

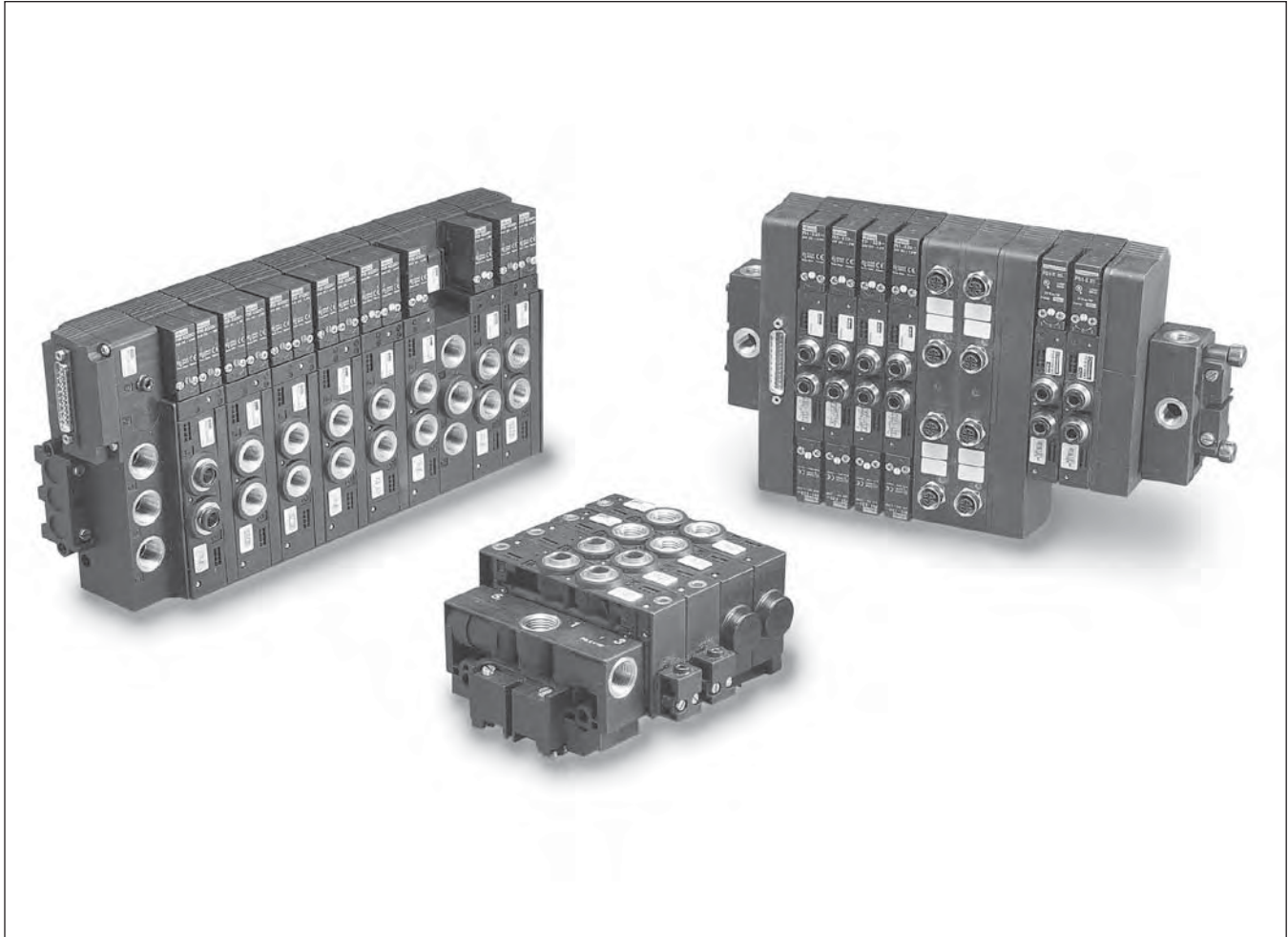


“PVL” Series

Solenoid & Remote Pilot Operated 1/8" & 1/4" Valves

Section C

www.parker.com/pneu/pvl

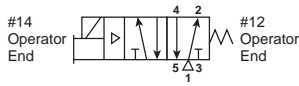


Basic Valve Functions	C60	Common Part Numbers (PVLB10 & PVLC10).....	C72-C73
Stacking Applications	C61-C62	Ordering Information Solenoids (PVLB10 & PVLC10).....	C74
Features (PVLB & PVLC).....	C63	PVLB10	C75-C76
Common Part Numbers-Stacking (PVLB & PVLC).....	C64	PVLC10	C77-C78
Accessories (PVLB & PVLC)	C65	Pin Assignments (PVLB10 & PVLC10).....	C79
Common Part Numbers-Inline (PVLB & PVLC)	C66	Technical Data.....	C80-C81
Solenoids, Electrical Connectors.....	C67-C68	Cables	C82-C83
Features (PVLB10 & PVLC10).....	C69	Accessories / Spare Parts.....	C84-C85
Stacking System Overview (PVLB10 & PVLC10).....	C70	Dimensions.....	C86-C92
Electrical Connection (PVLB10 & PVLC10).....	C71		

BOLD ITEMS ARE MOST POPULAR.



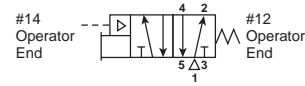
**Single Solenoid
 4-Way, 2-Position**



De-energized position – Solenoid operator #14 de-energized. Pressure at inlet port 1 connected to outlet port 2. Outlet port 4 connected to exhaust port 5.

Energized position – Solenoid operator #14 energized. Pressure at inlet port 1 connected to outlet port 4. Outlet port 2 connected to exhaust port 3.

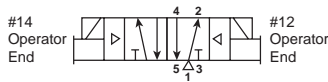
**Single Remote Pilot
 4-Way, 2-Position**



Normal position – Pressure at inlet port 1 connected to outlet port 2. Outlet port 4 connected to exhaust port 5.

Operated position – Maintained air signal at port 14. Pressure at inlet port 1 connected to outlet port 4. Outlet port 2 connected to exhaust port 3.

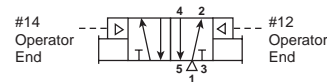
**Double Solenoid
 4-Way, 2-Position**



Solenoid operator #14 energized last. Pressure at inlet port 1 connected to outlet port 4. Outlet port 2 connected to exhaust port 3.

Solenoid operator #12 energized last. Pressure at inlet port 1 connected to outlet port 2. Outlet port 4 connected to exhaust port 5.

**Double Remote Pilot
 4-Way, 2-Position**



Momentary air signal at port 14 last. Pressure at inlet port 1 connected to outlet port 4. Outlet port 2 connected to exhaust port 3.

Momentary air signal at port 12 last. Pressure at inlet port 1 connected to outlet port 2. Outlet port 4 connected to exhaust port 5.

**Double Solenoid
 3-Position**



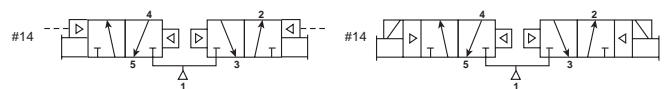
With #12 operator energized – inlet port 1 connected to cylinder port 2, cylinder port 4 connected to exhaust port 5.

With #14 operator energized – inlet port 1 connected to cylinder port 4, cylinder port 2 connected to exhaust port 3.

All Ports Blocked
 All ports blocked in the center position.

Center Exhaust
 Cylinder ports 2 and 4 connected to exhaust ports 3 and 5 in center position. Port 1 is blocked.

**Double Solenoid / Remote Pilot
 Dual 3-Way, 2-Position NC (NNP)**



With #14 & #12 operators both de-energized – pressure at inlet port 1 blocked, outlet port 4 connected to exhaust port 5, outlet port 2 connected to exhaust port 3.

With #14 operator energized – pressure at inlet port 1 connected to outlet port 4, exhaust port 5 blocked, outlet port 2 connected to exhaust port 3.

With #12 operator energized – pressure at inlet port 1 connected to outlet port 2, exhaust port 3 blocked, outlet port 4 connected to exhaust port 5.

With #14 & #12 operators both energized – pressure at inlet port 1 connected to outlet ports 4 & 2, exhaust ports 3 & 5 blocked.

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Application

The PVL Series stacking system permits assembly of several valves into one manifold. Supply is connected at either a single or dual head / tail set.* Two common exhaust galleries are provided. Connections to outlet ports #2 and #4 on each valve can be accomplished by threaded pipe or instant tube fittings.

Electrical connection is made to each solenoid utilizing a 15mm, 3-Pin connector plug (PVLB & PVLC).

Each manifold assembly can handle any combination of the following valve types:

- Single Solenoid
- Double Solenoid
- Single Remote Pilot
- Double Remote Pilot

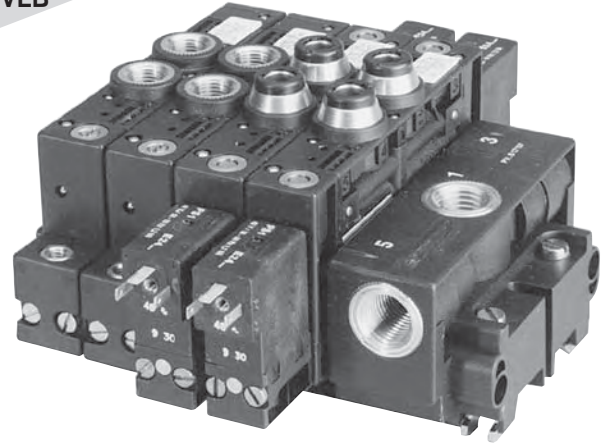
Two valve sizes can be combined in one manifold using a transition kit.

* For simultaneous operation of more than 5 valves, a dual head / tail set is recommended.

Features

- Greatly reduces installation costs.
- Reduces piping and the risk of leaks.
- Consolidates controls, saves space.
- Provides custom valving arrangements with standard components.
- Improves appearance of pneumatic equipment.
- Common main supply port.
- Allows for two common exhausts which can easily be plumbed away for cleanliness.
- Indicator lights and surge suppression available.
- Designed for 35mm DIN rail mounting. May be surface mounted by removing DIN rail clips.
- Servicing valves can be accomplished quickly without disassembling the entire manifold or removing plumbing.

PVLB



Manifold shows solenoid and remote pilot valves, threaded pipe ports, instant tube fittings, and a single supply head / tail set.

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Mounting on 35mm DIN Rail

Valve manifolds mount quickly and easily to 35mm DIN rail with the use of a pneumatic head / tail set. The dual head / tail set provides input and exhaust ports at both ends and is recommended if more than 5 valves are to be operated simultaneously.

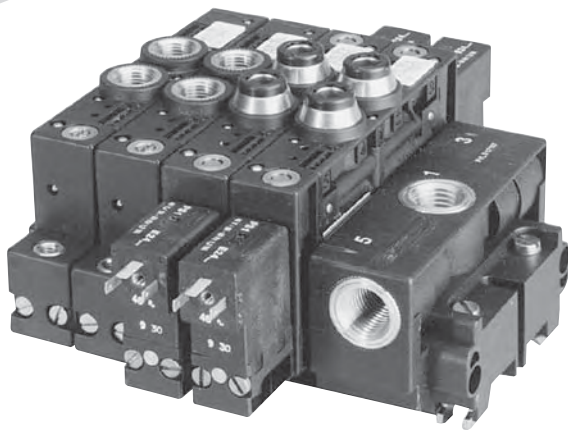
Surface Mounting

Manifolds may be surface mounted by removing the 35mm DIN mounting hardware on the pneumatic head / tail set.

Removal or Replacement

Modules are removed in reverse of the order shown at right. Before removing a module for service or replacement, loosen the *pneumatic* tail piece.

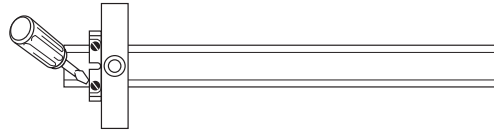
PVLB



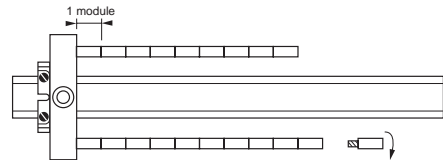
Manifold shows solenoid and remote pilot valves, threaded pipe ports, instant tube fittings, and a single supply head / tail set.

Mounting Procedure

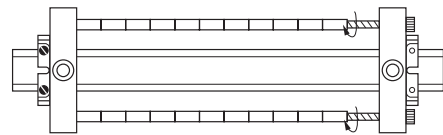
1. Clip on and tighten the pneumatic head piece.



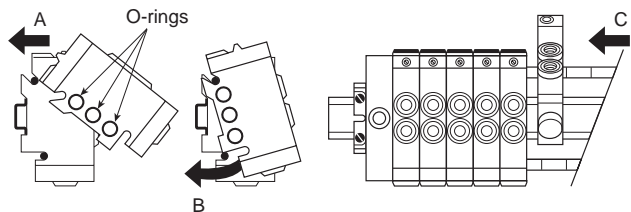
2. Assemble the two parallel mounting rods using cross rods provided with modules.



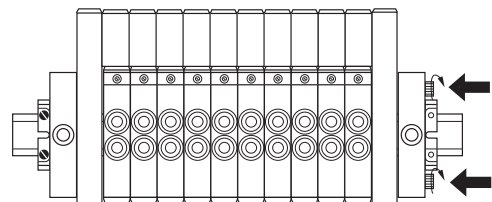
3. Clip on the pneumatic tail piece. Start screws into mounting rod but leave loose for module insertion.



4. To mount valves, position upper slot then push-lock lower slot. Mount modules (valves, modules, transition pieces, etc.) and press together.



5. Tighten the assembly.



"PVLB" Series**"PVLC" Series****Specifications**

- 4-Way, 5-Port, 2 or 3-Position Valves
- Single & Double Solenoid
- Single & Double Remote Pilot
- Dual 3/2

PVLB - .6 Cv

- 1/8" NPT & BSPP
- 1/4" & 6mm Tube Porting

PVLC - 1.2 Cv

- 1/4" NPT & BSPP
- 3/8" & 6mm Tube Porting

Mounting Style

- Stacking Manifold Valve
- DIN Rail Mounting (35mm)

Solenoid Pilot Actuation

- Continuous Duty Rated

PVLB, PVLC

- 1.2W - 12VDC & 24VDC
- 1.6VA - 24VAC, 120VAC, 240VAC
- 3-Pin, 15mm

Manual Overrides

- Brass Locking & Non-Locking

Operating Pressure

- 30 to 150 PSI (310 to 1035 kPa)

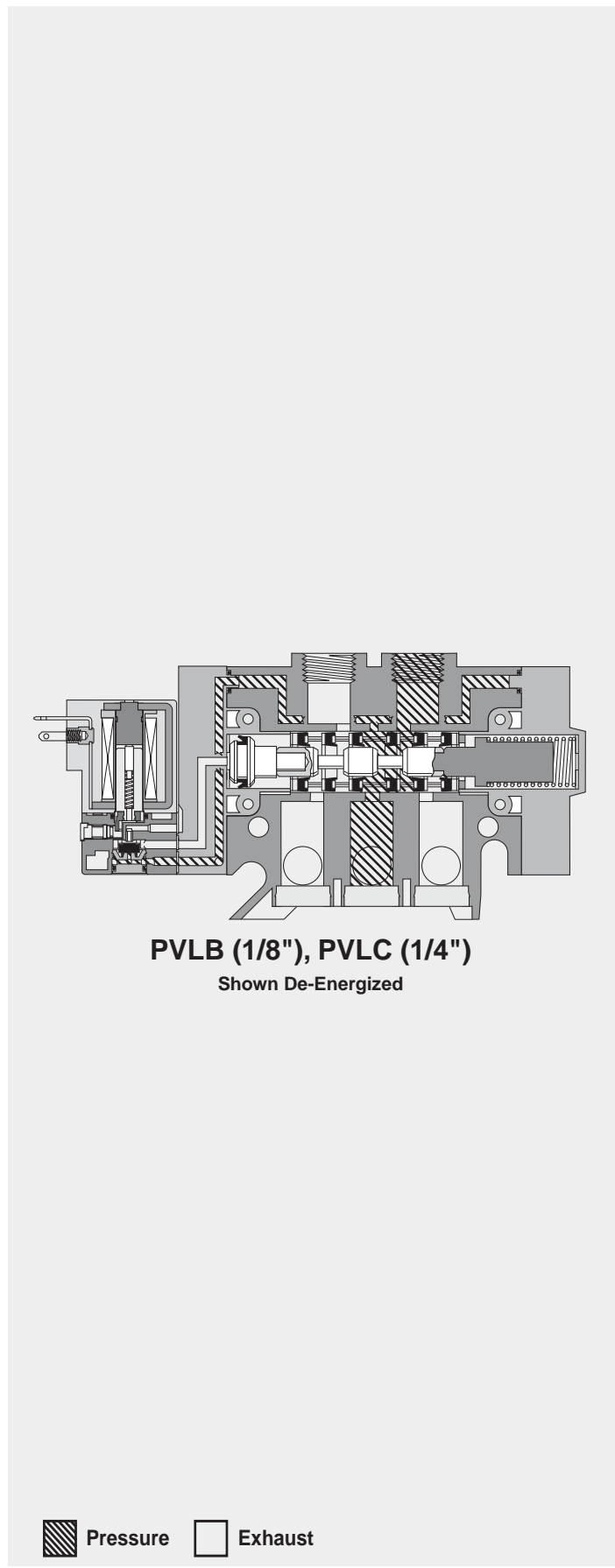
Operating Temperature

- 5°F to 140°F (-15°C to 60°C)

Certification / Approval

- Approved to be CE Marked
- UL (PVLB10 only)
- NFC 79 300

Note: DC units are polarity sensitive.

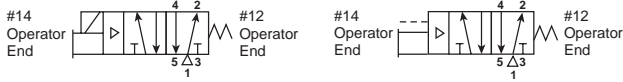
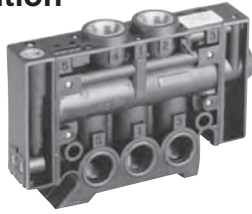


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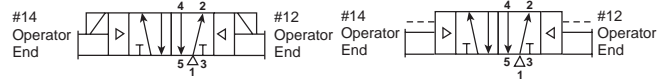
Single Solenoid / Remote Pilot
4-Way, 2-Position



Valve Only			
PVLB	PVLB121618	1/8" BSP	0.6 Cv
	PVLB1216187	1/8" NPT	
	PVLB121606	6mm Tube	
	PVLB1216067	1/4" Tube	
PVLC	PVLC1216197	1/4" NPT	1.2 Cv
	PVLC1216097	3/8" Tube	

Locking Manual Override, Valve Less Solenoid.

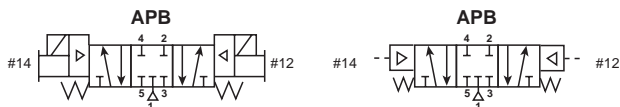
Double Solenoid / Remote Pilot
4-Way, 2-Position



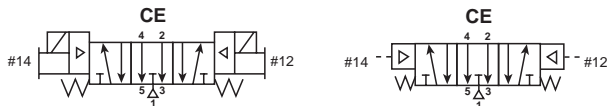
Valve Only			
PVLB	PVLB122618	1/8" BSP	0.6 Cv
	PVLB1226187	1/8" NPT	
	PVLB122606	6mm Tube	
	PVLB1226067	1/4" Tube	
PVLC	PVLC1226197	1/4" NPT	1.2 Cv
	PVLC1226097	3/8" Tube	

Non-Locking Manual Override, Valve Less Solenoid.

Double Solenoid / Remote Pilot
4-Way, 3-Position



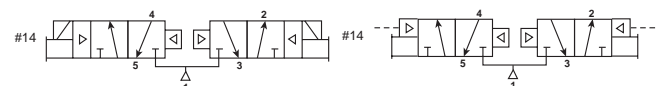
Valve Only			
PVLB	PVLB1276187	1/8" NPT	0.6 Cv
PVLC	PVLC1276197	1/4" NPT	1.2 Cv



Valve Only			
PVLB	PVLB1286187	1/8" NPT	0.6 Cv
PVLC	PVLC1286197	1/4" NPT	1.2 Cv

Non-Locking Manual Override, Valve Less Solenoid.

Double Solenoid / Remote Pilot
Dual 3/2 Normally Closed



Valve Only			
PVLB	PVLB1256187	1/8" NPT	0.6 Cv
	PVLB1256067	1/4" Tube	
PVLC	PVLC1256197	1/4" NPT	1.2 Cv

Non-Locking Manual Override, Valve Less Solenoid.

NOTES:

Solenoids or Remote Pilot Adapter must be ordered separately from page C67.

Each valve is shipped with 2 tie rods for stacking assembly.

BOLD OPTIONS ARE MOST POPULAR.

Single Supply Head / Tail Sets



Series	Model Number	Port Size
PVL	PVLB17197	1/4" NPT
	PVLB1719	1/4" BSP
PVLC**	PVLC17137	3/8" NPT
	PVLC1713	3/8" BSP

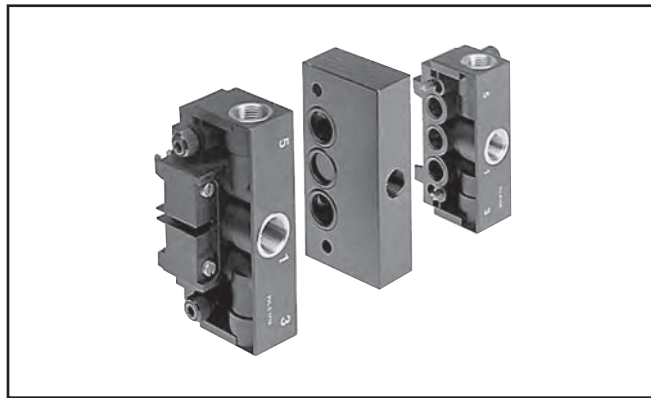
Kit includes: 1 Ported End (head) and 1 Blank End (tail) plus all necessary hardware.

* DIN rail mounting clips on both head and tail. Maximum stack length of 16 valves.

** **⚠ Caution:** DIN rail mounting clips on head piece only. Maximum stack length of 8 valves.

Note: DIN rail mounting clips may be removed for surface mounting.

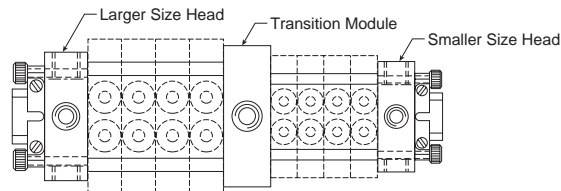
Transition Kits



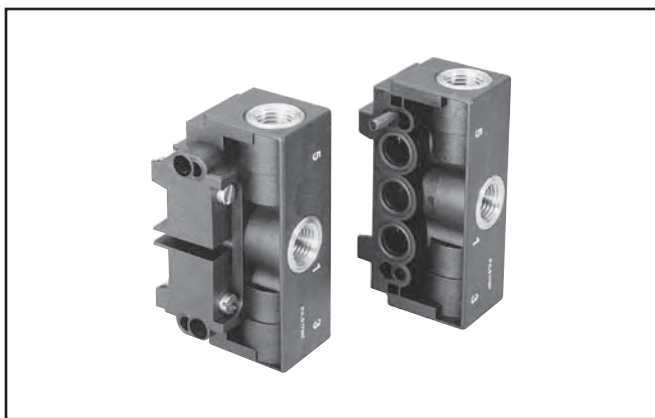
Combination	Model Number	Port Size
PVLB & PVLC	PVULCB1197	NPT
	PVULCB119	BSP

Kit enables valves of two different sizes to be combined in the same stack.

Kit includes: 2 Ported Heads (one for each valve size) and a Transition Module with an Auxiliary Supply Port. Maximum number of valves for each size is 16.



Dual Supply Head / Tail Sets



Series	Model Number	Port Size
PVLB	PVLB17297	1/4" NPT
	PVLB1729	1/4" BSP
PVLC	PVLC17237	3/8" NPT
	PVLC1723	3/8" BSP

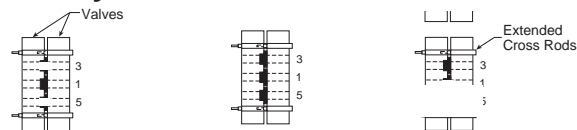
Kit includes: 2 Ported Ends (head and tail) plus all hardware. Mounts to 35mm DIN rail at both ends. Maximum stack length of 16 valves.

Note: DIN rail mounting clips may be removed for surface mounting.

Pressure Isolation Kit



Assembly Instructions



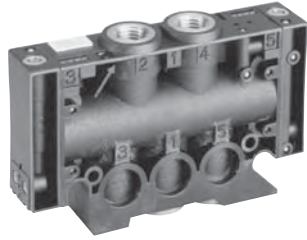
Example 1: Two different pressures P1 and P2 can supply the same bank of power valves, the exhausts remaining common.

Example 2: Complete isolation of the commons in the same bank of power valves: main pressure and exhaust commons.

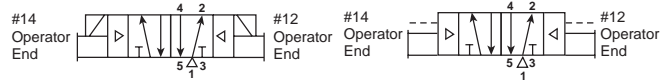
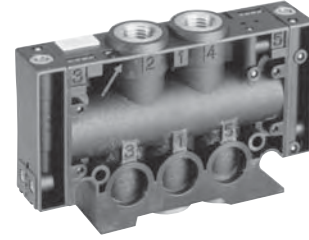
Example 3: The exhaust commons can be isolated within the same bank of power valves, while the main pressure supply remains common.

Series	Model Number	Kit includes:
PVLB	PVLB1901	3 isolation plugs, 2 open port plugs and 2 extended cross rods.
PVLC	PVLC1901	
PVLB	PVLB1902	10 isolation discs and 10 O-rings.
PVLC	PVLC1902	

Single Solenoid / Remote Pilot
4-Way, 2-Position



Double Solenoid / Remote Pilot
4-Way, 2-Position



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Valve Only			
PVLB	PVLB111618	1/8" BSP	0.6 Cv
	PVLB1116187	1/8" NPT	
	PVLB1116067	1/4" Tube	
PVLC	PVLC1116197	1/4" NPT	1.2 Cv
	PVLC1116097	3/8" Tube	

Solenoids or Remote Pilot Adapter must be ordered separately from page C67.

Valve Only			
PVLB	PVLB112618	1/8" BSP	0.6 Cv
	PVLB1126187	1/8" NPT	
	PVLB1126067	1/4" Tube	
PVLC	PVLC1126197	1/4" NPT	1.2 Cv
	PVLC1126097	3/8" Tube	

Solenoids or Remote Pilot Adapter must be ordered separately from page C67.

NOTE: BOLD OPTIONS ARE MOST POPULAR.

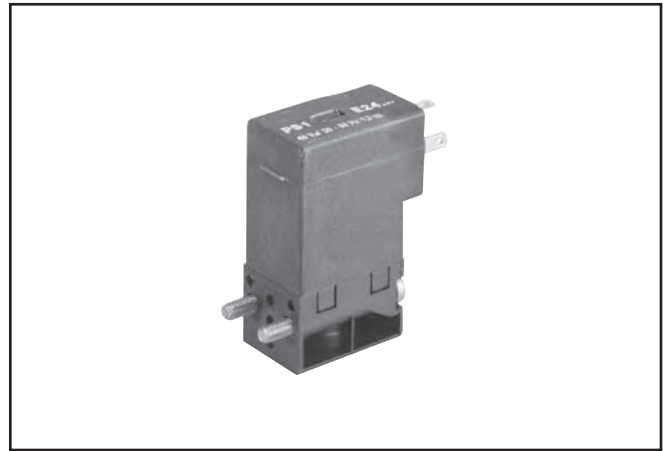
**PVLB & PVLC 3-Pin,
15mm Solenoids, Non-Locking,
Flush Override (w/o electrical connectors)**

Voltage	8mm Pin Spacing Kit Number	8mm Pin Spacing Solenoid	Power Consumption
12VDC	PS2982B45P	P2E-KV32B1	1.2W
24VDC	PS2982B49P	P2E-KV32C1	1.2W
24V-50/60Hz	PS2982B42P	P2E-KV31C1	1.6VA
120V/60Hz	PS2982B53P	P2E-KV31F1	1.6VA
240V/60Hz	PS2982B57P	P2E-KV31J1	1.6VA

Notes:

Kit includes: solenoid, (2) machine screws, (2) self threading screws, (1) gasket, (1) 3-cell gasket.

Electrical connectors must be ordered separately from the chart shown on page C68.



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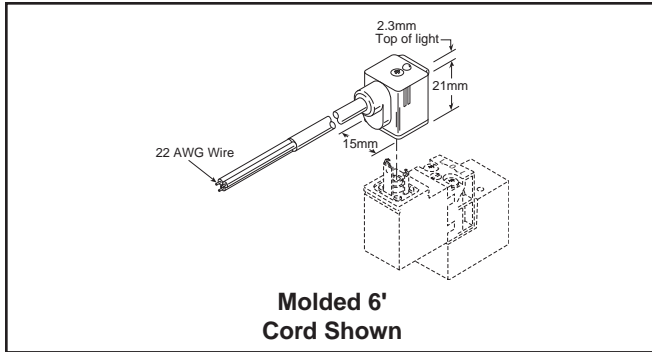
**Remote Pilot Connectors
PVLB (1/8") & PVLC (1/4") Valves**

Model Number	Port Fitting
PVAP111	5/32" Tube
PVAP115	10-32 UNF (M5)

Supplied with two screws to quickly mate with the valve body.



Female Electrical Connectors
15mm 3-Pin DIN 43650C - 8mm



Connector	Connector with Cord	Description
PS2932BP	PS2932HBP 18 Inches	Unlighted
PS2932BP	PS2932JBP 6 Feet	Unlighted
PS294675BP	PS2946J75BP* 6 Feet	Light – 12VAC or DC
PS294679BP	PS2946J79BP* 6 Feet	Light – 24VAC or DC
PS294683BP	PS2946J83BP* 6 Feet	Light – 110/120VAC
PS294687BP	N/A	Light – 240/230VAC

* LED with surge suppression.

Note: Max ø6.5mm cable size required for connector w/o 6' (2m) cord.
 IP65 rated when properly installed.

Engineering Data:

- Conductors: 2 Poles Plus Ground
- Cable Range (Connector Only): 4 to 6mm (0.16 to 0.24 Inch)
- Contact Spacing: 8mm

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"PVLB10" Series

"PVLC10" Series

Specifications

- 4-Way, 5-Port, 2 or 3-Position Valves
- Single & Double Solenoid
- Dual 3/2 Valves

PVLB10 - 0.6 Cv

- 1/8" NPT & BSPP
- 1/4" & 6mm Tube Porting

PVLC10 - 1.2 Cv

- 1/4" NPT & BSPP
- 3/8" & 8mm Tube Porting

Mounting Style

- DIN Rail Mounting (35mm)
- Stacking Manifold Valve

Solenoid Pilot Actuation

- Low watt solenoid pilots: 1.2W/1.6VA
- Lights & Surge Suppression Standard
- 12VDC to 120VAC

Operating Pressure

- 30 to 150 PSI (310 to 1035 kPa)

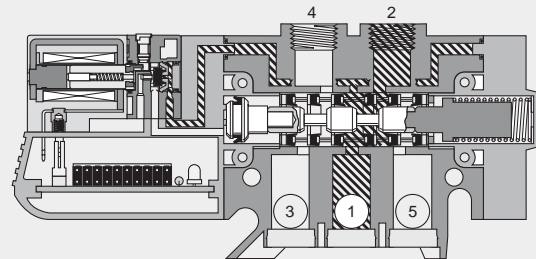
Operating Temperature

- 5°F to 140°F (-15°C to 60°C)

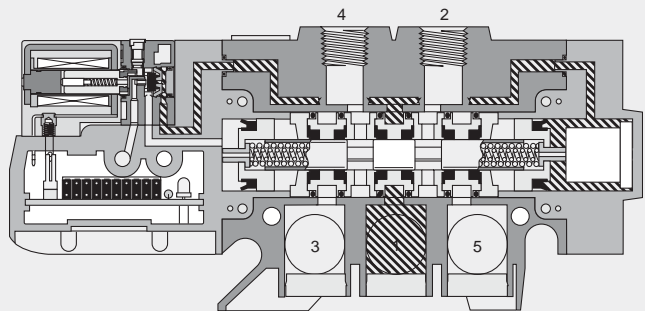
Certification / Approval

- Approved to be CE Marked
- IP65

Note: DC units are polarity sensitive.



PVLB10 Single Solenoid
Shown De-Energized



PVLC10 3-Position APB

 Pressure  Exhaust

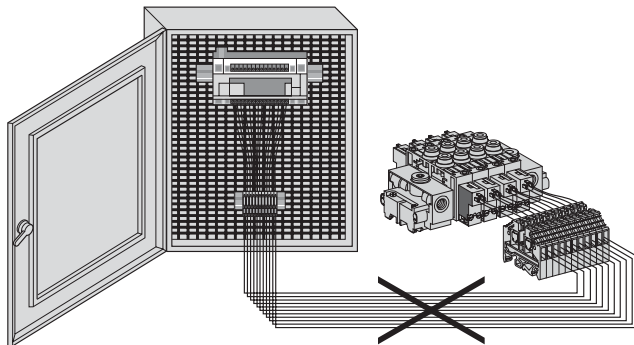
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Simplified Electrical Wiring

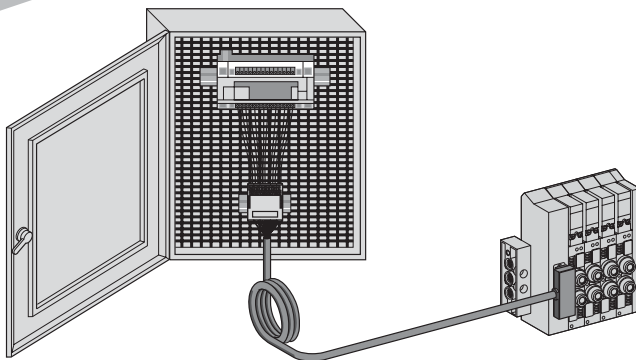
Eliminate costly wiring of individual solenoids with compact PVLB10 or PVLC10 stacks of up to 16 modules with built-in electrical connectors.



Simplified Setup

A single cable provides electrical connection to PLC or special terminal block.

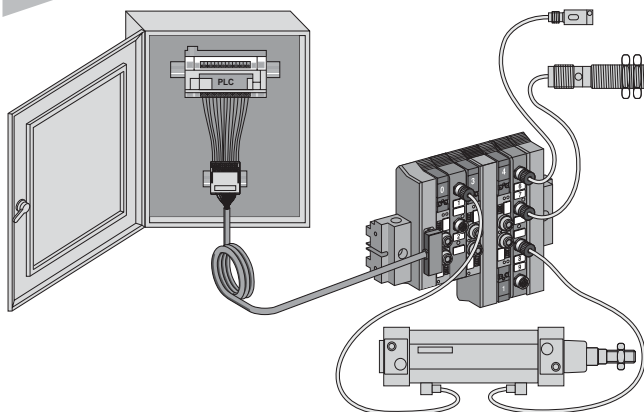
PVLB10



External Connections

External connection modules with PVLB10 valves allow sensor feedback or output connections to be integrated into the valve stack.

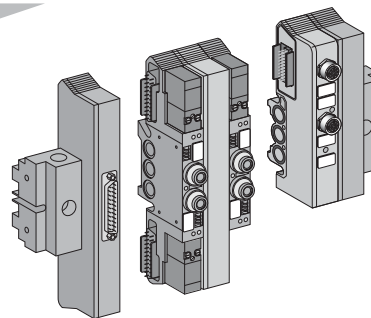
PVLB10



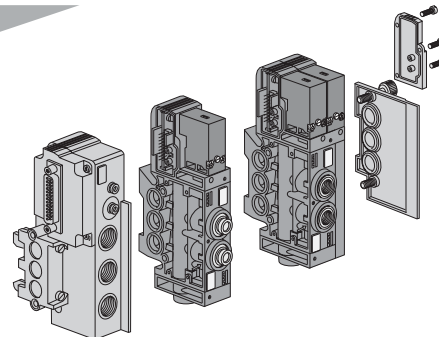
Modular Stacking

- The modular stacking system permits easy assembly of valves and external connection modules into a single stack.
- Integral supply and exhaust ports are manifolded as the stack is assembled.
- Intermodular electrical connection is accomplished through integral 20-Pin electrical connectors, eliminating the need for harnessing or wiring within the stack.
- PVLB10 single and double solenoid valves can be combined into one stack with the use of transition modules.
- PVLC10 single and double solenoid valves can be combined into one stack without any transition modules.
- The electrical head / tail set provides a single electrical connection from the stack to a PLC or terminal block.
- Each stack mounts easily to 35mm DIN rail by means of a pneumatic head / tail set, which also provides common air supply and exhaust.

PVLB10



PVLC10



Stacking System Benefits

- Reduces wiring, saves space.
- Allows custom arrangements with standard components.
- Further reduces wiring by integrating feedback and output connections into the PVLB10 valve stack.
- Greatly reduces installation time and costs.
- Servicing valves can be accomplished quickly without disassembling the entire stack.

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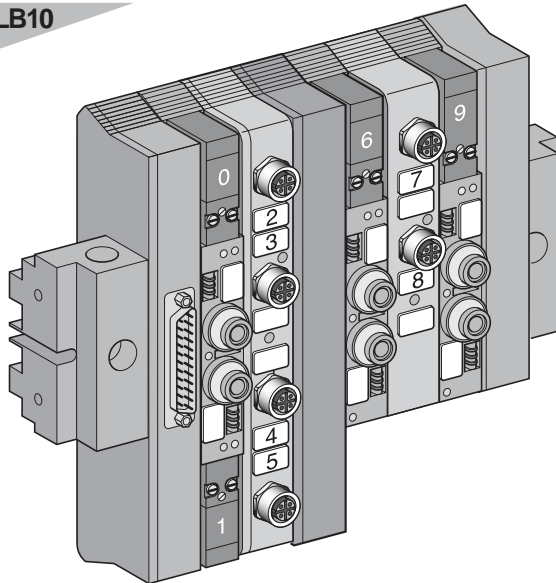
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PVL

Autoconfiguration

The construction of the stack determines the relationship of each connector pin and the device it is to control. The address of each solenoid valve and each feedback or output connection is based on its physical position in the stack. For PVLB10, addresses are assigned consecutively from top to bottom and left to right beginning at top left with 0. For PVLC10, addresses are assigned consecutively from left to right and beginning at top left with 0.

PVLB10



It is easy to add or remove one or more modules to adapt to machine modifications. Once the controller is programmed, however, it is recommended that, where possible, the addition or permanent removal of any module be done at the tail (right-hand) end of the stack to prevent affecting the addresses of other modules in the stack. A change in address requires reprogramming of the controller.

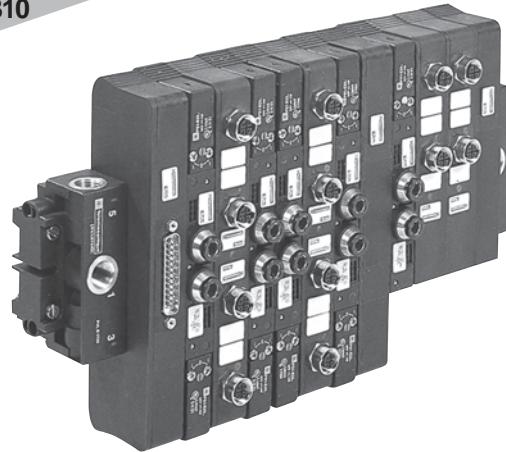
Connector Options

PVLB10



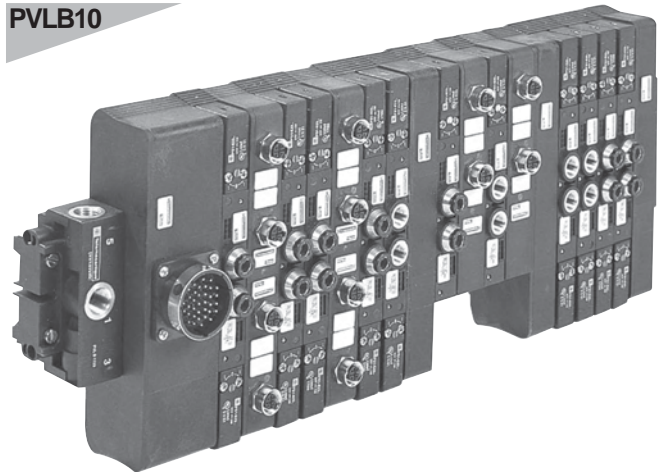
**25-Pin Connector, Single Size Stack
Maximum 16 Addresses**

PVLB10



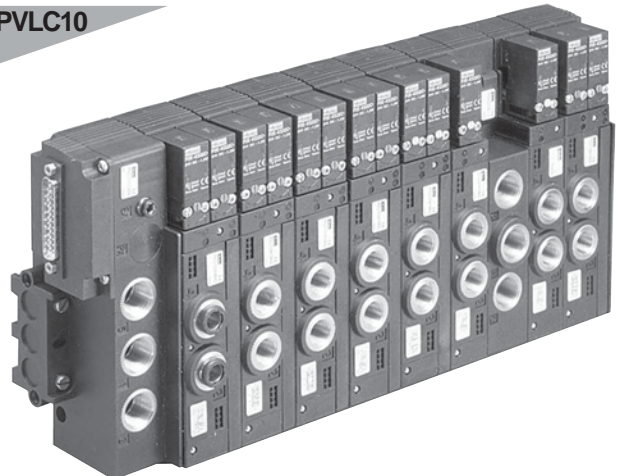
**25-Pin Connector, Dual Size Stack
Maximum 21 Addresses**

PVLB10



**35-Pin Connector, Dual Size Stack
Maximum 32 Addresses**

PVLC10



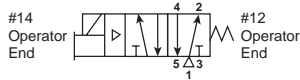
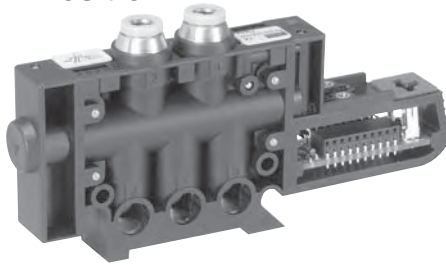
**25-Pin Connector,
Maximum 16 Addresses**



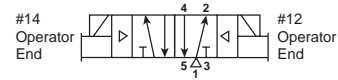
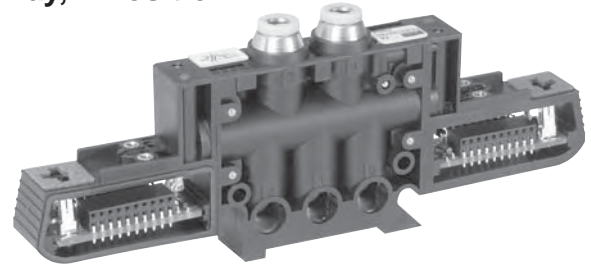
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Single Solenoid
4-Way, 2-Position



Double Solenoid
4-Way, 2-Position

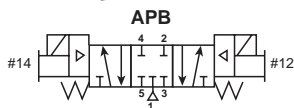
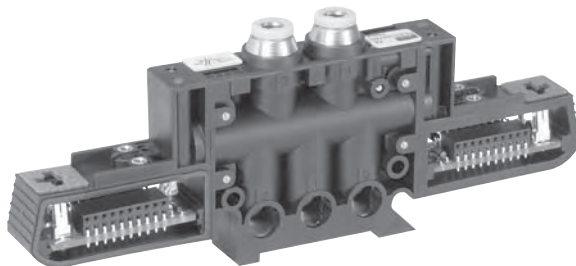


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PVL

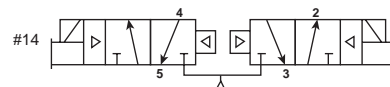
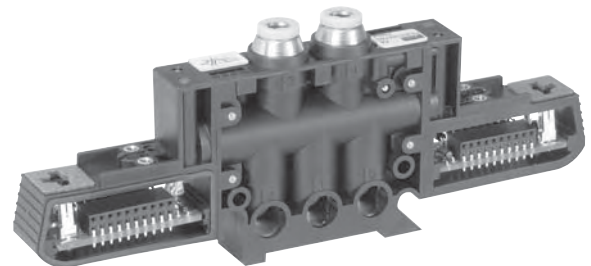
Valve Only				
PVLB10	PVLB1016187W2	1/8" NPT	12-24 VDC	0.6 Cv
	PVLB1016187W1		24-120 VAC	
	PVLB1016067W2	1/4" Tube	12-24 VDC	
	PVLB1016067W1		24-120 VAC	

Valve Only				
PVLB10	PVLB1026187W2	1/8" NPT	12-24 VDC	0.6 Cv
	PVLB1026187W1		24-120 VAC	
	PVLB1026067W2	1/4" Tube	12-24 VDC	
	PVLB1026067W1		24-120 VAC	

Double Solenoid
4-Way, 3-Position APB

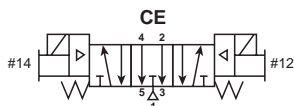


Double Solenoid
Dual 3/2 Normally Closed



Valve Only				
PVLB10	PVLB1076187W2	1/8" NPT	12-24 VDC	0.6 Cv
	PVLB1076187W1		24-120 VAC	
	PVLB1076067W2	1/4" Tube	12-24 VDC	
	PVLB1076067W1		24-120 VAC	

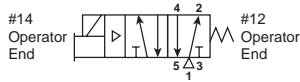
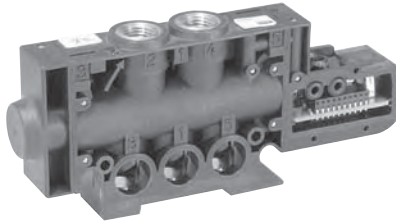
Valve Only				
PVLB10	PVLB1056187W2	1/8" NPT	12-24 VDC	0.6 Cv
	PVLB1056187W1		24-120 VAC	



Valve Only				
PVLB10	PVLB1086187W2	1/8" NPT	12-24 VDC	0.6 Cv
	PVLB1086187W1		24-120 VAC	
	PVLB1086067W2	1/4" Tube	12-24 VDC	
	PVLB1086067W1		24-120 VAC	

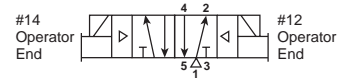
NOTES:
Solenoids sold separately on page C74.
Part Numbers Do Not include Solenoids.
BOLD OPTIONS ARE MOST POPULAR.

Single Solenoid
4-Way, 2-Position



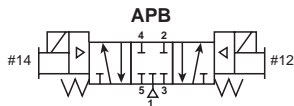
Valve Only				
PVLC10	PVLC1016197W2	1/4" NPT	12-24 VDC	1.2 Cv
	PVLC1016197W1		24-120 VAC	
	PVLC1016097W2	3/8" Tube	12-24 VDC	
	PVLC1016097W1		24-120 VAC	

Double Solenoid
4-Way, 2-Position



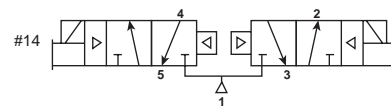
Valve Only				
PVLC10	PVLC1026197W2	1/4" NPT	12-24 VDC	1.2 Cv
	PVLC1026197W1		24-120 VAC	
	PVLC1026097W2	3/8" Tube	12-24 VDC	
	PVLC1026097W1		24-120 VAC	

Double Solenoid
4-Way, 3-Position APB

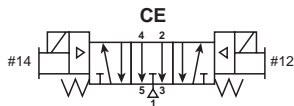


Valve Only				
PVLC10	PVLC1076197W2	1/4" NPT	12-24 VDC	1.2 Cv
	PVLC1076197W1		24-120 VAC	

Double Solenoid
Dual 3/2 Normally Closed



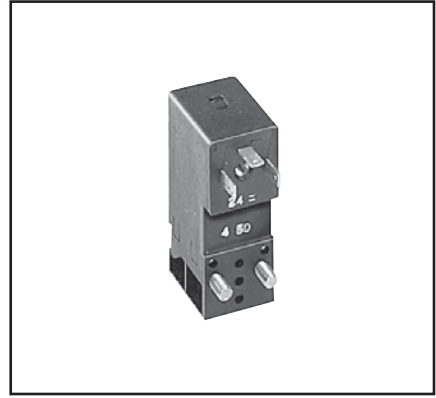
Valve Only				
PVLC10	PVLC1056197W2	1/4" NPT	12-24 VDC	1.2 Cv
	PVLC1056197W1		24-120 VAC	



Valve Only				
PVLC10	PVLC1086197W2	1/4" NPT	12-24 VDC	1.2 Cv
	PVLC1086197W1		24-120 VAC	

NOTES:
Solenoids sold separately on page C74.
 Part Numbers Do Not include Solenoids.
BOLD OPTIONS ARE MOST POPULAR.

**PVLB10 & PVLC10 3-Pin,
 15mm Solenoids / Kits
 (8mm Pin Spacing) DIN43650C**



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Voltages	Power Consumption	Holding Current	Id (Drop-Out Current)*	Kit Numbers With Non-Locking Flush Manual Override	Solenoid Only	Kit Numbers With Locking Flush Manual Override	Solenoid Only
12VDC	1.2W	100 mA	10 mA	PS3441B45P	P2E-KS32B1	PS3441C45P	P2E-KS32B2
24VDC	1.2W	50 mA	5 mA	PS3441B49P	P2E-KS32C1	PS3441C49P	P2E-KS32C2
24VAC	1.6VA	65 mA	22 mA	PS3441B42P	P2E-KS31C1	PS3441C42P	P2E-KS31C2
110VAC, 50Hz 120VAC, 60Hz	1.6VA	13.3 mA	5 mA	PS3441B53P	P2E-KS31F1	PS3441C53P	P2E-KS31F2

* When using a programmable controller, be sure that the leakage current of the controller outputs is lower than the drop-out current value.

Notes:

Kit includes: Solenoid, (2) machine screws, (2) self threading screws, (1) gasket, (1) 3-cell gasket, (1) L-shaped 3-cell gasket.

Constructing a PVLB10 Stack

When constructing a stack, the following rules apply:

1. A stack must have a pneumatic and an electrical head / tail set.
2. A stack has a physical limit of 16 active modules (valves, feedback modules and output modules), regardless of whether they are double or single.
3. Single feedback and output modules must be stacked with single solenoid valves, and double feedback and output modules must be stacked with double solenoid valves.
4. Double and single modules can be combined in a stack with the use of a transition module. A stack order of double to single is recommended to maximize the number of possible addresses.

CAUTION: If the application requires simultaneous operation of valves and/or external connection modules, see Technical Data page for operating limits.

Addressing

Addresses are automatically assigned to each solenoid and each external connection based on its position in the stack. Addresses are numbered consecutively from top to bottom and left to right beginning at the top left of the stack with 0.

To find the total number of addresses that will be required for a stack, calculate the following for each type of module based on table below and total:

Addresses x Quantity of Units = Addresses Required

Type of Module	Addresses Assigned	Quantity In stack	Addresses Required
Double solenoid valve	2	x	=
Double ck module	4	x	=
Double output module	4	x	=
Single solenoid valve	1	x	=
Single feedback module	2	x	=
Single output module	2	x	=
TOTAL ADDRESSES			=

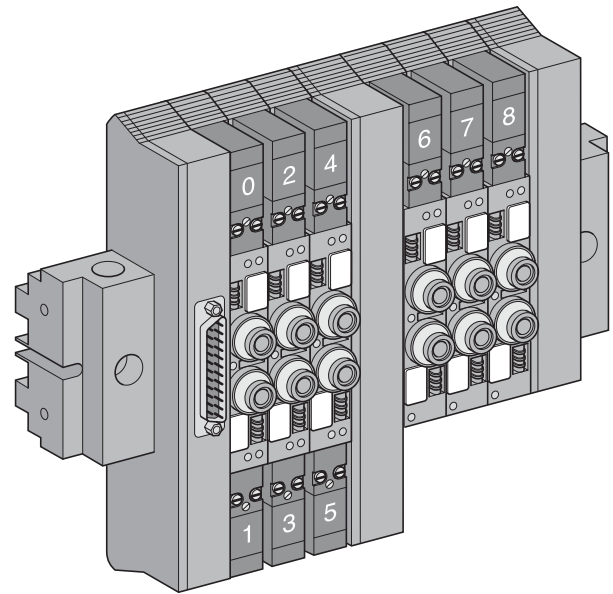
Electrical Connection

When selecting the electrical head / tail set, the following must be considered:

1. The size (double or single) of the electrical head piece must match that of the first module to its right.
2. The electrical connector must provide sufficient addresses for the stack.

The number of addresses possible with each type of head / tail set is shown in the following table. Based on the head type needed, select the connector that provides sufficient addresses for the stack.

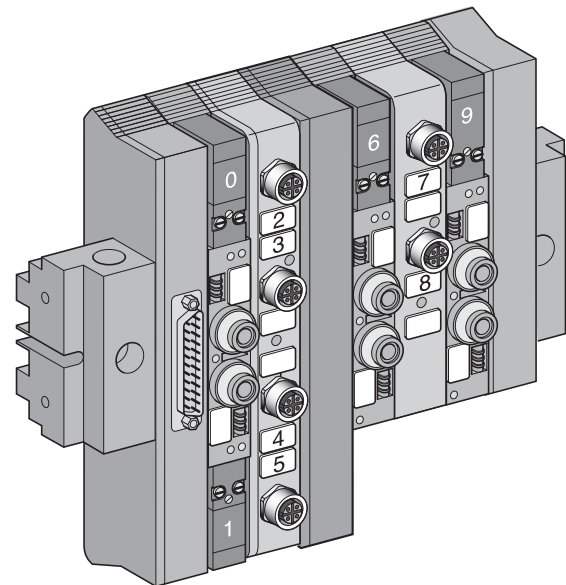
PVLB10



Double Solenoid to Single Solenoid Valve Manifold with 25-Pin Connector:

6 valves

9 addresses



Double Solenoid to Single Solenoid Mixed Manifold with 25-Pin Connector:

5 active modules

10 addresses

Head Type	Connector	Possible Addresses
Single Solenoid	25-Pin	16
Double Solenoid	25-Pin	21
	35-Pin	32

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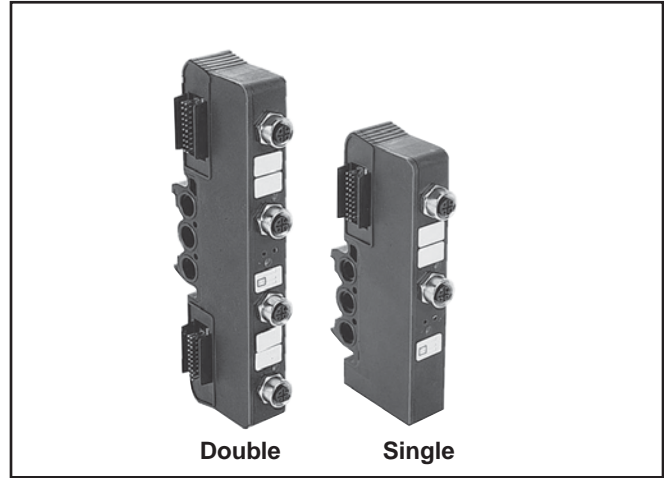
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External Connection Modules

With 20-Pin intermodular system and 12mm (mini) connectors, these modules can be combined with valves and/or other modules. Feedback modules supply voltage to sensors and accept signals for communication back to the PLC. Feedback modules can be used for PNP or NPN sensors, indicator lights will only work on PNP sensors. Output modules allow connection and control of valves mounted externally from the stack.

Type	Size	Connections	Model Number
Feedback	Single	2 Inputs	PVLB1E1302
	Double	4 Inputs	PVLB1E2304
Output	Single	2 Outputs	PVLB1S1302
	Double	4 Outputs	PVLB1S2304



Double

Single

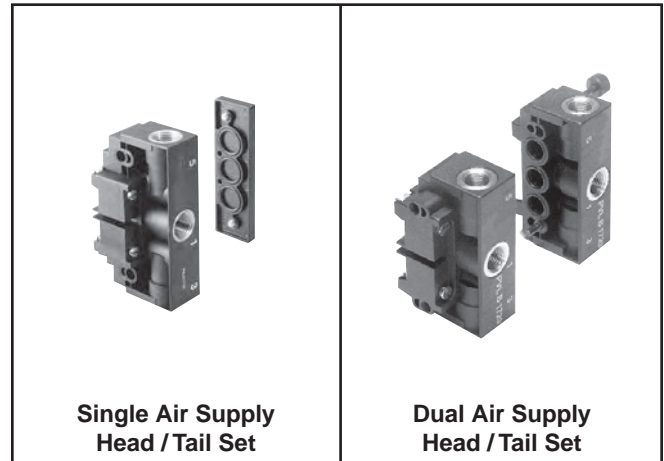
Head / Tail Sets

Pneumatic

Single air supply head / tail are used for shorter manifolds and dual air supply head / tail are used for longer manifolds.

Dual air supply head / tail sets contains 2 ported ends plus all hardware. Clamps to 35mm DIN rail. Removing 35mm hardware provides mounting holes for surface mounting. Single air supply head / tail sets clamp on one side only, Dual air supply head / tail sets clamp on both sides.

Type	Port Size	Model Number
Single Supply	1/4" NPT	PVLB17197
	1/4" BSP	PVLB1719
Double Supply	1/4" NPT	PVLB17297
	1/4" BSP	PVLB1729



Single Air Supply Head / Tail Set

Dual Air Supply Head / Tail Set

Pressure Isolating Disc

Description	Model Number
Sold in lots of 10.	PVLB1902

Electrical

For use with manifolds of all single solenoid valves or all double solenoid valves. Provides electrical link between all functions in the stack and the PLC.

Size	Connector	Model Number
Single Solenoid	25-Pin (Male), D-Sub	PVLB191125
Double Solenoid	25-Pin (Male), D-Sub	PVLB192125
	35-Pin (Male)	PVLB192235



Single Size Stacks

For use with manifolds using both single and double solenoid valves. Provides electrical connection to PLC and transition between single and double solenoid valves.

Valve Order	Connector	Model Number
Double Solenoid then Single Solenoid	25-Pin (Male), D-Sub	PVLB194125
	35-Pin (Male)	PVLB194235
Single Solenoid then Double Solenoid	25-Pin (Male), D-Sub	PVLB193125



Dual Size Stacks



Constructing a PVLC10 Stack

When constructing a stack, the following rules apply:

1. A stack must have a pneumatic and an electrical head / tail set.
2. A stack has a physical limit of 16 solenoids.
3. Single and double solenoid valves can be combined into one stack without any transition module.

⚠ CAUTION: If the application requires simultaneous operation of valves and/or external connection modules, see Technical Data page for operating limits.

Addressing

Addresses are automatically assigned to each solenoid and each external connection based on its position in the stack. Addresses are numbered consecutively from left to right beginning at the top left of the stack with 0.

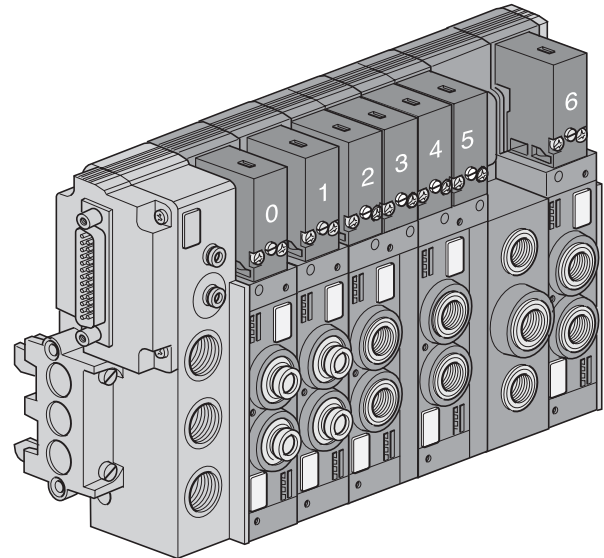
To find the total number of addresses that will be required for a stack, calculate the following for each type of module based on table below and total:

Addresses x Quantity of units = Addresses Required

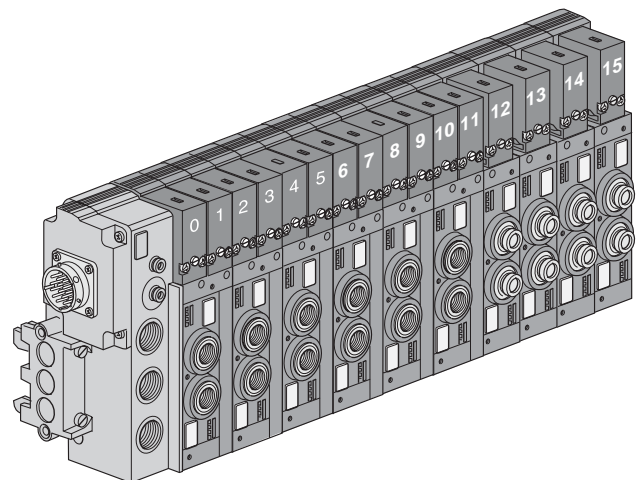
Type of Module	Addresses Assigned	Quantity In stack	Addresses Required
Double solenoid valve	2	x	=
Single solenoid valve	1	x	=
TOTAL ADDRESSES			=

Head Type	Connector Possible Addresses
25-Pin	16
19-Pin	16

PVLC10



25-Pin Connector with Intermediate Air Supply Module:
5 valves
7 addresses



19-Pin Connector:
10 valves
16 addresses

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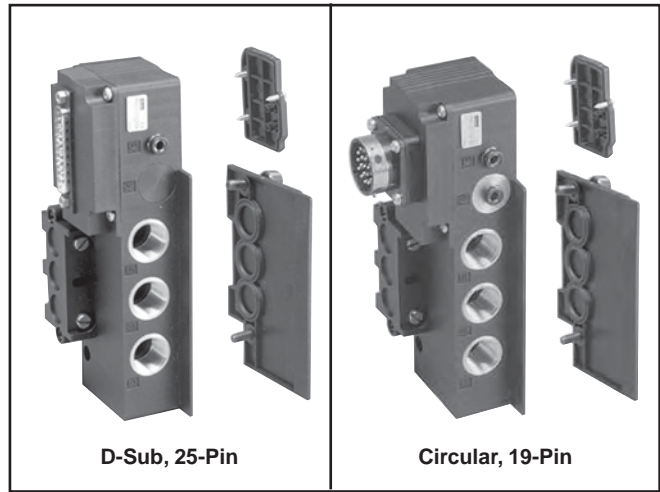
PVL



Head / Tail Sets

Electrical / Pneumatic

Port Size / Type	Connector	Model Number
3/8" NPT, Single	D-Sub, 25-Pin w/ External Pilot (Px)	PVLC27137D25A
3/8" NPT, Single	D-Sub, 25-Pin w/o External Pilot (Px)	PVLC17137D25A
3/8" NPT, Single	Circular, 19-Pin w/o External Pilot (Px)	PVLC17137C19A



D-Sub, 25-Pin

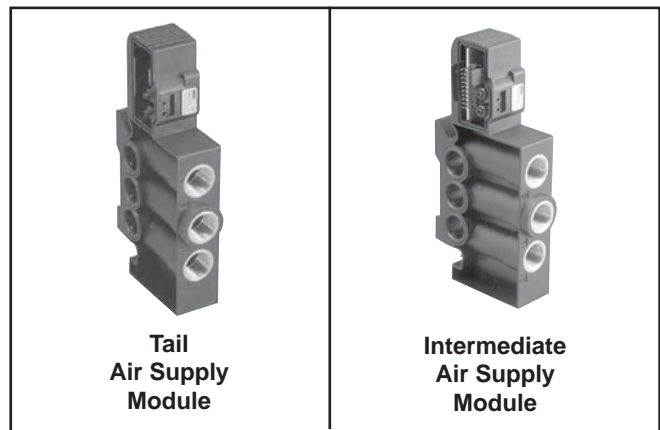
Circular, 19-Pin

Air Supply Modules

Tail Air Supply Module to be mounted at the end of the manifold for dual air supply for longer manifolds.

Intermediate Air Supply Module used when multiple pressures are required on a manifold.

Port Size / Type	Tail Air Supply Module	Intermediate Air Supply Module
3/8" NPT	PVULC2137	PVULC2137E
3/8" BSP	PVULC213	PVULC213E

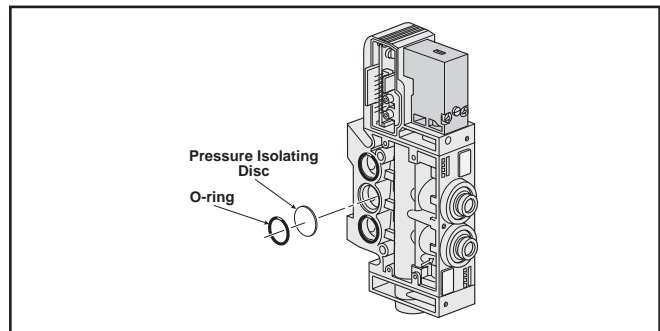


Tail Air Supply Module

Intermediate Air Supply Module

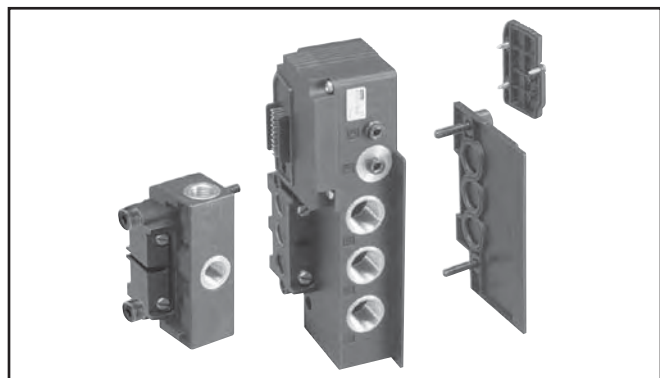
Pressure Isolating Disc

Description	Model Number
Sold in lots of 10	PVLC1902



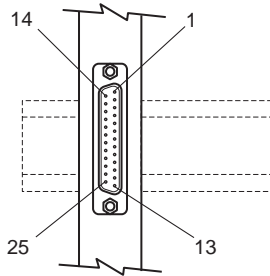
Transition Kits (PVLB10 to PVLC10)

Port Size / Type	Connector	Model Number
1/4" NPT to 3/8" NPT	Transition Kit with External Pilot (Px)	PVLC27137B19
1/4" NPT to 3/8" NPT	Transition Kit without External Pilot (Px)	PVLC17137B19
1/4" BSP to 3/8" BSP	Transition Kit with External Pilot (Px)	PVLC2713B19
1/4" BSP to 3/8" BSP	Transition Kit without External Pilot (Px)	PVLC1713B19



D-Sub, 25-Pin Single Size Head / Tail Set

Pin No.	Stack Address	Pin No.	Stack Address
13	0	8	10
25	1	20	11
12	2	7	12
24	3	19	13
11	4	6	14
23	5	18	15
10	6	5	Not Used
22	7	17	24V (feedback) (PVBL10)
9	8	4	0V (feedback) (PVBL10)
21	9	16	Common 0v

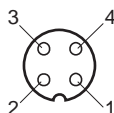


D-Sub, 25-Pin Double Size Head / Tail Set*

Pin No.	Stack Address	Pin No.	Stack Address
13	0	19	13
25	1	6	14
12	2	18	15
24	3	5	Not Used
11	4	17	24V (feedback)
23	5	4	0V (feedback)
10	6	16	Common 0v
22	7	3	16
9	8	15	17
21	9	2	18
8	10	14	19
20	11	1	20
7	12		

Feedback Connector*

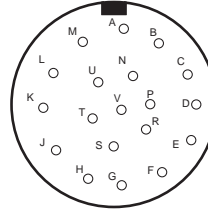
Pin No.	I/O	Pin No.	I/O
1	24V (feedback)	1	—
2	—	2	—
3	0V (feedback)	3	Common 0v
4	Input	4	Output



Notes: Solenoids are polarity sensitive. The common must be at 0V. Switching must be at the high potential.

* Available with PVLB10 Only

19-Pin Circular Connector†

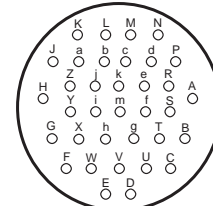
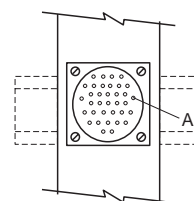


Pin No.	Stack Address
A	0
B	1
C	2
D	3
E	4
F	5
G	6
H	7
J	8
K	9
L	10
M	11
N	12
P	13
R	14
S	15
T	Common 0V
U	Not Used
V	Not Used

† Available with PVLC10 Only

Cylindrical, 35-Pin type “Trident Ringlock” Double Size Head / Tail Set*

Pin No.	Stack Address	Pin No.	Stack Address
A	0	V	18
B	1	W	19
C	2	X	20
D	3	Y	21
E	4	Z	22
F	5	a	23
G	6	b	24
H	7	c	25
J	8	d	26
K	9	e	27
L	10	f	28
M	11	g	29
N	12	h	30
P	13	i	31
R	14	j	Common 0V
S	15	k	0V (feedback)
T	16	m	24V (feedback)
U	17		



* Available with PVLB10 only.



Operating Pressure Range:

Single Pilot 45 to 150 psi (311 to 1035 kPa)
 Double Pilot 30 to 150 psi (207 to 1035 kPa)

Temperature Range (Ambient)

Operating 5° to 140°F (-15° to 60°C)
 Storage -40° to 158°F (-40° to 70°C)

CAUTION:

If it is possible that the ambient temperature may fall below freezing, the medium must be moisture free to prevent internal damage or unpredictable behavior.

Medium: Dry or lubricated air or inert gas

Medium Quality:

PVLB & PVLC Dry or lubricated air at 50 micron filtration

Materials:

Body Glass filled polyamide
 Seals Polyurethane
 Fittings Brass

Mounting:

Inline Surface mount on flat surface
 Stacking Mount on 35mm DIN rail or flat surface

Mounting Orientation: All positions

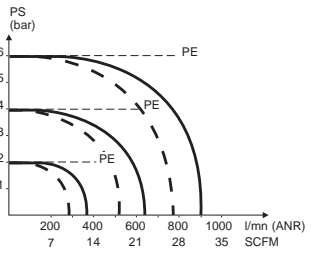
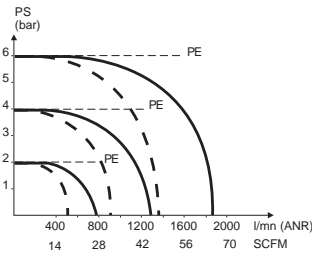
Manual Overrides: Locking or non-locking

Lubrication

Valves are pre-lubricated and may be operated with dry air. If lubrication is desired, use F442 oil.

Cycle Life: 30 million (dry air)

Specific Characteristics

Description		1/8" Valves (PVLB) (PVLB10)	1/4" Valves (PVLC) (PVLB10)	
Cv		0.6	1.2	
Flow Rates				
Port Sizes	Instant tube fitting	1/4"	3/8"	
	Threaded	1/8" Pipe	1/4" Pipe	
Maximum Valve Fitting Torque		7.4 ft-lb (10Nm)	14.8 ft-lb (20Nm)	
Head / Tail Port Size / Max. Torque		1/4" Pipe / 14.8 ft-lb (20Nm)	3/8" Pipe / 40.6 ft-lb (55Nm)	
For Air Operated Valves:				
	Single Acting	Double Acting	Single Acting	Double Acting
Response Time (Input to Output)*	14 ms	8 ms	25 ms	11 ms
Pilot Pressure (@ 90 PSIG Inlet)	44 PSI	29 PSI	44 PSI	29 PSI
Depilot Pressure (@ 90 PSIG Inlet)	15 PSI	—	22 PSI	—
Maximum Operating Frequency	5 Hz	10 Hz	5 Hz	10 Hz
For Solenoid Operated Valves:				
	Single Acting	Double Acting	Single Acting	Double Acting
Response Time (Input to Output)*	22 ms	12 ms	39 ms	17 ms
Maximum Operating Frequency	5 Hz	10 Hz	5 Hz	10 Hz
Power Consumption Hold	DC = 1.2 Watt, AC = 1.6VA		DC = 1.2 Watt, AC = 1.6VA	
Power Consumption Inrush	DC = 1.2 Watt, AC = 3.5VA		DC = 1.2 Watt, AC = 3.5VA	
Voltage Tolerance	+10% to -15% rated voltage @ 70° F (20° C)		+10% to -15% rated voltage @ 70° F (20° C)	
Standard Voltages	12 and 24 VDC 24 and 120 VAC		12 and 24 VDC 24 and 120 VAC	
Rated Insulation Voltage	1500 Volts		1500 Volts	
Protection Rating	IP65		IP65	
Standards	UL (except 240 VAC) and NFC 79 300			

* Valves tested with test chamber at 90 PSIG inlet pressure.

Electrical Characteristics

Standard Voltages:

Solenoid DC = 12 and 24
 AC = 24V 50/60 Hz and 120V 60 Hz
 Feedback module.....24VDC (designed for sourcing sensor)
 Output module.....24VDC

Voltage Tolerance:

+10% to -15% of rated voltage @ 70° F (20° C)

Power Consumption (Solenoid):

Hold DC = 1.2W AC = 1.6VA
 Inrush DC = 1.2W AC = 3.5VA

Rated Currents (Solenoid)

Voltage	Holding Current	I _d (Drop-out Current)*
12VDC	100 mA	10 mA
24VDC	50 mA	5 mA
48VDC	25 mA	2.5 mA
24VAC	65 mA	22 mA
120VAC	13.3 mA	5 mA

* When using a programmable controller, be sure that the leakage current of the controller outputs is lower than the drop-out current value.

Maximum Allowable Currents:

Stack = 1000 mA (1 Amp)
 Output module = 1000 mA (1 Amp)
 Feedback Module = 100 mA (supply + load)

Indication:

By LED – one for each stack address

PVLB10 External Connection:

Round connector M12

Protection Rating IP65

Simultaneous Operation

Some applications require simultaneous use of devices during setup or operation. Under normal single device operation, reliability can be assured by staying within the stated “Maximum Allowable Currents”. During simultaneous operation, however, the currents for each device must be added together with the total current not exceeding the 1000 mA (1 Amp) rating for the stack (example: only ten 12VDC solenoids can be operated simultaneously because their total accumulated current = 1000 mA). This is especially true for any connected external load when using the output module. While each output module is rated for 1000 mA, simultaneous operation of this load will reduce this rating. Calculate maximum available current for any externally connected load during simultaneous operation according to the following formula:

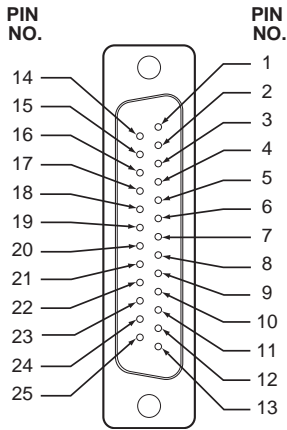
*Available Current = 1,000 mA - simultaneous current**

* Add all solenoid currents based on system voltage and any other external load operating simultaneously.

Type of Device	Current Required	Quantity (simultaneous)	Current Used
Solenoid	_____ mA ⁽¹⁾ x _____	= _____	mA
External Load ⁽²⁾	_____ mA ⁽³⁾ x _____	= _____	mA
Total Required Current		= _____	mA ⁽⁴⁾

- (1) Depending on system voltage (see “Rated Currents”).
- (2) Feedback modules use a separate common so are not used for this calculation, but total feedback current cannot exceed 1000 mA (1 Amp).
- (3) Depending on device connected to the output module. Use rated current (mA) for device or calculate: mA = Watts/Volts x 1000.
- (4) Must not exceed 1000 mA (1 Amp).

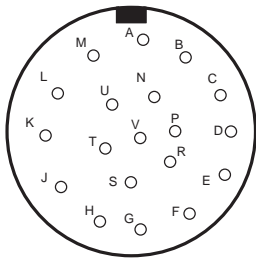
Pin Out Detail
D-Sub,
25-Pin Connector*



Output Solenoid No.	D-Sub 25-Pin No.	IP65 Cable Colors	Output Solenoid No.	D-Sub 25-Pin No.	IP65 Cable Colors
0	13	Green	10	8	Blue / Black
1	25	Transparent	11	20	White / Black
2	12	Dark Blue	12	7	Khaki
3	24	Light Blue	13	19	Orange
4	11	Pink	14	6	White
5	23	Purple	15	18	Gray
6	10	Dark Green / Black	Not Used	5	Red / Black
7	22	Yellow	Not Used	17	Red
8	9	Light Green / Black	Not Used	4	Brown
9	21	Yellow / Black	Valve Common	16	Black

Notes: Solenoids are polarity sensitive. The common must be at OV. Switching must be at the high potential.
 * Available with PVLB10 Only.

19-Pin Circular Connector*

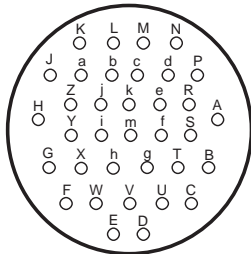


Output Solenoid No.	19-Pin Connector	IP65 Cable Colors	Output Solenoid No.	19-Pin Connector	IP65 Cable Colors
0	A	Pink / Brown	10	L	Blue
1	B	White / Green	11	M	Pink
2	C	White / Yellow	12	N	Grey
3	D	White / Grey	13	P	Yellow
4	E	White / Pink	14	R	White
5	F	Brown / Green	15	S	Green
6	G	Red / Blue	Valve Common	T	Black
7	H	Grey / Pink	Not Used	U	Brown
8	J	Brown / Yellow	Not Used	V	Red
9	K	Violet			

* Available with PVL C10 Only.

Notes: Solenoids are polarity sensitive. The common must be at OV. Switching must be at the high potential.
 Maximum 16 solenoid outputs with one valve (negative) common line on Pin T.

35-Pin Circular Connector*



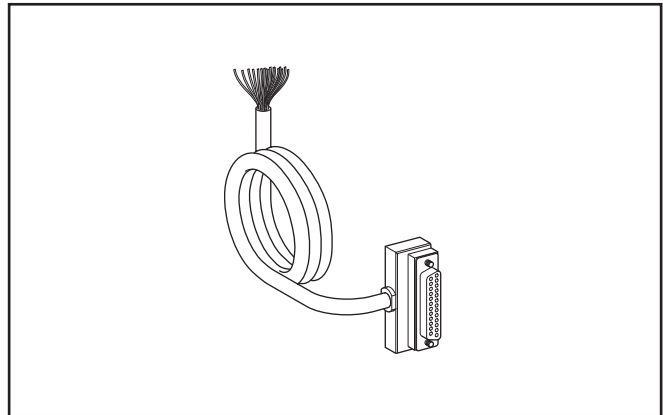
Output Solenoid No.	35-Pin Connector	IP65 Cable Colors	Output Solenoid No.	35-Pin Connector	IP65 Cable Colors
0	A	White / Brown	18	V	Brown / Pink
1	B	White / Green	19	W	Brown / Blue
2	C	White / Yellow	20	X	Brown / Red
3	D	White / Grey	21	Y	Brown / Black
4	E	White / Pink	22	Z	Green / Grey
5	F	White / Blue	23	a	Green / Pink
6	G	White / Red	24	b	Green / Blue
7	H	White / Black	25	c	Green / Red
8	J	Brown / Yellow	26	d	Green / Black
9	K	Violet	27	e	Yellow / Grey
10	L	Blue	28	f	Yellow / Pink
11	M	Pink	29	g	Yellow / Blue
12	N	Grey	30	h	Yellow / Red
13	P	Yellow	31	i	Yellow / Black
14	R	White	0 V valves	j	Black
15	S	Green	0 V inputs	k	Brown
16	T	Brown / Green	24 V inputs	m	Red
17	U	Brown / Grey			

* Available with PVLB10 Only.

**Cable with Female D-Sub,
IP65 Rated, 25-Pin Connector**

P8L-MD25A5B	5 Meters / 16.40 Ft
--------------------	---------------------

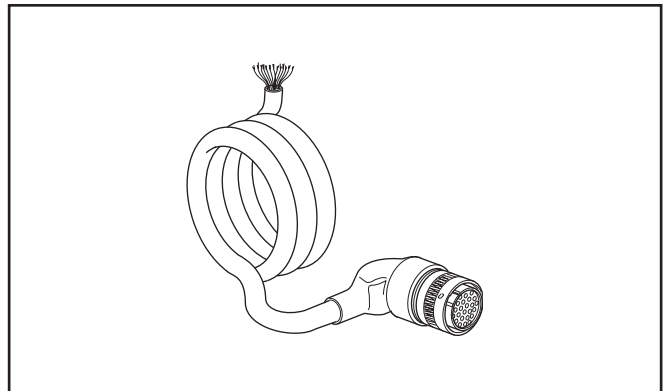
Connection to the control system is through 20 colored wires AWG 24, rated at 2.5 amp.



**Cable with Female
IP65 Rated, 19-Pin Connector**

P8L-MC19A5	5 Meters / 16.40 Ft
-------------------	---------------------

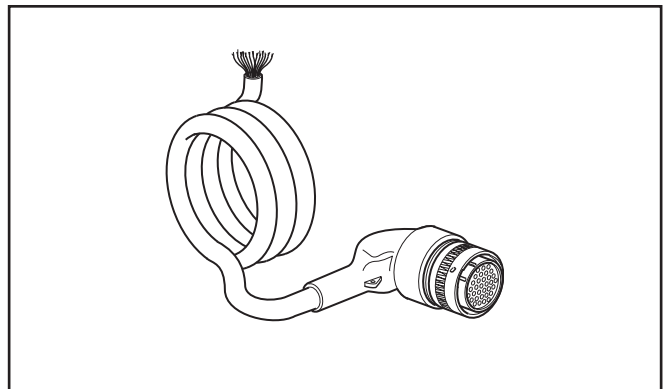
Connection to the control system is through 19 colored wires AWG 20, rated at 5 amp.



**Cable with Female
IP65 Rated, 35-Pin Connector**

P8L-MC35A5	5 Meters / 16.40 Ft
-------------------	---------------------

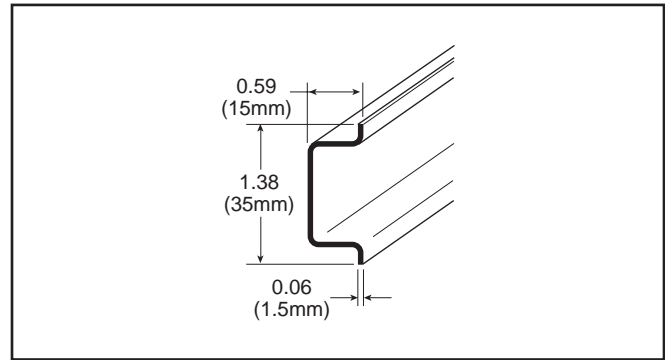
Connection to the control system is through 35 colored wires AWG 20, rated at 5 amp.



35mm DIN Rail

AM1DE200	6 Feet
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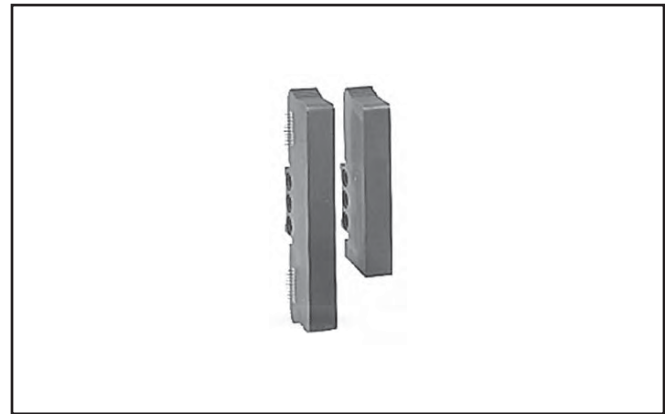
Zinc chromated steel rail for easy mounting of stacks.
 DIN rail can be mounted to grids or other surfaces to allow snap in mounting of pneumatic and electrical components.



Adapter Kits

Contains a size transition module and a replacement tail piece for field conversion to a combination stack.

PVLB1940	Double then Single
PVLB1930	Single then Double



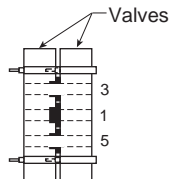
Pressure Isolation Kit

Series	Model Number	Kit includes:
PVLB	PVLB1901	3 Isolation Plugs, 2 Open Port Plugs and 2 Extended Cross Rods.
PVLC	PVLC1901	
PVLB	PVLB1902	10 Isolation Discs
PVLC	PVLC1902	

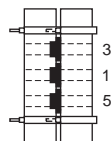


Assembly Instructions

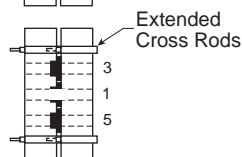
Example 1: Two different pressures P1 and P2 can supply the same bank of power valves, the exhausts remaining common.



Example 2: Complete isolation of the commons in the same bank of power valves: main pressure and exhaust commons.



Example 3: The exhaust commons can be isolated within the same bank of power valves, while the main pressure supply remains common.



Seals and Gaskets

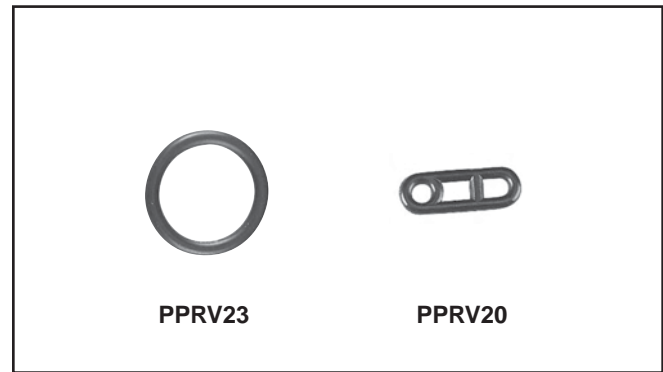
Series	O-Rings ¹	Gaskets ²
PVLB	PPRV23	PPRV20
PVLC	PPRV24	PPRV20

Series	O-Rings
PVLB10	PPRV23
PVLC10	PPRV24

Notes:

¹ O-rings seal between stackable valve bodies.
 Sold in set of 30.

² 3-cell gaskets seal between pilot and valve body.
 Sold as one set of 20 gaskets.



Cross Rods

Series	Model Number
PVLB	PPRV21
PVLC	PPRV22

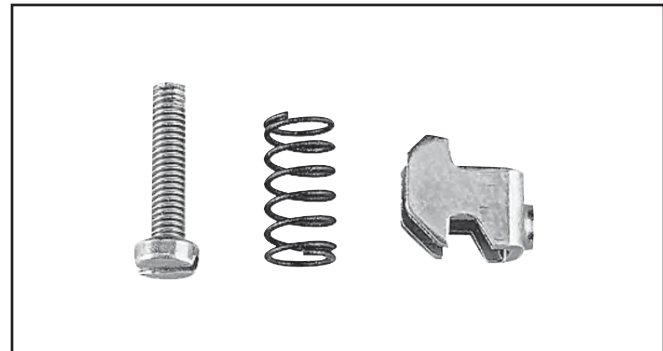
Used in valve stack mounting.
 Sold as 1 set of 10 cross rods.



DIN Rail Clip Assembly

PPRL09	Head / Tail Set – All Sizes
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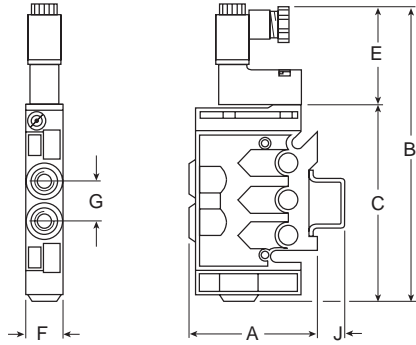
Assembly includes: clamp, screw, and spring.
 Sold as 1 set of 20 each.



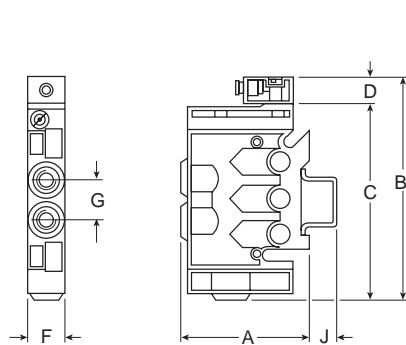
C
Modulflex
PVL

PVLB Valves

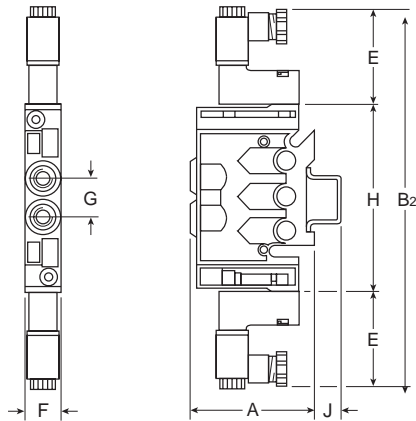
Single Solenoid



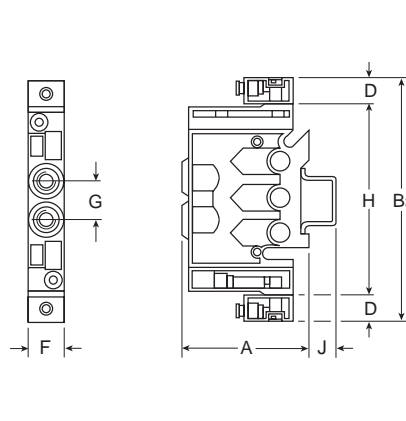
Single Remote Pilot



Double Solenoid



Double Remote Pilot



Dimensions

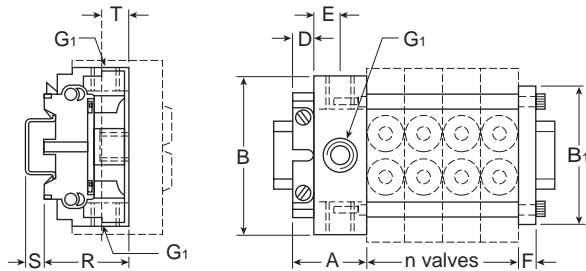
A (Inline Pipe)	2.40 (61)			
A (Inline Tube)	2.80 (71)			
A (Stacking Pipe)	2.40 (61)			
A (Stacking Tube)	2.68 (68)			
B	B₁	B₂	B₃	C
5.91 (150)	4.25 (108)	7.91 (201)	4.60 (117)	3.74 (95)
D	E	F	G	H
.51 (13)	2.17 (55)	.71 (18)	.79 (20)	3.58 (91)
J				
.47 (12)				

Inches (mm)

1/8" Pipe or 1/4" tube or 6mm tube for main ports.

Stacking System – PVLB

Single Air Supply



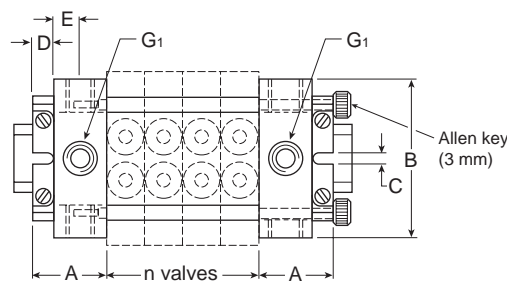
Dimensions

A	B	B₁	C*	D
1.50 (38)	3.27 (83)	2.76 (70)	.17 (4.2)	.39 (10)
E	F	G₁	R	S
.47 (12)	.31 (8)	1/4"	1.73 (44)	.35 (9)
T				
.43 (11)				

Inches (mm)

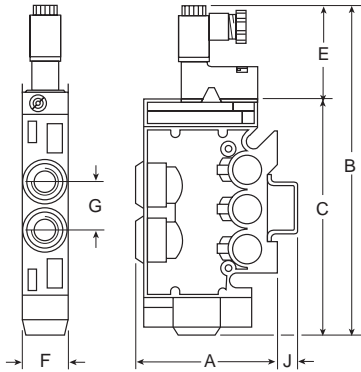
* Clearance for #6 screw.

Double Air Supply

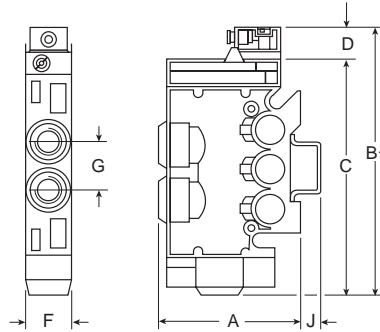


PVLC Valves

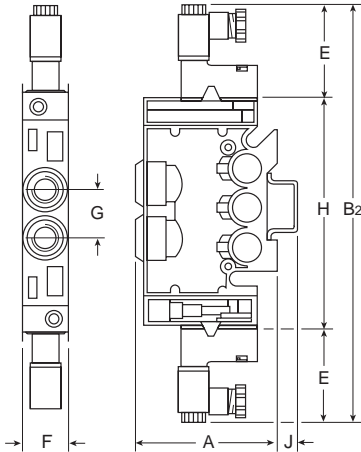
Single Solenoid



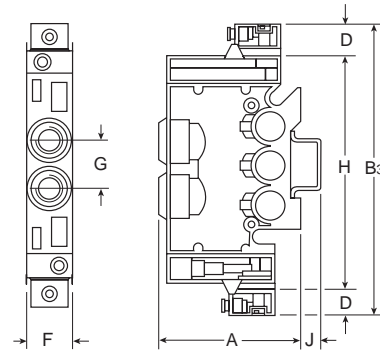
Single Remote Pilot



Double Solenoid



Double Remote Pilot



Dimensions

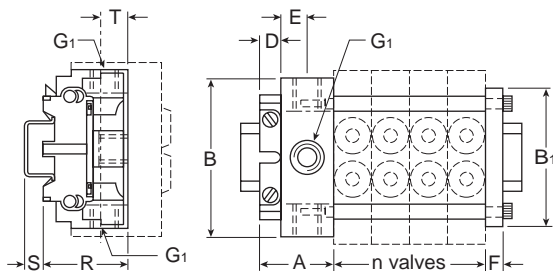
A (Inline Pipe)		2.87 (73)		
A (Inline Tube)		3.66 (93)		
A (Stacking Pipe)		2.87 (73)		
A (Stacking Tube)		3.27 (83)		
B	B₁	B₂	B₃	C
7.00 (178)	5.35 (136)	8.94 (227)	5.62 (143)	4.84 (123)
D	E	F	G	H
.51 (13)	2.17 (55)	.98 (25)	1.00 (26)	4.61 (117)
J				
.43 (11)				

Inches (mm)

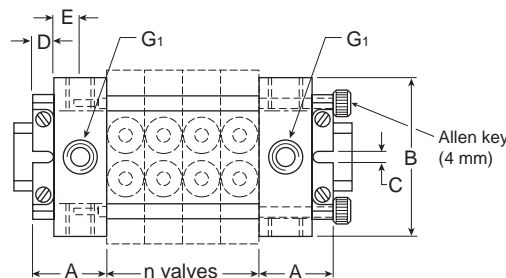
1/4" Pipe or 3/8" tube or 8mm tube for main ports.

Stacking System – PVLC

Single Air Supply



Double Air Supply



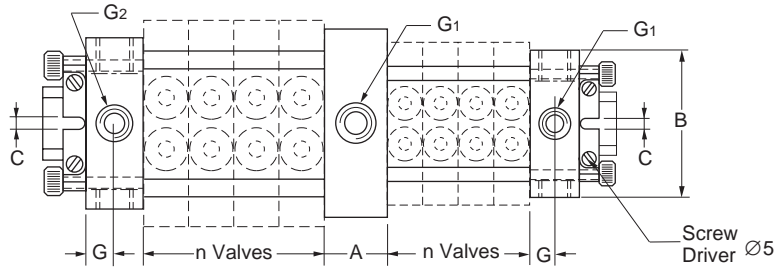
Dimensions

A	B	B₁	C*	D
1.50 (38)	4.25 (108)	3.94 (100)	.17 (4.2)	.39 (10)
E	F	G₁	R	S
.47 (12)	.31 (8)	3/8"	2.17 (55)	.35 (9)
T				
.51 (13)				

Inches (mm)

* Clearance for #6 screw.

Transition Kits – PVLB & PVLC Valves



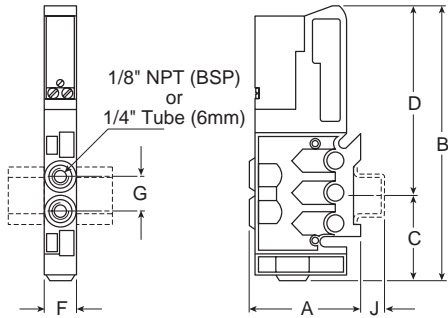
Dimensions

A	B	C	G	G ₁
.98 (25)	3.94 (100)	.17 (4.2)	.47 (12)	1/4"
G ₂ 3/8"				

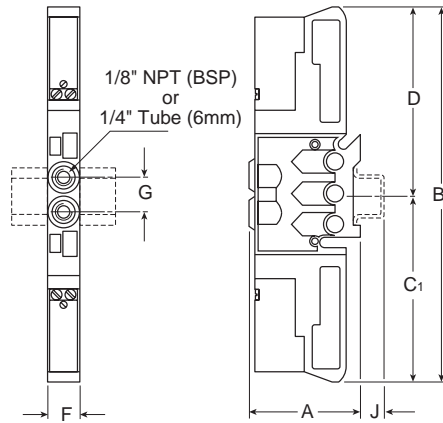
Inches (mm)

C
 Modurflex
 PVL

Single Solenoid



Double Solenoid



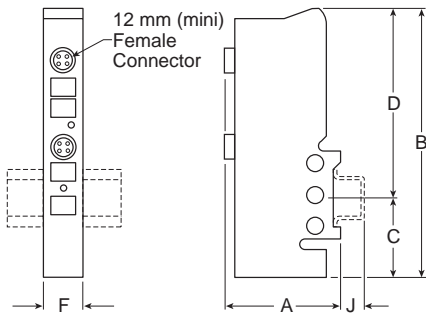
Dimensions

A (Inline Pipe)	2.87 (73)			
A (Inline Tube)	3.66 (93)			
A (Stacking Pipe)	2.87 (73)			
A (Stacking Tube)	3.27 (83)			
B	B₁	C	C₁	D
5.43 (138)	6.97 (177)	1.93 (49)	3.46 (88)	3.50 (89)
F	G	J		
.71 (18)	.79 (20)	.47 (12)		

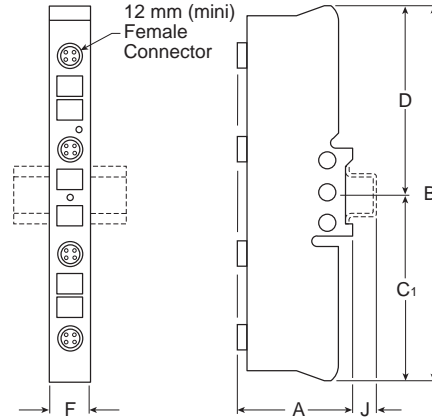
Inches (mm)

External Connection Modules

Single



Double



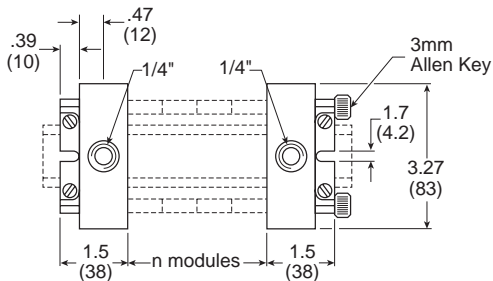
Dimensions

A	B	B₁	C	C₁
2.72 (69)	5.31 (135)	6.97 (177)	1.81 (46)	3.46 (88)
D	F	J		
3.50 (89)	.87 (22)	.47 (12)		

Inches (mm)

Pneumatic Head / Tail Set

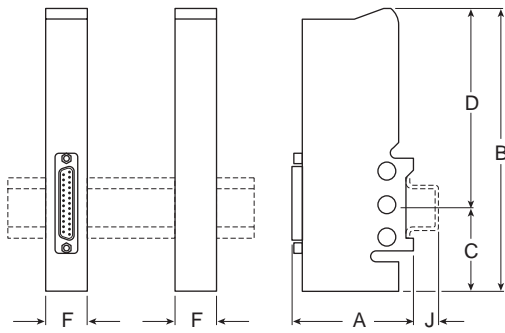
To calculate stack length, add the width of the pneumatic and electrical head / tail sets plus (quantity x width) for each type of active module. Widths shown in inches (mm).



Module	Qty	Width	Total Width
Pneumatic head / tail set	1 x	3.00" (76)	= 3.00" (76)
Electrical head / tail set:	1 x		=
Select 25-Pin head / tail		1.73" (44)	
or 25-Pin w/ transition		2.60" (66)	
or 35-Pin head / tail		2.76" (70)	
or 35-Pin w/ transition		3.62" (92)	
Valves	x	.71" (18)	=
Feedback/output modules	x	.87" (22)	=
TOTAL STACK LENGTH			=

Electrical Head / Tail Sets*

Single Stack D-Sub, 25-Pin Connector



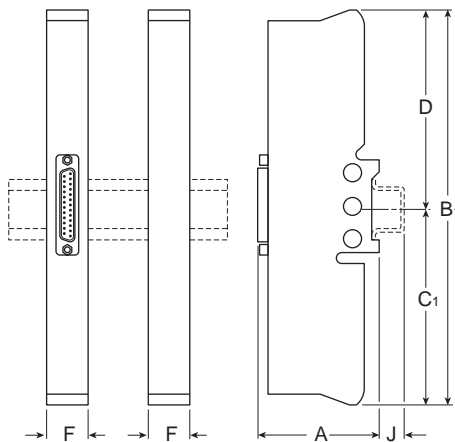
Dimensions

A 2.48 (63)	A₁ 2.40 (60)	B 5.31 (135)	B₁ 6.97 (177)	C 1.81 (46)
C₁ 3.46 (88)	D 3.50 (89)	E .39 (10)	F .87 (22)	H 1.57 (40)
J .47 (12)	K 1.89 (48)			

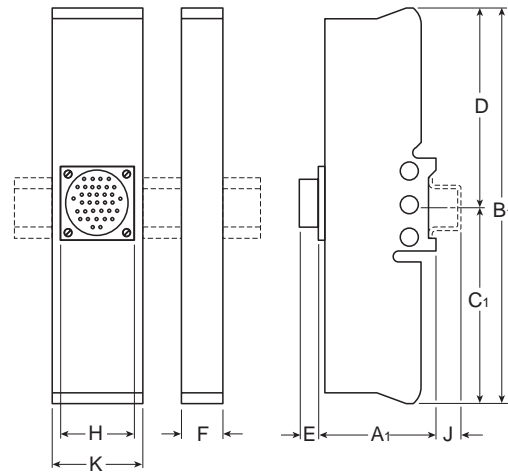
* When the stack contains both single and double modules, you must use a head / tail set that includes a size transition module (shown below).

Inches (mm)

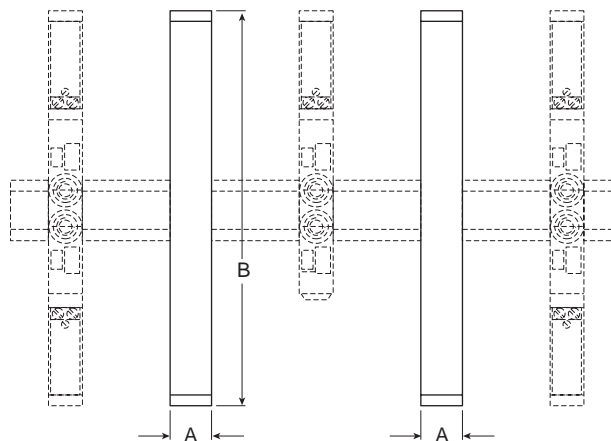
Double Stack D-Sub, 25-Pin Connector



Cylindrical 35-Pin Double Size Head / Tail Set



Size Transition Module



Dimensions

A .87 (22)	B 6.97 (177)			
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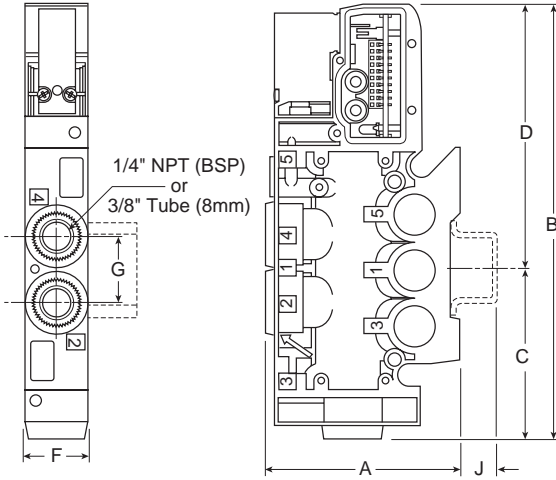
Inches (mm)

C

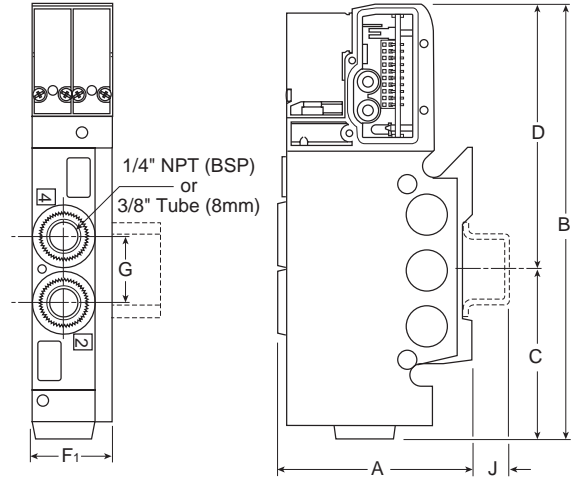
Modulflex

PVL

Single Solenoid



Double Solenoid



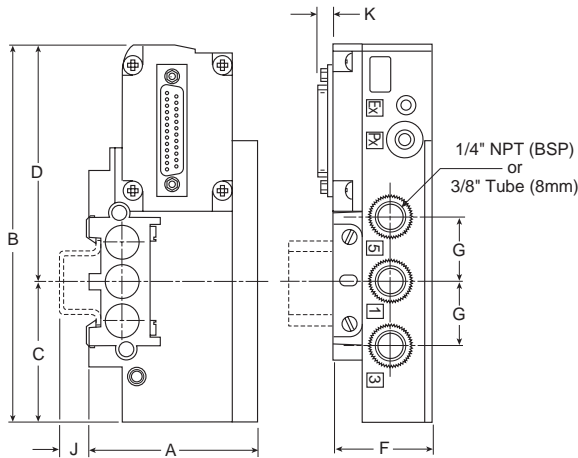
Dimensions

A (Inline Pipe)	2.87 (73)			
A (Inline Tube)	3.66 (93)			
A (Stacking Pipe)	2.87 (73)			
A (Stacking Tube)	3.27 (83)			
B	C	D	F	F₁
6.50 (165)	2.56 (65)	3.94 (100)	1.00 (25.4)	1.31 (33)
G	J			
1.00 (25.4)	.47 (12)			

Inches (mm)



D-Sub, 25-Pin Connector

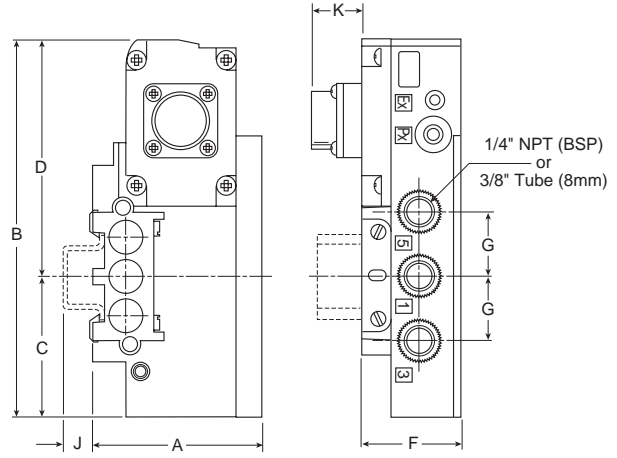


Dimensions

A	B	C	D	F
2.75 (70)	6.22 (158)	2.28 (58)	3.94 (100)	1.65 (42)
G	J	K		
1.06 (27)	.39 (10)	.12 (3)		

Inches (mm)

Cylindrical Connector

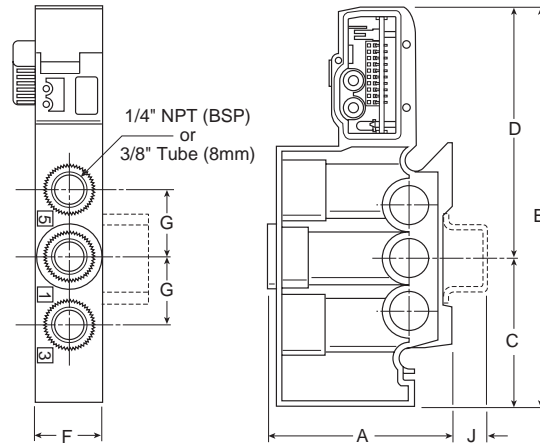


Dimensions

A	B	C	D	F
2.75 (70)	6.22 (158)	2.28 (58)	3.94 (100)	1.65 (42)
G	J	K		
1.06 (27)	.39 (10)	.30 (8)		

Inches (mm)

Intermediary Air Supply Module

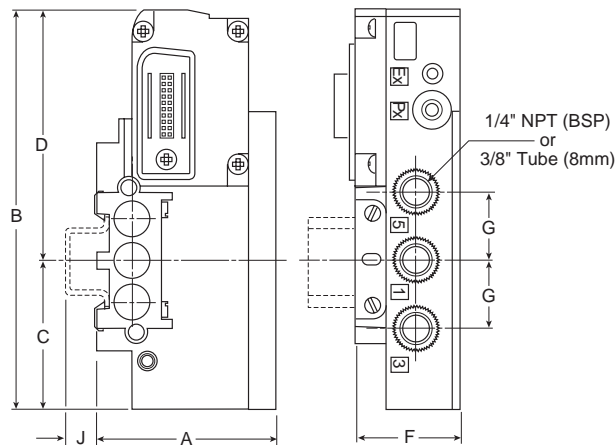


Dimensions

A 2.94 (75)	B 6.22 (158)	C 2.28 (58)	D 3.94 (100)	F 1.08 (28)
G 1.06 (27)	J .47 (12)			

Inches (mm)

Transfer Module



Dimensions

A 2.75 (70)	B 6.22 (158)	C 2.28 (58)	D 3.94 (100)	F 1.65 (42)
G 1.06 (27)	J .39 (10)			

Inches (mm)