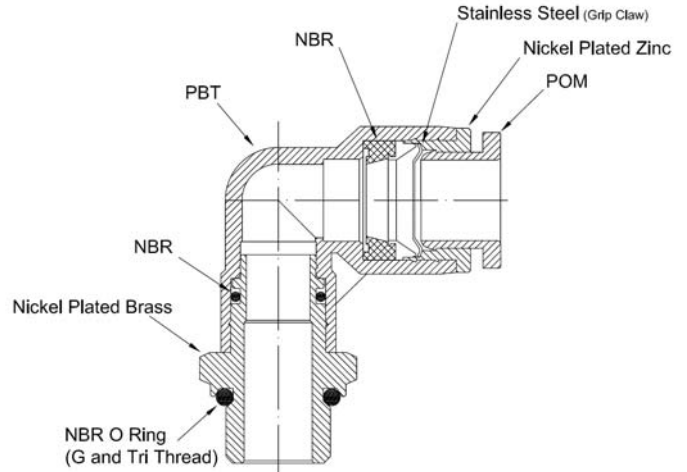
TRI THREAD FITTINGS

The Pneuforce TRI THREAD fittings (designated by -U) have been developed to connect with global fluid power products. With factories across the world using a mix of NPT (American Standard) and BSP threads, there is some confusion as to what male threads should be used or stocked by fluid power users. Therefore the universal thread form of the TRI THREAD series has been developed to enable the connection of 1/8, 1/4, 3/8 and 1/2 male threads into the following female thread forms.

NPT, NPSF, BSPP(G), BSPT(R)

INCH TUBE SIZES	METRIC TUBE SIZES
1/8"	4mm (5/32")
5/32"	6mm
3/16"	8mm (5/16")
1/4"	10mm
5/16"	12mm
3/8"	
1/2"	

It should be noted that 5/32" is the same diameter as 4mm and 5/16" is the same diameter as 8mm tubing.



Due to the design of this thread form, the time taken to install the Tri Thread fitting is dramatically decreased. The following procedure should be used when installing TRI THREAD fittings. By hand, screw the TRI THREAD fitting into the female thread until the O ring seal compresses against the face of the component and the metal shoulder of the fitting makes contact with the component surface. Using a suitably sized wrench, or hex key on straight fittings, continue to tighten the fitting by turning clockwise by a further 1/4 turn. Do not over tighten, as once the O ring is pressed against the mating surface, the seal is airtight. Unlike a tapered thread, the seal is made via an O ring seal which is captive in the TRI THREAD. It is not an interference fit like that of male and female tapered threads. The TRI THREAD will seal repeatedly and therefore can be used again and again.



PC MALE STRAIGHT



Part Number

- PC1/8-U
- PC1/8-N1
- PC5/32-U
- PC5/32-N1
- PC5/32-N2
- PC3/16-U
- PC3/16-N1
- PC3/16-N2
- PC3/16-N3
- PC1/4-U
- PC1/4-N1
- PC1/4-N2
- PC1/4-N3
- PC5/16-N1
- PC5/16-N2
- PC5/16-N3
- PC3/8-N1
- PC3/8-N2
- PC3/8-N3
- PC3/8-N4
- PC1/2-N2
- PC1/2-N3
- PC1/2-N4

POC ROUND STRAIGHT



Part Number

- POC1/8-U
- POC1/8-N1
- POC5/32-U
- POC5/32-N1
- POC1/4-U
- POC1/4-N1
- POC1/4-N2
- POC5/16-N1
- POC5/16-N2
- POC5/16-N3
- POC3/8-N3
- POC3/8-N4
- POC1/2-N3
- POC1/2-N4

PCF FEMALE STRAIGHT



Part Number

- PCF1/8-U
- PCF1/8-N1
- PCF5/32-N1
- PCF5/32-N2
- PCF3/16-N1
- PCF3/16-N2
- PCF1/4-N1
- PCF1/4-N2
- PCF5/16-N1
- PCF5/16-N2
- PCF5/16-N3
- PCF3/8-N2
- PCF3/8-N3
- PCF1/2-N2
- PCF1/2-N3

PL MALE ELBOW



Part Number

- PL1/8-U
- PL1/8-N1
- PL5/32-U
- PL5/32-N1
- PL5/32-N2
- PL3/16-U
- PL3/16-N1
- PL3/16-N2
- PL3/16-N3
- PL1/4-U
- PL1/4-N1
- PL1/4-N2
- PL1/4-N3
- PL5/16-N1
- PL5/16-N2
- PL5/16-N3
- PL3/8-N1
- PL3/8-N2
- PL3/8-N3
- PL3/8-N4
- PL1/2-N2
- PL1/2-N3
- PL1/2-N4

PLL EXTENDED ELBOW



Part Number

- PLL1/8-U
- PLL1/8-N1
- PLL5/32-U
- PLL5/32-N1
- PLL3/16-N1
- PLL3/16-N2
- PLL3/16-N3
- PLL1/4-N1
- PLL1/4-N2
- PLL1/4-N3
- PLL5/16-N1
- PLL5/16-N2
- PLL5/16-N3
- PLL3/8-N2
- PLL3/8-N3
- PLL3/8-N4
- PLL1/2-N2
- PLL1/2-N3
- PLL1/2-N4

PLH 45° ELBOW



Part Number

- PLH1/8-U
- PLH1/8-N1
- PLH5/32-U
- PLH5/32-N1
- PLH5/32-N2
- PLH3/16-U
- PLH3/16-N1
- PLH3/16-N2
- PLH3/16-N3
- PLH1/4-U
- PLH1/4-N1
- PLH1/4-N2
- PLH1/4-N3
- PLH5/16-N1
- PLH5/16-N2
- PLH5/16-N3
- PLH3/8-N1
- PLH3/8-N2
- PLH3/8-N3
- PLH3/8-N4
- PLH1/2-N2
- PLH1/2-N3
- PLH1/2-N4

For 4mm and 8mm tube use 5/32 & 5/16 sizes respectively

For Technical Details Including Dimensions Visit www.pneuforce.com

PLF FEMALE ELBOW



- Part Number**
 PLF1/8-U
 PLF5/32-N1
 PLF3/16-N1
 PLF3/16-N2
 PLF1/4-N1
 PLF1/4-N2
 PLF5/16-N1
 PLF5/16-N2
 PLF5/16-N3
 PLF3/8-N2
 PLF3/8-N3
 PLF1/2-N3
 PLF1/2-N4

PB BRANCH TEE



- Part Number**
 PB1/8-U
 PB1/8-N1
 PB5/32-U
 PB5/32-N1
 PB5/32-N2
 PB3/16-U
 PB3/16-N1
 PB3/16-N2
 PB3/16-N3
 PB1/4-U
 PB1/4-N1
 PB1/4-N2
 PB1/4-N3
 PB5/16-N1
 PB5/16-N2
 PB5/16-N3
 PB3/8-N1
 PB3/8-N2
 PB3/8-N3
 PB3/8-N4
 PB1/2-N2
 PB1/2-N3
 PB1/2-N4

PD RUN TEE



- Part Number**
 PD1/8-U
 PD1/8-N1
 PD5/32-U
 PD5/32-N1
 PD5/32-N2
 PD3/16-U
 PD3/16-N1
 PD3/16-N2
 PD3/16-N3
 PD1/4-U
 PD1/4-N1
 PD1/4-N2
 PD1/4-N3
 PD5/16-N1
 PD5/16-N2
 PD5/16-N3
 PD3/8-N1
 PD3/8-N2
 PD3/8-N3
 PD3/8-N4
 PD1/2-N2
 PD1/2-N3
 PD1/2-N4

PX BRANCH Y



- Part Number**
 PX1/8-U
 PX1/8-N1
 PX5/32-U
 PX5/32-N1
 PX5/32-N2
 PX3/16-U
 PX3/16-N1
 PX3/16-N2
 PX3/16-N3
 PX1/4-U
 PX1/4-N1
 PX1/4-N2
 PX1/4-N3
 PX5/16-N1
 PX5/16-N2
 PX5/16-N3
 PX3/8-N1
 PX3/8-N2
 PX3/8-N3
 PX3/8-N4
 PX1/2-N2
 PX1/2-N3
 PX1/2-N4

PH MALE ELBOW



- Part Number**
 PH1/8-U
 PH1/8-N1
 PH5/32-U
 PH5/32-N1
 PH3/16-U
 PH3/16-N1
 PH3/16-N2
 PH1/4-N1
 PH1/4-N2
 PH5/16-N1
 PH5/16-N2
 PH5/16-N3
 PH3/8-N2
 PH3/8-N3
 PH1/2-N3
 PH1/2-N4

PHF FEMALE ELBOW



- Part Number**
 PHF1/8-U
 PHF1/8-N1
 PHF5/32-U
 PHF5/32-N1
 PHF3/16-U
 PHF3/16-N1
 PHF3/16-N2
 PHF1/4-N1
 PHF1/4-N2
 PHF5/16-N1
 PHF5/16-N2
 PHF5/16-N3
 PHF3/8-N2
 PHF3/8-N3
 PHF1/2-N3
 PHF1/2-N4

PMF BULKHEAD



- Part Number**
 PMF5/32-N1
 PMF3/16-N2
 PMF1/4-N1
 PMF1/4-N2
 PMF5/16-N1
 PMF5/16-N2
 PMF5/16-N3
 PMF3/8-N2
 PMF3/8-N3
 PMF1/2-N3
 PMF1/2-N4

PKD MANIFOLD



- Part Number**
 PKD3/16-5/32-N1
 PKD1/4-5/32-N1
 PKD5/16-1/4-N2
 PKD5/16-3/16-N2
 PKD5/16-5/32-N2
 PKD3/8-5/16-N3

For 4mm and 8mm tube use 5/32 & 5/16 sizes respectively

For Technical Details Including Dimensions Visit www.pneuforce.com

PC MALE STUD



Part Number

PC1/8-U
PC1/8-U01
PC5/32-U
PC5/32-U01
PC5/32-U02
PC1/4-U
PC1/4-U01
PC1/4-U02
PC1/4-U03
PC5/16-U01
PC5/16-U02
PC5/16-U03
PC3/8-U01
PC3/8-U02
PC3/8-U03
PC3/8-U04
PC1/2-U02
PC1/2-U03
PC1/2-U04
PC06-M5
PC06-U01
PC06-U02
PC06-U03
PC10-U01
PC10-U02
PC10-U03
PC10-U04
PC12-U02
PC12-U03
PC12-U04

PL MALE ELBOW



Part Number

PL1/8-U
PL1/8-U01
PL5/32-U
PL5/32-U01
PL5/32-U02
PL1/4-U
PL1/4-U01
PL1/4-U02
PL1/4-U03
PL5/16-U01
PL5/16-U02
PL5/16-U03
PL3/8-U01
PL3/8-U02
PL3/8-U03
PL3/8-U04
PL1/2-U02
PL1/2-U03
PL1/2-U04
PL06-M5
PL06-U01
PL06-U02
PL06-U03
PL10-U01
PL10-U02
PL10-U03
PL10-U04
PL12-U02
PL12-U03
PL12-U04

PLL EXTENDED ELBOW



Part Number

PLL1/8-U
PLL1/8-U01
PLL5/32-U
PLL5/32-U01
PLL5/32-U02
PLL1/4-U
PLL1/4-U01
PLL1/4-U02
PLL1/4-U03
PLL5/16-U01
PLL5/16-U02
PLL5/16-U03
PLL3/8-U01
PLL3/8-U02
PLL3/8-U03
PLL3/8-U04
PLL1/2-U02
PLL1/2-U03
PLL1/2-U04
PLL06-M5
PLL06-U01
PLL06-U02
PLL06-U03
PLL10-U01
PLL10-U02
PLL10-U03
PLL10-U04
PLL12-U02
PLL12-U03
PLL12-U04

PB BRANCH TEE



Part Number

PB1/8-U
PB1/8-U01
PB5/32-U
PB5/32-U01
PB5/32-U02
PB1/4-U
PB1/4-U01
PB1/4-U02
PB1/4-U03
PB5/16-U01
PB5/16-U02
PB5/16-U03
PB3/8-U01
PB3/8-U02
PB3/8-U03
PB3/8-U04
PB1/2-U02
PB1/2-U03
PB1/2-U04
PB06-M5
PB06-U01
PB06-U02
PB06-U03
PB10-U01
PB10-U02
PB10-U03
PB10-U04
PB12-U02
PB12-U03
PB12-U04

PD RUN TEE



Part Number

PD1/8-U
PD1/8-U01
PD5/32-U
PD5/32-U01
PD5/32-U02
PD1/4-U
PD1/4-U01
PD1/4-U02
PD1/4-U03
PD5/16-U01
PD5/16-U02
PD5/16-U03
PD3/8-U01
PD3/8-U02
PD3/8-U03
PD3/8-U04
PD1/2-U02
PD1/2-U03
PD1/2-U04
PD06-M5
PD06-U01
PD06-U02
PD06-U03
PD10-U01
PD10-U02
PD10-U03
PD10-U04
PD12-U02
PD12-U03
PD12-U04

PX BRANCH Y



Part Number

PX1/8-U
PX1/8-U01
PX5/32-U
PX5/32-U01
PX5/32-U02
PX1/4-U
PX1/4-U01
PX1/4-U02
PX1/4-U03
PX5/16-U01
PX5/16-U02
PX5/16-U03
PX3/8-U01
PX3/8-U02
PX3/8-U03
PX3/8-U04
PX1/2-U02
PX1/2-U03
PX1/2-U04
PX06-M5
PX06-U01
PX06-U02
PX06-U03
PX10-U01
PX10-U02
PX10-U03
PX10-U04
PX12-U02
PX12-U03
PX12-U04

POC ROUND STRAIGHT



- Part Number**
 POC04-M5
 POC04-M6
 POC04-01
 POC04-02
 POC06-M5
 POC06-M6
 POC06-01
 POC06-02
 POC06-03
 POC08-01
 POC08-02
 POC08-03
 POC08-04
 POC10-01
 POC10-02
 POC10-03
 POC10-04
 POC12-02
 POC12-03
 POC12-04

PCF FEMALE STRAIGHT



- Part Number**
 PCF04-G01
 PCF04-G02
 PCF06-G01
 PCF06-G02
 PCF06-G03
 PCF08-G01
 PCF08-G02
 PCF08-G03
 PCF08-G04
 PCF10-G01
 PCF10-G02
 PCF10-G03
 PCF10-G04
 PCF12-G02
 PCF12-G03
 PCF12-G04

PMF BULKHEAD



- Part Number**
 PMF04-G01
 PMF04-G02
 PMF06-G01
 PMF06-G02
 PMF06-G03
 PMF08-G01
 PMF08-G02
 PMF08-G03
 PMF08-G04
 PMF10-G01
 PMF10-G02
 PMF10-G03
 PMF10-G04
 PMF12-G02
 PMF12-G03
 PMF12-G04

PH MALE ELBOW



- Part Number**
 PH04-M5
 PH04-G01
 PH06-M5
 PH06-G01
 PH06-G02
 PH08-G01
 PH08-G02
 PH08-G03
 PH10-G02
 PH10-G03
 PH12-G03
 PH12-G04

PHF FEMALE ELBOW



- Part Number**
 PHF04-M5
 PHF04-G01
 PHF06-M5
 PHF06-G01
 PHF06-G02
 PHF08-G01
 PHF08-G02
 PHF08-G03
 PHF10-G02
 PHF10-G03
 PHF12-G03
 PHF12-G04

PLF FEMALE ELBOW



- Part Number**
 PLF04-M5
 PLF04-M6
 PLF04-G01
 PLF04-G02
 PLF06-M5
 PLF06-M6
 PLF06-G01
 PLF06-G02
 PLF06-G03
 PLF08-G01
 PLF08-G02
 PLF08-G03
 PLF08-G04
 PLF10-G01
 PLF10-G02
 PLF10-G03
 PLF10-G04
 PLF12-G02
 PLF12-G03
 PLF12-G04

PLH 45° ELBOW



- Part Number**
 PLH04-M5
 PLH04-G01
 PLH04-G02
 PLH06-M5
 PLH06-G01
 PLH06-G02
 PLH06-G03
 PLH06-G04
 PLH08-G01
 PLH08-G02
 PLH08-G03
 PLH08-G04
 PLH10-G01
 PLH10-G02
 PLH10-G03
 PLH10-G04
 PLH12-G02
 PLH12-G03
 PLH12-G04

PKD MANIFOLD



- Part Number**
 PKD06-04-G01
 PKD08-04-G02
 PKD08-06-G02
 PKD10-08-G03

*For 4mm and 8mm tube use 5/32 & 5/16 sizes respectively
 For Technical Details Including Dimensions Visit www.pneuforce.com*

PM BULKHEAD



Part Number

PM1/8
PM5/32
PM3/16
PM1/4
PM5/16
PM3/8
PM1/2

~~PM04~~ use PM5/32

PM06

~~PM08~~ use PM5/16

PM10
PM12

PU UNION STRAIGHT



Part Number

PU1/8
PU5/32
PU3/16
PU1/4
PU5/16
PU3/8
PU1/2

~~PU04~~ use PU5/32

PU06

~~PU08~~ use PU5/16

PU10
PU12
PU16

PV UNION ELBOW



Part Number

PV1/8
PV5/32
PV3/16
PV1/4
PV5/16
PV3/8
PV1/2

~~PV04~~ use PV5/32

PV06

~~PV08~~ use PV5/16

PV10
PV12
PV16

PE UNION TEE



Part Number

PE1/8
PE5/32
PE3/16
PE1/4
PE5/16
PE3/8
PE1/2

~~PE04~~ use PE5/32

PE06

~~PE08~~ use PE5/16

PE10
PE12
PE16

PY UNION Y



Part Number

PY1/8
PY5/32
PY3/16
PY1/4
PY5/16
PY3/8
PY1/2

~~PY04~~ use PY5/32

PY06

~~PY08~~ use PY5/16

PY10
PY12
PY16

PZA UNION CROSS



Part Number

PZA1/8
PZA5/32
PZA3/16
PZA1/4
PZA5/16
PZA3/8
PZA1/2

~~PZA04~~ use PZA5/32

PZA06

~~PZA08~~ use PZA5/16

PZA10
PZA12
PZA16

PG REDUCING UNION



Part Number

PG5/32-1/8
PG3/16-5/32
PG1/4-5/32
PG1/4-3/16
PG5/16-1/4
PG3/8-5/16
PG1/2-3/8

PG06-04

PG08-06

PG10-08

PG12-10

PG16-12

PEG REDUCING TEE



Part Number

PEG1/4-1/8
PEG1/4-5/32
PEG5/16-5/32
PEG5/16-1/4
PEG3/8-5/16
PEG1/2-3/8

PEG06-04

~~PEG08-04~~ use PEG5/16-5/32

PEG08-06

PEG10-08

PEG12-10

PW REDUCING Y



Part Number

PW5/32-1/8
PW3/16-5/32
PW1/4-5/32
PW1/4-3/16
PW5/16-1/4
PW3/8-1/4
PW3/8-5/16
PW1/2-3/8

PW06-04

PW08-06

PW10-08

PW12-10

For 4mm and 8mm tube use 5/32 & 5/16 sizes respectively

For Technical Details Including Dimensions Visit www.pneuforce.com

PP PLUG



- Part Number**
 PP5/32
 PP3/16
 PP1/4
 PP5/16
 PP3/8
 PP1/2
- ~~PP04~~ use PP5/32
 PP06
~~PP08~~ use PP5/16
 PP10
 PP12
 PP16

PIJ NIPPLE



- Part Number**
 PIJ5/32
 PIJ3/16
 PIJ1/4
 PIJ5/16
 PIJ3/8
 PIJ1/2
- ~~PIJ04~~ use PIJ5/32
 PIJ06
~~PIJ08~~ use PIJ5/16
 PIJ10
 PIJ12
 PIJ16

PIG REDUCING NIPPLE



- Part Number**
 PIG3/16-5/32
 PIG1/4-5/32
 PIG1/4-3/16
 PIG5/16-5/32
 PIG5/16-1/4
 PIG3/8-5/16
 PIG1/2-3/8
- PIG06-04
~~PIG08-04~~ use PIG5/16-5/32
 PIG08-06
 PIG10-06
 PIG10-08

The PIJ Hollow Nipple Is Used to Connect two Fittings Directly Together

PGJ PLUG IN REDUCER



- Part Number**
 PGJ1/4-5/32
 PGJ5/16-5/32
 PGJ5/16-1/4
 PGJ3/8-1/4
 PGJ3/8-5/16
 PGJ1/2-1/4
 PGJ1/2-5/16
 PGJ1/2-3/8
- PGJ06-04
~~PGJ08-04~~ use PGJ5/16-5/32
 PGJ08-06
 PGJ10-06
 PGJ10-08
 PGJ12-06
 PGJ12-08
 PGJ12-10

The PGJ Male Stem is the Larger Size

PYJ PLUG IN Y



- Part Number**
 PYJ5/32
 PYJ3/16
 PYJ1/4
 PYJ5/16
 PYJ3/8
 PYJ1/2
- ~~PYJ04~~ use PYJ5/32
 PYJ06
~~PYJ08~~ use PYJ5/16
 PYJ10
 PYJ12
 PYJ16

PLJ PLUG IN ELBOW



- Part Number**
 PLJ1/8
 PLJ5/32
 PLJ3/16
 PLJ1/4
 PLJ5/16
 PLJ3/8
 PLJ1/2
- ~~PLJ04~~ use PLJ5/32
 PLJ06
~~PLJ08~~ use PLJ5/16
 PLJ10
 PLJ12

PLGJ REDUCING ELBOW



- Part Number**
 PLGJ5/32-1/8
 PLGJ3/16-5/32
 PLGJ1/4-5/32
 PLGJ1/4-3/16
 PLGJ5/16-1/4
 PLGJ3/8-5/16
 PLGJ1/2-3/8
- PLGJ06-04
 PLGJ08-06
 PLGJ10-08
 PLGJ12-10

The PLGJ Stem is the Larger Size

PWJ REDUCING Y



- Part Number**
 PWJ5/32-1/8
 PWJ1/4-5/32
 PWJ5/16-1/4
 PWJ3/8-5/16
 PWJ1/2-3/8
- PWJ06-04
 PWJ08-06
 PWJ10-08
 PWJ12-10

For 4mm and 8mm tube use 5/32 & 5/16 sizes respectively

For Technical Details Including Dimensions Visit www.pneuforce.com

PK MANIFOLD



- Part Number**
 PK5/32
 PK3/16
 PK1/4
 PK5/16
~~PK04~~ use PK5/32
 PK06
~~PK08~~ use PK5/16

The PK Manifold Has All Equal Size Ports

MANIFOLDS

PKG MANIFOLD



- Part Number**
 PKG3/16-5/32
 PKG1/4-5/32
 PKG5/16-5/32
 PKG5/16-1/4
 PKG3/8-1/4
 PKG3/8-5/16

- PKG06-04
 PKG08-06
 PKG10-06
 PKG10-08
 PKG12-10

The PKG Manifold Has Supply Ports of Equal Size & Three Reduced Side Ports

PKJ MANIFOLD



- Part Number**
 PKJ3/16-5/32
 PKJ1/4-5/32
 PKJ5/16-5/32
 PKJ5/16-1/4
 PKJ3/8-1/4
 PKJ3/8-5/16

- PKJ06-04
~~PKJ08-04~~ use PKJ5/16-5/32
 PKJ08-06
 PKJ10-06
 PKJ10-08

The PKJ Manifold Has a Stem & Opposite Tube Port of Equal Size & Three Reduced Side Ports

FLOW CONTROLS

JSC FLOW CONTROL INCH TUBE TO NPT



- Part Number**
 JSC1/8-U
 JSC1/8-N1
 JSC5/32-U
 JSC5/32-N1
 JSC3/16-U
 JSC3/16-N1
 JSC3/16-N2
 JSC3/16-N3
 JSC1/4-U
 JSC1/4-N1
 JSC1/4-N2
 JSC1/4-N3
 JSC5/16-N1
 JSC5/16-N2
 JSC5/16-N3
 JSC3/8-N2
 JSC3/8-N3
 JSC3/8-N4
 JSC1/2-N3
 JSC1/2-N4

JSC FLOW CONTROL MM TUBE TO BSPT



- Part Number**
 JSC04-01
 JSC04-02
 JSC06-01
 JSC06-02
 JSC06-03
 JSC06-04
 JSC08-01
 JSC08-02
 JSC08-03
 JSC08-04
 JSC10-01
 JSC10-02
 JSC10-03
 JSC10-04
 JSC12-02
 JSC12-03
 JSC12-04

JSC FLOW CONTROL MM TUBE TO BSPP



- Part Number**
 JSC04-M5
 JSC04-M6
 JSC04-G01
 JSC04-G02
 JSC06-M5
 JSC06-M6
 JSC06-G01
 JSC06-G02
 JSC06-G03
 JSC06-G04
 JSC08-G01
 JSC08-G02
 JSC08-G03
 JSC08-G04
 JSC10-G01
 JSC10-G02
 JSC10-G03
 JSC10-G04
 JSC12-G02
 JSC12-G03
 JSC12-G04

JSU FLOW CONTROL MM & INCH TUBING



- Part Number**
 JSU1/8
 JSU5/32
 JSU3/16
 JSU1/4
 JSU5/16
 JSU3/8
 JSU1/2
~~JSU04~~ use JSU5/32
 JSU06
~~JSU08~~ use JSU5/16
 JSU10
 JSU12

NASC FLOW CONTROL NPT THREADS

Part Number	Port Size
NASC-06	1/8NPT
NASC-08	1/4NPT
NASC-10	3/8NPT
NASC-15	1/2NPT

For 4mm and 8mm tube use 5/32 & 5/16 sizes respectively
 For Technical Details Including Dimensions Visit www.pneuforce.com

The Pneuforce brass nickel plated push to connect fittings have been developed for use in harsh environments and applications.

Designed for low and high temperature operation these fittings exceed all normal criteria expected of a standard push to connect fitting.

SPECIFICATIONS

Minimum Operating Temperature	-40°C / -40°F
Maximum Operating Temperature	+120°C / +248°F
Minimum Operating Pressure	29"Hg (vacuum)
Maximum Operating Pressure	12bar(g) / 176psi(g)

BC MALE STUD

Part Number - Inch to NPT

- BC1/8-U
- BC1/8-N1
- BC1/8-N2
- BC5/32-U
- BC5/32-N1
- BC5/32-N2
- BC1/4-N1
- BC1/4-N2
- BC1/4-N3
- BC1/4-N4
- BC5/16-N1
- BC5/16-N2
- BC5/16-N3
- BC5/16-N4
- BC3/8-N1
- BC3/8-N2
- BC3/8-N3
- BC3/8-N4
- BC1/2-N2
- BC1/2-N3
- BC1/2-N4



BL ELBOW

Part Number Inch to NPT

- BL1/8-U
- BL1/8-N1
- BL1/8-N2
- BL5/32-U
- BL5/32-N1
- BL5/32-N2
- BL1/4-N1
- BL1/4-N2
- BL1/4-N3
- BL1/4-N4
- BL5/16-N1
- BL5/16-N2
- BL5/16-N3
- BL5/16-N4
- BL3/8-N1
- BL3/8-N2
- BL3/8-N3
- BL3/8-N4
- BL1/2-N2
- BL1/2-N3
- BL1/2-N4



BB BRANCH TEE

Part Number - Inch to NPT

- BB1/8-U
- BB1/8-N1
- BB1/8-N2
- BB5/32-U
- BB5/32-N1
- BB5/32-N2
- BB1/4-N1
- BB1/4-N2
- BB1/4-N3
- BB1/4-N4
- BB5/16-N1
- BB5/16-N2
- BB5/16-N3
- BB5/16-N4
- BB3/8-N1
- BB3/8-N2
- BB3/8-N3
- BB3/8-N4
- BB1/2-N2
- BB1/2-N3
- BB1/2-N4



Part Number Inch & mm Tubing Universal Threads

- BC1/8-U01
- BC1/8-U02
- BC5/32-U01
- BC5/32-U02
- BC06-U01
- BC06-U02
- BC06-U03
- BC06-U04
- BC1/4-U01
- BC1/4-U02
- BC1/4-U03
- BC1/4-U04
- BC5/16-U01
- BC5/16-U02
- BC5/16-U03
- BC5/16-U04
- BC3/8-U01
- BC3/8-U02
- BC3/8-U03
- BC3/8-U04
- BC10-U01
- BC10-U02
- BC10-U03
- BC10-U04
- BC12-U02
- BC12-U03
- BC12-U04



Part Number Inch & mm Tubing Universal Threads

- BL1/8-U01
- BL1/8-U02
- BL5/32-U01
- BL5/32-U02
- BL06-U01
- BL06-U02
- BL06-U03
- BL06-U04
- BL1/4-U01
- BL1/4-U02
- BL1/4-U03
- BL1/4-U04
- BL5/16-U01
- BL5/16-U02
- BL5/16-U03
- BL5/16-U04
- BL3/8-U01
- BL3/8-U02
- BL3/8-U03
- BL3/8-U04
- BL10-U01
- BL10-U02
- BL10-U03
- BL10-U04
- BL12-U02
- BL12-U03
- BL12-U04



Part Number Inch & mm Tubing Universal Threads

- BB1/8-U01
- BB1/8-U02
- BB5/32-U01
- BB5/32-U02
- BB06-U01
- BB06-U02
- BB06-U03
- BB06-U04
- BB1/4-U01
- BB1/4-U02
- BB1/4-U03
- BB1/4-U04
- BB5/16-U01
- BB5/16-U02
- BB5/16-U03
- BB5/16-U04
- BB3/8-U01
- BB3/8-U02
- BB3/8-U03
- BB3/8-U04
- BB10-U01
- BB10-U02
- BB10-U03
- BB10-U04
- BB12-U02
- BB12-U03
- BB12-U04



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-40°C / -40°F

Maximum Operating Temperature

+120°C / +248°F

Minimum Operating Pressure

29"Hg (vacuum)

Maximum Operating Pressure

12bar(g) / 176psi(g)

BD RUN TEE

Part Number - Inch to NPT

BD1/8-U
BD1/8-N1
BD1/8-N2
BD5/32-U
BD5/32-N1
BD5/32-N2
BD1/4-N1
BD1/4-N2
BD1/4-N3
BD1/4-N4
BD5/16-N1
BD5/16-N2
BD5/16-N3
BD5/16-N4
BD3/8-N1
BD3/8-N2
BD3/8-N3
BD3/8-N4
BD1/2-N2
BD1/2-N3
BD1/2-N4



Part Number Inch & mm Tubing

Universal Threads

BD1/8-U01
BD1/8-U02
BD5/32-U01
BD5/32-U02
BD06-U01
BD06-U02
BD06-U03
BD06-U04
BD1/4-U01
BD1/4-U02
BD1/4-U03
BD1/4-U04
BD5/16-U01
BD5/16-U02
BD5/16-U03
BD5/16-U04
BD3/8-U01
BD3/8-U02
BD3/8-U03
BD3/8-U04
BD10-U01
BD10-U02
BD10-U03
BD10-U04
BD12-U02
BD12-U03
BD12-U04



BE UNION TEE

Part Number

BE1/8
BE5/32
BE1/4
BE5/16
BE3/8
BE1/2

~~BE04~~ use BE5/32
BE06
~~BE08~~ use BE5/16
BE10
BE12



BM BULKHEAD

Part Number

BM1/8
BM5/32
BM1/4
BM5/16
BM3/8
BM1/2

~~BM04~~ use BM5/32
BM06
~~BM08~~ use BM5/16
BM10
BM12



BG REDUCING UNION

Part Number

BG1/4-5/32
BG5/16-1/4
BG3/8-5/16
BG1/2-3/8

BG06-04
BG10-08
BG12-10



BU UNION

Part Number

BU1/8
BU5/32
BU1/4
BU5/16
BU3/8
BU1/2

~~BU04~~ use BU5/32
BU06
~~BU08~~ use BU5/16
BU10
BU12



BV UNION ELBOW

Part Number

BV1/8
BV5/32
BV1/4
BV5/16
BV3/8
BV1/2

~~BV04~~ use BV5/32
BV06
~~BV08~~ use BV5/16
BV10
BV12



For 4mm and 8mm tube use 5/32 & 5/16 sizes respectively

For Technical Details Including Dimensions Visit www.pneuforce.com

FITTINGS CHEST

Get organized with the Pneuforce Fittings Chest!

- Over 40 Different Compartments
- Easy Carry Handle
- Holds and Includes 420 Fittings
- All threaded Models Have the Unique Pneuforce Universal Thread.
- Fits Female NPT, NPSF, BSPT, & BSPP Threads
- Double Layer Sturdy Construction Chest
- Easy to read ID Tags for Reordering

Part Number - PNFINCH

Inch size tube fittings with universal threads on all threaded models.

Tube Sizes	Thread Sizes
5/32"	1/8 Universal
1/4"	1/4 Universal
5/16"	3/8 Universal
3/8"	

Part Number - PNFMETRIC

Metric size tube fittings from 4mm (5/32") to 10mm with universal threads on all threaded models. All 4mm and 8mm tube fittings are substituted with 5/32" and 5/16" models which are directly interchangeable.

Tube Sizes	Thread Sizes
5/32" (4mm)	1/8 Universal
6mm	1/4 Universal
5/16" (8mm)	3/8 Universal
10mm	

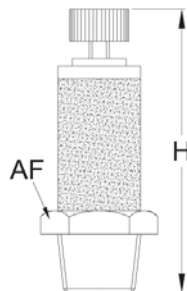
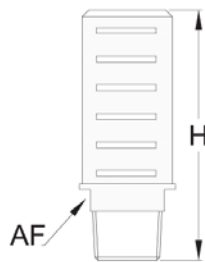
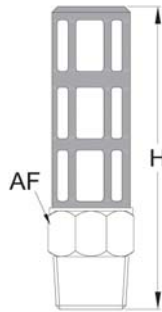
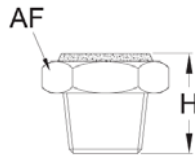
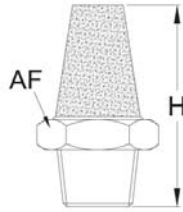
Get full listing of parts and contents at our website
www.pneuforce.com/Pneumatics/push-to-connect-fittings/chests



All threaded fittings include the Pneuforce Universal Thread

Easy To Read Identity Tags for Reordering





Part Number	Thread	H	AF
BSL-M5	10-32UNF	19	8
BSL-N1	1/8NPT	23	12
BSL-N2	1/4NPT	27	15
BSL-N3	3/8NPT	36	18
BSL-N4	1/2NPT	41	21
BSL-N6	3/4NPT	48	27
BSL-N8	1NPT	62	34

Part Number	Thread	H	S
BSLM-M5	10-32UNF	9	8
BSLM-N1	1/8NPT	11	12
BSLM-N2	1/4NPT	13	15
BSLM-N3	3/8NPT	14	18
BSLM-N4	1/2NPT	15	21
BSLM-N6	3/4NPT	18	27
BSLM-N8	1NPT	20	34

Part Number	Thread	H	AF
PSU-01	1/8	37	15
PSU-02	1/4	65	18
PSU-03	3/8	83	21
PSU-04	1/2	93	23

The PSU thread is suitable for both NPT & G female thread connection.

Part Number	Thread	H	AF
ALS-01	1/8NPT	42	16
ALS-02	1/4NPT	43	16
ALS-03	3/8NPT	71	25
ALS-04	1/2NPT	79	25

Part Number	Thread	H	AF
BESL-01	1/8NPT	36	12
BESL-02	1/4NPT	38	14
BESL-03	3/8NPT	48	17
BESL-04	1/2NPT	64	21

all dimensions are in mm

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

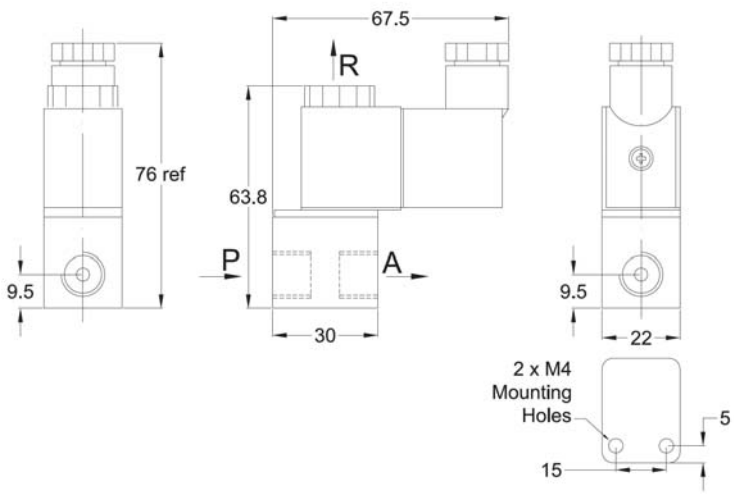
The exhaust port of the N2V035 valves is a 10-32UNF (M5) thread in the top of the solenoid stem.



N		2V		025		06		24VDC	
Thread Type		Valve Series		Valve Type		Valve Type		Coil Voltage	
	BSPP			025	2-way	06	1/8		12VDC
N	NPT			035	3-way	08	1/4		24VDC
									24VAC
									110VAC
									230VAC

Dimension	N2V025-06-24VDC	N2V025-08-24VDC	N2V035-06-24VDC	N2V035-08-24VDC
Valve Type	2-way		3-way	
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			

DIMENSIONS (mm)



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.

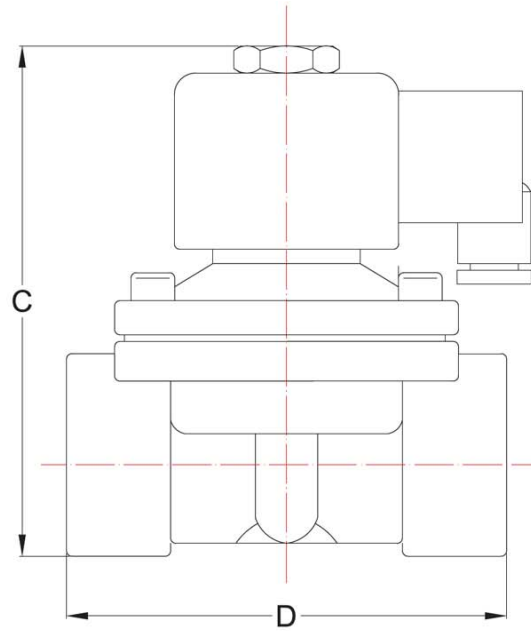
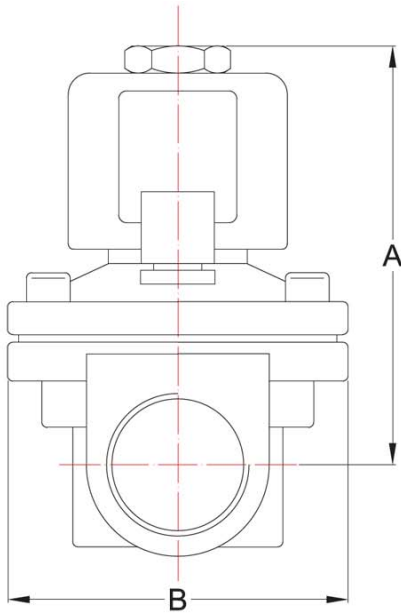
Supplied with a DIN43650 Form A coil these simple and robust valves offer the user unparalleled performance via the over sized orifices. Port sizes from 3/8NPT to 2NPT and Viton® seals available as an option. N2W models are brass and N2S are stainless steel.



N		2W		160	15	24VDC		
Thread Type		Valve Body		Body Size	Port Size		Coil Voltage	
	BSPP	W	Brass	160	10	3/8	12VDC	
N	NPT	S	SS		15	1/2	24VDC	
					200	20	3/4	24VAC
					250	25	1	110VAC
					350	35	1 1/4	230VAC
					400	40	1 1/2	
				500	50	2		

Dimension	N2*160-10	N2*160-15	N2*200-20	N2*250-25	N2*350-35	N2*400-40	N2*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	Weight (lbs)
N2*160-10	3/8	4.8	102	57	117	69	1.6
N2*160-15	1/2	4.8			124	73	1.8
N2*200-20	3/4	7.6	107	74	135	99	3.2
N2*250-25	1	12	142	95	172	123	5.7
N2*350-35	1 1/4	24					
N2*400-40	1 1/2	29	172	123	209	168	9.9
N2*500-50	2	48					



- Stainless steel body
- 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"

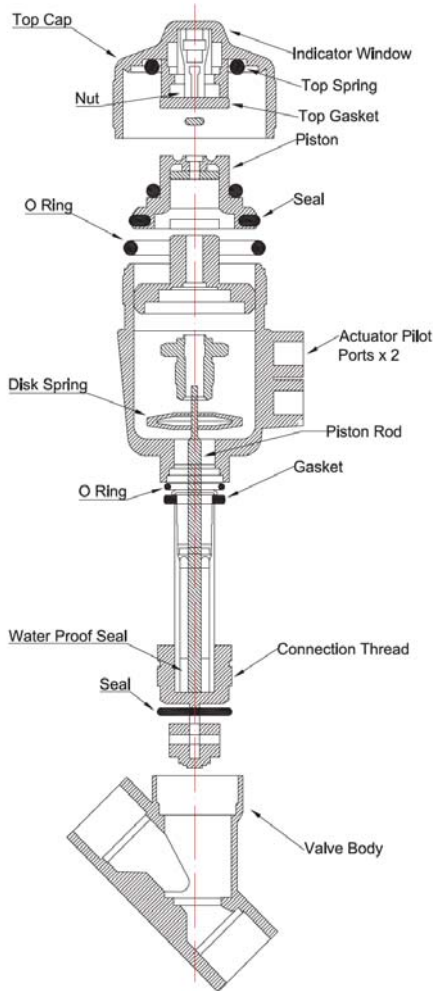


G		ASV	15	S	1	NC			
Connection Type		Model Series	Orifice (mm)	Body Material		Actuation		Type	
G	BSPP		15	S	Stainless Steel		1	Single Acting	
N	NPT		20				2	Double Acting	
DN	Flange		25					NC	Normally Closed
BL	Bolt Flange		35					NO	Normally Open
			40						
			50						
			65						

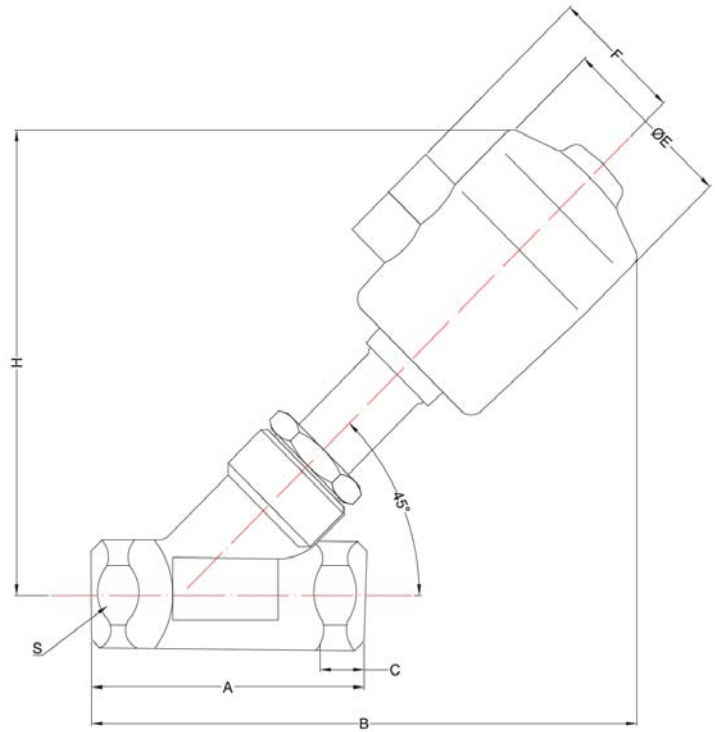
SPECIFICATIONS

Orifice (mm)	Thread	Flow m ³ /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 14 to 356°F
20	3/4"	8 / 4.7	11 / 165		
25	1"	19 / 11.2	15 / 225	0.42 / 6.3	
35	1 1/4"	28 / 16.5	12.5 / 188	0.5 / 7.5	
40	1 1/2"	42 / 25	10 / 150	0.44 / 6.6	
50	2"	55 / 32.5		0.4 / 6	
65	2 1/2"	65 / 38.5			

INTERNAL STRUCTURE

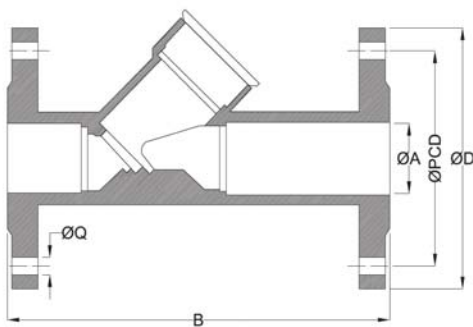


DIMENSIONS



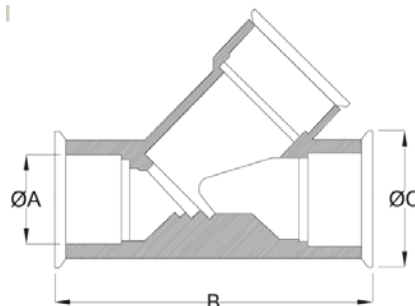
Orifice (mm)	Port D	A	B	C	ØE	F	H	S
15	1/2"	85	173	12	64	44	137	27
20	3/4"	95	178				145	32
25	1"	105	212	14	80	52	173	41
32	1 1/4"	118	236				189	55
40	1 1/2"	130	230				250	70
50	2"	150	238	20	100		250	70
65	2 1/2"	155	300	25	125	62	265	80

BL FLANGE MODELS



Orifice (mm)	ØA	B	ØD	PCD x 4	ØQ
15	19	130	95	65	14
20	25	150	105	75	
25	32	160	115	85	
32	38	180	135	100	18
40	45	200	145	110	
50	57	230	160	125	
65	68	290	182	145	

DN FLANGE MODELS



Orifice (mm)	ØA	B	ØC
15	19	120	50.50
20	25	130	
25	32	140	
32	38	150	64
40	45	180	
50	57	195	
65	68	230	

- Valve series uses low friction spool design with manual 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 (N5A) available upon request

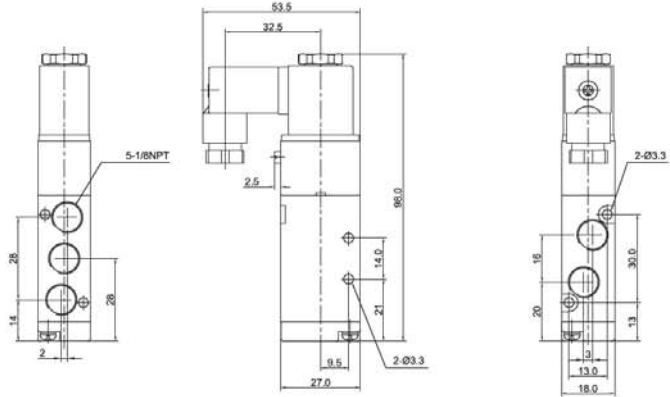


N		5V		1		10		06		24VDC	
Thread Type		Series Type		Valve Function		Port Size		Voltage			
	BSPP			10	Single Actuator 5/2	06	1/8	12VDC			
N	NPT			20	Double Actuator 5/2			24VDC			
				30C	Double Coil Center Closed			24VAC			
				30E	Double Coil Center Exhaust			110VAC			
				30P	Double Coil Center Pressure			230VAC			

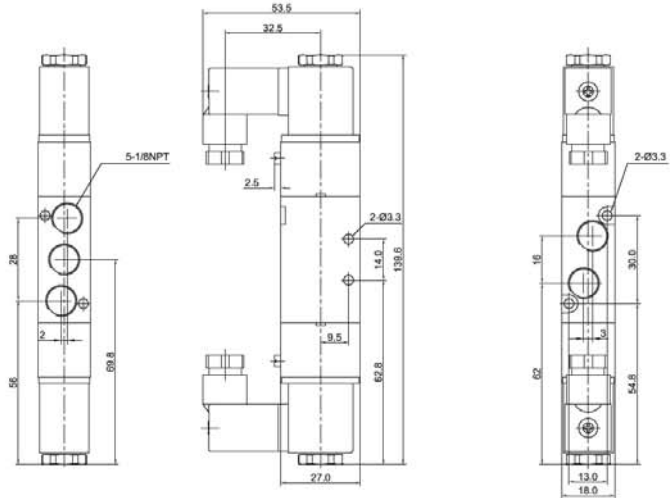
Valve Model	N5V110-06	N5V120-06	N5V130C-06	N5V130E-06	N5V130P-06
Valve Type	5/2		5/3		
Orifice and Cv	12mm ² 0.56Cv		9mm ² 0.5Cv		
Port Size	Inlet, Exhaust and Signal Ports all 1/8NPT				
Working Medium	40 Micron Filtered Air				
Operation	Internal Pilot				
Working Pressure	1.5-8bar (g) 22 - 120psi				
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 9.4mm				
Cycle Rate	5/sec				
Response Time	0.05sec				

DIMENSIONS (mm)

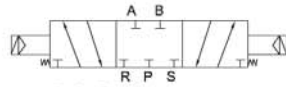
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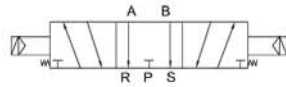
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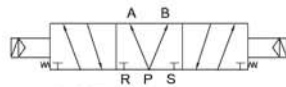
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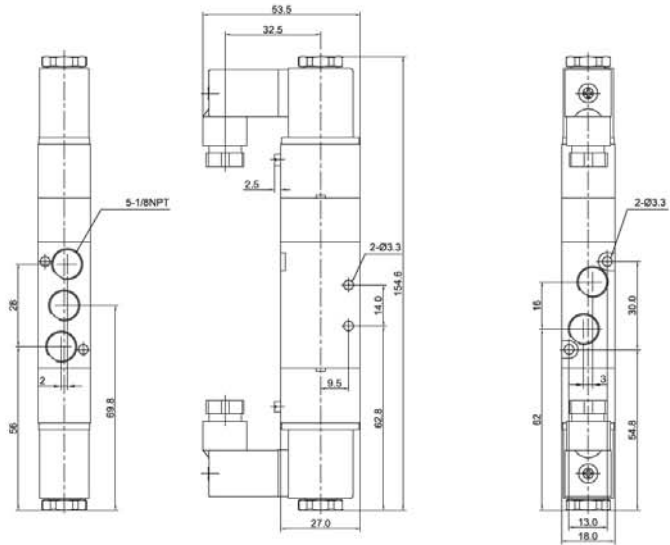
30C



30E



30P



- Valve series uses low friction spool design with manual 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 (N5A) available upon request

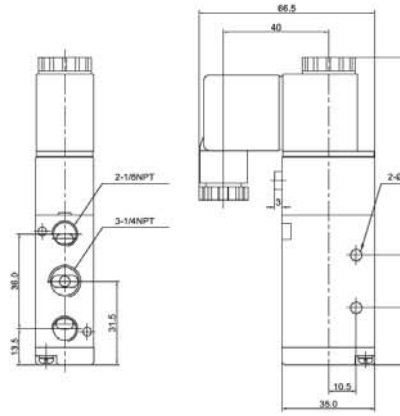
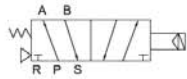


N		5V		2		10		08		24VDC	
Thread Type		Series Type		Body Size		Valve Function		Port Size		Voltage	
	BSPP					10	Single Actuator 5/2	08	1/4		12VDC
N	NPT					20	Double Actuator 5/2				24VDC
						30C	Double Coil Center Closed				24VAC
						30E	Double Coil Center Exhaust				110VAC
						30P	Double Coil Center Pressure				230VAC

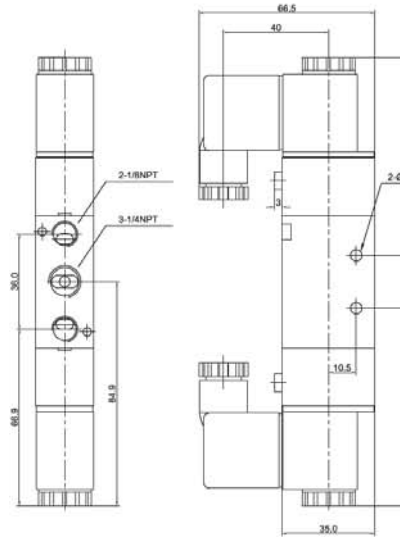
Valve Model	N5V210-08	N5V220-08	N5V230C-08	N5V230E-08	N5V230P-08
Valve Type	5/2		5/3		
Orifice and Cv	16mm ² 0.89Cv		12mm ² 0.67Cv		
Port Size	Inlet and Signal Ports all 1/4NPT, Exhaust 1/8NPT				
Working Medium	40 Micron Filtered Air				
Operation	Internal Pilot				
Working Pressure	1.5-8bar (g) 22 - 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 B				
Cycle Rate	5/sec				
Response Time	0.05sec				

DIMENSIONS (mm)

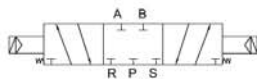
N5V210-08



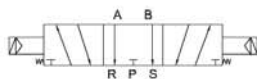
N5V220-08



N5V230-08



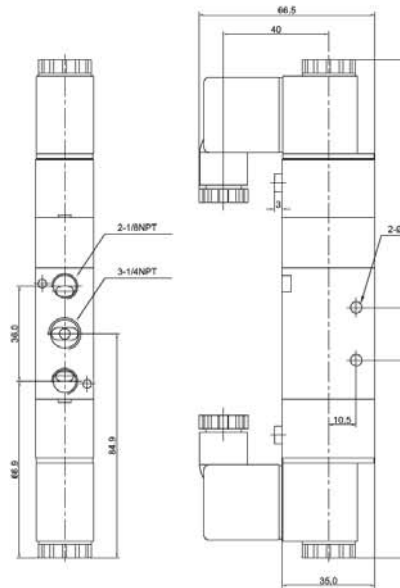
30C



30E



30P



- Valve series uses low friction spool design with manual piston reset for improved reliability, functionality and life
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- Pilot actuator models (N5A) available upon request

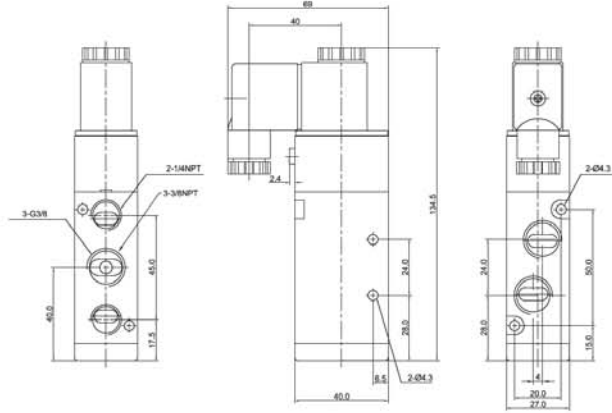
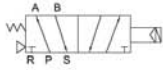


N		5V		3		10		10		24VDC	
Thread Type		Series Type		Body Size		Valve Function		Port Size		Voltage	
	BSPP					10	Single Actuator 5/2	10	3/8		12VDC
N	NPT					20	Double Actuator 5/2				24VDC
						30C	Double Coil Center Closed				24VAC
						30E	Double Coil Center Exhaust				110VAC
						30P	Double Coil Center Pressure				230VAC

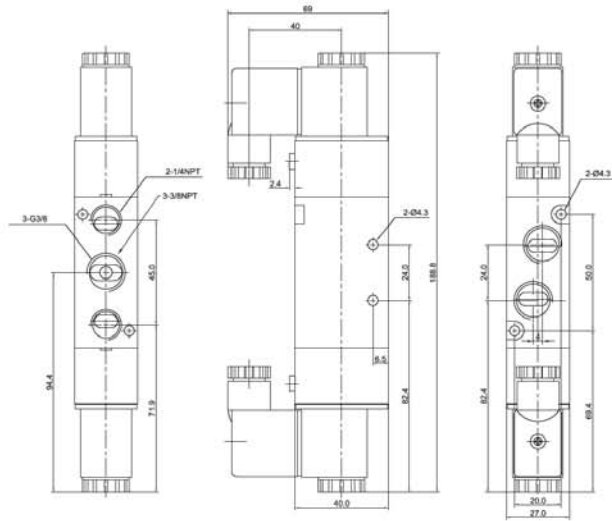
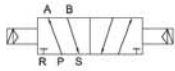
Valve Model	N5V310-10	N5V320-10	N5V330C-10	N5V330E-10	N5V330P-10
Valve Type	5/2		5/3		
Orifice and Cv	30mm ² 1.68Cv		18mm ² 1.0Cv		
Port Size	Inlet and Signal Ports all 3/8NPT, Exhaust 1/4NPT				
Working Medium	40 Micron Filtered Air				
Operation	Internal Pilot				
Working Pressure	1.5-8bar (g) 22 - 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 B				
Cycle Rate	5/sec				
Response Time	0.05sec				

DIMENSIONS (mm)

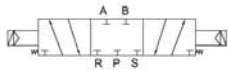
N5V310-10



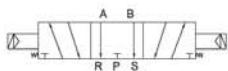
N5V320-10



N5V330-10



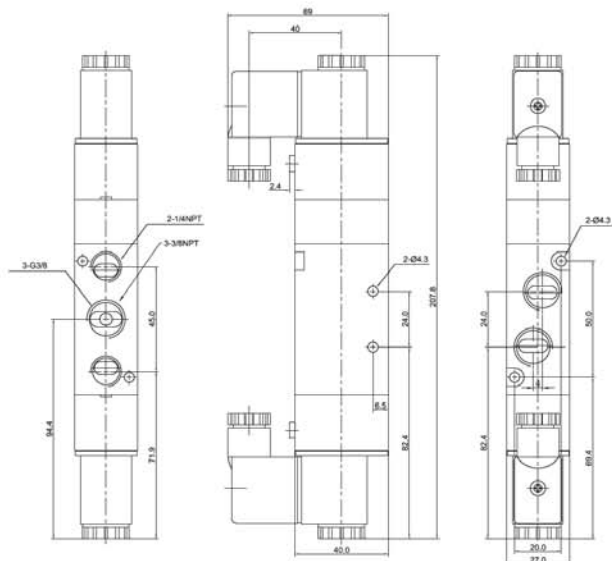
30C



30E



30P



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- 5/2 and 5/3 way models
- Pilot actuator models (N5A) available upon request

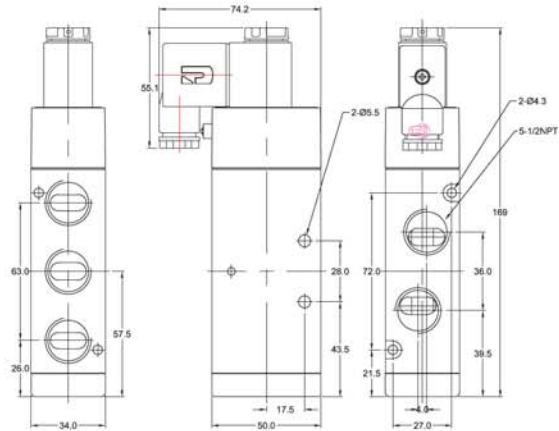


N		5V		4		10		-		15		24VDC	
Thread Type		Series Type		Body Size		Valve Function				Port Size		Voltage	
	BSPP					10	Single Actuator 5/2			15	1/2		12VDC
N	NPT					20	Double Actuator 5/2						24VDC
						30C	Double Coil Center Closed						24VAC
						30E	Double Coil Center Exhaust						110VAC
						30P	Double Coil Center Pressure						230VAC

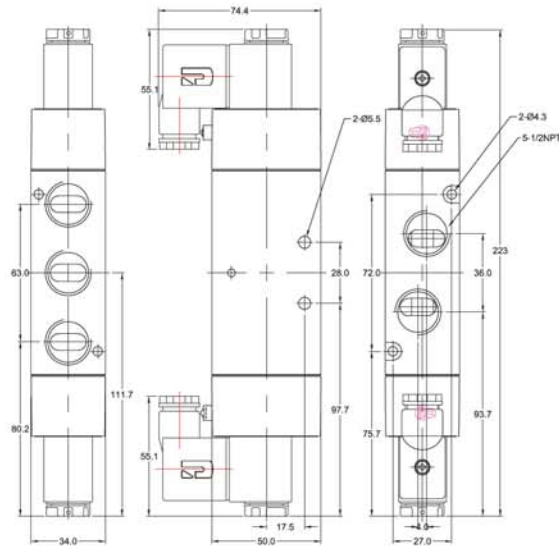
Valve Model	N5V410-15	N5V420-15	N5V430C-15	N5V430E-15	N5V430P-15
Valve Type	5/2		5/3		
Orifice and Cv	50mm ² 2.79Cv		30mm ² 1.68Cv		
Port Size	Inlet, Exhaust and Signal Ports all 1/2NPT				
Working Medium	40 Micron Filtered Air				
Operation	Internal Pilot				
Working Pressure	1.5-8bar (g) 22 - 120psi				
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 B				
Cycle Rate	5/sec				
Response Time	0.05sec				

DIMENSIONS (mm)

N5V410-15



N5V420-15



N5V430-15



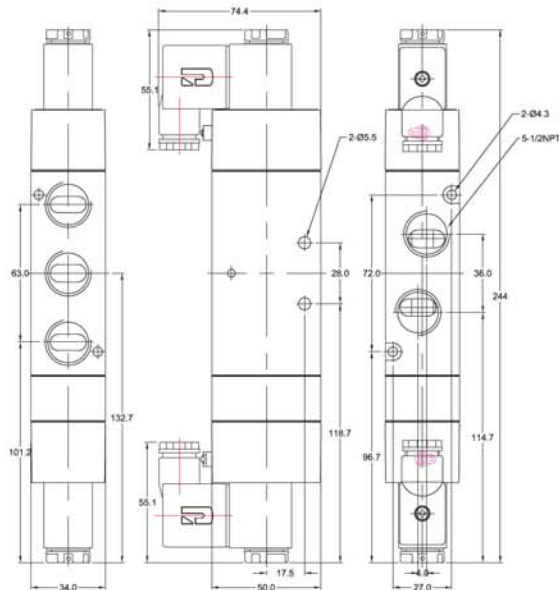
30C



30E



30P



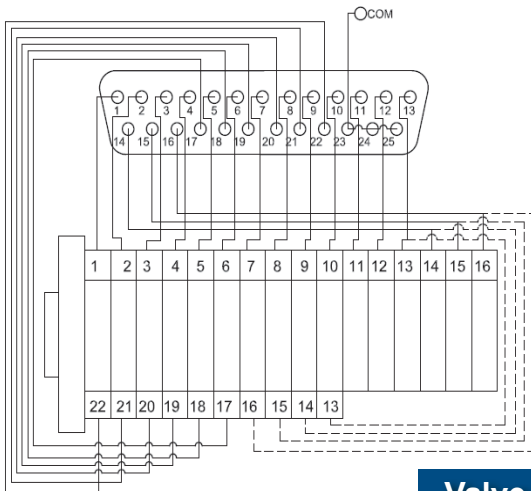
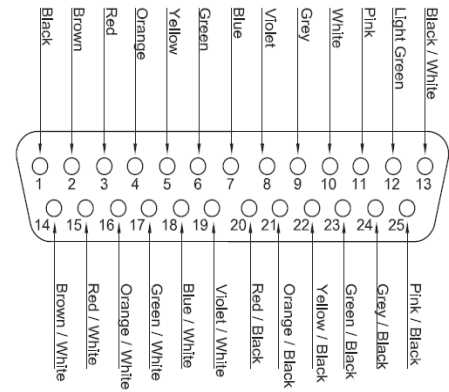
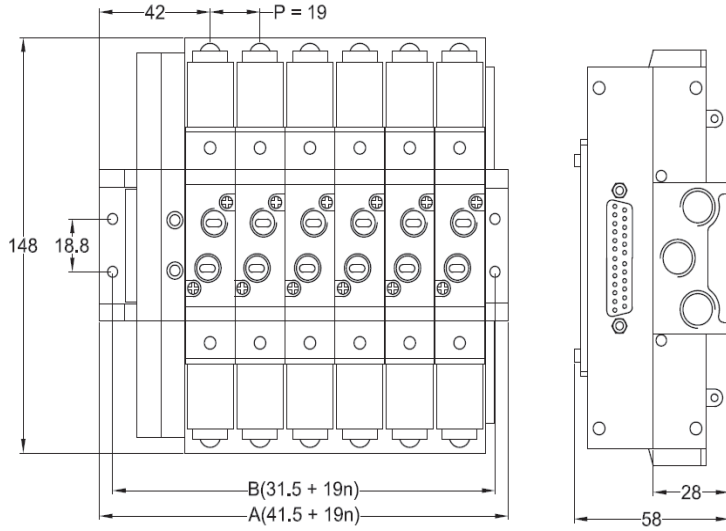
- Centralized Manifold System
- Compact and Efficient Control Valve Installations
- Common Supply and Exhaust ports
- 25 pin D-sub Electrical Connector
- 5/2 and 5/3 way Control Valve Options
- Single and Double Coil Options



MCS		100	06		C		E4	24VDC
Series Type		Valve Type	Valve Port Size		Valve Function		Valve Combination	Voltage
MCS	BSPP	100 Series	06	1/8	C	Double Coil Center Closed	Refer to Table Opposite for Code	12VDC
NMCS	NPT				E	Double Coil Center Exhaust		24VDC
					P	Double Coil Center Pressure		

SPECIFICATIONS			
Valve Type	5/2 Single Coil	5/2 Double Coil	5/3 Double Coil
Orifice and Cv	12mm ² 0.67Cv		9mm ² 0.5Cv
Port Size	G1/8 or 1/8NPT		
Working Media	40μ Compressed Air		
Operation	Internally Piloted		
Working Pressure	1.5 - 8bar (22.5 - 120psi)		
Ambient Temperature	5-50°C (41-122°F)		
Voltage Tolerance	+/-10%		
Power Consumption	2.8W per coil		
Connector Insulation	F Type IP65		
Cycle Rate	5/sec		
Response Time	0.05sec		

DIMENSIONS (mm)

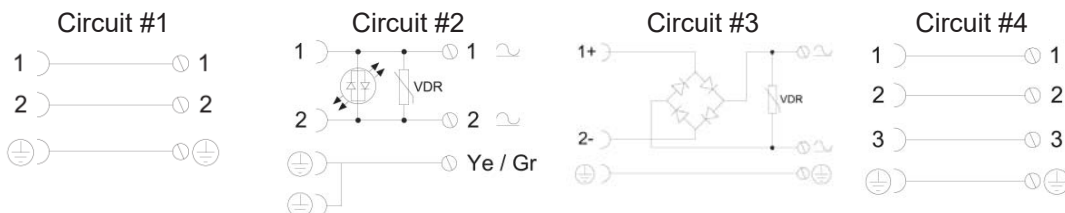
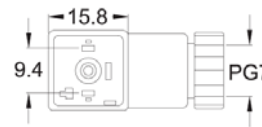
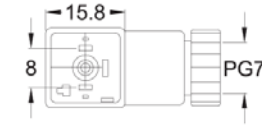
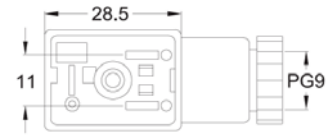
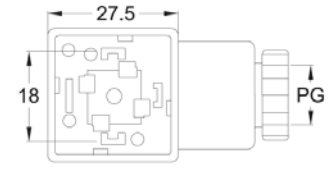
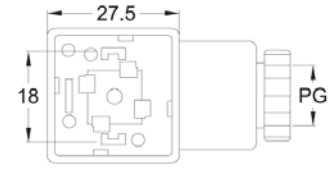


Valve Combination

		SINGLE SOLENOID VALVE																
		a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q
		0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
DOUBLE SOLENOID VALVE	A	0	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	B	1	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
	C	2	●	●	●	●	●	●	●	●	●	●	●	●	●	●		
	D	3	●	●	●	●	●	●	●	●	●	●	●	●	●			
	E	4	●	●	●	●	●	●	●	●	●	●	●	●				
	F	5	●	●	●	●	●	●	●	●	●	●	●					
	G	6	●	●	●	●	●	●	●	●	●	●						
	H	7	●	●	●	●	●	●	●	●								
	I	8	●	●	●	●	●	●										
	J	9	●	●	●	●	●											
	K	10	●	●	●													

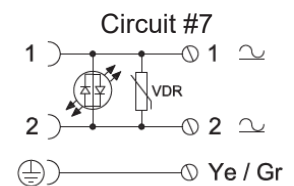
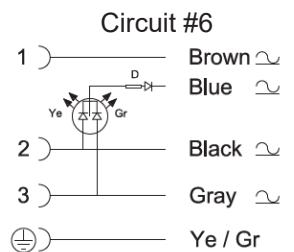
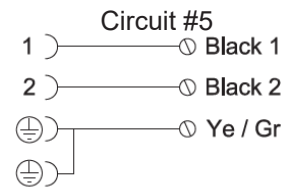
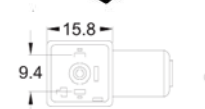
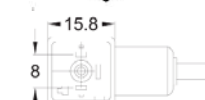
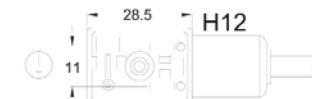
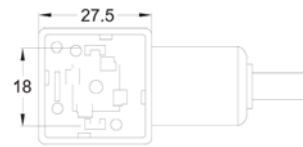


Part Number	Type	Color	Gland	Circuit & Voltage	Circuit Type
FORM A 18mm 3 Contacts (2 + GRND)					
KA132000B9	Form A 18mm	Black	PG9	No Circuit	Circuit #1
KA132000B1			PG11	No Circuit	
KA132000B3			1/2NPTF	No Circuit	
KA132000A9		Gray	PG9	No Circuit	Circuit #2
KA132000A1			PG11	No Circuit	
KA132000A3			1/2NPTF	No Circuit	
KA132V5GT9		Transparent	PG9	12V Varistor and LED	Circuit #2
KA132V54T9			PG9	24V Varistor and LED	
KA132V55T9			PG9	115V Varistor and LED	
KA132R13B9		Black	PG9	Rectifier Circuit	Circuit #3
FORM A 18mm 4 Contacts (3 + GRND)					
KA042000B9	Form A 18MM	Black	PG9	No Circuit	Circuit #4
KA042000B1			PG11		
KA042000B3			1/2NPTF		
KA042000A9		Gray	PG9		
KA042000A1			PG11		
KA042000A3			1/2NPTF		
FORM B 11mm 3 Contacts (2 + GRND)					
KB132000B9	Form B 11MM	Black	PG9	No Circuit	Circuit #1
KB132V54T9		Transparent		24V Varistor and LED	Circuit #2
KB132V55T9				115V Varistor and LED	
FORM C 8mm 3 Contacts (2 + GRND)					
KC136000B7	Form C 8MM	Black	PG7	No Circuit	Circuit #1
KC136V54T7		Transparent	PG7	24V Varistor and LED	Circuit #2
KC136V55T7		Transparent	PG7	115V Varistor and LED	
FORM C 9.4mm 3 Contacts (2 + GRND)					
KD136000B7	FORM C 9.4MM	Black	PG7	No Circuit	Circuit #1
KD136V54T7		Transparent	PG7	24V Varistor and LED	Circuit #2
KD136V55T7		Transparent	PG7	115V Varistor and LED	





Part Number	Type	Cable Length	Circuit & Voltage
Form A 18mm			
MA134000PA05200	Form A 18mm	6ft	Circuit 5
MA134000PA05500		15ft	
MA634V54PA05200		6ft	24VDC Circuit 2
MA634V54PA05500		15ft	
MA634V55PA05200		6ft	110VAC Circuit 2
MA634V55PA05500		15ft	
MA634V5GPA05200		6ft	12VDC Circuit 2
MA634V5GPA05500		15ft	
MA635P3YPC04200	Form A 18mm H12	6ft	Circuit 6
MA635P3YPC04500		15ft	
MA636P3ZPC04200	Form A 18mm H6	6ft	
MA636P3ZPC04500		15ft	
Form B 11mm			
MB135000PA05200	Form B 11MM H12	6ft	Circuit 1
MB135000PA05500		15ft	
MB136000PA05200	Form B 11MM H6	6ft	
MB136000PA05500		15ft	
MB635V54PA05200	Form B 11MM H12	6ft	24VDC
MB635V54PA05500		15ft	Circuit 7
MB635V55PA05200		6ft	110VAC
MB635V55PA05500		15ft	Circuit 7
MB636V54PA05200	Form B 11MM H6	6ft	24VDC
MB636V54PA05500		15ft	Circuit 7
MB636V55PA05200		6ft	110VAC
MB636V55PA05500		15ft	Circuit 7
Form C 8mm			
MC134000PA01200	Form C 8MM	6ft	Circuit 5
MC134000PA01500		15ft	
MC634V54TA01200		6ft	24VDC
MC634V54TA01500		15ft	
MC634V55TA01200		6ft	110VAC
MC634V55TA01500		15ft	
Form D 9.4mm			
MD134000PA01200	Form C 9.4MM	6ft	Circuit 5
MD134000PA01500		15ft	
MD634V54TA01200		6ft	24VDC
MD634V54TA01500		15ft	
MD634V55TA01200		6ft	110VAC
MD634V55TA01500		15ft	





MSV86321 MSV86321EB MSV86321LB MSV86321TB MSV86321PP MSV86321PPL MSV86321PB MSV86321R



MSV86522 MSV86522EB MSV86522LB MSV86522TB MSV86522PP MSV86522PPL MSV86522PB MSV86522R



MSV98322 MSV98322EB MSV98322LB MSV98322TB MSV98322PP MSV98322PPL MSV98322PB MSV98322R

NMSV **86** **32** **1** **R**

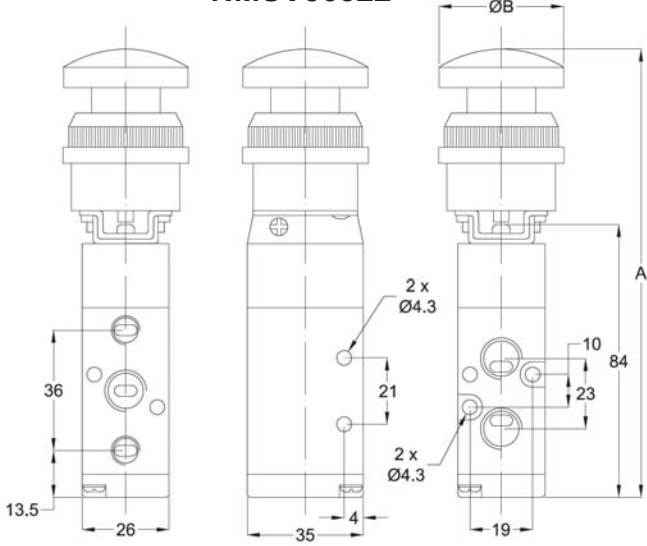
Series		Type	Valve Function		Port Size		Actuator Type	
NMSV	NPT	86	32	3-Way	1	1/8	blank	Plunger
MSV	BSPP	98	52	5-Way	2	1/4	R	Roller
							TB	Selector Knob
							LB	Extended Selector Knob
							PB	Domed Head Button
							PP	Push Button
							PPL	Raised Push Button
							EB	Emergency Stop with Lock

SPECIFICATIONS

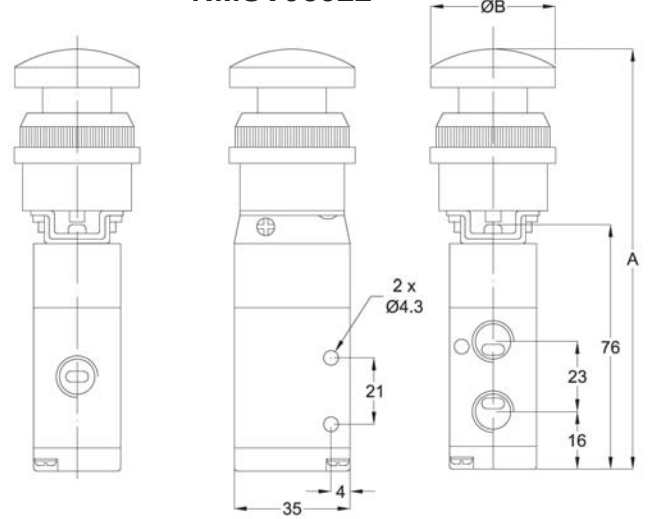
Model	NMSV86321	NMSV86522	NMSV98322
Working Medium	40 Micron Filtered Air		
Configuration	3/2	5/2	3/2
Working Pressure	0-8bar(g) / 0-120psi		
Working Temperature	5-60° / 41-140°F		
Effective CSA	12mm ² (Cv 0.67)	16mm ² (Cv 0.89)	
Port Size	1/8	1/4	

DIMENSIONS (mm)

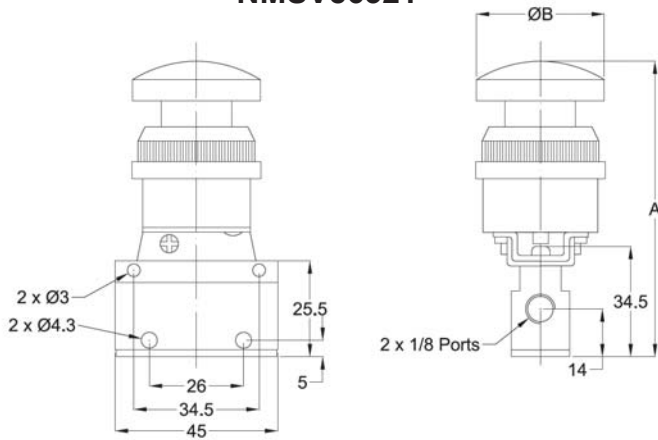
NMSV86522



NMSV98322

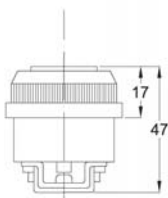


NMSV86321

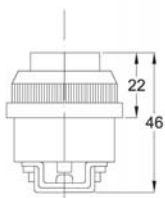


Series	Dimension	PP	PPL	LB	TB	EB	PB	R
MSV86522	A	114	119	133	136.5	134	131	107.5
	B	39.5	24.5	26.5	36.5	39.5	37.5	42.5
MSV98322	A	106	111	125	129.5	126	123	99.5
	B	39.5	24.5	26.5	36.5	39.5	37.5	42.5
MSV86321	A	66	71	85	88.5	86	83	59.5
	B	39.5	24.5	26.5	36.5	39.5	37.5	42.5

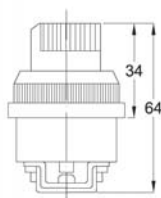
PP



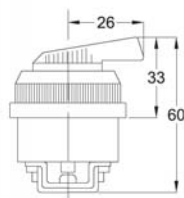
PPL



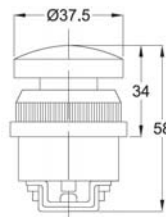
TB



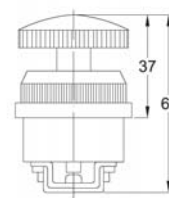
LB



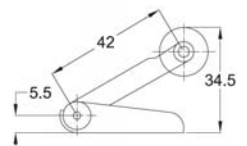
PB



EB



R



- 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

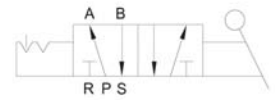
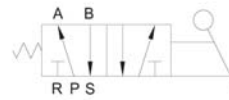
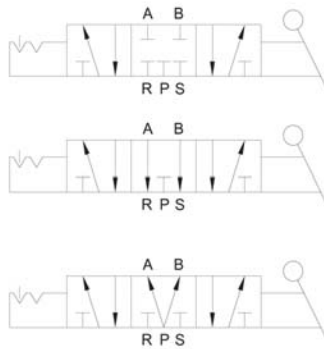
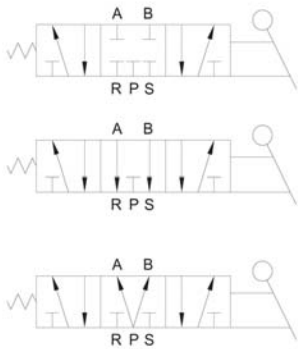


N4H 5/3 Spring Return

N4H 5/3 Latching

N4H 5/2 Spring Return

N4H 5/2 Latching

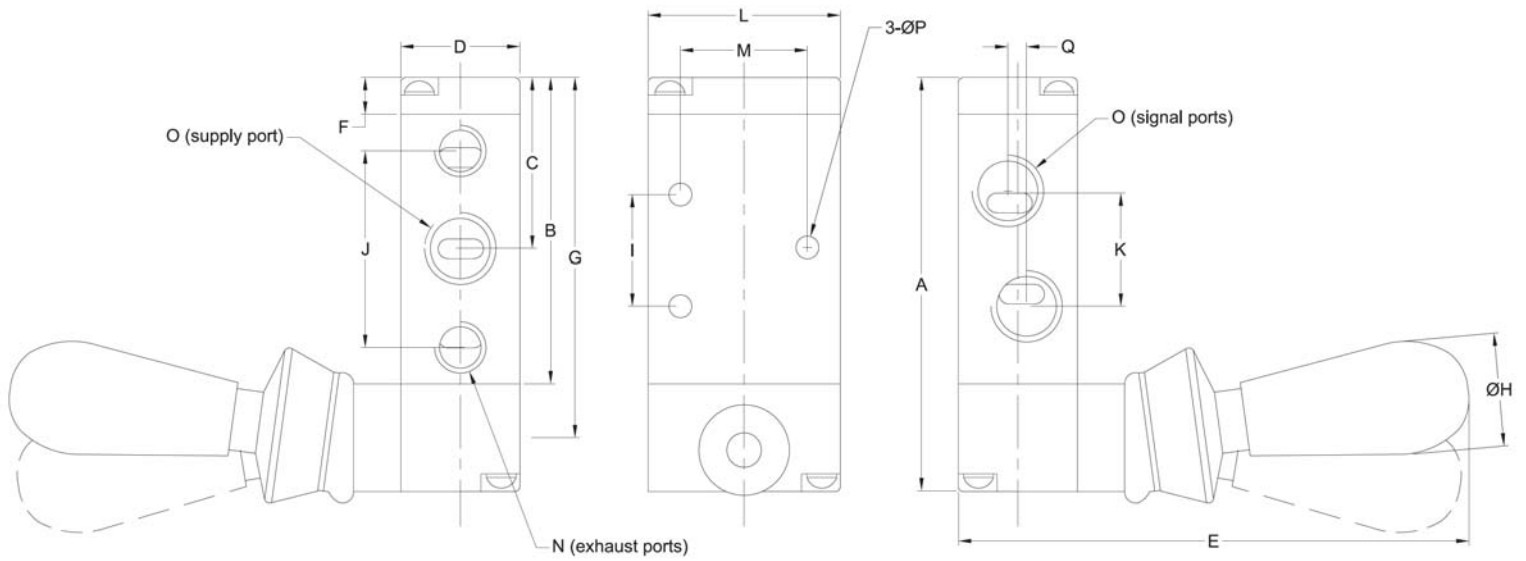


N		4H		2		10		08		L	
Port Threads		Series Type		Body Size		Valve Function		Port Size		Detent Option	
N	NPT			2	10	30C	Single Actuator 5/2	08	1/4		Spring Return
	BSPP			3	30E	30P	Center Closed	10	3/8	L	Latching
				4			Center Exhaust	15	1/2		
							Center Pressure				

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 ² 0.78Cv	12mm ² 0.67Cv	30mm ² 1.7Cv	18mm ² 1.0Cv	50mm ² 2.8Cv	30mm ² 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	N4H310-10	N4H330-10	N4H410-15	N4H430-15
	N4H230-08L	Spring Return	N4H330-10L	Spring Return	N4H410-15L	Spring Return
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

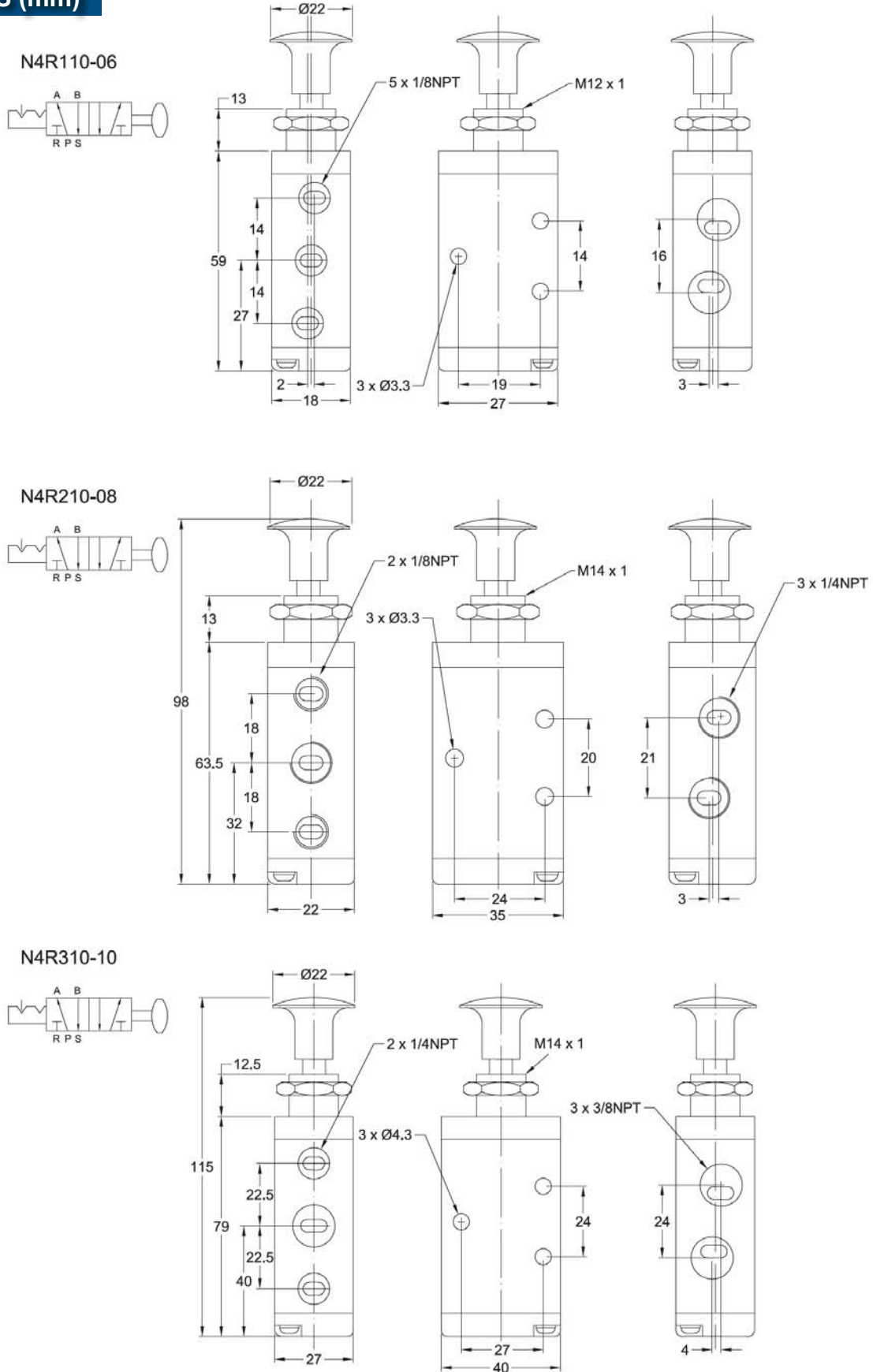


N		4R		1		10		- 06	
Port Threads		Series Type		Body Size		Valve Port Size		Port Size	
N	NPT			1	10	Single Actuator 5/2		06	1/8
	BSPP			2				08	1/4
				3				10	3/8

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 ² 0.56Cv	16mm ² 0.89Cv	30mm ² 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)



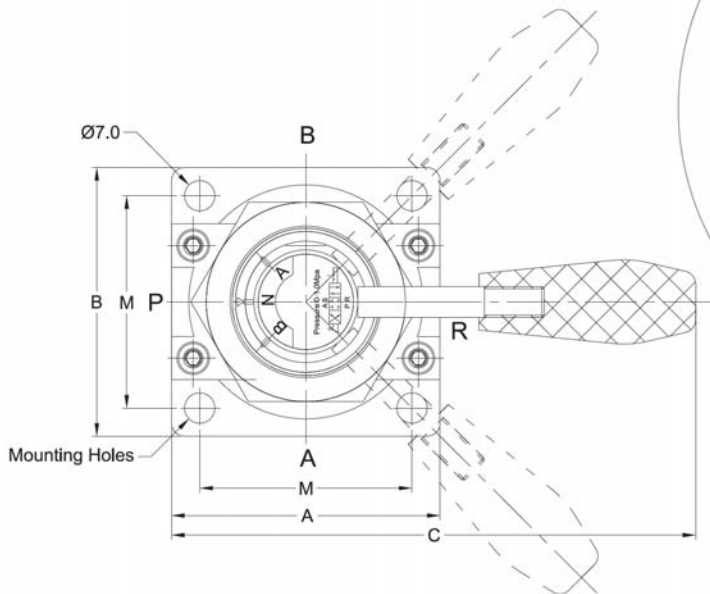
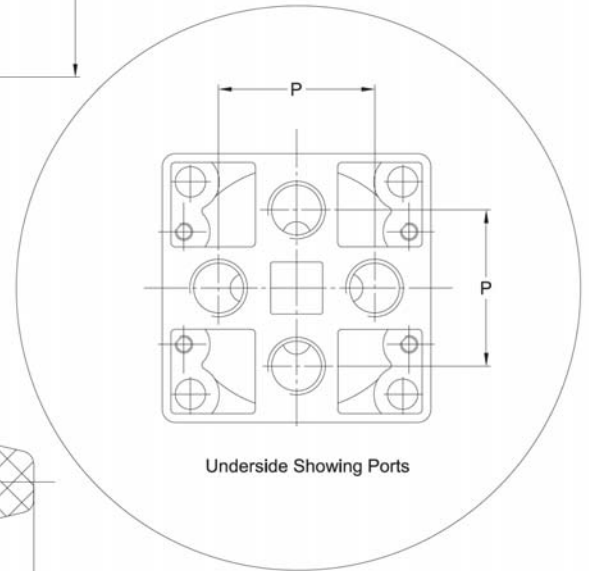
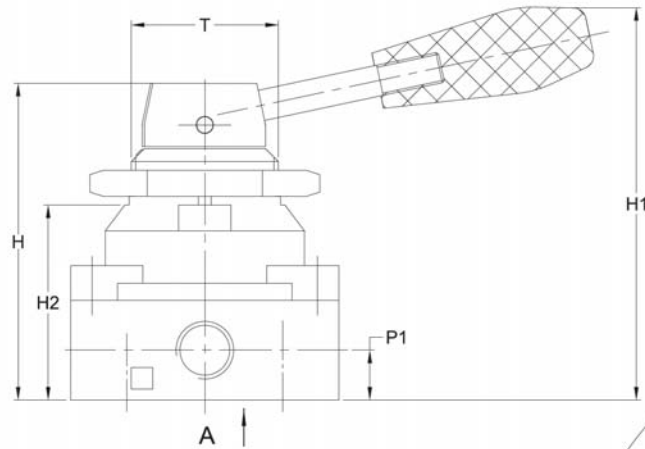
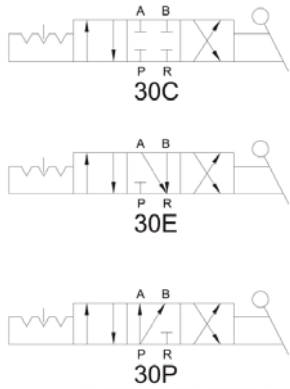
- Rotary hand valves for use in manual actuator applications
- Available in 1/4, 3/8 and 1/2 signal ports
- Detented three position valves
- Ceramic valve plate for increased durability



N		4HV		2		30		- 08		S	
Port Threads		Series Type		Body Size		Valve Port Size		Port Size		Panel Nut	
N	NPT			2	30C	Closed Mid Position		08	1/4		None
	BSPP			3	30E	Exhaust Mid Position		10	3/8	S	Included
				4	30P	Pressure Mid Position		15	1/2		

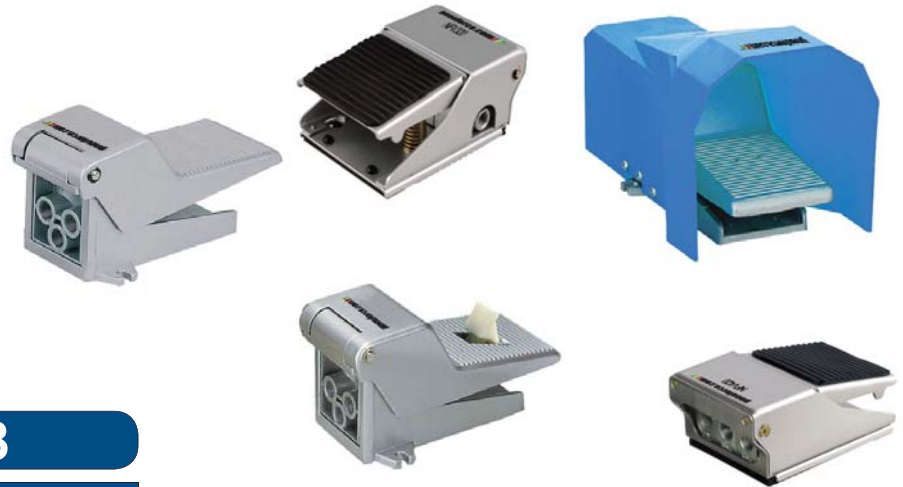
Valve Model	N4HV230*-08	N4HV330*-10	N4HV430*-15
Valve Type	5/3		
Port Sizes	1/4NPT	3/8NPT	1/2NPT
Working Medium	40 Micron Filtered Air		
Working Pressure	10bar (150psi)		
Ambient Temperature	5-60°C (41-140°F)		

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

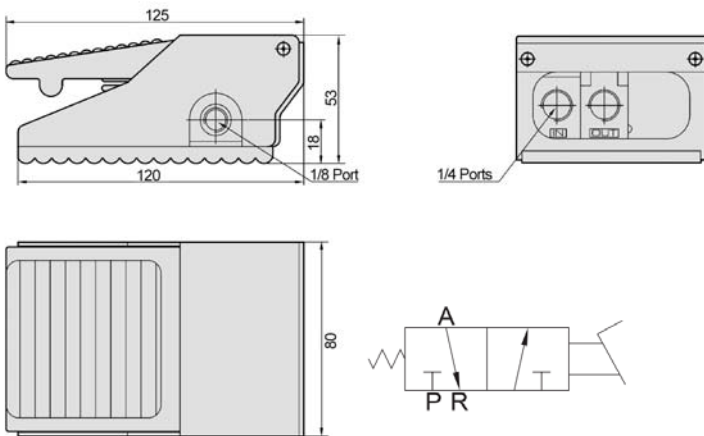
- 3-Way and 5-Way Models
- 1/4NPT or G1/4 Primary Ports
- Spring Return
- Stainless Steel Spring
- Aluminum Valve
- Painted Steel Body and Plate



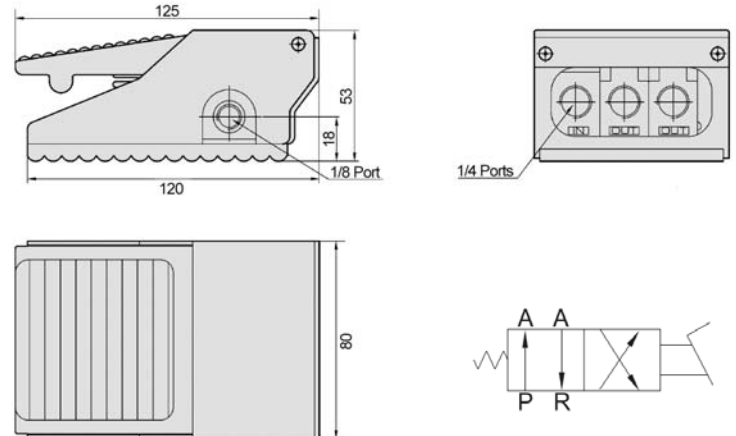
N		FV320		08	
Port Threads		Valve Type		5-Way Type	
N	NPT	FV320	3-way	08	1/4 port
	BSPP	FV420	4-way	08L	1/4 port latching
		4F210	5-way	08G	1/4 port foot guard

Model	NFV320	NFV420	N4F210-08	N4F210-08L	N4F210-08G
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				

NFV320

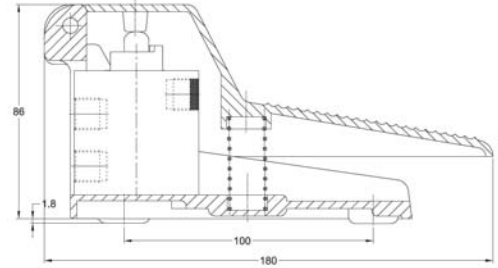
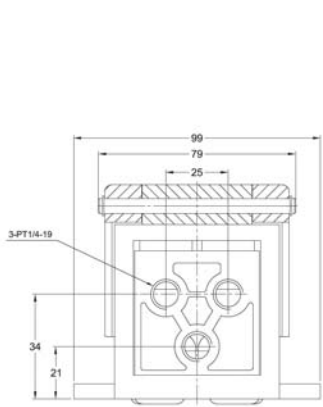


NFV420

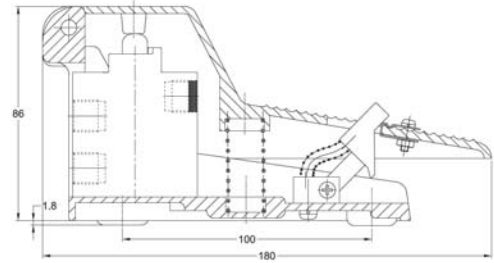
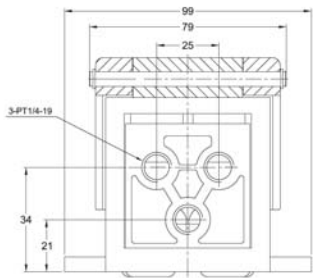


DIMENSIONS (mm)

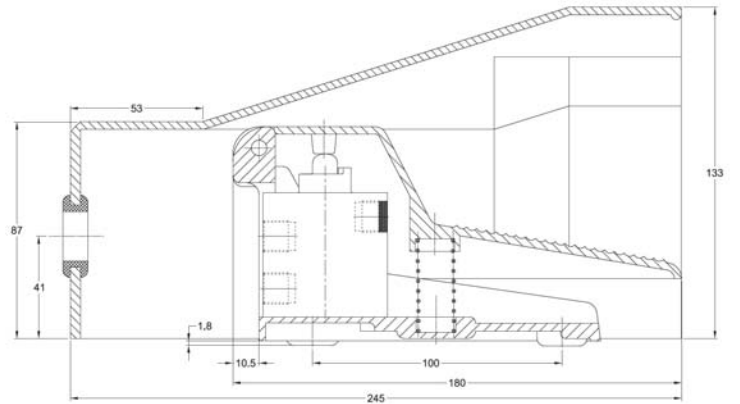
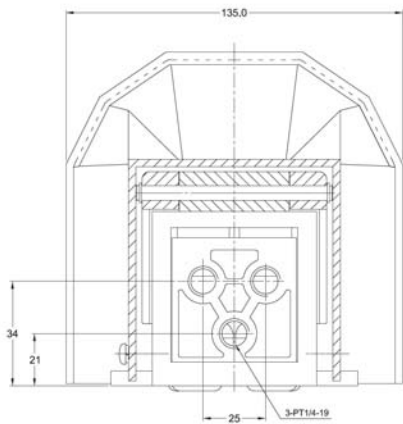
N4F210-08



N4F210-08L



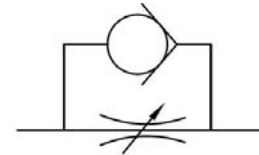
N4F210-08G



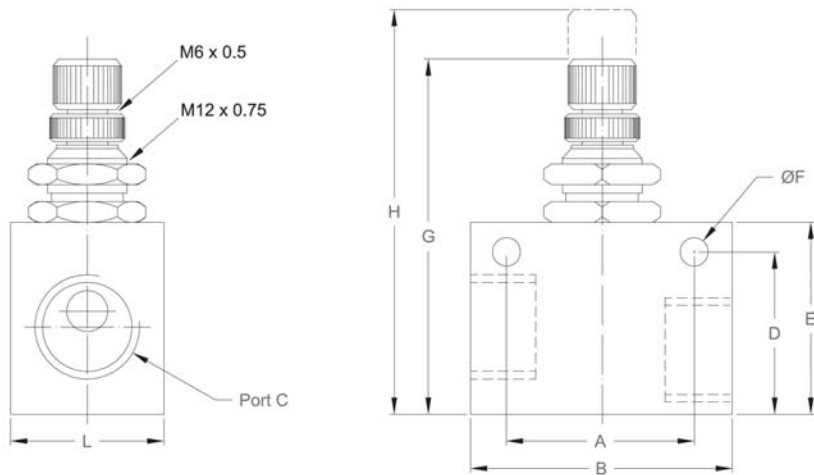
- Precision flow control valves
- Hard anodized aluminum body
- 1/8, 1/4, 3/8 & 1/2 Ports
- Panel mountable
- Unidirectional flow control



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)



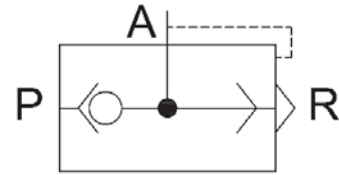
Model	A	B	C	D	E	F	G	H	K	L
NASC-06	22	32	1/8	22	27	4.3	49.7	56.5	12	18
NASC-08	26	36	1/4	22	27	4.3	49.7	56.5	12	18
NASC-10	28	40	3/8	25	30	4.3	52.7	59.5	13	22
NASC-15	28	40	1/2	30	35	4.3	58.7	65.5	13.5	26

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.

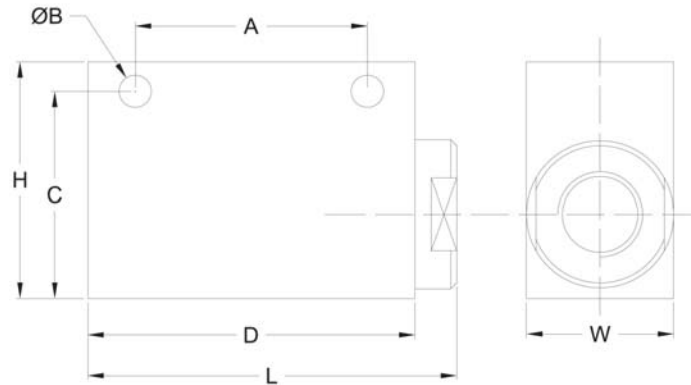
The QE valve is available in 4 port sizes and manufactured in aluminum with an anodized finish.



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
NQE-06	1/8	46	20	32	30	4.3	27	40
NQE-08	1/4	62	25	40	39	5.6	33.5	55
NQE-10	3/8	62	25	40	39	5.6	33.5	55
NQE-15	1/2	98	38	64	60	8.5	51	90

AIR PREPARATION EQUIPMENT NAF INLINE FILTERS

Features

- Pipe or Bracket Mounted Point of Use Filters
- Used in conjunction with NAR and NAL models
- Quick Release Bayonet Bowl Connection
- Easy Change Filter Elements
- Transparent Filter Bowl For Element Inspection
- Semi Automatic (pull for drain) or Fully Automatic Drain
- Modular Connection Technology



NAF		3000	10	D	
Series Type		Body Size	Port Size		Drain Type
AF	BSPP	1000	M5	M5 (10-32UNF)	Semi-Automatic
NAF	NPT	2000	01	1/8	D
		3000	02	1/4	
		4000	03	3/8	
		5000	04	1/2	
			06	3/4	
			10	1	

SPECIFICATIONS						
Model	1000-M5	2000-01/02	3000-02/03	4000-03/04	4000/06	5000-06/10
Port Size	M5 (10-32UNF)	1/8 & 1/4	1/4 & 3/8	3/8 & 1/2	3/4	3/4 & 1
Filtration Efficiency	25µ Sintered Bronze (5µ & 40µ Available + Polyethylene)					
Max Working Pressure	10bar(g) / 150psi(g)					
Proof Pressure	15bar(g) / 220psi(g)					
Working Temperature	5-60° / 41-140°F					
Rated Flow	110l/min 4CFM	750l/min 27CFM	1500l/min 54CFM	4000l/min 143CFM	6000l/min 212CFM	7000l/min 250CFM
Weight	0.07kg / 0.15lb	0.19kg/0.4lb	0.29kg/0.6lb	0.55kg/1.2lb	0.58kg/1.3lb	1.08kg/2.4lb
Liquid Capacity	4cm ³ /0.14oz	15cm ³ 0.5oz	20cm ³ 0.68oz	45cm ³ 1.5oz		130cm ³ 4.4oz
Materials	Body	Die Cast Zinc	Die Cast Aluminum			
	Bowl	Polycarbonate				
	Bowl Guard	no bowl guard		Painted Steel		

Features

- Pipe or Bracket Mounted Point of Use Pressure Regulators
- Panel Mount Feature
- Incorporated panel lock nut
- Includes Gauge and Mounting Bracket
- Used in conjunction with NAF and NAL models
- Mounts to other models using brackets
- Set pressure up to 10bar (g) or 150psi
- Die cast aluminum body
- Adjustment knob locks into position



NAR		3000	10	
Series Type		Body Size	Port Size	
AR	BSPP	1000	M5	M5 (10-32UNF)
NAR	NPT	2000	01	1/8
		3000	02	1/4
		4000	03	3/8
		5000	04	1/2
			06	3/4
			10	1

SPECIFICATIONS						
Model	1000-M5	2000-01/02	3000-02/03	4000-03/04	4000/06	5000-06/10
Port Size	M5 (10-32UNF)	1/8 & 1/4	1/4 & 3/8	3/8 & 1/2	3/4	3/4 & 1
Pressure Gauge Port	1/16	1/8	1/4			
Pressure Adjustment Range	0.5-8.5bar(g) / 7-128psi(g)					
Max Working Pressure	10bar(g) / 150psi(g)					
Proof Pressure	15bar(g) / 220psi(g)					
Working Temperature	5-60° / 41-140°F					
Rated Flow	100l/min 4CFM	550l/min 19CFM	2500l/min 88CFM	6000l/min 212CFM	8000l/min 282CFM	
Weight	0.08kg / 0.18lb	0.27kg/0.6lb	0.41kg/0.9lb	0.84kg/1.8lb	0.94kg/2lb	1.19kg/2.6lb
Materials	Body	Die Cast Zinc	Die Cast Aluminum Alloy			
	Deck	Reinforced Nylon			Die Cast Aluminum Alloy	
	Diaphragm	Nitrile Rubber				

AIR PREPARATION EQUIPMENT NAL AIR LUBRICATORS

Features

- Pipe or Bracket Mounted Point of Use Lubricators
- Used in conjunction with NAF and NAR models
- Quick Release Bayonet Bowl Connection
- Adjustable Lubrication Rate
- Easy Change Filter Elements
- Transparent Oil Reservoir for Easy Inspection
- Modular Connection Technology



NAL

3000

10

Series Type		Body Size	Port Size	
AF	BSPP	1000	M5	M5 (10-32UNF)
NAF	NPT	2000	01	1/8
		3000	02	1/4
		4000	03	3/8
		5000	04	1/2
			06	3/4
			10	1

SPECIFICATIONS

Model	1000-M5	2000-01/02	3000-02/03	4000-03/04	4000/06	5000-06/10
Port Size	M5 (10-32UNF)	1/8 & 1/4	1/4 & 3/8	3/8 & 1/2	3/4	3/4 & 1
Max Working Pressure	10bar(g) / 150psi(g)					
Proof Pressure	15bar(g) / 220psi(g)					
Working Temperature	5-60° / 41-140°F					
Lubrication Oil	ISOVG32 or Equivalent					
Rated Flow	95l/min 3.5CFM	800l/min 28CFM	1700l/min 60CFM	5000l/min 177CFM	6300l/min 222CFM	7000l/min 250CFM
Weight	0.07kg / 0.15lb	0.22kg/0.5lb	0.29kg/0.6lb	0.55kg/1.2lb	0.58kg/1.3lb	1.08kg/2.4lb
Oil Capacity	7cm ³ /0.24oz	25cm ³ 0.85oz	50cm ³ 1.69oz	130cm ³ 4.4oz		
Materials	Body	Die Cast Zinc	Die Cast Aluminum			
	Bowl	Polycarbonate				
	Bowl Guard	no bowl guard		Painted Steel		

Features

- Pipe or Bracket Mounted Point of Use Pressure Regulators
- Panel Mount Feature
- Incorporated panel lock nut
- Includes Gauge and Mounting Bracket
- Used in conjunction with NAL models
- Mounts to NAL models using T type brackets
- Set pressure up to 10bar (g) or 150psi
- Die cast aluminum body
- Adjustment knob locks into position

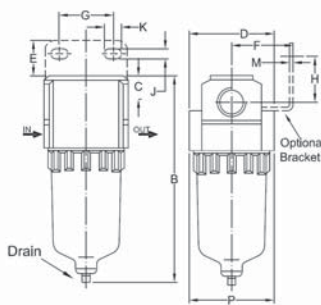


NAW		3000		10		D	
Series Type		Body Size		Port Size		Drain Type	
AW	BSPP	1000		M5	M5 (10-32UNF)		Semi-Automatic
NAW	NPT	2000		01	1/8	D	Auto
		3000		02	1/4		
		4000		03	3/8		
		5000		04	1/2		
				06	3/4		
				10	1		

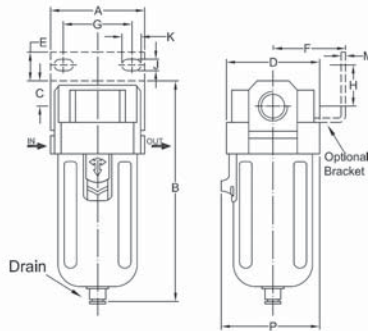
SPECIFICATIONS						
Model	1000-M5	2000-01/02	3000-02/03	4000-03/04	4000/06	5000-06/10
Port Size	M5 (10-32UNF)	1/8 & 1/4	1/4 & 3/8	3/8 & 1/2	3/4	3/4 & 1
Filtration Efficiency	25µ Sintered Bronze (5µ & 40µ Available + Polyethylene)					
Pressure Adjustment Range	0.5-8.5bar(g) / 7-128psi(g)					
Max Working Pressure	10bar(g) / 150psi(g)					
Proof Pressure	15bar(g) / 220psi(g)					
Working Temperature	5-60° / 41-140°F					
Rated Flow	110l/min 4CFM	550l/min 20CFM	2000l/min 71CFM	4000l/min 143CFM	4500l/min 159CFM	5500l/min 197CFM
Weight	0.09kg / 0.20lb	0.36kg/0.8lb	0.56kg/1.2lb	1.09kg/2.4lb	1.15kg/2.5lb	1.71kg/3.7lb
Liquid Capacity	4cm ³ 0.14oz	15cm ³ 0.5oz	20cm ³ 0.68oz	45cm ³ 1.5oz		130cm ³ 4.4oz
Materials	Body	Die Cast Zinc	Die Cast Aluminum			
	Bowl	Polycarbonate				
	Bowl Guard	no bowl guard		Painted Steel		
	Diaphragm	Nitrile Rubber				

NAF FILTER Dimensions (mm)												
Model	A	B	C	D	E	F	G	H	J	K	M	P
1000-M5	25	66	7	25	-	-	-	-	-	-	-	27
2000-01/02	40	98	11	40	17	30	27	22	5.4	8.4	2.3	40
3000-02/03	53	133	14	53	16	41	40	23	6.5	8		56
4000-03/04	70	169	18	70	17	50	54	26	8.5	10.5		73
4000-06	75	173	20	70	14	50		25				
5000-06/10	90	248	24	90	23	70	66	35	11	13	3.2	90

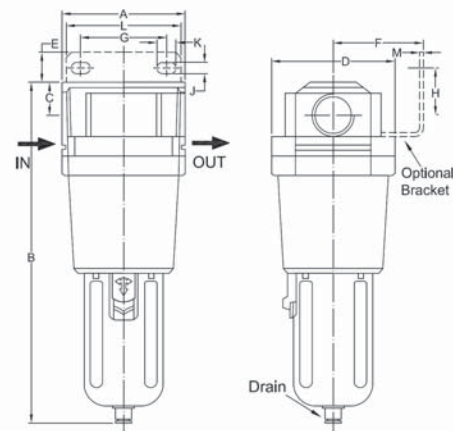
1000 & 2000 Series



3000 & 4000 Series

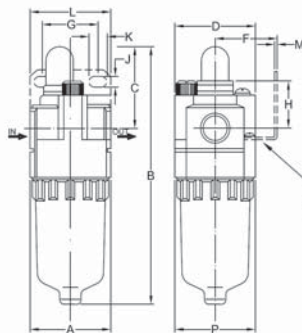


5000 Series

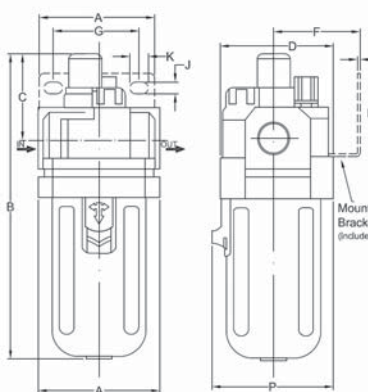


NAL LUBRICATOR Dimensions (mm)												
Model	A	B	C	D	E	F	G	H	J	K	M	P
1000-M5	25	66	7	25	-	-	-	-	-	-	-	27
2000-01/02	40	98	11	40	17	30	27	22	5.4	8.4	2.3	40
3000-02/03	53	133	14	53	16	41	40	23	6.5	8		56
4000-03/04	70	169	18	70	17	50	54	26	8.5	10.5		73
4000-06	75	173	20	70	14	50		25				
5000-06/10	90	248	24	90	23	70	66	35	11	13	3.2	90

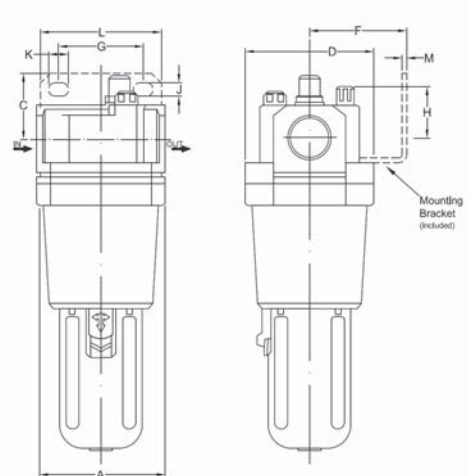
NAL1000 & 2000



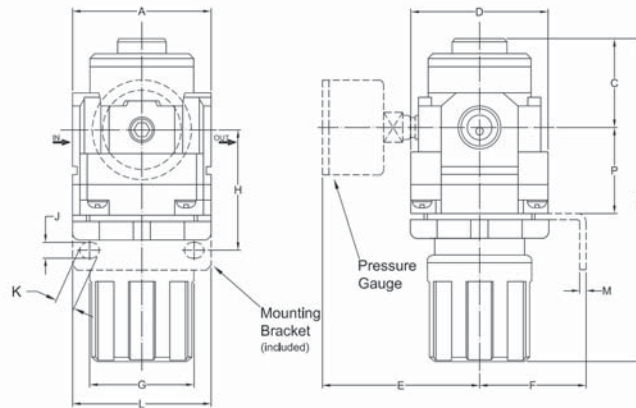
NAL3000 & 4000



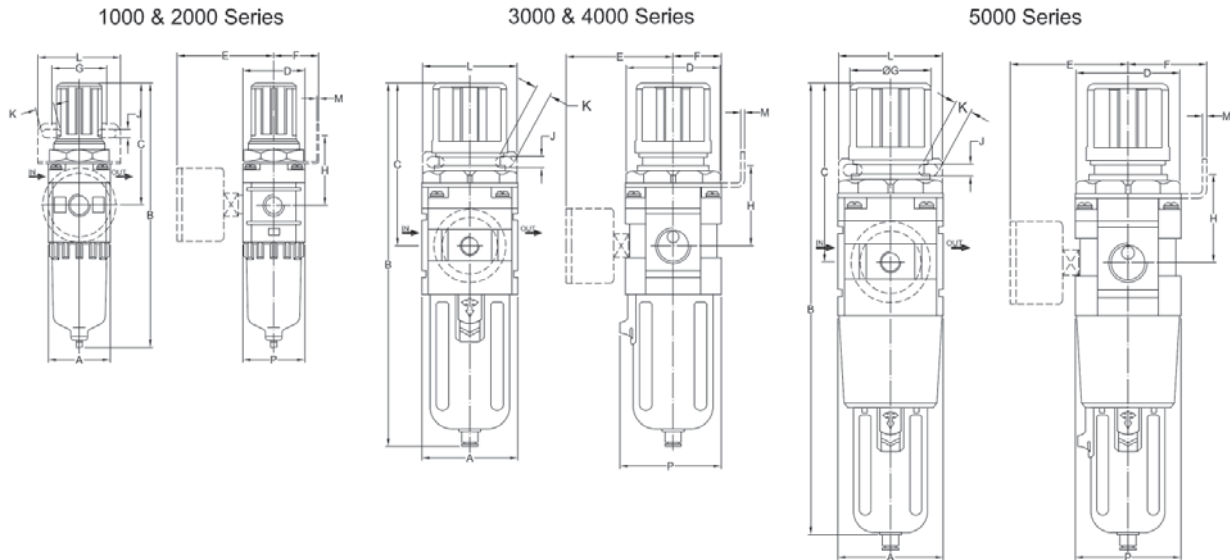
NAL5000



NAR REGULATOR Dimensions (mm)													
Model	A	B	C	D	E	F	G	H	J	K	L	M	N
1000-M5	25	62	11	25	26	28	30	4.5	6.5	6.5	40	2	21
2000-01/02	40	95	17	40	57	30	34	45	5.4	15	55	2.3	34
3000-02/03	53	128	35	53	61	41	40	46	6.5	8	53		43
4000-03/04	70	150	38	70	66	50	54	54	8.5	10.5	70		53
4000-06	75	155	41	70	70	50	54	56			70		
5000-06/10	90	168	48	90	76	70	66	66	11	13	90	3.2	



NAW FILTER REGULATOR Dimensions (mm)													
Model	A	B	C	D	E	F	G	H	J	K	L	M	P
1000-M5	25	110	51	25	26	25	28	30	4.5	6.5	40	2	28
2000-01/02	40	165	78	40	57	30	34	45	5.4	15.4	55	2.3	40
3000-02/03	53	211	93	53	61	41	40	46	6.5	8	53		56
4000-03/04	70	263	112	70	71	50	54	54	8.5	11	70		73
4000-06	75	267	114				74	56				90	
5000-06/10	90	338	116	90	76	50	54	62					90



Spare Mounting Brackets

Filters & Lubricators	
Model	Bracket Part Ref
NAF/NAL1000-M5	n/a
NAF/NAL2000-01/02	B240
NAF/NAL3000-02/03	B340
NAF/NAL4000-03/04	B440
NAF/NAL4000-06	B540
NAF/NAL5000-06/10	B640



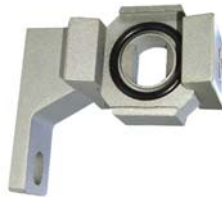
Regulators & Filter Regulators	
Model	Bracket Part Ref
NAF/NAL1000	n/a
NAF/NAL2000	B220
NAF/NAL3000	B320
NAF/NAL4000	B420
NAF/NAL5000	



FRL Brackets for Modular Construction And Wall Mounting

The typical FRL, Filter + Regulator + Lubricator, shown on the right uses two “L” brackets to join the regulator to the filter and the lubricator. These two brackets can then be attached to a wall or machine panel.

The table below shows what is required to make an assembly using the two brackets.



Assembly Reference	Filter Model	Bracket	Regulator	Bracket	Lubricator
NAC2000-01/02	NAF2000-01/02	B210L	NAR2000-01/02	B210L	NAL2000-01/02
NAC3000-02/03	NAF3000-02/03	B310L	NAR3000-02/03	B310L	NAL3000-02/03
NAC4000-03/04	NAF4000-03/04	B410L	NAR4000-03/04	B410L	NAL4000-03/04
NAC4000-06	NAF4000-06	B510L	NAR4000-06	B510L	NAL4000-06
NAC5000-06/10	NAF5000-06/10	B610L	NAR5000-06/10	B610L	NAL5000-06/10

Filter Regulator Brackets for Modular Construction And Wall Mounting

The Filter Regulator shown on the right uses one “T” style bracket for modular connection and wall or machine panel mounting.

The table below shows what is required to make an assembly using the two brackets.



Assembly Reference	Filter Regulator	Bracket	Lubricator
NAC2010-01/02	NAW2000-01/02	B210T	NAL2000-01/02
NAC3010-02/03	NAW3000-02/03	B310T	NAL3000-02/03
NAC4010-03/04	NAW4000-03/04	B410T	NAL4000-03/04
NAC4010-06	NAW4000-06	B510T	NAL4000-06
NAC5010-06/10	NAW5000-06/10	B610T	NAL5000-06/10

REPLACEMENT FILTER NAF/NAWS

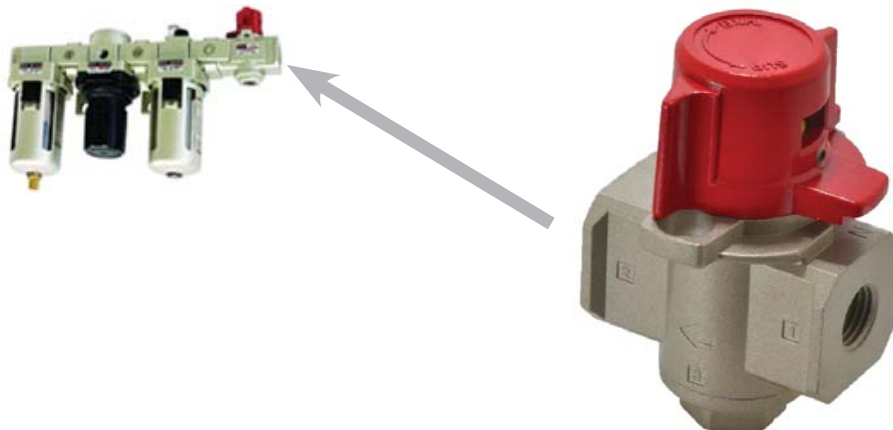
NAF/NAW	Description
FE2000-25	NAF/NAW 2000 SERIES 25 MICRON
FE2000-40	NAF/NAW 2000 SERIES 40 MICRON
FE2000-5	NAF/NAW 2000 SERIES 5 MICRON
FE3000-25	NAF/NAW 3000 SERIES 25 MICRON
FE3000-40	NAF/NAW 3000 SERIES 40 MICRON
FE3000-5	NAF/NAW 3000 SERIES 5 MICRON
FE4000-25	NAF/NAW 4000 SERIES 25 MICRON
FE4000-40	NAF/NAW 4000 SERIES 40 MICRON
FE4000-5	NAF/NAW 4000 SERIES 5 MICRON
FE5000-25	NAF/NAW 5000 SERIES 25 MICRON
FE5000-40	NAF/NAW 5000 SERIES 40 MICRON
FE5000-5	NAF/NAW 5000 SERIES 5 MICRON



SAFETY LOCK OUT VALVES

Model	Supply Port	Vent Port	Use with This Model Series
SLO2000-01	1/8NPT	1/8NPT	2000-01
SLO2000-02	1/4NPT	1/8NPT	2000-02
SLO3000-02	1/4NPT	1/4NPT	3000-02
SLO3000-03	3/8NPT	1/4NPT	3000-03
SLO4000-03	3/8NPT	3/8NPT	4000-03
SLO4000-04	1/2NPT	3/8NPT	4000-04
SLO5000-06	3/4NPT	3/8NPT	5000-06
SLO5000-10	1NPT	3/8NPT	5000-10

The safety lock out valves are used to isolate machinery that the FRL assembly is attached to from the compressed air supply. This helps the user to comply to OSHA 29 CFR 1910.147. The relieving feature of these valves “dumps” air in the machinery to allow safe inspection or maintenance. The valves are able to be locked in the shut off position using a padlock type device or maintenance lock out tool.



- Solid state digital vacuum & pressure switches
- Two types AP25 and AP30
- Suitable for vacuum and pressure use
- Selectable pressure units, kPa, bar, psi, mmHg
- IP65 Insulation



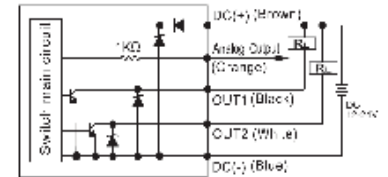
AP25

AP30

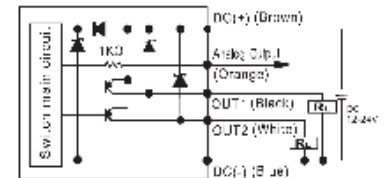
AP25	V	01	QD
Series	Type	Output	Connection
AP25	C Compound	01 2 x NPN + 1 x Analogue	600mm Lead
AP30	P Pressure	02 2 x NPN	QD M8 Male non analogue only
	V Vacuum	03 2 x PNP + 1 x Analogue	
		04 2 x PNP	

SPECIFICATIONS	
Media	Non lubricated dry air or non corrosive gas
Over Pressure	3bar (45psi)
Electrical Connection	M8 4 Pin male connector (analogue use 6ft lead wire)
Operating Voltage	12 – 24VDC ±10%
Current Consumption	≤55mA
Display	4 Digit 7 Segment Red LED
Display Units	kPa, MPa, kgf/cm ² , bar, psi, inHg, mmHg, mmH ₂ O
Repeatability	≤2% F.S ± 1 digit
Hysteresis	Adjustable
Response Time	≤2.5ms (chatter proof selectable 24, 192 & 768ms)
Indicator	OUT1 = Green LED OUT2 = Red LED
Analogue Output	1 to 5V ≤ ±5% F.S Linearity ≤ ±1% F.S
Insulation	AP25 - IP65, AP30 - IP40
Ambient Temperature	0-50°C (32-122°F)
Vacuum / Pressure Port	G1/8 & 1/8NPT Female
Shock Resistance	980m/s (100G) 3 times in each direction X,Y & Z
Weight 71g 35g	AP25 - 71g, AP30 - 35g

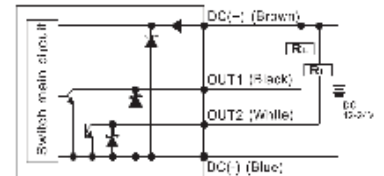
NPN output & Analog output



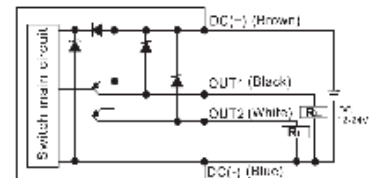
PNP output & Analog output



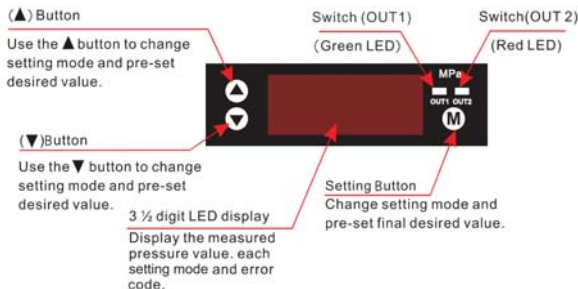
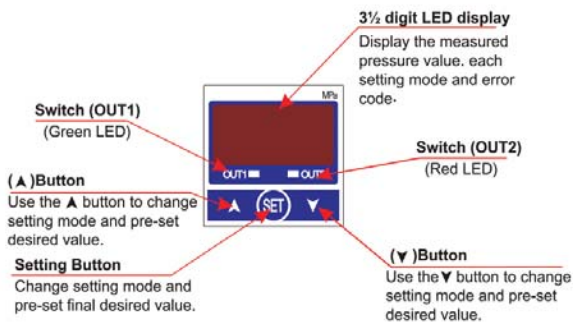
NPN output



PNP output



Panel Instructions

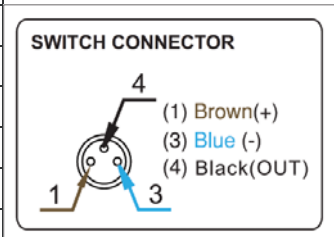


- Solid state digital vacuum & pressure switches
- Suitable for vacuum and pressure use
- Miniature design
- Stem and thread connection ports
- IP65 Insulation

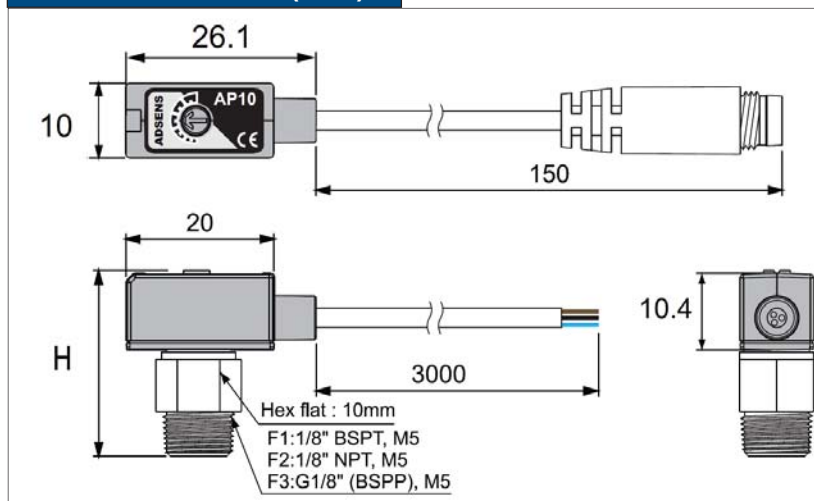


AP10	V	01	1/4	C
Series	Type	Output	Vacuum Port	Electrical Connection
P	Pressure	02 2 x NPN	1/4 Ø1/4" Stem	9ft Lead
V	Vacuum	04 2 x PNP	R4 Ø4mm Stem	C M8 3 Pin Male
			R6 Ø6mm Stem	
			F1 1/8BSPT	
			F2 1/8NPT	
			M5 M5x0.8	

SPECIFICATIONS	
Media	Non lubricated dry air or non corrosive gas
Maximum Over Pressure	AP10V - 6bar (87psi), AP10P - 14bar (217psi)
Electrical Connection	M8 3 Pin male connector or 9ft lead wire
Operating Voltage	10.8 – 30VDC (includes ripple voltage)
Load Current	90mA max.
Repeatability	≤1% F.S ± 1 digit
Hysteresis	3% F.S. max
Response Time	≤2.5ms (chatter proof selectable 24, 192 & 768ms)
Indicator	Red LED turns on
Insulation	IP40
Ambient Temp.	0-60°C (32-140°F)
Vacuum / Pressure Port	Push In Stem for Fitting or 1/8NPT Male
Shock Resistance	980m/s (100G) 3 times in each direction X,Y & Z
Weight	50g with 9ft cable



DIMENSIONS (mm)



Height (H)		
1/4	Ø1/4" Stem	30mm
R4	Ø4mm Stem	32mm
R6	Ø6mm Stem	30mm
F1	1/8BSPT	25mm
F2	1/8NPT	
M5	M5x0.8	23mm

Pressure Gauges

Utility gauge for commercial and industrial markets
Black steel case, chrome bezel, copper alloy internals.

- Port Size 1/8NPT & 1/4NPT Male
- Dial Size 42mm & 53mm Diameter
- Case Black painted steel
- Wetted Parts Copper alloy
- Bezel Chrome plated steel
- Lens Polycarbonate
- Pointer Black aluminum



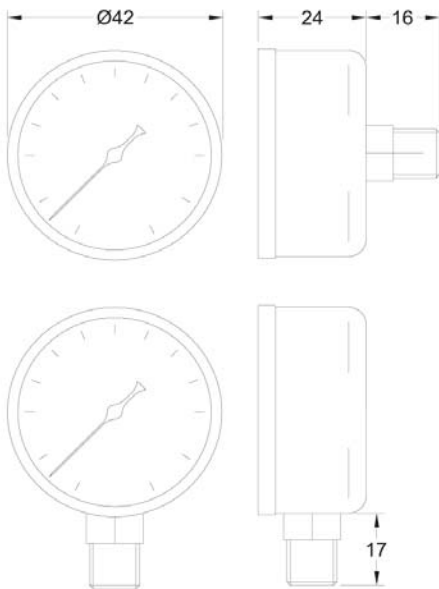
101D Series



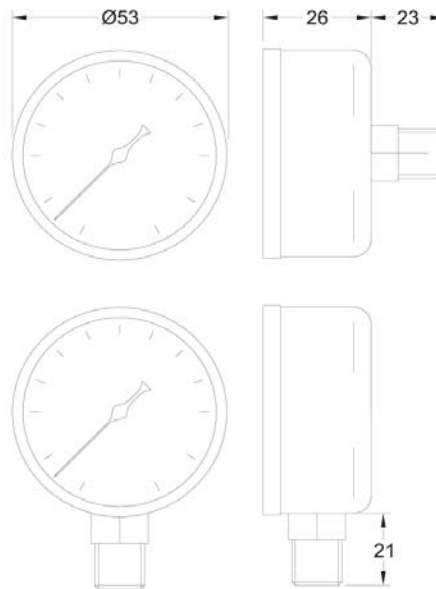
102D Series

Part Number	Dial Ø	Pressure Range	Port Thread	Port Position
102D-158A	42mm (1.5")	30"Hg Vacuum	1/8NPT	Center Back
102D-158C		2bar / 30psi		
102D-158D		4bar / 60psi		
102D-158F		10bar / 160psi		Stem
101D-158A		30"Hg Vacuum		
101D-158C		2bar / 30psi		
101D-158D	4bar / 60psi	1/4NPT	Center Back	
101D-158F	10bar / 160psi			
102D-204A	50mm (2")			30"Hg Vacuum
102D-204C			2bar / 30psi	
102D-204D			4bar / 60psi	
102D-204F			10bar / 160psi	Stem
101D-204A		30"Hg Vacuum		
101D-204C		2bar / 30psi		
101D-204D	4bar / 60psi	10bar / 160psi		
101D-204F	10bar / 160psi			

42mm / 1.5" Dial Series



53mm / 2" Dial Series



Glycerin filled for added durability in applications where vibration or pulsation is present. Stainless steel case and bezel, copper alloy internals.

- Port Size 1/4NPT Male
- Dial Size 63mm (2½") Diameter
- Case Stainless steel
- Liquid Fill Glycerin
- Wetted Parts Copper alloy
- Bezel Stainless steel
- Lens Polycarbonate
- Pointer Black aluminum



202 Series

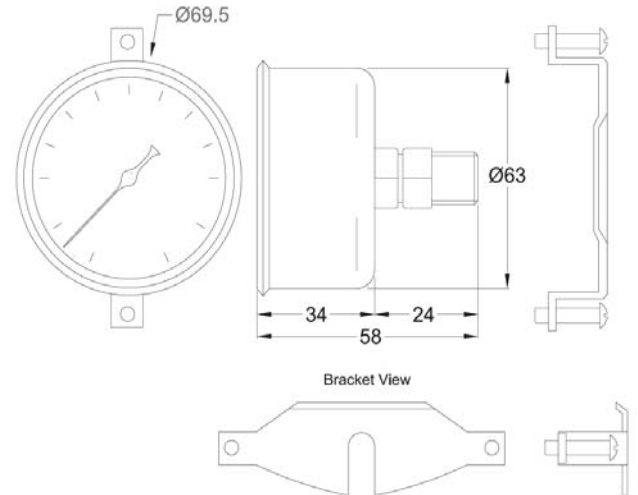


201 Series

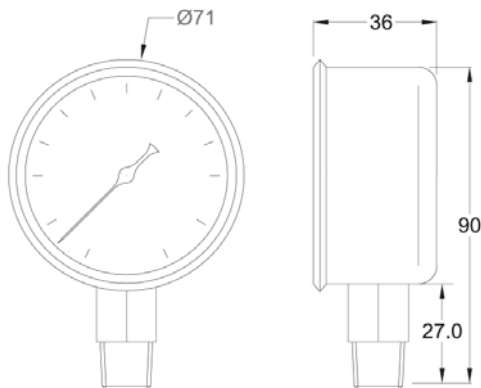


203 Series

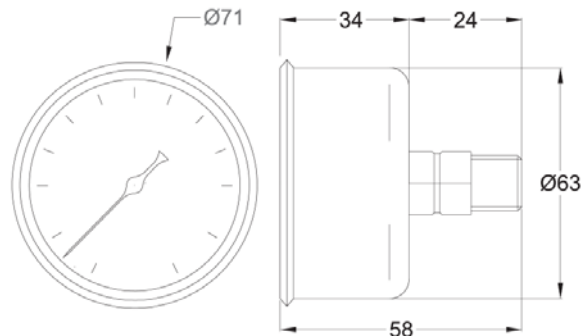
Part Number	Pressure Range	Port Position
SEC-201L-254A	30"Hg Vacuum	Stem Mount
SEC-201L-254F	160psi	
SEC-201L-254N	1,500psi	
SEC-201L-254P	3,000psi	
SEC-201L-254R	5,000psi	
SEC-201L-254U	10,000psi	
SEC-202L-254A	30"Hg Vacuum	Center Back
SEC-202L-254F	160psi	
SEC-202L-254N	1,500psi	
SEC-202L-254P	3,000psi	
SEC-202L-254R	5,000psi	
SEC-202L-254U	10,000psi	
SEC-203L-254A	30"Hg Vacuum	Panel Mount
SEC-203L-254F	160psi	
SEC-203L-254N	1,500psi	
SEC-203L-254P	3,000psi	
SEC-203L-254R	5,000psi	
SEC-203L-254U	10,000psi	



203 Series



201 Series



202 Series

See More Products, Check Pricing & Inventory Online

Single Stage Vacuum Generators

- Single stage technology for fast and reliable vacuum generation
- Flow rates up to 8CFM (225l/min)
- Final vacuum in excess of 27"Hg (76mmHg)
- Great for point of use vacuum generation
- Part presence detection options
- 10 Different model types



Multi-Stage Vacuum Generators

- Multi-stage technology for efficient and reliable vacuum generation
- Flow rates up to 53CFM (1500l/min)
- Final vacuum in excess of 27"Hg (76mmHg)
- Lightweight construction
- 9 different models
- Energy savings module (auto cycling of compressed air)



Multi-Function Vacuum Generators

- Multi-stage technology for efficient and reliable vacuum generation
- Flow rates up to 4.2CFM (120l/min) per module
- Final vacuum in excess of 27"Hg (76mmHg)
- Lightweight construction and compact design
- Air supply control valve and compressed air blow off valve included
- Stackable design using up to 8 modules which includes a common air supply and exhaust
- Integral part presence digital sensor, PNP, NPN & analog signal options



Vacuum Inlet Filters

- L Port steel case canister filters for large vacuum pumps and venturi
- Plastic bowl filters
- Point of use quick connect inline filters
- Port sizes from 5/32" (4mm) push in fittings to 4NPT
- Porosity of 10-40 micron



Vacuum Control Valves

- Direct acting poppet valves
- Solenoid and pilot operated models
- Full bore vacuum flow (designed specifically for vacuum duty)
- Port sizes up to 1NPT
- Automatic self-closing valves for use in multiple cup pick and place systems



The Vacuforce product line focuses on vacuum lifting components and solutions. Pneuforce is part of the Vacuforce LLC. group

Vacuum Pick & Place Cylinders

- No additional controls are required
- Simply turn vacuum on and off
- Automatic height compensation
- Vacuum on, cylinder extends with automatic pick up upon cup touching load
- Maintenance and lubrication free
- Very fast cycle rates



Vacuum Suction Cups

- Single bellows, multiple bellows, flat and foam seal models
- Available from 2mm up to 200mm diameter
- Available in NBR, silicone, polyurethane, dual durometer polyurethane, metal detectable silicone, FDA compliant silicone materials
- Cup materials designed for high temperature and non-marking applications
- Industry specific cups for steel stamping, glass handling, solar panel manufacturing, bag handling and other tough applications



Vacuum Pumps & Blowers

- Single stage diaphragm pumps
- Dual stage diaphragm pumps
- Oil free rotary vane pumps
- Oil lubricated rotary vane pumps
- Single stage regenerative blowers
- Two stage regenerative blowers



Universal Vacuum Grippers

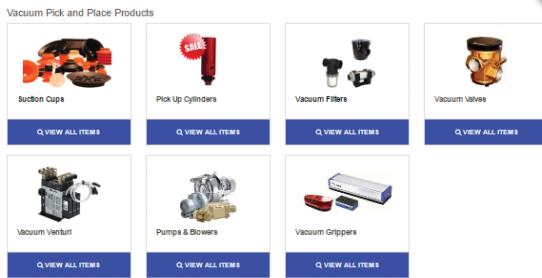
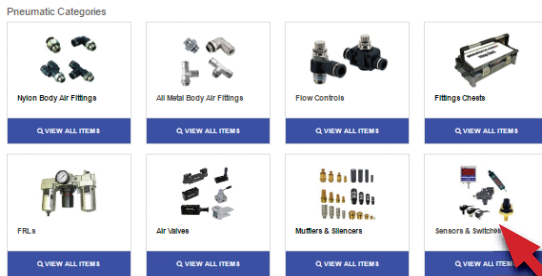
- Standard and custom models designed for customer applications
- Grippers do not have to be fully covered by the product
- One tool can handle a variety of different size parts without the need for adjustment
- Ideal for automated pick and place
- Single solution for all product handling
- The Barracuda bag & sack gripper
- Available for use with vacuum generators or pumps and blowers
- Full turn key pick and place handling solution



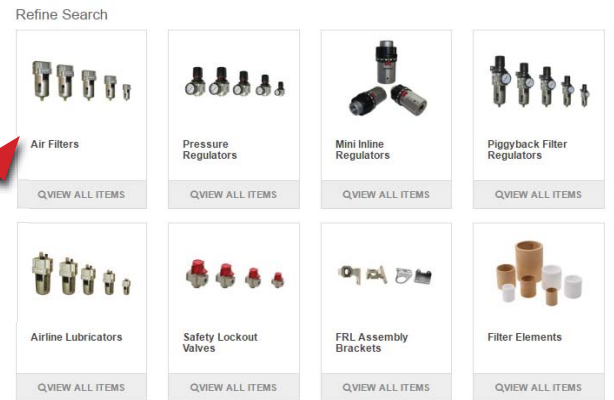
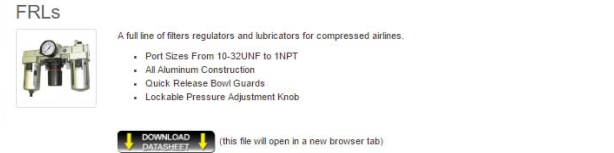
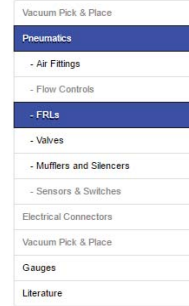
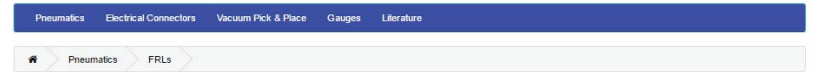
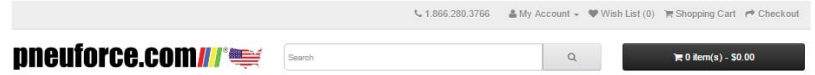
Vacuum Switches & Sensors

- Fixed diaphragm switches
- Adjustable diaphragm switches
- Solid state digital sensors
- Miniature point of use vacuum sensors
- Pneumatic signal vacuum switches

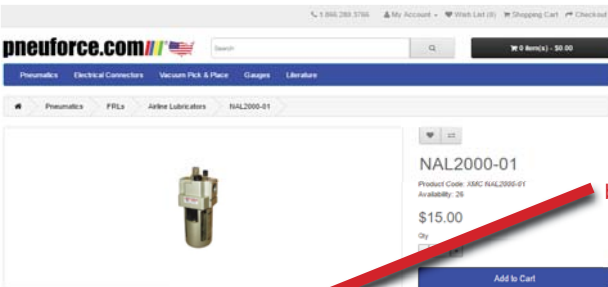




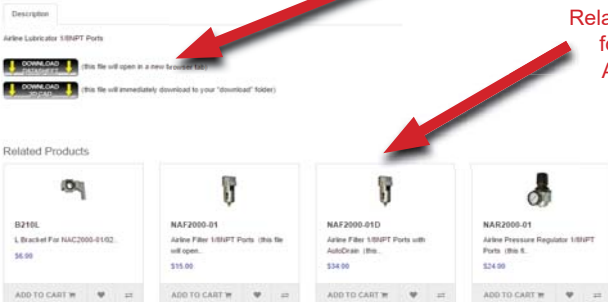
Front Page Categories Display



Sub Categories



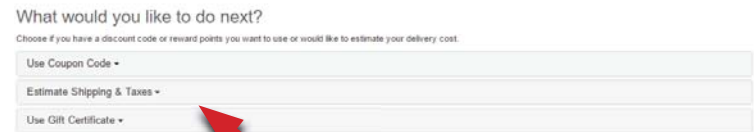
Product data sheets and 3D CAD models can be downloaded at the category and product level



Related Products for Ease of Accessory Ordering



Image	Product Name	Model	Quantity	Unit Price	Total
	NAL2000-01	XMC NAL2000-01	1	\$15.00	\$15.00



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Pneuforce.com Features

This online store front offers the Pneuforce and Vacuforce customer immediate access to USA stocked inventory and list pricing.

Once an account is opened online, historical order history and other buying habits will be available for the registered user.

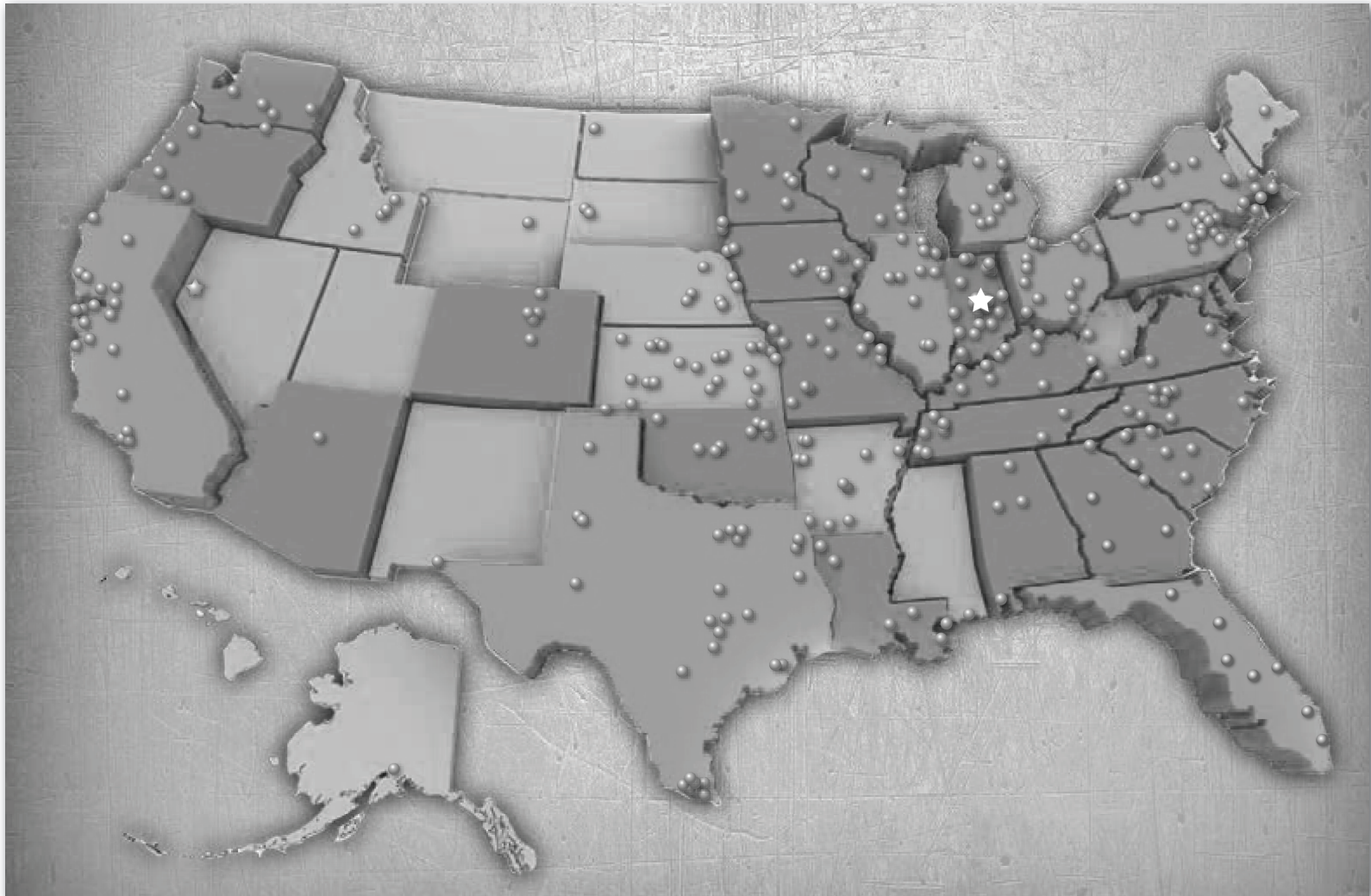
- Full inventory visibility
- Up to date product range
- Product data sheet downloads
- 3D CAD Models
- Competitor cross reference information
- Searchable competitor part number module

- Full search capability in part number and description
- Related product recommendations Product related videos
- Freight cost calculator
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Vacuforce LLC | 933 Western Drive | Indianapolis IN | 46241 | USA
T 1.866.280.3766 | F 1.866.280.4829 | www.vacuforce.com | www.pneuforce.com
orders@pneuforce.com

pneuforce.com ®



Vacuforce LLC | 933 Western Drive | Indianapolis IN | 46241 | USA
T 1.866.280.3766 | F 1.866.280.4829 | www.vacuforce.com | sales@vacuforce.com