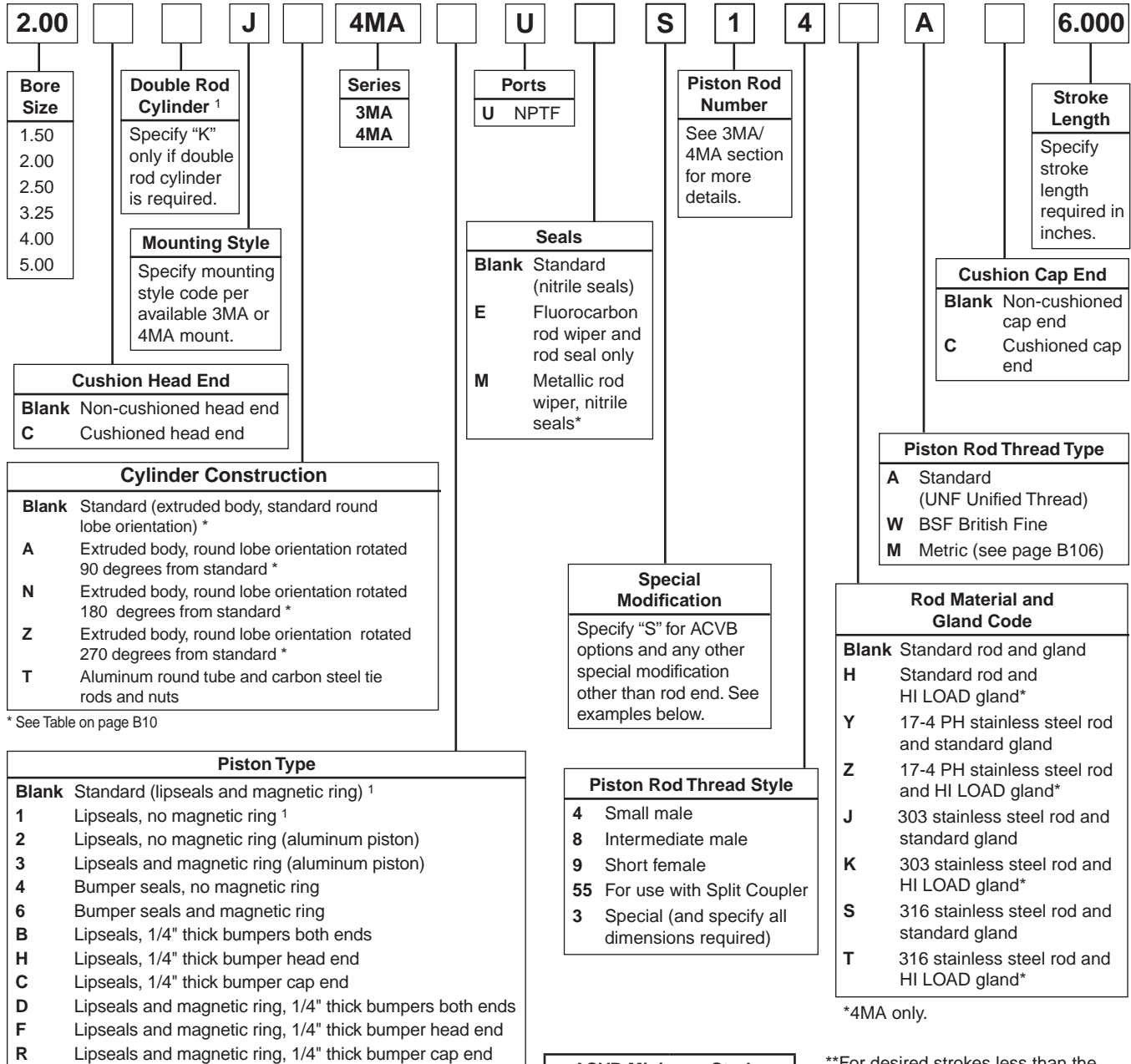


How to Order ACVB Option fully assembled to 3MA or 4MA Cylinder

B



¹ Double rod cylinders not available with composite piston type.

Example

2.00 CJ3MAUS14AC 6.000
 S = ACVB Valve Combination
 S = 3C2B54 Manifold Code
 (See following page.)

Flow Control Option

Add "S = with SP37 Flow Controls" to item notes

Muffler Option

Add "S = with EM Mufflers" to item notes

For ACVB with the 2A Series, please use the 2A Series Model Code and specify the following in the item notes:
 S = ACVB Valve Combination
 S = (Manifold Code from following page)

ACVB Minimum Stroke Requirements**	
Bore	3MA/4MA
Compact Manifold	
1.50	0.500
2.00	0.500
2.50	0.438
Full Manifold	
1.50	5.813
2.00	5.813
2.50	5.750
3.25	5.500
4.00	5.500
5.00	5.250

**For desired strokes less than the minimum requirement, specify a stop tube for the cylinder assembly. Total stroke should be (desired net stroke) + (stop tube length to help exceed minimum stroke). Stop tube only available for 4MA with aluminum piston.

Example: 1.50" bore 4MA with 5.000" of desired net stroke:

Gross stroke = 5.813"

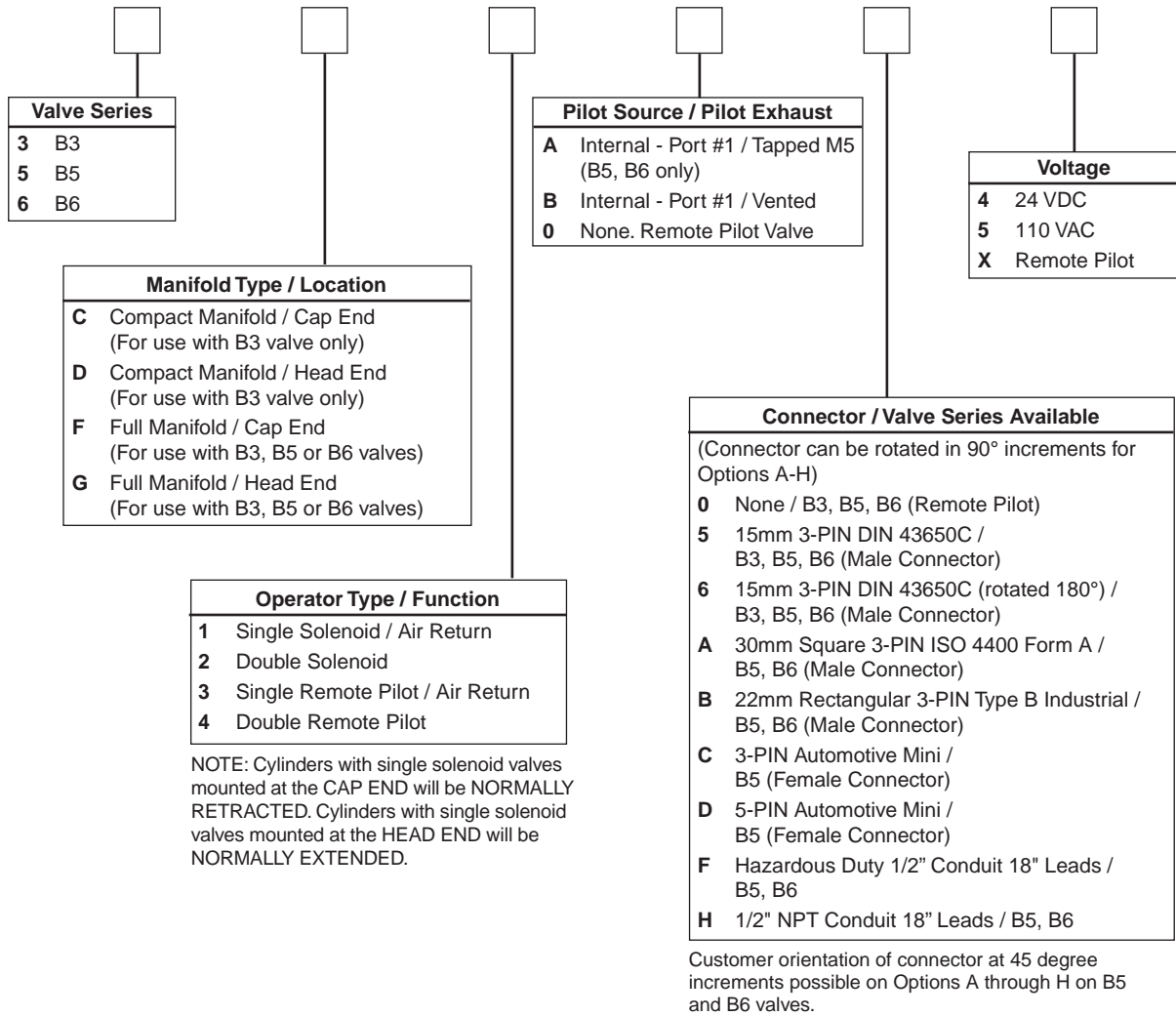
Stop tube = 0.813"

Net stroke = 5.000"

Note: place gross stroke in cylinder model number and specify stop tube length and net stroke in the item notes.

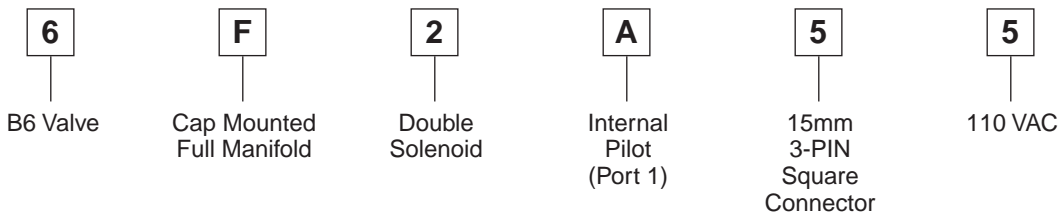


ACVB Series Valve/Manifold Codes



B
3MA/4MA
3MAJ/4MAJ
ACVB Option
LPSO Option
4MNR
S
C

Example: 6 F 2 A 5 5



Compact Manifold

B

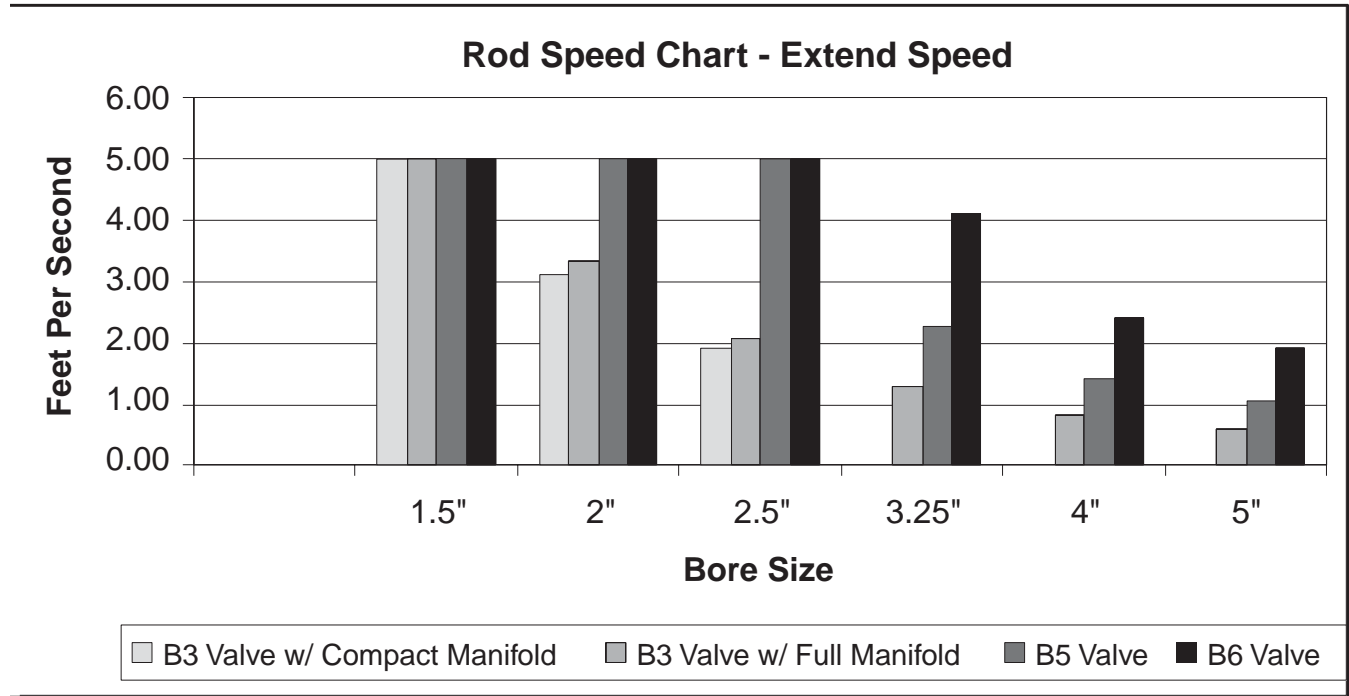


- Standard Fluid – Dry, filtered air.
- Standard Temperature – -5°F to 120°F (-15°C to 49°C).
- Maximum 145 PSI operating pressure.
- Fits 1-1/2" through 2-1/2" Bore 3MA and 4MA standard cylinders.
- Uses standard Parker fittings, tubing, and seals.
- Compact manifold accommodates B3 Series valve from Parker Pneumatic Division North America without field modification to cylinder.

Full Manifold



- Standard Fluid – Dry, filtered air.
- Standard Temperature – -5° F to 120° F (-15°C to 49°C).
- Maximum 145 PSI operating pressure.
- Fits 1-1/2" through 5" Bore 3MA and 4MA standard cylinders.
- Uses standard Parker fittings, tubing, and seals.
- Full manifold accommodates B3, B5 and B6 series Parker Pneumatic valves, without field modification to cylinder (B6 series shown).
- Bolt pattern conforms to NAMUR standard on B5 and B6 valves.
- Manifold and valve do not overhang beyond head or cap fasteners.



Steps to size a cylinder-valve system

Step 1. Gather the Application Parameters

- Total load
- Maximum velocity needed to move load in specified time*
- Minimum pressure available

Step 2. Size Cylinder

Use equations in engineering section of Pneumatic Actuator Catalog to calculate minimum bore size

Step 3. Size Valve/Manifold

- Use the Rod Speed Chart above
- Choose valve/manifold system that will supply maximum velocity needed for bore size chosen above

Step 4. Choose the Appropriate Model Code**

- Specify necessary valve and manifold
- Choose type of control required
- Choose type of connection and voltage required

* If maximum velocity is not easily calculated, divide the total stroke distance by the total stroke time and multiply by 2.

** See the ACVB Series Valve/Manifold Code page for more details.

B

3MA/4MA

3MAJ/4MAJ

ACVB Option

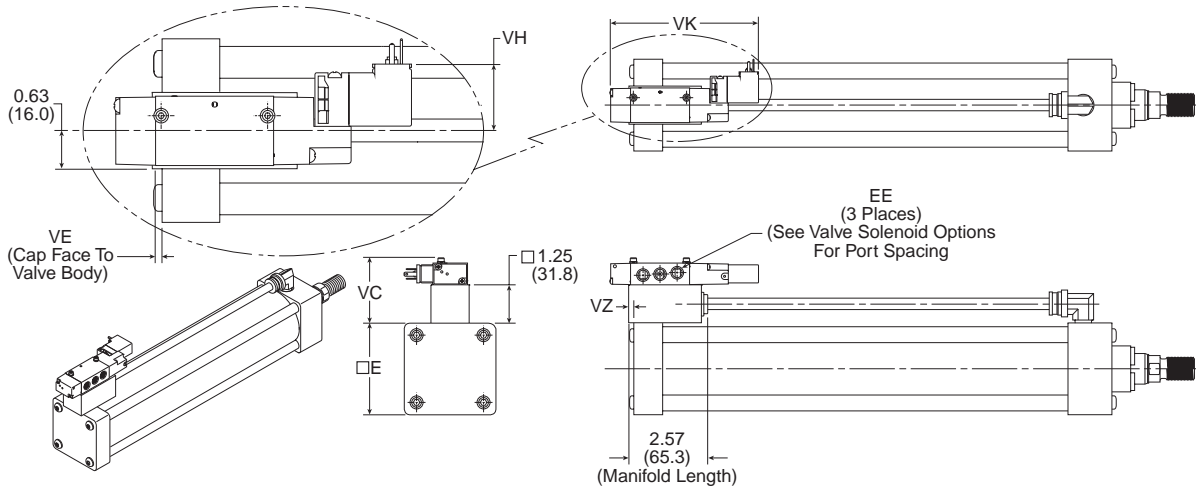
LPSO Option

4MNR

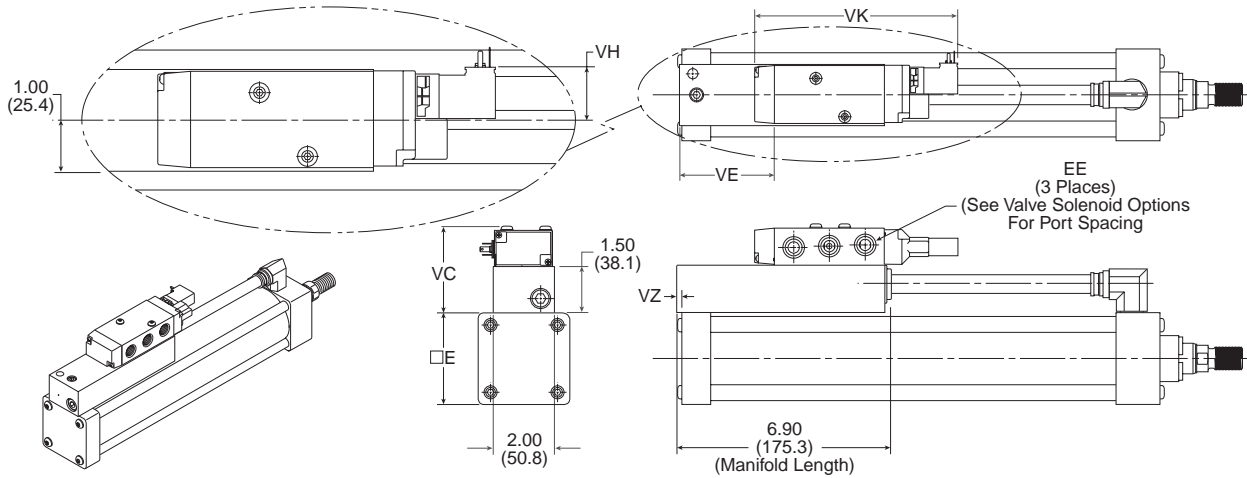
S

C

Compact Manifold



Full Manifold



Dimensions

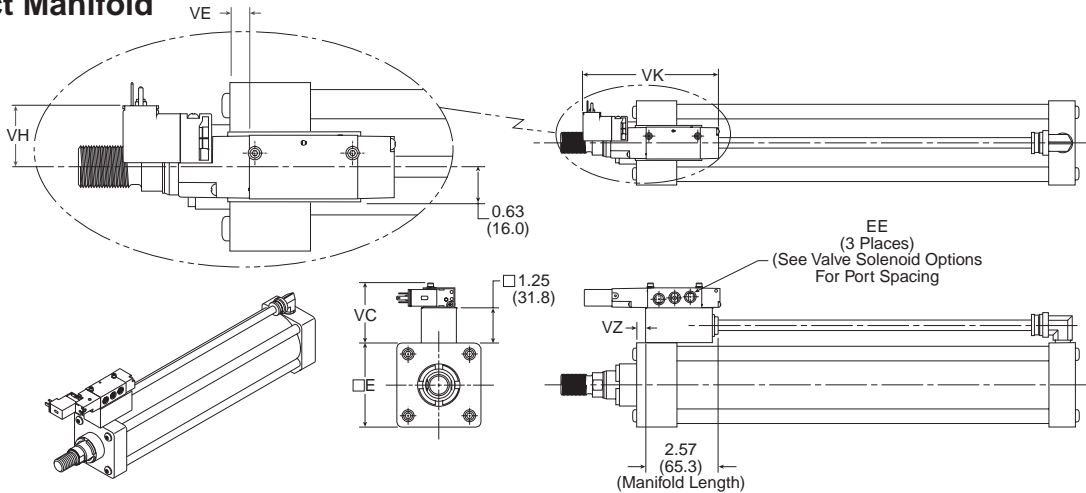
Bore	E (SQ.)	Manifold	Valve	VE*	VZ**
					3MA/4MA
1-1/2	2	Compact	B3	0.17 (4.3)	0.23 (5.8)
			B3	3.78 (96.3)	0.23 (5.8)
		Full	B5	3.48 (88.4)	0.13 (3.3)
			B6	2.97 (75.4)	0.13 (3.3)
2	2-1/2	Compact	B3	0.17 (4.3)	0.23 (5.8)
			B3	3.78 (96.3)	0.13 (3.3)
		Full	B5	3.36 (85.3)	0.13 (3.3)
			B6	2.97 (75.4)	0.13 (3.3)
2-1/2	3	Compact	B3	0.17 (4.3)	0.23 (5.8)
			B3	3.78 (96.3)	0.13 (3.3)
		Full	B5	3.36 (85.3)	0.13 (3.3)
			B6	2.97 (75.4)	0.13 (3.3)
3-1/4	3-3/4	Full	B3	3.90 (99.1)	0.00
			B5	3.48 (88.4)	0.00
			B6	3.10 (78.7)	0.00
			B3	3.90 (99.1)	0.00
4	4-1/2	Full	B5	3.48 (88.4)	0.00
			B6	3.10 (78.7)	0.00
			B3	3.90 (99.1)	0.00
			B6	3.10 (78.7)	0.00
5	5-1/2	Full	B3	3.90 (99.1)	0.00
			B5	3.48 (88.4)	0.00
			B6	3.10 (78.7)	0.00
			B3	3.90 (99.1)	0.00

Valve	EE (NPTF)	VH	VK	VC	
B3	1/8	1.09 (27.7)	4.67 (118.6)	Compact Manifold	2.12 (53.8)
				Full Manifold	2.37 (60.2)
B5	1/4	1.12 (28.4)	5.78 (146.8)	Full Manifold	2.81 (71.4)
B6	3/8	1.12 (28.4)	6.67 (169.4)	Full Manifold	2.81 (71.4)

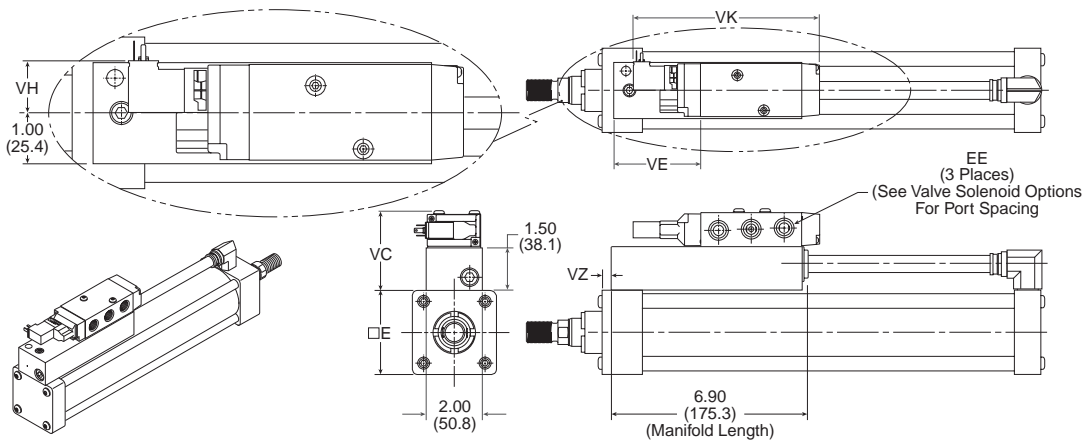
* VE = Dimension from edge of endcap to edge of valve body.
 ** VZ = Dimension from edge of endcap to edge of manifold.
 Note: Dimensions shown are for a single solenoid enclosure with Option 5. For other valve or enclosure option dimensions, see pages B96-B97.

B

Compact Manifold



Full Manifold



Dimensions

Bore	E (SQ.)	Manifold	Valve	VE*	
				3MA/4MA	VZ**
1-1/2	2	Compact	B3	0.26 (6.6)	0.20 (5.1)
			B5	4.21 (106.9)	0.31 (7.9)
		Full	B5	3.79 (96.3)	0.31 (7.9)
			B6	3.41 (86.6)	0.31 (7.9)
2	2-1/2	Compact	B3	0.26 (6.6)	0.20 (5.1)
			B5	4.21 (106.9)	0.31 (7.9)
		Full	B5	3.79 (96.3)	0.31 (7.9)
			B6	3.41 (86.6)	0.31 (7.9)
2-1/2	3	Compact	B3	0.33 (8.4)	0.27 (6.9)
			B5	4.27 (108.5)	0.38 (9.6)
		Full	B5	3.86 (98.0)	0.38 (9.6)
			B6	3.47 (88.1)	0.38 (9.6)
3-1/4	3-3/4	Full	B3	4.40 (111.8)	0.50 (12.7)
			B5	3.98 (101.1)	0.50 (12.7)
			B6	3.60 (91.4)	0.50 (12.7)
4	4-1/2	Full	B3	4.40 (111.8)	0.50 (12.7)
			B5	3.98 (101.1)	0.50 (12.7)
			B6	3.60 (91.4)	0.50 (12.7)
5	5-1/2	Full	B3	4.40 (111.8)	0.50 (12.7)
			B5	3.98 (101.1)	0.50 (12.7)
			B6	3.60 (91.4)	0.50 (12.7)

Valve	EE (NPTF)	VH	VK	VC	
B3	1/8	1.09 (27.7)	4.67 (118.6)	Compact Manifold	2.12 (53.8)
				Full Manifold	2.37 (60.2)
B5	1/4	1.12 (28.4)	5.78 (146.8)	Full Manifold	2.81 (71.4)
B6	3/8	1.12 (28.4)	6.67 (169.4)	Full Manifold	2.81 (71.4)

* VE = Dimension from edge of endcap to edge of valve body.
 ** VZ = Dimension from edge of endcap to edge of manifold.
 Note: Single Solenoid with enclosure 5 shown. For other valve options, see pages B96-B97.



B

3MA/4MA

3MAJ/4MAJ

ACVB Option

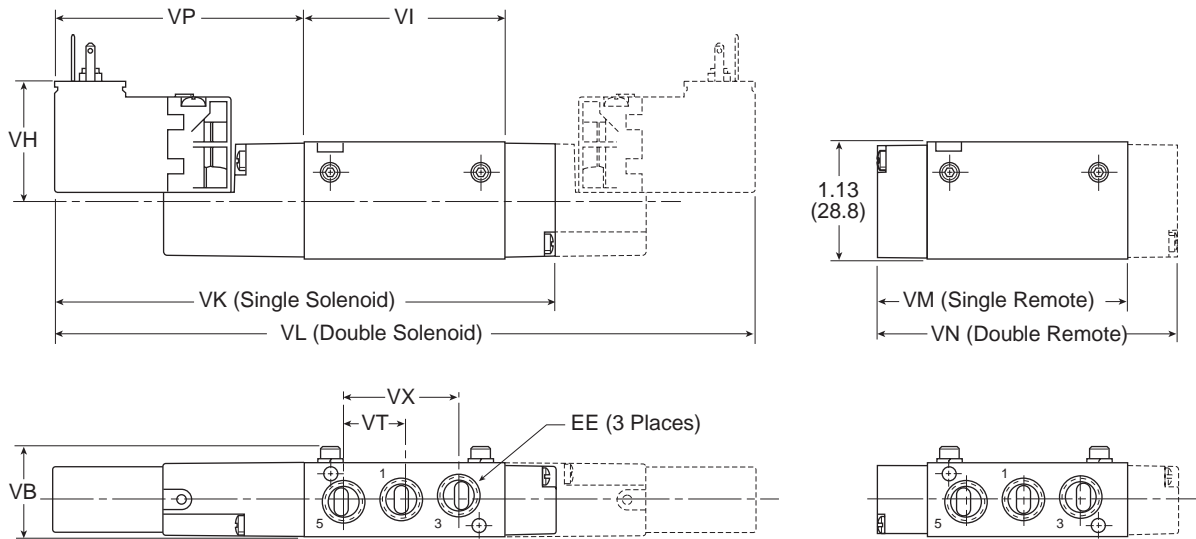
LPSO Option

4MNR

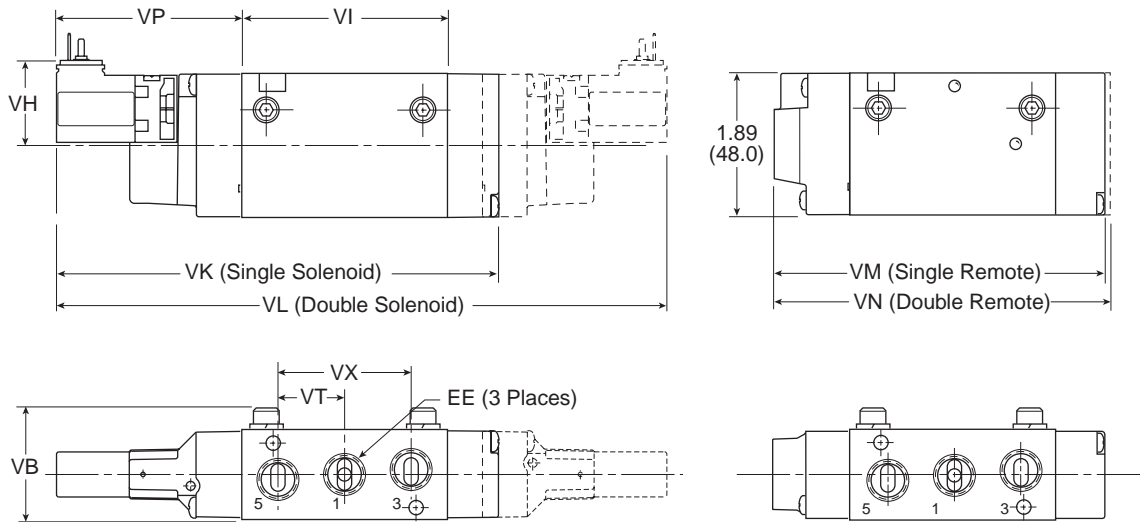
S

C

B3 Valve



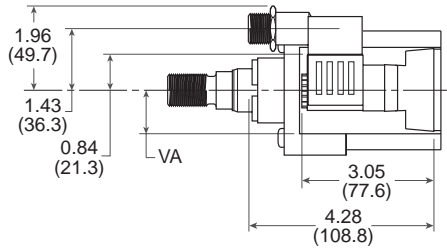
B5 and B6 Valve



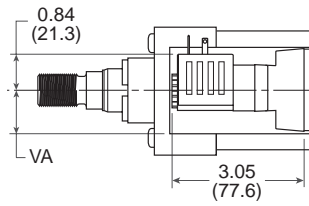
Dimensions

Valve	EE (NPTF)	VB	VH	VI	VK	VL	VM	VN	VP	VT	VX
B3	1/8	0.87 (22.1)	1.09 (27.7)	1.93 (49.0)	4.67 (118.6)	6.44 (163.6)	3.12 (79.2)	3.33 (84.6)	2.25 (57.2)	0.56 (14.2)	1.12 (28.4)
B5	1/4	1.31 (33.3)	1.12 (28.4)	2.70 (68.6)	5.78 (146.8)	7.51 (190.8)	4.37 (111.0)	4.70 (119.4)	2.40 (61.0)	0.88 (22.4)	1.75 (44.5)
B6	3/8	1.31 (33.3)	1.12 (28.4)	3.60 (91.5)	6.67 (169.4)	8.41 (213.6)	5.26 (133.6)	5.59 (142.0)	2.40 (61.0)	1.17 (29.7)	2.34 (59.4)

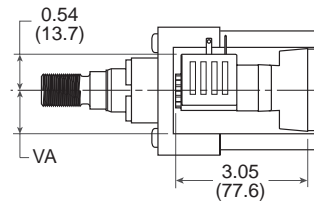
Optional Electrical Connections



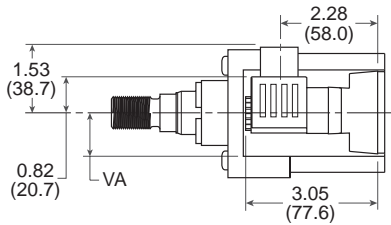
Enclosure C, D



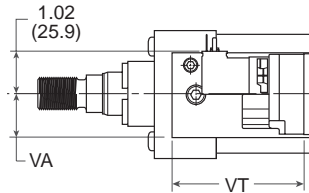
Enclosure A



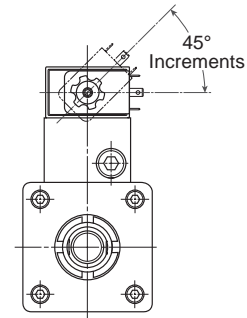
Solenoid Option A, B, C, D, F & H
(Can be rotated in 45° increments as shown)



Enclosure 5



Enclosure F & H
(B5 & B6 Only)

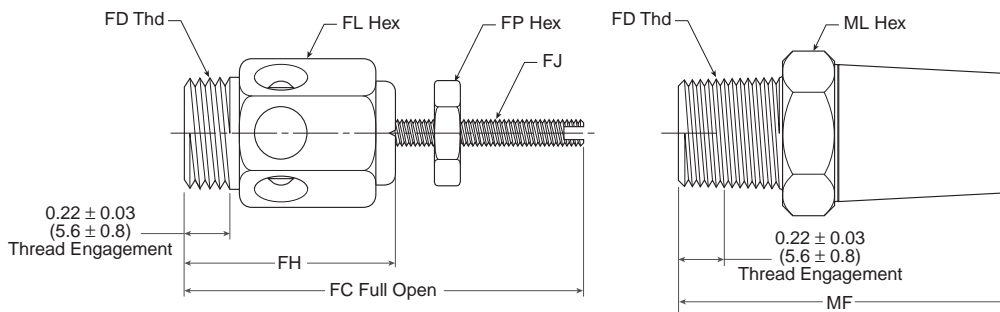


Enclosure B

Optional Electrical Connections Dimensions

Valve	VA	VT
B3	0.63 (16.0)	2.25 (57.2)
B5	1.00 (25.4)	2.40 (61.0)
B6	1.00 (25.4)	2.40 (61.0)

Optional Flow Controls / Mufflers



Optional Flow Controls / Mufflers Dimensions

Valve	FC	FD	FJ	FH	FL	FP	MF	ML
B3	1.48 (37.6)	1/8	10-32	0.90 (22.9)	1/2	3/8	1.00 (25.4)	7/16
B5	1.92 (48.8)	1/4	1/4-28	1.17 (29.7)	9/16	7/16	1.32 (33.5)	9/16
B6	1.92 (48.8)	3/8	1/4-28	1.27 (32.3)	11/16	7/16	1.54 (39.1)	11/16



B

3MA/4MA

3MAJ/4MAJ

ACVB Option

LPSO Option

4MNR

S

C

Manifold Kits Without Valve

B

Bore Size	Compact Manifold	Full Manifold	
	1-1/2", 2", and 2-1/2"	1-1/2", 2" and 2-1/2"	3-1/4", 4", and 5"
Kit w/ Tubing	L078350000	L078380000	L078390000
Kit w/o Tubing	L078370000	L078400000	L078410000
Max. Stroke for Kit w/ Tubing*	34.5"	39.5"	39"
Tubing Part #	0880383836	0880386336	

Example:

Manifold Kits:

Without Tubing Include:

- Manifold
- Grease
- O-rings for all applicable valves
- All necessary fasteners
- All necessary fittings
- Assembly Instructions

With Tubing Include:

- All "without tubing" items
- 36" of appropriate tubing
 - 3/8" O.D. for compact manifold
 - 5/8" O.D. for full manifold
- See above table for maximum stroke lengths.

Valve:

To Order Valve:

- Consult latest revision of Parker Pneumatic Products Catalog (Catalog #0600P).
- Specify "T" code as port size/thread type on B3, B5 or B6 valve order.
- All valves supplied with flush, locking overrides (code 'C').
- Manifolds designed for 2 position valves only.

Example: B61TBCH49A defines:

B6 ACVB Single Solenoid Valve, Flush Locking Override, with 1/2" NPT conduit, using 24VDC voltage.

Flow Controls & Mufflers:

- Order as separate line items.

Valve Size	Port Size (NPTF)	Flow Control Part #	Muffler Part #
B3	1/8	0881480001	0882410013
B5	1/4	0881480002	0882410025
B6	3/8	0881480003	0882410038

⚠ WARNING

The Prestomatic fittings on the manifold and cylinder end caps are to be used in conjunction with Parker Air Brake tubing PFT-6B and PFT-10B only. The use of other tubing may not be compatible with the Prestomatic fittings. This may lead to a tubing failure which could cause the cylinder piston rod to suddenly retract or extend at high speed.

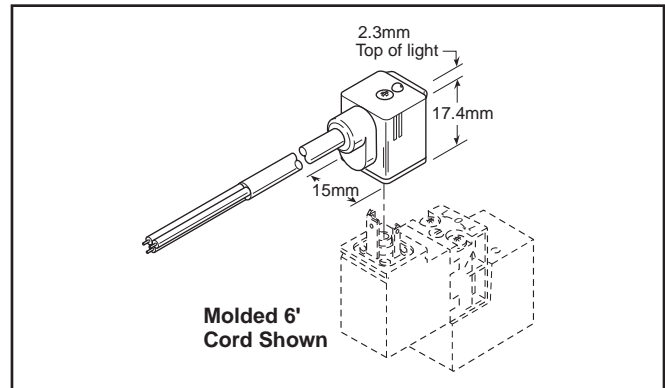
Female Electrical Connectors

**15mm 3-Pin DIN 43650C
 (Use with Enclosure "5")**

Connector	Connector with 6' (2m) Cord	Description
PS2932BP	PS2932JBP	Unlighted
PS294679BP	PS2946J79BP*	Light – 24VAC or DC
PS294683BP	PS2946J83BP*	Light – 110/120VAC

*LED with surge suppression.

Note: Max Ø6.5mm cable size required for connector w/o 6' (2m) cord.
 IP65 rated when properly installed.

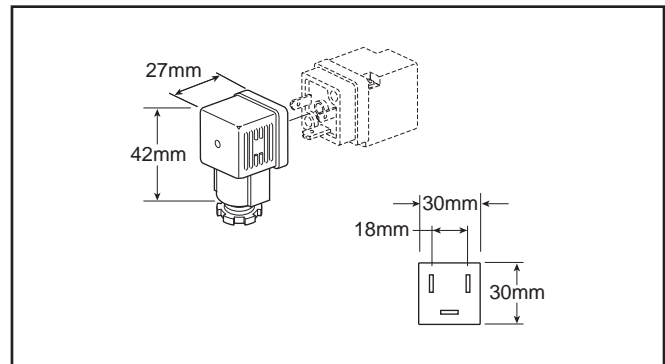


**30mm Square 3-Pin – ISO 4400, DIN 43650A
 (Use with Enclosure "A")**

Connector	Connector with 6' (2m) Cord	Description
PS2028BP	PS2028JBP	Unlighted
PS203279BP	PS2032J79BP*	Light – 6-48V, 50/60Hz, 6-48VDC
PS203283BP	PS2032J83BP*	Light – 120V/60Hz

*LED with surge suppression.

Note: Max Ø6.5mm cable size required for connector w/o 6' (2m) cord.
 IP65 rated when properly installed.

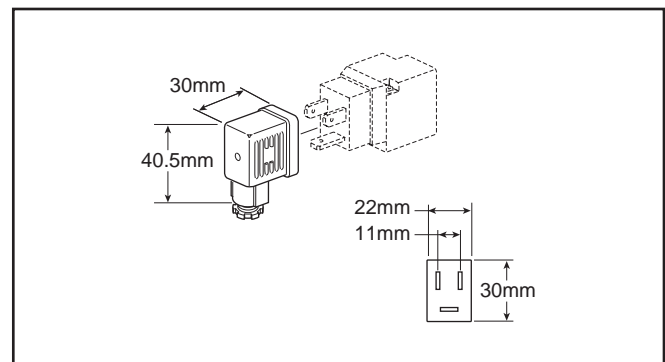


**22mm Rectangular 3-Pin – Type B Industrial
 (Use with Enclosure "B")**

Connector	Connector with 6' (2m) Cord	Description
PS2429BP	PS2429JBP	Unlighted
PS243079BP	PS2430J79BP*	Light – 24V/60Hz, 24VDC
PS243083BP	PS2430J83BP*	Light – 120V/60Hz

*LED with surge suppression.

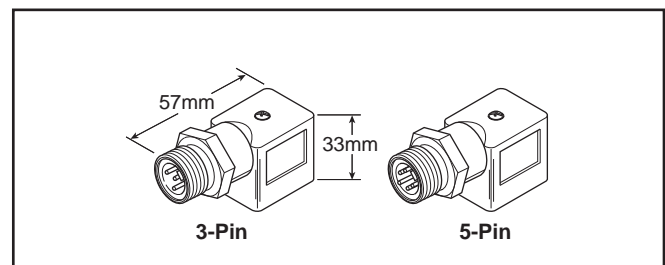
Note: Max Ø6.5mm cable size required for connector w/o 6' (2m) cord.
 IP65 rated when properly installed.



**3-Pin / 5-Pin Male Automotive Connectors
 (Use on 22mm Rectangular 3-Pin Solenoid)**

3-Pin	5-Pin	Description
PS2893CP	PS2893DP	Unlighted
PS2893C##P	PS2893D83P	Lighted - Voltage

– '83' for 120VAC
 '79' for 24VDC & 24VAC



B

3MA/4MA

3MAJ/4MAJ

ACVB Option

LPSO Option

4MNR

S

C