

# VALVES



The pneuforce.com valve line has been manufactured exclusively for our distribution base in North America. Available in two-way, three-way and four-way configuration and with port sizes from 10-32UNF through to 1/2"NPT.

The N3V1 offering is a direct acting solenoid poppet style whereas the N3A/V and N4A/V operate using a balanced spool design. Both the poppet and spool valves are body ported but are able to be mounted to an inline manifold system with up to twelve station positions.

The aluminum body construction is offered as standard with a black, hard anodized finish ensuring long life particularly in harsh environments such as wash down or outdoor applications.

**Materials:** Hard Anodized Aluminum, Stainless Steel, Thermoplastic

**Maximum Pressure:** 29.9"Hg vacuum to 150psi(g) for direct acting and 20-125psi(g) for spool design models

**Response:** <20ms

**Manual Override:** 100 series: non-locking; 200,300, 400 locking

**Electrical Connection:** DIN43650 with LED or 18" Lead Wire

**Temperature Range:** 32°F to 150°F (0-65°C)

**Seals:** Nitrile (Buna-N), Standard, Viton or Silicone as an option. Please contact our offices for more information.

Valve Specifications	Body Size 1	Body Size 2, 3, 4
Working Medium	40 micron filtered compressed air	40 micron filtered compressed air
Operating Temperature	-5°C - 60°C	-5°C - 60°C
Lubrication	Not Necessary	Not Necessary
Working Pressure	1.5 - 8.0 bar(g)	1.5 - 8.0 bar(g)
Supply Pressure	<12bar(g)	<12bar(g)
Coil Power	AC2.5VA and DC2.5W	AC5.5VA and DC4.8W
Insulation Class	IP65	IP65
Material	Aluminum	Aluminum
Cycle Rate	5 cycle/sec	5 cycle/sec
Insulation	Class F	Class F
Voltage Tolerance	+/- 10%	+/- 10%
Reaction Time	0.05sec	0.05sec

Port Sizes	Supply	Outlet	Exhaust
M5	10-32UNF	10-32UNF	10-32UNF
06	1/8NPT	1/8NPT	1/8NPT
08	1/4NPT	1/4NPT	1/8NPT
10	3/8NPT	3/8NPT	1/4NPT
15	1/2NPT	1/2NPT	1/2NPT

Supply Ports	Cv	@50 psig	@100 psig
#10-32	0.58	16 SCFM	27 SCFM
1/8" NPT	0.67	18 SCFM	31 SCFM
1/4" NPT	0.89	26 SCFM	49 SCFM
3/8" NPT	1.68	51 SCFM	93 SCFM
1/2" NPT	2.79	91 SCFM	171 SCFM

Thread	Valve Type	Body Size	Actuator Type	Centre Position	Port Size	Voltage
<b>N (NPT)</b>	<b>3A</b>	<b>1</b>	<b>10</b>	<b>C</b>	<b>Ø6</b>	<b>24VDC</b>
	3A (3 port pilot op.)	1 (18mm)	10 (single)	C (centre closed)	M5 (10-32UNF)	12VDC
	3V (3 port sol.op.)	2 (22mm)	20 (double)	E (centre exhaust)	06 (1/8NPT)	24VDC
	4A (5 port pilot op.)	3 (27mm)	30 (double 3 position)	P (centre pressure)	08 (1/4NPT)	110VAC
	4V (5 port sol. op.)	4 (32mm)			10 (3/8NPT)	
					15 (1/2NPT)	

Standard Stocked Models* All solenoid valves are stocked with 24VDC DIN coils			
Body Size 1	Body Size 2	Body Size 3	Body Size 4
N3A110-06	N3A210-08	N3A310-10	N3A410-15
N3A120-06	N3A220-08	N3A320-10	N3A420-15
N3V110-06-24VDC	N3V210-08-24VDC	N3V310-10-24VDC	N3V410-15-24VDC
N3V120-06-24VDC	N3V220-08-24VDC	N3V320-10-24VDC	N3V420-15-24VDC
N4A120-06	N4A210-08	N4A310-10	N4A410-15
N4A130C-06	N4A220-08	N4A310-10	N4A420-15
N4A130E-06	N4A230C-08	N4A320-10	N4A430C-15
N4A130P-06	N4A230E-08	N4A330C-10	N4A430E-15
N4A110-06	N4A230P-08	N4A330E-10	N4A430P-15
N4V110-06-24VDC	N4V210-08-24VDC	N4A330P-10	N4V410-15-24VDC
N4V120-06-24VDC	N4V220-08-24VDC	N4V310-10-24VDC	N4V420-15-24VDC
N4V130C-06-24VDC	N4V230C-08-24VDC	N4V320-10-24VDC	N4V430C-15-24VDC
N4V130E-06-24VDC	N4V230E-08-24VDC	N4V330C-10-24VDC	N4V430E-15-24VDC
N4V130P-06-24VDC	N4V230P-08-24VDC	N4V330E-10-24VDC	N4V430P-15-24VDC
		N4V330P-10-24VDC	

\*Other port sizes are available as listed below

Body Size	Optional Port Size (all ports)	Part Number Indication	
1	10-32UNF	-M5	
2	1/8NPT	-06	
3	1/4NPT	-08	
4	only 1/2NPT	only 1/2NPT	

For example N4V310-08-24VDC is a Size 3 body but with 1/4NPT threads for inlet, supply and exhaust ports



SPARE DIN COILS			
Body Size	12VDC	24VDC	110VAC
1	110DIN12VDC	110DIN24VDC	110DIN110VAC
2	210DIN12VDC	210DIN24VDC	210DIN110VAC
3	210DIN12VDC	210DIN24VDC	210DIN110VAC
4	210DIN12VDC	210DIN24VDC	210DIN110VAC



SPARE LEAD WIRE COILS			
Body Size	12VDC	24VDC	110VAC
1	110W12VDC	110W24VDC	110W110VAC
2	210W12VDC	210W24VDC	210W110VAC
3	210W12VDC	210W24VDC	210W110VAC
4	210W12VDC	210W24VDC	210W110VAC

# N2V Series

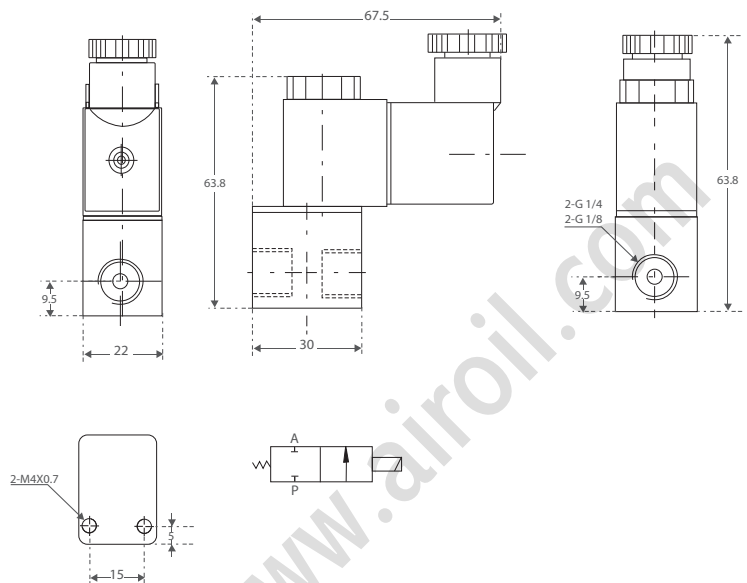
2-way 2 position acting solenoid operated

Port Sizes	Supply	Outlet
06	1/8NPT	1/8NPT
08	1/4NPT	1/4NPT

N2V025-06

N2V025-08

N2V025-06



Dimensions (mm)

Model	N2V025-06	N2V025-08
Working Medium	Air, Water, Oil	
Operator	Direct Drive type	
Joint Pipe Bore	1/8"	1/4"
Ambient Temperature	-10~80°C	
Gas Temperature	5~60°C	
Orifice	Ø2.5mm	
Lubrication	Not necessary	
Working Pressure	Air, Water, Oil - 0.05-0.7 bar	
Supply Pressure	<12 bar(g)	
Power Consumption	AC: 6.5VA DC: 6W	
Protect Class	IP65	
Power Connection Form	Lead Wire or Connector type	
Material of Body	Hard Anodized Aluminum or Brass (Nickel plated)	
Cycle rate	10 Cycle/sec	
Insulation	F Class	
Voltage Range	+/-10%	
Time Reaction	0.05 Second	

# N3V1 Series

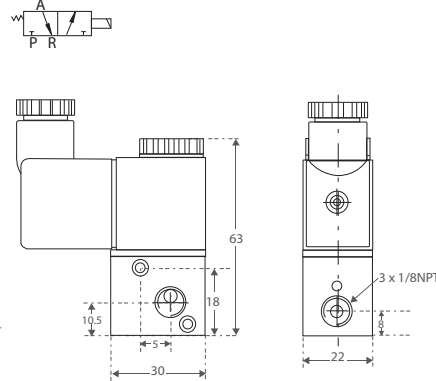
3-way direct acting solenoid operated

Port Sizes	Supply	Outlet	Exhaust
06	1/8NPT	1/8NPT	1/8NPT

N3V1-06

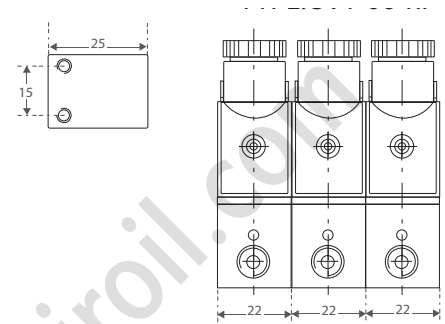


N3V1-06



Dimensions (mm)

N3V1-06-nF



Dimensions (mm)

N3V1  
Stacked together



Model	3V1-M5	3V1-06
Working Medium	40 Micron Filtered Air	
Operator	Direct Solenoid type	
Joint Pipe Bore	M5	1/8
Ambient Temperature	-10~+60 <sup>0</sup> C	
Gas Temperature	5~60 <sup>0</sup> C	
Orifice	1.00mm	
Lubrication	Not necessary	
Working Pressure	Vac - 8.0 bar	
Supply Pressure	<12 bar(g)	
Power Consumption	AC: 5.5VA DC: 4.8W	
Protect Class	IP65	
Power Connection Form	Lead Wire or Connector type	
Material of Body	Aluminum alloy	
Cycle rate	10 Cycle/sec	
Insulation	F Class	
Voltage Range	+/-10%	
Time Reaction	0.05 Second	

The N3V1 series solenoid valve can be used individually or by simply stacking them together as shown in Fig.2.

## DIRECT ACTING POPPET VALVE NTM SERIES

### NTM (NTM Series High Frequency Valve)

The pneuforce.com NTM series poppet valve has been designed for high flow vacuum and pressure applications. Consisting of fully threaded 1/8NPT or 1/4NPT ports for supply, signal and exhaust these valves can be connected in a normally open or normally closed condition without affecting flow or reaction time.

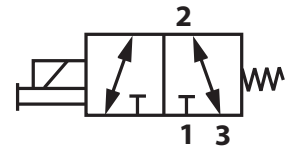
Having a flow rate that is extremely high compared to the physical size of the valve the applications for this valve are numerous including automotive, food, vacuum lifting and other high cycle rate user needs.

Flow rate - 0.18Cv, Response time - <8ms

Normally Closed  
Port 1 - Supply, Port 2 - Application, Port 3 - Exhaust

Normally Open  
Port 1 - Exhaust, Port 2 - Application, Port 3 - Supply

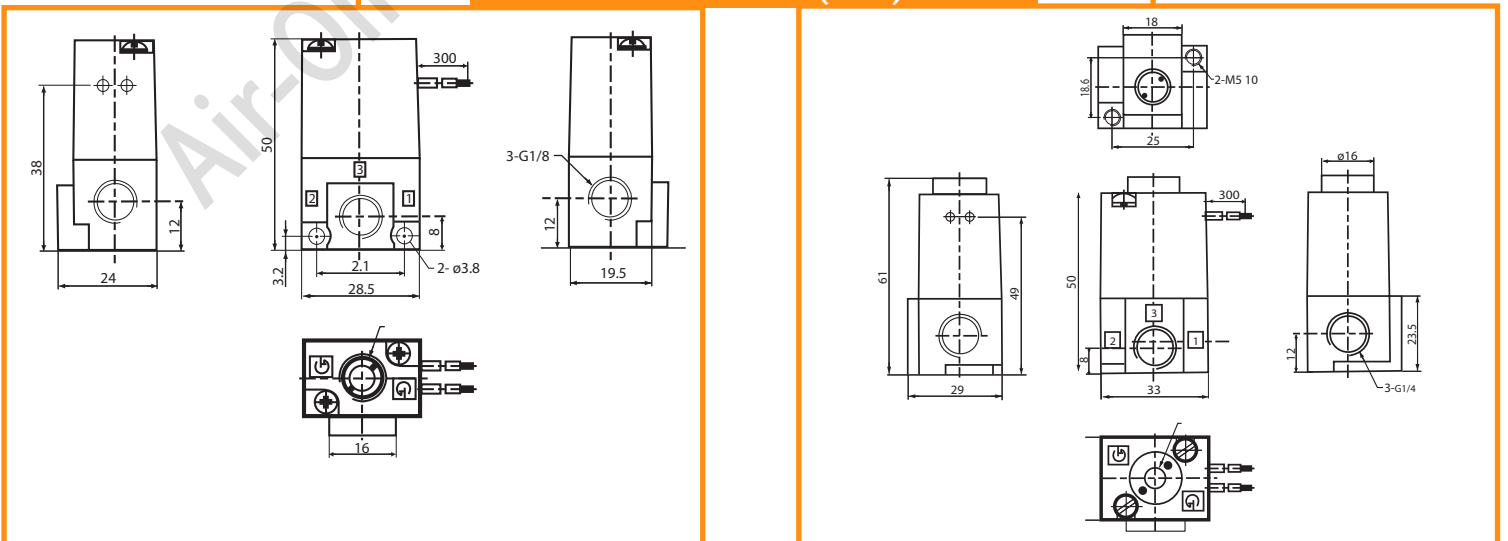
<b>NTM</b>	<b>06</b>	<b>AC220V</b>
High Frequency Valve	Pipe Size 06: 1/8NPT 08: 1/4NPT	Standard Voltage DC24V, DC12V AC110V, AC220V



Model Num.	Valve Type	Thread	Orifice $\phi$	Medium	Pressure range	Operating method	Maximum Frequency	Lubrication	Applicable Temperature
NTM-06	2 position 3 ports	1/8NPT	3mm	Compressed Air	-14.5 - 120psig	Direct Acting	100 Cycle/Sec.	Not required	-40°C - +60°C
NTM-08		1/4NPT	5mm						



#### Dimensions (mm)

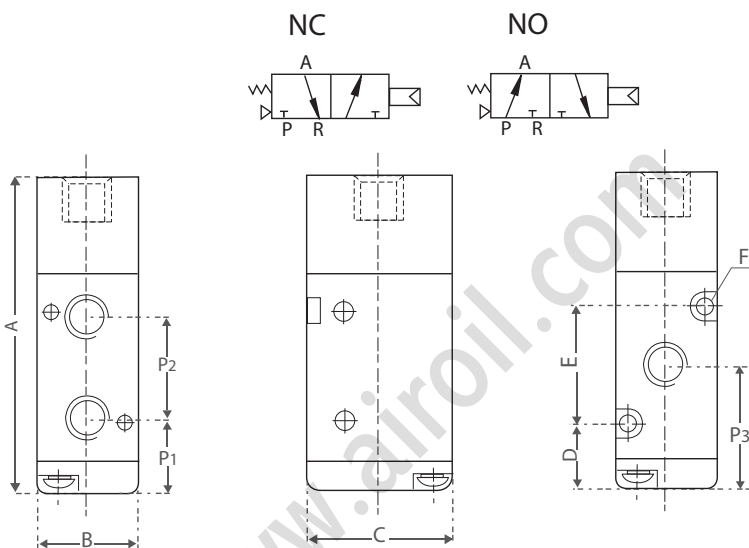


# N3A Series

3-way air pilot operated

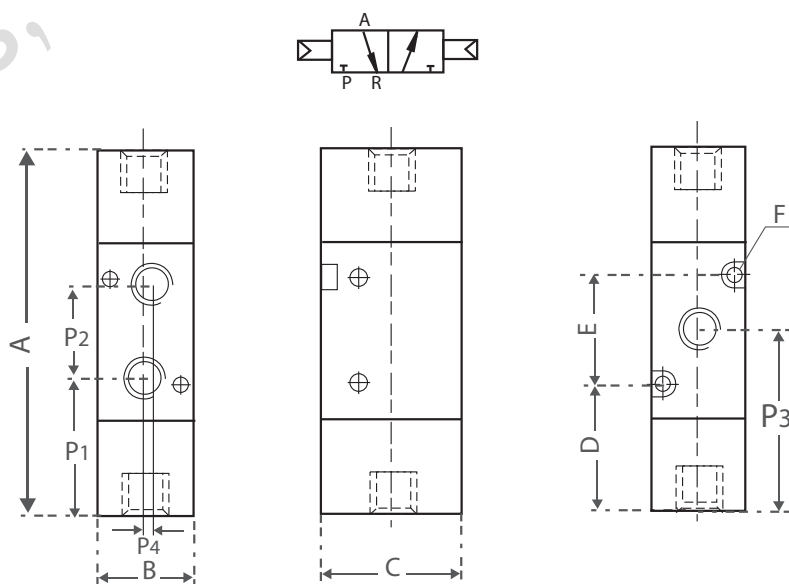
Port Sizes	Supply	Outlet	Exhaust
06	1/8NPT	1/8NPT	1/8NPT

## N3A110-06



Pilot Port 1/8NPT

## N3A120-06



Pilot Port 1/8NPT

Dimensions (mm)

Model	A	B	C	D	E	FØ	P1	P2	P3
N3A110-06	56.5	18	27	12.5	19	3.3	14	16	23
N3A120-06	69	18	27	25	19	3.3	26.5	16	34.5

# N3A Series

3-way air pilot operated

Port Sizes	Supply	Outlet	Exhaust
08	1/4NPT	1/4NPT	1/8NPT
10	3/8NPT	3/8NPT	1/4NPT
15	1/2NPT	1/2NPT	1/2NPT

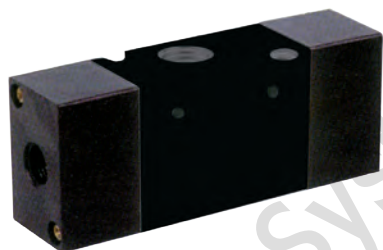
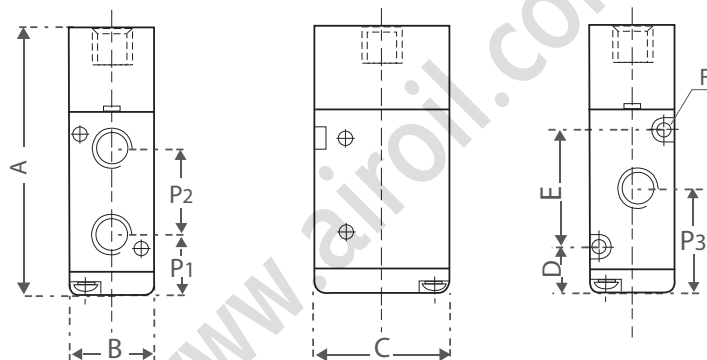
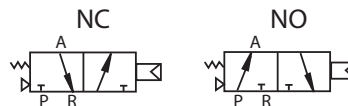


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N3A210

N3A310

N3A410

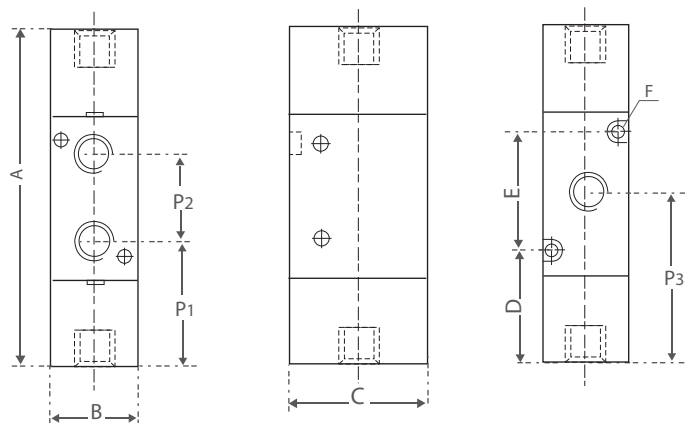


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N3A220

N3A320

N3A420



## Dimensions (mm)

Model	A	B	C	D	E	FØ	P1	P2	P3	P4
N3A210-08	73	22	35	12.5	33	3.3	21	18	31	3
N3A220-08	87	22	35	27	33	3.3	35.5	18	45.6	3
N3A310-10	80.5	27	40	20.5	35	4.3	20.5	24	32.5	0
N3A320-10	96	27	40	30.5	35	4.3	36	24	48	0
N3A410-15	94.5	34	50	21	40.5	4.3	25.5	31.5	41.25	0
N3A420-15	106.5	34	50	33	40.5	4.3	37.5	31.5	53.25	0

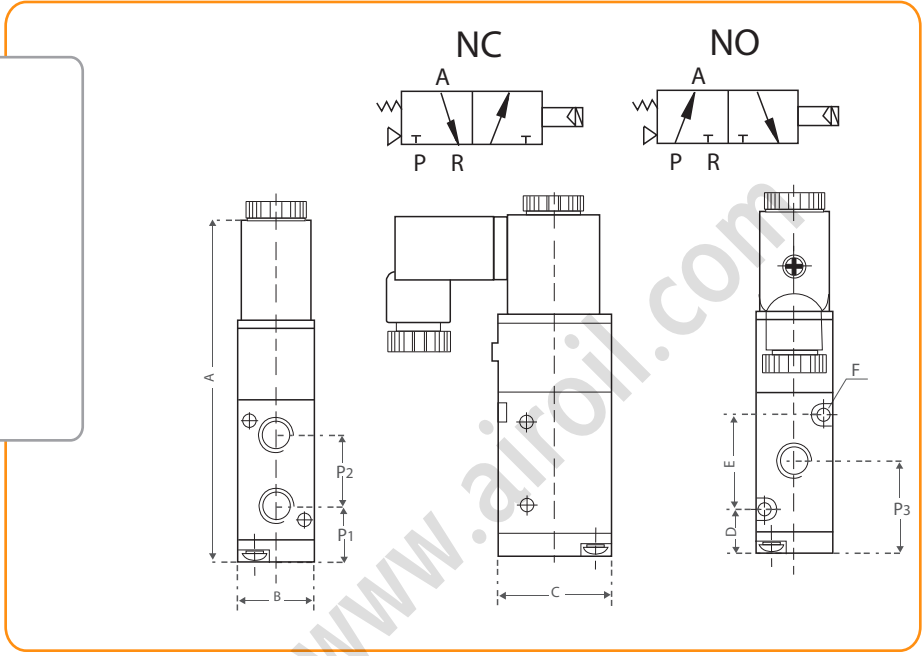


# N3V Series

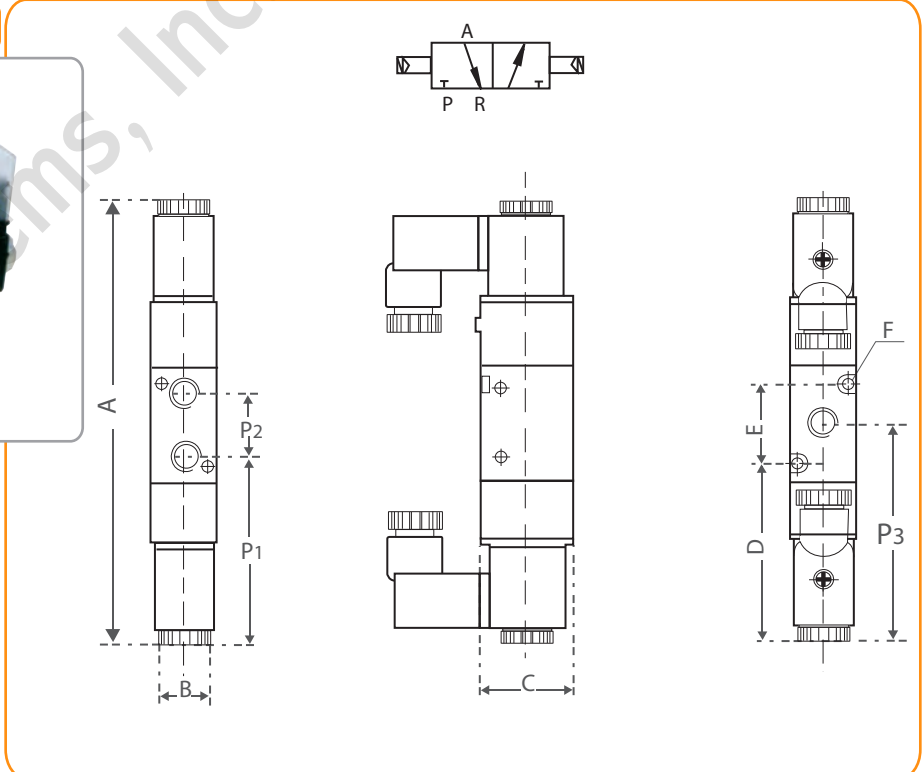
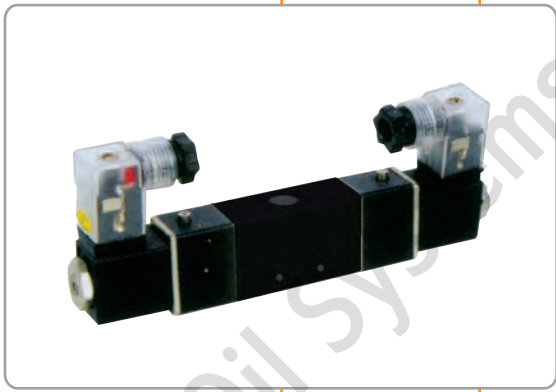
3-way solenoid operated

Port Sizes	Supply	Outlet	Exhaust
06	1/8NPT	1/8NPT	1/8NPT

## N3V110-06



## N3V120-06



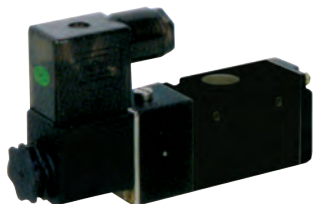
Dimensions (mm)

Model	A	B	C	D	E	FØ	P1	P2	P3
N3V110-06	85.8	18	27	12.5	19	3.3	14	16	23
N3V120-06	127.6	18	27	54.3	19	3.3	55.8	16	63.8

# N3V Series

3-way solenoid operated

Port Sizes	Supply	Outlet	Exhaust
08	1/4NPT	1/4NPT	1/8NPT
10	3/8NPT	3/8NPT	1/4NPT
15	1/2NPT	1/2NPT	1/2NPT

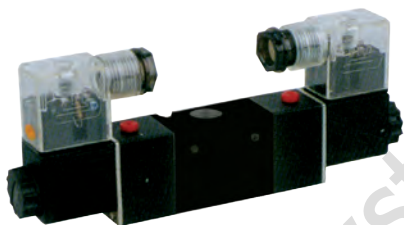
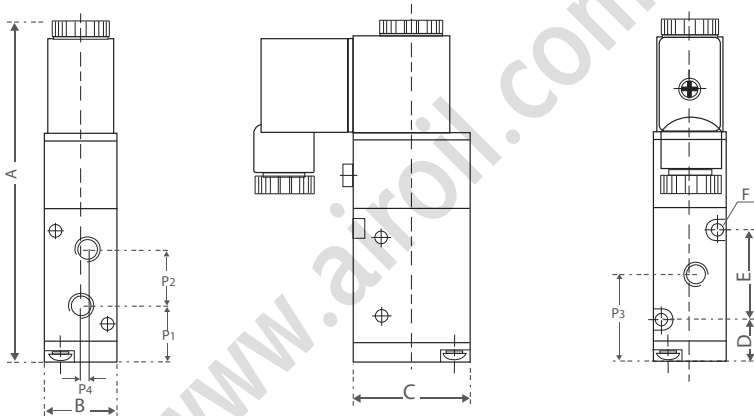
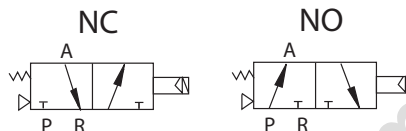


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N3V210-08

N3V310-10

N3V410-15

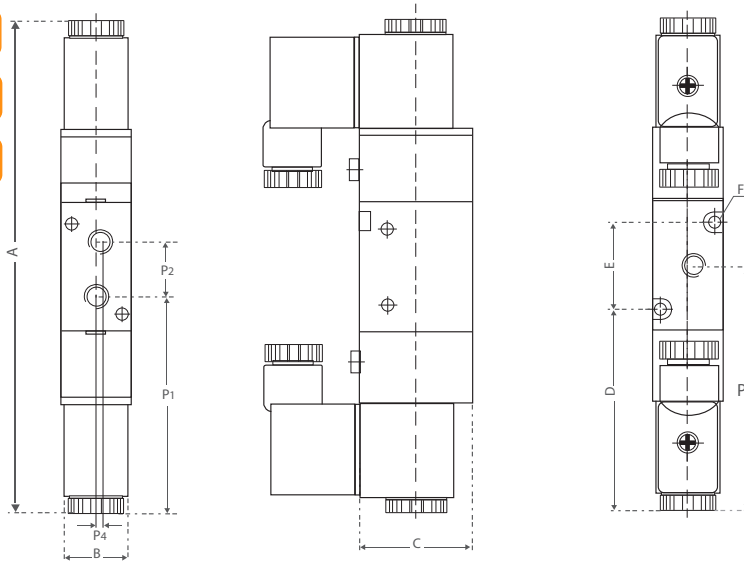
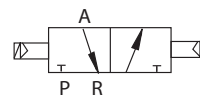


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N3V220-08

N3V320-10

N3V420-15



Dimensions (mm)

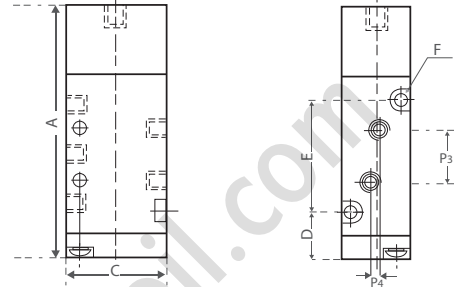
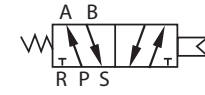
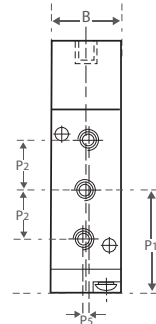
Model	A	B	C	D	E	FØ	P1	P2	P3	P4
N3V210-08	111.5	22	35	12.5	33	3.3	21	18	31	3
N3V220-08	119.4	27	40	15	35	4.3	20.5	24	32.5	0
N3V310-10	119.4	27	40	15	35	4.3	20.5	24	32.5	0
N3V320-10	174	27	40	69.4	35	4.3	75	24	87	0
N3V410-15	137.6	34	50	21	40.5	4.3	25.5	31.5	41.25	0
N3V420-15	192.7	34	50	76.1	40.5	4.3	80.6	31.5	96.35	0

# N4A Series

4-way air pilot operated

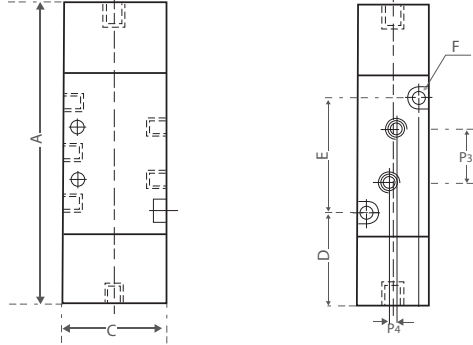
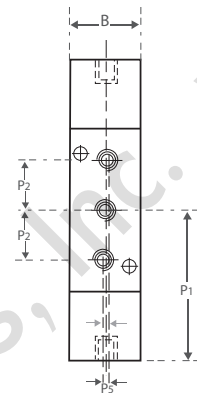
Port Sizes	Supply	Outlet	Exhaust
06	1/8NPT	1/8NPT	1/8NPT

## N4A110-06



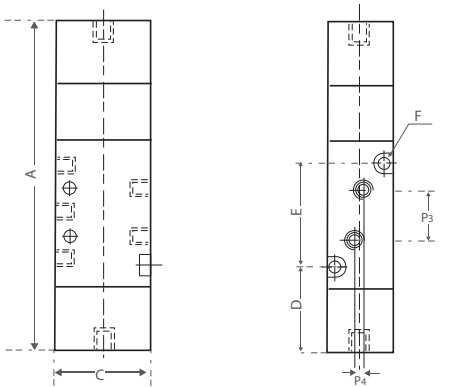
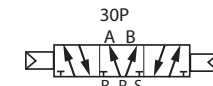
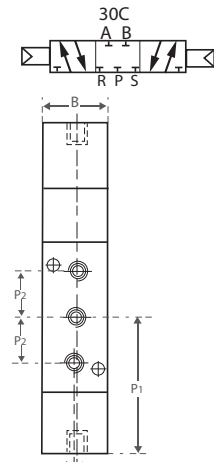
Pilot Port 1/8NPT

## N4A120-06



Pilot Port 1/8NPT

## N4A130-06



Pilot Port 1/8NPT

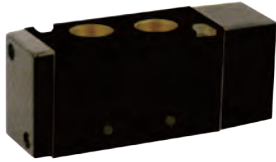
Dimensions (mm)

Model	A	B	C	D	E	FØ	P1	P2	P3	P4	P5
N4A110-06	68.7	18	27	14.2	30	3.3	28	14	16	3	2
N4A120-06	81	18	27	26.5	30	3.3	40.5	14	16	3	2
N4A130-06	96	18	27	26.5	30	3.3	40.5	14	16	3	2

# N4A Series

4-way air pilot operated

Port Sizes	Supply	Outlet	Exhaust
08	1/4NPT	1/4NPT	1/8NPT
10	3/8NPT	3/8NPT	1/4NPT
15	1/2NPT	1/2NPT	1/2NPT

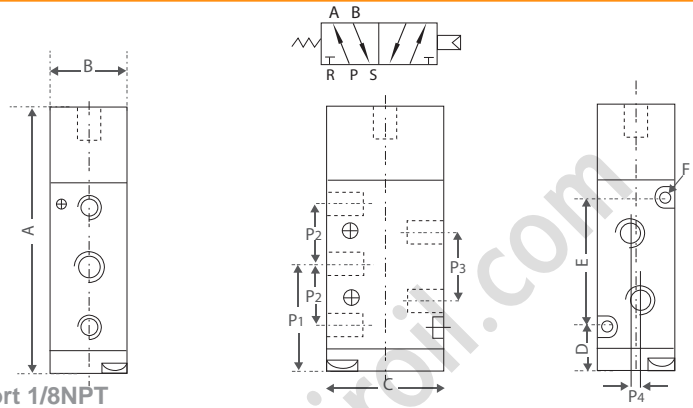


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N4A210-08

N4A310-10

N4A410-15

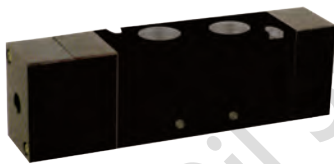
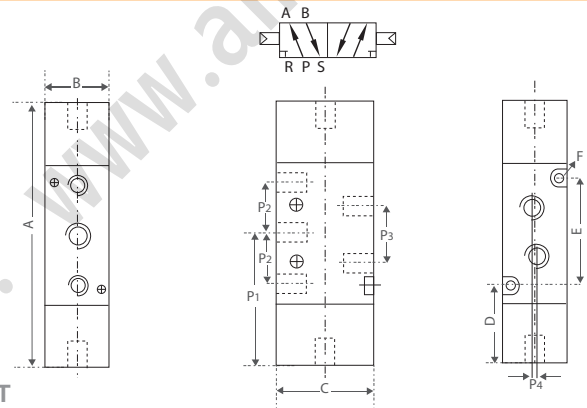


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N4A220-08

N4A320-10

N4A420-15

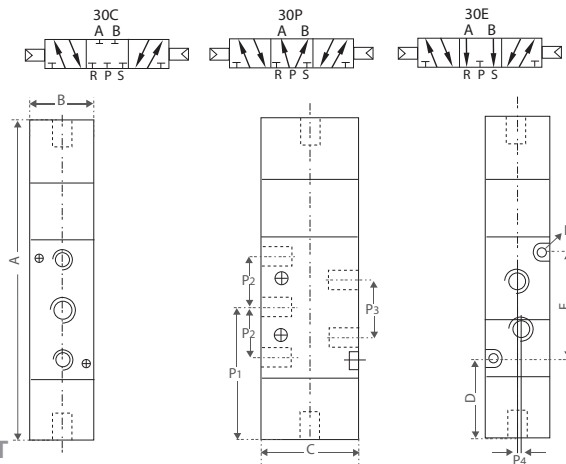


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N4A230-08

N4A330-10

N4A430-15



Dimensions (mm)

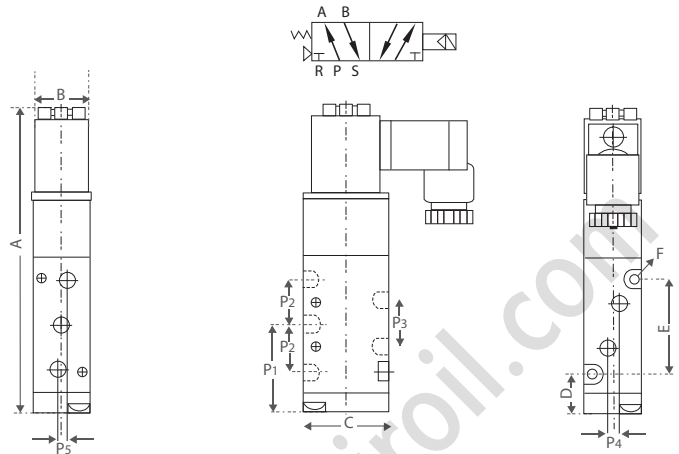
Model	A	B	C	D	E	FØ	P1	P2	P3	P4
N4V210-08	116.5	22	35	12.5	38	3.3	31.5	18	21	3
N4V220-08	169.8	22	35	65.9	38	3.3	31.5	18	21	3
N4V230-08	188.8	22	35	65.9	38	3.3	84.9	18	21	3
N4V310-10	134.5	27	40	15	50	403	40	22.5	24	4
N4V320-10	188.8	27	40	69.4	50	4.3	94.4	22.5	24	4
N4V330-10	207.8	27	40	69.4	50	4.3	94.4	22.5	24	4
N4V410-15	169.1	34	50	21	72	4.3	57	31.5	36	4
N4V420-15	242.2	34	50	76.1	72	4.3	112.1	31.5	36	4
N4V430-15	245.2	34	50	76.1	72	4.3	112.1	31.5	36	4

# N4V Series

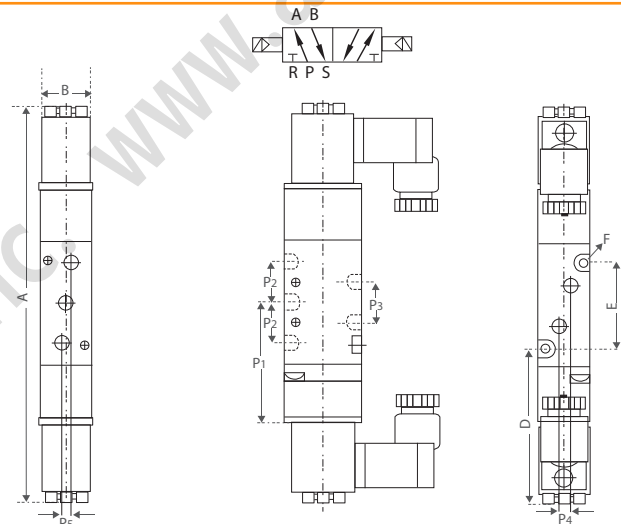
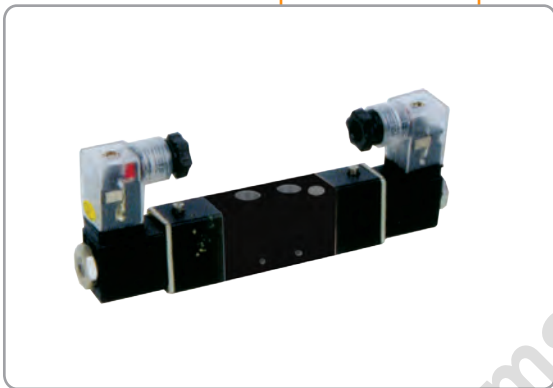
4-way solenoid operated

Port Sizes	Supply	Outlet	Exhaust
06	1/8NPT	1/8NPT	1/8NPT

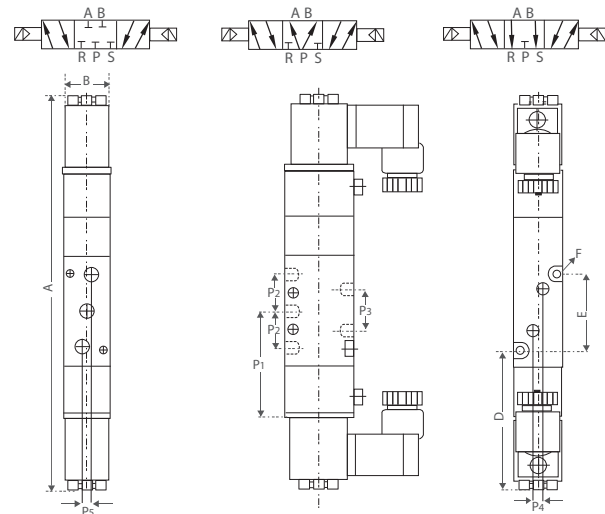
## N4V110-06



## N4V120-06



## N4V130-06



Dimensions (mm)

Model	A	B	C	D	E	FØ	P1	P2	P3	P4	P5
N4V110-06	98	18	27	13	30	3.3	28	14	16	3	2
N4V120-06	139.6	18	27	54.8	30	3.3	56	14	16	3	2
N4V130-06	154.6	18	27	54.8	30	3.3	56	14	16	3	2

# N4V Series

4-way solenoid operated

Port Sizes	Supply	Outlet	Exhaust
08	1/4NPT	1/4NPT	1/8NPT
10	3/8NPT	3/8NPT	1/4NPT
15	1/2NPT	1/2NPT	1/2NPT

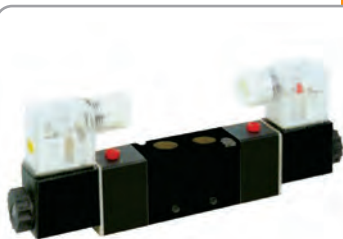
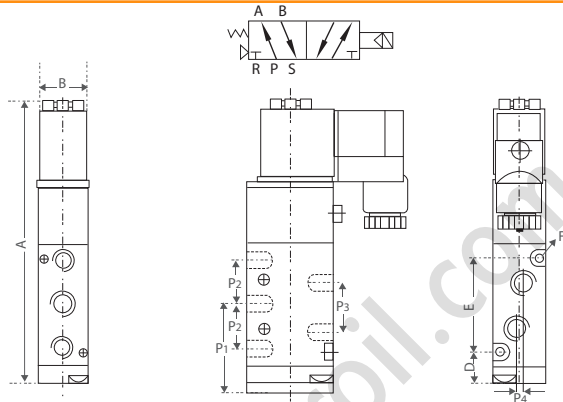


Generic image

N4V210-08

N4V310-10

N4V410-15

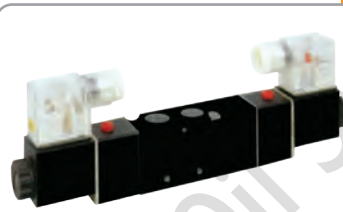
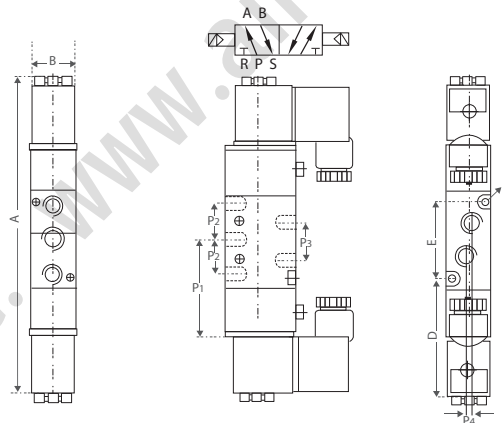


Generic image

N4V220-08

N4V320-10

N4V420-15

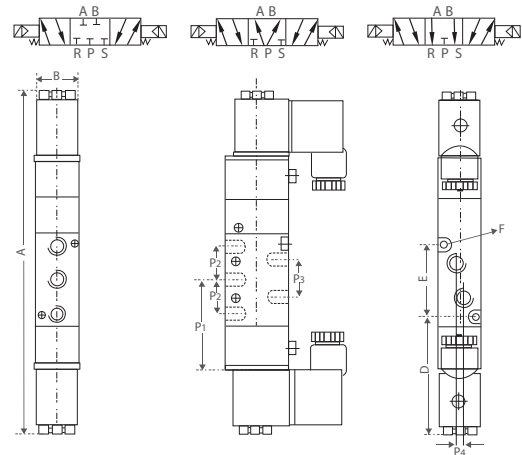


Generic image

N4V230-08

N4V330-10

N4V430-15

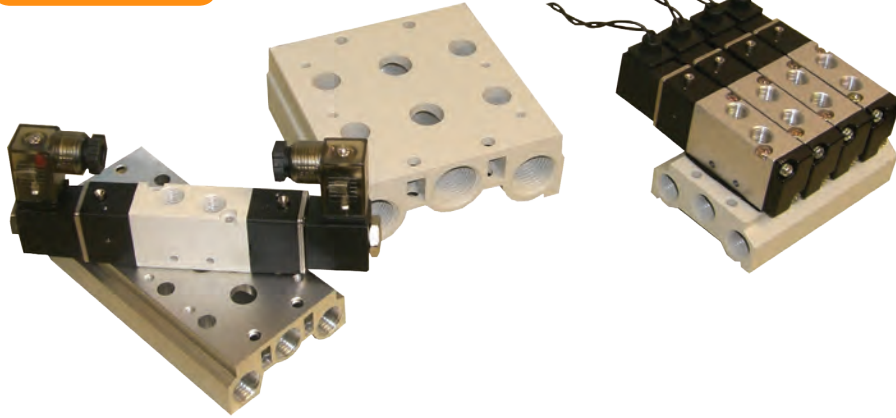


## Dimensions (mm)

Model	A	B	C	D	E	FØ	P1	P2	P3	P4
N4V210-08	116.5	22	35	12.5	38	3.3	31.5	18	21	3
N4V220-08	169.8	22	35	65.9	38	3.3	31.5	18	21	3
N4V230-08	188.8	22	35	65.9	38	3.3	84.9	18	21	3
N4V310-10	134.5	27	40	15	50	4.0	40	22.5	24	4
N4V320-10	188.8	27	40	69.4	50	4.3	94.4	22.5	24	4
N4V330-10	207.8	27	40	69.4	50	4.3	94.4	22.5	24	4
N4V410-15	169.1	34	50	21	72	4.3	57	31.5	36	4
N4V420-15	242.2	34	50	76.1	72	4.3	112.1	31.5	36	4
N4V430-15	245.2	34	50	76.1	72	4.3	112.1	31.5	36	4

# Manifolds

**N3V110F-2**

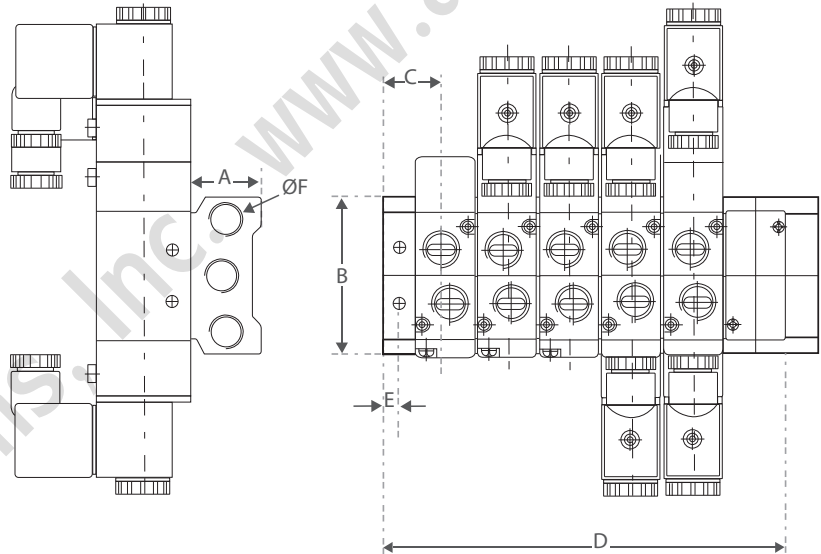


### BLANKING PLATES\*

Kit Part Number*	Manifold Series
N4V1BGS	N4V110F
N4V2BGS	N4V210F
N4V3BGS	N4V310F
N4V4BGS	N4V410F
N3V1BGS	N3V110F
N3V2BGS	N3V210F
N3V3BGS	N3V310F
N3V24BGS	N3V410F

\*Kit comprises of the following:

- 1 x Blanking Plate
- 1 x Gasket
- 2 x Assembly Screws



DIMENSIONS (mm)	A	B	C	D*	E	F
100F	25	140	19	#V*19+38	5	1/4NPT
200F	26	170	23	#V*23+46	6	1/4NPT
300F	30	189	27	#V*28+54	6	3/8NPT
400F	38	222	31.5	#V*35+63	7	1/2NPT

\*The manifold length is calculated as follows: Number of valves x valve width + 1mm + end dimensions  
eg. A 4 station 100 series will have a D dimension of 114mm (4 x 19 + 38).

Thread Type	Valve Type	Valve Series	Number of Stations
<b>N</b>	<b>4V</b>	<b>110F</b>	<b>- 4</b>
N-NPT	3V - 3 way	110F - 100 series	- 2
Blank = G thread	4V - 5 way	210F- 200 series	- 4
		310F- 300 series	- 6
		410F- 400 series	- 8
			- 10
			- 12

## Silencers & Mufflers

### BSL



Part Number	Thread
BSL - M5	
BSL - N1	1/8NPT
BSL - N2	1/4NPT
BSL - N3	3/8NPT
BSL - N4	1/2NPT
BSL - N6	3/4NPT
BSL - N8	1NPT

### BESL



Part Number	Thread
BESL - N1	1/8NPT
BESL - N2	1/4NPT
BESL - N3	3/8NPT
BESL - N4	1/2NPT
BESL - N6	3/4NPT
BESL - N8	1NPT

### PSL



Part Number	Thread
PSL - N1	1/8NPT
PSL - N2	1/4NPT
PSL - N3	3/8NPT
PSL - N4	1/2NPT

### BSLM



Part Number	Thread
BSLM - N1	1/8NPT
BSLM - N2	1/4NPT
BSLM - N3	3/8NPT
BSLM - N4	1/2NPT
BSLM - N6	3/4NPT
BSLM - N8	1NPT