

# AVVENTICS™ Series 502 Pneumatic Valve System

## 502 Series – Directional Control Valve Platform Featuring Higher Flow in a Compact Valve Package

### Features

- Solenoid air pilot actuated
- Low wattage 1.3 Watt for DC application
- DC solenoids Polarity insensitive with surge suppression
- Plug together circuit boards eliminate internal wiring
- Integral recessed gaskets
- IN Fittings to accommodate various tube sizes
- Simple conversion from internal to external pilot
- IP65 Certified



ISO 15407-2 (18mm)  
ISO 15407-1 (18mm)



### Sandwich and Manifold Accessories

- Pressure Regulators for supply pressure control at individual valve
- Speed control to control exhaust flow allows for control of actuator extend or retract speed
- Shut off block for individual valve to be isolated from pressure supply during operation and repair
- Mid Station Supply Manifold block allows for multiple pressure zones

### Fieldbus Electronics Compatible

- G3 Fieldbus Electronics
  - Graphic Display for easy commissioning, visual status & diagnostics
  - 80 valve solenoids per manifold
  - Easy distribution of additional manifolds through Sub-Bus communication
  - One Node supports up to 16 I/O modules
  - Available with Auto Recovery Module (ARM) which allows configuration information to be saved and reloaded to replacement module automatically
- 580 Fieldbus Electronics
  - Graphic Display for easy commissioning, visual status & diagnostics
  - 80 valve solenoids per manifold (with blocking discs) or additional air supply to a manifold

### Construction

Materials in Contact w/Fluid	
Body	Aluminum, E-Coating treatment
Spool	Aluminum or Stainless Steel
Piston	POM
Spring	Steel
Spool Seals	NBR + PUR
Other Seals	NBR + FKM
Other materials	PAM (Polyarylamide) 50% Glass Fiber Reinforced
Valve to Subbase Gasket	NBR
Subbases	Aluminum, E-Coating treatment

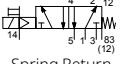
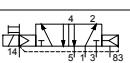
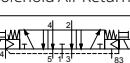
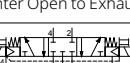
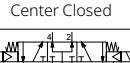
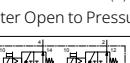
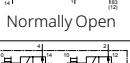
### Operating Data

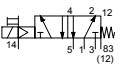
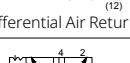
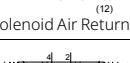
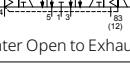
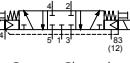
All Solenoids Are Continuous Duty Rated	24 VDC
Power (Watts)	1.3
Holding Current (Amps)	0.054
Ambient Temperature Range Min/Max °F (°C)	-14 °F (-10 °C)/122 °F (50 °C)

# AVVENTICS™ Series 502 Pneumatic Valve System

## Performance Data

Function Type	Function Code	ISO Symbol Pilot (14) Return (12)	Interface	Rated Flow		Response Time (ms)	Pilot Pressure at 73°F/23°C PSI (bar)	Operating Pressure Port 1		Part Number
				at 90 PSI Cv (l/min (ANR))				min.	max	
				1 → 2 1 → 4	2 → 3 4 → 5	Energize/ De-Energize	min.	max	Part Number	

Rubber Packed Technology, with Manual Override											
5/2	B1	 Spring Return	Proprietary	0.630 (630)	0.660 (660)	17 / 38	43 (3)	115 (8)	28 (-0.95)	115 (8)	R502A2B10MA00F1
			ISO	0.510 (510)	0.510 (510)						
	BN	 Differential Air Return	Proprietary	0.630 (630)	0.660 (660)	17 / 44	29 (2)	115 (8)	28 (-0.95)	115 (8)	R502A2BN0MA00F1
			ISO	0.510 (510)	0.510 (510)						
	B4	 Solenoid Air Return	Proprietary	0.630 (630)	0.660 (660)	14 / 14	29 (2)	115 (8)	28 (-0.95)	115 (8)	R502A2B40MA00F1
			ISO	0.510 (510)	0.510 (510)						
5/3	B5	 Center Open to Exhaust	Proprietary	0.430 (430)	0.530 (530)	36 / 21	43 (3)	115 (8)	28 (-0.95)	115 (8)	R502A2B50MA00F1
			ISO	0.390 (390)	0.470 (470)						
	B6	 Center Closed	Proprietary	0.560 (560)	0.610 (610)	18 / 18	43 (3)	115 (8)	28 (-0.95)	115 (8)	R502A2B60MA00F1
			ISO	0.490 (490)	0.490 (490)						
	B7	 Center Open to Pressure	Proprietary	0.490 (490)	0.390 (390)	21 / 27	43 (3)	115 (8)	28 (-0.95)	115 (8)	R502A2B70MA00F1
			ISO	0.390 (390)	0.390 (390)						
2x3/2 NO	BA	 Normally Open	Proprietary	0.580 (580)	0.570 (570)	19 / 26	29 (2) (b)	115 (8)	36* (2)	115 (8)	R502A2BA0MA00F1
			ISO	0.500 (500)	0.470 (470)						
2x3/2 NC	BD	 Normally Closed	Proprietary	0.650 (650)	0.600 (600)	36/15	58 (4.0)	115 (8)	36* (2)	115 (8)	R502A2BD0MA00F1
			ISO	0.500 (500)	0.440 (440)						

Spool and Sleeve Technology, with Manual Override											
5/2	B1	 Spring Return	Proprietary	0.470 (470)	0.530 (530)	16/49	29 (2)	115 (8)	28 (-0.95)	115 (8)	R502A1B10MA00F1
			ISO	0.410 (410)	0.390 (390)						
	BN	 Differential Air Return	Proprietary	0.470 (470)	0.530 (530)	11/26	22 (1.5)	115 (8)	28 (-0.95)	115 (8)	R502A1BN0MA00F1
			ISO	0.410 (410)	0.390 (390)						
	B4	 Solenoid Air Return	Proprietary	0.470 (470)	0.530 (530)	12/15	29 (2)	115 (8)	28 (-0.95)	115 (8)	R502A1B40MA00F1
			ISO	0.410 (410)	0.390 (390)						
5/3	B5	 Center Open to Exhaust	Proprietary	0.380 (380)	0.500 (500)	23/13	22 (1.5)	115 (8)	28 (-0.95)	115 (8)	R502A1B50MA00F1
			ISO	0.340 (340)	0.350 (350)						
	B6	 Center Closed	Proprietary	0.420 (420)	0.440 (440)	12/12	22 (1.5)	115 (8)	28 (-0.95)	115 (8)	R502A1B60MA00F1
			ISO	0.360 (360)	0.350 (350)						
	B7	 Center Open to Pressure	Proprietary	0.420 (420)	0.430 (430)	13/23	22 (1.5)	115 (8)	28 (-0.95)	115 (8)	R502A1B70MA00F1
			ISO	0.370 (370)	0.350 (350)						

\* Minimum pressure with external piloting

# AVVENTICS™ Series 502 Pneumatic Valve System

## How to Order: Valve

R 502 A 1 B 4 0 M A00 F1

**Product Series**

502 = 18mm Valve

**Revision**

A = Initial Release

**Actuation**

1 = Spool and Sleeve

2 = Rubber Packed

**Valve Type**

B = Solenoid Pilot with Flush Non-Locking Override

**Function**

1 = 5/2, Spring Return

N = 5/2, Differential Air Return

4 = 5/2, Solenoid Air Return

5 = 5/3, Open Center to Exhaust

6 = 5/3, Center Closed

7 = 5/3, Open Center to Pressure

A = 2x3/2 NO, dual 3-way (Rubber packed only)

D = 2x3/2 NC, dual 3-way (Rubber packed only)

1 Not available with Functions A and D

2 See diagram:

**Voltage**

F1 = 24 DC

**Options**

A00 = Standard (No Options)

11B = Flush Locking Manual Override

11M = Without Manual Override

**Electrical**

M = Plug-in, w/Light, VDC

2 N = M12 Connector

Pin 1 = Not Used; Pin 2 = Coil 12;

Pin 3 = Common; Pin 4 = Coil 14

**Port Size**

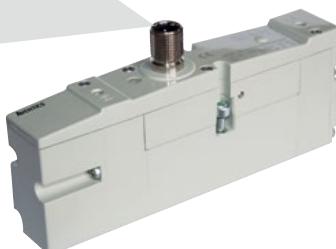
0 = No Port Size

Pin 3 = Common

Pin 4 = Coil 14

Pin 1 = Not Used

Pin 2 = Coil 12



# AVVENTICS™ Series 502 Pneumatic Valve System

## How to Order: Regulator

R 502 A R S 1 1 J

**Product Series** 502 = 18mm Valve

**Revision** A = Initial Release

**Product Type** R = Regulator

**Regulator Type**  
S = Single Reg. - Pressure to Port 1  
D = Double Reg. - Pressure to Ports 5 & 3  
E = Double Reg. - Pressure to Ports 4 & 2, w/o Valve  
T = Double Reg. - Pressure to Ports 1 & 3, 2 Pressure Selector

**Pressure Range**  
1 = 10 - 130 PSIG (0.7 - 9 bar)  
3 = 3 - 30 PSIG (0.2 - 2 bar)  
4 = 5 - 60 PSIG (0.3 - 4.1 bar)

A00 1 0

**Interface**  
1 = Proprietary  
2 = ISO 15407-2  
3 = ISO 15407-1

**Options**  
A00 = Standard (No Options)  
14M = Temperproof Needle Cartridge Assembly or Regulator  
16N = Jumper for Supply Pressure to Valve, 14 End  
16P = Jumper for Supply Pressure to Valve, 12 End  
\* 61Y = Regulator with Gauge Extension Fitting

**Wiring Option**  
J = Plug-in, Receptacle Assembly  
0 = Non Plug-in

**Gauge Type**  
1 = PSI  
2 = bar  
8 = with 1/8" NPTF adaptor for external gauge  
G = with 1/8" G tap adaptor for external gauge

\* Regulator gauges must be offset with 61Y option on alternating stations to prevent interference.

## Sandwich Pressure Regulator Block

### Types: RS / RD / RE / RT

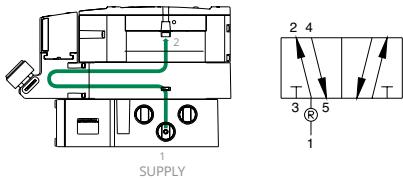


ISO 15407-2/15407-1 Interface



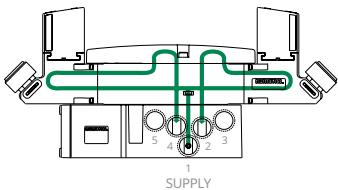
Proprietary Interface

### Type RS



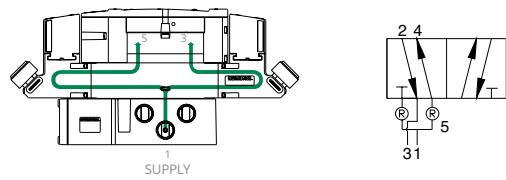
Single pressure from a single supply.

### Type RE



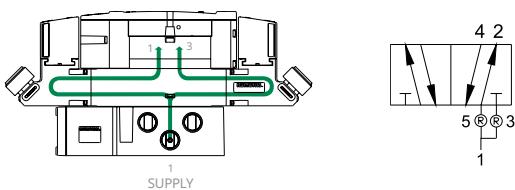
External outlet regulator used with jumper plate for single or dual pressure.

### Type RD



Dual pressure from a single supply.

### Type RT



Two-pressure selector used for multi-pressure applications.

# AVENTICS™ Series 502 Pneumatic Valve System

## How to Order: Mounting

<b>Port Type</b>	8	502	A	M	S2	1	M	A00	1	0
<sup>1</sup> 8 = NPTF										
<sup>1</sup> G = ISO228/1-G										
K = Push-in Fittings										
<b>Product Series</b>										
502 = 18mm Valve										
<b>Revision</b>										
A = Initial Release										
<b>Product Type</b>										
M = Manifold Subbase										
<sup>2</sup> A = Individual Subbase										
<sup>3</sup> Z = Mid Station Supply										
<sup>4</sup> F = 32+ Solenoid Manifold Block										
<b>Mounting</b>										
S2 = Manifold Subbase, 2 Stations, Side Ports, Single Z-Board										
M2 = Manifold Subbase, 2 Stations, Side Ports, Double Z-Board										
<sup>5</sup> V2 = Manifold Subbase, 2 Stations, Side Ports										
<sup>2</sup> 3A = Individual Subbase, Side Ports, Individual Exhaust										

<b>Interface</b>	
1 = Proprietary	
2 = ISO 15407-2	
3 = ISO 15407-1	
<b>Options</b>	
A00 = Standard (No Options)	
<sup>6</sup> 14X = External Pilot Supply from Port # 14	
<sup>6 &amp; 8</sup> 56Y = 4-Pin Straight M12 Connector in Mounting	
Pin 1 = Not Used;	
Pin 2 = 12+ (B+); Pin 3 = COM;	
Pin 4 = 14+ (A+)	
<b>Wiring Option</b>	
5 0 = Non Plug-in	
7 M = Plug-in, Receptacle Assembly	
<sup>4</sup> T = 32+ Coil Auxiliary Power with X16 Drivers	
V = +24 VDC Separation at First Station	
W = +24 VDC Separation at Second Station	
<b>Port Size (Working Ports 2 &amp; 4 Size)</b>	
1 = 1/8	
2 = 1/4	
G = 5/16 (Push-in Fittings Only)	
F = 6mm (Push-in Fittings Only)	
H = 8mm (Push-in Fittings Only)	

<sup>1</sup> Port Type 8 & G available in 1/8 size for Product Type F, M and Z or 1/4 for Product Type A

<sup>2</sup> Not available with proprietary interface, only available with 1/4 port size

<sup>3</sup> Only available with M2 and V2 mountings

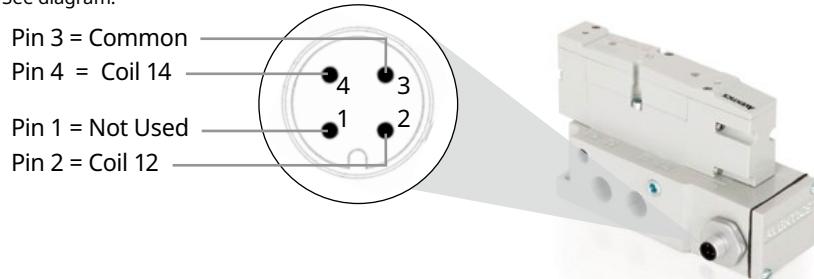
<sup>4</sup> 32+ Coil Rule: Product Type F, Mounting M4, and Wiring Option T must all be selected together

<sup>5</sup> Only available with ISO 15407-1 Interface

<sup>6</sup> Available with 3A mounting only

<sup>7</sup> Not available with V2 Mounting

<sup>8</sup> See diagram:



# AVVENTICS™ Series 502 Pneumatic Valve System

## How to Order: Manifold Assembly

<b>Port Type</b>	8	502	A	V	3	B	3	0	0	V	A00
<hr/>											
<sup>1</sup> 8	= NPTF										
<sup>1</sup> G	= ISO2281-G										
K	= Push-in Fittings										
<hr/>											
<b>Product Series</b>	502										
<hr/>											
<b>Revision</b>											
A	= Initial Release										
<hr/>											
<b>Product Type</b>	V										
V	= Valve Manifold Assembly										
<hr/>											
<b>Electrical Interface</b>											
3	= G3 Series Fieldbus Interface										
8	= 580 Series Fieldbus Interface										
D	= CHARMs Interface										
J	= 25 Pin Sub-D Interface										
M	= 37 Pin Sub-D Interface										
Q	= 19 Pin M23 Interface										
R	= 26 Pin M27 Interface										
T	= 1-32 Pin Terminal Strip Interface										
<sup>2</sup> Z	= Robot End Effector (EE) Connection Interface										
0	= No Electrical Interface										

### Number of Valve Stations

B =	2/34/66	N =	14/46/78	Z =	26/58
D =	4/36/68	P =	16/48/80	3 =	28/60
F =	6/38/70	R =	18/50	5 =	30/62
H =	8/40/72	T =	20/52	7 =	32/64
J =	10/42/74	V =	22/54		
L =	12/44/76	X =	24/56		

<sup>1</sup> Port Type 8 & G available in Port Size 3/8

<sup>2</sup> FANUC EE Interface (A27 or D28) must be selected under Options

<sup>3</sup> Horizontal End Plates available with 0 = No Electrical Interface option

<sup>4</sup> End Plate is NPTF 1/8 or Push-in 8mm

NOTE: See the Multipin Electrical Interface table for Max Solenoid Outputs.

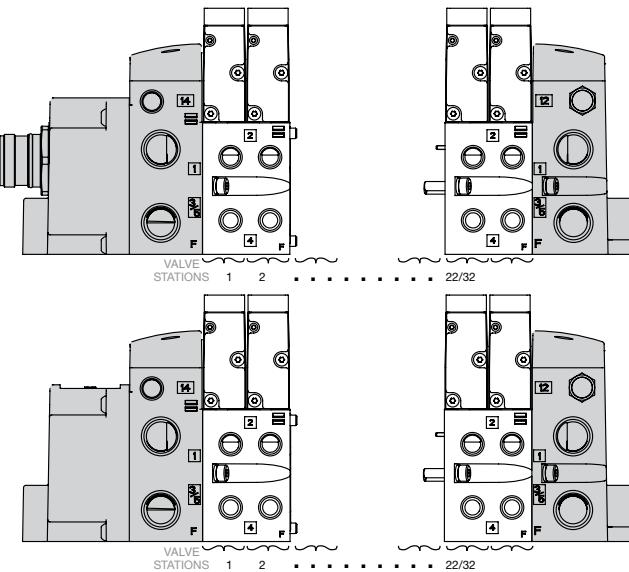
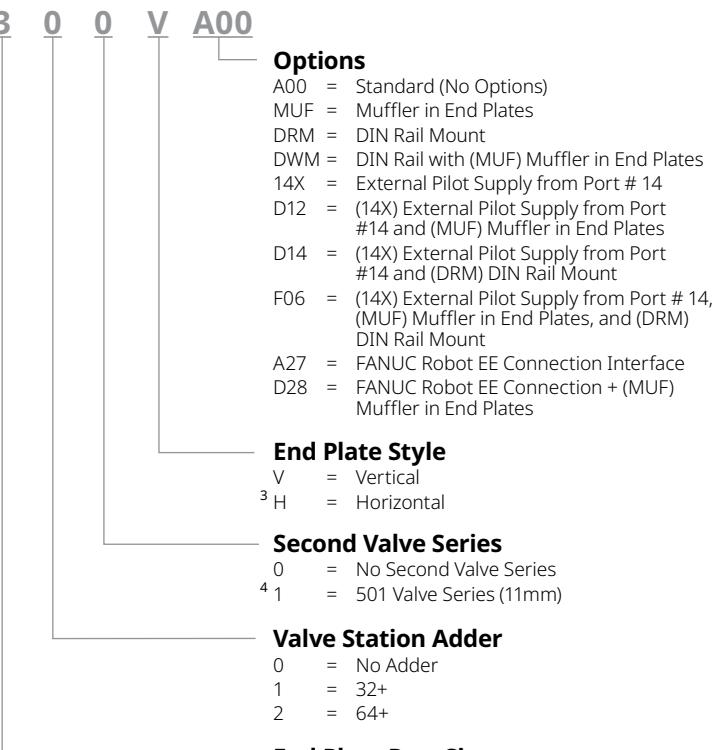
## Sub-D, Terminal Strip, Round Interface, and End Effector Interface

- Shaded components described by Assembly Kit model number designation
- Each valve manifold station is listed in sequential order from left to right when facing the port side of the manifold as indicated

### Example Order - 502 Shown

25 Pin Sub-D	8502AVJF300VA00
Valve Station #1	R502A2B40MA00F1
Valve Station #2	R502A2B40MA00F1
Mounting #1	8502AMM21MA0010
Valve Station #3	R502A2B60MA00F1
Valve Station #4	R502A2B60MA00F1
Mounting #2	8502AMM21MA0010
Valve Station #5	R502A2B40MA00F1
Valve Station #6	R502A2B40MA00F1
Mounting #3	8502AMM21MA0010
	Assembled

NOTE: Example order for Fieldbus electronics see 580 or G3 Fieldbus catalog.



# AVENTICS™ Series 502 Pneumatic Valve System

## Sandwich Option Kit

Valve Series	Type	Speed Control Kit	Shut Off Block Kit	Pressure Block Kit	Exhaust Block Kit		
	Inserted between the valve and the mounting. It allows the user to adjust the flow out of the 3 & 5 ports of the valve. This will allow them to adjust the speed of the extend and retract of the cylinder.	Used to shut-off pressure when mounted below valve. It allows for easy maintenance without the need to shut-off pressure to the entire manifold.	Used to supply a separate pressure to a single valve station without needing blocking discs.		Used to isolate the exhaust of a single valve station from the manifold. It allows for faster exhaust response by re-routing exhaust externally from the manifold.		
				1/8 NPTF	1/8 G	1/8 NPTF	1/8 G
<b>502 Series</b> (18mm)	Proprietary	R502AS429395002	R502AY429409002	8502AW428685004	G502AW428685004	8502AX428685002	G502AX428685002
	ISO 15407-2	R502AS429395001	R502AY429409001	8502AW428685003	G502AW428685003	8502AX428685001	G502AX428685001

# AVVENTICS™ Series 502 Pneumatic Valve System

## End Plate Kit

End Plate Kit is used to stack multiple blocks together into a manifold assembly.



Horizontal End Plates w/o DIN



Vertical End Plates w/o DIN,  
w/o Muffler



Vertical End Plates w/o DIN,  
w/Muffler

Valve Series	Orientation	Port Type	NPTF			G			Push In											
			1	3/5	14, 12	1	3/5	14, 12	1	3/5	14, 12	1	3/5	14, 12	1	3/5	14, 12	1	3/5	14, 12
		Port Number	3/8	3/8	1/8	3/8	3/8	1/8	3/8	3/8	1/8	1/2	1/2	1/8	10mm	10mm	6 mm	12mm	12mm	6 mm
502 Series (18mm)	Vertical	w/Muffler, w/DIN	8502AK431477008	G502AK431477020	K502AK431477012	K502AK431477010	K502AK431477024	K502AK431477022												
		w/Muffler, w/o DIN	8502AK431477007	G502AK431477019	K502AK431477011	K502AK431477009	K502AK431477023	K502AK431477021												
		w/o Muffler, w/DIN	8502AK431477002	G502AK431477014	K502AK431477006	K502AK431477004	K502AK431477018	K502AK431477016												
		w/o Muffler, w/o DIN	8502AK431477001	G502AK431477013	K502AK431477005	K502AK431477003	K502AK431477017	K502AK431477015												
	Horizontal	w/o Muffler, w/o DIN	8502AK431478001	G502AK431478004	K502AK431478003	K502AK431478002	K502AK431478006	K502AK431478005												

# AVVENTICS™ Series 502 Pneumatic Valve System

## Multipin Electrical Interface

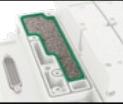
Multipin Electrical Interface	Product Image (Example Only)	Description	Part Number		Notes	Max. # of Coils*
			501, 502 & 503 Valve Series			
25 Pin Sub-D Interface		Housing Kit Assembly w/o DIN Rail Clamps	P599AE428441001		External fusing or output protection recommended.	22
		Housing Kit Assembly w/DIN Rail Clamps	P599AE428441002			
		Female Cable 22 AWG – Unshielded, Standard	2m	SC2502MCX0000000		
			5m	SC2505MCX0000000		
			10m	SC2510MCX0000000		
		Female Cable 22 AWG - Unshielded IP65	2m	NDB25F22U02MSB4		
			5m	NDB25F22U05MSB4		
			10m	NDB25F22U10MSB4		
37 Pin Sub-D Interface		Housing Kit Assembly w/o DIN Rail Clamps	P599AE428442001		External fusing or output protection recommended.	32
		Housing Kit Assembly w/DIN Rail Clamps	P599AE428442002			
		Female Cable 22 AWG – Unshielded, Standard	2m	SC3702MCX0000000		
			5m	SC3705MCX0000000		
			10m	SC3710MCX0000000		
		Female Cable 22 AWG - Unshielded IP65	2m	NDB37F22U02MSB4		
			5m	NDB37F22U05MSB4		
			10m	NDB37F22U10MSB4		
19 Pin M23 Interface		Housing Kit Assembly w/o DIN Rail Clamps	P599AE428436001		External fusing or output protection recommended.	16
		Housing Kit Assembly w/DIN Rail Clamps	P599AE428436002			
		M23 Female Cable	5m	CC1905MI00000000		
			10m	CC1910MI00000000		
26 Pin M27 Interface		Housing Kit Assembly w/o DIN Rail Clamps	P599AE502625001		External fusing or output protection recommended.	22
		Housing Kit Assembly w/DIN Rail Clamps	P599AE502625002			
		M27 Female Cable	5m	CC2605MI00000000		
			10m	CC2610MI00000000		
1-32 Pin Terminal Strip Interface		Housing Kit Assembly w/o DIN Rail Clamps	P599AE428444001		1) External fusing or output protection recommended. 2) Min. Wire AWG 26, Max. Wire AWG 18.	32
		Housing Kit Assembly w/DIN Rail Clamps	P599AE428444002			
Robot End Effector (EE) Interface		FANUC Housing Kit Assembly for PNP I/O	P599AE509838001		Internal cable available from FANUC.	8

\* Maximum number of valve stations is determined by:

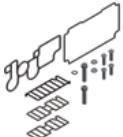
- The electrical connection type.
- The valve type - single solenoid valves up to the maximum solenoid outputs allowed by the electrical connection type (see chart above) or a combination of single and/or double solenoid valves not to exceed the maximum number of solenoid outputs allowed.
- Combination of all stations cannot exceed 32 solenoids.

# AVVENTICS™ Series 502 Pneumatic Valve System

## Accessories Kit

Accessories Kit	Product Image (Example Only)	Description	Port Number	Part Number	
				502 Series (18mm)	
Blank Station Plate Kit		Used to block off a manifold station for future use.	-	P502AB431813001	
DIN Rail Clamp Kit		Used to mount manifold assembly to a machine via DIN Rail. Kit includes hardware for each end of the manifold. NOTE: DIN Rail not included.	-	239-980	
Blocking Disc Kit		Used to isolate 1, 3 & 5 galleries of the manifold internally. NOTE: Includes tag to label ports blocked.	1	P502AD431914001	
			3	P502AD431914002	
			5	P502AD431914003	
			1 + 3	P502AD431914004	
			1 + 5	P502AD431914005	
			3 + 5	P502AD431914006	
			1, 3, 5	P502AD431914007	
Internal Muffler Element		Muffler element	-	429372-001	
External Gauge Adaptor Kit		1/8" NPTF and G adaptor for external gauge	-	239-1561	
Fittings		Thread Type	Tube Size	Quantity	Part Number
		M7	4mm	10	See Fittings Catalog
		M7	6mm	10	
		M7	1/4	10	

## Replacement Parts Kit

Replacement Parts Kit	Product Image (Example Only)	Description	Parts Included	Part Number
				502 Series (18mm)
Interface Mounting Kit		Includes Mounting Gaskets ((1) valve to base, (2) Accessories to valve or base, (1) Manifold block, (1) End-Plate to electrical housing, (1) Body to base O-ring, (2) Manifold block mounting screws and lock washers, (4) Electrical housing mounting screws		M502AU521772001
Regulator Replacement Kit		3 - 30 PSIG Regulator Kit	Includes regulator assembly, gaskets, screws.	M502AR427995001
		5 - 60 PSIG Regulator Kit		M502AR427995002
		10 - 130 PSIG Regulator Kit		M502AR427995003
		0.2 - 2.0 bar Regulator Kit		M502AR427995004
		0.3 - 4.0 bar Regulator Kit		M502AR427995005
		0.7 - 9.0 bar Regulator Kit		M502AR427995006
Regulator Gauge Replacement Kit		0 - 160 PSIG Regulator Gauge Head Extended	Includes gauge head, o-ring, and hitch-pin.	M502AG521734001
		0 - 160 PSIG Regulator Gauge Head		M502AG521734002
		0 - 60 PSIG Regulator Gauge Head Extended		M502AG521734003
		0 - 60 PSIG Regulator Gauge Head		M502AG521734004
		0 - 11 bar Regulator Gauge Head Extended		M502AG521734005
		0 - 11 bar Regulator Gauge Head		M502AG521734006
		0 - 4 bar Regulator Gauge Head Extended		M502AG521734007
		0 - 4 bar Regulator Gauge Head		M502AG521734008

# AVVENTICS™ Series 502 Pneumatic Valve System

## Adaptor Plate Kit

The adaptor plate allows the transition from 503 Series to 502 Series and 502 Series to 501 Series in a single manifold assembly. Includes the adapter plate, transfer board, gasket, screws.

Valve Series	Product Image (Example Only)	Description	Interface	Thread Type	Supply Port 1 Size	Part Number	
503 Series (26mm) to 502 Series (18mm)		503 to 502 Adaptor Plate w/PCB	Proprietary/ ISO 15407-2	NPTF	3/8"	8503AT429964001	
		503 to 502 Adaptor Plate w/o PCB (for ISO 15407-1 Mounting)	ISO 15407-1			8503AT429964002	
		503 to 502 Adaptor Plate w/PCB	Proprietary/ ISO 15407-2	G Tap		G503AT429964003	
		503 to 502 Adaptor Plate w/o PCB (for ISO 15407-1 Mounting)	ISO 15407-1			G503AT429964004	
502 Series (18mm) to 501 Series (11mm)		502 to 501 Adaptor Plate w/PCB	Proprietary	NPTF		8502AT429963001	
		502 to 501 Adaptor Plate w/PCB	Proprietary	G Tap		G502AT429963002	

## Ordering Adaptor Plate Kit

### Example Order - 502 & 501 Manifold Shown

25 Pin Sub-D	8502AVJH301VA00
Valve Station #1	R502A2B40MA00F1
Valve Station #2	R502A2B40MA00F1
Mounting #1	8502AMM21MA0010
Valve Station #3	R502A2B40MA00F1
Valve Station #4	R502A2B40MA00F1
Mounting #2	8502AMM21MA0010
Valve Station #5	R501A2B40MA00F1
Valve Station #6	R501A2B40MA00F1
Valve Station #7	R501A2B40MA00F1
Valve Station #8	R501A2B40MA00F1
Mounting #3	H501AMM4BMA0010
	Assembled



\* Example purposes only. 502 Series to 501 Series Manifold shown.

NOTE: When looking at Cylinder Ports, Adaptor Plate can only be used to transition from 503 Series to 502 Series or 502 Series to 501 Series valves starting from the left side of a Manifold Assembly.

# AVVENTICS™ Series 502 Pneumatic Valve System

## Mid-Station Supply Manifold Block Kit

Valve Series	Product Image (Example Only)	Description	Interface	Thread Type	Supply Port 1 Size	Part Number	
502 Series (18mm)		Add additional supply and exhaust capacity to large manifold assemblies.	ISO 15407-2	NPTF	1/8	8502AZM21TA0020	
				G Tap	1/8	G502AZM21TA0020	
			Proprietary	NPTF	1/8	8502AZM21TA0010	
				G Tap	1/8	G502AZM21TA0010	
			ISO 15407-2	Push-in Fittings	1/4	K502AZM22TA0020	
					5/16	K502AZM2GTA0020	
					6mm	K502AZM2FTA0020	
					8mm	K502AZM2HTA0020	
					1/4	K502AZM22TA0010	
			Proprietary		5/16	K502AZM2GTA0010	
					6mm	K502AZM2FTA0010	
					8mm	K502AZM2HTA0010	

## Up to 80 Solenoid Coils with 500 Series Manifold Blocks

Valve Series	Product Image (Example Only)	Description	Maximum Solenoid Capacity	Mid-Station Supply & Auxiliary Power Requirements	Interface	Thread Type	Supply Port 1 Size	Part Number
502 Series (18mm)		502 32+ Solenoid Mid-Station Supply & Auxiliary Power 4-Station Manifold Block w/ X16 Valve Drivers	80	32+ Solenoid Manifolds/Islands	ISO 15407-2	NPTF	1/8	8502AFM41TA0020
						G Tap	1/8	G502AFM41TA0020
					Proprietary	NPTF	1/8	8502AFM41TA0010
						G Tap	1/8	G502AFM41TA0010
					ISO 15407-2	1/4	K502AFM42TA0020	
						5/16	K502AFM4GTA0020	
						6mm	K502AFM4FTA0020	
						8mm	K502AFM4HTA0020	
						1/4	K502AFM42TA0010	
					Push-in Fittings	5/16	K502AFM4GTA0010	
						6mm	K502AFM4FTA0010	
						8mm	K502AFM4HTA0010	

\* Option 96X overrides the port size for stations 5 – 8 of the X32 manifold block with 4mm (5/32) Push-in fittings.

NOTE: The Up to 80 Solenoid Coil blocks are required for valve manifolds/islands with more than 32 solenoid coils. It is highly recommended that the online DPM configurator is used when configuring extended solenoid coil manifolds/islands to eliminate errors and to save time.

Supported Protocols	580 Communication Node	G3 Communication Node and I/O
CC-Link IE Field™	-	√
EtherCAT®	√	√
Ethernet POWERLINK®	√	√
EtherNet/IP™ DLR	√	√
Modbus® TCP/IP	-	√
PROFIBUS® DP	√	√
PROFINET®	√	√
Valve Sub-bus	√	√

# AVVENTICS™ Series 502 Pneumatic Valve System

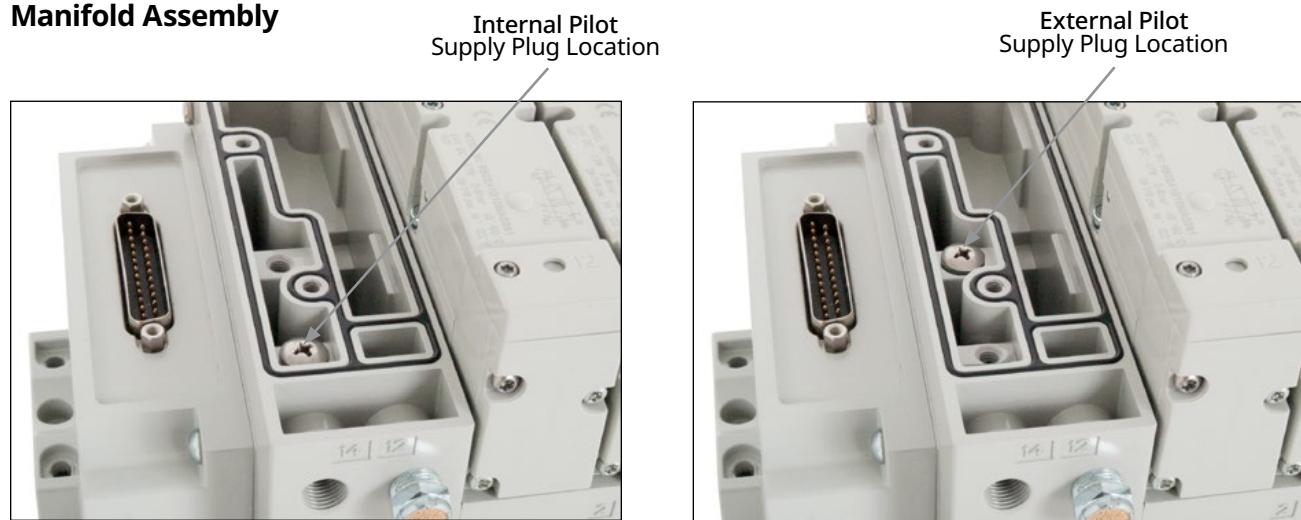
## Internal/External Pilot Selection

### Individual Subbase



NOTE: Individual Subbases are factory set for internal pilot supply. To convert to external pilot supply install M4 plug P.N. 129-216 (sold separately) down inside in the pressure port (1). Remove the 1/8 pipe plug from port 14 to supply pilot pressure.

### Manifold Assembly

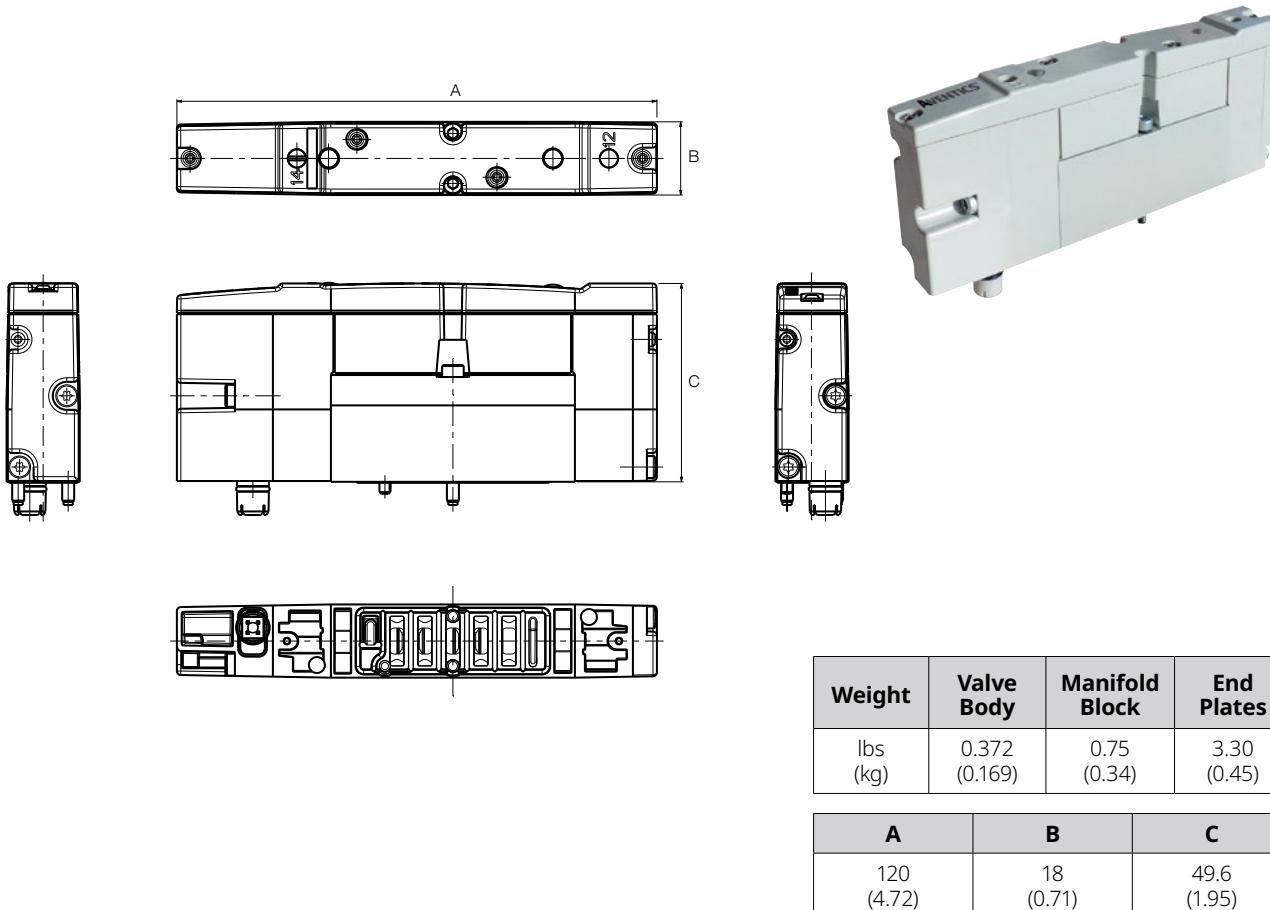


NOTE: Manifold Assemblies are factory set for internal pilot supply. To convert to external pilot supply install pilot supply seal screws 502 Series: 426188-001, as shown in the pictures.

# AVVENTICS™ Series 502 Pneumatic Valve System

Dimensions: mm (inches)

502 Series Plug-in Valve

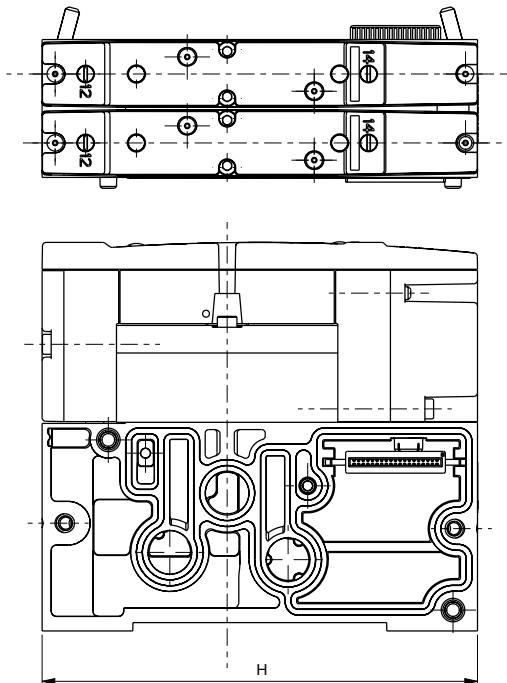
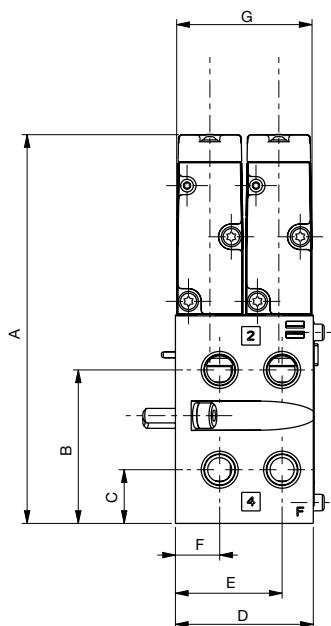


# AVVENTICS™ Series 502 Pneumatic Valve System

Dimensions: mm (inches)

Plug-in Valve Mounted

Plug-in Manifold Block

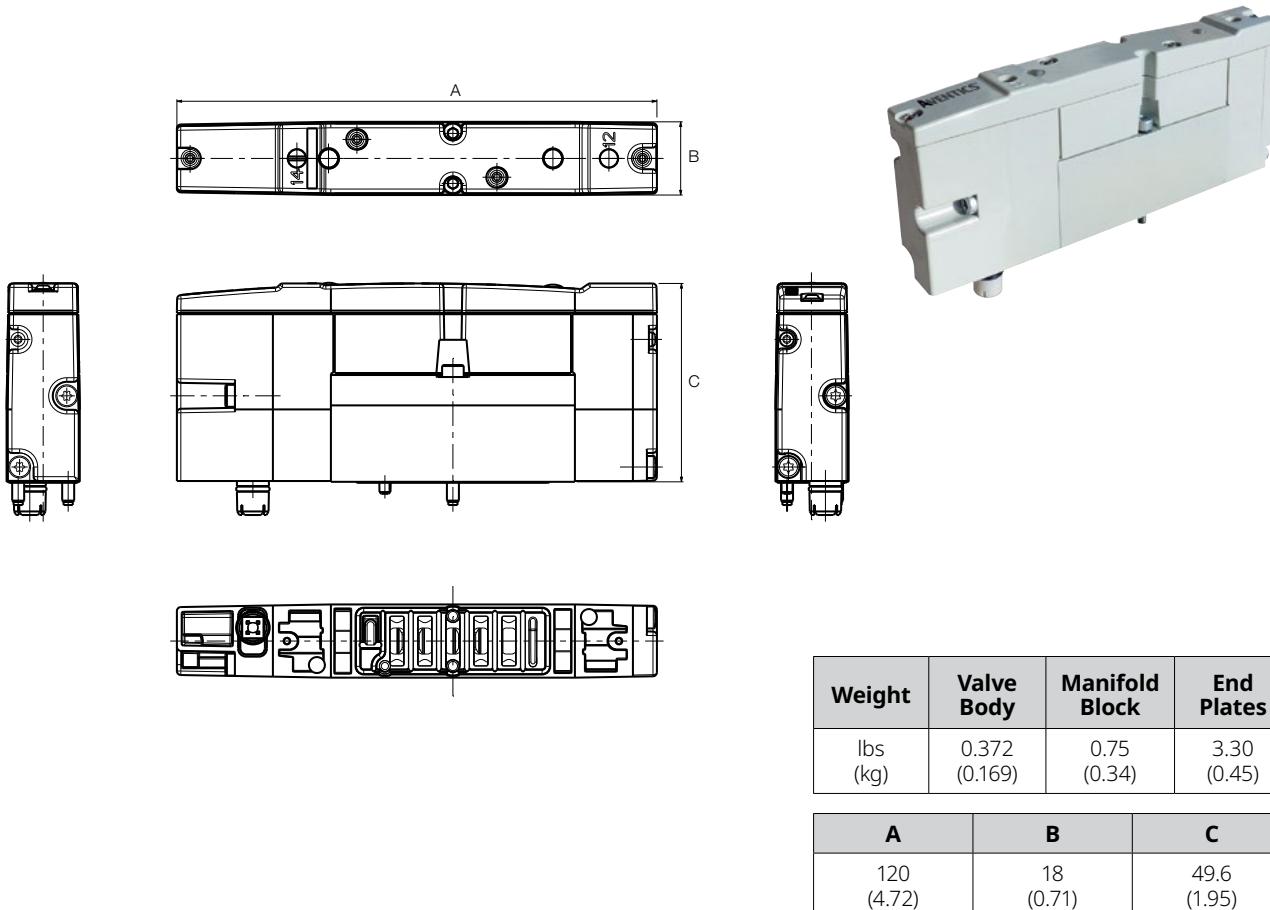


A	B	C	D	E	F	G	H
107.1 (4.217)	42.3 (1.665)	14.8 (0.583)	38 (1.496)	29.4 (1.157)	12.2 (0.48)	37.3 (1.469)	120 (4.724)

# AVVENTICS™ Series 502 Pneumatic Valve System

Dimensions: mm (inches)

502 Series Plug-in Valve



Weight	Valve Body	Manifold Block	End Plates
lbs (kg)	0.372 (0.169)	0.75 (0.34)	3.30 (0.45)

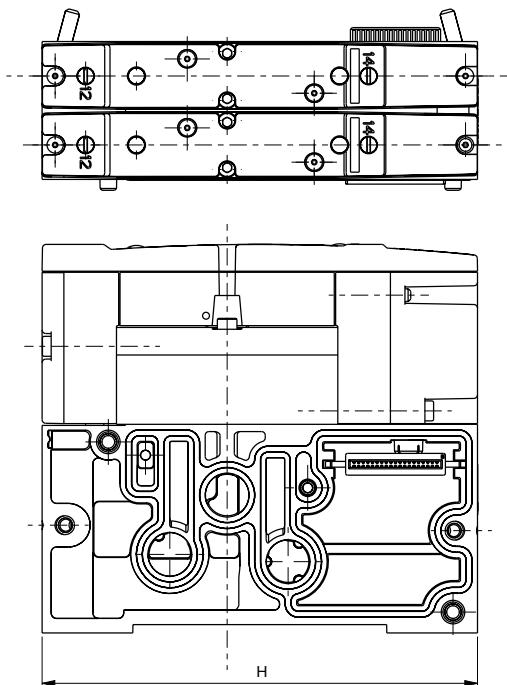
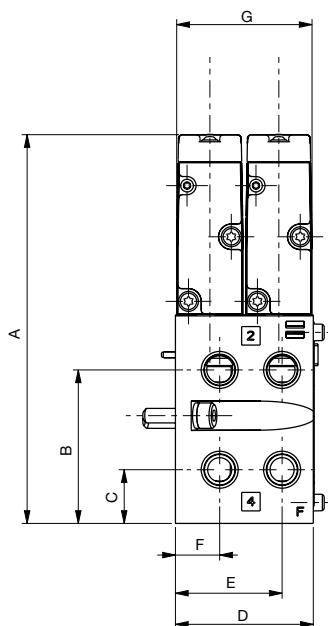
A	B	C
120 (4.72)	18 (0.71)	49.6 (1.95)

# AVVENTICS™ Series 502 Pneumatic Valve System

Dimensions: mm (inches)

Plug-in Valve Mounted

Plug-in Manifold Block



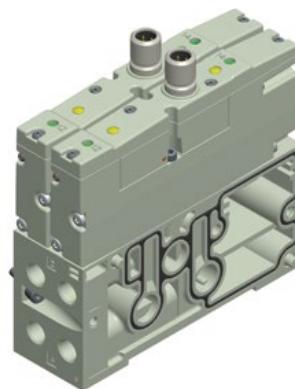
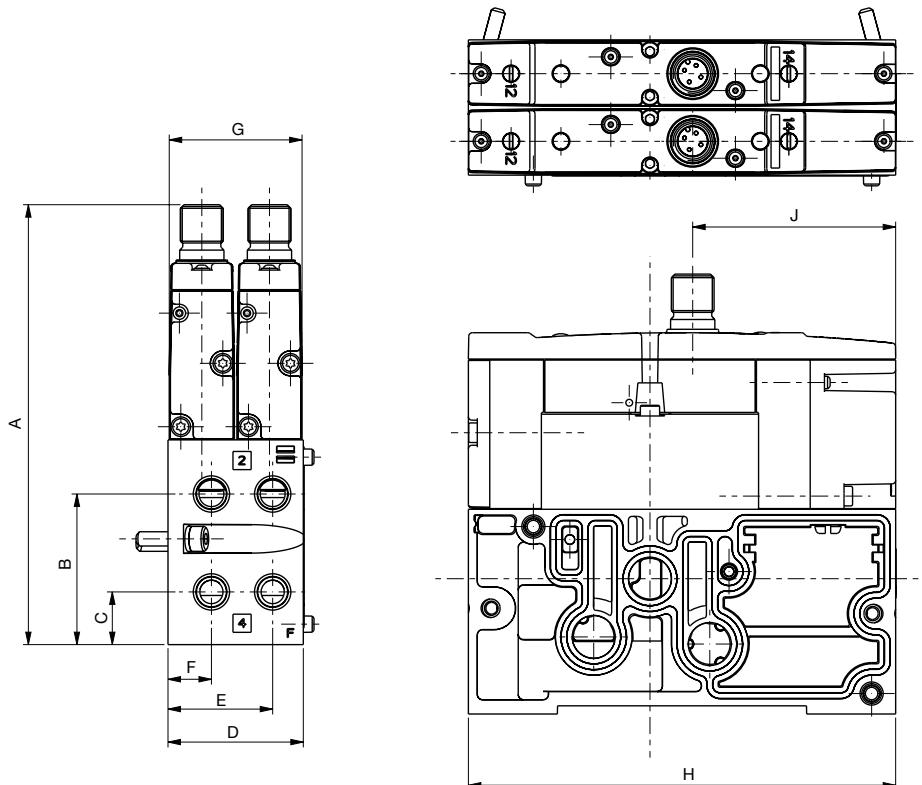
A	B	C	D	E	F	G	H
107.1 (4.217)	42.3 (1.665)	14.8 (0.583)	38 (1.496)	29.4 (1.157)	12.2 (0.48)	37.3 (1.469)	120 (4.724)

# AVVENTICS™ Series 502 Pneumatic Valve System

Dimensions: mm (inches)

M12 Valve Mounted

Non Plug-in Manifold Block (ISO 15407-1)



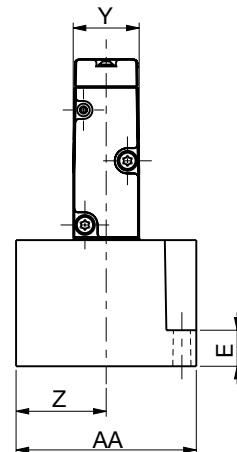
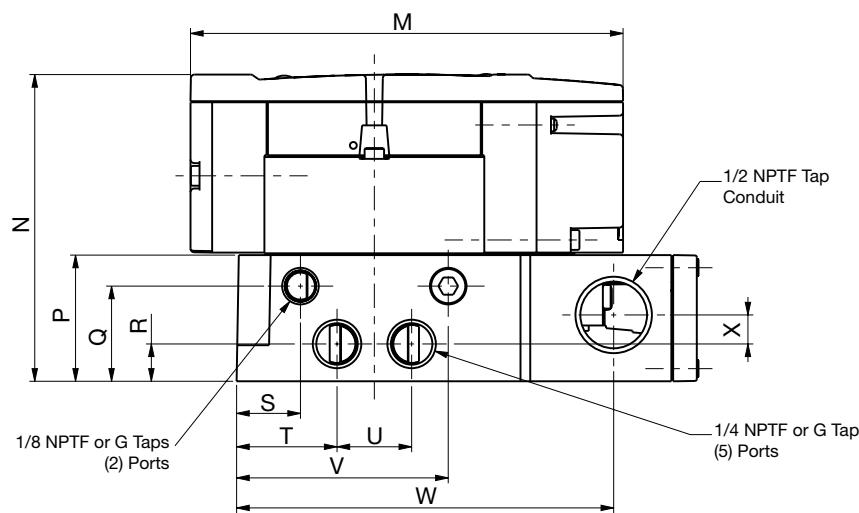
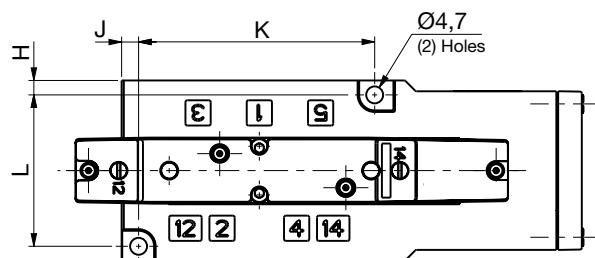
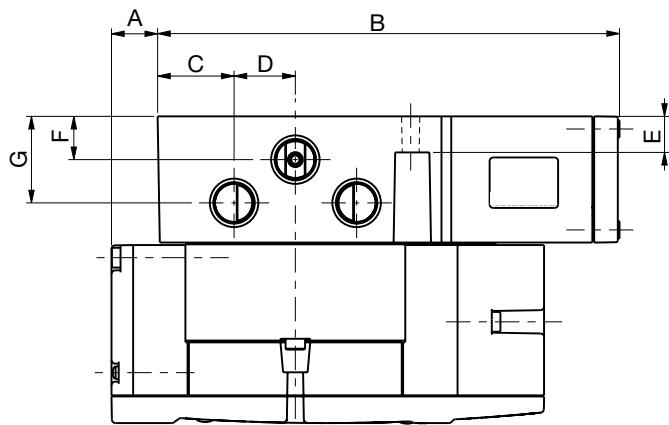
A	B	C	D	E	F	G	H	J
123.6 (4.866)	42.3 (1.665)	14.8 (0.583)	38 (1.496)	29.4 (1.157)	12.2 (0.48)	37.3 (1.469)	120 (4.724)	57 (2.244)

# AVVENTICS™ Series 502 Pneumatic Valve System

**Dimensions: mm (inches)**

## Plug-in Valve on Individual Subbase

### Plug-in Individual Subbase



A	B	C	D	E	F	G	H	J	K	L	M	N
12.8 (0.504)	128.1 (5.043)	21.2 (0.835)	17 (0.669)	10 (0.394)	12 (0.472)	24 (0.945)	4 (0.157)	4.7 (0.185)	65.5 (2.579)	42 (1.654)	120 (4.724)	85.1 (3.35)

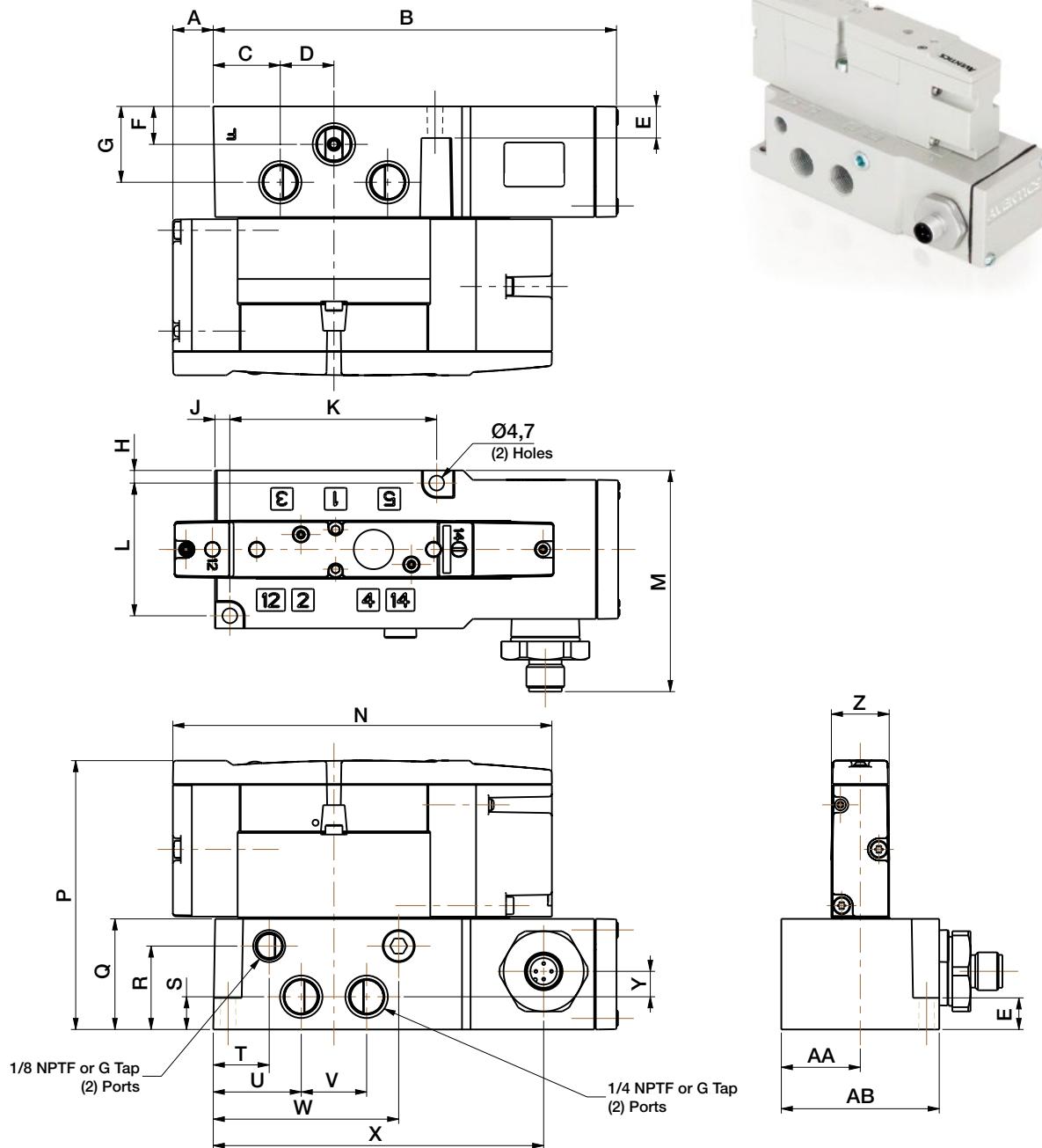
P	Q	R	S	T	U	V	W	X	Y	Z	AA
35 (1.378)	26.4 (1.039)	10.4 (0.409)	17.7 (0.697)	27.9 (1.098)	20.7 (0.815)	58.7 (2.311)	104.6 (4.118)	8.1 (0.319)	18.3 (0.72)	25 (0.984)	50 (1.969)

# AVVENTICS™ Series 502 Pneumatic Valve System

**Dimensions: mm (inches)**

## Plug-in Valve on Individual Subbase

### M12 Individual Subbase (ISO 15407-2)



A	B	C	D	E	F	G	H	J	K	L	M	N
12.8 (0.504)	128.1 (5.043)	21.2 (0.835)	17 (0.669)	10 (0.394)	12 (0.472)	24 (0.945)	4 (0.157)	4.7 (0.185)	65.5 (2.579)	42 (1.654)	70 (2.756)	120 (4.724)

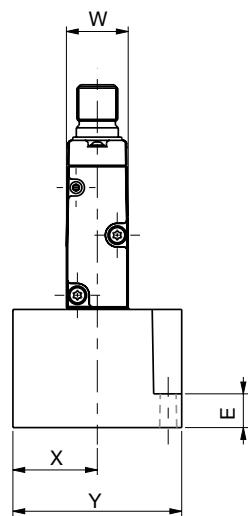
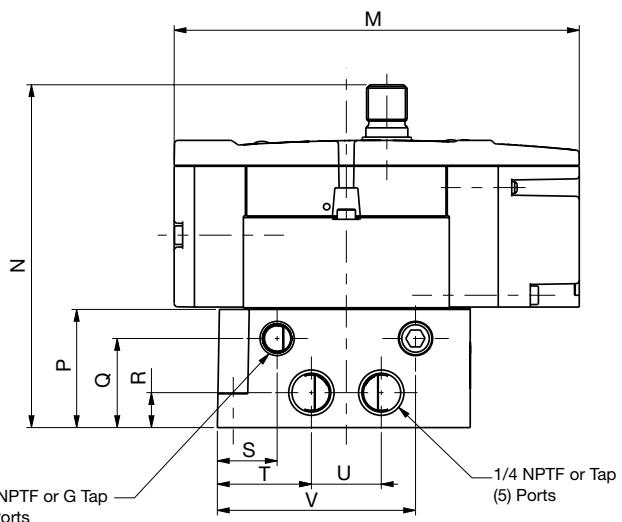
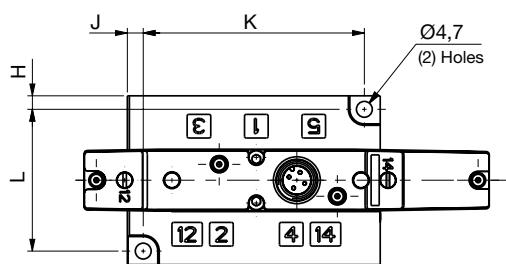
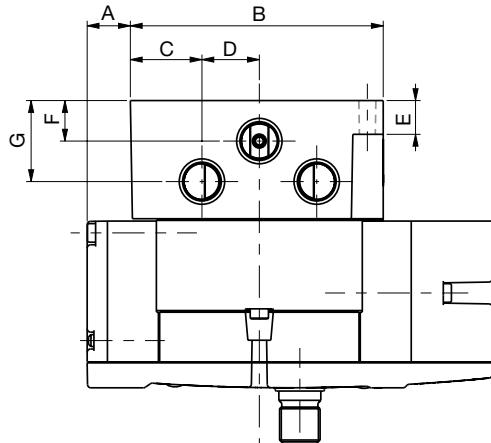
P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB
85.1 (3.35)	35 (1.378)	26.4 (1.039)	10.4 (0.409)	17.7 (0.697)	27.9 (1.098)	20.7 (0.815)	58.7 (2.311)	104.6 (4.118)	8.1 (0.319)	18.3 (0.72)	25 (0.984)	50 (1.969)

# AVVENTICS™ Series 502 Pneumatic Valve System

Dimensions: mm (inches)

**Non Plug-in Valve on Individual Subbase**

**Non Plug-in Individual Subbase (ISO 15407-1)**



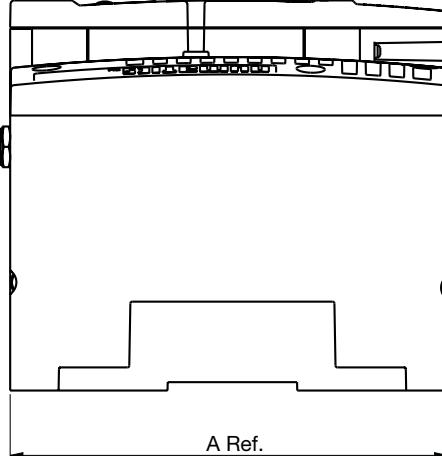
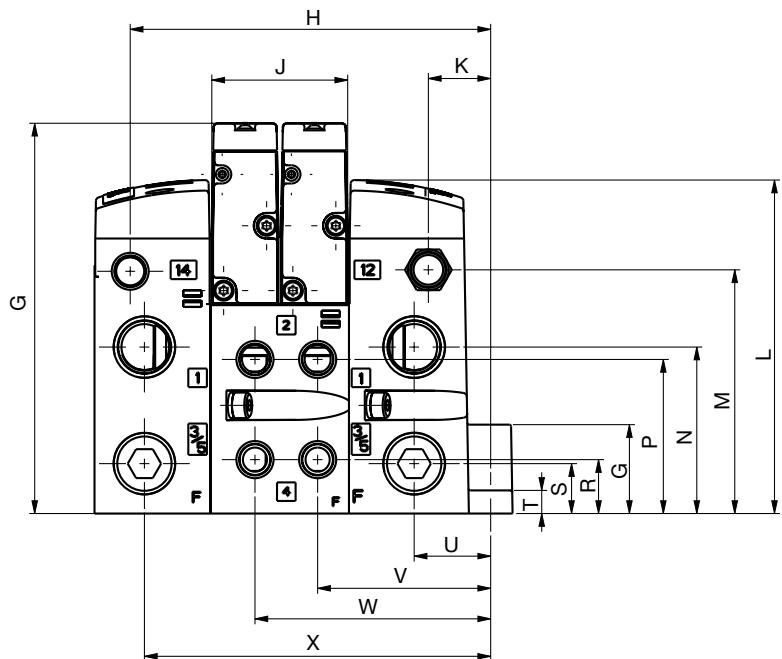
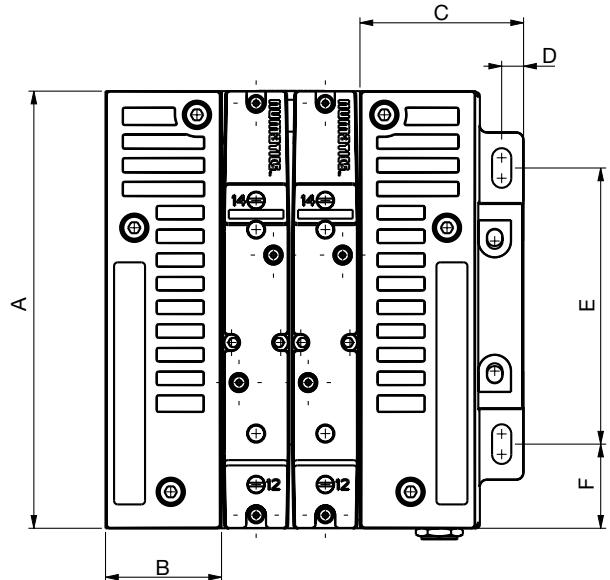
A	B	C	D	E	F	G	H	J	K	L	M	N
12.8 (0.504)	74.9 (2.949)	21.2 (0.835)	17 (0.669)	10 (0.394)	12 (0.472)	24 (0.945)	4 (0.157)	4.7 (0.185)	65.5 (2.579)	42 (1.654)	120 (4.724)	101.6 (4)

P	Q	R	S	T	U	V	W	X	Y
35 (1.378)	26.4 (1.039)	10.4 (0.409)	17.7 (0.697)	27.9 (1.098)	20.7 (0.815)	58.7 (2.311)	18.3 (0.72)	25 (0.984)	50 (1.969)

# AVVENTICS™ Series 502 Pneumatic Valve System

**Dimensions: mm (inches)**

## Manifold Assembly with Vertical End Plates



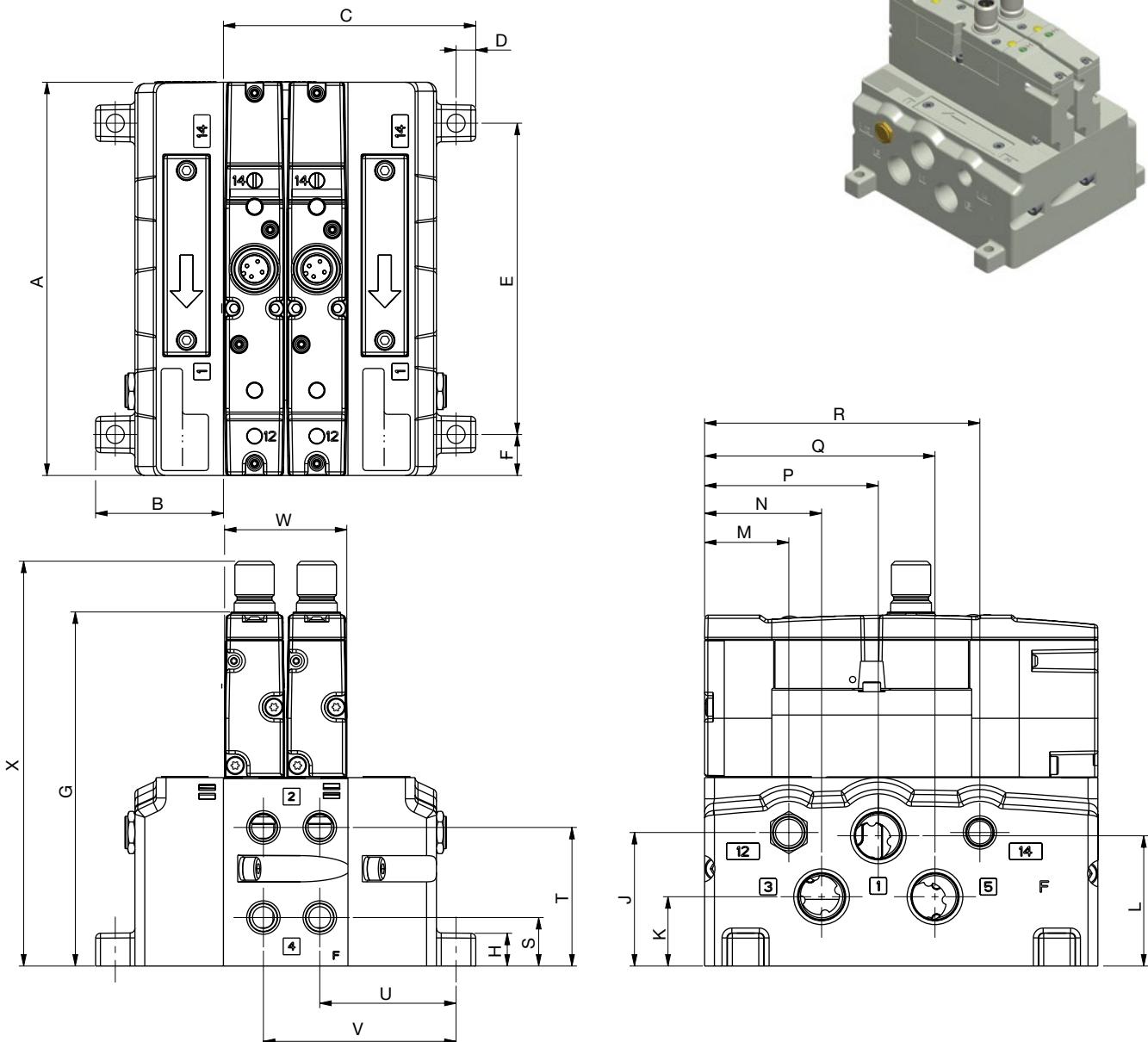
A	B	C	D	E	F	G	H	J	K	L
120 (4.724)	31.9 (1.256)	44.9 (1.768)	6 (0.236)	75.8 (2.984)	23.1 (0.909)	107.1 (4.217)	98.9 (3.894)	37.3 (1.469)	17.1 (0.673)	91.6 (3.606)

M	N	P	Q	R	S	T	U	V	W	X
66.9 (2.634)	45.7 (1.799)	42.3 (1.665)	24.4 (0.961)	14.8 (0.583)	13.7 (0.539)	6.35 (0.25)	21 (0.827)	47.5 (1.87)	64.7 (2.547)	95 (3.74)

# AVVENTICS™ Series 502 Pneumatic Valve System

Dimensions: mm (inches)

## Manifold Assembly with Horizontal End Plates



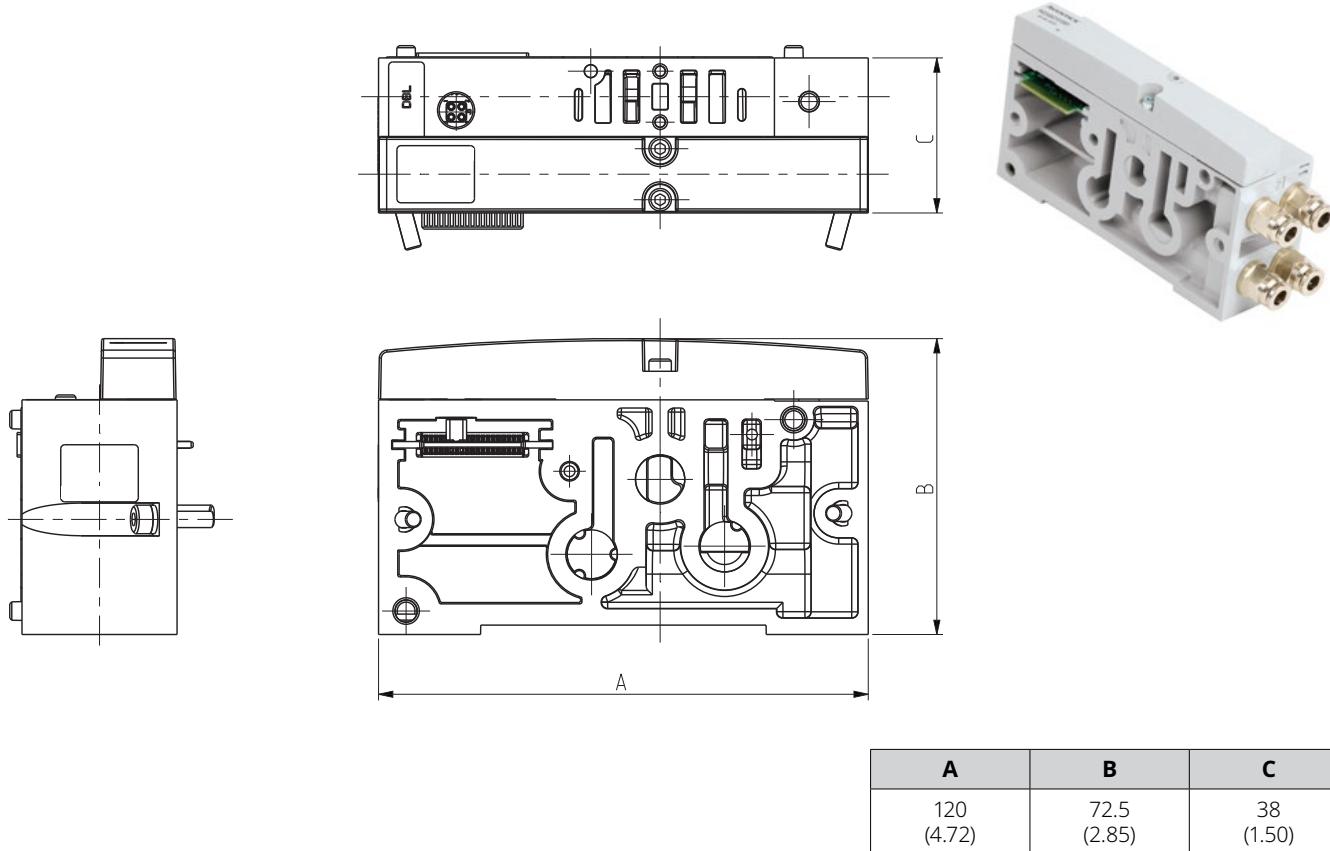
A	B	C	D	E	F	G	H	J	K	L
120.0 (4.72)	39.0 (1.54)	39.0 (1.54)	6.0 (0.24)	95.0 (3.74)	12.5 (0.49)	108.1 (4.26)	10.0 (0.39)	40.8 (1.61)	21.2 (0.83)	39.8 (1.57)

M	N	P	Q	R	S	T	U	V	W	X
25.7 (1.01)	35.7 (1.41)	53.0 (2.09)	70.3 (2.77)	84.0 (3.31)	14.8 (0.58)	42.3 (1.67)	41.6 (1.64)	58.8 (2.31)	37.3 (1.47)	123.6 (4.87)

# AVVENTICS™ Series 502 Pneumatic Valve System

Dimensions: mm (inches)

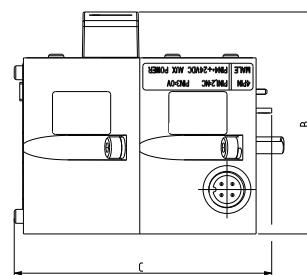
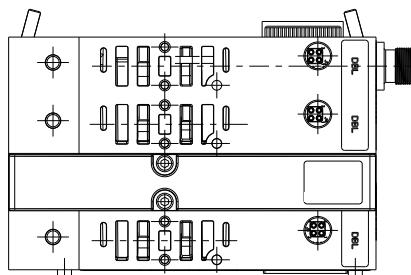
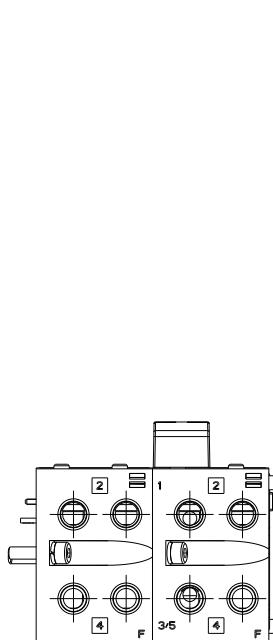
## 502 Series Mid-Station Supply Block



# AVVENTICS™ Series 502 Pneumatic Valve System

Dimensions: mm (inches)

502 Series Mid-Station Supply/Auxiliary Power Manifold Block  
with X32 Solenoid Coils Kit



Weight
lbs (kg)
1.70 (0.77)

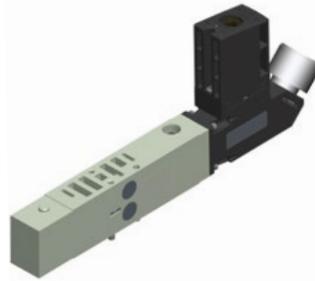
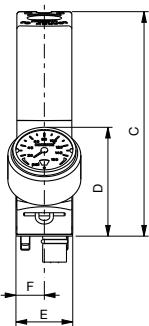
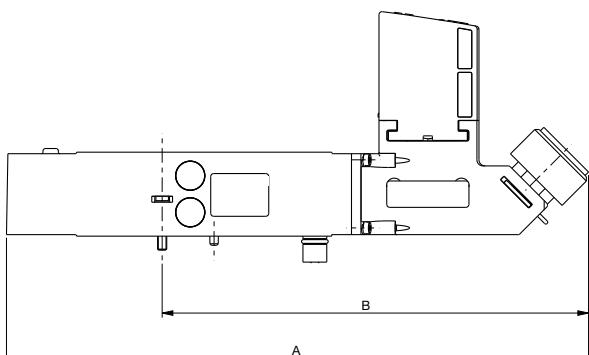
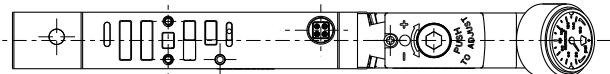
A	B	C
132.7 (5.22)	72.5 (2.85)	84 (3.31)

# AVVENTICS™ Series 502 Pneumatic Valve System

Dimensions: mm (inches)

## Sandwich Pressure Regulator

### Single Regulator

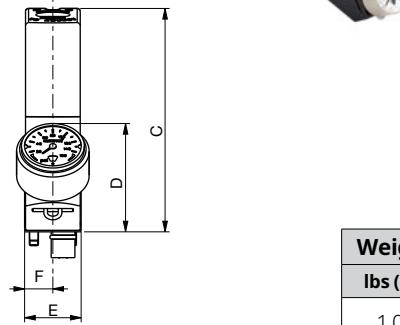
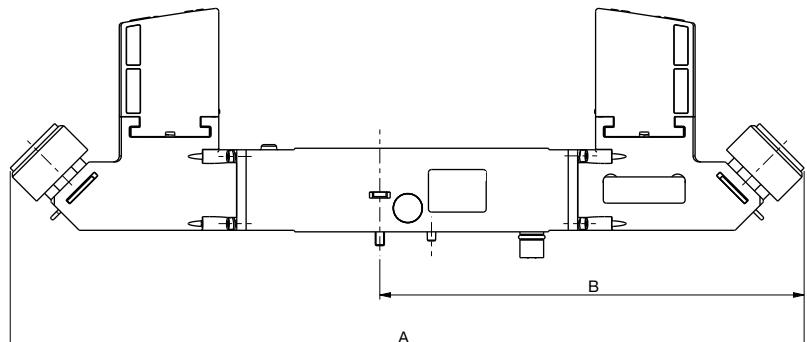
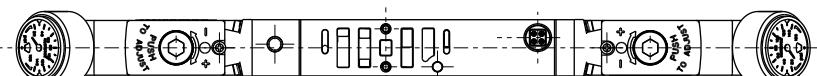


Weight
lbs (kg)
0.65 (0.30)

A	B	C	D	E	F
190.6 (7.504)	139.6 (5.496)	73.5 (2.894)	35.6 (1.402)	18.6 (0.732)	9.3 (0.366)

Dimensions: mm (inches)

### Double Regulator



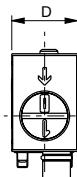
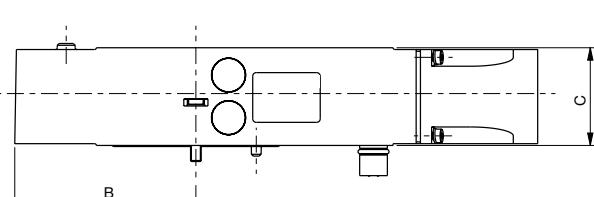
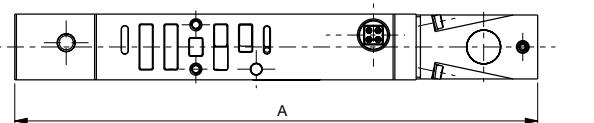
Weight
lbs (kg)
1.05 (0.48)

A	B	C	D	E	F
261.2 (10.283)	139.6 (5.496)	73.5 (2.894)	35.6 (1.402)	18.6 (0.732)	9.3 (0.366)

# AVVENTICS™ Series 502 Pneumatic Valve System

## Dimensions: mm (inches)

### Sandwich Shut Off Block Kit

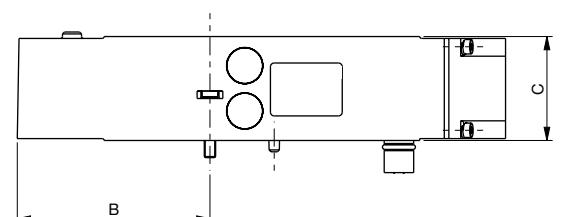
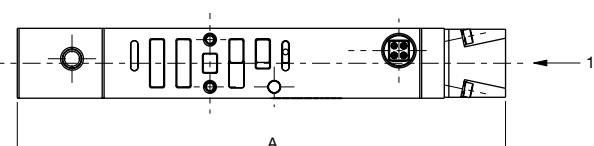


Weight
lbs (kg)
0.30 (0.14)

A	B	C	D
147.2 (5.795)	51 (2.008)	27.5 (1.083)	18.5 (0.728)

## Dimensions: mm (inches)

### Sandwich Pressure Block Kit



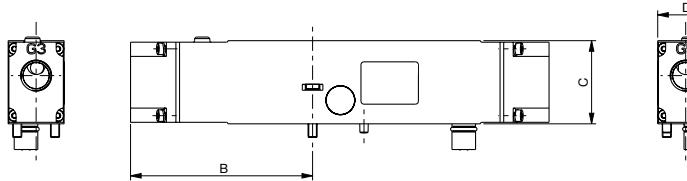
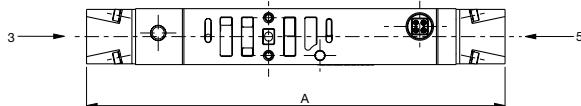
Weight
lbs (kg)
0.50 (0.23)

A	B	C	D
129.2 (5.087)	51 (2.008)	27.5 (1.083)	18.5 (0.728)

# AVVENTICS™ Series 502 Pneumatic Valve System

## Dimensions: mm (inches)

### Sandwich Exhaust Block Kit

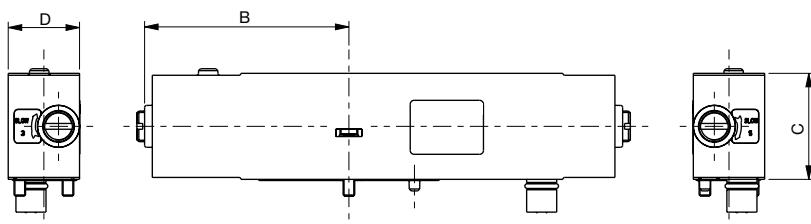
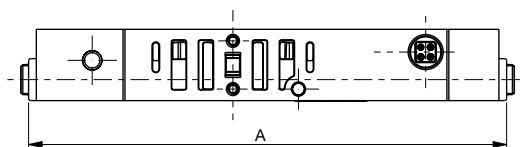


Weight
lbs (kg)
0.30 (0.14)

A	B	C	D
138.4 (5.449)	60.2 (2.37)	27.5 (1.083)	18.5 (0.728)

## Dimensions: mm (inches)

### Sandwich Speed Control Kit



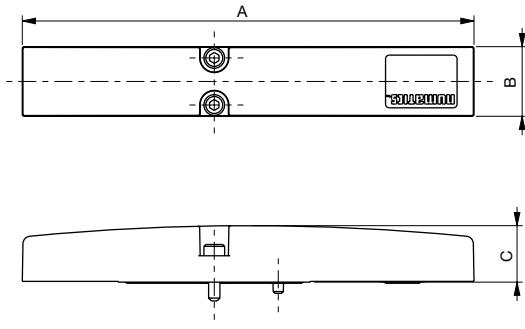
Weight
lbs (kg)
0.30 (0.14)

A	B	C	D
124 (4.882)	53 (2.087)	27.5 (1.083)	18.5 (0.728)

# AVVENTICS™ Series 502 Pneumatic Valve System

## Dimensions: mm (inches)

### Blank Station Plate Kit



Weight
lbs (kg)
0.10 (0.05)

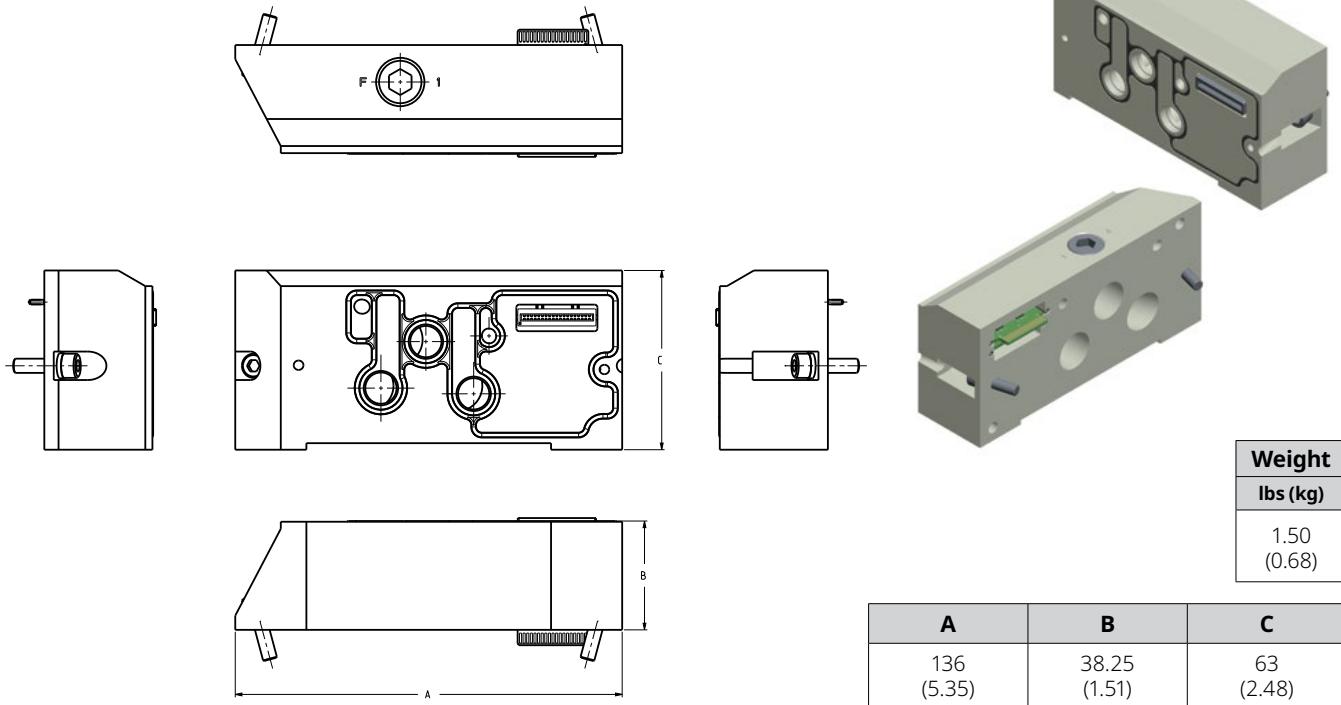
A	B	C
120 (4.724)	18.5 (0.728)	15 (0.591)

# AVVENTICS™ Series 502 Pneumatic Valve System

Dimensions: mm (inches)

## Adaptor Plate Kit

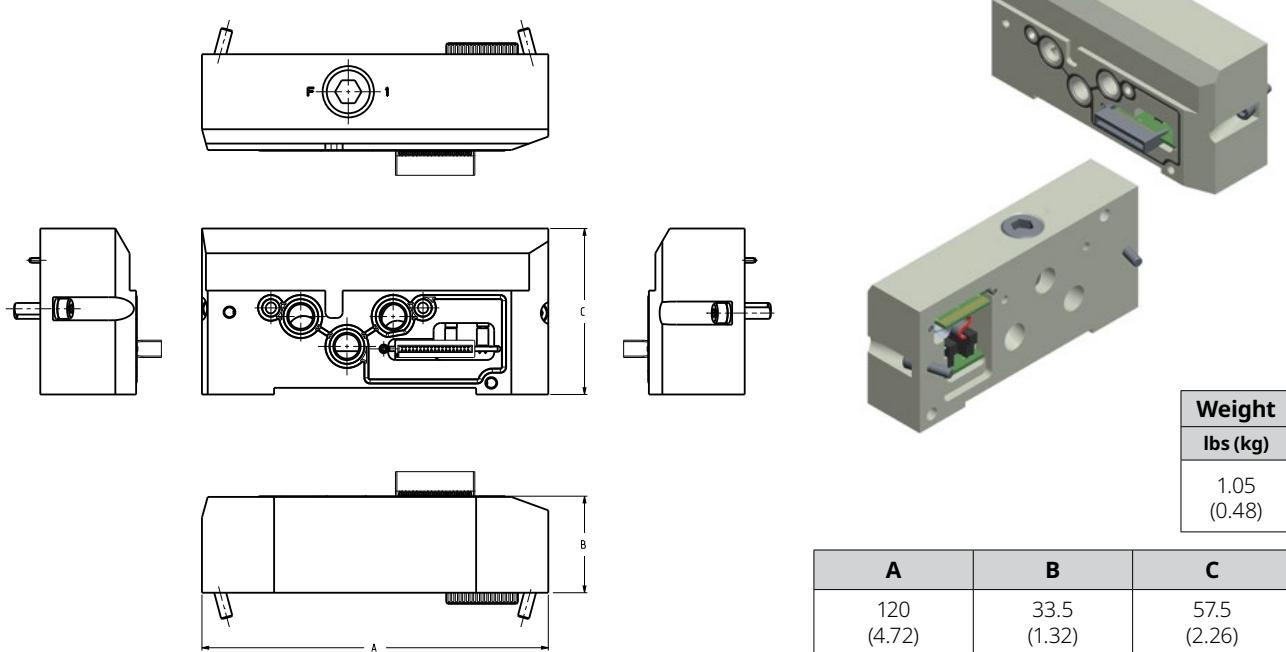
### 503 Valve Series to 502 Valve Series



Dimensions: mm (inches)

## Adaptor Plate Kit

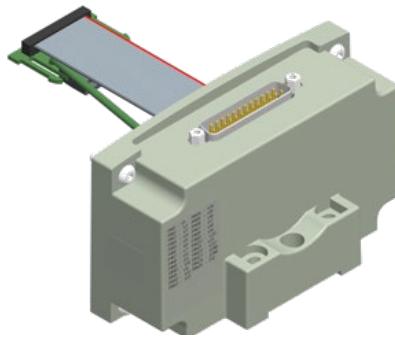
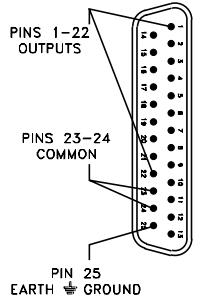
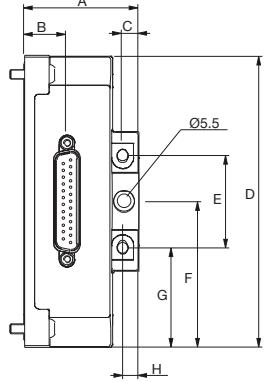
### 502 Valve Series to 501 Valve Series



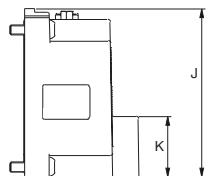
# AVVENTICS™ Series 502 Pneumatic Valve System

## Dimensions: mm (inches)

### 25 Pin Sub-D Connector Kit



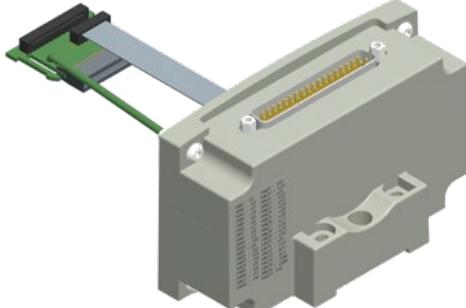
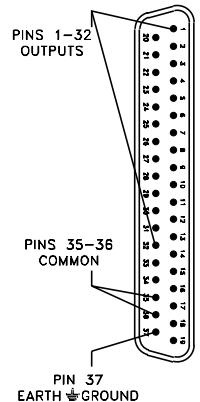
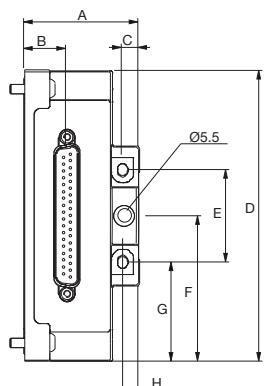
Weight
lbs (kg)
0.70 (0.32)



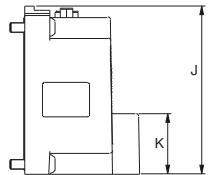
A	B	C	D	E	F	G	H	J	K
46.4 (1.827)	17 (0.669)	6.7 (0.26)	118 (4.65)	37.5 (1.48)	59 (2.32)	40.2 (1.58)	6.7 (0.26)	68.1 (2.68)	24.4 (0.96)

## Dimensions: mm (inches)

### 37 Pin Sub-D Connector Kit



Weight
lbs (kg)
0.70 (0.32)

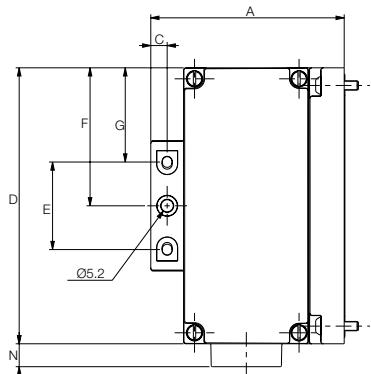


A	B	C	D	E	F	G	H	J	K
46.4 (1.827)	17 (0.669)	6.7 (0.26)	118 (4.65)	37.5 (1.48)	59 (2.32)	40.2 (1.58)	6.7 (0.26)	68.1 (2.68)	24.4 (0.96)

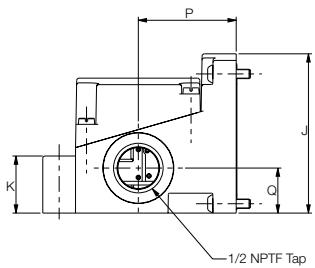
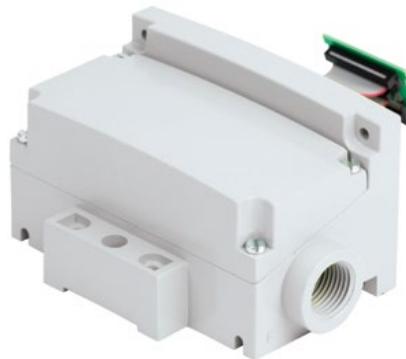
# AVVENTICS™ Series 502 Pneumatic Valve System

## Dimensions: mm (inches)

### 1-32 Terminal Strip Kit



PIN16 • V16	PIN16 • P.E.
PIN17 • V17	PIN17 • COM
PIN18 • V18	PIN18 • COM
PIN19 • V19	PIN19 • N/A
PIN20 • V14	PIN20 • V32
PIN21 • V13	PIN21 • V31
PIN22 • V12	PIN22 • V30
PIN23 • V11	PIN23 • V29
PIN24 • V10	PIN24 • V28
PIN25 • V9	PIN25 • V27
PIN26 • V8	PIN26 • V26
PIN27 • V7	PIN27 • V25
PIN28 • V6	PIN28 • V24
PIN29 • V5	PIN29 • V23
PIN30 • V4	PIN30 • V22
PIN31 • V3	PIN31 • V21
PIN32 • V2	PIN32 • V20
PIN1 • V1	PIN1 • V19

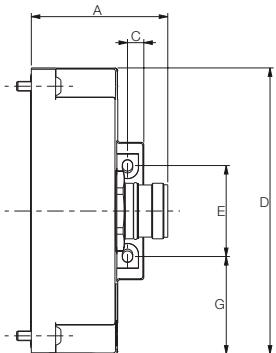
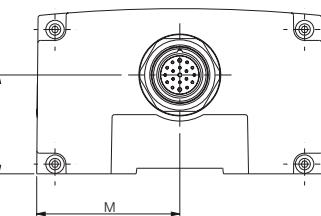
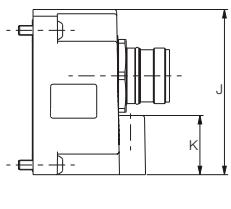


A	C	D	E	F	G	J	K	N	P	Q
82.7 (3.256)	7 (0.28)	118 (4.65)	37.5 (1.48)	59 (2.32)	40.2 (1.583)	68.1 (2.68)	24.4 (0.96)	9.8 (0.39)	41.9 (1.65)	19.3 (0.76)

Weight
lbs (kg)
1.20 (0.54)

## Dimensions: mm (inches)

### 19 Pin M23 Connector Kit



PIN1 • V15
PIN2 • V11
PIN3 • V7
PIN4 • V4
PIN5 • V3
PIN6 • COM
PIN7 • V2
PIN8 • V6
PIN9 • V10
PIN10 • V14
PIN11 • V13
PIN12 • P.E.
PIN13 • V12
PIN14 • V8
PIN15 • V1
PIN16 • V5
PIN17 • V9
PIN18 • V16
PIN19 • N/A

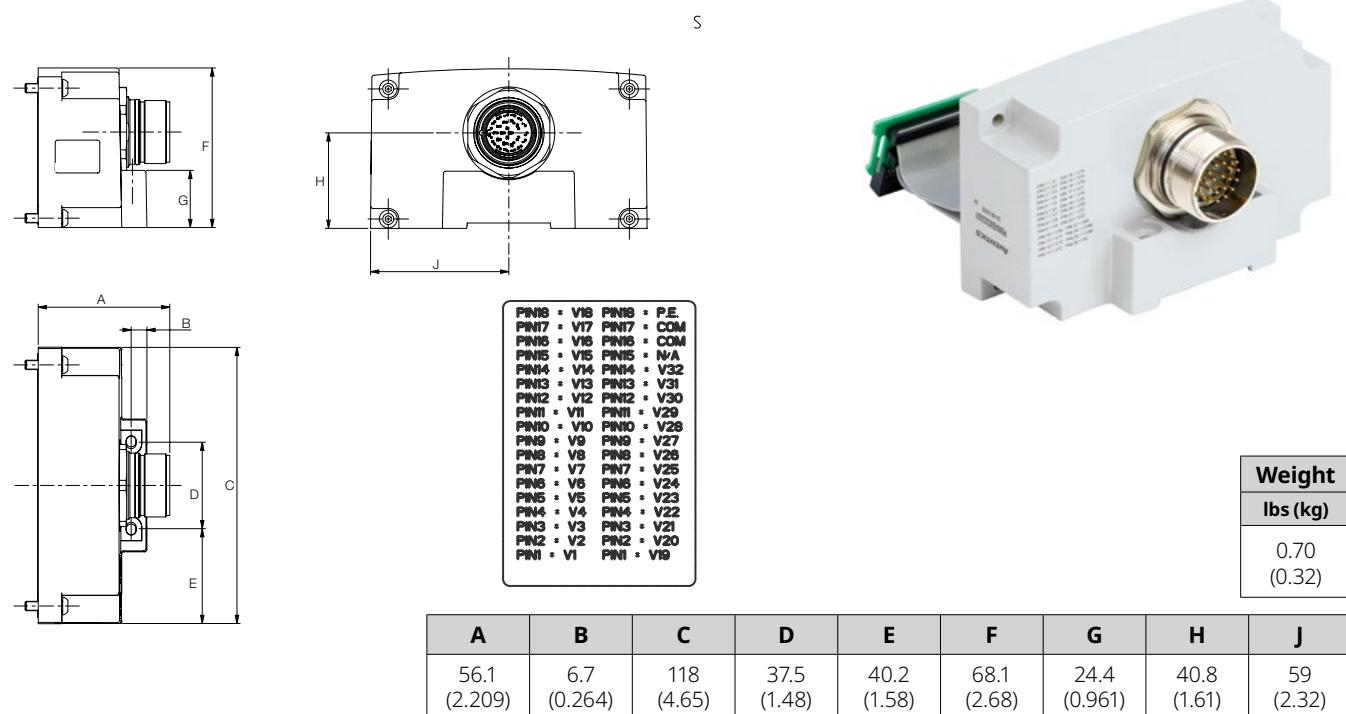
Weight
lbs (kg)
0.70 (0.32)

A	C	D	E	G	J	K	L	M
56.3 (2.217)	6.7 (0.26)	118 (4.65)	37.5 (1.48)	40.2 (1.583)	68.1 (2.68)	24.4 (0.96)	40.8 (1.61)	59 (2.323)

# AVVENTICS™ Series 502 Pneumatic Valve System

## Dimensions: mm (inches)

### 26 Pin M27 Connector Kit



## Dimensions: mm (inches)

### Robot FANUC End Effector (EE) Interface

