

# AVENTICS™ Solenoid Pilot, Air Pilot or Hand Lever Actuated Valves

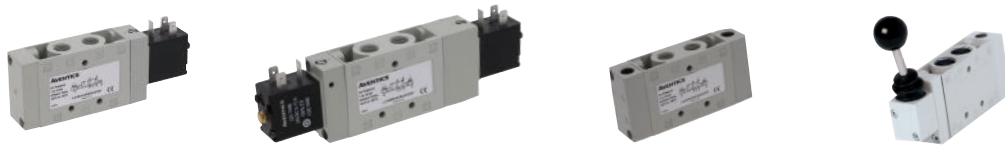
Table of Contents, Spool and Sleeve  
1/8", 1/4", 3/8" tapped

Series  
**L1-L2**



## L1 Series (1/8" and 1/4" tapped)

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# AVENTICS™ Solenoid Pilot or Air Pilot Actuated Valves

5/2-5/3  
Series  
**L1**

5-way, 5 ported, 2 and 3 positions, Spool and Sleeve  
1/8" and 1/4" tapped

## Features and Benefits

- Solenoid air pilot or air pilot actuated
- DIN plug-in solenoid and plug connector with indicator light
- Unlubricated or lubricated service
- In-line or manifold mounted
- Reliability: steel spool & sleeve technology with long service life
- Robust valve design, particularly recommended for use in harsh environments



## Technical data

<b>Flow capacity</b>	Cv 1
<b>Operating pressure</b>	-0.95 to 10 bar (28" Hg Vacuum to 150 PSIG)
<b>Pilot pressure</b>	1 to 10 bar (14.5 to 150 PSIG) [internal and external]
<b>Flow rate</b>	985 Nl/min (6 bar upstream/5 bar downstream)
<b>Fluids</b>	46 SCFM (Upstream pressure to atmosphere at 80 PSIG)
<b>Sealing</b>	Air or neutral gas, filtered at 40 µm, lubricated or not
<b>Ambient temperature</b>	Spool and sleeve metal-to-metal
<b>Solenoid pilot</b>	-23°C to +46°C (-10°F to +115°F)
<b>Air pilot</b>	-23°C to +66°C (-10°F to +150°F)



	Valve type	Operators	
		Pilot (14)	Return (12)
<b>5/2</b>			
	BA4	solenoid air	spring
	BB4	solenoid air	solenoid air
	PA4	air	spring
	PP4	air	air
	PM4	air	air + spring
<b>5/3</b>			
	BB6	<b>W1</b> closed centre position solenoid air, spring return to centre position	
	BB7	<b>W2</b> centre open to pressure solenoid air, spring return to centre position	
	BB5	<b>W3</b> centre open to exhaust solenoid air, spring return to centre position	
	PP6	<b>W1</b> closed centre position air operated	
	PP7	<b>W2</b> centre open to pressure air operated	
	PP5	<b>W3</b> centre open to exhaust air operated	

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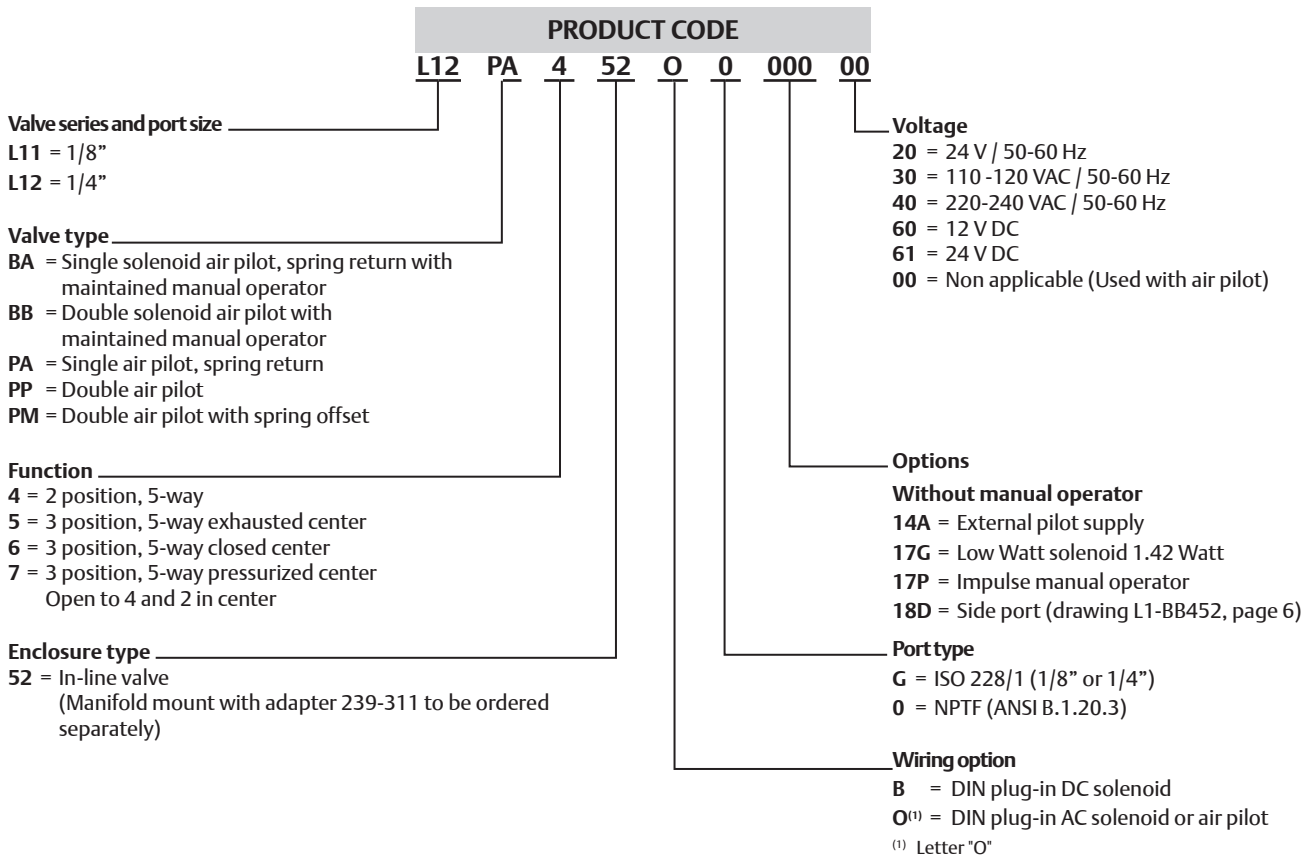
## Operating data

All solenoids are continuous duty rated		12 VDC	24 VDC	24 VAC 50 Hz	24 VAC 60 Hz	115 VAC 50 Hz	120 VAC 60 Hz	230 VAC 50 Hz	240 VAC 60 Hz
Power (Watts)		3.5	3.5	4.8	3.3	4.8	4.0	5.0	3.5
Holding current (A)		0.30	0.15	0.380	0.280	0.064	0.054	0.030	0.023
Inrush current (A)		-	-	0.500	0.420	0.087	0.082	0.042	0.036
Energize in seconds	2-Position, single, spring return	0.010	0.010	0.007	0.007	0.007	0.007	0.007	0.007
	2-Position, double, detented	0.010	0.010	0.007	0.007	0.007	0.007	0.007	0.007
	3-Position, spring centered	0.010	0.010	0.007	0.007	0.007	0.007	0.007	0.007
De-energize in seconds	2-Position, single, spring return	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035
	2-Position, double, detented	-	-	-	-	-	-	-	-
	3-Position, spring centered	0.030	0.035	0.035	0.035	0.035	0.035	0.035	0.035

\* A 1.4 Watt DC solenoid is available. Add "17G" to the model number. Example: L12BA400B017G61.  
Maximum pilot pressure is reduced to 116 PSIG (8 bar).

## How to order

### In-line valves



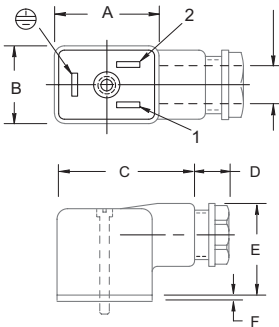
# AVENTICS™ Spool and Sleeve Valves


## Plug connector assemblies

NOTE: Plug connector is NOT included with DIN solenoid. Order plug-in connector assembly separately EN 175301-803, industry standard form B (11 mm) / IP65

Plug connector description	Part No.
Grey (14 end solenoid) Plug Assembly	230-363
Black (12 end solenoid) Plug Assembly	230-364
Plug Assembly with 24 V Light	230-365
Plug Assembly with 110 V Light	230-366
Plug Assembly with 220 V Light	230-367

## Dimensions mm (inches), Weight kg (Lbs)



Normal polarity:  
 1 = (+) Positive, high  
 2 = (-) Negative, neutral  
 = Chassis ground

A	B	C	D	E	F	weight	
28.4 (1.12)	21.1 (0.83)	39.9 (1.57)	10.2 (0.40)	27.9 (1.10)	1.5 (0.06)	0.025	kg
						0.055	(Lbs)

## How to order

### Manifold Assembly

**PRODUCT CODE**  
**AK 0 2 D 0000 2 N STD**

**Electrical / electronics type and location**  
 0 = Standard

**Product series**  
 2 = L1

**Number of valve stations**  
 A = 1    E = 5    I = 9  
 B = 2    F = 6    J = 10  
 C = 3    G = 7    K = 11  
 D = 4    H = 8    L = 12

**Options**

**STD** = Used with line mounted valves, includes adapter kits (valve mounting 52, page 2)

**Port type**

**G** = ISO 228/1  
**N** = NPTF (ANSI B 1.20.3)

**End plate port size**

2 = 1/4"

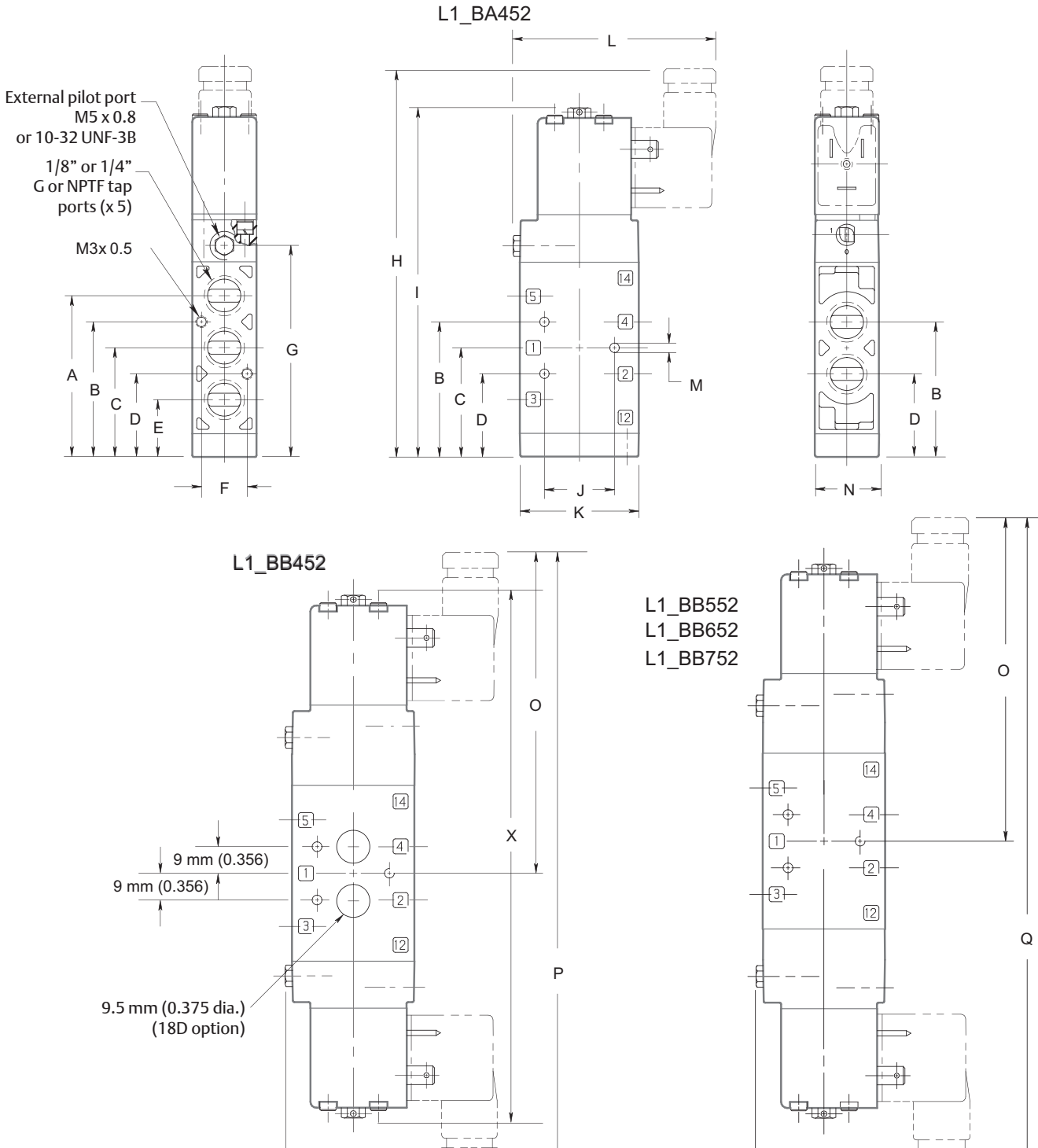
Example order: (Assembled)

Assembly Kit:      AK02D00002NA21  
 Station 1:          L12BB52O000030  
 Station 2:          L12BA52O000030  
 Station 3:          L12PP52O000000  
 Station 4:          L12PA52O000000

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**Dimensions mm (inches)**

**Solenoid-pilot valve**



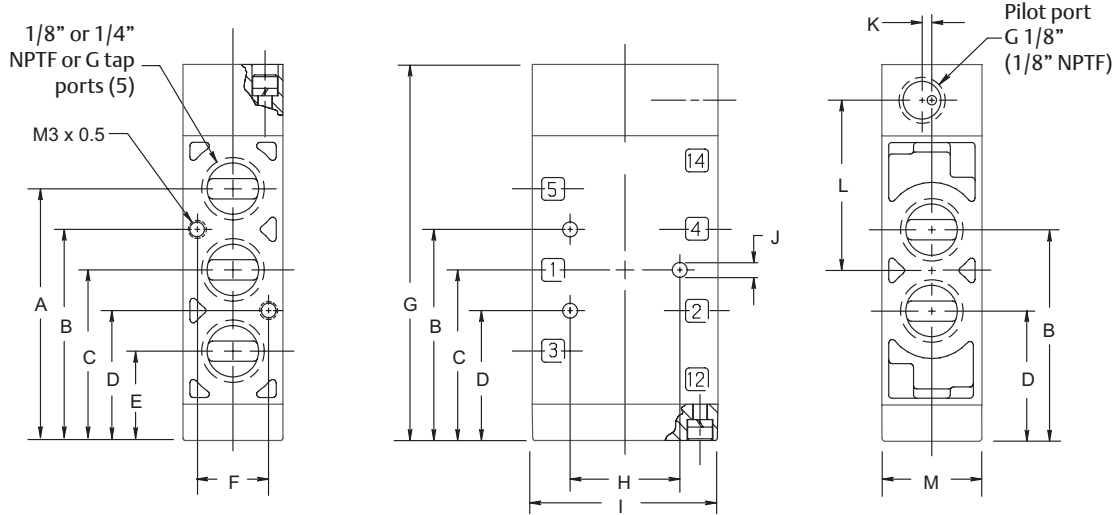
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
56.1 (2.21)	47.0 (1.85)	38.1 (1.50)	29.0 (1.14)	19.8 (0.78)	15.7 (0.62)	73.6 (2.90)	137.4 (5.41)	123.2 (4.85)	24.4 (0.96)	41.1 (1.62)	70.4 (2.77)	3.3 (0.13)	22.4 (0.88)	109.7 (4.32)	209.0 (8.23)	219.5 (8.64)

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# AVENTICS™ Spool and Sleeve Valves

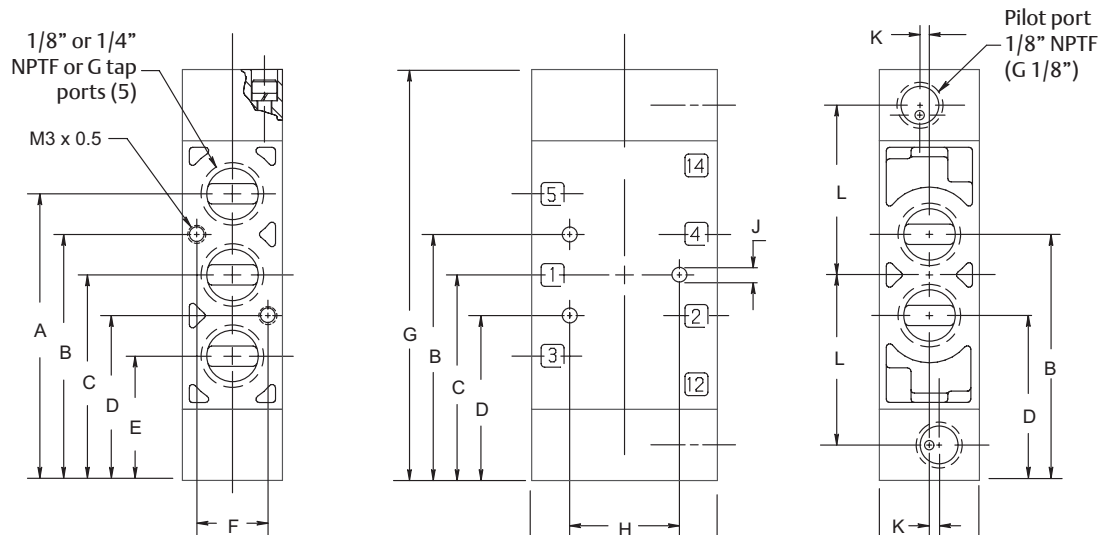
## Dimensions mm (inches)

Air-pilot valve L1\_PA452



A	B	C	D	E	F	G	H	I	J	K	L	M
56.1 (2.21)	47.0 (1.85)	38.1 (1.50)	29.0 (1.14)	19.8 (0.78)	15.7 (0.62)	83.8 (3.30)	24.4 (0.96)	41.1 (1.62)	3.3 (0.13)	2.2 (0.09)	37.9 (1.49)	22.4 (0.88)

Air-pilot valve L1\_PP452, L1\_PP552, L1\_PP652, L1\_PP752, L1\_PM452

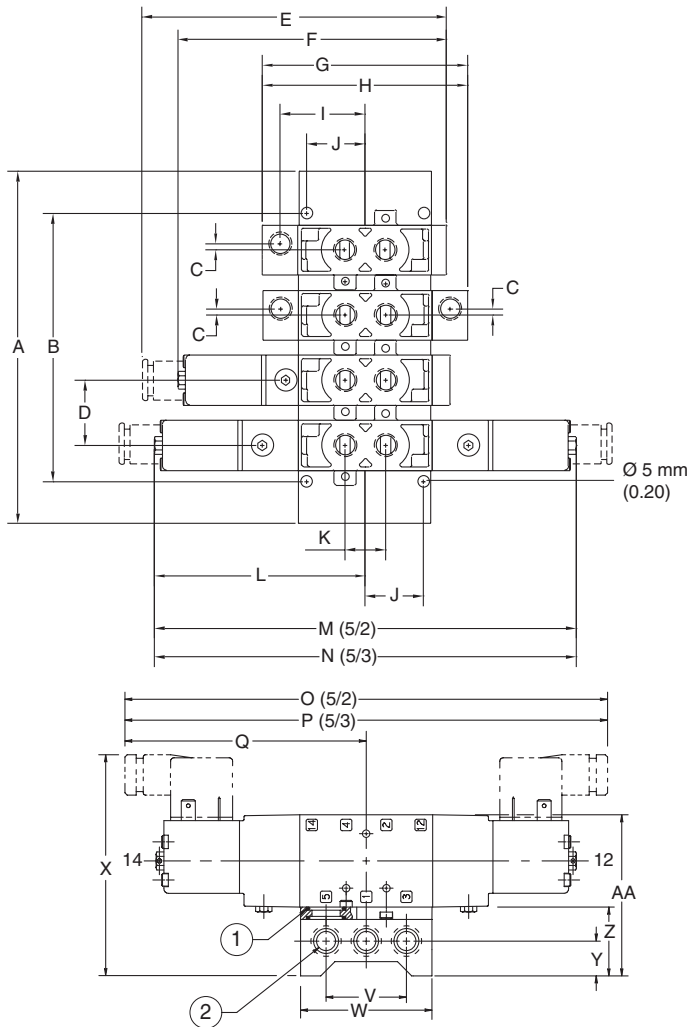


A	B	C	D	E	F	G	H	I	J	K	L	M
64.0 (2.52)	54.9 (2.16)	45.7 (1.80)	36.8 (1.45)	27.7 (1.09)	15.7 (0.62)	91.6 (3.61)	24.4 (0.96)	41.1 (1.62)	3.3 (0.13)	2.2 (0.09)	37.9 (1.49)	22.4 (0.88)

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## Dimensions mm (inches)

Manifold assembly / Valve with adaptor plate (valve mounting 52, page 2)



- ① O-ring seal, (x 6) seals/station (Part number **126-203**)
- ② ISO 228/1 (G 1/4") or 1/4" NPTF type - Both ends

	Manifold kit number		Dimensions	
	1/4" NPTF	G 1/4"	A	B
2 stations	<b>106-1063</b>	<b>106-1096</b>	99.1 (3.90)	61.7 (2.43)
3 stations	<b>106-1064</b>	<b>106-1097</b>	127.8 (5.03)	90.4 (3.56)
4 stations	<b>106-1065</b>	<b>106-1098</b>	156.7 (6.17)	119.4 (4.70)
5 stations	<b>106-1066</b>	<b>106-1099</b>	185.7 (7.31)	148.3 (5.84)
6 stations	<b>106-1067</b>	<b>106-1100</b>	214.6 (8.45)	177.0 (6.97)
7 stations	<b>106-1068</b>	<b>106-1101</b>	243.3 (9.58)	206.0 (8.11)

	Manifold kit number		Dimensions	
	1/4" NPTF	G 1/4"	A	B
8 stations	<b>106-1069</b>	<b>106-1102</b>	272.3 (10.72)	234.9 (9.25)
9 stations	<b>106-1070</b>	<b>106-1103</b>	301.2 (11.86)	263.7 (10.38)
10 stations	<b>106-1071</b>	<b>106-1104</b>	329.9 (12.99)	292.6 (11.52)
11 stations	<b>106-1072</b>	<b>106-1105</b>	358.9 (14.13)	321.6 (12.66)
12 stations	<b>106-1073</b>	<b>106-1106</b>	387.9 (15.27)	350.5 (13.80)
Adaptor Kit	<b>239-311</b>	Order (x 1) adaptor kit for each station on the manifold. Includes all seals and screw		

C	D	E	F	G	H	I	J	K	L	M	N	O	P
2.3 (0.09)	29.0 (1.14)	136.1 (5.36)	122.2 (4.81)	91.7 (3.61)	45.7 (1.80)	37.8 (1.49)	26.2 (1.031)	18.0 (0.71)	94.2 (3.71)	178.6 (7.03)	189.2 (7.45)	206.8 (8.14)	217.2 (8.55)

Q	R	S	T	U	V	W	X	Y	Z	AA
108.5 (4.27)	88.1 (3.47)	15.5 (0.61)	25.1 (0.99)	66.5 (2.62)	36.1 (1.42)	59.2 (2.33)	98.8 (3.89)	15.5 (0.61)	30.7 (1.21)	72.1 (2.84)



# AVENTICS™ Spool and Sleeve Valves

## Internal / External pilot supply

Internal pilot supply



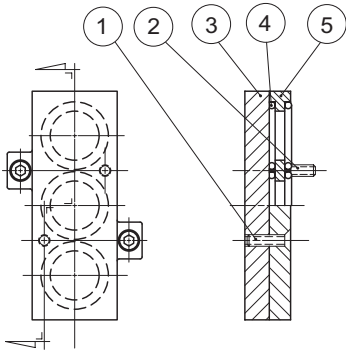
Pilot supply hole must be visible both ends.

External pilot supply



Rotate gasket to cover pilot supply hole. Remove pipe plug from adapter assy both ends. (Part No. 127-588)

## Blank station plate kit (Part number: 239-288)

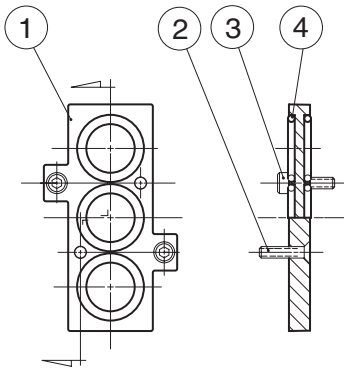


### Parts list

	Quantity	Part name	Part number
① *	2	Screw	127-622
② *	2	Screw	127-570
③ *	1	Blank station plate	119-352
④ *	6	O-ring	126-203
⑤ *	1	Adaptor	119-353

\* Indicates parts included in kit

## Adaptor kit (Part number: 239-311)

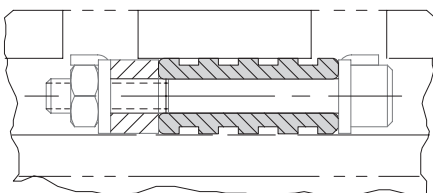


### Parts list

	Quantity	Part name	Part number
① *	1	Adaptor	119-353
② *	2	Screw	127-622
③ *	2	Screw	127-570
④ *	6	O-ring	126-203

\* Indicates parts included in kit

## Blocking plug kit (Part number: 239-309)



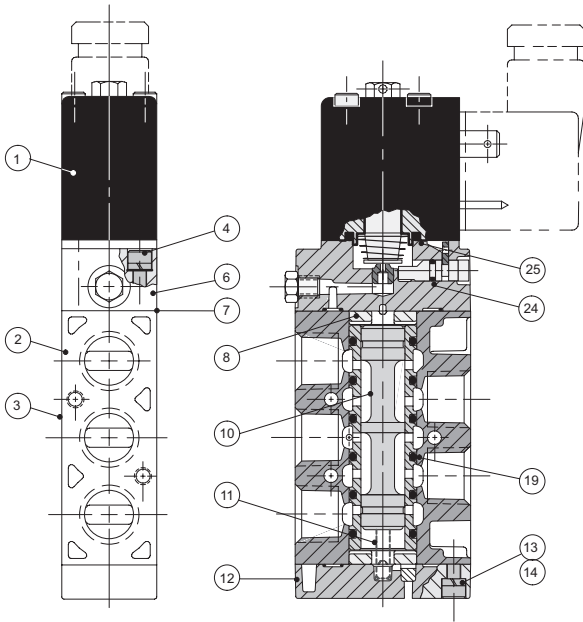
## Solenoid assemblies

Part number	Standard voltages				
	100-115 V/50 Hz 115-120 V/60 Hz	200-240 V/50 Hz 220-240 V/60 Hz	24 V/50-60 Hz	12 VDC	24 VDC
	237-569	237-570	237-568	226-737	226-749

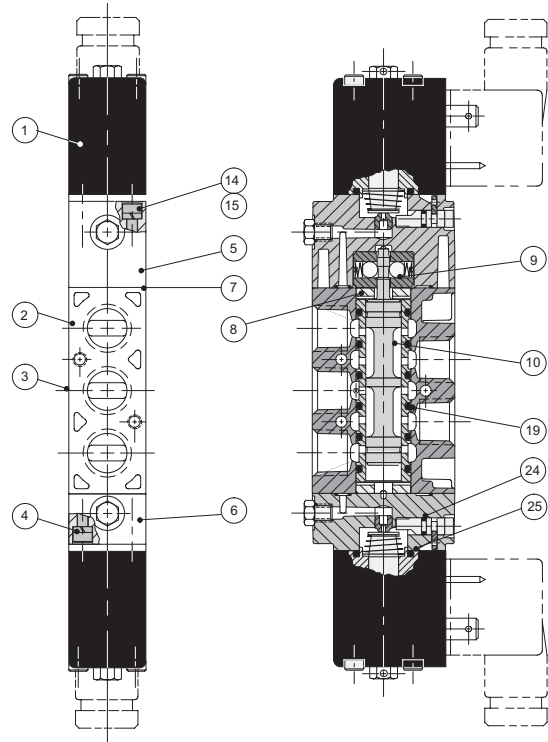
**Valve service Kits and parts - 2 positions**

**Solenoid-pilot actuated**

**Kit No. L1-K1 (For models L11BA4, L12BA4)**



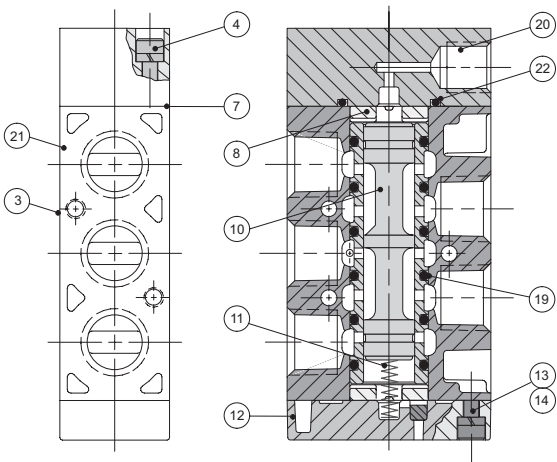
**Kit No. L1\_K2 (For models L11BB4, L12BB4)**



**Air-pilot actuated**

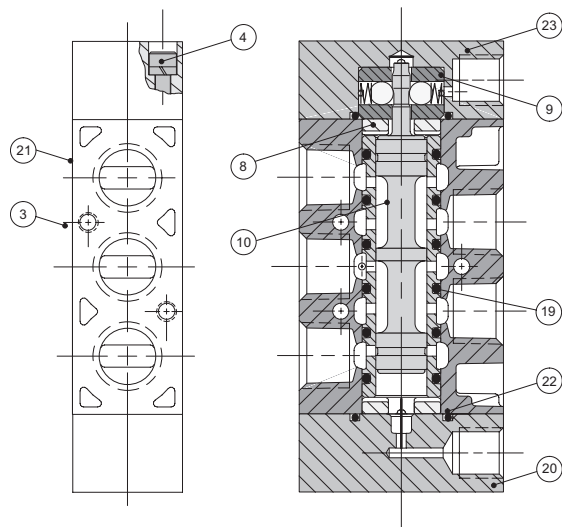
**Kit No. L1-K1**

**(For models L11PA4, L12PA4, L11PM4, L12PM4)**



**Kit No. L1-K2**

**(For models L11PP4, L12PP4)**

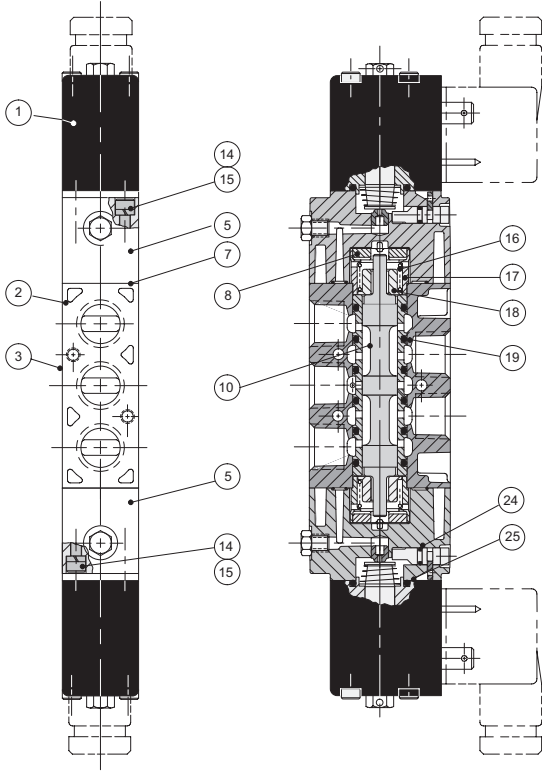


# AVENTICS™ Spool and Sleeve Valves

## Valve service Kits and parts - 3 positions

### Solenoid-pilot actuated

Kit No. L1-K3 (For models L1\_BB5, L1\_BB6, L1\_BB7)



### Parts list

	Quantity	Part Name	Part Number
①	1	Solenoid assembly	See page 9
②	1	Solenoid-pilot body (not sold separately)	
③	1	Nameplate	122-943
④	2	Screw assembly	127-392
⑤		Adaptor assembly	219-175
⑥	1	Adaptor assembly	219-177
⑦*	2	Gasket	113-401
⑧*	2	Bumper	114-172
⑨**	1	Detented assembly	210-118
⑩	1	Sleeve assembly w/Seals for models: L1-BA4, L1PA4 L1-BB4, L1PP4 L1-BB5, L1PP5 L1-BB6, L1PP6 L1-BB7, L1PP7	209-377 209-378 209-379 209-380 209-381
⑪	1	Spring	115-293
⑫	1	Spring cover assembly	204-469
⑬	2	Screw	127-564
⑭		Lockwasher	128-239
⑮	2	Screw	127-563
⑯***	2	Spring	115-225
⑰***	2	Spacer	116-398
⑱	2	Spring retainer	116-399
⑲*	6	O-ring seal	126-202
⑳	1	Pilot cap	104-411
㉑	1	Air-pilot body (not sold separately)	
㉒*		O-ring seal	126-205
㉓		Pilot cap	104-413
㉔*	2	Seal (override)	126-203
㉕*	2	Seal (solenoid pilot)	126-163

\* indicates parts in L1-K1, L1-K2, and L1-K3

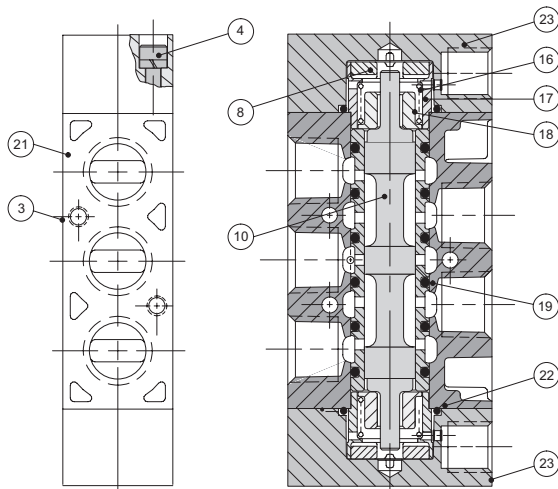
\*\* indicates part in L1-K2 only

\*\*\* indicates part in L1-K3 only

### Air-pilot actuated

Kit No. L1-K3

(For models L1\_PP5, L1\_PP6, L1\_PP7)





# AVENTICS™ Solenoid Pilot, Air Pilot or Hand Lever Actuated Valves

5-way, 5 ported, 2 and 3 positions, Spool and Sleeve  
1/4" and 3/8" tapped

5/2-5/3  
Series  
**L2**

## Features and Benefits

- Solenoid air pilot or air pilot actuated
- Hand-lever valves available
- DIN plug-in solenoid and plug connector with indicator light
- Unlubricated or lubricated service
- In-line or manifold mounted
- Reliability: steel spool & sleeve technology with long service life
- Robust valve design, particularly recommended for use in harsh environments
- Integral speed control available



## Technical data

<b>Flow capacity</b>	Cv 1.7 (1/4" or 3/8")
<b>Operating pressure</b>	-0.95 to 10 bar (28" Hg Vacuum to 150 PSIG)
<b>Pilot pressure</b>	1 to 10 bar (14.5 to 150 PSIG) [internal and external]
<b>Flow rate</b>	1674 Nl/min (6 bar upstream/5 bar downstream) 79 SCFM (Upstream pressure to atmosphere at 80 PSIG)
<b>Fluids</b>	Air or neutral gas, filtered at 40 µm, lubricated or not
<b>Sealing</b>	Spool and sleeve metal-to-metal
<b>Ambient temperature</b>	
Solenoid pilot	-23°C to +46°C (-10°F to +115°F)
Air pilot	-23°C to +66°C (-10°F to +150°F)



Valve type	Operators		
	Pilot (14)	Return (12)	
<b>5/2</b>			
	BA4	solenoid air	spring
	BB4	solenoid air	solenoid air
	PA4	air	spring
	PP4	air	air
	PM4	air	air + spring
	JA4	air impulse manual operator	air
	JJ4	air impulse manual operator	air + spring impulse manual operator
<b>5/3</b>			
	BB6	<b>W1</b> closed centre position solenoid air, spring return to centre position	
	BB7	<b>W2</b> centre open to pressure solenoid air, spring return to centre position	
	BB5	<b>W3</b> centre open to exhaust solenoid air, spring return to centre position	
	PP6	<b>W1</b> closed centre position air operated	
	JJ6	<b>W2</b> centre open to pressure air operated impulse operator	

Valve type	Operators		
	Pilot (14)	Return (12)	
<b>5/3</b>			
	PP7	<b>W2</b> centre open to pressure air operated	
	JJ7	<b>W2</b> centre open to pressure air operated impulse operator	
	PP5	<b>W3</b> centre open to exhaust air operated	
	JJ5	<b>W3</b> centre open to exhaust air operated impulse operator	
<b>5/2 - Hand lever operated</b>			
	LA4	hand lever	spring
	LD4	hand lever	with detent
<b>5/3 - Hand lever operated</b>			
	LA6	<b>W1</b> closed centre position lever controlled with spring return	
	LD6	<b>W1</b> closed centre position lever controlled with detent	
	LA5	<b>W3</b> centre open to exhaust lever controlled with spring return	
	LD5	<b>W3</b> centre open to exhaust lever controlled with detent	

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**Operating data**

All solenoids are continuous duty rated		12 VDC	24 VDC	24 VAC 50 Hz	24 VAC 60 Hz	115 VAC 50 Hz	120 VAC 60 Hz	230 VAC 50 Hz	240 VAC 60 Hz
Power (Watts)		3.5	3.5	4.8	3.3	4.8	4.0	5.0	3.5
Holding current (A)		0.30	0.15	0.380	0.280	0.064	0.054	0.030	0.023
Inrush current (A)		-	-	0.500	0.420	0.087	0.082	0.042	0.036
Energize in seconds	2-Position, single, spring return	0.010	0.010	0.007	0.007	0.007	0.007	0.007	0.007
	2-Position, double, detented	0.010	0.010	0.007	0.007	0.007	0.007	0.007	0.007
	3-Position, spring centered	0.010	0.010	0.007	0.007	0.007	0.007	0.007	0.007
De-energize in seconds	2-Position, single, spring return	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035
	2-Position, double, detented	-	-	-	-	-	-	-	-
	3-Position, spring centered	0.030	0.035	0.035	0.035	0.035	0.035	0.035	0.035

\* A 1.4 Watt DC solenoid is available. Add "17G" to the model number. Example: L22BA452B017G61.  
Maximum pilot pressure is reduced to 116 PSIG (8 bar).

**How to order**

**In-line valves**

**PRODUCT CODE**

**L22 JA 4 52 O 0 000 00**

**Valve series and port size**

L22 = 1/4"  
L23 = 3/8"

**Valve type**

BA = Single solenoid air pilot, spring return with maintained manual operator  
BB = Double solenoid air pilot with maintained manual operator  
PA = Single air pilot, spring return  
PP = Double air pilot  
PM = Double air pilot with spring offset  
JA = Single air pilot with impulse manual operator and spring return  
JJ = Double air pilot with impulse manual operator  
LA = Hand lever with spring return  
LD = Hand lever with detent

**Function**

4 = 2 position, 5-way  
5 = 3 position, 5-way exhausted center  
6 = 3 position, 5-way closed center  
7 = 3 position, 5-way pressurized center  
Open to 4 and 2 in center

**Enclosure type**

52 = In-line valve

**Voltage**

20 = 24 V / 50-60 Hz  
30 = 110 -120 VAC / 50-60 Hz  
40 = 220-240 VAC / 50-60 Hz  
60 = 12 V DC  
61 = 24 V DC  
00 = Non applicable  
(Used with air pilot or hand lever)

**Options**

**Without manual operator**

14A = External pilot supply  
17G = Low Watt solenoid 1.42 Watt  
17P = Impulse manual operator  
18D = Side port (page 6)

**Port type**

G = ISO 228/1  
O = NPTF (ANSI B.1.20.3)

**Wiring option**

B = DIN plug-in DC solenoid  
O<sup>(1)</sup> = DIN plug-in AC solenoid or air pilot or hand lever

(1) Letter "O"

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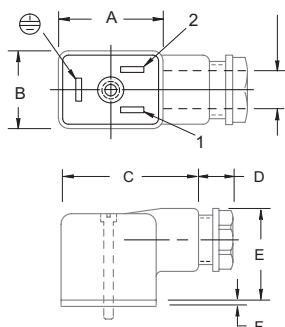
# AVENTICS™ Spool and Sleeve Valves


## Plug connector assemblies

NOTE: Plug connector is NOT included with DIN solenoid. Order plug-in connector assembly separately EN 175301-803, industry standard form B (11 mm) / IP65

Plug connector description	Part No.
Grey (14 end solenoid) Plug Assembly	230-363
Black (12 end solenoid) Plug Assembly	230-364
Plug Assembly with 24 V Light	230-365
Plug Assembly with 110 V Light	230-366
Plug Assembly with 220 V Light	230-367

## Dimensions mm (inches), Weight kg (Lbs)



Normal polarity:  
 1 = (+) Positive, high  
 2 = (-) Negative, neutral  
 = Chassis ground

A	B	C	D	E	F	weight	
28.4 (1.12)	21.1 (0.83)	39.9 (1.57)	10.2 (0.40)	27.9 (1.10)	1.5 (0.06)	0.025	kg
						0.055	(Lbs)

## How to order

### Manifold Assembly

**PRODUCT CODE**  
**AK 0 3 D 0000 3 N STD**

**Electrical / electronics type and location**  
 0 = Standard

**Product series**  
 3 = L2

**Number of valve stations**  
 B = 2    F = 6    J = 10  
 C = 3    G = 7    K = 11  
 D = 4    H = 8    L = 12  
 E = 5    I = 9

**Options**  
 STD = Standard  
 (Common supply and exhaust)  
 A19 = Common supply, individual exhaust


**Port type**  
 G = ISO 228/1  
 N = NPTF (ANSI B 1.20.3)

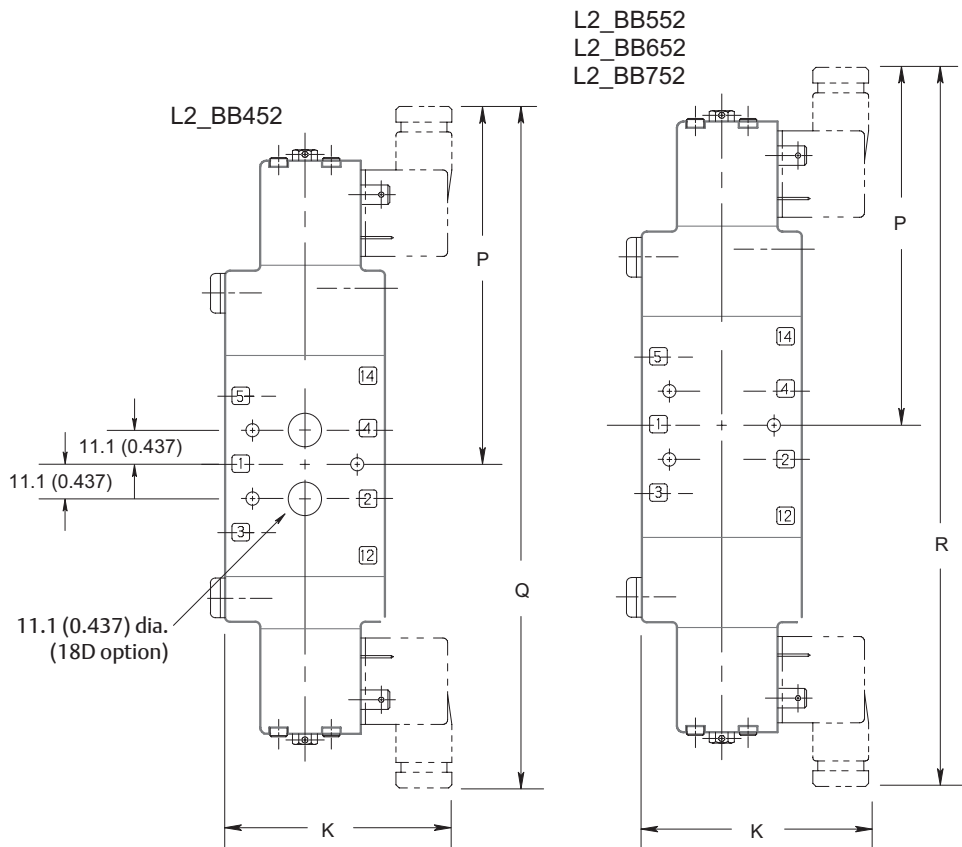
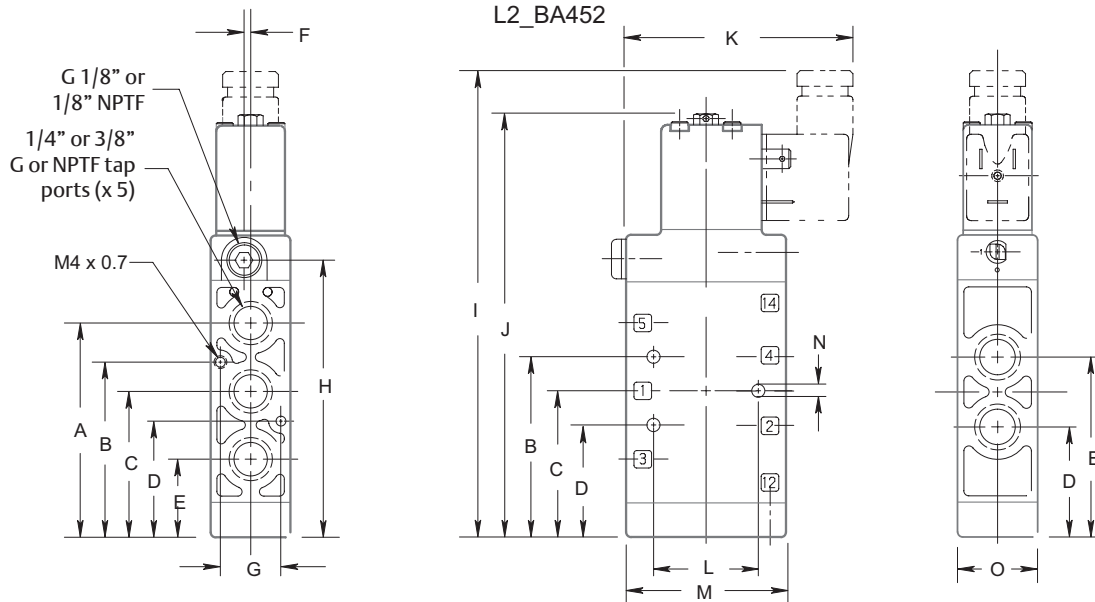
**End plate port size**  
 3 = 3/8"

Example order: (Assembled)

Assembly Kit:      AK03D00003NSTD  
 Station 1:          L23BB5520000030  
 Station 2:          L23BA4520000030  
 Station 3:          L23PP4520000000  
 Station 4:          L23PA4520000000

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**Dimensions mm (inches)**   
**Solenoid-pilot valve**



A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
69.1 (2.72)	57.9 (2.28)	47.0 (1.85)	35.8 (1.41)	24.6 (0.97)	2.0 (0.08)	19.1 (0.75)	89.7 (3.53)	152.1 (5.99)	136.7 (5.38)	72.9 (2.89)	32.3 (1.27)	50.8 (2.00)	4.3 (0.17)	25.4 (1.00)	118.4 (4.66)	223.0 (8.78)	236.7 (9.32)

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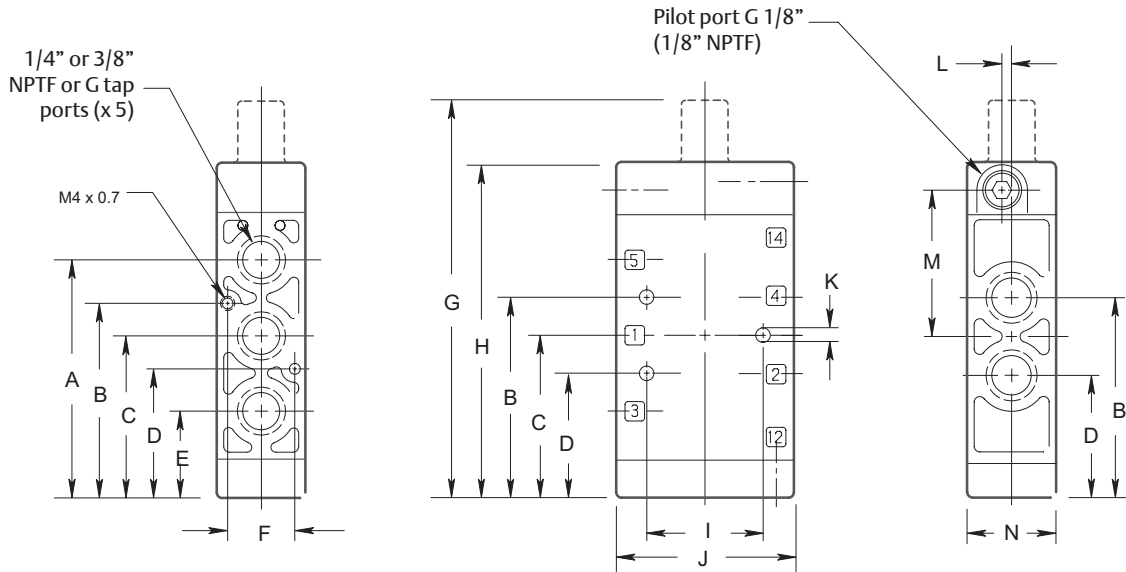


# AVENTICS™ Spool and Sleeve Valves

## Dimensions mm (inches)

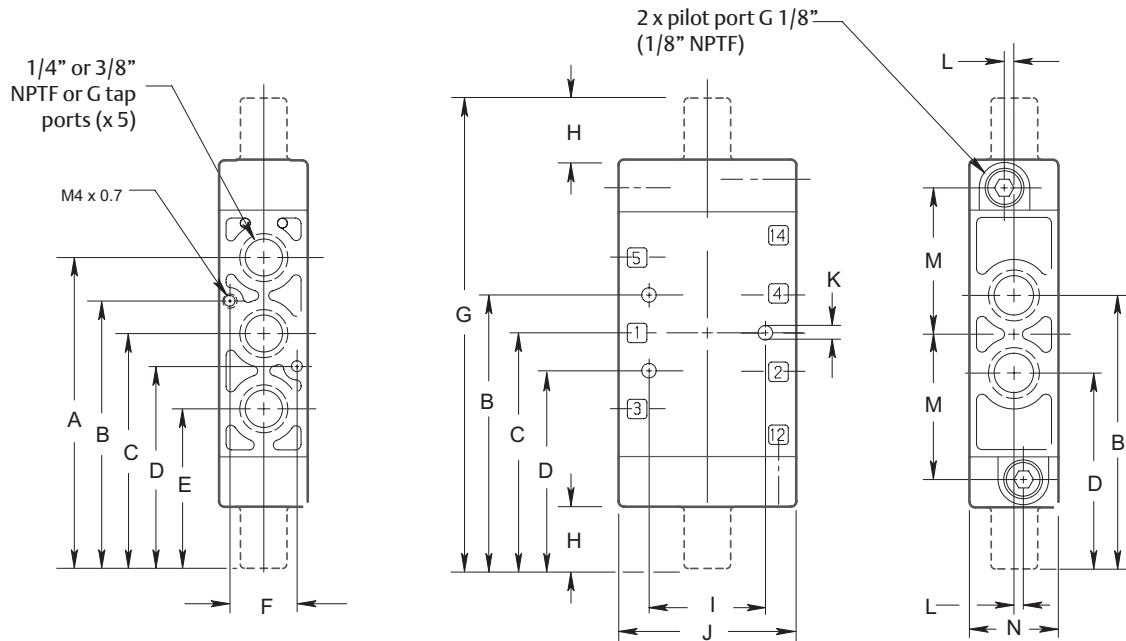
Air-pilot valve - 2 position

L2\_PA425, L2\_JA452



A	B	C	D	E	F	G	H	I	J	K	L	M	N
69.1 (2.72)	57.9 (2.28)	47.0 (1.85)	35.8 (1.41)	24.6 (0.97)	19.1 (0.75)	115.8 (4.56)	89.7 (3.53)	32.3 (1.27)	50.8 (2.00)	4.3 (0.17)	2.1 (0.08)	42.9 (1.69)	25.4 (1.00)

Air-pilot valve L2\_PP452, L2\_PP552, L2\_PP652  
L2\_PP752, L2\_PM452, L2\_JJ452  
L2\_JJ552, L2\_JJ652, L2\_JJ752

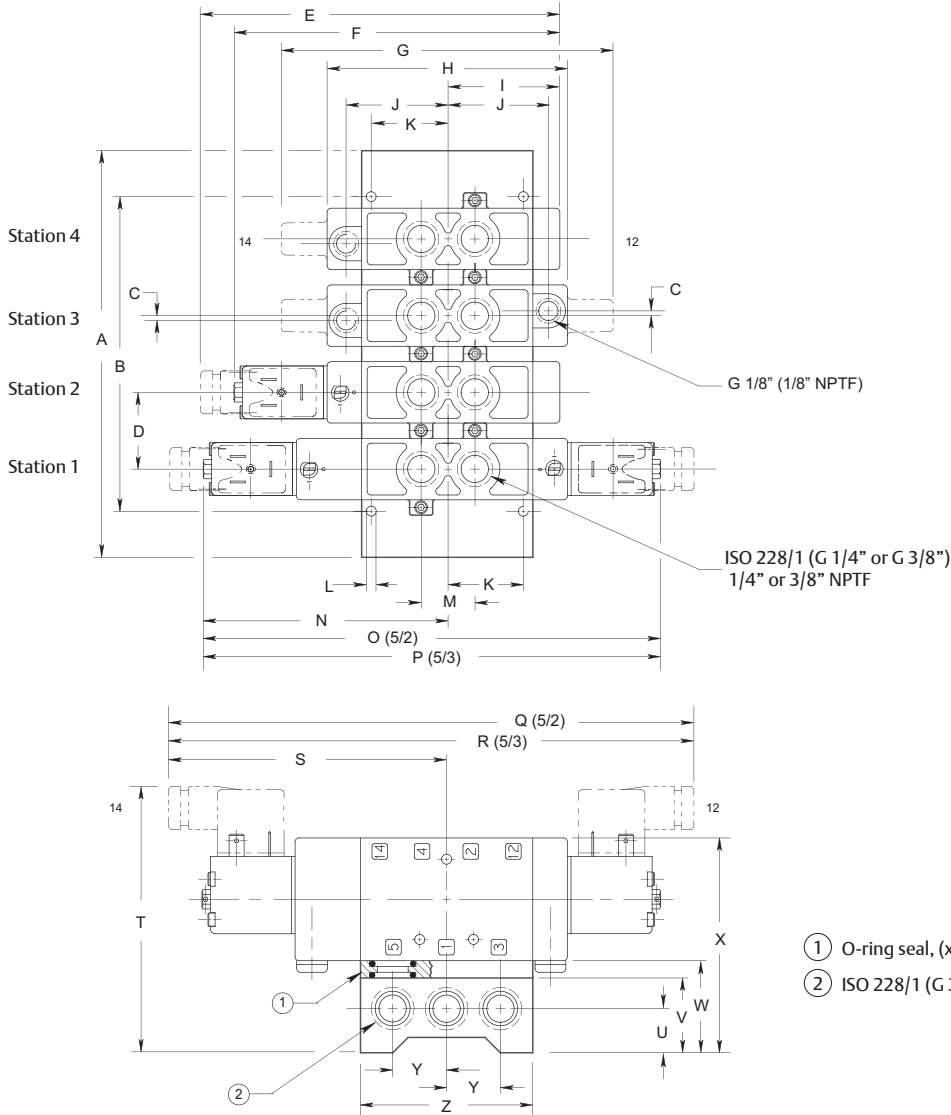


A	B	C	D	E	F	G	H	I	J	K	L	M	N
91.2 (3.59)	79.9 (3.15)	68.8 (2.71)	57.8 (2.28)	46.6 (1.84)	19.1 (0.75)	137.9 (5.43)	18.0 (0.71)	1.27 (32.3)	50.8 (2.00)	4.3 (0.17)	2.1 (0.08)	42.9 (1.69)	25.4 (1.00)

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**Dimensions mm (inches)**

**Manifold assembly / Common supply and exhaust**



- ① O-ring seal, (x 6) seals/station (Part number 126-129)
- ② ISO 228/1 (G 3/8") or 3/8" NPTF type - Both ends

	Manifold kit number		Dimensions	
	3/8" NPTF	G 3/8"	A	B
2 stations	<b>106-704</b>	<b>106-715</b>	105.7 (4.16)	67.1 (2.64)
3 stations	<b>106-705</b>	<b>106-716</b>	137.7 (5.42)	99.1 (3.90)
4 stations	<b>106-706</b>	<b>106-717</b>	169.7 (6.68)	131.1 (5.16)
5 stations	<b>106-707</b>	<b>106-718</b>	201.7 (7.94)	163.1 (6.42)
6 stations	<b>106-708</b>	<b>106-719</b>	233.7 (9.20)	195.1 (7.68)
7 stations	<b>106-709</b>	<b>106-720</b>	265.7 (10.46)	227.1 (8.94)

	Manifold kit number		Dimensions	
	3/8" NPTF	G 3/8"	A	B
8 stations	<b>106-710</b>	<b>106-721</b>	329.7 (11.72)	259.1 (10.20)
9 stations	<b>106-711</b>	<b>106-722</b>	329.7 (12.98)	291.1 (11.46)
10 stations	<b>106-712</b>	<b>106-723</b>	361.7 (14.24)	323.1 (12.72)
11 stations	<b>106-713</b>	<b>106-724</b>	393.7 (15.50)	355.1 (13.98)
12 stations	<b>106-714</b>	<b>106-725</b>	425.7 (16.76)	387.1 (15.24)
Adaptor Kit	<b>239-312</b>	Order (1) adaptor kit for each station on the manifold. Includes all seals and screw		

C	D	E	F	G	H	I	J	K	L	M	N	O	P
2.0 (0.08)	32.0 (1.26)	152.1 (5.99)	136.6 (5.38)	137.9 (5.43)	101.9 (4.01)	47.0 (1.85)	42.9 (1.69)	31.8 (1.25)	4.1 (0.16)	22.4 (0.88)	102.9 (4.05)	192.5 (7.58)	205.7 (8.10)

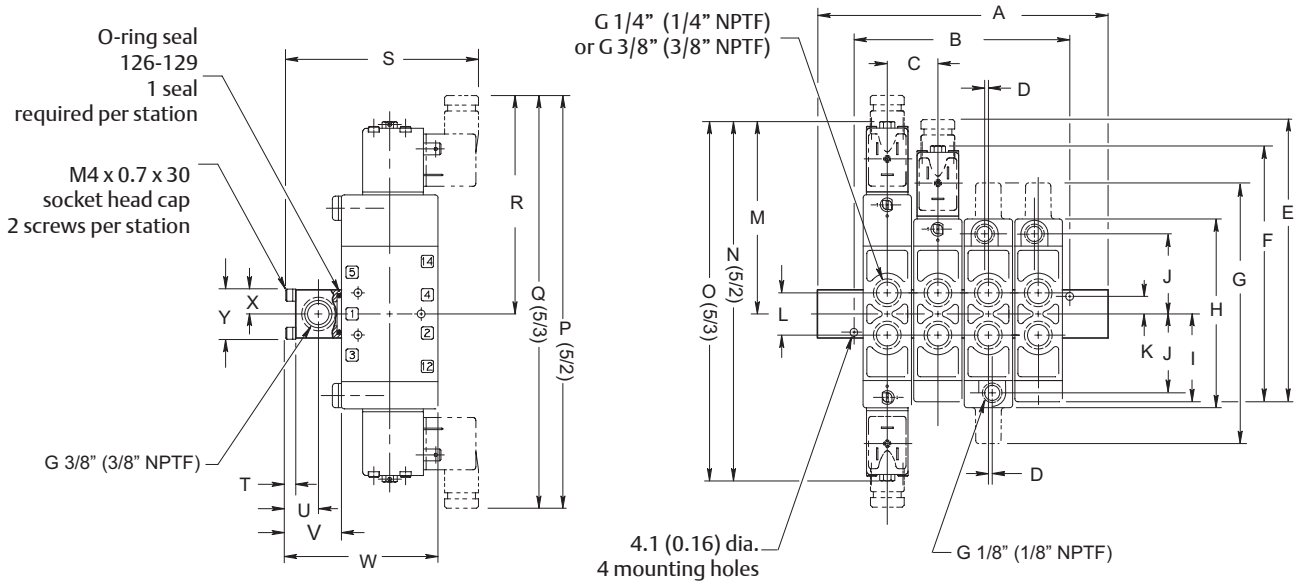
Q	R	S	T	U	V	W	X	Y	Z
223.0 (8.78)	236.7 (9.32)	118.4 (4.66)	110.5 (4.35)	18.3 (0.72)	30.5 (1.20)	37.6 (1.48)	88.4 (3.48)	22.4 (0.88)	70.6 (2.78)

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# AVENTICS™ Spool and Sleeve Valves

## Dimensions mm (inches)

Common supply and individual exhaust



	A	B	3/8 NPTF Part number	G 3/8 Part number
2 stations	99.2 (3.92)	60.9 (2.40)	<b>229-946</b>	<b>229-957</b>
3 stations	125.7 (4.95)	87.1 (3.43)	<b>229-947</b>	<b>229-958</b>
4 stations	151.9 (5.98)	113.3 (4.46)	<b>229-948</b>	<b>229-959</b>
5 stations	178.1 (7.01)	139.5 (5.49)	<b>229-949</b>	<b>229-960</b>
6 stations	204.2 (8.04)	165.6 (6.52)	<b>229-950</b>	<b>229-961</b>
7 stations	230.4 (9.07)	191.8 (7.55)	<b>229-951</b>	<b>229-962</b>

	A	B	3/8 NPTF Part number	G 3/8 Part number
8 stations	256.5 (10.10)	217.9 (8.58)	<b>229-952</b>	<b>229-963</b>
9 stations	282.7 (11.13)	244.1 (9.61)	<b>229-953</b>	<b>229-964</b>
10 stations	308.9 (12.16)	270.3 (10.64)	<b>229-954</b>	<b>229-965</b>
11 stations	335.0 (13.16)	296.4 (11.67)	<b>229-955</b>	<b>229-966</b>
12 stations	361.2 (14.22)	322.6 (12.70)	<b>229-956</b>	<b>229-967</b>

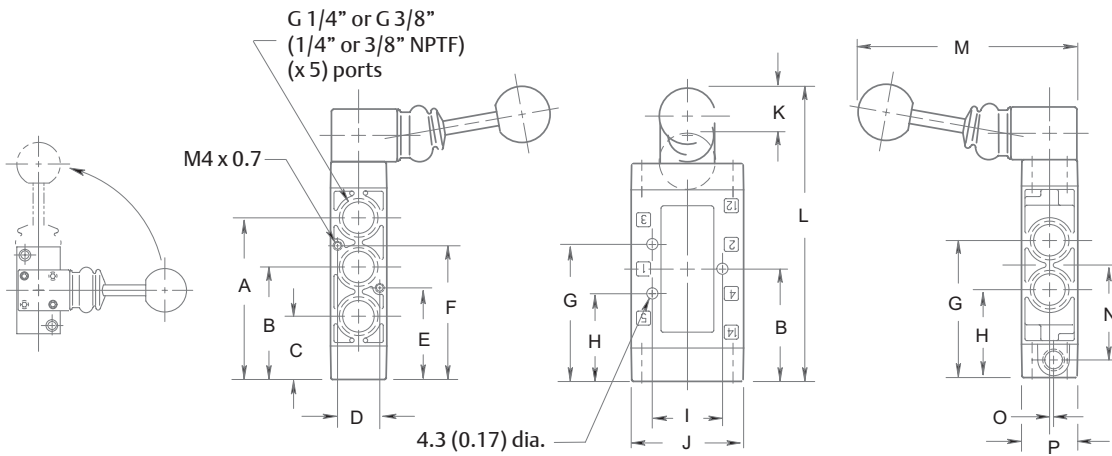
C	D	E	F	G	H	I	J	K	L	M	N	O	P
26.2 (1.03)	2.1 (0.08)	152.1 (5.99)	136.6 (5.38)	137.9 (5.43)	101.9 (4.01)	46.9 (1.85)	42.9 (1.69)	9.5 (0.38)	22.2 (0.88)	102.9 (4.05)	192.6 (7.58)	205.7 (8.10)	223.0 (8.78)

Q	R	S	T	U	V	W	X	Y
236.7 (9.32)	118.4 (4.66)	95.8 (3.77)	5.2 (0.20)	11.4 (0.45)	22.9 (0.90)	78.9 (3.10)	12.3 (0.48)	24.6 (0.97)

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**Dimensions mm (inches)**

**Hand lever valve**

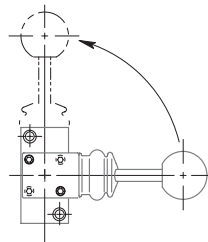


A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
73.2 (2.88)	50.8 (2.00)	28.7 (1.13)	19.1 (0.75)	41.4 (1.63)	60.5 (2.38)	62.0 (2.44)	39.9 (1.57)	32.3 (1.27)	50.8 (2.00)	18.3 (0.72)	131.6 (5.18)	99.8 (3.93)	42.7 (1.68)	2.0 (0.08)	25.4 (1.00)

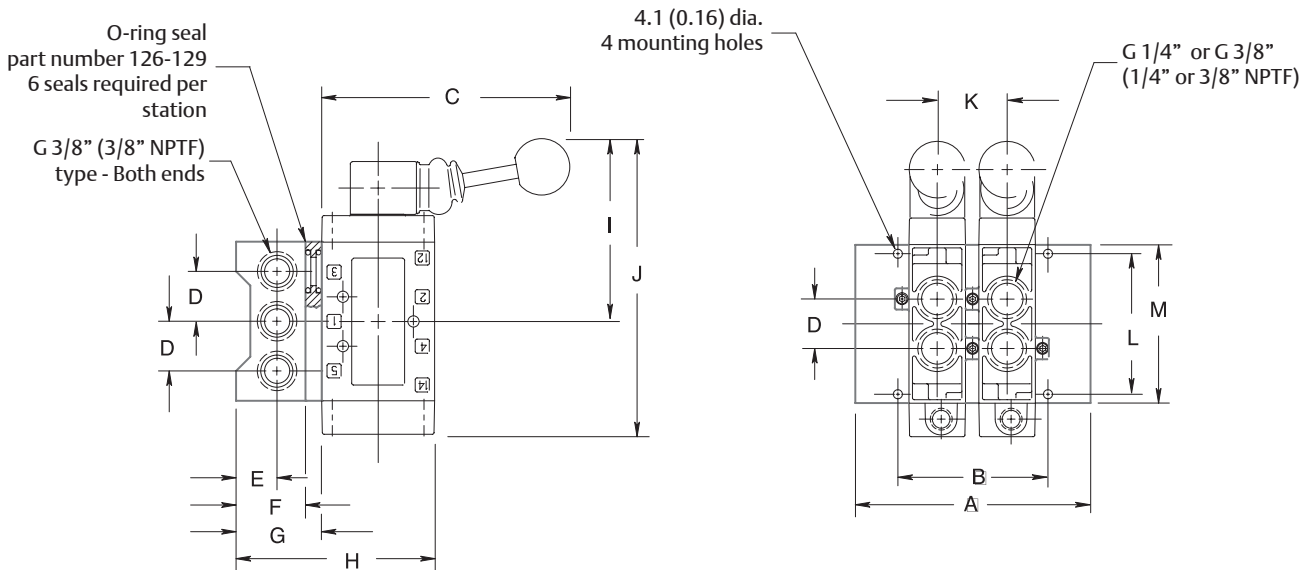
**Lever rotation procedure**

The L22 and L23 hand lever series allows for the rotation of the lever 90° to become parallel with the valve cylinder ports.

Remove (x 2) M3 socket head screws from lever bracket and rotate 90° in either direction.  
Re-assemble screws and tighten securely.



**Hand lever valve manifold assembly**



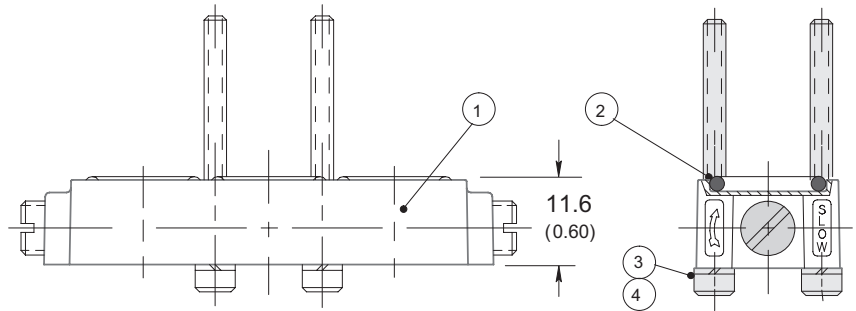
A	B	C	D	E	F	G	H	I	J	K	L	M
See page 18		112.5 (4.43)	22.4 (0.88)	18.3 (0.72)	30.5 (1.20)	37.6 (1.48)	88.4 (3.48)	80.8 (3.18)	131.6 (5.18)	32.0 (1.26)	63.2 (2.49)	70.6 (2.78)

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# AVENTICS™ Spool and Sleeve Valves

## Speed control kit - Side mounted (Part number: 239-209)

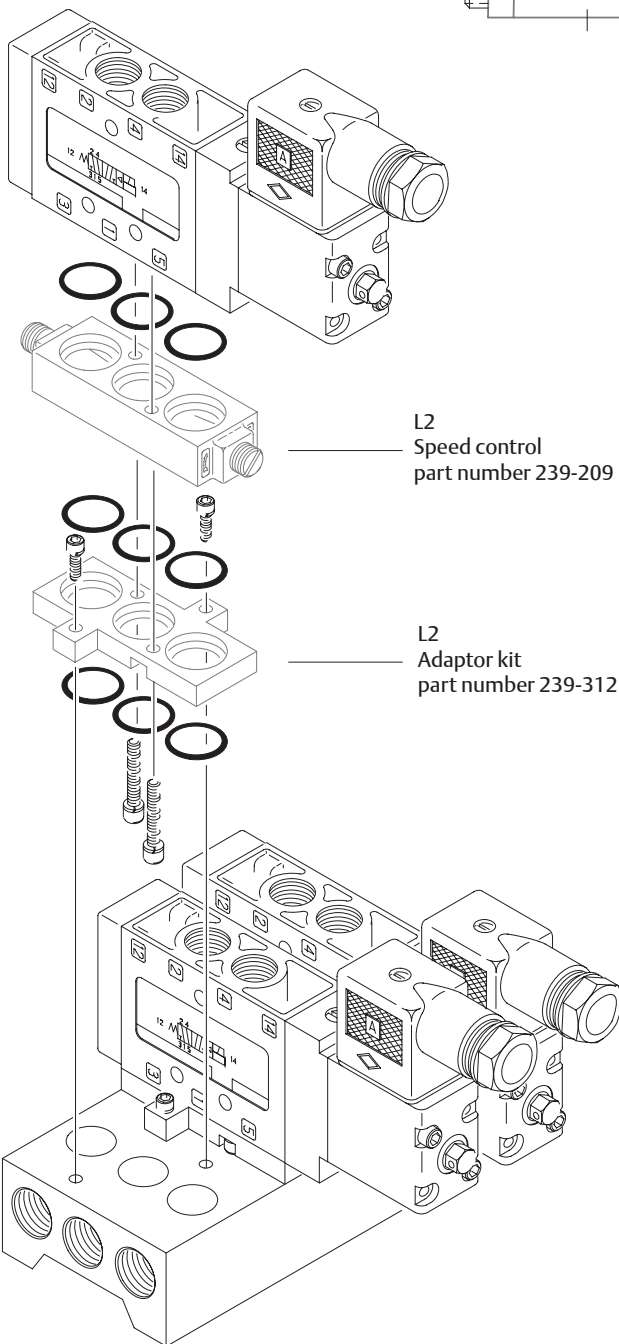
The L2 speed control mounts between any L2 Series valve and die cast adaptor using (x 3) O-rings from the speed control kit and (x 3) O-rings and (x 2) screws from the adaptor kit. This assembly then mounts to and 3-station manifold by using the remaining (x 3) O-rings and (x 2) screws from the adaptor kit.



### Parts list

	Quantity	Part name	Part Number
① *	1	Speed control kit (not sold separately)	
② *	2	O-ring	126-129
③ *	1	Lockwasher	128-188
④ *	2	Screw	127-403

\*Indicates parts included in kit

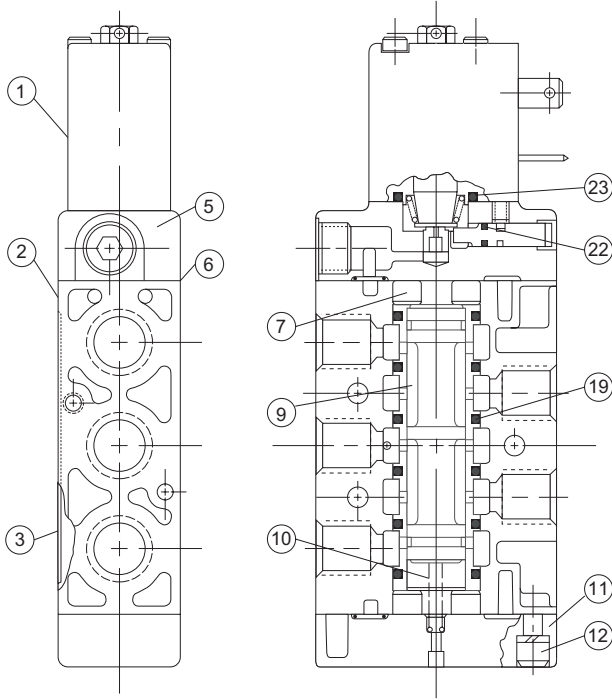


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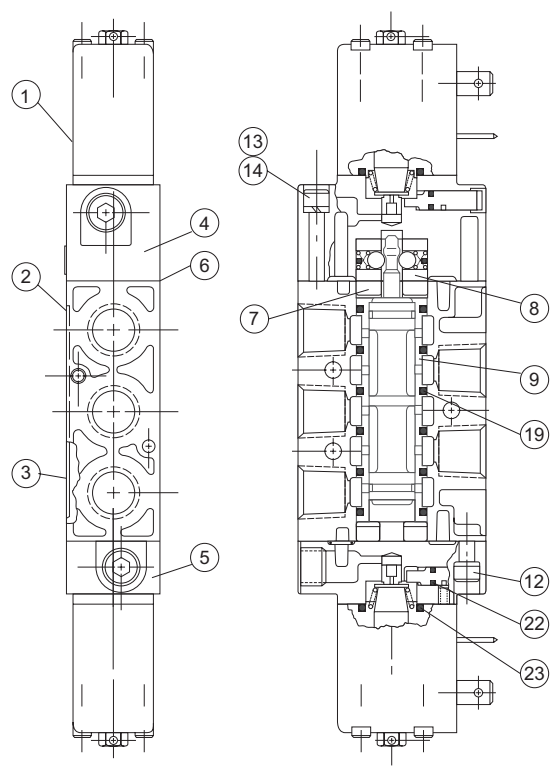
**Valve service kits and parts - 2 positions**

**Solenoid-pilot actuated**

**Kit No. L2-K1 (For models L22BA4, L23BA4)**

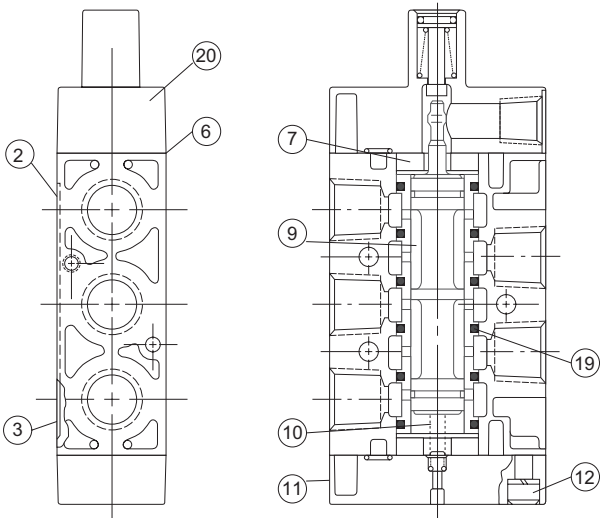


**Kit No. L2-K2 (For models L22BB4, L23BB4)**

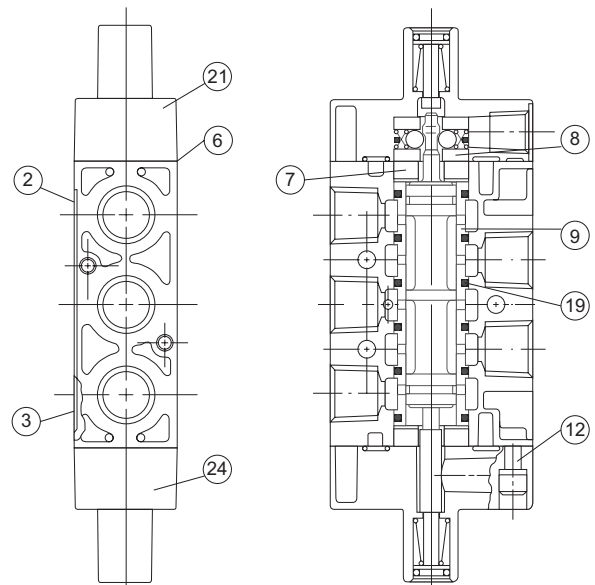


**Air-pilot actuated**

**Kit No. L2-K1  
(For models L2\_PA4, L2\_JJ4)**



**Kit No. L2-K2  
(For models L2\_PP4, L2\_JJ4)**



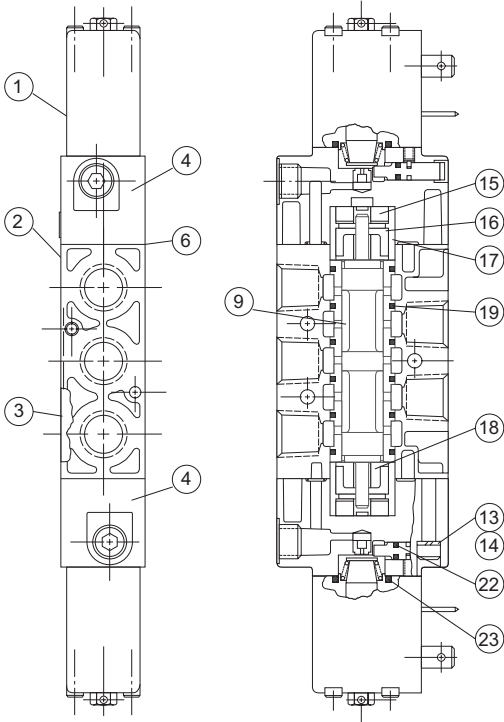
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# AVENTICS™ Spool and Sleeve Valves

## Valve service kits and parts - 3 positions

### Solenoid-pilot actuated

Kit No. L2-K3 (For models L2\_BB5, L2\_BB6, L2\_BB7)

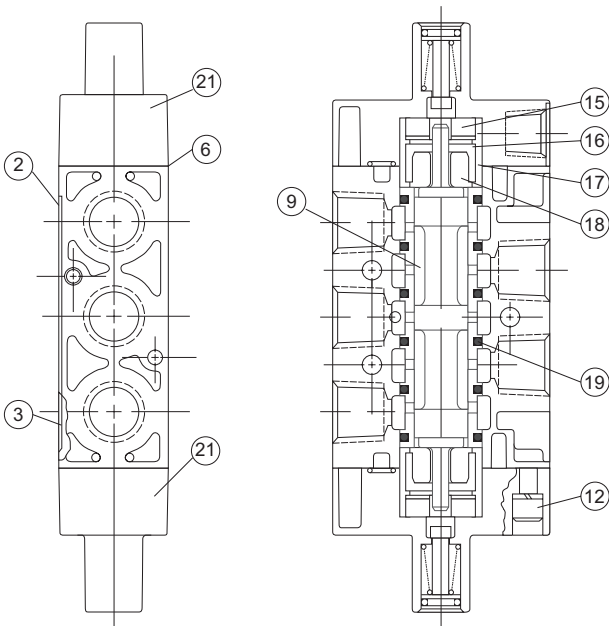


### Parts list

	Quantity	Part name	Part Number
①	1	Solenoid assembly	See page 24
②	1	Valve body (not sold separately)	
③	1	Nameplate	122-940
④	>	Adaptor assembly	219-129
⑤	1	Adaptor assembly	219-127
⑥ *	2	Gasket	113-313
⑦ ~	2	Bumper	114-147
⑧ ***	1	Detent assembly	210-116
⑨	1	Sleeve assembly w/seals ‡ for models: L2-BA4 L2-BB4, JA4, PA4 L2-BB5, JJ5, PP5 L2-BB6, JJ6, PP6 L2-BB7, JJ7, PP7	209-323 209-327 209-370 209-371 209-372
⑩ **	1	Spring	115-248
⑪	1	Spring cover assembly	204-393
⑫	<	Screw assembly	127-396
⑬ •	•	Lockwasher	128-190
⑭	2	Screw	127-400
⑮ ****	2	Bumper	114-148
⑯ ****	2	Spring	115-247
⑰ ****	2	Spacer	116-341
⑱ ****	2	Spring retainer	116-340
⑲ *	6	O-ring seal	126-204
⑳	1	Pilot cap assembly	204-404
㉑	>	Pilot cap assembly	204-408
㉒ *	2	Seal (override)	126-163
㉓	2	Seal (solenoid-pilot)	126-203
㉔	1	Pilot cap assembly	204-406

### Air-pilot actuated

Kit No. L2-K3 (For models L2\_PP5, L2\_PP6, L2\_PP7, L2\_JJ5, L2\_JJ6, L2\_JJ7)



\* indicates parts in L2-K1, L2-K2, and L2-K3  
 \*\* indicates part in L2-K1 only  
 \*\*\* indicates part in L2-K2 only  
 \*\*\*\* indicates part in L2-K3 only  
 ~ indicates part in L2-K1 and L2-K2 only

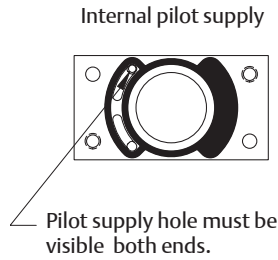
‡ Spool & sleeve assemblies are precision matched sets and include (6) 126-204 seals; spools are not interchangeable.  
 > (1) for 2-position models; (2) for 3-position models  
 < (4) for L2-BA4, (2) for L2-BB4  
 • (2) for 2-position models; (4) for 3-position models

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## Internal / external pilot supply

**NOTE:**  
On double solenoid-pilot valves, both ends must be converted.

External pilot supply must be used if pressure is supplied to any port except No. 1.

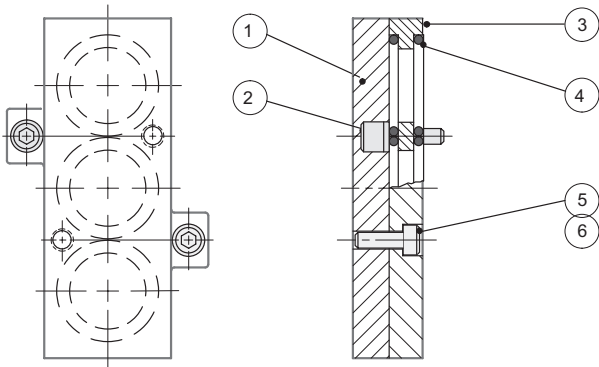


External pilot supply



Rotate gasket to cover pilot supply hole.  
Remove pipe plug from adapter assy both ends.  
(Part No. 129-100)

## Blank station plate kit



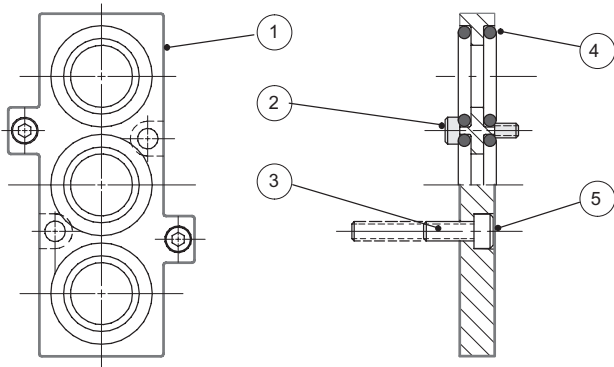
Manifold type	Part number
Common supply, common exhaust (shown)	239-471
Common supply, individual exhaust (not shown)	229-990

### Parts list

	Quantity	Part name	239-471 Part number	229-990 Part number
① *	1	Blank station plate (not sold separately)		
② *	2	Screw assembly	127-570	-
③ *	1	Adaptor (not sold separately)		
④ *	6	O-ring	126-129	126-129
⑤ *	2	Screw	127-710	127-361
⑥ *	2	Lockwasher	128-190	128-188

\* Indicates parts included in kit

## Adaptor kit (Part number: 239-312)

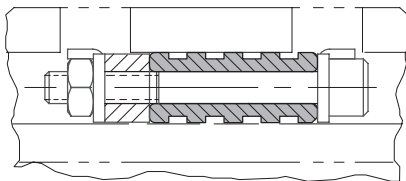


### Parts list

	Quantity	Part name	Part number
① *	2	Adaptor (not sold separately)	
② *	2	Screw	127-577
③ *	2	Screw	127-570
④ *	6	O-ring	126-129
⑤ *	2	Screw (shipped loose)	127-400

\* Indicates parts included in kit

## Blocking plug kit



Manifold Type	Part No.
Common supply, common exhaust (shown)	239-516
Common supply, individual exhaust (not shown)	239-250

Kit includes (2) blocking plug spacer, rubber spacer, nut and screw

## Solenoid assemblies

Part number	Standard voltages				
	100-115 V/50 Hz 115-120 V/60 Hz	200-240 V/50 Hz 220-240 V/60 Hz	24 V/50-60 Hz	12 VDC	24 VDC
	237-569	237-570	237-568	226-737	226-749