

The Viking Lite valve range is robust, versatile and combines a large flow capacity with short change-over times, designer may choose 1/8, 1/4 or 3/8 port sizes along with 24VDC and 120VAC voltage options. Viking Lite valves are fitted with dynamic bi-directional spool seals suitable for pressures up to 10 bar and ambient temperatures between -10°C to + 50°C. When in service, radial expansion of the spool seal occurs to maintain sealing contact with the valve bore. This sealing method reduces friction and produces a lower required pilot pressure. Valves do not require lubrication in operation but they can also be installed in systems that are lubricated.

Ports

- P2LAZ: 1/8 inch NPT & BSPP, Cv = 0.6
- P2LBZ: 1/4 inch NPT & BSPP, Cv = 1.5
- P2LCZ: 3/8 inch NPT & BSPP, Cv = 2.5

Mounting

- Inline
- IEM aluminum bar

Solenoids

2.5 watts
 - 22mm, 3-pin (DIN 43650)
 24VDC and 120VAC

- **Certification / approval**
 - IP65 Rated, RoHS, CE

Materials

Valve body	Anodized aluminium
End covers	Anodized aluminium
Spool	Aluminium
Piston	Acetal plastic / Anodized aluminium
End cover sealings	Nitrile rubber
End cover screws	Zinc plated steel
Springs	Stainless steel
Mounting screws for solenoid	Stainless steel
Spool seals	Nitrile

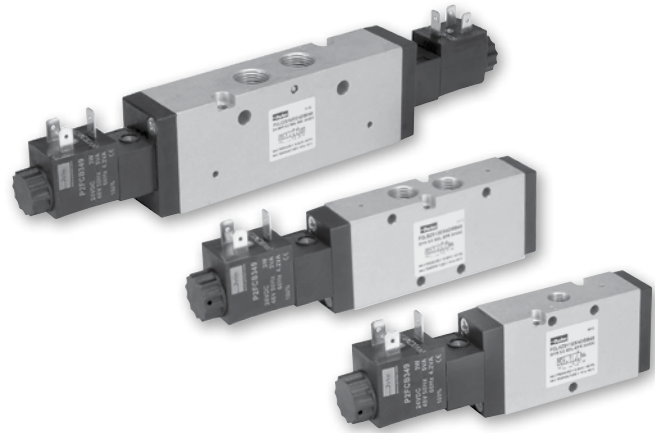
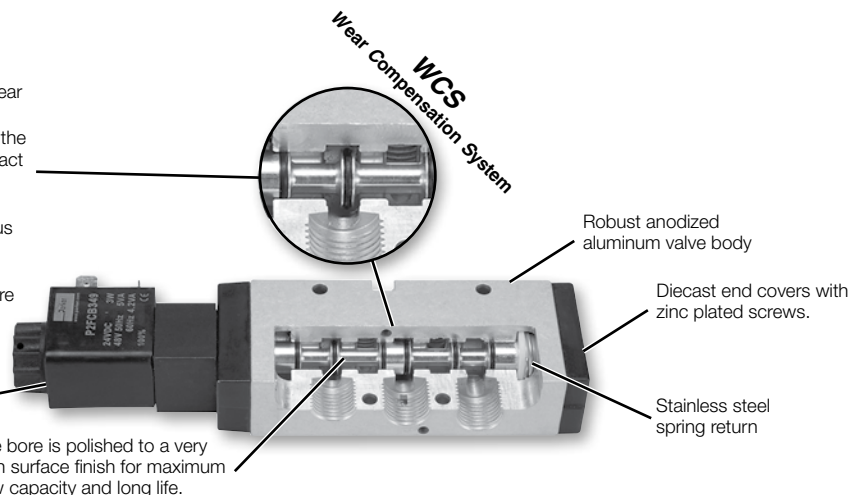
Features

WCS

- Maximum Performance
 - Low friction - fast response - less wear
- Long Cycle Life
 - Under pressure, radial expansion of the seal occurs to maintain sealing contact with the valve bore
- Non-Lube Service
 - No lubrication required for continuous valve shifting
- Bi-Directional Spool Seals
 - Common spool used for any pressure

- Solenoid operated, IP65, RoHS, CE
- 90° rotation

The bore is polished to a very high surface finish for maximum flow capacity and long life.



Operating information

Operating pressure: 145 PSIG (10 bar)
 Minimum: See chart
 Operating temperature: 14°F to 122°F (-10°C to 50°C)

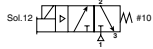
Minimum operating pressure, PSIG (bar)

Valve type - Internal pilot	P2LAZ	P2LBZ	P2LCZ
Single solenoid - spring return	43.5 (3.0)	43.5 (3.0)	43.5 (3.0)
Double solenoid - 2-position	22 (1.5)	22 (1.5)	22 (1.5)
Double solenoid - 3-position (APB, PC, CE)	43.5 (3.0)	43.5 (3.0)	43.5 (3.0)

Recommended air quality for valves

For best possible service life and trouble free operation, ISO 8573-1 quality class 3.4.3 should be used. This means 5µm filter (standard filter) dew point +3°C for indoor operation (a lower dew point should be selected for outdoor operation) and oil concentration 1.0 mg oil/m³, which is what a standard compressor with a standard filter gives.

3/2 - 2 Position Single Solenoid

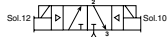


P2LAZ Shown

Port size	Cv	Response time (msec)	Weight lb (kg)	Voltage	Part number (NPT)	Part number (BSPP)
1/8	0.6	15 / 35	0.35 (0.16)	24VDC	P2LAZ391ESNDBB49	P2LAZ311ESNDBB49
				120VAC	P2LAZ391ESNDBB53	P2LAZ311ESNDBB53
1/4	1.5	18 / 45	0.35 (0.16)	24VDC	P2LBZ392ESNDBB49	P2LBZ312ESNDBB49
				120VAC	P2LBZ392ESNDBB53	P2LBZ312ESNDBB53
3/8	2.5	27 / 45	0.77 (0.35)	24VDC	P2LCZ393ESNDBB49	P2LCZ313ESNDBB49
				120VAC	P2LCZ393ESNDBB53	P2LCZ313ESNDBB53

N Series

3/2 - 2 Position Double Solenoid



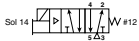
P2LAZ Shown

Port size	Cv	Response time (msec)	Weight lb (kg)	Voltage	Part number (NPT)	Part number (BSPP)
1/8	0.6	10 / 10	0.40 (0.18)	24VDC	P2LAZ391EENDBB49	P2LAZ311EENDBB49
				120VAC	P2LAZ391EENDBB53	P2LAZ311EENDBB53
1/4	1.5	12 / 12	0.40 (0.18)	24VDC	P2LBZ392EENDBB49	P2LBZ312EENDBB49
				120VAC	P2LBZ392EENDBB53	P2LBZ312EENDBB53
3/8	2.5	17 / 17	0.80 (0.36)	24VDC	P2LCZ393EENDBB49	P2LCZ313EENDBB49
				120VAC	P2LCZ393EENDBB53	P2LCZ313EENDBB53

ADEX Series

B Series

5/2 - 2 Position Single Solenoid



P2LAZ Shown

Port size	Cv	Response time (msec)	Weight lb (kg)	Voltage	Part number (NPT)	Part number (BSPP)
1/8	0.6	15 / 35	.037 (0.17)	24VDC	P2LAZ591ESNDBB49	P2LAZ511ESNDBB49
				120VAC	P2LAZ591ESNDBB53	P2LAZ511ESNDBB53
1/4	1.5	18 / 45	0.44 (0.20)	24VDC	P2LBZ592ESNDBB49	P2LBZ512ESNDBB49
				120VAC	P2LBZ592ESNDBB53	P2LBZ512ESNDBB53
3/8	2.5	27 / 45	0.95 (0.43)	24VDC	P2LCZ593ESNDBB49	P2LCZ513ESNDBB49
				120VAC	P2LCZ593ESNDBB53	P2LCZ513ESNDBB53

Viking Xtreme Series

Viking Lite Series

5/2 - 2 Position Double Solenoid



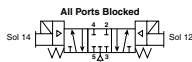
P2LAZ Shown

Port size	Cv	Response time (msec)	Weight lb (kg)	Voltage	Part number (NPT)	Part number (BSPP)
1/8	0.6	10 / 10	.042 (0.19)	24VDC	P2LAZ591EENDBB49	P2LAZ511EENDBB49
				120VAC	P2LAZ591EENDBB53	P2LAZ511EENDBB53
1/4	1.5	12 / 12	0.46 (0.21)	24VDC	P2LBZ592EENDBB49	P2LBZ512EENDBB49
				120VAC	P2LBZ592EENDBB53	P2LBZ512EENDBB53
3/8	2.5	17 / 17	0.97 (0.44)	24VDC	P2LCZ593EENDBB49	P2LCZ513EENDBB49
				120VAC	P2LCZ593EENDBB53	P2LCZ513EENDBB53

D

Inline Valve Products

5/3 - 3 Position, All Ports Blocked



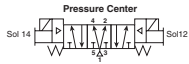
P2LAZ Shown

Port size	Cv	Response time (msec)	Weight lb (kg)	Voltage	Part number (NPT)	Part number (BSPP)
1/8	0.6	18 / 40	0.57 (0.26)	24VDC	P2LAZ691EENDBB49	P2LAZ611EENDBB49
				120VAC	P2LAZ691EENDBB53	P2LAZ611EENDBB53
1/4	1.5	22 / 55	0.62 (0.28)	24VDC	P2LBZ692EENDBB49	P2LBZ612EENDBB49
				120VAC	P2LBZ692EENDBB53	P2LBZ612EENDBB53
3/8	2.5	30 / 90	1.32 (0.60)	24VDC	P2LCZ693EENDBB49	P2LCZ613EENDBB49
				120VAC	P2LCZ693EENDBB53	P2LCZ613EENDBB53

Most popular. Notes: Response time: Actuate to 90% Pressure / Return to exhaust to 10% of Supply Pressure. (93 PS (6.3 bar) / temperature 68°F,+20°C)



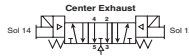
5/3 - 3 Position, Pressure Center



P2LAZ Shown

Port size	Cv	Response time (msec)	Weight lb (kg)	Voltage	Part number (NPT)	Part number (BSPP)
1/8	0.6	18 / 40	0.57 (0.26)	24VDC	P2LAZ791EENDBB49	P2LAZ711EENDBB49
				120VAC	P2LAZ791EENDBB53	P2LAZ711EENDBB53
1/4	1.5	22 / 55	0.62 (0.28)	24VDC	P2LBZ792EENDBB49	P2LBZ712EENDBB49
				120VAC	P2LBZ792EENDBB53	P2LBZ712EENDBB53
3/8	2.5	30 / 90	1.32 (0.60)	24VDC	P2LCZ793EENDBB49	P2LCZ713EENDBB49
				120VAC	P2LCZ793EENDCB53	P2LCZ713EENDBB53

5/3 - 3 Position, Center Exhaust



P2LAZ Shown

Port size	Cv	Response time (msec)	Weight lb (kg)	Voltage	Part number (NPT)	Part number (BSPP)
1/8	0.6	18 / 40	0.57 (0.26)	24VDC	P2LAZ891EENDBB49	P2LAZ811EENDBB49
				120VAC	P2LAZ891EENDBB53	P2LAZ811EENDBB53
1/4	1.5	22 / 55	0.62 (0.28)	24VDC	P2LBZ892EENDBB49	P2LBZ812EENDBB49
				120VAC	P2LBZ892EENDBB53	P2LBZ812EENDBB53
3/8	2.5	30 / 90	1.32 (0.60)	24VDC	P2LCZ893EENDBB49	P2LCZ813EENDBB49
				120VAC	P2LCZ893EENDBB53	P2LCZ813EENDBB53

Notes: Response time: Actuate to 90% Pressure / Return to exhaust to 10% of Supply Pressure. (93 PS (6.3 bar) / temperature 68°F,+20°C)

Single & Double Solenoid Operated Valves

P2LAZ591ESNDCB49

Valve size	Series	Valve type / function	Main port thread	12 End operator
1/8" A	Viking Lite Z	Internal pilot supply to solenoid	G1/8 (P2LA) 11	E Double solenoid operated valve
1/4" B		3/2 NC - 2-position 3	G1/4 (P2LB) 12	S* Single solenoid spring return
3/8" C		5/2 2-position 5	G3/8 (P2LC) 13	
		5/3 3-position, APB 6	1/8" NPT (P2LA) 91	
		5/3 3-position, PC 7	1/4" NPT (P2LB) 92	
		5/3 3-position, CE 8	3/8" NPT (P2LC) 93	

Voltage / frequency	Enclosures / lead length	Overrides	Solenoid pilot type	Valve type
49 24VDC	B 22mm rectangular 3-pin - type B industrial (male only)	C Extended - locking	D Pilot exhaust vented	N 14°F to 122°F (-10°C to 50°C)
53 120VAC	N Valve less coil	B Flush - non-locking		
Blank Valve less coil				

* Not available with 3-position valves.

Most popular.



N Series

ADEX Series

B Series

Viking Xtreme Series

Viking Lite Series

D Inline Valve Products

IEM Bar Manifold, Inline Valve Only*



Valve series	Valve function	# of Stations	Weight lb (kg)	Manifold only (NPT)	Manifold only (BSPP)
P2LAZ / P2LBZ	3-way	2	0.84 (0.38)	91213202SXZN	91213202SXZ
P2LAZ / P2LBZ	3-way	4	1.41 (0.64)	91213204SXZN	91213204SXZ
P2LAZ / P2LBZ	3-way	6	1.96 (0.89)	91213206SXZN	91213206SXZ
P2LAZ / P2LBZ	3-way	8	2.54 (1.15)	91213208SXZN	91213208SXZ
P2LAZ / P2LBZ	3-way	10	3.09 (1.40)	91213210SXZN	91213210SXZ

Kits include: Manifold, valve hold down bolts, gaskets.

N Series



Valve series	Valve function	# of Stations	Weight lb (kg)	Manifold only (NPT)	Manifold only (BSPP)
P2LAZ	4-way	2	0.68 (0.31)	9121658068N	9121658068
P2LAZ	4-way	4	1.06 (0.48)	9121658075N	9121658075
P2LAZ	4-way	6	1.39 (0.63)	9121658076N	9121658076
P2LAZ	4-way	8	1.76 (0.80)	9121658077N	9121658077
P2LAZ	4-way	10	2.16 (0.98)	9121658078N	9121658078

Kits include: Manifold, valve hold down bolts, gaskets.

ADEX Series



Valve series	Valve function	# of Stations	Weight lb (kg)	Manifold only (NPT)	Manifold only (BSPP)
P2LBZ	4-way	2	1.53 (0.69)	9121594805XN	9121594805X
P2LBZ	4-way	4	2.49 (1.13)	9121594806XN	9121594806X
P2LBZ	4-way	6	3.44 (1.56)	9121594807XN	9121594807X
P2LBZ	4-way	8	4.41 (2.00)	9121594808XN	9121594808X
P2LBZ	4-way	10	5.40 (2.45)	9121594812XN	9121594812X

Kits include: Manifold, valve hold down bolts, gaskets.

* For odd number of stations, consider Viking Xtreme bar manifold.

B Series

IEM Bar Manifold, Inline Valve Only



Valve series	Valve function	# of Stations	Manifold only (NPT)	Manifold only (BSPP)
P2LCZ	4-way	Use Viking Xtreme IEM bar manifold		

Note: P2LCZ 3-way has no IEM manifold

Viking Xtreme Series

Manifold Accessories / Parts

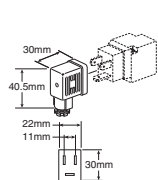


Valve series	Description	Weight lb (kg)	Kit number
P2LAZ / P2LBZ *	3-way: Blanking kit with mounting screws (2)	0.22 (0.10)	912132BPSXZ
P2LAZ *	4-way: Blanking kit with mounting screws (2)	0.11 (0.05)	9121658063
P2LBZ *	4-way: Blanking kit with mounting screws (2)	0.04 (0.02)	9121594809X

*Note: O-ring for blanking kit included with manifold. For replacement o-rings or fastener bolts, use Viking Xtreme Kits.

Viking Lite Series

22mm Rectangular 3-Pin – Type B Industrial (Use with Enclosure “B”)



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

* 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): 6 to 8mm (0.24 To 0.31 Inch); contact spacing: 11mm

Most popular.

Valve Less Coil

Remove the last 3 digits of the part number of the full valve for valve and add “N” at the end for valve less coil.



Part number example :
P2LBZ592ESNDBBB49
 valve with 24VDC solenoid
P2LBZ592ESNDBN valve less coil

Replacement Solenoid Coil



Description	Part number
24VDC coil kit	P2FCB449
110VAC coil kit	P2FCB453

Replacement Solenoid Nut



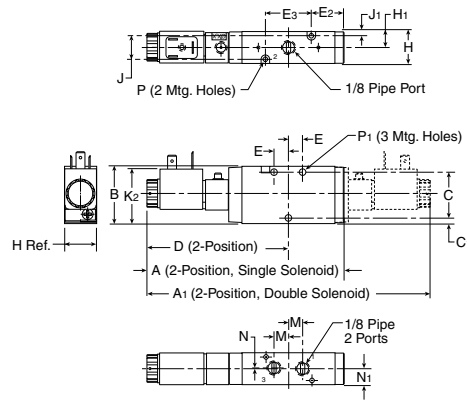
Description Solenoid diffuser nut
Part number **PS1556**



Description Solenoid vented nut
Part number **PS2892P**



P2LAZ 3/2 Single & Double Operators – Solenoid

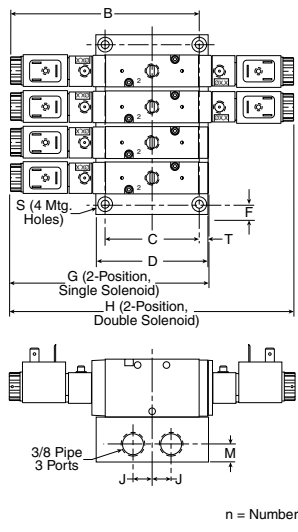


P2LAZ 3/2 (solenoid)

A	A₁	B	C	C₁
5.35 (136)	7.68 (195)	1.57 (40)	1.26 (32)	.16 (4)
D	E	E₂	E₃	H
3.84 (97.5)	.39 (10)	.91 (23)	1.26 (32)	.87 (22)
H₁	J	J₁	K₂	M
.43 (11)	.65 (16.5)	.11 (2.75)	1.50 (38)	.39 (10)
N	N₁	P	P₁	
.02 (.5)	.43 (11)	∅ .12 ∅ (3.1)	∅ .17 ∅ (4.3)	

Inches (mm)

P2LAZ 3/2 Single & Double Operators – IEM Aluminum Bar Manifold



Number of valves	X
2	2.91 (74)
4	4.80 (122)
6	6.69 (170)
8	8.58 (218)
10	10.47 (266)

Inches (mm)

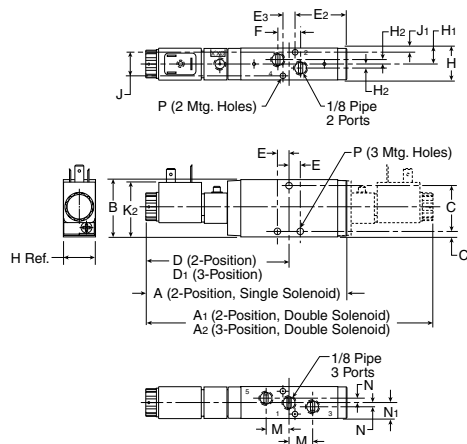
**P2LAZ 3/2
IEM Aluminum bar manifold**

B	C	D	F	G
5.06 (128.5)	2.44 (62)	2.99 (76)	.28 (7)	5.35 (136)
H	J	K	L	M
7.68 (195)	.51 (13)	2.78 (70.5)	1.20 (30.5)	.47 (12)
P	Q	R	S	T
.94 (24)	1.42 (36)	1.97 (50)	∅ .22 ∅ (5.5)	.88 (7)

Inches (mm)

Manifold bolt	Torque value
M3x40 SHCS	4 in.lb (0.45 Nm)

P2LAZ 5/2 & 5/3 Single & Double Operators – Solenoid

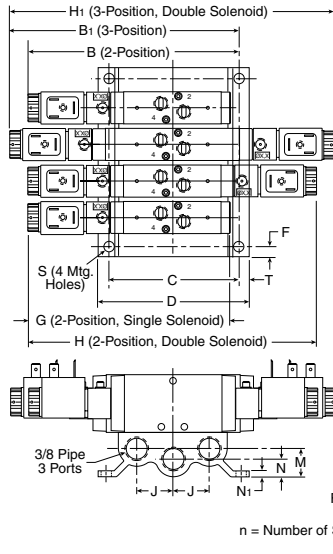


P2LAZ 5/2 & 5/3 (solenoid)

A	A₁	A₂	B	C
5.47 (139)	7.76 (197)	8.70 (221)	1.57 (40)	1.30 (33)
C₁	D	D₁	E	E₂
.14 (3.5)	3.88 (98.5)	4.35 (110.5)	.31 (8)	1.86 (47.3)
E₃	F	H	H₁	H₂
.33 (8.5)	.63 (16)	.87 (22)	.43 (11)	.12 (3)
J	J₁	K₂	M	N
.63 (16)	.12 (3)	1.50 (38)	.63 (16)	.12 (3)
N₁	P			
.43 (11)	∅ .16 ∅ (4.1)			

Inches (mm)

P2LAZ 5/2 & 5/3 Single & Double Operators – IEM Aluminum Bar Manifold



Number of valves	X
2	3.07 (78)
4	4.96 (126)
6	6.85 (174)
8	8.74 (222)
10	10.63 (270)
Inches (mm)	
Manifold bolt	Torque value
M4x45 Screw MRX	9 in.lb (0.75 Nm)

P2LAZ 5/2 & 5/3
IEM Aluminum bar manifold

B	B ₁	C	D	F
5.10 (149.5)	6.36 (161.5)	3.46 (88)	4.02 (102)	.28 (7)
G	H	H ₁	J	K
5.47 (139)	7.76 (197)	8.70 (221)	.96 (24.5)	2.76 (70)
L	M	N	N ₁	P
1.18 (30)	.75 (19)	.47 (12)	.16 (4)	.94 (24)
Q	R	S	T	
1.57 (40)	2.13 (54)	∅.28 ∅ (7)	.28 (7)	
Inches (mm)				

N Series

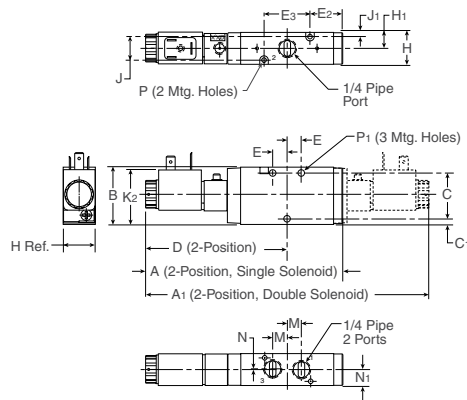
ADEX Series

B Series

Viking Xtreme Series

Viking Lite Series

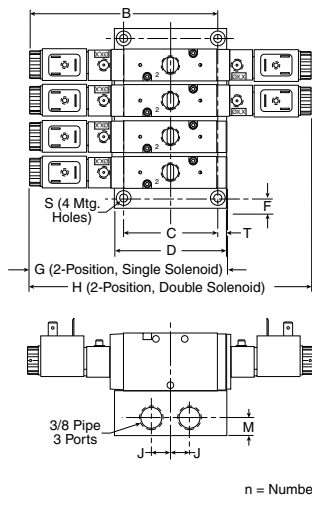
P2LBZ 3/2 Single & Double Operators – Solenoid



P2LBZ 3/2 (solenoid)

A	A ₁	B	C	C ₁
5.35 (136)	7.68 (195)	1.57 (40)	1.26 (32)	.16 (4)
D	E	E ₂	E ₃	H
3.84 (97.5)	.39 (10)	.91 (23)	1.26 (32)	.87 (22)
H ₁	J	J ₁	K ₂	M
.43 (11)	.65 (16.5)	.11 (2.75)	1.50 (38)	.39 (10)
N	N ₁	P	P ₁	
.02 (.5)	.43 (11)	∅.12 ∅ (3.1)	∅.17 ∅ (4.3)	
Inches (mm)				

P2LBZ 3/2 Single & Double Operators – IEM Aluminum Bar Manifold



Number of valves	X
2	2.91 (74)
4	4.80 (122)
6	6.69 (170)
8	8.58 (218)
10	10.47 (266)
Inches (mm)	
Manifold bolt	Torque value
M3x40 SCHS	4 in.lb (0.45 Nm)

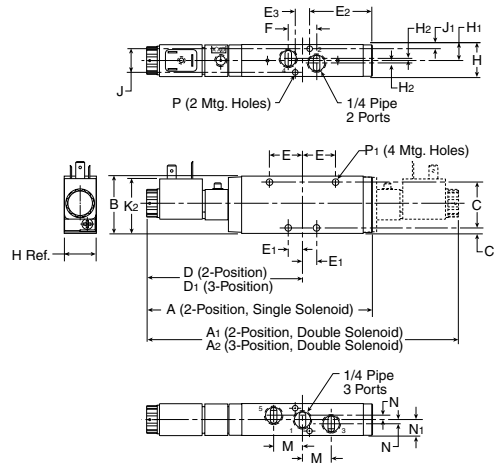
P2LBZ 3/2
IEM Aluminum bar manifold

B	C	D	F	G
5.06 (128.5)	2.44 (62)	2.99 (76)	.28 (7)	5.35 (136)
H	J	K	L	M
7.68 (195)	.51 (13)	2.78 (70.5)	1.20 (30.5)	.47 (12)
P	Q	R	S	T
.94 (24)	1.42 (36)	1.97 (50)	∅.22 ∅ (5.5)	.88 (7)
Inches (mm)				

D

Inline Valve Products

P2LBZ 5/2 & 5/3 Single & Double Operators – Solenoid

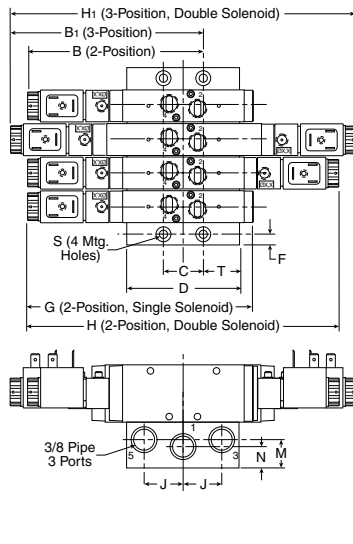


P2LBZ 5/2 & 5/3 (solenoid)

A	A1	A2	B	C
6.14 (156)	8.46 (215)	9.29 (236)	1.57 (40)	1.26 (32)
C1	D	D1	E	E1
.16 (4)	4.23 (107.5)	4.65 (118)	.91 (23)	.39 (10)
E2	E3	F	H	H1
1.14 (29)	.39 (10)	.79 (20)	.87 (22)	.43 (11)
H2	J	J1	K2	M
.06 (1.5)	.65 (16.5)	.11 (2.8)	1.50 (38)	.79 (20)
N	N1	P	P1	
.08 (2)	.43 (11)	Ø .12 (3.1)	Ø .17 (4.3)	

Inches (mm)

P2LBZ 5/2 & 5/3 Single & Double Operators – IEM Aluminum Bar Manifold



Number of valves	X
2	2.91 (74)
4	4.80 (122)
6	6.69 (170)
8	8.58 (218)
10	10.47 (266)

Inches (mm)

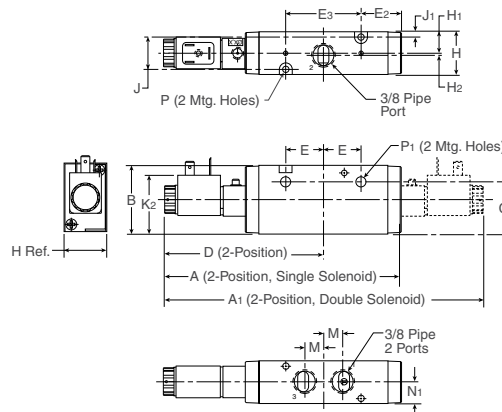
Manifold bolt	Torque value
M3x40 SCHS	9 in.lb (0.75 Nm)

**P2LBZ 5/2 & 5/3
IEM Aluminum bar manifold**

B	B1	C	D	F
4.43 (112.5)	4.84 (123)	1.04 (26.5)	2.99 (76)	.28 (7)
G	H	H1	J	K
6.14 (156)	8.46 (215)	9.29 (236)	1.02 (26)	2.781 (70.5)
L	M	N	P	Q
1.20 (30.5)	.75 (19)	.57 (14.5)	.94 (24)	1.57 (40)
R	S	T		
1.97 (50)	Ø .22 (5.5)	.97 (25)		

Inches (mm)

P2LCZ 3/2 Single & Double Operators – Solenoid

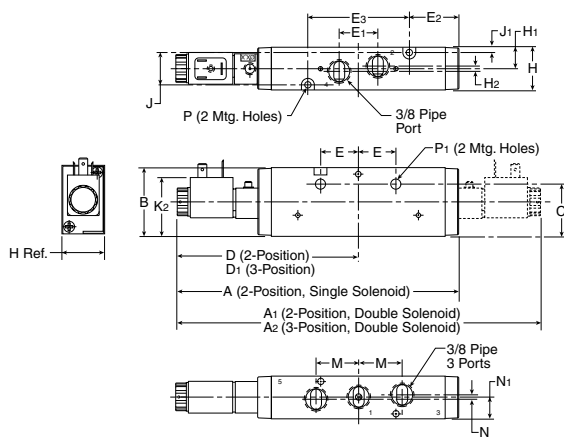


P2LCZ 3/2 (solenoid)

A	A1	B	C	D
6.50 (165)	8.66 (220)	1.89 (48)	1.46 (37)	4.33 (110)
E	E2	E3	H	H1
1.04 (26.5)	1.10 (28)	2.09 (53)	1.18 (30)	.59 (15)
H2	J	J1	K2	M
.06 (1.55)	.91 (23)	.14 (3.5)	1.50 (38)	.53 (13.5)
N1	P	P1		
.59 (15)	Ø .17 (4.4)	Ø .27 (6.9)		

Inches (mm)

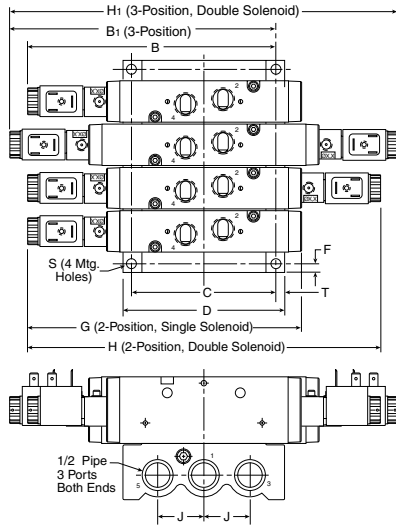
P2LCZ 5/2 & 5/3 Single & Double Operators – Solenoid



P2LBZ 5/2 & 5/3 (solenoid)

A	A1	A2	B	C
7.68 (195)	9.88 (251)	10.70 (272)	1.89 (48)	1.46 (37)
D	D1	E	E1	E2
4.94 (125.5)	5.35 (136)	1.04 (26.5)	1.06 (27)	1.71 (43.5)
E3	H	H1	H2	J
2.80 (71)	1.18 (30)	.59 (15)	.12 (.3)	.91 (23)
J1	K2	M	N	N1
.14 (3.5)	1.50 (38)	1.18 (30)	.08 (2)	.59 (15)
P	P1			
Ø .17 Ø (4.4)	Ø .27 Ø (6.9)			
Inches (mm)				

P2LCZ 5/2 & 5/3 Single & Double Operators – IEM Aluminum Bar Manifold



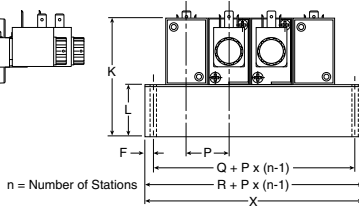
Number of valves	X
2	3.29 (84)
4	5.96 (152)
6	8.44 (215)
8	10.93 (278)
10	13.41 (341)
Inches (mm)	

Manifold bolt	Torque value
M4x50 SCHS	15 in.lb (2.0 Nm)

P2LCZ 5/2 & 5/3

IEM Aluminum bar manifold

C	D	F	G	H	
3.97 (101)	4.41 (112)	.24 (6)	7.68 (195)	9.88 (251)	
H1	J	K	L	P	
10.70 (272)	1.26 (32)	3.43 (87)	1.54 (39)	1.24 (31.5)	
Q	R	S	T		
1.77 (45)	2.24 (57)	Ø .26 Ø (6.5)	.24 (6)		
Inches (mm)					



n = Number of Stations

N Series
ADEX Series
B Series
Viking Xtreme Series
Viking Lite Series
D Inline Valve Products