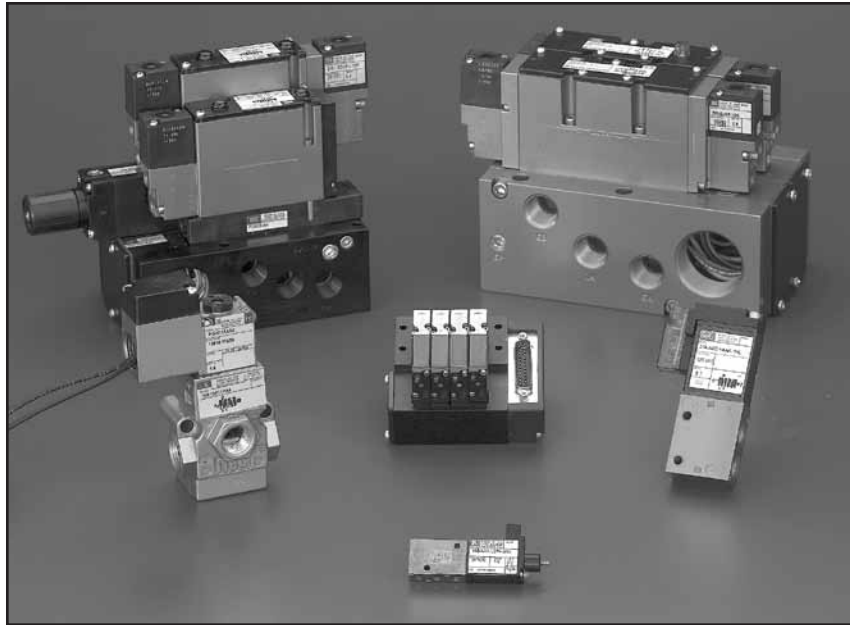


DIRECTIONAL CONTROL VALVES



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DIRECTIONAL CONTROL VALVES

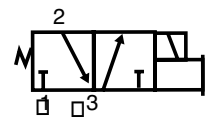
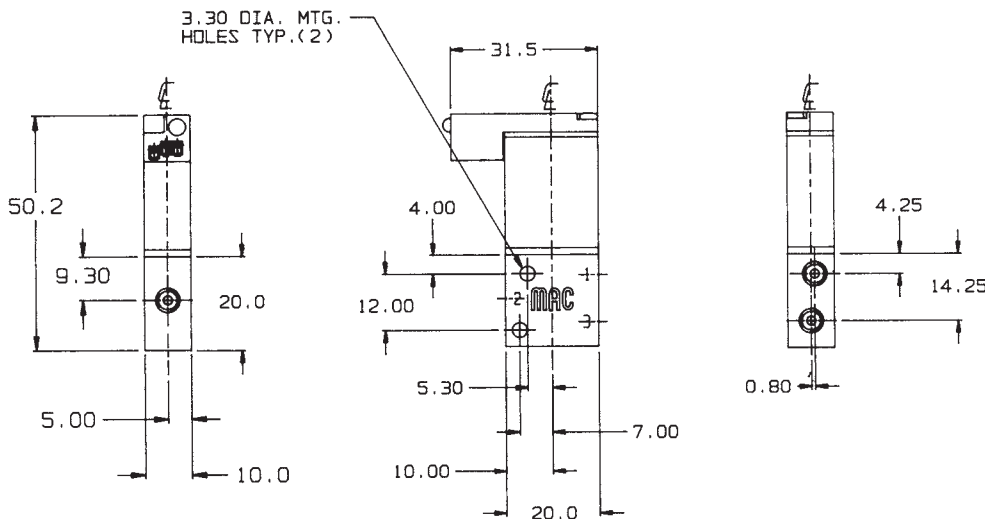
Small 3-Way IN-Stock MAC Valves

34 Series 10mm 2 & 3 Way Direct Operated Universal Inline Solenoid Valves



The MAC 34 series is a high flow, direct operated 10mm poppet valve. It uses a small poppet with high shifting force and no minimum operating pressures. The MAC short stroke, direct operated, balanced poppet provides consistent operation. The shifting forces are consistently high, regardless of inlet pressure fluctuations. The balanced, high shifting forces provide very fast and repeatable response times.

Valve suitable for use as an inline valve or with EBM style manifolds on page 2-3



Note: Dimensions are in mm, to convert to inches divide by 25.4

Images shown may not represent all part numbers listed.

Model Number	Cv	Port	Electrical	Connector
34C-AAA-GDCA-1KV	.06	#10-32	24 VDC, 1.8 W	18" Leads, Plug-in Diode & LED
34C-AAA-GDFA-1KV	.12	#10-32	24 VDC, 4.0 W	18" Leads, Plug-in Diode & LED

Operating Data

Pressure Rating: Vacuum to 120 PSI

Fluids: Air or inert gases.

Lubrication: Not required, but if used, a medium aniline point oil (180°F to 210°F) is recommended.

Ambient Temperature Range: 0°F to 120°F (-18°C to 50°C).

Flow Rating: See above.

Electrical: General purpose class A, continuous duty, encapsulated. Coil leads #22AWG.

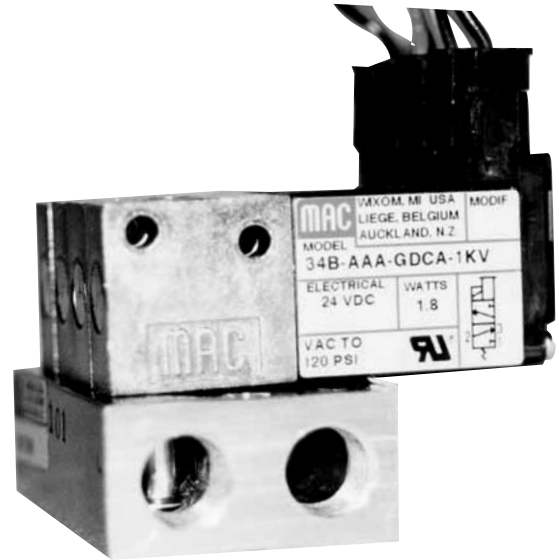
DIRECTIONAL CONTROL VALVES

Small 3-Way IN-Stock MAC Valves

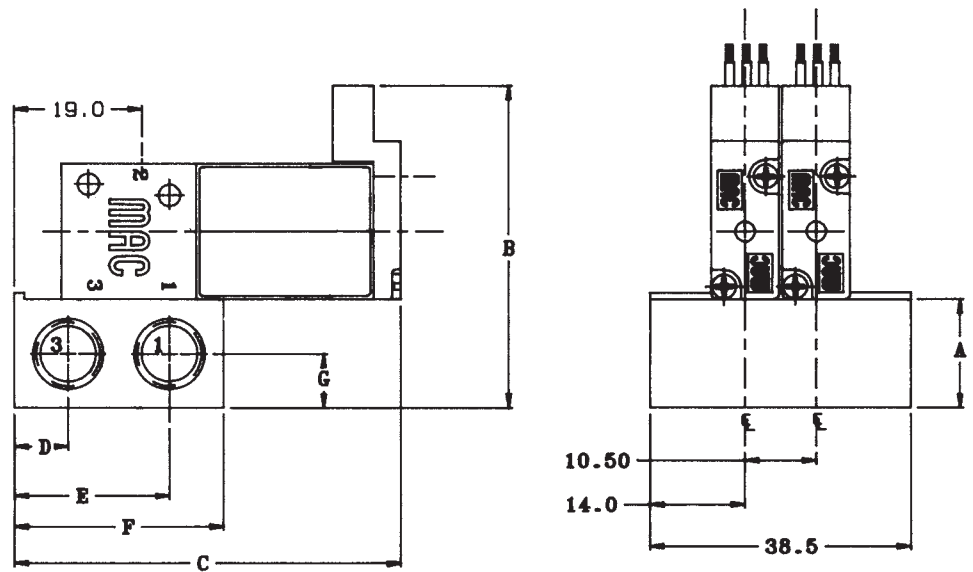
34 Series Circuit Bar Manifolds with 10.5 mm Spacing for Inline Valves



Please See Page 2-2
for IN-Stock Valve Selection



2



Dim.	A	B	C	D	E	F	G
1/8" NPTF	16.0	47.5	57.4	8.0	23.0	31.0	8.0

Note: Dimensions are in mm, to convert to inches divide by 25.4

Circuit Bar Manifolds for 34 Inline Series Valves

Images shown may not represent all part numbers listed.

Model Number	Profile	# of Stations	Port Size (Inlet & Exhaust)
EBM34B - 002A - 02	High, 16mm	2	1/8" NPT
EBM34B - 002A - 04	High, 16mm	4	1/8" NPT
EBM34B - 002A - 06	High, 16mm	6	1/8" NPT
30456 - A	Blank Station Plate	1	-

DIRECTIONAL CONTROL VALVES

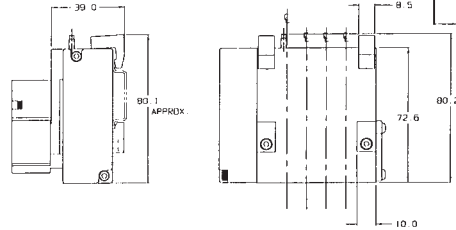
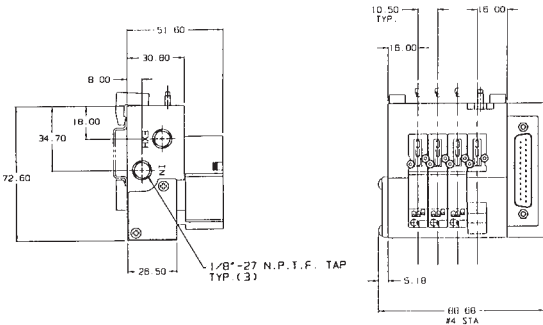
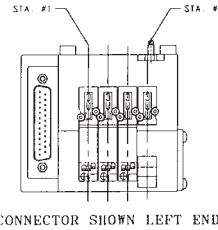
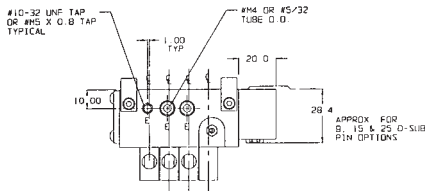
Small 3-Way IN-Stock MAC Valves

34 Series Circuit Bar Manifold with 10.5 mm Spacing
for Base Mounted Valves with 25 Pin SUB-D Connector



MAC[®]
VALVES INC.

STATION NUMBERS ARE DETERMINED
BY FACING THE CONDUIT PASSAGE
WITH STATION # 1 ON THE LEFT END



STATION NUMBERS	LEAD COLOR		SUB-D CONNECTOR PIN POSITION	POLARITY
	TO SOLENOID	FROM 25 PIN		
1	BROWN		1	-
	RED	BLUE	21	+
2	ORANGE		2	-
	RED	BLUE	21	+
3	GREEN		3	-
	RED	BLUE	21	+
4	VIOLET		4	-
	RED	BLUE	21	+
5	WHITE		5	-
	RED	PINK	22	+
6	GRAY		6	-
	RED	PINK	22	+
7	YELLOW		7	-
	RED	PINK	22	+
8	BLUE		8	-
	RED	PINK	22	+
9	PINK		9	-
	RED	WHITE/BLACK	23	+
10	WHITE/BLACK		10	-
	RED	WHITE/BLACK	23	+
11	BROWN		11	-
	RED	WHITE/BLACK	23	+
12	ORANGE		12	-
	RED	WHITE/BLACK	23	+
13	GREEN		13	-
	RED	WHITE/ORANGE	24	+
14	VIOLET		14	-
	RED	WHITE/ORANGE	24	+
15	WHITE		15	-
	RED	WHITE/ORANGE	24	+
16	GRAY		16	-
	RED	WHITE/ORANGE	24	+
17	YELLOW		17	-
	RED	WHITE/GREEN	25	+
18	BLUE		18	-
	RED	WHITE/GREEN	25	+
19	PINK		19	-
	RED	WHITE/GREEN	25	+
20	WHITE/BLACK		20	-
	RED	WHITE/GREEN	25	+

Note: Dimensions are in mm, to convert to inches divide by 25.4

Note: Manifolds Stocked with Positive Common, Negative Common available upon request.

Images shown may not represent all part numbers listed.

34 Series Plug-in Style Valves

Model Number	Cv	Electrical	Connector
34B - L00 - GDC0 - 1DV	.06	24 VDC, 1.8 W	No Lead Wire, Plug In, Diode & LED
34B - L00 - GDF0 - 1DV	.11	24 VDC, 4.0 W	No Lead Wire, Plug In, Diode & LED

34 Series Circuit Bar Manifolds with 25 Pin SUB-D Connector

Images shown may not represent all part numbers listed.

Model Number	No. of Stations	Port Size
ECF34B - 00ABA - LC04	4	#10-32 UNF
ECF34B - 00ABA - LC06	6	#10-32 UNF
ECF34B - 00ABA - LC08	8	#10-32 UNF
ECF34B - 00ABA - LC12	12	#10-32 UNF
M - 34005	Blank Cover Plate	-
24180	Wire Connector Protector	-
VT - D 25	25 PIN 10ft. SUB D Connector Cable	-

DIRECTIONAL CONTROL VALVES

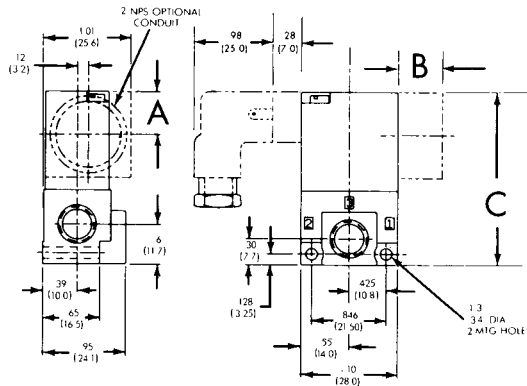
Small 3-Way IN-Stock MAC Valves 35 Series Individual Inline Direct Solenoid Valves



“BA” OPTION



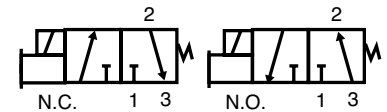
“KJ” OPTION



Conduit Connector shown for “BA” Option

DIN Connector shown for “KJ” Option

Dim.	A	B	C
CA	.49 (12.4)	.51 (13.0)	1.97 (50.0)



2

120/60, 110/50 VAC Inline Valves with 1/8" NPT Ports

Images shown may not represent all part numbers listed.

Model Number	Cv	Connector
35A-AAA-DAAA-1BA	.17	18" leads with grommet
35A-AAA-DAAJ-1KJ	.17	9.4 mm DIN Connector, male only*

24 VDC 5.4 Watt Inline Valves with 1/8" NPT Ports

Images shown may not represent all part numbers listed.

Model Number	Cv	Connector
35A-AAA-DDAA-1BA	.15	18" leads with grommet
35A-AAA-DDAJ-1KJ	.15	9.4 mm DIN Connector, male only*

24 VDC 1.8 Watt Inline Valve with 1/8" NPT Ports

Images shown may not represent all part numbers listed.

Model Number	Cv	Connector
35A-AAA-DFBA-1BA	.08	18" leads with grommet
35A-AAA-DFBJ-1KJ	.08	9.4 mm DIN Connector, male only*

Accessory for 35 Series Inline Valves with “BA” Option

Images shown may not represent all part numbers listed.

Model Number	Description
E-45056	Metal Bolt-On Conduit

*Note: For mating 9.4 mm DIN Connectors or molded cordsets, reference page 2-44.

DIRECTIONAL CONTROL VALVES

Small 3-Way IN-Stock MAC Valves

35 Series Valves for Manifold Mounting

120/60, 110/50 VAC Manifold Valves No Base

Images shown may not represent all part numbers listed.

Model Number	Cv	Connector
35A-B00-DAAA-1BA	.17	18" leads
35A-B00-DAAJ-1KJ	.17	9.4 mm DIN Connector, male only*



Add-A-Unit
Manifold
with "KJ"
Option



Manifold valve
with "BA" Option

24 VDC 5.4 Watt Manifold Valves No Base

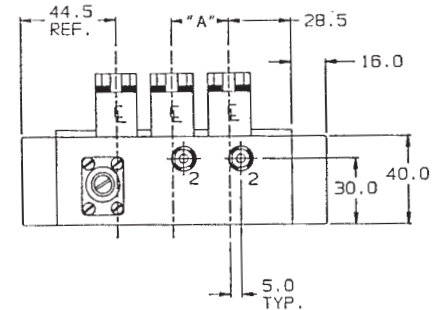
Images shown may not represent all part numbers listed.

Model Number	Cv	Connector
35A-B00-DDAA-1BA	.15	18" leads
35A-B00-DDAJ-1KJ	.15	9.4 mm DIN Connector, male only*

24 VDC 1.8 Watt Manifold Valves No Base

Images shown may not represent all part numbers listed.

Model Number	Cv	Connector
35A-B00-DFBA-1BA	.08	18" leads
35A-B00-DFBJ-1KJ	.08	9.4 mm DIN Connector, male only*



35 Series Fixed Length Manifolds

Fixed Length Manifolds with Side Outlet Ports, see page 2-7 for dimension detail

Images shown may not represent all part numbers listed.

Model Number	No. of Stations	Ports
EBM35A-001A-02	2	1/8" NPT
EBM35A-001A-04	4	1/8" NPT
EBM35A-001A-06	6	1/8" NPT
M-35004	Blank Station Plate	-

Add-A-Unit Manifolds Components, see page 2-7 for dimension detail

Images shown may not represent all part numbers listed.

Model Number	Ports	Description
35A-OAE	1/8" NPT	Normally Closed Manifold Base
35A-OAF	1/8" NPT	Normally Open Manifold Base
35A-OAJ	1/8" NPT	N.C. Manifold Base with Regulator/Adj. Knob
M-35003-01	1/4" NPT	End Plate Kit (1 required per assembly)
N-35006	-	Isolator, Inlet and Exhaust
N-35007	-	Isolator, Inlet Only
N-35008	-	Isolator, Exhaust Only
PMG-160	-	15mm Gauge 0-150 PSI (N-35005 necessary for mounting)
N-35005	-	Gauge Adaptor

*Note: For mating 9.4 mm DIN Connectors or molded cordsets, reference page 2-44.

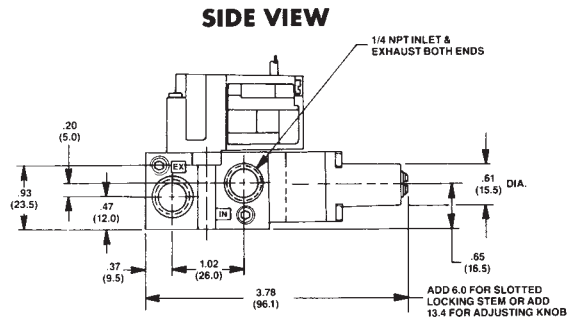
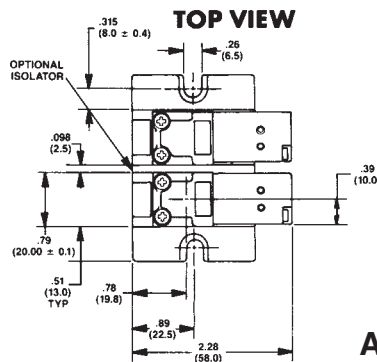
DIRECTIONAL CONTROL VALVES

Small 3-Way IN-Stock MAC Valves 35 Series Valves for Manifold Mounting

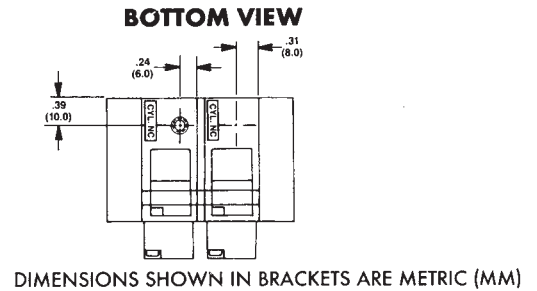
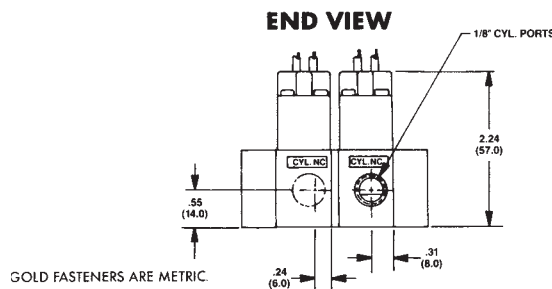


EBM Manifold

2

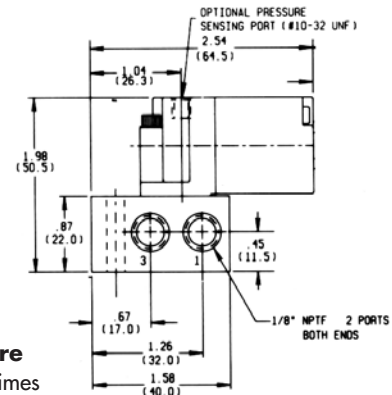
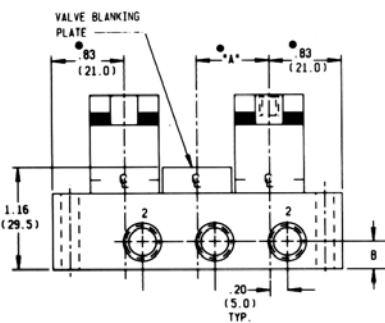


ADD-A-MANIFOLD



DIM.	STANDARD SPACING	SPACING FOR CA & JB	SPACING FOR GAGES
A	.83 (21.0)	1.02 (26.0)	1.57 (40.0)

DIM.	PORT SIZE	
B	1/8"	10-32 & MS
	.31 (8.0)	.22 (5.5)
D	.96 (24.5)	.95 (24.2)



FIXED LENGTH MANIFOLDS

The overall length of a bar, **when all stations are identical**, is one less than the number of stations times the center distances selected, plus 42 mm (to provide common inlet, exhaust and mounting holes.)

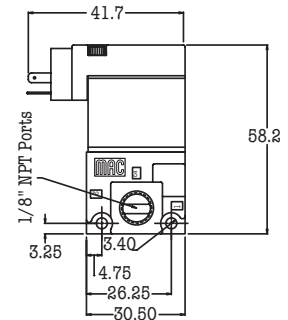
DIRECTIONAL CONTROL VALVES

36 Series Direct Operating Inline Valves

3-Way Inline Valves 120/60, 110/50 VAC with 1/8" NPT Ports

Model Number	Cv	Connector
MAC-36A-AAA-JAAA-1GGG	0.3	18" Mac Jac leads with ground wire, no light
MAC-36A-AAA-JAA0-1KR	0.3	9.4 mm DIN Connector, male only*, no light

Images shown may not represent all part numbers listed.

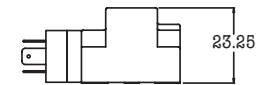


**GGG/GA
Option**

3-Way Inline Valves 24 VDC, 5.4 watt with 1/8" NPT Ports

Model Number	Cv	Connector
MAC-36A-AAA-JDAA-1GA	0.3	18" Mac Jac leads without light or diode
MAC-36A-AAA-JDA0-1KJ	0.3	9.4 mm DIN Connector, male only*, no light

Images shown may not represent all part numbers listed.



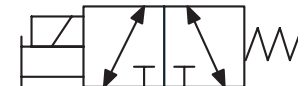
36 Series Inline Valve

3-Way Inline Valves 24 VDC, 1.8 watt with 1/8" NPT Ports

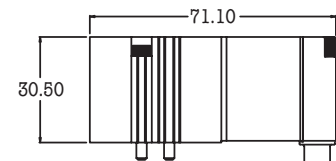
Model Number	Cv	Connector
MAC-36A-AAA-JDEA-1GA	0.15	18" Mac Jac leads without light or diode
MAC-36A-AAA-JDE0-1KJ	0.15	9.4 mm DIN Connector, male only*, no light

Images shown may not represent all part numbers listed.

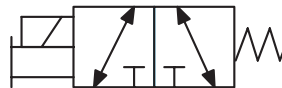
KJ/KR Option



36 Series Plug-In Valves for Use with ECD Plug-In Manifolds and **MACconnect™** Manifolds



36 Plug In Valve



See pages 2-23 and 2-24 for Manifold options.

36 Series Plug-In Manifold Mount Valves

Images shown may not represent all part numbers listed.

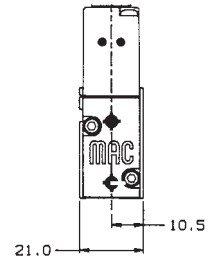
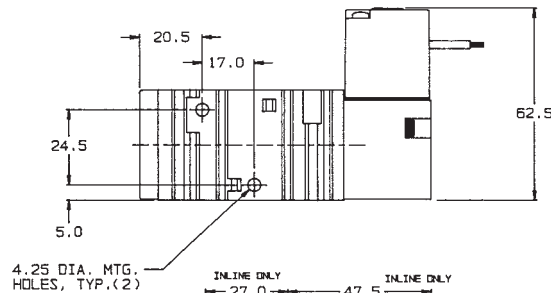
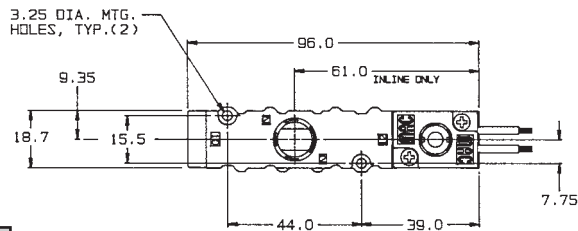
Model Number	Cv	Description
36A-J00-00-JAAP-1FH	0.3	120 VAC, with Light
36A-J00-00-JDAP-1FE	0.3	24 VDC, 5.4 watt with Light and Diode, Positive Common
36A-J00-00-JDAP-1FK	0.3	24 VDC, 5.4 watt with Light and Diode, Negative Common
36A-J00-00-JDEP-1FE	0.15	24 VDC, 1.8 watt with Light and Diode, Positive Common
36A-J00-00-JDEP-1FK	0.15	24 VDC, 1.8 watt with Light and Diode, Negative Common

DIRECTIONAL CONTROL VALVES

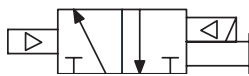
Large 3-Way IN-Stock MAC Valves 52 Series Individual Inline Valves



"KJ" Option



Note: Above valves are pilot operated. Minimum operating pressure for internal pilot valves is 20 PSIG.



NORMALLY CLOSED

120/60, 110/50 VAC Inline Valves with 1/4" Ports

Images shown may not represent all part numbers listed.

Model Number	Cv	Pilot Type	Connector
52A-11-BOA-DM-DJAJ-1KJ	1.5	INTERNAL	9.4 mm DIN Connector, male only*
52A-11-BOB-DM-DJAJ-1KJ	1.5	EXTERNAL	9.4 mm DIN Connector, male only*

24 VDC 1.8 Watt Inline Valves with 1/4" Ports

Images shown may not represent all part numbers listed.

Model Number	Cv	Pilot Type	Connector
52A-11-B0A-DM-DFBJ-1KJ	1.5	INTERNAL	9.4 mm DIN Connector, male only*
52A-11-B0B-DM-DFBJ-1KJ	1.5	EXTERNAL	9.4 mm DIN Connector, male only*

*Note: For mating 9.4 mm DIN Connectors or molded cordsets, reference page 2-44.

DIRECTIONAL CONTROL VALVES

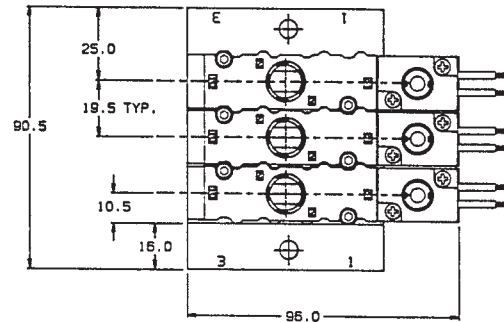
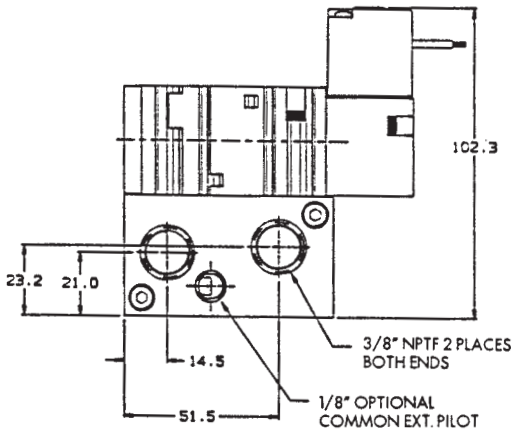
Large 3-Way IN-Stock MAC Valves

52 Series Add-A-Unit Manifolds for Inline Valves

2



Add-A-Unit Manifold with "KJ" Option



Add-A-Unit Manifolds for 52 Series Inline Valves (see page 2-9 for valve selection)

Images shown may not represent all part numbers listed.

Model Number	Description	Port
CBM052A-00ABA-02	2 Station Add-a-Unit w/ end plate kit	3/8" NPT Inlet & Exhaust, 1/4" NPT Cylinder Ports
CBM052A-00ABA-04	4 Station Add-a-Unit w/ end plate kit	3/8" NPT Inlet & Exhaust, 1/4" NPT Cylinder Ports
CBM052A-00ABA-06	6 Station Add-a-Unit w/ end plate kit	3/8" NPT Inlet & Exhaust, 1/4" NPT Cylinder Ports
CBM052A-01AEA-01	Add-a-Unit Middle Station	3/8" NPT Inlet & Exhaust, 1/4" NPT Cylinder Ports
M-04001	Valve Blanking Plate	—

DIRECTIONAL CONTROL VALVES

Large 3-Way IN-Stock MAC Valves 55 Series Individual Valves



“AA” OPTION



“JM” OPTION



55 Series dimensional drawings are located on page 2-12
Operating Pressure: 25-150 psi
Note: External Pilot (see notes below)

120/60, 110/50 VAC Inline Valves, Internal Pilot

Model Number	Cv	Port	Connector
55B-12-PI-111AA	2.5	3/8" NPT	J.I.C. Wiring box w/ 1/2" Conduit
55B-12-PI-111JM	2.5	3/8" NPT	11 mm DIN Connector, male only*

Images shown may not represent all part numbers listed.

24 VDC 2.5 Watt Inline Valves, Internal Pilot

Model Number	Cv	Port	Connector
55B-12-PI-591AA	2.5	3/8" NPT	J.I.C. Wiring box w/ 1/2" Conduit
55B-12-PI-591JM	2.5	3/8" NPT	11 mm DIN Connector, male only*

Images shown may not represent all part numbers listed.

External Pilot Option: 55 Series Valves can be converted from internal to external pilot by rotating the pilot adapter 180 degrees and unplugging the 10-32 or M-5 port provided.

Note: Also available with Remote Air Operator. See Page 2-42.

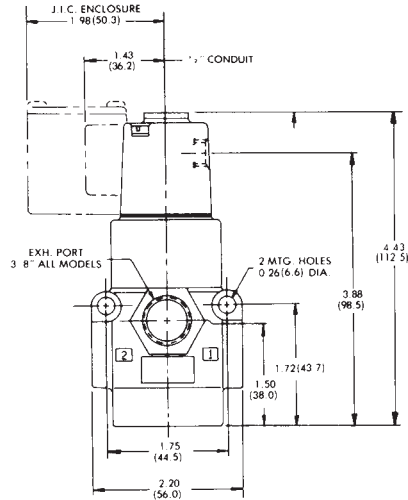
***Note:** For mating 11mm DIN Connectors or molded cordsets, reference page 2-45.

DIRECTIONAL CONTROL VALVES

Large 3-Way IN-Stock MAC Valves

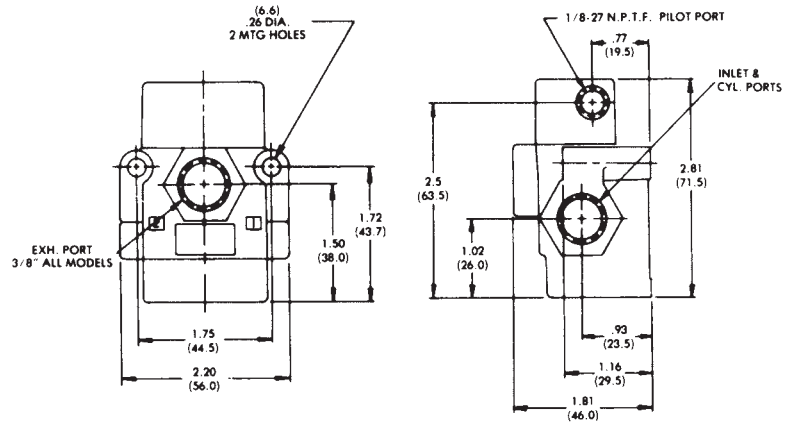
55 Series Individual Valves Dimensional Drawings

SOLENOID & REMOTE AIR PILOT, PILOT OPERATED



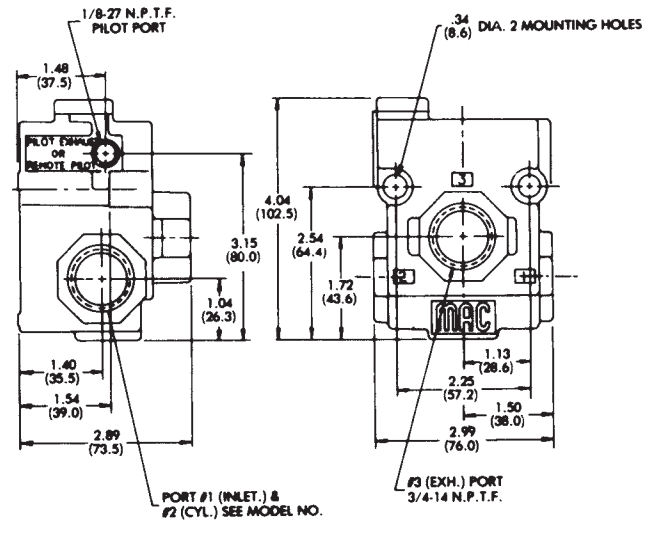
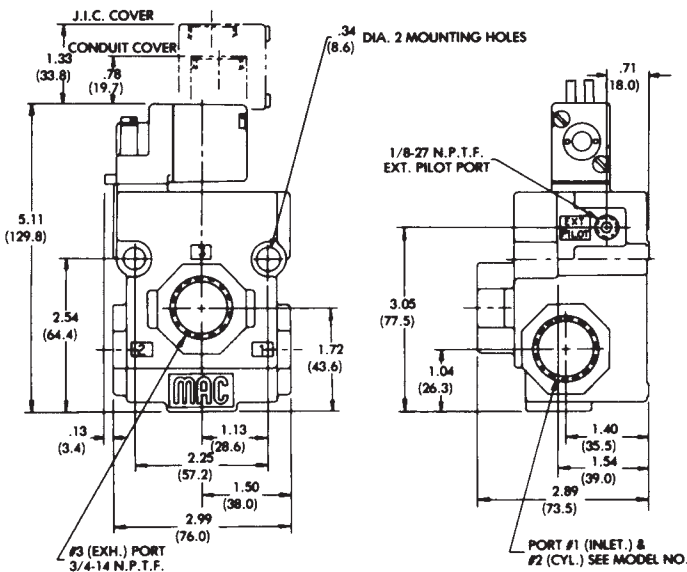
- 1= Inlet
- 2= Outlet
- 3= Exhaust

REMOTE AIR PILOT OPERATED



See page 2-42 for ordering details

56 Series Individual Valves Dimensional Drawings



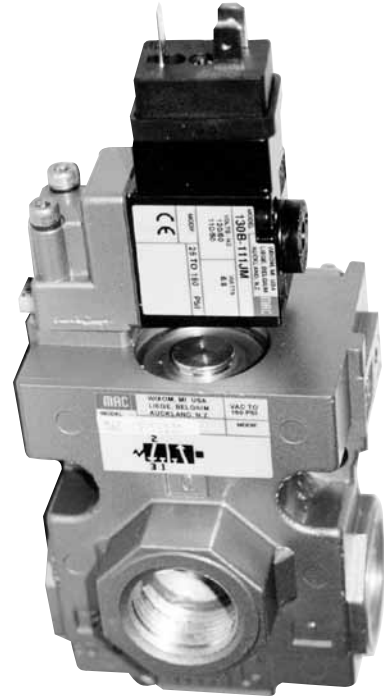
See page 2-13 for ordering information for the 56 Series

See page 2-43 for ordering details

DIRECTIONAL CONTROL VALVES

Large 3-Way IN-Stock MAC Valves 56 Series Individual Valves

MAC[®]
VALVES INC.



2



56 Series dimensional drawings are located on page 2-12

120/60, 110/50 VAC Inline Valves with 3/4" NPT Ports

Images shown may not represent all part numbers listed.

Model Number	Cv	Pilot Type	Connector
56C-17-111JM	5.4	INTERNAL	11 mm DIN Connector, male only*
56C-37-111JM	5.4	EXTERNAL	11 mm DIN Connector, male only*

24 VDC 2.5 Watt Valves with 3/4" NPT Ports

Images shown may not represent all part numbers listed.

Model Number	Cv	Pilot Type	Connector
56C-17-591JM	5.4	INTERNAL	11 mm DIN Connector, male only*
56C-37-591JM	5.4	EXTERNAL	11 mm DIN Connector, male only*

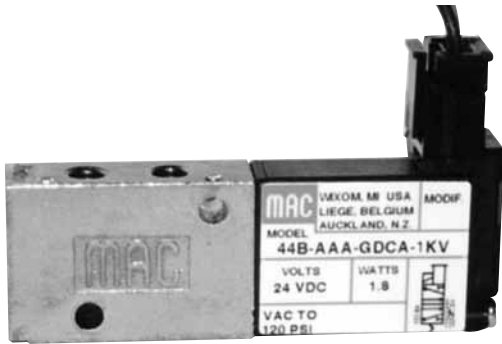
*Note: For mating 11 mm DIN Connectors or molded cordsets, reference page 2-45.

Changing from Normally Open to Normally Closed: The 56 Series is supplied with a function plate between the solenoid pilot and the main valve. When this function plate is installed so that the “3-C” is visible, the valve operates as “Normally Closed”. When the function plate is installed so that “3-0” is visible, the valve will function as a “Normally Open” valve.

DIRECTIONAL CONTROL VALVES

Small 4-Way IN-Stock MAC Valves

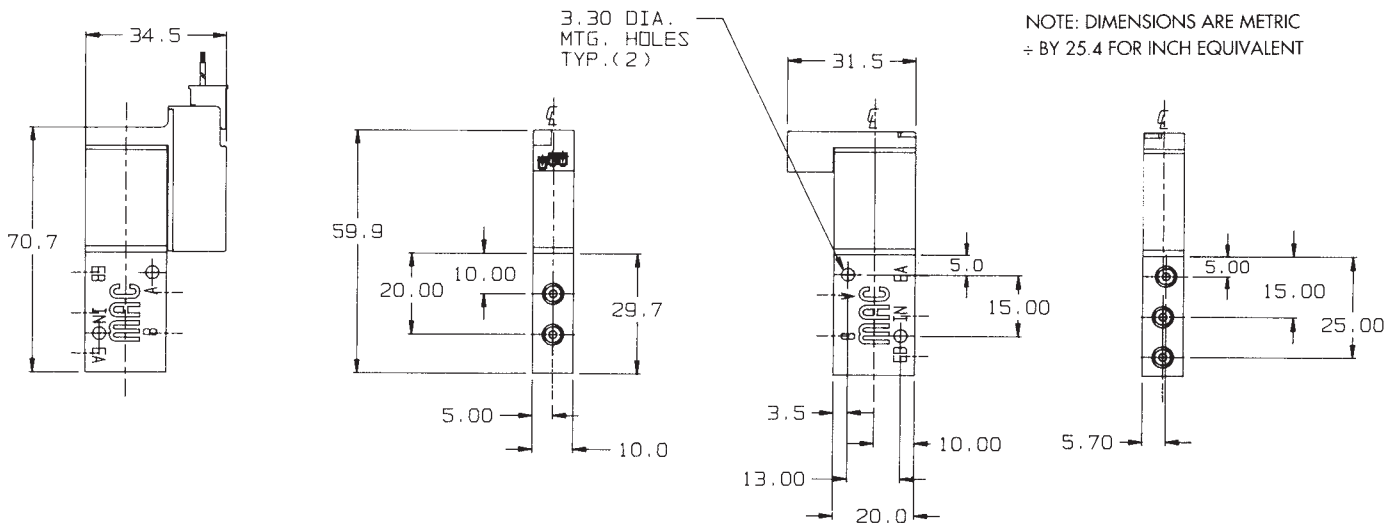
44 Series 10mm 5-Ported Direct Solenoid Operated Inline Valves



Valves suitable for use as an inline valve or with EBM style manifolds on page 2-15

MAC[®]
VALVES INC.

2



Note: Dimensions are in mm, to convert to inches divide by 25.4

44 Series Single Solenoid Inline Valves

Model Number	Cv	Port	Electrical	Connector
44C-AAA-GDCA-1KV	.06	#10-32	24 VDC, 1.8W	Plug-in, Diode & LED, 18" Lead
44C-AAA-GDFA-1KV	.10	#10-32	24 VDC, 4.0W	Plug-in, Diode & LED, 18" Lead

Images shown may not represent all part numbers listed.

Operating Data

Pressure Rating: Vacuum to 120 PSI

Fluids: Air or inert gases.

Lubrication: Not required, but if used, a medium aniline point oil (180°F to 210°F) is recommended.

Ambient Temperature Range: 0°F to 120°F (-18°C to 50°C)

Flow Rating: See above.

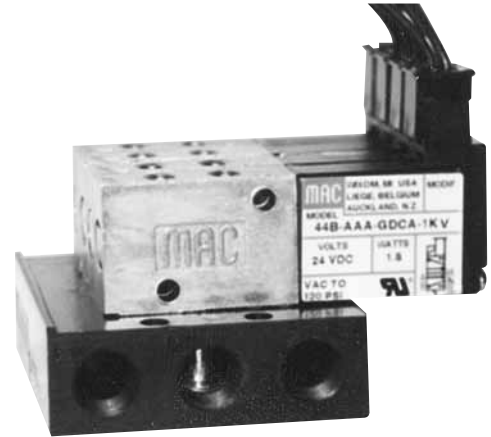
Electrical: General purpose class A, continuous duty, encapsulated. Coil leads #22AWG.

DIRECTIONAL CONTROL VALVES

Small 4-Way IN-Stock MAC Valves 44 Series Circuit Bar Manifolds with 10.5 mm Spacing for Inline Valves

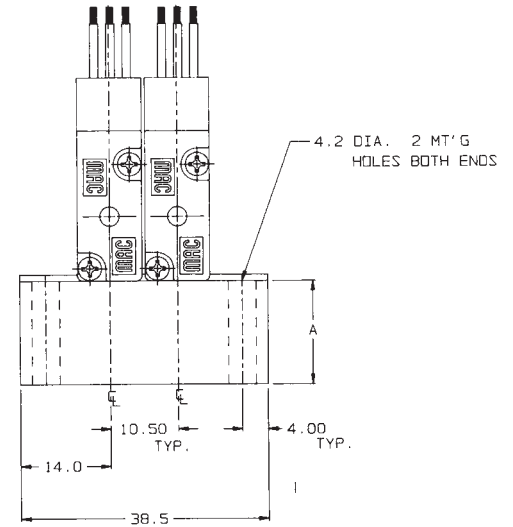
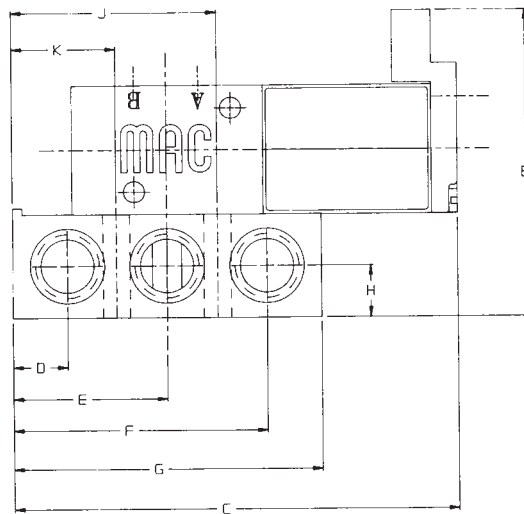


ECF Style Manifold



EBM Style Manifold

See page 2-16 for details



EBM Style Manifold Dimensions

Note: Dimensions are in mm, to convert to inches divide by 25.4

INLET/EXHAUST PORT SIZE	A	B	C	D	E	F	G	H	J	K
1/8" NPTF	16.0	47.5	69.2	8.5	24.0	39.5	48.0	8.0	31.85	16.15

44 Series Circuit Bar Manifolds For Inline Valves (see page 2-14 for valve selection)

Model Number	Profile	Number of Stations	PORTING	
			INLET & EXHAUST	CYLINDER PORTS
EBM44B - 002A - 02	High, 16mm	2	1/8" NPT	10-32 in valve body
EBM44B - 002A - 04	High, 16mm	4	1/8" NPT	10-32 in valve body
EBM44B - 002A - 06	High, 16mm	6	1/8" NPT	10-32 in valve body
EBM44B - 002A - 08	High, 16mm	8	1/8" NPT	10-32 in valve body
30426-A	Blank Station Plate	-	-	-

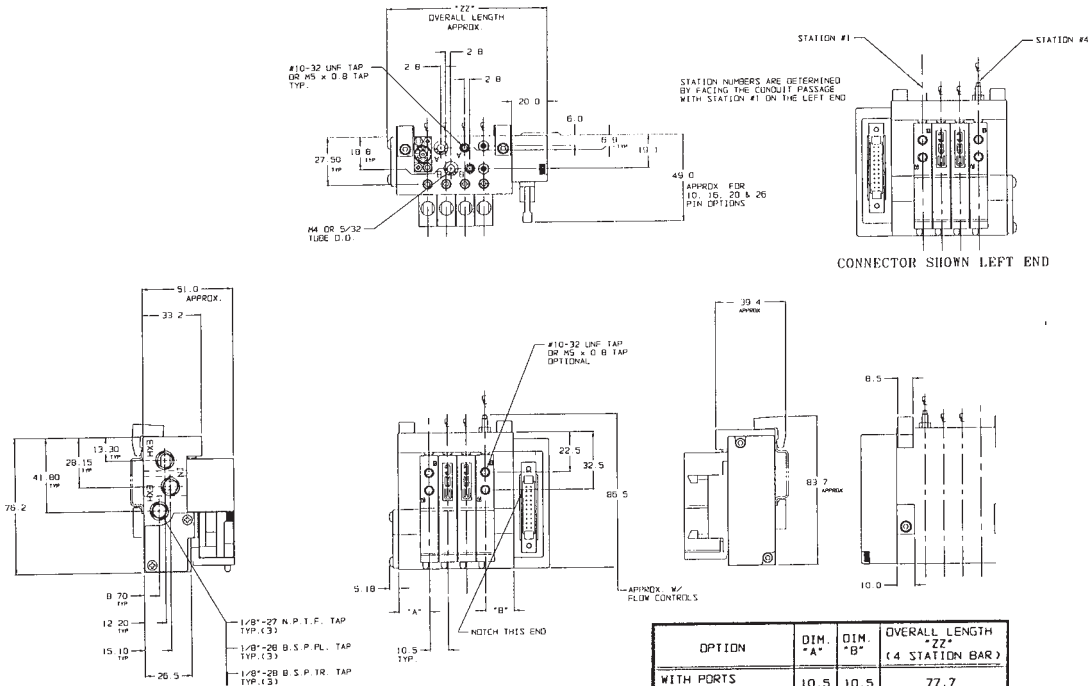
Images shown may not represent all part numbers listed.

DIRECTIONAL CONTROL VALVES

Small 4-Way IN-Stock MAC Valves

44 Series Circuit Bar Manifold with 10.5 mm Spacing for Base Mounted Valves

SOLENOID WIRE IDENTIFICATION	25-PIN SUB-D CONNECTOR PIN POSITION	POLARITY	VALVE FUNCTION
1	1	-	IN ⇒ CYL A
	23	+	COMMON
2	2	-	IN ⇒ CYL B
	3	-	IN ⇒ CYL A
3	23	+	COMMON
	4	-	IN ⇒ CYL B
4	5	-	IN ⇒ CYL A
	23	+	COMMON
5	6	-	IN ⇒ CYL B
	7	-	IN ⇒ CYL A
6	23	+	COMMON
	8	-	IN ⇒ CYL B
7	9	-	IN ⇒ CYL A
	24	+	COMMON
8	10	-	IN ⇒ CYL B
	11	-	IN ⇒ CYL A
9	24	+	COMMON
	12	-	IN ⇒ CYL B
10	13	-	IN ⇒ CYL A
	24	+	COMMON
11	14	-	IN ⇒ CYL B
	15	-	IN ⇒ CYL A
12	24	+	COMMON
	16	-	IN ⇒ CYL B
13	17	-	IN ⇒ CYL A
	25	+	COMMON
14	18	-	IN ⇒ CYL B
	19	-	IN ⇒ CYL A
15	25	+	COMMON
	20	-	IN ⇒ CYL B
16	21	-	IN ⇒ CYL A
	22	-	IN ⇒ CYL B



ECF Style Manifold Dimensions

OPTION	DIM. "A"	DIM. "B"	OVERALL LENGTH "ZZ" (4 STATION BAR)
WITH PORTS IN VALVE	10.5	10.5	77.7
WITH FLOW CONTROLS	16.0	16.0	88.7
WITH #10-32 OR M5 CYL. PORTS	16.0	16.0	88.7
WITH 4mm OR 5/32 TUBE FITTING	17.5	17.5	91.7
WITH REGULATOR	17.5	17.5	91.7

Note: Dimensions are in mm, to convert to inches divide by 25.4

44 Series Single Solenoid Plug-In Style Valves for Use with ECF Manifolds

Model Number	Cv	Electrical	Connector
44B-M00-GDC0-1DV	.06	24 VDC, 1.8 Watt	No Lead Wire, Plug-In, Diode & LED
44B-M00-GDF0-1DV	.11	24 VDC, 4.0 Watt	No Lead Wire, Plug-In, Diode & LED

Images shown may not represent all part numbers listed.

44 Series Side Ported Circuit Bar Manifolds with 25 Pin SUB-D Connector

Model Number	No. of Stations	Cylinder Port Size	Inlet & Exhaust
ECF44B-00BBA-RC04	4	#10-32 UNF	1/8 NPTF
ECF44B-00BBA-RC06	6	#10-32 UNF	1/8 NPTF
ECF44B-00BBA-RC08	8	#10-32 UNF	1/8 NPTF
ECF44B-00BBA-RC10	10	#10-32 UNF	1/8 NPTF
M-44003	Valve Cover Plate	-----	-----
24180	Wire Connector Plate	-----	-----
VT-D25	25 PIN 10ft. SUB D Connector Cable		

Images shown may not represent all part numbers listed.

Note: Manifolds Stocked with Positive Common, Negative Common available upon request.

DIRECTIONAL CONTROL VALVES

Small 4-Way IN-Stock MAC Valves 45 Series Direct Solenoid Operated Valves

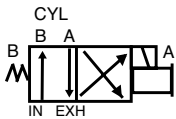
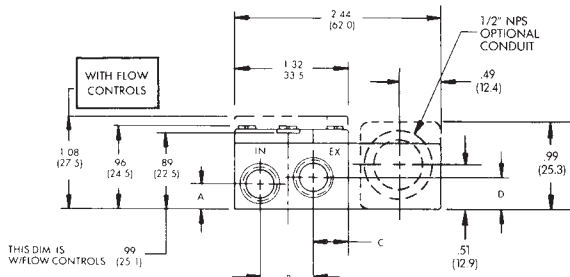
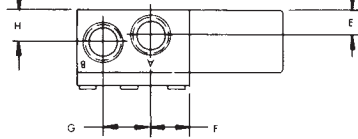


"BA" Option
With Flow
Controls

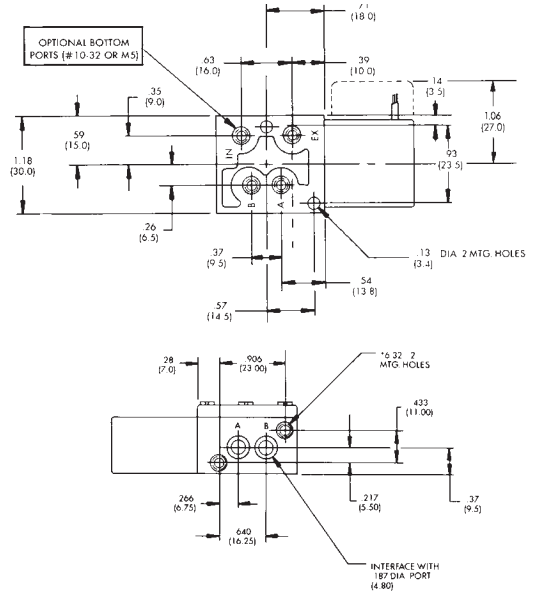


"KJ" Option

4 WAY-4 PORTS



CONDUIT OPTION SHOWN
SEE PAGE 2-18



120/60, 110/50 VAC Single Solenoid Inline Valves with 1/8" NPT Ports

Model Number	Cv	Flow Control	Connector
45A-AA1-DAAA-1BA	.15	NO	18" Leads with Grommet
45A-AA2-DAAA-1BA	.15	YES	18" Leads with Grommet
45A-AA1-DAAJ-1KJ	.15	NO	9.4 mm DIN Connector, male only*
45A-AA2-DAAJ-1KJ	.15	YES	9.4 mm DIN Connector, male only*

Images shown may not represent all part numbers listed.

24 VDC 5.4 Watt Single Solenoid Valves with 1/8" NPT Ports

Model Number	Cv	Flow Control	Connector
45A-AA1-DDAA-1BA	.15	NO	18" Leads with Grommet
45A-AA2-DDAA-1BA	.15	YES	18" Leads with Grommet
45A-AA1-DDAJ-1KJ	.15	NO	9.4 mm DIN Connector, male only*
45A-AA2-DDAJ-1KJ	.15	YES	9.4 mm DIN Connector, male only*

Images shown may not represent all part numbers listed.

24 VDC 1.8 Watt Single Solenoid Valves with 1/8" NPT Ports

Model Number	Cv	Flow Control	Connector
45A-AA1-DFBA-1BA	.10	NO	18" Leads with Grommet
45A-AA2-DFBA-1BA	.10	YES	18" Leads with Grommet
45A-AA1-DFBJ-1KJ	.10	NO	9.4 mm DIN Connector, male only*
45A-AA2-DFBJ-1KJ	.10	YES	9.4 mm DIN Connector, male only*

Images shown may not represent all part numbers listed.

*Note: For mating 9.4 mm DIN Connectors or molded cordsets, reference page 2-44.

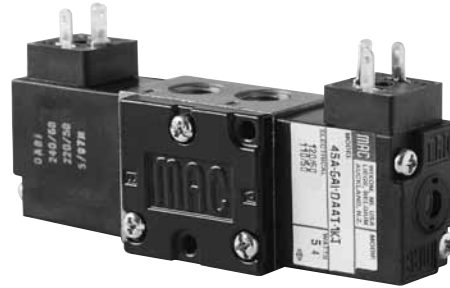
DIRECTIONAL CONTROL VALVES

Small 4-Way IN-Stock MAC Valves

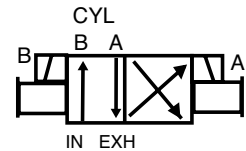
45 Series Double Solenoid Operated Valves



“BA” Option



“KJ” Option



120/60 110/50 VAC Double Solenoid Inline Valves with 1/8" NPT Ports

Model Number	Cv	Connector
45A-GA1-DAAJ-1KJ	.18	9.4 mm DIN Connector, male only*
45A-GA1-DAAA-1BA	.18	18" Leads with grommet

Images shown may not represent all part numbers listed.

24 VDC 5.4 Watt Double Solenoid Inline Valves with 1/8" NPT Ports

Model Number	Cv	Connector
45A-GA1-DDAJ-1KJ	.15	9.4 mm DIN Connector, male only*
45A-GA1-DDAA-1BA	.15	18" Leads with grommet

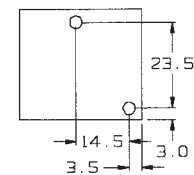
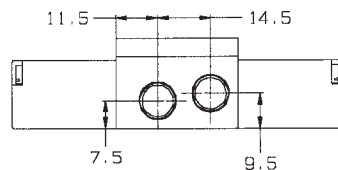
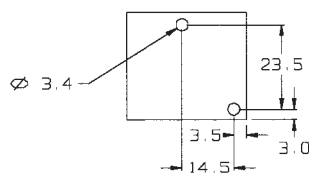
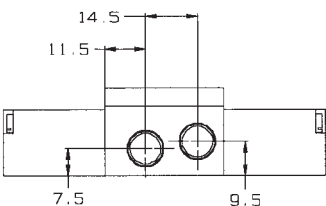
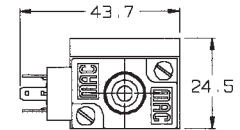
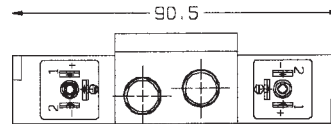
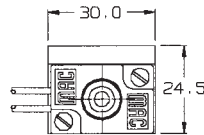
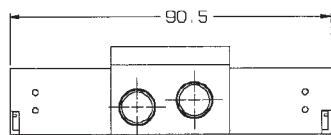
Images shown may not represent all part numbers listed.

*Note: For mating 9.4 mm DIN Connectors or molded cordsets, reference page 2-44.

Accessory for 45 Series Solenoid Operated Valves with “BA” Option

Model Number	Connector
E-45056	Metal Bolt-On Conduit Adapter

Images shown may not represent all part numbers listed.



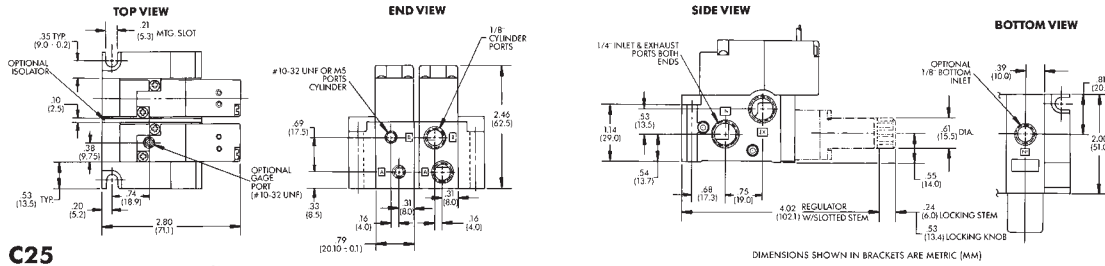
“BA” Option

“KJ” Option

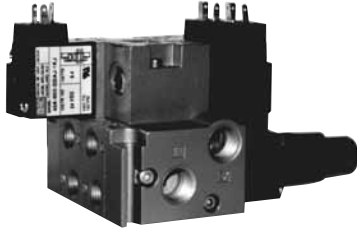
DIRECTIONAL CONTROL VALVES

Small 4-Way IN-Stock MAC Valves

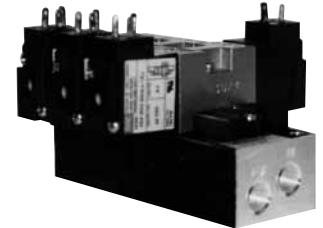
45 Series Manifold Mount Valves



C25



Add-A-Unit Manifolds



Fixed Length Manifolds

For ordering information see page 2-20.

2

120/60 110/50 VAC Single Solenoid Valves for Manifold Mounting NO BASE

Model Number	Cv	Connector
45A-L00-DAAA-1BA	.13	18" Lead Wires
45A-L00-DAAJ-1KJ	.13	Single 9.4mm DIN Connector, male only*
45A-M00-DAAA-1BA	.13	18" Lead Wires with Gauge Port
45A-M00-DAAJ-1KJ	.13	Single 9.4mm DIN Connector, male only*, with Gauge Port

Images shown may not represent all part numbers listed.

120/60 110/50 VAC Double Solenoid Valves for Manifold Mounting NO BASE

Model Number	Cv	Connector
45A-N00-DAAA-1BA	.13	18" Lead Wires
45A-N00-DAAJ-1KJ	.13	Double 9.4mm DIN Connector, male only*

Images shown may not represent all part numbers listed.

24 VDC 1.8 Watt Single Solenoid Valves for Manifold Mounting NO BASE

Model Number	Cv	Connector
45A-L00-DFBA-1BA	.11	18" Lead Wires
45A-L00-DFBJ-1KJ	.11	Single 9.4mm DIN Connector, male only*
45A-M00-DFBA-1BA	.11	18" Lead Wires with Gauge Port
45A-M00-DFBJ-1KJ	.11	Single 9.4mm DIN Connector, male only*, with Gauge Port

Images shown may not represent all part numbers listed.

24 VDC 5.4 Watt Double Solenoid Valves for Manifold Mounting NO BASE

Model Number	Cv	Connector
45A-N00-DDAA-1BA	.13	18" Lead Wires
45A-N00-DDAJ-1KJ	.13	Double 9.4mm DIN Connector, male only*

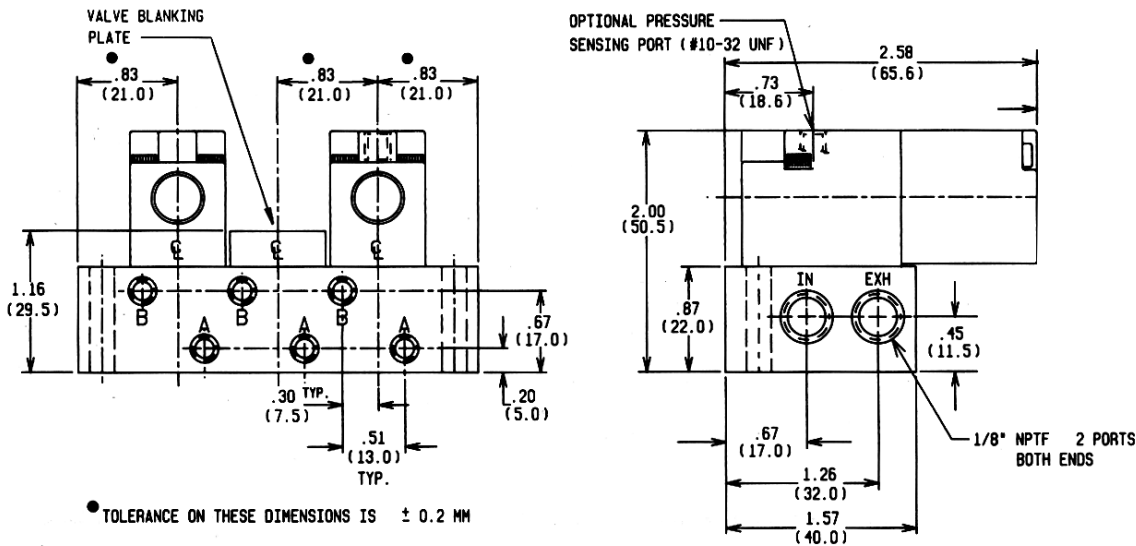
Images shown may not represent all part numbers listed.

*Note: For mating 9.4 mm DIN Connectors or molded cordsets, reference page 2-44.

DIRECTIONAL CONTROL VALVES

Small 4-Way IN-Stock MAC Valves 45 Series Fixed Length and Add-A-Unit Manifolds

Manifolds suitable for use
with valves on page 2-19



**Note: Dimensions
are in mm, to
convert to inches
divide by 25.4**

• TOLERANCE ON THESE DIMENSIONS IS ± 0.2 MM

The overall length of a bar, **when all stations are identical**, is one less than the number of stations times the center distances selected, plus 42 mm (to provide common inlet, exhaust and mounting holes.)

Fixed Length Manifolds with Side Outlet Ports

Model Number	No. of Stations	PORTING	
		INLET & EXHAUST	CYLINDER PORTS
EBM45A-001A-02	2	1/8" NPT	1/8" NPT
EBM45A-001A-04	4	1/8" NPT	1/8" NPT
EBM45A-001A-06	6	1/8" NPT	1/8" NPT
EBM45A-001A-08	8	1/8" NPT	1/8" NPT
M-45010	Blank Station Plate		

Images shown may not represent all part numbers listed.

Add-A-Unit Manifold Components (See page 2-19 for dimension details)

Model Number	Description	PORTING	
		INLET & EXHAUST	CYLINDER PORTS
45A-0AC	Manifold Base	1/4" NPT	1/8" NPT
45A-0AD	Manifold Base with Flow Control	1/4" NPT	1/8" NPT
45A-0AJ	Manifold Base w/regulator w/locking knob	1/4" NPT	1/8" NPT
45A-0AK	Manifold Base w/flow control & regulator w/knob	1/4" NPT	1/8" NPT
M-45008-01	End Plate Kit (1 required per assembly)	1/4" NPT	
M-45010	Blank Station Plate	-	-
N-45008	Isolator, Inlet and Exhaust	-	-
N-45009	Isolator, Inlet Only	-	-
N-45010	Isolator, Exhaust Only	-	-
PMG-160	The Micro Gauge™ 0-160 PSI (see page 2-51)	-	-
N-35005	Gauge Adaptor	-	-

Images shown may not represent all part numbers listed.

Manifold bases include all required gaskets and mounting hardware.

DIRECTIONAL CONTROL VALVES

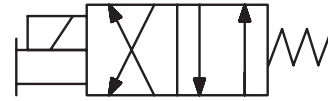
46 Series Direct Operating Inline Valves



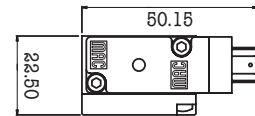
GGG/GA Option



KJ/KR Option



Dimensions shown in millimeters (mm)



4-Way Inline Valves 120/60, 110/50 VAC with 1/8" NPT Ports

Model Number	Cv	Connector
MAC-46A-AA1-JAAA-1GGG	0.3	18" Mac Jac leads with Ground wire, no light
MAC-46A-AA1-JAA0-1KR	0.3	9.4 mm DIN Connector, male only*, no light

Images shown may not represent all part numbers listed.

4-Way Inline Valves 24 VDC, 5.4 watt with 1/8" NPT Ports

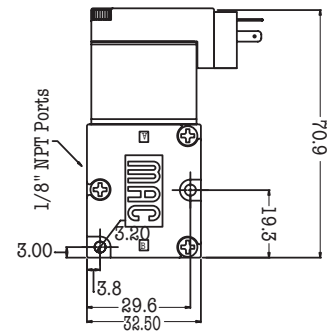
Model Number	Cv	Connector
MAC-46A-AA1-JDAA-1GA	0.3	18" Mac Jac leads without light or diode
MAC-46A-AA1-JDA0-1KJ	0.3	9.4 mm DIN Connector, male only*, no light

Images shown may not represent all part numbers listed.

4-Way Inline Valves 24 VDC, 1.8 watt with 1/8" NPT Ports

Model Number	Cv	Connector
MAC-46A-AA1-JDEA-1GA	0.2	18" Mac Jac leads without light or diode
MAC-46A-AA1-JDE0-1KJ	0.2	9.4 mm DIN Connector, male only*, no light

Images shown may not represent all part numbers listed.



46 Series Inline Valve

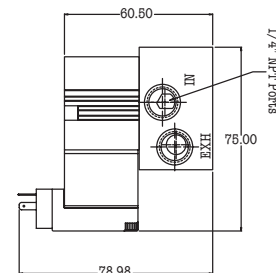
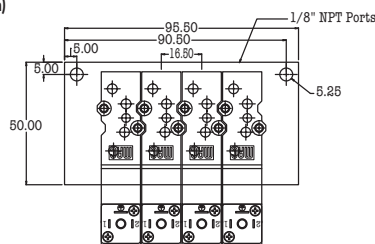
*Note: For mating 9.4 mm DIN Connectors or molded cordsets, reference page 2-44.

DIRECTIONAL CONTROL VALVES

46 Series Non Plug-In Valves for EBM Manifold Mounting



Dimensions shown in millimeters (mm)



EBM Non Plug-In Manifold

46 Series 4-Station EBM Non Plug-In Manifold

4-Way Plug-In Manifold Mount Valves 120/60, 110/50 VAC

Model Number	Cv	Description
MAC 46A-L00-JAA0-1KR	0.3	9.4 mm DIN connector, male only*

Images shown may not represent all part numbers listed.

4-Way Manifold Valves 24 VDC, 5.4 watt

Model Number	Cv	Description
MAC 46A-L00-JDA0-1KJ	0.3	9.4 mm DIN connector, male only*

Images shown may not represent all part numbers listed.

4-Way Manifold Valves 24 VDC, 1.8 watt

Model Number	Cv	Description
MAC 46A-L00-JDE0-1KJ	0.15	9.4 mm DIN connector, male only*

Images shown may not represent all part numbers listed.

46 Series Fixed Length EBM Manifolds with Side Ports

Model Number	No. of Stations	Inlet & Exhaust	Cylinder Ports
EBM46A-00AAA-02	2	1/4" NPT	1/8" NPT
EBM46A-00AAA-04	4	1/4" NPT	1/8" NPT
EBM46A-00AAA-06	6	1/4" NPT	1/8" NPT
EBM46A-00AAA-08	8	1/4" NPT	1/8" NPT
EBM46A-00AAA-10	10	1/4" NPT	1/8" NPT

Images shown may not represent all part numbers listed.

Non Plug-In Manifold Accessories

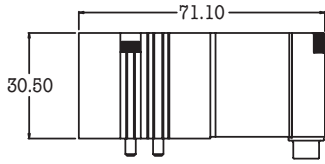
Model Number	Description
PR46A-BBAA	Sandwich Regulator w/Knob, Gauge Port, 0-120 PSI
FC46A-BA	Sandwich Flow Control
M-46002	Blank Station Plate
PMG-160	1/8" NPT, 0-160 PSI Gauge, 23mm Face Diameter (see page 2-51)

Images shown may not represent all part numbers listed.

*Note: For mating 9.4 mm DIN Connectors or molded cordsets, reference page 2-44.

DIRECTIONAL CONTROL VALVES

46 Series Plug-In Valves for Use with ECD Plug-In Manifolds and **MAConnect™** Manifolds



46 Series Plug In Valve



46 Series Plug-In Manifold Mount Valves

Images shown may not represent all part numbers listed.

2

Model Number	Cv	Description
46A-L00-00-JAAP-1FH	0.3	120 VAC, with Light
46A-L00-00-JDAP-1FE	0.3	24 VDC, 5.4 watt with Light and Diode, Positive Common
46A-L00-00-JDAP-1FK	0.3	24 VDC, 5.4 watt with Light and Diode, Negative Common
46A-L00-00-JDEP-1FE	0.2	24 VDC, 1.8 watt with Light and Diode, Positive Common
46A-L00-00-JDEP-1FK	0.2	24 VDC, 1.8 watt with Light and Diode, Negative Common

36/46 Series Fixed Length ECD Plug-In Manifolds with Side Ports also for use with 36 Series Plug-In Valves on page 2-8

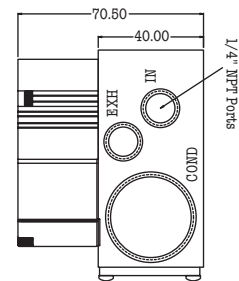
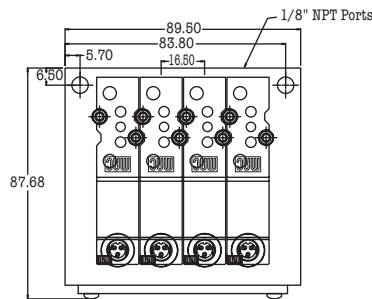
Images shown may not represent all part numbers listed.

Model Number	No. of Stations	Inlet & Exhaust	Cylinder Ports
ECD46A-00AAA-A0-04	4	1/4" NPT	1/8" NPT
ECD46A-00AAA-A0-06	6	1/4" NPT	1/8" NPT
ECD46A-00AAA-A0-08	8	1/4" NPT	1/8" NPT
ECD46A-00AAA-A0-10	10	1/4" NPT	1/8" NPT
32843	Conduit Plug		



ECD Plug-In Manifold

Dimensions shown in millimeters (mm)



46 Series Fixed Length ECD Plug-In Manifold

DIRECTIONAL CONTROL VALVES

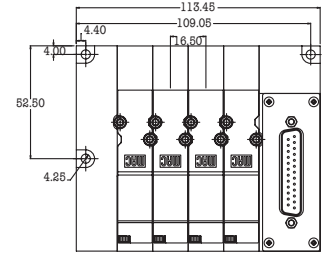
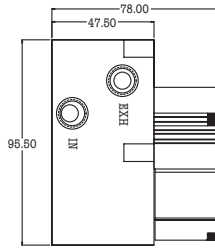
46 Series **MACConnect™** Manifold Unit with Side Ports
also suitable for use with 36 Series Plug-In Valves on page 2-8

Images shown may not represent all part numbers listed.

Model Number	Description
46A-0MA-EC	MACConnect™ Single Solenoid Base
M-46006-01-01	MACConnect™ Left End Plate
M-46005-25-2	MACConnect™ Right End with 25 Pin Sub-D, Positive Common
M-46005-25-2=1705	MACConnect™ Right End with 25 Pin Sub-D, Negative Common

2

Sample BOM for Drawing:
Valve Stack Consists of:
4 - 46A-L00-00-JAAP-IFH
4 - 46A-0MA-EC
1 - M-46006-01-01
1 - M-46005-25-2



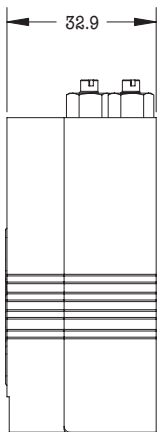
MACConnect™ Manifold
(shown with optional regulator)

46 Series MACConnect™ Manifold

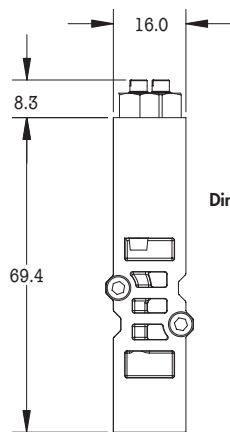
Plug-In Manifold Accessories
for use with ECD Manifolds and **MACConnect™**

Images shown may not represent all part numbers listed.

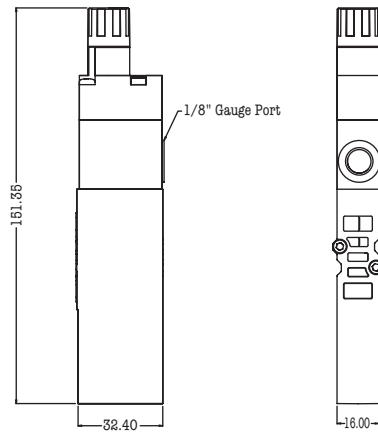
Model Number	Description
PR46A-ABAA	Sandwich Regulator w/Knob, Gauge Port, 0-120 PSI
FC46A-AA	Sandwich Flow Control
M-46002	Blank Station Plate
63299	Electrical Plug Cover
28501	Isolator – Inlet MACConnect™
28502	Isolator – Exhaust MACConnect™
VT-D25	25 Pin Sub-D Connector Cable, 10'
PMG-160	1/8" NPT, 0-160 PSI Gauge, 23mm Face Diameter (see page 2-51)



46 Series Sandwich Flow Control



Dimensions shown in millimeters (mm)



46 Series Sandwich Regulator

DIRECTIONAL CONTROL VALVES

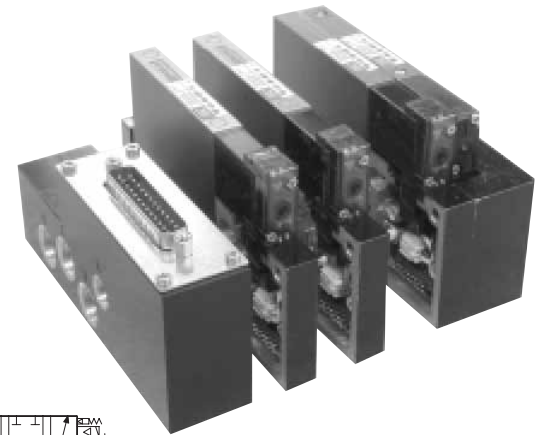
Small 4-Way IN-Stock MAC Valves

42 Series Valves for Use with Plug in Add-A-Unit Manifolds and **MACConnect™**

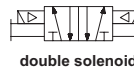
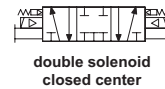
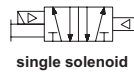
We are pleased to announce the release of the new MAC Valves 42 and 48 series in this catalog. These valves utilize the innovative next generation of 4-Way piloted valves in which the pilot poppet is housed in the same body as the main valve spool. This "integral pilot" design reduces package size and cost, as well as provides for an ultra fast shifting valve.

The 42 Series - A high performance miniature valve package providing similar flow as other valves of greater package size.

42 Series 4-way piloted air valve is a 10 mm valve (stacks on 10.5mm centers) with a Cv of up to 0.35.



2



MACConnect™ shown

42 Series Valves for Use with Plug in Add-A-Unit and **MACConnect™** Manifolds Manifolds on the Following Pages 2-26 and 2-27

Model Number	Description
42A-AMA-000-GDCP-1DV	Single Solenoid Plug in 24 VDC 1.8 Watt LED & Diode
42A-AMA-000-GDCP-1DV=1974	Single Solenoid Plug in 24 VDC 1.8 Watt LED & Diode w/Neg. Com.
42A-BMJ-000-GDCP-1GA	Double Solenoid Plug in 24 VDC 1.8 Watt
42A-BMJ-000-GDCP-1GA=1974	Double Solenoid Plug in 24 VDC 1.8 Watt LED & Diode w/Neg. Com.
42A-EMJ-000-GDCP-1GA	3-Position Closed Center 24 VDC 1.8 Watt
42A-EMJ-000-GDCP-1GA=1974	3-Position Closed Center 24 VDC 1.8 Watt LED & Diode w/Neg. Com.
42A-FMJ-000-GDCP-1GA	3-Position Open Center 24 VDC 1.8 Watt
42A-FMJ-000-GDCP-1GA=1974	3-Position Open Center 24 VDC 1.8 Watt LED & Diode w/Neg. Com.

Images shown may not represent all part numbers listed.

42 Series Accessories

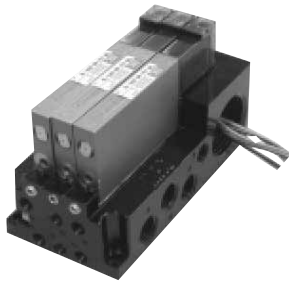
Model Number	Description
PR42A-AABA	Sandwich Pressure Regulator
FC42A-AB	Sandwich Flow Control
32627	M-7 X 1/4" Fitting
M-42004	Blank Station Kit
PMG-160	The Micro Gauge™ 0-160 PSI (see page 2-51)
28454	Isolator Disc, Inlet requires 1 piece, exhaust requires 2 pieces
32843	Conduit Plug

Images shown may not represent all part numbers listed.

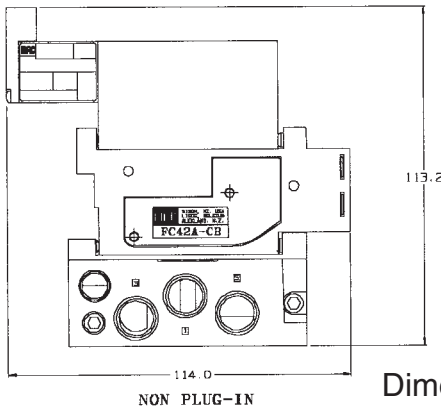
DIRECTIONAL CONTROL VALVES

Small 4-Way IN-Stock MAC Valves

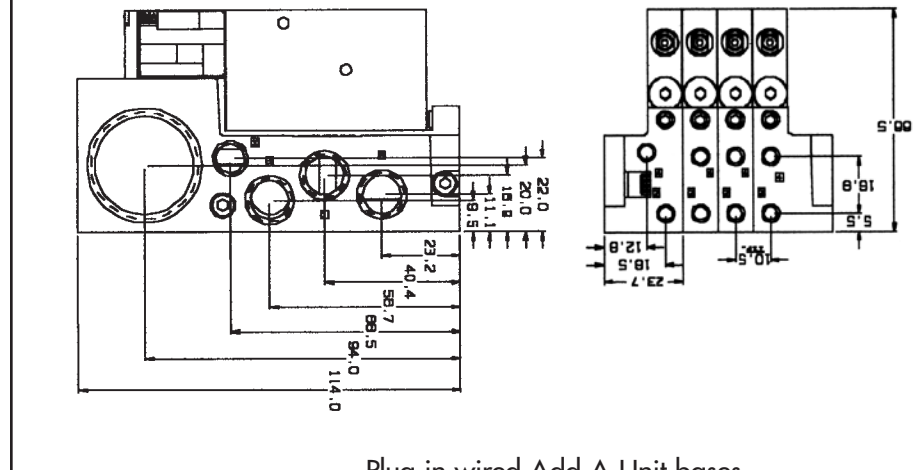
42 Series Plug in Add-A-Unit Manifold Bases Cv 0.35



2



Dimensions Without Flow Control

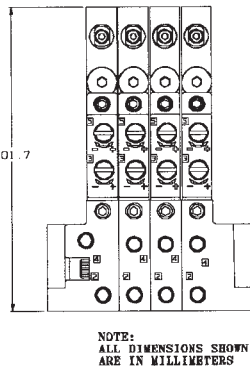
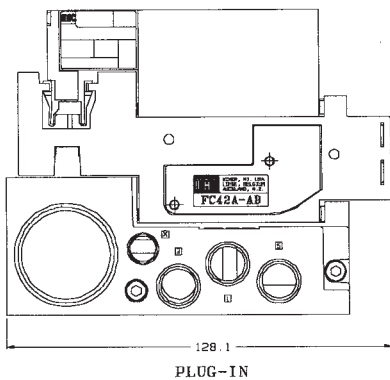


Plug in wired Add-A-Unit bases feature integral conduit raceway and the ability to remove valves without disturbing the wiring. End units incorporate "conduit thread" and mounting holes in addition to a valve station.

A valve stack requires a left and right end wire base and as many middle stations wired bases as needed to complete the assembly.

Specify valves and accessories on page 2-25 to complete assembly. A complete assembly consists of Bases, Valves, and Accessories.

Dimensions w/Flow Control



42 Series Plug in Manifold w/ 1/4" O.D. Tube Cylinder Ports & 1/4" NPTF Pressure & Exhaust

Model Number	Description
42A-000-ELA	Single Solenoid Left End Wired Base/Conduit.
42A-000-ELC	Double Solenoid Left End Wired Base/Conduit.

Images shown may not represent all part numbers listed.

Model Number	Description
42A-000-ENA	Single Solenoid Right End Wired Base/Conduit.
42A-000-ENC	Double Solenoid Right End Wired Base/Conduit.

Images shown may not represent all part numbers listed.

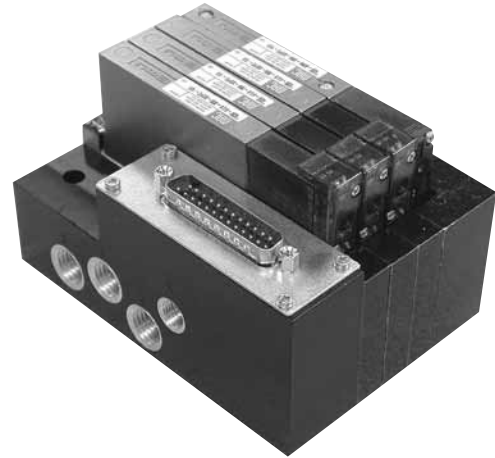
Model Number	Description
42A-000-EJA	Single Solenoid Middle Station. Wired Base/Conduit
42A-000-EJC	Double Solenoid Middle Station. Wired Base/Conduit

Images shown may not represent all part numbers listed.

DIRECTIONAL CONTROL VALVES

42 Series MACConnect™

The **MACConnect™** System virtually eliminates base lead wires which need to be pulled through a conduit wire-way and terminated in a junction box. With the **MACConnect™** System, the internal wiring has been replaced through utilization of a circuit board with a multi pin connector located inside each valve's conduit area. The multi pin circuit board plugs into the circuit board of the valve adjacent to it and ultimately into a multi pin connector or serial adapter block located on the end of the manifold assembly. (See page 2-36 for SUB D Connector pin out)

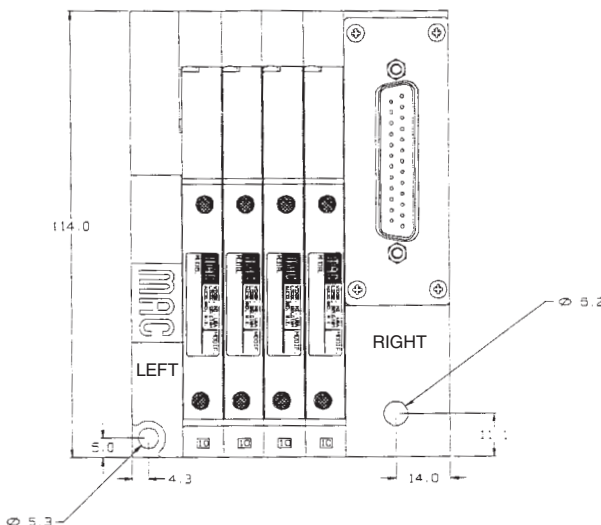


2

42 Series **MACConnect™** Manifold Units 1/4" O.D. Tube Cylinder Ports & 1/4" NPTF Pressure & Exhaust

Images shown may not represent all part numbers listed.

Model Number	Description
42A-000-EL3	Single Solenoid Left End
42A-000-EL4	Double Solenoid Left End
42A-000-EJ3	Single Solenoid Middle
42A-000-EJ4	Double Solenoid Middle
M42005-25-3	25 Pin Sub D Right End, Positive Common
M42005-25-3=1974	25 Pin Sub D Right End, Negative Common
VT-D25	25 PIN 10 ft. SUB D Connector Cable



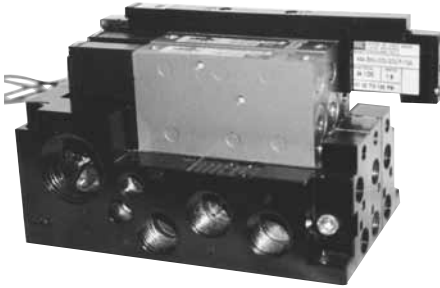
Sample BOM for Drawing:
Valve Stack Consists of:

- 1 pc – 42A-000-EL3
- 3 pcs – 42A-000-EJ3
- 1 pc – M-42005-25-3
- 4 pcs – 42A-AMA-000-GDCP-1DV

DIRECTIONAL CONTROL VALVES

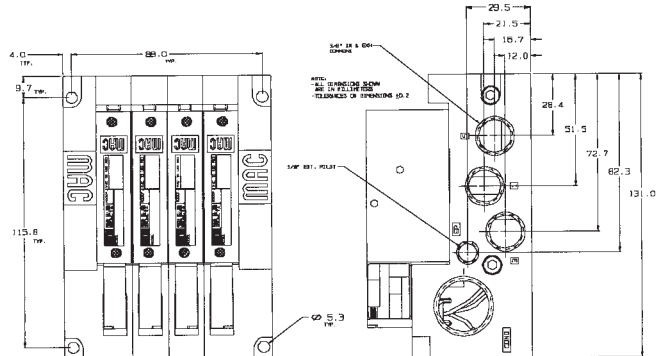
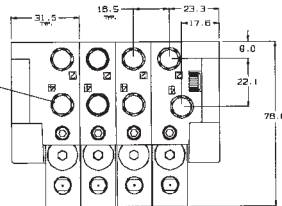
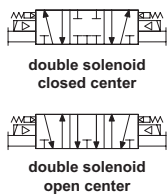
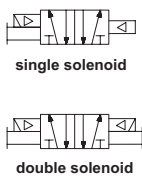
Small 4-Way IN-Stock MAC Valves

48 Series Valves for use with Plug in and **MACconnect™** Manifolds Cv 1.0



The 48 Series, like the 42 Series is a high performance valve in a miniature package, able to provide outstanding flow relative to its size as compared to the competition. The 48 Series is a 16mm (stacks on 16.5mm centers) with a Cv of up to 1.0.

Plug in Add-A-Unit Conduit Connection Shown



48 Series Valves for use with Plug in Add-A-Unit and **MACconnect™** Manifolds

Model Number	Description
48A-AMA-000-GDCP-1DV	Single Solenoid / 24 Volt 1.8 Watt Plug In w/LED & Diode
48A-AMA-000-GDCP-1DV=1974	Single Solenoid / 24 Volt 1.8 Watt Negative Common w/LED & Diode
48A-BMJ-000-GDCP-1GA	Double Solenoid / 24 Volt 1.8 Watt Plug In w/LED & Diode
48A-BMJ-000-GDCP-1GA=1974	Double Solenoid / 24 Volt 1.8 Watt Negative Common w/LED & Diode
48A-EMJ-000-GDCP-1GA	Closed Center 24 Volt 1.8 Watt Plug In w/LED & Diode
48A-EMJ-000-GDCP-1GA=1974	Closed Center 24 Volt 1.8 Watt Negative Common w/LED & Diode
48A-FMJ-000-GDCP-1GA	Open Center 24 Volt 1.8 Watt Plug In w/LED & Diode
48A-FMJ-000-GDCP-1GA=1974	Open Center 24 Volt 1.8 Watt Negative Common w/LED & Diode

Images shown may not represent all part numbers listed.

Other voltages available upon request

48 Series Plug in Add-A-Unit Manifolds

Model Number	Description	Port Size	Location
48A-000-ALA	Single Left End Wired Base/Conduit	3/8"NPTF	Inlet/Exhaust
48A-000-ALC	Double Left End Wired Base/Conduit	3/8"NPTF	Inlet/Exhaust
48A-000-AJA	Single Middle Wired Base/Conduit	1/8"NPTF	Side Cylinder Ports
48A-000-AJC	Double Middle Wired Base/Conduit	1/8"NPTF	Side Cylinder Ports
48A-000-ANA	Single Right End Wired Base/Conduit	3/8"NPTF	Inlet/Exhaust
48A-000-ANC	Double Right End Wired Base/Conduit	3/8"NPTF	Inlet/Exhaust
32845	Conduit Plug	—	—

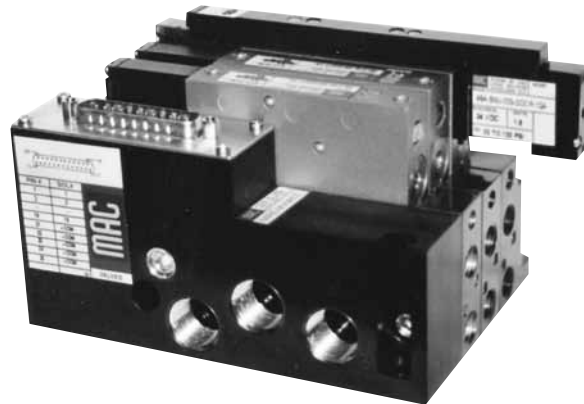
Images shown may not represent all part numbers listed.

DIRECTIONAL CONTROL VALVES

48 Series MAConnect™

Manifold assemblies require left end, middle, and 25 Pin SUB D Connector Units

(See Page 2-36 for SUB D Connector Pinout)



48 Series Manifold Base MAConnect™

Model Number	Port Size	Location	Description
48A-000-AL3	3/8" NPT	Inlet & Exhaust	Single Left End BASE
48A-000-AL4	3/8" NPT	Inlet & Exhaust	Double Left End BASE
48A-000-AJ3	1/8" NPT	Cylinder	Single Middle BASE
48A-000-AJ4	1/8" NPT	Cylinder	Double Middle BASE

Images shown may not represent all part numbers listed.

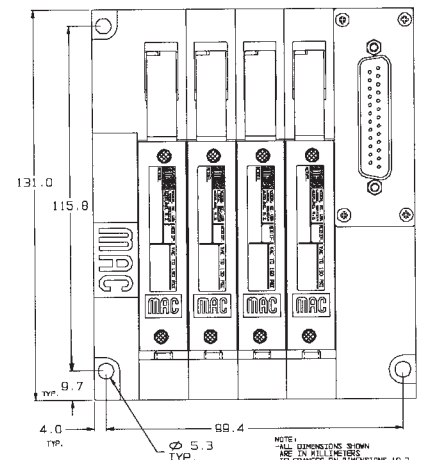
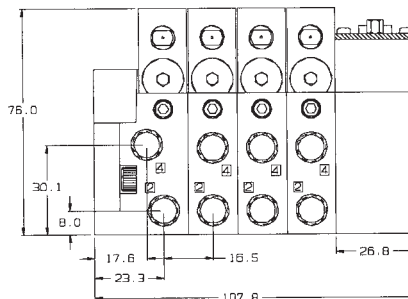
48 Series Accessories

Model Number	Description
28471	48 Series Isolator
M-48001-25-3	25 Pin Sub D Right End, Positive Common
M-48001-25-3=1974	25 Pin Sub D Right End, Negative Common
VT-D25	25 Pin 10ft Sub D Connector Cable
M-48004	Blank Station Plate
PR48A-AAAA	Sandwich Regulator with Knob
FC48A-AB	Sandwich Flow Control
PMG-160	The Micro Gauge 0-160 PSI (see page 2-51)

Images shown may not represent all part numbers listed.

Sample BOM for Drawing:
Valve Stack Consists of:

- 1 pc – 48A-000-AL3
- 3 pcs – 48A-000-AJ3
- 1 pc – M-48001-25-3
- 4 pcs – 48A-AMA-000-GDCP-1DV



DIRECTIONAL CONTROL VALVES

Small 4-Way IN-Stock MAC Valves

400 Series Individual Inline Solenoid Pilot Operated Valves Cv=1.0



Single with
"KJ" Option

Valves suitable for use
as inline or with
manifolds on page 2-31



Double with
"KJ" Option

2

Single Solenoid Valves with 1/4" NPT Inlet & Cylinder Ports, 1/8" NPT Exhaust Ports



Model Number	Pilot Type	Electrical	Connector
411A-B0A-DM-DJAJ-1KJ	INTERNAL	120/60, 110/50	9.4 mm DIN, male only*
411A-B0B-DM-DJAJ-1KJ	EXTERNAL	120/60, 110/50	9.4 mm DIN, male only*
411A-B0A-DM-DFBJ-1KJ	INTERNAL	24 VDC, 1.8 W	9.4 mm DIN, male only*
411A-B0B-DM-DFBJ-1KJ	EXTERNAL	24 VDC, 1.8 W	9.4 mm DIN, male only*

Images shown may not represent all part numbers listed.

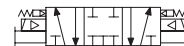
Double Solenoid Valve with 1/4" NPT Inlet & Cylinder Ports, 1/8" NPT Exhaust Ports



Model Number	Pilot Type	Electrical	Connector
421A-B0A-DM-DJAJ-1KJ	INTERNAL	120/60, 110/50	9.4 mm DIN, male only*
421A-B0B-DM-DJAJ-1KJ	EXTERNAL	120/60, 110/50	9.4 mm DIN, male only*
421A-B0A-DM-DFBJ-1KJ	INTERNAL	24 VDC, 1.8 W	9.4 mm DIN, male only*
421A-B0B-DM-DFBJ-1KJ	EXTERNAL	24 VDC, 1.8 W	9.4 mm DIN, male only*

Images shown may not represent all part numbers listed.

Double Solenoid, Three Position, Closed Center Valves
with 1/4" NPT Inlet & Cylinder Ports, 1/8" NPT Exhaust Ports



Model Number	Pilot Type	Electrical	Connector
451A-B0A-DM-DJAJ-1KJ	INTERNAL	120/60, 110/50	9.4 mm DIN, male only*
451A-B0B-DM-DJAJ-1KJ	EXTERNAL	120/60, 110/50	9.4 mm DIN, male only*
451A-B0A-DM-DFBJ-1KJ	INTERNAL	24 VDC, 1.8 W	9.4 mm DIN, male only*
451A-B0B-DM-DFBJ-1KJ	EXTERNAL	24 VDC, 1.8 W	9.4 mm DIN, male only*

Images shown may not represent all part numbers listed.

Double Solenoid, Three Position, Open Center Valves
with 1/4" NPT Inlet & Cylinder Ports, 1/8" NPT Exhaust Ports



Model Number	Pilot Type	Electrical	Connector
461A-B0A-DM-DJAJ-1KJ	INTERNAL	120/60, 110/50	9.4 mm DIN, male only*
461A-B0B-DM-DJAJ-1KJ	EXTERNAL	120/60, 110/50	9.4 mm DIN, male only*
461A-B0A-DM-DFBJ-1KJ	INTERNAL	24 VDC, 1.8 W	9.4 mm DIN, male only*
461A-B0B-DM-DFBJ-1KJ	EXTERNAL	24 VDC, 1.8 W	9.4 mm DIN, male only*

Images shown may not represent all part numbers listed.

*Note: For mating 9.4 mm DIN Connectors or molded cordsets, reference page 2-44.

DIRECTIONAL CONTROL VALVES

Small 4-Way IN-Stock MAC Valves 400 Series Add-A-Unit Manifolds for Inline Valves

For Valves See page 2-30
MANIFOLD BASE ONLY

End Plate Kit



Add-A-Unit Manifold

2

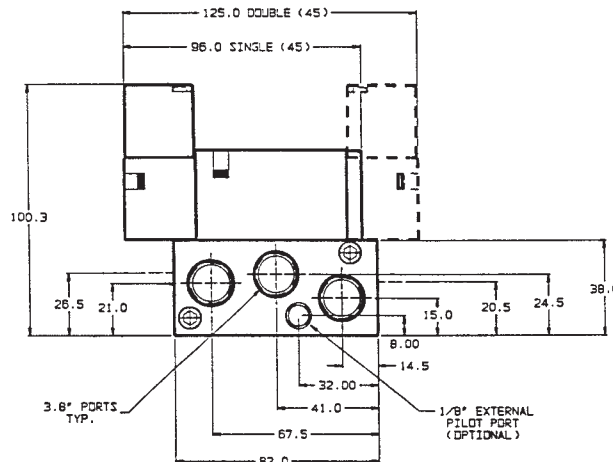
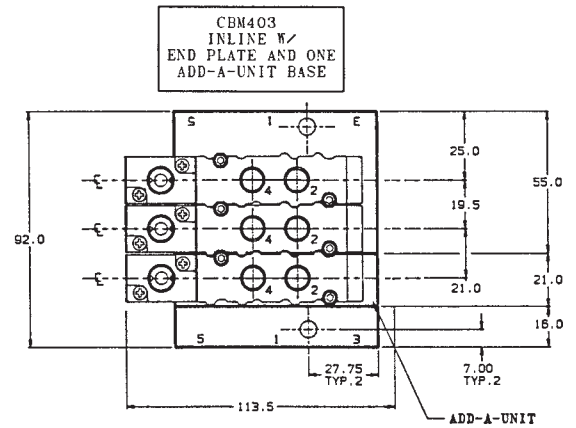
Add-A-Unit Manifold with "KJ" OPTION

Middle Station

Model Number	Description	Port
CBM403A-00ABA-02	2 Station Add-a-Unit (includes end plate kit)	3/8" NPT
CBM403A-00ABA-04	4 Station Add-a-Unit (includes end plate kit)	3/8" NPT
CBM403A-00ABA-06	6 Station Add-a-Unit (includes end plate kit)	3/8" NPT
CBM403A-01AEA-01	Add-a-Unit Middle Station (includes hardware)	3/8" NPT
M-04001	Blank Station Plate	-
28408	Isolator Disc, 1 required for Inlet, 2 required for Exhaust	-

Images shown may not represent all part numbers listed.

TOP VIEW

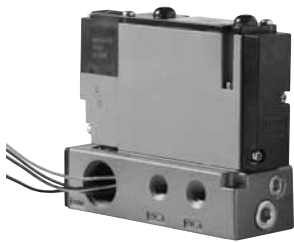


Note: Dimensions are in mm, to convert to inches divide by 25.4

DIRECTIONAL CONTROL VALVES

Large 4-Way IN-Stock MAC Valves 92 Series Sub-Base Plug-In Pilot Operated Valves Cv=1.2

Valves suitable for use as individual base mount, conduit add-a-unit manifold and **MACConnect™** on pages 2-33 and 2-34.



Single Solenoid



Double Solenoid

2

Single Solenoid, Two Position Valves with Lights In Body, No Base



Model Number	Description
92B-AAB-000-DM-DJAP-2DG	120/60, 110/50 VAC and ground wire
92B-AAF-000-DM-DFBP-2DM	24 VDC 1.8 Watt with diode

Images shown may not represent all part numbers listed.

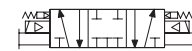
Double Solenoid, Two Position Valves with Lights In Body, No Base



Model Number	Description
92B-BAB-000-DM-DJAP-2DG	120/60, 110/50 VAC and ground wire
92B-BAF-000-DM-DFBP-2DM	24 VDC 1.8 Watt with diode

Images shown may not represent all part numbers listed.

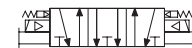
Double Solenoid, Three Position Closed Center Valves with Lights in Body, No Base



Model Number	Description
92B-EAB-000-DM-DJAP-2DG	120/60, 110/50 VAC and ground wire
92B-EAF-000-DM-DFBP-2DM	24 VDC 1.8 Watt with diode

Images shown may not represent all part numbers listed.

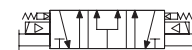
Double Solenoid, Three Position Open Center Valves with Lights In Body, No Base



Model Number	Description
92B-FAB-000-DM-DJAP-2DG	120/60, 110/50 VAC and ground wire
92B-FAF-000-DM-DFBP-2DM	24 VDC 1.8 Watt with diode

Images shown may not represent all part numbers listed.

Double Solenoid, Three Position Pressure Center Valves with Light In Body, No Base



Model Number	Description
92B-GAB-000-DM-DJAP-2DG	120/60, 110/50 VAC and ground wire
92B-GAF-000-DM-DFBP-2DM	24 VDC 1.8 Watt with diode

Images shown may not represent all part numbers listed.

DIRECTIONAL CONTROL VALVES

Large 4-Way IN-Stock MAC Valves 92 Series Inline and Add-A-Unit Bases

Individual Inline Bases

Model Number	Description
92B-000-BAA	1/4" NPT Side Ported Valve Base
92B-000-CAA	3/8" NPT Side Ported Valve Base

Images shown may not represent all part numbers listed.

Conduit Add-A-Unit Manifold Bases and Accessories (Includes all hardware)

Model Number	Description
92B-000-BJA	1/4" NPT Side Ported Manifold Base
92B-000-CJA	3/8" NPT Side Ported Manifold Base
M-92004-01-01	Manifold End Plate Kit, Internal Pilot, Inlet and Exhaust Size = 3/8" NPTF
M-92004-02-01	Manifold End Plate Kit, External Pilot, Inlet and Exhaust Size = 3/8" NPTF
M-92002	Blank Station Cover Plate
N-92018	Isolator Disc, Inlet or Exhaust, Non-MACConnect
32848	Conduit Plug

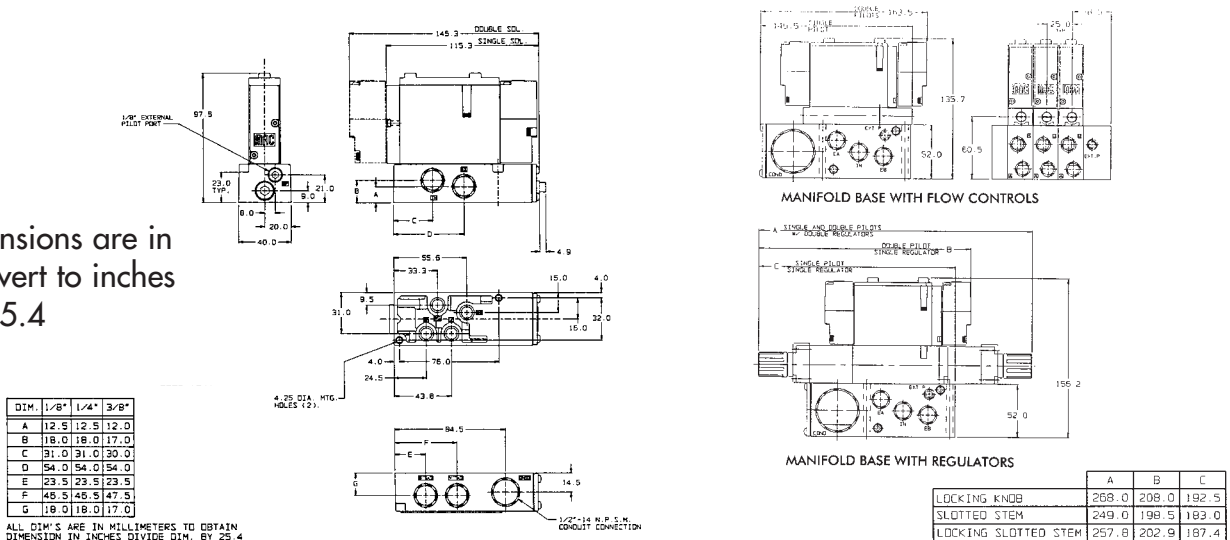
Images shown may not represent all part numbers listed.

Accessories for Inline and Manifold Valves

Model Number	Description
FC92B-AA	Sandwich Flow Control, Single Solenoid
FC92B-BA	Sandwich Flow Control, Double Solenoid
PR92C-KAAA	Sandwich Pressure Regulator with Knob
N-92006-01	0-120 PSI, Pressure Gauge with fitting kit
M-92007-01	92B to numatics Mark8 Adapter Plate - Internal Pilot Single Solenoid Plug-In
M-92007-02	92B to numatics Mark8 Adapter Plate - Internal Pilot Double Solenoid Plug-In
M-92007-03	92B to numatics Mark8 Adapter Plate - Exterior Pilot Single Solenoid Plug-In
M-92007-04	92B to numatics Mark8 Adapter Plate - Exterior Pilot Double Solenoid Plug-In

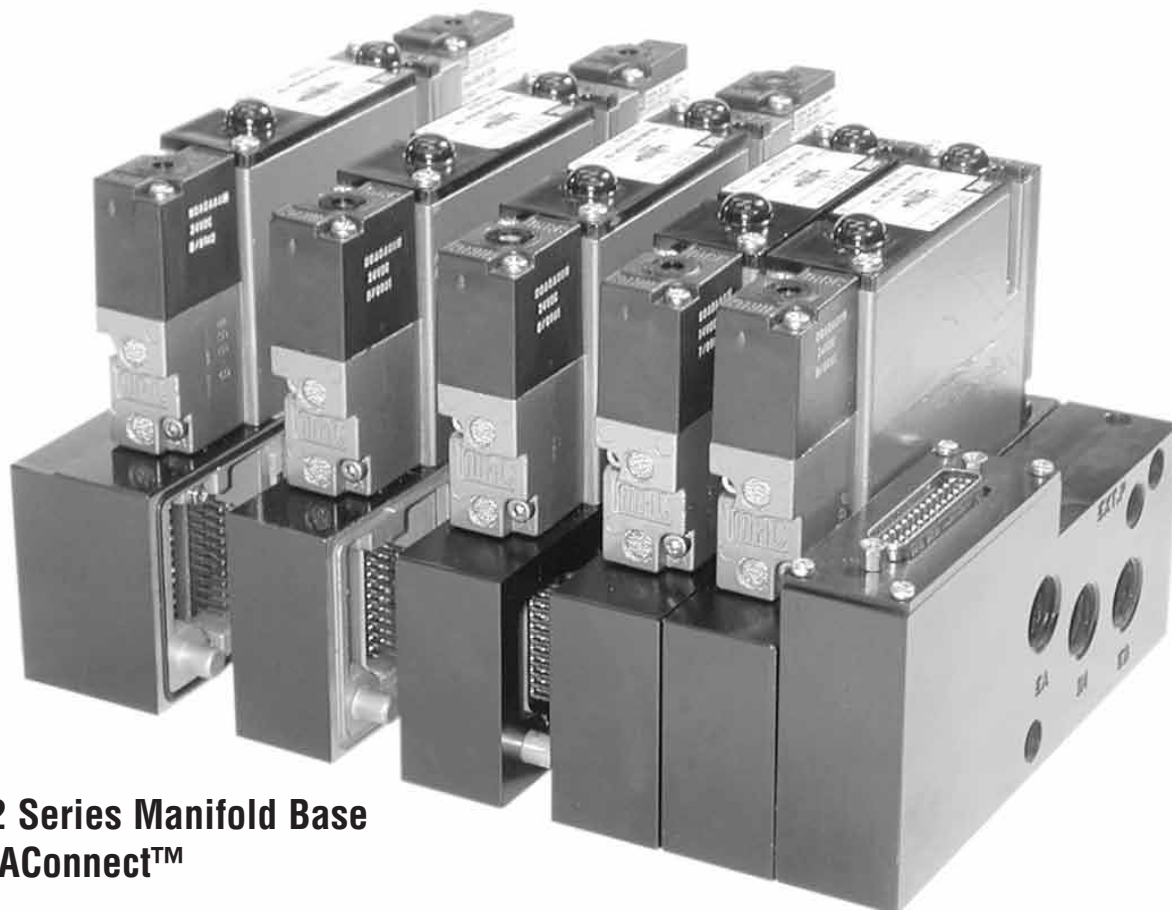
Images shown may not represent all part numbers listed.

Note: Dimensions are in mm, to convert to inches divide by 25.4



92 Series MAConnect™ with Sub D

2



92 Series Manifold Base MAConnect™

3/8" NPTF Cylinder Inlet and Exhaust Ports
For Valve Selection See page 2-32

Model Number	Description
92B-000-CJ3	Single Solenoid, Middle, Positive Common
92B-000-CJ3=1705	Single Solenoid, Middle, Negative Common
92B-000-CJ4	Double Solenoid, Middle, Positive Common
92B-000-CJ4=1705	Double Solenoid, Middle, Negative Common
92B-000-CL3	Single Solenoid, Left End, Positive Common
92B-000-CL3=1705	Single Solenoid, Left End, Negative Common
92B-000-CL4	Double Solenoid, Left End, Positive Common
92B-000-CL4=1705	Double Solenoid, Left End, Negative Common
M-92012-25-3	Right End Block With 25 pin Sub-D Connector, Negative Common
M-92010-25-3	Right End Block With 25 pin Sub-D Connector, Positive Common
VT-D25	10' 25 PIN SUB D Connector Cable
N-92018	Isolator Disc, MAConnect™ only, (1 required for Inlet, 2 required for Exhaust)

Images shown may not represent all part numbers listed.

DIRECTIONAL CONTROL VALVES

92 Series MAConnect™ with Sub D

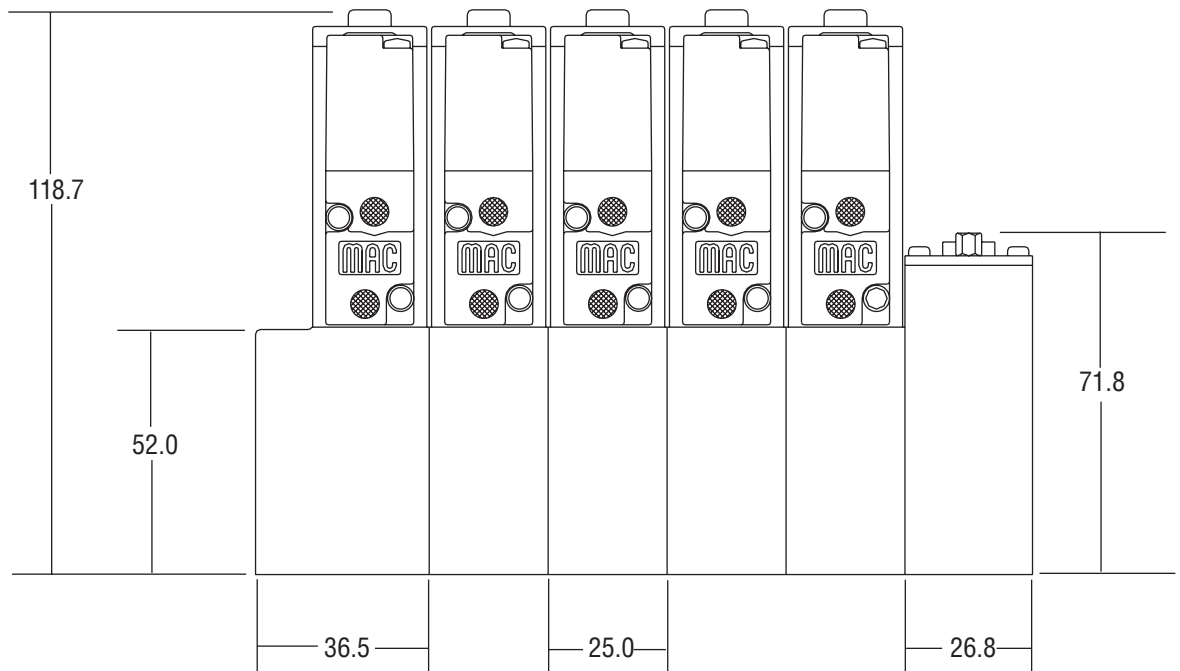
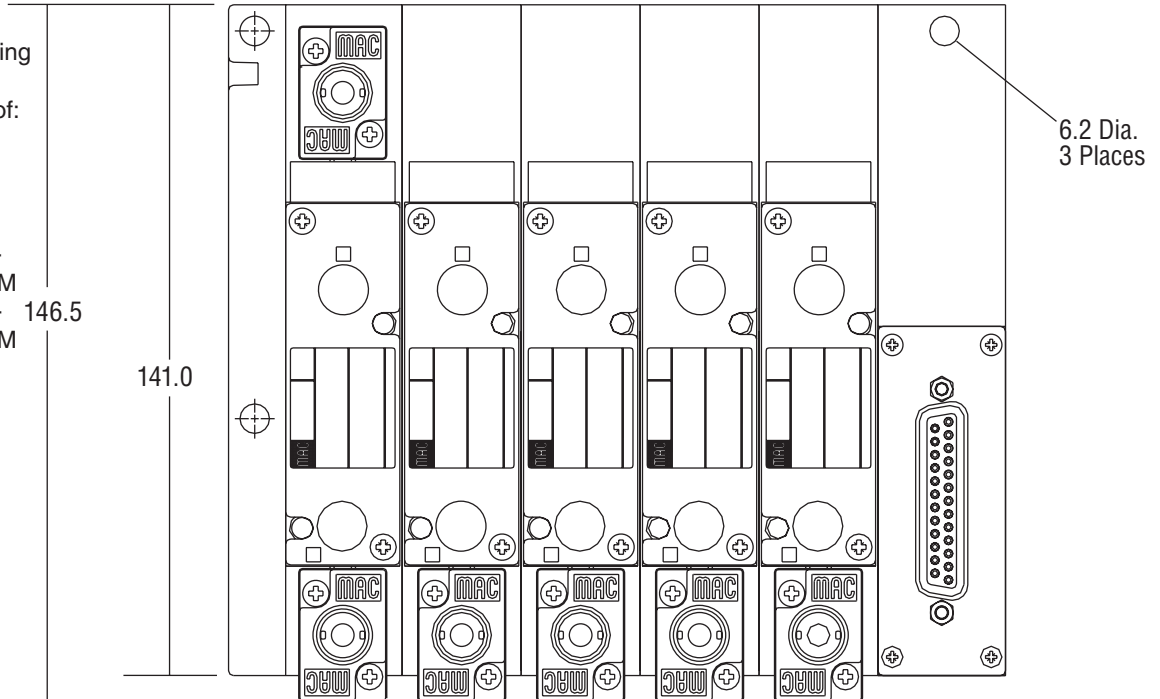
MAConnect™ Dimensions for 92 Series Valves with Multi-Pin Connector On Right End

Cylinder Ports This End

Sample BOM for drawing

Valve Stack Consists of:

- 1 pc – 92B-000-CL4
- 4 pcs – 92B-000-CJ3
- 1 pc – M-92010-25-3
- 1 pc – 92B-BAF-000-DM-DFBP-2DM
- 4 pcs – 92B-AAF-000-DM-DFBP-2DM

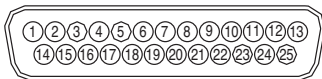


Note: All Dimensions Shown Are In Millimeters

For Illustration Purposes Only

MAConnect™ Specifications

Connector Pin Out Positive Common



PIN #	Solenoid #
1	1
2	2
~	~
20	20
21	+ COMMON
22	+ COMMON
23	+ COMMON
24	+ COMMON
25	+ COMMON

25 PIN SUB-D

42, 46, 48 Series

- Maximum of 16 solenoids can be powered by Single Multi-Pin Connector

92, 93 Series

- Maximum of 20 solenoids can be powered by Single Multi-Pin Connector

- Maximum allowable coil amperage is 250 milliamps

- Standard AC and DC voltage options available

FLUIDS:

Compressed Air or Inert Gases

20 to 120 PSI (Internal Pilot)

Vacuum to 120 PSI (External Pilot)

35 to 120 PSI (3 Position, Internal/External Pilot)

36/46 Series — Vacuum to 120 PSI

LUBRICATION:

Not required. If used, select a medium aniline point lubricant (between 180°F and 210°F)

SAFE OPERATING TEMPERATURE RANGE:

0°F to 120°F (-18°C to 50°C)

PRESSURE RANGE:

Wiring Instructions

VT-D25 Wire Colors

PIN NUMBER	WIRE / COLOR
1	White / Black
2	Blue / Black
3	Red
4	Red / White
5	Red / Black
6	Orange
7	Orange / Red
8	Orange / Black
9	Black / Red
10	White / Red
11	Green
12	Green / White
13	Green / Black
14	Blue / Red
15	White
16	Red / Green
17	Orange / Green
18	Black
19	Black / White
20	Blue
21	Blue / White
22	Black / White / Red
23	White / Black / Red
24	Red / Black / White
25	Green/Black/White

42 & 48 Series Add-A-Unit Manifold

Positive Common Single Solenoid

Red – Positive

Black (Solenoid 14) – Negative

Negative Common Single Solenoid – MOD 1974

Red – Negative

Black (Solenoid 14) – Positive

Positive Common Double Solenoid

Black – Positive

Red (Solenoid 12) – Negative

Yellow (Solenoid 14) – Negative

Negative Common Double Solenoid – MOD 1974

Black – Negative

Red (Solenoid 12) – Positive

Yellow (Solenoid 14) – Positive

46 Series ECD Manifold

When Using Positive Common Valves

Plain Yellow – Positive

Yellow w/NEG (Tracer) – Negative

When Using Negative Common Valves

Plain Yellow – Negative

Yellow w/NEG (Tracer) – Positive

92 & 93 Inline and Add-A-Unit Bases

“A” Solenoid

Yellow – Positive

Yellow / Black – Negative

“B” Solenoid

Red – Positive

Red / Black – Negative

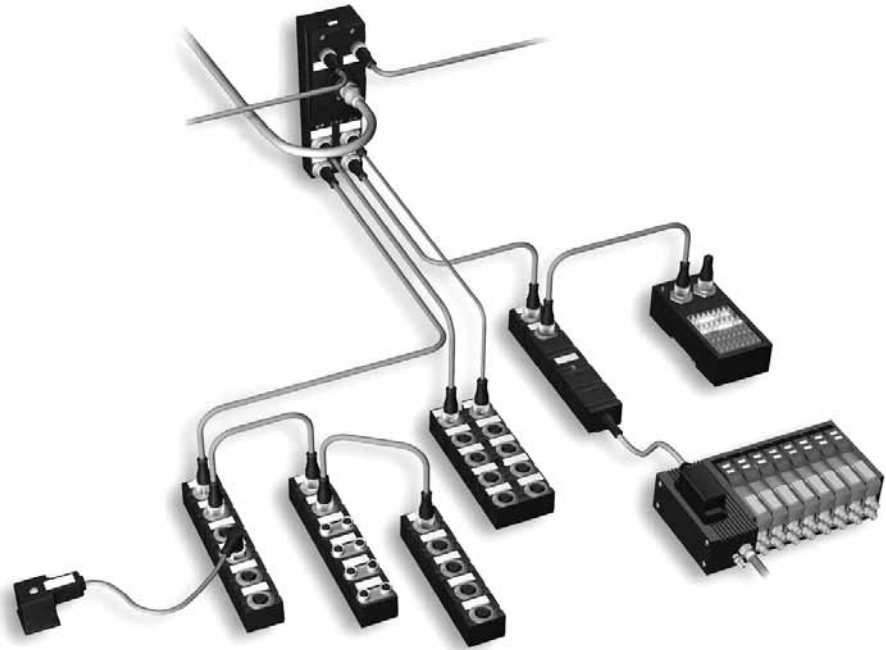
Murrelektronik Cube67



DeviceNet

CANopen

Ethernet



2

Action Automation and Controls is pleased to announce the availability of the Murrelektronik Cube67 Modular Bus System.

Cube67 is a decentralized I/O system which combines the protection of IP20 and IP67 with the help of its I/O modules – plug connected, robust and fully potted. Starting at the bus coupler, the I/O layer spreads radially throughout the application – connected via hybrid cable. Digital, analog and serial signals, temperature sensing, counters, valve cluster, drive or service panel coupling are available. The system offers end-to-end, channel-specific debugging right down to the sensor/actuator. The digital channels are freely programmable, so that the plug position or the signal terminal can be used as an input or output (multifunctional).

Economical distribution... modular, compact and robust

The I/O layer is where you need it – right in the machine, and close to the sensors and actuators, instead of occupying one large area, or being concentrated in the control cabinet

Highest flexibility... reduces unused sources with multifunctional I/Os

That means free parameterization of the two signals on each plug position, whether input, debugging input or output

“Free yourself from the controls” – Change the bus instead of the system – you change only the bus coupler

This makes the machine installation independent of the controls and the field bus, which means that the application can be adapted to the final customer’s SPC specifications without you having to modify the I/O periphery

“Don’t look for errors – find them” – Total diagnostic

That means detailed information on type and location of the fault or error
Single-channel diagnostic and shut down

Quicker set-up... Assemble and plug in – that’s all!

Elaborate parallel and single-core wiring replaced by quick, simple plugging
Only one hybrid cable instead of wide cable conduits

Contact Action Automation for Application Assistance.

DIRECTIONAL CONTROL VALVES

Large 4-Way IN-Stock MAC Valves 93 Series Sub-Base Plug-In Pilot Operated Valves



Double, Single,
or 3-Position



Valves suitable for use with individual base mount,
conduit add-a-manifold on page 2-39, or
MACConnect™ on page 2-40.

2

Single Solenoid, Two Position Valve, No Base



Model Number	Description
93A-AAB-000-DM-DFBP-2DM	24 VDC, 1.8 Watt
93A-AAB-000-DM-DJAP-2DG	120/60, 110/50 VAC & ground wire

Images shown may not represent all part numbers listed.

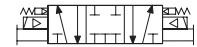
Double Solenoid, Two Position Valve, No Base



Model Number	Description
93A-BAB-000-DM-DFBP-2DM	24 VDC, 1.8 Watt
93A-BAB-000-DM-DJAP-2DG	120/60, 110/50 VAC & ground wire

Images shown may not represent all part numbers listed.

Double Solenoid, Three Position Closed Center Valve, No Base



Model Number	Description
93A-EAB-000-DM-DFBP-2DM	24 VDC, 1.8 Watt
93A-EAB-000-DM-DJAP-2DG	120/60, 110/50 VAC & ground wire

Images shown may not represent all part numbers listed.

Double Solenoid, Three Position Open Center Valve, No Base



Model Number	Description
93A-FAB-000-DM-DFBP-2DM	24 VDC, 1.8 Watt
93A-FAB-000-DM-DJAP-2DG	120/60, 110/50 VAC & ground wire

Images shown may not represent all part numbers listed.

DIRECTIONAL CONTROL VALVES

Large 4-Way IN-Stock MAC Valves

93 Series Inline and Add-A-Unit Bases Side Ported Individual Inline Bases

Images shown may not represent all part numbers listed.

Model Number	Description
93A-000-BAA	3/8" NPT
93A-000-CAA	1/2" NPT

Add-A-Unit Manifold Bases & Accessories (includes all hardware)

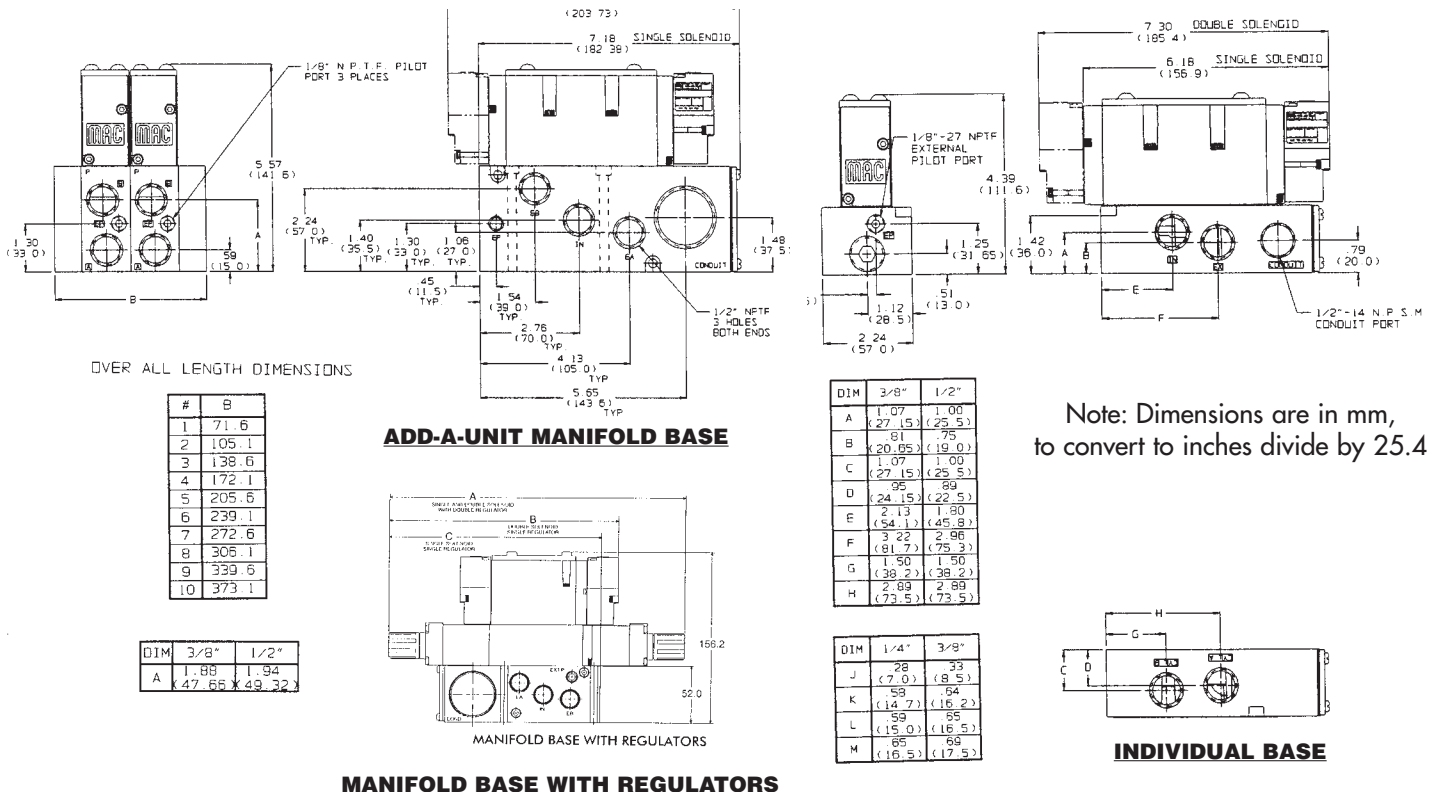
Images shown may not represent all part numbers listed.

Model Number	Description
93A-000-BJA	3/8" NPT Side Ported Manifold Base
93A-000-CJA	1/2" NPT Side Ported Manifold Base
M-93001-01-01	Manifold End Plate Kit - Internal Pilot
M-93001-02-01	Manifold End Plate Kit - External Pilot
M-93002	Blank Station Cover Plate Kit
N-93008	Isolator Disk (1 required for Inlet, 2 required for Exhaust)

Accessories for Inline and Manifold Valves

Images shown may not represent all part numbers listed.

Model Number	Description
FC93A-AB	Sandwich Flow Control w/Locking Knob
PR93A-GAAA	Sandwich Regulator w/Knob, 0-120 PSI
32848	Conduit Plug



2

DIRECTIONAL CONTROL VALVES

93 Series MAConnect™ with Sub D

2



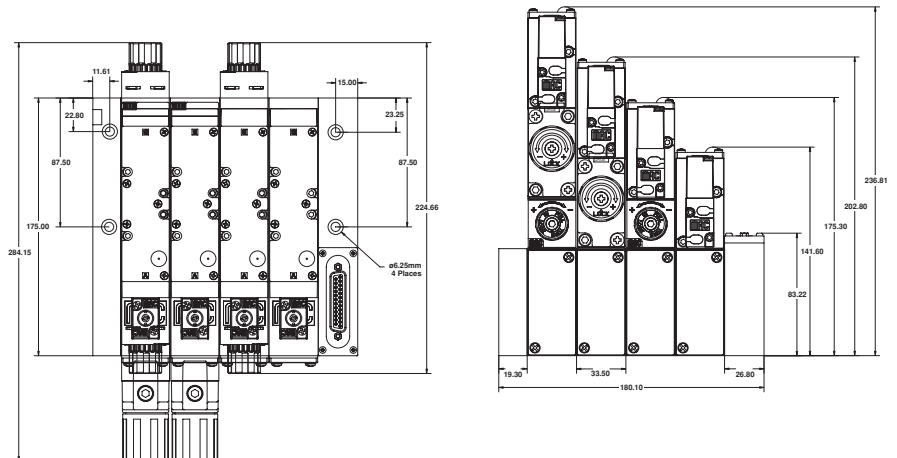
93 Series MAConnect™ Bases

Images shown may not represent all part numbers listed.

Model Number	Description
93A-000-BJ3	3/8" NPT Side Ported, Single Solenoid, Middle, Positive Common
93A-000-BJ3=1705	3/8" NPT Side Ported, Single Solenoid, Middle, Negative Common
93A-000-BJ4	3/8" NPT Side Ported, Double Solenoid, Middle, Positive Common
93A-000-BJ4=1705	3/8" NPT Side Ported, Double Solenoid, Middle, Negative Common
93A-000-CJ3	1/2" NPT Side Ported, Single Solenoid, Middle, Positive Common
93A-000-CJ3=1705	1/2" NPT Side Ported, Single Solenoid, Middle, Negative Common
93A-000-CJ4	1/2" NPT Side Ported, Double Solenoid, Middle, Positive Common
93A-000-CJ4=1705	1/2" NPT Side Ported, Double Solenoid, Middle, Negative Common
M-93012-25-3	Right End Block With 25 Pin Sub-D Connector, Positive Common
M-93012-25-3=1705	Right End Block With 25 Pin Sub-D Connector, Negative Common
M-93014-01-01	Left End Fastening Plate, Internal Pilot
N-93008	Isolator Disc, for use in inlet or exhaust ports
VT-D25	10' 25 Pin Sub-D Connector
VT-D25-25	25' 25 Pin Sub-D Connector

Sample BOM for Drawing:

- 1 – M-93014-01-01 Fastening Plate
- 4 – 93B-AAB-000-DM-DFBP-2DM Valve
- 2 – PR93A-GAAA Regulators
- 2 – FC93A-AB Flow Control
- 4 – 93A-000-BJ3 Middle Station
- 1 – M-93012-25-3 Right End with Sub-D



92/93 Series MACConnect™ Transition Plate

This transition plate allows you to combine MAC 92 and 93 series valves on the same manifold with no additional wiring.



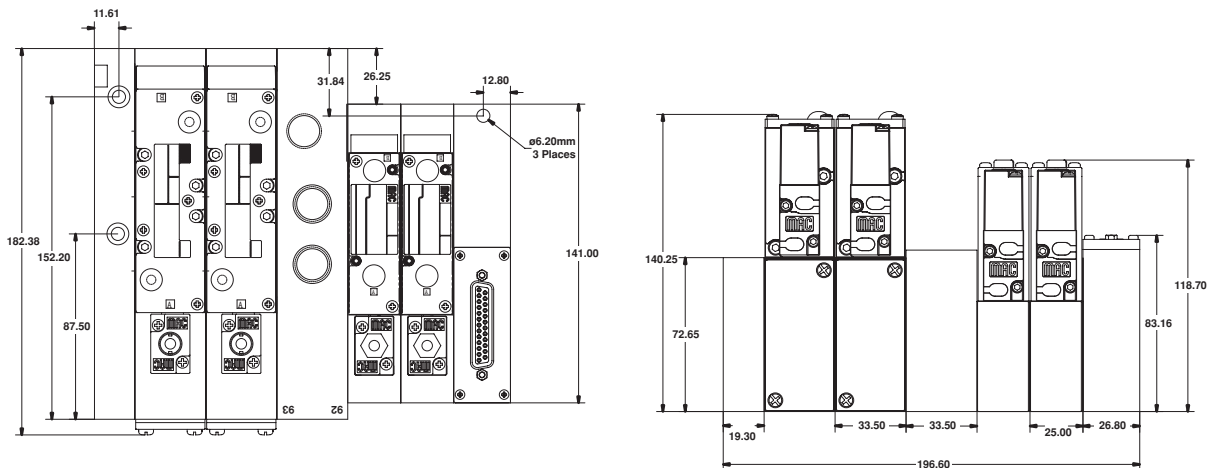
2

Images shown may not represent all part numbers listed.

Model Number	Description
M-93020-01	MACConnect™ 92/93 Series Transition Plate

Sample BOM for Drawing:

- | | |
|---------------------------------------|---------------------------------------|
| 1 – M-93014-01-01 Fastening Plate | 2 – 92B-AAF-000-DM-DFBP-2DM Valve |
| 2 – 93A-AAAB-000-DM-DFBP-2DM Valve | 2 – 92B-000-CJ3 Middle Station |
| 2 – 93A-000-BJ3 Middle Station | 1 – M-92010-25-3 Right End with Sub-D |
| 1 – M-93020-01 92/93 Transition Plate | |



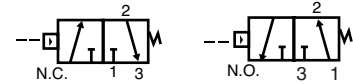
DIRECTIONAL CONTROL VALVES

Air Piloted IN-Stock MAC Valves

Dimensions Available Upon Request



**35 Series Inline
3-Way Universal 1/8" NPT**

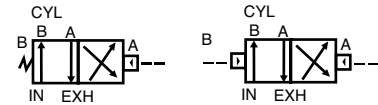


Model Number	Cv	Pilot Port	Type
35A - AAA - RA11	.18	1/8"	Single Air Pilot

Images shown may not represent all part numbers listed.



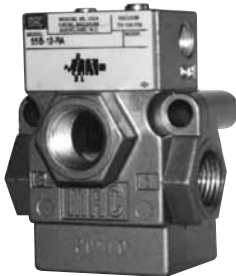
**45 Series, Inline
4-Way 1/8" NPT**



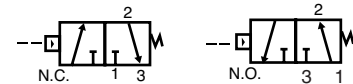
Model Number	Cv	Pilot Port	Type
45A - AA1 - RA11	.18	1/8"	Single Air Pilot
45A - GA1 - RA11	.18	1/8"	Double Air Pilot

Images shown may not represent all part numbers listed.

(See page 2-12 for dimensions)



**55 Series Inline
3-Way 3/8" NPT**

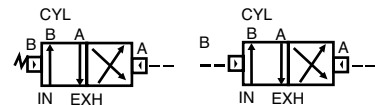


Model Number	Cv	Pilot Port	Type
55B - 12 - RA	2.5	3/8" NPT	Single Air Pilot

Images shown may not represent all part numbers listed.



**82 Series Inline
4-Way Base Mounted 1/4" NPT**

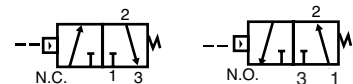


Model Number	Cv	Pilot Port	Type
82A - AB - BAA - RA	1.35	1/8"	Single Air Pilot
82A - BB - BAD - RA	1.35	1/8"	Double Air Pilot

Images shown may not represent all part numbers listed.



**52 Series Inline
3-Way 1/4" NPT**



Model Number	Cv	Pilot Port	Type
52A - 11-BOH-RA=1493	1.5	10/32 NPT	Single Air Pilot

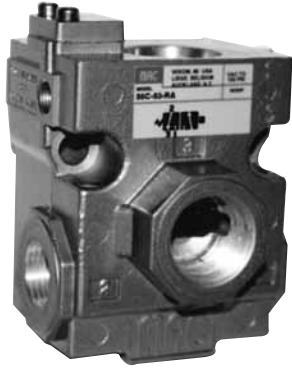
Images shown may not represent all part numbers listed.

2

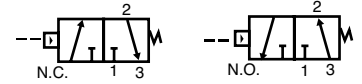
DIRECTIONAL CONTROL VALVES

Air Piloted IN-Stock MAC Valves

(See page 2-12 for dimensions)



56 Series Inline
3-Way 3/4" NPT



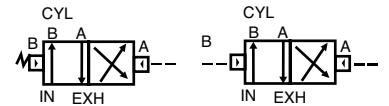
Model Number	Cv	Pilot Port	Type
56C-57-RA	6.2	1/8" NPT	Single Air Pilot

Images shown may not represent all part numbers listed.



411A-BOH-RA shown

400 Series Inline
4-Way 1/4" NPT Inlet &
Cylinder Ports, 1/8" NPT Exhaust Ports



Model Number	Cv	Pilot Port	Type
411A -BOH-RA=1493	1.0	10/32 NPT	Single Air Pilot
421A -BOH-RA	1.0	10/32 NPT	Double Air Pilot

Images shown may not represent all part numbers listed.

Dimensions Available Upon Request

DIRECTIONAL CONTROL VALVES

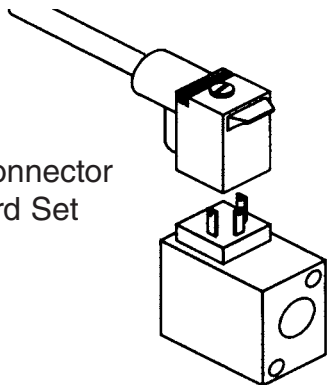
IN-Stock Molded Cord Sets for MAC Valves

9.4 mm Mini DIN Used With "KJ" Catalog Designation

FOR THE FOLLOWING VALVE SERIES: 35, 45, 52, & 400 with external plug in option

2

Molded Connector with Cord Set



MAC 35 Series Valve with E-45007 Connector Shown



Connector Only

Images shown may not represent all part numbers listed.

Description	Model Number	Catalog Code
Plain Connector	E-45007	KA
Diode, No Light	E-45009	KB
120 VAC, M.O.V.,* No Light	E-45010	KC
120 VAC with Light	E-45007-AA	KD
240 VAC with Light	E-45007-AB	KD
24 VDC with Light	E-45007-DA	KD
24 Volt, LED Light & Diode	E-45017-DA	KG
120 VAC, M.O.V.,* With Light	E-45010-AA	KF

*M.O.V.=AC Surge Protection

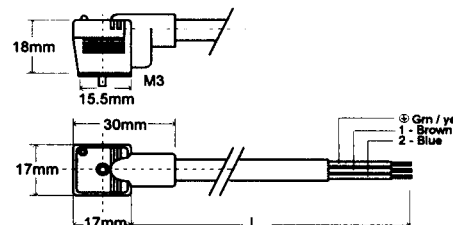
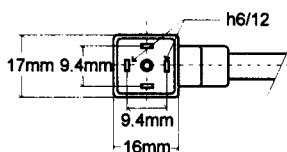
3 Meter Molded Cord Sets Only

Images shown may not represent all part numbers listed.

Model Number	Description	MAC Valves Connector Option
KA250NLS	0 to 250 VAC/DC No Light or Suppression	KA
KDKE1224WLS	12 to 24 VAC/DC with LED & Suppression	KD & KE
KDKE110WLS	110 VAC/DC with LED & Suppression	KD & KE

- Saves on Installation & Labor Costs
- Durable Solid Plastic Construction
- Impact Resistant
- Superior Stain Relief
- 100% Quality Control Tested
- With or Without Suppression and LED
- Rated to 5 Amp

FEATURES & PIN CONFIGURATION



DIRECTIONAL CONTROL VALVES

IN-Stock Plug-In Connectors & Molded Cord Sets for MAC Valves

11 mm Rectangular DIN Used With "JM" Catalog Designation
FOR THE FOLLOWING VALVE SERIES: 55, 56, & 100 with external plug in option



E-01007
Connector

Photo Shown For DIN
Connector Only



Molded Connector
with Cord Set

Connector Only

Description	Model Number	Catalog Code
Plain Connector	E-01007	JB
120 VAC with Light	E-01013-11	JD
240 VAC with Light	E-01013-12	JD
24 VDC with Light	E-01013-61	JD

Images shown may not represent all part numbers listed.

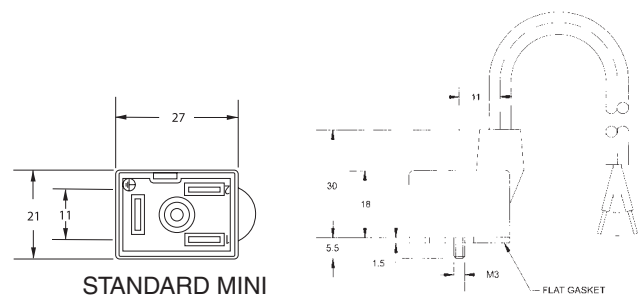
3 Meter Molded Cord Sets Only

Model Number	Description	Ground Location at 6 or 12 o'clock	Mac Valves Connector Option
JB250NLSG6	0 to 250 VAC/DC	6	JB
JD1224WLSG6	12 to 24 VAC/DC	6	JD
JD110WLSG6	110 VAC/DC	6	JD

Images shown may not represent all part numbers listed.

- Saves on Installation & Labor Costs
- Durable Solid Plastic Construction
- Impact Resistant
- Superior Stain Relief
- 100% Quality Control Tested
- With or Without Suppression and LED
- Rated to 5 Amp

FEATURES & PIN CONFIGURATION



DIRECTIONAL CONTROL VALVES

7000 Series Valves 2-Way Solenoid - Skinner/Parker

A wide variety of valve designs and sizes allows the end user flexibility in valve selection and operation. Honeywell 7000 series two-way valves are available in almost any arrangement of porting, mounting, flow control, voltage and frequency.

The valves are available in normally closed, normally open and dual purpose configurations, and are available with coils that meet ordinary and hazardous location requirements. The breadth and versatility covered in this line provides compatibility with numerous applications. Among them are dispensing, transportation equipment, machine tools, vending, laundry equipment and instrumentation.

7000 SERIES TWO-WAY SOLENOID - DIRECT AND PILOT OPERATED MECHANICAL CHARACTERISTICS:

VALVE TYPES:
Normally closed, normally open

COMPATIBLE FLUIDS: Lubricated Air, Non-Lubricated Air, Inert Gases, Water Hydraulic Fluids, Petroleum Products and additional fluids compatible with materials of construction. Use of non-lubricated gaseous media will substantially limit valve life.

STANDARD MATERIALS OF CONSTRUCTION:

Body: Direct: Brass or Stainless Steel (430F)
Pilot: Brass or Stainless Steel (316 and 430F)
Seals: Direct: NBR, FKM, PCTFE as listed
Pilot: NBR, FKM, as listed
Sleeve Tube: Stainless Steel (303 or 304)
Plunger: Stainless Steel (430FR)
Stop: Stainless Steel (430FR)
Springs: Stainless Steel (18-8)
Pilot Orifice: Stainless Steel (303)

LEAKAGE:

Internal:
Direct: Bubbletight (elastomeric seals)
Pilot: Bubbletight
External: None

2

Please see Next Page for IN-Stock 7000 Series Dimensional Drawings.



Direct Operated Brass Body 2-Way NC (Non-Passing)

Images shown may not represent all part numbers listed.

Model Number	Port Size	Voltage	Wattage	Cv	Orifice	Pressure Diff. (Psig)	Max Temp °F
7121KBN1NF00N0C111P3	1/8"	120 VAC	10	.31	1/8	0 TO 365	165
7121KBN1NF00N0C111C2	1/8"	24 VDC	10	.31	1/8	0 TO 125	165
7121KBN2NF00N0C111P3	1/4"	120 VAC	10	.31	1/8	0 TO 365	165
7121KBN2NF00N0C111C2	1/4"	24 VDC	10	.31	1/8	0 TO 125	165
71215SN2MN00N0C111P3	1/4"	120/60	10	.28	1/8	0 TO 150	185

Direct Operated Stainless Steel Body 2-Way NO (Passing)

Images shown may not represent all part numbers listed.

Model Number	Port Size	Voltage	Wattage	Cv	Orifice	Pressure Diff. (Psig)	Max Temp °F
71295SN2KNJ1N0C111P3	1/4"	120 VAC	10	.15	3/32	0 TO 250	185
71295SN2KNJ1N0C111C2	1/4"	24 VDC	10	.15	3/32	0 TO 250	185

Pilot Operated Brass Body 2-Way NC (Non-Passing)

Images shown may not represent all part numbers listed.

Model Number	Port Size	Voltage	Wattage	Cv	Orifice	Pressure Diff. (Psig)	Max Temp °F
7321KBN3SN00N0C111P3	3/8"	120/60 VAC	10	2.5	7/16	3 TO 150	185

DIRECTIONAL CONTROL VALVES

7000 Series Valves 3-Way Solenoid - Skinner/Parker

A wide variety of valve designs and sizes allows the end user great flexibility in valve selection and operation. Honeywell 7000 series three-way direct operating general service valves are available in almost any arrangement of porting, mounting, flow control, voltage and frequency.

These valves are available in normally closed, normally open, multipurpose and diverting configurations, and are available with UL approved coils that meet ordinary and hazardous location requirements. The breadth and versatility covered in this line provides compatibility with numerous applications such as air and hydraulic cylinder actuation; dispensing, transportation vending and laundry equipment; automation, instrumentation, machine tools, heating and air conditioning.

7000 SERIES THREE-WAY SOLENOID - DIRECT OPERATED MECHANICAL CHARACTERISTICS:

VALVE TYPES:
Normally closed

COMPATIBLE FLUIDS: Lubricated Air, Non-Lubricated Air, Inert Gases, Water, Hydraulic Fluids, Petroleum Products and additional fluids compatible with materials of construction. Use of non-lubricated gaseous media will substantially limit valve life.



STANDARD MATERIALS OF CONSTRUCTION:

Body: Brass or Stainless Steel (430F or 303)
Seals: NBR, FKM, PCTFE as listed
Sleeve Tube:
Stainless Steel (303 or 304)
Plunger:
Stainless Steel (430FR)
Stop: Stainless Steel (430FR)
Springs:
Stainless Steel (18-8)
Pilot Orifice: Stainless Steel (303)

LEAKAGE:

Internal: Direct: Bubbletight (elastomeric seals)
External: None

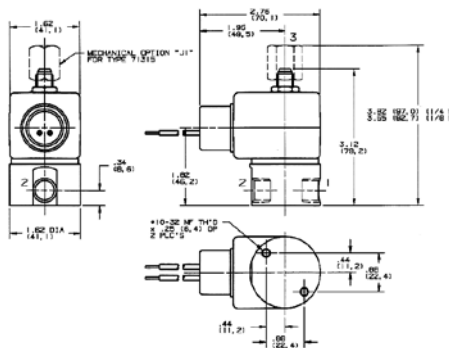


Direct Operated Stainless Steel Body 3-Way NC (Non-Passing)

Images shown may not represent all part numbers listed.

Model Number	Port Size	Voltage	Wattage	Cv	Orifice	Pressure Diff. (Psig)	Max Temp °F
71315SN1GN00N0C111P3	1/8"	120/60VAC	10	.11	1/16	0 to 200	185
71315SN1GN00N0C111C2	1/8"	24 VDC	10	.11	1/16	0 to 200	185
71315SN2GNJ1N0C111P3	1/4"	120/60VAC	10	.11	1/16	0-200	185
7131TVN2NV00N0C111C2	1/4"	24VDC	10	.32	1/8	0-70	185

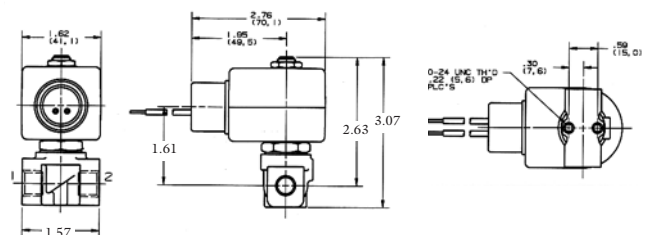
7000 Series Dimensional Drawings



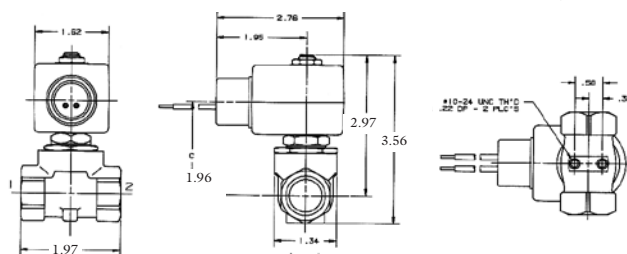
Direct Operated
3 Way NC
(Non-Passing)
Model No.
71315SN1GN00

Direct Operated 2 Way NC (Non-Passing)

Model No.'s:
7121KBN1NF00 & 7121KBN2NF00

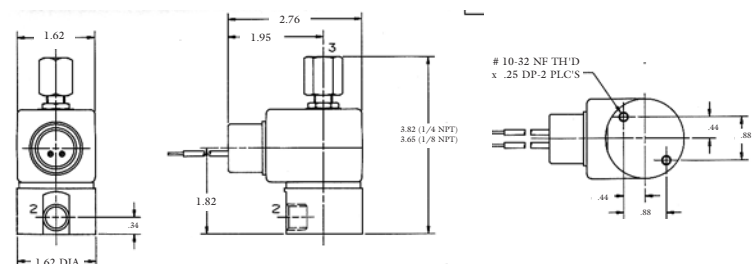


Pilot Operated 2 Way NC (Non-Passing)



Model No. 7321KBN3SN00N0

Direct Operated 2 Way NO (Passing) Model No. 71295SN2KNJIN0



DIRECTIONAL CONTROL VALVES



Cam Roller



Lever Operated



Palm Button

1800 Series Manual Valves, 1/4" NPT

Images shown may not represent all part numbers listed.

Model Number	CV	Description
180001 - 112 - 0014	1.1	Lever Cam Roller, Parallel to Ports
180001 - 112 - 0021	1.1	Lever, Locking, Push: Perpendicular to Body
180001 - 112 - 0022	1.1	Lever, Non-Locking, Push: Perpendicular to Body
180001 - 112 - 0023	1.1	Lever, Locking, Pull: Perpendicular to Body
180001 - 112 - 0024	1.1	Lever, Non-Locking, Pull: Perpendicular to Body
180001 - 112 - 0025	1.1	Lever, Locking, Push: Parallel to Body
180001 - 112 - 0026	1.1	Lever, Non-Locking, Push: Parallel to Body
180001 - 112 - 0027	1.1	Lever, Locking, Pull: Parallel to Body
180001 - 112 - 0028	1.1	Lever, Non-Locking, Pull: Parallel to Body
180001 - 112 - 0031	1.1	Push Button, Spring Return (specify button color)
180002 - 112 - 0034	1.1	Push Button, Push Pull (specify button color)
180001 - 112 - 0036	1.1	Palm Button, Spring Return (specify button color)
180002 - 112 - 0039	1.1	Palm Button, Push Pull (specify button color)

Optional Colored Push Buttons

Images shown may not represent all part numbers listed.

Model Number	Description
24080 RED	Red Push Button
24080 GREEN	Green Push Button
24080 BLACK	Black Push Button
24080 WHITE	White Push Button

Optional Colored Palm Buttons

Images shown may not represent all part numbers listed.

Model Number	Description
24077 RED	Red Palm Button
24077 GREEN	Green Palm Button
24077 BLACK	Black Palm Button
24077 WHITE	White Palm Button

DIRECTIONAL CONTROL VALVES

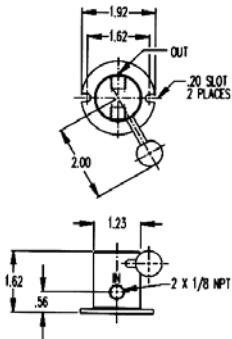


Bimba 3-Way Disc Air Valve

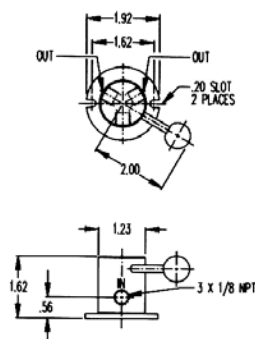
Operates single acting cylinders. Full 1/8" orifice –1/8" NPT inlet and outlet ports. To operate, a precision lapped disc is rotated through 60° by means of a ball handle which will hold set position. To repair, remove handle and retaining ring.

Model Number: 3MV8

Model 3MV8



Model 4MV8



Bimba 4-Way Disc Air Valve

Operates double acting cylinders. Ball handle will rotate through 120° and will hold set position –1/8" NPT ports are located 120° apart – Orifice 1/8" diameter. To repair, remove handle and retaining ring.

Model Number: 4MV8

PNEUMADYNE

Manual 4-Way Valves

4-Way Description and Specifications

Application: Industrial and Commercial applications requiring small 4-way function such as double acting cylinders.

Valve Type: 4-Way 2-Position 3 full ports 2 free venting exhausts (non ported)

Air Flow: AT 50 PSIG, 4.2 SCFM
AT 100 PSIG, 7.6 SCFM

Force Required for Full Button Travel:

Model PK 12 oz. nominal

Button Stroke: 11/64"

Input Pressure: 125 PSI max.

Temperature Range: 32°F to 200°F

Mounting: By 15/32 - 32 male threads on one end (nuts and lockwashers supplied), or by 2 mounting holes (.200) are clearance holes

for 10-32 threaded fasteners (not supplied). Exhaust ports are not to be restricted.

4-WAY MATERIALS OF CONSTRUCTION:

Body: Aluminum, plated with electroless nickel or black anodize

End Caps & Spool: Brass, electroless nickel plated

Stems: Stainless Steel (303)

Spring: Stainless Steel (302)

Seals: Buna-N

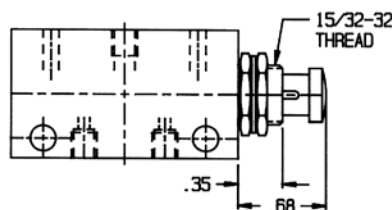
Buttons: Nylon

Knob: Aluminum, black anodize mounting nuts

Lock Washer: Steel, nickel plated

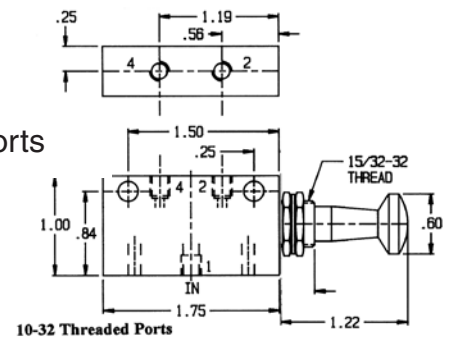


A4C-100-PK



A4C-100-SR

10-32 Threaded Ports



Images shown may not represent all part numbers listed.

Model Number	Porting	Description
A4C-100-PK	10-32	Panel Mount Push-Pull
A4C-100-SR	10-32	Panel Mount Spring Return

DIRECTIONAL CONTROL VALVES

Miniature Pneumatic Valves

General Specifications for Push Button and Toggle Valves

Applications - Medical, Dental and industrial equipment.
Operators - Push buttons and toggles.
Actuators - All actuators designed for push button style valves are useable.

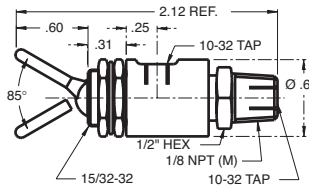
Materials -
Body: Diecast Zinc or Brass
Stem: Acetal
Springs: Stainless Steel
Buttons and Toggles: Nylon
Seals: BUNA-A
Media - Air
Operating Pressure Range - 0 to 125 PsiG (0-7 bar)
Operating Temperature Range - -20°F to 160°F (-28°C to 71°C)

PNEUMADYNE



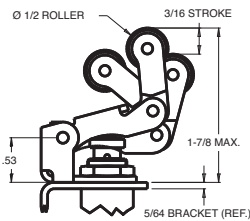
Toggle with Swivel Base

A 1/8" NPT male w/ 10-32 threaded female port. This configuration allows close mounting of valves in manifolds or piping with 10-32 fittings, 3-way non-passing.



Detented
H0-30-1

Momentary
F0-30-1

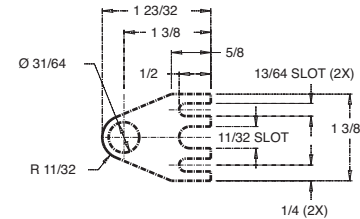
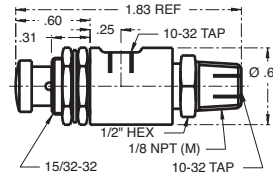


One Way Cam Actuator

This unit uses all the components of the CA-1 combined with an additional one way acetal lever. CA-2

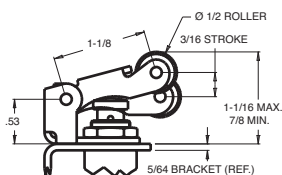
Push Button With Swivel Base

A 1/8" NPT male w/ 10-32 threaded female port. This configuration allows close mounting of valves in manifolds or piping with 10-32 fittings, 3 way non-passing A0-30-1



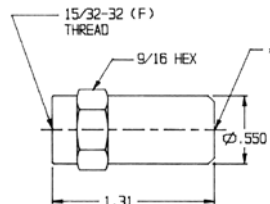
Flat Mounting Bracket MB-1F

This bracket may be used to mount any valve which has 15/32-32 thread



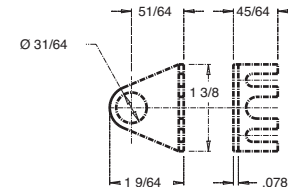
Cam Actuator CA-1

This unit is made of electroless nickel plated (.073) thick steel. The roller is tough acetal.



Air Pilots AP-1

These low friction units incorporate a lip seal on the piston. The valve returns the piston. One lock nut is required when installed without a bracket.



Right Angle Mounting Bracket

This bracket is used to mount any valve which has 15/32-32 thread. MB-1

Images shown may not represent all part numbers listed.

Model Number	Configuration	Operator	Porting	
			Inlet	Outlet
A0-30-1	3-Way Non-Passing	Push Button	1/8" NPT	10/32"
AP-1	—	Air Pilots	—	—
CA-1	—	Cam Roller	—	—
CA-2	—	Valve	—	—
F0-30-1	3-Way Non-Passing	Toggle Momentum	1/8" NPT	10/32"
H0-30-1	3-Way Non-Passing	Toggle Entered	1/8" NPT	10/32"
MB-1	—	Right Angle Mtg Bracket	—	—
MB-1F	—	Flat Mounting Bracket	—	—

DIRECTIONAL CONTROL VALVES



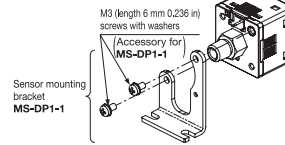
DP-100 Series Digital Pressure Sensor



FEATURES:

- .2% Full Scale Repeatability
- Programmable 3 Color Dual Display
- Tactile Buttons
- Economical
- Easy to Configure

Sensor mounting bracket • MS-DP1-1



Images shown may not represent all part numbers listed.

Model Number	Type	Rated Pressure Range	Pressure Port	Output
DP102-N	Pressure/Vacuum	-14.6 – 145 PSI	M5 Female / 1/8" NPTM	NPN
DP102-N-P	Pressure/Vacuum	-14.6 – 145 PSI	M5 Female / 1/8" NPTM	PNP
		*other pressure ranges available upon request		
MS-DP1-1	Sensor Mounting Bracket			

PNEUMADYNE

The Micro Gauge



Pneumadyne's new Micro Gauge, with a face less than 1" (23 mm) in diameter, is ideal for applications with limited space.

Materials of Construction

Face: Polycarbonate
Case: Black, ABS Blend
Dial: Aluminum, black figures on white background

Indicator: Red painted brass

Bourdon Tube: Spiral Beryllium copper, soft soldered to socket.

Socket: Brass with 9/16" wrench flats

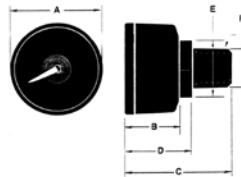
Connection: 1/8 NPT back

Repeatability: Better than 1%

Accuracy: +/- 5% full scale

Operating Temperature: -40°F to 150°F

Packaging: Individually bagged



ORDERING INFORMATION: MODEL NO. PMG-160

	A	B	C	D	E	F
Inches	29/32	35/64	1-5/64	43/64	9/16	1/8
(mm)	(23)	(14)	(27)	(17)	(15)	NPT

Guide To Ordering Valves

IF YOU KNOW THE SERIES YOU REQUIRE, consult the table of contents to find the series you have selected. The section is laid out so that the most commonly used valves are illustrated and all the options are displayed in tables.

IF YOU DO NOT KNOW WHICH SERIES YOU REQUIRE, first decide whether

STEP 1 – 2 or 3 WAY VALVES

(A MAC 2 way is a 3 Way with one port plugged)

- Normally Closed or Normally Open?
- Pressure range: 25 to 150 PSI or below 25 PSI? (below 25 PSI on external pilot connection is required for pilot operated valves) (See Note 2 below)
- Single operator, spring return? (See Note 3 below)

OR

STEP 1 – 4 WAY VALVES

- Single operator, spring return or double operator?
- Pressure range: 25 to 150 PSI (single operator)? (See Note 2) 10 to 150 PSI (double operator)? (See Note 4) (below these minimum an external pilot connection is required for pilot operated valves)
- 2 position or 3 position? If 3 position: which center position? open _____ closed _____ or pressure center _____ ? _____

STEP 2 – WHAT KIND OF OPERATOR?

- Solenoid, Remote air or Mechanical?
- If remote air or mechanical, go to step 3.
- If solenoid, AC or DC? If DC, what voltage and power (watts)?
- Electrical connections? (See Note 5)

NOTE 1: All MAC 4 Ways can be used as 3 Ways or 2 Ways by simply plugging the appropriate port or ports; however in certain applications where considerations of size, speed, flow or cost are important, it may be preferable to select a 3 Way valve for a 3 Way application.

NOTE 2: Minimum pressure for the internally piloted 55 series valves is 30 PSI. Maximum pressure for the 35 and 45 series is 120 PSI.

you need a 2, 3 or 4-way valve (See Note 1 at the foot of this page); next decide the flow and port size required. Then consult the table of contents.

IN EITHER CASE, the check list below will help you determine the exact model code you require.

STEP 3 – FLOW? WHAT IS THE CV REQUIRED?

- Port size? (NPTF)
- Valve mounting: inline? stacking? manifold base? circuit bar™? (See Note 5)
- Integral pressure regulators? (See Note 5)
- Integral flow controls? (See Note 5)

NOTE 3: MAC 3 Ways are all single operated spring return. For double operated 3 Ways, use a 4 Way and plug the appropriate cylinder port.

NOTE 4: For 3 position valves, minimum operating pressure is 25 PSI.

NOTE 5: Check series for availability.

DIRECTIONAL CONTROL VALVES

Precautions Concerning the Application, Installation and Service of MAC® Valves

The precautions below are important to be read and understood before designing into a system any MAC valve, and before installing or servicing any MAC valve. Improper use, installation or servicing of any MAC valve in some systems could create a hazard to personnel or equipment.

APPLICATION PRECAUTIONS:

INDUSTRIAL USE –

MAC valves are intended for use in industrial pneumatic and/or vacuum systems. They are not intended for consumer use or service. They are general purpose industrial valves with literally thousands of different applications in industrial systems. These products are not inherently dangerous, but they are only a component of an overall system. The system in which they are used must provide adequate safeguards to prevent injury or damage in the event failure occurs, whether it be failure of switches, regulators, cylinders, valves or any other component.

POWER PRESSES –

MAC valves are not designed nor intended to be used to operate and/or control the operation of clutch and/or brake systems on power presses. There are special products on the market for such use.

2-POSITION VALVES –

Some MAC valves are 2-position, 4-way valves. When air is supplied to the inlet port(s) of these valves, there will always be a flow path from the inlet to one of the outlets regardless of which of the two positions the valve is situated. Therefore, if pressurized air retained in the system would present a hazard in the application or servicing of the valve or system, a separate method in the system must be provided to remove the trapped air.

3-POSITION VALVES –

Some MAC valves are 3-position, 4-way valves. These valves are either double solenoid or double remote air operated. If either of the two operators is in control, air supplied to the inlet port(s) will pass through the valve to one of the outlets as on 2-position, 4-way valves. However, if neither operator is in control, the valve moves to a center position. Listed below are the various center position functions:

A. CLOSED CENTER –

With this type valve, when in the center position all ports are blocked (inlets and exhausts) meaning the air at both outlet ports is trapped. If trapping the air in both outlet ports would present a hazard in the application or servicing, a separate method in the system must be provided to remove the trapped air or this type valve should not be used.

B. OPEN CENTER –

With this type valve, when in the center position, the inlet port(s) is blocked and the two outlet parts are open to the exhaust port(s) of the valve. If having no air in either outlet part would present a hazard in the application or servicing, this type valve should not be used.

C. PRESSURE CENTER –

With this type valve, when in the center position, the inlet port(s) is connected to both outlet parts of the valve. If having pressurized air to either or both outlet ports would present a hazard in the application or servicing of the valve or system, a separate method in the system must be provided to remove the retained air.

OPERATING SPECIFICATIONS –

MAC valves are to be installed only on applications that meet all operating specifications described in the MAC catalog for the valve.

MANUAL OPERATORS –

Most MAC valves can be ordered with manual operators. Manual operators when depressed, are designed to shift the valve to the same position as would the corresponding solenoid or remote air pilot operator if it were activated. Care must be taken to order a type, if any, that will be safe for the physical location of the manual operator in the system.

Accidental activation of a manual operator could create a dangerous situation. If intentional or accidental operation of a valve by a manual operator could create a dangerous situation then the "no operator" option should be used.

REMOTE AIR OPERATED VALVES

Pilot valves supplying signal pressure to remote air operated valves should be 3-way valves with adequate supply and exhaust capacity to provide positive pressurizing and exhausting of the pilot supply line. Pilot lines should be open to exhaust when valves are deenergized.

INSTALLATION PRECAUTIONS:

A. Do not install MAC valves on a machine without first turning off air (bleed system completely) and electricity to the machine.
B. MAC valves should only be installed by qualified, knowledgeable personnel who understand how the specific valve is to be pneumatically piped and electrically connected (where applicable). Flow paths through the valve are shown in the catalog and on the valve by use of ANSI or ISO type standard graphic symbols. Do not install unless these symbols and the valve functions and operations are thoroughly understood.

SERVICE PRECAUTIONS:

A. Do not service or remove from service any MAC valve without first shutting off both the air and electricity to the valve and making certain no pressurized air which could present a hazard is retained in the system.
B. MAC valves should only be serviced or removed from service by qualified, knowledgeable personnel who understand how the specific valve is piped and used and whether there is air retained in the connecting lines to the valve or electric power still connected to the valve.
C. MAC valves are never to be stepped on while working on a machine. Damage to the valve, or lines to the valve (either air or electrical lines) or accidental activating of a manual operator on the valve could result in a dangerous situation.

WARNING:

Under no circumstances are MAC valves to be used on power presses for air clutch and/or brake operations where failure of the valve to operate as intended could in any way jeopardize the safety of the operator or any other person. Under no circumstances are MAC valves to be used in any circuit or in any manner intended to prevent unintended operation of any machinery or other equipment where failure of the valve to operate as intended could jeopardize the safety of the operator or any other person. Air valves are not safety devices nor should they be used in safety systems of any type.

LIMITATION OF GUARANTEE

This Guarantee is limited to the replacement or rebuilding of any valve which should fail to operate properly. Valves, under the MAC Guarantee, must be returned (with or without bases) transportation prepaid and received at our factory within the Guarantee period. They will be returned to the customer at the expense of MAC Valves, Inc., and will carry the same guarantee as provided under the Flat Rate Rebuild Program.

DISCLAIMER OF GUARANTEE

No claims for labor, material, time, damage, or transportation are allowable nor will any valve be replaced or rebuilt under this guarantee which has been damaged by the purchaser not in the normal course of its use and maintenance during the warranty period. Thus guarantee does not apply to loss or damage caused by fire, theft, riot, explosion, labor dispute, act of God, or other causes beyond the control of MAC Valves, Inc. MAC Valves, Inc. shall in no event be liable for remote, special or consequential damages under the MAC Guarantee, nor under any implied warranties, including the implied warranty of merchantability.

The above Guarantee is our manner of extending the engineering and service resources of the MAC Valves, Inc. organization to assure our customer long, and continued satisfaction.