Nugget 70 V19 Series

3/2, 5/2 & 5/3 In-line Spool Valves
Solenoid and Air Pilot Actuated
1/8"

OBSOLETE DOCUMENT
Technical Reference Only

- **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 G1/8, 1/8 PTF or Rc 1/8 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	2,68	0,4	11,91	724	0,76	.604
5/2	2,67	0,37	11,57	742	0,76	.611
5/3	2,41	0,33	10,14	650	0,67	.542

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:

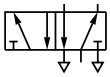
For technical data on connector plugs refer to page 7.7.001 or consult Technical Department.

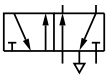
Ordering Information

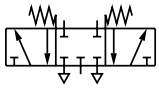
To order select model number, insert thread type code from options listed then insert voltage code from table on page 5.4.125.04, eg. V19A517A-B219A for a solenoid actuated spring return 5/2 valve with an internal pilot supply, ISO G ports and suitable for an electricity supply of 220/240V 50/60 Hz.

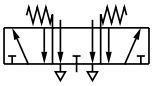

3/2 Normally closed

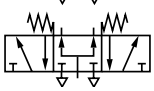

3/2 Normally open

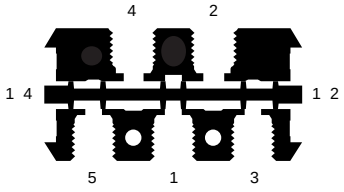

5/2


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



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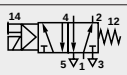
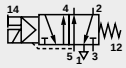
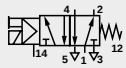
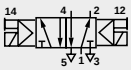
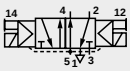
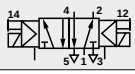
IMI Norgren Limited, PO Box 22, Eastern Avenue, Lichfield, Staffordshire WS13 6SB

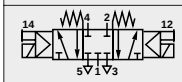
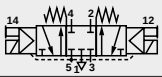
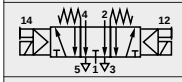
General Information

5/2 Solenoid Pilot Actuated In-line Valves

Symbol	Model	Manual Overide	Pilot Supply	Operator	Return	Operating Pressure (bar (psig))	Pilot Pressure (bar (psig))	Weight kg (lb.)
	**V19*517A-B21#A**	Screwdriver Bi-stable	Internal	Solenoid	Spring	1.8 – 10 (25 - 145)	–	.17 (.38)
	V19*517A-B31#A	Push Button						
† 	**V19*5F7A-B21#A**	Screwdriver Bi-stable	Internal Twin Supply	Solenoid	Spring	-0.9 – 10 (-13- 145)	1.8 – 10 (25 - 145)	.17 (.38)
	V19*5F7A-B31#A	Push Button						
	**V19*5E7A-B21#A**	Screwdriver Bi-stable	External	Solenoid	Spring	-0.9 – 10 (-13 - 145)	1.8 – 10 (25 - 145)	.18 (.40)
	V19*5E7A-B31#A	Push Button						
	**V19*511A-B21#A**	Screwdriver Bi-stable	Internal	Solenoid	Solenoid	1.2 – 10 (17 - 145)	–	.23 (.51)
	V19*511A-B31#A	Push Button						
† 	**V19*5FFA-B21#A**	Screwdriver Bi-stable	Internal Twin Supply	Solenoid	Solenoid	-0.9 – 10 (-13 - 145)	1.2 – 10 (17 - 145)	.23 (.51)
	V19*5FFA-B31#A	Push Button						
	**V19*5EEA-B21#A**	Screwdriver Bi-stable	External	Solenoid	Solenoid	-0.9 – 10 (-13 - 145)	1.2 – 10 (17 - 145)	.25 (.56)
	V19*5EEA-B31#A	Push Button						

\# Insert voltage code from table on page 5.4.125.04
* Thread : Insert A for ISO G1/8, P for 1/8 PTF or G for Rc1/8 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.)
	**V19*611A-B21#A**	Screwdriver Bi-stable	Internal	APB	Solenoid	Solenoid	2.2 – 10 (32 - 145)	–	.24 (.53)
	V19*611A-B31#A	Push Button							
	**V19*6FFA-B21#A**	Screwdriver Bi-stable	Internal Twin Supply	APB	Solenoid	Solenoid	-0.9 – 10 (-13 - 145)	2.2 – 10 (32 - 145)	.24 (.53)
	V19*6FFA-B31#A	Push Button							
‡ 	**V19*711A-B21#A**	Screwdriver Bi-stable	Internal	COE	Solenoid	Solenoid	2.2 – 10 (32 - 145)	–	.24 (.53)
	V19*711A-B31#A	Push Button							
	**V19*811A-B21#A**	Screwdriver Bi-stable	Internal	COP	Solenoid	Solenoid	2.2 – 10 (32 - 145)	–	.24 (.53)
	V19*811A-B31#A	Push Button							

\# Insert voltage code from table on page 5.4.125.04
* Thread : Insert A for ISO G1/8, P for 1/8 PTF or G for Rc1/8 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 positon of the model number eg. V19*517A-B**1**1#A

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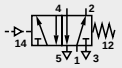
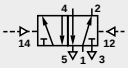
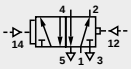
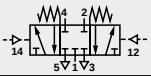
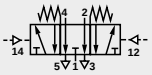
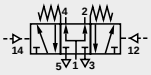
5/2 and 5/3 Air Pilot Actuated In-line Valves

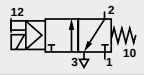
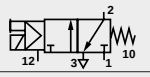
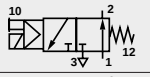
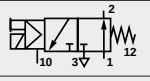
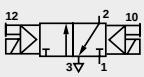
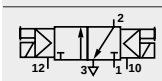
Symbol	Model	Valve Function††	Operator	Return	Operating Pressure (bar (psig))	Pilot Pressure (bar (psig))	Weight kg (lb.)
	**V19*5D7A-X0090**	-	Air	Spring	-0.9 - 10 (-13 - 145)	1.8 -10 (25 - 145)	.11 (.25)
	**V19*5DDA-X0020**	-	Air	Air	-0.9 - 10 (-13 - 145)	1.2 -10 (17 - 145)	.11 (.25)
† 	**V19*59DA-X0060**	-	Large Air	Small Air	-0.9 - 10 (-13 - 145)	1.2 -10 (17 - 145)	.11 (.25)
	**V19*6DDA-X0020**	APB	Air	Air	-0.9 - 10 (-13 - 145)	2.2 -10 (32 - 145)	.11 (.25)
	**V19*7DDA-X0020**	COE	Air	Air	-0.9 - 10 (-13 - 145)	2.2 -10 (32 - 145)	.11 (.25)
	**V19*8DDA-X0020**	COP	Air	Air	-0.9 - 10 (-13 - 145)	2.2 -10 (32 - 145)	.11 (.25)

* Thread : Insert A for ISO G1/8, P for 1/8 PTF or G for Rc1/8 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	Operating Pressure (bar (psig))	Pilot Pressure (bar (psig))	Weight kg (lb.)
	**V19*417A-B21#A**	Screwdriver Bi-stable	Internal	N.C.	Solenoid	Spring	1.8 - 10 (25 - 145)	-	.13 (.31)
	V19*417A-B31#A	Push Button							
	**V19*4E7A-B21#A**	Screwdriver Bi-stable	External	N.C.	Solenoid	Spring	-0.9 - 10 (-13 - 145)	1.8 -10 (25 - 145)	.15 (.33)
	V19*4E7A-B31#A	Push Button							
	**V19*317A-B21#A**	Screwdriver Bi-stable	Internal	N.O.	Solenoid	Spring	1.8 - 10 (25 - 145)	-	.13 (.31)
	V19*317A-B31#A	Push Button							
	**V19*3E7A-B21#A**	Screwdriver Bi-stable	External	N.O.	Solenoid	Spring	-0.9 - 10 (-13 - 145)	1.8 -10 (25 - 145)	.15 (.33)
	V19*3E7A-B31#A	Push Button							
	**V19*311A-B21#A**	Screwdriver Bi-stable	Internal	-	Solenoid	Solenoid	1.2 - 10 (17 - 145)	-	.20 (.44)
	V19*311A-B31#A	Push Button							
	**V19*3EEA-B21#A**	Screwdriver Bi-stable	External	-	Solenoid	Solenoid	-0.9 - 10 (-13 - 145)	1.2 -10 (-13 - 145)	.22 (.48)
	V19*3EEA-B31#A	Push Button							

\# Insert voltage code from table on page 5.4.125.04

* Thread : Insert A for ISO G1/8, P for 1/8 PTF or G for Rc1/8 taper

NOTE: For solenoid pilot actuated models with no manual override, insert '1' in the 10th positon of the model number eg. V19*517A-B**1**1#A

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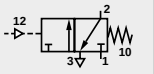
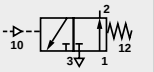
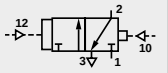
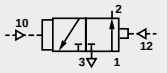
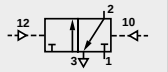
3/2 Air Pilot Actuated In-line Valves

Symbol	Model	Valve Function	Operator	Return	Operating Pressure (bar (psig))	Pilot Pressure (bar (psig))	Weight kg (lb)
	**V19*4D7A-X0090**	N.C.	Air	Spring	-0.9 - 10 (-13 - 145)	1.8 - 10 (25 - 145)	.09 (.20)
	**V19*3D7A-X0090**	N.O.	Air	Spring	-0.9 - 10 (-13 - 145)	1.8 - 10 (25 - 145)	.09 (.20)
† 	**V19*49DA-X0060**	N.C.	Large Air	Small Air	-0.9 - 10 (-13 - 145)	1.2 - 10 (17 - 145)	.09 (.20)
† 	**V19*39DA-X0060**	N.O	Large Air	Small Air	-0.9 - 10 (-13 - 145)	1.2 - 10 (17 - 145)	.09 (.20)
	**V19*3DDA-X0020**	-	Air	Air	-0.9 - 10 (-13 - 145)	1.2 - 10 (17 - 145)	.09 (.20)

* Thread : Insert A for ISO G1/8, P for 1/8 PTF or G for Rc1/8 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:	V19*5--A-B21#B - Screwdriver Bi-stable V19*5--A-B31#B - Push button, spring return V19*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.

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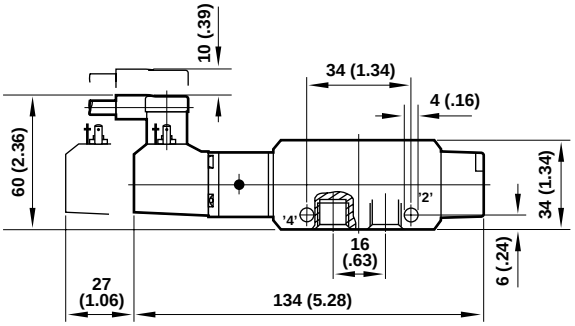
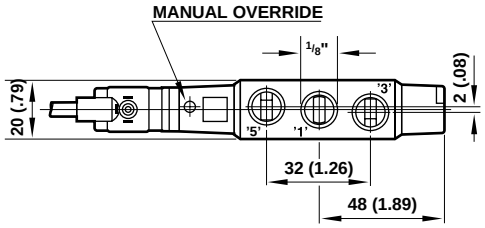
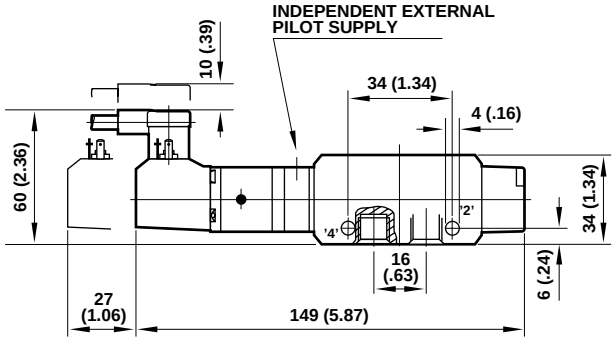
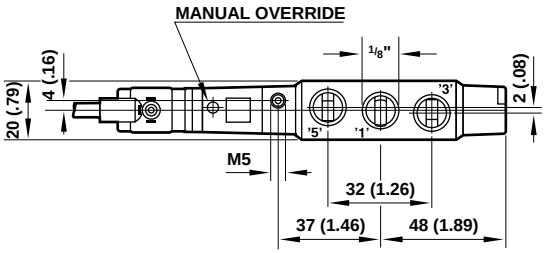
V19*5*7A
5/2 Single Solenoid Pilot Valves



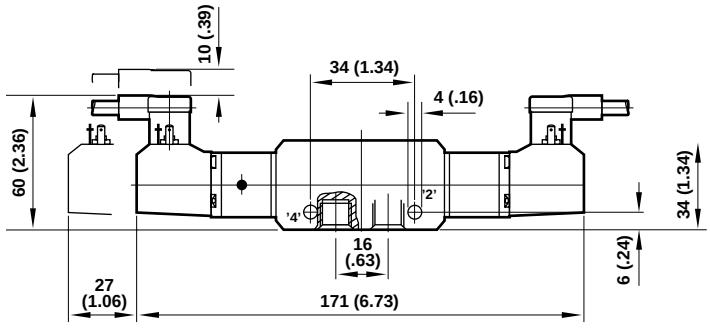


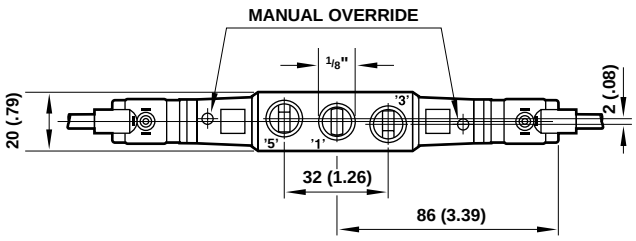
V19*5E7A
5/2 Single Solenoid Pilot Valves with external pilot supply



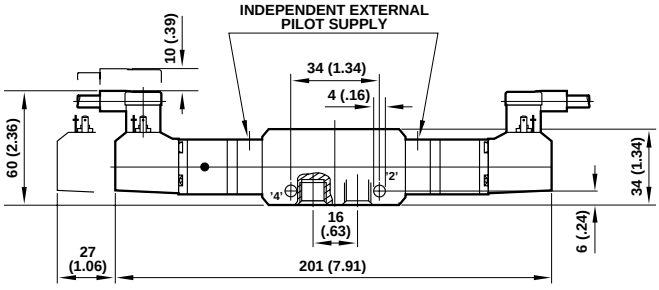


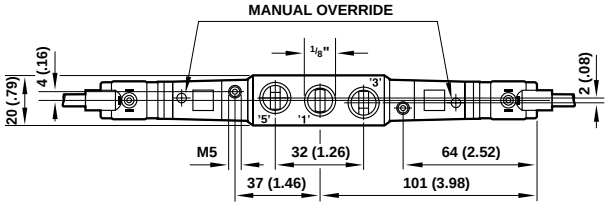
V19*5**A
5/2 Double Solenoid Pilot Valves





V19*5EEA
5/2 Double Solenoid Pilot Valves with external pilot supply





All dimensions in mm (inch)

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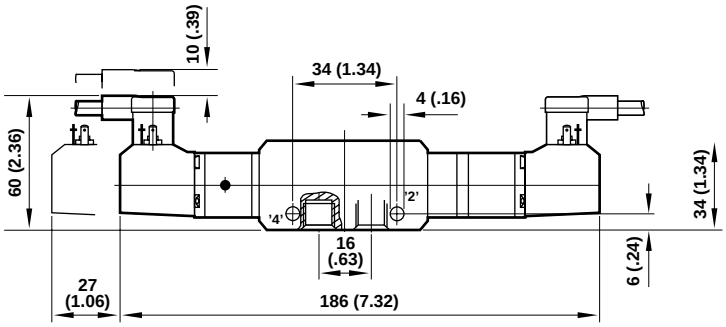
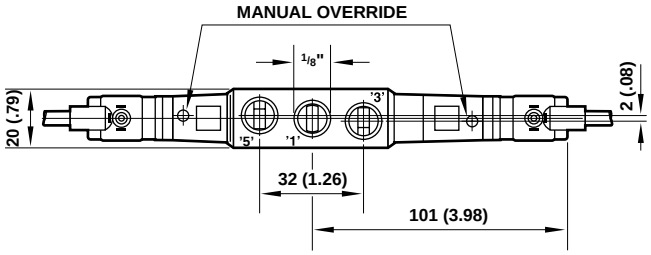
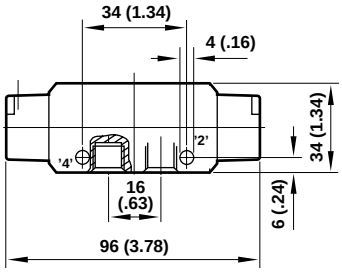
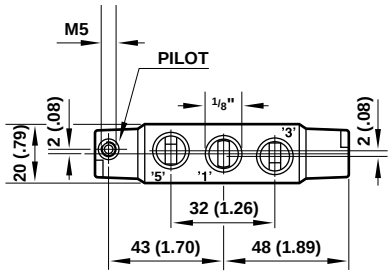
V19**EEA
5/3 Double Solenoid Pilot Valves



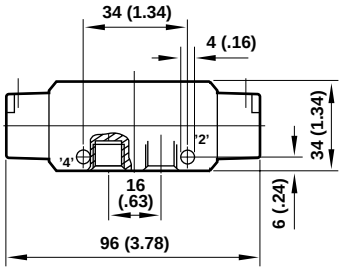


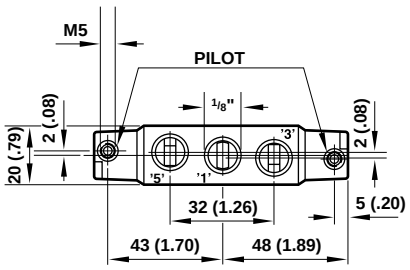
V19*5D7A-X0090
5/2 Single Air Pilot Valves



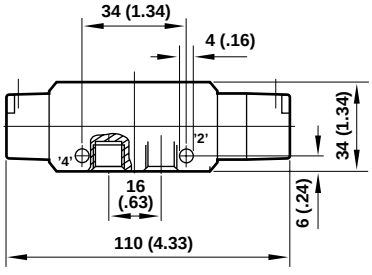


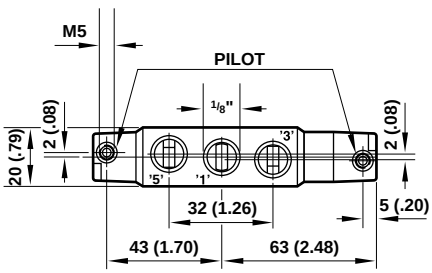
V19*5DDA-X0020
5/2 Double Air Pilot Valves
V19*59A-X0060
5/2 Small Air/Large Air Valves





V19**DDA
5/3 Double Air Pilot Valves





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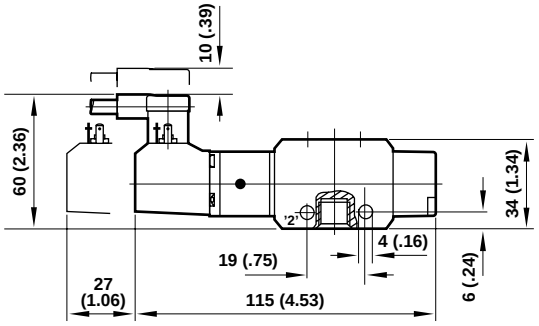
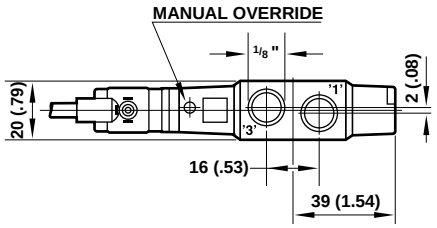
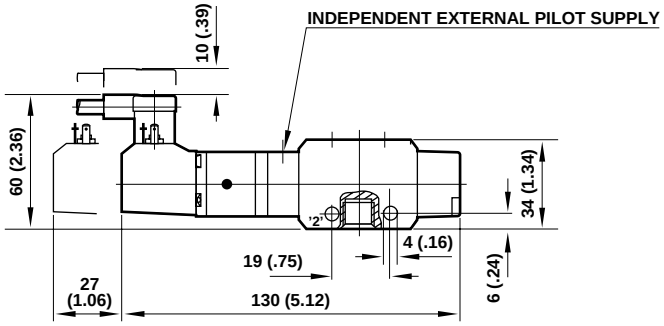
V19*417A
3/2 NC Single Solenoid Pilot Valve*

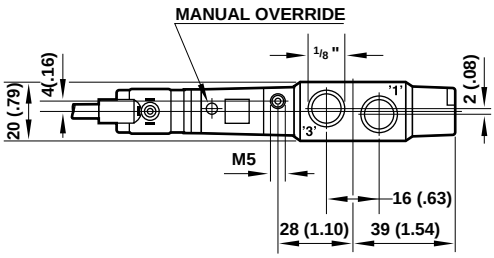




* Normally Open valves have the same envelope dimensions with operators mounted on opposite ends of the valve body.

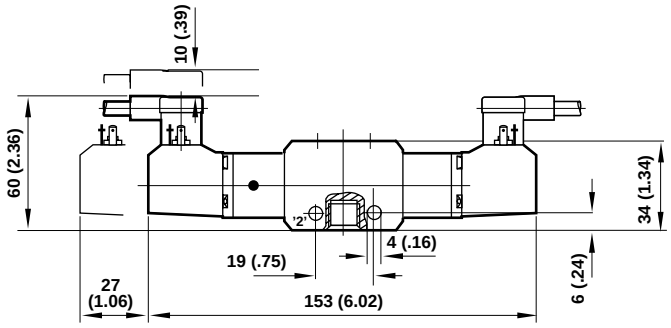
V19*4E7A
3/2 NC Single Solenoid Pilot Valves with external pilot supply*

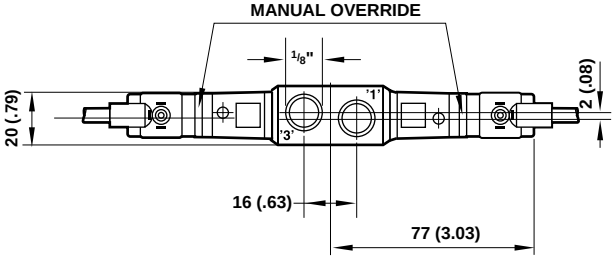




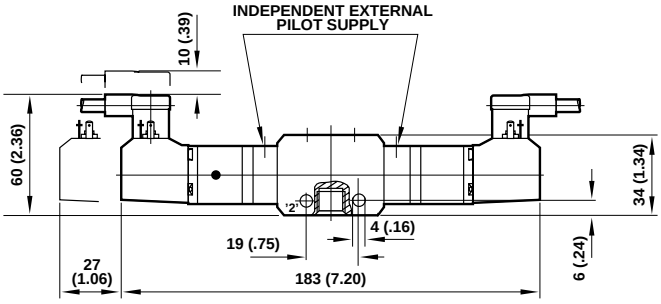
* Normally Open valves have the same envelope dimensions with operators mounted on opposite ends of the valve body.

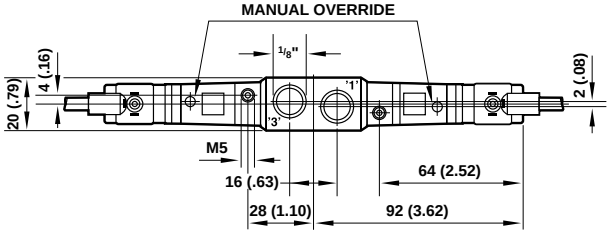
V19*311A
3/2 Double Solenoid Pilot Valves





V19*3EEA
3/2 Double Solenoid Pilot Valves with external pilot supply





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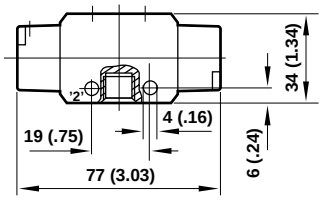
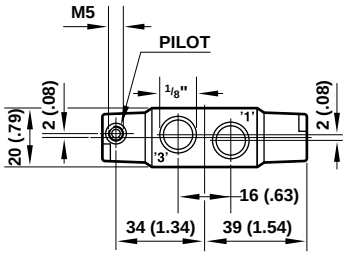
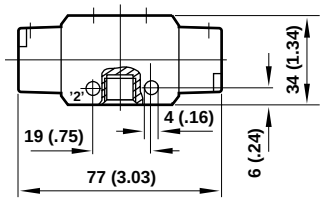
V19*4D7A-X0090
3/2 NC Single Air Pilot Valve*

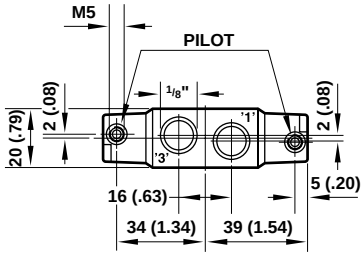




* Normally Open valves have the same envelope dimensions with operators mounted on opposite ends of the valve body.

V199DA-X0060**
3/2 NC and NO* Small Air/Large Air Valves
V19*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.

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