

## 3/2, 5/2 & 5/3 Inline Spool Valves Solenoid and Air Pilot Actuated 1/4"

- Disc seal spool construction
- High flow compact valves
- Light weight, long life corrosion resistant materials
- Low 1.7 watt coils
- Wide range of voltage and connector plug options



### Technical Data

Medium:

Compressed air, filtered, lubricated and non-lubricated

Operation:

Disk seal spool valve, solenoid pilot or air pilot actuated

Mounting:

Through-holes in valve body

Port Size:

ISO G<sup>1/4</sup>, 1/4 PTF or Rc<sup>1/4</sup> taper

Operating Pressure:

Maximum pressure 10 bar (145 psig), for minimum pilot pressure see overleaf.

Flow Characteristics:

Function	'C'	'b'	'A'	l/min	Cv	Kv
3/2	4,38	0,413	19,57	1,085	1,12	0,944
5/2	4,25	0,157	15,92	1,048	1,16	0,914
5/3	3,84	0,166	14,47	967	1,09	0,834

Ambient Temperature:

-20°C (-4°F) to 80°C (176°F) Pilot models

-20°C (-4°F) to 50°C (122°F) Solenoid models

\* Consult our Technical Service for use below +2°C (35.6°F).

Materials:

Aluminium body, pistons and spool, nylon or polyphenylene end caps, polybutylene solenoid adaptors, hydrogenated nitrile spool seals and nitrile gaskets

Solenoid Connector Plugs:

For technical data on connector plugs refer to page 7.7.001 or consult Technical Department.

### Ordering Information

To order select model number, insert thread type code from options listed then insert voltage code from table on page 5.4.158.04, eg. V12B517B-B219A for a solenoid actuated spring return 5/2 valve with an internal pilot supply, ISO G ports and suitable for an electricity supply of 220/240V 50/60 Hz.



3/2 Normally closed



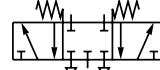
3/2 Normally open



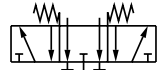
5/2



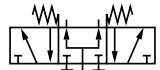
5/2 Twin Supply



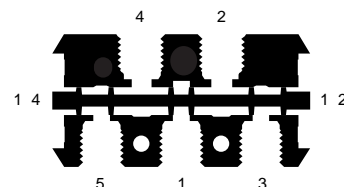
5/3 All ports blocked mid position



5/3 Centre open exhaust mid position



5/3 Centre open pressure mid position





**General Information**

**5/2 Solenoid Pilot Actuated In-line Valves**

Symbol	Model	Manual Override	Pilot Supply	Operator	Return	Operating Pressure (bar (psig))	Pilot Pressure (bar (psig))	Weight (kg (lb.))
	V12*517A-B21#A	Screwdriver Bi-stable	Internal	Solenoid	Spring	1.8 – 10 (25 - 145)	-	0.20 (0.43)
	V12*517A-B31#A	Push Button						
	V12*5F7A-B21#A	Screwdriver Bi-stable	Internal Twin Supply	Solenoid	Spring	-0.9 – 10 (-13 - 145)	1.8 – 10 (25 - 145)	0.20 (0.43)
	V12*5F7A-B31#A	Push Button						
	V12*5E7A-B21#A	Screwdriver Bi-stable	External	Solenoid	Spring	-0.9 – 10 (-13 - 145)	1.8 – 10 (25 - 145)	0.21 (0.46)
	V12*5E7A-B31#A	Push Button						
	V12*511A-B21#A	Screwdriver Bi-stable	Internal	Solenoid	Solenoid	1.2 – 10 (17 - 145)	-	0.26 (0.57)
	V12*511A-B31#A	Push Button						
	V12*5FFA-B21#A	Screwdriver Bi-stable	Internal Twin Supply	Solenoid	Solenoid	-0.9 – 10 (-13 - 145)	1.2 – 10 (17 - 145)	0.26 (0.57)
	V12*5FFA-B31#A	Push Button						
	V12*5EEA-B21#A	Screwdriver Bi-stable	External	Solenoid	Solenoid	-0.9 – 10 (-13 - 145)	1.2 – 10 (17 - 145)	0.28 (0.61)
	V12*5EEA-B31#A	Push Button						

# Insert voltage code from table on page 5.4.158.04

\* Thread : Insert B for ISO G1/4, R for 1/4 PTF or H for Rc1/4 taper

† Minimum pressure to port 5 must be 1.7 bar (25 psig)

**5/3 Solenoid Pilot Actuated In-line Valves**

Symbol	Model	Manual Override	Pilot Supply	Valve Function††	Operator	Return	Operating Pressure (bar (psig))	Pilot Pressure (bar (psig))	Weight (kg (lb.))
	V12*611A-B21#A	Screwdriver Bi-stable	Internal	APB	Solenoid	Solenoid	2.2 – 10 (32 - 145)	-	0.27 (0.59)
	V12*611A-B31#A	Push Button							
	V12*6FFA-B21#A	Screwdriver Bi-stable	Internal Twin Supply	APB	Solenoid	Solenoid	-0.9 – 10 (-13 - 145)	2.2 – 10 (32 - 145)	0.27 (0.59)
	V12*6FFA-B31#A	Push Button							
	V12*6EEA-B21#A	Screwdriver Bi-stable	External	ABP	Solenoid	Solenoid	-0.9 – 10 (-13 - 145)	2.2 - 10 (32 - 145)	0.28 (0.62)
	V12*6EEA-B31#A	Push Button							
	V12*711A-B21#A	Screwdriver Bi-stable	Internal	COE	Solenoid	Solenoid	2.2 – 10 (32 - 145)	-	0.27 (0.59)
	V12*711A-B31#A	Push Button							
	V12*7EEA-B21#A	Screwdriver Bi-stable	External	COE	Solenoid	Solenoid	-0.9 – 10 (-13 - 145)	2.2 - 10 (32 - 145)	0.28 (0.62)
	V12*7EEA-B31#A	Push Button							
	V12*811A-B21#A	Screwdriver Bi-stable	Internal	COP	Solenoid	Solenoid	2.2 – 10 (32 - 145)	-	0.27 (0.59)
	V12*811A-B31#A	Push Button							
	V12*8EEA-B21#A	Screwdriver Bi-stable	External	COP	Solenoid	Solenoid	-0.9 – 10 (-13 - 145)	2.2 - 10 (32 - 145)	0.28 (0.62)
	V12*8EEA-B31#A	Push Button							

# Insert voltage code from table on page 5.4.158.04

\* Thread : Insert B for ISO G1/4, R for 1/4 PTF or H for Rc1/4 taper

†† Valve Function Designations: APB = All Ports Blocked, COE = Centre Open Exhaust, COP = Centre Open Pressure

‡ Minimum pressure to port 5 must be 2.2. bar (32 psig)

NOTE: For solenoid pilot actuated models with no manual override, insert '1' in the 10th position of the model number eg. V12\*517A-B11#A



### 5/2 and 5/3 Air Pilot Actuated In-line Valves

Symbol	Model	Valve Function††	Operator	Return	Operating Pressure (bar (psig))	Pilot Pressure (bar (psig))	Weight kg (lb.)
	V12*5D7A-X0090	-	Air	Spring	-0.9 – 10 (-13 - 145)	1.8 – 10 (25 - 145)	0.14 (0.31)
	V12*5DDA-X0020	-	Air	Air	-0.9 – 10 (-13 - 145)	1.2 – 10 (17 - 145)	0.14 (0.31)
	V12*59DA-X0060	-	Large Air	Small Air	-0.9 – 10 (-13 - 145)	1.2 – 10 (17 - 145)	0.14 (0.31)
	V12*6DDA-X0020	APB	Air	Air	-0.9 – 10 (-13 - 145)	2.2 – 10 (32 - 145)	0.14 (0.31)
	V12*7DDA-X0020	COE	Air	Air	-0.9 – 10 (-13 - 145)	2.2 – 10 (32 - 145)	0.14 (0.31)
	V12R*DDA-X0020	COP	Air	Air	-0.9 – 10 (-13 - 145)	2.2 – 10 (32 - 145)	0.14 (0.31)

\* Thread : Insert B for ISO G1/4, R for 1/4 PTF or H for Rc1/4 taper

†† Valve Function Designations: APB = All Ports Blocked, COE = Centre Open Exhaust, COP = Centre Open Pressure

† A differential pressure of 1.2 bar (17 psig) is required to shift the valve from output at ports 2 and 4

### 3/2 Solenoid Pilot Actuated In-line Valves

Symbol	Model	Manual Override	Pilot Supply	Inline Function	Operator	Return (bar (psig))	Operating Pressure (bar (psig))	Pilot Pressure	Weight kg (lb.)
	V12*417A-B21#A	Screwdriver Bi-stable	Internal	N.C.	Solenoid	Spring	1.8 - 10 (25 - 145)	-	0.16 (0.36)
	V12*417A-B31#A	Push Button							
	V12*4E7A-B21#A	Screwdriver Bi-stable	External	N.C.	Solenoid	Spring	-0.9 - 10 (-13 - 145)	1.8 - 10 (25 - 145)	0.17 (0.38)
	V12*4E7A-B31#A	Push Button							
	V12*317A-B21#A	Screwdriver Bi-stable	Internal	N.O.	Solenoid	Spring	1.8 - 10 (25 - 145)	-	0.16 (0.36)
	V12*317A-B31#A	Push Button							
	V12*3E7A-B21#A	Screwdriver Bi-stable	External	N.O.	Solenoid	Spring	-0.9 - 10 (-13 - 145)	1.8 - 10 (25 - 145)	0.17 (0.38)
	V12*3E7A-B31#A	Push Button							
	V12*311A-B21#A	Screwdriver Bi-stable	Internal	-	Solenoid	Solenoid	1.2 - 10 (17 - 145)	-	0.22 (0.49)
	V12*311A-B31#A	Push Button							
	V12*3EEA-B21#A	Screwdriver Bi-stable	External	-	Solenoid	Solenoid	-0.9 - 10 (-13 - 145)	1.2 - 10 (17 - 145)	0.24 (0.53)
	V12*3EEA-B31#A	Push Button							

# Insert voltage code from table on page 5.4.158.04

\* Thread : Insert B for ISO G1/4, R for 1/4 PTF or H for Rc1/4 taper

NOTE: For solenoid pilot actuated models with no manual override, insert '1' in the 10th position of the model number eg. V12\*517A-B11#A



3/2 Air Pilot Actuated In-line Valves

Symbol	Model	Valve Function	Operator	Return	Operating Pressure (bar (psig))	Pilot Pressure (bar (psig))	Weight kg (lb)
	V12*4D7A-X0090	N.C.	Air	Spring	-0.9 – 10 (-13 – 145)	1.8 – 10 (25 – 145)	0.11 (0.24)
	V12*3D7A-X0090	N.O.	Air	Spring	-0.9 – 10 (-13 – 145)	1.8 – 10 (25 – 145)	0.11 (0.24)
	V12*49DA-X0060	N.C.	Large Air	Small Air	-0.9 – 10 (-13 – 145)	1.8 – 10 (25 – 145)	0.11 (0.24)
	V12*39DA-X0060	N.O.	Large Air	Small Air	-0.9 – 10 (-13 – 145)	1.8 – 10 (25 – 145)	0.11 (0.24)
	V12*3DDA-X0020	-	Air	Air	-0.9 – 10 (-13 – 145)	1.2 – 10 (17 – 145)	0.11 (0.24)

\* Thread : Insert B for ISO G1/4, R for 1/4 PTF or H for Rc1/4 taper  
 † A differential pressure of 1.2 bar (17 psig) is required to shift the valve

Voltage Codes and Spare Coils

Voltage	Codes	Power Inrush/Hold	Coil Part Number
6V d.c. & 12V 50/50 Hz	1	1,5 W 4,1/2,9 VA	V10025-A11
12V d.c.	2	1,7 W	V10025-A12
24V d.c.	3	1,7 W	V10025-A13
24V 50/60Hz	4	4,1/2,9 VA	V10025-A14
48V 50/60Hz	6	4,1/2,9 VA	V10025-A16
110V/120V 50/60Hz	8	3,5/2,5 VA	V10025-A18
220/240V 50/60Hz	9	3,5/2,5 VA	V10025-A19

Electrical Details for Solenoid Operators

Voltage Tolerances:	±10%
Rating:	100% Continuous Duty
Inlet Orifice:	0,8 mm
Electrical Connection:	DIN 43 650 table 'C'
Manual Override:	V12*5--A-B21#B - Screwdriver Bi-stable V12*5--A-B31#B - Push button, spring return V12*5--A-B11#B - No override
Protection Class:	NEMA 4, IP 65 (DIN 40 050)

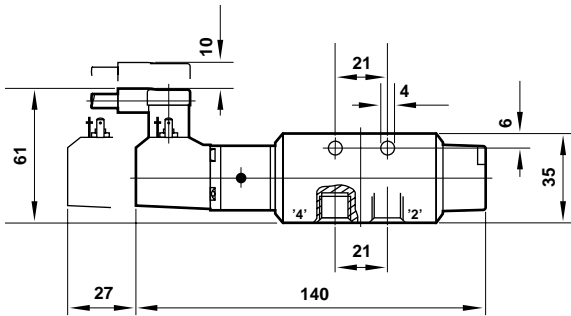
For technical data on connector plugs see page 7.7.001 or consult Technical Department.

Warning

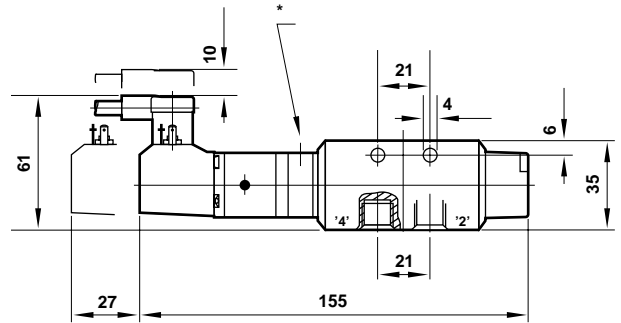
These products are intended for use in industrial compressed air systems only. Do not use these products where pressures and temperatures can exceed those listed under 'Technical Data'. Before using these products with fluids other than those specified, for non-industrial applications, life-support systems, or other applications not within published specifications, consult Norgren. Through misuse, age, or malfunction, components used in fluid power systems can fail in various modes. The system designer is warned to consider the failure modes of all component parts used in fluid power systems and to provide adequate safeguards to prevent personal injury or damage to equipment in the event of such failure. **System designers must provide a warning to end users in the system instructional manual if protection against a failure mode cannot be adequately provided.** System designers and end users are cautioned to review specific warnings found in instruction sheets packed and shipped with these products where applicable.



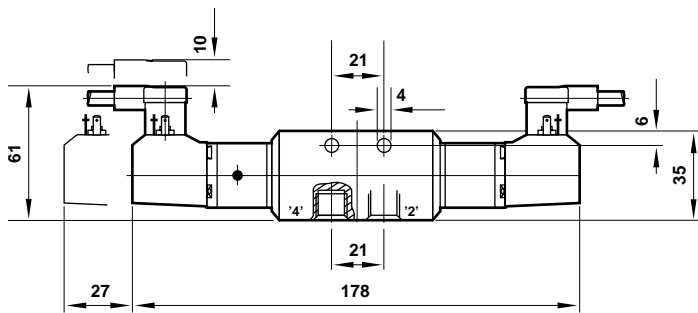
**V12\*5\*7A**  
5/2 Single Solenoid Pilot Valves



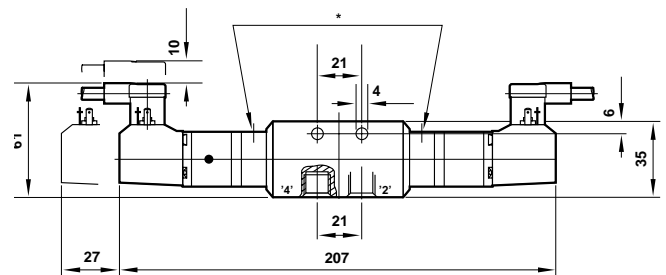
**V12\*5E7A**  
5/2 Single Solenoid Pilot Valves with external pilot supply



**V12\*5\*\*A**  
5/2 Double Solenoid Pilot Valves



**V12\*5EEA**  
5/2 Double Solenoid Pilot Valves with external pilot supply

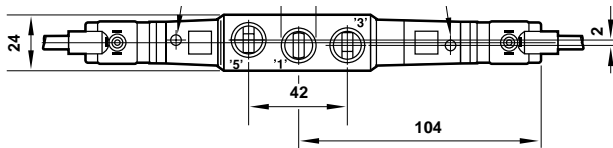
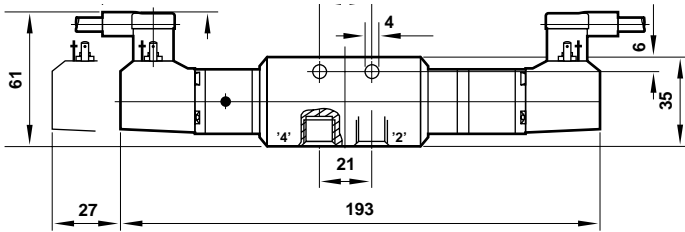


All dimensions in mm (inch)



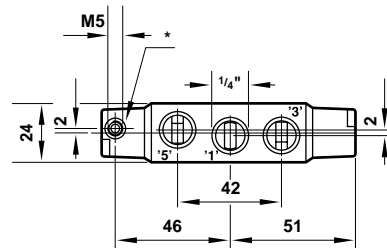
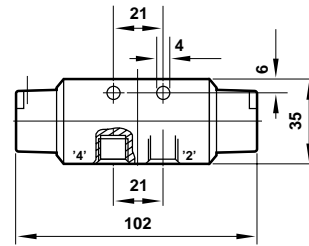
**V12\*\*EEA**

5/3 Double Solenoid Pilot Valves



**V12\*5D7A-X0090**

5/2 Single Air Pilot Valves

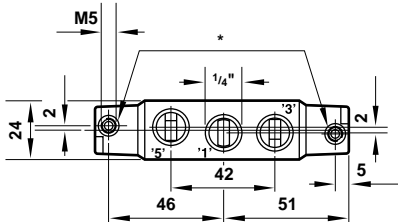
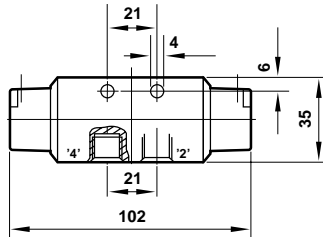


**V12\*5DDA-X0020**

5/2 Double Air Pilot Valves

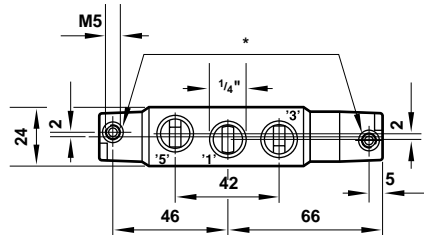
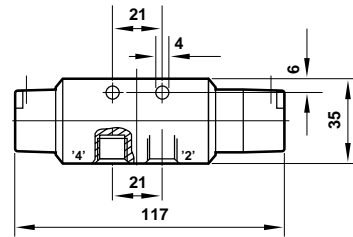
**V12\*59A-X0060**

5/2 Small Air/Large Air Valves



**V12\*\*DDA**

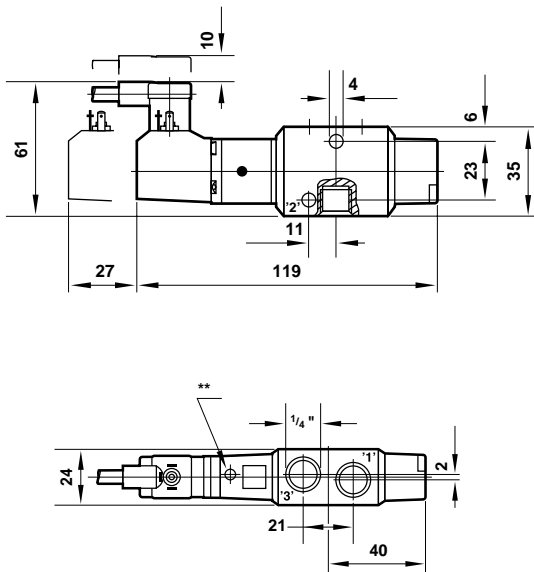
5/3 Double Air Pilot Valves



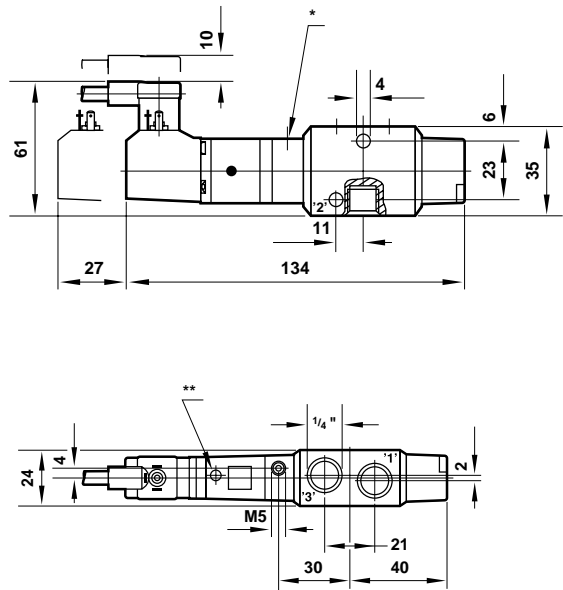
All dimensions in mm (inch)



**V12\*417A**  
3/2 NC Single Solenoid Pilot Valve\*



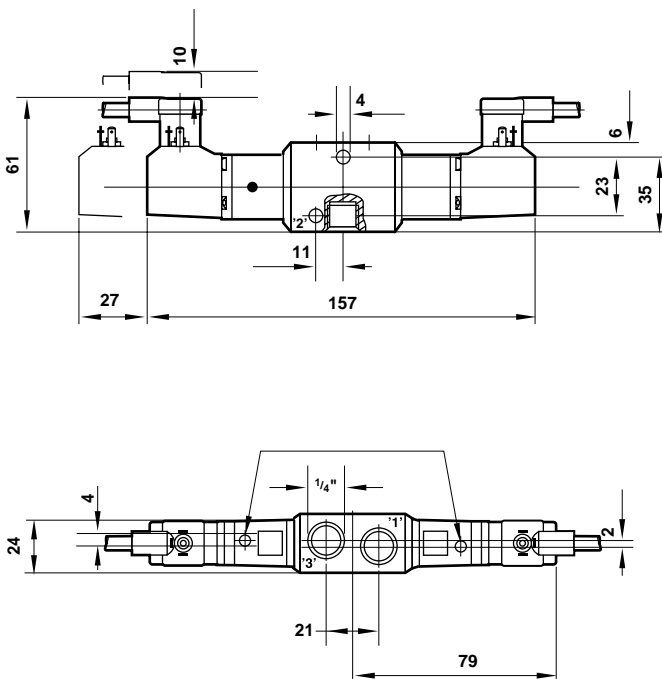
**V12\*4E7A**  
3/2 NC Single Solenoid Pilot Valves with external pilot supply\*



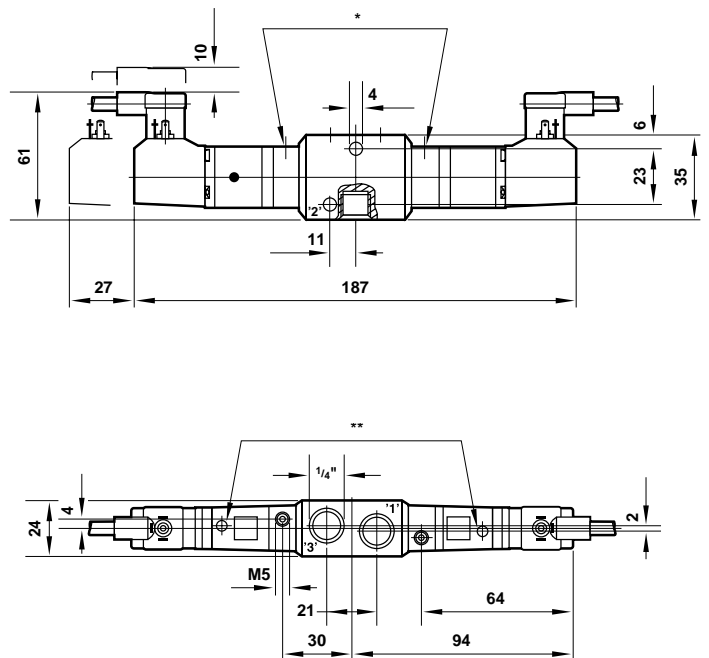
\* Normally Open valves have the same envelope dimensions with operators mounted on opposite ends of the valve body.

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**V12\*311A**  
3/2 Double Solenoid Pilot Valves



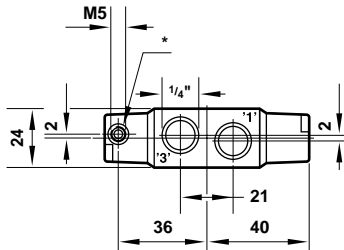
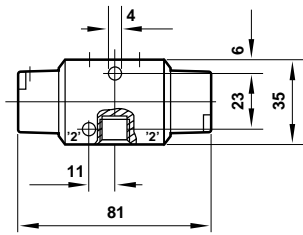
**V12\*3EEA**  
3/2 Double Solenoid Pilot Valves with external pilot supply



All dimensions in mm (inch)

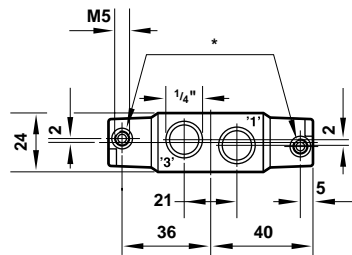
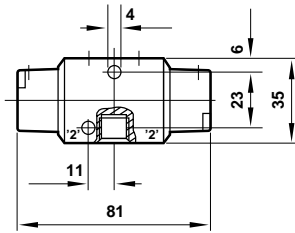


**V12\*4D7A-X0090**  
3/2 NC Single Air Pilot Valve\*



\* Normally Open valves have the same envelope dimensions with operators mounted on opposite ends of the valve body.

**V12\*\*9DA-X0060**  
3/2 NC and NO\* Small Air/Large Air Valves  
**V12\*3DDA-X0020**  
3/2 Double Air Pilot Valve



\* Normally Open valves have the same envelope dimensions with operators mounted on opposite ends of the valve body.

All dimensions in mm (inch)