MAC®

VALVES

Circuit Bar®

Function	Port size	Flow (Max)	Circuit bar mounting									Series
		NL/min	non plug-in cylinder ports in base	non plug-in cylinder ports in valve	plug-in	plug-in with F. C.	plug-in with Pr. Reg.	plug-in with Pr. Reg. and F. C.	add-on style plug-in	add-on style plug-in with F. C.	add-on style plug-in with Pr. Reg.	
3/2	M5 - #10-32	110	■									34
3/2	M5 - 1/8" BSPP	110		■								
3/2	M5 - #10-32	100			■	■	■		■	■	■	
3/2	M5 - #10-32	90						■				
3/2	1/8" BSPP - M5	100			■							35
3/2	1/4" - 3/8"	500		■								37
3/2	1/8" - 1/4", 6mm tube receptacle	500	■		■				■			
3/2	1/8" - 1/4"	500					■				■	
5/2 - 3/2	M5 - #10-32	93	■									44
5/2 - 3/2	M5 - 1/8" BSPP	93		■								
5/2 - 3/2	M5 - #10-32	90			■				■			
5/2 - 3/2	M5 - #10-32	80				■	■			■	■	
5/2 - 3/2	M5 - #10-32	70						■				
4/2	1/8" BSPP - M5	100			■	■		■				45
5/2	1/8" - 1/4", 6mm tube receptacle	500	■		■				■			47
5/2	1/8" - 1/4"	500					■				■	

Function	Port size	Flow (Max)	Circuit bar mounting									Series
		NL/min	add-on style plug-in with Pr. Reg. and F. C.	plug-in add-a-unit stations	plug-in add-a-unit stations with F. C.	plug-in add-a-unit stations with Pr. Reg.	plug-in add-a-unit stations with F. C. and Pr. Reg.	non plug-in	non plug-in with Pr. Reg.	plug-in with side Pr. Reg.	plug-in with integral terminal strip	
3/2	M5 - #10-32	90	■									34
3/2	M5 - #10-32	100		■	■	■	■					
3/2	1/8" BSPP - M5	100						■	■	■	■	35
3/2	1/8" - 1/4", 6mm tube receptacle	500		■								37
3/2	1/8" - 1/4"	500				■						
5/2 - 3/2	M5 - #10-32	70	■									44
5/2	M5 - #10-32	90		■								
5/2	M5 - #10-32	80			■	■						
5/2	M5 - #10-32	70					■					
4/2	1/8" BSPP - M5	100							■	■	■	45
5/2	1/8" - 1/4", 6mm tube receptacle	500		■								47
5/2	1/8" - 1/4"	500				■						

Function	Port size	Flow (Max)	Circuit bar mounting									Series
		NL/min	plug-in with integral terminal strip and side Pr. Reg.	non plug-in cylinder ports in base with Pr. Reg.	non plug-in add-on style cylinder ports in base	non plug-in add-a-unit stations	cylinder ports in valve	add-on style cylinder ports in valve	cylinder ports in base	add-on style cylinder ports in base	add-a-unit stations for CBM052A bar	
3/2	1/8" BSPP - M5	100	■									35
3/2	1/8" - 1/4", 6mm tube receptacle	500		■	■	■						37
3/2	1/8" - 1/4"	1200					■	■	■	■	■	52
4/2	1/8" BSPP - M5	100	■									45
5/2	1/8" - 1/4", 6mm tube receptacle	500		■								47
5/2 - 5/3	1/4"	1300					■					800

Function	Port size	Flow (Max)	Circuit bar mounting									Series
		NL/min	add-a-unit stations for CBP052A bar	non plug-in with or without F. C.	non plug-in with Pr. Reg. and F. C.	plug-in with sandwich Pr. Reg.	plug-in with integral terminal strip and sandwich Pr. Reg.	plug-in with integral terminal strip with F. C.	plug-in with integral terminal strip with Pr. Reg. and F. C.	non plug-in cyl. ports in valve with opt. F. C.	non plug-in cyl. ports in base with opt. F. C.	
3/2	1/8" - 1/4"	1200	■									52
4/2	1/8" BSPP - M5	100		■	■	■	■	■	■			45
5/2	3/8"	500								■		47
5/2	1/8" - 1/4", 6mm tube receptacle	500									■	

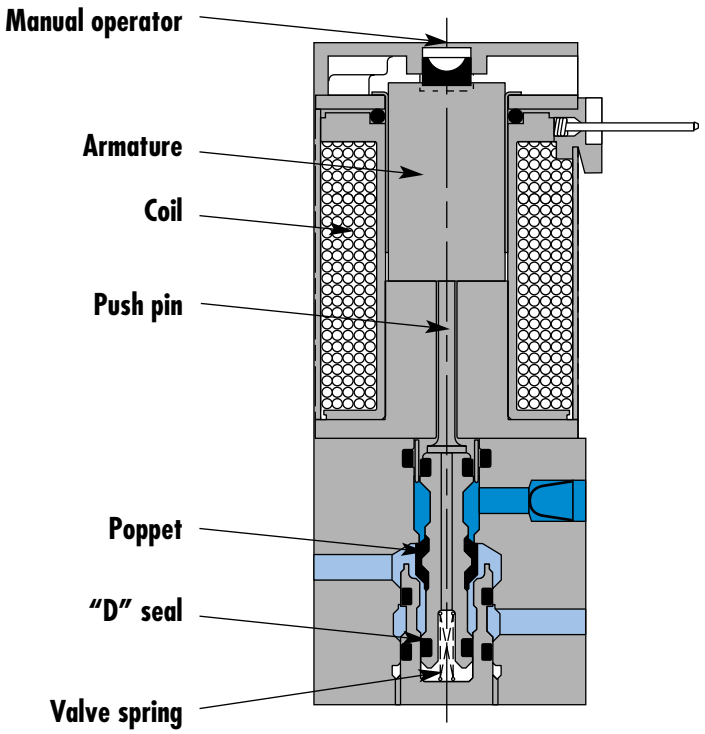
Function	Port size	Flow (Max)	Circuit bar mounting									Series
		NL/min	add-on style non plug-in cyl. ports in valve with opt. F. C.	add-on style non plug-in cyl. ports in base with opt. F. C.	non plug-in cyl. ports in valve with opt. Pr. Reg.	add-on style non plug-in cyl. ports in base	add-on style non plug-in cyl. ports in base with Pr. Reg.	low profile cylinder ports in valve	low profile cylinder ports in base	mid profile cylinder ports in valve	mid profile - add on style cylinder ports in valve	
5/2	3/8"	500	■		■							47
5/2	1/8" - 1/4", 6mm tube receptacle	500		■		■	■					
5/2 - 5/3	1/8" - 1/4"	1000						■		■	■	400
5/2 - 5/3	1/8"	1000							■			

Function	Port size	Flow (Max)	Circuit bar mounting									Series
		NL/min	add-a-unit stations for CBM403A bar	mid profile cylinder ports in base	mid profile - add on style cylinder ports in base	add-a-unit stations for CBM404A bar	high profile cylinder ports in base	high profile - add on style cylinder ports in base	add-a-unit stations for CBM405A bar	standard	add-on style	
5/2 - 5/3	1/8" - 1/4"	1000	■	■	■	■	■	■	■			400
5/2 - 5/3 - 3/2	1/8" - 1/4" - 3/8"	1000								■	■	92

Function	Port size	Flow (Max)	Circuit bar mounting		Series
		NL/min	add-a-unit stations for CBM092B	with shut-off valve	
5/2 - 5/3 - 3/2	1/8" - 1/4" - 3/8"	1000	■		92
5/2 - 5/3	1/4"	1300		■	800

Circuit bar mounting

non plug-in cylinder ports in base	non plug-in cylinder ports in valve	plug-in	plug-in with F. C.	plug-in with Pr. Reg.	plug-in with Pr. Reg. and F. C.	add-on style plug-in	add-on style plug-in with F. C.
add-on style plug-in with Pr. Reg.	add-on style plug-in with Pr. Reg. and F. C.	plug-in add-a-unit stations	plug-in add-a-unit stations with F. C.	plug-in add-a-unit stations with Pr. Reg.	plug-in add-a-unit stations with F. C. and Pr. Reg.		



SERIES FEATURES

- High force MACSOLENOID®.
- Universal porting.
- #10-32 or M5 ports.
- Rated for lubricated or non-lubricated service.
- 10mm direct operated.
- Cylinder port in valve or in circuit bar.

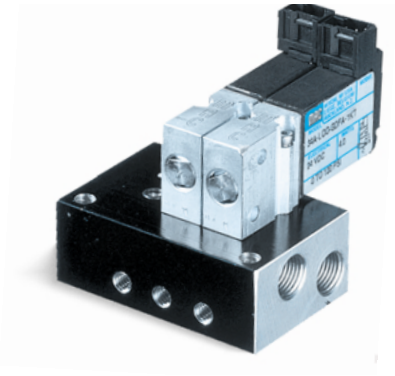
MAC

Series 34

Function	Port size	Flow (Max)	Circuit bar mounting
3/2 NO-NC	**M5 - #10-32**	**110 NL/min**	non plug-in cylinder ports in base

OPERATIONAL BENEFITS

1. 10 mm valve, direct solenoid operated.
2. Balanced poppet, immune to variations of pressure.
3. Short stroke with high flow.
4. The patented solenoid develops high shifting forces.
5. Powerful return spring.
6. Flow is specifically adjusted on each valve.
7. Manual operator standard on all valves.

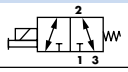
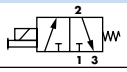


Reset

HOW TO ORDER

34B-xxx-Gxxx-xxx

HOW TO ORDER VALVE FOR CIRCUIT BAR MOUNTING

Port size (see base)	Universal valve	NC only valve
		
Pressure range : 0 to 8 BAR	○ 34B-LOO-G*xxx-xxx*	○ 34B-NOO-G*xxx-xxx*

SOLENOID OPERATOR ➤ G *XX X- X XX*

XX	Voltage	*X*	Wire length	*X*	Manual operator	*XX*	Electrical connection
○ *DC*	24VDC (1.8 W)	○ *A*	45 cm	○ *1*	Non-locking	○ *KA*	Mini connector
○ *DD*	24VDC (2.5 W)	○ *C*	90 cm			○ *KT*	Mini connector with light
○ *DF*	24VDC (4.0 W)	○ *x*	Other Options			○ *BA*	Flying leads
○ *xx*	Other Options					○ *BT*	Flying leads with light
						○ *xx*	Other Options

HOW TO ORDER CIRCUIT BAR

EBP34B-xxxx-xx

Port size	Side cylinder ports	Bottom cylinder ports
M5	○ EBP34B-001D-*xx*	○ EBP34B-002D-*xx*
# 10-32	○ EBP34B-001B-*xx*	○ EBP34B-002B-*xx*

Number of stations (03=3 stations) ☐

Note : ☐ clic for valves mounted on base at the factory, add - 9 to the model number.

Series 34

100% OF PRODUCTION TESTED 100%

WARRANTY 18 MONTHS

TECHNICAL DATA

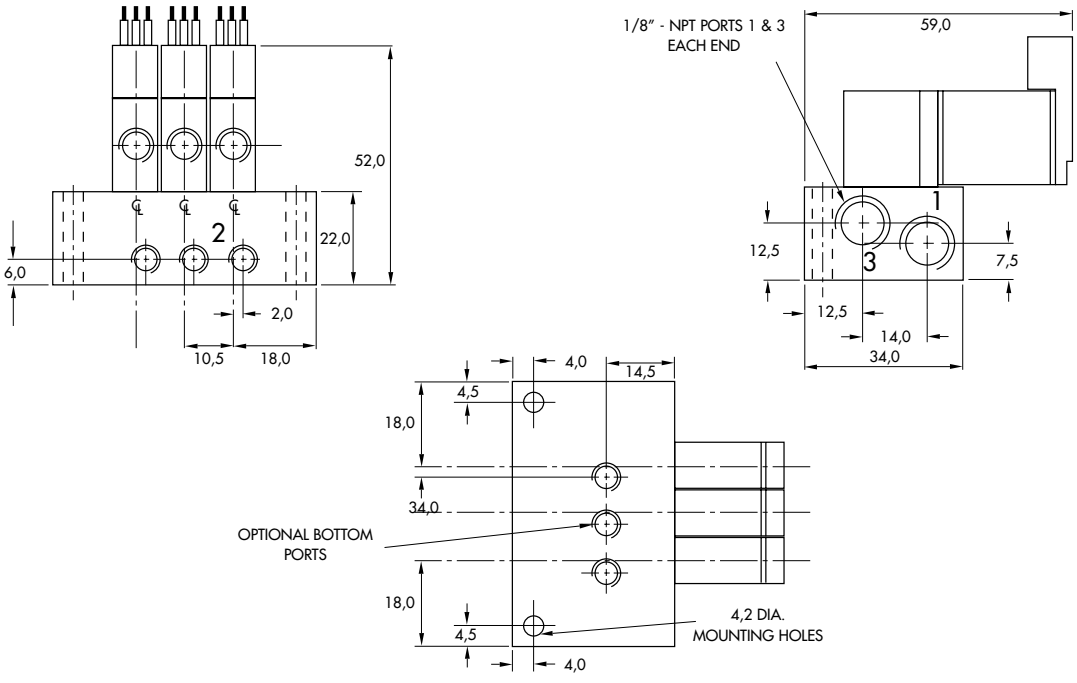
Fluid :	Compressed air, vacuum, inert gases
Pressure range :	Vacuum to 8 BAR
Lubrication :	Not required, if used select a medium aniline point lubricant (between 80°C and 100°C)
Filtration :	40 µ
Temperature range :	0°F to 120°F (-18°C to 50°C)
Orifice :	1.8 mm
Flow (at 6 bar, ΔP=1bar) :	4 W : 110 NL/min, 2.5 W : 84 NL/min, 1.8 W : 61 NL/min
Leak rate :	50 cm^3/min
Coil :	General purpose class A, continuous duty, encapsulated
Voltage range :	-15% to +10% of nominal voltage
Power :	4 W - 2.5 W - 1.8 W
Response times :	Energize : 3.4 ms
(with 4 W coil)	De-energize : 1.5 ms

Note : • Valve and coil are not interchangeable.

Spare parts : • Seal between valve and bar : 16595. • Mounting screw (x2) : 35031. • Blanking plate : M-34005.

Options : • Isolation of inlet and/or exhaust. Special bar. Consult factory.

DIMENSIONS



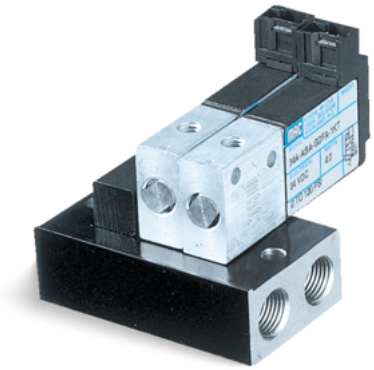
MAC

Series 34

Function	Port size (Inlet & Exhaust)	Flow (Max)	Circuit bar mounting
3/2 NO-NC	**M5 - 1/8" BSPP**	**110 NL/min**	non plug-in cylinder ports in valve

OPERATIONAL BENEFITS

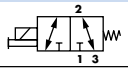
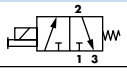
1. 10 mm valve, direct solenoid operated.
2. Balanced poppet, immune to variations of pressure.
3. Short stroke with high flow.
4. The patented solenoid develops high shifting forces.
5. Powerful return spring.
6. Flow is specifically adjusted on each valve.
7. Manual operator standard on all valves.



Reset

HOW TO ORDER 34B-xxx-Gxxx-xxx

HOW TO ORDER VALVE FOR CIRCUIT BAR MOUNTING

Valve port size	Universal valve	NC only valve
		
M5	○ 34B-ABA-G*xxx-xxx*	○ 34B-ABB-G*xxx-xxx*
# 10-32	34B-AAA-G*xxx-xxx*	34B-AAB-G*xxx-xxx*

SOLENOID OPERATOR ➤ G *XX* *X*- *X* *XX**

XX	Voltage	*X*	Wire length	*X*	Manual operator	*XX*	Electrical connection
○ *DC*	24VDC (1.8 W)	○ *A*	45 cm	○ *1*	Non-locking	○ *KA*	Mini connector
○ *DD*	24VDC (2.5 W)	○ *C*	90 cm			○ *KT*	Mini connector with light
○ *DF*	24VDC (4.0 W)					○ *BA*	Flying leads
						○ *BT*	Flying leads with light

HOW TO ORDER CIRCUIT BAR EBM34A-xxxx-xx

Port size COMMON INLET & EXHAUST	
M5	○ EBM34A-001D-*xx*
1/8" BSPP	EBM34A-002C-*xx*

Number of stations (03=3 stations) ☐

Note : ☐ clic for valves mounted on base at the factory, add - 9 to the model number.

Series **34**

100% OF PRODUCTION TESTED 100%

WARRANTY 18 MONTHS

TECHNICAL DATA

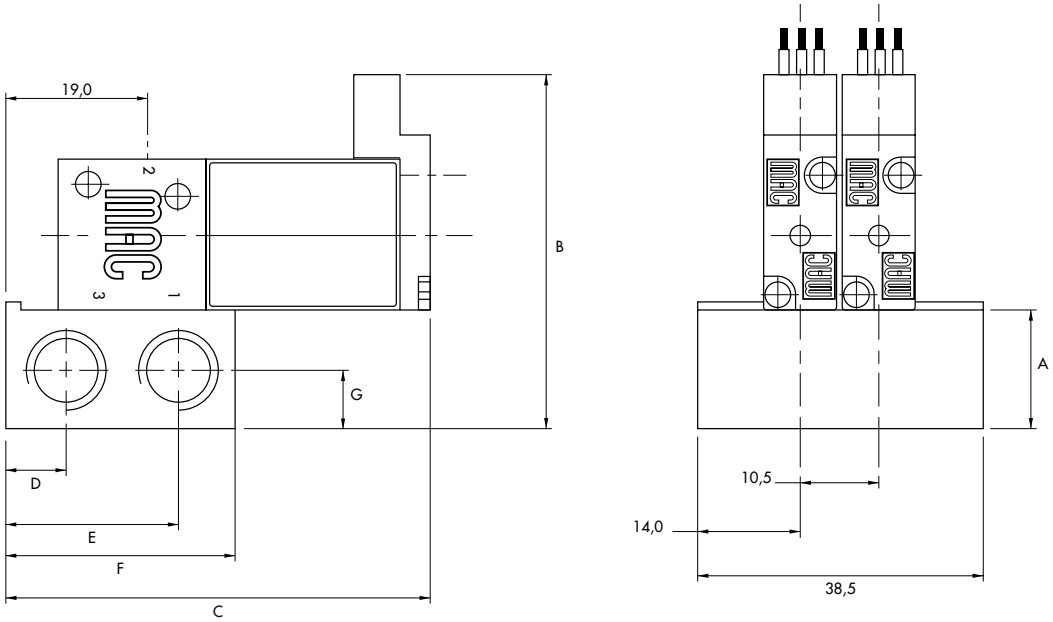
Fluid :	Compressed air, vacuum, inert gases
Pressure range :	Vacuum to 8 BAR
Lubrication :	Not required, if used select a medium aniline point lubricant (between 80°C and 100°C)
Filtration :	40 µ
Temperature range :	0°F to 120°F (-18°C to 50°C)
Orifice :	1.8 mm
Flow (at 6 bar, ΔP=1bar) :	4 W : 110 NL/min, 2.5 W : 84 NL/min, 1.8 W : 61 NL/min
Leak rate :	50 cm^3/min
Coil :	General purpose class A, continuous duty, encapsulated
Voltage range :	-15% to +10% of nominal voltage
Power :	4 W - 2.5 W - 1.8 W
Response times :	Energize : 3.4 ms
(with 4 W coil)	De-energize : 1.5 ms

Note : • Valve and coil are not interchangeable.

Spare parts : • Valve fastening kit : M34001-01 (1/8" Bar); M34001-21 (#10-32 Bar) • Blanking plate : 30456-A.

Options : • Isolation of inlet and/or exhaust. Special bar. Consult factory.

DIMENSIONS



Port size	A	B	C	D	E	F	G
1/8"	16.0	47.5	57.4	8.0	23.0	31.0	8.0
M5	12.0	43.5	51.5	9.0	18.0	26.0	6.0

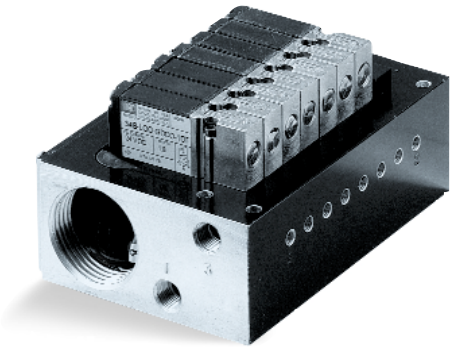
MAC

Series **34**

Function	Port size	Flow (Max)	Circuit bar mounting
3/2 NO-NC	**M5 - #10-32**	**100 NL/min**	plug-in

OPERATIONAL BENEFITS

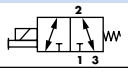
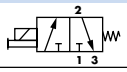
1. 10 mm valve, direct solenoid operated.
2. Balanced poppet, immune to variations of pressure.
3. Short stroke with high flow.
4. The patented solenoid develops high shifting forces.
5. Powerful return spring.
6. Flow is specifically adjusted on each valve.
7. Manual operator standard on all valves.



Reset

HOW TO ORDER

HOW TO ORDER VALVE FOR CIRCUIT BAR MOUNTING

Port size (see base)	Universal valve	NC only valve
		
Valve less base	34B-LOO-G*xx*O-*xxx*	34B-NOO-G*xx*O-*xxx*

SOLENOID OPERATOR ➤ G *XX* O- *X XX**

XX	Voltage
DC	24VDC (1.8 W)
DD	24VDC (2.5 W)
DF	24VDC (4.0 W)

X	Manual operator
1	Non-locking

XX	Electrical connection
DJ	Plug-in
DT	Plug-in with light
DE	Plug-in with suppression diode
DV	Plug-in with light and suppression diode

HOW TO ORDER CIRCUIT BAR

Port size	Side cylinder ports (10.5 mm)	Bottom cylinder ports (10.5 mm)
M5	ECD034B-001AD-AO*xx*	ECD034B-002AD-AO*xx*
# 10-32	ECD034B-001AB-AO*xx*	ECD034B-002AB-AO*xx*

Number of stations (03=3 stations)

Note : clic for valves mounted on base at the factory, add - 9 to the model number.
clic for multi-pin connector option (9, 15 or 25).

MAC

Series **34**

100% OF PRODUCTION TESTED 100%

WARRANTY 18 MONTHS

TECHNICAL DATA

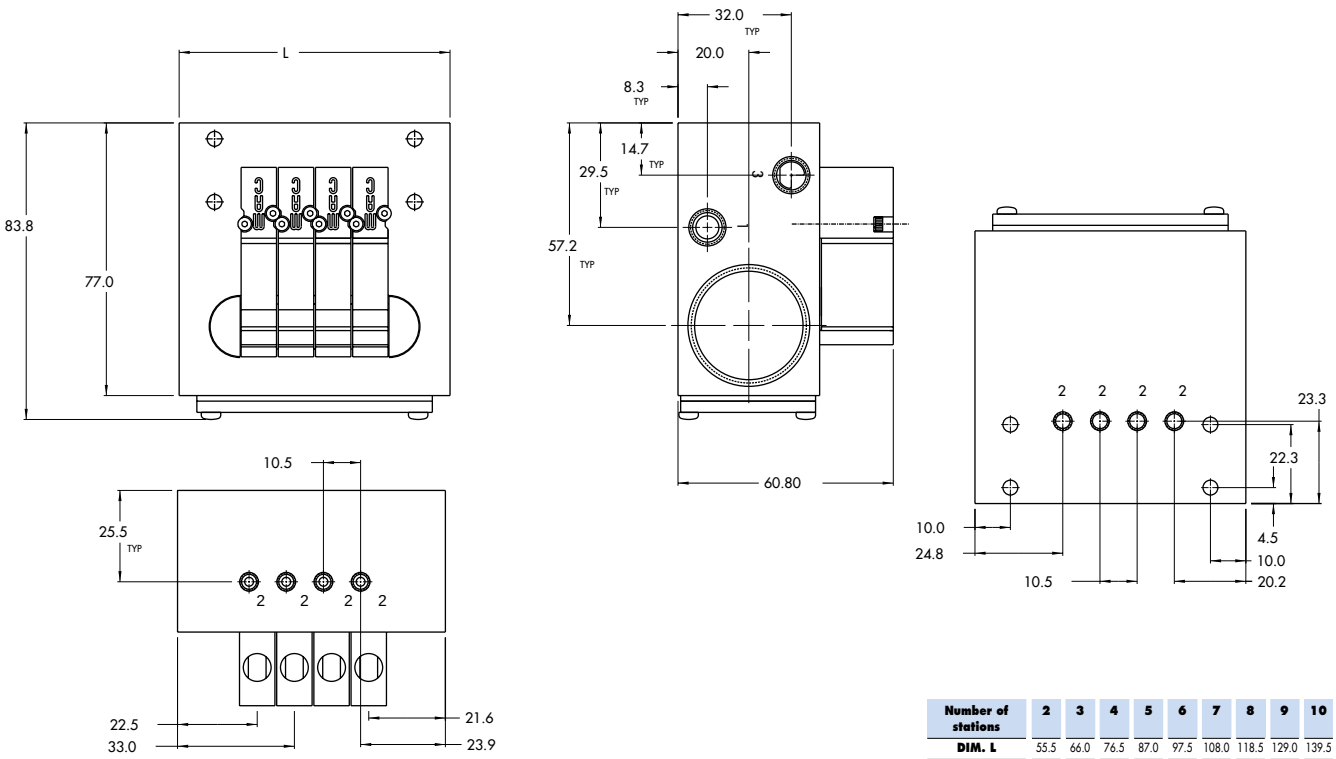
Fluid :	Compressed air, vacuum, inert gases
Pressure range :	Vacuum to 8 BAR
Lubrication :	Not required, if used select a medium aniline point lubricant (between 80°C and 100°C)
Filtration :	40 µ
Temperature range :	0°F to 120°F (-18°C to 50°C)
Orifice :	1.8 mm
Flow (at 6 bar, ΔP=1bar) :	4 W : 100 NL/min, 2.5 W : 90 NL/min, 1.8 W : 70 NL/min
Leak rate :	50 cm^3/min
Coil :	General purpose class A, continuous duty, encapsulated
Voltage range :	-15% to +10% of nominal voltage
Power :	4 W - 2.5 W - 1.8 W
Response times :	Energize : 4 ms
(with 4 W coil)	De-energize : 1.5 ms

Note : • Valve and coil are not interchangeable.

Spare parts : • Seal between valve and bar : 16595. • Mounting screw (x2) : 35031. • Blanking plate : M-34005. • Base wire Plug-in protector : 24180.

Options : • Isolation of inlet and/or exhaust. • BSPP Threads.

DIMENSIONS



Number of stations	2	3	4	5	6	7	8	9	10
DIM. L	55.5	66.0	76.5	87.0	97.5	108.0	118.5	129.0	139.5

MAC

Series **34**

Function	Port size	Flow (Max)	Circuit bar mounting
3/2 NO-NC	**M5 - #10-32**	**100 NL/min**	plug-in with F. C.

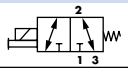
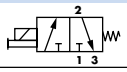
OPERATIONAL BENEFITS

1. 10 mm valve, direct solenoid operated.
2. Balanced poppet, immune to variations of pressure.
3. Short stroke with high flow.
4. The patented solenoid develops high shifting forces.
5. Powerful return spring.
6. Flow is specifically adjusted on each valve.
7. Manual operator standard on all valves.

Reset

HOW TO ORDER

HOW TO ORDER VALVE FOR CIRCUIT BAR MOUNTING

Port size (see base)	Universal valve	NC only valve
		
Valve less base	34B-LOO-G*xx*O-*xxx*	34B-NOO-G*xx*O-*xxx*

SOLENOID OPERATOR ➤

G ***XX*** O- ***X XX****

XX	Voltage
DC	24VDC (1.8 W)
DD	24VDC (2.5 W)
DF	24VDC (4.0 W)

X	Manual operator
1	Non-locking

XX	Electrical connection
DJ	Plug-in
DT	Plug-in with light
DE	Plug-in with suppression diode
DV	Plug-in with light and suppression diode

HOW TO ORDER CIRCUIT BAR WITH FLOW CONTROLS

Port size	Side cylinder ports (10.5 mm)	Bottom cylinder ports (10.5 mm)
M5	ECD034B-005AD-AO*xx*	ECD034B-006AD-AO*xx*
# 10-32	ECD034B-005AB-AO*xx*	ECD034B-006AB-AO*xx*

Number of stations (03=3 stations)

Note : clic for valves mounted on base at the factory, add - 9 to the model number.
clic for multi-pin connector option (9, 15 or 25).

MAC

Series **34**

100% OF PRODUCTION TESTED 100%

WARRANTY 18 MONTHS

TECHNICAL DATA

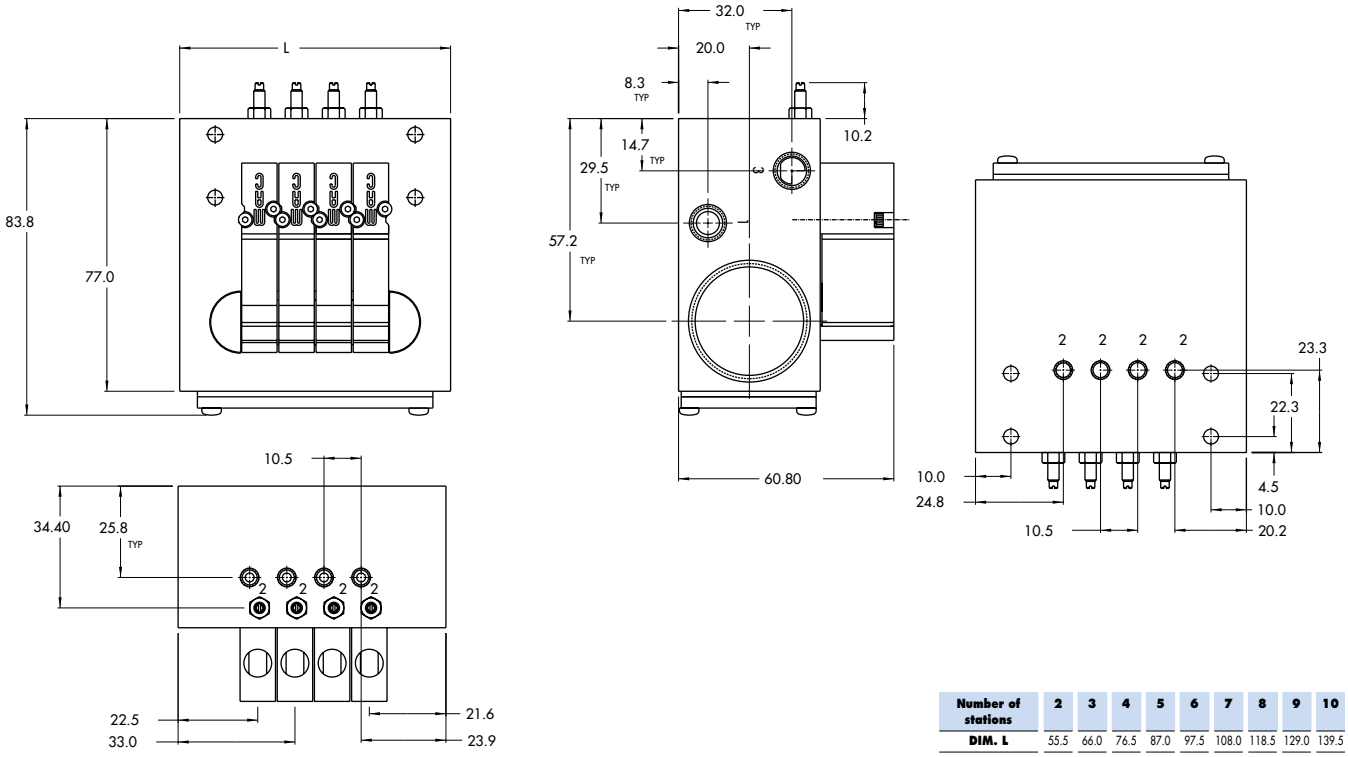
Fluid :	Compressed air, vacuum, inert gases
Pressure range :	Vacuum to 8 BAR
Lubrication :	Not required, if used select a medium aniline point lubricant (between 80°C and 100°C)
Filtration :	40 µ
Temperature range :	0°F to 120°F (-18°C to 50°C)
Orifice :	1.8 mm
Flow (at 6 bar, ΔP=1bar) :	4 W : 100 NL/min, 2.5 W : 90 NL/min, 1.8 W : 70 NL/min
Leak rate :	50 cm^3/min
Coil :	General purpose class A, continuous duty, encapsulated
Voltage range :	-15% to +10% of nominal voltage
Power :	4 W - 2.5 W - 1.8 W
Response times :	Energize : 4 ms
(with 4 W coil)	De-energize : 1.5 ms

Note : • Valve and coil are not interchangeable.

Spare parts : • Seal between valve and bar : 16595. • Mounting screw (x2) : 35031. • Blanking plate : M-34005.
• Base wire Plug-in protector : 24180.

Options : • Isolation of inlet and/or exhaust. • BSPP Threads.

DIMENSIONS



Number of stations	2	3	4	5	6	7	8	9	10
DIM. L	55.5	66.0	76.5	87.0	97.5	108.0	118.5	129.0	139.5

MAC

Series **34**

Function	Port size	Flow (Max)	Circuit bar mounting
3/2 NO-NC	**M5 - #10-32**	**100 NL/min**	plug-in with Pr. Reg.

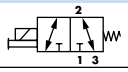
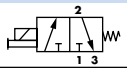
OPERATIONAL BENEFITS

1. 10 mm valve, direct solenoid operated.
2. Balanced poppet, immune to variations of pressure.
3. Short stroke with high flow.
4. The patented solenoid develops high shifting forces.
5. Powerful return spring.
6. Flow is specifically adjusted on each valve.
7. Manual operator standard on all valves.

Reset

HOW TO ORDER

HOW TO ORDER VALVE FOR CIRCUIT BAR MOUNTING

Port size (see base)	Universal valve	NC only valve
		
Valve less base	34B-LOO-G*xx*O-*xxx*	34B-NOO-G*xx*O-*xxx*

SOLENOID OPERATOR ➤ G *XX* O- *X XX**

XX	Voltage
DC	24VDC (1.8 W)
DD	24VDC (2.5 W)
DF	24VDC (4.0 W)

X	Manual operator
1	Non-locking

XX	Electrical connection
DJ	Plug-in
DT	Plug-in with light
DE	Plug-in with suppression diode
DV	Plug-in with light and suppression diode

HOW TO ORDER CIRCUIT BAR FOR PRESSURE REGULATORS ** (to be ordered separately)

Port size	Bottom cylinder ports (10.5 mm)	Side cylinder ports (10.5 mm)
M5	ECD034B-004AD-AO*xx*	ECD034B-003AD-AO*xx*
# 10-32	ECD034B-004AB-AO*xx*	ECD034B-003AB-AO*xx*

Number of stations (03=3 stations)

Note : clic for valves mounted on base at the factory, add - 9 to the model number.
clic for multi-pin connector option (9, 15 or 25).

** Pressure Regulators :

Y=A (no gage port)
Y=B (with gage port)
X=A (0 to 6.7 BAR)
X=B (0 to 4 BAR)
X=C (0 to 2.7 BAR)
X=D (0 to 1 BAR)

MAC

Series **34**

100% OF PRODUCTION TESTED 100%

WARRANTY 18 MONTHS

TECHNICAL DATA

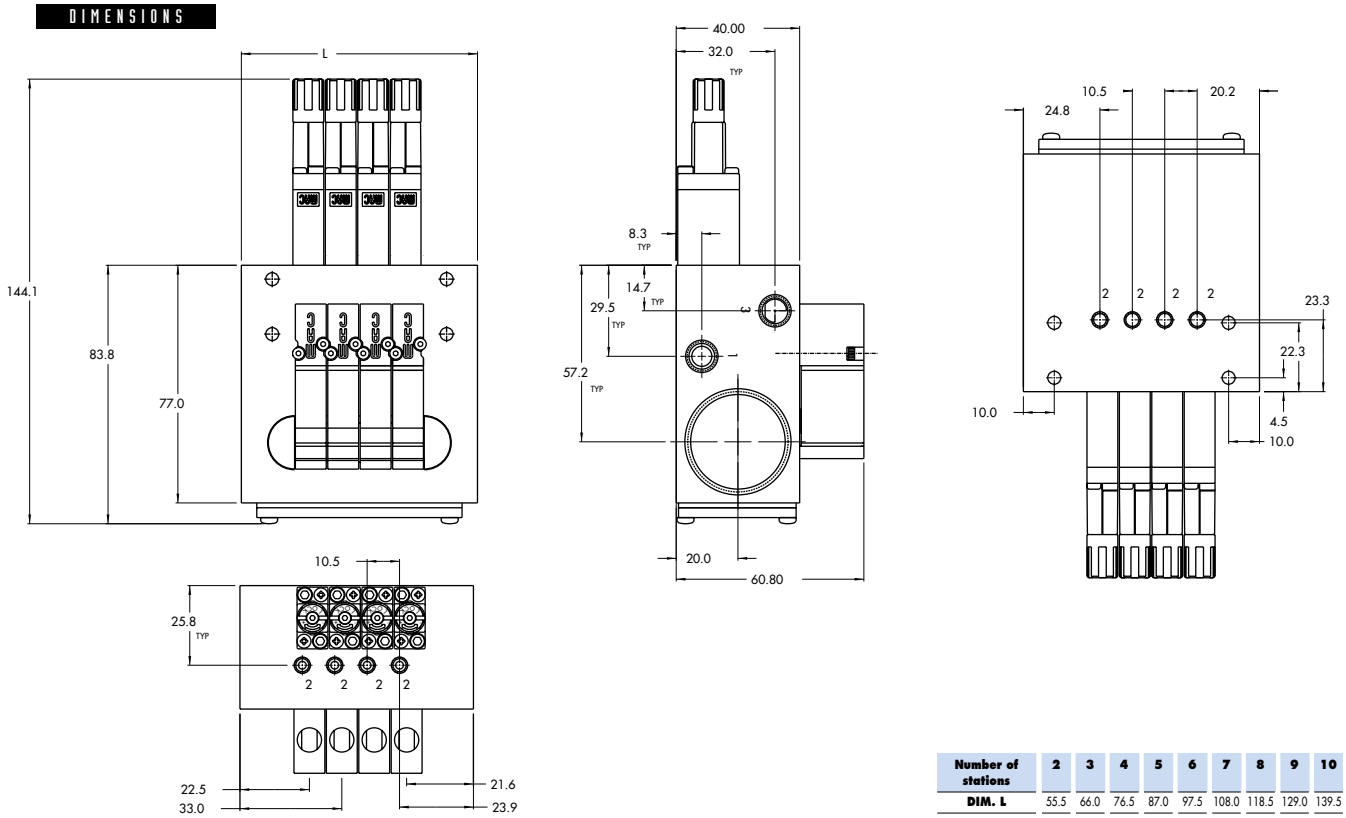
Fluid :	Compressed air, vacuum, inert gases
Pressure range :	Vacuum to 8 BAR
Lubrication :	Not required, if used select a medium aniline point lubricant (between 80°C and 100°C)
Filtration :	40 µ
Temperature range :	0°F to 120°F (-18°C to 50°C)
Orifice :	1.8 mm
Flow (at 6 bar, ΔP=1bar) :	4 W : 100 NL/min, 2.5 W : 90 NL/min, 1.8 W : 70 NL/min
Leak rate :	50 cm^3/min
Coil :	General purpose class A, continuous duty, encapsulated
Voltage range :	-15% to +10% of nominal voltage
Power :	4 W - 2.5 W - 1.8 W
Response times :	Energize : 4 ms
(with 4 W coil)	De-energize : 1.5 ms

Note : • Valve and coil are not interchangeable.

Spare parts : • Seal between valve and bar : 16595. • Mounting screw (x2) : 35031. • Blanking plate : M-34005.
• Blanking plate for regulator : N-44003. • Base wire Plug-in protector : 24180.

Options : • Isolation of inlet and/or exhaust. • BSPP Threads.

DIMENSIONS



Number of stations	2	3	4	5	6	7	8	9	10
DIM. L	55.5	66.0	76.5	87.0	97.5	108.0	118.5	129.0	139.5

Consult "Precautions" before use, installation or service of MAC Valves.

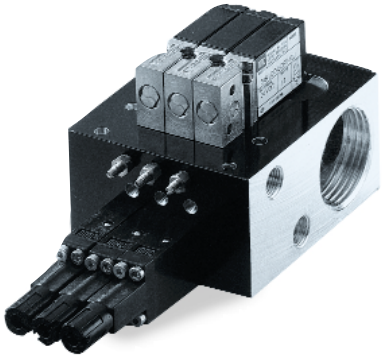
MAC

Series **34**

Function	Port size	Flow (Max)	Circuit bar mounting
3/2 NO-NC	**M5 - #10-32**	**90 NL/min**	plug-in with Pr. Reg. and F. C.

OPERATIONAL BENEFITS

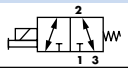
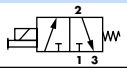
1. 10 mm valve, direct solenoid operated.
2. Balanced poppet, immune to variations of pressure.
3. Short stroke with high flow.
4. The patented solenoid develops high shifting forces.
5. Powerful return spring.
6. Flow is specifically adjusted on each valve.
7. Manual operator standard on all valves.



Reset

HOW TO ORDER

HOW TO ORDER VALVE FOR CIRCUIT BAR MOUNTING

Port size (see base)	Universal valve	NC only valve
		
Valve less base	34B-LOO-G*xx*O-*xxx*	34B-NOO-G*xx*O-*xxx*

SOLENOID OPERATOR ➤ G *XX* O- *X XX**

XX	Voltage
DC	24VDC (1.8 W)
DD	24VDC (2.5 W)
DF	24VDC (4.0 W)

X	Manual operator
1	Non-locking

XX	Electrical connection
DJ	Plug-in
DT	Plug-in with light
DE	Plug-in with suppression diode
DV	Plug-in with light and suppression diode

HOW TO ORDER CIRCUIT BAR WITH FLOW CONTROLS AND PRESSURE REGULATORS ** (pressure regulators to be ordered separately)

Port size	Bottom cylinder ports (10.5 mm)	Side cylinder ports (10.5 mm)
M5	ECD034B-007AD-AO*xx*	ECD034B-008AD-AO*xx*
# 10-32	ECD034B-007AB-AO*xx*	ECD034B-008AB-AO*xx*

Number of stations (03=3 stations)
Note : clic for valves mounted on base at the factory, add - 9 to the model number.
clic for multi-pin connector option (9, 15 or 25).

** Pressure Regulators :

Y=A (no gage port)
Y=B (with gage port)
X=A (0 to 6.7 BAR)
X=B (0 to 4 BAR)
X=C (0 to 2.7 BAR)
X=D (0 to 1 BAR)

MAC

Series **34**

100% OF PRODUCTION TESTED 100%

WARRANTY 18 MONTHS

TECHNICAL DATA

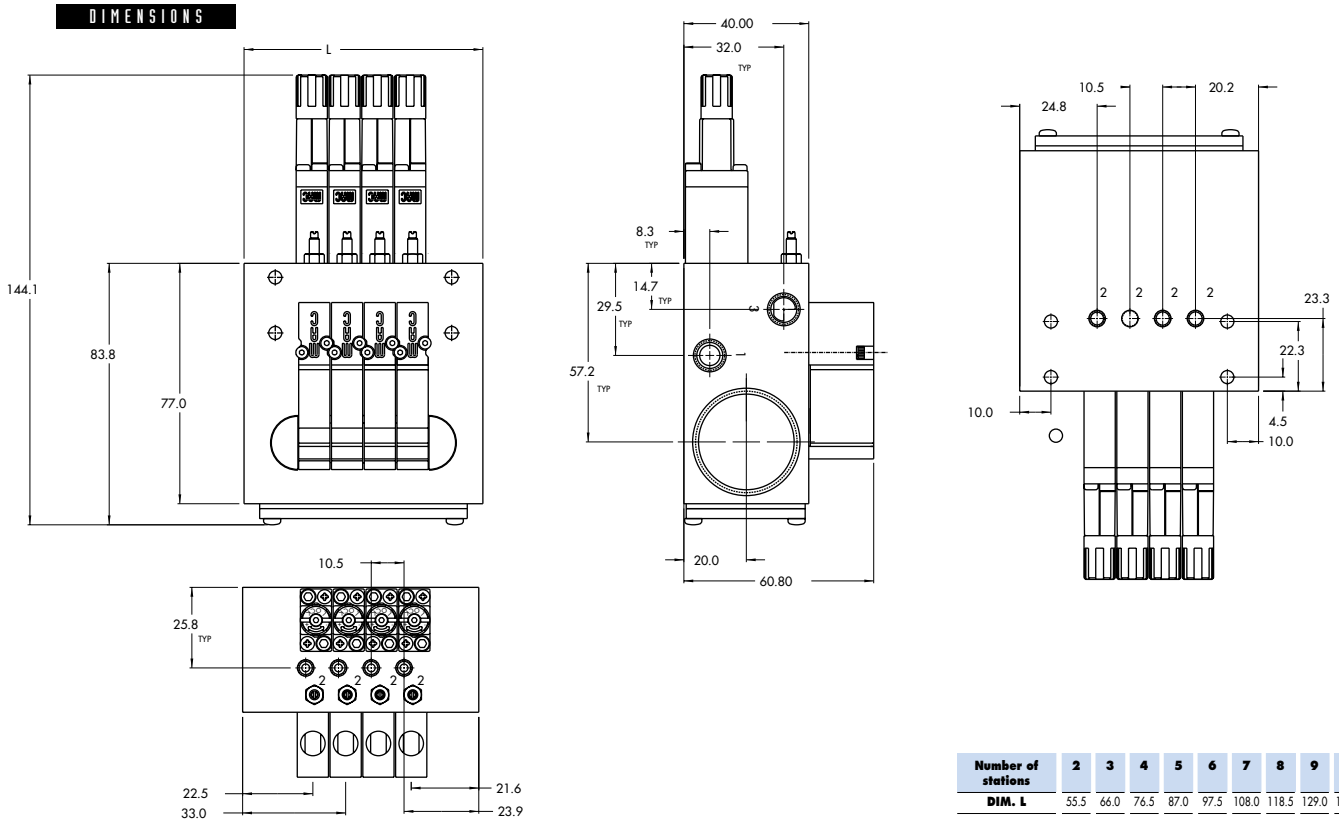
Fluid :	Compressed air, vacuum, inert gases
Pressure range :	Vacuum to 8 BAR
Lubrication :	Not required, if used select a medium aniline point lubricant (between 80°C and 100°C)
Filtration :	40 µ
Temperature range :	0°F to 120°F (-18°C to 50°C)
Orifice :	1.8 mm
Flow (at 6 bar, ΔP=1bar) :	4 W : 100 NL/min, 2.5 W : 90 NL/min, 1.8 W : 70 NL/min
Leak rate :	50 cm^3/min
Coil :	General purpose class A, continuous duty, encapsulated
Voltage range :	-15% to +10% of nominal voltage
Power :	4 W - 2.5 W - 1.8 W
Response times :	Energize : 4 ms
(with 4 W coil)	De-energize : 1.5 ms

Note : • Valve and coil are not interchangeable.

Spare parts : • Seal between valve and bar : 16595. • Mounting screw (x2) : 35031. • Blanking plate : M-34005.
• Base wire Plug-in protector : 24180. • Blanking plate for regulator : N-44003.

Options : • Isolation of inlet and/or exhaust. • BSPP Threads.

DIMENSIONS



Number of stations	2	3	4	5	6	7	8	9	10
DIM. L	55.5	66.0	76.5	87.0	97.5	108.0	118.5	129.0	139.5

Consult "Precautions" before use, installation or service of MAC Valves.

MAC

Series 34

Function	Port size	Flow (Max)	Circuit bar mounting
3/2 NO-NC	**M5 - #10-32**	**100 NL/min**	add-on style plug-in

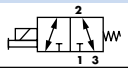
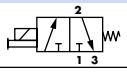
OPERATIONAL BENEFITS

1. 10 mm valve, direct solenoid operated.
2. Balanced poppet, immune to variations of pressure.
3. Short stroke with high flow.
4. The patented solenoid develops high shifting forces.
5. Powerful return spring.
6. Flow is specifically adjusted on each valve.
7. Manual operator standard on all valves.

Reset

HOW TO ORDER

HOW TO ORDER VALVE FOR CIRCUIT BAR MOUNTING

Port size (see base)	Universal valve	NC only valve
		
Valve less base	34B-LOO-G*xx*O-*xxx*	34B-NOO-G*xx*O-*xxx*

SOLENOID OPERATOR ➤ G *XX* O- *X XX**

XX	Voltage
DC	24VDC (1.8 W)
DD	24VDC (2.5 W)
DF	24VDC (4.0 W)

X	Manual operator
1	Non-locking

XX	Electrical connection
DJ	Plug-in
DT	Plug-in with light
DE	Plug-in with suppression diode
DV	Plug-in with light and suppression diode

HOW TO ORDER CIRCUIT BAR

Port size	Side cylinder ports (10.5 mm)	Bottom cylinder ports (10.5 mm)
M5	ECD034B-001BD-AO*xx*	ECD034B-002BD-AO*xx*
# 10-32	ECD034B-001BB-AO*xx*	ECD034B-002BB-AO*xx*

Number of stations (03=3 stations)

Note : clic for valves mounted on base at the factory, add - 9 to the model number.
clic for multi-pin connector option (9, 15 or 25).
add-a-unit stations may be added to above bars. Clic here for model numbers.

MAC

Series **34**

100% OF PRODUCTION TESTED 100%

WARRANTY 18 MONTHS

TECHNICAL DATA

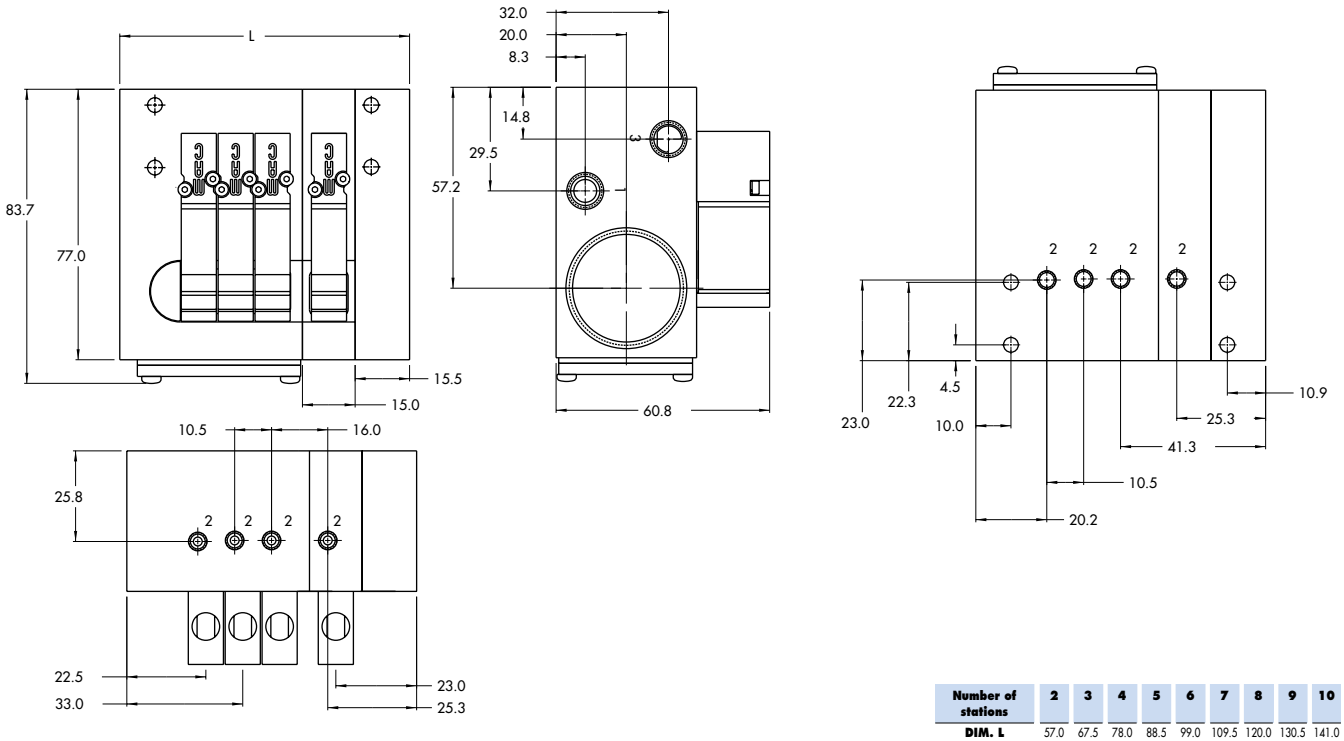
Fluid :	Compressed air, vacuum, inert gases
Pressure range :	Vacuum to 8 BAR
Lubrication :	Not required, if used select a medium aniline point lubricant (between 80°C and 100°C)
Filtration :	40 µ
Temperature range :	0°F to 120°F (-18°C to 50°C)
Orifice :	1.8 mm
Flow (at 6 bar, ΔP=1bar) :	4 W : 100 NL/min, 2.5 W : 90 NL/min, 1.8 W : 70 NL/min
Leak rate :	50 cm^3/min
Coil :	General purpose class A, continuous duty, encapsulated
Voltage range :	-15% to +10% of nominal voltage
Power :	4 W - 2.5 W - 1.8 W
Response times :	Energize : 4 ms
(with 4 W coil)	De-energize : 1.5 ms

Note : • Valve and coil are not interchangeable.

Spare parts : • Seal between valve and bar : 16595. • Mounting screw (x2) : 35031. • Blanking plate : M-34005. • Base wire Plug-in protector : 24180.

Options : • Isolation of inlet and/or exhaust. • BSPP Threads.

DIMENSIONS



Number of stations	2	3	4	5	6	7	8	9	10
DIM. L	57.0	67.5	78.0	88.5	99.0	109.5	120.0	130.5	141.0

Consult "Precautions" before use, installation or service of MAC Valves.

MAC

Series 34

Function	Port size	Flow (Max)	Circuit bar mounting
3/2 NO-NC	**M5 - #10-32**	**100 NL/min**	add-on style plug-in with F. C.

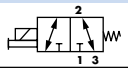
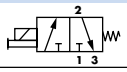
OPERATIONAL BENEFITS

1. 10 mm valve, direct solenoid operated.
2. Balanced poppet, immune to variations of pressure.
3. Short stroke with high flow.
4. The patented solenoid develops high shifting forces.
5. Powerful return spring.
6. Flow is specifically adjusted on each valve.
7. Manual operator standard on all valves.

Reset

HOW TO ORDER

HOW TO ORDER VALVE FOR CIRCUIT BAR MOUNTING

Port size (see base)	Universal valve	NC only valve
		
Valve less base	34B-LOO-G*xx*O-*xxx*	34B-NOO-G*xx*O-*xxx*

SOLENOID OPERATOR ➤

G *XX* O- *X XX**

XX	Voltage
DC	24VDC (1.8 W)
DD	24VDC (2.5 W)
DF	24VDC (4.0 W)

X	Manual operator
1	Non-locking

XX	Electrical connection
DJ	Plug-in
DT	Plug-in with light
DE	Plug-in with suppression diode
DV	Plug-in with light and suppression diode

HOW TO ORDER CIRCUIT BAR WITH FLOW CONTROLS

Port size	Side cylinder ports (10.5 mm)	Bottom cylinder ports (10.5 mm)
M5	ECD034B-005BD-AO*xx*	ECD034B-006BD-AO*xx*
# 10-32	ECD034B-005BB-AO*xx*	ECD034B-006BB-AO*xx*

Number of stations (03=3 stations)

Note : clic for valves mounted on base at the factory, add - 9 to the model number.
clic for multi-pin connector option (9, 15 or 25).
add-a-unit stations may be added to above bars. Clic here for model numbers.

MAC

Series 34

100% OF PRODUCTION TESTED 100%

WARRANTY 18 MONTHS

TECHNICAL DATA

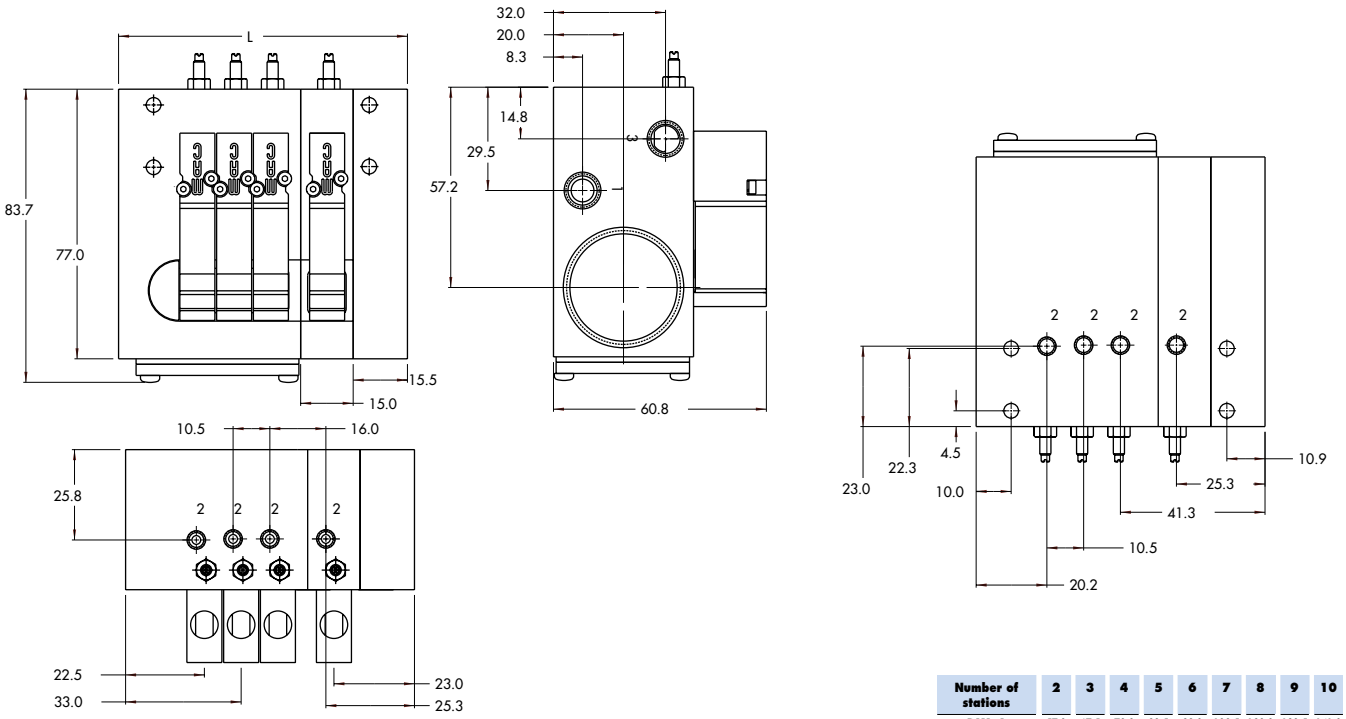
Fluid :	Compressed air, vacuum, inert gases
Pressure range :	Vacuum to 8 BAR
Lubrication :	Not required, if used select a medium aniline point lubricant (between 80°C and 100°C)
Filtration :	40 µ
Temperature range :	0°F to 120°F (-18°C to 50°C)
Orifice :	1.8 mm
Flow (at 6 bar, ΔP=1bar) :	4 W : 100 NL/min, 2.5 W : 90 NL/min, 1.8 W : 70 NL/min
Leak rate :	50 cm^3/min
Coil :	General purpose class A, continuous duty, encapsulated
Voltage range :	-15% to +10% of nominal voltage
Power :	4 W - 2.5 W - 1.8 W
Response times :	Energize : 4 ms
(with 4 W coil)	De-energize : 1.5 ms

Note : • Valve and coil are not interchangeable.

Spare parts : • Seal between valve and bar : 16595. • Mounting screw (x2) : 35031. • Blanking plate : M-34005.
• Base wire Plug-in protector : 24180.

Options : • Isolation of inlet and/or exhaust. • BSPP Threads.

DIMENSIONS



Number of stations	2	3	4	5	6	7	8	9	10
DIM. L	57.0	67.5	78.0	88.5	99.0	109.5	120.0	130.5	141.0

Consult "Precautions" before use, installation or service of MAC Valves.

MAC

Series **34**

Function	Port size	Flow (Max)	Circuit bar mounting
3/2 NO-NC	**M5 - #10-32**	**100 NL/min**	add-on style plug-in with Pr. Reg.

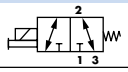
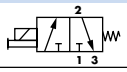
OPERATIONAL BENEFITS

1. 10 mm valve, direct solenoid operated.
2. Balanced poppet, immune to variations of pressure.
3. Short stroke with high flow.
4. The patented solenoid develops high shifting forces.
5. Powerful return spring.
6. Flow is specifically adjusted on each valve.
7. Manual operator standard on all valves.

Reset

HOW TO ORDER

HOW TO ORDER VALVE FOR CIRCUIT BAR MOUNTING

Port size (see base)	Universal valve	NC only valve
		
Valve less base	34B-LOO-G*XX*O-*XXX*	34B-NOO-G*XX*O-*XXX*

SOLENOID OPERATOR ➤

G *XX* O- *X* *XX**

XX	Voltage
DC	24VDC (1.8 W)
DD	24VDC (2.5 W)
DF	24VDC (4.0 W)

X	Manual operator
1	Non-locking

XX	Electrical connection
DJ	Plug-in
DT	Plug-in with light
DE	Plug-in with suppression diode
DV	Plug-in with light and suppression diode

HOW TO ORDER CIRCUIT BAR FOR PRESSURE REGULATORS ** (to be ordered separately)

Port size	Bottom cylinder ports (10.5 mm)	Side cylinder ports (10.5 mm)
M5	ECD034B-004BD-AO*XX*	ECD034B-003BD-AO*XX*
# 10-32	ECD034B-004BB-AO*XX*	ECD034B-003BB-AO*XX*

Number of stations (03=3 stations)

Note : clic for valves mounted on base at the factory, add - 9 to the model number.
clic for multi-pin connector option (9, 15 or 25).
add-a-unit stations may be added to above bars. Clic here for model numbers.

** Pressure Regulators :

Y=A (no gage port)
Y=B (with gage port)
X=A (0 to 6.7 BAR)
X=B (0 to 4 BAR)
X=C (0 to 2.7 BAR)
X=D (0 to 1 BAR)

MAC

Series **34**

100% OF PRODUCTION TESTED 100%

WARRANTY 18 MONTHS

TECHNICAL DATA

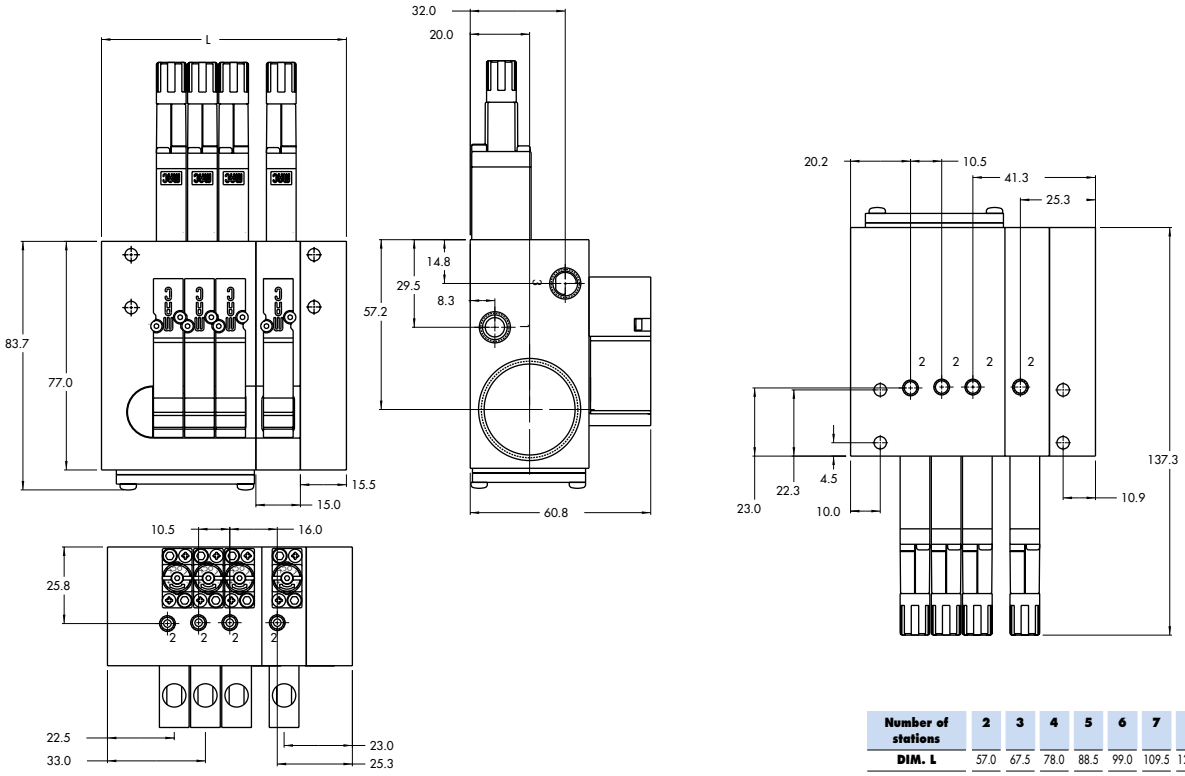
Fluid :	Compressed air, vacuum, inert gases
Pressure range :	Vacuum to 8 BAR
Lubrication :	Not required, if used select a medium aniline point lubricant (between 80°C and 100°C)
Filtration :	40 µ
Temperature range :	0°F to 120°F (-18°C to 50°C)
Orifice :	1.8 mm
Flow (at 6 bar, ΔP=1bar) :	4 W : 100 NL/min, 2.5 W : 90 NL/min, 1.8 W : 70 NL/min
Leak rate :	50 cm^3/min
Coil :	General purpose class A, continuous duty, encapsulated
Voltage range :	-15% to +10% of nominal voltage
Power :	4 W - 2.5 W - 1.8 W
Response times :	Energize : 4 ms
(with 4 W coil)	De-energize : 1.5 ms

Note : • Valve and coil are not interchangeable.

Spare parts : • Seal between valve and bar : 16595. • Mounting screw (x2) : 35031. • Blanking plate : M-34005.
• Base wire Plug-in protector : 24180. • Blanking plate for regulator : N-44003.

Options : • Isolation of inlet and/or exhaust. • BSPP Threads.

DIMENSIONS



Number of stations	2	3	4	5	6	7	8	9	10
DIM. L	57.0	67.5	78.0	88.5	99.0	109.5	120.0	130.5	141.0

Consult "Precautions" before use, installation or service of MAC Valves.

MAC

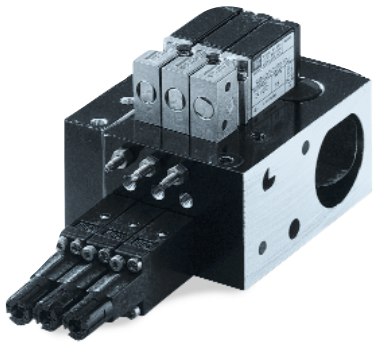
Series **34**

Function	Port size	Flow (Max)	Circuit bar mounting
3/2 NO-NC	**M5 - #10-32**	**90 NL/min**	add-on style plug-in with Pr. Reg. and F. C.

OPERATIONAL BENEFITS

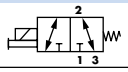
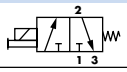
1. 10 mm valve, direct solenoid operated.
2. Balanced poppet, immune to variations of pressure.
3. Short stroke with high flow.
4. The patented solenoid develops high shifting forces.
5. Powerful return spring.
6. Flow is specifically adjusted on each valve.
7. Manual operator standard on all valves.

Reset



HOW TO ORDER

HOW TO ORDER VALVE FOR CIRCUIT BAR MOUNTING

Port size (see base)	Universal valve	NC only valve
		
Valve less base	34B-LOO-G*xx*O-*xxx*	34B-NOO-G*xx*O-*xxx*

SOLENOID OPERATOR ➤ G *XX* O- *X XX**

XX	Voltage
DC	24VDC (1.8 W)
DD	24VDC (2.5 W)
DF	24VDC (4.0 W)

X	Manual operator
1	Non-locking

XX	Electrical connection
DJ	Plug-in
DT	Plug-in with light
DE	Plug-in with suppression diode
DV	Plug-in with light and suppression diode

HOW TO ORDER CIRCUIT BAR WITH FLOW CONTROLS AND PRESSURE REGULATORS ** (pressure regulators to be ordered separately)

Port size	Bottom cylinder ports (10.5 mm)	Side cylinder ports (10.5 mm)
M5	ECD034B-007BD-AO*xx*	ECD034B-008BD-AO*xx*
# 10-32	ECD034B-007BB-AO*xx*	ECD034B-008BB-AO*xx*

Number of stations (03=3 stations)

Note : clic for valves mounted on base at the factory, add - 9 to the model number.
clic for multi-pin connector option (9, 15 or 25).
add-a-unit stations may be added to above bars. Clic here for model numbers.

** Pressure Regulators :

Y=A (no gage port)
Y=B (with gage port)
X=A (0 to 6.7 BAR)
X=B (0 to 4 BAR)
X=C (0 to 2.7 BAR)
X=D (0 to 1 BAR)

MAC

Series **34**

100% OF PRODUCTION TESTED 100%

WARRANTY 18 MONTHS

TECHNICAL DATA

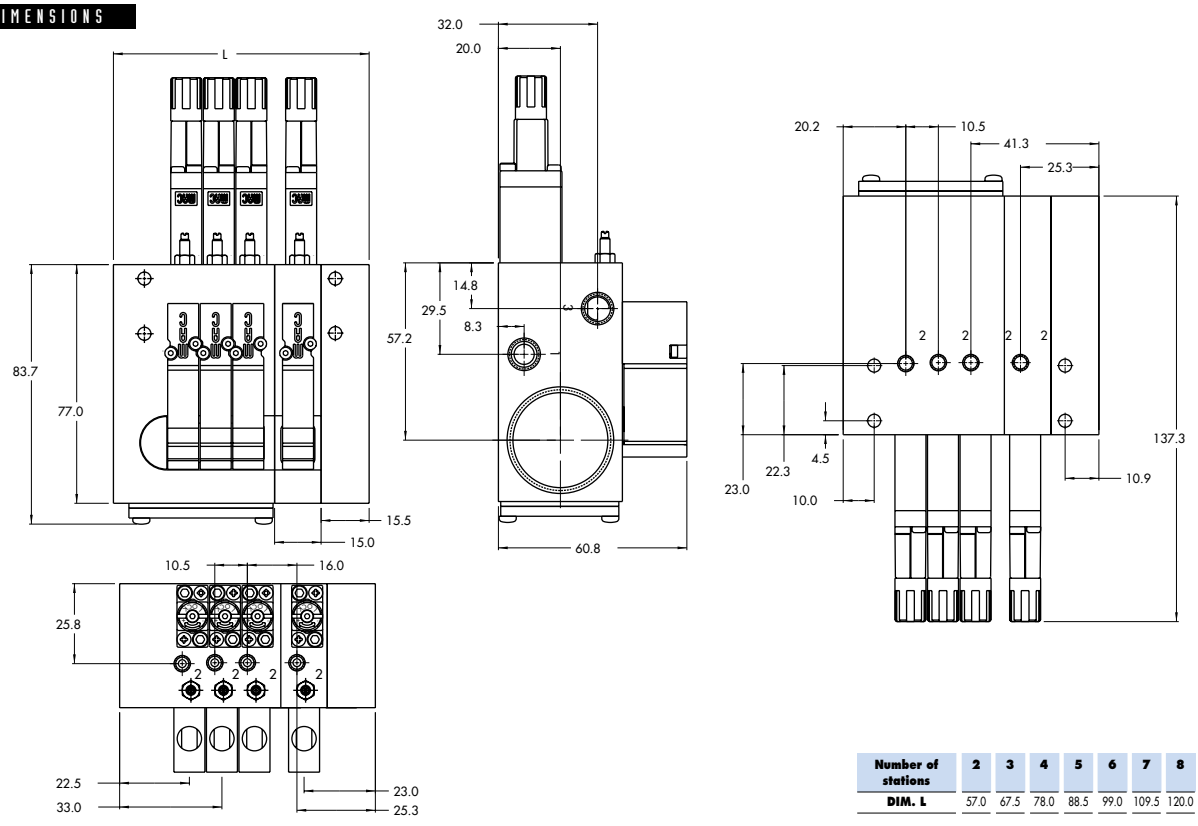
Fluid :	Compressed air, vacuum, inert gases
Pressure range :	Vacuum to 8 BAR
Lubrication :	Not required, if used select a medium aniline point lubricant (between 80°C and 100°C)
Filtration :	40 µ
Temperature range :	0°F to 120°F (-18°C to 50°C)
Orifice :	1.8 mm
Flow (at 6 bar, ΔP=1bar) :	4 W : 100 NL/min, 2.5 W : 90 NL/min, 1.8 W : 70 NL/min
Leak rate :	50 cm^3/min
Coil :	General purpose class A, continuous duty, encapsulated
Voltage range :	-15% to +10% of nominal voltage
Power :	4 W - 2.5 W - 1.8 W
Response times :	Energize : 4 ms
(with 4 W coil)	De-energize : 1.5 ms

Note : • Valve and coil are not interchangeable.

Spare parts : • Seal between valve and bar : 16595. • Mounting screw (x2) : 35031. • Blanking plate : M-34005.
• Blanking plate for regulator : N-44003. • Base wire Plug-in protector : 24180.

Options : • Isolation of inlet and/or exhaust. • BSPP Threads.

DIMENSIONS



Number of stations	2	3	4	5	6	7	8	9	10
DIM. L	57.0	67.5	78.0	88.5	99.0	109.5	120.0	130.5	141.0

MAC

Series **34**

Function	Port size	Flow (Max)	Circuit bar mounting
3/2 NO-NC	**M5 - #10-32**	**100 NL/min**	plug-in add-a-unit stations

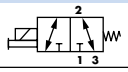
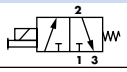
OPERATIONAL BENEFITS

1. 10 mm valve, direct solenoid operated.
2. Balanced poppet, immune to variations of pressure.
3. Short stroke with high flow.
4. The patented solenoid develops high shifting forces.
5. Powerful return spring.
6. Flow is specifically adjusted on each valve.
7. Manual operator standard on all valves.

Reset

HOW TO ORDER

HOW TO ORDER VALVE FOR CIRCUIT BAR MOUNTING

Port size (see base)	Universal valve	NC only valve
		
Valve less base	34B-LOO-G*xx*O-*xxx*	34B-NOO-G*xx*O-*xxx*

SOLENOID OPERATOR ➤

G *XX* O- *X XX**

XX	Voltage
DC	24VDC (1.8 W)
DD	24VDC (2.5 W)
DF	24VDC (4.0 W)

X	Manual operator
1	Non-locking

XX	Electrical connection
DJ	Plug-in
DT	Plug-in with light
DE	Plug-in with suppression diode
DV	Plug-in with light and suppression diode

HOW TO ORDER CIRCUIT BAR

Port size	Side cylinder ports	Bottom cylinder ports
M5	ECD034B-001CD-AO*xx*	ECD034B-002CD-AO*xx*
# 10-32	ECD034B-001CB-AO*xx*	ECD034B-002CB-AO*xx*

Number of stations (03=3 stations) - Maximum length is 4 stations

Note : clic for valves mounted on base at the factory, add - 9 to the model number. when add-a-unit stations are added to bars with a multi-pin connector, MOD. SD03 should be included with add-a-unit model number.

MAC

Series **34**

100% OF PRODUCTION TESTED 100%

WARRANTY 18 MONTHS

TECHNICAL DATA

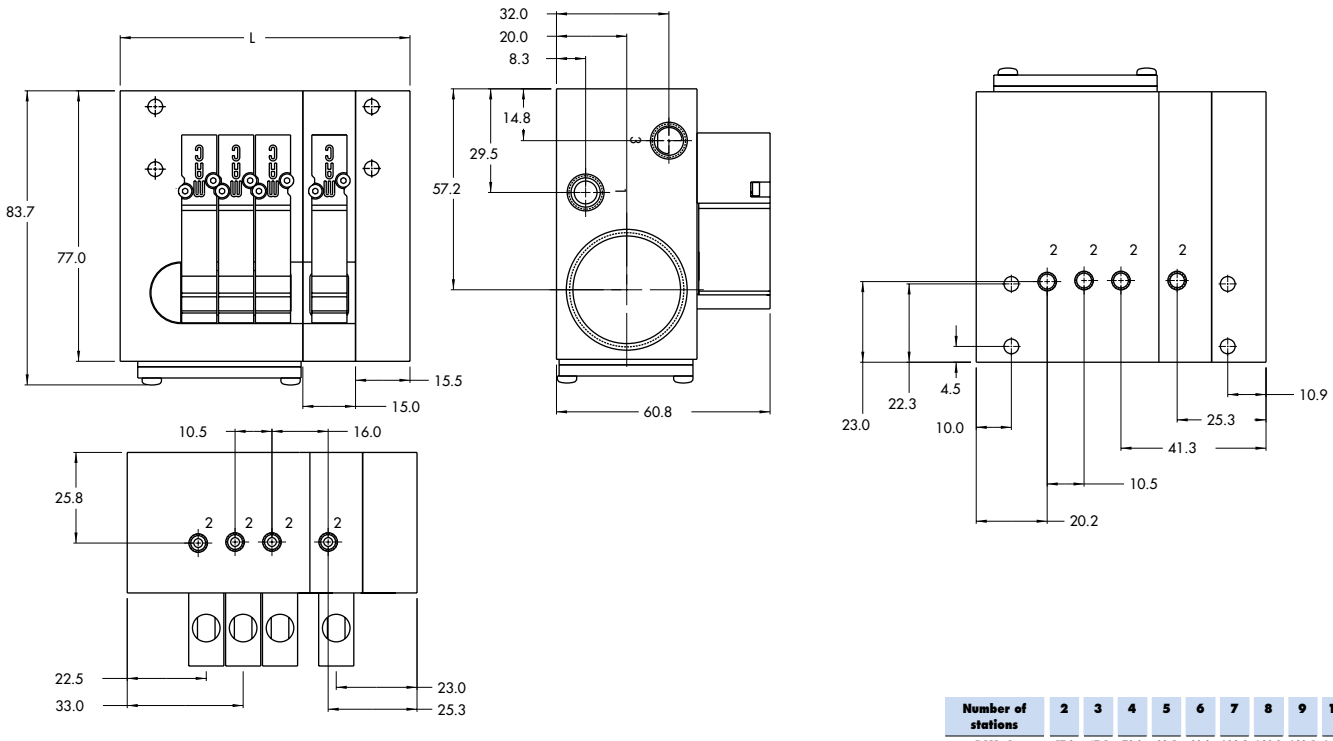
Fluid :	Compressed air, vacuum, inert gases
Pressure range :	Vacuum to 8 BAR
Lubrication :	Not required, if used select a medium aniline point lubricant (between 80°C and 100°C)
Filtration :	40 µ
Temperature range :	0°F to 120°F (-18°C to 50°C)
Orifice :	1.8 mm
Flow (at 6 bar, ΔP=1bar) :	4 W : 100 NL/min, 2.5 W : 90 NL/min, 1.8 W : 70 NL/min
Leak rate :	50 cm^3/min
Coil :	General purpose class A, continuous duty, encapsulated
Voltage range :	-15% to +10% of nominal voltage
Power :	4 W - 2.5 W - 1.8 W
Response times :	Energize : 4 ms
(with 4 W coil)	De-energize : 1.5 ms

Note : • Valve and coil are not interchangeable.

Spare parts : • Seal between valve and bar : 16595. • Mounting screw (x2) : 35031. • Blanking plate : M-34005.
• Base wire Plug-in protector : 24180.

Options : • Isolation of inlet and/or exhaust. • BSPP Threads.

DIMENSIONS



Number of stations	2	3	4	5	6	7	8	9	10
DIM. L	57.0	67.5	78.0	88.5	99.0	109.5	120.0	130.5	141.0

Consult "Precautions" before use, installation or service of MAC Valves.

MAC

Series 34

Function	Port size	Flow (Max)	Circuit bar mounting
3/2 NO-NC	**M5 - #10-32**	**100 NL/min**	plug-in add-a-unit stations with F. C.

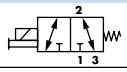
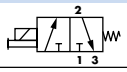
OPERATIONAL BENEFITS

1. 10 mm valve, direct solenoid operated.
2. Balanced poppet, immune to variations of pressure.
3. Short stroke with high flow.
4. The patented solenoid develops high shifting forces.
5. Powerful return spring.
6. Flow is specifically adjusted on each valve.
7. Manual operator standard on all valves.

Reset

HOW TO ORDER

HOW TO ORDER VALVE FOR CIRCUIT BAR MOUNTING

Port size (see base)	Universal valve	NC only valve
		
Valve less base	34B-LOO-G*XX*O-*XXX*	34B-NOO-G*XX*O-*XXX*

SOLENOID OPERATOR ➤

G *XX* O- *X XX**

XX	Voltage
DC	24VDC (1.8 W)
DD	24VDC (2.5 W)
DF	24VDC (4.0 W)

X	Manual operator
1	Non-locking

XX	Electrical connection
DJ	Plug-in
DT	Plug-in with light
DE	Plug-in with suppression diode
DV	Plug-in with light and suppression diode

HOW TO ORDER CIRCUIT BAR WITH FLOW CONTROLS

Port size	Side cylinder ports	Bottom cylinder ports
M5	ECD034B-005CD-AO*XX*	ECD034B-006CD-AO*XX*
# 10-32	ECD034B-005CB-AO*XX*	ECD034B-006CB-AO*XX*

Number of stations (03=3 stations) - Maximum length is 4 stations

Note : clic for valves mounted on base at the factory, add - 9 to the model number. when add-a-unit stations are added to bars with a multi-pin connector, MOD. SD03 should be included with add-a-unit model number.

MAC

Series **34**

100% OF PRODUCTION TESTED 100%

WARRANTY 18 MONTHS

TECHNICAL DATA

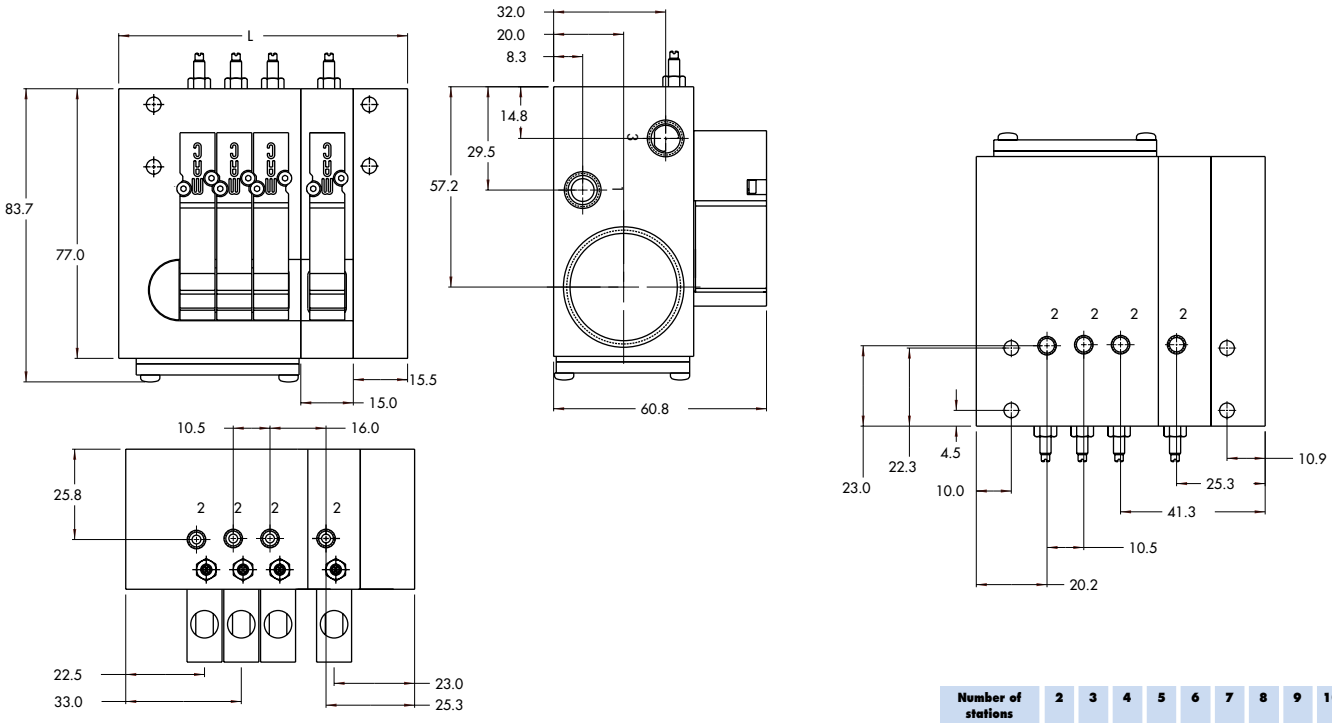
Fluid :	Compressed air, vacuum, inert gases
Pressure range :	Vacuum to 8 BAR
Lubrication :	Not required, if used select a medium aniline point lubricant (between 80°C and 100°C)
Filtration :	40 µ
Temperature range :	0°F to 120°F (-18°C to 50°C)
Orifice :	1.8 mm
Flow (at 6 bar, ΔP=1bar) :	4 W : 100 NL/min, 2.5 W : 90 NL/min, 1.8 W : 70 NL/min
Leak rate :	50 cm^3/min
Coil :	General purpose class A, continuous duty, encapsulated
Voltage range :	-15% to +10% of nominal voltage
Power :	4 W - 2.5 W - 1.8 W
Response times :	Energize : 4 ms
(with 4 W coil)	De-energize : 1.5 ms

Note : • Valve and coil are not interchangeable.

Spare parts : • Seal between valve and bar : 16595. • Mounting screw (x2) : 35031. • Blanking plate : M-34005.
• Base wire Plug-in protector : 24180.

Options : • Isolation of inlet and/or exhaust. • BSPP Threads.

DIMENSIONS



Number of stations	2	3	4	5	6	7	8	9	10
DIM. L	57.0	67.5	78.0	88.5	99.0	109.5	120.0	130.5	141.0

Consult "Precautions" before use, installation or service of MAC Valves.

MAC

Series 34

Function	Port size	Flow (Max)	Circuit bar mounting
3/2 NO-NC	**M5 - #10-32**	**100 NL/min**	plug-in add-a-unit stations with Pr. Reg.

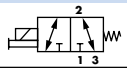
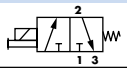
OPERATIONAL BENEFITS

1. 10 mm valve, direct solenoid operated.
2. Balanced poppet, immune to variations of pressure.
3. Short stroke with high flow.
4. The patented solenoid develops high shifting forces.
5. Powerful return spring.
6. Flow is specifically adjusted on each valve.
7. Manual operator standard on all valves.

Reset

HOW TO ORDER

HOW TO ORDER VALVE FOR CIRCUIT BAR MOUNTING

Port size (see base)	Universal valve	NC only valve
		
Valve less base	34B-LOO-G*xx*O-*xxx*	34B-NOO-G*xx*O-*xxx*

SOLENOID OPERATOR ➤

G *XX* O- *X XX**

XX	Voltage
DC	24VDC (1.8 W)
DD	24VDC (2.5 W)
DF	24VDC (4.0 W)

X	Manual operator
1	Non-locking

XX	Electrical connection
DJ	Plug-in
DT	Plug-in with light
DE	Plug-in with suppression diode
DV	Plug-in with light and suppression diode

HOW TO ORDER CIRCUIT BAR FOR PRESSURE REGULATORS ** (to be ordered separately)

Port size	Side cylinder ports	Bottom cylinder ports
M5	ECD034B-003CD-AO*xx*	ECD034B-004CD-AO*xx*
# 10-32	ECD034B-003CB-AO*xx*	ECD034B-004CB-AO*xx*

Number of stations (03=3 stations) - Maximum length is 4 stations

Note : clic for valves mounted on base at the factory, add - 9 to the model number. when add-a-unit stations are added to bars with a multi-pin connector, MOD. SD03 should be included with add-a-unit model number.

** Regulator ordered separately-see below

Y=A (no gage port)
Y=B (with gage port)
X=A (0 to 6.7 BAR)
X=B (0 to 4 BAR)
X=C (0 to 2.7 BAR)
X=D (0 to 1 BAR)

MAC

Series **34**

100% OF PRODUCTION TESTED 100%

WARRANTY 18 MONTHS

TECHNICAL DATA

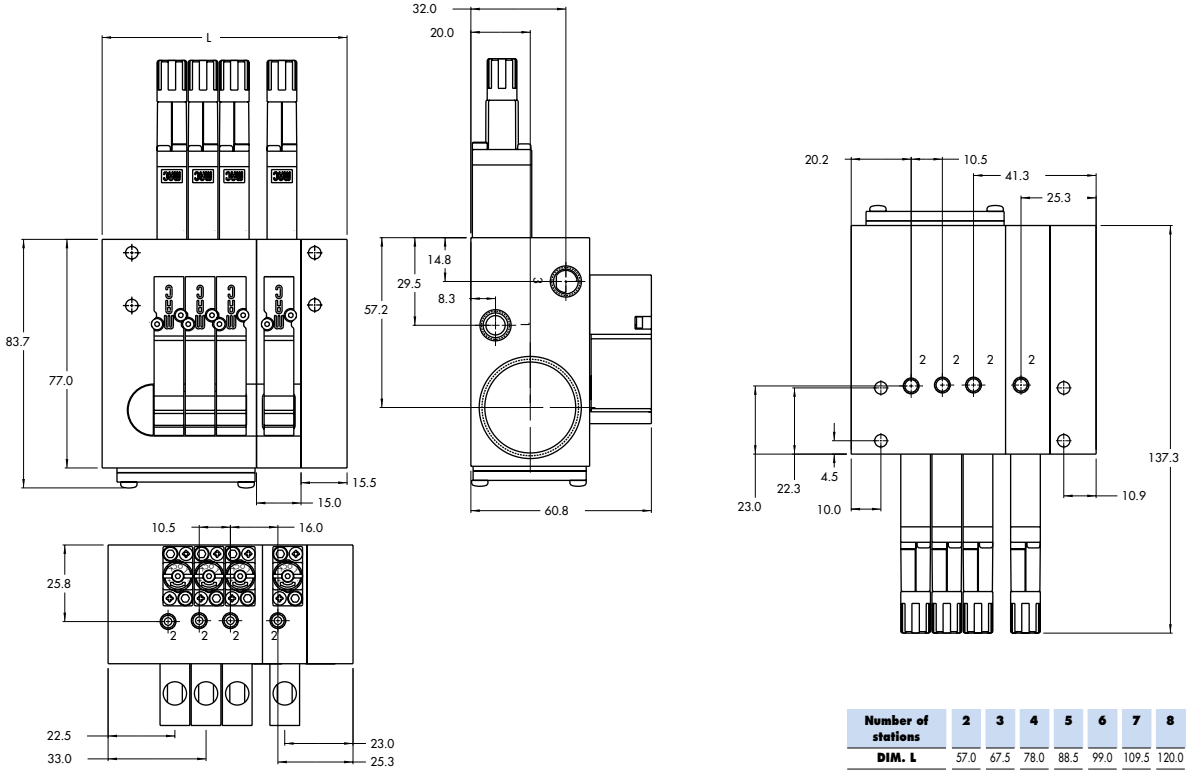
Fluid :	Compressed air, vacuum, inert gases
Pressure range :	Vacuum to 8 BAR
Lubrication :	Not required, if used select a medium aniline point lubricant (between 80°C and 100°C)
Filtration :	40 µ
Temperature range :	0°F to 120°F (-18°C to 50°C)
Orifice :	1.8 mm
Flow (at 6 bar, ΔP=1bar) :	4 W : 100 NL/min, 2.5 W : 90 NL/min, 1.8 W : 70 NL/min
Leak rate :	50 cm^3/min
Coil :	General purpose class A, continuous duty, encapsulated
Voltage range :	-15% to +10% of nominal voltage
Power :	4 W - 2.5 W - 1.8 W
Response times :	Energize : 4 ms
(with 4 W coil)	De-energize : 1.5 ms

Note : • Valve and coil are not interchangeable.

Spare parts : • Seal between valve and bar : 16595. • Mounting screw (x2) : 35031. • Blanking plate : M-34005.
• Base wire Plug-in protector : 24180. • Blanking plate for regulator : N-44003.

Options : • Isolation of inlet and/or exhaust. • BSPP Threads.

DIMENSIONS



Number of stations	2	3	4	5	6	7	8	9	10
DIM. L	57.0	67.5	78.0	88.5	99.0	109.5	120.0	130.5	141.0

Consult "Precautions" before use, installation or service of MAC Valves.

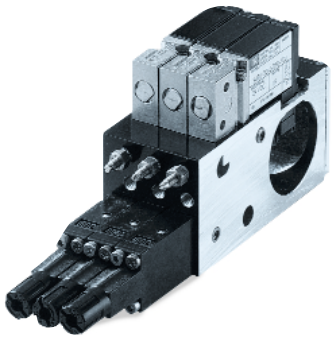
MAC

Series **34**

Function	Port size	Flow (Max)	Circuit bar mounting
3/2 NO-NC	**M5 - #10-32**	**100 NL/min**	plug-in add-a-unit stations with F. C. and Pr. Reg.

OPERATIONAL BENEFITS

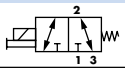
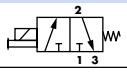
1. 10 mm valve, direct solenoid operated.
2. Balanced poppet, immune to variations of pressure.
3. Short stroke with high flow.
4. The patented solenoid develops high shifting forces.
5. Powerful return spring.
6. Flow is specifically adjusted on each valve.
7. Manual operator standard on all valves.



Reset

HOW TO ORDER

HOW TO ORDER VALVE FOR CIRCUIT BAR MOUNTING

Port size (see base)	Universal valve	NC only valve
		
Valve less base	34B-LOO-G*XX*O-*XXX*	34B-NOO-G*XX*O-*XXX*

SOLENOID OPERATOR ➤ G *XX* O- *X XX**

XX	Voltage
DC	24VDC (1.8 W)
DD	24VDC (2.5 W)
DF	24VDC (4.0 W)

X	Manual operator
1	Non-locking

XX	Electrical connection
DJ	Plug-in
DT	Plug-in with light
DE	Plug-in with suppression diode
DV	Plug-in with light and suppression diode

HOW TO ORDER CIRCUIT BAR WITH FLOW CONTROLS AND PRESSURE REGULATORS ** (pressure regulators to be ordered separately)

Port size	Side cylinder ports	Bottom cylinder ports
M5	ECD034B-008CD-AO*XX*	ECD034B-007CD-AO*XX*
# 10-32	ECD034B-008CB-AO*XX*	ECD034B-007CB-AO*XX*

Number of stations (03=3 stations) - Maximum length is 4 stations

Note : clic for valves mounted on base at the factory, add - 9 to the model number. when add-a-unit stations are added to bars with a multi-pin connector, MOD. SD03 should be included with add-a-unit model number.

** Regulator ordered separately-see below

Y=A (no gage port)
Y=B (with gage port)
X=A (0 to 6.7 BAR)
X=B (0 to 4 BAR)
X=C (0 to 2.7 BAR)
X=D (0 to 1 BAR)

MAC

Series **34**

100% OF PRODUCTION TESTED 100%

WARRANTY 18 MONTHS

TECHNICAL DATA

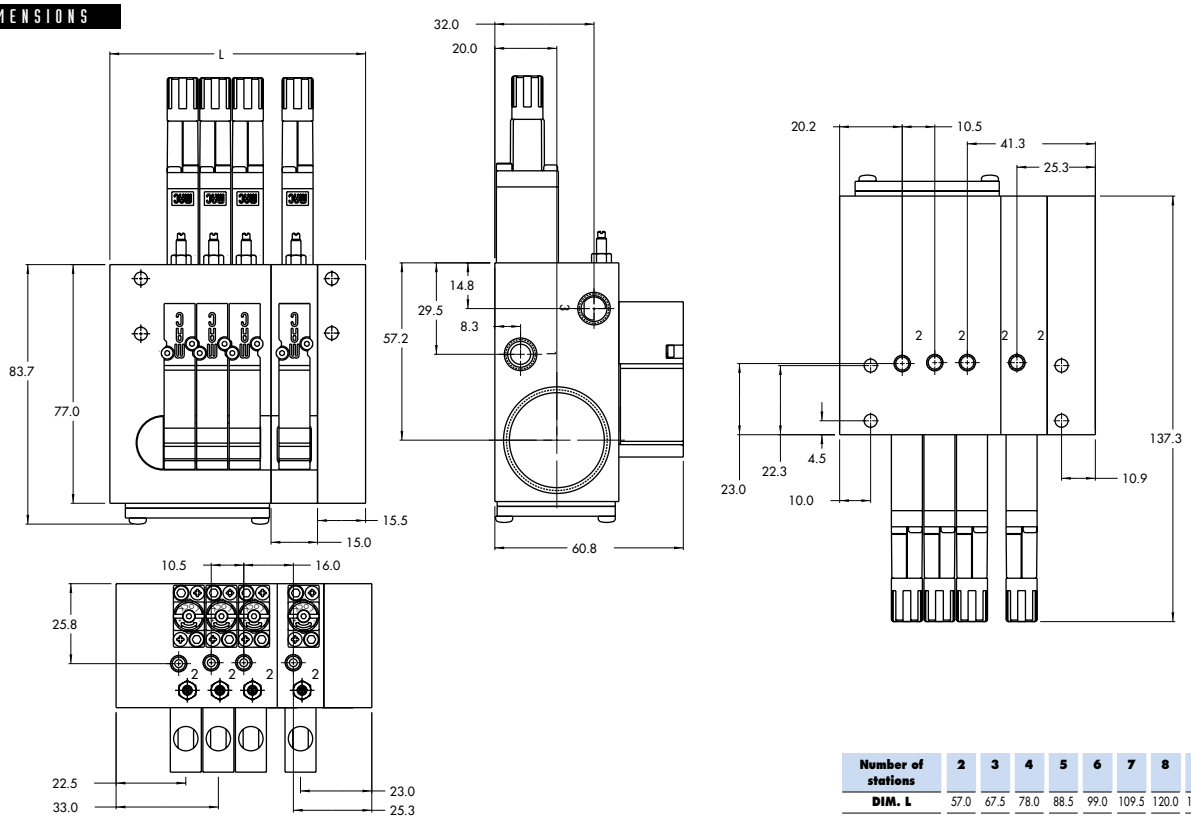
Fluid :	Compressed air, vacuum, inert gases
Pressure range :	Vacuum to 8 BAR
Lubrication :	Not required, if used select a medium aniline point lubricant (between 80°C and 100°C)
Filtration :	40 µ
Temperature range :	0°F to 120°F (-18°C to 50°C)
Orifice :	1.8 mm
Flow (at 6 bar, ΔP=1bar) :	4 W : 100 NL/min, 2.5 W : 90 NL/min, 1.8 W : 70 NL/min
Leak rate :	50 cm^3/min
Coil :	General purpose class A, continuous duty, encapsulated
Voltage range :	-15% to +10% of nominal voltage
Power :	4 W - 2.5 W - 1.8 W
Response times :	Energize : 4 ms
(with 4 W coil)	De-energize : 1.5 ms

Note : • Valve and coil are not interchangeable.

Spare parts : • Seal between valve and bar : 16595. • Mounting screw (x2) : 35031. • Blanking plate : M-34005.
• Blanking plate for regulator : N-44003. • Base wire Plug-in protector : 24180.

Options : • Isolation of inlet and/or exhaust. • BSPP Threads.

DIMENSIONS



Number of stations	2	3	4	5	6	7	8	9	10
DIM. L	57.0	67.5	78.0	88.5	99.0	109.5	120.0	130.5	141.0

Consult "Precautions" before use, installation or service of MAC Valves.

Section 2 Options

Codification table for voltages / Manual operator / Electrical connection

VALVE CODE ➤ **-G XX X - X XX**
1 2 3 4

OPTIONS AVAILABLE FOR

- solenoid valves 34 & 44 Series

OPTIONS

1. VOLTAGE (type 34 Series)	
-G XX X - X XX	VOLTAGE
DC	24 VDC (1,8 W)
DD	24 VDC (2,5 W)
DE	24 VDC (3,0 W)
DF	24 VDC (4,0 W)
DJ	12 VDC (1,8 W)
DK	12 VDC (2,5 W)
DM	12 VDC (3,0 W)
DN	12 VDC (4,0 W)

1. VOLTAGE (type 44 Series)	
-G XX X - X XX	VOLTAGE
DA	24 VDC (1,0 W)
DC	24 VDC (1,8 W)
DD	24 VDC (2,5 W)
DF	24 VDC (4,0 W)
DG	12 VDC (1,0 W)
DJ	12 VDC (1,8 W)
DK	12 VDC (2,5 W)
DN	12 VDC (4,0 W)

2. WIRE LENGTH (Common options for 34 & 44 Series)	
-G XX X - X XX	WIRE LENGTH
A	45 cm
B	60 cm
C	90 cm
D	120 cm
E	180 cm
F	240 cm
G	305 cm
H	366 cm

3. MANUAL OPERATOR (COMMON OPTIONS FOR 34 & 44 SERIES)

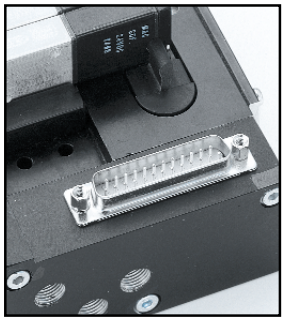
-G XX X - X XX	MANUAL OPERATOR
1	Non-locking recessed
3	Non-locking extended

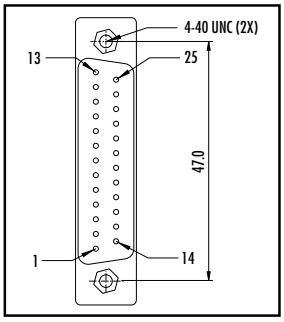
4. ELECTRICAL CONNECTION (COMMON OPTIONS FOR 34 & 44 SERIES)

-G XX X - X XX	NO CONNECTOR
BA	Flying leads
BB	BA with ground wire
BC	BA with light
BD	BA with light and ground wire
BE	BA with suppression diode
BF	BA with suppression diode and ground wire
BG	BA with suppression diode and light
BH	BA with suppression diode, light and ground wire
BN	BA with suppression diode and blocking diode
BP	BA with suppression diode, blocking diode and ground wire
BR	BA with suppression diode, blocking diode and light
BS	BA with suppression diode, blocking diode, light and ground wire
BT	BA with light
BU	BA with light and ground wire
BV	BA with suppression diode and light
BW	BA with suppression diode, light and ground wire
BX	BA with suppression diode, blocking diode and light
BY	BA with suppression diode, blocking diode, light and ground wire

-G XX X - X XX	PLUG-IN CONNECTOR
KA	Mini connector with flying leads
KB	KA with ground wire
KE	KA with suppression diode
KF	KA with suppression diode and ground wire
KJ	Mini connector for **KA** option
KM	Mini connector for **KB** option
KN	KA with suppression diode and blocking diode
KP	KA with suppression diode, blocking diode and ground wire
KT	KA with light
KU	KA with light and ground wire
KV	KA with suppression diode and light
KW	KA with suppression diode, light and ground wire
KX	KA with suppression diode, blocking diode and light
KY	KA with suppression diode, blocking diode, light and ground wire

Connector SUB_D 25 (option ZZZY = SUBY ; Y = cable length)

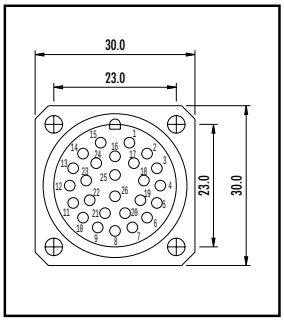




TECHNICAL DATA

- Type «SUB_D»
- Number of contacts : 25
- Solder termination (Dia. 0.6 mm/0.14 mm²/26-22 AWG)
- Operating current 5 A/contact
- Rated voltage 125 V~
- Temp. range –40° to +125°C
- Insulation resistance ≥ 10^{10} Ω
- Protection class IP40 (DIN 40050)
- Number of solenoids : 20 max.
- Max. 24 V=/5.4 W per solenoid
- 5 common wires
- Female plug supplied with circuit bar

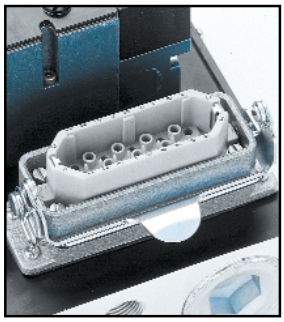
Connector RND (option ZZZY = RNDY ; Y = cable length)

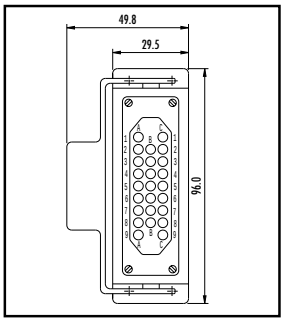


TECHNICAL DATA

- Type «Round connector»
- Number of contacts : 26
- Solder termination (Dia. 1 mm/1 mm²/17 AWG)
- Operating current 7.5 A/contact
- Rated voltage 250 V~
- Insulation resistance ≥ 10^{8} Ω
- Cable entry PG16
- Temp. range –40° to +125°C
- Protection class IP65 (DIN 40050)
- Number of solenoids : 24 max.
- 1 common and 1 ground
- All voltages
- Female plug supplied with circuit bar

Connector HDT (option ZZZY = HDTY ; Y = cable length)

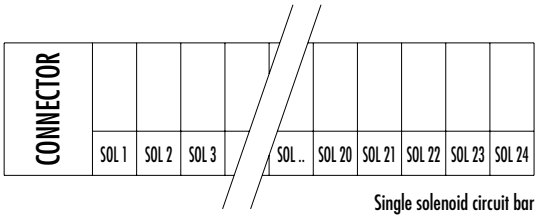




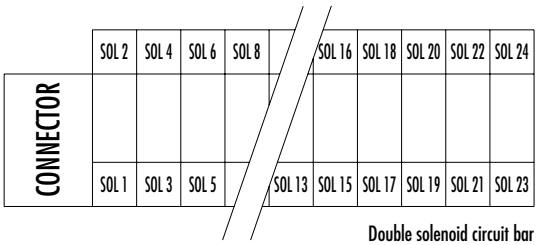
TECHNICAL DATA

- Type «Heavy duty»
- Number of contacts : 25
- Solder termination (Dia. 1.4 mm/0.75 mm²/18 AWG)
- Operating current 10 A/contact
- Rated voltage 250 V~
- Insulation resistance ≥ 10^{10} Ω
- Cable entry PG16
- Temp. range –40° to +125°C
- Protection class IP65 (DIN 40050)
- Number of solenoids : 24 max.
- 1 common and 1 ground
- All voltages
- Female plug supplied with circuit bar

Connector termination details



Single solenoid circuit bar

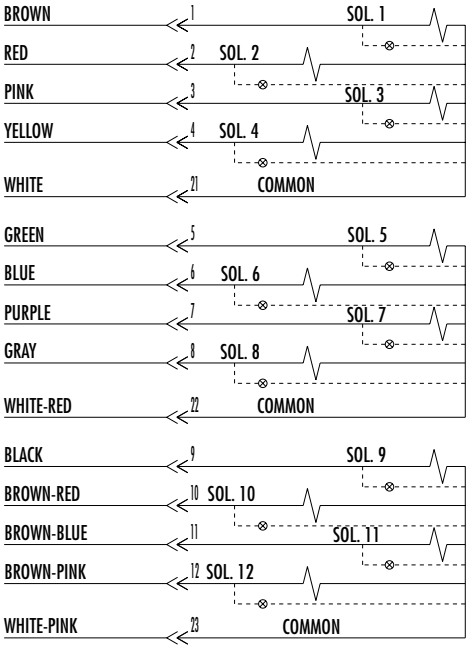


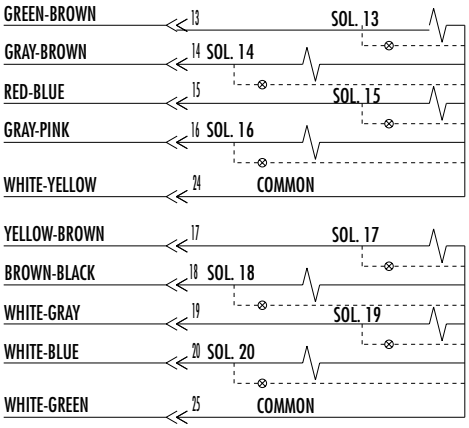
Double solenoid circuit bar

Connector SUB_D25 (option ZZZY = SUBY ; Y = cable length)

TECHNICAL DATA PREWIRED CABLE

- Type : LIYY -0.14 mm²
- Dia. ca. 9.3 mm
- Insulation resistance : 20 MΩ for 1000 meter
- Temp. range -5° to +80°C
- Rated voltage : 250 V~
- PVC core insulation and sheath

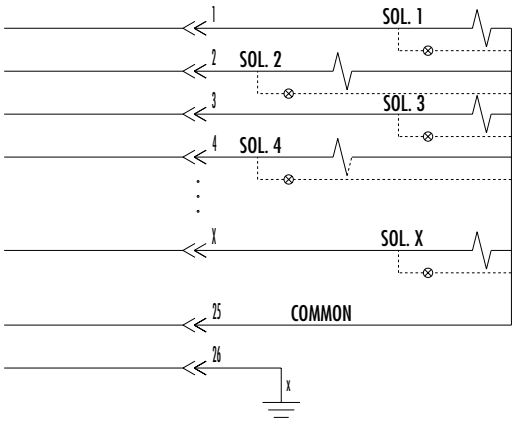




Connector RND [option ZZZY = SNDY ; Y = cable length]

TECHNICAL DATA PREWIRED CABLE

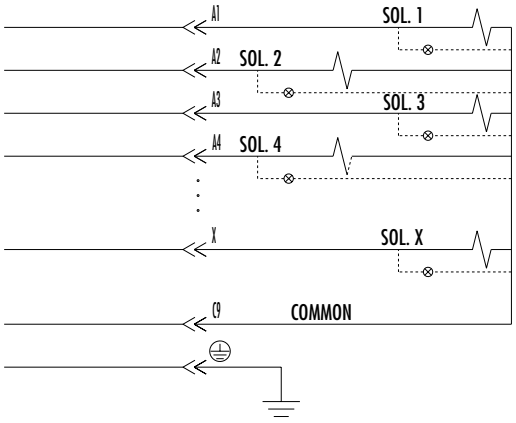
- Type : LIY(C)Y -0.50 mm²
- Dia. ca. 10.8 mm (12 core); 12.9 mm (18 core); 16.0 mm (32 core)
- Insulation resistance : 20 MΩ for 1000 meter
- Temp. range -5° to +80°C
- Rated voltage : 500 V~
- PVC core insulation and sheath
- Tinned copper wire braid



Connector HDT [option ZZZY = HDTY ; Y = cable length]

TECHNICAL DATA PREWIRED CABLE

- Type : LIY(C)Y -0.75 mm²
- Dia. ca. 12.0 mm (12 core); 13.5 mm (18 core); 18.0 mm (32 core)
- Insulation resistance : 20 MΩ for 1000 meter
- Temp. range -5° to +80°C
- Rated voltage : 500 V~
- PVC core insulation and sheath
- Tinned copper wire braid



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 ports are open to the exhaust port(s) of the valve. If having no air in either outlet port 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 ports 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 AND SERVICE PRECAUTIONS :

A. Do not install or service MAC valves without first making sure both the air and electrical power to the machine are off and that all air has been completely bled from the system.

B. MAC valves should only be installed and/or serviced 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 and graphic symbols. Do not install unless these symbols and the valve functions and operations are thoroughly understood.

C. Before service, maintenance, repair or cleaning, consult local distributor or factory for Parts & Operation Sheet and information on proper cleaning and lubrication agents. Do not subject MAC valves' parts to any foreign substance including lubricants and cleaning agents not specifically recommended by MAC valves, Inc.

D. 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 condition.

WARNING :

Under no circumstances are Mac valves to be used in any application where failure of the valve to operate as intended could jeopardize the safety of the operator or any other person.
- Do not operate outside of pressure range listed on valve label or outside of designated temperature range.
- Air supply must be clean. Contamination of valve can affect proper operation.
- Before attempting to repair, adjust or clean valve, consult catalog, parts & operation sheet, or factory for proper maintenance procedures, lubrication, and cleaning agents. Never attempt to repair or perform other maintenance with air pressure to valve.
- If airline lubrication is used, consult catalog, parts & operation sheet, or factory for recommended lubricants.

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.

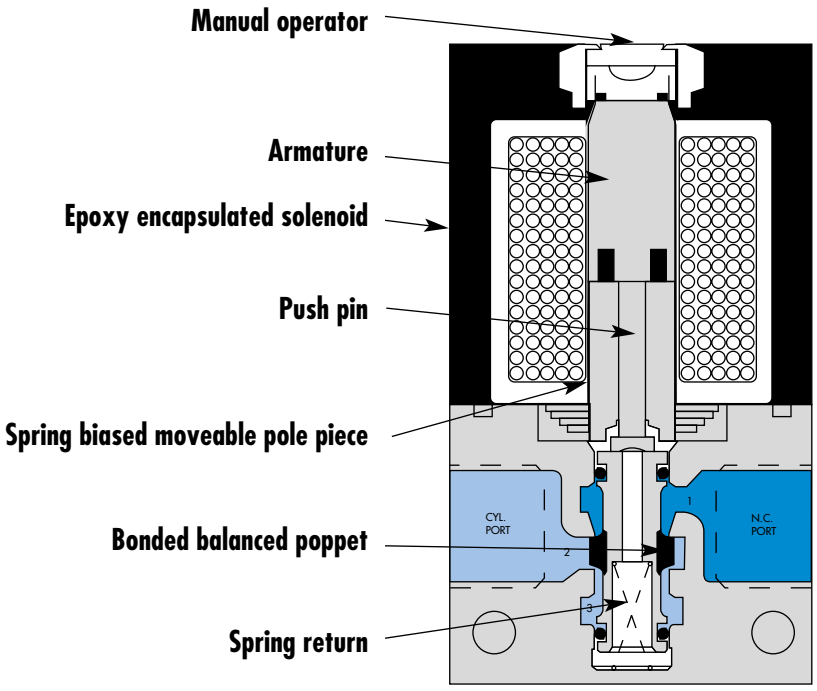
DISCLAIMER OF GUARANTEE

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. The 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.

Circuit bar mounting

non plug-in	non plug-in with Pr. Reg.	plug-in	plug-in with side Pr. Reg.	plug-in with integral terminal strip	plug-in with integral terminal strip and side Pr. Reg.



SERIES FEATURES

- Patented MACSOLENOID® for fastest possible response times.
- Balanced poppet permits versatility in function :
  - 3 way N.C. - 3 way N.O. - Divertor - Selector
- Extremely high cycle rate capability.
- Various solenoid enclosures and plug-in connectors.
- Low wattage DC solenoids - down to 1.8 watts.
- Rated for lubricated or non-lubricated service.

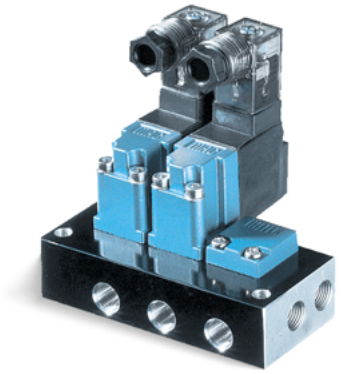
MAC

Series 35

Function	Port size	Flow (Max)	Circuit bar mounting
3/2 NO-NC	**1/8" BSPP - M5**	**100 NL/min**	non plug-in

OPERATIONAL BENEFITS

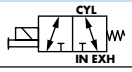
1. Balanced poppet, immune to variations of pressure.
2. Short stroke with high flow.
3. The patented solenoid develops high shifting forces.
4. Powerful return spring.
5. Manual operator standard on all valves.
6. Burn-out proof solenoid on AC service.



Reset

HOW TO ORDER 35A-xxx-Dxxx-xxx

HOW TO ORDER VALVE FOR CIRCUIT BAR MOUNTING

	Universal valve
	
Valve less base	○ 35A-B00-D*XXX-XXX*

SOLENOID OPERATOR ➤ D *XX* *X*- *X* *XX**

XX	Voltage
○ *AA*	120/60, 110/50
○ *AB*	240/60, 220/50
○ *AC*	24/60, 24/50
○ *FB*	24VDC (1.8 W)
○ *DA*	24VDC (5.4 W)
○ *DF*	24VDC (12.7 W)
○ *xx*	Other Options

X	Wire length
○ *A*	45 cm (Flying leads)
○ *J*	Connector
○ *x*	Other Options

X	Manual operator
○ *1*	Non-locking Recessed
○ *2*	Locking Recessed
○ *x*	Other Options

XX	Electrical connection
○ *KA*	Square connector
○ *KD*	Square connector with light
○ *BA*	Flying leads
○ *xx*	Other Options

HOW TO ORDER CIRCUIT BAR** EBM35A-xxxx-xx

Port size	Side cylinder ports Spacing 21 mm	Bottom cylinder ports Spacing 21 mm
1/8" BSPP	○ EBM35A-001C-*XX*	○ EBM35A-002C-*XX*
M5	○ EBM35A-001D-*XX*	○ EBM35A-002D-*XX*

Number of stations (03=3 stations) ☐

** Other options available. Consult factory.

Note : ☐ clic for valves mounted on base at the factory, add - 9 to the model number.

MAC

Series 35

100% OF PRODUCTION TESTED 100%

WARRANTY 18 MONTHS

TECHNICAL DATA

Fluid :	Compressed air, vacuum, inert gases		
Pressure range :	Vacuum to 8 BAR		
Lubrication :	Not required, if used select a medium aniline point lubricant (between 80°C and 100°C)		
Filtration :	40 µ		
Temperature range :	0°F to 120°F (-18°C to 50°C)		
Orifice :	2 mm		
Flow (at 6 bar, ΔP=1bar) :	1.8 W : 80 NL/min, 5.4 W : 100 NL/min		
Leak rate :	50 cm^3/min		
Coil :	General purpose class A, continuous duty, encapsulated		
Voltage range :	-15% to +10% of nominal voltage		
Protection :	Nema 4		
Power :	120 VAC/60 = Inrush : 10.9 VA (0.09 AMPS)	Holding : 7. 7VA (0.06 AMPS)	
	DC VOLTS = 1.8 W to 12.7 W		
Response times :	24 VDC (5.4W)	Energize : 6 ms	De-energize : 2 ms
	120 VAC	Energize : 3-8 ms	De-energize : 2-7 ms

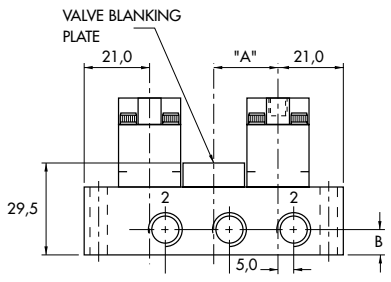
Spare parts :

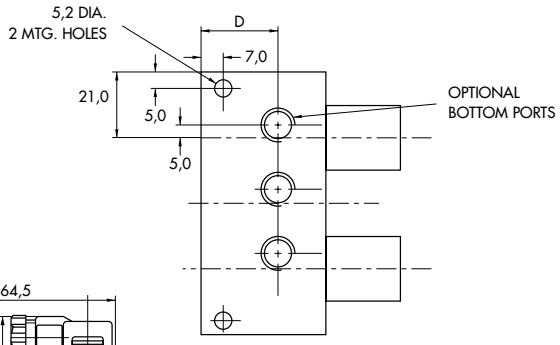
- Solenoid operator (power ≥ 5.4 W) : DXXX-XXX, including mounting screws 35013.
- Seal between solenoid and valve body : 16402. • Seal between base and valve : 16447.
- Valve mounting screw (x2) : 35020. • Blanking plate valve : M-35004.

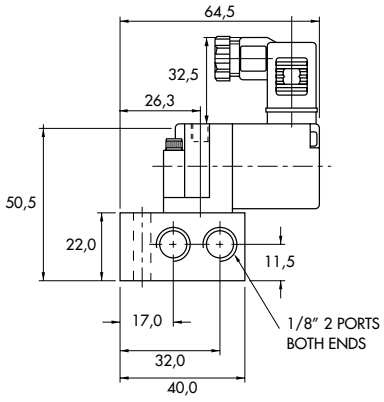
Options :

- NPTF threads. • High flow up to 140 NL/min, according to wattage. • Isolation of inlet and/or exhaust.

DIMENSIONS







SPACING SIZE	A
STANDARD	21.0
FOR JB	26.0

SPACING SIZE	B	D
1/8"	8.0	24.5
# 10-32	5.5	24.2

Consult "Precautions" before use, installation or service of MAC Valves.

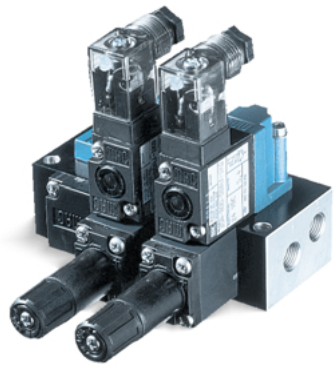
MAC

Series 35

Function	Port size	Flow (Max)	Circuit bar mounting
3/2 NO-NC	**1/8" BSPP - M5**	**100 NL/min**	non plug-in with Pr. Reg.

OPERATIONAL BENEFITS

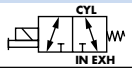
1. Balanced poppet, immune to variations of pressure.
2. Short stroke with high flow.
3. The patented solenoid develops high shifting forces.
4. Powerful return spring.
5. Manual operator standard on all valves.
6. Burn-out proof solenoid on AC service.



Reset

HOW TO ORDER **35A-xxx-Dxxx-xxx**

HOW TO ORDER VALVE FOR CIRCUIT BAR MOUNTING

	Universal valve 
Valve less base	○ 35A-B00-D*XXX-XXX*
Valve less base w/ gage port	○ 35A-F00-D*XXX-XXX*

SOLENOID OPERATOR ➤ D *XX X- X XX**

XX	Voltage
○ *AA*	120/60, 110/50
○ *AB*	240/60, 220/50
○ *AC*	24/60, 24/50
○ *FB*	24VDC (1.8 W)
○ *DA*	24VDC (5.4 W)
○ *DF*	24VDC (12.7 W)
○ *xx*	Other Options

X	Wire length
○ *A*	45 cm (Flying leads)
○ *J*	Connector
○ *x*	Other Options

X	Manual operator
○ *1*	Non-locking Recessed
○ *2*	Locking Recessed
○ *x*	Other Options

XX	Electrical connection
○ *KA*	Square connector
○ *KD*	Square connector with light
○ *BA*	Flying leads
○ *xx*	Other Options

EBM35A-xxxx-xx

HOW TO ORDER CIRCUIT BAR WITH PRESSURE REGULATORS (TO BE ORDERED SEPARATELY)* *

Port size Side cylinder ports	Spacing 21 mm	Spacing 40 mm
1/8" BSPP	○ EBM35A-003C-*XX*	○ EBM35A-023C-*XX*
M5	○ EBM35A-003D-*XX*	○ EBM35A-023D-*XX*
Port size Bottom cylinder ports	**Spacing 21 mm**	**Spacing 40 mm**
1/8" BSPP	○ EBM35A-004C-*XX*	○ EBM35A-024C-*XX*
M5	○ EBM35A-004D-*XX*	○ EBM35A-024D-*XX*

Number of stations (03=3 stations) ☐
Other options available. Consult factory.
Note : ☐ clic for valves mounted on base at the factory, add - 9 to the model number.
use 40 mm spacing for valves w/ gage port.

** Pressure Regulators :
35A-00M (Adjusting knob)
35A-00L (Slotted stem)
35A-00U (Locking stem)

100% OF PRODUCTION TESTED 100%

WARRANTY 18 MONTHS

TECHNICAL DATA

Fluid :	Compressed air, vacuum, inert gases		
Pressure range :	Vacuum to 8 BAR		
Lubrication :	Not required, if used select a medium aniline point lubricant (between 80°C and 100°C)		
Filtration :	40 µ		
Temperature range :	0°F to 120°F (-18°C to 50°C)		
Orifice :	2 mm		
Flow (at 6 bar, ΔP=1bar) :	1.8 W : 80 NL/min, 5.4 W : 100 NL/min		
Leak rate :	50 cm^3/min		
Coil :	General purpose class A, continuous duty, encapsulated		
Voltage range :	-15% to +10% of nominal voltage		
Protection :	Nema 4		
Power :	120 VAC/60 = Inrush : 10.9 VA (0.09 AMPS)	Holding : 7. 7VA (0.06 AMPS)	
	DC VOLTS = 1.8 W to 12.7 W		
Response times :	24 VDC (5.4W)	Energize : 6 ms	De-energize : 2 ms
	120 VAC	Energize : 3-8 ms	De-energize : 2-7 ms

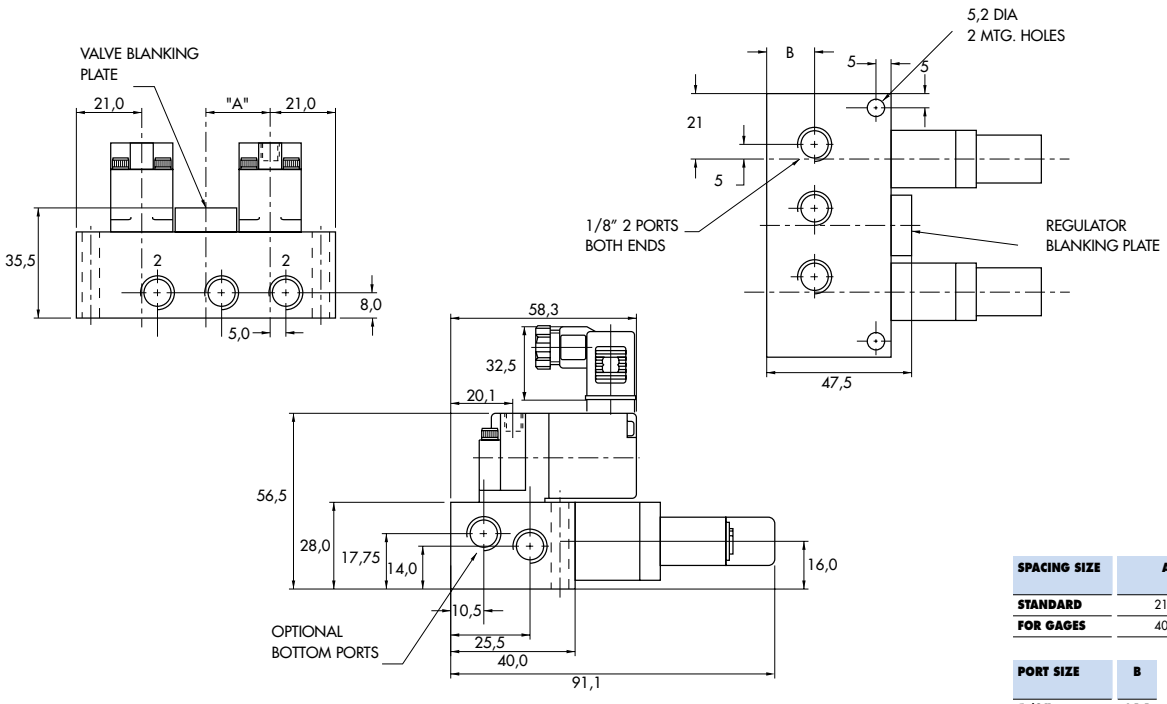
Spare parts :

- Solenoid operator (power ≥ 5.4 W) : DXXX-XXX, including mounting screws 35013.
- Seal between solenoid and valve body : 16402. • Seal between base and valve : 16447.
- Valve mounting screw (x2) : 35020. • Blanking plate valve : M-35004. • Blanking plate regulator : M-35005.

Options :

- NPTF threads. • High flow up to 140 NL/min, according to wattage. • Isolation of inlet and/or exhaust.

DIMENSIONS



SPACING SIZE	A
STANDARD	21.0
FOR GAGES	40.0

PORT SIZE	B
1/8"	15.5
# 10-32	18.0

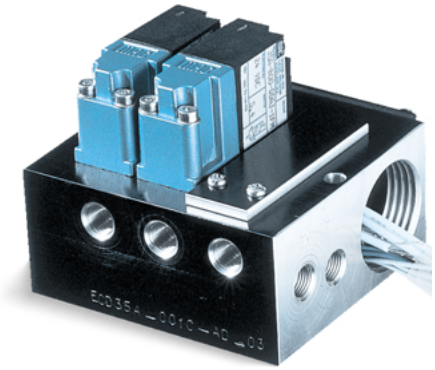
MAC

Series 35

Function	Port size	Flow (Max)	Circuit bar mounting
3/2 NO-NC	**1/8" BSPP - M5**	**100 NL/min**	plug-in

OPERATIONAL BENEFITS

1. Balanced poppet, immune to variations of pressure.
2. Short stroke with high flow.
3. The patented solenoid develops high shifting forces.
4. Powerful return spring.
5. Manual operator standard on all valves.
6. Burn-out proof solenoid on AC service.

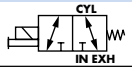


Reset

HOW TO ORDER

35A-xxx-DxxJ-xFM

HOW TO ORDER VALVE FOR "PLUG-IN" CIRCUIT BAR

	Universal valve
	
Valve less base	◯ 35A-B00-D*xx*J-*x*FM

SOLENOID OPERATOR ➤ D *XX* J- *X* FM *

XX	Voltage
◯ *AA*	120/60, 110/50
◯ *AB*	240/60, 220/50
◯ *AC*	24/60, 24/50
◯ *FB*	24VDC (1.8 W)
◯ *DA*	24VDC (5.4 W)
◯ *DF*	24VDC (12.7 W)
◯ *xx*	Other Options

X	Manual operator
◯ *1*	Non-locking Recessed
◯ *2*	Locking Recessed
◯ *x*	Other Options

HOW TO ORDER "PLUG-IN" CIRCUIT BAR * *

ECD35A-xxxx-xx-xx

Port size	Spacing mm	Side cylinder ports	Bottom cylinder ports
1/8" BSPP	21	◯ ECD35A-001C-A0-*xx**	◯ ECD35A-002C-A0-*xx**
M5	21	◯ ECD35A-001D-A0-*xx**	◯ ECD35A-002D-A0-*xx**
1/8" BSPP	30	◯ ECD35A-031C-C0-*xx**	◯ ECD35A-032C-C0-*xx**
M5	30	◯ ECD35A-031D-C0-*xx**	◯ ECD35A-032D-C0-*xx**

Number of stations (03=3 stations) ☐

* * Other options available. Consult factory.

Note : ☐ clic for valves mounted on base at the factory, add - 9 to the model number.
clic for multi-pin connector (9, 15 or 25).

* ◯ A0 = without light
◯ AA = with light (120V)
◯ AB = with light (240V)
◯ AD = with light (24V)
◯ C0 = terminal strip
◯ CA = terminal w/light (120V)
◯ CB = terminal w/light (240V)
◯ CD = terminal w/light (24V)

100% OF PRODUCTION TESTED 100%

WARRANTY 18 MONTHS

TECHNICAL DATA

Fluid :	Compressed air, vacuum, inert gases		
Pressure range :	Vacuum to 8 BAR		
Lubrication :	Not required, if used select a medium aniline point lubricant (between 80°C and 100°C)		
Filtration :	40 µ		
Temperature range :	0°F to 120°F (-18°C to 50°C)		
Orifice :	2 mm		
Flow (at 6 bar, ΔP=1bar) :	1.8 W : 80 NL/min, 5.4 W : 100 NL/min		
Leak rate :	50 cm^3/min		
Coil :	General purpose class A, continuous duty, encapsulated		
Voltage range :	-15% to +10% of nominal voltage		
Protection :	Nema 4		
Power :	120 VAC/60 = Inrush : 10.9 VA (0.09 AMPS)	Holding : 7. 7VA (0.06 AMPS)	
	DC VOLTS = 1.8 W to 12.7 W		
Response times :	24 VDC (5.4W)	Energize : 6 ms	De-energize : 2 ms
	120 VAC	Energize : 3-8 ms	De-energize : 2-7 ms

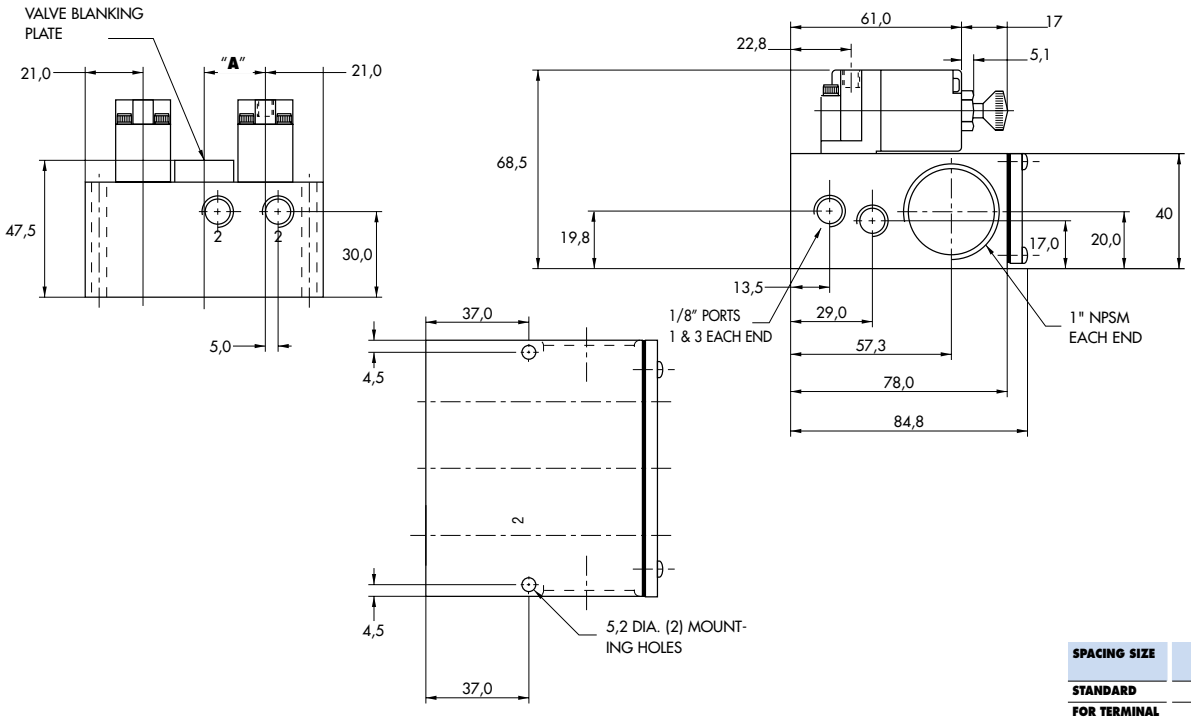
Spare parts :

- Solenoid operator (power ≥ 5.4 W) : DXXX-XXX, including mounting screws 35013.
- Seal between solenoid and valve body : 16402. • Seal between base and valve : 16447.
- Valve mounting screw (x2) : 35020. • Blanking plate valve : M-35004. • Plug-in protector : 16520.

Options :

- NPTF threads. • High flow up to 140 NL/min, according to wattage. • Isolation of inlet and/or exhaust.

DIMENSIONS



SPACING SIZE	A
STANDARD	21.0
FOR TERMINAL STRIPS	30.0

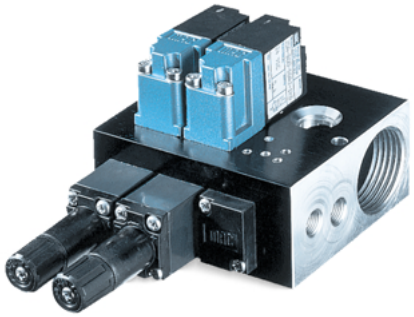
MAC

Series 35

Function	Port size	Flow (Max)	Circuit bar mounting
3/2 NO-NC	**1/8" BSPP - M5**	**100 NL/min**	plug-in with side Pr. Reg.

OPERATIONAL BENEFITS

1. Balanced poppet, immune to variations of pressure.
2. Short stroke with high flow.
3. The patented solenoid develops high shifting forces.
4. Powerful return spring.
5. Manual operator standard on all valves.
6. Burn-out proof solenoid on AC service.

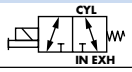


Reset

HOW TO ORDER

35A-xxx-DxxJ-xFM

HOW TO ORDER VALVE FOR "PLUG-IN" CIRCUIT BAR

	Universal valve
	
Valve less base	○ 35A-B00-D*xx*J-*x*FM
Valve less base w/ gage port	○ 35A-F00-D*xx*J-*x*FM

SOLENOID OPERATOR ➤ D *xx* J- *x* FM *

XX	Voltage
○ *AA*	120/60, 110/50
○ *AB*	240/60, 220/50
○ *AC*	24/60, 24/50
○ *FB*	24VDC (1.8 W)
○ *DA*	24VDC (5.4 W)
○ *DF*	24VDC (12.7 W)
○ *xx*	Other Options

X	Manual operator
○ *1*	Non-locking Recessed
○ *2*	Locking Recessed
○ *x*	Other Options

ECD35A-xxxx-xx-xx

HOW TO ORDER "PLUG-IN" CIRCUIT BAR WITH PRESSURE REGULATORS (TO BE ORDERED SEPARATELY)* *

Port size	Spacing mm	Bottom cylinder ports
1/8" BSPP	21	○ ECD35A-004C-A0-*xx**
M5	21	○ ECD35A-004D-A0-*xx**
1/8" BSPP	30	○ ECD35A-034C-C0-*xx**
M5	30	○ ECD35A-034D-C0-*xx**
1/8" BSPP	40	○ ECD35A-024C-A0-*xx**
M5	40	○ ECD35A-024D-A0-*xx**

Number of stations (03=3 stations) ☐

* * Other options available. Consult factory.

Note : ☐ clic for valves mounted on base at the factory, add - 9 to the model number.
clic for multi-pin connector (9, 15 or 25).
minimum spacing for terminal strips is 30 mm.
use 40 mm spacing for valves w/gage port.

** Pressure Regulators :
35A-00M (Adjusting knob)
35A-00L (Slotted stem)
35A-00U (Locking stem)

* ○ A0 = without light
○ AA = with light (120V)
○ AB = with light (240V)
○ AD = with light (24V)
○ C0 = terminal strip
○ CA = terminal w/light (120V)
○ CB = terminal w/light (240V)
○ CD = terminal w/light (24V)

MAC

Series 35

100% OF PRODUCTION TESTED 100%

WARRANTY 18 MONTHS

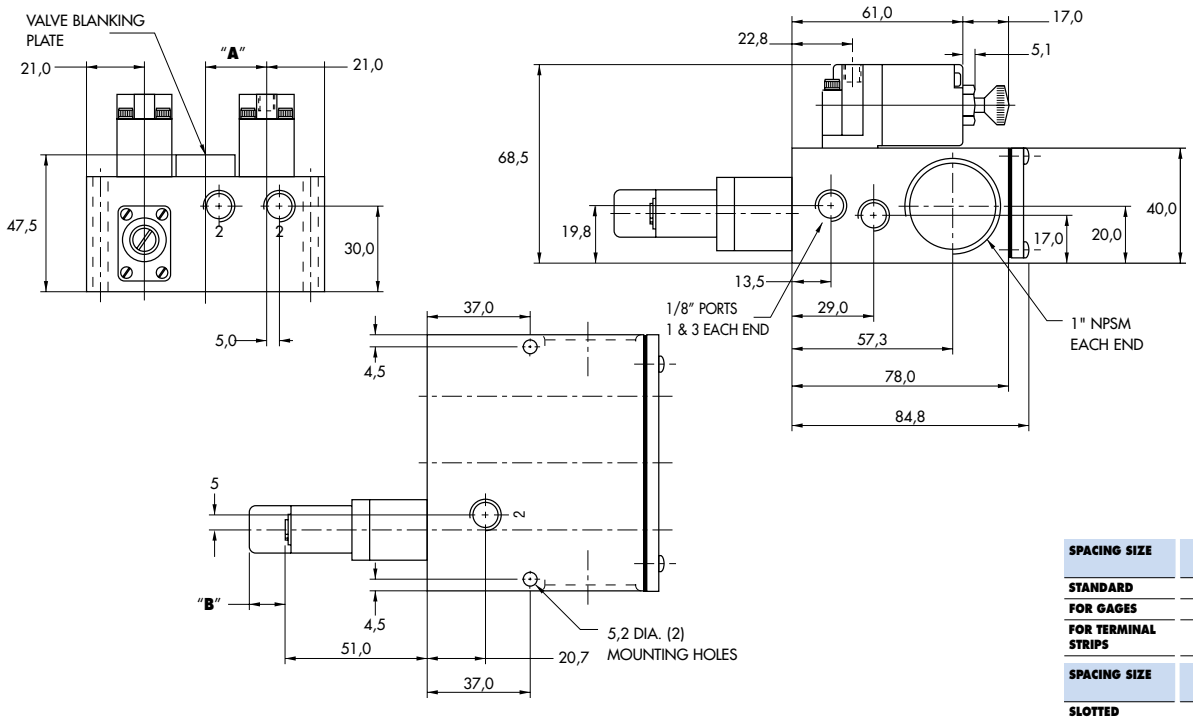
TECHNICAL DATA

Fluid :	Compressed air, vacuum, inert gases		
Pressure range :	Vacuum to 8 BAR		
Lubrication :	Not required, if used select a medium aniline point lubricant (between 80°C and 100°C)		
Filtration :	40 µ		
Temperature range :	0°F to 120°F (-18°C to 50°C)		
Orifice :	2 mm		
Flow (at 6 bar, ΔP=1bar) :	1.8 W : 80 NL/min, 5.4 W : 100 NL/min		
Leak rate :	50 cm^3/min		
Coil :	General purpose class A, continuous duty, encapsulated		
Voltage range :	-15% to +10% of nominal voltage		
Protection :	Nema 4		
Power :	120 VAC/60 = Inrush : 10.9 VA (0.09 AMPS)	Holding : 7. 7VA (0.06 AMPS)	
	DC VOLTS = 1.8 W to 12.7 W		
Response times :	24 VDC (5.4W)	Energize : 6 ms	De-energize : 2 ms
	120 VAC	Energize : 3-8 ms	De-energize : 2-7 ms

Spare parts :
- Solenoid operator (power ≥ 5.4 W) : DXXX-XXX, including mounting screws 35013.
- Seal between solenoid and valve body : 16402. • Seal between base and valve : 16447.
- Valve mounting screw (x2) : 35020. • Blanking plate valve : M-35004. • Blanking plate regulator : M-35005.
- Plug-in protector : 16520.

Options :
- NPTF threads. • High flow up to 140 NL/min, according to wattage. • Isolation of inlet and/or exhaust.

DIMENSIONS



SPACING SIZE	A
STANDARD	21.0
FOR GAGES	40.0
FOR TERMINAL STRIPS	30.0

SPACING SIZE	B
SLOTTED LOCKING STEM	6.0
ADJUSTING KNOB	13.4

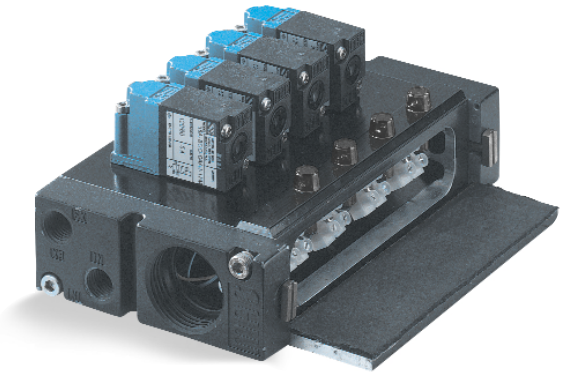
MAC

Series 35

Function	Port size	Flow (Max)	Circuit bar mounting
3/2 NO-NC	**1/8" BSPP - M5**	**100 NL/min**	plug-in with integral terminal strip

OPERATIONAL BENEFITS

1. Balanced poppet, immune to variations of pressure.
2. Short stroke with high flow.
3. The patented solenoid develops high shifting forces.
4. Powerful return spring.
5. Manual operator standard on all valves.
6. Burn-out proof solenoid on AC service.

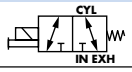


Reset

HOW TO ORDER

35A-xxx-DxxJ-xFM

HOW TO ORDER VALVE FOR "PLUG-IN" CIRCUIT BAR

	Universal valve
	
Valve less base	○ 35A-B00-D*xx*J-*x*FM

SOLENOID OPERATOR ➤ D *xx* J- *x* FM *

XX	**Voltage**
○ *AA*	120/60, 110/50
○ *AB*	240/60, 220/50
○ *AC*	24/60, 24/50
○ *FB*	24VDC (1.8 W)
○ *DA*	24VDC (5.4 W)
○ *DF*	24VDC (12.7 W)
○ *xx*	Other Options

X	**Manual operator**
○ *1*	Non-locking Recessed
○ *2*	Locking Recessed
○ *x*	Other Options

HOW TO ORDER "PLUG-IN" CIRCUIT BAR * *

ECE35A-xxxx-xx-xx

Port size	Spacing mm	Side cylinder ports	Bottom cylinder ports
1/8" BSPP	26	○ ECE35A-011C-C0-*xx**	○ ECE35A-012C-C0-*xx**
M5	26	○ ECE35A-011D-C0-*xx**	○ ECE35A-012D-C0-*xx**

Number of stations (03=3 stations) ☐

* * Other options available. Consult factory.

Note : ☐ clic for valves mounted on base at the factory, add - 9 to the model number. end plate kit required: M-45017.

* ○ C0 = terminal strip
○ CA = terminal strip w/light (120V)
○ CB = terminal strip w/light (240V)
○ CD = terminal strip w/light (24V)

100% OF PRODUCTION TESTED 100%

WARRANTY 18 MONTHS

TECHNICAL DATA

Fluid :	Compressed air, vacuum, inert gases		
Pressure range :	Vacuum to 8 BAR		
Lubrication :	Not required, if used select a medium aniline point lubricant (between 80°C and 100°C)		
Filtration :	40 µ		
Temperature range :	0°F to 120°F (-18°C to 50°C)		
Orifice :	2 mm		
Flow (at 6 bar, ΔP=1bar) :	1.8 W : 80 NL/min, 5.4 W : 100 NL/min		
Leak rate :	50 cm^3/min		
Coil :	General purpose class A, continuous duty, encapsulated		
Voltage range :	-15% to +10% of nominal voltage		
Protection :	Nema 4		
Power :	120 VAC/60 = Inrush : 10.9 VA (0.09 AMPS)	Holding : 7. 7VA (0.06 AMPS)	
	DC VOLTS = 1.8 W to 12.7 W		
Response times :	24 VDC (5.4W)	Energize : 6 ms	De-energize : 2 ms
	120 VAC	Energize : 3-8 ms	De-energize : 2-7 ms

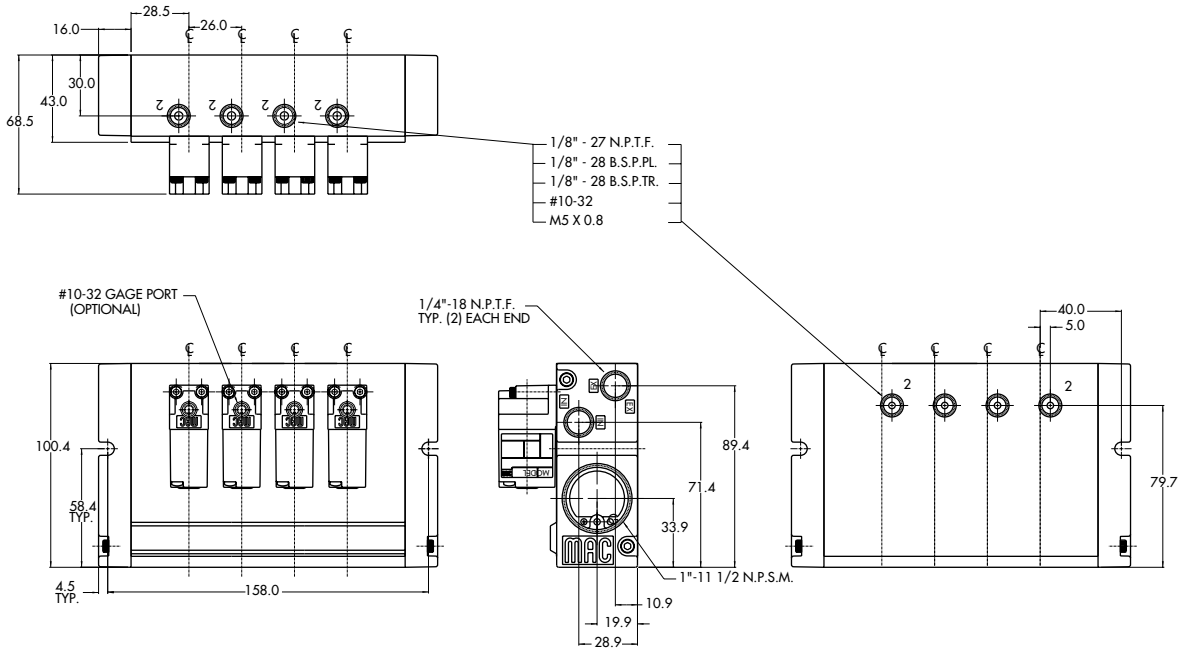
Spare parts :

- Solenoid operator (power ≥ 5.4 W) : DXXX-XXX, including mounting screws 35013.
- Seal between solenoid and valve body : 16402. • Seal between base and valve : 16447.
- Valve mounting screw (x2) : 35020. • Blanking plate valve : M-35004. • Plug-in protector : 16520.

Options :

- NPTF threads. • High flow up to 140 NL/min, according to wattage. • Isolation of inlet and/or exhaust.

DIMENSIONS



Note: Bottom & side cylinder ports not available on the same station

MAC

Series 35

Function	Port size	Flow (Max)	Circuit bar mounting
3/2 NO-NC	**1/8" BSPP - M5**	**100 NL/min**	plug-in with integral terminal strip and side Pr. Reg.

OPERATIONAL BENEFITS

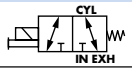
1. Balanced poppet, immune to variations of pressure.
2. Short stroke with high flow.
3. The patented solenoid develops high shifting forces.
4. Powerful return spring.
5. Manual operator standard on all valves.
6. Burn-out proof solenoid on AC service.

Reset

HOW TO ORDER

35A-xxx-DxxJ-xFM

HOW TO ORDER VALVE FOR "PLUG-IN" CIRCUIT BAR

	Universal valve
	
Valve less base	○ 35A-B00-D*xx*J-*x*FM
Valve less base w/ gage port	○ 35A-F00-D*xx*J-*x*FM

SOLENOID OPERATOR ➤ D *XX* J- *X* FM *

XX	Voltage
○ *AA*	120/60, 110/50
○ *AB*	240/60, 220/50
○ *AC*	24/60, 24/50
○ *FB*	24VDC (1.8 W)
○ *DA*	24VDC (5.4 W)
○ *DF*	24VDC (12.7 W)
○ *xx*	Other Options

X	Manual operator
○ *1*	Non-locking Recessed
○ *2*	Locking Recessed
○ *x*	Other Options

ECE35A-xxxx-xx-xx

HOW TO ORDER "PLUG-IN" CIRCUIT BAR WITH PRESSURE REGULATORS (TO BE ORDERED SEPARATELY)* *

Port size	Spacing mm	Bottom cylinder ports
1/8" BSPP	26	○ ECE35A-014C-C0-*xx**
M5	26	○ ECE35A-014D-C0-*xx**
1/8" BSPP	40	○ ECE35A-024C-C0-*xx**
M5	40	○ ECE35A-024D-C0-*xx**

Number of stations (03=3 stations) ☐

Note : ☐ clic for valves mounted on base at the factory, add - 9 to the model number.
use 40 mm spacing for valves w/ gage port.
end plate kit required: M-45017.

** Pressure Regulators :
35A-00M (Adjusting knob)
35A-00L (Slotted stem)
35A-00U (Locking stem)

* ○ C0 = terminal strip
○ CA = terminal strip w/light (120V)
○ CB = terminal strip w/light (240V)
○ CD = terminal strip w/light (24V)

100% OF PRODUCTION TESTED 100%

WARRANTY 18 MONTHS

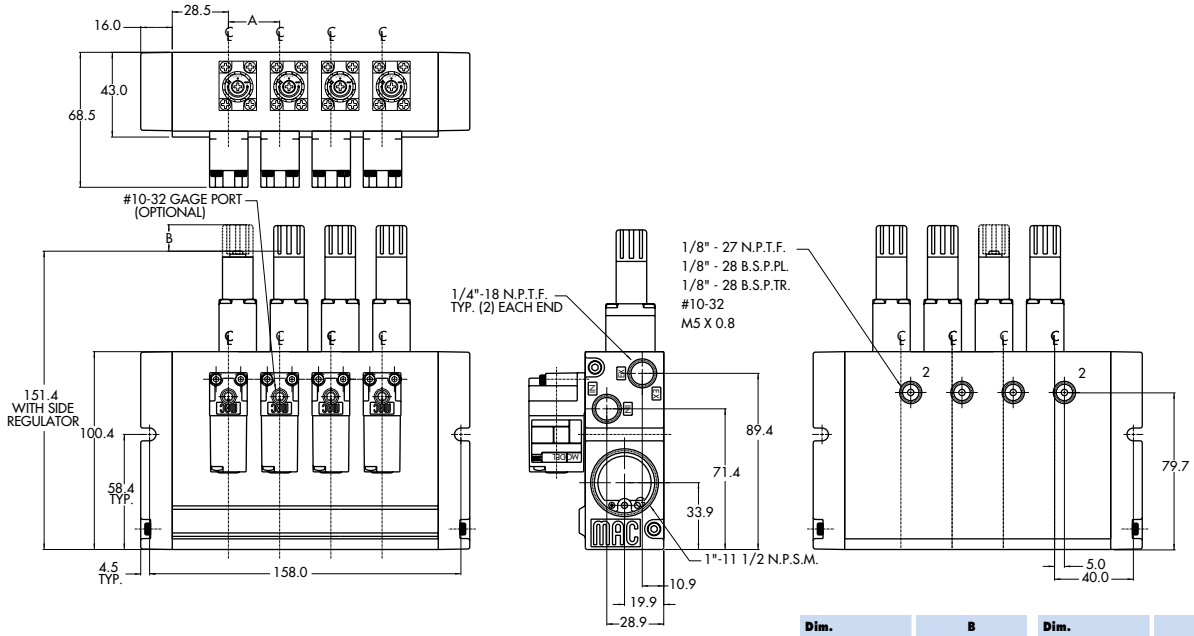
TECHNICAL DATA

Fluid :	Compressed air, vacuum, inert gases		
Pressure range :	Vacuum to 8 BAR		
Lubrication :	Not required, if used select a medium aniline point lubricant (between 80°C and 100°C)		
Filtration :	40 µ		
Temperature range :	0°F to 120°F (-18°C to 50°C)		
Orifice :	2 mm		
Flow (at 6 bar, ΔP=1bar) :	1.8 W : 80 NL/min, 5.4 W : 100 NL/min		
Leak rate :	50 cm^3/min		
Coil :	General purpose class A, continuous duty, encapsulated		
Voltage range :	-15% to +10% of nominal voltage		
Protection :	Nema 4		
Power :	120 VAC/60 = Inrush : 10.9 VA (0.09 AMPS)	Holding : 7. 7VA (0.06 AMPS)	
	DC VOLTS = 1.8 W to 12.7 W		
Response times :	24 VDC (5.4W)	Energize : 6 ms	De-energize : 2 ms
	120 VAC	Energize : 3-8 ms	De-energize : 2-7 ms

Spare parts :
- Solenoid operator (power ≥ 5.4 W) : DXXX-XXX, including mounting screws 35013.
- Seal between solenoid and valve body : 16402. • Seal between base and valve : 16447.
- Valve mounting screw (x2) : 35020. • Blanking plate valve : M-35004. • Blanking plate regulator : M-35005.
- Plug-in protector : 16520.

Options : • NPTF threads. • High flow up to 140 NL/min, according to wattage. • Isolation of inlet and/or exhaust.

DIMENSIONS



Dim.	B	Dim.	A
SLOTTED LOCKING STEM	6.0	STANDARD SPACING	26.0
ADJUSTABLE KNOB	13.4	SPACING FOR GAUGES	40.0

Section 2 Options

Codification table for voltages / Wire length / Manual operators / Electrical connections

VALVE CODE ➤ $-D\underset{1}{XX}\,\underset{2}{X}\,-\,\underset{3}{X}\,\underset{4}{XX}$

OPTIONS AVAILABLE FOR
- Solenoid valves 35 & 45 Series

Back

1. VOLTAGE

- D XX X - X XX	VOLTAGE
AD	24/60
AE	200/60
AF	240/50
AG	100/50, 100/60, 110/60
DB	12 VDC (5.4 W)
DC	12 VDC (7.5 W)
DD	24 VDC (7.3 W)
DE	12 VDC (12.7 W) CLSF
DK	110 VDC (5.8 W)
DL	64 VDC (6.0 W)
DM	36 VDC (5.8 W)
DN	6 VDC (6.0 W)
DP	48 VDC (5.8 W)
DU	24 VDC (6.0 W)
EA	12 VDC (6.0 W)
FA	12 VDC (1.8 W)
FE	12 VDC (2.4 W)
FF	24 VDC (2.4 W)

2. WIRE LENGTH

- D XX X - X XX	WIRE LENGTH
B	60 cm
C	90 cm
D	120 cm
E	180 cm
F	240 cm

3. MANUAL OPERATOR

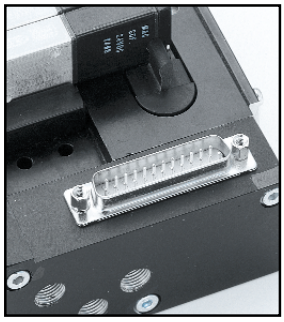
-D XX X -X XX	MANUAL OPERATOR
0	No operator
1	Non-locking recessed
2	Locking recessed
3	Non-locking extended
4	Locking extended

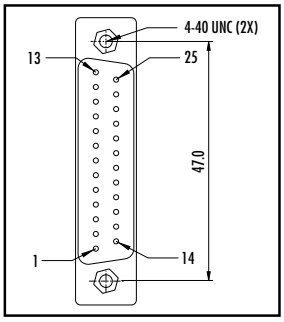
4. ELECTRICAL CONNECTION

-D XX X -X XX	ELECTRICAL CONNECTION
BA	Flying leads
BK	BA with protection diode
BL	BA with protection varistor
CA	1/2" NPS conduit
*FN	Plug-in with diode
*FP	Plug-in with M.O.V.
JB	Rectangular connector
JD	Rectangular connector with light
JM	Rectangular connector, male only
KA	Square connector
KB	Square connector with protection diode
KC	Square connector with protection varistor
KD	Square connector with light
KE	Square connector with light and protection diode
KF	Square connector with light and protection varistor
KJ	Square connector (male only)
KK	Square connector with protection diode (male only)
KL	Square connector with protection varistor (male only)
TA	Dual tabs
TB	TA with protection diode
TD	TA with light
TE	TA with light and protection diode
TJ	Dual tabs (male only)
TK	TJ with protection diode
TM	TJ with light
TN	TJ with light and protection diode

* For use with the ECD and ECE style circuit bars.

Connector SUB_D 25 (option ZZZY = SUBY ; Y = cable length)

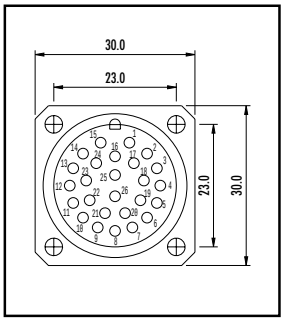




TECHNICAL DATA

- Type «SUB_D»
- Number of contacts : 25
- Solder termination (Dia. 0.6 mm/0.14 mm²/26-22 AWG)
- Operating current 5 A/contact
- Rated voltage 125 V~
- Temp. range –40° to +125°C
- Insulation resistance ≥ 10^{10} Ω
- Protection class IP40 (DIN 40050)
- Number of solenoids : 20 max.
- Max. 24 V=/5.4 W per solenoid
- 5 common wires
- Female plug supplied with circuit bar

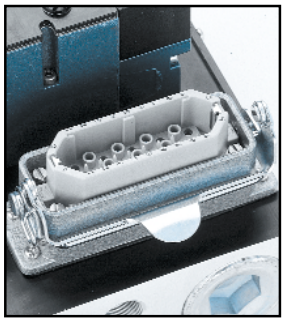
Connector RND (option ZZZY = RNDY ; Y = cable length)

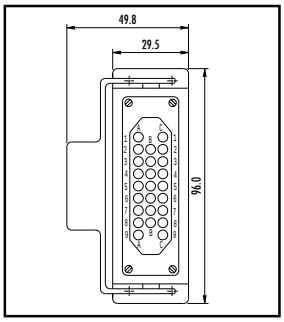


TECHNICAL DATA

- Type «Round connector»
- Number of contacts : 26
- Solder termination (Dia. 1 mm/1 mm²/17 AWG)
- Operating current 7.5 A/contact
- Rated voltage 250 V~
- Insulation resistance ≥ 10^{8} Ω
- Cable entry PG16
- Temp. range –40° to +125°C
- Protection class IP65 (DIN 40050)
- Number of solenoids : 24 max.
- 1 common and 1 ground
- All voltages
- Female plug supplied with circuit bar

Connector HDT (option ZZZY = HDTY ; Y = cable length)

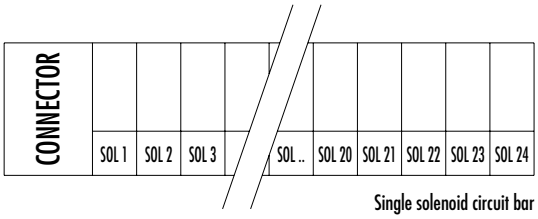




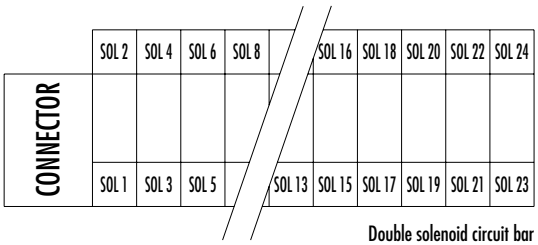
TECHNICAL DATA

- Type «Heavy duty»
- Number of contacts : 25
- Solder termination (Dia. 1.4 mm/0.75 mm²/18 AWG)
- Operating current 10 A/contact
- Rated voltage 250 V~
- Insulation resistance ≥ 10^{10} Ω
- Cable entry PG16
- Temp. range –40° to +125°C
- Protection class IP65 (DIN 40050)
- Number of solenoids : 24 max.
- 1 common and 1 ground
- All voltages
- Female plug supplied with circuit bar

Connector termination details



Single solenoid circuit bar

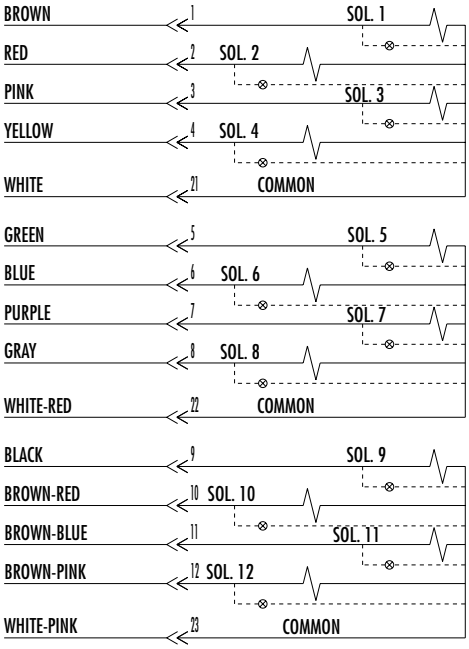


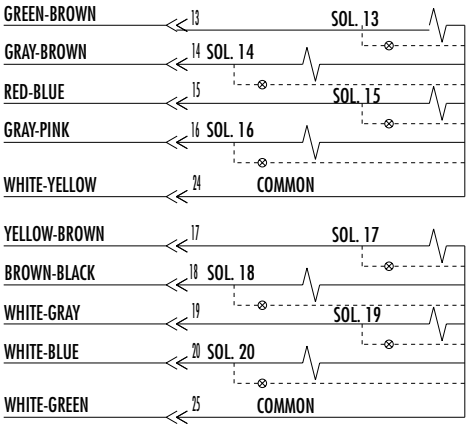
Double solenoid circuit bar

Connector SUB_D25 (option ZZZY = SUBY ; Y = cable length)

TECHNICAL DATA PREWIRED CABLE

- Type : LIYY -0.14 mm²
- Dia. ca. 9.3 mm
- Insulation resistance : 20 MΩ for 1000 meter
- Temp. range -5° to +80°C
- Rated voltage : 250 V~
- PVC core insulation and sheath

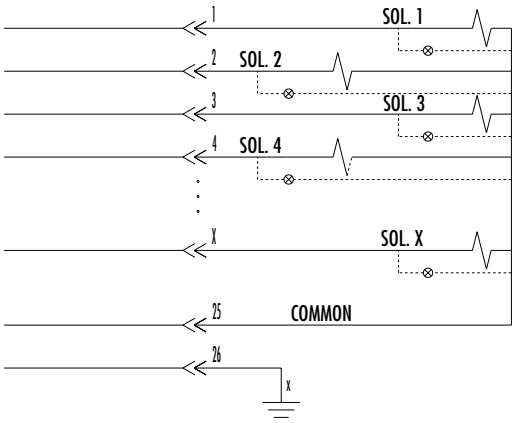




Connector RND [option ZZZY = SNDY ; Y = cable length]

TECHNICAL DATA PREWIRED CABLE

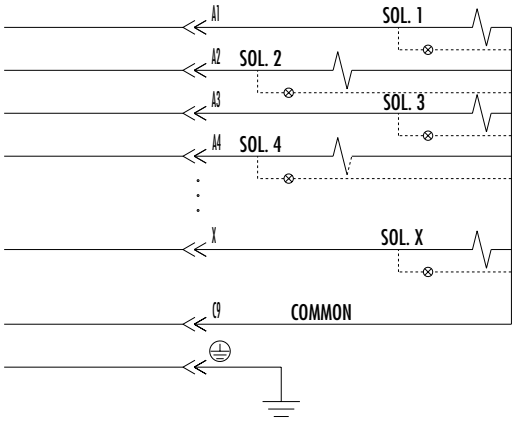
- Type : LIY(C)Y -0.50 mm²
- Dia. ca. 10.8 mm (12 core); 12.9 mm (18 core); 16.0 mm (32 core)
- Insulation resistance : 20 MΩ for 1000 meter
- Temp. range -5° to +80°C
- Rated voltage : 500 V~
- PVC core insulation and sheath
- Tinned copper wire braid



Connector HDT [option ZZZY = HDTY ; Y = cable length]

TECHNICAL DATA PREWIRED CABLE

- Type : LIY(C)Y -0.75 mm²
- Dia. ca. 12.0 mm (12 core); 13.5 mm (18 core); 18.0 mm (32 core)
- Insulation resistance : 20 MΩ for 1000 meter
- Temp. range -5° to +80°C
- Rated voltage : 500 V~
- PVC core insulation and sheath
- Tinned copper wire braid



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 ports are open to the exhaust port(s) of the valve. If having no air in either outlet port 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 ports 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 AND SERVICE PRECAUTIONS :

A. Do not install or service MAC valves without first making sure both the air and electrical power to the machine are off and that all air has been completely bled from the system.

B. MAC valves should only be installed and/or serviced 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 and graphic symbols. Do not install unless these symbols and the valve functions and operations are thoroughly understood.

C. Before service, maintenance, repair or cleaning, consult local distributor or factory for Parts & Operation Sheet and information on proper cleaning and lubrication agents. Do not subject MAC valves' parts to any foreign substance including lubricants and cleaning agents not specifically recommended by MAC valves, Inc.

D. 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 condition.

WARNING :

Under no circumstances are Mac valves to be used in any application where failure of the valve to operate as intended could jeopardize the safety of the operator or any other person.
- Do not operate outside of pressure range listed on valve label or outside of designated temperature range.
- Air supply must be clean. Contamination of valve can affect proper operation.
- Before attempting to repair, adjust or clean valve, consult catalog, parts & operation sheet, or factory for proper maintenance procedures, lubrication, and cleaning agents. Never attempt to repair or perform other maintenance with air pressure to valve.
- If airline lubrication is used, consult catalog, parts & operation sheet, or factory for recommended lubricants.

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.

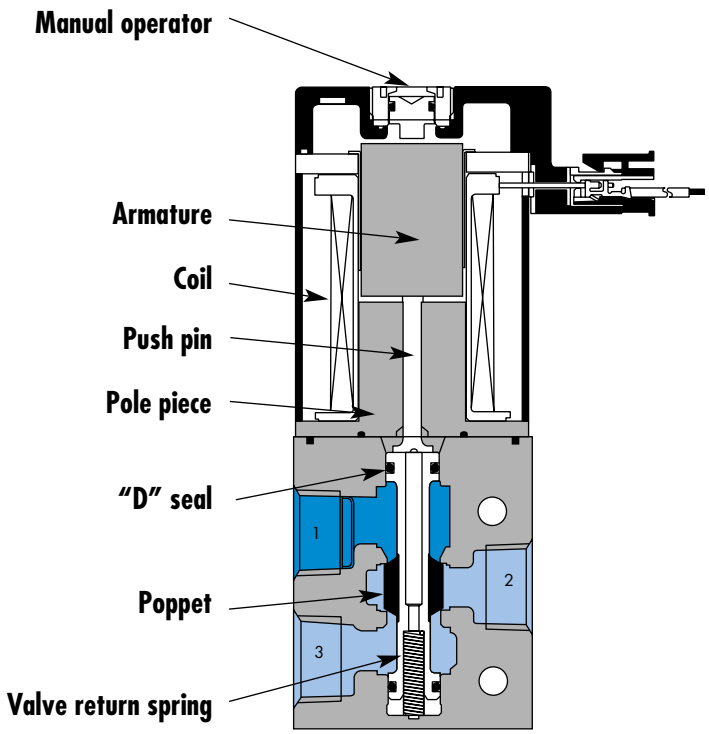
DISCLAIMER OF GUARANTEE

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. The 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.

Circuit bar mounting

non plug-in cylinder ports in valve	non plug-in cylinder ports in base	non plug-in cylinder ports in base with Pr. Reg.	non plug-in add-on style cylinder ports in base	non plug-in add-a-unit stations	plug-in	plug-in with Pr. Reg.	add-on style plug-in
add-on style plug in with Pr. Reg.	plug-in add-a-unit stations	plug-in add-a-unit stations with Pr. Reg.					



SERIES FEATURES

- Balanced poppet equals consistent high shifting forces.
- Valve shifting forces are consistent and independent of pressure fluctuations.
- High solenoid and return spring forces ensure high speed and precise repeatability.
- Built-in wear compensation - valve stroke is shorter than solenoid stroke.
- Constant high flow maintained throughout the pressure range.
- Exhaust contaminants are isolated from the solenoid.
- Full flow exhaust.
- Universal porting - 6 functions in one valve.

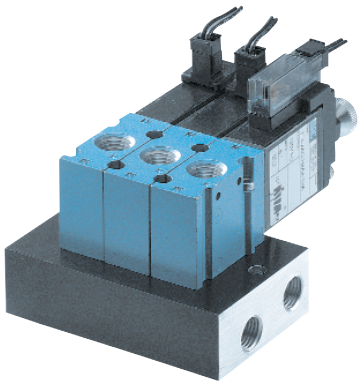
MAC

Series 37

Function	Port size (Inlet & Exhaust)	Flow (Max)	Circuit bar mounting	Profile
3/2 NO-NC	**1/4" - 3/8"**	**0.5C_v**	non plug-in cylinder ports in valve	**26 mm** **38 mm**

OPERATIONAL BENEFITS

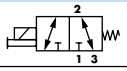
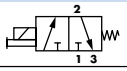
1. Direct solenoid operated valve.
2. Balanced poppet, immune to variations of pressure.
3. Short stroke with high flow.
4. The patented solenoid develops high shifting forces.
5. Powerful return spring.
6. Manual operator standard on all valves.



Reset

HOW TO ORDER 37A-xxx-Hxxx-xxx

HOW TO ORDER VALVE FOR CIRCUIT BAR MOUNTING

Valve port size	Universal valve	NC only valve
		
1/8" NPTF	○ 37A-EGO-H*xxx-xxx*	○ 37A-FGO-H*xxx-xxx*
1/4" NPTF	○ 37A-EHO-H*xxx-xxx*	○ 37A-FHO-H*xxx-xxx*

SOLENOID OPERATOR ➤ H ***XX X- X XX****

XX	Voltage	X	Wire length	X	Manual operator	XX	Electrical connection
○ *DC*	24VDC (1.8 W)	○ *A*	18"	○ *1*	Non-locking	○ *MA*	Plug-in wire assy
○ *DB*	24VDC (2.4 W)	○ *C*	36"			○ *MC*	Plug-in wire assy with light
○ *DA*	24VDC (5.2 W)	○ *x*	Other Options			○ *BA*	Flying leads
○ *AA*	120VAC (must use with rectified connector)					○ *BC*	Flying leads with light
						○ *HA*	Plug-in connector with rectifier and light
○ *xx*	Other Options					○ *xx*	Other Options

HOW TO ORDER CIRCUIT BAR (REGULATORS ORDERED SEPARATELY)**

EBM37A-xxxxx-xx

Port size COMMON INLET & EXHAUST		Without regulators (20mm)	With regulators (20mm)
26mm Profile	**1/4" NPTF**	○ EBM37A-01CAK-*xx*	-
38mm Profile	**3/8" NPTF**	-	○ EBM37A-01JAK-*xx*

Number of stations (03=3 stations) ☐

Note : ☐ clic for valves mounted on base at the factory, add - 9 to the model number.

** Pressure Regulators :

PR37A-GOAx

○ X=A (0 to 120 PSI)
○ X=B (0 to 80 PSI)
○ X=C (0 to 30 PSI)

MAC

Series 37

100% OF PRODUCTION TESTED 100%

WARRANTY 18 MONTHS

TECHNICAL DATA

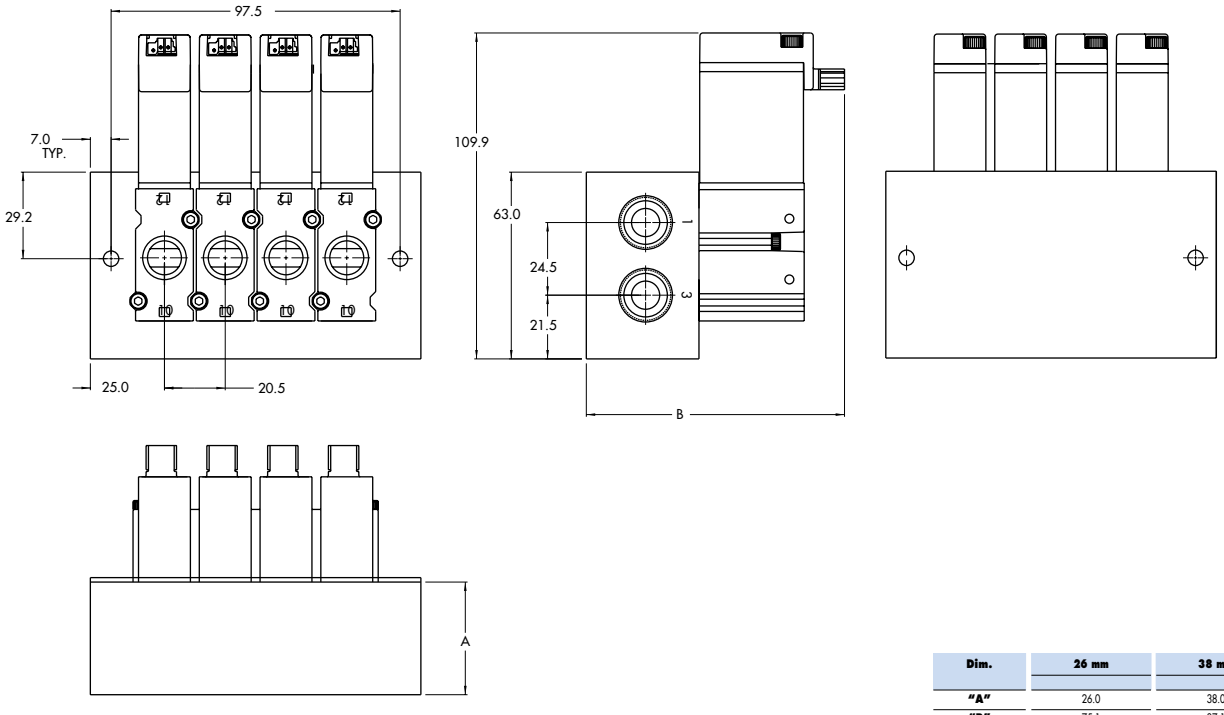
Fluid :	Compressed air, vacuum, inert gases
Pressure range :	Vacuum to 120 PSI
Lubrication :	Not required, if used select a medium aniline point lubricant (between 180°F and 210°F)
Filtration :	40 µ
Temperature range :	0°F to 120°F (-18°C to 50°C)
Orifice :	4.3 mm
Flow (at 6 bar, ΔP=1bar) :	5.2 W : 0.50C_v, 2.4 W : 0.25C_v, 1.8 W : 0.15C_v
Leak rate :	50 cm^3/min
Coil :	General purpose class A, continuous duty, encapsulated
Voltage range :	-15% to +10% of nominal voltage
Power :	5.2 W - 2.4 W - 1.8 W - 1.0 W
Response times :	Energize : 17.0 ms
(with 5.2 W coil)	De-energize : 6.0 ms

Note : • Valve and coil are not interchangeable.

Spare parts : • Seal between valve and bar : 16630. • Mounting screw (x2) : 35043. • Blanking plate : M-37002. • Regulator blanking plate : R-47003.

Options : • Isolation of inlet and/or exhaust. Special bar. Consult factory. • BSPP Threads.

DIMENSIONS



Dim.	26 mm	38 mm
"A"	26.0	38.0
"B"	75.1	87.1

Consult "Precautions" before use, installation or service of MAC Valves.

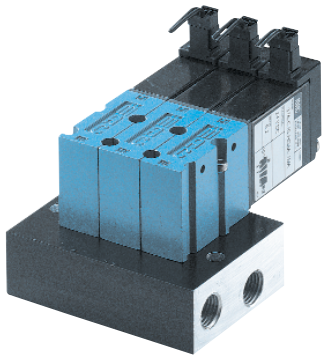
MAC

Series 37

Function	Port size	Flow (Max)	Circuit bar mounting	Profile
3/2 NO-NC	**1/8" - 1/4"** **6 mm tube receptacle**	**0.5C_v**	non plug-in cylinder ports in base	**26 mm**

OPERATIONAL BENEFITS

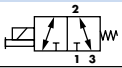
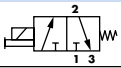
1. Direct solenoid operated valve.
2. Balanced poppet, immune to variations of pressure.
3. Short stroke with high flow.
4. The patented solenoid develops high shifting forces.
5. Powerful return spring.
6. Manual operator standard on all valves.



Reset

HOW TO ORDER 37A-xxx-Hxxx-xxx

HOW TO ORDER VALVE FOR CIRCUIT BAR MOUNTING

Port size (see base)	Universal valve	NC only valve
		
Valve less base	○ 37A-C10-H*xxx-xxx*	○ 37A-D10-H*xxx-xxx*

SOLENOID OPERATOR ➤ H *XX X- X XX**

XX	Voltage	X	Wire length	X	Manual operator	XX	Electrical connection
○ *DC*	24VDC (1.8 W)	○ *A*	18"	○ *1*	Non-locking	○ *MA*	Plug-in wire assy
○ *DB*	24VDC (2.4 W)	○ *C*	36"			○ *MC*	Plug-in wire assy with light
○ *DA*	24VDC (5.2 W)	○ *x*	Other Options			○ *BA*	Flying leads
○ *AA*	120VAC (must use with rectified connector)					○ *BC*	Flying leads with light
						○ *HA*	Plug-in connector with rectifier and light
○ *xx*	Other Options					○ *xx*	Other Options

HOW TO ORDER CIRCUIT BAR EBM37A-00xxx-xx

Port size	Side cylinder ports (18 mm)	Bottom cylinder ports (18 mm)
1/8" NPTF	○ EBM37A-00AAA-*xx*	○ EBM37A-00BAA-*xx*
1/4" NPTF	○ EBM37A-00AAB-*xx*	○ EBM37A-00BAB-*xx*
6 mm tube receptacle	○ EBM37A-00AAG-*xx*	○ EBM37A-00BAG-*xx*

Number of stations (03=3 stations) ☐
Note : ☐ clic for valves mounted on base at the factory, add - 9 to the model number.

MAC

Series 37

100% OF PRODUCTION TESTED 100%

WARRANTY 18 MONTHS

TECHNICAL DATA

Fluid :	Compressed air, vacuum, inert gases
Pressure range :	Vacuum to 120 PSI
Lubrication :	Not required, if used select a medium aniline point lubricant (between 180°F and 210°F)
Filtration :	40 µ
Temperature range :	0°F to 120°F (-18°C to 50°C)
Orifice :	4.3 mm
Flow (at 6 bar, ΔP=1bar) :	5.2 W : 0.50C_v, 2.4 W : 0.25C_v, 1.8 W : 0.15C_v
Leak rate :	50 cm^3/min
Coil :	General purpose class A, continuous duty, encapsulated
Voltage range :	-15% to +10% of nominal voltage
Power :	5.2 W - 2.4 W - 1.8 W - 1.0 W
Response times :	Energize : 17.0 ms
(with 5.2 W coil)	De-energize : 6.0 ms

Note : • Valve and coil are not interchangeable.

Spare parts : • Seal between valve and bar : 16630. • Mounting screw (x2) : 35043. • Blanking plate : M-37001.

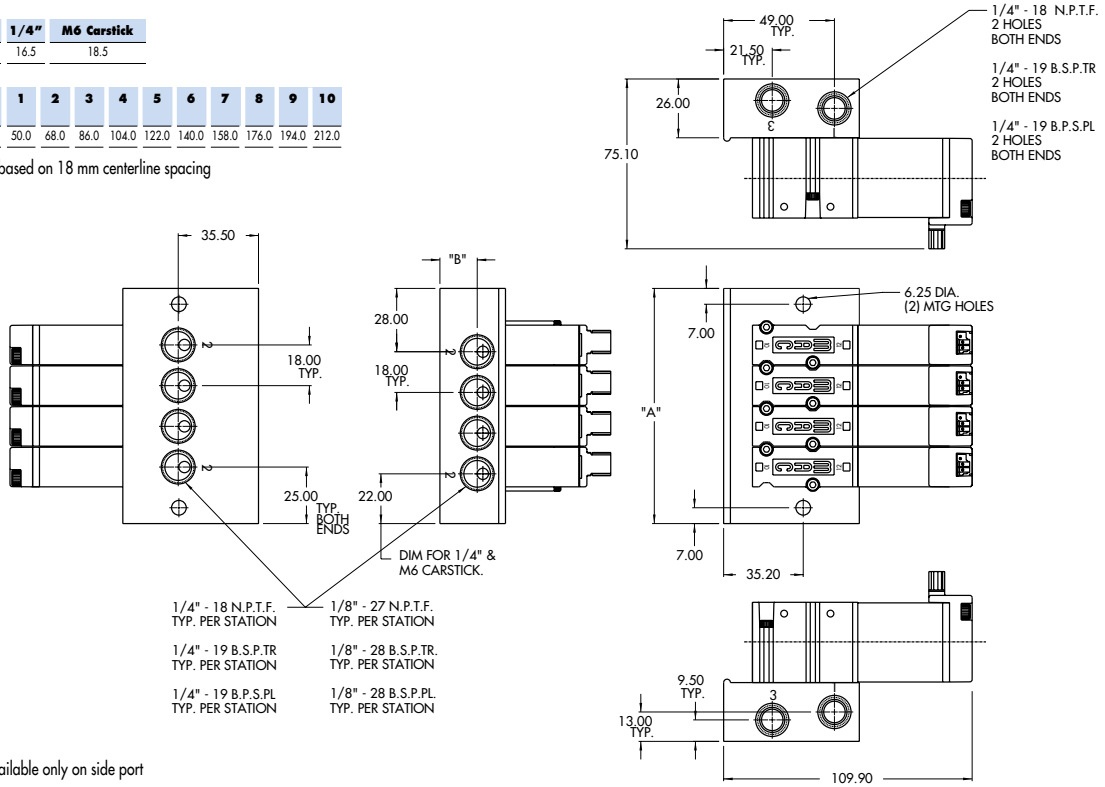
Options : • Isolation of inlet and/or exhaust. Special bar. Consult factory. • BSPP Threads.

DIMENSIONS

Dim.	1/4"	M6 Carstick
"B"	16.5	18.5

Number of stations	1	2	3	4	5	6	7	8	9	10
"A"	50.0	68.0	86.0	104.0	122.0	140.0	158.0	176.0	194.0	212.0

Dimensions are based on 18 mm centerline spacing



* M6 Carstick available only on side port

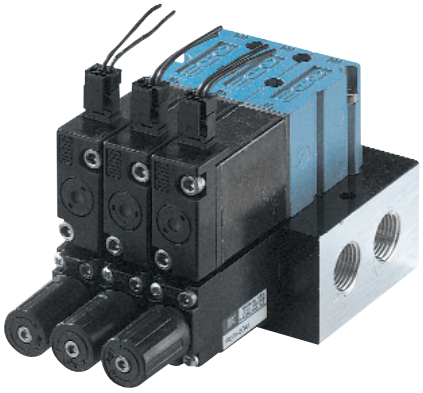
MAC

Series 37

Function	Port size	Flow (Max)	Circuit bar mounting	Profile
3/2 NO-NC	**1/8" - 1/4"** **6 mm tube receptacle**	**0.5C_v**	non plug-in cylinder ports in base with Pr. Reg.	**38 mm**

OPERATIONAL BENEFITS

1. Direct solenoid operated valve.
2. Balanced poppet, immune to variations of pressure.
3. Short stroke with high flow.
4. The patented solenoid develops high shifting forces.
5. Powerful return spring.
6. Manual operator standard on all valves.

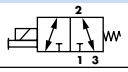
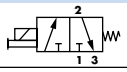


Reset

HOW TO ORDER

37A-xxx-Hxxx-xxx

HOW TO ORDER VALVE FOR CIRCUIT BAR MOUNTING

Port size (see base)	Universal valve 	NC only valve 
Valve less base	○ 37A-C1O-H*xxx-xxx*	○ 37A-D1O-H*xxx-xxx*

SOLENOID OPERATOR ➤ H *XX X- X XX**

Voltage		Wire length		Manual operator		Electrical connection	
○ *DC*	24VDC (1.8 W)	○ *A*	18"	○ *1*	Non-locking	○ *MA*	Plug-in wire assy
○ *DB*	24VDC (2.4 W)	○ *C*	36"			○ *MC*	Plug-in wire assy with light
○ *DA*	24VDC (5.2 W)	○ *x*	Other Options			○ *BA*	Flying leads
○ *AA*	120VAC (must use with rectified connector)					○ *BC*	Flying leads with light
						○ *HA*	Plug-in connector with rectifier and light
○ *xx*	Other Options					○ *xx*	Other Options

HOW TO ORDER CIRCUIT BAR (REGULATORS ORDERED SEPARATELY)**

EBM37A-00xxx-xx

Port size	Side cylinder ports (18 mm)	Bottom cylinder ports (18 mm)
1/8" NPTF	○ EBM37A-00FAA-*xx*	○ EBM37A-00GAA-*xx*
1/4" NPTF	○ EBM37A-00FAB-*xx*	○ EBM37A-00GAB-*xx*
6 mm tube receptacle	○ EBM37A-00FAG-*xx*	○ EBM37A-00GAG-*xx*

Number of stations (03=3 stations) ☐

Note : ☐ clic for valves mounted on base at the factory, add - 9 to the model number.

** Pressure Regulators :

PR37A-GOAx

- ○ X=A (0 to 120 PSI)
- ○ X=B (0 to 80 PSI)
- ○ X=C (0 to 30 PSI)

MAC

Series 37

100% OF PRODUCTION TESTED 100%

WARRANTY 18 MONTHS

TECHNICAL DATA

Fluid :	Compressed air, vacuum, inert gases
Pressure range :	Vacuum to 120 PSI
Lubrication :	Not required, if used select a medium aniline point lubricant (between 180°F and 210°F)
Filtration :	40 µ
Temperature range :	0°F to 120°F (-18°C to 50°C)
Orifice :	4.3 mm
Flow (at 6 bar, ΔP=1bar) :	5.2 W : 0.50C_v, 2.4 W : 0.25C_v, 1.8 W : 0.15C_v
Leak rate :	50 cm^3/min
Coil :	General purpose class A, continuous duty, encapsulated
Voltage range :	-15% to +10% of nominal voltage
Power :	5.2 W - 2.4 W - 1.8 W - 1.0 W
Response times :	Energize : 17.0 ms
(with 5.2 W coil)	De-energize : 6.0 ms

Note : • Valve and coil are not interchangeable.

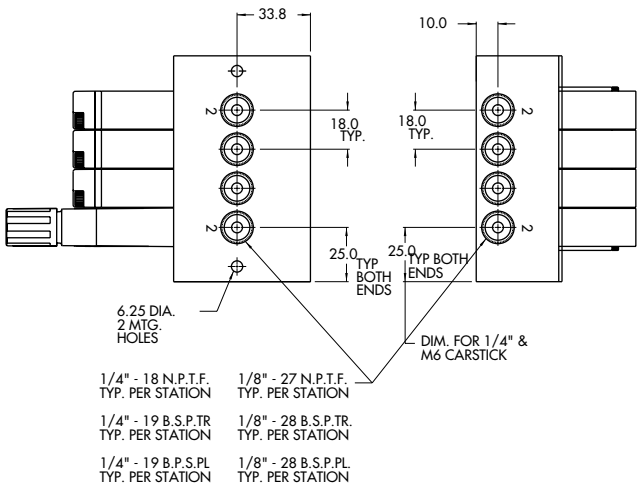
Spare parts : • Seal between valve and bar : 16630. • Mounting screw (x2) : 35043. • Blanking plate : M-37001.
• Regulator blanking plate : R-47003.

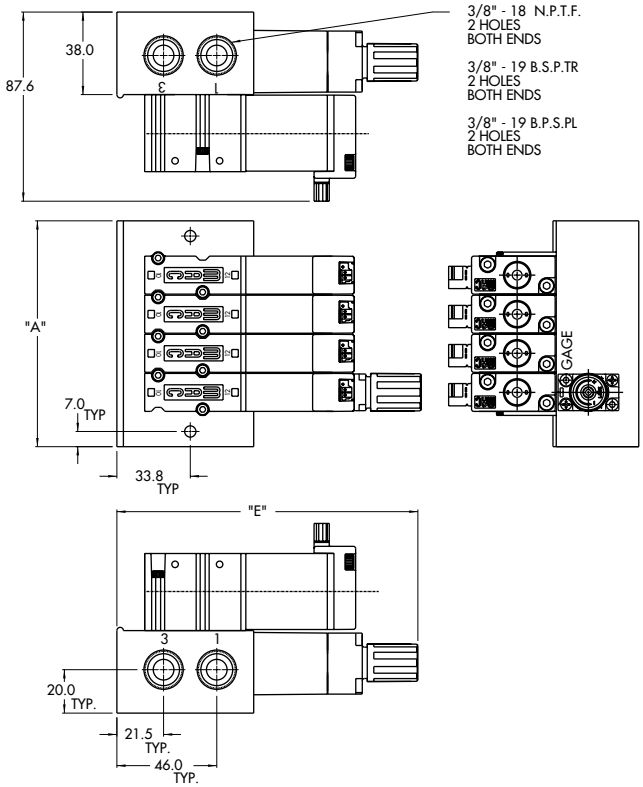
Options : • Isolation of inlet and/or exhaust. Special bar. Consult factory. • BSPP Threads.

DIMENSIONS

Number of stations	2	3	4	5	6	7	8	9	10	11
"A"	63.7	81.7	99.7	117.7	135.7	153.7	171.7	189.7	207.7	225.7

Dimensions are based on 18 mm centerline spacing





Dim.	Regulator with locking adjusting screw	Regulator with adjusting screw	Regulator with adjusting knob
"E"	135.8	131.8	139.6

* M6 Carstick available only on side port

Note: Bottom & side cylinder ports not available on the same station

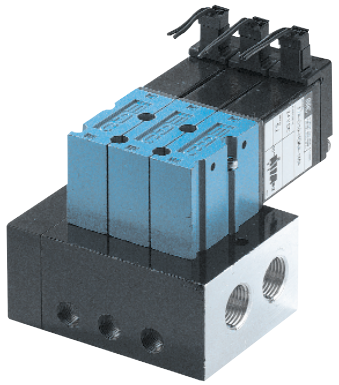
MAC

Series 37

Function	Port size	Flow (Max)	Circuit bar mounting	Profile
3/2 NO-NC	**1/8" - 1/4"** **6 mm tube receptacle**	**0.5C_v**	non plug-in add-on style cylinder ports in base	**38 mm**

OPERATIONAL BENEFITS

1. Direct solenoid operated valve.
2. Balanced poppet, immune to variations of pressure.
3. Short stroke with high flow.
4. The patented solenoid develops high shifting forces.
5. Powerful return spring.
6. Manual operator standard on all valves.

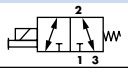
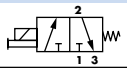


Reset

HOW TO ORDER

37A-xxx-Hxxx-xxx

HOW TO ORDER VALVE FOR CIRCUIT BAR MOUNTING

Port size (see base)	Universal valve 	NC only valve 
Valve less base	○ 37A-C1O-H*xxx-xxx*	○ 37A-D1O-H*xxx-xxx*

SOLENOID OPERATOR ➤ H *XX X- X XX**

Voltage		Wire length		Manual operator		Electrical connection	
○ *DC*	24VDC (1.8 W)	○ *A*	18"	○ *1*	Non-locking	○ *MA*	Plug-in wire assy
○ *DB*	24VDC (2.4 W)	○ *C*	36"			○ *MC*	Plug-in wire assy with light
○ *DA*	24VDC (5.2 W)	○ *x*	Other Options			○ *BA*	Flying leads
○ *AA*	120VAC (must use with rectified connector)					○ *BC*	Flying leads with light
						○ *HA*	Plug-in connector with rectifier and light
○ *xx*	Other Options					○ *xx*	Other Options

HOW TO ORDER CIRCUIT BAR

EBM37A-00xxx-xx

Port size	Side cylinder ports (18 mm)	Bottom cylinder ports (18 mm)
1/8" NPTF	○ EBM37A-00DBA-*xx*	○ EBM37A-00EBA-*xx*
1/4" NPTF	○ EBM37A-00DBB-*xx*	○ EBM37A-00EBB-*xx*
6 mm tube receptacle	○ EBM37A-00DBG-*xx*	○ EBM37A-00EBG-*xx*

Number of stations (03=3 stations) ☐

Note : ☐ clic for valves mounted on base at the factory, add - 9 to the model number.
add-a-unit stations may be added to above bars. Clic here for model numbers.

Series 37

100% OF PRODUCTION TESTED 100%

WARRANTY 18 MONTHS

TECHNICAL DATA

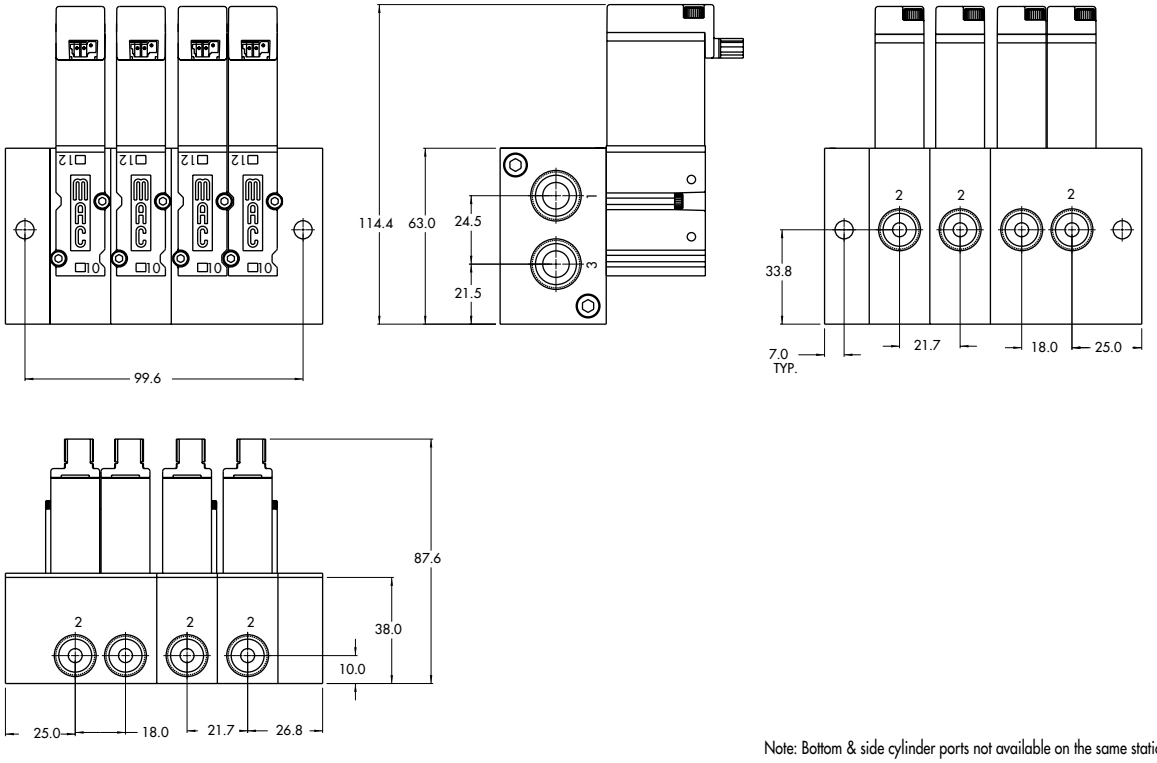
Fluid :	Compressed air, vacuum, inert gases
Pressure range :	Vacuum to 120 PSI
Lubrication :	Not required, if used select a medium aniline point lubricant (between 180°F and 210°F)
Filtration :	40 µ
Temperature range :	0°F to 120°F (-18°C to 50°C)
Orifice :	4.3 mm
Flow (at 6 bar, ΔP=1bar) :	5.2 W : 0.50C_v, 2.4 W : 0.25C_v, 1.8 W : 0.15C_v
Leak rate :	50 cm^3/min
Coil :	General purpose class A, continuous duty, encapsulated
Voltage range :	-15% to +10% of nominal voltage
Power :	5.2 W - 2.4 W - 1.8 W - 1.0 W
Response times :	Energize : 17.0 ms
(with 5.2 W coil)	De-energize : 6.0 ms

Note : • Valve and coil are not interchangeable.

Spare parts : • Seal between valve and bar : 16630. • Mounting screw (x2) : 35043. • Blanking plate : M-37001. • End plate Kit : M-37005-0

Options : • Isolation of inlet and/or exhaust. Special bar. Consult factory. • BSPP Threads.

DIMENSIONS



Note: Bottom & side cylinder ports not available on the same station

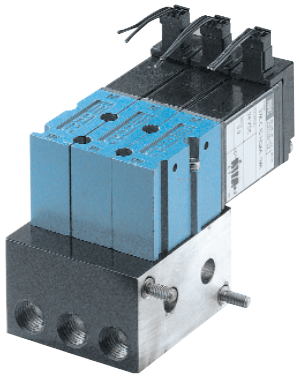
MAC

Series 37

Function	Port size	Flow (Max)	Circuit bar mounting	Profile
3/2 NO-NC	**1/8" - 1/4"** **6 mm tube receptacle**	**0.5C_V**	non plug-in add-a-unit stations	**38 mm**

OPERATIONAL BENEFITS

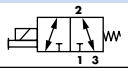
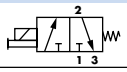
1. Direct solenoid operated valve.
2. Balanced poppet, immune to variations of pressure.
3. Short stroke with high flow.
4. The patented solenoid develops high shifting forces.
5. Powerful return spring.
6. Manual operator standard on all valves.



Reset

HOW TO ORDER **37A-xxx-Hxxx-xxx**

HOW TO ORDER VALVE FOR CIRCUIT BAR MOUNTING

Port size (see base)	Universal valve	NC only valve
		
Valve less base	○ 37A-C1O-H*xxx-xxx*	○ 37A-D1O-H*xxx-xxx*

SOLENOID OPERATOR ➤ H *XX X- X XX**

Voltage		Wire length		Manual operator		Electrical connection	
○ *DC*	24VDC (1.8 W)	○ *A*	18"	○ *1*	Non-locking	○ *MA*	Plug-in wire assy
○ *DB*	24VDC (2.4 W)	○ *C*	36"			○ *MC*	Plug-in wire assy with light
○ *DA*	24VDC (5.2 W)	○ *x*	Other Options			○ *BA*	Flying leads
○ *AA*	120VAC (must use with rectified connector)					○ *BC*	Flying leads with light
						○ *HA*	Plug-in connector with rectifier and light
○ *xx*	Other Options					○ *xx*	Other Options

HOW TO ORDER CIRCUIT BAR **EBM37A-00xxx-xx**

Port size	Side cylinder ports (18 mm)	Bottom cylinder ports (18 mm)
1/8" NPTF	○ EBM37A-00DCA-*xx*	○ EBM37A-00ECA-*xx*
1/4" NPTF	○ EBM37A-00DCB-*xx*	○ EBM37A-00ECB-*xx*
6 mm tube receptacle	○ EBM37A-00DCG-*xx*	○ EBM37A-00ECG-*xx*

Number of stations (01, 02, 03 or 04) ☐

Note : ☐ clic for valves mounted on base at the factory, add - 9 to the model number.

Series 37

100% OF PRODUCTION TESTED 100%

WARRANTY 18 MONTHS

TECHNICAL DATA

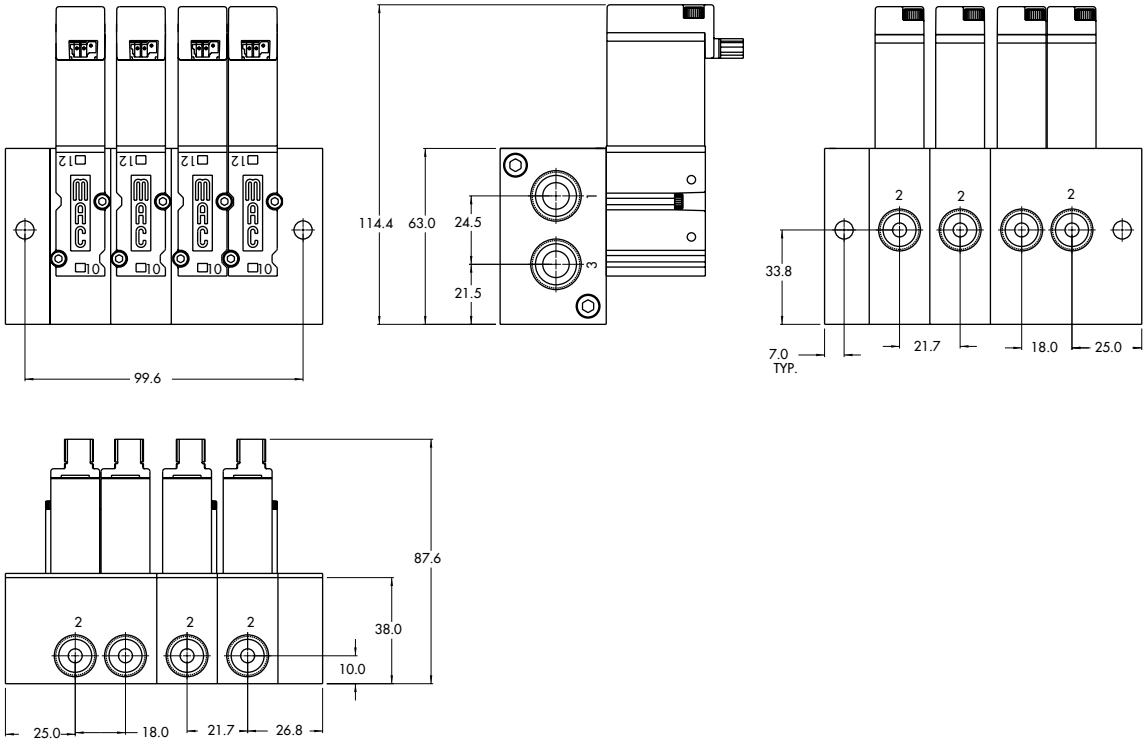
Fluid :	Compressed air, vacuum, inert gases
Pressure range :	Vacuum to 120 PSI
Lubrication :	Not required, if used select a medium aniline point lubricant (between 180°F and 210°F)
Filtration :	40 µ
Temperature range :	0°F to 120°F (-18°C to 50°C)
Orifice :	4.3 mm
Flow (at 6 bar, ΔP=1bar) :	5.2 W : 0.50C_v, 2.4 W : 0.25C_v, 1.8 W : 0.15C_v
Leak rate :	50 cm^3/min
Coil :	General purpose class A, continuous duty, encapsulated
Voltage range :	-15% to +10% of nominal voltage
Power :	5.2 W - 2.4 W - 1.8 W - 1.0 W
Response times :	Energize : 17.0 ms
(with 5.2 W coil)	De-energize : 6.0 ms

Note : • Valve and coil are not interchangeable.

Spare parts : • Seal between valve and bar : 16630. • Mounting screw (x2) : 35043. • Blanking plate : M-37001.
• O-ring port seal (x2) : 17015-01. • Tie rod (x2) : 79007-01 (one station length)

Options : • Isolation of inlet and/or exhaust. Special bar. Consult factory. • BSPP Threads.

DIMENSIONS



Note: Bottom & side cylinder ports not available on the same station

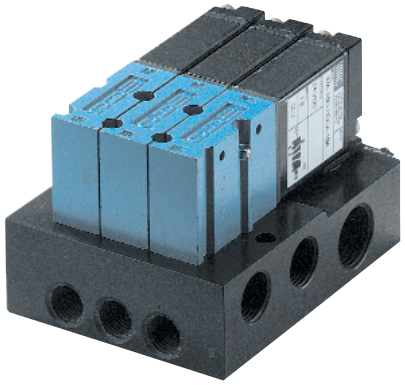
MAC

Series 37

Function	Port size	Flow (Max)	Circuit bar mounting	Profile
3/2 NO-NC	**1/8" - 1/4"** **6 mm tube receptacle**	**0.5C_v**	plug-in	**32.5 mm**

OPERATIONAL BENEFITS

1. Direct solenoid operated valve.
2. Balanced poppet, immune to variations of pressure.
3. Short stroke with high flow.
4. The patented solenoid develops high shifting forces.
5. Powerful return spring.
6. Manual operator standard on all valves.

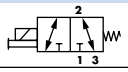
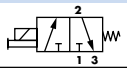


Reset

HOW TO ORDER

37A-xxx-HxxP-xxx

HOW TO ORDER VALVE FOR CIRCUIT BAR MOUNTING

Port size (see base)	Universal valve	NC only valve
		
Valve less base	○ 37A-C1O-H*xx*P-*xxx*	○ 37A-D1O-H*xx*P-*xxx*

SOLENOID OPERATOR ➤ H *XX* P- *X XX**

XX	Voltage
○ *DC*	24VDC (1.8 W)
○ *DB*	24VDC (2.4 W)
○ *DA*	24VDC (5.2 W)
○ *AA*	120VAC (Mod. No. required see below)
○ *xx*	Other Options

X	Manual operator
○ *1*	Non-locking

XX	Electrical connection
○ *FA*	Plug-in
○ *FC*	Plug-in with light
○ *FE*	Plug-in with suppression diode
○ *FG*	Plug-in with suppression diode with LED light
○ *xx*	Other Options

HOW TO ORDER "PLUG-IN" CIRCUIT BAR** ECD37A-xxxxx-xxxx

Port size	Spacing mm	Side cylinder ports	Bottom cylinder ports
1/8" NPTF	18	○ ECD37A-00AAA-A0*xx*	○ ECD37A-00BAA-A0*xx*
1/4" NPTF	18	○ ECD37A-00AAB-A0*xx*	○ ECD37A-00BAB-A0*xx*
6 mm tube receptacle	18	○ ECD37A-00AAG-A0*xx*	○ ECD37A-00BAG-A0*xx*
1/8" NPTF	30	○ ECD37A-01AAA-C0*xx*	○ ECD37A-01BAA-C0*xx*
1/4" NPTF	30	○ ECD37A-01AAB-C0*xx*	○ ECD37A-01BAB-C0*xx*
6 mm tube receptacle	30	○ ECD37A-01AAG-C0*xx*	○ ECD37A-01BAG-C0*xx*

Number of stations (03=3 stations) ☐

Note : ☐ clic for valves mounted on base at the factory, add - 9 to the model number.
clic for multi-pin connector (9, 15 or 25).
for AC voltage use mod. FWR2 after circuit bar model number.

○ A0 = without light
○ AA = with light (120V)
○ AB = with light (240V)
○ AD = with light (24V)
○ C0 = terminal strip

Series 37

100% OF PRODUCTION TESTED 100%

WARRANTY 18 MONTHS

TECHNICAL DATA

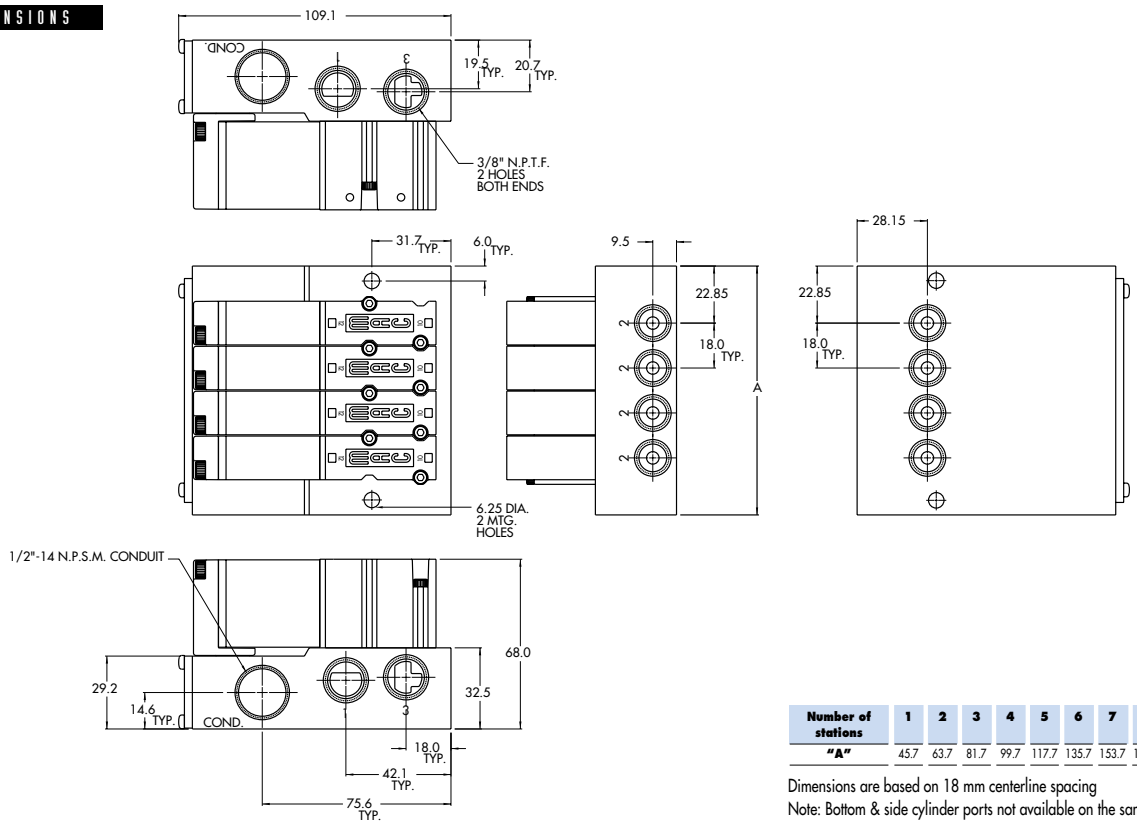
Fluid :	Compressed air, vacuum, inert gases
Pressure range :	Vacuum to 120 PSI
Lubrication :	Not required, if used select a medium aniline point lubricant (between 180°F and 210°F)
Filtration :	40 µ
Temperature range :	0°F to 120°F (-18°C to 50°C)
Orifice :	4.3 mm
Flow (at 6 bar, ΔP=1bar) :	5.2 W : 0.50C_v, 2.4 W : 0.25C_v, 1.8 W : 0.15C_v
Leak rate :	50 cm^3/min
Coil :	General purpose class A, continuous duty, encapsulated
Voltage range :	-15% to +10% of nominal voltage
Power :	5.2 W - 2.4 W - 1.8 W - 1.0 W
Response times :	Energize : 17.0 ms
(with 5.2 W coil)	De-energize : 6.0 ms

Note : • Valve and coil are not interchangeable.

Spare parts : • Seal between valve and bar : 16630. • Mounting screw (x2) : 35043. • Blanking plate : M-37001.
• Base wire plug-in protector : 16520.

Options : • Isolation of inlet and/or exhaust. Special bar. Consult factory. • BSPP Threads.

DIMENSIONS



Number of stations	1	2	3	4	5	6	7	8	9	10
"A"	45.7	63.7	81.7	99.7	117.7	135.7	153.7	171.7	189.7	207.7

Dimensions are based on 18 mm centerline spacing
Note: Bottom & side cylinder ports not available on the same station

Consult "Precautions" before use, installation or service of MAC Valves.

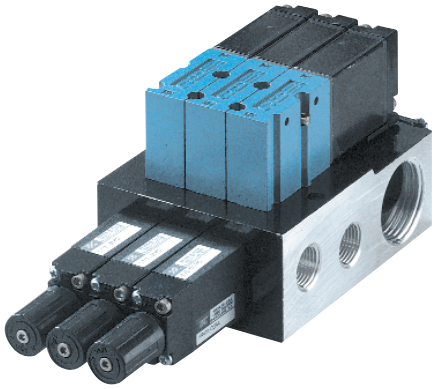
MAC

Series 37

Function	Port size	Flow (Max)	Circuit bar mounting	Profile
3/2 NO-NC	**1/8" - 1/4"**	**0.5C_v**	plug-in with Pr. Reg.	**44 mm**

OPERATIONAL BENEFITS

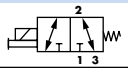
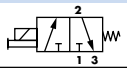
1. Direct solenoid operated valve.
2. Balanced poppet, immune to variations of pressure.
3. Short stroke with high flow.
4. The patented solenoid develops high shifting forces.
5. Powerful return spring.
6. Manual operator standard on all valves.



Reset

HOW TO ORDER **37A-xxx-HxxP-xxx**

HOW TO ORDER VALVE FOR CIRCUIT BAR MOUNTING

Port size (see base)	Universal valve 	NC only valve 
Valve less base	○ 37A-C1O-H*xx*P-*xxx*	○ 37A-D1O-H*xx*P-*xxx*

SOLENOID OPERATOR ➤ H *XX* P- *X XX**

XX	Voltage
○ *DC*	24VDC (1.8 W)
○ *DB*	24VDC (2.4 W)
○ *DA*	24VDC (5.2 W)
○ *AA*	120VAC (Mod. No. required see below)
○ *xx*	Other Options

X	Manual operator
○ *1*	Non-locking

XX	Electrical connection
○ *FA*	Plug-in
○ *FC*	Plug-in with light
○ *FE*	Plug-in with suppression diode
○ *FG*	Plug-in with suppression diode with LED light
○ *xx*	Other Options

HOW TO ORDER "PLUG-IN" CIRCUIT BAR (REGULATORS ORDERED SEPARATELY)** ECD37A-xxxxx-xxxx

Port size	Spacing mm	Bottom cylinder ports
1/8" NPTF	18	○ ECD37A-00CDA-A0*xx*
1/4" NPTF	18	○ ECD37A-00CDB-A0*xx*
1/8" NPTF	30	○ ECD37A-01CDA-C0*xx*
1/4" NPTF	30	○ ECD37A-01CDB-C0*xx*

Number of stations (03=3 stations) ☐
** Other options available, consult factory.
Note : ☐ clic for valves mounted on base at the factory, add - 9 to the model number.
clic for multi-pin connector (9, 15 or 25).
for AC voltage use mod. FWR2 after circuit bar model number.

** Pressure Regulators : PR37A-GOAx
○ X=A (0 to 120 PSI)
○ X=B (0 to 80 PSI)
○ X=C (0 to 30 PSI)

○ A0 = without light
○ AA = with light (120V)
○ AB = with light (240V)
○ AD = with light (24V)
○ C0 = terminal strip
○ CA = terminal strip with light (120V)
○ CB = terminal strip with light (240V)
○ CD = terminal strip with light (24V)

MAC

Series 37

100% OF PRODUCTION TESTED 100%

WARRANTY 18 MONTHS

TECHNICAL DATA

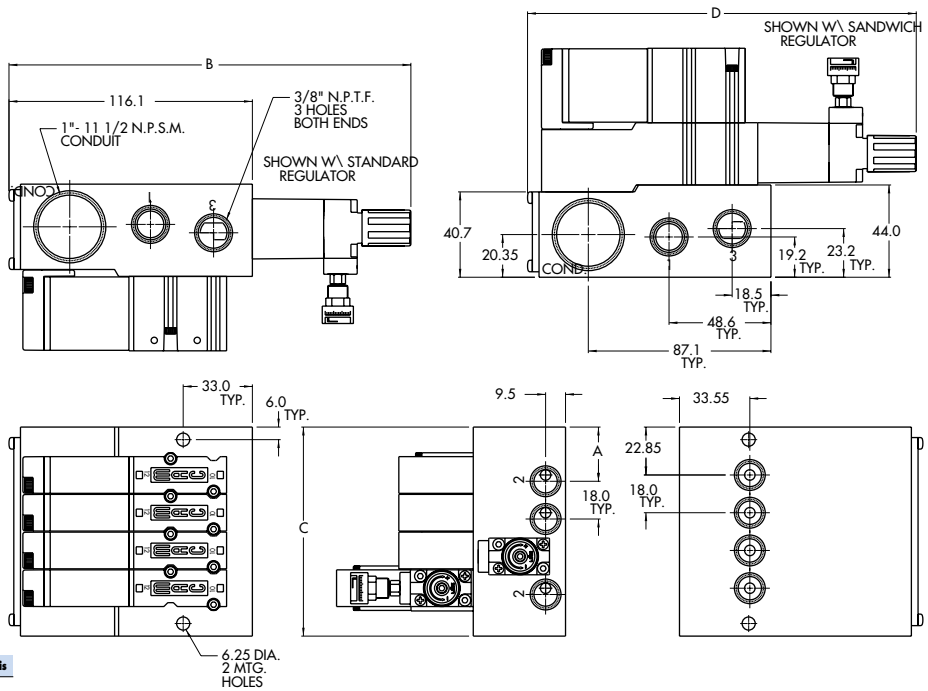
Fluid :	Compressed air, vacuum, inert gases
Pressure range :	Vacuum to 120 PSI
Lubrication :	Not required, if used select a medium aniline point lubricant (between 180°F and 210°F)
Filtration :	40 µ
Temperature range :	0°F to 120°F (-18°C to 50°C)
Orifice :	4.3 mm
Flow (at 6 bar, ΔP=1bar) :	5.2 W : 0.50C_v, 2.4 W : 0.25C_v, 1.8 W : 0.15C_v
Leak rate :	50 cm^3/min
Coil :	General purpose class A, continuous duty, encapsulated
Voltage range :	-15% to +10% of nominal voltage
Power :	5.2 W - 2.4 W - 1.8 W - 1.0 W
Response times :	Energize : 17.0 ms
(with 5.2 W coil)	De-energize : 6.0 ms

Note : • Valve and coil are not interchangeable.

Spare parts : • Seal between valve and bar : 16630. • Mounting screw (x2) : 35043. • Blanking plate : M-37001.
• Base wire plug-in protector : 16520. • Regulator blanking plate : R-47003.

Options : • Isolation of inlet and/or exhaust. Special bar. Consult factory. • BSPP Threads.

DIMENSIONS



Dim.	1/4"	1/8"	6 mm Legris
"A"	25.85	25.85	22.85

Dim.	Regulator with locking adjusting screw	Regulator with adjusting screw	Regulator with adjusting knob
"B"	188.8	184.7	191.7
"D"	182.5	178.4	185.4

Number of stations	1	2	3	4	5	6	7	8	9	10
"C"	45.7	63.7	81.7	99.7	117.7	135.7	153.7	171.7	189.7	207.7

Dimensions are based on 18 mm centerline spacing
Note: Bottom & side cylinder ports not available on the same station

MAC

Series 37

Function	Port size	Flow (Max)	Circuit bar mounting	Profile
3/2 NO-NC	**1/8" - 1/4"** **6 mm tube receptacle**	**0.5C_v**	add-on style plug-in	**44 mm**

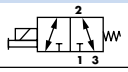
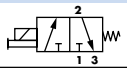
OPERATIONAL BENEFITS

1. Direct solenoid operated valve.
2. Balanced poppet, immune to variations of pressure.
3. Short stroke with high flow.
4. The patented solenoid develops high shifting forces.
5. Powerful return spring.
6. Manual operator standard on all valves.

Reset

HOW TO ORDER 37A-xxx-HxxP-xxx

HOW TO ORDER VALVE FOR CIRCUIT BAR MOUNTING

Port size (see base)	Universal valve	NC only valve
		
Valve less base	○ 37A-C1O-H*xx*P-*xxx*	○ 37A-D1O-H*xx*P-*xxx*

SOLENOID OPERATOR ➤ H *XX* P- *X* *XX**

XX	Voltage
○ *DC*	24VDC (1.8 W)
○ *DB*	24VDC (2.4 W)
○ *DA*	24VDC (5.2 W)
○ *AA*	120VAC (Mod. No. required see below)
○ *xx*	Other Options

X	Manual operator
○ *1*	Non-locking

XX	Electrical connection
○ *FA*	Plug-in
○ *FC*	Plug-in with light
○ *FE*	Plug-in with suppression diode
○ *FG*	Plug-in with suppression diode with LED light
○ *xx*	Other Options

HOW TO ORDER "PLUG-IN" CIRCUIT BAR** ECD37A-xxxxx-xxxx

Port size	Spacing mm	Side cylinder ports	Bottom cylinder ports
1/8" NPTF	18	○ ECD37A-00AEA-A0*xx*	○ ECD37A-00BEA-A0*xx*
1/4" NPTF	18	○ ECD37A-00AEB-A0*xx*	○ ECD37A-00BEB-A0*xx*
6 mm tube receptacle	18	○ ECD37A-00AEG-A0*xx*	○ ECD37A-00BEG-A0*xx*
1/8" NPTF	30	○ ECD37A-01AEA-C0*xx*	○ ECD37A-01BEA-C0*xx*
1/4" NPTF	30	○ ECD37A-01AEB-C0*xx*	○ ECD37A-01BEB-C0*xx*
6 mm tube receptacle	30	○ ECD37A-01AEG-C0*xx*	○ ECD37A-01BEG-C0*xx*

Number of stations (03=3 stations) ☐
** Other options available, consult factory.
Note : ☐ clic for valves mounted on base at the factory, add - 9 to the model number.
clic for multi-pin connector (9, 15 or 25).
for AC voltage use mod. FWR2 after circuit bar model number.
add-a-unit stations may be added to above bars. Clic here for model numbers.

○ A0 = without light
○ AA = with light (120V)
○ AB = with light (240V)
○ AD = with light (24V)
○ C0 = terminal strip
○ CA = terminal strip with light (120V)
○ CB = terminal strip with light (240V)
○ CD = terminal strip with light (24V)

Menu

MAC

Series 37

100% OF PRODUCTION TESTED 100%

WARRANTY 18 MONTHS

TECHNICAL DATA

Fluid :	Compressed air, vacuum, inert gases
Pressure range :	Vacuum to 120 PSI
Lubrication :	Not required, if used select a medium aniline point lubricant (between 180°F and 210°F)
Filtration :	40 µ
Temperature range :	0°F to 120°F (-18°C to 50°C)
Orifice :	4.3 mm
Flow (at 6 bar, ΔP=1bar) :	5.2 W : 0.50C_v, 2.4 W : 0.25C_v, 1.8 W : 0.15C_v
Leak rate :	50 cm^3/min
Coil :	General purpose class A, continuous duty, encapsulated
Voltage range :	-15% to +10% of nominal voltage
Power :	5.2 W - 2.4 W - 1.8 W - 1.0 W
Response times :	Energize : 17.0 ms
(with 5.2 W coil)	De-energize : 6.0 ms

Note : • Valve and coil are not interchangeable.

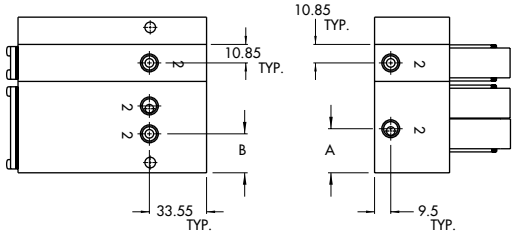
Spare parts : • Seal between valve and bar : 16630. • Mounting screw (x2) : 35043. • Blanking plate : M-37001. • End plate kit : M-37003-01
• Base wire plug-in protector : 16520. • Isolator disc between add-a-units : 28438.

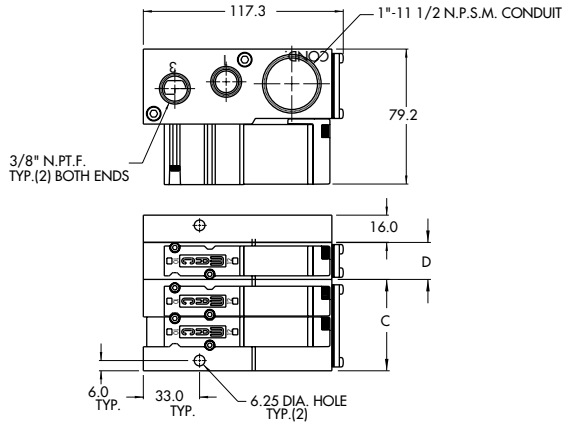
Options : • Isolation of inlet and/or exhaust. Special bar. Consult factory. • BSPP Threads.

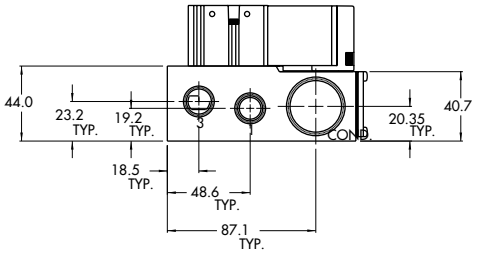
DIMENSIONS

Number of stations	1	2	3	4	5	6	7	8	9	10
"C" w/regulator	-	53.6	71.6	89.6	107.6	125.6	143.6	161.6	179.6	197.6
"C" w/o regulator	-	51.85	69.85	87.85	105.85	123.85	141.85	159.85	177.85	195.85
"D"	21.7	39.7	57.7	75.7	-	-	-	-	-	-

Dimensions are based on 18 mm centerline spacing
Note: Bottom & side cylinder ports not available on the same station







Dim.	1/8"	1/4"	6 mm Legris	1/8" w/regulator	1/4" w/regulator
"A"	22.65	24.20	22.85	-	-
"B"	22.85	22.85	25.85	21.20	22.60

Consult "Precautions" before use, installation or service of MAC Valves.

MAC

Series 37

Function	Port size	Flow (Max)	Circuit bar mounting	Profile
3/2 NO-NC	**1/8" - 1/4"**	**0.5C_v**	add-on style plug in with Pr. Reg.	**44 mm**

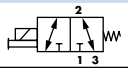
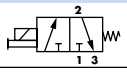
OPERATIONAL BENEFITS

1. Direct solenoid operated valve.
2. Balanced poppet, immune to variations of pressure.
3. Short stroke with high flow.
4. The patented solenoid develops high shifting forces.
5. Powerful return spring.
6. Manual operator standard on all valves.

Reset

HOW TO ORDER 37A-xxx-HxxP-xxx

HOW TO ORDER VALVE FOR CIRCUIT BAR MOUNTING

Port size (see base)	Universal valve	NC only valve
		
Valve less base	○ 37A-C1O-H*xx*P-*xxx*	○ 37A-D1O-H*xx*P-*xxx*

SOLENOID OPERATOR ➤ H *XX* P- *X XX**

XX	Voltage
○ *DC*	24VDC (1.8 W)
○ *DB*	24VDC (2.4 W)
○ *DA*	24VDC (5.2 W)
○ *AA*	120VAC (Mod. No. required see below)
○ *xx*	Other Options

X	Manual operator
○ *1*	Non-locking

XX	Electrical connection
○ *FA*	Plug-in
○ *FC*	Plug-in with light
○ *FE*	Plug-in with suppression diode
○ *FG*	Plug-in with suppression diode with LED light
○ *xx*	Other Options

HOW TO ORDER "PLUG-IN" CIRCUIT BAR (REGULATORS ORDERED SEPARATELY)** ECD37A-xxxxx-xxxx

Port size	Spacing mm	Bottom cylinder ports
1/8" NPTF	18	○ ECD37A-00CEA-A0*xx*
1/4" NPTF	18	○ ECD37A-00CEB-A0*xx*
1/8" NPTF	30	○ ECD37A-01CEA-C0*xx*
1/4" NPTF	30	○ ECD37A-01CEB-C0*xx*

Number of stations (03=3 stations) ☐
** Other options available, consult factory.
Note : ☐ clic for valves mounted on base at the factory, add - 9 to the model number.
clic for multi-pin connector (9, 15 or 25).
for AC voltage use mod. FWR2 after circuit bar model number.
add-a-unit stations may be added to above bars. Clic here for model numbers.

** Pressure Regulators : PR37A-GOAx
○ X=A (0 to 120 PSI)
○ X=B (0 to 80 PSI)
○ X=C (0 to 30 PSI)

○ A0 = without light
○ AA = with light (120V)
○ AB = with light (240V)
○ AD = with light (24V)
○ C0 = terminal strip
○ CA = terminal strip with light (120V)
○ CB = terminal strip with light (240V)
○ CD = terminal strip with light (24V)

MAC

Series 37

100% OF PRODUCTION TESTED 100%

WARRANTY 18 MONTHS

TECHNICAL DATA

Fluid :	Compressed air, vacuum, inert gases
Pressure range :	Vacuum to 120 PSI
Lubrication :	Not required, if used select a medium aniline point lubricant (between 180°F and 210°F)
Filtration :	40 µ
Temperature range :	0°F to 120°F (-18°C to 50°C)
Orifice :	4.3 mm
Flow (at 6 bar, ΔP=1bar) :	5.2 W : 0.50C_v, 2.4 W : 0.25C_v, 1.8 W : 0.15C_v
Leak rate :	50 cm^3/min
Coil :	General purpose class A, continuous duty, encapsulated
Voltage range :	-15% to +10% of nominal voltage
Power :	5.2 W - 2.4 W - 1.8 W - 1.0 W
Response times :	Energize : 17.0 ms
(with 5.2 W coil)	De-energize : 6.0 ms

Note : • Valve and coil are not interchangeable.

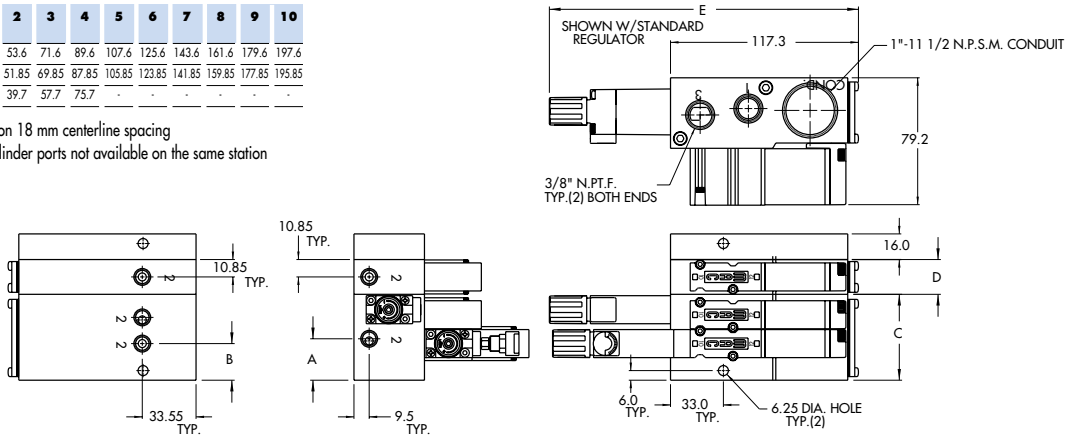
Spare parts : • Seal between valve and bar : 16630. • Mounting screw (x2) : 35043. • Blanking plate : M-37001. • End plate kit : M-37003-01
• Base wire plug-in protector : 16520. • Isolator disc between add-a-units : 28438.

Options : • Isolation of inlet and/or exhaust. Special bar. Consult factory. • BSPP Threads.

DIMENSIONS

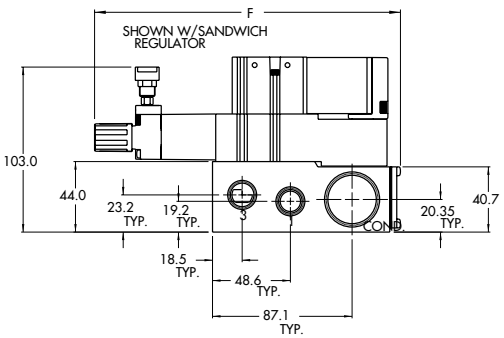
Number of stations	1	2	3	4	5	6	7	8	9	10
"C" w/regulator	-	53.6	71.6	89.6	107.6	125.6	143.6	161.6	179.6	197.6
"C" w/o regulator	-	51.85	69.85	87.85	105.85	123.85	141.85	159.85	177.85	195.85
"D"	21.7	39.7	57.7	75.7	-	-	-	-	-	-

Dimensions are based on 18 mm centerline spacing
Note: Bottom & side cylinder ports not available on the same station



Dim.	1/8"	1/4"	6 mm Legris	1/8" w/regulator	1/4" w/regulator
"A"	22.65	24.20	22.85	-	-
"B"	22.85	22.85	25.85	21.20	22.60

Dim.	Regulator with locking adjusting screw	Regulator with adjusting screw	Regulator with adjusting knob
"E"	188.8	184.7	191.7
"F"	182.5	178.4	185.4



Consult "Precautions" before use, installation or service of MAC Valves.

MAC

Series 37

Function	Port size	Flow (Max)	Circuit bar mounting	Profile
3/2 NO-NC	**1/8" - 1/4"** **6 mm tube receptacle**	**0.5C_v**	plug-in add-a-unit stations	**44 mm**

OPERATIONAL BENEFITS

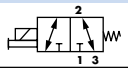
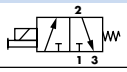
1. Direct solenoid operated valve.
2. Balanced poppet, immune to variations of pressure.
3. Short stroke with high flow.
4. The patented solenoid develops high shifting forces.
5. Powerful return spring.
6. Manual operator standard on all valves.

Reset

HOW TO ORDER

37A-xxx-HxxP-xxx

HOW TO ORDER VALVE FOR CIRCUIT BAR MOUNTING

Port size (see base)	Universal valve	NC only valve
		
Valve less base	○ 37A-C1O-H*xx*P-*xxx*	○ 37A-D1O-H*xx*P-*xxx*

SOLENOID OPERATOR ➤ H *XX* P- *X XX**

XX	Voltage
○ *DC*	24VDC (1.8 W)
○ *DB*	24VDC (2.4 W)
○ *DA*	24VDC (5.2 W)
○ *AA*	120VAC (Mod. No. required see below)
○ *xx*	Other Options

X	Manual operator
○ *1*	Non-locking

XX	Electrical connection
○ *FA*	Plug-in
○ *FC*	Plug-in with light
○ *FE*	Plug-in with suppression diode
○ *FG*	Plug-in with suppression diode with LED light
○ *xx*	Other Options

HOW TO ORDER "PLUG-IN" CIRCUIT BAR**

ECD37A-xxxxx-xxxx

Port size	Spacing mm	Side cylinder ports	Bottom cylinder ports
1/8" NPTF	18	○ ECD37A-00AFA-A0*xx*	○ ECD37A-00BFA-A0*xx*
1/4" NPTF	18	○ ECD37A-00AFB-A0*xx*	○ ECD37A-00BFB-A0*xx*
6 mm tube receptacle	18	○ ECD37A-00AFG-A0*xx*	○ ECD37A-00BFG-A0*xx*
1/8" NPTF	30	○ ECD37A-01AFA-C0*xx*	○ ECD37A-01BFA-C0*xx*
1/4" NPTF	30	○ ECD37A-01AFB-C0*xx*	○ ECD37A-01BFB-C0*xx*
6 mm tube receptacle	30	○ ECD37A-01AFG-C0*xx*	○ ECD37A-01BFG-C0*xx*

Number of stations (03=3 stations) - maximum length is 4 stations. ☐

** Other options available, consult factory.

Note : ☐ clic for valves mounted on base at the factory, add - 9 to the model number.
for AC voltage use mod. FWR2 after circuit bar model number.
when add-a-unit stations are added to bars with a multi-pin connector, mod SD03 should be included with add-a-unit model number.

- ○ A0 = without light
- ○ AA = with light (120V)
- ○ AB = with light (240V)
- ○ AD = with light (24V)
- ○ C0 = terminal strip
- ○ CA = terminal strip with light (120V)
- ○ CB = terminal strip with light (240V)
- ○ CD = terminal strip with light (24V)

MAC

Series 37

100% OF PRODUCTION TESTED 100%

WARRANTY 18 MONTHS

TECHNICAL DATA

Fluid :	Compressed air, vacuum, inert gases
Pressure range :	Vacuum to 120 PSI
Lubrication :	Not required, if used select a medium aniline point lubricant (between 180°F and 210°F)
Filtration :	40 µ
Temperature range :	0°F to 120°F (-18°C to 50°C)
Orifice :	4.3 mm
Flow (at 6 bar, ΔP=1bar) :	5.2 W : 0.50C_v, 2.4 W : 0.25C_v, 1.8 W : 0.15C_v
Leak rate :	50 cm^3/min
Coil :	General purpose class A, continuous duty, encapsulated
Voltage range :	-15% to +10% of nominal voltage
Power :	5.2 W - 2.4 W - 1.8 W - 1.0 W
Response times :	Energize : 17.0 ms
(with 5.2 W coil)	De-energize : 6.0 ms

Note : • Valve and coil are not interchangeable.

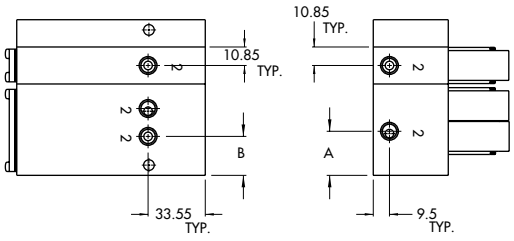
Spare parts : • Seal between valve and bar : 16630. • Mounting screw (x2) : 35043. • Blanking plate : M-37001.
• O-ring port seal (x2) : 17015-01 • Tie rod (x2) : 79007-01 (one station length).

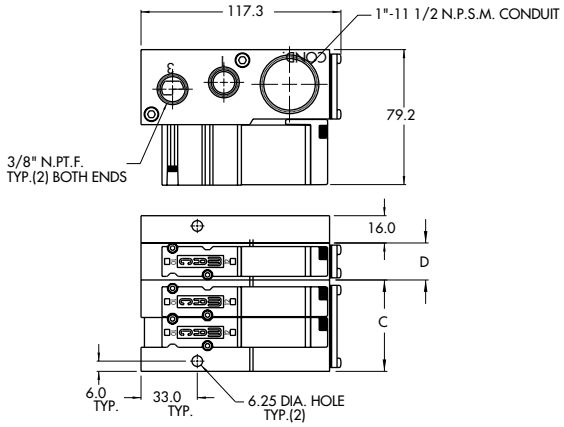
Options : • Isolation of inlet and/or exhaust. Special bar. Consult factory. • BSPP Threads.

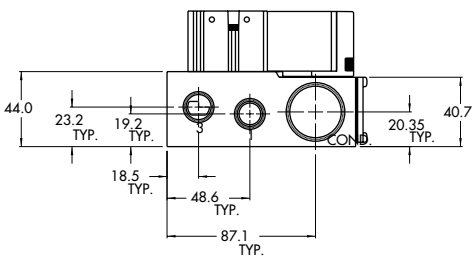
DIMENSIONS

Number of stations	1	2	3	4	5	6	7	8	9	10
"C" w/regulator	-	53.6	71.6	89.6	107.6	125.6	143.6	161.6	179.6	197.6
"C" w/o regulator	-	51.85	69.85	87.85	105.85	123.85	141.85	159.85	177.85	195.85
"D"	21.7	39.7	57.7	75.7	-	-	-	-	-	-

Dimensions are based on 18 mm centerline spacing
Note: Bottom & side cylinder ports not available on the same station







Dim.	1/8"	1/4"	6 mm Legris	1/8" w/regulator	1/4" w/regulator
"A"	22.65	24.20	22.85	-	-
"B"	22.85	22.85	25.85	21.20	22.60

MAC

Series 37

Function	Port size	Flow (Max)	Circuit bar mounting	Profile
3/2 NO-NC	**1/8" - 1/4"**	**0.5C_v**	plug-in add-a-unit stations with Pr. Reg.	**44 mm**

OPERATIONAL BENEFITS

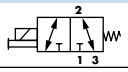
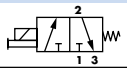
1. Direct solenoid operated valve.
2. Balanced poppet, immune to variations of pressure.
3. Short stroke with high flow.
4. The patented solenoid develops high shifting forces.
5. Powerful return spring.
6. Manual operator standard on all valves.

Reset

HOW TO ORDER

37A-xxx-HxxP-xxx

HOW TO ORDER VALVE FOR CIRCUIT BAR MOUNTING

Port size (see base)	Universal valve	NC only valve
		
Valve less base	○ 37A-C1O-H*xx*P-*xxx*	○ 37A-D1O-H*xx*P-*xxx*

SOLENOID OPERATOR ➤ H *XX* P- *X XX**

XX	Voltage
○ *DC*	24VDC (1.8 W)
○ *DB*	24VDC (2.4 W)
○ *DA*	24VDC (5.2 W)
○ *AA*	120VAC (Mod. No. required see below)
○ *xx*	Other Options

X	Manual operator
○ *1*	Non-locking

XX	Electrical connection
○ *FA*	Plug-in
○ *FC*	Plug-in with light
○ *FE*	Plug-in with suppression diode
○ *FG*	Plug-in with suppression diode with LED light
○ *xx*	Other Options

HOW TO ORDER "PLUG-IN" CIRCUIT BAR (REGULATORS ORDERED SEPARATELY)**

ECD37A-xxxxx-xxxx

Port size	Spacing mm	Bottom cylinder ports
1/8" NPTF	18	○ ECD37A-00CFA-A0*xx*
1/4" NPTF	18	○ ECD37A-00CFB-A0*xx*
1/8" NPTF	30	○ ECD37A-01CFA-C0*xx*
1/4" NPTF	30	○ ECD37A-01CFB-C0*xx*

Number of stations (03=3 stations) - maximum length is 4 stations. ☐

** Other options available, consult factory.

Note : ☐ clic for valves mounted on base at the factory, add - 9 to the model number.
for AC voltage use mod. FWR2 after circuit bar model number.
when add-a-unit stations are added to bars with a multi-pin connector, mod SD03 should be included with add-a-unit model number.

** Pressure Regulators :

PR37A-GOAx

- ○ X=A (0 to 120 PSI)
- ○ X=B (0 to 80 PSI)
- ○ X=C (0 to 30 PSI)

- ○ A0 = without light
- ○ AA = with light (120V)
- ○ AB = with light (240V)
- ○ AD = with light (24V)
- ○ C0 = terminal strip
- ○ CA = terminal strip with light (120V)
- ○ CB = terminal strip with light (240V)
- ○ CD = terminal strip with light (24V)

Series 37

100% OF PRODUCTION TESTED 100%

WARRANTY 18 MONTHS

TECHNICAL DATA

Fluid :	Compressed air, vacuum, inert gases
Pressure range :	Vacuum to 120 PSI
Lubrication :	Not required, if used select a medium aniline point lubricant (between 180°F and 210°F)
Filtration :	40 µ
Temperature range :	0°F to 120°F (-18°C to 50°C)
Orifice :	4.3 mm
Flow (at 6 bar, ΔP=1bar) :	5.2 W : 0.50C_v, 2.4 W : 0.25C_v, 1.8 W : 0.15C_v
Leak rate :	50 cm^3/min
Coil :	General purpose class A, continuous duty, encapsulated
Voltage range :	-15% to +10% of nominal voltage
Power :	5.2 W - 2.4 W - 1.8 W - 1.0 W
Response times :	Energize : 17.0 ms
(with 5.2 W coil)	De-energize : 6.0 ms

Note : • Valve and coil are not interchangeable.

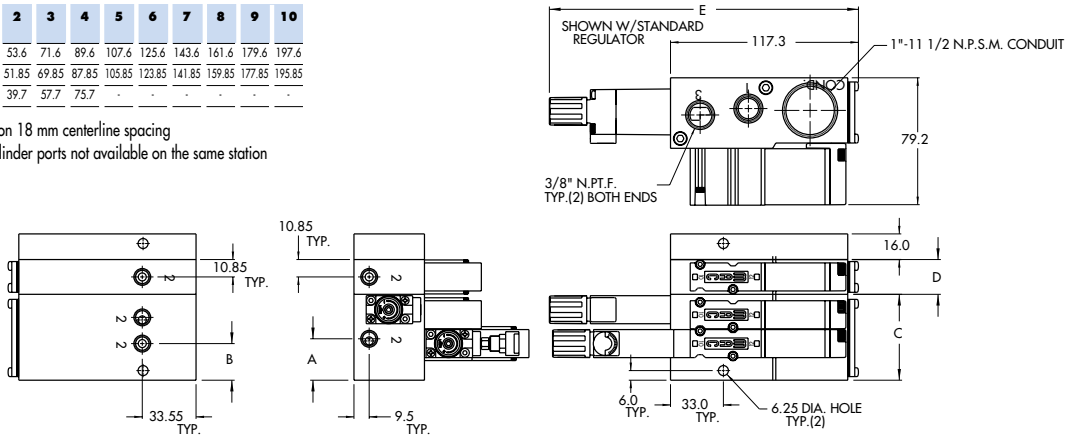
Spare parts : • Seal between valve and bar : 16630. • Mounting screw (x2) : 35043. • Blanking plate : M-37001.
• O-ring port seal (x2) : 17015-01 • Tie rod (x2) : 79007-01 (one station length). • Regulator blanking plate : R-47003.

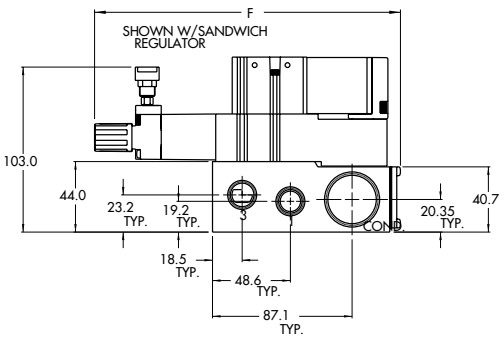
Options : • Isolation of inlet and/or exhaust. Special bar. Consult factory. • BSPP Threads.

DIMENSIONS

Number of stations	1	2	3	4	5	6	7	8	9	10
"C" w/regulator	-	53.6	71.6	89.6	107.6	125.6	143.6	161.6	179.6	197.6
"C" w/o regulator	-	51.85	69.85	87.85	105.85	123.85	141.85	159.85	177.85	195.85
"D"	21.7	39.7	57.7	75.7	-	-	-	-	-	-

Dimensions are based on 18 mm centerline spacing
Note: Bottom & side cylinder ports not available on the same station





Dim.	1/8"	1/4"	6 mm Legris	1/8" w/regulator	1/4" w/regulator
"A"	22.65	24.20	22.85	-	-
"B"	22.85	22.85	25.85	21.20	22.60

Dim.	Regulator with locking adjusting screw	Regulator with adjusting screw	Regulator with adjusting knob
"E"	188.8	184.7	191.7
"F"	182.5	178.4	185.4

Section 2 Options

Codification table for voltages / Wire length / Manual operators / Electrical connections

VALVE CODE ➤ $-H\underset{1}{XX}\,\underset{2}{X}\,-\,\underset{3}{X}\,\underset{4}{XX}$

OPTIONS AVAILABLE FOR
- Solenoid valves 37 & 47 Series

OPTIONS

Back

1. VOLTAGE

-H XX X -X XX	VOLTAGE
	DC Options
DA	24 VDC (5.2 W)
DB	24 VDC (2.4 W)
DC	24 VDC (1.8 W)
DD	24 VDC (1.0 W)
DF	12 VDC (5.2 W)
DG	12 VDC (2.4 W)
DH	12 VDC (1.8 W)
DJ	12 VDC (1.0 W)
DL	120 VDC (6.3 W)
	AC Options (50/60hz)
AA	120 VAC (6.7 W)
AB	220 VAC (5.6 W)
AC	240 VAC (5.8 W)
AD	24 VAC (7.8 W)

Note : AC Voltages only available with "H" & "F" type connectors. MOD FWR2 must be used with the "F" type connectors.

2. WIRE LENGTH

-H XX X -X XX	WIRE LENGTH
O	No lead wire
A	18"
B	24"
C	36"
D	48"
E	72"
F	96"
G	120"
H	144"
P	Plug-in (used only with "F"type connector Opts.)

Use "O" with MJ & MM Opts.

3. MANUAL OPERATOR

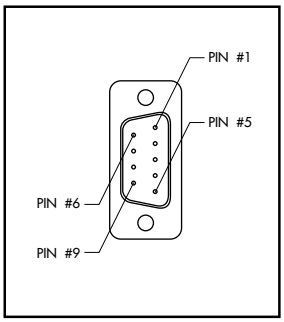
-H XX X -X XX	MANUAL OPERATOR
0	No operator
1	Non-locking recessed
2	Locking recessed
3	Non-locking extended
4	Locking extended

4. ELECTRICAL CONNECTION

-HXX X -X XX	ELECTRICAL CONNECTION
BA	Flying leads
BB	Flying leads with ground wire
BC	Flying leads with led light
BD	Flying leads with led light & ground wire
BE	Flying leads with suppression diode
BF	Flying leads with suppression diode & ground wire
BG	Flying leads with suppression diode plus led light
BH	Flying leads with suppression diode plus led light & ground wire
*BN	Flying leads with suppression diode plus blocking diode
*BP	Flying leads with suppression diode plus blocking diode & ground wire
*BR	Flying leads with suppression diode plus blocking diode & led light
*BS	Flying leads with suppression diode plus blocking diode & led light & ground wire
FA	Plug-in
FB	Plug-in with ground wire
FC	Plug-in with led light
FD	Plug-in with led light & ground wire
FE	Plug-in with suppression diode
FF	Plug-in with suppression diode & ground wire
FG	Plug-in with suppression diode plus led light
FH	Plug-in with suppression diode plus led light & ground wire
	Note : FA ---- FH options for use with ECD type circuit bars
HA	Circuit board plug-in with full wave rectifier & led light
HB	Circuit board with full wave rectifier & led with ground wire
HC	Same as "HA" without lead wires
HD	Same as "HB" without lead wires
HL	Circuit board plug-in with suppression diode plus blocking diode & led light
HN	Same as "HL" without lead wires
MA	Plug-in wire assembly
MB	Plug-in wire assembly with ground wire
MC	Plug-in wire assembly with led light
MD	Plug-in wire assembly led light & ground wire
ME	Plug-in wire assembly with suppression diode
MF	Plug-in wire assembly with suppression diode & ground wire
*MG	Plug-in wire assembly suppression diode plus led light
*MH	Plug-in wire assembly suppression diode plus led light & ground wire
*MN	Plug-in wire assembly with suppression diode plus blocking diode
*MP	Plug-in wire assembly with suppression diode plus blocking diode & ground wire
MR	Plug-in wire assembly with suppression diode plus blocking diode & led light
MS	Plug-in wire assembly with suppression diode plus blocking diode & led light & ground wire
MJ	Plug-in housing w/o wire assembly ("MA" option without wire assembly)
MM	Plug-in housing w/o wire assembly ("MB" option without wire assembly)

* Blocking diode is in lead wire.

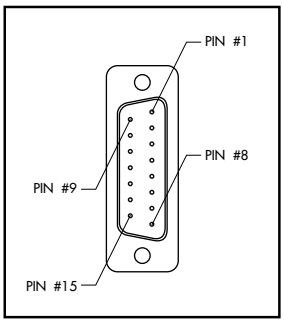
MOD. SD09



TECHNICAL DATA

- Type «SUB_D»
- Number of contacts : 9
- Solder termination (Dia. 0.6 mm/0.14 mm^2/26-22 AWG)
- Operating current 5 A/contact
- Rated voltage 125 V~
- Temp. range –40° to +125°C
- Insulation resistance ≥ 5.0^9 Ω
- Protection class IP40 (DIN 40050)
- Number of solenoids : 7 max.
- Max. 24 V=/5.4 W per solenoid
- 2 common wires

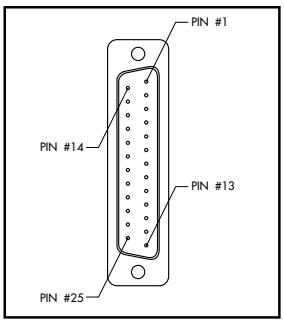
MOD. SD15



TECHNICAL DATA

- Type «SUB_D»
- Number of contacts : 15
- Solder termination (Dia. 0.6 mm/0.14 mm^2/26-22 AWG)
- Operating current 5 A/contact
- Rated voltage 125 V~
- Temp. range –40° to +125°C
- Insulation resistance ≥ 5.0^9 Ω
- Protection class IP40 (DIN 40050)
- Number of solenoids : 12 max.
- Max. 24 V=/5.4 W per solenoid
- 3 common wires

MOD. SD25

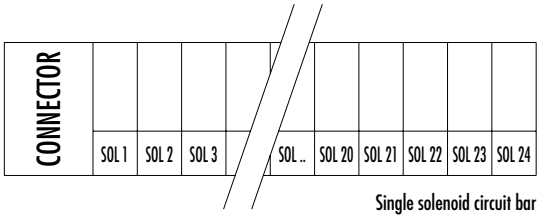


TECHNICAL DATA

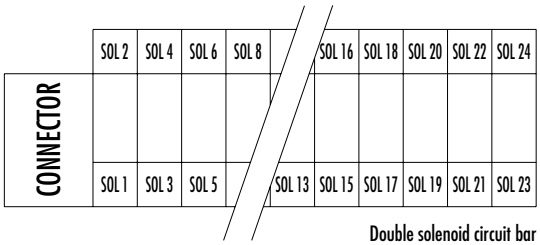
- Type «SUB_D»
- Number of contacts : 25
- Solder termination (Dia. 0.6 mm/0.14 mm^2/26-22 AWG)
- Operating current 5 A/contact
- Rated voltage 125 V~
- Temp. range –40° to +125°C
- Insulation resistance ≥ 5.0^9 Ω
- Protection class IP40 (DIN 40050)
- Number of solenoids : 20 max.
- Max. 24 V=/5.4 W per solenoid
- 5 common wires

Note : Use desired MOD. number after circuit bar part number

Connector termination details

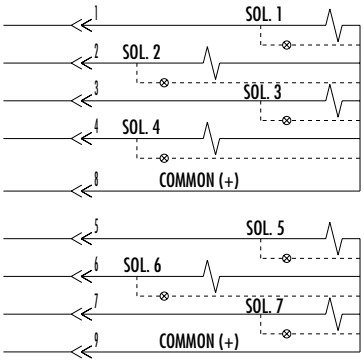


Single solenoid circuit bar

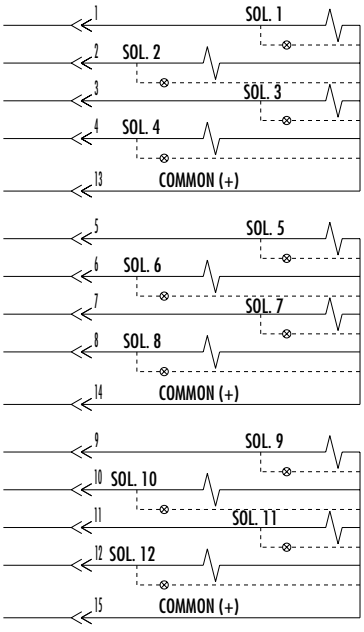


Double solenoid circuit bar

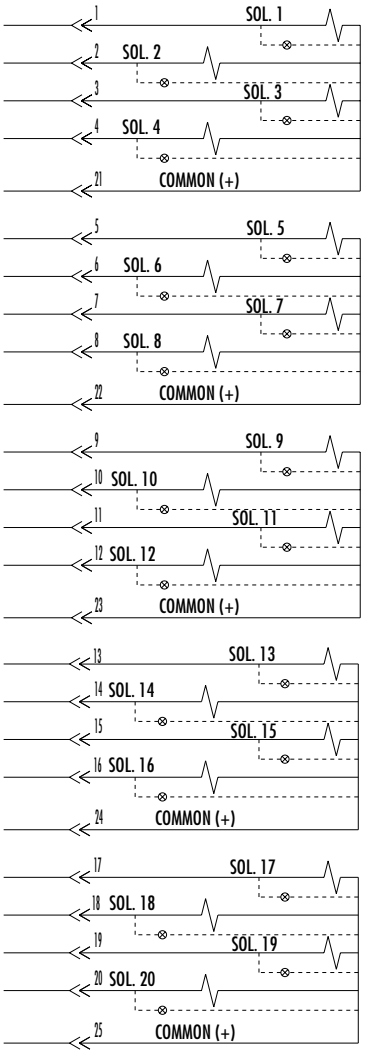
SD09



SD15



SD25



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 ports are open to the exhaust port(s) of the valve. If having no air in either outlet port 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 ports 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 AND SERVICE PRECAUTIONS :

A. Do not install or service MAC valves without first making sure both the air and electrical power to the machine are off and that all air has been completely bled from the system.

B. MAC valves should only be installed and/or serviced 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 and graphic symbols. Do not install unless these symbols and the valve functions and operations are thoroughly understood.

C. Before service, maintenance, repair or cleaning, consult local distributor or factory for Parts & Operation Sheet and information on proper cleaning and lubrication agents. Do not subject MAC valves' parts to any foreign substance including lubricants and cleaning agents not specifically recommended by MAC valves, Inc.

D. 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 condition.

WARNING :

Under no circumstances are Mac valves to be used in any application where failure of the valve to operate as intended could jeopardize the safety of the operator or any other person.
- Do not operate outside of pressure range listed on valve label or outside of designated temperature range.
- Air supply must be clean. Contamination of valve can affect proper operation.
- Before attempting to repair, adjust or clean valve, consult catalog, parts & operation sheet, or factory for proper maintenance procedures, lubrication, and cleaning agents. Never attempt to repair or perform other maintenance with air pressure to valve.
- If airline lubrication is used, consult catalog, parts & operation sheet, or factory for recommended lubricants.

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.

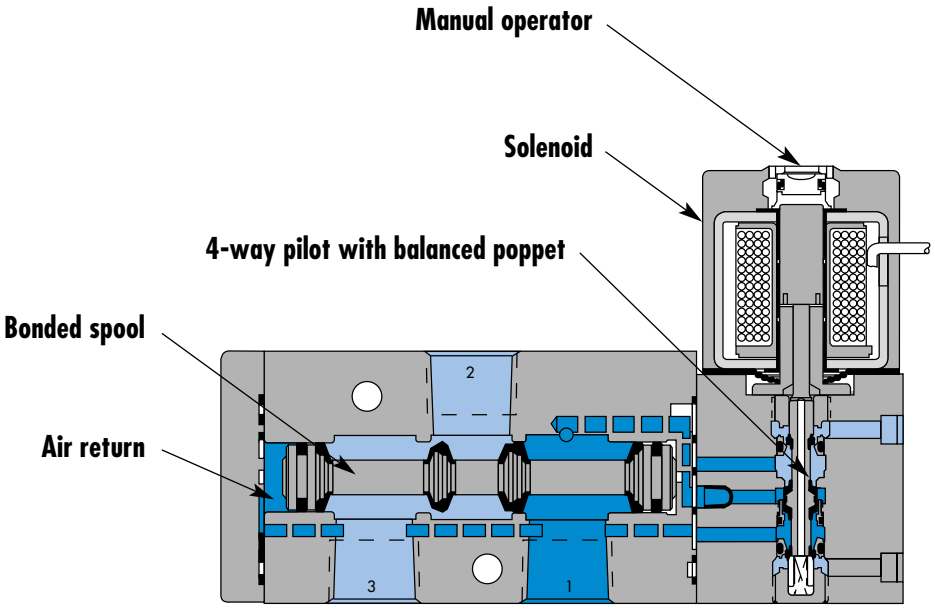
DISCLAIMER OF GUARANTEE

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. The 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.

Circuit bar mounting

cylinder ports in valve	add-on style cylinder ports in valve	cylinder ports in base	add-on style cylinder ports in base	add-a-unit stations for CBM052A bar	add-a-unit stations for CBP052A bar



SERIES FEATURES

- Patented MACSOLENOID® for fastest possible response times and virtually burn-out proof AC solenoid operation.
- Optional low watt DC solenoids.
- Various manual operators.
- Optional memory spring.
- Normally closed or normally open valve function.
- May be plugged for 2-way operation.
- Internal or external pilot.

MAC

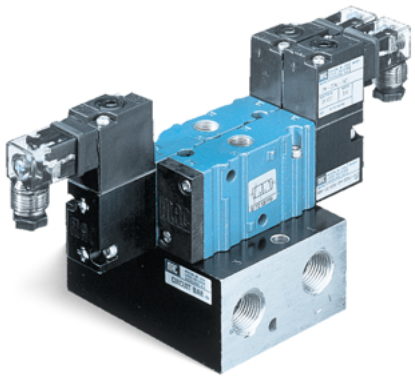
Series 52

Function	Port size	Flow (Max)	Circuit bar mounting
3/2 NO-NC	**1/8" - 1/4"**	**1200 NL/min**	cylinder ports in valve

OPERATIONAL BENEFITS

1. The 4-way pilot develops maximum shifting forces both ways.
2. Memory spring available.
3. Balanced spool, immune to variations of pressure, also provides high flow.
4. Short stroke with high flow.
5. Bonded spool with minimum friction, shifting in a glass-like finished bore.
6. Pilot with balanced poppet, high flow, short and consistent response times.
7. Wiping effect eliminates sticking.
8. Long service life.

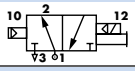
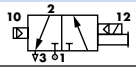
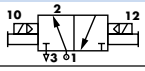
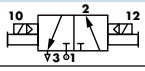
Reset



HOW TO ORDER

52A-xx-xxx-DM-Dxxx-xxx

SOLENOID OPERATOR

Port size	Pilot air	Single operator NO valve	Single operator NC valve	Double operator NO valve	Double operator NC valve
					
1/8" BSPP	Internal	○ 52A-31-COA-DM-D*xxx-xxx*	○ 52A-11-COA-DM-D*xxx-xxx*	○ 52A-41-COA-DM-D*xxx-xxx*	○ 52A-21-COA-DM-D*xxx-xxx*
1/4" BSPP		○ 52A-31-DOA-DM-D*xxx-xxx*	○ 52A-11-DOA-DM-D*xxx-xxx*	○ 52A-41-DOA-DM-D*xxx-xxx*	○ 52A-21-DOA-DM-D*xxx-xxx*
1/8" BSPP	External	○ 52A-31-COC-DM-D*xxx-xxx*	○ 52A-11-COC-DM-D*xxx-xxx*	○ 52A-41-COC-DM-D*xxx-xxx*	○ 52A-21-COC-DM-D*xxx-xxx*
1/4" BSPP		○ 52A-31-DOC-DM-D*xxx-xxx*	○ 52A-11-DOC-DM-D*xxx-xxx*	○ 52A-41-DOC-DM-D*xxx-xxx*	○ 52A-21-DOC-DM-D*xxx-xxx*

SOLENOID OPERATOR ➤ D *XX X - X XX**

XX	Voltage
○ *JA*	120/60, 110/50
○ *JB*	240/60, 220/50
○ *JC*	24/60, 24/50
○ *DA*	24VDC (5.4 W)
○ *FB*	24VDC (1.8 W)
○ *DF*	24VDC (12.7 W)
○ *xx*	Other Options

X	Wire length
○ *A*	45 cm (Flying leads)
○ *J*	Connector
○ *x*	Other Options

X	Manual operator
○ *1*	Non-locking
○ *2*	Locking
○ *x*	Other Options

XX	Electrical connection
○ *KA*	Square connector
○ *KD*	Square connector with light
○ *JB*	Rectangular connector
○ *JD*	Rectangular connector with light
○ *BA*	Flying leads
○ *xx*	Other Options

HOW TO ORDER CIRCUIT BAR **

CBM052A-xxxxx-xx

Port size	Pilot air	Spacing standard 19,5 mm	Spacing 26 mm (Rectangular connector)
3/8" BSPP	Internal	○ CBM052A-00AAB-*xx*	○ CBM052A-02AAB-*xx*
	External	○ CBM052A-00CAB-*xx*	○ CBM052A-02CAB-*xx*

Number of stations (03=3 stations) 3

** Other options available. Consult factory.

OPTIONS

52A-31-AOA-DM-D*xxx-xxx*

☐ clic for memory spring (replace by 4).

MAC

Series 52

100% OF PRODUCTION TESTED 100%

WARRANTY 18 MONTHS

TECHNICAL DATA

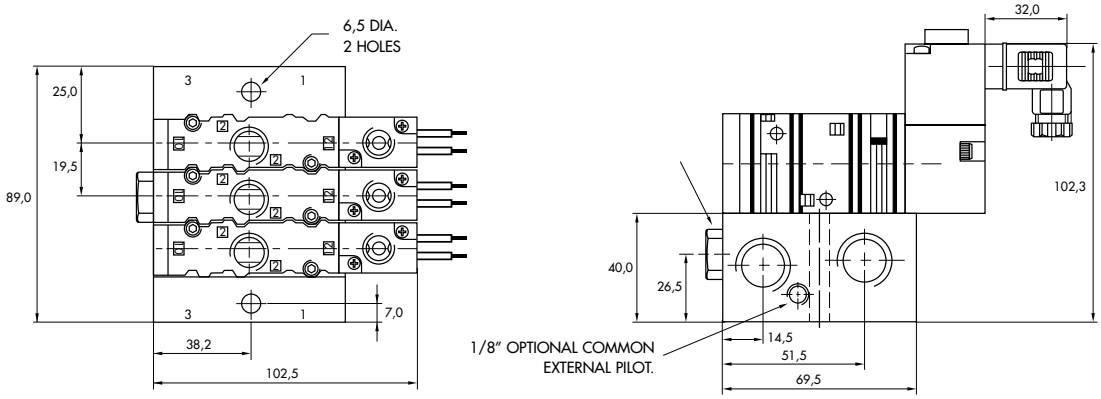
Fluid :	Compressed air, vacuum, inert gases		
Pressure range :	Internal pilot : 1.3 - 8.5 BAR External pilot : vacuum to 8.5 BAR		
Pilot pressure :	1.3 - 8.5 BAR		
Lubrication :	Not required, if used select a medium aniline point lubricant (between 80°C to 100°C)		
Filtration :	40 µ		
Temperature range :	0°F to 120°F (-18°C to +50°C)		
Orifice :	7.3 mm		
Flow :	1200 NL/min		
Leak rate :	50 cm^3/min		
Coil :	General purpose class A, continuous duty, encapsulated		
Voltage range :	-15% to +10% of nominal voltage		
Protection :	NEMA 4		
Power :	~ Inrush : 10.9 VA = 1.8 to 12.7 W	Holding : 7.7 VA	
Response times :	24 V=/5.4 W	Energize : 7.3 ms	De-energize : 5.3ms
	60Hz/6 W	Energize : 8-12 ms	De-energize : 7-11 ms

Spare parts : • Pilot valve : DM-DXXX-XXX-1, including mounting screws 35043 and seal 16524.

Accessories • Blanking plate : M-04001. • Seal (x3) : 17015-01. • Mounting screw (x2) : 35043.

Options : • NPTF threads. • Isolation of inlet and/or exhaust.

DIMENSIONS



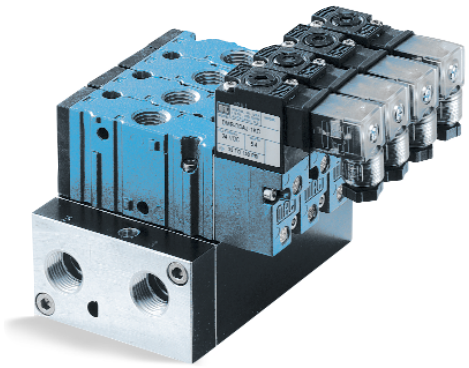
MAC

Series 52

Function	Port size	Flow (Max)	Circuit bar mounting
3/2 NO-NC	**1/8" - 1/4"**	**1200 NL/min**	add-on style cylinder ports in valve

OPERATIONAL BENEFITS

1. The 4-way pilot develops maximum shifting forces both ways.
2. Memory spring available.
3. Balanced spool, immune to variations of pressure, also provides high flow.
4. Short stroke with high flow.
5. Bonded spool with minimum friction, shifting in a glass-like finished bore.
6. Pilot with balanced poppet, high flow, short and consistent response times.
7. Wiping effect eliminates sticking.
8. Long service life.

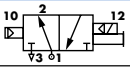
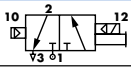
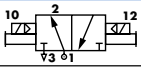
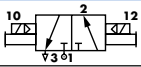


Reset

HOW TO ORDER

52A-xx-xxx-DM-Dxxx-xxx

SOLENOID OPERATOR

Port size	Pilot air	Single operator NO valve	Single operator NC valve	Double operator NO valve	Double operator NC valve
					
1/8" BSPP	Internal	○ 52A-31-COA-DM-D*xxx-xxx*	○ 52A-11-COA-DM-D*xxx-xxx*	○ 52A-41-COA-DM-D*xxx-xxx*	○ 52A-21-COA-DM-D*xxx-xxx*
1/4" BSPP		○ 52A-31-DOA-DM-D*xxx-xxx*	○ 52A-11-DOA-DM-D*xxx-xxx*	○ 52A-41-DOA-DM-D*xxx-xxx*	○ 52A-21-DOA-DM-D*xxx-xxx*
1/8" BSPP	External	○ 52A-31-COC-DM-D*xxx-xxx*	○ 52A-11-COC-DM-D*xxx-xxx*	○ 52A-41-COC-DM-D*xxx-xxx*	○ 52A-21-COC-DM-D*xxx-xxx*
1/4" BSPP		○ 52A-31-DOC-DM-D*xxx-xxx*	○ 52A-11-DOC-DM-D*xxx-xxx*	○ 52A-41-DOC-DM-D*xxx-xxx*	○ 52A-21-DOC-DM-D*xxx-xxx*

SOLENOID OPERATOR ➤ D *XX X - X XX**

XX	Voltage
○ *JA*	120/60, 110/50
○ *JB*	240/60, 220/50
○ *JC*	24/60, 24/50
○ *DA*	24VDC (5.4 W)
○ *FB*	24VDC (1.8 W)
○ *DF*	24VDC (12.7 W)
○ *xx*	Other Options

X	Wire length
○ *A*	45 cm (Flying leads)
○ *J*	Connector
○ *x*	Other Options

X	Manual operator
○ *1*	Non-locking
○ *2*	Locking
○ *x*	Other Options

XX	Electrical connection
○ *KA*	Square connector
○ *KD*	Square connector with light
○ *JB*	Rectangular connector
○ *JD*	Rectangular connector with light
○ *BA*	Flying leads
○ *xx*	Other Options

HOW TO ORDER CIRCUIT BAR **

CBM052A-xxxxx-xx

Port size	Pilot air	Spacing standard 19,5 mm	Spacing 26 mm (Rectangular connector)
3/8" BSPP	Internal	○ CBM052A-00ABB-*xx*	○ CBM052A-02ABB-*xx*
	External	○ CBM052A-00CBB-*xx*	○ CBM052A-02CBB-*xx*

Number of stations (03=3 stations) ☐

** Other options available. Consult factory.

Note : add-a-unit stations may be added to above bars. Clic here for model numbers.

OPTIONS

52A-31-AOA-DM-D*xxx-xxx*

☐ clic for memory spring (replace by 4).

MAC

Series 52

100% OF PRODUCTION TESTED 100%

WARRANTY 18 MONTHS

TECHNICAL DATA

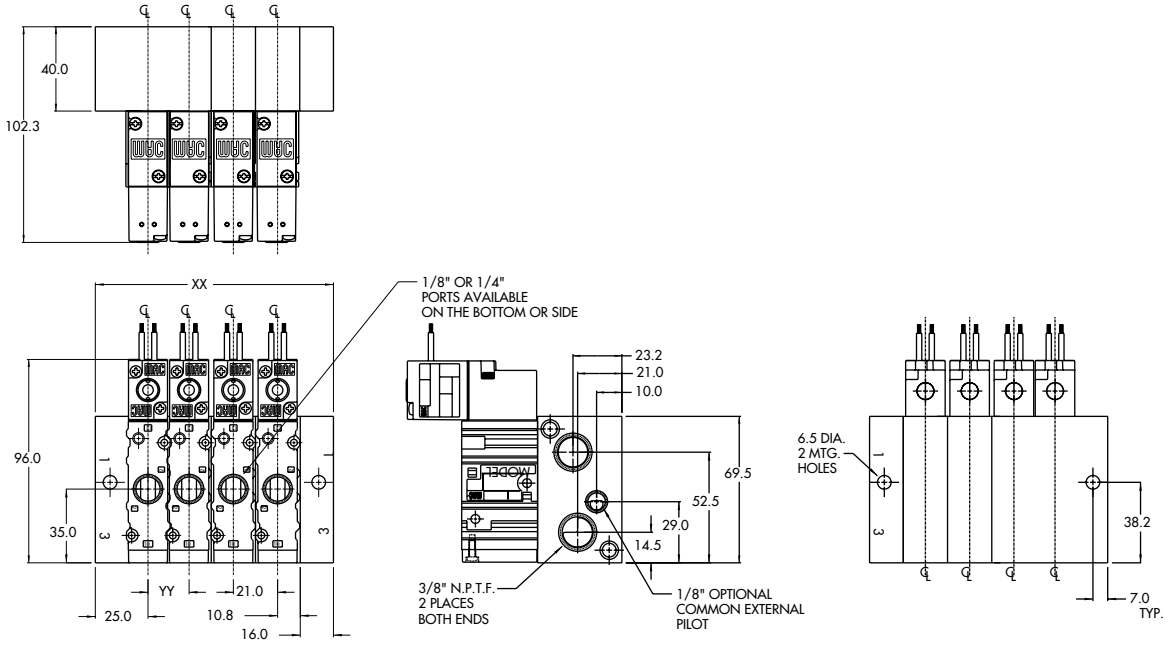
Fluid :	Compressed air, vacuum, inert gases		
Pressure range :	Internal pilot : 1.3 - 8.5 BAR External pilot : vacuum to 8.5 BAR		
Pilot pressure :	1.3 - 8.5 BAR		
Lubrication :	Not required, if used select a medium aniline point lubricant (between 80°C to 100°C)		
Filtration :	40 µ		
Temperature range :	0°F to 120°F (-18°C to +50°C)		
Orifice :	7.3 mm		
Flow :	1200 NL/min		
Leak rate :	50 cm^3/min		
Coil :	General purpose class A, continuous duty, encapsulated		
Voltage range :	-15% to +10% of nominal voltage		
Protection :	NEMA 4		
Power :	~ Inrush : 10.9 VA = 1.8 to 12.7 W	Holding : 7.7 VA	
Response times :	24 V=/5.4 W	Energize : 7.3 ms	De-energize : 5.3ms
	60Hz/6 W	Energize : 8-12 ms	De-energize : 7-11 ms

Spare parts : • Pilot valve : DM-DXXX-XXX-1, including mounting screws 35043 and seal 16524.

Accessories • Blanking plate : M-04001. • Seal (x3) : 17015-01. • Mounting screw (x2) : 35043. • End plate kit (Internal) : M-52001-01. • End plate kit (External) : M-52002-01.

Options : • NPTF threads. • Isolation of inlet and/or exhaust.

DIMENSIONS



YY	XX
19.5	113
26	119.5

MAC

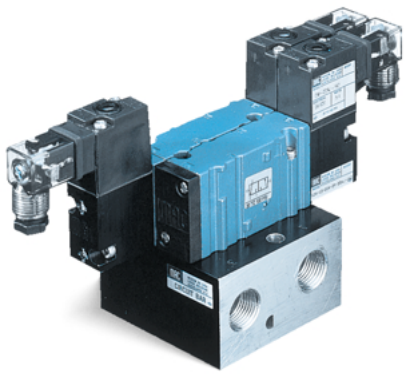
Series 52

Function	Port size	Flow (Max)	Individual mounting
3/2 NO-NC	**1/8" - 1/4"**	**1200 NL/min**	cylinder ports in base

OPERATIONAL BENEFITS

1. The 4-way pilot develops maximum shifting forces both ways.
2. Memory spring available.
3. Balanced spool, immune to variations of pressure, also provides high flow.
4. Short stroke with high flow.
5. Bonded spool with minimum friction, shifting in a glass-like finished bore.
6. Pilot with balanced poppet, high flow, short and consistent response times.
7. Wiping effect eliminates sticking.
8. Long service life.

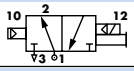
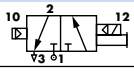
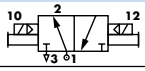
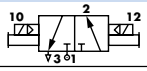
Reset



HOW TO ORDER

52A-xx-xxx-DM-Dxxx-xxx

HOW TO ORDER VALVE FOR CIRCUIT BAR MOUNTING

Pilot air	Single operator		Double operator	
	NO valve	NC valve	NO valve	NC valve
				
Internal	○ 52A-33-OOA-DM-D*xxx-xxx*	○ 52A-13-OOA-DM-D*xxx-xxx*	○ 52A-43-OOA-DM-D*xxx-xxx*	○ 52A-23-OOA-DM-D*xxx-xxx*
External	○ 52A-33-OOC-DM-D*xxx-xxx*	○ 52A-13-OOC-DM-D*xxx-xxx*	○ 52A-43-OOC-DM-D*xxx-xxx*	○ 52A-23-OOC-DM-D*xxx-xxx*

SOLENOID OPERATOR ➤ D *XX X - X XX**

XX	Voltage
○ *JA*	120/60, 110/50
○ *JB*	240/60, 220/50
○ *JC*	24/60, 24/50
○ *DA*	24VDC (5.4 W)
○ *FB*	24VDC (1.8 W)
○ *DF*	24VDC (12.7 W)
○ *xx*	Other Options

X	Wire length
○ *A*	45 cm (Flying leads)
○ *J*	Connector
○ *x*	Other Options

X	Manual operator
○ *1*	Non-locking
○ *2*	Locking
○ *x*	Other Options

XX	Electrical connection
○ *KA*	Square connector
○ *KD*	Square connector with light
○ *JB*	Rectangular connector
○ *JD*	Rectangular connector with light
○ *BA*	Flying leads
○ *xx*	Other Options

HOW TO ORDER CIRCUIT BAR * *

CBP052A-xxxxx-xx

Port size (BSPP)	Pilot air	Spacing standard 19,5 mm	Spacing 26 mm (Rectangular connector)
1/8" SIDE PORT	Internal	○ CBP052A-00AAB-*xx*	○ CBP052A-02AAB-*xx*
1/4" SIDE PORT		○ CBP052A-00AAE-*xx*	○ CBP052A-02AAE-*xx*
1/8" SIDE PORT	External	○ CBP052A-00EAB-*xx*	○ CBP052A-02EAB-*xx*
1/4" SIDE PORT		○ CBP052A-00EAE-*xx*	○ CBP052A-02EAE-*xx*
1/8" BOTTOM PORT	Internal	○ CBP052A-00BAB-*xx*	○ CBP052A-02BAB-*xx*
1/4" BOTTOM PORT		○ CBP052A-00BAE-*xx*	○ CBP052A-02BAE-*xx*
1/8" BOTTOM PORT	External	○ CBP052A-00FAB-*xx*	○ CBP052A-02FAB-*xx*
1/4" BOTTOM PORT		○ CBP052A-00FAE-*xx*	○ CBP052A-02FAE-*xx*

Number of stations (03=3 stations) ☐ ** Other options available. Consult factory.

OPTIONS

52A-33-OOA-DM-D*xxx-xxx*

☐ clic for memory spring (replace by 6).

Series 52

100% OF PRODUCTION TESTED 100%

WARRANTY 18 MONTHS

TECHNICAL DATA

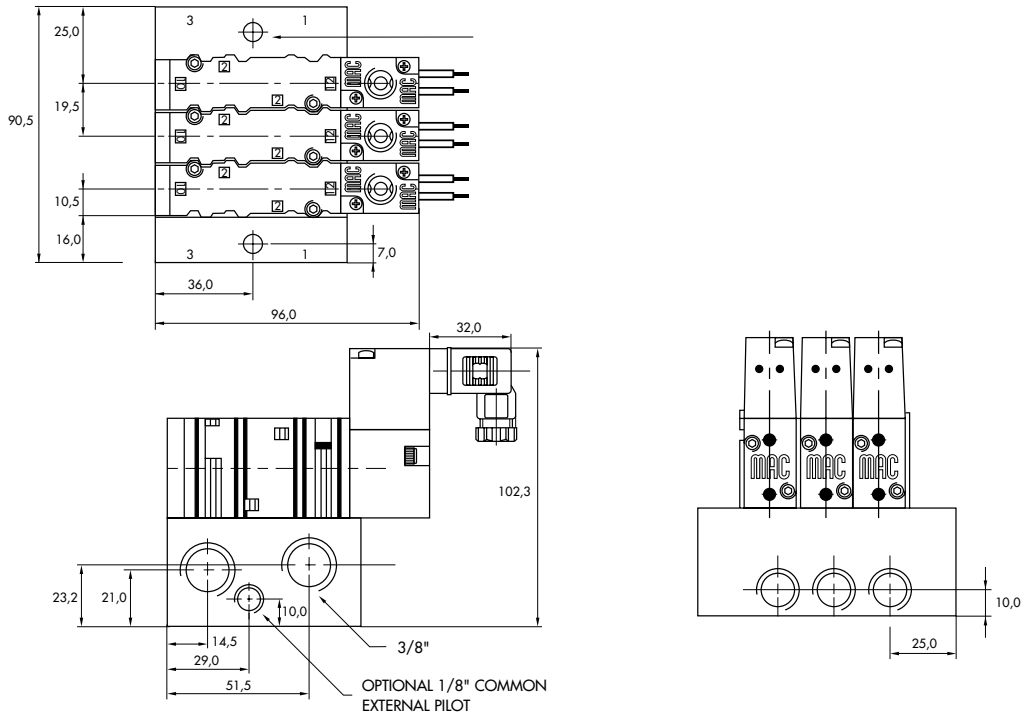
Fluid :	Compressed air, vacuum, inert gases		
Pressure range :	Internal pilot : 1.3 - 8.5 BAR External pilot : vacuum to 8.5 BAR		
Pilot pressure :	1.3 - 8.5 BAR		
Lubrication :	Not required, if used select a medium aniline point lubricant (between 80°C to 100°C)		
Filtration :	40 µ		
Temperature range :	0°F to 120°F (-18°C to +50°C)		
Orifice :	7.3 mm		
Flow :	1200 NL/min		
Leak rate :	50 cm^3/min		
Coil :	General purpose class A, continuous duty, encapsulated		
Voltage range :	-15% to +10% of nominal voltage		
Protection :	NEMA 4		
Power :	~ Inrush : 10.9 VA = 1.8 to 12.7 W	Holding : 7.7 VA	
Response times :	24 V=/5.4 W	Energize : 7.3 ms	De-energize : 5.3ms
	60Hz/6 W	Energize : 8-12 ms	De-energize : 7-11 ms

Spare parts : • Pilot valve : DM-DXXX-XXX-1, including mounting screws 35043 and seal 16524.

Accessories • Blanking plate : M-52003. • Seal (x3) : 17013-01. • Mounting screw (x2) : 35043.

Options : • NPTF threads. • Isolation of inlet and/or exhaust.

DIMENSIONS



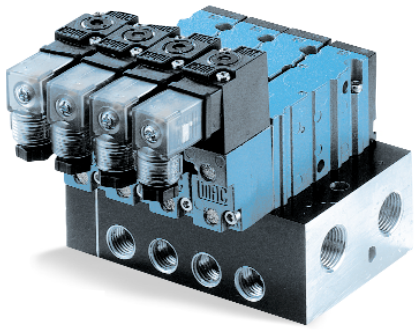
MAC®

Series 52

Function	Port size	Flow (Max)	Individual mounting
3/2 NO-NC	**1/8" - 1/4"**	**1200 NL/min**	add-on style cylinder ports in base

OPERATIONAL BENEFITS

1. The 4-way pilot develops maximum shifting forces both ways.
2. Memory spring available.
3. Balanced spool, immune to variations of pressure, also provides high flow.
4. Short stroke with high flow.
5. Bonded spool with minimum friction, shifting in a glass-like finished bore.
6. Pilot with balanced poppet, high flow, short and consistent response times.
7. Wiping effect eliminates sticking.
8. Long service life.

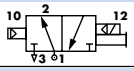
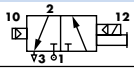
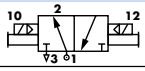
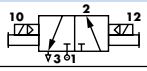


Reset

HOW TO ORDER

52A-xx-xxx-DM-Dxxx-xxx

HOW TO ORDER VALVE FOR CIRCUIT BAR MOUNTING

Pilot air	Single operator		Double operator	
	NO valve	NC valve	NO valve	NC valve
				
Internal	○ 52A-33-OOA-DM-D*xxx-xxx*	○ 52A-13-OOA-DM-D*xxx-xxx*	○ 52A-43-OOA-DM-D*xxx-xxx*	○ 52A-23-OOA-DM-D*xxx-xxx*
External	○ 52A-33-OOC-DM-D*xxx-xxx*	○ 52A-13-OOC-DM-D*xxx-xxx*	○ 52A-43-OOC-DM-D*xxx-xxx*	○ 52A-23-OOC-DM-D*xxx-xxx*

SOLENOID OPERATOR ➤ D *XX X - X XX**

XX	Voltage
○ *JA*	120/60, 110/50
○ *JB*	240/60, 220/50
○ *JC*	24/60, 24/50
○ *DA*	24VDC (5.4 W)
○ *FB*	24VDC (1.8 W)
○ *DF*	24VDC (12.7 W)
○ *xx*	Other Options

X	Wire length
○ *A*	45 cm (Flying leads)
○ *J*	Connector
○ *x*	Other Options

X	Manual operator
○ *1*	Non-locking
○ *2*	Locking
○ *x*	Other Options

XX	Electrical connection
○ *KA*	Square connector
○ *KD*	Square connector with light
○ *JB*	Rectangular connector
○ *JD*	Rectangular connector with light
○ *BA*	Flying leads
○ *xx*	Other Options

HOW TO ORDER CIRCUIT BAR * *

CBP052A-xxxxx-xx

Port size (BSPP)	Pilot air	Spacing standard 19,5 mm	Spacing 26 mm (Rectangular connector)
1/8" SIDE PORT	Internal	○ CBP052A-00ABB-*xx*	○ CBP052A-02ABB-*xx*
1/4" SIDE PORT		○ CBP052A-00ABE-*xx*	○ CBP052A-02ABE-*xx*
1/8" SIDE PORT	External	○ CBP052A-00EBB-*xx*	○ CBP052A-02EBB-*xx*
1/4" SIDE PORT		○ CBP052A-00EBE-*xx*	○ CBP052A-02EBE-*xx*
1/8" BOTTOM PORT	Internal	○ CBP052A-00BBB-*xx*	○ CBP052A-02BBB-*xx*
1/4" BOTTOM PORT		○ CBP052A-00BBE-*xx*	○ CBP052A-02BBE-*xx*
1/8" BOTTOM PORT	External	○ CBP052A-00FBB-*xx*	○ CBP052A-02FBB-*xx*
1/4" BOTTOM PORT		○ CBP052A-00FBE-*xx*	○ CBP052A-02FBE-*xx*

Number of stations (03=3 stations) ☐ **

Other options available. Consult factory.

Note : add-a-unit stations may be added to above bars. Clic here for model numbers.

OPTIONS

52A-33-OOA-DM-D*xxx-xxx*

☐ clic for memory spring (replace by 6).

MAC

Series **52**

100% OF PRODUCTION TESTED 100%

WARRANTY 18 MONTHS

TECHNICAL DATA

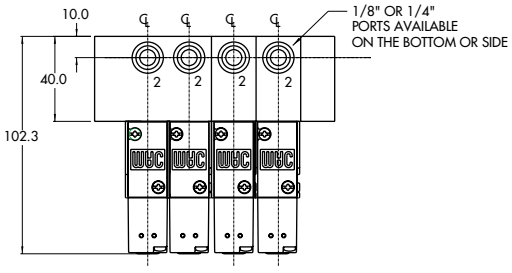
Fluid :	Compressed air, vacuum, inert gases		
Pressure range :	Internal pilot : 1.3 - 8.5 BAR External pilot : vacuum to 8.5 BAR		
Pilot pressure :	1.3 - 8.5 BAR		
Lubrication :	Not required, if used select a medium aniline point lubricant (between 80°C to 100°C)		
Filtration :	40 µ		
Temperature range :	0°F to 120°F (-18°C to +50°C)		
Orifice :	7.3 mm		
Flow :	1200 NL/min		
Leak rate :	50 cm^3/min		
Coil :	General purpose class A, continuous duty, encapsulated		
Voltage range :	-15% to +10% of nominal voltage		
Protection :	NEMA 4		
Power :	~ Inrush : 10.9 VA = 1.8 to 12.7 W	Holding : 7.7 VA	
Response times :	24 V=/5.4 W	Energize : 7.3 ms	De-energize : 5.3ms
	60Hz/6 W	Energize : 8-12 ms	De-energize : 7-11 ms

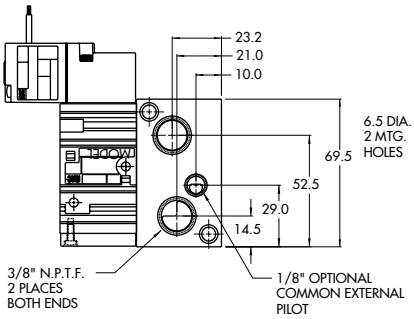
Spare parts : • Pilot valve : DM-DXXX-XXX-1, including mounting screws 35043 and seal 16524.

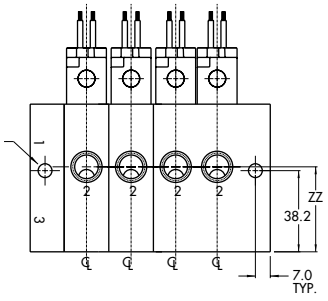
Accessories • Blanking plate : M-52003. • Seal (x3) : 17013-01. • Mounting screw (x2) : 35043. • End plate kit (Internal) : M-52001-01. • End plate kit (External) : M-52002-01.

Options : • NPTF threads. • Isolation of inlet and/or exhaust.

DIMENSIONS







YY	XX	PORT	ZZ
19.5	113	1/8"	36.0
26	119.5	1/4"	40.0

Note: Bottom & side cylinder ports not available on the same station

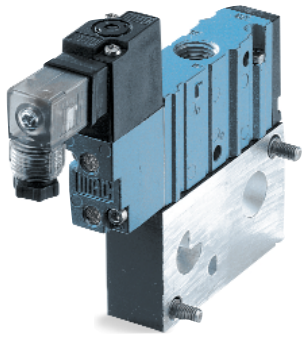
MAC

Series 52

Function	Port size	Flow (Max)	Circuit bar mounting
3/2 NO-NC	**1/8" - 1/4"**	**1200 NL/min**	add-a-unit stations for CBM052A bar

OPERATIONAL BENEFITS

1. The 4-way pilot develops maximum shifting forces both ways.
2. Memory spring available.
3. Balanced spool, immune to variations of pressure, also provides high flow.
4. Short stroke with high flow.
5. Bonded spool with minimum friction, shifting in a glass-like finished bore.
6. Pilot with balanced poppet, high flow, short and consistent response times.
7. Wiping effect eliminates sticking.
8. Long service life.

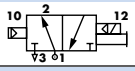
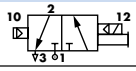
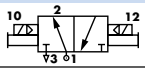
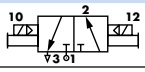


Reset

HOW TO ORDER

52A-xx-xxx-DM-Dxxx-xxx

SOLENOID OPERATOR

Port size	Pilot air	Single operator NO valve	Single operator NC valve	Double operator NO valve	Double operator NC valve
					
1/8" BSPP	Internal	○ 52A-31-COA-DM-D*xxx-xxx*	○ 52A-11-COA-DM-D*xxx-xxx*	○ 52A-41-COA-DM-D*xxx-xxx*	○ 52A-21-COA-DM-D*xxx-xxx*
1/4" BSPP		○ 52A-31-DOA-DM-D*xxx-xxx*	○ 52A-11-DOA-DM-D*xxx-xxx*	○ 52A-41-DOA-DM-D*xxx-xxx*	○ 52A-21-DOA-DM-D*xxx-xxx*
1/8" BSPP	External	○ 52A-31-COC-DM-D*xxx-xxx*	○ 52A-11-COC-DM-D*xxx-xxx*	○ 52A-41-COC-DM-D*xxx-xxx*	○ 52A-21-COC-DM-D*xxx-xxx*
1/4" BSPP		○ 52A-31-DOC-DM-D*xxx-xxx*	○ 52A-11-DOC-DM-D*xxx-xxx*	○ 52A-41-DOC-DM-D*xxx-xxx*	○ 52A-21-DOC-DM-D*xxx-xxx*

SOLENOID OPERATOR ➤ D *XX X - X XX**

XX	Voltage
○ *JA*	120/60, 110/50
○ *JB*	240/60, 220/50
○ *JC*	24/60, 24/50
○ *DA*	24VDC (5.4 W)
○ *FB*	24VDC (1.8 W)
○ *DF*	24VDC (12.7 W)
○ *xx*	Other Options

X	Wire length
○ *A*	45 cm (Flying leads)
○ *J*	Connector
○ *x*	Other Options

X	Manual operator
○ *1*	Non-locking
○ *2*	Locking
○ *x*	Other Options

XX	Electrical connection
○ *KA*	Square connector
○ *KD*	Square connector with light
○ *JB*	Rectangular connector
○ *JD*	Rectangular connector with light
○ *BA*	Flying leads
○ *xx*	Other Options

HOW TO ORDER CIRCUIT BAR * *

CBM052A-xxxxx-xx

Port size	Pilot air	Spacing standard 21 mm	Spacing 26 mm (Rectangular connector)
3/8" BSPP	Internal	○ CBM052A-01AEB-*xx*	○ CBM052A-02AEB-*xx*
	External	○ CBM052A-01CEB-*xx*	○ CBM052A-02CEB-*xx*

Number of stations (01=1 station) ☐

* * Other options available. Consult factory.

Note : add-a-unit stations available in lengths up to 4 stations (01, 02, 03 or 04).

OPTIONS

52A-31-AOA-DM-D*xxx-xxx*

☐ clic for memory spring (replace by 4).

MAC

Series 52

100% OF PRODUCTION TESTED 100%

WARRANTY 18 MONTHS

TECHNICAL DATA

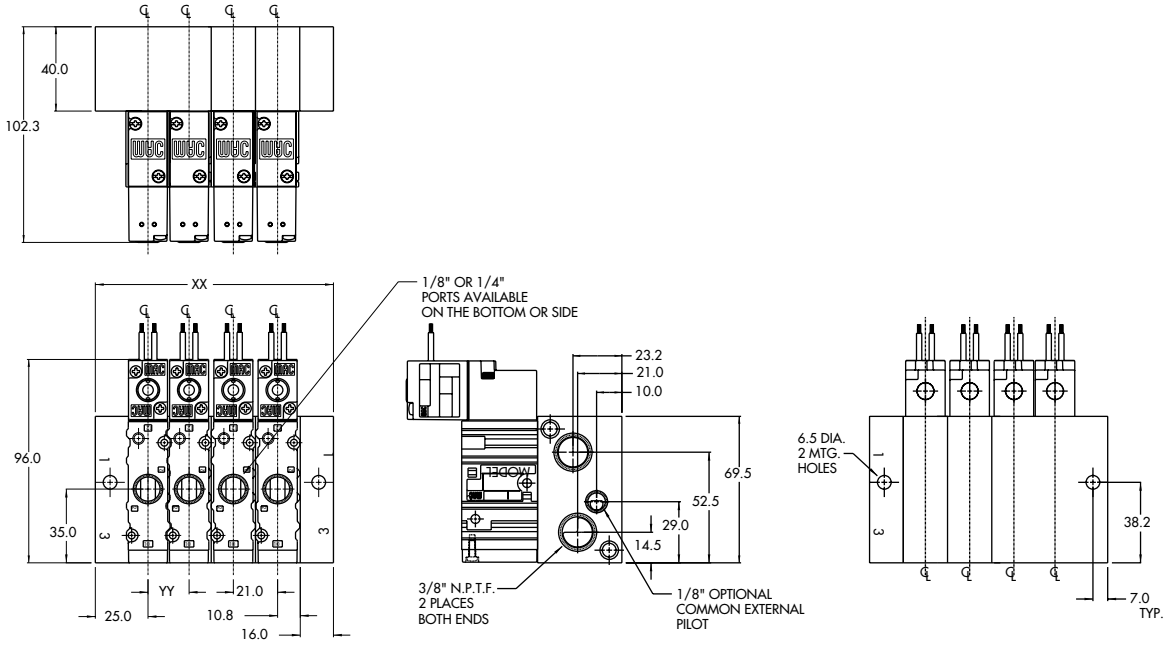
Fluid :	Compressed air, vacuum, inert gases		
Pressure range :	Internal pilot : 1.3 - 8.5 BAR External pilot : vacuum to 8.5 BAR		
Pilot pressure :	1.3 - 8.5 BAR		
Lubrication :	Not required, if used select a medium aniline point lubricant (between 80°C to 100°C)		
Filtration :	40 µ		
Temperature range :	0°F to 120°F (-18°C to +50°C)		
Orifice :	7.3 mm		
Flow :	1200 NL/min		
Leak rate :	50 cm^3/min		
Coil :	General purpose class A, continuous duty, encapsulated		
Voltage range :	-15% to +10% of nominal voltage		
Protection :	NEMA 4		
Power :	~ Inrush : 10.9 VA = 1.8 to 12.7 W	Holding : 7.7 VA	
Response times :	24 V=/5.4 W	Energize : 7.3 ms	De-energize : 5.3ms
	60Hz/6 W	Energize : 8-12 ms	De-energize : 7-11 ms

Spare parts : • Pilot valve : DM-DXXX-XXX-1, including mounting screws 35043 and seal 16524.

Accessories • Blanking plate : M-04001. • Seal (x3) : 17015-01. • Mounting screw (x2) : 35043.

Options : • NPTF threads. • Isolation of inlet and/or exhaust.

DIMENSIONS



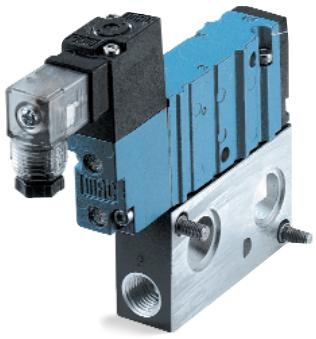
YY	XX
19.5	113
26	119.5

Series 52

Function	Port size	Flow (Max)	Individual mounting
3/2 NO-NC	**1/8" - 1/4"**	**1200 NL/min**	add-a-unit stations for CBP052A bar

OPERATIONAL BENEFITS

1. The 4-way pilot develops maximum shifting forces both ways.
2. Memory spring available.
3. Balanced spool, immune to variations of pressure, also provides high flow.
4. Short stroke with high flow.
5. Bonded spool with minimum friction, shifting in a glass-like finished bore.
6. Pilot with balanced poppet, high flow, short and consistent response times.
7. Wiping effect eliminates sticking.
8. Long service life.

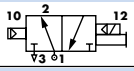
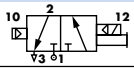
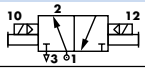
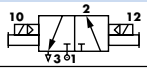


Reset

HOW TO ORDER

52A-xx-xxx-DM-Dxxx-xxx

HOW TO ORDER VALVE FOR CIRCUIT BAR MOUNTING

Pilot air	Single operator		Double operator	
	NO valve	NC valve	NO valve	NC valve
				
Internal	○ 52A-33-OOA-DM-D*xxx-xxx*	○ 52A-13-OOA-DM-D*xxx-xxx*	○ 52A-43-OOA-DM-D*xxx-xxx*	○ 52A-23-OOA-DM-D*xxx-xxx*
External	○ 52A-33-OOC-DM-D*xxx-xxx*	○ 52A-13-OOC-DM-D*xxx-xxx*	○ 52A-43-OOC-DM-D*xxx-xxx*	○ 52A-23-OOC-DM-D*xxx-xxx*

SOLENOID OPERATOR ➤ D *XX X - X XX**

XX	Voltage
○ *JA*	120/60, 110/50
○ *JB*	240/60, 220/50
○ *JC*	24/60, 24/50
○ *DA*	24VDC (5.4 W)
○ *FB*	24VDC (1.8 W)
○ *DF*	24VDC (12.7 W)
○ *xx*	Other Options

X	Wire length
○ *A*	45 cm (Flying leads)
○ *J*	Connector
○ *x*	Other Options

X	Manual operator
○ *1*	Non-locking
○ *2*	Locking
○ *x*	Other Options

XX	Electrical connection
○ *KA*	Square connector
○ *KD*	Square connector with light
○ *JB*	Rectangular connector
○ *JD*	Rectangular connector with light
○ *BA*	Flying leads
○ *xx*	Other Options

HOW TO ORDER CIRCUIT BAR * *

CBP052A-xxxxx-xx

Port size (BSPP)	Pilot air	Spacing standard 21 mm	Spacing 26 mm (Rectangular connector)
1/8" SIDE PORT	Internal	○ CBP052A-01AEB-*xx*	○ CBP052A-02AEB-*xx*
1/4" SIDE PORT		○ CBP052A-01AEE-*xx*	○ CBP052A-02AEE-*xx*
1/8" SIDE PORT	External	○ CBP052A-01EEB-*xx*	○ CBP052A-02EEB-*xx*
1/4" SIDE PORT		○ CBP052A-01EEE-*xx*	○ CBP052A-02EEE-*xx*
1/8" BOTTOM PORT	Internal	○ CBP052A-01BEB-*xx*	○ CBP052A-02BEB-*xx*
1/4" BOTTOM PORT		○ CBP052A-01BEE-*xx*	○ CBP052A-02BEE-*xx*
1/8" BOTTOM PORT	External	○ CBP052A-01FEB-*xx*	○ CBP052A-02FEB-*xx*
1/4" BOTTOM PORT		○ CBP052A-01FEE-*xx*	○ CBP052A-02FEE-*xx*

Number of stations (03=3 stations) ☐ **

Other options available. Consult factory.

Note : add-a-unit stations available in lengths up to 4 stations (01, 02, 03 or 04).

OPTIONS

52A-33-OOA-DM-D*xxx-xxx*

☐ clic for memory spring (replace by 6).

Consult "Precautions" before use, installation or service of MAC Valves.

Menu

MAC

Series **52**

100% OF PRODUCTION TESTED 100%

WARRANTY 18 MONTHS

TECHNICAL DATA

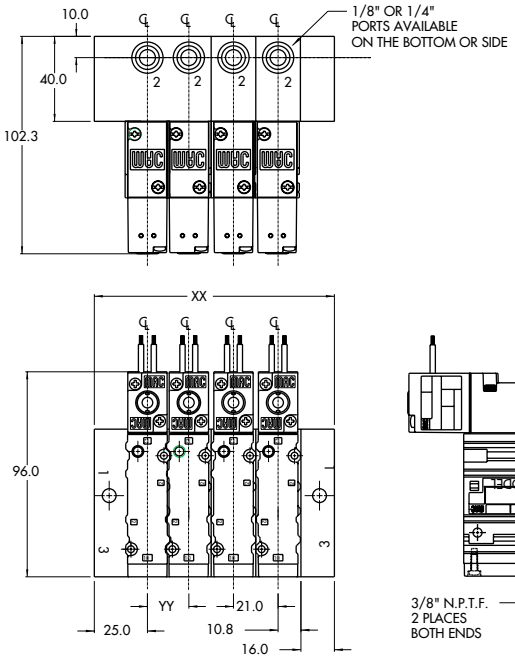
Fluid :	Compressed air, vacuum, inert gases		
Pressure range :	Internal pilot : 1.3 - 8.5 BAR External pilot : vacuum to 8.5 BAR		
Pilot pressure :	1.3 - 8.5 BAR		
Lubrication :	Not required, if used select a medium aniline point lubricant (between 80°C to 100°C)		
Filtration :	40 µ		
Temperature range :	0°F to 120°F (-18°C to +50°C)		
Orifice :	7.3 mm		
Flow :	1200 NL/min		
Leak rate :	50 cm^3/min		
Coil :	General purpose class A, continuous duty, encapsulated		
Voltage range :	-15% to +10% of nominal voltage		
Protection :	NEMA 4		
Power :	~ Inrush : 10.9 VA = 1.8 to 12.7 W	Holding : 7.7 VA	
Response times :	24 V=/5.4 W	Energize : 7.3 ms	De-energize : 5.3ms
	60Hz/6 W	Energize : 8-12 ms	De-energize : 7-11 ms

Spare parts : • Pilot valve : DM-DXXX-XXX-1, including mounting screws 35043 and seal 16524.

Accessories • Blanking plate : M-52003. • Seal (x3) : 17013-01. • Mounting screw (x2) : 35043.

Options : • NPTF threads. • Isolation of inlet and/or exhaust.

DIMENSIONS



YY	XX	PORT	ZZ
19.5	113	1/8"	36.0
26	119.5	1/4"	40.0

Note: Bottom & side cylinder ports not available on the same station

Section 2 Options

Codification table for voltages / Wire length / Manual operator / Electrical connection

VALVE CODE ➤ $DM\text{-}\underset{1}{DXX}\,\underset{2}{X}\,\text{-}\,\underset{3}{X}\,\underset{4}{XX}$

OPTIONS AVAILABLE FOR
- pilot operated valves 400, 52 & 92 Series

Back

1. VOLTAGE

-D XX X -X XX	VOLTAGE
DB	12 VDC (5.4 W)
DC	12 VDC (7.5 W)
DD	24 VDC (7.3 W)
DE	12 VDC (12.7 W)
DK	110 VDC (5.8 W)
DJ	28 VDC (5.7 W)
DL	64 VDC (6.0 W)
DM	36 VDC (5.8 W)
DN	6 VDC (6.0 W)
DR	90 VDC (6,6 W)
DS	110 VDC (7.3 W), 100 VDC (6.0 W)
DT	75 VDC (5.6 W)
DP	48 VDC (5.8 W)
FA	12 VDC (1.8 W)
FE	12 VDC (2.4 W)
FF	24 VDC (2.4 W)
JD	100/60, 100/50, 110/60

2. WIRE LENGTH

-D XX X -X XX	WIRE LENGTH
B	60 cm
C	90 cm
D	120 cm
E	180 cm
F	240 cm

3. MANUAL OPERATOR

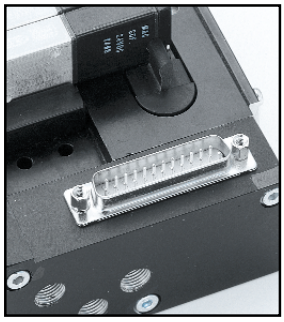
-D XX X -X XX	MANUAL OPERATOR
◯ 0	No operator
◯ 1	Non-locking recessed
◯ 2	Locking recessed
◯ 3	Non-locking extended
◯ 4	Locking extended

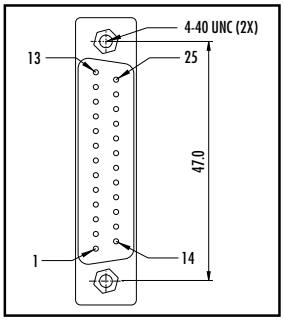
4. ELECTRICAL CONNECTION

-D XX X -X XX	ELECTRICAL CONNECTION
BA	Flying leads
BK	BA with protection diode
BL	BA with protection varistor
CA	1/2" NPS conduit
JB	Rectangular connector
JD	Rectangular connector with light
JM	Rectangular connector, male only
KA	Square connector
KB	Square connector with protection diode
KC	Square connector with protection varistor
KD	Square connector with light
KE	Square connector with light and protection diode
KF	Square connector with light and protection varistor
KJ	Square connector (male only)
KK	Square connector with protection diode (male only)
KL	Square connector with protection varistor (male only)
TA	Dual tabs
TB	TA with protection diode
TD	TA with light
TE	TA with light and protection diode
TJ	Dual tabs (male only)
TK	TJ with protection diode
TM	TJ with light
TN	TJ with light and protection diode
*DN	Plug-in with diode
*DP	Plug-in with M.O.V.
*DH	Plug-in with diode & ground
*DJ	Plug-in with M.O.V & ground

* These options only apply to the 92 series. All others are for the 400 and 52 series.

Connector SUB_D 25 (option ZZZY = SUBY ; Y = cable length)

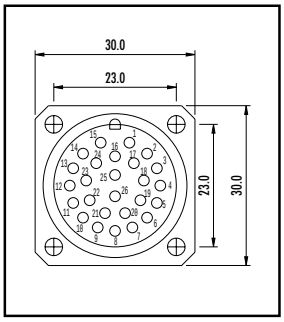




TECHNICAL DATA

- Type «SUB_D»
- Number of contacts : 25
- Solder termination (Dia. 0.6 mm/0.14 mm²/26-22 AWG)
- Operating current 5 A/contact
- Rated voltage 125 V~
- Temp. range –40° to +125°C
- Insulation resistance ≥ 10^{10} Ω
- Protection class IP40 (DIN 40050)
- Number of solenoids : 20 max.
- Max. 24 V=/5.4 W per solenoid
- 5 common wires
- Female plug supplied with circuit bar

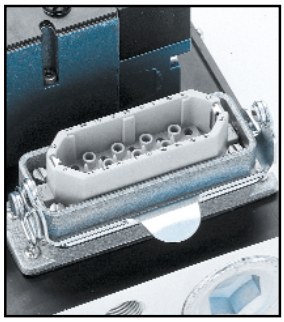
Connector RND (option ZZZY = RNDY ; Y = cable length)

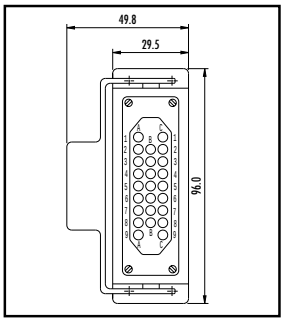


TECHNICAL DATA

- Type «Round connector»
- Number of contacts : 26
- Solder termination (Dia. 1 mm/1 mm²/17 AWG)
- Operating current 7.5 A/contact
- Rated voltage 250 V~
- Insulation resistance ≥ 10^{8} Ω
- Cable entry PG16
- Temp. range –40° to +125°C
- Protection class IP65 (DIN 40050)
- Number of solenoids : 24 max.
- 1 common and 1 ground
- All voltages
- Female plug supplied with circuit bar

Connector HDT (option ZZZY = HDTY ; Y = cable length)

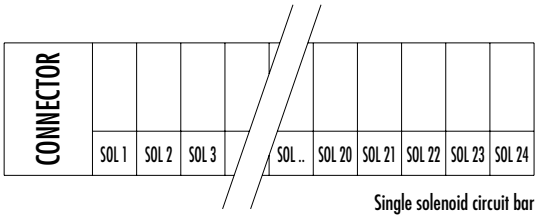




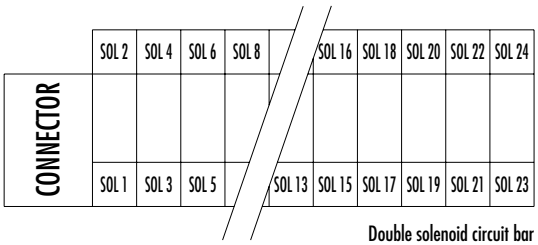
TECHNICAL DATA

- Type «Heavy duty»
- Number of contacts : 25
- Solder termination (Dia. 1.4 mm/0.75 mm²/18 AWG)
- Operating current 10 A/contact
- Rated voltage 250 V~
- Insulation resistance ≥ 10^{10} Ω
- Cable entry PG16
- Temp. range –40° to +125°C
- Protection class IP65 (DIN 40050)
- Number of solenoids : 24 max.
- 1 common and 1 ground
- All voltages
- Female plug supplied with circuit bar

Connector termination details



Single solenoid circuit bar

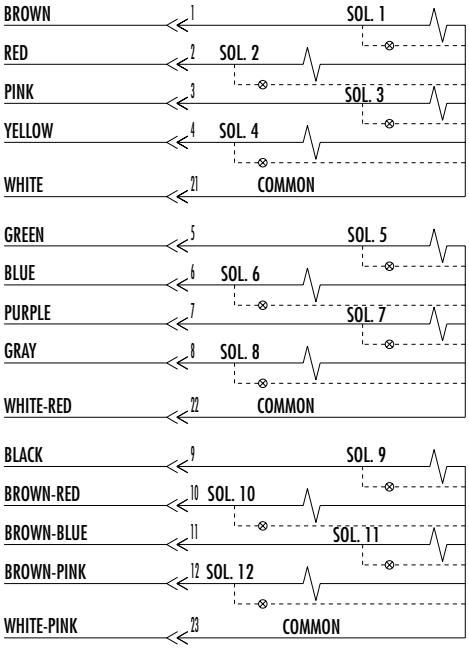


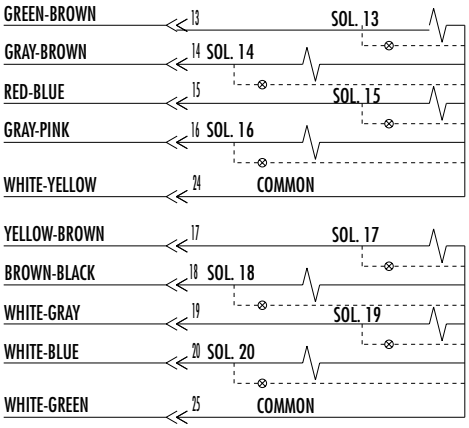
Double solenoid circuit bar

Connector SUB_D25 (option ZZZY = SUBY ; Y = cable length)

TECHNICAL DATA PREWIRED CABLE

- Type : LIYY -0.14 mm²
- Dia. ca. 9.3 mm
- Insulation resistance : 20 MΩ for 1000 meter
- Temp. range -5° to +80°C
- Rated voltage : 250 V~
- PVC core insulation and sheath

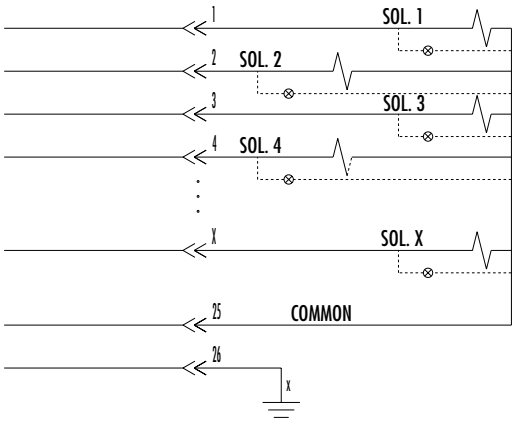




Connector RND [option ZZZY = SNDY ; Y = cable length]

TECHNICAL DATA PREWIRED CABLE

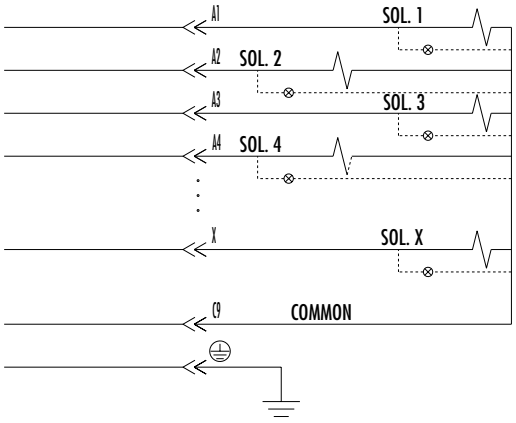
- Type : LIY(C)Y -0.50 mm²
- Dia. ca. 10.8 mm (12 core); 12.9 mm (18 core); 16.0 mm (32 core)
- Insulation resistance : 20 MΩ for 1000 meter
- Temp. range -5° to +80°C
- Rated voltage : 500 V~
- PVC core insulation and sheath
- Tinned copper wire braid



Connector HDT [option ZZZY = HDTY ; Y = cable length]

TECHNICAL DATA PREWIRED CABLE

- Type : LIY(C)Y -0.75 mm²
- Dia. ca. 12.0 mm (12 core); 13.5 mm (18 core); 18.0 mm (32 core)
- Insulation resistance : 20 MΩ for 1000 meter
- Temp. range -5° to +80°C
- Rated voltage : 500 V~
- PVC core insulation and sheath
- Tinned copper wire braid



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 ports are open to the exhaust port(s) of the valve. If having no air in either outlet port 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 ports 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 AND SERVICE PRECAUTIONS :

A. Do not install or service MAC valves without first making sure both the air and electrical power to the machine are off and that all air has been completely bled from the system.

B. MAC valves should only be installed and/or serviced 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 and graphic symbols. Do not install unless these symbols and the valve functions and operations are thoroughly understood.

C. Before service, maintenance, repair or cleaning, consult local distributor or factory for Parts & Operation Sheet and information on proper cleaning and lubrication agents. Do not subject MAC valves' parts to any foreign substance including lubricants and cleaning agents not specifically recommended by MAC valves, Inc.

D. 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 condition.

WARNING :

Under no circumstances are Mac valves to be used in any application where failure of the valve to operate as intended could jeopardize the safety of the operator or any other person.
- Do not operate outside of pressure range listed on valve label or outside of designated temperature range.
- Air supply must be clean. Contamination of valve can affect proper operation.
- Before attempting to repair, adjust or clean valve, consult catalog, parts & operation sheet, or factory for proper maintenance procedures, lubrication, and cleaning agents. Never attempt to repair or perform other maintenance with air pressure to valve.
- If airline lubrication is used, consult catalog, parts & operation sheet, or factory for recommended lubricants.

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.

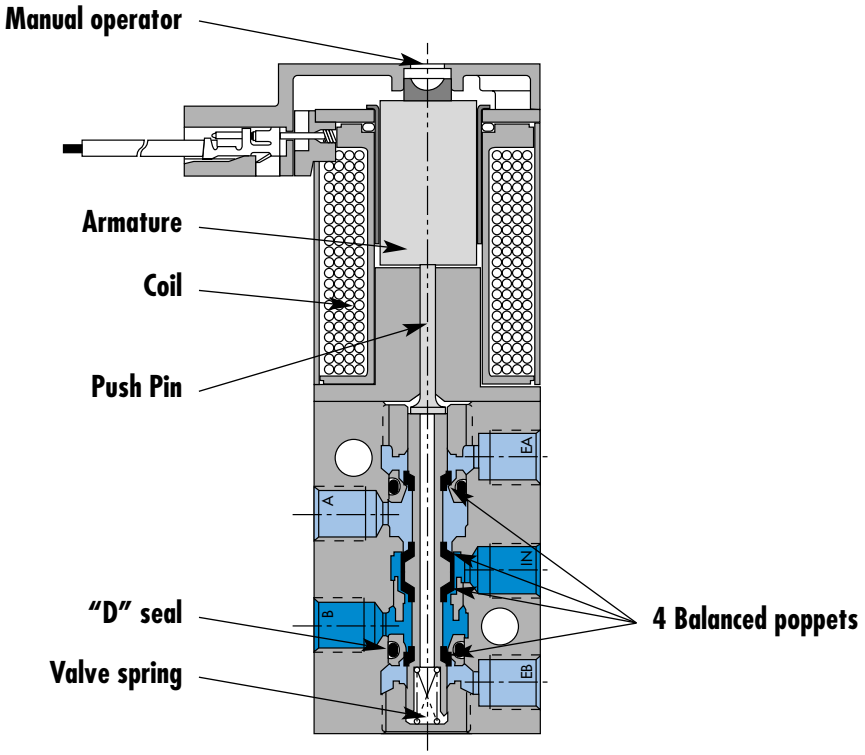
DISCLAIMER OF GUARANTEE

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. The 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.

Circuit bar mounting

non plug-in cylinder ports in base	non plug-in cylinder ports in valve	plug-in	plug-in with F. C.	plug-in with Pr. Reg.	plug-in with Pr. Reg. and F. C.	add-on style plug-in	add-on style plug-in with F. C.
add-on style plug-in with Pr. Reg.	add-on style plug-in with Pr. Reg. and F. C.	plug-in add-a-unit stations	plug-in add-a-unit stations with F. C.	plug-in add-a-unit stations with Pr. Reg.	plug-in add-a-unit stations with F. C. and Pr. Reg.		



SERIES FEATURES

- High force MACSOLENOID®.
- 10mm direct operated.
- # 10-32 or M5 ports.
- Rated for lubricated or non-lubricated service.
- Cylinder ports in valve or in circuit bar.

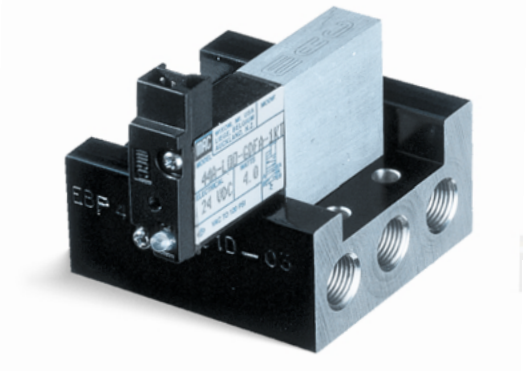
MAC

Series 44

Function	Port size	Flow (Max)	Circuit bar mounting
5/2, 3/2 NO-NC	**M5 - #10-32**	**93 NL/min**	non plug-in cylinder ports in base

OPERATIONAL BENEFITS

1. 10 mm valve, direct solenoid operated.
2. Balanced poppet, immune to variations of pressure.
3. Short stroke with high flow.
4. The patented solenoid develops high shifting forces.
5. Powerful return spring.
6. Flow is specifically adjusted on each valve.
7. Manual operator standard on all valves.

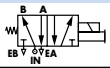
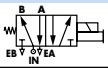


Reset

HOW TO ORDER

44B-xxx-Gxxx-xxx

HOW TO ORDER VALVE FOR CIRCUIT BAR MOUNTING

Port size (see base)	Valve	Valve for use with external flow controls
		
Valve less base	○ 44B-LOO-G*xxx-xxx*	○ 44B-MOO-G*xxx-xxx*

SOLENOID OPERATOR ➤ G *XX X- X XX**

XX	Voltage	*X*	Wire length	*X*	Manual operator	*XX*	Electrical connection
○ *DA*	24VDC (1.0 W)	○ *A*	45 cm	○ *1*	Non-locking	○ *BA*	Flying leads
○ *DC*	24VDC (1.8 W)	○ *C*	90 cm			○ *BT*	Flying leads with light
○ *DD*	24VDC (2.5 W)	○ *x*	Other Options			○ *KA*	Mini connector
○ *DF*	24VDC (4.0 W)					○ *KT*	Mini connector with light
○ *xx*	Other Options					○ *xx*	Other Options

EBP44B-xxxx-xx

HOW TO ORDER CIRCUIT BAR

Port size	Side cylinder ports	Bottom cylinder ports
M5	○ EBP44B-001D-*xx*	○ EBP44B-002D-*xx*
# 10-32	○ EBP44B-001B-*xx*	○ EBP44B-002B-*xx*

Number of stations (03=3 stations) ☐

Note : ☐ clic for valves mounted on base at the factory (add - 9 to the model number).

Series **44**

100% OF PRODUCTION TESTED 100%

WARRANTY 18 MONTHS

TECHNICAL DATA

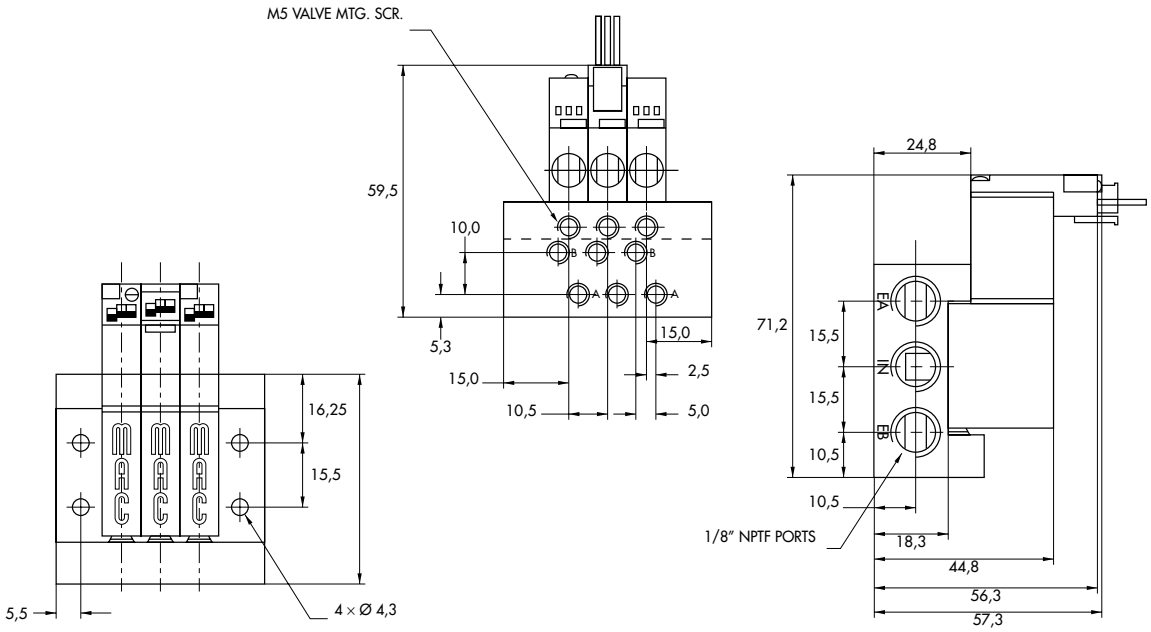
Fluid :	Compressed air, vacuum, inert gases
Pressure range :	Vacuum to 8 BAR
Lubrication :	Not required, if used select a medium aniline point lubricant (between 80°C and 100°C)
Filtration :	40 µ
Temperature range :	0°F to 120°F (-18°C to +50°C)
Orifice :	1.8 mm
Flow (at 6 bar, ΔP=1bar) :	4 W : 93 NL/min, 2.5 W : 77 NL/min, 1,8 W : 57 NL/min, 1.0 W : 48 NL/min
Leak rate :	50 cm^3/min
Coil :	General purpose class A, continuous duty, encapsulated
Voltage range :	-15% to +10% of nominal voltage
Power :	4 W - 2.5 W - 1.8 W - 1.0 W
Response times :	Energize : 3.4 ms
(with 4 W coil)	De-energize : 1.5 ms

Note : • Valve and coil are not interchangeable.

Spare parts : • Valve mounting kit : N-44001-03. • Blanking plate : M-44003.

Options : • Isolation of inlet and/or exhaust. Special bar. Consult Factory.

DIMENSIONS



Consult "Precautions" before use, installation or service of MAC Valves.

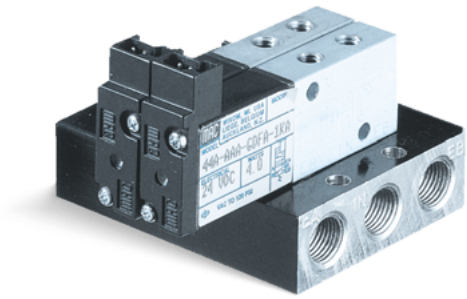
MAC

Series 44

Function	Port size (Inlet & Exhaust)	Flow (Max)	Circuit bar mounting
5/2, 3/2 NO-NC	**M5 - 1/8" BSPP**	**93 NL/min**	non plug-in cylinder ports in valve

OPERATIONAL BENEFITS

1. 10 mm valve, direct solenoid operated.
2. Balanced poppet, immune to variations of pressure.
3. Short stroke with high flow.
4. The patented solenoid develops high shifting forces.
5. Powerful return spring.
6. Flow is specifically adjusted on each valve.
7. Manual operator standard on all valves.

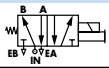
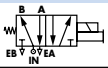


Reset

HOW TO ORDER

44B-xxx-Gxxx-xxx

HOW TO ORDER VALVE FOR CIRCUIT BAR MOUNTING

Valve port size	Valve	Valve for use with external flow controls
		
M5	○ 44B-ABA-G*xxx-xxx*	○ 44B-BBA-G*xxx-xxx*
# 10-32	○ 44B-AAA-G*xxx-xxx*	○ 44B-BAA-G*xxx-xxx*

SOLENOID OPERATOR ➤ G *XX X- X XX**

XX	Voltage	*X*	Wire length	*X*	Manual operator	*XX*	Electrical connection
○ *DA*	24VDC (1.0 W)	○ *A*	45 cm	○ *1*	Non-locking	○ *BA*	Flying leads
○ *DC*	24VDC (1.8 W)	○ *C*	90 cm			○ *BT*	Flying leads with light
○ *DD*	24VDC (2.5 W)	○ *x*	Other Options			○ *KA*	Mini connector
○ *DF*	24VDC (4.0 W)					○ *KT*	Mini connector with light
○ *xx*	Other Options					○ *xx*	Other Options

EBM44A-xxxx-xx

HOW TO ORDER CIRCUIT BAR

Port size COMMON INLET & EXHAUST	
M5	○ EBM44A-001D-*xx*
1/8" BSPP	○ EBM44A-002C-*xx*

Number of stations (03=3 stations) ☐
Note : ☐ clic for valves mounted on base at the factory (add - 9 to the model number).

Series 44

100% OF PRODUCTION TESTED 100%

WARRANTY 18 MONTHS

TECHNICAL DATA

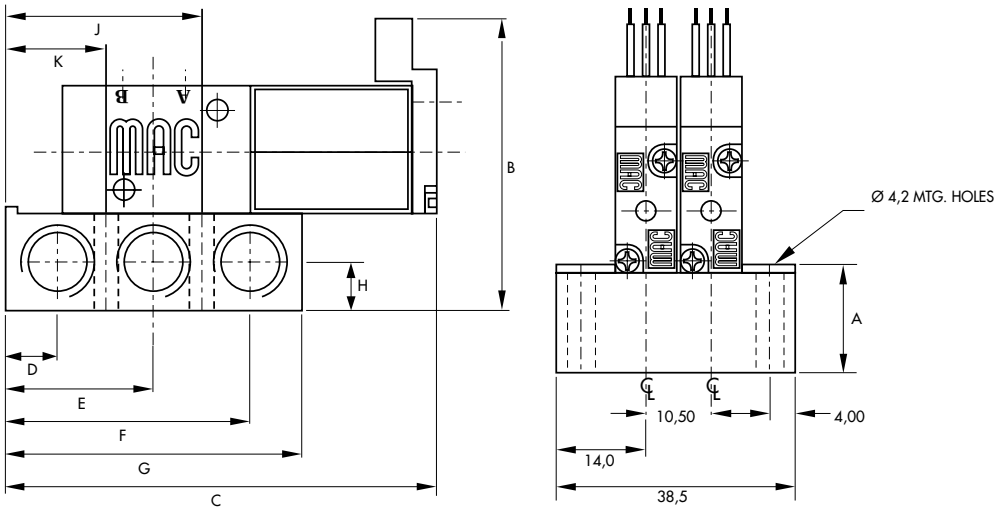
Fluid :	Compressed air, vacuum, inert gases
Pressure range :	Vacuum to 8 BAR
Lubrication :	Not required, if used select a medium aniline point lubricant (between 80°C and 100°C)
Filtration :	40 µ
Temperature range :	0°F to 120°F (-18°C to +50°C)
Orifice :	1.8 mm
Flow (at 6 bar, ΔP=1bar) :	4 W : 93 NL/min, 2.5 W : 77 NL/min, 1,8 W : 57 NL/min, 1.0 W : 48 NL/min
Leak rate :	50 cm^3/min
Coil :	General purpose class A, continuous duty, encapsulated
Voltage range :	-15% to +10% of nominal voltage
Power :	4 W - 2.5 W - 1.8 W - 1.0 W
Response times :	Energize : 3.5 ms
(with 4 W coil)	De-energize : 1.5 ms

Note : • Valve and coil are not interchangeable.

Spare parts : • Valve mounting kit (M5) : M-44001-21. • Valve mounting kit (1/8") : M-44001-01. • Blanking plate : 30426-A.

Options : • Isolation of inlet and/or exhaust. Special bar. Consult Factory.

DIMENSIONS



Port size	A	B	C	D	E	F	G	H	J	K
1/8"	16.0	47.5	69.2	8.5	24.0	39.5	48.0	8.0	31.85	16.15
M5	12.0	43.5	63.2	5.0	17.0	29.0	34.0	6.0	23.00	11.00

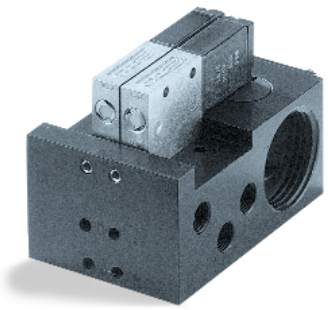
MAC

Series 44

Function	Port size	Flow (Max)	Circuit bar mounting
5/2, 3/2 NO-NC	**M5 - #10-32**	**90 NL/min**	plug-in

OPERATIONAL BENEFITS

1. 10 mm valve, direct solenoid operated.
2. Balanced poppet, immune to variations of pressure.
3. Short stroke with high flow.
4. The patented solenoid develops high shifting forces.
5. Powerful return spring.
6. Flow is specifically adjusted on each valve.
7. Manual operator standard on all valves.

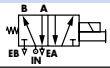


Reset

HOW TO ORDER

44B-xxx-GxxO-xxx

HOW TO ORDER VALVE FOR CIRCUIT BAR MOUNTING

Port size (see base)	Single operator
	
Valve less base	○ 44B-LOO-G*XX*O-*XXX*

SOLENOID OPERATOR ➤ G *XX* O- *X XX**

XX	Voltage
○ *DA*	24VDC (1.0 W)
○ *DC*	24VDC (1.8 W)
○ *DD*	24VDC (2.5 W)
DF	24VDC (4.0 W)

X	Manual operator
○ *1*	Non-locking

XX	Electrical connection
○ *DJ*	Plug-in
○ *DT*	Plug-in with light
○ *DE*	Plug-in with suppression diode
○ *DV*	Plug-in with light and suppression diode

ECD044B-00xxx-AOxx

HOW TO ORDER CIRCUIT BAR

Port size	Side cylinder ports (10.5 mm)	Bottom cylinder ports (10.5 mm)
M5	○ ECD044B-001AD-AO*XX*	ECD044B-002AD-AO*XX*
# 10-32	ECD044B-001AB-AO*XX*	ECD044B-002AB-AO*XX*

Number of stations (03=3 stations) ☐

Note : ☐ clic for valves mounted on base at the factory (add - 9 to the model number).
clic for multi-pin connector option (9, 15 or 25).

MAC

Series **44**

100% OF PRODUCTION TESTED 100%

WARRANTY 18 MONTHS

TECHNICAL DATA

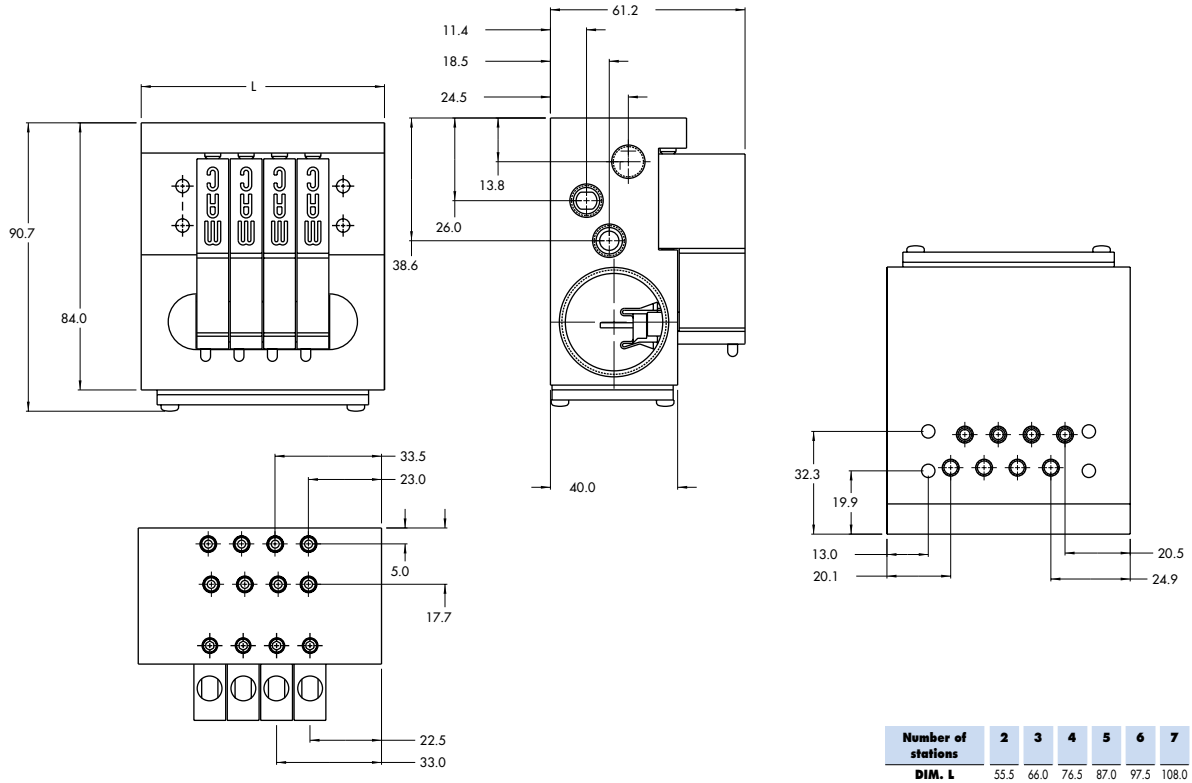
Fluid :	Compressed air, vacuum, inert gases
Pressure range :	Vacuum to 8 BAR
Lubrication :	Not required, if used select a medium aniline point lubricant (between 80°C and 100°C)
Filtration :	40 µ
Temperature range :	0°F to 120°F (-18°C to +50°C)
Orifice :	1.8 mm
Flow (at 6 bar, ΔP=1bar) :	4 W : 90 NL/min, 2.5 W : 80 NL/min, 1,8 W : 60 NL/min, 1.0 W : 50 NL/min
Leak rate :	50 cm^3/min
Coil :	General purpose class A, continuous duty, encapsulated
Voltage range :	-15% to +10% of nominal voltage
Power :	4 W - 2.5 W - 1.8 W - 1.0 W
Response times :	Energize : 4 ms
(with 4 W coil)	De-energize : 1.5 ms

Note : • Valve and coil are not interchangeable.

Spare parts : • Valve mounting kit : N-44001-03. • Blanking plate : M-44003.

Options : • Isolation of inlet and/or exhaust. • BSPP Threads.

DIMENSIONS



Number of stations	2	3	4	5	6	7	8	9	10
DIM. L	55.5	66.0	76.5	87.0	97.5	108.0	118.5	129.0	139.5

Consult "Precautions" before use, installation or service of MAC Valves.

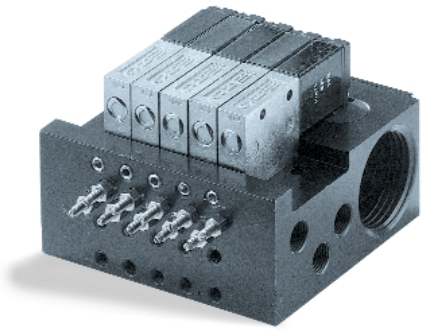
MAC

Series **44**

Function	Port size	Flow (Max)	Circuit bar mounting
5/2, 3/2 NO-NC	**M5 - #10-32**	**80 NL/min**	plug-in with F. C.

OPERATIONAL BENEFITS

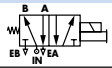
1. 10 mm valve, direct solenoid operated.
2. Balanced poppet, immune to variations of pressure.
3. Short stroke with high flow.
4. The patented solenoid develops high shifting forces.
5. Powerful return spring.
6. Flow is specifically adjusted on each valve.
7. Manual operator standard on all valves.



Reset

HOW TO ORDER

HOW TO ORDER VALVE FOR CIRCUIT BAR MOUNTING

Port size (see base)	Single operator
	
Valve less base	44B-MOO-G*XX*O-*XXX*

SOLENOID OPERATOR ➤ G *XX* O- *X XX**

XX	Voltage
DA	24VDC (1.0 W)
DC	24VDC (1.8 W)
DD	24VDC (2.5 W)
DF	24VDC (4.0 W)

X	Manual operator
1	Non-locking

XX	Electrical connection
DJ	Plug-in
DT	Plug-in with light
DE	Plug-in with suppression diode
DV	Plug-in with light and suppression diode

HOW TO ORDER CIRCUIT BAR WITH FLOW CONTROLS

Port size	Side cylinder ports (10.5 mm)	Bottom cylinder ports (10.5 mm)
M5	ECD044B-005AD-AO*XX*	ECD044B-006AD-AO*XX*
# 10-32	ECD044B-005AB-AO*XX*	ECD044B-006AB-AO*XX*

Number of stations (03=3 stations)

Note : clic for valves mounted on base at the factory (add - 9 to the model number).
clic for multi-pin connector option (9, 15 or 25).

MAC

Series **44**

100% OF PRODUCTION TESTED 100%

WARRANTY 18 MONTHS

TECHNICAL DATA

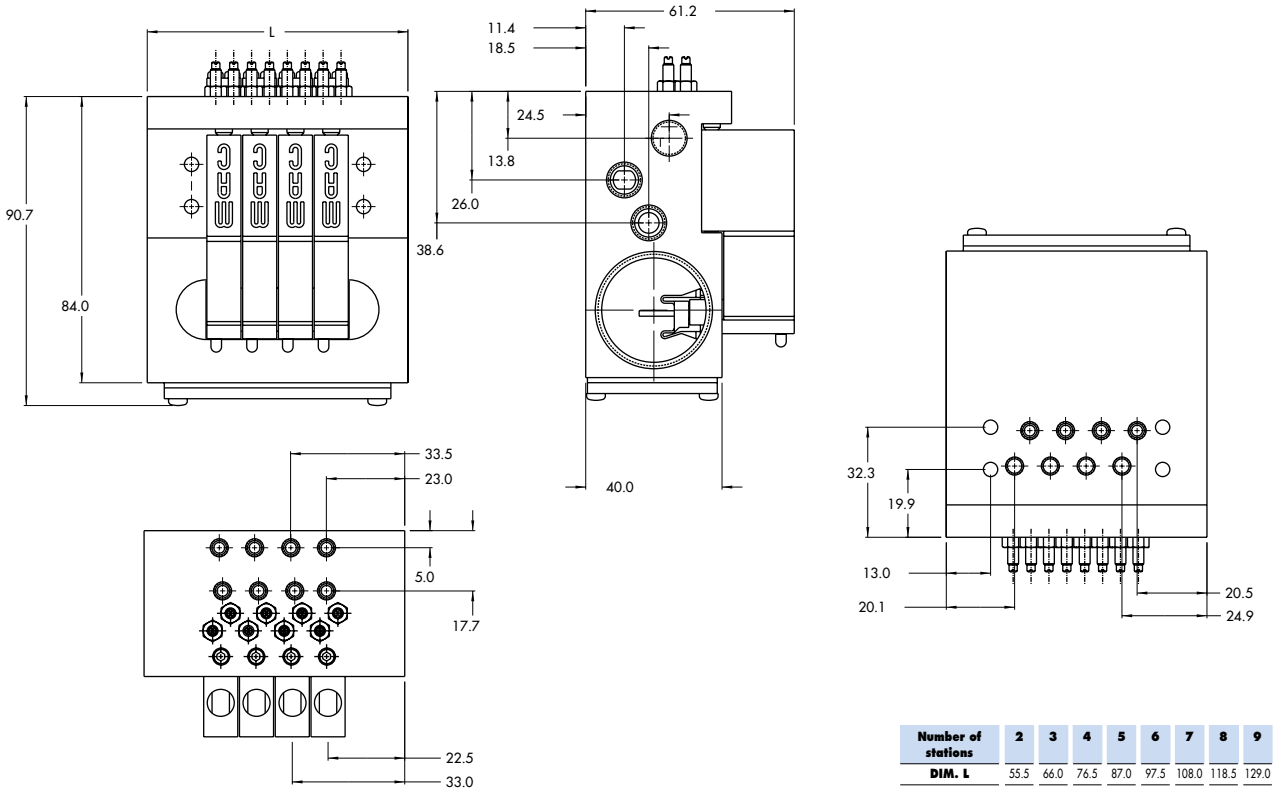
Fluid :	Compressed air, vacuum, inert gases
Pressure range :	Vacuum to 8 BAR
Lubrication :	Not required, if used select a medium aniline point lubricant (between 80°C and 100°C)
Filtration :	40 µ
Temperature range :	0°F to 120°F (-18°C to +50°C)
Orifice :	1.8 mm
Flow (at 6 bar, ΔP=1bar) :	4 W : 90 NL/min, 2.5 W : 80 NL/min, 1,8 W : 60 NL/min, 1.0 W : 50 NL/min
Leak rate :	50 cm^3/min
Coil :	General purpose class A, continuous duty, encapsulated
Voltage range :	-15% to +10% of nominal voltage
Power :	4 W - 2.5 W - 1.8 W - 1.0 W
Response times :	Energize : 4 ms
(with 4 W coil)	De-energize : 1.5 ms

Note : • Valve and coil are not interchangeable.

Spare parts : • Valve mounting kit : N-44001-03. • Blanking plate : M-44003. • Flow control needle (x2): N-44002.
• Base wire Plug-in protector : 24180.

Options : • Isolation of inlet and/or exhaust. • BSPP Threads.

DIMENSIONS



Number of stations	2	3	4	5	6	7	8	9	10
DIM. L	55.5	66.0	76.5	87.0	97.5	108.0	118.5	129.0	139.5

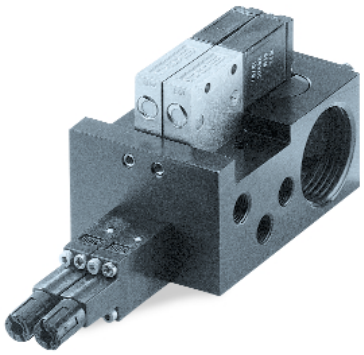
MAC

Series **44**

Function	Port size	Flow (Max)	Circuit bar mounting
5/2, 3/2 NO-NC	**M5 - #10-32**	**80 NL/min**	plug-in with Pr. Reg.

OPERATIONAL BENEFITS

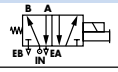
1. 10 mm valve, direct solenoid operated.
2. Balanced poppet, immune to variations of pressure.
3. Short stroke with high flow.
4. The patented solenoid develops high shifting forces.
5. Powerful return spring.
6. Flow is specifically adjusted on each valve.
7. Manual operator standard on all valves.



Reset

HOW TO ORDER

HOW TO ORDER VALVE FOR CIRCUIT BAR MOUNTING

Port size (see base)	Single operator
	
Valve less base	44B-LOO-G*XX*O-*XXX*

SOLENOID OPERATOR ➤ G *XX* O- *X XX**

XX	Voltage
DA	24VDC (1.0 W)
DC	24VDC (1.8 W)
DD	24VDC (2.5 W)
DF	24VDC (4.0 W)

X	Manual operator
1	Non-locking

XX	Electrical connection
DJ	Plug-in
DT	Plug-in with light
DE	Plug-in with suppression diode
DV	Plug-in with light and suppression diode

HOW TO ORDER CIRCUIT BAR FOR PRESSURE REGULATORS** (to be ordered separately)

Port size	Bottom cylinder ports (10,5 mm)
M5	ECD044B-004AD-A0-*XX*
# 10-32	ECD044B-004AB-A0-*XX*

Number of stations (03=3 stations)

Note : clic for valves mounted on base at the factory (add - 9 to the model number).
clic for multi-pin connector option (9, 15 or 25).

** Pressure Regulators :

Y=A (no gage port)
Y=B (with gage port)
X=A (0 to 6.7 BAR)
X=B (0 to 4 BAR)
X=C (0 to 2.7 BAR)
X=D (0 to 1 BAR)

MAC

Series **44**

100% OF PRODUCTION TESTED 100%

WARRANTY 18 MONTHS

TECHNICAL DATA

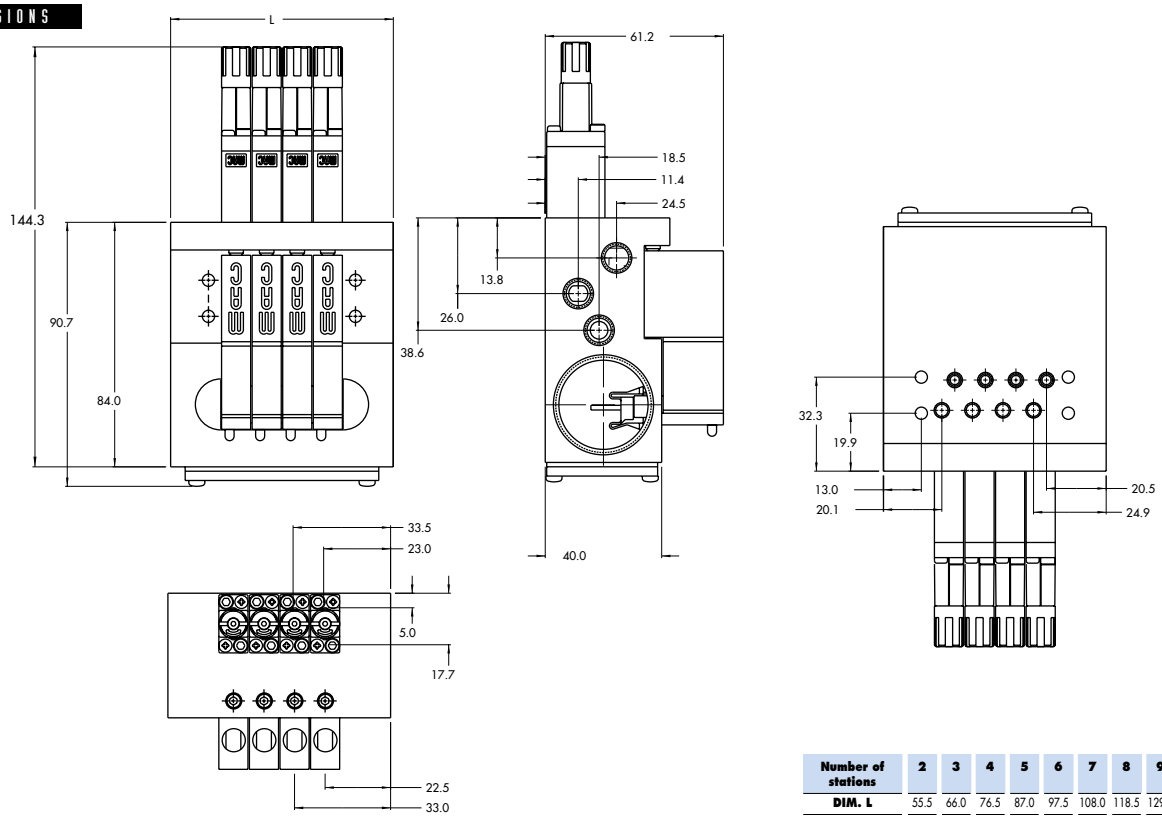
Fluid :	Compressed air, vacuum, inert gases
Pressure range :	Vacuum to 8 BAR
Lubrication :	Not required, if used select a medium aniline point lubricant (between 80°C and 100°C)
Filtration :	40 µ
Temperature range :	0°F to 120°F (-18°C to +50°C)
Orifice :	1.8 mm
Flow (at 6 bar, ΔP=1bar) :	4 W : 90 NL/min, 2.5 W : 80 NL/min, 1,8 W : 60 NL/min, 1.0 W : 50 NL/min
Leak rate :	50 cm^3/min
Coil :	General purpose class A, continuous duty, encapsulated
Voltage range :	-15% to +10% of nominal voltage
Power :	4 W - 2.5 W - 1.8 W - 1.0 W
Response times :	Energize : 4 ms
(with 4 W coil)	De-energize : 1.5 ms

Note :
- Valve and coil are not interchangeable.
- Pressure range regulators : (0-100 PSI).

Spare parts :
- Valve mounting kit : N-44001-03. • Blanking plate : M-44003. • Blanking plate regulator: N-44003.
- Base wire Plug-in protector : 24180.

Options :
- Isolation of inlet and/or exhaust. • BSPP Threads.

DIMENSIONS



Number of stations	2	3	4	5	6	7	8	9	10
DIM. L	55.5	66.0	76.5	87.0	97.5	108.0	118.5	129.0	139.5

Consult "Precautions" before use, installation or service of MAC Valves.

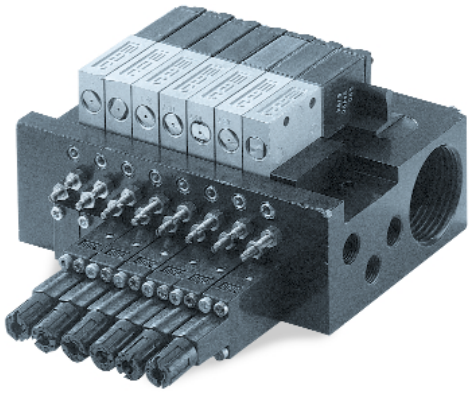
MAC®

Series **44**

Function	Port size	Flow (Max)	Circuit bar mounting
5/2, 3/2 NO-NC	**M5 - #10-32**	**70 NL/min**	plug-in with Pr. Reg. and F. C.

OPERATIONAL BENEFITS

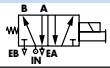
1. 10 mm valve, direct solenoid operated.
2. Balanced poppet, immune to variations of pressure.
3. Short stroke with high flow.
4. The patented solenoid develops high shifting forces.
5. Powerful return spring.
6. Flow is specifically adjusted on each valve.
7. Manual operator standard on all valves.



Reset

HOW TO ORDER

HOW TO ORDER VALVE FOR CIRCUIT BAR MOUNTING

Port size (see base)	Single operator
	
Valve less base	44B-MOO-G*XX*O-*XXX*

SOLENOID OPERATOR ➤ G *XX* O- *X XX**

XX	Voltage
DA	24VDC (1.0 W)
DC	24VDC (1.8 W)
DD	24VDC (2.5 W)
DF	24VDC (4.0 W)

X	Manual operator
1	Non-locking

XX	Electrical connection
DJ	Plug-in
DT	Plug-in with light
DE	Plug-in with suppression diode
DV	Plug-in with light and suppression diode

HOW TO ORDER CIRCUIT BAR WITH FLOW CONTROLS AND PRESSURE REGULATORS** (pressure regulators to be ordered separately)

Port size	Bottom cylinder ports (10,5 mm)
M5	ECD044B-007AD-A0-*XX*
# 10-32	ECD044B-007AB-A0-*XX*

Number of stations (03=3 stations)

Note : clic for valves mounted on base at the factory (add - 9 to the model number).
clic for multi-pin connector option (9, 15 or 25).

** Pressure Regulators :

Y=A (no gage port)
Y=B (with gage port)
X=A (0 to 6.7 BAR)
X=B (0 to 4 BAR)
X=C (0 to 2.7 BAR)
X=D (0 to 1 BAR)

MAC

Series **44**

100% OF PRODUCTION TESTED 100%

WARRANTY 18 MONTHS

TECHNICAL DATA

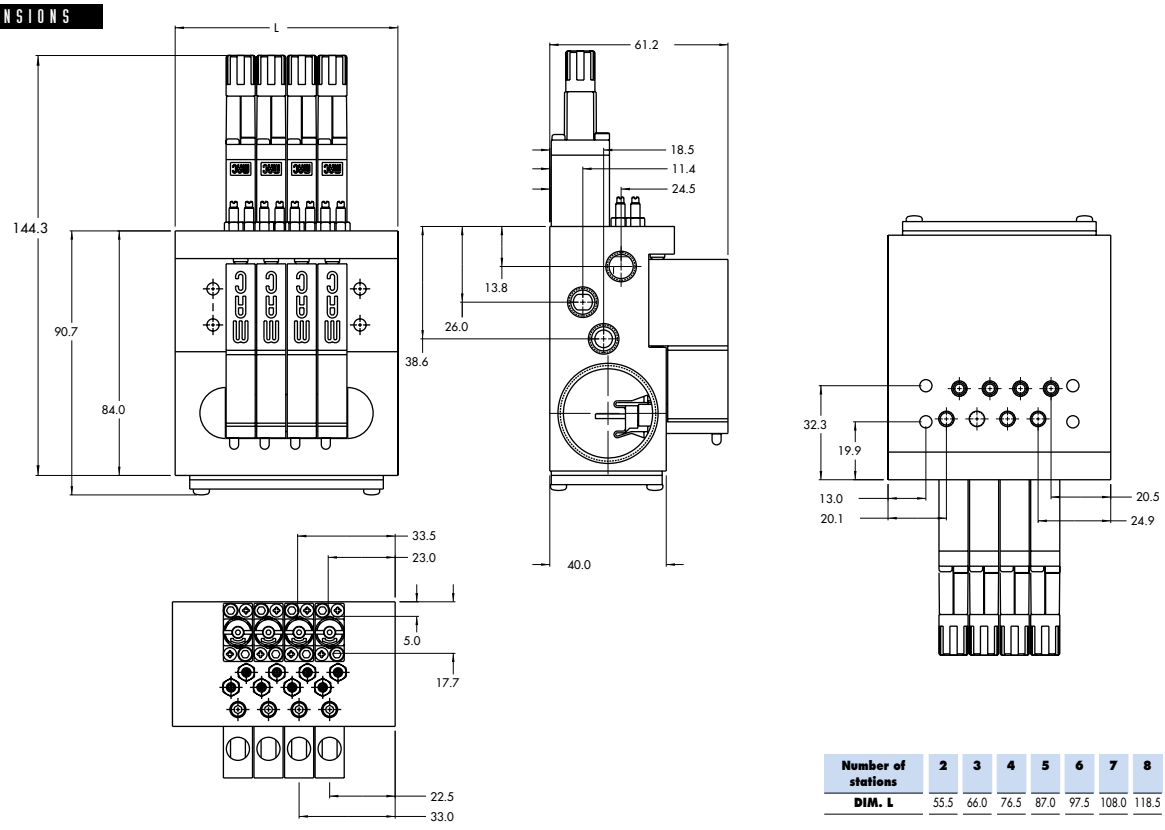
Fluid :	Compressed air, vacuum, inert gases
Pressure range :	Vacuum to 8 BAR
Lubrication :	Not required, if used select a medium aniline point lubricant (between 80°C and 100°C)
Filtration :	40 µ
Temperature range :	0°F to 120°F (-18°C to +50°C)
Orifice :	1.8 mm
Flow (at 6 bar, ΔP=1bar) :	4 W : 70 NL/min, 2.5 W : 60 NL/min, 1,8 W : 60 NL/min, 1.0 W : 50 NL/min
Leak rate :	50 cm^3/min
Coil :	General purpose class A, continuous duty, encapsulated
Voltage range :	-15% to +10% of nominal voltage
Power :	4 W - 2.5 W - 1.8 W - 1.0 W
Response times :	Energize : 4 ms
(with 4 W coil)	De-energize : 1.5 ms

Note :
- Valve and coil are not interchangeable.
- Pressure range regulators : (0-100 PSI).

Spare parts :
- Valve mounting kit : N-44001-03. • Blanking plate : M-44003. • Blanking plate regulator: N-44003.
- Base wire Plug-in protector : 24180.

Options :
- Isolation of inlet and/or exhaust. • BSPP Threads.

DIMENSIONS



Number of stations	2	3	4	5	6	7	8	9	10
DIM. L	55.5	66.0	76.5	87.0	97.5	108.0	118.5	129.0	139.5

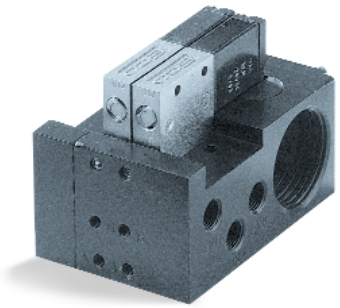
MAC®

Series **44**

Function	Port size	Flow (Max)	Circuit bar mounting
5/2, 3/2 NO-NC	**M5 - #10-32**	**90 NL/min**	add-on style plug-in

OPERATIONAL BENEFITS

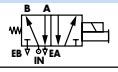
1. 10 mm valve, direct solenoid operated.
2. Balanced poppet, immune to variations of pressure.
3. Short stroke with high flow.
4. The patented solenoid develops high shifting forces.
5. Powerful return spring.
6. Flow is specifically adjusted on each valve.
7. Manual operator standard on all valves.



Reset

HOW TO ORDER

HOW TO ORDER VALVE FOR CIRCUIT BAR MOUNTING

Port size (see base)	Single operator
	
Valve less base	44B-LOO-G*XX*O-*XXX*

SOLENOID OPERATOR ➤ G *XX* O- *X XX**

XX	Voltage
DA	24VDC (1.0 W)
DC	24VDC (1.8 W)
DD	24VDC (2.5 W)
DF	24VDC (4.0 W)

X	Manual operator
1	Non-locking

XX	Electrical connection
DJ	Plug-in
DT	Plug-in with light
DE	Plug-in with suppression diode
DV	Plug-in with light and suppression diode

HOW TO ORDER CIRCUIT BAR

Port size	Side cylinder ports (10.5 mm)	Bottom cylinder ports (10.5 mm)
M5	ECD044B-001BD-AO*XX*	ECD044B-002BD-AO*XX*
# 10-32	ECD044B-001BB-AO*XX*	ECD044B-002BB-AO*XX*

Number of stations (03=3 stations)

Note : clic for valves mounted on base at the factory (add - 9 to the model number).
clic for multi-pin connector option (9, 15 or 25).
add-a-unit stations may be added to above bars.

MAC

Series 44

100% OF PRODUCTION TESTED 100%

WARRANTY 18 MONTHS

TECHNICAL DATA

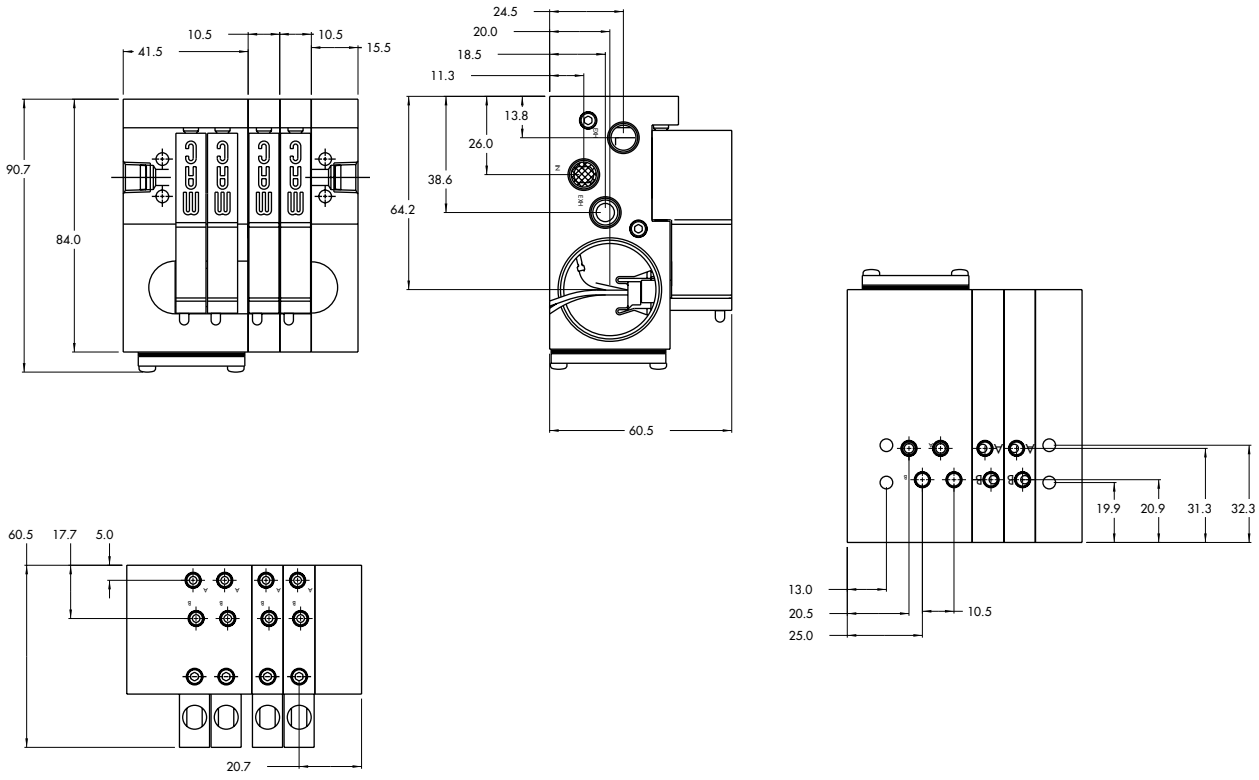
Fluid :	Compressed air, vacuum, inert gases
Pressure range :	Vacuum to 8 BAR
Lubrication :	Not required, if used select a medium aniline point lubricant (between 80°C and 100°C)
Filtration :	40 µ
Temperature range :	0°F to 120°F (-18°C to +50°C)
Orifice :	1.8 mm
Flow (at 6 bar, ΔP=1bar) :	4 W : 90 NL/min, 2.5 W : 80 NL/min, 1,8 W : 60 NL/min, 1.0 W : 50 NL/min
Leak rate :	50 cm^3/min
Coil :	General purpose class A, continuous duty, encapsulated
Voltage range :	-15% to +10% of nominal voltage
Power :	4 W - 2.5 W - 1.8 W - 1.0 W
Response times :	Energize : 4 ms
(with 4 W coil)	De-energize : 1.5 ms

Note : • Valve and coil are not interchangeable.

Spare parts : • Valve mounting kit : N-44001-03. • Blanking plate : M-44003.

Options : • Isolation of inlet and/or exhaust. • BSPP Threads.

DIMENSIONS



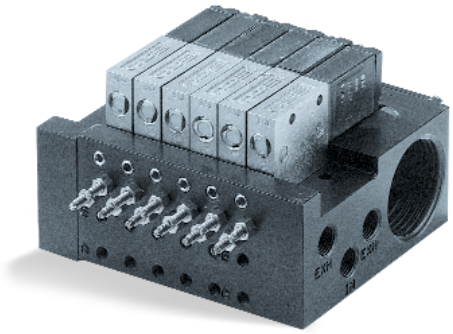
MAC®

Series **44**

Function	Port size	Flow (Max)	Circuit bar mounting
5/2, 3/2 NO-NC	**M5 - #10-32**	**80 NL/min**	add-on style plug-in with F. C.

OPERATIONAL BENEFITS

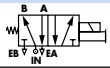
1. 10 mm valve, direct solenoid operated.
2. Balanced poppet, immune to variations of pressure.
3. Short stroke with high flow.
4. The patented solenoid develops high shifting forces.
5. Powerful return spring.
6. Flow is specifically adjusted on each valve.
7. Manual operator standard on all valves.



Reset

HOW TO ORDER

HOW TO ORDER VALVE FOR CIRCUIT BAR MOUNTING

Port size (see base)	Single operator
	
Valve less base	44B-MOO-G*XX*O-*XXX*

SOLENOID OPERATOR ➤ G *XX* O- *X* *XX**

XX	Voltage
DA	24VDC (1.0 W)
DC	24VDC (1.8 W)
DD	24VDC (2.5 W)
DF	24VDC (4.0 W)

X	Manual operator
1	Non-locking

XX	Electrical connection
DJ	Plug-in
DT	Plug-in with light
DE	Plug-in with suppression diode
DV	Plug-in with light and suppression diode

HOW TO ORDER CIRCUIT BAR WITH FLOW CONTROLS

Port size	Side cylinder ports (10.5 mm)	Bottom cylinder ports (10.5 mm)
M5	ECD044B-005BD-AO*XX*	ECD044B-006BD-AO*XX*
# 10-32	ECD044B-005BB-AO*XX*	ECD044B-006BB-AO*XX*

Number of stations (03=3 stations)

Note : clic for valves mounted on base at the factory (add - 9 to the model number).
clic for multi-pin connector option (9, 15 or 25).
add-a-unit stations may be added to above bars.

MAC

Series **44**

100% OF PRODUCTION TESTED 100%

WARRANTY 18 MONTHS

TECHNICAL DATA

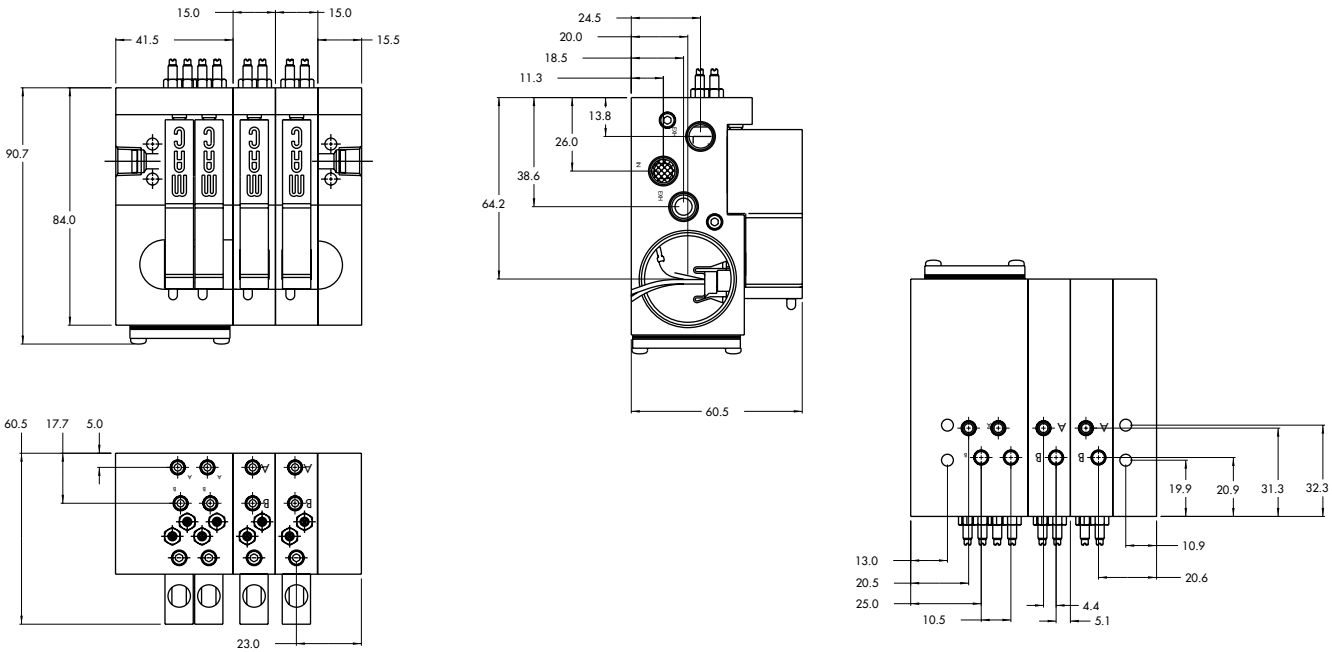
Fluid :	Compressed air, vacuum, inert gases
Pressure range :	Vacuum to 8 BAR
Lubrication :	Not required, if used select a medium aniline point lubricant (between 80°C and 100°C)
Filtration :	40 µ
Temperature range :	0°F to 120°F (-18°C to +50°C)
Orifice :	1.8 mm
Flow (at 6 bar, ΔP=1bar) :	4 W : 90 NL/min, 2.5 W : 80 NL/min, 1,8 W : 60 NL/min, 1.0 W : 50 NL/min
Leak rate :	50 cm^3/min
Coil :	General purpose class A, continuous duty, encapsulated
Voltage range :	-15% to +10% of nominal voltage
Power :	4 W - 2.5 W - 1.8 W - 1.0 W
Response times :	Energize : 4 ms
(with 4 W coil)	De-energize : 1.5 ms

Note : • Valve and coil are not interchangeable.

Spare parts : • Valve mounting kit : N-44001-03. • Blanking plate : M-44003. • Flow control needle (x2): N-44002.
• Base wire Plug-in protector : 24180.

Options : • Isolation of inlet and/or exhaust. • BSPP Threads.

DIMENSIONS



MAC®

Series **44**

Function	Port size	Flow (Max)	Circuit bar mounting
5/2, 3/2 NO-NC	**M5 - #10-32**	**80 NL/min**	add-on style plug-in with Pr. Reg.

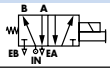
OPERATIONAL BENEFITS

1. 10 mm valve, direct solenoid operated.
2. Balanced poppet, immune to variations of pressure.
3. Short stroke with high flow.
4. The patented solenoid develops high shifting forces.
5. Powerful return spring.
6. Flow is specifically adjusted on each valve.
7. Manual operator standard on all valves.

Reset

HOW TO ORDER

HOW TO ORDER VALVE FOR CIRCUIT BAR MOUNTING

Port size (see base)	Single operator
	
Valve less base	44B-LOO-G*XX*O-*XXX*

SOLENOID OPERATOR ➤ G *XX* O- *X XX**

XX	Voltage
DA	24VDC (1.0 W)
DC	24VDC (1.8 W)
DD	24VDC (2.5 W)
DF	24VDC (4.0 W)

X	Manual operator
1	Non-locking

XX	Electrical connection
DJ	Plug-in
DT	Plug-in with light
DE	Plug-in with suppression diode
DV	Plug-in with light and suppression diode

HOW TO ORDER CIRCUIT BAR FOR PRESSURE REGULATORS** (to be ordered separately)

Port size	Bottom cylinder ports (10,5 mm)
M5	ECD044B-004BD-A0-*XX*
# 10-32	ECD044B-004BB-A0-*XX*

Number of stations (03=3 stations)

Note : clic for valves mounted on base at the factory (add - 9 to the model number).
clic for multi-pin connector option (9, 15 or 25).
add-a-unit stations may be added to above bars.

** Pressure Regulators :

Y=A (no gage port)
Y=B (with gage port)
X=A (0 to 6.7 BAR)
X=B (0 to 4 BAR)
X=C (0 to 2.7 BAR)
X=D (0 to 1 BAR)

Series **44**

100% OF PRODUCTION TESTED 100%

WARRANTY 18 MONTHS

TECHNICAL DATA

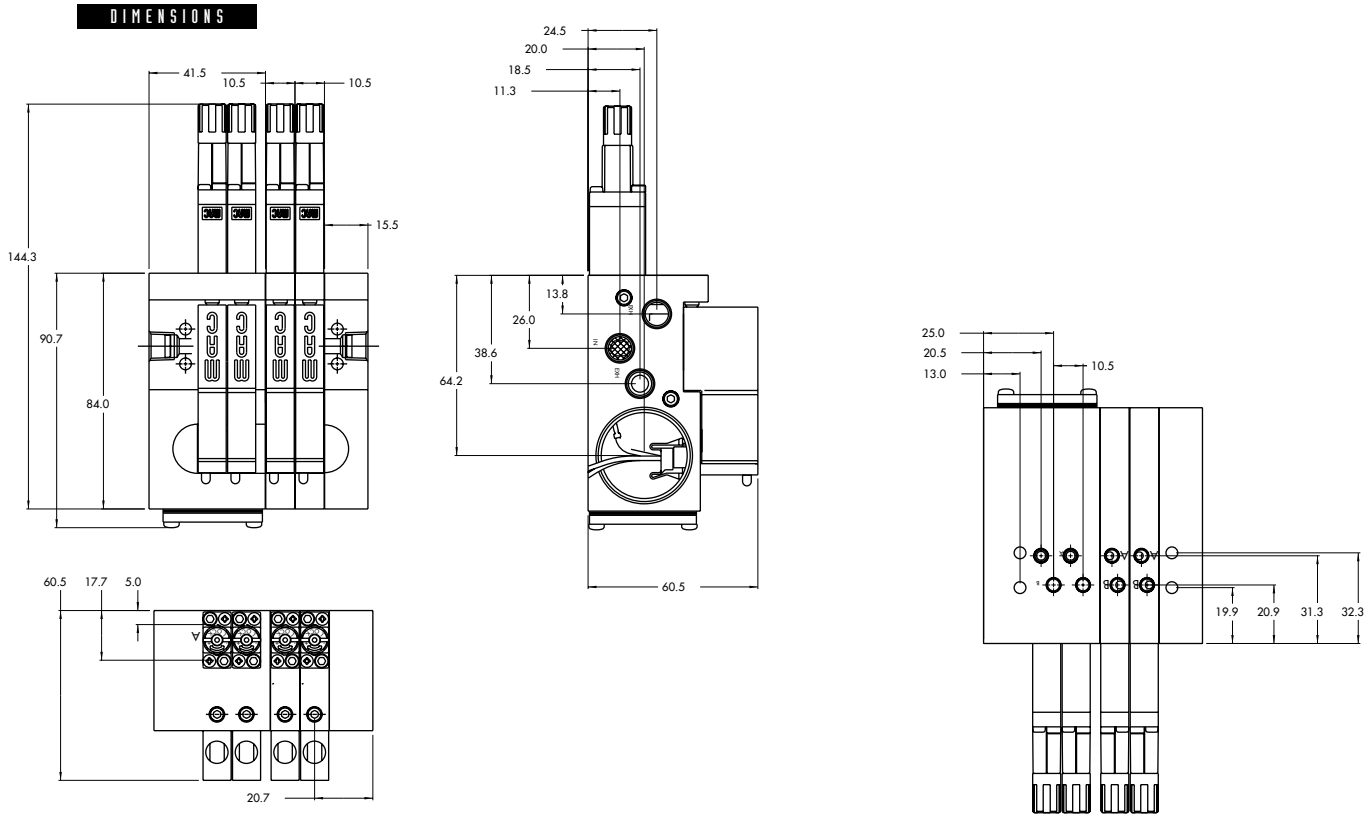
Fluid :	Compressed air, vacuum, inert gases
Pressure range :	Vacuum to 8 BAR
Lubrication :	Not required, if used select a medium aniline point lubricant (between 80°C and 100°C)
Filtration :	40 µ
Temperature range :	0°F to 120°F (-18°C to +50°C)
Orifice :	1.8 mm
Flow (at 6 bar, ΔP=1bar) :	4 W : 90 NL/min, 2.5 W : 80 NL/min, 1,8 W : 60 NL/min, 1.0 W : 50 NL/min
Leak rate :	50 cm^3/min
Coil :	General purpose class A, continuous duty, encapsulated
Voltage range :	-15% to +10% of nominal voltage
Power :	4 W - 2.5 W - 1.8 W - 1.0 W
Response times :	Energize : 4 ms
(with 4 W coil)	De-energize : 1.5 ms

Note :
- Valve and coil are not interchangeable.
- Pressure range regulators : (0-100 PSI).

Spare parts :
- Valve mounting kit : N-44001-03. • Blanking plate : M-44003. • Blanking plate regulator: N-44003.
- Base wire Plug-in protector : 24180.

Options :
- Isolation of inlet and/or exhaust. • BSPP Threads.

DIMENSIONS



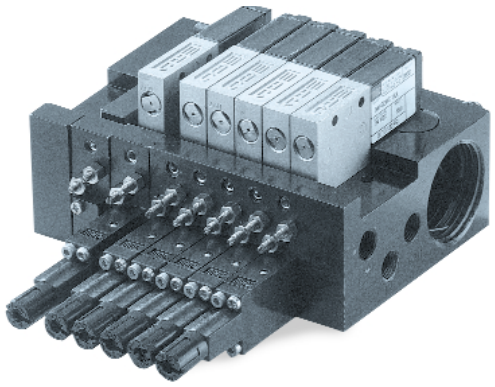
MAC®

Series 44

Function	Port size	Flow (Max)	Circuit bar mounting
5/2, 3/2 NO-NC	**M5 - #10-32**	**70 NL/min**	add-on style plug-in with Pr. Reg. and F. C.

OPERATIONAL BENEFITS

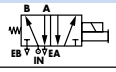
1. 10 mm valve, direct solenoid operated.
2. Balanced poppet, immune to variations of pressure.
3. Short stroke with high flow.
4. The patented solenoid develops high shifting forces.
5. Powerful return spring.
6. Flow is specifically adjusted on each valve.
7. Manual operator standard on all valves.



Reset

HOW TO ORDER

HOW TO ORDER VALVE FOR CIRCUIT BAR MOUNTING

Port size (see base)	Single operator
	
Valve less base	44B-MOO-G*XX*O-*XXX*

SOLENOID OPERATOR ➤ G *XX* O- *X XX**

XX	Voltage
DA	24VDC (1.0 W)
DC	24VDC (1.8 W)
DD	24VDC (2.5 W)
DF	24VDC (4.0 W)

X	Manual operator
1	Non-locking

XX	Electrical connection
DJ	Plug-in
DT	Plug-in with light
DE	Plug-in with suppression diode
DV	Plug-in with light and suppression diode

HOW TO ORDER CIRCUIT BAR WITH FLOW CONTROLS AND PRESSURE REGULATORS** (pressure regulators to be ordered separately)

Port size	Bottom cylinder ports (10,5 mm)
M5	ECD044B-007BD-A0-*XX*
# 10-32	ECD044B-007BB-A0-*XX*

Number of stations (03=3 stations)

Note : clic for valves mounted on base at the factory (add - 9 to the model number).
clic for multi-pin connector option (9, 15 or 25).
add-a-unit stations may be added to above bars.

** Pressure Regulators :

Y=A (no gage port)
Y=B (with gage port)
X=A (0 to 6.7 BAR)
X=B (0 to 4 BAR)
X=C (0 to 2.7 BAR)
X=D (0 to 1 BAR)

MAC

Series **44**

100% OF PRODUCTION TESTED 100%

WARRANTY 18 MONTHS

TECHNICAL DATA

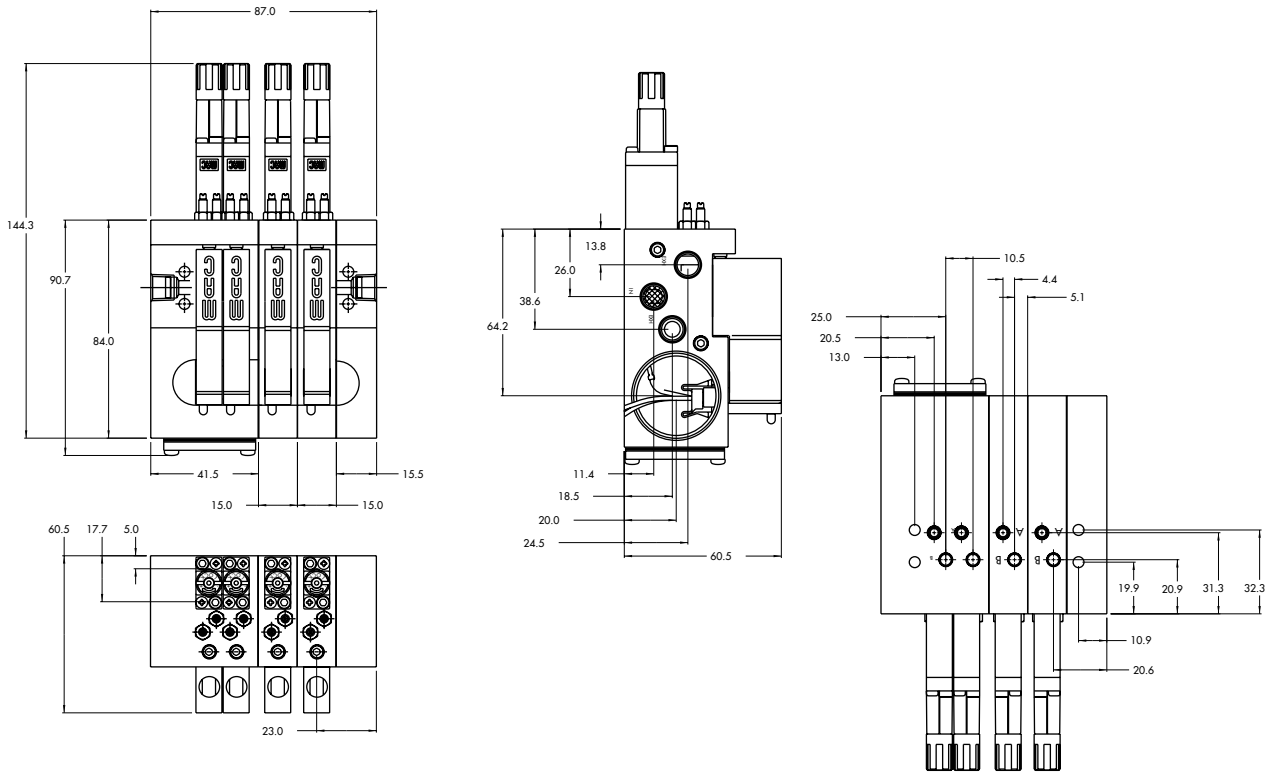
Fluid :	Compressed air, vacuum, inert gases
Pressure range :	Vacuum to 8 BAR
Lubrication :	Not required, if used select a medium aniline point lubricant (between 80°C and 100°C)
Filtration :	40 µ
Temperature range :	0°F to 120°F (-18°C to +50°C)
Orifice :	1.8 mm
Flow (at 6 bar, ΔP=1bar) :	4 W : 70 NL/min, 2.5 W : 60 NL/min, 1,8 W : 60 NL/min, 1.0 W : 50 NL/min
Leak rate :	50 cm^3/min
Coil :	General purpose class A, continuous duty, encapsulated
Voltage range :	-15% to +10% of nominal voltage
Power :	4 W - 2.5 W - 1.8 W - 1.0 W
Response times :	Energize : 4 ms
(with 4 W coil)	De-energize : 1.5 ms

Note :
- Valve and coil are not interchangeable.
- Pressure range regulators : (0-100 PSI).

Spare parts :
- Valve mounting kit : N-44001-03. • Blanking plate : M-44003. • Blanking plate regulator: N-44003.
- Base wire Plug-in protector : 24180.

Options :
- Isolation of inlet and/or exhaust. • BSPP Threads.

DIMENSIONS



MAC

Series 44

Function	Port size	Flow (Max)	Circuit bar mounting
5/2	**M5 - #10-32**	**90 NL/min**	plug-in add-a-unit stations

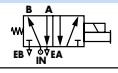
OPERATIONAL BENEFITS

1. 10 mm valve, direct solenoid operated.
2. Balanced poppet, immune to variations of pressure.
3. Short stroke with high flow.
4. The patented solenoid develops high shifting forces.
5. Powerful return spring.
6. Flow is specifically adjusted on each valve.
7. Manual operator standard on all valves.

Reset

HOW TO ORDER

HOW TO ORDER VALVE FOR CIRCUIT BAR MOUNTING

Port size (see base)	Single operator
	
Valve less base	44B-LOO-G*XX*O-*XXX*

SOLENOID OPERATOR ➤ G *XX* O- *X XX**

XX	Voltage
DA	24VDC (1.0 W)
DC	24VDC (1.8 W)
DD	24VDC (2.5 W)
DF	24VDC (4.0 W)

X	Manual operator
1	Non-locking

XX	Electrical connection
DJ	Plug-in
DT	Plug-in with light
DE	Plug-in with suppression diode
DV	Plug-in with light and suppression diode

HOW TO ORDER CIRCUIT BAR

Port size	Side cylinder ports	Bottom cylinder ports
M5	ECD044B-001CD-AO*XX*	ECD044B-002CD-AO*XX*
# 10-32	ECD044B-001CB-AO*XX*	ECD044B-002CB-AO*XX*

Number of stations (03=3 stations) - Maximum length is 4 stations

Note : clic for valves mounted on base at the factory (add - 9 to the model number).
when add-a-unit stations are added to bars with a multi-pin connector,
MOD. SD03 should be included with add-a-unit model number.

MAC

Series 44

100% OF PRODUCTION TESTED 100%

WARRANTY 18 MONTHS

TECHNICAL DATA

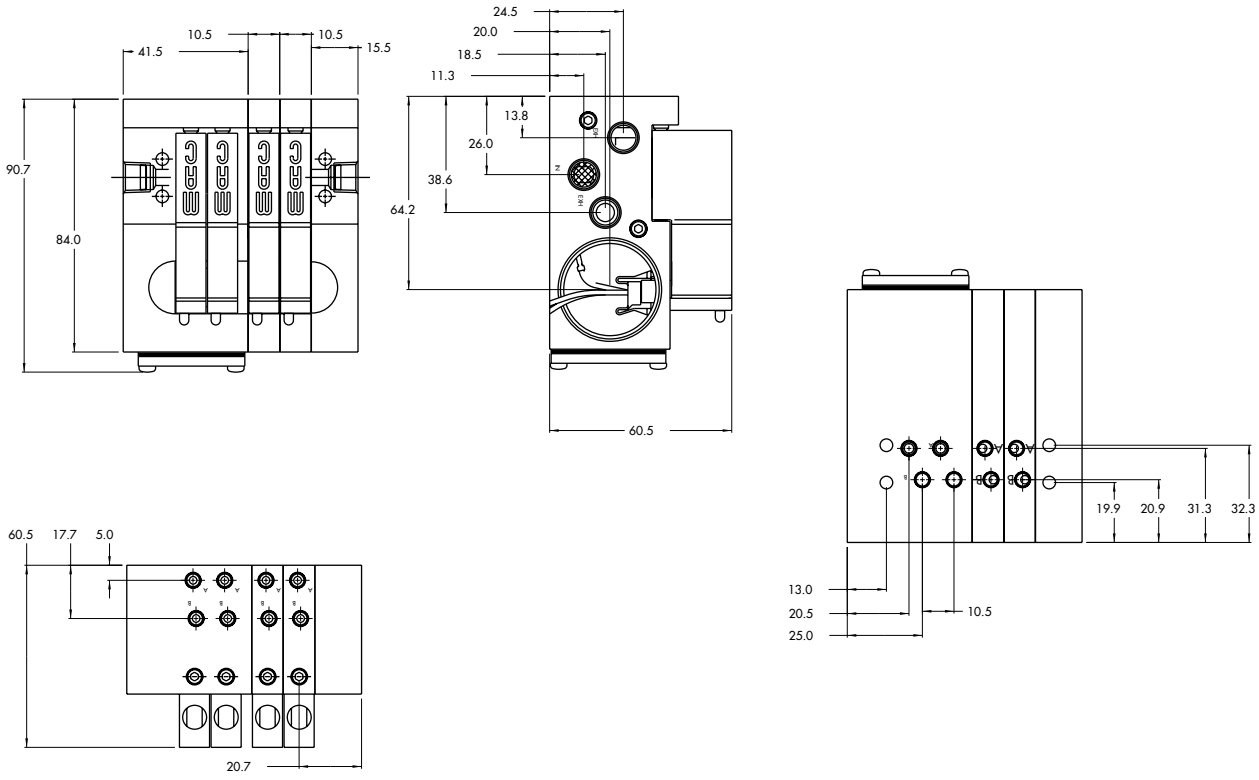
Fluid :	Compressed air, vacuum, inert gases
Pressure range :	Vacuum to 8 BAR
Lubrication :	Not required, if used select a medium aniline point lubricant (between 80°C and 100°C)
Filtration :	40 µ
Temperature range :	0°F to 120°F (-18°C to +50°C)
Orifice :	1.8 mm
Flow (at 6 bar, ΔP=1bar) :	4 W : 90 NL/min, 2.5 W : 80 NL/min, 1,8 W : 60 NL/min, 1.0 W : 50 NL/min
Leak rate :	50 cm^3/min
Coil :	General purpose class A, continuous duty, encapsulated
Voltage range :	-15% to +10% of nominal voltage
Power :	4 W - 2.5 W - 1.8 W - 1.0 W
Response times :	Energize : 4 ms
(with 4 W coil)	De-energize : 1.5 ms

Note : • Valve and coil are not interchangeable.

Spare parts : • Valve mounting kit : N-44001-03. • Blanking plate : M-44003.

Options : • Isolation of inlet and/or exhaust. • BSPP Threads.

DIMENSIONS



MAC

Series 44

Function	Port size	Flow (Max)	Circuit bar mounting
5/2	**M5 - #10-32**	**80 NL/min**	plug-in add-a-unit stations with F. C.

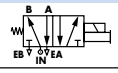
OPERATIONAL BENEFITS

1. 10 mm valve, direct solenoid operated.
2. Balanced poppet, immune to variations of pressure.
3. Short stroke with high flow.
4. The patented solenoid develops high shifting forces.
5. Powerful return spring.
6. Flow is specifically adjusted on each valve.
7. Manual operator standard on all valves.

Reset

HOW TO ORDER

HOW TO ORDER VALVE FOR CIRCUIT BAR MOUNTING

Port size (see base)	Single operator
	
Valve less base	44B-MOO-G*XX*O-*XXX*

SOLENOID OPERATOR ➤ G *XX* O- *X XX**

XX	Voltage
DA	24VDC (1.0 W)
DC	24VDC (1.8 W)
DD	24VDC (2.5 W)
DF	24VDC (4.0 W)

X	Manual operator
1	Non-locking

XX	Electrical connection
DJ	Plug-in
DT	Plug-in with light
DE	Plug-in with suppression diode
DV	Plug-in with light and suppression diode

HOW TO ORDER CIRCUIT BAR WITH FLOW CONTROLS

Port size	Side cylinder ports	Bottom cylinder ports
M5	ECD044B-005CD-AO*XX*	ECD044B-006CD-AO*XX*
# 10-32	ECD044B-005CB-AO*XX*	ECD044B-006CB-AO*XX*

Number of stations (03=3 stations) - Maximum length is 4 stations

Note : clic for valves mounted on base at the factory (add - 9 to the model number). when add-a-unit stations are added to bars with a multi-pin connector, MOD. SD03 should be included with add-a-unit model number.

MAC

Series **44**

100% OF PRODUCTION TESTED 100%

WARRANTY 18 MONTHS

TECHNICAL DATA

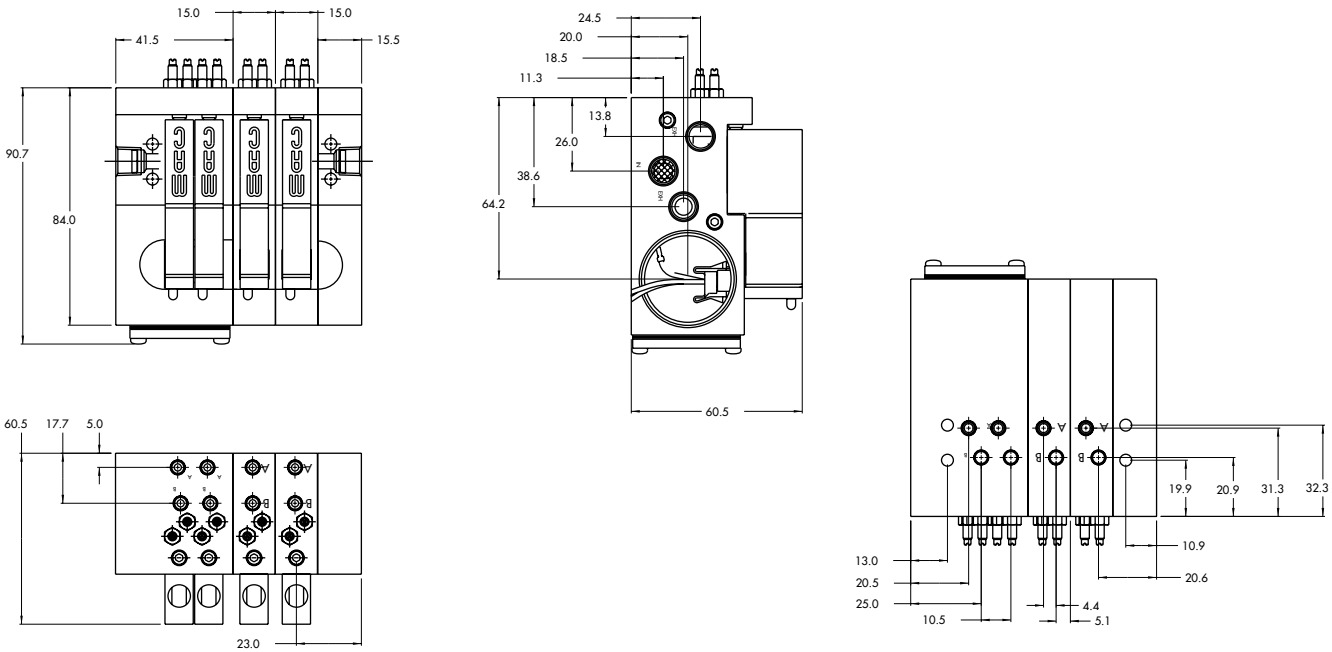
Fluid :	Compressed air, vacuum, inert gases
Pressure range :	Vacuum to 8 BAR
Lubrication :	Not required, if used select a medium aniline point lubricant (between 80°C and 100°C)
Filtration :	40 µ
Temperature range :	0°F to 120°F (-18°C to +50°C)
Orifice :	1.8 mm
Flow (at 6 bar, ΔP=1bar) :	4 W : 90 NL/min, 2.5 W : 80 NL/min, 1,8 W : 60 NL/min, 1.0 W : 50 NL/min
Leak rate :	50 cm^3/min
Coil :	General purpose class A, continuous duty, encapsulated
Voltage range :	-15% to +10% of nominal voltage
Power :	4 W - 2.5 W - 1.8 W - 1.0 W
Response times :	Energize : 4 ms
(with 4 W coil)	De-energize : 1.5 ms

Note : • Valve and coil are not interchangeable.

Spare parts : • Valve mounting kit : N-44001-03. • Blanking plate : M-44003. • Flow control needle (x2): N-44002.
• Base wire Plug-in protector : 24180.

Options : • Isolation of inlet and/or exhaust. • BSPP Threads.

DIMENSIONS



MAC

Series 44

Function	Port size	Flow (Max)	Circuit bar mounting
5/2	**M5 - #10-32**	**80 NL/min**	plug-in add-a-unit stations with Pr. Reg.

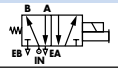
OPERATIONAL BENEFITS

1. 10 mm valve, direct solenoid operated.
2. Balanced poppet, immune to variations of pressure.
3. Short stroke with high flow.
4. The patented solenoid develops high shifting forces.
5. Powerful return spring.
6. Flow is specifically adjusted on each valve.
7. Manual operator standard on all valves.

Reset

HOW TO ORDER

HOW TO ORDER VALVE FOR CIRCUIT BAR MOUNTING

Port size (see base)	Single operator
	
Valve less base	44B-LOO-G*XX*O-*XXX*

SOLENOID OPERATOR ➤

G *XX* O- *X XX**

XX	Voltage
DA	24VDC (1.0 W)
DC	24VDC (1.8 W)
DD	24VDC (2.5 W)
DF	24VDC (4.0 W)

X	Manual operator
1	Non-locking

XX	Electrical connection
DJ	Plug-in
DT	Plug-in with light
DE	Plug-in with suppression diode
DV	Plug-in with light and suppression diode

HOW TO ORDER CIRCUIT BAR FOR PRESSURE REGULATORS ** (to be ordered separately)

Port size	Bottom cylinder ports (10,5 mm)
M5	ECD044B-004CD-AO*XX*
# 10-32	ECD044B-004CB-AO*XX*

Number of stations (03=3 stations) - Maximum length is 4 stations

Note : clic for valves mounted on base at the factory (add - 9 to the model number). when add-a-unit stations are added to bars with a multi-pin connector, MOD. SD03 should be included with add-a-unit model number.

** Regulator ordered separately-see below :

Y=A (no gage port)
Y=B (with gage port)
X=A (0 to 6.7 BAR)
X=B (0 to 4 BAR)
X=C (0 to 2.7 BAR)
X=D (0 to 1 BAR)

MAC

Series **44**

100% OF PRODUCTION TESTED 100%

WARRANTY 18 MONTHS

TECHNICAL DATA

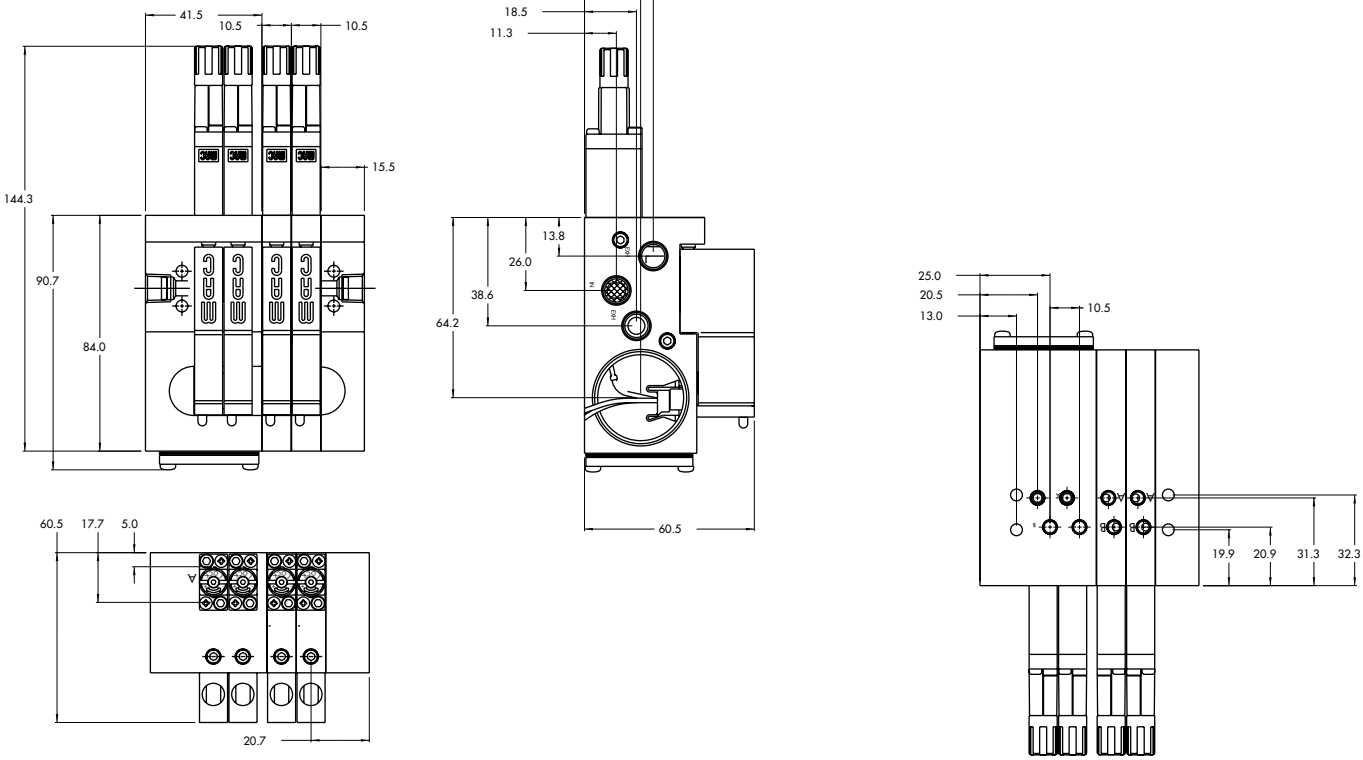
Fluid :	Compressed air, vacuum, inert gases
Pressure range :	Vacuum to 8 BAR
Lubrication :	Not required, if used select a medium aniline point lubricant (between 80°C and 100°C)
Filtration :	40 µ
Temperature range :	0°F to 120°F (-18°C to +50°C)
Orifice :	1.8 mm
Flow (at 6 bar, ΔP=1bar) :	4 W : 90 NL/min, 2.5 W : 80 NL/min, 1,8 W : 60 NL/min, 1.0 W : 50 NL/min
Leak rate :	50 cm^3/min
Coil :	General purpose class A, continuous duty, encapsulated
Voltage range :	-15% to +10% of nominal voltage
Power :	4 W - 2.5 W - 1.8 W - 1.0 W
Response times :	Energize : 4 ms
(with 4 W coil)	De-energize : 1.5 ms

Note :
- Valve and coil are not interchangeable.
- Pressure range regulators : (0-100 PSI).

Spare parts :
- Valve mounting kit : N-44001-03. • Blanking plate : M-44003. • Blanking plate regulator: N-44003.
- Base wire Plug-in protector : 24180.

Options :
- Isolation of inlet and/or exhaust. • BSPP Threads.

DIMENSIONS



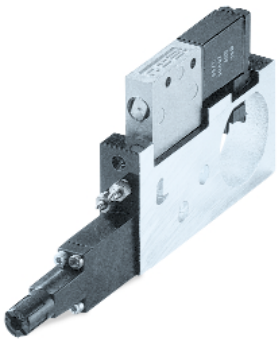
MAC

Series **44**

Function	Port size	Flow (Max)	Circuit bar mounting
5/2	**M5 - #10-32**	**70 NL/min**	plug-in add-a-unit stations with F. C. and Pr. Reg.

OPERATIONAL BENEFITS

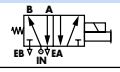
1. 10 mm valve, direct solenoid operated.
2. Balanced poppet, immune to variations of pressure.
3. Short stroke with high flow.
4. The patented solenoid develops high shifting forces.
5. Powerful return spring.
6. Flow is specifically adjusted on each valve.
7. Manual operator standard on all valves.



Reset

HOW TO ORDER

HOW TO ORDER VALVE FOR CIRCUIT BAR MOUNTING

Port size (see base)	Single operator
	
Valve less base	44B-MOO-G*XX*O-*XXX*

SOLENOID OPERATOR ➤ G *XX* O- *X XX**

XX	Voltage
DA	24VDC (1.0 W)
DC	24VDC (1.8 W)
DD	24VDC (2.5 W)
DF	24VDC (4.0 W)

X	Manual operator
1	Non-locking

XX	Electrical connection
DJ	Plug-in
DT	Plug-in with light
DE	Plug-in with suppression diode
DV	Plug-in with light and suppression diode

HOW TO ORDER CIRCUIT BAR WITH FLOW CONTROLS AND PRESSURE REGULATORS ** (pressure regulators to be ordered separately)

Port size	Bottom cylinder ports (10,5 mm)
M5	ECD044B-007CD-AO*XX*
# 10-32	ECD044B-007CB-AO*XX*

Number of stations (03=3 stations) - Maximum length is 4 stations

Note : clic for valves mounted on base at the factory (add - 9 to the model number). when add-a-unit stations are added to bars with a multi-pin connector, MOD. SD03 should be included with add-a-unit model number.

** Regulator ordered separately-see below :

Y=A (no gage port)
Y=B (with gage port)
X=A (0 to 6.7 BAR)
X=B (0 to 4 BAR)
X=C (0 to 2.7 BAR)
X=D (0 to 1 BAR)

MAC

Series **44**

100% OF PRODUCTION TESTED 100%

WARRANTY 18 MONTHS

TECHNICAL DATA

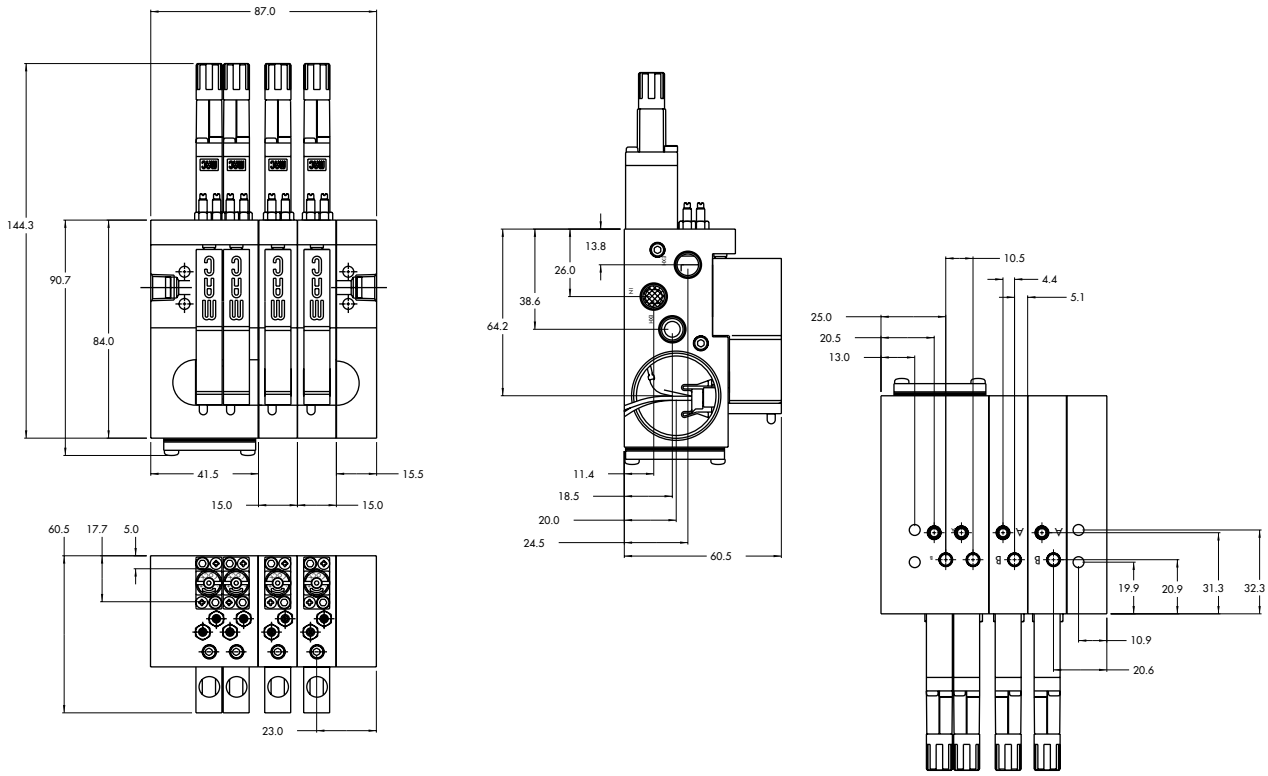
Fluid :	Compressed air, vacuum, inert gases
Pressure range :	Vacuum to 8 BAR
Lubrication :	Not required, if used select a medium aniline point lubricant (between 80°C and 100°C)
Filtration :	40 µ
Temperature range :	0°F to 120°F (-18°C to +50°C)
Orifice :	1.8 mm
Flow (at 6 bar, ΔP=1bar) :	4 W : 70 NL/min, 2.5 W : 60 NL/min, 1,8 W : 60 NL/min, 1.0 W : 50 NL/min
Leak rate :	50 cm^3/min
Coil :	General purpose class A, continuous duty, encapsulated
Voltage range :	-15% to +10% of nominal voltage
Power :	4 W - 2.5 W - 1.8 W - 1.0 W
Response times :	Energize : 4 ms
(with 4 W coil)	De-energize : 1.5 ms

Note :
- Valve and coil are not interchangeable.
- Pressure range regulators : (0-100 PSI).

Spare parts :
- Valve mounting kit : N-44001-03. • Blanking plate : M-44003. • Blanking plate regulator: N-44003.
- Base wire Plug-in protector : 24180.

Options :
- Isolation of inlet and/or exhaust. • BSPP Threads.

DIMENSIONS



Section 2 Options

Codification table for voltages / Manual operator / Electrical connection

VALVE CODE ➤ **-G XX X - X XX**
1 2 3 4

OPTIONS AVAILABLE FOR

- solenoid valves 34 & 44 Series

OPTIONS

1. VOLTAGE (type 34 Series)	
-G XX X - X XX	VOLTAGE
DC	24 VDC (1,8 W)
DD	24 VDC (2,5 W)
DE	24 VDC (3,0 W)
DF	24 VDC (4,0 W)
DJ	12 VDC (1,8 W)
DK	12 VDC (2,5 W)
DM	12 VDC (3,0 W)
DN	12 VDC (4,0 W)

1. VOLTAGE (type 44 Series)	
-G XX X - X XX	VOLTAGE
DA	24 VDC (1,0 W)
DC	24 VDC (1,8 W)
DD	24 VDC (2,5 W)
DF	24 VDC (4,0 W)
DG	12 VDC (1,0 W)
DJ	12 VDC (1,8 W)
DK	12 VDC (2,5 W)
DN	12 VDC (4,0 W)

2. WIRE LENGTH (Common options for 34 & 44 Series)	
-G XX X - X XX	WIRE LENGTH
A	45 cm
B	60 cm
C	90 cm
D	120 cm
E	180 cm
F	240 cm
G	305 cm
H	366 cm

3. MANUAL OPERATOR (COMMON OPTIONS FOR 34 & 44 SERIES)

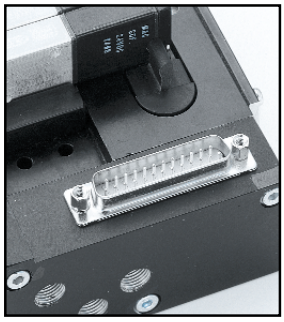
-G XX X - X XX	MANUAL OPERATOR
1	Non-locking recessed
3	Non-locking extended

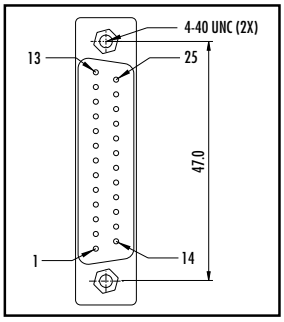
4. ELECTRICAL CONNECTION (COMMON OPTIONS FOR 34 & 44 SERIES)

-G XX X - X XX	NO CONNECTOR
BA	Flying leads
BB	BA with ground wire
BC	BA with light
BD	BA with light and ground wire
BE	BA with suppression diode
BF	BA with suppression diode and ground wire
BG	BA with suppression diode and light
BH	BA with suppression diode, light and ground wire
BN	BA with suppression diode and blocking diode
BP	BA with suppression diode, blocking diode and ground wire
BR	BA with suppression diode, blocking diode and light
BS	BA with suppression diode, blocking diode, light and ground wire
BT	BA with light
BU	BA with light and ground wire
BV	BA with suppression diode and light
BW	BA with suppression diode, light and ground wire
BX	BA with suppression diode, blocking diode and light
BY	BA with suppression diode, blocking diode, light and ground wire

-G XX X - X XX	PLUG-IN CONNECTOR
KA	Mini connector with flying leads
KB	KA with ground wire
KE	KA with suppression diode
KF	KA with suppression diode and ground wire
KJ	Mini connector for **KA** option
KM	Mini connector for **KB** option
KN	KA with suppression diode and blocking diode
KP	KA with suppression diode, blocking diode and ground wire
KT	KA with light
KU	KA with light and ground wire
KV	KA with suppression diode and light
KW	KA with suppression diode, light and ground wire
KX	KA with suppression diode, blocking diode and light
KY	KA with suppression diode, blocking diode, light and ground wire

Connector SUB_D 25 (option ZZZY = SUBY ; Y = cable length)

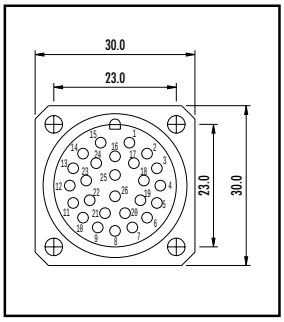




TECHNICAL DATA

- Type «SUB_D»
- Number of contacts : 25
- Solder termination (Dia. 0.6 mm/0.14 mm²/26-22 AWG)
- Operating current 5 A/contact
- Rated voltage 125 V~
- Temp. range –40° to +125°C
- Insulation resistance ≥ 10^{10} Ω
- Protection class IP40 (DIN 40050)
- Number of solenoids : 20 max.
- Max. 24 V=/5.4 W per solenoid
- 5 common wires
- Female plug supplied with circuit bar

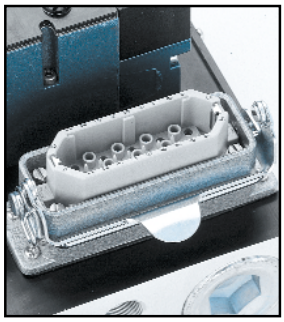
Connector RND (option ZZZY = RNDY ; Y = cable length)

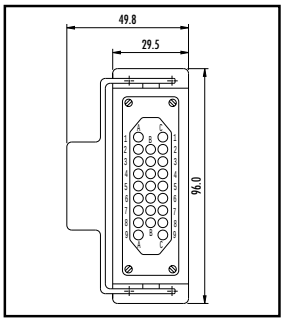


TECHNICAL DATA

- Type «Round connector»
- Number of contacts : 26
- Solder termination (Dia. 1 mm/1 mm²/17 AWG)
- Operating current 7.5 A/contact
- Rated voltage 250 V~
- Insulation resistance ≥ 10^{8} Ω
- Cable entry PG16
- Temp. range –40° to +125°C
- Protection class IP65 (DIN 40050)
- Number of solenoids : 24 max.
- 1 common and 1 ground
- All voltages
- Female plug supplied with circuit bar

Connector HDT (option ZZZY = HDTY ; Y = cable length)

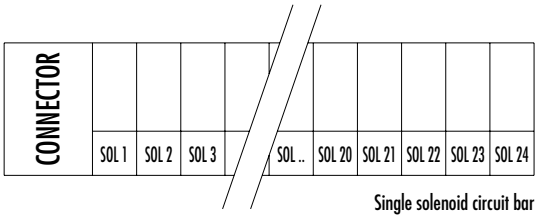




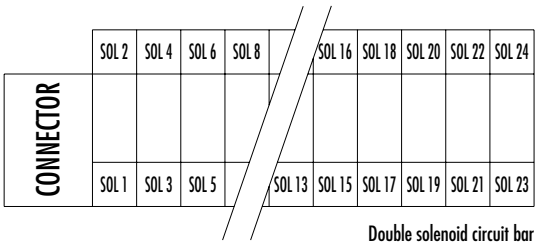
TECHNICAL DATA

- Type «Heavy duty»
- Number of contacts : 25
- Solder termination (Dia. 1.4 mm/0.75 mm²/18 AWG)
- Operating current 10 A/contact
- Rated voltage 250 V~
- Insulation resistance ≥ 10^{10} Ω
- Cable entry PG16
- Temp. range –40° to +125°C
- Protection class IP65 (DIN 40050)
- Number of solenoids : 24 max.
- 1 common and 1 ground
- All voltages
- Female plug supplied with circuit bar

Connector termination details



Single solenoid circuit bar

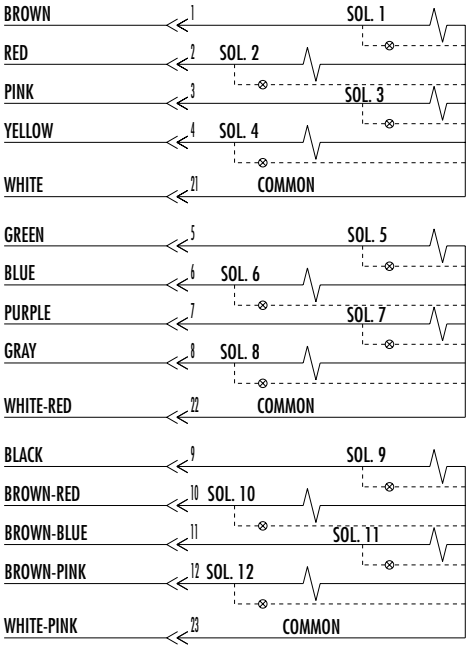


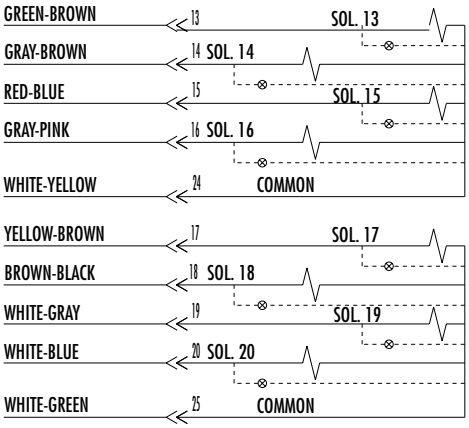
Double solenoid circuit bar

Connector SUB_D25 (option ZZZY = SUBY ; Y = cable length)

TECHNICAL DATA PREWIRED CABLE

- Type : LIYY -0.14 mm²
- Dia. ca. 9.3 mm
- Insulation resistance : 20 MΩ for 1000 meter
- Temp. range -5° to +80°C
- Rated voltage : 250 V~
- PVC core insulation and sheath

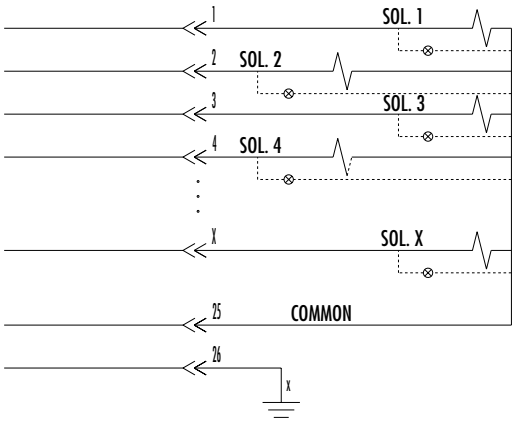




Connector RND [option ZZZY = SNDY ; Y = cable length]

TECHNICAL DATA PREWIRED CABLE

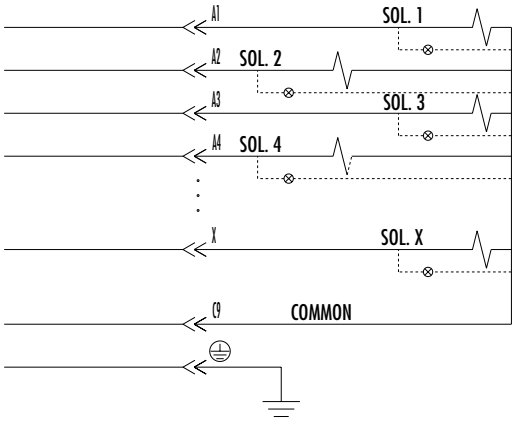
- Type : LIY(C)Y -0.50 mm²
- Dia. ca. 10.8 mm (12 core); 12.9 mm (18 core); 16.0 mm (32 core)
- Insulation resistance : 20 MΩ for 1000 meter
- Temp. range -5° to +80°C
- Rated voltage : 500 V~
- PVC core insulation and sheath
- Tinned copper wire braid



Connector HDT [option ZZZY = HDTY ; Y = cable length]

TECHNICAL DATA PREWIRED CABLE

- Type : LIY(C)Y -0.75 mm²
- Dia. ca. 12.0 mm (12 core); 13.5 mm (18 core); 18.0 mm (32 core)
- Insulation resistance : 20 MΩ for 1000 meter
- Temp. range -5° to +80°C
- Rated voltage : 500 V~
- PVC core insulation and sheath
- Tinned copper wire braid



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 ports are open to the exhaust port(s) of the valve. If having no air in either outlet port 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 ports 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 AND SERVICE PRECAUTIONS :

A. Do not install or service MAC valves without first making sure both the air and electrical power to the machine are off and that all air has been completely bled from the system.

B. MAC valves should only be installed and/or serviced 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 and graphic symbols. Do not install unless these symbols and the valve functions and operations are thoroughly understood.

C. Before service, maintenance, repair or cleaning, consult local distributor or factory for Parts & Operation Sheet and information on proper cleaning and lubrication agents. Do not subject MAC valves' parts to any foreign substance including lubricants and cleaning agents not specifically recommended by MAC valves, Inc.

D. 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 condition.

WARNING :

Under no circumstances are Mac valves to be used in any application where failure of the valve to operate as intended could jeopardize the safety of the operator or any other person.
- Do not operate outside of pressure range listed on valve label or outside of designated temperature range.
- Air supply must be clean. Contamination of valve can affect proper operation.
- Before attempting to repair, adjust or clean valve, consult catalog, parts & operation sheet, or factory for proper maintenance procedures, lubrication, and cleaning agents. Never attempt to repair or perform other maintenance with air pressure to valve.
- If airline lubrication is used, consult catalog, parts & operation sheet, or factory for recommended lubricants.

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

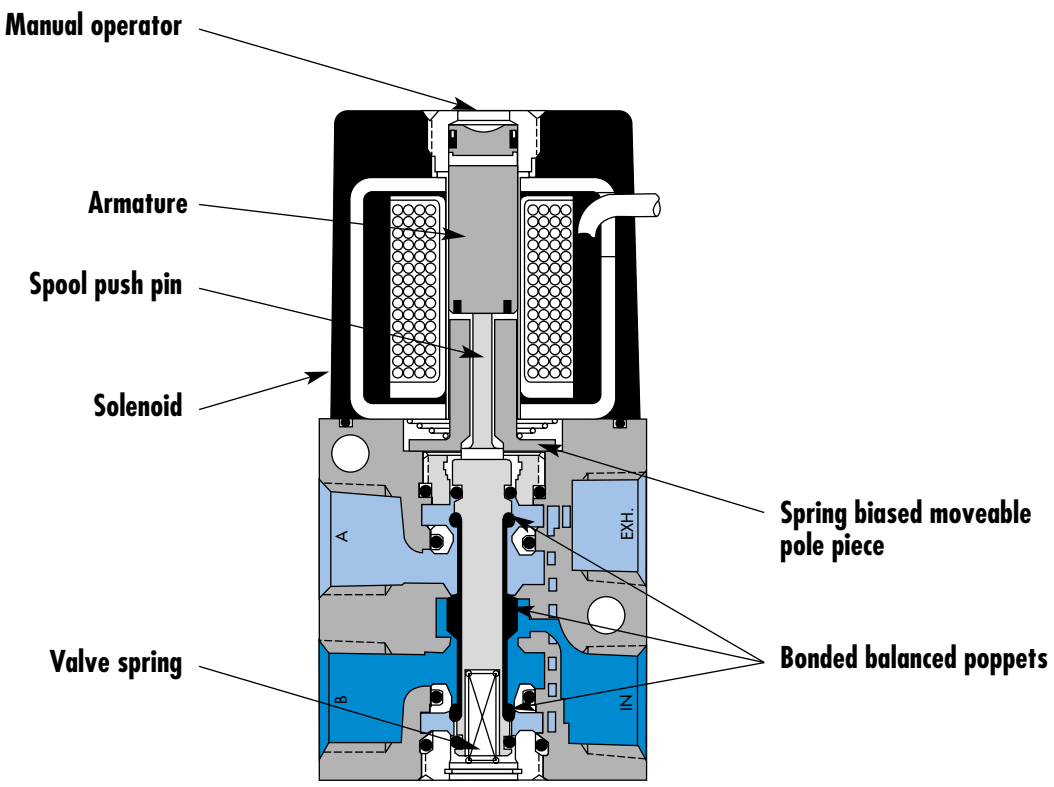
No claims for labor, material, time, damage, or transportation are allowable nor will any valve be replaced or rebuilt under this guarantee which has been damaged by the purchaser not in the normal course of its use and maintenance during the warranty period. The guarantee does not apply to loss or damage 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.

Circuit bar mounting

non plug-in with or without F. C.	non plug-in with Pr. Reg.	non plug-in with Pr. Reg. and F. C.	plug-in	plug-in with side Pr. Reg.	plug-in with sandwich Pr. Reg.	plug-in with F. C.	plug-in with Pr. Reg. and F. C.

plug-in with integral terminal strip	plug-in with integral terminal strip and side Pr. Reg.	plug-in with integral terminal strip and sandwich Pr. Reg.	plug-in with integral terminal strip with F. C.	plug-in with integral terminal strip with Pr. Reg. and F. C.	



SERIES FEATURES

- Patented MACSOLENOID® for fastest possible response times.
- Extremely high cycle rate capability.
- Rated for lubricated or non-lubricated service.
- Various solenoid enclosures and plug-in connectors.
- Low wattage DC solenoids - down to 1.8 watts.

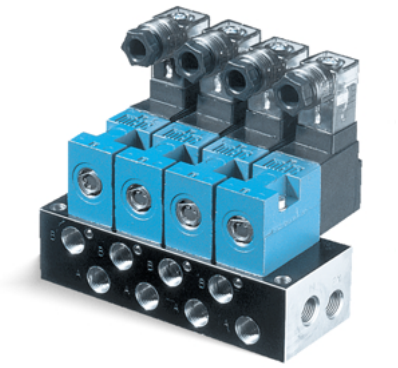
MAC

Series 45

Function	Port size	Flow (Max)	Circuit bar mounting
4/2	**1/8" BSPP - M5**	**100 NL/min**	non plug-in with or without F. C.

OPERATIONAL BENEFITS

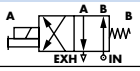
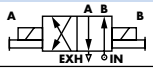
1. Balanced poppet, immune to variations of pressure.
2. Short stroke with high flow.
3. The patented solenoid develops high shifting forces.
4. Powerful return spring.
5. Manual operator standard on all valves.
6. Burn-out proof solenoid on AC service.



Reset

HOW TO ORDER 45A-xxx-Dxxx-xxx

HOW TO ORDER VALVE FOR CIRCUIT BAR MOUNTING

Single operator	Double operator (Minimum DC wattage 5,4W)
	
○ 45A-L00-D*XXX-XXX*	○ 45A-N00-D*XXX-XXX*

SOLENOID OPERATOR ➤ D *XX X- X XX**

XX	Voltage
○ *AA*	120/60, 110/50
○ *AB*	240/60, 220/50
○ *AC*	24/60, 24/50
○ *FB*	24VDC (1.8 W)
○ *DA*	24VDC (5.4 W)
○ *DF*	24VDC (12.7 W)
○ *xx*	Other Options

X	Wire length
○ *A*	45 cm (Flying leads)
○ *J*	Connector
○ *x*	Other Options

X	Manual operator
○ *1*	Non-locking Recessed
○ *2*	Locking Recessed
○ *x*	Other Options

XX	Electrical connection
○ *KA*	Square connector
○ *KD*	Square connector with light
○ *BA*	Flying leads
○ *xx*	Other Options

HOW TO ORDER CIRCUIT BAR** (WITHOUT FLOW CONTROLS) EBM45A-xxxx-xx

Port size	Spacing mm	Side cylinder ports	Bottom cylinder ports
1/8" BSPP	21	○ EBM45A-001C-*XX*	○ EBM45A-002C-*XX*
M5	21	○ EBM45A-001D-*XX*	○ EBM45A-002D-*XX*

HOW TO ORDER CIRCUIT BAR** (WITH FLOW CONTROLS)

Port size	Spacing mm	Side cylinder ports	Bottom cylinder ports
1/8" BSPP	26	○ EBM45A-015C-*XX*	○ EBM45A-016C-*XX*
M5	26	○ EBM45A-015D-*XX*	○ EBM45A-016D-*XX*
1/8" BSPP	40	○ EBM45A-025C-*XX*	○ EBM45A-026C-*XX*
M5	40	○ EBM45A-025D-*XX*	○ EBM45A-026D-*XX*

Number of stations (03=3 stations) ☐

** Other options available Consult factory.

Note : ☐ clic for valves mounted on base at the factory (add - 9 to the model number).

Consult "Precautions" before use, installation or service of MAC Valves.

Menu

MAC

Series **45**

100% OF PRODUCTION TESTED 100%

WARRANTY 18 MONTHS

TECHNICAL DATA

Fluid :	Compressed air, vacuum, inert gases		
Pressure range :	Vacuum to 8 BAR		
Lubrication :	Not required, if used select a medium aniline point lubricant (between 80°C and 100°C)		
Filtration :	40 µ		
Temperature range :	0°F to 120°F (-18°C to 50°C)		
Orifice :	2 mm		
Flow (at 6 bar, ΔP=1bar) :	1.8 W : 80 NL/min, 5.4 W : 100 NL/min		
Leak rate :	50 cm^3/min		
Coil :	General purpose class A, continuous duty, encapsulated		
Voltage range :	-15% to +10% of nominal voltage		
Protection :	Nema 4		
Power :	120 VAC/60 = Inrush : 10.9 VA (0.09 AMPS)	Holding : 7. 7VA (0.06 AMPS)	
	DC VOLTS = 1.8 W to 12.7 W		
Response times :	24 VDC (5.4W)	Energize : 6 ms	De-energize : 2 ms
	120 VAC	Energize : 3-8 ms	De-energize : 2-7 ms

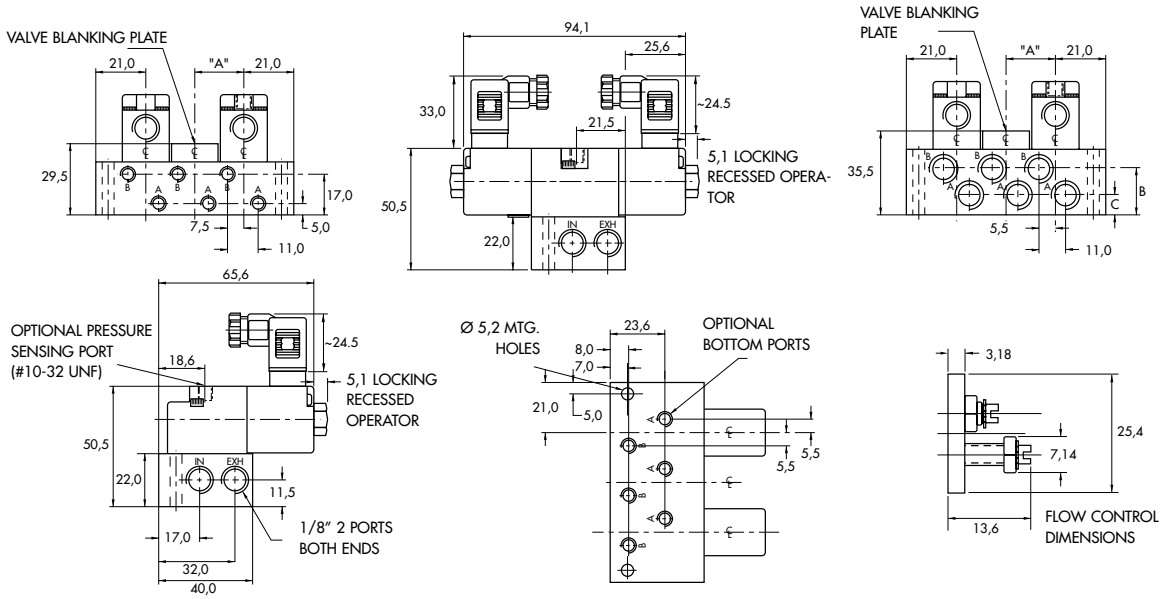
Spare parts :

- Solenoid operator (power ≥ 5.4 W) : DXXJ-XFM, including mounting screws 35013.
- Seal between solenoid and valve body : 16402. • Seal between base and valve : 16453.
- Valve mounting screw (x2) : 35020. • Blanking plate valve : M-45010. • Blanking plate regulator : M-35005.

Options :

- NPTF threads. • High flow up to 140 NL/min, according to wattage. • Isolation of inlet and/or exhaust.

DIMENSIONS



SPACING SIZE	A
STANDARD	21.0
PER JB	26.0
GAGES	40.0

PORT SIZE	B	C
1/8"	20.0	8.0
M5	22.0	6.0

Consult "Precautions" before use, installation or service of MAC Valves.

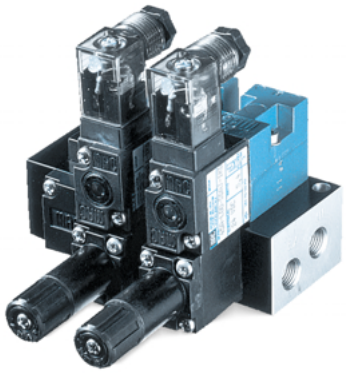
MAC

Series 45

Function	Port size	Flow (Max)	Circuit bar mounting
4/2	**1/8" BSPP - M5**	**100 NL/min**	non plug-in with Pr. Reg.

OPERATIONAL BENEFITS

1. Balanced poppet, immune to variations of pressure.
2. Short stroke with high flow.
3. The patented solenoid develops high shifting forces.
4. Powerful return spring.
5. Manual operator standard on all valves.
6. Burn-out proof solenoid on AC service.

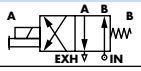


Reset

HOW TO ORDER

45A-xxx-Dxxx-xxx

HOW TO ORDER VALVE FOR CIRCUIT BAR MOUNTING

	Single operator	Double operator (Minimum DC wattage 5,4W)
		
Valve w/o gage port	○ 45A-L00-D*xxx-xxx*	○ 45A-N00-D*xxx-xxx*
Valve w/ gage port	○ 45A-M00-D*xxx-xxx*	○ 45A-P00-D*xxx-xxx*

SOLENOID OPERATOR ➤ D *XX X- X XX**

XX	Voltage
○ *AA*	120/60, 110/50
○ *AB*	240/60, 220/50
○ *AC*	24/60, 24/50
○ *FB*	24VDC (1.8 W)
○ *DA*	24VDC (5.4 W)
○ *DF*	24VDC (12.7 W)
○ *xx*	Other Options

X	Wire length
○ *A*	45 cm (Flying leads)
○ *J*	Connector
○ *x*	Other Options

X	Manual operator
○ *1*	Non-locking Recessed
○ *2*	Locking Recessed
○ *x*	Other Options

XX	Electrical connection
○ *KA*	Square connector
○ *KD*	Square connector with light
○ *BA*	Flying leads
○ *xx*	Other Options

EBM45A-xxxx-xx

HOW TO ORDER CIRCUIT BAR WITH PRESSURE REGULATORS (ORDER REGULATORS SEPARATELY) **

Port size	Spacing mm	Side cylinder ports	Bottom cylinder ports
1/8" BSPP	21 (w/o gage)	○ EBM45A-003C-*xx*	○ EBM45A-004C-*xx*
M5	21 (w/o gage)	○ EBM45A-003D-*xx*	○ EBM45A-004D-*xx*
1/8" BSPP	40 (w/ gage)	○ EBM45A-023C-*xx*	○ EBM45A-024C-*xx*
M5	40 (w/ gage)	○ EBM45A-023D-*xx*	○ EBM45A-024D-*xx*

Number of stations (03=3 stations) ☐

** Other options available Consult factory.

Note : ☐ clic for valves and regulators mounted to circuit bar at the factory (add - 9 to the model number). gage not supplied w/circuit bar.

Pressure regulators :
35A-00M (Adjusting knob)
35A-00L (Slotted stem)
35A-00U (Locking stem)

MAC

Series 45

100% OF PRODUCTION TESTED 100%

WARRANTY 18 MONTHS

TECHNICAL DATA

Fluid :	Compressed air, vacuum, inert gases		
Pressure range :	Vacuum to 8 BAR		
Lubrication :	Not required, if used select a medium aniline point lubricant (between 80°C and 100°C)		
Filtration :	40 µ		
Temperature range :	0°F to 120°F (-18°C to 50°C)		
Orifice :	2 mm		
Flow (at 6 bar, ΔP=1bar) :	1.8 W : 80 NL/min, 5.4 W : 100 NL/min		
Leak rate :	50 cm^3/min		
Coil :	General purpose class A, continuous duty, encapsulated		
Voltage range :	-15% to +10% of nominal voltage		
Protection :	Nema 4		
Power :	120 VAC/60 = Inrush : 10.9 VA (0.09 AMPS)	Holding : 7. 7VA (0.06 AMPS)	
	DC VOLTS = 1.8 W to 12.7 W		
Response times :	24 VDC (5.4W)	Energize : 6 ms	De-energize : 2 ms
	120 VAC	Energize : 3-8 ms	De-energize : 2-7 ms

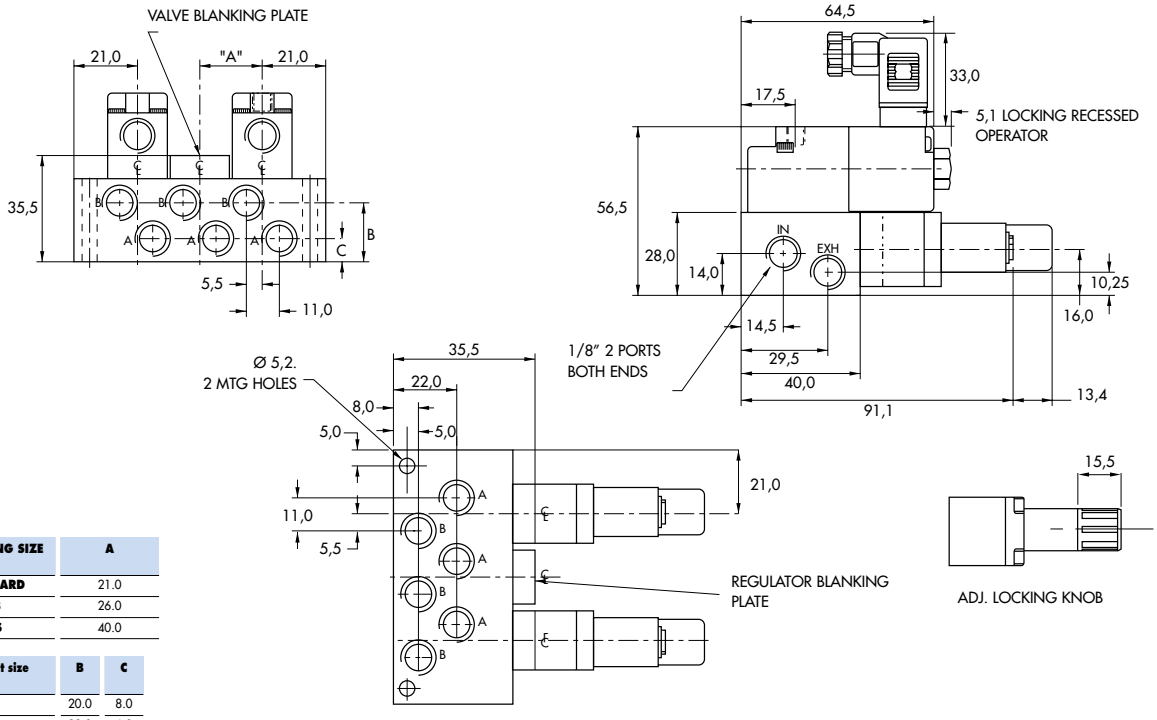
Spare parts :

- Solenoid operator (power ≥ 5.4 W) : DXXJ-XFM, including mounting screws 35013.
- Seal between solenoid and valve body : 16402. • Seal between base and valve : 16453.
- Valve mounting screw (x2) : 35020. • Blanking plate valve : M-45010. • Blanking plate regulator : M-35005.

Options :

- NPTF threads. • High flow up to 140 NL/min, according to wattage. • Isolation of inlet and/or exhaust.

DIMENSIONS



SPACING SIZE	A
STANDARD	21.0
PER JB	26.0
GAGES	40.0

Port size	B	C
1/8"	20.0	8.0
M5	22.0	6.0

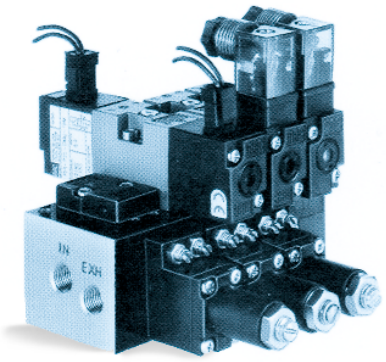
MAC

Series 45

Function	Port size	Flow (Max)	Circuit bar mounting
4/2	**1/8" BSPP - M5**	**100 NL/min**	non plug-in with Pr. Reg. and F. C.

OPERATIONAL BENEFITS

1. Balanced poppet, immune to variations of pressure.
2. Short stroke with high flow.
3. The patented solenoid develops high shifting forces.
4. Powerful return spring.
5. Manual operator standard on all valves.
6. Burn-out proof solenoid on AC service.

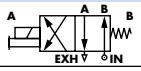


Reset

HOW TO ORDER

45A-xxx-Dxxx-xxx

HOW TO ORDER VALVE FOR CIRCUIT BAR MOUNTING

	Single operator	Double operator (Minimum DC wattage 5,4W)
		
Valve w/o gage port	○ 45A-L00-D*xxx-xxx*	○ 45A-N00-D*xxx-xxx*
Valve w/ gage port	○ 45A-M00-D*xxx-xxx*	○ 45A-P00-D*xxx-xxx*

SOLENOID OPERATOR ➤ D *XX X- X XX**

XX	Voltage
○ *AA*	120/60, 110/50
○ *AB*	240/60, 220/50
○ *AC*	24/60, 24/50
○ *FB*	24VDC (1.8 W)
○ *DA*	24VDC (5.4 W)
○ *DF*	24VDC (12.7 W)
○ *xx*	Other Options

X	Wire length
○ *A*	45 cm (Flying leads)
○ *J*	Connector
○ *x*	Other Options

X	Manual operator
○ *1*	Non-locking Recessed
○ *2*	Locking Recessed
○ *x*	Other Options

XX	Electrical connection
○ *KA*	Square connector
○ *KD*	Square connector with light
○ *BA*	Flying leads
○ *xx*	Other Options

EBM45A-xxxx-xx

HOW TO ORDER CIRCUIT BAR WITH PRESSURE REGULATORS AND FLOW CONTROLS (ORDER REGULATOR AND FLOW CONTROL SEPARATELY) **

Port size	Spacing mm	Side cylinder ports	Bottom cylinder ports
1/8" BSPP	21 (w/o gage)	○ EBM45A-007C-*xx*	○ EBM45A-008C-*xx*
M5	21 (w/o gage)	○ EBM45A-007D-*xx*	○ EBM45A-008D-*xx*
1/8" BSPP	40 (w/ gage)	○ EBM45A-027C-*xx*	○ EBM45A-028C-*xx*
M5	40 (w/ gage)	○ EBM45A-027D-*xx*	○ EBM45A-028D-*xx*

Number of stations (03=3 stations) ☐

** Other options available Consult factory.

Note : ☐clic for valves, regulators and flow controls mounted to circuit bar at the factory (add - 9 to the model number).
gage not supplied w/circuit bar

Pressure regulators and flow controls:
45A-001 (Slotted stem)
45A-002 (Adjusting knob)
45A-003 (Locking stem)

MAC

Series 45

100% OF PRODUCTION TESTED 100%

WARRANTY 18 MONTHS

TECHNICAL DATA

Fluid :	Compressed air, vacuum, inert gases		
Pressure range :	Vacuum to 8 BAR		
Lubrication :	Not required, if used select a medium aniline point lubricant (between 80°C and 100°C)		
Filtration :	40 µ		
Temperature range :	0°F to 120°F (-18°C to 50°C)		
Orifice :	2 mm		
Flow (at 6 bar, ΔP=1bar) :	1.8 W : 80 NL/min, 5.4 W : 100 NL/min		
Leak rate :	50 cm^3/min		
Coil :	General purpose class A, continuous duty, encapsulated		
Voltage range :	-15% to +10% of nominal voltage		
Protection :	Nema 4		
Power :	120 VAC/60 = Inrush : 10.9 VA (0.09 AMPS)	Holding : 7. 7VA (0.06 AMPS)	
	DC VOLTS = 1.8 W to 12.7 W		
Response times :	24 VDC (5.4W)	Energize : 6 ms	De-energize : 2 ms
	120 VAC	Energize : 3-8 ms	De-energize : 2-7 ms

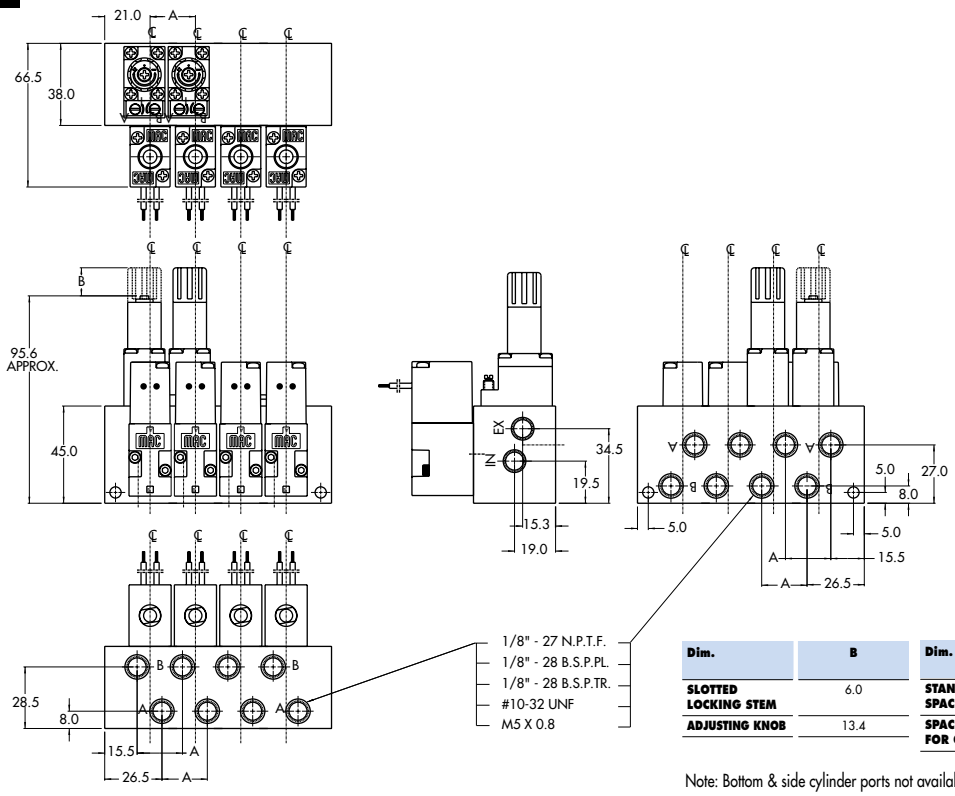
Spare parts :

• Solenoid operator (power ≥ 5.4 W) : DXXJ-XFM, including mounting screws 35013.
• Seal between solenoid and valve body : 16402. • Seal between base and valve : 16453.
• Valve mounting screw (x2) : 35020. • Blanking plate valve : M-45010. • Blanking plate regulator : M-35005.

Options :

• NPTF threads. • High flow up to 140 NL/min, according to wattage. • Isolation of inlet and/or exhaust.

DIMENSIONS



Dim.	B	Dim.	A
SLOTTED LOCKING STEM	6.0	STANDARD SPACING	21.0
ADJUSTING KNOB	13.4	SPACING FOR GAUGES	40.0

Note: Bottom & side cylinder ports not available on the same station

MAC

Series 45

Function	Port size	Flow (Max)	Circuit bar mounting
4/2	**1/8" BSPP - M5**	**100 NL/min**	plug-in

OPERATIONAL BENEFITS

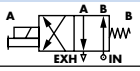
1. Balanced poppet, immune to variations of pressure.
2. Short stroke with high flow.
3. The patented solenoid develops high shifting forces.
4. Powerful return spring.
5. Manual operator standard on all valves.
6. Burn-out proof solenoid on AC service.

Reset

HOW TO ORDER

45A-xxx-DxxJ-xFM

HOW TO ORDER VALVE FOR CIRCUIT BAR MOUNTING "PLUG-IN"

Single operator	Double operator (Minimum DC wattage 5,4W)
	
○ 45A-L00-D**XX**J-xFM	○ 45A-N00-D**XX**J-xFM

SOLENOID OPERATOR ➤ D **XX** J- **X** FM *

XX	Voltage
○ AA	120/60, 110/50
○ AB	240/60, 220/50
○ AC	24/60, 24/50
○ FB	24VDC (1.8 W)
○ DA	24VDC (5.4 W)
○ DF	24VDC (12.7 W)
○ xx	Other Options

X	Manual operator
○ 1	Non-locking Recessed
○ 2	Locking Recessed
○ x	Other Options

HOW TO ORDER "PLUG-IN" CIRCUIT BAR**

ECD45A-xxxx-xx-xx

Port size	Spacing mm	Side cylinder ports	Bottom cylinder ports
1/8" BSPP	21	○ ECD45A-001C-A0-**XX**	○ ECD45A-002C-A0-**XX**
M5	21	○ ECD45A-001D-A0-**XX**	○ ECD45A-002D-A0-**XX**
1/8" BSPP	30	○ ECD45A-031C-C0-**XX**	○ ECD45A-032C-C0-**XX**
M5	30	○ ECD45A-031D-C0-**XX**	○ ECD45A-032D-C0-**XX**

Number of stations (03=3 stations) ☐
Note : ☐ clic for valves mounted on base at the factory (add - 9 to the model number).
for multi-pin connector (9, 15 or 25).

○ A0 = without light
○ AA = with light (120V)
○ AB = with light (240V)
○ AD = with light (24V)
○ C0 = terminal strip
○ CA = terminal w/light (120V)
○ CB = terminal w/light (240V)
○ CD = terminal w/light (24V)

OPTIONS

ECD45A-002A-A0-**XX**
- ☐ clic for double operator valve (replace by 8) (Bottom cylinder ports).

Consult "Precautions"before use, installation or service of MAC Valves.

Menu

Series **45**

100% OF PRODUCTION TESTED 100%

WARRANTY 18 MONTHS

TECHNICAL DATA

Fluid :	Compressed air, vacuum, inert gases		
Pressure range :	Vacuum to 8 BAR		
Lubrication :	Not required, if used select a medium aniline point lubricant (between 80°C and 100°C)		
Filtration :	40 µ		
Temperature range :	0°F to 120°F (-18°C to 50°C)		
Orifice :	2 mm		
Flow (at 6 bar, ΔP=1bar) :	1.8 W : 80 NL/min, 5.4 W : 100 NL/min		
Leak rate :	50 cm^3/min		
Coil :	General purpose class A, continuous duty, encapsulated		
Voltage range :	-15% to +10% of nominal voltage		
Protection :	Nema 4		
Power :	120 VAC/60 = Inrush : 10.9 VA (0.09 AMPS)	Holding : 7. 7VA (0.06 AMPS)	
	DC VOLTS = 1.8 W to 12.7 W		
Response times :	24 VDC (5.4W)	Energize : 6 ms	De-energize : 2 ms
	120 VAC	Energize : 3-8 ms	De-energize : 2-7 ms

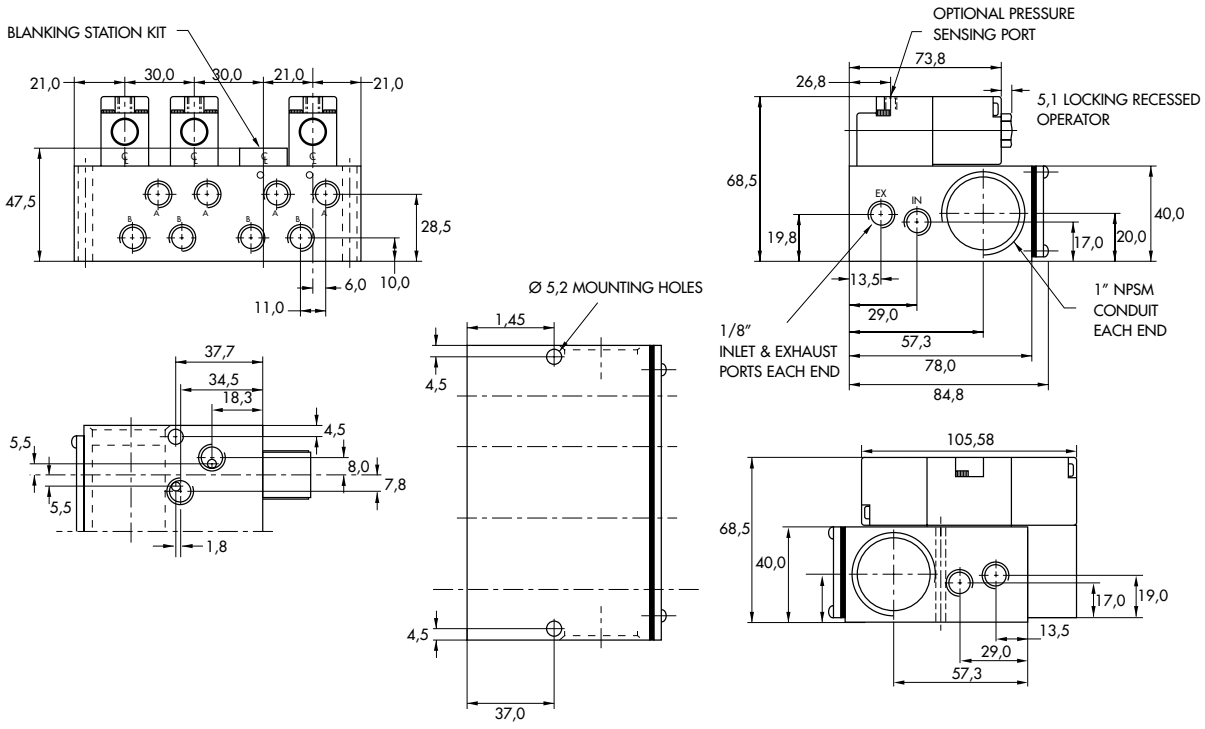
Spare parts :

- Solenoid operator (power ≥ 5.4 W) : DXXJ-XFM, including mounting screws 35013.
- Seal between solenoid and valve body : 16402. • Seal between base and valve : 16453.
- Valve mounting screw (x2) : 35020. • Blanking plate valve : M-45010. • Blanking plate regulator : M-35005.

Options :

- NPTF threads. • High flow up to140 NL/min, according to wattage. • Isolation of inlet and/or exhaust.

DIMENSIONS



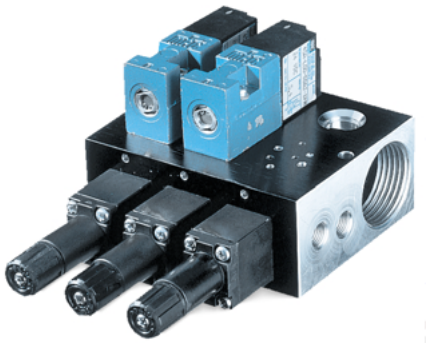
MAC

Series **45**

Function	Port size	Flow (Max)	Circuit bar mounting
4/2	**1/8" BSPP - M5**	**100 NL/min**	plug-in with side Pr. Reg.

OPERATIONAL BENEFITS

1. Balanced poppet, immune to variations of pressure.
2. Short stroke with high flow.
3. The patented solenoid develops high shifting forces.
4. Powerful return spring.
5. Manual operator standard on all valves.
6. Burn-out proof solenoid on AC service.

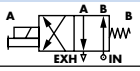


Reset

HOW TO ORDER 45A-xxx-DxxJ-xFM

HOW TO ORDER VALVE FOR "PLUG-IN" CIRCUIT BAR

Single operator



○ 45A-L00-D*XX*J-*x*FM	Valve w/o gage port
○ 45A-M00-D*XX*J-*x*FM	Valve w/ gage port

SOLENOID OPERATOR ➤ D ***XX*** J- ***X*** FM*

XX	Voltage
○ *AA*	120/60, 110/50
○ *AB*	240/60, 220/50
○ *AC*	24/60, 24/50
○ *FB*	24VDC (1.8 W)
○ *DA*	24VDC (5.4 W)
○ *DF*	24VDC (12.7 W)
○ *xx*	Other Options

X	Manual operator
○ *1*	Non-locking Recessed
○ *2*	Locking Recessed
○ *x*	Other Options

ECD45A-xxxx-xx-xx

HOW TO ORDER CIRCUIT BAR WITH PRESSURE REGULATORS (TO BE ORDERED SEPARATELY) **

Port size	Spacing mm	Bottom cylinder ports
1/8" BSPP	21	○ ECD45A-004C-A0-*xx*
M5	21	○ ECD45A-004D-A0-*xx*
1/8" BSPP	30	○ ECD45A-034C-C0-*xx*
M5	30	○ ECD45A-034D-C0-*xx*
1/8" BSPP	40	○ ECD45A-024C-A0-*xx*
M5	40	○ ECD45A-024D-A0-*xx*

Number of stations (03=3 stations) ☐

Note : ☐ clic for valves and regulators mounted to circuit bar at the factory (add - 9 to the model number).
for multi-pin connector (9, 15 or 25).
minimum spacing for terminal strips is 30 mm.
use 40 mm spacing for gages.

** Pressure Regulators :
35A-00M (Adjusting knob)
35A-00L (Slotted stem)
35A-00U (Locking stem)

- ○ A0 = without light
- ○ AA = with light (120V)
- ○ AB = with light (240V)
- ○ AD = with light (24V)
- ○ C0 = terminal strip
- ○ CA = terminal w/light (120V)
- ○ CB = terminal w/light (240V)
- ○ CD = terminal w/light (24V)

Consult "Precautions" before use, installation or service of MAC Valves.

Menu

MAC

Series **45**

100% OF PRODUCTION TESTED 100%

WARRANTY 18 MONTHS

TECHNICAL DATA

Fluid :	Compressed air, vacuum, inert gases		
Pressure range :	Vacuum to 8 BAR		
Lubrication :	Not required, if used select a medium aniline point lubricant (between 80°C and 100°C)		
Filtration :	40 µ		
Temperature range :	0°F to 120°F (-18°C to 50°C)		
Orifice :	2 mm		
Flow (at 6 bar, ΔP=1bar) :	1.8 W : 80 NL/min, 5.4 W : 100 NL/min		
Leak rate :	50 cm^3/min		
Coil :	General purpose class A, continuous duty, encapsulated		
Voltage range :	-15% to +10% of nominal voltage		
Protection :	Nema 4		
Power :	120 VAC/60 = Inrush : 10.9 VA (0.09 AMPS)	Holding : 7. 7VA (0.06 AMPS)	
	DC VOLTS = 1.8 W to 12.7 W		
Response times :	24 VDC (5.4W)	Energize : 6 ms	De-energize : 2 ms
	120 VAC	Energize : 3-8 ms	De-energize : 2-7 ms

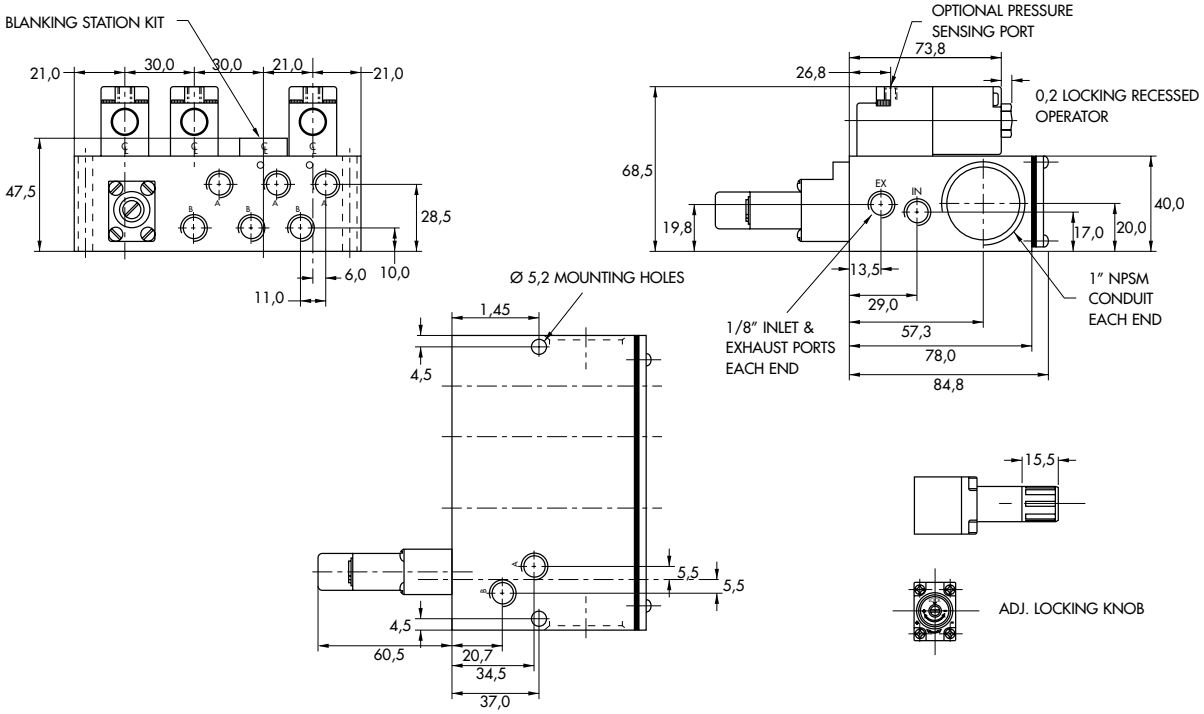
Spare parts :

- Solenoid operator (power ≥ 5.4 W) : DXXJ-XFM, including mounting screws 35013.
- Seal between solenoid and valve body : 16402. • Seal between base and valve : 16453.
- Valve mounting screw (x2) : 35020. • Blanking plate valve : M-45010. • Blanking plate regulator : M-35005.

Options :

- NPTF threads. • High flow up to 140 NL/min, according to wattage. • Isolation of inlet and/or exhaust.

DIMENSIONS



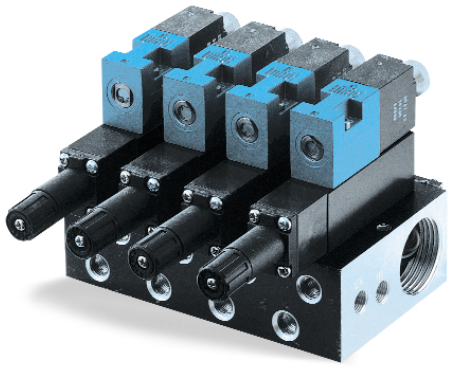
MAC

Series 45

Function	Port size	Flow (Max)	Circuit bar mounting
4/2	**1/8" BSPP - M5**	**100 NL/min**	plug-in with sandwich Pr. Reg.

OPERATIONAL BENEFITS

1. Balanced poppet, immune to variations of pressure.
2. Short stroke with high flow.
3. The patented solenoid develops high shifting forces.
4. Powerful return spring.
5. Manual operator standard on all valves.
6. Burn-out proof solenoid on AC service.



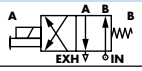
Reset

HOW TO ORDER

45A-xxx-DxxJ-xFM

HOW TO ORDER VALVE FOR CIRCUIT BAR MOUNTING "PLUG-IN"

Single operator



○ 45A-L00-D*XX*J-*x*FM	Valve w/o gage port
○ 45A-M00-D*XX*J-*x*FM	Valve w/ gage port

SOLENOID OPERATOR ➤ D *XX* J- *X* FM*

XX	Voltage
○ *AA*	120/60, 110/50
○ *AB*	240/60, 220/50
○ *AC*	24/60, 24/50
○ *FB*	24VDC (1.8 W)
○ *DA*	24VDC (5.4 W)
○ *DF*	24VDC (12.7 W)
○ *xx*	Other Options

X	Manual operator
○ *1*	Non-locking Recessed
○ *2*	Locking Recessed
○ *x*	Other Options

ECD45A-xxxx-xx-xx

HOW TO ORDER "PLUG-IN" CIRCUIT BAR WITH SANDWICH PRESSURE REGULATORS (TO BE ORDERED SEPARATELY) **

Port size	Spacing mm	Side cylinder ports	Bottom cylinder ports
1/8" BSPP	21	○ ECD45A-001C-A0-*XX*	○ ECD45A-002C-A0-*XX*
M5	21	○ ECD45A-001D-A0-*XX*	○ ECD45A-002D-A0-*XX*
1/8" BSPP	30	○ ECD45A-031C-C0-*XX*	○ ECD45A-032C-C0-*XX*
M5	30	○ ECD45A-031D-C0-*XX*	○ ECD45A-032D-C0-*XX*
1/8" BSPP	40	○ ECD45A-021C-A0-*XX*	○ ECD45A-022C-A0-*XX*
M5	40	○ ECD45A-021D-A0-*XX*	○ ECD45A-022D-A0-*XX*

Number of stations (03=3 stations) ☐

Note : ☐ clic for valves and regulators mounted to circuit bar at the factory, add - 9 to the model number.
for multi-pin connector (9, 15 or 25).
minimum spacing for terminal strips is 30 mm.
use 40 mm spacing for gages.

** Pressure Regulators :
PR45A-AA0A (Adjusting knob)
PR45A-AB0A (Slotted stem)
PR45A-AC0A (Locking stem)

- ○ A0 = without light
- ○ AA = with light (120V)
- ○ AB = with light (240V)
- ○ AD = with light (24V)
- ○ C0 = terminal strip
- ○ CA = terminal w/light (120V)
- ○ CB = terminal w/light (240V)
- ○ CD = terminal w/light (24V)

MAC

Series **45**

100% OF PRODUCTION TESTED 100%

WARRANTY 18 MONTHS

TECHNICAL DATA

Fluid :	Compressed air, vacuum, inert gases		
Pressure range :	Vacuum to 8 BAR		
Lubrication :	Not required, if used select a medium aniline point lubricant (between 80°C and 100°C)		
Filtration :	40 µ		
Temperature range :	0°F to 120°F (-18°C to 50°C)		
Orifice :	2 mm		
Flow (at 6 bar, ΔP=1bar) :	1.8 W : 80 NL/min, 5.4 W : 100 NL/min		
Leak rate :	50 cm^3/min		
Coil :	General purpose class A, continuous duty, encapsulated		
Voltage range :	-15% to +10% of nominal voltage		
Protection :	Nema 4		
Power :	120 VAC/60 = Inrush : 10.9 VA (0.09 AMPS)	Holding : 7. 7VA (0.06 AMPS)	
	DC VOLTS = 1.8 W to 12.7 W		
Response times :	24 VDC (5.4W)	Energize : 6 ms	De-energize : 2 ms
	120 VAC	Energize : 3-8 ms	De-energize : 2-7 ms

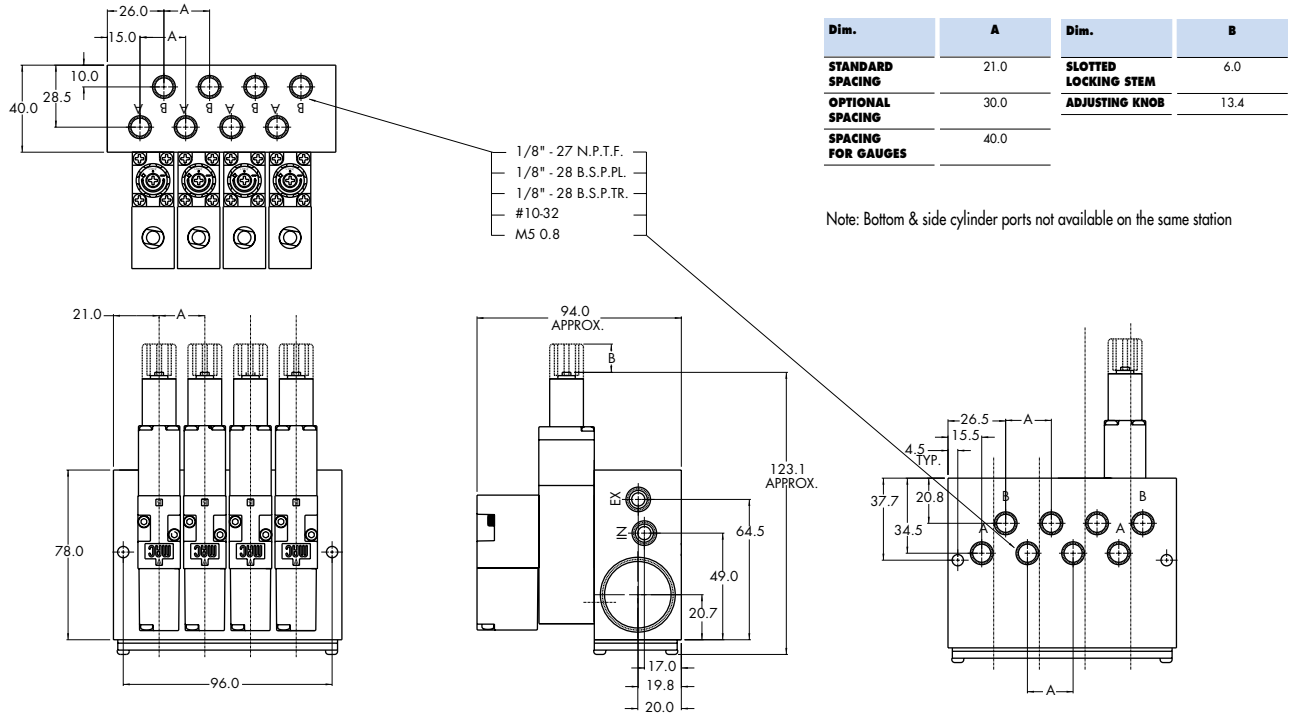
Spare parts :

- Solenoid operator (power ≥ 5.4 W) : DXXJ-XFM, including mounting screws 35013.
- Seal between solenoid and valve body : 16402. • Seal between base and valve : 16453.
- Valve mounting screw (x2) : 35020. • Blanking plate valve : M-45010. • Blanking plate regulator : M-35005.

Options :

- NPTF threads. • High flow up to 140 NL/min, according to wattage. • Isolation of inlet and/or exhaust.

DIMENSIONS



Dim.	A	Dim.	B
STANDARD SPACING	21.0	**SLOTTED LOCKING STEM**	6.0
OPTIONAL SPACING	30.0	**ADJUSTING KNOB**	13.4
SPACING FOR GAUGES	40.0		

Note: Bottom & side cylinder ports not available on the same station

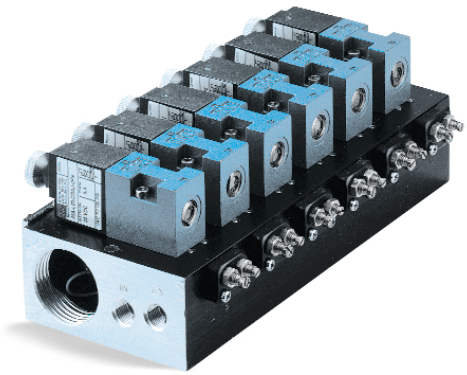
MAC

Series 45

Function	Port size	Flow (Max)	Circuit bar mounting
4/2	**1/8" BSPP - M5**	**100 NL/min**	plug-in with F. C.

OPERATIONAL BENEFITS

1. Balanced poppet, immune to variations of pressure.
2. Short stroke with high flow.
3. The patented solenoid develops high shifting forces.
4. Powerful return spring.
5. Manual operator standard on all valves.
6. Burn-out proof solenoid on AC service.

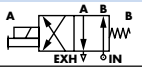


Reset

HOW TO ORDER

45A-xxx-DxxJ-xFM

HOW TO ORDER VALVE FOR CIRCUIT BAR MOUNTING "PLUG-IN"

Port size (see base)	Single operator
	
Valve less base	○ 45A-L00-D**XX**J-**X**FM

SOLENOID OPERATOR ➤ D **XX** J- **X** FM*

XX	Voltage
○ AA	120/60, 110/50
○ AB	240/60, 220/50
○ AC	24/60, 24/50
○ FB	24VDC (1.8 W)
○ DA	24VDC (5.4 W)
○ DF	24VDC (12.7 W)
○ XX	Other Options

X	Manual operator
○ 1	Non-locking Recessed
○ 2	Locking Recessed
○ X	Other Options

HOW TO ORDER "PLUG-IN" CIRCUIT BAR WITH FLOW CONTROLS **

ECD45A-xxxx-xx-xx

Port size	Spacing mm	Side cylinder ports	Bottom cylinder ports
1/8" BSPP	21	--------	○ ECD45A-006C-A0-**XX**
M5	21	--------	○ ECD45A-006D-A0-**XX**
1/8" BSPP	30	○ ECD45A-035C-A0-**XX**	--------
M5	30	○ ECD45A-035D-A0-**XX**	--------

Number of stations (03=3 stations) ☐

Note : ☐ clic for valves mounted on base at the factory (add - 9 to the model number).
for multi-pin connector (9, 15 or 25).
minimum spacing for terminal strips is 30 mm.

- ○ A0 = without light
- ○ AA = with light (120V)
- ○ AB = with light (240V)
- ○ AD = with light (24V)
- ○ C0 = terminal strip
- ○ CA = terminal w/light (120V)
- ○ CB = terminal w/light (240V)
- ○ CD = terminal w/light (24V)

MAC

Series 45

100% OF PRODUCTION TESTED 100%

WARRANTY 18 MONTHS

TECHNICAL DATA

Fluid :	Compressed air, vacuum, inert gases		
Pressure range :	Vacuum to 8 BAR		
Lubrication :	Not required, if used select a medium aniline point lubricant (between 80°C and 100°C)		
Filtration :	40 µ		
Temperature range :	0°F to 120°F (-18°C to 50°C)		
Orifice :	2 mm		
Flow (at 6 bar, ΔP=1bar) :	1.8 W : 80 NL/min, 5.4 W : 100 NL/min		
Leak rate :	50 cm^3/min		
Coil :	General purpose class A, continuous duty, encapsulated		
Voltage range :	-15% to +10% of nominal voltage		
Protection :	Nema 4		
Power :	120 VAC/60 = Inrush : 10.9 VA (0.09 AMPS)	Holding : 7. 7VA (0.06 AMPS)	
	DC VOLTS = 1.8 W to 12.7 W		
Response times :	24 VDC (5.4W)	Energize : 6 ms	De-energize : 2 ms
	120 VAC	Energize : 3-8 ms	De-energize : 2-7 ms

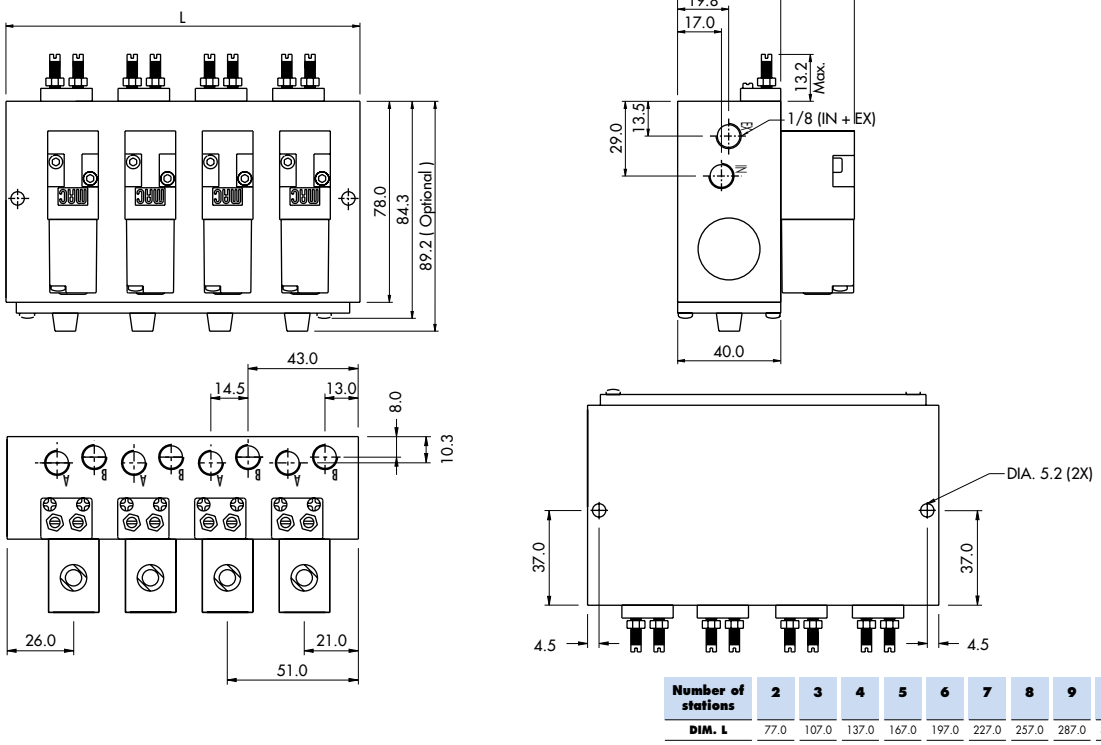
Spare parts :

- Solenoid operator (power ≥ 5.4 W) : DXXJ-XFM, including mounting screws 35013.
- Seal between solenoid and valve body : 16402. • Seal between base and valve : 16453.
- Valve mounting screw (x2) : 35020. • Blanking plate valve : M-45010. • Blanking plate regulator : M-35005.

Options :

- NPTF threads. • High flow up to 140 NL/min, according to wattage. • Isolation of inlet and/or exhaust.

DIMENSIONS



Number of stations	2	3	4	5	6	7	8	9	10
DIM. L	77.0	107.0	137.0	167.0	197.0	227.0	257.0	287.0	317.0

Consult "Precautions" before use, installation or service of MAC Valves.

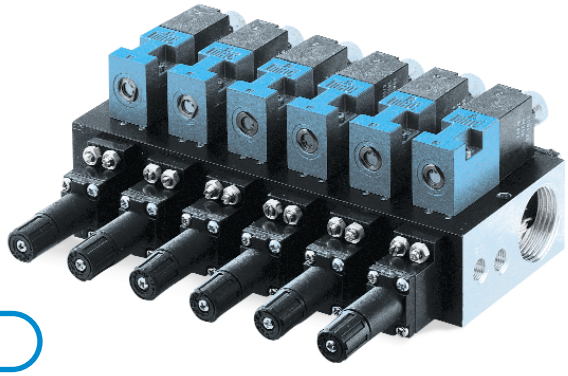
MAC

Series 45

Function	Port size	Flow (Max)	Circuit bar mounting
4/2	**1/8" BSPP - M5**	**100 NL/min**	plug-in with Pr. Reg. and F. C.

OPERATIONAL BENEFITS

1. Balanced poppet, immune to variations of pressure.
2. Short stroke with high flow.
3. The patented solenoid develops high shifting forces.
4. Powerful return spring.
5. Manual operator standard on all valves.
6. Burn-out proof solenoid on AC service.

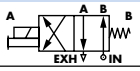


Reset

HOW TO ORDER

45A-xxx-DxxJ-xFM

HOW TO ORDER VALVE FOR CIRCUIT BAR MOUNTING "PLUG-IN"

Port size (see base)	Single operator
	
Valve less base (w/o gage port)	○ 45A-L00-D*xx*J-*x*FM
Valve less base (w/ gage port)	○ 45A-M00-D*xx*J-*x*FM

SOLENOID OPERATOR ➤ D *xx* J- *x* FM*

xx	Voltage
○ *AA*	120/60, 110/50
○ *AB*	240/60, 220/50
○ *AC*	24/60, 24/50
○ *FB*	24VDC (1.8 W)
○ *DA*	24VDC (5.4 W)
○ *DF*	24VDC (12.7 W)
○ *xx*	Other Options

x	Manual operator
○ *1*	Non-locking Recessed
○ *2*	Locking Recessed
○ *x*	Other Options

ECD45A-xxxx-xx-xx

HOW TO ORDER "PLUG-IN" CIRCUIT BAR WITH REGULATORS AND FLOW CONTROLS (TO BE ORDERED SEPARATELY) **

Port size	Spacing mm	Bottom cylinder ports
1/8" BSPP	21	○ ECD45A-007C-A0-*xx*
M5	21	○ ECD45A-007D-A0-*xx*
1/8" BSPP	30	○ ECD45A-037C-C0-*xx*
M5	30	○ ECD45A-037D-C0-*xx*

Number of stations (03=3 stations) ☐

Note : ☐ clic for valves and regulators mounted to circuit bar at the factory (add - 9 to the model number).
for multi-pin connector (9, 15 or 25).
minimum spacing for terminal strips is 30 mm.

Pressure regulators and flow controls:
45A-001 (Slotted stem)
45A-002 (Adjusting knob)
45A-003 (Locking stem)

○ A0 = without light
○ AA = with light (120V)
○ AB = with light (240V)
○ AD = with light (24V)
○ C0 = terminal strip
○ CA = terminal w/light (120V)
○ CB = terminal w/light (240V)
○ CD = terminal w/light (24V)

Series **45**

100% OF PRODUCTION TESTED 100%

WARRANTY 18 MONTHS

TECHNICAL DATA

Fluid :	Compressed air, vacuum, inert gases		
Pressure range :	Vacuum to 8 BAR		
Lubrication :	Not required, if used select a medium aniline point lubricant (between 80°C and 100°C)		
Filtration :	40 µ		
Temperature range :	0°F to 120°F (-18°C to 50°C)		
Orifice :	2 mm		
Flow (at 6 bar, ΔP=1bar) :	1.8 W : 80 NL/min, 5.4 W : 100 NL/min		
Leak rate :	50 cm^3/min		
Coil :	General purpose class A, continuous duty, encapsulated		
Voltage range :	-15% to +10% of nominal voltage		
Protection :	Nema 4		
Power :	120 VAC/60 = Inrush : 10.9 VA (0.09 AMPS)	Holding : 7. 7VA (0.06 AMPS)	
	DC VOLTS = 1.8 W to 12.7 W		
Response times :	24 VDC (5.4W)	Energize : 6 ms	De-energize : 2 ms
	120 VAC	Energize : 3-8 ms	De-energize : 2-7 ms

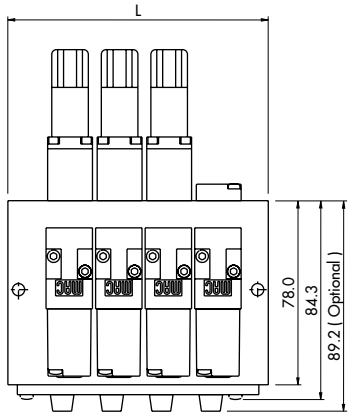
Spare parts :

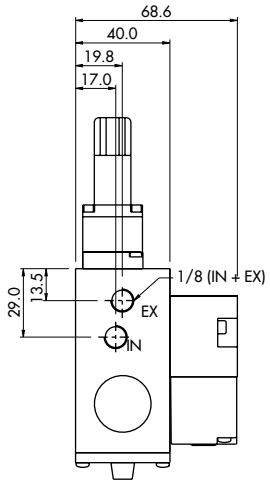
- Solenoid operator (power ≥ 5.4 W) : DXXJ-XFM, including mounting screws 35013.
- Seal between solenoid and valve body : 16402. • Seal between base and valve : 16453.
- Valve mounting screw (x2) : 35020. • Blanking plate valve : M-45010. • Blanking plate regulator : M-35005.

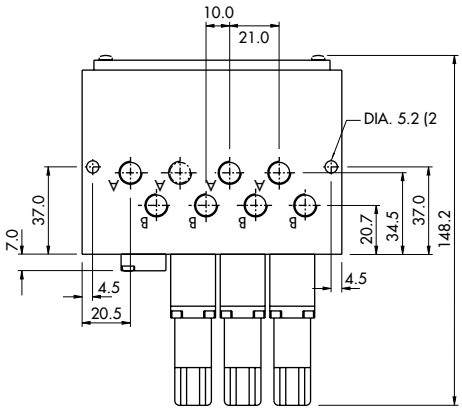
Options :

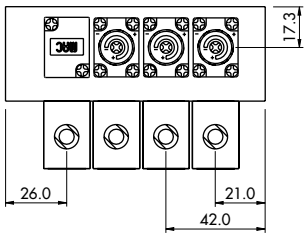
- NPTF threads. • High flow up to 140 NL/min, according to wattage. • Isolation of inlet and/or exhaust.

DIMENSIONS









Number of stations	2	3	4	5	6	7	8	9	10
DIM. L	68.0	89.0	110.0	131.0	152.0	173.0	194.0	215.0	236.0

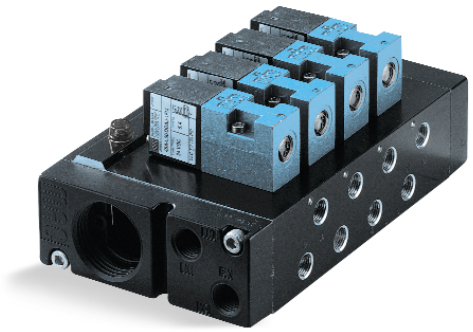
MAC

Series 45

Function	Port size	Flow (Max)	Circuit bar mounting
4/2	**1/8" BSPP - M5**	**100 NL/min**	plug-in with integral terminal strip

OPERATIONAL BENEFITS

1. Balanced poppet, immune to variations of pressure.
2. Short stroke with high flow.
3. The patented solenoid develops high shifting forces.
4. Powerful return spring.
5. Manual operator standard on all valves.
6. Burn-out proof solenoid on AC service.

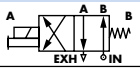


Reset

HOW TO ORDER

45A-xxx-DxxJ-xFM

HOW TO ORDER VALVE FOR CIRCUIT BAR MOUNTING "PLUG-IN"

Single operator	
	
○ 45A-L00-D*XX*J-*X*FM	Valve less base

SOLENOID OPERATOR ➤ D *XX* J- *X* FM *

XX	Voltage
○ *AA*	120/60, 110/50
○ *AB*	240/60, 220/50
○ *AC*	24/60, 24/50
○ *FB*	24VDC (1.8 W)
○ *DA*	24VDC (5.4 W)
○ *DF*	24VDC (12.7 W)
○ *xx*	Other Options

X	Manual operator
○ *1*	Non-locking Recessed
○ *2*	Locking Recessed
○ *x*	Other Options

HOW TO ORDER "PLUG-IN" CIRCUIT BAR**

ECE45A-xxxx-xx-xx

Port size	Spacing mm	Side cylinder ports	Bottom cylinder ports
1/8" BSPP	26	○ ECE45A-011C-C0-*xx*	○ ECE45A-012C-C0-*xx*
M5	26	○ ECE45A-011D-C0-*xx*	○ ECE45A-012D-C0-*xx*

Number of stations (03=3 stations) ☐
End plate kit required : M-45017
Note : ☐ clic for valves mounted on circuit bar at the factory (add - 9 to the model number).

○ C0 = terminal strip
○ CA = terminal strip w/light (120V)
○ CB = terminal strip w/light (240V)
○ CD = terminal strip w/light (24V)

Series **45**

100% OF PRODUCTION TESTED 100%

WARRANTY 18 MONTHS

TECHNICAL DATA

Fluid :	Compressed air, vacuum, inert gases		
Pressure range :	Vacuum to 8 BAR		
Lubrication :	Not required, if used select a medium aniline point lubricant (between 80°C and 100°C)		
Filtration :	40 µ		
Temperature range :	0°F to 120°F (-18°C to 50°C)		
Orifice :	2 mm		
Flow (at 6 bar, ΔP=1bar) :	1.8 W : 80 NL/min, 5.4 W : 100 NL/min		
Leak rate :	50 cm^3/min		
Coil :	General purpose class A, continuous duty, encapsulated		
Voltage range :	-15% to +10% of nominal voltage		
Protection :	Nema 4		
Power :	120 VAC/60 = Inrush : 10.9 VA (0.09 AMPS)	Holding : 7. 7VA (0.06 AMPS)	
	DC VOLTS = 1.8 W to 12.7 W		
Response times :	24 VDC (5.4W)	Energize : 6 ms	De-energize : 2 ms
	120 VAC	Energize : 3-8 ms	De-energize : 2-7 ms

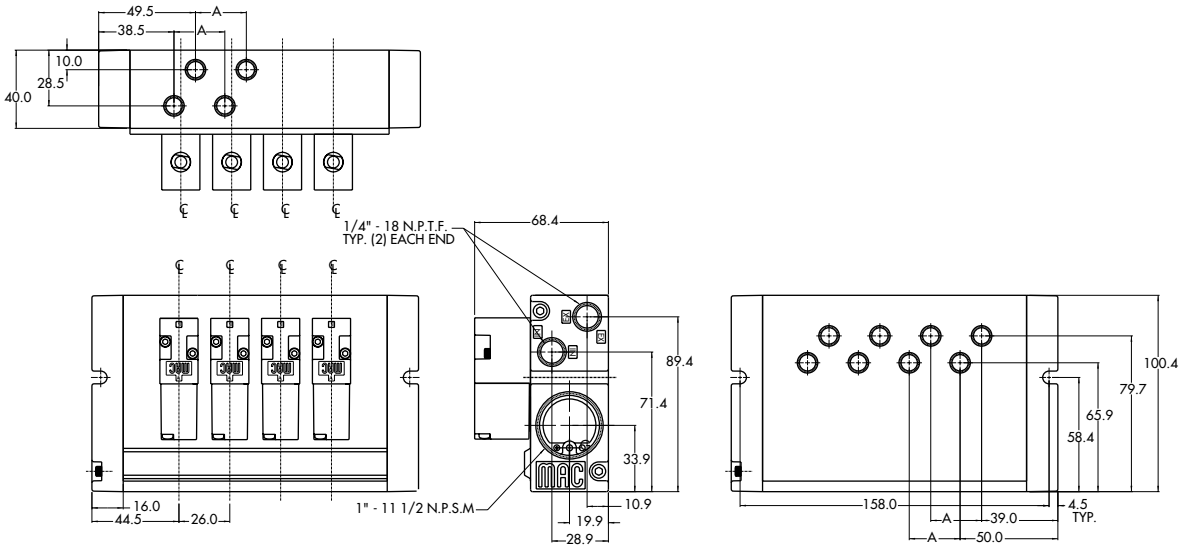
Spare parts :

- Solenoid operator (power ≥ 5.4 W) : DXXJ-XFM, including mounting screws 35013.
- Seal between solenoid and valve body : 16402. • Seal between base and valve : 16453.
- Valve mounting screw (x2) : 35020. • Blanking plate valve : M-45010. • Blanking plate regulator : M-35005.

Options :

- NPTF threads. • High flow up to 140 NL/min, according to wattage. • Isolation of inlet and/or exhaust.

DIMENSIONS



Note: Bottom & side cylinder ports not available on the same station

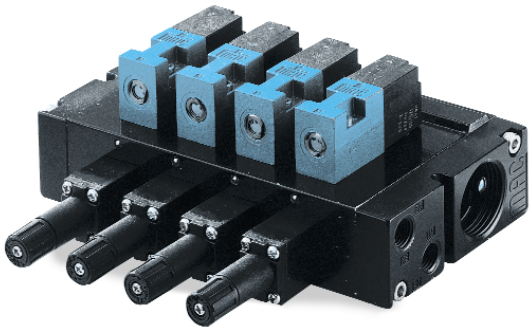
MAC

Series 45

Function	Port size	Flow (Max)	Circuit bar mounting
4/2	**1/8" BSPP - M5**	**100 NL/min**	plug-in with integral terminal strip and side Pr. Reg.

OPERATIONAL BENEFITS

1. Balanced poppet, immune to variations of pressure.
2. Short stroke with high flow.
3. The patented solenoid develops high shifting forces.
4. Powerful return spring.
5. Manual operator standard on all valves.
6. Burn-out proof solenoid on AC service.

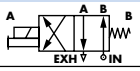


Reset

HOW TO ORDER

45A-xxx-DxxJ-xFM

HOW TO ORDER VALVE FOR "PLUG-IN" CIRCUIT BAR

Single operator	
	
○ 45A-L00-D*XX*J-*x*FM	Valve less base w/o gage port
○ 45A-M00-D*XX*J-*x*FM	Valve less base w/ gage port

SOLENOID OPERATOR ➤ D *XX* J- *X* FM *

XX	Voltage
○ *AA*	120/60, 110/50
○ *AB*	240/60, 220/50
○ *AC*	24/60, 24/50
○ *FB*	24VDC (1.8 W)
○ *DA*	24VDC (5.4 W)
○ *DF*	24VDC (12.7 W)
○ *xx*	Other Options

X	Manual operator
○ *1*	Non-locking Recessed
○ *2*	Locking Recessed
○ *x*	Other Options

ECE45A-xxxx-xx-xx

HOW TO ORDER CIRCUIT BAR WITH PRESSURE REGULATORS (TO BE ORDERED SEPARATELY) **

Port size	Spacing mm	Bottom cylinder ports
1/8" BSPP	26	○ ECE45A-014C-C0-*xx*
M5	26	○ ECE45A-014D-C0-*xx*
1/8" BSPP	40	○ ECE45A-024C-C0-*xx*
M5	40	○ ECE45A-024D-C0-*xx*

Number of stations (03=3 stations) ☐
End plate kit required : M-45017
Note : ☐ clic for valves and regulators mounted to circuit bar at the factory (add - 9 to the model number). Use 40 mm spacing for valves w/ gage port.

** Pressure Regulators :
35A-00M (Adjusting knob)
35A-00L (Slotted stem)
35A-00U (Locking stem)

* ○ C0 = terminal strip
○ CA = terminal strip w/light (120V)
○ CB = terminal strip w/light (240V)
○ CD = terminal strip w/light (24V)

Series **45**

100% OF PRODUCTION TESTED 100%

WARRANTY 18 MONTHS

TECHNICAL DATA

Fluid :	Compressed air, vacuum, inert gases		
Pressure range :	Vacuum to 8 BAR		
Lubrication :	Not required, if used select a medium aniline point lubricant (between 80°C and 100°C)		
Filtration :	40 µ		
Temperature range :	0°F to 120°F (-18°C to 50°C)		
Orifice :	2 mm		
Flow (at 6 bar, ΔP=1bar) :	1.8 W : 80 NL/min, 5.4 W : 100 NL/min		
Leak rate :	50 cm^3/min		
Coil :	General purpose class A, continuous duty, encapsulated		
Voltage range :	-15% to +10% of nominal voltage		
Protection :	Nema 4		
Power :	120 VAC/60 = Inrush : 10.9 VA (0.09 AMPS)	Holding : 7. 7VA (0.06 AMPS)	
	DC VOLTS = 1.8 W to 12.7 W		
Response times :	24 VDC (5.4W)	Energize : 6 ms	De-energize : 2 ms
	120 VAC	Energize : 3-8 ms	De-energize : 2-7 ms

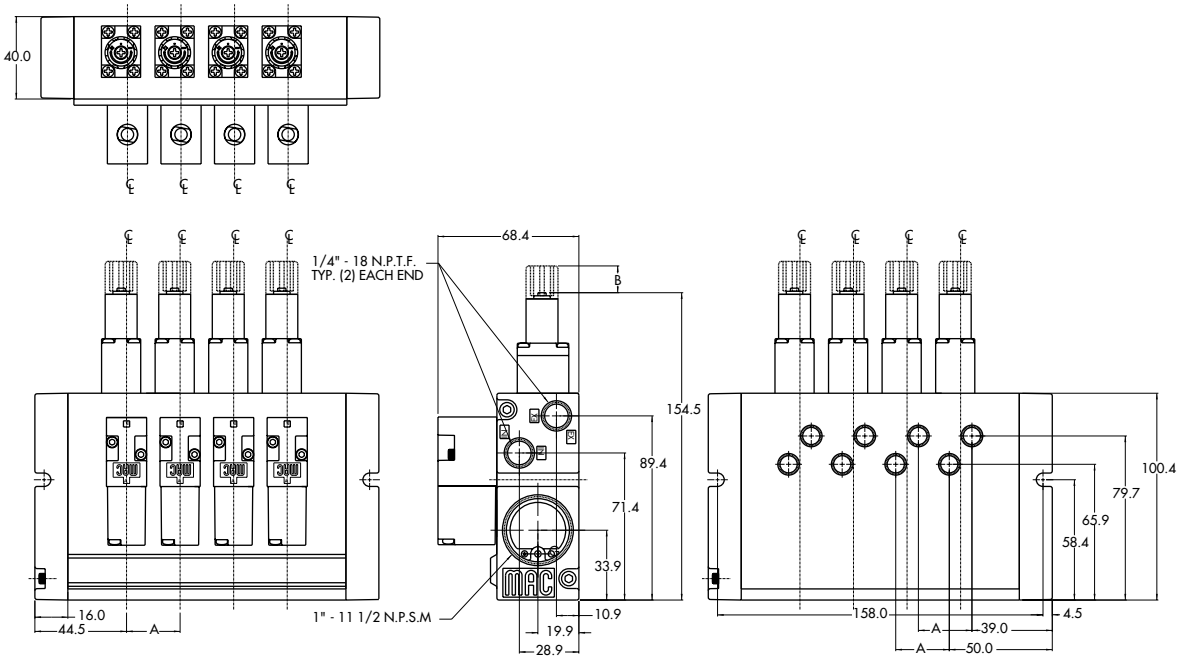
Spare parts :

- Solenoid operator (power ≥ 5.4 W) : DXXJ-XFM, including mounting screws 35013.
- Seal between solenoid and valve body : 16402. • Seal between base and valve : 16453.
- Valve mounting screw (x2) : 35020. • Blanking plate valve : M-45010. • Blanking plate regulator : M-35005.

Options :

- NPTF threads. • High flow up to 140 NL/min, according to wattage. • Isolation of inlet and/or exhaust.

DIMENSIONS



Dim.	B	Dim.	A
SLOTTED LOCKING STEM	6.0	STANDARD SPACING	26.0
ADJUSTING KNOB	13.4	SPACING FOR GAUGES	40.0

Consult "Precautions" before use, installation or service of MAC Valves.

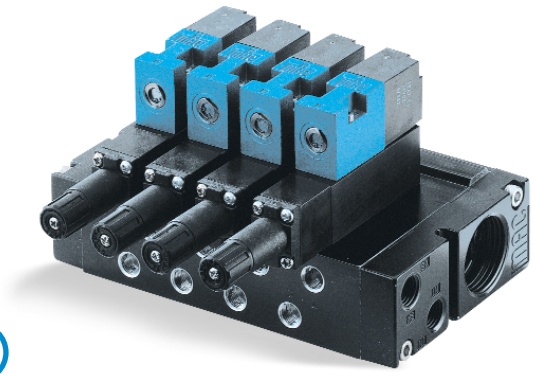
MAC

Series 45

Function	Port size	Flow (Max)	Circuit bar mounting
4/2	**1/8" BSPP - M5**	**100 NL/min**	plug-in with integral terminal strip and sandwich Pr. Reg.

OPERATIONAL BENEFITS

1. Balanced poppet, immune to variations of pressure.
2. Short stroke with high flow.
3. The patented solenoid develops high shifting forces.
4. Powerful return spring.
5. Manual operator standard on all valves.
6. Burn-out proof solenoid on AC service.



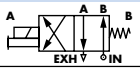
Reset

HOW TO ORDER

45A-xxx-DxxJ-xFM

HOW TO ORDER VALVE FOR CIRCUIT BAR MOUNTING "PLUG-IN"

Single operator



○ 45A-L00-D*XX*J-*x*FM	Valve w/o gage port
○ 45A-M00-D*XX*J-*x*FM	Valve w/ gage port

SOLENOID OPERATOR ➤ D *XX* J- *X* FM *

XX	Voltage
○ *AA*	120/60, 110/50
○ *AB*	240/60, 220/50
○ *AC*	24/60, 24/50
○ *FB*	24VDC (1.8 W)
○ *DA*	24VDC (5.4 W)
○ *DF*	24VDC (12.7 W)
○ *xx*	Other Options

X	Manual operator
○ *1*	Non-locking Recessed
○ *2*	Locking Recessed
○ *x*	Other Options

ECE45A-xxxx-xx-xx

HOW TO ORDER "PLUG-IN" CIRCUIT BAR WITH SANDWICH REGULATORS (TO BE ORDERED SEPARATELY) **

Port size	Spacing mm	Side cylinder ports	Bottom cylinder ports
1/8" BSPP	26	○ ECE45A-011C-C0-*xx*	○ ECE45A-012C-C0-*xx*
M5	26	○ ECE45A-011D-C0-*xx*	○ ECE45A-012D-C0-*xx*
1/8" BSPP	40	○ ECE45A-021C-C0-*xx*	○ ECE45A-022C-C0-*xx*
M5	40	○ ECE45A-021D-C0-*xx*	○ ECE45A-022D-C0-*xx*

Number of stations (03=3 stations) ☐
End plate kit required : M-45017
Note : ☐ clic for valves and regulators mounted to circuit bar at the factory (add - 9 to the model number).
Use 40 mm spacing for valves w/ gage port.

** Pressure Regulators :
PR45A-AA0A (Adjusting knob)
PR45A-AB0A (Slotted stem)
PR45A-AC0A (Locking stem)

* C0 = terminal strip
CA = terminal strip w/light (120V)
CB = terminal strip w/light (240V)
CD = terminal strip w/light (24V)

Menu

MAC

Series **45**

100% OF PRODUCTION TESTED 100%

WARRANTY 18 MONTHS

TECHNICAL DATA

Fluid :	Compressed air, vacuum, inert gases		
Pressure range :	Vacuum to 8 BAR		
Lubrication :	Not required, if used select a medium aniline point lubricant (between 80°C and 100°C)		
Filtration :	40 µ		
Temperature range :	0°F to 120°F (-18°C to 50°C)		
Orifice :	2 mm		
Flow (at 6 bar, ΔP=1bar) :	1.8 W : 80 NL/min, 5.4 W : 100 NL/min		
Leak rate :	50 cm^3/min		
Coil :	General purpose class A, continuous duty, encapsulated		
Voltage range :	-15% to +10% of nominal voltage		
Protection :	Nema 4		
Power :	120 VAC/60 = Inrush : 10.9 VA (0.09 AMPS)	Holding : 7. 7VA (0.06 AMPS)	
	DC VOLTS = 1.8 W to 12.7 W		
Response times :	24 VDC (5.4W)	Energize : 6 ms	De-energize : 2 ms
	120 VAC	Energize : 3-8 ms	De-energize : 2-7 ms

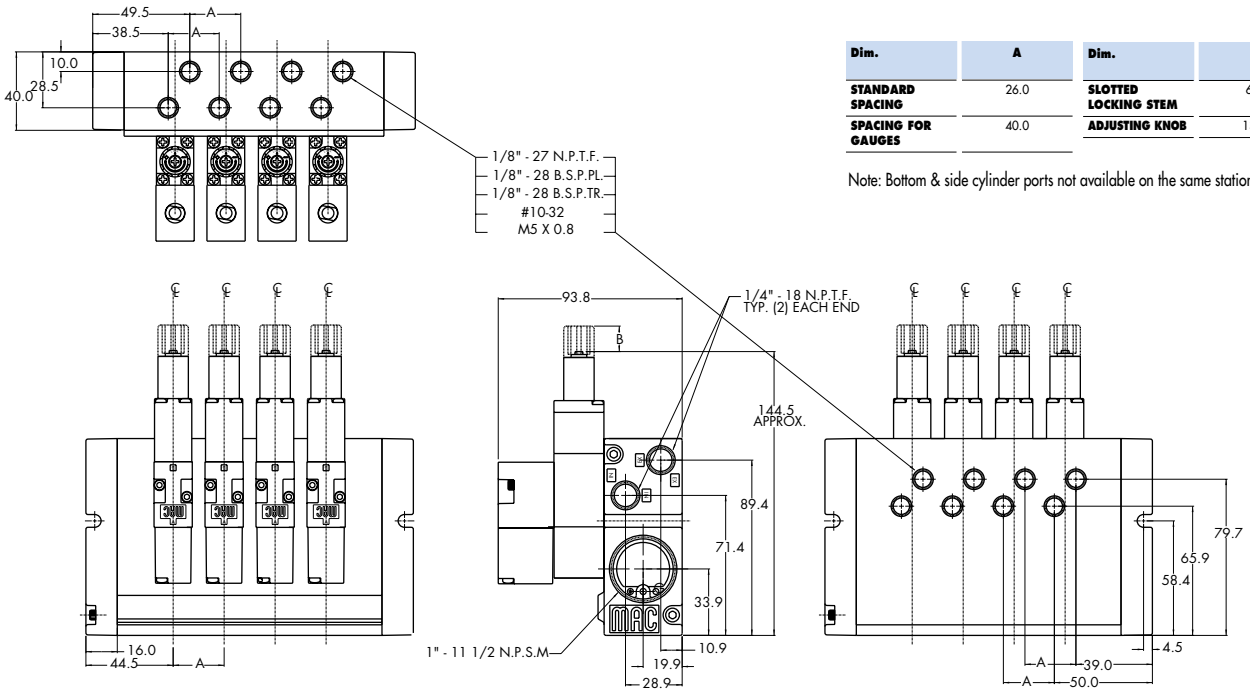
Spare parts :

- Solenoid operator (power ≥ 5.4 W) : DXXJ-XFM, including mounting screws 35013.
- Seal between solenoid and valve body : 16402. • Seal between base and valve : 16453.
- Valve mounting screw (x2) : 35020. • Blanking plate valve : M-45010. • Blanking plate regulator : M-35005.

Options :

- NPTF threads. • High flow up to 140 NL/min, according to wattage. • Isolation of inlet and/or exhaust.

DIMENSIONS



Dim.	A	Dim.	B
STANDARD SPACING	26.0	**SLOTTED LOCKING STEM**	6.0
SPACING FOR GAUGES	40.0	**ADJUSTING KNOB**	13.4

Note: Bottom & side cylinder ports not available on the same station

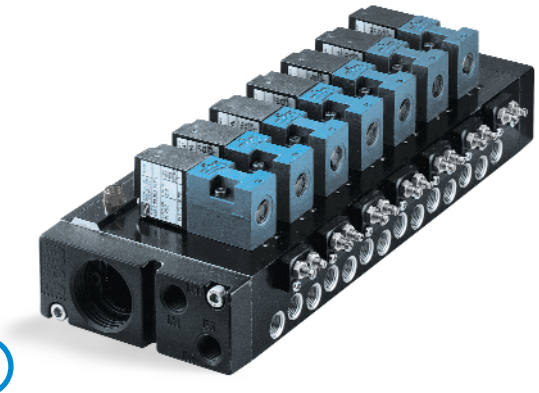
MAC

Series **45**

Function	Port size	Flow (Max)	Circuit bar mounting
4/2	**1/8" BSPP - M5**	**100 NL/min**	plug-in with integral terminal strip with F. C.

OPERATIONAL BENEFITS

1. Balanced poppet, immune to variations of pressure.
2. Short stroke with high flow.
3. The patented solenoid develops high shifting forces.
4. Powerful return spring.
5. Manual operator standard on all valves.
6. Burn-out proof solenoid on AC service.

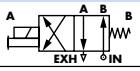


Reset

HOW TO ORDER

45A-xxx-DxxJ-xFM

HOW TO ORDER VALVE FOR CIRCUIT BAR MOUNTING "PLUG-IN"

Single operator	
	
○ 45A-L00-D*XX*J-*x*FM	Valve less base

SOLENOID OPERATOR ➤ D *XX* J- *X* FM *

XX	Voltage
○ *AA*	120/60, 110/50
○ *AB*	240/60, 220/50
○ *AC*	24/60, 24/50
○ *FB*	24VDC (1.8 W)
○ *DA*	24VDC (5.4 W)
○ *DF*	24VDC (12.7 W)
○ *xx*	Other Options

X	Manual operator
○ *1*	Non-locking Recessed
○ *2*	Locking Recessed
○ *x*	Other Options

HOW TO ORDER "PLUG-IN" CIRCUIT BAR WITH FLOW CONTROLS **

ECE45A-xxxx-xx-xx

Port size	Spacing mm	Side cylinder ports	Bottom cylinder ports
1/8" BSPP	26	--------	○ ECE45A-016C-C0-*xx*
M5	26	--------	○ ECE45A-016D-C0-*xx*
1/8" BSPP	30	○ ECE45A-035C-C0-*xx*	--------
M5	30	○ ECE45A-035D-C0-*xx*	--------

Number of stations (03=3 stations) ☐
End plate kit required : M-45017
Note : ☐ clic for valves and regulators mounted to circuit bar at the factory (add - 9 to the model number).

○ C0 = terminal strip
○ CA = terminal strip w/light (120V)
○ CB = terminal strip w/light (240V)
○ CD = terminal strip w/light (24V)

Series **45**

100% OF PRODUCTION TESTED 100%

WARRANTY 18 MONTHS

TECHNICAL DATA

Fluid :	Compressed air, vacuum, inert gases		
Pressure range :	Vacuum to 8 BAR		
Lubrication :	Not required, if used select a medium aniline point lubricant (between 80°C and 100°C)		
Filtration :	40 µ		
Temperature range :	0°F to 120°F (-18°C to 50°C)		
Orifice :	2 mm		
Flow (at 6 bar, ΔP=1bar) :	1.8 W : 80 NL/min, 5.4 W : 100 NL/min		
Leak rate :	50 cm^3/min		
Coil :	General purpose class A, continuous duty, encapsulated		
Voltage range :	-15% to +10% of nominal voltage		
Protection :	Nema 4		
Power :	120 VAC/60 = Inrush : 10.9 VA (0.09 AMPS)	Holding : 7. 7VA (0.06 AMPS)	
	DC VOLTS = 1.8 W to 12.7 W		
Response times :	24 VDC (5.4W)	Energize : 6 ms	De-energize : 2 ms
	120 VAC	Energize : 3-8 ms	De-energize : 2-7 ms

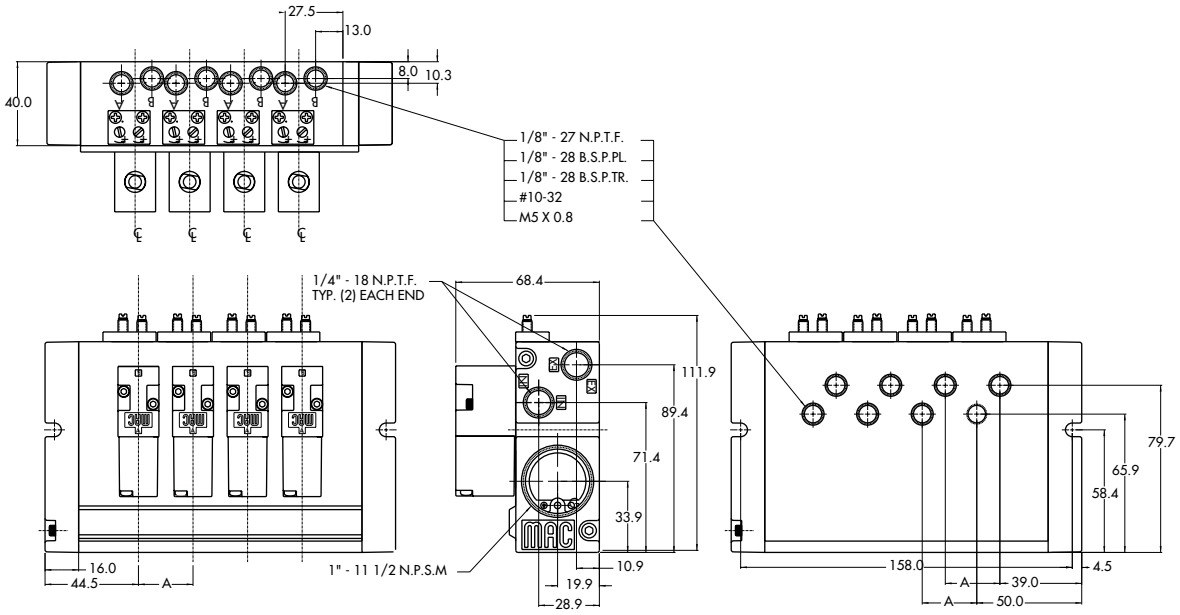
Spare parts :

- Solenoid operator (power ≥ 5.4 W) : DXXJ-XFM, including mounting screws 35013.
- Seal between solenoid and valve body : 16402. • Seal between base and valve : 16453.
- Valve mounting screw (x2) : 35020. • Blanking plate valve : M-45010. • Blanking plate regulator : M-35005.

Options :

- NPTF threads. • High flow up to 140 NL/min, according to wattage. • Isolation of inlet and/or exhaust.

DIMENSIONS



Dim.	A
STANDARD SPACING	26.0
OPTIONAL SPACING	30.0

Note: Bottom & side cylinder ports not available on the same station

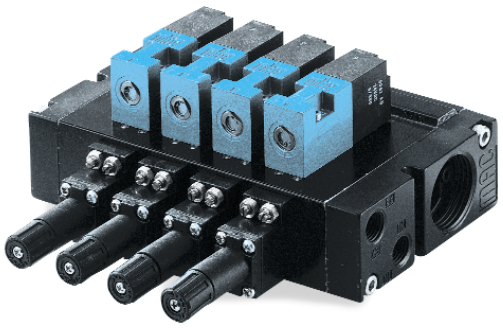
MAC

Series 45

Function	Port size	Flow (Max)	Circuit bar mounting
4/2	**1/8" BSPP - M5**	**100 NL/min**	plug-in with integral terminal strip with Pr. Reg. and F. C.

OPERATIONAL BENEFITS

1. Balanced poppet, immune to variations of pressure.
2. Short stroke with high flow.
3. The patented solenoid develops high shifting forces.
4. Powerful return spring.
5. Manual operator standard on all valves.
6. Burn-out proof solenoid on AC service.

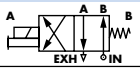


Reset

HOW TO ORDER

45A-xxx-DxxJ-xFM

HOW TO ORDER VALVE FOR CIRCUIT BAR MOUNTING "PLUG-IN"

Single operator	
	
○ 45A-L00-D*XX*J-*x*FM	Valve less base
○ 45A-M00-D*XX*J-*x*FM	Valve less base w/ gage port

SOLENOID OPERATOR ➤ D *XX* J- *X* FM *

XX	Voltage
○ *AA*	120/60, 110/50
○ *AB*	240/60, 220/50
○ *AC*	24/60, 24/50
○ *FB*	24VDC (1.8 W)
○ *DA*	24VDC (5.4 W)
○ *DF*	24VDC (12.7 W)
○ *xx*	Other Options

X	Manual operator
○ *1*	Non-locking Recessed
○ *2*	Locking Recessed
○ *x*	Other Options

ECE45A-xxxx-xx-xx

HOW TO ORDER "PLUG-IN" CIRCUIT BAR WITH PRESSURE AND FLOW CONTROLS (TO BE ORDERED SEPARATELY) **

Port size	Spacing mm	Bottom cylinder ports
1/8" BSPP	26	○ ECE45A-017C-C0-*xx*
M5	26	○ ECE45A-017D-C0-*xx*
1/8" BSPP	40	○ ECE45A-027C-C0-*xx*
M5	40	○ ECE45A-027D-C0-*xx*

Number of stations (03=3 stations) ☐
End plate kit required : M-45017
Note : ☐ clic for valves and regulators mounted to circuit bar at the factory (add - 9 to the model number). Use 40 mm spacing for valves w/ gage port.

** Pressure Regulators :
45A-001 (Slotted stem)
45A-002 (Adjusting knob)
45A-003 (Locking stem)

* C0 = terminal strip
CA = terminal strip w/light (120V)
CB = terminal strip w/light (240V)
CD = terminal strip w/light (24V)

Series **45**

100% OF PRODUCTION TESTED 100%

WARRANTY 18 MONTHS

TECHNICAL DATA

Fluid :	Compressed air, vacuum, inert gases		
Pressure range :	Vacuum to 8 BAR		
Lubrication :	Not required, if used select a medium aniline point lubricant (between 80°C and 100°C)		
Filtration :	40 µ		
Temperature range :	0°F to 120°F (-18°C to 50°C)		
Orifice :	2 mm		
Flow (at 6 bar, ΔP=1bar) :	1.8 W : 80 NL/min, 5.4 W : 100 NL/min		
Leak rate :	50 cm^3/min		
Coil :	General purpose class A, continuous duty, encapsulated		
Voltage range :	-15% to +10% of nominal voltage		
Protection :	Nema 4		
Power :	120 VAC/60 = Inrush : 10.9 VA (0.09 AMPS)	Holding : 7. 7VA (0.06 AMPS)	
	DC VOLTS = 1.8 W to 12.7 W		
Response times :	24 VDC (5.4W)	Energize : 6 ms	De-energize : 2 ms
	120 VAC	Energize : 3-8 ms	De-energize : 2-7 ms

Spare parts :

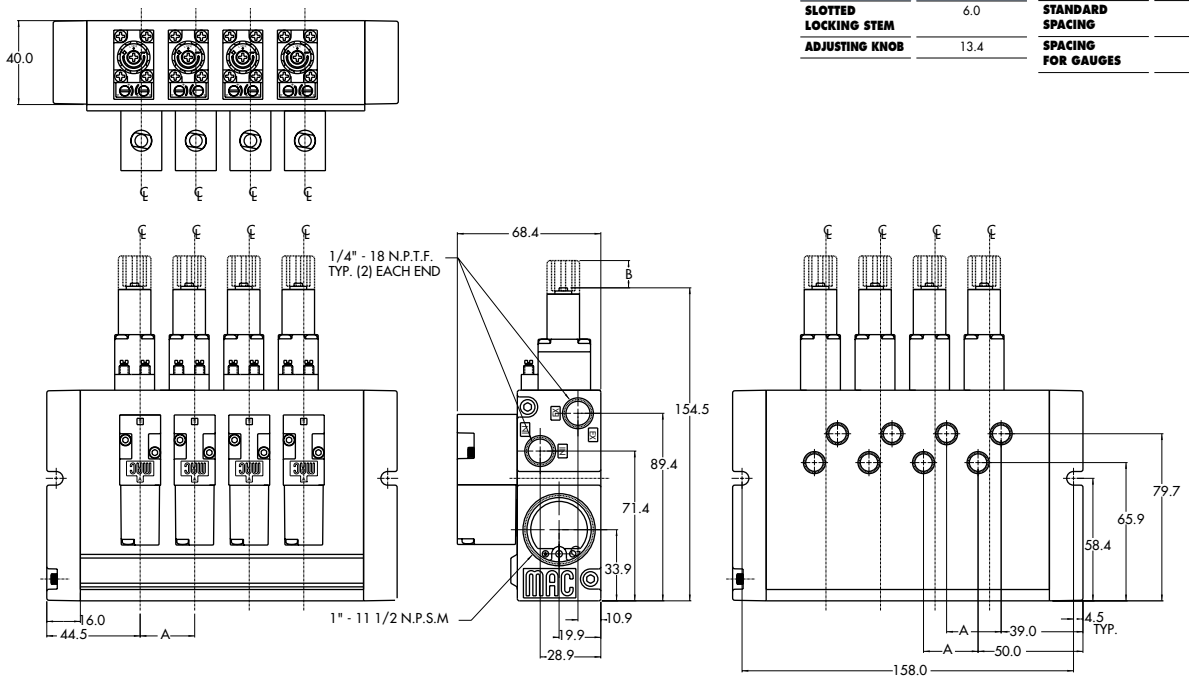
- Solenoid operator (power ≥ 5.4 W) : DXXJ-XFM, including mounting screws 35013.
- Seal between solenoid and valve body : 16402. • Seal between base and valve : 16453.
- Valve mounting screw (x2) : 35020. • Blanking plate valve : M-45010. • Blanking plate regulator : M-35005.

Options :

- NPTF threads. • High flow up to 140 NL/min, according to wattage. • Isolation of inlet and/or exhaust.

DIMENSIONS

Dim.	B	Dim.	A
SLOTTED LOCKING STEM	6.0	**STANDARD SPACING**	26.0
ADJUSTING KNOB	13.4	**SPACING FOR GAUGES**	40.0



Section 2 Options

Codification table for voltages / Wire length / Manual operators / Electrical connections

VALVE CODE ➤ $-D\underset{1}{XX}\,\underset{2}{X}\,-\,\underset{3}{X}\,\underset{4}{XX}$

OPTIONS AVAILABLE FOR
- Solenoid valves 35 & 45 Series

Back

1. VOLTAGE

- D XX X - X XX	VOLTAGE
AD	24/60
AE	200/60
AF	240/50
AG	100/50, 100/60, 110/60
DB	12 VDC (5.4 W)
DC	12 VDC (7.5 W)
DD	24 VDC (7.3 W)
DE	12 VDC (12.7 W) CLSF
DK	110 VDC (5.8 W)
DL	64 VDC (6.0 W)
DM	36 VDC (5.8 W)
DN	6 VDC (6.0 W)
DP	48 VDC (5.8 W)
DU	24 VDC (6.0 W)
EA	12 VDC (6.0 W)
FA	12 VDC (1.8 W)
FE	12 VDC (2.4 W)
FF	24 VDC (2.4 W)

2. WIRE LENGTH

- D XX X - X XX	WIRE LENGTH
B	60 cm
C	90 cm
D	120 cm
E	180 cm
F	240 cm

3. MANUAL OPERATOR

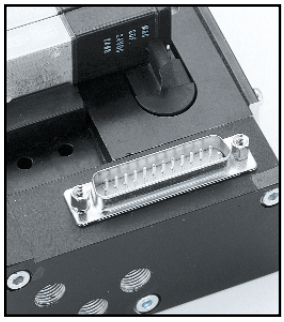
-D XX X -X XX	MANUAL OPERATOR
0	No operator
1	Non-locking recessed
2	Locking recessed
3	Non-locking extended
4	Locking extended

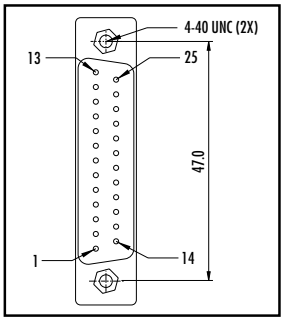
4. ELECTRICAL CONNECTION

-D XX X -X XX	ELECTRICAL CONNECTION
BA	Flying leads
BK	BA with protection diode
BL	BA with protection varistor
CA	1/2" NPS conduit
*FN	Plug-in with diode
*FP	Plug-in with M.O.V.
JB	Rectangular connector
JD	Rectangular connector with light
JM	Rectangular connector, male only
KA	Square connector
KB	Square connector with protection diode
KC	Square connector with protection varistor
KD	Square connector with light
KE	Square connector with light and protection diode
KF	Square connector with light and protection varistor
KJ	Square connector (male only)
KK	Square connector with protection diode (male only)
KL	Square connector with protection varistor (male only)
TA	Dual tabs
TB	TA with protection diode
TD	TA with light
TE	TA with light and protection diode
TJ	Dual tabs (male only)
TK	TJ with protection diode
TM	TJ with light
TN	TJ with light and protection diode

* For use with the ECD and ECE style circuit bars.

Connector SUB_D 25 (option ZZZY = SUBY ; Y = cable length)

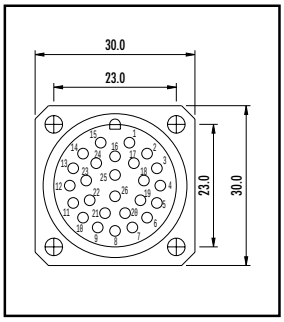




TECHNICAL DATA

- Type «SUB_D»
- Number of contacts : 25
- Solder termination (Dia. 0.6 mm/0.14 mm²/26-22 AWG)
- Operating current 5 A/contact
- Rated voltage 125 V~
- Temp. range –40° to +125°C
- Insulation resistance ≥ 10^{10} Ω
- Protection class IP40 (DIN 40050)
- Number of solenoids : 20 max.
- Max. 24 V=/5.4 W per solenoid
- 5 common wires
- Female plug supplied with circuit bar

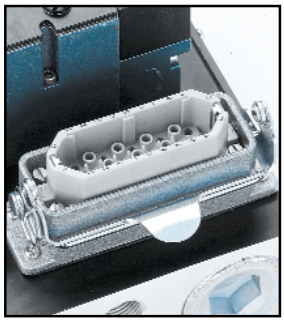
Connector RND (option ZZZY = RNDY ; Y = cable length)

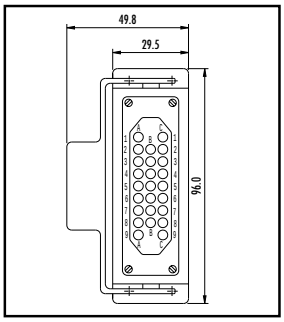


TECHNICAL DATA

- Type «Round connector»
- Number of contacts : 26
- Solder termination (Dia. 1 mm/1 mm²/17 AWG)
- Operating current 7.5 A/contact
- Rated voltage 250 V~
- Insulation resistance ≥ 10^{8} Ω
- Cable entry PG16
- Temp. range –40° to +125°C
- Protection class IP65 (DIN 40050)
- Number of solenoids : 24 max.
- 1 common and 1 ground
- All voltages
- Female plug supplied with circuit bar

Connector HDT (option ZZZY = HDTY ; Y = cable length)

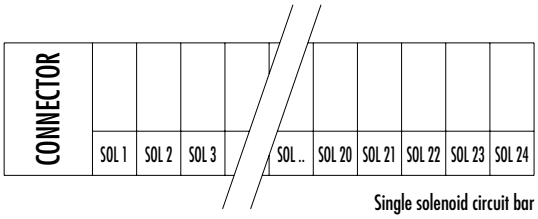




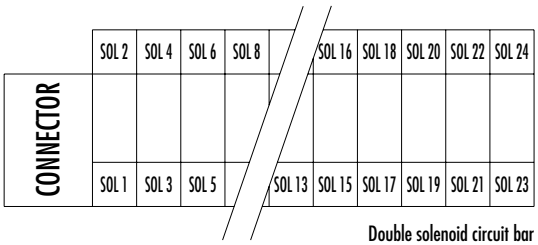
TECHNICAL DATA

- Type «Heavy duty»
- Number of contacts : 25
- Solder termination (Dia. 1.4 mm/0.75 mm²/18 AWG)
- Operating current 10 A/contact
- Rated voltage 250 V~
- Insulation resistance ≥ 10^{10} Ω
- Cable entry PG16
- Temp. range –40° to +125°C
- Protection class IP65 (DIN 40050)
- Number of solenoids : 24 max.
- 1 common and 1 ground
- All voltages
- Female plug supplied with circuit bar

Connector termination details



Single solenoid circuit bar

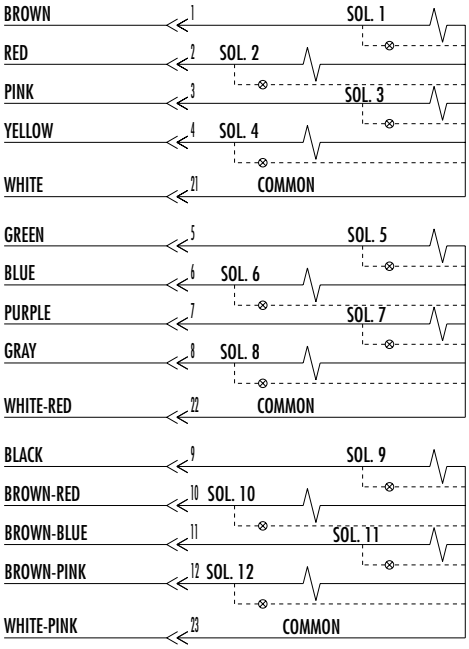


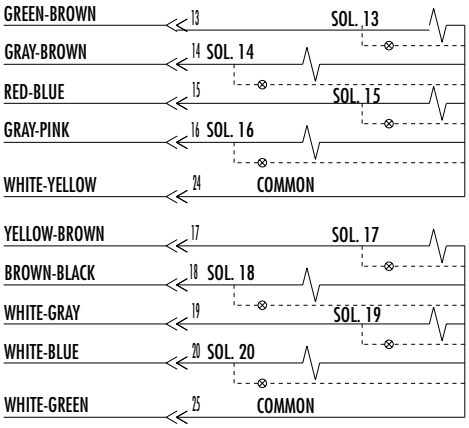
Double solenoid circuit bar

Connector SUB_D25 (option ZZZY = SUBY ; Y = cable length)

TECHNICAL DATA PREWIRED CABLE

- Type : LIYY -0.14 mm²
- Dia. ca. 9.3 mm
- Insulation resistance : 20 MΩ for 1000 meter
- Temp. range -5° to +80°C
- Rated voltage : 250 V~
- PVC core insulation and sheath

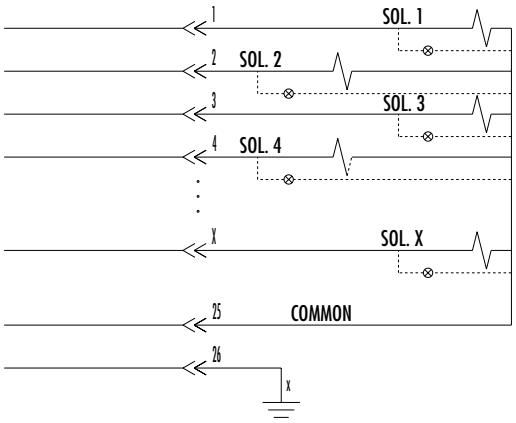




Connector RND [option ZZZY = SNDY ; Y = cable length]

TECHNICAL DATA PREWIRED CABLE

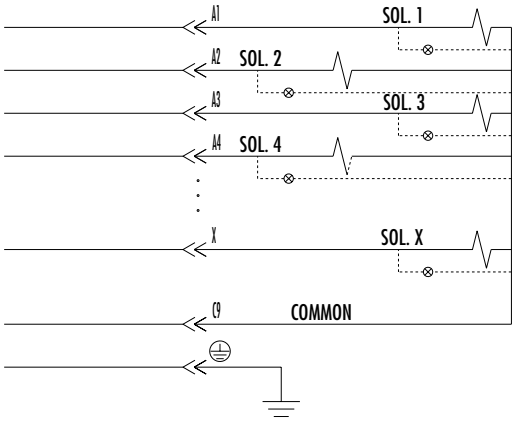
- Type : LIY(C)Y -0.50 mm²
- Dia. ca. 10.8 mm (12 core); 12.9 mm (18 core); 16.0 mm (32 core)
- Insulation resistance : 20 MΩ for 1000 meter
- Temp. range -5° to +80°C
- Rated voltage : 500 V~
- PVC core insulation and sheath
- Tinned copper wire braid



Connector HDT [option ZZZY = HDTY ; Y = cable length]

TECHNICAL DATA PREWIRED CABLE

- Type : LIY(C)Y -0.75 mm²
- Dia. ca. 12.0 mm (12 core); 13.5 mm (18 core); 18.0 mm (32 core)
- Insulation resistance : 20 MΩ for 1000 meter
- Temp. range -5° to +80°C
- Rated voltage : 500 V~
- PVC core insulation and sheath
- Tinned copper wire braid



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 ports are open to the exhaust port(s) of the valve. If having no air in either outlet port 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 ports 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 AND SERVICE PRECAUTIONS :

A. Do not install or service MAC valves without first making sure both the air and electrical power to the machine are off and that all air has been completely bled from the system.

B. MAC valves should only be installed and/or serviced 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 and graphic symbols. Do not install unless these symbols and the valve functions and operations are thoroughly understood.

C. Before service, maintenance, repair or cleaning, consult local distributor or factory for Parts & Operation Sheet and information on proper cleaning and lubrication agents. Do not subject MAC valves' parts to any foreign substance including lubricants and cleaning agents not specifically recommended by MAC valves, Inc.

D. 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 condition.

WARNING :

Under no circumstances are Mac valves to be used in any application where failure of the valve to operate as intended could jeopardize the safety of the operator or any other person.
- Do not operate outside of pressure range listed on valve label or outside of designated temperature range.
- Air supply must be clean. Contamination of valve can affect proper operation.
- Before attempting to repair, adjust or clean valve, consult catalog, parts & operation sheet, or factory for proper maintenance procedures, lubrication, and cleaning agents. Never attempt to repair or perform other maintenance with air pressure to valve.
- If airline lubrication is used, consult catalog, parts & operation sheet, or factory for recommended lubricants.

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.

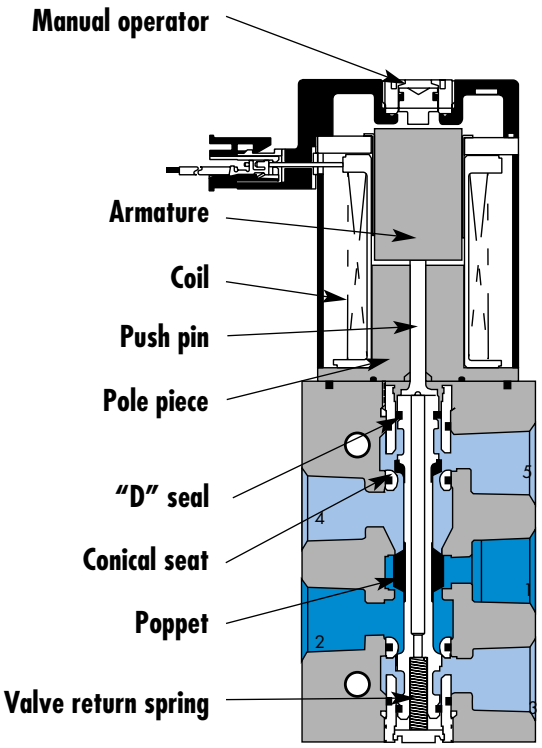
DISCLAIMER OF GUARANTEE

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. The 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.

Circuit bar mounting

non plug-in cyl. ports in valve with opt. F. C.	non plug-in cyl. ports in base with opt. F. C.	add-on style non plug-in cyl. ports in valve with opt. F. C.	add-on style non plug-in cyl. ports in base with opt. F. C.	non plug-in cyl. ports in valve with opt. Pr. Reg.	non plug-in cyl. ports in base	non plug-in cyl. ports in base with Pr. Reg.	add-on style non plug-in cyl. ports in base
add-on style non plug-in cyl. ports in base with Pr. Reg.	plug-in	plug-in with Pr. Reg.	add-on style plug-in	add-on style plug-in with Pr. Reg.	plug-in add-a-unit stations	plug-in add-a-unit stations with Pr. Reg.	



SERIES FEATURES

- Short stroke solenoid produces high energization shifting force.
- High force return spring due to high force solenoid maximizes both energization and de-energization shifting forces.
- Built-in wear compensation - valve stroke is shorter than solenoid stroke.
- Four (4) bonded balanced poppets on a one-piece valve stem.
- End poppets seal first on conical seats and cushion inlet poppet, eliminating cutting.
- Exhaust seals are not under inlet pressure thus reducing friction.
- Short stroking balanced poppet allows for direct solenoid operation with high shifting forces, minimized friction, fast response and high flow in a small package.

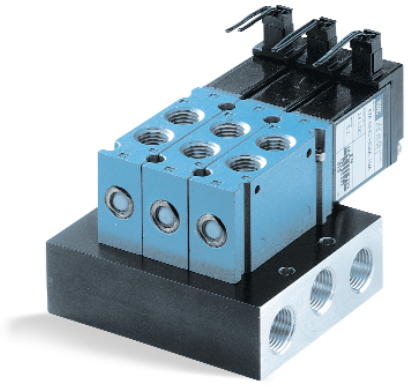
MAC

Series 47

Function	Port size (Inlet & Exhaust)	Flow (Max)	Circuit bar mounting	Profile
5/2	**3/8"**	**500 NL/min**	non plug-in cyl. ports in valve with opt. F. C.	**29 mm**

OPERATIONAL BENEFITS

1. Direct solenoid operated valve.
2. Balanced poppet, immune to variations of pressure.
3. Short stroke with high flow.
4. The patented solenoid develops high shifting forces.
5. Powerful return spring.
6. Manual operator standard on all valves.

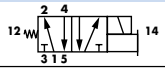


Reset

HOW TO ORDER

47A-xxx-Hxxx-xxx

HOW TO ORDER VALVE FOR CIRCUIT BAR MOUNTING

Valve port size	Valve less base
	
1/8" BSPP	○ 47A-MJ0-H*XXX-XXX*
1/4" BSPP	○ 47A-MK0-H*XXX-XXX*

SOLENOID OPERATOR ➤ H *XX X- X XX**

XX	Voltage
○ *DA*	24VDC (5.2 W)
○ *DB*	24VDC (2.4 W)
○ *DC*	24VDC (1.8 W)
○ *DD*	24VDC (1.0 W)
○ *AA*	120VAC (must use with rectified connector)
○ *xx*	Other Options

X	Wire length
○ *A*	45 cm
○ *C*	90 cm
○ *x*	Other Options

X	Manual operator
○ *1*	Non-locking

XX	Electrical connection
○ *BA*	Flying leads
○ *BC*	Flying leads with light
○ *MA*	Plug-in wire assy
○ *MC*	Plug-in wire assy with light
○ *HA*	Plug-in connector with rectifier and light
○ *xx*	Other Options

HOW TO ORDER CIRCUIT BAR

EBM47A-xxxxx-xx

Port size COMMON INLET & EXHAUST	Without flow controls (20 mm)	With flow controls (20 mm)
3/8" BSPP	○ EBM47A-01CAL-*XX*	○ EBM47A-01DAL-*XX*

Number of stations (03=3 stations) ☐

Note : ☐ clic for valves mounted on base at the factory (add - 9 to the model number).

Menu

Series 47

100% OF PRODUCTION TESTED 100%

WARRANTY 18 MONTHS

TECHNICAL DATA

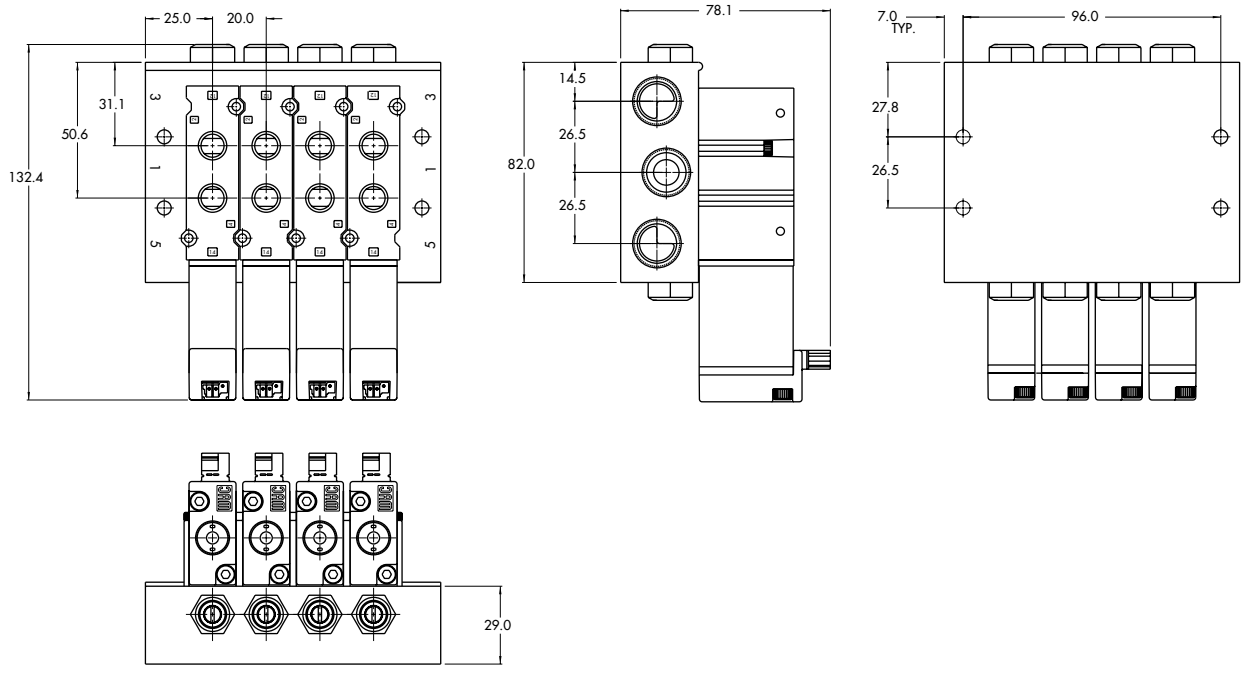
Fluid :	Compressed air, vacuum, inert gases
Pressure range :	Vacuum to 8 BAR
Lubrication :	Not required, if used select a medium aniline point lubricant (between 80°Cand 100°C)
Filtration :	40 µ
Temperature range :	0°F to 120°F (-18°C to 50°C)
Orifice :	4.3 mm
Flow (at 6 bar, ΔP=1bar) :	5.2 W : 500 NL/min, 2.4 W : 300 NL/min, 1.8 W : 250 NL/min, 1.0 W : 250 NL/min
Leak rate :	50 cm^3/min
Coil :	General purpose class A, continuous duty, encapsulated
Voltage range :	-15% to +10% of nominal voltage
Power :	5.2 W - 2.4 W - 1.8 W - 1.0 W
Response times :	Energize : 14.0 ms
(with 5.2 W coil)	De-energize : 5.0 ms

Note : • Valve and coil are not interchangeable.

Spare parts : • Seal between valve and bar : 16629. • Mounting screw (x2) : 35043. • Valve blanking plate : M-47002. • Flow control kit (x2) : N-37001.

Options : • Isolation of inlet and/or exhaust. Special bar. Consult factory. • NPTF Threads.

DIMENSIONS



Consult "Precautions"before use, installation or service of MAC Valves.

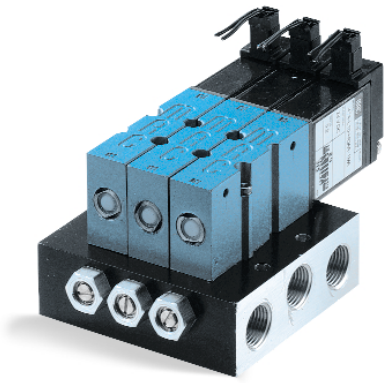
MAC

Series 47

Function	Port size	Flow (Max)	Circuit bar mounting	Profile
5/2	**1/8" - 1/4"** **6 mm tube receptacle**	**500 NL/min**	non plug-in cyl. ports in base with opt. F. C.	**29 mm**

OPERATIONAL BENEFITS

1. Direct solenoid operated valve.
2. Balanced poppet, immune to variations of pressure.
3. Short stroke with high flow.
4. The patented solenoid develops high shifting forces.
5. Powerful return spring.
6. Manual operator standard on all valves.

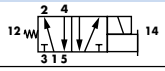


Reset

HOW TO ORDER

47A-xxx-Hxxx-xxx

HOW TO ORDER VALVE FOR CIRCUIT BAR MOUNTING

Port size (see base)	Valve
	
Valve less base	○ 47A-LI0-H*xxx-xxx*

SOLENOID OPERATOR ➤ H *XX X- X XX**

XX	Voltage
○ *DA*	24VDC (5.2 W)
○ *DB*	24VDC (2.4 W)
○ *DC*	24VDC (1.8 W)
○ *DD*	24VDC (1.0 W)
○ *AA*	120VAC (must use with rectified connector)
○ *xx*	Other Options

X	Wire length
○ *A*	45 cm
○ *C*	90 cm
○ *x*	Other Options

X	Manual operator
○ *1*	Non-locking

XX	Electrical connection
○ *BA*	Flying leads
○ *BC*	Flying leads with light
○ *MA*	Plug-in wire assy
○ *MC*	Plug-in wire assy with light
○ *HA*	Plug-in connector with rectifier and light
○ *xx*	Other Options

HOW TO ORDER CIRCUIT BAR

EBM47A-xxxxx-xx

Port size	Bottom cylinder ports (18 mm)	Bottom cylinder ports with flow controls (18 mm)
1/8" BSPP	○ EBM47A-00AAC-*xx*	○ EBM47A-00BAC-*xx*
1/4" BSPP	○ EBM47A-00AAD-*xx*	○ EBM47A-00BAD-*xx*
6 mm tube receptacle	○ EBM47A-00AAH-*xx*	○ EBM47A-00BAH-*xx*

Number of stations (03=3 stations) ☐

Note : ☐ clic for valves mounted on base at the factory (add - 9 to the model number).

Series 47

100% OF PRODUCTION TESTED 100%

WARRANTY 18 MONTHS

TECHNICAL DATA

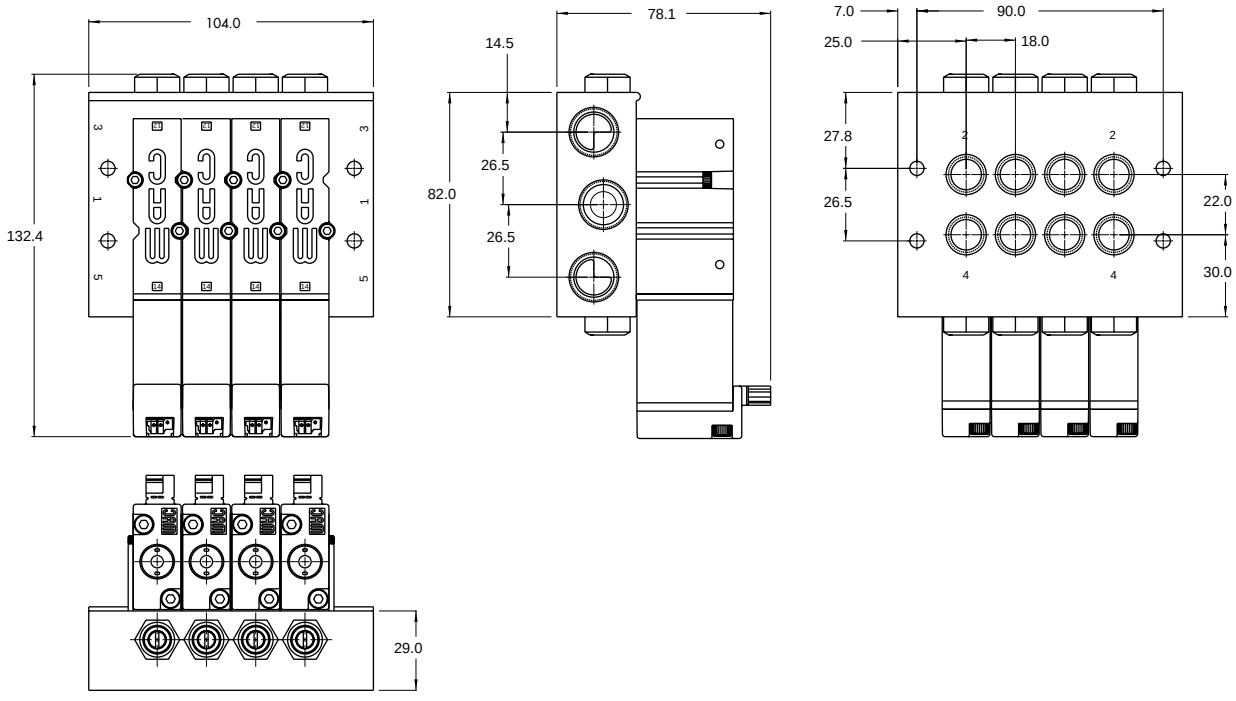
Fluid :	Compressed air, vacuum, inert gases
Pressure range :	Vacuum to 8 BAR
Lubrication :	Not required, if used select a medium aniline point lubricant (between 80°C and 100°C)
Filtration :	40 µ
Temperature range :	0°F to 120°F (-18°C to 50°C)
Orifice :	4.3 mm
Flow (at 6 bar, ΔP=1bar) :	5.2 W : 500 NL/min, 2.4 W : 300 NL/min, 1.8 W : 250 NL/min, 1.0 W : 250 NL/min
Leak rate :	50 cm^3/min
Coil :	General purpose class A, continuous duty, encapsulated
Voltage range :	-15% to +10% of nominal voltage
Power :	5.2 W - 2.4 W - 1.8 W - 1.0 W
Response times :	Energize : 14.0 ms
(with 5.2 W coil)	De-energize : 5.0 ms

Note : • Valve and coil are not interchangeable.

Spare parts : • Seal between valve and bar : 16629. • Mounting screw (x2) : 35043. • Valve blanking plate : M-47001. • Flow control kit (x2) : N-37001.

Options : • Isolation of inlet and/or exhaust. Special bar. Consult factory. • NPTF Threads.

DIMENSIONS



Consult "Precautions" before use, installation or service of MAC Valves.

MAC

Series 47

Function	Port size (Inlet & Exhaust)	Flow (Max)	Circuit bar mounting	Profile
5/2	**3/8"**	**500 NL/min**	add-on style non plug-in cyl. ports in valve with opt. F. C.	**35 mm**

OPERATIONAL BENEFITS

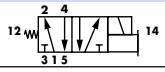
1. Direct solenoid operated valve.
2. Balanced poppet, immune to variations of pressure.
3. Short stroke with high flow.
4. The patented solenoid develops high shifting forces.
5. Powerful return spring.
6. Manual operator standard on all valves.

Reset

HOW TO ORDER

47A-xxx-Hxxx-xxx

HOW TO ORDER VALVE FOR CIRCUIT BAR MOUNTING

Valve port size	Valve 
1/8" BSPP	○ 47A-MJ0-H*XXX-XXX*
1/4" BSPP	○ 47A-MK0-H*XXX-XXX*

SOLENOID OPERATOR ➤ H *XX X- X XX**

XX	Voltage
○ *DA*	24VDC (5.2 W)
○ *DB*	24VDC (2.4 W)
○ *DC*	24VDC (1.8 W)
○ *DD*	24VDC (1.0 W)
○ *AA*	120VAC (must use with rectified connector)
○ *xx*	Other Options

X	Wire length
○ *A*	45 cm
○ *C*	90 cm
○ *x*	Other Options

X	Manual operator
○ *1*	Non-locking

XX	Electrical connection
○ *BA*	Flying leads
○ *BC*	Flying leads with light
○ *MA*	Plug-in wire assy
○ *MC*	Plug-in wire assy with light
○ *HA*	Plug-in connector with rectifier and light
○ *xx*	Other Options

HOW TO ORDER CIRCUIT BAR

EBM47A-xxxxx-xx

Port size COMMON INLET & EXHAUST	Without flow controls (20 mm)	With flow controls (20 mm)
3/8" BSPP	○ EBM47A-01GBL-*XX*	○ EBM47A-01HBL-*XX*

Number of stations (03=3 stations) ☐

Note : ☐ clic for valves mounted on base at the factory (add - 9 to the model number).
add-a-unit stations may be added to above bars.
Maximum length for add-a-unit is 4 stations.

OPTIONS

EBM47A-01GBK-*XX*

- ☐ clic replace with "C" for add-a-unit.

Menu

MAC

Series **47**

100% OF PRODUCTION TESTED 100%

WARRANTY 18 MONTHS

TECHNICAL DATA

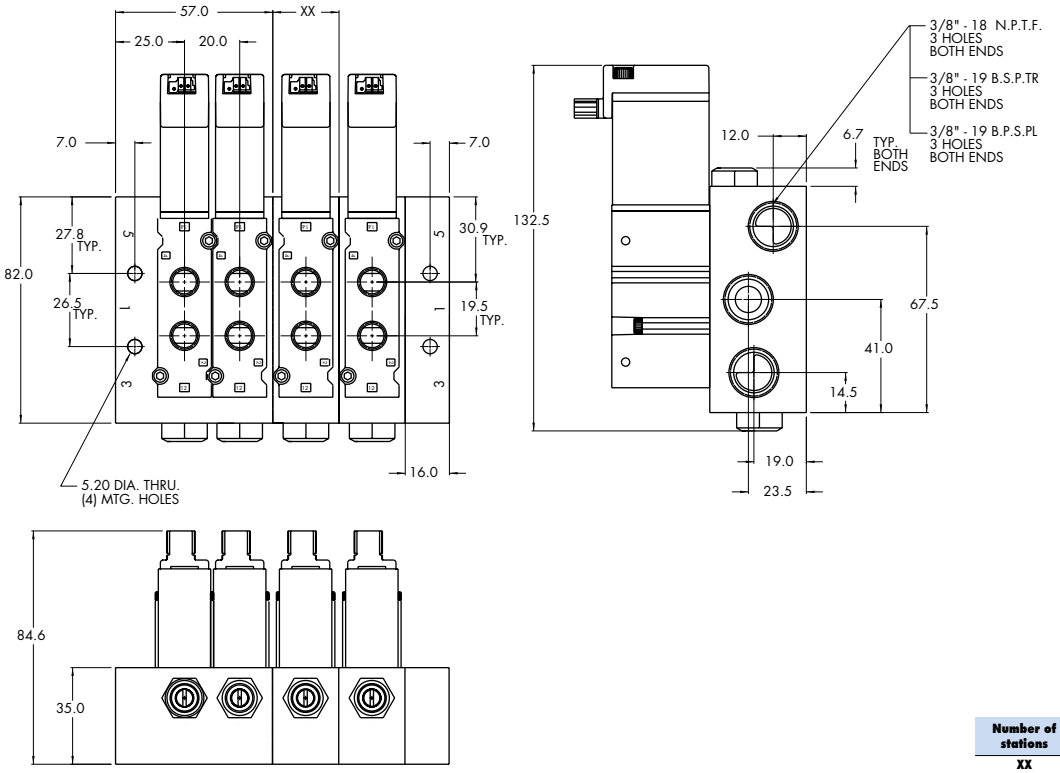
Fluid :	Compressed air, vacuum, inert gases
Pressure range :	Vacuum to 8 BAR
Lubrication :	Not required, if used select a medium aniline point lubricant (between 80°C and 100°C)
Filtration :	40 µ
Temperature range :	0°F to 120°F (-18°C to 50°C)
Orifice :	4.3 mm
Flow (at 6 bar, ΔP=1bar) :	5.2 W : 500 NL/min, 2.4 W : 300 NL/min, 1.8 W : 250 NL/min, 1.0 W : 250 NL/min
Leak rate :	50 cm^3/min
Coil :	General purpose class A, continuous duty, encapsulated
Voltage range :	-15% to +10% of nominal voltage
Power :	5.2 W - 2.4 W - 1.8 W - 1.0 W
Response times :	Energize : 14.0 ms
(with 5.2 W coil)	De-energize : 5.0 ms

Note : • Valve and coil are not interchangeable.

Spare parts : • Seal between valve and bar : 16629. • Mounting screw (x2) : 35043. • Valve blanking plate : M-47002. • Flow control kit (x2) : N-37001. End plate kit : M-47004-01.

Options : • Isolation of inlet and/or exhaust. Special bar. Consult factory. • NPTF Threads.

DIMENSIONS



Number of stations	1	2	3	4
XX	24.0	44.0	64.0	84.0

MAC

Series 47

Function	Port size	Flow (Max)	Circuit bar mounting	Profile
5/2	**1/8" - 1/4"** **6 mm tube receptacle**	**500 NL/min**	add-on style non plug-in cyl. ports in base with opt. F. C.	**35 mm**

OPERATIONAL BENEFITS

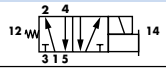
1. Direct solenoid operated valve.
2. Balanced poppet, immune to variations of pressure.
3. Short stroke with high flow.
4. The patented solenoid develops high shifting forces.
5. Powerful return spring.
6. Manual operator standard on all valves.

Reset

HOW TO ORDER

47A-xxx-Hxxx-xxx

HOW TO ORDER VALVE FOR CIRCUIT BAR MOUNTING

Port size (see base)	Valve
	
Valve less base	○ 47A-LI0-H*XXX-XXX*

SOLENOID OPERATOR ➤ H *XX X- X XX**

XX	Voltage
○ *DA*	24VDC (5.2 W)
○ *DB*	24VDC (2.4 W)
○ *DC*	24VDC (1.8 W)
○ *DD*	24VDC (1.0 W)
○ *AA*	120VAC (must use with rectified connector)
○ *xx*	Other Options

X	Wire length
○ *A*	45 cm
○ *C*	90 cm
○ *x*	Other Options

X	Manual operator
○ *1*	Non-locking

XX	Electrical connection
○ *BA*	Flying leads
○ *BC*	Flying leads with light
○ *MA*	Plug-in wire assy
○ *MC*	Plug-in wire assy with light
○ *HA*	Plug-in connector with rectifier and light
○ *xx*	Other Options

HOW TO ORDER CIRCUIT BAR

EBM47A-xxxxx-xx

Port size	Bottom cylinder ports (18 mm)	Bottom cylinder ports with flow controls (18 mm)
1/8" BSPP	○ EBM47A-00EBC-*XX*	○ EBM47A-00FBC-*XX*
1/4" BSPP	○ EBM47A-00EBD-*XX*	○ EBM47A-00FBD-*XX*
6 mm tube receptacle	○ EBM47A-00EBH-*XX*	○ EBM47A-00FBH-*XX*

Number of stations (03=3 stations) ☐

Note : ☐ clic for valves mounted on base at the factory (add - 9 to the model number).
add-a-unit stations may be added to above bars. Maximum length for add-a-unit is 4 stations.

OPTIONS

EBM47A-00EBA-*XX*

- ☐ clic replace with "C" for add-a-unit.

Menu

MAC

Series 47

100% OF PRODUCTION TESTED 100%

WARRANTY 18 MONTHS

TECHNICAL DATA

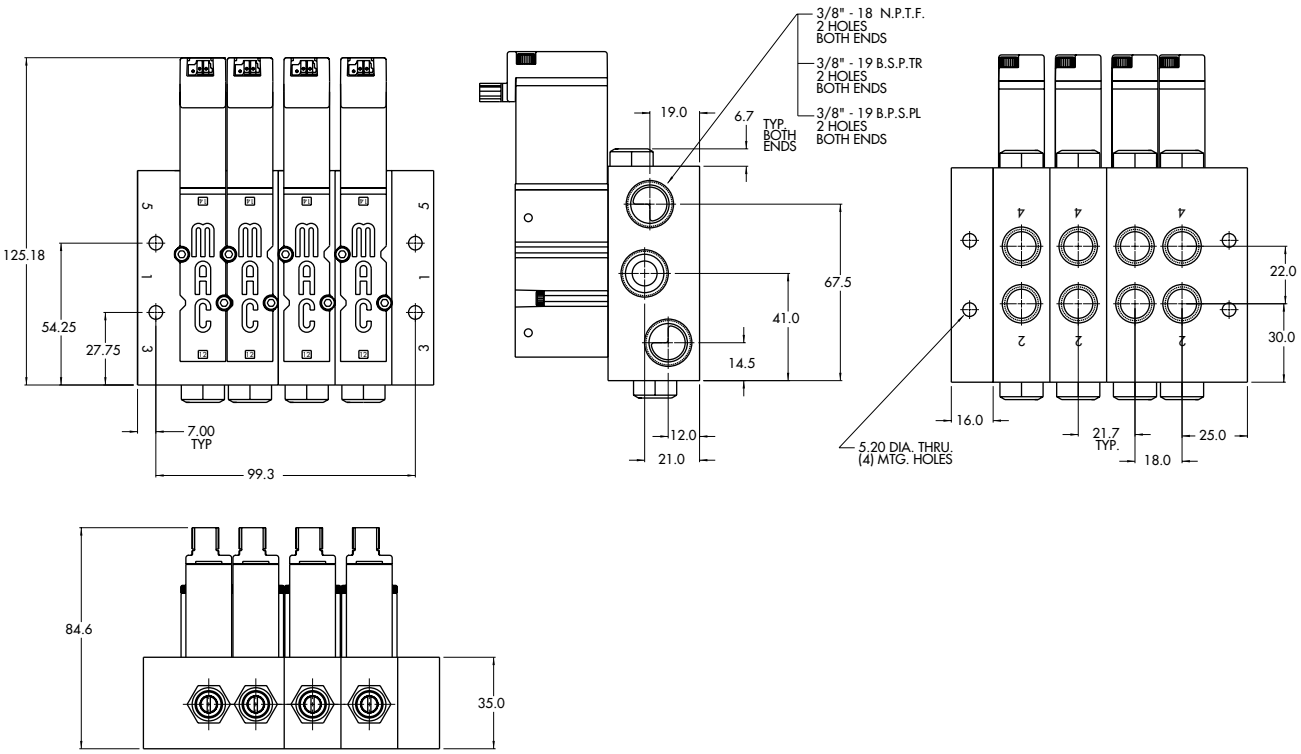
Fluid :	Compressed air, vacuum, inert gases
Pressure range :	Vacuum to 8 BAR
Lubrication :	Not required, if used select a medium aniline point lubricant (between 80°C and 100°C)
Filtration :	40 µ
Temperature range :	0°F to 120°F (-18°C to 50°C)
Orifice :	4.3 mm
Flow (at 6 bar, ΔP=1bar) :	5.2 W : 500 NL/min, 2.4 W : 300 NL/min, 1.8 W : 250 NL/min, 1.0 W : 250 NL/min
Leak rate :	50 cm^3/min
Coil :	General purpose class A, continuous duty, encapsulated
Voltage range :	-15% to +10% of nominal voltage
Power :	5.2 W - 2.4 W - 1.8 W - 1.0 W
Response times :	Energize : 14.0 ms
(with 5.2 W coil)	De-energize : 5.0 ms

Note : • Valve and coil are not interchangeable.

Spare parts : • Seal between valve and bar : 16629. • Mounting screw (x2) : 35043. • Valve blanking plate : M-47001.
• Flow control kit (x2) : N-37001. End plate kit : M-47004-01.

Options : • Isolation of inlet and/or exhaust. Special bar. Consult factory. • NPTF Threads.

DIMENSIONS



MAC

Series 47

Function	Port size (Inlet & Exhaust)	Flow (Max)	Circuit bar mounting	Profile
5/2	**3/8"**	**500 NL/min**	non plug-in cyl. ports in valve with opt. Pr. Reg.	**44 mm**

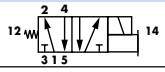
OPERATIONAL BENEFITS

1. Direct solenoid operated valve.
2. Balanced poppet, immune to variations of pressure.
3. Short stroke with high flow.
4. The patented solenoid develops high shifting forces.
5. Powerful return spring.
6. Manual operator standard on all valves.

Reset

HOW TO ORDER 47A-xxx-Hxxx-xxx

HOW TO ORDER VALVE FOR CIRCUIT BAR MOUNTING

Valve port size	Valve 
1/8" BSPP	○ 47A-MJ0-H*XXX-XXX*
1/4" BSPP	○ 47A-MK0-H*XXX-XXX*

SOLENOID OPERATOR ➤ H *XX X- X XX**

XX	Voltage
○ *DA*	24VDC (5.2 W)
○ *DB*	24VDC (2.4 W)
○ *DC*	24VDC (1.8 W)
○ *DD*	24VDC (1.0 W)
○ *AA*	120VAC (must use with rectified connector)
○ *xx*	Other Options

X	Wire length
○ *A*	45 cm
○ *C*	90 cm
○ *x*	Other Options

X	Manual operator
○ *1*	Non-locking

XX	Electrical connection
○ *BA*	Flying leads
○ *BC*	Flying leads with light
○ *MA*	Plug-in wire assy
○ *MC*	Plug-in wire assy with light
○ *HA*	Plug-in connector with rectifier and light
○ *xx*	Other Options

HOW TO ORDER CIRCUIT BAR (REGULATOR ORDERED SEPARATELY)**

EBM47A-xxxxx-xx

Port size COMMON INLET & EXHAUST	Without regulator (20 mm)	With regulator (20 mm)
3/8" BSPP	○ EBM47A-01NAL-*XX*	○ EBM47A-01PAL-*XX*

Number of stations (03=3 stations) ☐
Note : ☐ clic for valves mounted on base at the factory (add - 9 to the model number).

** Pressure Regulators :

PR47A-GOAx

- ○ X=A (0 to 8 BAR)
- ○ X=B (0 to 5.3 BAR)
- ○ X=C (0 to 2 BAR)

Menu

Series 47

100% OF PRODUCTION TESTED 100%

WARRANTY 18 MONTHS

TECHNICAL DATA

Fluid :	Compressed air, vacuum, inert gases
Pressure range :	Vacuum to 8 BAR
Lubrication :	Not required, if used select a medium aniline point lubricant (between 80°C and 100°C)
Filtration :	40 µ
Temperature range :	0°F to 120°F (-18°C to 50°C)
Orifice :	4.3 mm
Flow (at 6 bar, ΔP=1bar) :	5.2 W : 500 NL/min, 2.4 W : 300 NL/min, 1.8 W : 250 NL/min, 1.0 W : 250 NL/min
Leak rate :	50 cm^3/min
Coil :	General purpose class A, continuous duty, encapsulated
Voltage range :	-15% to +10% of nominal voltage
Power :	5.2 W - 2.4 W - 1.8 W - 1.0 W
Response times :	Energize : 14.0 ms
(with 5.2 W coil)	De-energize : 5.0 ms

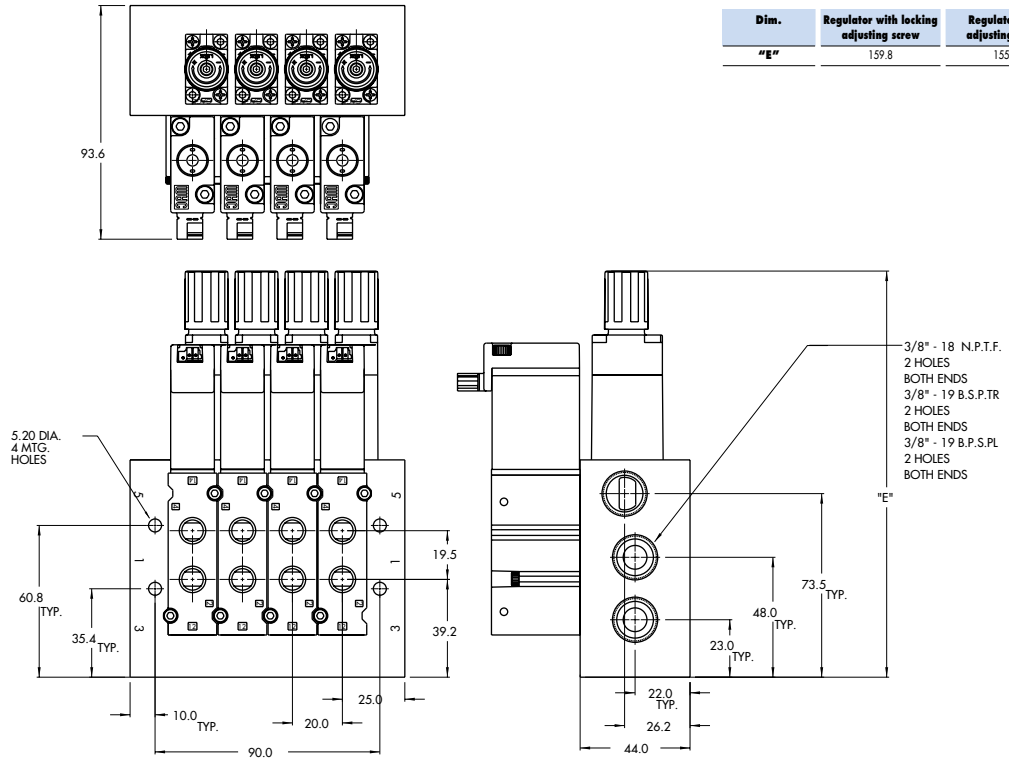
Note : • Valve and coil are not interchangeable.

Spare parts : • Seal between valve and bar : 16629. • Mounting screw (x2) : 35043. • Valve blanking plate : M-47002. • Regulator blanking plate : R-47003.

Options : • Isolation of inlet and/or exhaust. Special bar. Consult factory. • NPTF Threads.

DIMENSIONS

Dim.	Regulator with locking adjusting screw	Regulator with adjusting screw	Regulator with adjusting knob
"E"	159.8	155.6	163.6



MAC

Series 47

Function	Port size	Flow (Max)	Circuit bar mounting	Profile
5/2	**1/8" - 1/4"** **6 mm tube receptacle**	**500 NL/min**	non plug-in cyl. ports in base	**44 mm**

OPERATIONAL BENEFITS

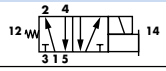
1. Direct solenoid operated valve.
2. Balanced poppet, immune to variations of pressure.
3. Short stroke with high flow.
4. The patented solenoid develops high shifting forces.
5. Powerful return spring.
6. Manual operator standard on all valves.

Reset

HOW TO ORDER

47A-xxx-Hxxx-xxx

HOW TO ORDER VALVE FOR CIRCUIT BAR MOUNTING

Port size (see base)	Valve
	
Valve less base	○ 47A-LI0-H*XXX-XXX*

SOLENOID OPERATOR ➤

H *XX X- X XX**

XX	Voltage
○ *DA*	24VDC (5.2 W)
○ *DB*	24VDC (2.4 W)
○ *DC*	24VDC (1.8 W)
○ *DD*	24VDC (1.0 W)
○ *AA*	120VAC (must use with rectified connector)
○ *xx*	Other Options

X	Wire length
○ *A*	45 cm
○ *C*	90 cm
○ *x*	Other Options

X	Manual operator
○ *1*	Non-locking

XX	Electrical connection
○ *BA*	Flying leads
○ *BC*	Flying leads with light
○ *MA*	Plug-in wire assy
○ *MC*	Plug-in wire assy with light
○ *HA*	Plug-in connector with rectifier and light
○ *xx*	Other Options

HOW TO ORDER CIRCUIT BAR

EBM47A-xxxxx-xx

Port size	Side cylinder ports (18 mm)	Bottom cylinder ports (18 mm)
1/8" BSPP	○ EBM47A-00JAC-*XX*	○ EBM47A-00LAC-*XX*
1/4" BSPP	○ EBM47A-00JAD-*XX*	○ EBM47A-00LAD-*XX*
6 mm tube receptacle	○ EBM47A-00JAH-*XX*	○ EBM47A-00LAH-*XX*

Number of stations (03=3 stations) ☐

Note : ☐ clic for valves mounted on base at the factory (add - 9 to the model number).

MAC

Series **47**

100% OF PRODUCTION TESTED 100%

WARRANTY 18 MONTHS

TECHNICAL DATA

Fluid :	Compressed air, vacuum, inert gases
Pressure range :	Vacuum to 8 BAR
Lubrication :	Not required, if used select a medium aniline point lubricant (between 80°C and 100°C)
Filtration :	40 µ
Temperature range :	0°F to 120°F (-18°C to 50°C)
Orifice :	4.3 mm
Flow (at 6 bar, ΔP=1bar) :	5.2 W : 500 NL/min, 2.4 W : 300 NL/min, 1.8 W : 250 NL/min, 1.0 W : 250 NL/min
Leak rate :	50 cm^3/min
Coil :	General purpose class A, continuous duty, encapsulated
Voltage range :	-15% to +10% of nominal voltage
Power :	5.2 W - 2.4 W - 1.8 W - 1.0 W
Response times :	Energize : 14.0 ms
(with 5.2 W coil)	De-energize : 5.0 ms

Note : • Valve and coil are not interchangeable.

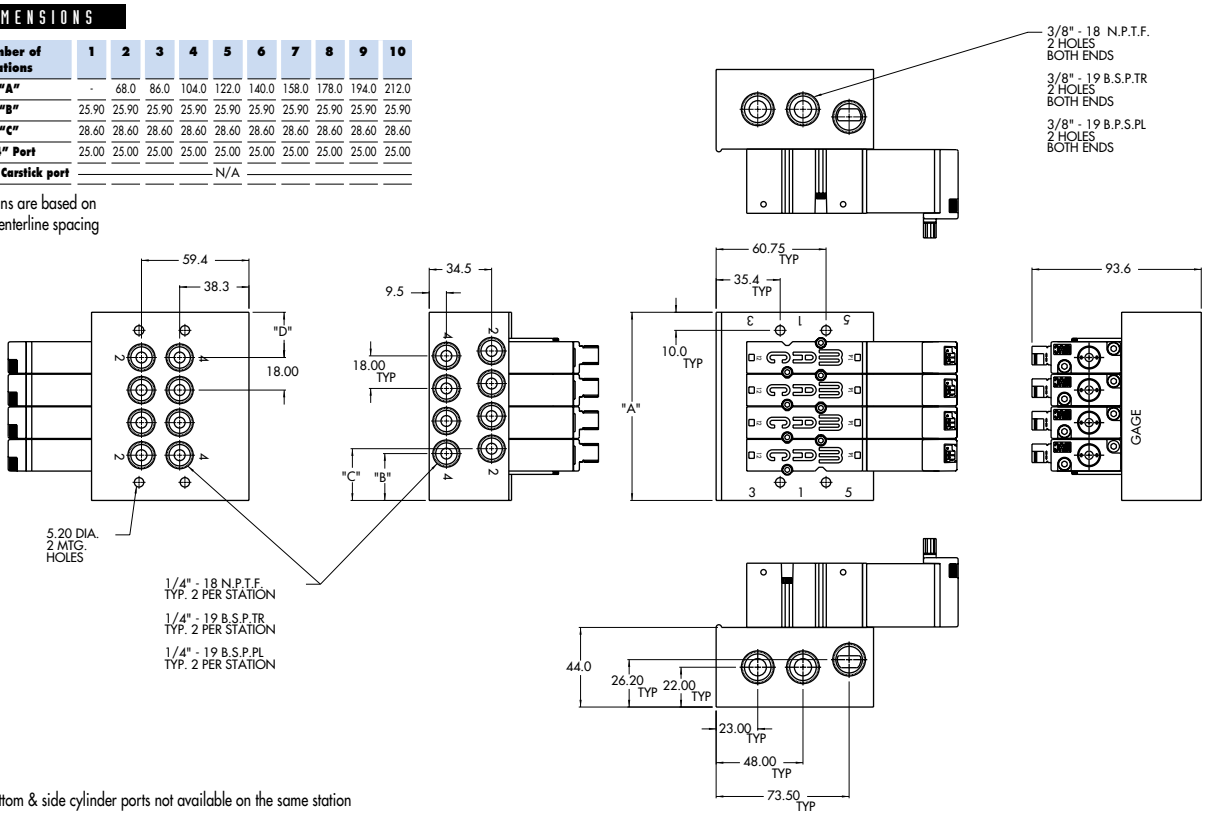
Spare parts : • Seal between valve and bar : 16629. • Mounting screw (x2) : 35043. • Valve blanking plate : M-47001.

Options : • Isolation of inlet and/or exhaust. Special bar. Consult factory. • NPTF Threads.

DIMENSIONS

Number of stations		1	2	3	4	5	6	7	8	9	10
"A"		-	68.0	86.0	104.0	122.0	140.0	158.0	178.0	194.0	212.0
"B"		25.90	25.90	25.90	25.90	25.90	25.90	25.90	25.90	25.90	25.90
"C"		28.60	28.60	28.60	28.60	28.60	28.60	28.60	28.60	28.60	28.60
"D"	1/4" Port	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00
	M6 Carstick port	—	—	—	—	N/A	—	—	—	—	—

Dimensions are based on 18 mm centerline spacing



Note: Bottom & side cylinder ports not available on the same station

MAC

Series 47

Function	Port size	Flow (Max)	Circuit bar mounting	Profile
5/2	**1/8" - 1/4"** **6 mm tube receptacle**	**500 NL/min**	non plug-in cyl. ports in base with Pr. Reg.	**44 mm**

OPERATIONAL BENEFITS

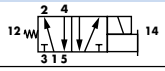
1. Direct solenoid operated valve.
2. Balanced poppet, immune to variations of pressure.
3. Short stroke with high flow.
4. The patented solenoid develops high shifting forces.
5. Powerful return spring.
6. Manual operator standard on all valves.

Reset

HOW TO ORDER

47A-xxx-Hxxx-xxx

HOW TO ORDER VALVE FOR CIRCUIT BAR MOUNTING

Port size (see base)	Valve 
Valve less base	○ 47A-LI0-H*xxx-xxx*

SOLENOID OPERATOR ➤ H *XX X- X XX**

XX	Voltage
○ *DA*	24VDC (5.2 W)
○ *DB*	24VDC (2.4 W)
○ *DC*	24VDC (1.8 W)
○ *DD*	24VDC (1.0 W)
○ *AA*	120VAC (must use with rectified connector)
○ *xx*	Other Options

X	Wire length
○ *A*	45 cm
○ *C*	90 cm
○ *x*	Other Options

X	Manual operator
○ *1*	Non-locking

XX	Electrical connection
○ *BA*	Flying leads
○ *BC*	Flying leads with light
○ *MA*	Plug-in wire assy
○ *MC*	Plug-in wire assy with light
○ *HA*	Plug-in connector with rectifier and light
○ *xx*	Other Options

HOW TO ORDER CIRCUIT BAR (REGULATOR ORDERED SEPARATELY)**

EBM47A-xxxxx-xx

Port size	Side cylinder ports (18 mm)	Bottom cylinder ports (18 mm)
1/8" BSPP	○ EBM47A-00KAC-*xx*	○ EBM47A-00MAC-*xx*
1/4" BSPP	○ EBM47A-00KAD-*xx*	○ EBM47A-00MAD-*xx*
6 mm tube receptacle	○ EBM47A-00KAH-*xx*	○ EBM47A-00MAH-*xx*

Number of stations (03=3 stations) ☐
Note : ☐ clic for valves mounted on base at the factory (add - 9 to the model number).

** Pressure Regulators :

PR47A-GOAx

- ○ X=A (0 to 8 BAR)
- ○ X=B (0 to 5.3 BAR)
- ○ X=C (0 to 2 BAR)

MAC

Series 47

100% OF PRODUCTION TESTED 100%

WARRANTY 18 MONTHS

TECHNICAL DATA

Fluid :	Compressed air, vacuum, inert gases
Pressure range :	Vacuum to 8 BAR
Lubrication :	Not required, if used select a medium aniline point lubricant (between 80°C and 100°C)
Filtration :	40 µ
Temperature range :	0°F to 120°F (-18°C to 50°C)
Orifice :	4.3 mm
Flow (at 6 bar, ΔP=1bar) :	5.2 W : 500 NL/min, 2.4 W : 300 NL/min, 1.8 W : 250 NL/min, 1.0 W : 250 NL/min
Leak rate :	50 cm^3/min
Coil :	General purpose class A, continuous duty, encapsulated
Voltage range :	-15% to +10% of nominal voltage
Power :	5.2 W - 2.4 W - 1.8 W - 1.0 W
Response times :	Energize : 14.0 ms
(with 5.2 W coil)	De-energize : 5.0 ms

Note : • Valve and coil are not interchangeable.

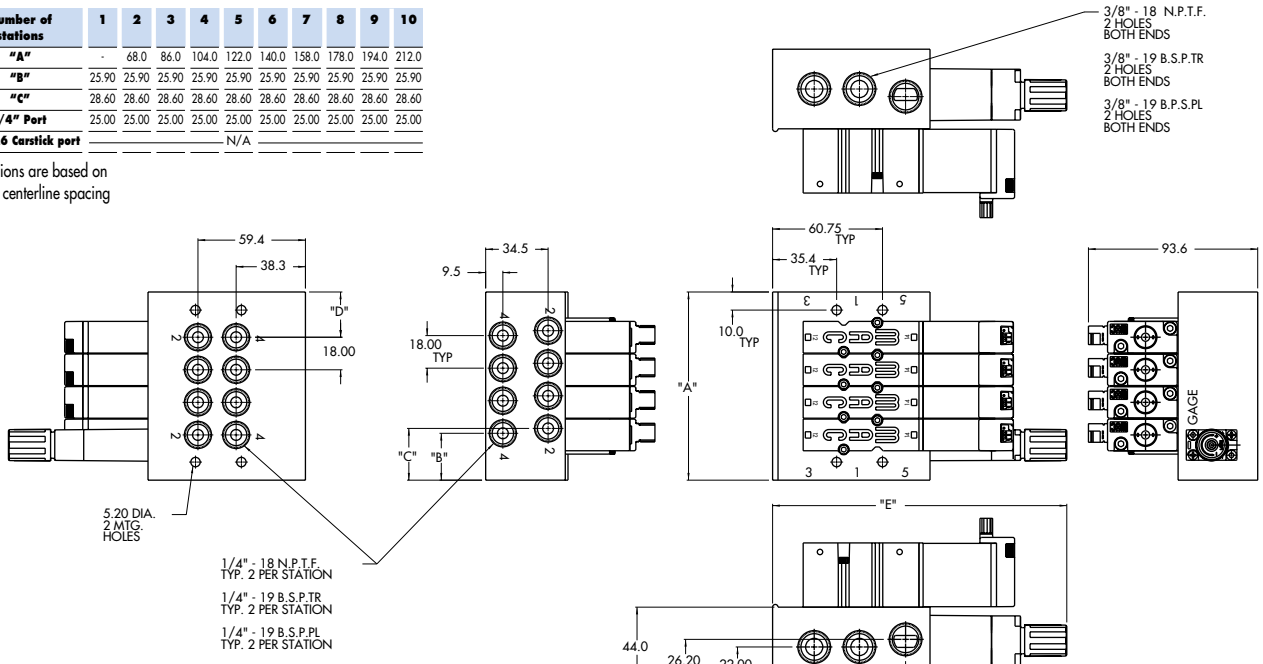
Spare parts : • Seal between valve and bar : 16629. • Mounting screw (x2) : 35043. • Valve blanking plate : M-47001.
• Regulator blanking plate : R-47003.

Options : • Isolation of inlet and/or exhaust. Special bar. Consult factory. • NPTF Threads.

DIMENSIONS

Number of stations		1	2	3	4	5	6	7	8	9	10
"A"		-	68.0	86.0	104.0	122.0	140.0	158.0	178.0	194.0	212.0
"B"		25.90	25.90	25.90	25.90	25.90	25.90	25.90	25.90	25.90	25.90
"C"		28.60	28.60	28.60	28.60	28.60	28.60	28.60	28.60	28.60	28.60
"D"	1/4" Port	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00
	M6 Carstick port	—	—	—	—	N/A	—	—	—	—	—

Dimensions are based on 18 mm centerline spacing



Note: Bottom & side cylinder ports not available on the same station

Dim.	Regulator with locking adjusting screw	Regulator with adjusting screw	Regulator with adjusting knob
"E"	159.8	155.6	163.6

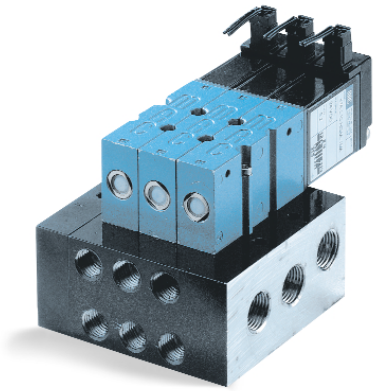
MAC

Series 47

Function	Port size	Flow (Max)	Circuit bar mounting	Profile
5/2	**1/8" - 1/4"** **6 mm tube receptacle**	**500 NL/min**	add-on style non plug-in cyl. ports in base	**44 mm**

OPERATIONAL BENEFITS

1. Direct solenoid operated valve.
2. Balanced poppet, immune to variations of pressure.
3. Short stroke with high flow.
4. The patented solenoid develops high shifting forces.
5. Powerful return spring.
6. Manual operator standard on all valves.

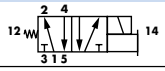


Reset

HOW TO ORDER

47A-xxx-Hxxx-xxx

HOW TO ORDER VALVE FOR CIRCUIT BAR MOUNTING

Port size (see base)	Valve
	
Valve less base	○ 47A-LI0-H*xxx-xxx*

SOLENOID OPERATOR ➤ H *XX X- X XX**

XX	Voltage
○ *DA*	24VDC (5.2 W)
○ *DB*	24VDC (2.4 W)
○ *DC*	24VDC (1.8 W)
○ *DD*	24VDC (1.0 W)
○ *AA*	120VAC (must use with rectified connector)
○ *xx*	Other Options

X	Wire length
○ *A*	45 cm
○ *C*	90 cm
○ *x*	Other Options

X	Manual operator
○ *1*	Non-locking

XX	Electrical connection
○ *BA*	Flying leads
○ *BC*	Flying leads with light
○ *MA*	Plug-in wire assy
○ *MC*	Plug-in wire assy with light
○ *HA*	Plug-in connector with rectifier and light
○ *xx*	Other Options

HOW TO ORDER CIRCUIT BAR

EBM47A-xxxxx-xx

Port size	Side cylinder ports (18 mm)	Bottom cylinder ports (18 mm)
1/8" BSPP	○ EBM47A-00JBC-*xx*	○ EBM47A-00LBC-*xx*
1/4" BSPP	○ EBM47A-00JBD-*xx*	○ EBM47A-00LBD-*xx*
6 mm tube receptacle	○ EBM47A-00JBH-*xx*	○ EBM47A-00LBH-*xx*

Number of stations (03=3 stations) ☐

Note : ☐ clic for valves mounted on base at the factory (add - 9 to the model number).
add-a-unit stations may be added to above bars. Maximum length for add-a-unit is 4 stations.

OPTIONS

EBM47A-00JBA-*xx*

- ☐ clic replace with "C" for add-a-unit.

Menu

MAC

Series 47

100% OF PRODUCTION TESTED 100%

WARRANTY 18 MONTHS

TECHNICAL DATA

Fluid :	Compressed air, vacuum, inert gases
Pressure range :	Vacuum to 8 BAR
Lubrication :	Not required, if used select a medium aniline point lubricant (between 80°C and 100°C)
Filtration :	40 µ
Temperature range :	0°F to 120°F (-18°C to 50°C)
Orifice :	4.3 mm
Flow (at 6 bar, ΔP=1bar) :	5.2 W : 500 NL/min, 2.4 W : 300 NL/min, 1.8 W : 250 NL/min, 1.0 W : 250 NL/min
Leak rate :	50 cm^3/min
Coil :	General purpose class A, continuous duty, encapsulated
Voltage range :	-15% to +10% of nominal voltage
Power :	5.2 W - 2.4 W - 1.8 W - 1.0 W
Response times :	Energize : 14.0 ms
(with 5.2 W coil)	De-energize : 5.0 ms

Note : • Valve and coil are not interchangeable.

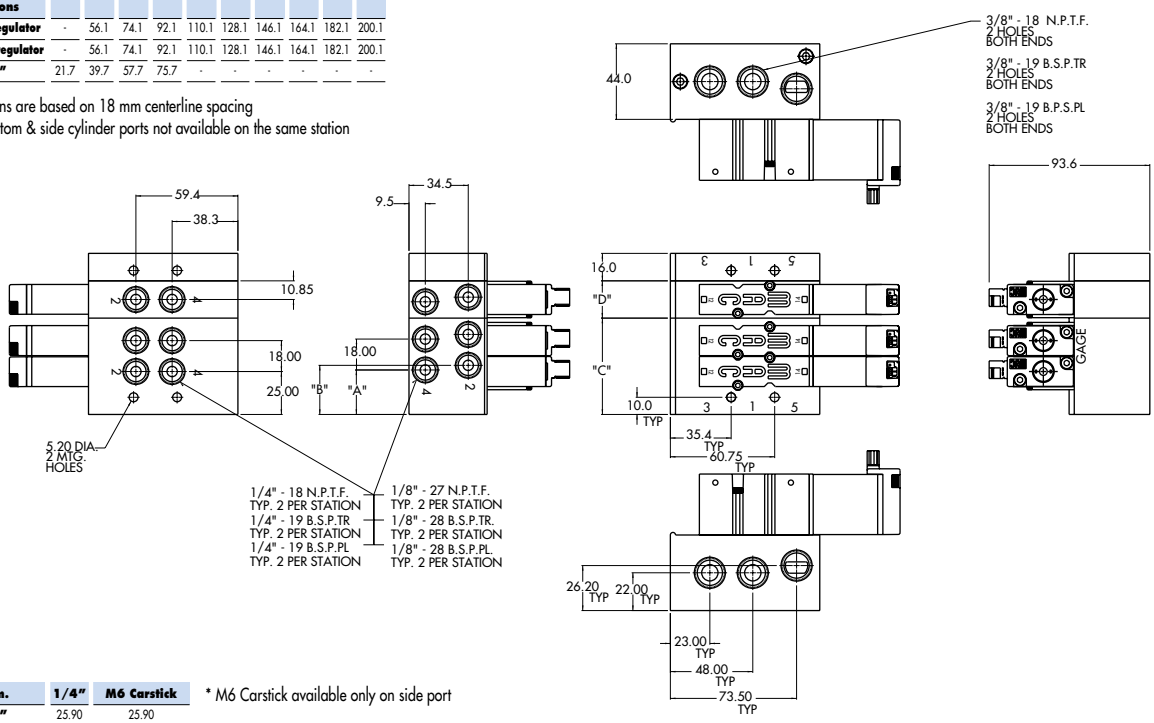
Spare parts : • Seal between valve and bar : 16629. • Mounting screw (x2) : 35043. • Valve blanking plate : M-47001. • End plate kit : M-47005-01.

Options : • Isolation of inlet and/or exhaust. Special bar. Consult factory. • NPTF Threads.

DIMENSIONS

Number of stations	1	2	3	4	5	6	7	8	9	10
"C" w/regulator	-	56.1	74.1	92.1	110.1	128.1	146.1	164.1	182.1	200.1
"C" w/o regulator	-	56.1	74.1	92.1	110.1	128.1	146.1	164.1	182.1	200.1
"D"	21.7	39.7	57.7	75.7	-	-	-	-	-	-

Dimensions are based on 18 mm centerline spacing
Note: Bottom & side cylinder ports not available on the same station



Dim.	1/4"	M6 Carstick
"A"	25.90	25.90
"B"	28.60	28.60

* M6 Carstick available only on side port

Consult "Precautions" before use, installation or service of MAC Valves.

MAC

Series **47**

Function	Port size	Flow (Max)	Circuit bar mounting	Profile
5/2	**1/8" - 1/4"** **6 mm tube receptacle**	**500 NL/min**	add-on style non plug-in cyl. ports in base with Pr. Reg.	**44 mm**

OPERATIONAL BENEFITS

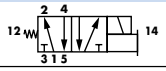
1. Direct solenoid operated valve.
2. Balanced poppet, immune to variations of pressure.
3. Short stroke with high flow.
4. The patented solenoid develops high shifting forces.
5. Powerful return spring.
6. Manual operator standard on all valves.

Reset

HOW TO ORDER

47A-xxx-Hxxx-xxx

HOW TO ORDER VALVE FOR CIRCUIT BAR MOUNTING

Port size (see base)	Valve
	
Valve less base	○ 47A-LI0-H*XXX-XXX*

SOLENOID OPERATOR ➤ H *XX X- X XX**

XX	Voltage
○ *DA*	24VDC (5.2 W)
○ *DB*	24VDC (2.4 W)
○ *DC*	24VDC (1.8 W)
○ *DD*	24VDC (1.0 W)
○ *AA*	120VAC (must use with rectified connector)
○ *xx*	Other Options

X	Wire length
○ *A*	45 cm
○ *C*	90 cm
○ *x*	Other Options

X	Manual operator
○ *1*	Non-locking

XX	Electrical connection
○ *BA*	Flying leads
○ *BC*	Flying leads with light
○ *MA*	Plug-in wire assy
○ *MC*	Plug-in wire assy with light
○ *HA*	Plug-in connector with rectifier and light
○ *xx*	Other Options

HOW TO ORDER CIRCUIT BAR (REGULATOR ORDERED SEPARATELY)**

EBM47A-xxxxx-xx

Port size	Side cylinder ports (18 mm)	Bottom cylinder ports (18 mm)
1/8" BSPP	○ EBM47A-00KBC-*XX*	○ EBM47A-00MBC-*XX*
1/4" BSPP	○ EBM47A-00KBD-*XX*	○ EBM47A-00MBD-*XX*
6 mm tube receptacle	○ EBM47A-00KBH-*XX*	○ EBM47A-00MBH-*XX*

Number of stations (03=3 stations) ☐

Note : ☐ clic for valves mounted on base at the factory (add - 9 to the model number).
add-a-unit stations may be added to above bars. Maximum length for add-a-unit is 4 stations.

** Pressure Regulators :

PR47A-GOAx

- ○ X=A (0 to 8 BAR)
- ○ X=B (0 to 5.3 BAR)
- ○ X=C (0 to 2 BAR)

OPTIONS

EBM47A-00KBA-*XX*

- ☐ clic replace with "C" for add-a-unit.

Consult "Precautions"before use, installation or service of MAC Valves.

Menu

MAC

Series 47

100% OF PRODUCTION TESTED 100%

WARRANTY 18 MONTHS

TECHNICAL DATA

Fluid :	Compressed air, vacuum, inert gases
Pressure range :	Vacuum to 8 BAR
Lubrication :	Not required, if used select a medium aniline point lubricant (between 80°C and 100°C)
Filtration :	40 µ
Temperature range :	0°F to 120°F (-18°C to 50°C)
Orifice :	4.3 mm
Flow (at 6 bar, ΔP=1bar) :	5.2 W : 500 NL/min, 2.4 W : 300 NL/min, 1.8 W : 250 NL/min, 1.0 W : 250 NL/min
Leak rate :	50 cm^3/min
Coil :	General purpose class A, continuous duty, encapsulated
Voltage range :	-15% to +10% of nominal voltage
Power :	5.2 W - 2.4 W - 1.8 W - 1.0 W
Response times :	Energize : 14.0 ms
(with 5.2 W coil)	De-energize : 5.0 ms

Note : • Valve and coil are not interchangeable.

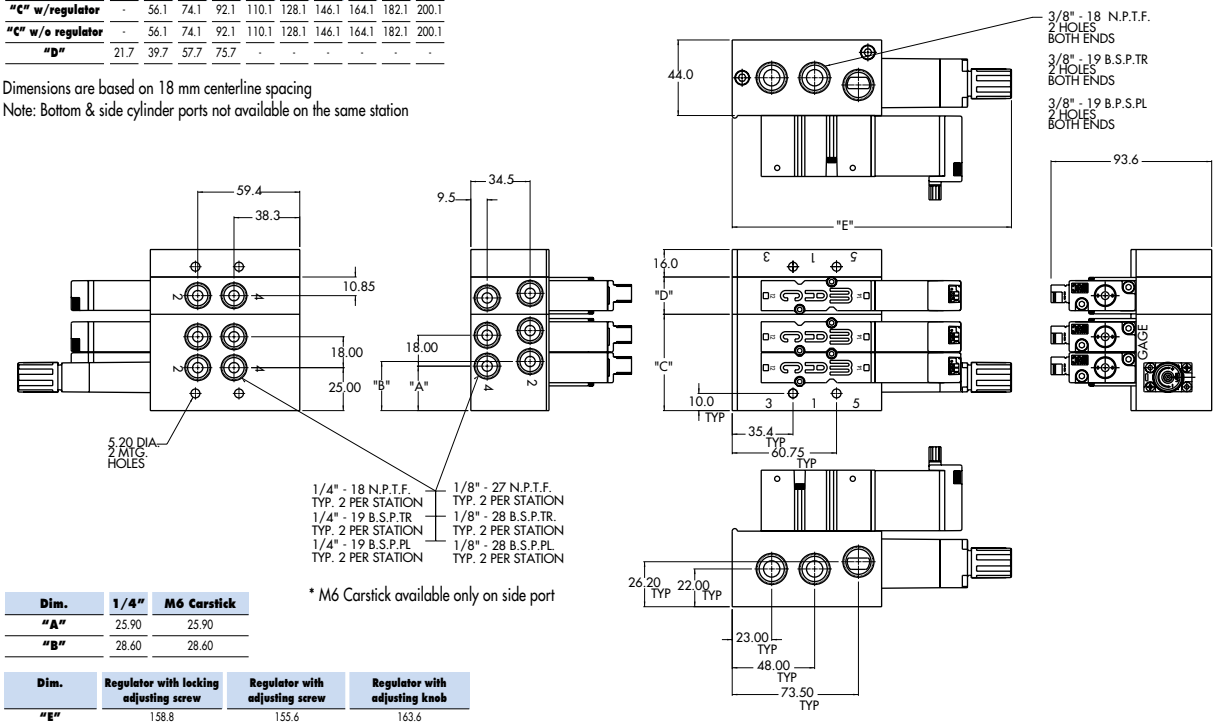
Spare parts : • Seal between valve and bar : 16629. • Mounting screw (x2) : 35043. • Valve blanking plate : M-47001.
• End plate kit : M-47005-01. • Regulator blanking plate : R-47003.

Options : • Isolation of inlet and/or exhaust. Special bar. Consult factory. • NPTF Threads.

DIMENSIONS

Number of stations	1	2	3	4	5	6	7	8	9	10
"C" w/regulator	-	56.1	74.1	92.1	110.1	128.1	146.1	164.1	182.1	200.1
"C" w/o regulator	-	56.1	74.1	92.1	110.1	128.1	146.1	164.1	182.1	200.1
"D"	21.7	39.7	57.7	75.7	-	-	-	-	-	-

Dimensions are based on 18 mm centerline spacing
Note: Bottom & side cylinder ports not available on the same station



* M6 Carstick available only on side port

Dim.	1/4"	M6 Carstick
"A"	25.90	25.90
"B"	28.60	28.60

Dim.	Regulator with locking adjusting screw	Regulator with adjusting screw	Regulator with adjusting knob
"E"	158.8	155.6	163.6

Consult "Precautions" before use, installation or service of MAC Valves.

MAC

Series 47

Function	Port size	Flow (Max)	Circuit bar mounting
5/2	**1/8" - 1/4"** **6 mm tube receptacle**	**500 NL/min**	plug-in

OPERATIONAL BENEFITS

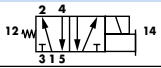
1. Balanced poppet, immune to variations of pressure.
2. Short stroke with high flow.
3. The patented solenoid develops high shifting forces.
4. Powerful return spring.
5. Manual operator standard on all valves.
6. Direct solenoid operated.

Reset

HOW TO ORDER

47A-xxx-HxxP-xxx

HOW TO ORDER VALVE FOR "PLUG-IN" CIRCUIT BAR

	Valve
	
Valve less base	○ 47A-LI0-H*xx*P-*xxx*

SOLENOID OPERATOR ➤ H *XX* P- *X* *XX**

XX	**Voltage**
○ *DA*	24VDC (5.2 W)
○ *DB*	24VDC (2.4 W)
○ *DC*	24VDC (1.8 W)
○ *DD*	24VDC (1.0 W)
○ *AA*	120VAC (Mod. No. required see below)
○ *xx*	Other Options

X	**Manual operator**
○ *1*	Non-locking

XX	**Electrical connection**
○ *FA*	Plug-in
○ *FC*	Plug-in with light
○ *FE*	Plug-in with suppression diode
○ *FG*	Plug-in with suppression diode with LED light
○ *xx*	Other Options

HOW TO ORDER "PLUG-IN" CIRCUIT BAR

ECD47A-xxxxx-xxxx

Port size	Spacing mm	Side cylinder ports	Bottom cylinder ports
1/8" BSPP	18	○ ECD47A-00AAC-A0*xx*	○ ECD47A-00BAC-A0*xx*
1/4" BSPP	18	○ ECD47A-00AAD-A0*xx*	○ ECD47A-00BAD-A0*xx*
6 mm tube receptacle	18	○ ECD47A-00AAG-A0*xx*	○ ECD47A-00BAG-A0*xx*
1/8" BSPP	30	○ ECD47A-01AAC-C0*xx*	○ ECD47A-01BAC-C0*xx*
1/4" BSPP	30	○ ECD47A-01AAD-C0*xx*	○ ECD47A-01BAD-C0*xx*
6 mm tube receptacle	30	○ ECD47A-01AAG-C0*xx*	○ ECD47A-01BAG-C0*xx*

Number of stations (03=3 stations) ☐

Note : ☐ clic for valves mounted on base at the factory (add - 9 to the model number).
for AC voltage use mod. FWR2 after circuit bar model number.
for multi-pin connector (9, 15 or 25).

- ○ A0 = without light
- ○ AA = with light (120V)
- ○ AB = with light (240V)
- ○ AD = with light (24V)
- ○ C0 = terminal strip
- ○ CA = terminal strip with light (120V)
- ○ CB = terminal strip with light (240V)
- ○ CD = terminal strip with light (24V)

Menu

MAC

Series 47

100% OF PRODUCTION TESTED 100%

WARRANTY 18 MONTHS

TECHNICAL DATA

Fluid :	Compressed air, vacuum, inert gases
Pressure range :	Vacuum to 8 BAR
Lubrication :	Not required, if used select a medium aniline point lubricant (between 80°C and 100°C)
Filtration :	40 µ
Temperature range :	0°F to 120°F (-18°C to 50°C)
Orifice :	4.3 mm
Flow (at 6 bar, ΔP=1bar) :	5.2 W : 500 NL/min, 2.4 W : 300 NL/min, 1.8 W : 250 NL/min, 1.0 W : 250 NL/min
Leak rate :	50 cm^3/min
Coil :	General purpose class A, continuous duty, encapsulated
Voltage range :	-15% to +10% of nominal voltage
Power :	5.2 W - 2.4 W - 1.8 W - 1.0 W
Response times :	Energize : 14.0 ms
(with 5.2 W coil)	De-energize : 5.0 ms

Note : • Valve and coil are not interchangeable.

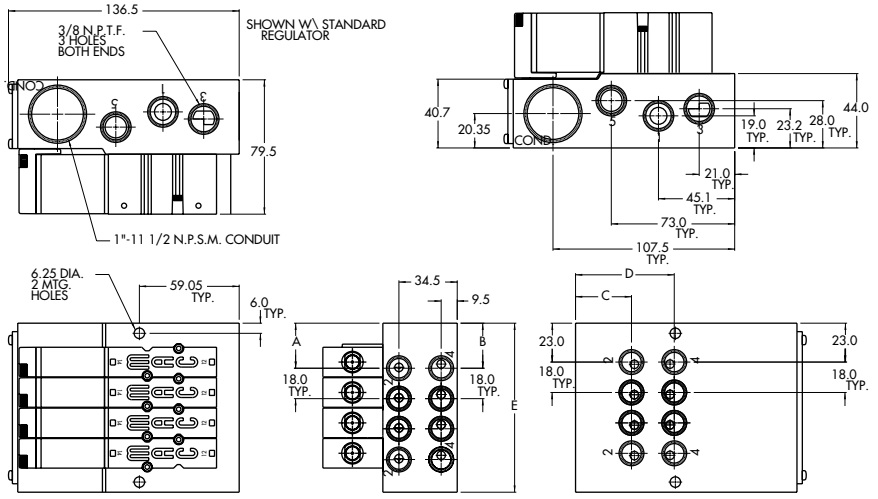
Spare parts : • Seal between valve and bar : 16629. • Mounting screw (x2) : 35043. • Valve blanking plate : M-47001.
• Base wire plug-in protector : 16520.

Options : • Isolation of inlet and/or exhaust. Special bar. Consult factory. • NPTF Threads.

DIMENSIONS

Number of stations	1	2	3	4	5	6	7	8	9	10
"E"	46.0	64.0	82.0	100.0	118.0	136.0	154.0	172.0	190.0	208.0

Dimensions are based on 18 mm centerline spacing
Note: Bottom & side cylinder ports not available on the same station



Dim.	1/4"	1/8"	6 mm Legris
"A"	26.65	26.15	25.65
"B"	26.65	24.2	25.65
"C"	33.1	34.8	34.8
"D"	58.4	55.9	55.9

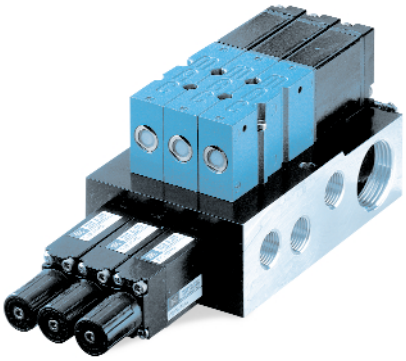
MAC

Series 47

Function	Port size	Flow (Max)	Circuit bar mounting
5/2	**1/8" - 1/4"**	**500 NL/min**	plug-in with Pr. Reg.

OPERATIONAL BENEFITS

1. Balanced poppet, immune to variations of pressure.
2. Short stroke with high flow.
3. The patented solenoid develops high shifting forces.
4. Powerful return spring.
5. Manual operator standard on all valves.
6. Direct solenoid operated.

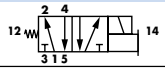


Reset

HOW TO ORDER

47A-xxx-HxxP-xxx

HOW TO ORDER VALVE FOR "PLUG-IN" CIRCUIT BAR

	Valve
	
Valve less base	○ 47A-LI0-H*xx*P-*xxx*

SOLENOID OPERATOR ➤ H *XX* P- *X XX**

XX	Voltage
○ *DA*	24VDC (5.2 W)
○ *DB*	24VDC (2.4 W)
○ *DC*	24VDC (1.8 W)
○ *DD*	24VDC (1.0 W)
○ *AA*	120VAC (Mod. No. required see below)
○ *xx*	Other Options

X	Manual operator
○ *1*	Non-locking

XX	Electrical connection
○ *FA*	Plug-in
○ *FC*	Plug-in with light
○ *FE*	Plug-in with suppression diode
○ *FG*	Plug-in with suppression diode with LED light
○ *xx*	Other Options

HOW TO ORDER "PLUG-IN" CIRCUIT BAR (REGULATORS ORDERED SEPARATELY)**

ECD47A-xxxxx-xxxx

Port size	Spacing mm	Bottom cylinder ports
1/8" BSPP	18	○ ECD47A-00CAC-A0*xx*
1/4" BSPP	18	○ ECD47A-00CAD-A0*xx*
1/8" BSPP	30	○ ECD47A-01CAC-C0*xx*
1/4" BSPP	30	○ ECD47A-01CAD-C0*xx*

Number of stations (03=3 stations) ☐

Note : ☐ clic for valves mounted on base at the factory (add - 9 to the model number).
for AC voltage use mod. FWR2 after circuit bar model number.
for multi-pin connector (9, 15 or 25).

** Pressure Regulators :

PR47A-GOAx

- ○ X=A (0 to 8 BAR)
- ○ X=B (0 to 5.3 BAR)
- ○ X=C (0 to 2 BAR)

- ○ A0 = without light
- ○ AA = with light (120V)
- ○ AB = with light (240V)
- ○ AD = with light (24V)
- ○ C0 = terminal strip
- ○ CA = terminal strip with light (120V)
- ○ CB = terminal strip with light (240V)
- ○ CD = terminal strip with light (24V)

MAC

Series 47

100% OF PRODUCTION TESTED 100%

WARRANTY 18 MONTHS

TECHNICAL DATA

Fluid :	Compressed air, vacuum, inert gases
Pressure range :	Vacuum to 8 BAR
Lubrication :	Not required, if used select a medium aniline point lubricant (between 80°C and 100°C)
Filtration :	40 µ
Temperature range :	0°F to 120°F (-18°C to 50°C)
Orifice :	4.3 mm
Flow (at 6 bar, ΔP=1bar) :	5.2 W : 500 NL/min, 2.4 W : 300 NL/min, 1.8 W : 250 NL/min, 1.0 W : 250 NL/min
Leak rate :	50 cm^3/min
Coil :	General purpose class A, continuous duty, encapsulated
Voltage range :	-15% to +10% of nominal voltage
Power :	5.2 W - 2.4 W - 1.8 W - 1.0 W
Response times :	Energize : 14.0 ms
(with 5.2 W coil)	De-energize : 5.0 ms

Note : • Valve and coil are not interchangeable.

Spare parts : • Seal between valve and bar : 16629. • Mounting screw (x2) : 35043. • Valve blanking plate : M-47001.
• Base wire plug-in protector : 16520. • Regulator blanking plate : R-47003.

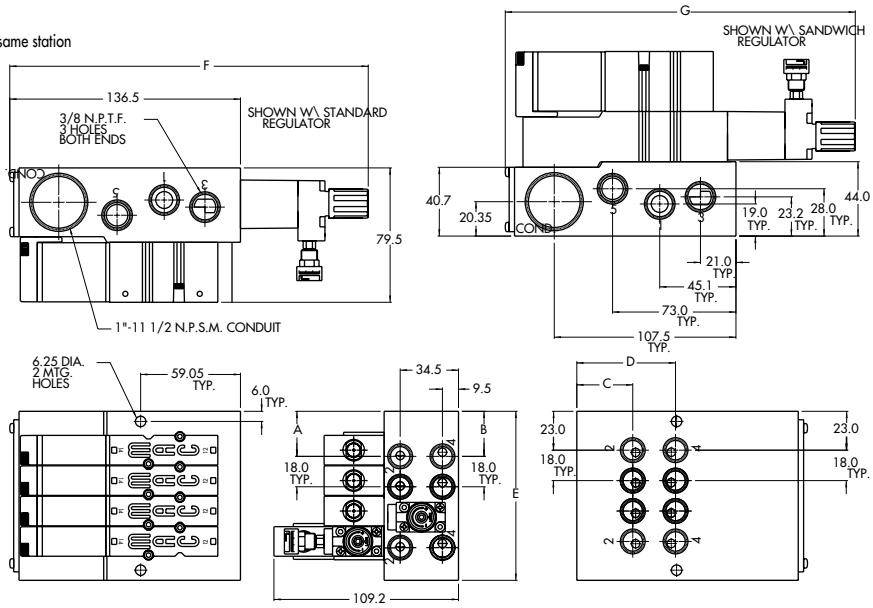
Options : • Isolation of inlet and/or exhaust. Special bar. Consult factory. • NPTF Threads.

DIMENSIONS

Number of stations	1	2	3	4	5	6	7	8	9	10
"E"	46.0	64.0	82.0	100.0	118.0	136.0	154.0	172.0	190.0	208.0

Dimensions are based on 18 mm centerline spacing

Note: Bottom & side cylinder ports not available on the same station



Dim.	1/4"	1/8"	6 mm Legris
"A"	26.65	26.15	25.65
"B"	26.65	24.2	25.65
"C"	33.1	34.8	34.8
"D"	58.4	55.9	55.9

Dim.	Regulator with locking adjusting screw	Regulator with adjusting screw	Regulator with adjusting knob
"F"	209.3	205.1	212.1
"G"	204.3	200.1	207.1

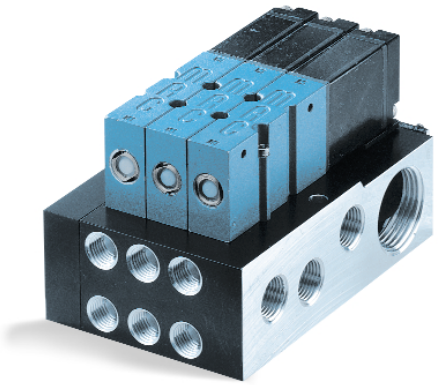
MAC

Series **47**

Function	Port size	Flow (Max)	Circuit bar mounting
5/2	**1/8" - 1/4"** **6 mm tube receptacle**	**500 NL/min**	add-on style plug-in

OPERATIONAL BENEFITS

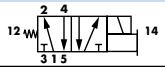
1. Balanced poppet, immune to variations of pressure.
2. Short stroke with high flow.
3. The patented solenoid develops high shifting forces.
4. Powerful return spring.
5. Manual operator standard on all valves.
6. Direct solenoid operated.



Reset

HOW TO ORDER 47A-xxx-HxxP-xxx

HOW TO ORDER VALVE FOR "PLUG-IN" CIRCUIT BAR

	Valve
	
Valve less base	○ 47A-LI0-H*xx*P-*xxx*

SOLENOID OPERATOR ➤ H *XX* P- *X XX**

XX	Voltage
○ *DA*	24VDC (5.2 W)
○ *DB*	24VDC (2.4 W)
○ *DC*	24VDC (1.8 W)
○ *DD*	24VDC (1.0 W)
○ *AA*	120VAC (Mod. No. required see below)
○ *xx*	Other Options

X	Manual operator
○ *1*	Non-locking

XX	Electrical connection
○ *FA*	Plug-in
○ *FC*	Plug-in with light
○ *FE*	Plug-in with suppression diode
○ *FG*	Plug-in with suppression diode with LED light
○ *xx*	Other Options

HOW TO ORDER "PLUG-IN" CIRCUIT BAR

ECD47A-xxxxx-xxxx

Port size	Spacing mm	Side cylinder ports	Bottom cylinder ports
1/8" BSPP	18	○ ECD47A-00ABC-A0*xx*	○ ECD47A-00BBC-A0*xx*
1/4" BSPP	18	○ ECD47A-00ABD-A0*xx*	○ ECD47A-00BBD-A0*xx*
6 mm tube receptacle	18	○ ECD47A-00ABG-A0*xx*	○ ECD47A-00BBG-A0*xx*
1/8" BSPP	30	○ ECD47A-01ABC-C0*xx*	○ ECD47A-01BBC-C0*xx*
1/4" BSPP	30	○ ECD47A-01ABD-C0*xx*	○ ECD47A-01BBD-C0*xx*
6 mm tube receptacle	30	○ ECD47A-01ABG-C0*xx*	○ ECD47A-01BBG-C0*xx*

Number of stations (03=3 stations) ☐

Note : ☐ clic for valves mounted on base at the factory (add - 9 to the model number).
for AC voltage use mod. FWR2 after circuit bar model number.
for multi-pin connector (9, 15 or 25).
add-a-units may be added to above bars.

- ○ A0 = without light
- ○ AA = with light (120V)
- ○ AB = with light (240V)
- ○ AD = with light (24V)
- ○ C0 = terminal strip
- ○ CA = terminal strip with light (120V)
- ○ CB = terminal strip with light (240V)
- ○ CD = terminal strip with light (24V)

MAC

Series 47

100% OF PRODUCTION TESTED 100%

WARRANTY 18 MONTHS

TECHNICAL DATA

Fluid :	Compressed air, vacuum, inert gases
Pressure range :	Vacuum to 8 BAR
Lubrication :	Not required, if used select a medium aniline point lubricant (between 80°C and 100°C)
Filtration :	40 µ
Temperature range :	0°F to 120°F (-18°C to 50°C)
Orifice :	4.3 mm
Flow (at 6 bar, ΔP=1bar) :	5.2 W : 500 NL/min, 2.4 W : 300 NL/min, 1.8 W : 250 NL/min, 1.0 W : 250 NL/min
Leak rate :	50 cm^3/min
Coil :	General purpose class A, continuous duty, encapsulated
Voltage range :	-15% to +10% of nominal voltage
Power :	5.2 W - 2.4 W - 1.8 W - 1.0 W
Response times :	Energize : 14.0 ms
(with 5.2 W coil)	De-energize : 5.0 ms

Note : • Valve and coil are not interchangeable.

Spare parts : • Seal between valve and bar : 16629. • Mounting screw (x2) : 35043. • Valve blanking plate : M-47001.
• Base wire plug-in protector : 16520. • Isolator disc between add-a-units : 28438.

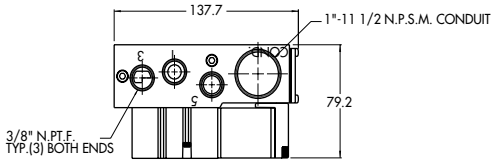
Options : • Isolation of inlet and/or exhaust. Special bar. Consult factory. • NPTF Threads.

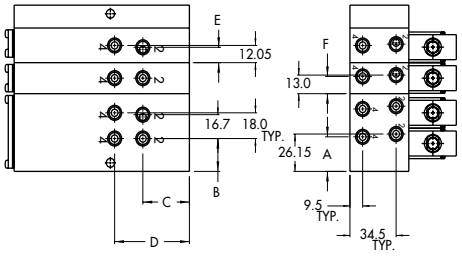
DIMENSIONS

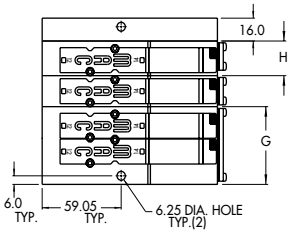
Number of stations	1	2	3	4	5	6	7	8	9	10
"G"	-	51.85	69.85	87.85	105.85	123.85	141.85	159.85	177.85	195.85
"H"	21.70	39.70	57.70	75.70	-	-	-	-	-	-

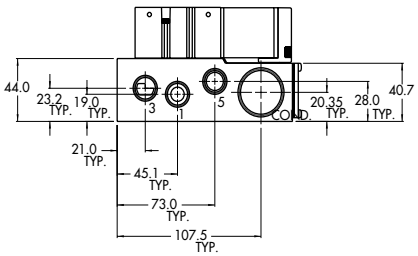
Dimensions are based on 18 mm centerline spacing

Note: Bottom & side cylinder ports not available on the same station









Dim.	1/8"	1/4"	6 mm Legris
"A"	24.20	24.20	25.65
"B"	23.00	23.00	23.00
"C"	34.80	33.10	34.80
"D"	55.90	58.40	55.90
"E"	-	-	-
"F"	12.05	12.00	14.00

Consult "Precautions" before use, installation or service of MAC Valves.

MAC

Series 47

Function	Port size	Flow (Max)	Circuit bar mounting
5/2	**1/8" - 1/4"**	**500 NL/min**	add-on style plug-in with Pr. Reg.

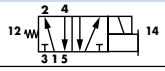
OPERATIONAL BENEFITS

1. Balanced poppet, immune to variations of pressure.
2. Short stroke with high flow.
3. The patented solenoid develops high shifting forces.
4. Powerful return spring.
5. Manual operator standard on all valves.
6. Direct solenoid operated.

Reset

HOW TO ORDER 47A-xxx-HxxP-xxx

HOW TO ORDER VALVE FOR "PLUG-IN" CIRCUIT BAR

	Valve
	
Valve less base	○ 47A-LI0-H*xx*P-*xxx*

SOLENOID OPERATOR ➤ H *XX* P- *X XX**

XX	Voltage
○ *DA*	24VDC (5.2 W)
○ *DB*	24VDC (2.4 W)
○ *DC*	24VDC (1.8 W)
○ *DD*	24VDC (1.0 W)
○ *AA*	120VAC (Mod. No. required see below)
○ *xx*	Other Options

X	Manual operator
○ *1*	Non-locking

XX	Electrical connection
○ *FA*	Plug-in
○ *FC*	Plug-in with light
○ *FE*	Plug-in with suppression diode
○ *FG*	Plug-in with suppression diode with LED light
○ *xx*	Other Options

HOW TO ORDER "PLUG-IN" CIRCUIT BAR (REGULATORS ORDERED SEPARATELY)** ECD47A-xxxxx-xxxx

Port size	Spacing mm	Bottom cylinder ports
1/8" BSPP	18	○ ECD47A-00CBC-A0*xx*
1/4" BSPP	18	○ ECD47A-00CBD-A0*xx*
1/8" BSPP	30	○ ECD47A-01CBC-C0*xx*
1/4" BSPP	30	○ ECD47A-01CBD-C0*xx*

Number of stations (03=3 stations) ☐

Note : ☐ clic for valves mounted on base at the factory (add - 9 to the model number).
for AC voltage use mod. FWR2 after circuit bar model number.
for multi-pin connector (9, 15 or 25).
add-a-units may be added to above bars.

** Pressure Regulators : PR47A-GOAx

- ○ X=A (0 to 8 BAR)
- ○ X=B (0 to 5.3 BAR)
- ○ X=C (0 to 2 BAR)

- ○ A0 = without light
- ○ AA = with light (120V)
- ○ AB = with light (240V)
- ○ AD = with light (24V)
- ○ C0 = terminal strip
- ○ CA = terminal strip with light (120V)
- ○ CB = terminal strip with light (240V)
- ○ CD = terminal strip with light (24V)

MAC

Series 47

100% OF PRODUCTION TESTED 100%

WARRANTY 18 MONTHS

TECHNICAL DATA

Fluid :	Compressed air, vacuum, inert gases
Pressure range :	Vacuum to 8 BAR
Lubrication :	Not required, if used select a medium aniline point lubricant (between 80°C and 100°C)
Filtration :	40 µ
Temperature range :	0°F to 120°F (-18°C to 50°C)
Orifice :	4.3 mm
Flow (at 6 bar, ΔP=1bar) :	5.2 W : 500 NL/min, 2.4 W : 300 NL/min, 1.8 W : 250 NL/min, 1.0 W : 250 NL/min
Leak rate :	50 cm^3/min
Coil :	General purpose class A, continuous duty, encapsulated
Voltage range :	-15% to +10% of nominal voltage
Power :	5.2 W - 2.4 W - 1.8 W - 1.0 W
Response times :	Energize : 14.0 ms
(with 5.2 W coil)	De-energize : 5.0 ms

Note : • Valve and coil are not interchangeable.

Spare parts : • Seal between valve and bar : 16629. • Mounting screw (x2) : 35043. • Valve blanking plate : M-47001.
• Base wire plug-in protector : 16520. • Regulator blanking plate : R-47003. • Isolator disc between add-a-units : 28438.

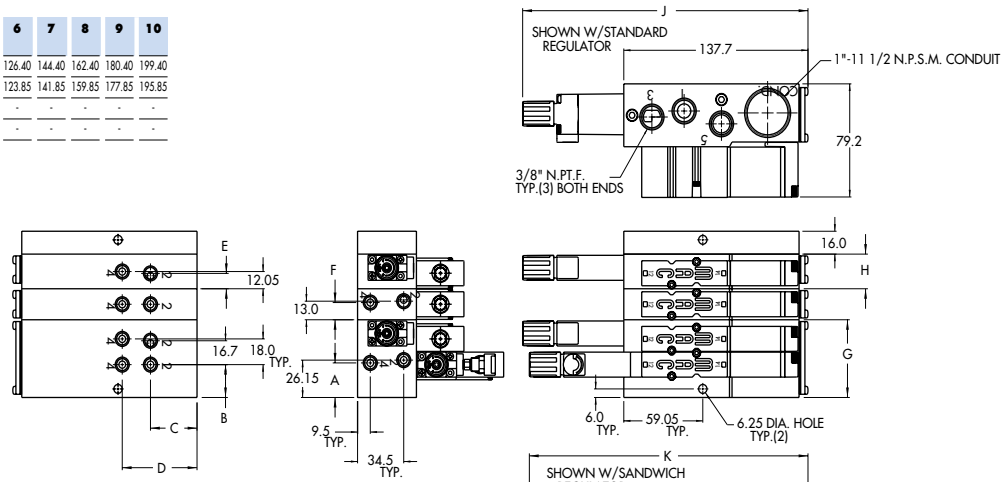
Options : • Isolation of inlet and/or exhaust. Special bar. Consult factory. • NPTF Threads.

DIMENSIONS

Number of stations	1	2	3	4	5	6	7	8	9	10
"G" w/regulator	-	54.40	72.40	90.40	108.40	126.40	144.40	162.40	180.40	199.40
"G" w/o regulator	-	51.85	69.85	87.85	105.85	123.85	141.85	159.85	177.85	195.85
"H" w/regulator	24.25	42.25	60.25	78.25	-	-	-	-	-	-
"H" w/o regulator	21.70	39.70	57.70	75.70	-	-	-	-	-	-

Dimensions are based on 18 mm centerline spacing

Note: Bottom & side cylinder ports not available on the same station



Dim.	1/8"	1/4"	6 mm Legris	1/8" w/regulator	1/4" w/regulator
"A"	24.20	24.20	25.65	-	-
"B"	23.00	23.00	23.00	-	23.00
"C"	34.80	33.10	34.80	34.80	33.10
"D"	55.90	58.40	55.90	55.90	58.40
"E"	-	-	-	10.75	10.85
"F"	12.05	12.00	14.00	-	-

Dim.	Regulator with locking adjusting screw	Regulator with adjusting screw	Regulator with adjusting knob
"J"	209.3	205.1	212.1
"K"	204.3	200.1	207.1

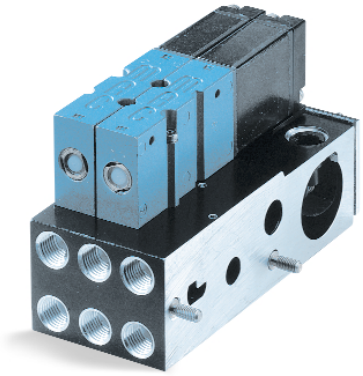
MAC

Series **47**

Function	Port size	Flow (Max)	Circuit bar mounting
5/2	**1/8" - 1/4"** **6 mm tube receptacle**	**500 NL/min**	plug-in add-a-unit stations

OPERATIONAL BENEFITS

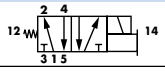
1. Balanced poppet, immune to variations of pressure.
2. Short stroke with high flow.
3. The patented solenoid develops high shifting forces.
4. Powerful return spring.
5. Manual operator standard on all valves.
6. Direct solenoid operated.



Reset

HOW TO ORDER 47A-xxx-HxxP-xxx

HOW TO ORDER VALVE FOR "PLUG-IN" CIRCUIT BAR

	Valve
	
Valve less base	○ 47A-LI0-H*xx*P-*xxx*

SOLENOID OPERATOR ➤ H *XX* P- *X XX**

XX	Voltage
○ *DA*	24VDC (5.2 W)
○ *DB*	24VDC (2.4 W)
○ *DC*	24VDC (1.8 W)
○ *DD*	24VDC (1.0 W)
○ *AA*	120VAC (Mod. No. required see below)
○ *xx*	Other Options

X	Manual operator
○ *1*	Non-locking

XX	Electrical connection
○ *FA*	Plug-in
○ *FC*	Plug-in with light
○ *FE*	Plug-in with suppression diode
○ *FG*	Plug-in with suppression diode with LED light
○ *xx*	Other Options

HOW TO ORDER "PLUG-IN" CIRCUIT BAR

ECD47A-xxxxx-xxxx

Port size	Spacing mm	Side cylinder ports	Bottom cylinder ports
1/8" BSPP	18	○ ECD47A-00ACC-A0*xx*	○ ECD47A-00BCC-A0*xx*
1/4" BSPP	18	○ ECD47A-00ACD-A0*xx*	○ ECD47A-00BCD-A0*xx*
6 mm tube receptacle	18	○ ECD47A-00ACG-A0*xx*	○ ECD47A-00BCG-A0*xx*
1/8" BSPP	30	○ ECD47A-01ACC-C0*xx*	○ ECD47A-01BCC-C0*xx*
1/4" BSPP	30	○ ECD47A-01ACD-C0*xx*	○ ECD47A-01BCD-C0*xx*
6 mm tube receptacle	30	○ ECD47A-01ACG-C0*xx*	○ ECD47A-01BCG-C0*xx*

Number of stations (01=1 station). Maximum length is 4 stations ☐

Note : ☐ clic for valves mounted on base at the factory (add - 9 to the model number).
when add-a-unit stations are added to bars with a multi-pin connector, MOD SD03 should be included with add-a-unit model number.
for AC voltage use mod. FWR2 after circuit bar model number.

- ○ A0 = without light
- ○ AA = with light (120V)
- ○ AB = with light (240V)
- ○ AD = with light (24V)
- ○ C0 = terminal strip
- ○ CA = terminal strip with light (120V)
- ○ CB = terminal strip with light (240V)
- ○ CD = terminal strip with light (24V)

Consult "Precautions" before use, installation or service of MAC Valves.

Menu

MAC

Series 47

100% OF PRODUCTION TESTED 100%

WARRANTY 18 MONTHS

TECHNICAL DATA

Fluid :	Compressed air, vacuum, inert gases
Pressure range :	Vacuum to 8 BAR
Lubrication :	Not required, if used select a medium aniline point lubricant (between 80°C and 100°C)
Filtration :	40 µ
Temperature range :	0°F to 120°F (-18°C to 50°C)
Orifice :	4.3 mm
Flow (at 6 bar, ΔP=1bar) :	5.2 W : 500 NL/min, 2.4 W : 300 NL/min, 1.8 W : 250 NL/min, 1.0 W : 250 NL/min
Leak rate :	50 cm^3/min
Coil :	General purpose class A, continuous duty, encapsulated
Voltage range :	-15% to +10% of nominal voltage
Power :	5.2 W - 2.4 W - 1.8 W - 1.0 W
Response times :	Energize : 14.0 ms
(with 5.2 W coil)	De-energize : 5.0 ms

Note : • Valve and coil are not interchangeable.

Spare parts : • Seal between valve and bar : 16629. • Mounting screw (x2) : 35043. • Valve blanking plate : M-47001.
• O-ring port seal (x3) : 17015-01 • Tie rod (x2) : 79007-01 (one station length).

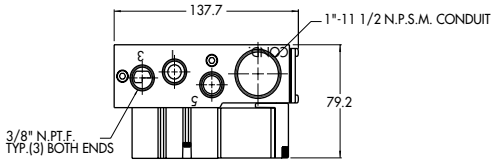
Options : • Isolation of inlet and/or exhaust. Special bar. Consult factory. • NPTF Threads.

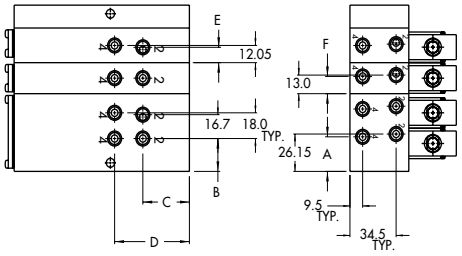
DIMENSIONS

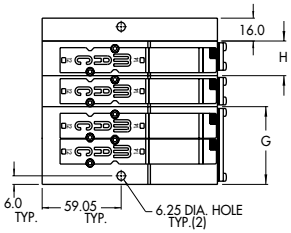
Number of stations	1	2	3	4	5	6	7	8	9	10
"G"	-	51.85	69.85	87.85	105.85	123.85	141.85	159.85	177.85	195.85
"H"	21.70	39.70	57.70	75.70	-	-	-	-	-	-

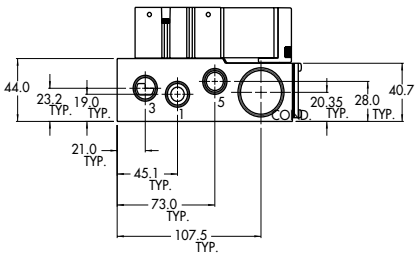
Dimensions are based on 18 mm centerline spacing

Note: Bottom & side cylinder ports not available on the same station









Dim.	1/8"	1/4"	6 mm Legris
"A"	24.20	24.20	25.65
"B"	23.00	23.00	23.00
"C"	34.80	33.10	34.80
"D"	55.90	58.40	55.90
"E"	-	-	-
"F"	12.05	12.00	14.00

Consult "Precautions" before use, installation or service of MAC Valves.

MAC

Series 47

Function	Port size	Flow (Max)	Circuit bar mounting
5/2	**1/8" - 1/4"**	**500 NL/min**	plug-in add-a-unit stations with Pr. Reg.

OPERATIONAL BENEFITS

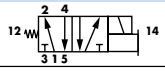
1. Balanced poppet, immune to variations of pressure.
2. Short stroke with high flow.
3. The patented solenoid develops high shifting forces.
4. Powerful return spring.
5. Manual operator standard on all valves.
6. Direct solenoid operated.

Reset

HOW TO ORDER

47A-xxx-HxxP-xxx

HOW TO ORDER VALVE FOR "PLUG-IN" CIRCUIT BAR

	Valve
	
Valve less base	○ 47A-LI0-H*xx*P-*xxx*

SOLENOID OPERATOR ➤ H *XX* P- *X XX**

XX	**Voltage**
○ *DA*	24VDC (5.2 W)
○ *DB*	24VDC (2.4 W)
○ *DC*	24VDC (1.8 W)
○ *DD*	24VDC (1.0 W)
○ *AA*	120VAC (Mod. No. required see below)
○ *xx*	Other Options

X	**Manual operator**
○ *1*	Non-locking

XX	**Electrical connection**
○ *FA*	Plug-in
○ *FC*	Plug-in with light
○ *FE*	Plug-in with suppression diode
○ *FG*	Plug-in with suppression diode with LED light
○ *xx*	Other Options

HOW TO ORDER "PLUG-IN" CIRCUIT BAR (REGULATORS ORDERED SEPARATELY)**

ECD47A-xxxxx-xxxx

Port size	Spacing mm	Bottom cylinder ports
1/8" BSPP	18	○ ECD47A-00CCC-A0*xx*
1/4" BSPP	18	○ ECD47A-00CCD-A0*xx*
1/8" BSPP	30	○ ECD47A-01CCC-C0*xx*
1/4" BSPP	30	○ ECD47A-01CCD-C0*xx*

Number of stations (01=1 station). Maximum length is 4 stations ☐

Note : ☐ clic for valves mounted on base at the factory (add - 9 to the model number).
when add-a-unit stations are added to bars with a multi-pin connector, MOD SD03 should be included with add-a-unit model number.
for AC voltage use mod. FWR2 after circuit bar model number.

** Pressure Regulators :

PR47A-GOAx

- ○ X=A (0 to 8 BAR)
- ○ X=B (0 to 5.3 BAR)
- ○ X=C (0 to 2 BAR)

- ○ A0 = without light
- ○ AA = with light (120V)
- ○ AB = with light (240V)
- ○ AD = with light (24V)
- ○ C0 = terminal strip
- ○ CA = terminal strip with light (120V)
- ○ CB = terminal strip with light (240V)
- ○ CD = terminal strip with light (24V)

MAC

Series 47

100% OF PRODUCTION TESTED 100%

WARRANTY 18 MONTHS

TECHNICAL DATA

Fluid :	Compressed air, vacuum, inert gases
Pressure range :	Vacuum to 8 BAR
Lubrication :	Not required, if used select a medium aniline point lubricant (between 80°C and 100°C)
Filtration :	40 µ
Temperature range :	0°F to 120°F (-18°C to 50°C)
Orifice :	4.3 mm
Flow (at 6 bar, ΔP=1bar) :	5.2 W : 500 NL/min, 2.4 W : 300 NL/min, 1.8 W : 250 NL/min, 1.0 W : 250 NL/min
Leak rate :	50 cm^3/min
Coil :	General purpose class A, continuous duty, encapsulated
Voltage range :	-15% to +10% of nominal voltage
Power :	5.2 W - 2.4 W - 1.8 W - 1.0 W
Response times :	Energize : 14.0 ms
(with 5.2 W coil)	De-energize : 5.0 ms

Note : • Valve and coil are not interchangeable.

Spare parts : • Seal between valve and bar : 16629. • Mounting screw (x2) : 35043. • Valve blanking plate : M-47001.
• O-ring port seal (x3) : 17015-01 • Tie rod (x2) : 79007-01 (one station length). • Regulator blanking plate : R-47003.

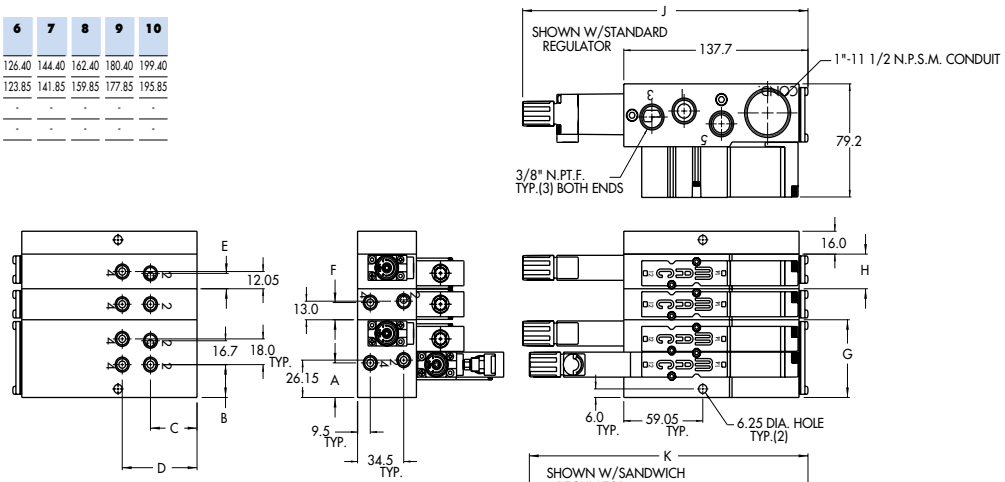
Options : • Isolation of inlet and/or exhaust. Special bar. Consult factory. • NPTF Threads.

DIMENSIONS

Number of stations	1	2	3	4	5	6	7	8	9	10
"G" w/regulator	-	54.40	72.40	90.40	108.40	126.40	144.40	162.40	180.40	199.40
"G" w/o regulator	-	51.85	69.85	87.85	105.85	123.85	141.85	159.85	177.85	195.85
"H" w/regulator	24.25	42.25	60.25	78.25	-	-	-	-	-	-
"H" w/o regulator	21.70	39.70	57.70	75.70	-	-	-	-	-	-

Dimensions are based on 18 mm centerline spacing

Note: Bottom & side cylinder ports not available on the same station



Dim.	1/8"	1/4"	6 mm Legris	1/8" w/regulator	1/4" w/regulator
"A"	24.20	24.20	25.65	-	-
"B"	23.00	23.00	23.00	-	23.00
"C"	34.80	33.10	34.80	34.80	33.10
"D"	55.90	58.40	55.90	55.90	58.40
"E"	-	-	-	10.75	10.85
"F"	12.05	12.00	14.00	-	-

Dim.	Regulator with locking adjusting screw	Regulator with adjusting screw	Regulator with adjusting knob
"J"	209.3	205.1	212.1
"K"	204.3	200.1	207.1

Section 2 Options

Codification table for voltages / Wire length / Manual operators / Electrical connections

VALVE CODE ➤ $-H\underset{1}{XX}\,\underset{2}{X}\,-\,\underset{3}{X}\,\underset{4}{XX}$

OPTIONS AVAILABLE FOR
- Solenoid valves 37 & 47 Series

OPTIONS

Back

1. VOLTAGE

-HXX X-X XX	VOLTAGE
	DC Options
DA	24 VDC (5.2 W)
DB	24 VDC (2.4 W)
DC	24 VDC (1.8 W)
DD	24 VDC (1.0 W)
DF	12 VDC (5.2 W)
DG	12 VDC (2.4 W)
DH	12 VDC (1.8 W)
DJ	12 VDC (1.0 W)
DL	120 VDC (6.3 W)
	AC Options (50/60hz)
AA	120 VAC (6.7 W)
AB	220 VAC (5.6 W)
AC	240 VAC (5.8 W)
AD	24 VAC (7.8 W)

Note : AC Voltages only available with "H" & "F" type connectors. MOD FWR2 must be used with the "F" type connectors.

2. WIRE LENGTH

-HXX X-X XX	WIRE LENGTH
O	No lead wire
A	45 cm
B	60 cm
C	90 cm
D	120 cm
E	180 cm
F	240 cm
G	305 cm
H	366 cm
P	Plug-in (used only with "F"type connector Opts.)

Use "O" with MJ & MM Opts.

3. MANUAL OPERATOR

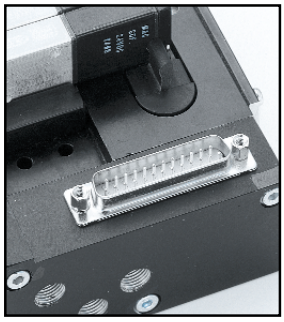
-HXX X-X XX	MANUAL OPERATOR
0	No operator
1	Non-locking recessed
2	Locking recessed
3	Non-locking extended
4	Locking extended

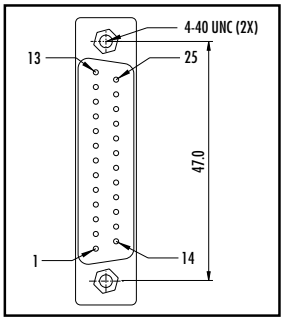
4. ELECTRICAL CONNECTION

-HXX X -X XX	ELECTRICAL CONNECTION
BA	Flying leads
BB	Flying leads with ground wire
BC	Flying leads with led light
BD	Flying leads with led light & ground wire
BE	Flying leads with suppression diode
BF	Flying leads with suppression diode & ground wire
BG	Flying leads with suppression diode plus led light
BH	Flying leads with suppression diode plus led light & ground wire
*BN	Flying leads with suppression diode plus blocking diode
*BP	Flying leads with suppression diode plus blocking diode & ground wire
*BR	Flying leads with suppression diode plus blocking diode & led light
*BS	Flying leads with suppression diode plus blocking diode & led light & ground wire
FA	Plug-in
FB	Plug-in with ground wire
FC	Plug-in with led light
FD	Plug-in with led light & ground wire
FE	Plug-in with suppression diode
FF	Plug-in with suppression diode & ground wire
FG	Plug-in with suppression diode plus led light
FH	Plug-in with suppression diode plus led light & ground wire
	Note : FA ---- FH options for use with ECD type circuit bars
HA	Circuit board plug-in with full wave rectifier & led light
HB	Circuit board with full wave rectifier & led with ground wire
HC	Same as "HA" without lead wires
HD	Same as "HB" without lead wires
HL	Circuit board plug-in with suppression diode plus blocking diode & led light
HN	Same as "HL" without lead wires
MA	Plug-in wire assembly
MB	Plug-in wire assembly with ground wire
MC	Plug-in wire assembly with led light
MD	Plug-in wire assembly led light & ground wire
ME	Plug-in wire assembly with suppression diode
MF	Plug-in wire assembly with suppression diode & ground wire
*MG	Plug-in wire assembly suppression diode plus led light
*MH	Plug-in wire assembly suppression diode plus led light & ground wire
*MN	Plug-in wire assembly with suppression diode plus blocking diode
*MP	Plug-in wire assembly with suppression diode plus blocking diode & ground wire
MR	Plug-in wire assembly with suppression diode plus blocking diode & led light
MS	Plug-in wire assembly with suppression diode plus blocking diode & led light & ground wire
MJ	Plug-in housing w/o wire assembly ("MA" option without wire assembly)
MM	Plug-in housing w/o wire assembly ("MB" option without wire assembly)

* Blocking diode is in lead wire.

Connector SUB_D 25 (option ZZZY = SUBY ; Y = cable length)

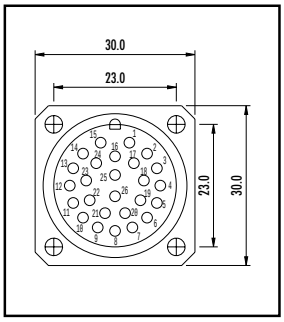




TECHNICAL DATA

- Type «SUB_D»
- Number of contacts : 25
- Solder termination (Dia. 0.6 mm/0.14 mm²/26-22 AWG)
- Operating current 5 A/contact
- Rated voltage 125 V~
- Temp. range –40° to +125°C
- Insulation resistance ≥ 10^{10} Ω
- Protection class IP40 (DIN 40050)
- Number of solenoids : 20 max.
- Max. 24 V=/5.4 W per solenoid
- 5 common wires
- Female plug supplied with circuit bar

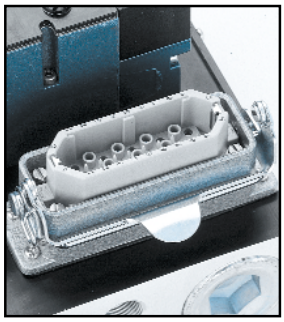
Connector RND (option ZZZY = RNDY ; Y = cable length)

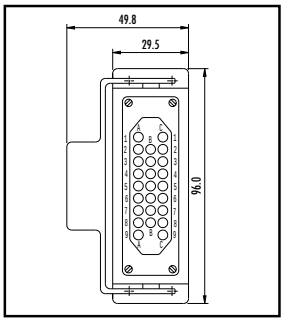


TECHNICAL DATA

- Type «Round connector»
- Number of contacts : 26
- Solder termination (Dia. 1 mm/1 mm²/17 AWG)
- Operating current 7.5 A/contact
- Rated voltage 250 V~
- Insulation resistance ≥ 10^{8} Ω
- Cable entry PG16
- Temp. range –40° to +125°C
- Protection class IP65 (DIN 40050)
- Number of solenoids : 24 max.
- 1 common and 1 ground
- All voltages
- Female plug supplied with circuit bar

Connector HDT (option ZZZY = HDTY ; Y = cable length)

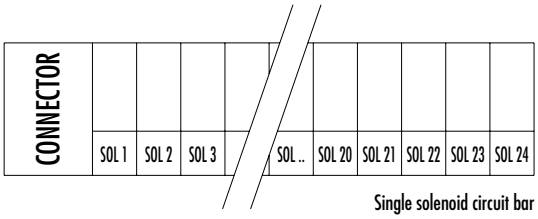




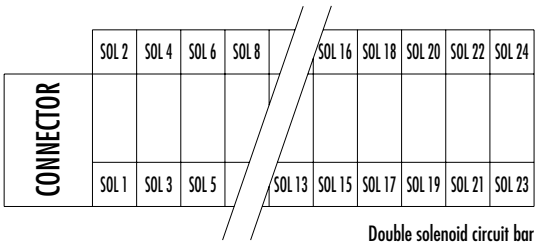
TECHNICAL DATA

- Type «Heavy duty»
- Number of contacts : 25
- Solder termination (Dia. 1.4 mm/0.75 mm²/18 AWG)
- Operating current 10 A/contact
- Rated voltage 250 V~
- Insulation resistance ≥ 10^{10} Ω
- Cable entry PG16
- Temp. range –40° to +125°C
- Protection class IP65 (DIN 40050)
- Number of solenoids : 24 max.
- 1 common and 1 ground
- All voltages
- Female plug supplied with circuit bar

Connector termination details



Single solenoid circuit bar

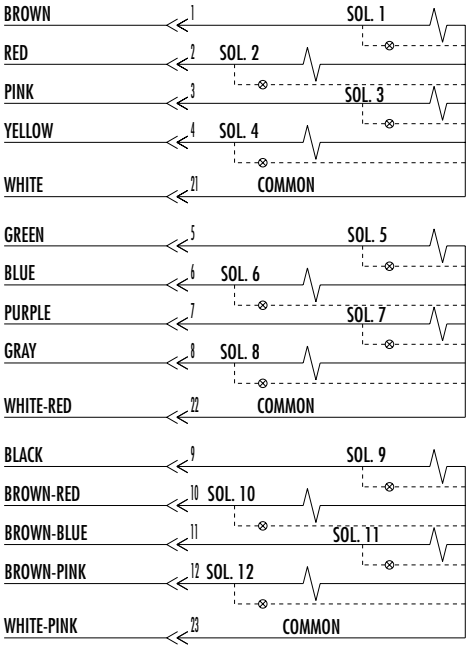


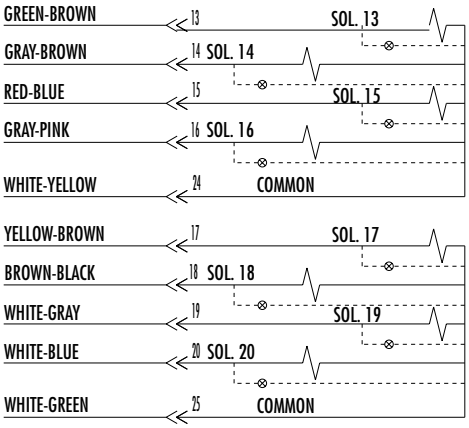
Double solenoid circuit bar

Connector SUB_D25 (option ZZZY = SUBY ; Y = cable length)

TECHNICAL DATA PREWIRED CABLE

- Type : LIYY -0.14 mm²
- Dia. ca. 9.3 mm
- Insulation resistance : 20 MΩ for 1000 meter
- Temp. range -5° to +80°C
- Rated voltage : 250 V~
- PVC core insulation and sheath

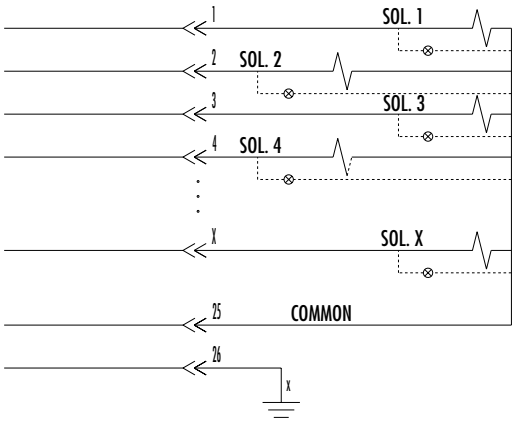




Connector RND [option ZZZY = SNDY ; Y = cable length]

TECHNICAL DATA PREWIRED CABLE

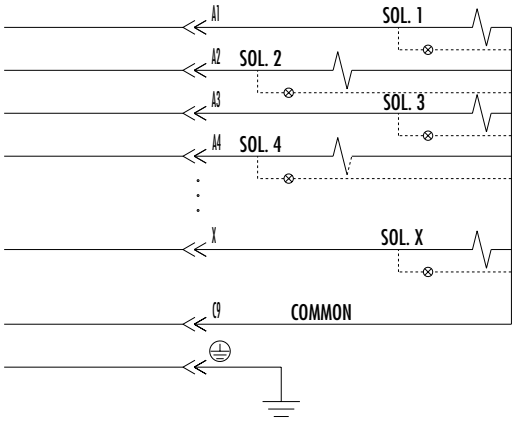
- Type : LIY(C)Y -0.50 mm²
- Dia. ca. 10.8 mm (12 core); 12.9 mm (18 core); 16.0 mm (32 core)
- Insulation resistance : 20 MΩ for 1000 meter
- Temp. range -5° to +80°C
- Rated voltage : 500 V~
- PVC core insulation and sheath
- Tinned copper wire braid



Connector HDT [option ZZZY = HDTY ; Y = cable length]

TECHNICAL DATA PREWIRED CABLE

- Type : LIY(C)Y -0.75 mm²
- Dia. ca. 12.0 mm (12 core); 13.5 mm (18 core); 18.0 mm (32 core)
- Insulation resistance : 20 MΩ for 1000 meter
- Temp. range -5° to +80°C
- Rated voltage : 500 V~
- PVC core insulation and sheath
- Tinned copper wire braid



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 ports are open to the exhaust port(s) of the valve. If having no air in either outlet port 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 ports 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 AND SERVICE PRECAUTIONS :

A. Do not install or service MAC valves without first making sure both the air and electrical power to the machine are off and that all air has been completely bled from the system.

B. MAC valves should only be installed and/or serviced 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 and graphic symbols. Do not install unless these symbols and the valve functions and operations are thoroughly understood.

C. Before service, maintenance, repair or cleaning, consult local distributor or factory for Parts & Operation Sheet and information on proper cleaning and lubrication agents. Do not subject MAC valves' parts to any foreign substance including lubricants and cleaning agents not specifically recommended by MAC valves, Inc.

D. 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 condition.

WARNING :

Under no circumstances are Mac valves to be used in any application where failure of the valve to operate as intended could jeopardize the safety of the operator or any other person.
- Do not operate outside of pressure range listed on valve label or outside of designated temperature range.
- Air supply must be clean. Contamination of valve can affect proper operation.
- Before attempting to repair, adjust or clean valve, consult catalog, parts & operation sheet, or factory for proper maintenance procedures, lubrication, and cleaning agents. Never attempt to repair or perform other maintenance with air pressure to valve.
- If airline lubrication is used, consult catalog, parts & operation sheet, or factory for recommended lubricants.

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

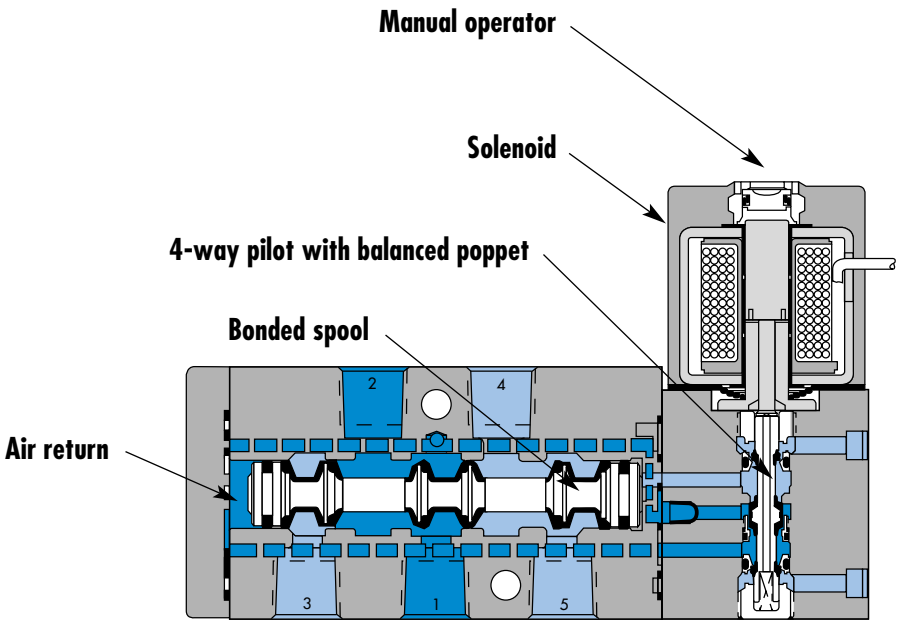
No claims for labor, material, time, damage, or transportation are allowable nor will any valve be replaced or rebuilt under this guarantee which has been damaged by the purchaser not in the normal course of its use and maintenance during the warranty period. The guarantee does not apply to loss or damage 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.

Circuit bar mounting

low profile cylinder ports in valve	low profile cylinder ports in base	mid profile cylinder ports in valve	mid profile - add on style cylinder ports in valve	add-a-unit stations for CBM403A bar	mid profile cylinder ports in base	mid profile - add on style cylinder ports in base	add-a-unit stations for CBM404A bar

high profile cylinder ports in base	high profile - add on style cylinder ports in base	add-a-unit stations for CBM405A bar



SERIES FEATURES

- Patented MACSOLENOID® for fastest possible response times and virtually burn-out proof AC solenoid operation.
- Optional low watt DC solenoids.
- Various manual operators.
- Optional memory spring.
- 2 position or 3 position valve configurations.
- Internal or external pilot.

MAC

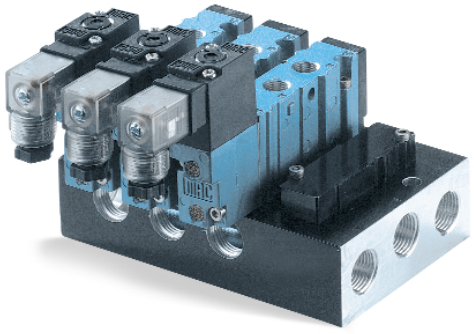
Series **400**

Function	Port size [BSPP]	Flow [Max]	Circuit bar mounting
5/2 - 5/3	**1/8" - 1/4"**	**1000 NL/min**	low profile cylinder ports in valve

OPERATIONAL BENEFITS

1. The 4-way pilot develops maximum shifting forces both ways.
2. Memory spring available.
3. Balanced spool, immune to variations of pressure, also provides high flow.
4. Short stroke with high flow.
5. Bonded spool with minimum friction, shifting in a glass-like finished bore.
6. Pilot with balanced poppet, high flow, short and consistent response times.
7. Wiping effect eliminates sticking.
8. Long service life.

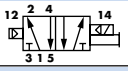
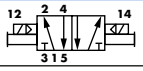
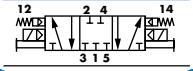
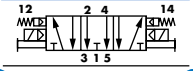
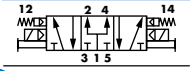
Reset



HOW TO ORDER

xxxx-xxx-DM-Dxxx-xxx

HOW TO ORDER VALVE FOR CIRCUIT BAR MOUNTING

Port size	Pilot air	5/2 Single operator	5/2 Double operator	5/3 Closed center	5/3 Open center	5/3 Pressure center
						
1/8" BSPP	Internal	○ 411A-COA-DM-D*xxx-xxx*	○ 421A-COA-DM-D*xxx-xxx*	○ 451A-COA-DM-D*xxx-xxx*	○ 461A-COA-DM-D*xxx-xxx*	○ 471A-COA-DM-D*xxx-xxx*
1/4" BSPP		○ 411A-DOA-DM-D*xxx-xxx*	○ 421A-DOA-DM-D*xxx-xxx*	○ 451A-DOA-DM-D*xxx-xxx*	○ 461A-DOA-DM-D*xxx-xxx*	○ 471A-DOA-DM-D*xxx-xxx*

SOLENOID OPERATOR ➤ D *XX X- X XX**

XX	Voltage
○ *JB*	240/60, 220/50
○ *JA*	120/60, 110/50
○ *JC*	24/60, 24/50
○ *FB*	24VDC (1.8 W)
○ *DA*	24VDC (5.4 W)
○ *DF*	24VDC (12.7 W)
○ *xx*	Other Options

X	Wire length
○ *A*	45 cm (Flying leads)
○ *J*	Connector
○ *x*	Other Options

X	Manual operator
○ *1*	Non-locking
○ *2*	Locking
○ *x*	Other Options

XX	Electrical connection
○ *KA*	Square connector
○ *KD*	Square connector with light
○ *JB*	Rectangular connector
○ *JD*	Rectangular connector with light
○ *BA*	Flying leads
○ *xx*	Other Options

HOW TO ORDER CIRCUIT BAR **

CBM401A-xxxxx-xx

Port size	Pilot air	Spacing standard 19,5 mm w/o flow controls	Spacing standard 19,5 mm w/ flow controls	Spacing 26 mm (Rectangular connector) w/o flow controls	Spacing 26 mm (Rectangular connector) w/ flow controls
3/8" BSPP	Internal	○ CBM401A-00AAB-*xx*	○ CBM401A-00BAB-*xx*	○ CBM401A-02AAB-*xx*	○ CBM401A-02BAB-*xx*

Number of stations (03=3 stations) ☐

** Other options available. Consult factory.

OPTIONS

411A-AOA-DM-D*xxx-xxx*

- ☐ clic with memory spring (replace by 4).

MAC

Series **400**

100% OF PRODUCTION TESTED 100%

WARRANTY 18 MONTHS

TECHNICAL DATA

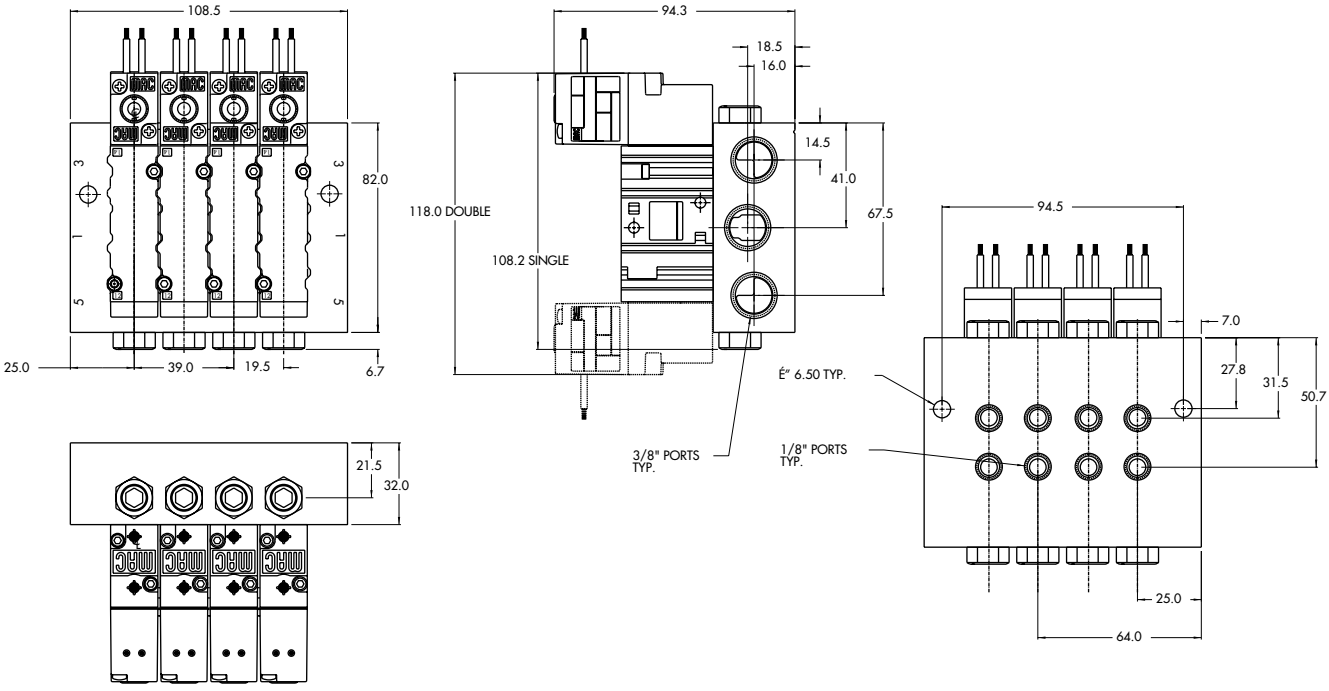
Fluid :	Compressed air, vacuum, inert gases		
Pressure range :	1.3 - 8.5 BAR		
Pilot pressure :	1.3 - 8.5 BAR		
Lubrication :	Not required, if used select a medium aniline point lubricant (between 80°C to 100°C)		
Filtration :	40 µ		
Temperature range :	0°F to 120°F (-18°C to +50°C)		
Orifice :	6.2 mm		
Flow :	1000 NL/min		
Leak rate :	50 cm^3/min		
Coil :	General purpose class A, continuous duty, encapsulated		
Voltage range :	-15% to +10% of nominal voltage		
Protection :	NEMA 4		
Power :	~ Inrush : 10.9 VA = 1.8 to 12.7 W	Holding : 7.7 VA	
Response times :	24 V=/5.4 W	Energize : 7.3 ms	De-energize : 5.3ms
	60Hz/6 W	Energize : 8-12 ms	De-energize : 7-11 ms

Spare parts : • Pilot valve : DM-DXXX-XXX-1, including mounting screws 35069 and seal 16524.

Accessories : • Blanking plate : M-04001. • Flow control (x2) : N-04001. • Seal (x2) : 17013-01, (x1) : 17015-01. • Mounting screw (x2) : 35043.

Options : • NPF threads. • Isolation of inlet and/or exhaust.

DIMENSIONS



Consult "Precautions" before use, installation or service of MAC Valves.

MAC

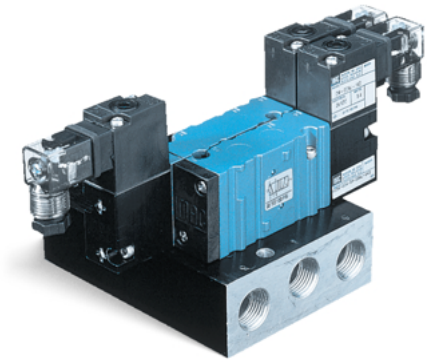
Series **400**

Function	Port size [BSPP]	Flow [Max]	Circuit bar mounting
5/2 - 5/3	**1/8"**	**1000 NL/min**	low profile cylinder ports in base

OPERATIONAL BENEFITS

1. The 4-way pilot develops maximum shifting forces both ways.
2. Memory spring available.
3. Balanced spool, immune to variations of pressure, also provides high flow.
4. Short stroke with high flow.
5. Bonded spool with minimum friction, shifting in a glass-like finished bore.
6. Pilot with balanced poppet, high flow, short and consistent response times.
7. Wiping effect eliminates sticking.
8. Long service life.

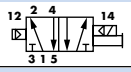
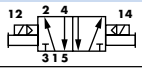
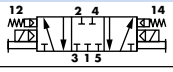
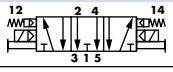
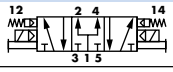
Reset



HOW TO ORDER

xxxx-xxx-DM-Dxxx-xxx

HOW TO ORDER VALVE FOR CIRCUIT BAR MOUNTING

Pilot air	5/2 Single operator	5/2 Double operator	5/3 Closed center	5/3 Open center	5/3 Pressure center
					
Internal	○ 413A-OOA-DM-D*XXX-XXX*	○ 423A-OOA-DM-D*XXX-XXX*	○ 453A-OOA-DM-D*XXX-XXX*	○ 463A-OOA-DM-D*XXX-XXX*	○ 473A-OOA-DM-D*XXX-XXX*

SOLENOID OPERATOR ➤

D *XX X- X XX**

XX	Voltage
○ *JB*	240/60, 220/50
○ *JA*	120/60, 110/50
○ *JC*	24/60, 24/50
○ *FB*	24VDC (1.8 W)
○ *DA*	24VDC (5.4 W)
○ *DF*	24VDC (12.7 W)
○ *xx*	Other Options

X	Wire length
○ *A*	45 cm (Flying leads)
○ *J*	Connector
○ *x*	Other Options

X	Manual operator
○ *1*	Non-locking
○ *2*	Locking
○ *x*	Other Options

XX	Electrical connection
○ *KA*	Square connector
○ *KD*	Square connector with light
○ *JB*	Rectangular connector
○ *JD*	Rectangular connector with light
○ *BA*	Flying leads
○ *xx*	Other Options

HOW TO ORDER CIRCUIT BAR (BOTTOM CYLINDER PORTS) **

CBM402A-xxxxx-xx

Port size	Pilot air	Spacing standard 19,5 mm w/o flow controls	Spacing standard 19,5 mm w/ flow controls	Spacing 26 mm (Rectangular connector) w/o flow controls	Spacing 26 mm (Rectangular connector) w/ flow controls
1/8" BSPP	Internal	○ CBM402A-00AAB-*XX*	○ CBM402A-00BAB-*XX*	○ CBM402A-02AAB-*XX*	○ CBM402A-02BAB-*XX*

Number of stations (03=3 stations) ☐

** Other options available. Consult factory.

OPTIONS

413A-OOA-DM-D*XXX-XXX*

- ☐ clic with memory spring (replace by 6).

MAC

Series **400**

100% OF PRODUCTION TESTED 100%

WARRANTY 18 MONTHS

TECHNICAL DATA

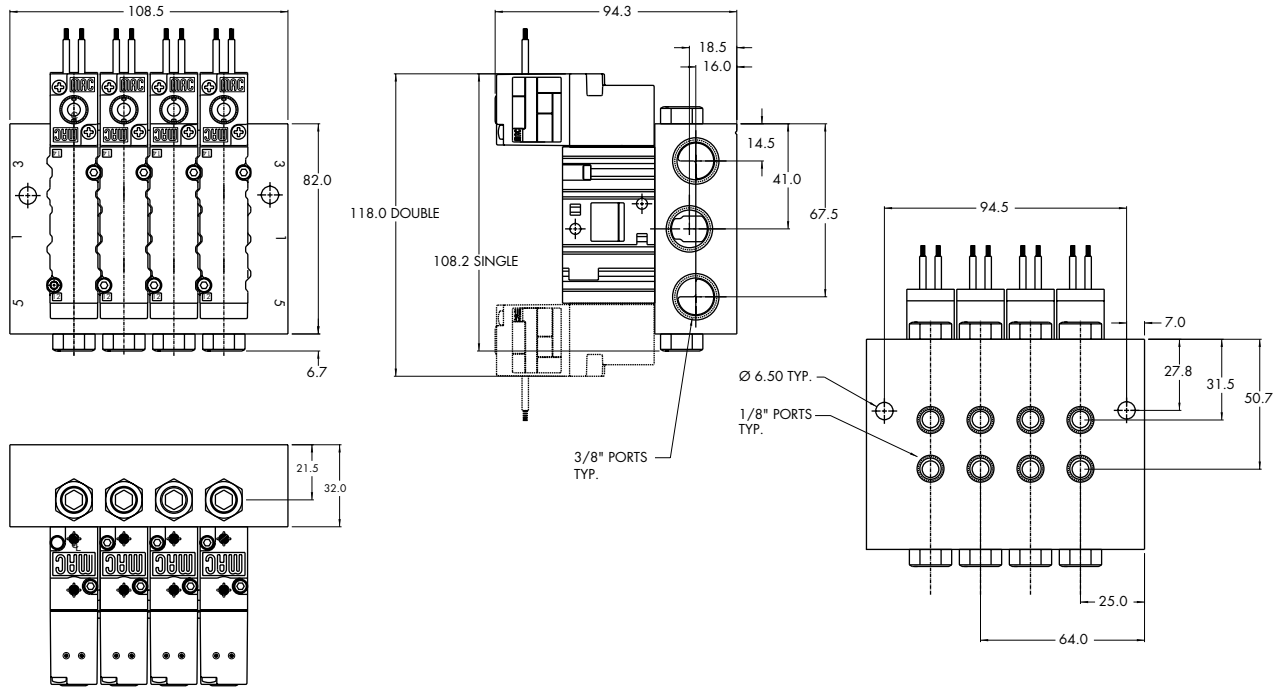
Fluid :	Compressed air, vacuum, inert gases		
Pressure range :	Internal pilot : 1.3 - 8.5 BAR External pilot : vacuum - 8.5 BAR		
Pilot pressure :	1.3 - 8.5 BAR		
Lubrication :	Not required, if used select a medium aniline point lubricant (between 80°C to 100°C)		
Filtration :	40 µ		
Temperature range :	0°F to 120°F (-18°C to +50°C)		
Orifice :	6.2 mm		
Flow :	1000 NL/min		
Leak rate :	50 cm^3/min		
Coil :	General purpose class A, continuous duty, encapsulated		
Voltage range :	-15% to +10% of nominal voltage		
Protection :	NEMA 4		
Power :	~ Inrush : 10.9 VA = 1.8 to 12.7 W	Holding : 7.7 VA	
Response times :	24 V=/5.4 W	Energize : 7.3 ms	De-energize : 5.3ms
	60Hz/6 W	Energize : 8-12 ms	De-energize : 7-11 ms

Spare parts : • Pilot valve : DM-DXXX-XXX-1, including mounting screws 35069 and seal 16524.

Accessories : • Blanking plate : M-04002. • Flow control (x2) : N-04001. • Seal : 16525. • Mounting screw (x2) : 35043.

Options : • NPTF threads. • Isolation of inlet and/or exhaust.

DIMENSIONS



MAC

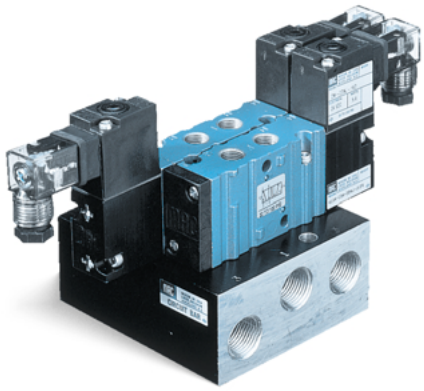
Series **400**

Function	Port size (BSPP)	Flow (Max)	Circuit bar mounting
5/2 - 5/3	**1/8" - 1/4"**	**1000 NL/min**	mid profile cylinder ports in valve

OPERATIONAL BENEFITS

1. The 4-way pilot develops maximum shifting forces both ways.
2. Memory spring available.
3. Balanced spool, immune to variations of pressure, also provides high flow.
4. Short stroke with high flow.
5. Bonded spool with minimum friction, shifting in a glass-like finished bore.
6. Pilot with balanced poppet, high flow, short and consistent response times.
7. Wiping effect eliminates sticking.
8. Long service life.

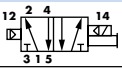
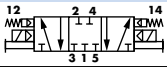
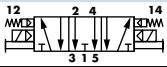
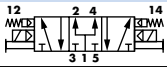
Reset



HOW TO ORDER

xxxx-xxx-DM-Dxxx-xxx

HOW TO ORDER VALVE FOR CIRCUIT BAR MOUNTING

Port size	Pilot air	5/2 Single operator	5/2 Double operator	5/3 Closed center	5/3 Open center	5/3 Pressure center
						
1/8" BSPP	Internal	○ 411A-COA-DM-D*xxx-xxx*	○ 421A-COA-DM-D*xxx-xxx*	○ 451A-COA-DM-D*xxx-xxx*	○ 461A-COA-DM-D*xxx-xxx*	○ 471A-COA-DM-D*xxx-xxx*
1/4" BSPP		○ 411A-DOA-DM-D*xxx-xxx*	○ 421A-DOA-DM-D*xxx-xxx*	○ 451A-DOA-DM-D*xxx-xxx*	○ 461A-DOA-DM-D*xxx-xxx*	○ 471A-DOA-DM-D*xxx-xxx*
1/8" BSPP	External	○ 411A-COD-DM-D*xxx-xxx*	○ 421A-COD-DM-D*xxx-xxx*	○ 451A-COD-DM-D*xxx-xxx*	○ 461A-COD-DM-D*xxx-xxx*	○ 471A-COD-DM-D*xxx-xxx*
1/4" BSPP		○ 411A-DOD-DM-D*xxx-xxx*	○ 421A-DOD-DM-D*xxx-xxx*	○ 451A-DOD-DM-D*xxx-xxx*	○ 461A-DOD-DM-D*xxx-xxx*	○ 471A-DOD-DM-D*xxx-xxx*

SOLENOID OPERATOR ➤

D ***XX X- X XX****

XX	Voltage
○ *JB*	240/60, 220/50
○ *JA*	120/60, 110/50
○ *JC*	24/60, 24/50
○ *FB*	24VDC (1.8 W)
○ *DA*	24VDC (5.4 W)
○ *DF*	24VDC (12.7 W)
○ *xx*	Other Options

X	Wire length
○ *A*	45 cm (Flying leads)
○ *J*	Connector
○ *x*	Other Options

X	Manual operator
○ *1*	Non-locking
○ *2*	Locking
○ *x*	Other Options

XX	Electrical connection
○ *KA*	Square connector
○ *KD*	Square connector with light
○ *JB*	Rectangular connector
○ *JD*	Rectangular connector with light
○ *BA*	Flying leads
○ *xx*	Other Options

CBM403A-xxxxx-xx

HOW TO ORDER CIRCUIT BAR **

Port size	Pilot air	Spacing standard 19,5 mm w/o flow controls	Spacing standard 19,5 mm w/ flow controls	Spacing 26 mm (Rectangular connector) w/o flow controls	Spacing 26 mm (Rectangular connector) w/ flow controls
3/8" BSPP	Internal	○ CBM403A-00AAB-*XX*	○ CBM403A-00BAB-*XX*	○ CBM403A-02AAB-*XX*	○ CBM403A-02BAB-*XX*
	Common external	○ CBM403A-00CAB-*XX*	○ CBM403A-00DAB-*XX*	○ CBM403A-02CAB-*XX*	○ CBM403A-02DAB-*XX*

Number of stations (03=3 stations) ☐

** Other options available. Consult factory.

OPTIONS

411A-AOA-DM-D*xxx-xxx*

- ☐ clic with memory spring (replace by 4).

MAC

Series **400**

100% OF PRODUCTION TESTED 100%

WARRANTY 18 MONTHS

TECHNICAL DATA

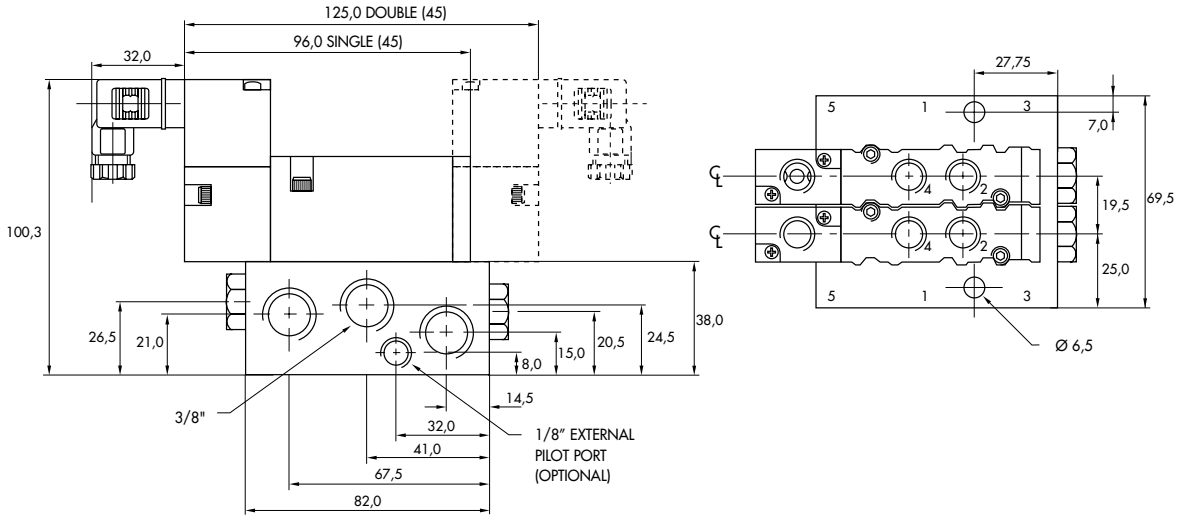
Fluid :	Compressed air, vacuum, inert gases		
Pressure range :	Internal pilot : 1.3 - 8.5 BAR External pilot : vacuum - 8.5 BAR		
Pilot pressure :	1.3 - 8.5 BAR		
Lubrication :	Not required, if used select a medium aniline point lubricant (between 80°C to 100°C)		
Filtration :	40 µ		
Temperature range :	0°F to 120°F (-18°C to +50°C)		
Orifice :	6.2 mm		
Flow :	1000 NL/min		
Leak rate :	50 cm^3/min		
Coil :	General purpose class A, continuous duty, encapsulated		
Voltage range :	-15% to +10% of nominal voltage		
Protection :	NEMA 4		
Power :	~ Inrush : 10.9 VA = 1.8 to 12.7 W	Holding : 7.7 VA	
Response times :	24 V=/5.4 W	Energize : 7.3 ms	De-energize : 5.3ms
	60Hz/6 W	Energize : 8-12 ms	De-energize : 7-11 ms

Spare parts : • Pilot valve : DM-DXXX-XXX-1, including mounting screws 35069 and seal 16524.

Accessories : • Blanking plate : M-04001. • Flow control (x2) : N-04001. • Seal (x2) : 17013-01, (x1) : 17015-01. • Mounting screw (x2) : 35043.

Options : • NPTF threads. • Isolation of inlet and/or exhaust.

DIMENSIONS



MAC

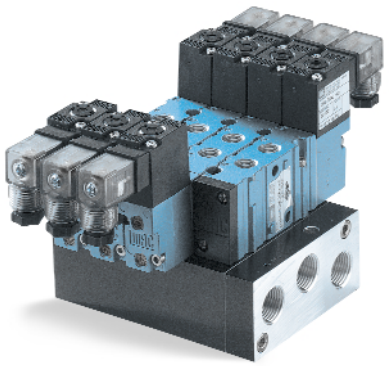
Series **400**

Function	Port size [BSPP]	Flow [Max]	Circuit bar mounting
5/2 - 5/3	**1/8" - 1/4"**	**1000 NL/min**	mid profile - add on style cylinder ports in valve

OPERATIONAL BENEFITS

1. The 4-way pilot develops maximum shifting forces both ways.
2. Memory spring available.
3. Balanced spool, immune to variations of pressure, also provides high flow.
4. Short stroke with high flow.
5. Bonded spool with minimum friction, shifting in a glass-like finished bore.
6. Pilot with balanced poppet, high flow, short and consistent response times.
7. Wiping effect eliminates sticking.
8. Long service life.

Reset



HOW TO ORDER

xxxx-xxx-DM-Dxxx-xxx

HOW TO ORDER VALVE FOR CIRCUIT BAR MOUNTING

Port size	Pilot air	5/2 Single operator	5/2 Double operator	5/3 Closed center	5/3 Open center	5/3 Pressure center
1/8" BSPP	Internal	○ 411A-COA-DM-D*xxx-xxx*	○ 421A-COA-DM-D*xxx-xxx*	○ 451A-COA-DM-D*xxx-xxx*	○ 461A-COA-DM-D*xxx-xxx*	○ 471A-COA-DM-D*xxx-xxx*
1/4" BSPP		○ 411A-DOA-DM-D*xxx-xxx*	○ 421A-DOA-DM-D*xxx-xxx*	○ 451A-DOA-DM-D*xxx-xxx*	○ 461A-DOA-DM-D*xxx-xxx*	○ 471A-DOA-DM-D*xxx-xxx*
1/8" BSPP	External	○ 411A-COD-DM-D*xxx-xxx*	○ 421A-COD-DM-D*xxx-xxx*	○ 451A-COD-DM-D*xxx-xxx*	○ 461A-COD-DM-D*xxx-xxx*	○ 471A-COD-DM-D*xxx-xxx*
1/4" BSPP		○ 411A-DOD-DM-D*xxx-xxx*	○ 421A-DOD-DM-D*xxx-xxx*	○ 451A-DOD-DM-D*xxx-xxx*	○ 461A-DOD-DM-D*xxx-xxx*	○ 471A-DOD-DM-D*xxx-xxx*

SOLENOID OPERATOR ➤

D *XX X- X XX**

XX	Voltage
○ *JB*	240/60, 220/50
○ *JA*	120/60, 110/50
○ *JC*	24/60, 24/50
○ *FB*	24VDC (1.8 W)
○ *DA*	24VDC (5.4 W)
○ *DF*	24VDC (12.7 W)
○ *xx*	Other Options

X	Wire length
○ *A*	45 cm (Flying leads)
○ *J*	Connector
○ *x*	Other Options

X	Manual operator
○ *1*	Non-locking
○ *2*	Locking
○ *x*	Other Options

XX	Electrical connection
○ *KA*	Square connector
○ *KD*	Square connector with light
○ *JB*	Rectangular connector
○ *JD*	Rectangular connector with light
○ *BA*	Flying leads
○ *xx*	Other Options

CBM403A-xxxxx-xx

HOW TO ORDER CIRCUIT BAR **

Port size	Pilot air	Spacing standard 19,5 mm w/o flow controls	Spacing standard 19,5 mm w/ flow controls	Spacing 26 mm (Rectangular connector) w/o flow controls	Spacing 26 mm (Rectangular connector) w/ flow controls
3/8" BSPP	Internal	○ CBM403A-00ABB-*XX*	○ CBM403A-00BBB-*XX*	○ CBM403A-02ABB-*XX*	○ CBM403A-02BBB-*XX*
	Common external	○ CBM403A-00CBB-*XX*	○ CBM403A-00DBB-*XX*	○ CBM403A-02CBB-*XX*	○ CBM403A-02DBB-*XX*

Number of stations (03=3 stations) ☐

** Other options available. Consult factory.

Note: add-a-unit stations may be added to above bars.

OPTIONS

411A-AOA-DM-D*xxx-xxx*

- ☐ clic with memory spring (replace by 4).

MAC

Series **400**

100% OF PRODUCTION TESTED 100%

WARRANTY 18 MONTHS

TECHNICAL DATA

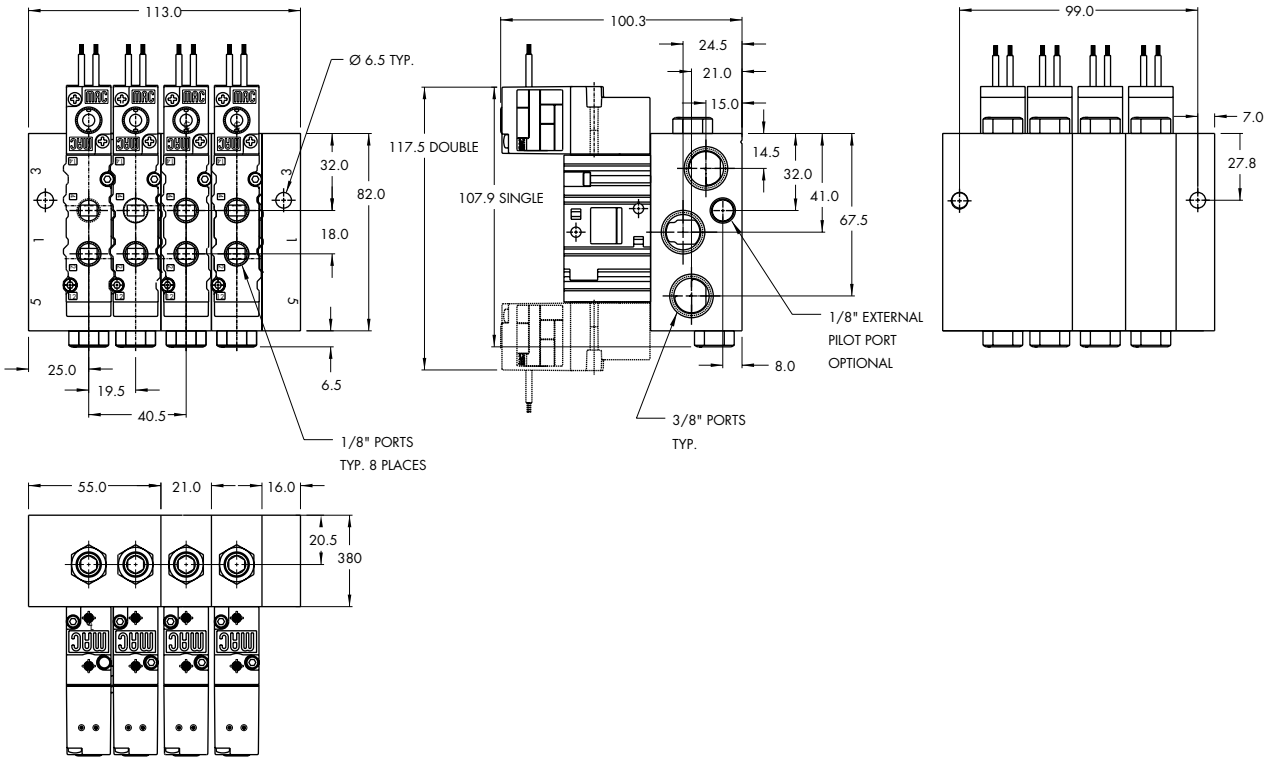
Fluid :	Compressed air, vacuum, inert gases		
Pressure range :	Internal pilot : 1.3 - 8.5 BAR External pilot : vacuum - 8.5 BAR		
Pilot pressure :	1.3 - 8.5 BAR		
Lubrication :	Not required, if used select a medium aniline point lubricant (between 80°C to 100°C)		
Filtration :	40 µ		
Temperature range :	0°F to 120°F (-18°C to +50°C)		
Orifice :	6.2 mm		
Flow :	1000 NL/min		
Leak rate :	50 cm^3/min		
Coil :	General purpose class A, continuous duty, encapsulated		
Voltage range :	-15% to +10% of nominal voltage		
Protection :	NEMA 4		
Power :	~ Inrush : 10.9 VA = 1.8 to 12.7 W	Holding : 7.7 VA	
Response times :	24 V=/5.4 W	Energize : 7.3 ms	De-energize : 5.3ms
	60Hz/6 W	Energize : 8-12 ms	De-energize : 7-11 ms

Spare parts : • Pilot valve : DM-DXXX-XXX-1, including mounting screws 35069 and seal 16524.

Accessories : • Blanking plate : M-04001. • Flow control (x2) : N-04001. • Seal (x2) : 17013-01, (x1) : 17015-01.
• Mounting screw (x2) : 35043. • End plate kit : M-04003-01. • End plate kit for common external : M-04004-01.

Options : • NPTF threads. • Isolation of inlet and/or exhaust.

DIMENSIONS



MAC

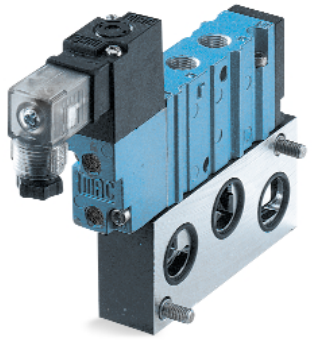
Series **400**

Function	Port size (BSPP)	Flow (Max)	Circuit bar mounting
5/2 - 5/3	**1/8" - 1/4"**	**1000 NL/min**	add-a-unit stations for CBM403A bar

OPERATIONAL BENEFITS

1. The 4-way pilot develops maximum shifting forces both ways.
2. Memory spring available.
3. Balanced spool, immune to variations of pressure, also provides high flow.
4. Short stroke with high flow.
5. Bonded spool with minimum friction, shifting in a glass-like finished bore.
6. Pilot with balanced poppet, high flow, short and consistent response times.
7. Wiping effect eliminates sticking.
8. Long service life.

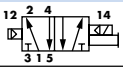
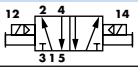
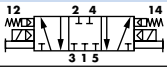
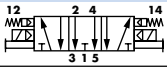
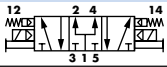
Reset



HOW TO ORDER

xxxx-xxx-DM-Dxxx-xxx

HOW TO ORDER VALVE FOR CIRCUIT BAR MOUNTING

Port size	Pilot air	5/2 Single operator	5/2 Double operator	5/3 Closed center	5/3 Open center	5/3 Pressure center
						
1/8" BSPP	Internal	○ 411A-COA-DM-D*xxx-xxx*	○ 421A-COA-DM-D*xxx-xxx*	○ 451A-COA-DM-D*xxx-xxx*	○ 461A-COA-DM-D*xxx-xxx*	○ 471A-COA-DM-D*xxx-xxx*
1/4" BSPP		○ 411A-DOA-DM-D*xxx-xxx*	○ 421A-DOA-DM-D*xxx-xxx*	○ 451A-DOA-DM-D*xxx-xxx*	○ 461A-DOA-DM-D*xxx-xxx*	○ 471A-DOA-DM-D*xxx-xxx*
1/8" BSPP	External	○ 411A-COD-DM-D*xxx-xxx*	○ 421A-COD-DM-D*xxx-xxx*	○ 451A-COD-DM-D*xxx-xxx*	○ 461A-COD-DM-D*xxx-xxx*	○ 471A-COD-DM-D*xxx-xxx*
1/4" BSPP		○ 411A-DOD-DM-D*xxx-xxx*	○ 421A-DOD-DM-D*xxx-xxx*	○ 451A-DOD-DM-D*xxx-xxx*	○ 461A-DOD-DM-D*xxx-xxx*	○ 471A-DOD-DM-D*xxx-xxx*

SOLENOID OPERATOR ➤

D ***XX X- X XX****

XX	Voltage
○ *JB*	240/60, 220/50
○ *JA*	120/60, 110/50
○ *JC*	24/60, 24/50
○ *FB*	24VDC (1.8 W)
○ *DA*	24VDC (5.4 W)
○ *DF*	24VDC (12.7 W)
○ *xx*	Other Options

X	Wire length
○ *A*	45 cm (Flying leads)
○ *J*	Connector
○ *x*	Other Options

X	Manual operator
○ *1*	Non-locking
○ *2*	Locking
○ *x*	Other Options

XX	Electrical connection
○ *KA*	Square connector
○ *KD*	Square connector with light
○ *JB*	Rectangular connector
○ *JD*	Rectangular connector with light
○ *BA*	Flying leads
○ *xx*	Other Options

CBM403A-xxxxx-xx

HOW TO ORDER CIRCUIT BAR **

Port size	Pilot air	Spacing 21 mm w/o flow controls	Spacing 21 mm w/ flow controls	Spacing 26 mm (Rectangular connector) w/o flow controls	Spacing 26 mm (Rectangular connector) w/ flow controls
3/8" BSPP	Internal	○ CBM403A-01AEB-*xx*	○ CBM403A-01BEB-*xx*	○ CBM403A-02AEB-*xx*	○ CBM403A-02BEB-*xx*
	Common external	○ CBM403A-01CEB-*xx*	○ CBM403A-01DEB-*xx*	○ CBM403A-02CEB-*xx*	○ CBM403A-02DEB-*xx*

Number of stations (01, 02, 03, or 04) ☐

** Other options available. Consult factory.

OPTIONS

411A-AOA-DM-D*xxx-xxx*

- ☐ clic with memory spring (replace by 4).

MAC

Series **400**

100% OF PRODUCTION TESTED 100%

WARRANTY 18 MONTHS

TECHNICAL DATA

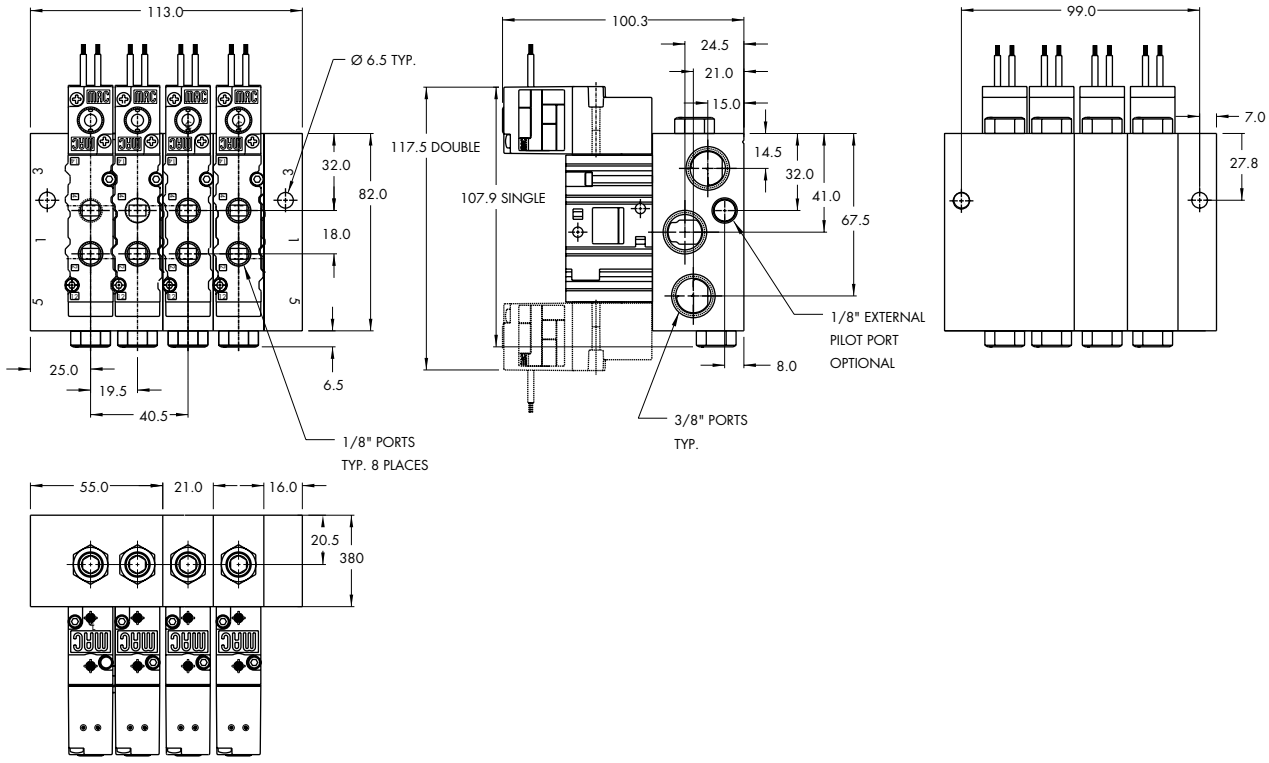
Fluid :	Compressed air, vacuum, inert gases		
Pressure range :	Internal pilot : 1.3 - 8.5 BAR External pilot : vacuum - 8.5 BAR		
Pilot pressure :	1.3 - 8.5 BAR		
Lubrication :	Not required, if used select a medium aniline point lubricant (between 80°C to 100°C)		
Filtration :	40 µ		
Temperature range :	0°F to 120°F (-18°C to +50°C)		
Orifice :	6.2 mm		
Flow :	1000 NL/min		
Leak rate :	50 cm^3/min		
Coil :	General purpose class A, continuous duty, encapsulated		
Voltage range :	-15% to +10% of nominal voltage		
Protection :	NEMA 4		
Power :	~ Inrush : 10.9 VA = 1.8 to 12.7 W	Holding : 7.7 VA	
Response times :	24 V=/5.4 W	Energize : 7.3 ms	De-energize : 5.3ms
	60Hz/6 W	Energize : 8-12 ms	De-energize : 7-11 ms

Spare parts : • Pilot valve : DM-DXXX-XXX-1, including mounting screws 35069 and seal 16524.

Accessories : • Blanking plate : M-04001. • Flow control (x2) : N-04001. • Seal (x2) : 17013-01, (x1) : 17015-01.
• Mounting screw (x2) : 35043. • End plate kit : M-04003-01. • End plate kit for common external : M-04004-01.

Options : • NPTF threads. • Isolation of inlet and/or exhaust.

DIMENSIONS



MAC

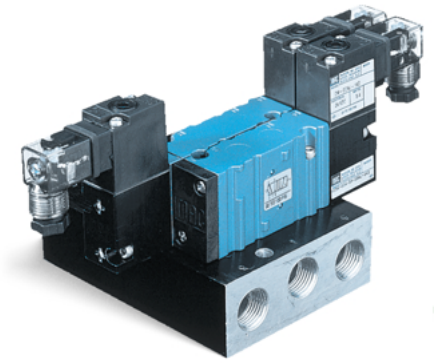
Series **400**

Function	Port size [BSPP]	Flow [Max]	Circuit bar mounting
5/2 - 5/3	**1/8" - 1/4"**	**1000 NL/min**	mid profile cylinder ports in base

OPERATIONAL BENEFITS

1. The 4-way pilot develops maximum shifting forces both ways.
2. Memory spring available.
3. Balanced spool, immune to variations of pressure, also provides high flow.
4. Short stroke with high flow.
5. Bonded spool with minimum friction, shifting in a glass-like finished bore.
6. Pilot with balanced poppet, high flow, short and consistent response times.
7. Wiping effect eliminates sticking.
8. Long service life.

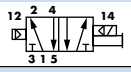
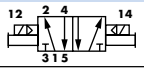
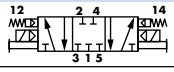
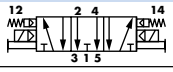
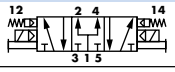
Reset



HOW TO ORDER

xxxx-xxx-DM-Dxxx-xxx

HOW TO ORDER VALVE FOR CIRCUIT BAR MOUNTING

Pilot air	5/2 Single operator	5/2 Double operator	5/3 Closed center	5/3 Open center	5/3 Pressure center
					
Internal	○ 413A-OOA-DM-D*XXX-XXX*	○ 423A-OOA-DM-D*XXX-XXX*	○ 453A-OOA-DM-D*XXX-XXX*	○ 463A-OOA-DM-D*XXX-XXX*	○ 473A-OOA-DM-D*XXX-XXX*

SOLENOID OPERATOR ➤ D *XX X- X XX**

XX	Voltage
○ *JB*	240/60, 220/50
○ *JA*	120/60, 110/50
○ *JC*	24/60, 24/50
○ *FB*	24VDC (1.8 W)
○ *DA*	24VDC (5.4 W)
○ *DF*	24VDC (12.7 W)
○ *xx*	Other Options

X	Wire length
○ *A*	45 cm (Flying leads)
○ *J*	Connector
○ *x*	Other Options

X	Manual operator
○ *1*	Non-locking
○ *2*	Locking
○ *x*	Other Options

XX	Electrical connection
○ *KA*	Square connector
○ *KD*	Square connector with light
○ *JB*	Rectangular connector
○ *JD*	Rectangular connector with light
○ *BA*	Flying leads
○ *xx*	Other Options

CBM404A-xxxxx-xx

HOW TO ORDER CIRCUIT BAR (BOTTOM CYLINDER PORTS) **

Port size	Pilot air	Spacing standard 19,5 mm w/o flow controls	Spacing standard 19,5 mm w/ flow controls	Spacing 26 mm (Rectangular connector) w/o flow controls	Spacing 26 mm (Rectangular connector) w/ flow controls
1/8" BSPP	Internal	○ CBM404A-00AAB-*XX*	○ CBM404A-00BAB-*XX*	○ CBM404A-02AAB-*XX*	○ CBM404A-02BAB-*XX*
1/4" BSPP	Internal	○ CBM404A-00AAE-*XX*	○ CBM404A-00BAE-*XX*	○ CBM404A-02AAE-*XX*	○ CBM404A-02BAE-*XX*

Number of stations (03=3 stations) ☐

** Other options available. Consult factory.

OPTIONS

413A-OOA-DM-D*XXX-XXX*

- ☐ clic with memory spring (replace by 6).

MAC

Series **400**

100% OF PRODUCTION TESTED 100%

WARRANTY 18 MONTHS

TECHNICAL DATA

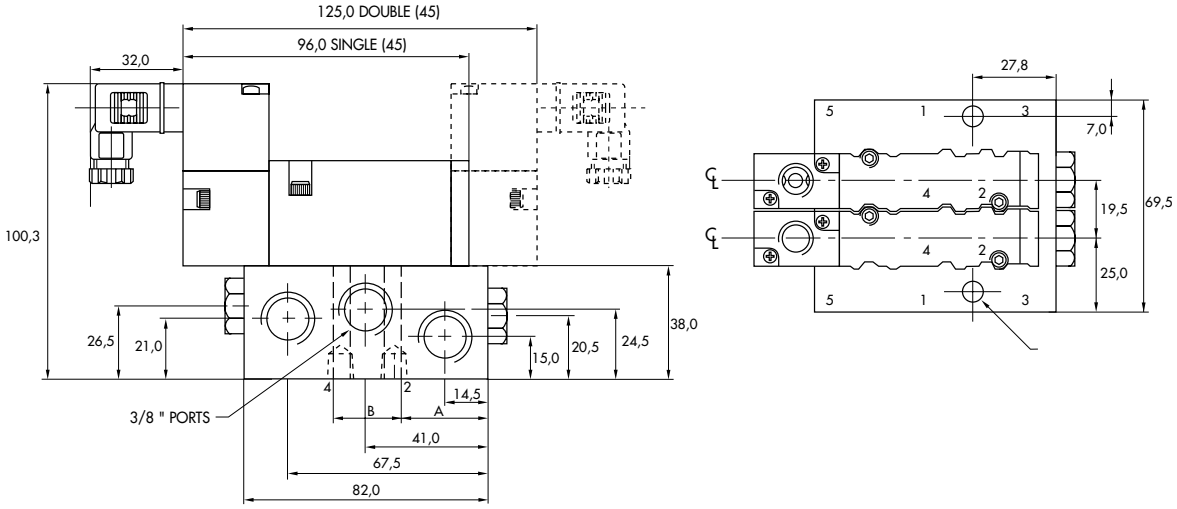
Fluid :	Compressed air, vacuum, inert gases		
Pressure range :	Internal pilot : 1.3 - 8.5 BAR External pilot : vacuum - 8.5 BAR		
Pilot pressure :	1.3 - 8.5 BAR		
Lubrication :	Not required, if used select a medium aniline point lubricant (between 80°C to 100°C)		
Filtration :	40 µ		
Temperature range :	0°F to 120°F (-18°C to +50°C)		
Orifice :	6.2 mm		
Flow :	1000 NL/min		
Leak rate :	50 cm^3/min		
Coil :	General purpose class A, continuous duty, encapsulated		
Voltage range :	-15% to +10% of nominal voltage		
Protection :	NEMA 4		
Power :	~ Inrush : 10.9 VA = 1.8 to 12.7 W	Holding : 7.7 VA	
Response times :	24 V=/5.4 W	Energize : 7.3 ms	De-energize : 5.3ms
	60Hz/6 W	Energize : 8-12 ms	De-energize : 7-11 ms

Spare parts : • Pilot valve : DM-DXXX-XXX-1, including mounting screws 35069 and seal 16524.

Accessories : • Blanking plate : M-04002. • Flow control (x2) : N-04001. • Seal : 16525.
• Mounting screw (x2) : 35043.

Options : • NPTF threads. • Isolation of inlet and/or exhaust.

DIMENSIONS



Port size	A	B
1/8"	31.5	19.0
1/4"	32.0	20.0

MAC

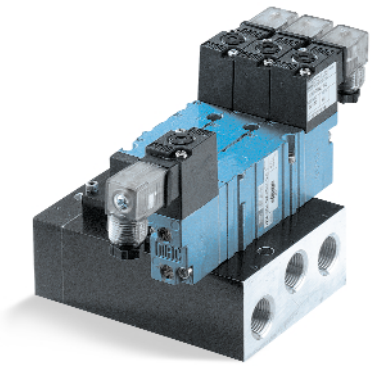
Series **400**

Function	Port size [BSPP]	Flow [Max]	Circuit bar mounting
5/2 - 5/3	**1/8" - 1/4"**	**1000 NL/min**	mid profile - add on style cylinder ports in base

OPERATIONAL BENEFITS

1. The 4-way pilot develops maximum shifting forces both ways.
2. Memory spring available.
3. Balanced spool, immune to variations of pressure, also provides high flow.
4. Short stroke with high flow.
5. Bonded spool with minimum friction, shifting in a glass-like finished bore.
6. Pilot with balanced poppet, high flow, short and consistent response times.
7. Wiping effect eliminates sticking.
8. Long service life.

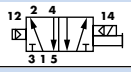
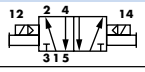
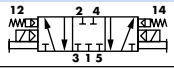
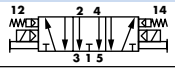
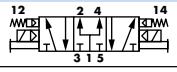
Reset



HOW TO ORDER

xxxx-xxx-DM-Dxxx-xxx

HOW TO ORDER VALVE FOR CIRCUIT BAR MOUNTING

Pilot air	5/2 Single operator	5/2 Double operator	5/3 Closed center	5/3 Open center	5/3 Pressure center
					
Internal	○ 413A-OOA-DM-D*XXX-XXX*	○ 423A-OOA-DM-D*XXX-XXX*	○ 453A-OOA-DM-D*XXX-XXX*	○ 463A-OOA-DM-D*XXX-XXX*	○ 473A-OOA-DM-D*XXX-XXX*

SOLENOID OPERATOR ➤ D *XX X- X XX**

XX	Voltage
○ *JB*	240/60, 220/50
○ *JA*	120/60, 110/50
○ *JC*	24/60, 24/50
○ *FB*	24VDC (1.8 W)
○ *DA*	24VDC (5.4 W)
○ *DF*	24VDC (12.7 W)
○ *xx*	Other Options

X	Wire length
○ *A*	45 cm (Flying leads)
○ *J*	Connector
○ *x*	Other Options

X	Manual operator
○ *1*	Non-locking
○ *2*	Locking
○ *x*	Other Options

XX	Electrical connection
○ *KA*	Square connector
○ *KD*	Square connector with light
○ *JB*	Rectangular connector
○ *JD*	Rectangular connector with light
○ *BA*	Flying leads
○ *xx*	Other Options

HOW TO ORDER CIRCUIT BAR (BOTTOM CYLINDER PORTS) **

CBM404A-xxxxx-xx

Port size	Pilot air	Spacing standard 19,5 mm w/o flow controls	Spacing standard 19,5 mm w/ flow controls	Spacing 26 mm (Rectangular connector) w/o flow controls	Spacing 26 mm (Rectangular connector) w/ flow controls
1/8" BSPP	Internal	○ CBM404A-00ABB-*XX*	○ CBM404A-00BBB-*XX*	○ CBM404A-02ABB-*XX*	○ CBM404A-02BBB-*XX*
1/4" BSPP	Internal	○ CBM404A-00ABE-*XX*	○ CBM404A-00BBE-*XX*	○ CBM404A-02ABE-*XX*	○ CBM404A-02BBE-*XX*

Number of stations (03=3 stations) ☐

** Other options available. Consult factory.

Note: add-a-unit stations may be added to above bars.

OPTIONS

413A-OOA-DM-D*XXX-XXX*

- ☐ clic with memory spring, replace by 6.

MAC

Series **400**

100% OF PRODUCTION TESTED 100%

WARRANTY 18 MONTHS

TECHNICAL DATA

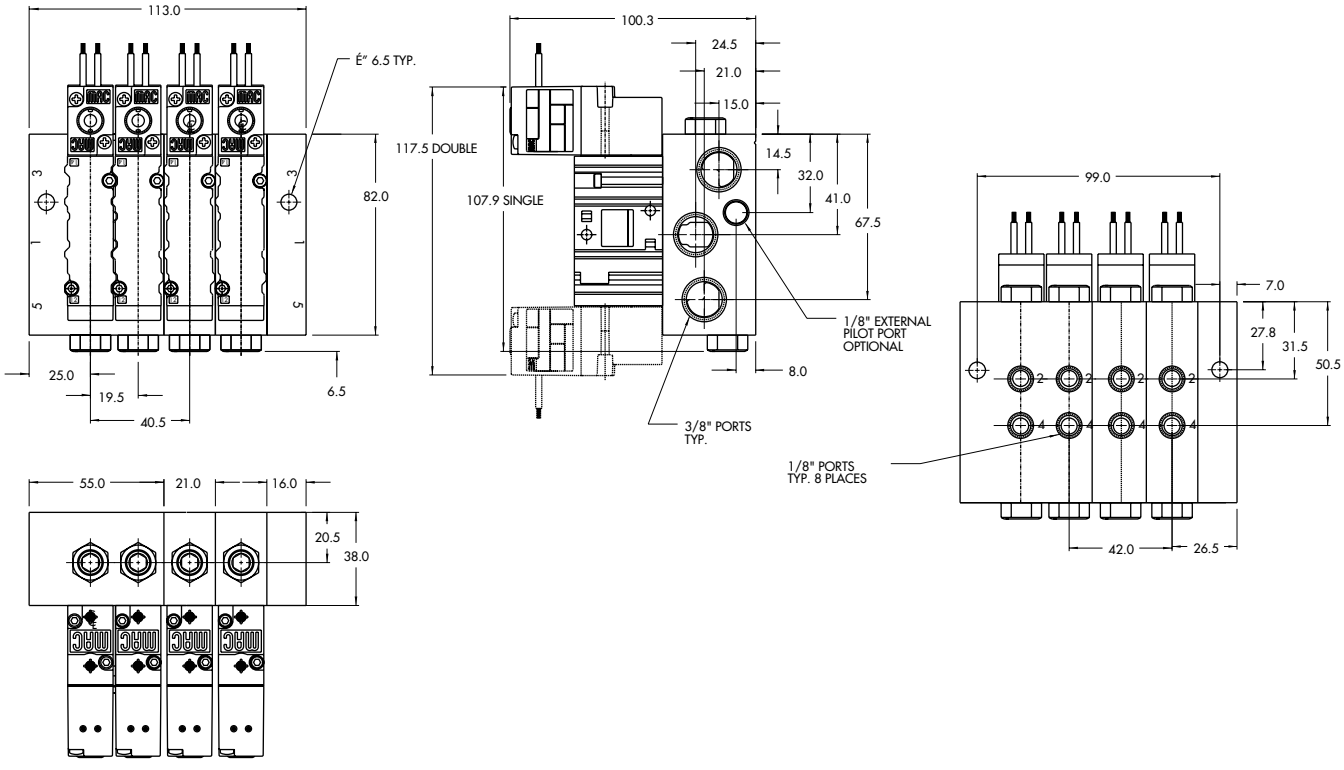
Fluid :	Compressed air, vacuum, inert gases		
Pressure range :	Internal pilot : 1.3 - 8.5 BAR External pilot : vacuum - 8.5 BAR		
Pilot pressure :	1.3 - 8.5 BAR		
Lubrication :	Not required, if used select a medium aniline point lubricant (between 80°C to 100°C)		
Filtration :	40 µ		
Temperature range :	0°F to 120°F (-18°C to +50°C)		
Orifice :	6.2 mm		
Flow :	1000 NL/min		
Leak rate :	50 cm^3/min		
Coil :	General purpose class A, continuous duty, encapsulated		
Voltage range :	-15% to +10% of nominal voltage		
Protection :	NEMA 4		
Power :	~ Inrush : 10.9 VA = 1.8 to 12.7 W	Holding : 7.7 VA	
Response times :	24 V=/5.4 W	Energize : 7.3 ms	De-energize : 5.3ms
	60Hz/6 W	Energize : 8-12 ms	De-energize : 7-11 ms

Spare parts : • Pilot valve : DM-DXXX-XXX-1, including mounting screws 35069 and seal 16524.

Accessories : • Blanking plate : M-04002. • Flow control (x2) : N-04001. • Seal : 16525.
• Mounting screw (x2) : 35043. • End plate kit : M-04003-01.

Options : • NPTF threads. • Isolation of inlet and/or exhaust.

DIMENSIONS



MAC

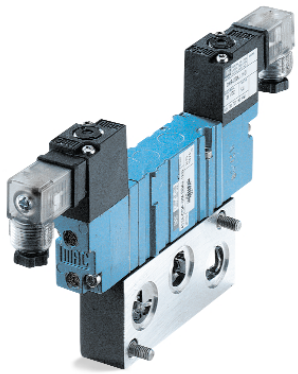
Series **400**

Function	Port size [BSPP]	Flow [Max]	Circuit bar mounting
5/2 - 5/3	**1/8" - 1/4"**	**1000 NL/min**	add-a-unit stations for CBM404A bar

OPERATIONAL BENEFITS

1. The 4-way pilot develops maximum shifting forces both ways.
2. Memory spring available.
3. Balanced spool, immune to variations of pressure, also provides high flow.
4. Short stroke with high flow.
5. Bonded spool with minimum friction, shifting in a glass-like finished bore.
6. Pilot with balanced poppet, high flow, short and consistent response times.
7. Wiping effect eliminates sticking.
8. Long service life.

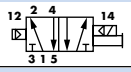
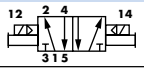
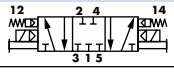
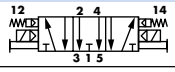
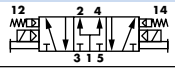
Reset



HOW TO ORDER

xxxx-xxx-DM-Dxxx-xxx

HOW TO ORDER VALVE FOR CIRCUIT BAR MOUNTING

Pilot air	5/2 Single operator	5/2 Double operator	5/3 Closed center	5/3 Open center	5/3 Pressure center
					
Internal	○ 413A-OOA-DM-D*XXX-XXX*	○ 423A-OOA-DM-D*XXX-XXX*	○ 453A-OOA-DM-D*XXX-XXX*	○ 463A-OOA-DM-D*XXX-XXX*	○ 473A-OOA-DM-D*XXX-XXX*

SOLENOID OPERATOR ➤ D *XX X- X XX**

XX	Voltage
○ *JB*	240/60, 220/50
○ *JA*	120/60, 110/50
○ *JC*	24/60, 24/50
○ *FB*	24VDC (1.8 W)
○ *DA*	24VDC (5.4 W)
○ *DF*	24VDC (12.7 W)
○ *xx*	Other Options

X	Wire length
○ *A*	45 cm (Flying leads)
○ *J*	Connector
○ *x*	Other Options

X	Manual operator
○ *1*	Non-locking
○ *2*	Locking
○ *x*	Other Options

XX	Electrical connection
○ *KA*	Square connector
○ *KD*	Square connector with light
○ *JB*	Rectangular connector
○ *JD*	Rectangular connector with light
○ *BA*	Flying leads
○ *xx*	Other Options

CBM404A-xxxxx-xx

HOW TO ORDER CIRCUIT BAR (BOTTOM CYLINDER PORTS) **

Port size	Pilot air	Spacing 21 mm w/o flow controls	Spacing 21 mm w/ flow controls	Spacing 26 mm (Rectangular connector) w/o flow controls	Spacing 26 mm (Rectangular connector) w/ flow controls
1/8" BSPP	Internal	○ CBM404A-01AEB-*XX*	○ CBM404A-01BEB-*XX*	○ CBM404A-02AEB-*XX*	○ CBM404A-02BEB-*XX*
1/4" BSPP	Internal	○ CBM404A-01AEE-*XX*	○ CBM404A-01BEE-*XX*	○ CBM404A-02AEE-*XX*	○ CBM404A-02BEE-*XX*

Number of stations (01, 02, 03, or 04) ☐

** Other options available. Consult factory.

OPTIONS

413A-OOA-DM-D*XXX-XXX*

- ☐ clic with memory spring (replace by 6).

MAC

Series **400**

100% OF PRODUCTION TESTED 100%

WARRANTY 18 MONTHS

TECHNICAL DATA

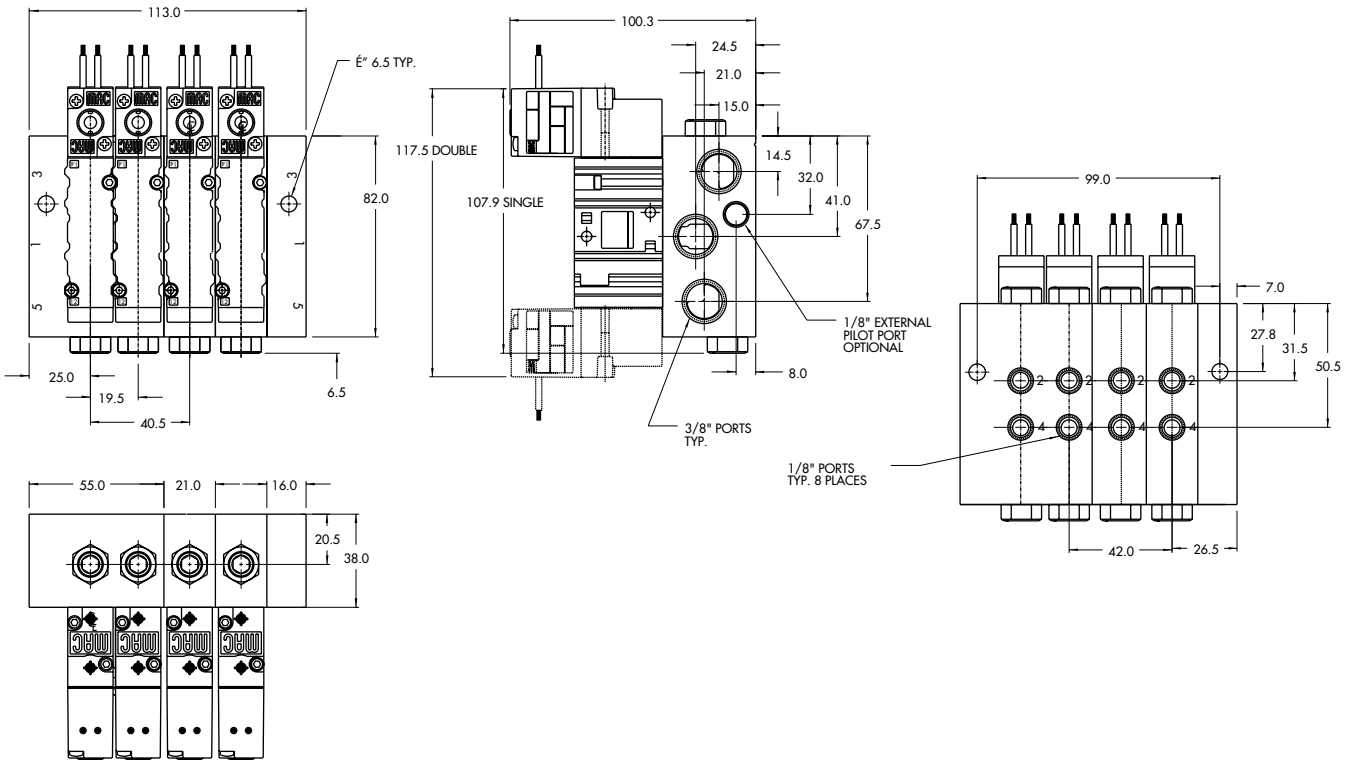
Fluid :	Compressed air, vacuum, inert gases		
Pressure range :	Internal pilot : 1.3 - 8.5 BAR External pilot : vacuum - 8.5 BAR		
Pilot pressure :	1.3 - 8.5 BAR		
Lubrication :	Not required, if used select a medium aniline point lubricant (between 80°C to 100°C)		
Filtration :	40 µ		
Temperature range :	0°F to 120°F (-18°C to +50°C)		
Orifice :	6.2 mm		
Flow :	1000 NL/min		
Leak rate :	50 cm^3/min		
Coil :	General purpose class A, continuous duty, encapsulated		
Voltage range :	-15% to +10% of nominal voltage		
Protection :	NEMA 4		
Power :	~ Inrush : 10.9 VA = 1.8 to 12.7 W	Holding : 7.7 VA	
Response times :	24 V=/5.4 W	Energize : 7.3 ms	De-energize : 5.3ms
	60Hz/6 W	Energize : 8-12 ms	De-energize : 7-11 ms

Spare parts : • Pilot valve : DM-DXXX-XXX-1, including mounting screws 35069 and seal 16524.

Accessories : • Blanking plate : M-04002. • Flow control (x2) : N-04001. • Seal : 16525.
• Mounting screw (x2) : 35043. • End plate kit : M-04003-01.

Options : • NPTF threads. • Isolation of inlet and/or exhaust.

DIMENSIONS



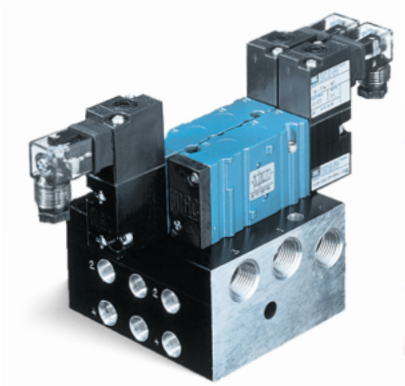
MAC

Series **400**

Function	Port size [BSPP]	Flow [Max]	Circuit bar mounting
5/2 - 5/3	**1/8" - 1/4"**	**1000 NL/min**	high profile cylinder ports in base

OPERATIONAL BENEFITS

1. The 4-way pilot develops maximum shifting forces both ways.
2. Memory spring available.
3. Balanced spool, immune to variations of pressure, also provides high flow.
4. Short stroke with high flow.
5. Bonded spool with minimum friction, shifting in a glass-like finished bore.
6. Pilot with balanced poppet, high flow, short and consistent response times.
7. Wiping effect eliminates sticking.
8. Long service life.

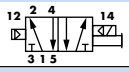
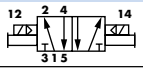
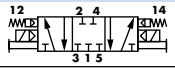
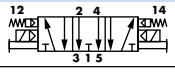
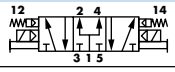


Reset

HOW TO ORDER

xxxx-xxx-DM-Dxxx-xxx

HOW TO ORDER VALVE FOR CIRCUIT BAR MOUNTING

Pilot air	5/2 Single operator	5/2 Double operator	5/3 Closed center	5/3 Open center	5/3 Pressure center
					
Internal	○ 413A-OOA-DM-D*xxx-xxx*	○ 423A-OOA-DM-D*xxx-xxx*	○ 453A-OOA-DM-D*xxx-xxx*	○ 463A-OOA-DM-D*xxx-xxx*	○ 473A-OOA-DM-D*xxx-xxx*
External	○ 413A-OOD-DM-D*xxx-xxx*	○ 423A-OOD-DM-D*xxx-xxx*	○ 453A-OOD-DM-D*xxx-xxx*	○ 463A-OOD-DM-D*xxx-xxx*	○ 473A-OOD-DM-D*xxx-xxx*

SOLENOID OPERATOR ➤ D *XX X- X XX**

XX	Voltage
○ *JB*	240/60, 220/50
○ *JA*	120/60, 110/50
○ *JC*	24/60, 24/50
○ *FB*	24VDC (1.8 W)
○ *DA*	24VDC (5.4 W)
○ *DF*	24VDC (12.7 W)
○ *xx*	Other Options

X	Wire length
○ *A*	45 cm (Flying leads)
○ *J*	Connector
○ *x*	Other Options

X	Manual operator
○ *1*	Non-locking
○ *2*	Locking
○ *x*	Other Options

XX	Electrical connection
○ *KA*	Square connector
○ *KD*	Square connector with light
○ *JB*	Rectangular connector
○ *JD*	Rectangular connector with light
○ *BA*	Flying leads
○ *xx*	Other Options

HOW TO ORDER CIRCUIT BAR (SIDE CYLINDER PORTS) **

CBM405A-xxxxx-xx

Port size	Pilot air	Spacing standard 19,5 mm	Spacing 26 mm (Rectangular connector)
1/8" BSPP	Internal	○ CBM405A-00AAB-*xx*	○ CBM405A-02AAB-*xx*
	Common external	○ CBM405A-00BAB-*xx*	○ CBM405A-02BAB-*xx*
1/4" BSPP	Internal	○ CBM405A-00AAE-*xx*	○ CBM405A-02AAE-*xx*
	Common external	○ CBM405A-00BAE-*xx*	○ CBM405A-02BAE-*xx*

Number of stations (03=3 stations) ☐

** Other options available. Consult factory.

OPTIONS

413A-OOA-DM-D*xxx-xxx*

- ☐ clic with memory spring (replace by 6).

MAC

Series **400**

100% OF PRODUCTION TESTED 100%

WARRANTY 18 MONTHS

TECHNICAL DATA

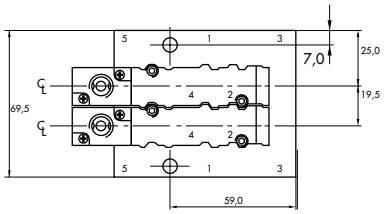
Fluid :	Compressed air, vacuum, inert gases		
Pressure range :	Internal pilot : 1.3 - 8.5 BAR External pilot : vacuum - 8.5 BAR		
Pilot pressure :	1.3 - 8.5 BAR		
Lubrication :	Not required, if used select a medium aniline point lubricant (between 80°C to 100°C)		
Filtration :	40 µ		
Temperature range :	0°F to 120°F (-18°C to +50°C)		
Orifice :	6.2 mm		
Flow :	1000 NL/min		
Leak rate :	50 cm^3/min		
Coil :	General purpose class A, continuous duty, encapsulated		
Voltage range :	-15% to +10% of nominal voltage		
Protection :	NEMA 4		
Power :	~ Inrush : 10.9 VA = 1.8 to 12.7 W	Holding : 7.7 VA	
Response times :	24 V=/5.4 W	Energize : 7.3 ms	De-energize : 5.3ms
	60Hz/6 W	Energize : 8-12 ms	De-energize : 7-11 ms

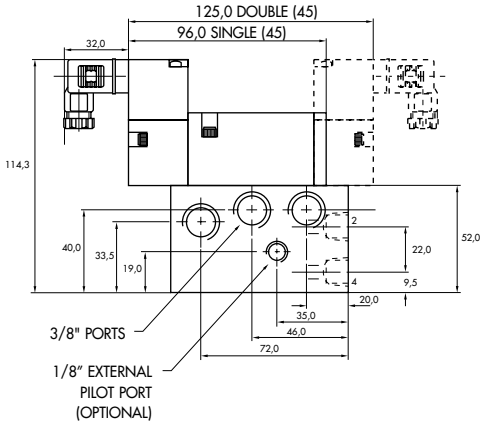
Spare parts : • Pilot valve : DM-DXXX-XXX-1, including mounting screws 35069 and seal 16524.

Accessories : • Blanking plate : M-04002. • Seal : 16525. • Mounting screw (x2) : 35043.

Options : • NPTF threads. • Isolation of inlet and/or exhaust.

DIMENSIONS





MAC

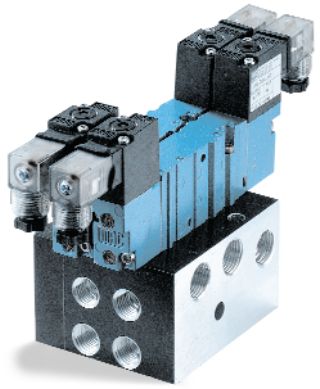
Series **400**

Function	Port size (BSPP)	Flow (Max)	Circuit bar mounting
5/2 - 5/3	**1/8" - 1/4"**	**1000 NL/min**	high profile - add on style cylinder ports in base

OPERATIONAL BENEFITS

1. The 4-way pilot develops maximum shifting forces both ways.
2. Memory spring available.
3. Balanced spool, immune to variations of pressure, also provides high flow.
4. Short stroke with high flow.
5. Bonded spool with minimum friction, shifting in a glass-like finished bore.
6. Pilot with balanced poppet, high flow, short and consistent response times.
7. Wiping effect eliminates sticking.
8. Long service life.

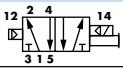
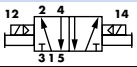
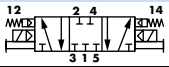
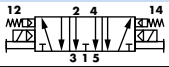
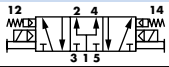
Reset



HOW TO ORDER

xxxx-xxx-DM-Dxxx-xxx

HOW TO ORDER VALVE FOR CIRCUIT BAR MOUNTING

Pilot air	5/2 Single operator	5/2 Double operator	5/3 Closed center	5/3 Open center	5/3 Pressure center
					
Internal	○ 413A-OOA-DM-D*xxx-xxx*	○ 423A-OOA-DM-D*xxx-xxx*	○ 453A-OOA-DM-D*xxx-xxx*	○ 463A-OOA-DM-D*xxx-xxx*	○ 473A-OOA-DM-D*xxx-xxx*
External	○ 413A-OOD-DM-D*xxx-xxx*	○ 423A-OOD-DM-D*xxx-xxx*	○ 453A-OOD-DM-D*xxx-xxx*	○ 463A-OOD-DM-D*xxx-xxx*	○ 473A-OOD-DM-D*xxx-xxx*

SOLENOID OPERATOR ➤ D *XX X- X XX**

XX	Voltage
○ *JB*	240/60, 220/50
○ *JA*	120/60, 110/50
○ *JC*	24/60, 24/50
○ *FB*	24VDC (1.8 W)
○ *DA*	24VDC (5.4 W)
○ *DF*	24VDC (12.7 W)
○ *xx*	Other Options

X	Wire length
○ *A*	45 cm (Flying leads)
○ *J*	Connector
○ *x*	Other Options

X	Manual operator
○ *1*	Non-locking
○ *2*	Locking
○ *x*	Other Options

XX	Electrical connection
○ *KA*	Square connector
○ *KD*	Square connector with light
○ *JB*	Rectangular connector
○ *JD*	Rectangular connector with light
○ *BA*	Flying leads
○ *xx*	Other Options

CBM405A-xxxxx-xx

HOW TO ORDER CIRCUIT BAR (SIDE CYLINDER PORTS) **

Port size	Pilot air	Spacing standard 19,5 mm	Spacing 26 mm (Rectangular connector)
1/8" BSPP	Internal	○ CBM405A-00ABB-*xx*	○ CBM405A-02ABB-*xx*
	Common external	○ CBM405A-00BCB-*xx*	○ CBM405A-02BCB-*xx*
1/4" BSPP	Internal	○ CBM405A-00ABE-*xx*	○ CBM405A-02ABE-*xx*
	Common external	○ CBM405A-00BCE-*xx*	○ CBM405A-02BCE-*xx*

Number of stations (03=3 stations) ☐
** Other options available. Consult factory.
Note: add-a-unit stations may be added to above bars.

OPTIONS

413A-OOA-DM-D*xxx-xxx*

- ☐ clic with memory spring (replace by 6).

Series **400**

100% OF PRODUCTION TESTED 100%

WARRANTY 18 MONTHS

TECHNICAL DATA

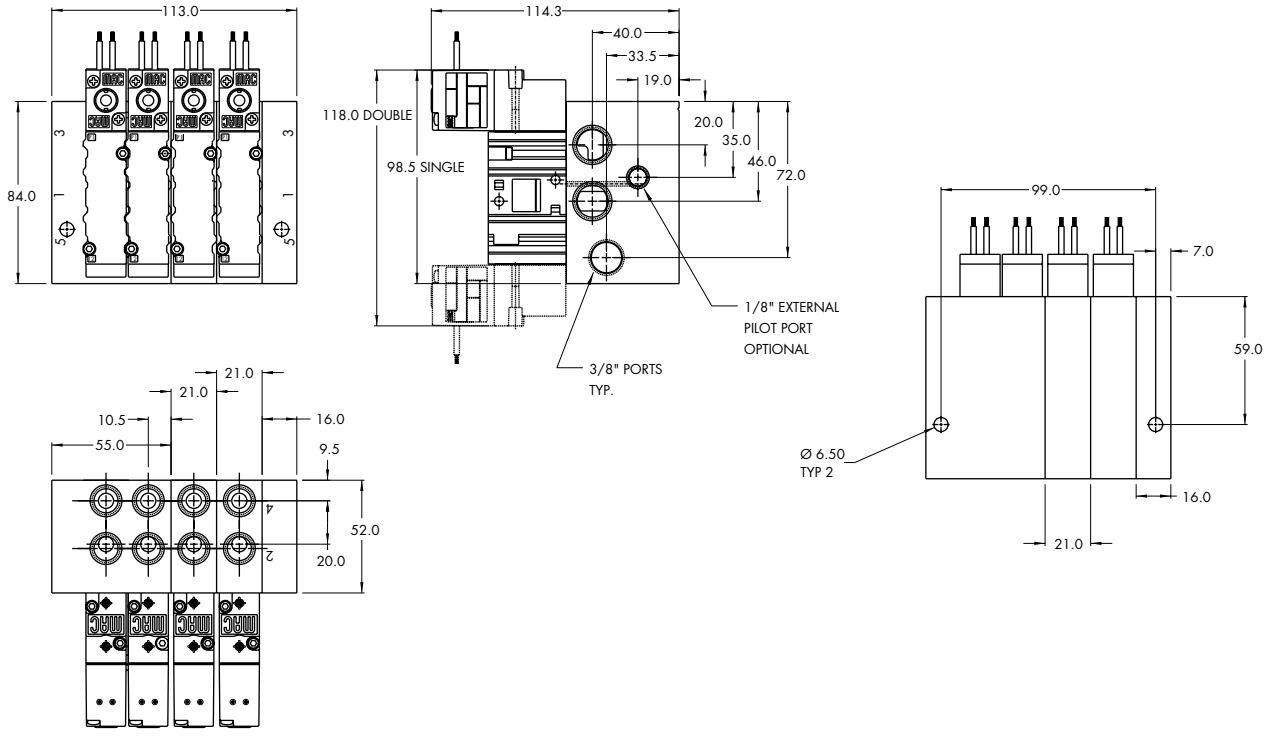
Fluid :	Compressed air, vacuum, inert gases		
Pressure range :	Internal pilot : 1.3 - 8.5 BAR External pilot : vacuum - 8.5 BAR		
Pilot pressure :	1.3 - 8.5 BAR		
Lubrication :	Not required, if used select a medium aniline point lubricant (between 80°C to 100°C)		
Filtration :	40 µ		
Temperature range :	0°F to 120°F (-18°C to +50°C)		
Orifice :	6.2 mm		
Flow :	1000 NL/min		
Leak rate :	50 cm^3/min		
Coil :	General purpose class A, continuous duty, encapsulated		
Voltage range :	-15% to +10% of nominal voltage		
Protection :	NEMA 4		
Power :	~ Inrush : 10.9 VA = 1.8 to 12.7 W	Holding : 7.7 VA	
Response times :	24 V=/5.4 W	Energize : 7.3 ms	De-energize : 5.3ms
	60Hz/6 W	Energize : 8-12 ms	De-energize : 7-11 ms

Spare parts : • Pilot valve : DM-DXXX-XXX-1, including mounting screws 35069 and seal 16524.

Accessories : • Blanking plate : M-04002. • Seal : 16525. • Mounting screw (x2) : 35043.
• End plate kit : M-04005-01. • End plate kit for common external pilot : M-04006-01.

Options : • NPTF threads. • Isolation of inlet and/or exhaust.

DIMENSIONS



MAC

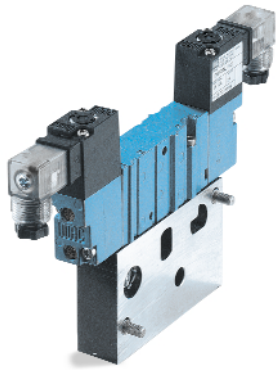
Series **400**

Function	Port size [BSPP]	Flow [Max]	Circuit bar mounting
5/2 - 5/3	**1/8" - 1/4"**	**1000 NL/min**	add-a-unit stations for CBM405A bar

OPERATIONAL BENEFITS

1. The 4-way pilot develops maximum shifting forces both ways.
2. Memory spring available.
3. Balanced spool, immune to variations of pressure, also provides high flow.
4. Short stroke with high flow.
5. Bonded spool with minimum friction, shifting in a glass-like finished bore.
6. Pilot with balanced poppet, high flow, short and consistent response times.
7. Wiping effect eliminates sticking.
8. Long service life.

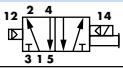
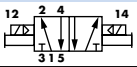
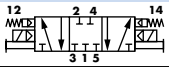
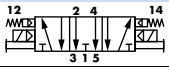
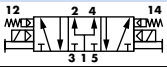
Reset



HOW TO ORDER

xxxx-xxx-DM-Dxxx-xxx

HOW TO ORDER VALVE FOR CIRCUIT BAR MOUNTING

Pilot air	5/2 Single operator	5/2 Double operator	5/3 Closed center	5/3 Open center	5/3 Pressure center
					
Internal	○ 413A-OOA-DM-D*xxx-xxx*	○ 423A-OOA-DM-D*xxx-xxx*	○ 453A-OOA-DM-D*xxx-xxx*	○ 463A-OOA-DM-D*xxx-xxx*	○ 473A-OOA-DM-D*xxx-xxx*
External	○ 413A-OOD-DM-D*xxx-xxx*	○ 423A-OOD-DM-D*xxx-xxx*	○ 453A-OOD-DM-D*xxx-xxx*	○ 463A-OOD-DM-D*xxx-xxx*	○ 473A-OOD-DM-D*xxx-xxx*

SOLENOID OPERATOR ➤ D *XX X- X XX**

XX	Voltage
○ *JB*	240/60, 220/50
○ *JA*	120/60, 110/50
○ *JC*	24/60, 24/50
○ *FB*	24VDC (1.8 W)
○ *DA*	24VDC (5.4 W)
○ *DF*	24VDC (12.7 W)
○ *xx*	Other Options

X	Wire length
○ *A*	45 cm (Flying leads)
○ *J*	Connector
○ *x*	Other Options

X	Manual operator
○ *1*	Non-locking
○ *2*	Locking
○ *x*	Other Options

XX	Electrical connection
○ *KA*	Square connector
○ *KD*	Square connector with light
○ *JB*	Rectangular connector
○ *JD*	Rectangular connector with light
○ *BA*	Flying leads
○ *xx*	Other Options

CBM405A-xxxxx-xx

HOW TO ORDER CIRCUIT BAR (SIDE CYLINDER PORTS) **

Port size	Pilot air	Spacing 21 mm	Spacing 26 mm (Rectangular connector)
1/8" BSPP	Internal	○ CBM405A-01AEB-*xx*	○ CBM405A-02AEB-*xx*
	Common external	○ CBM405A-01BEB-*xx*	○ CBM405A-02BEB-*xx*
1/4" BSPP	Internal	○ CBM405A-01AEE-*xx*	○ CBM405A-02AEE-*xx*
	Common external	○ CBM405A-01BEE-*xx*	○ CBM405A-02BEE-*xx*

Number of stations (01, 02, 03, or 04) ☐

** Other options available. Consult factory.

OPTIONS

413A-OOA-DM-D*xxx-xxx*

- ☐ clic with memory spring (replace by 6).

MAC

Series **400**

100% OF PRODUCTION TESTED 100%

WARRANTY 18 MONTHS

TECHNICAL DATA

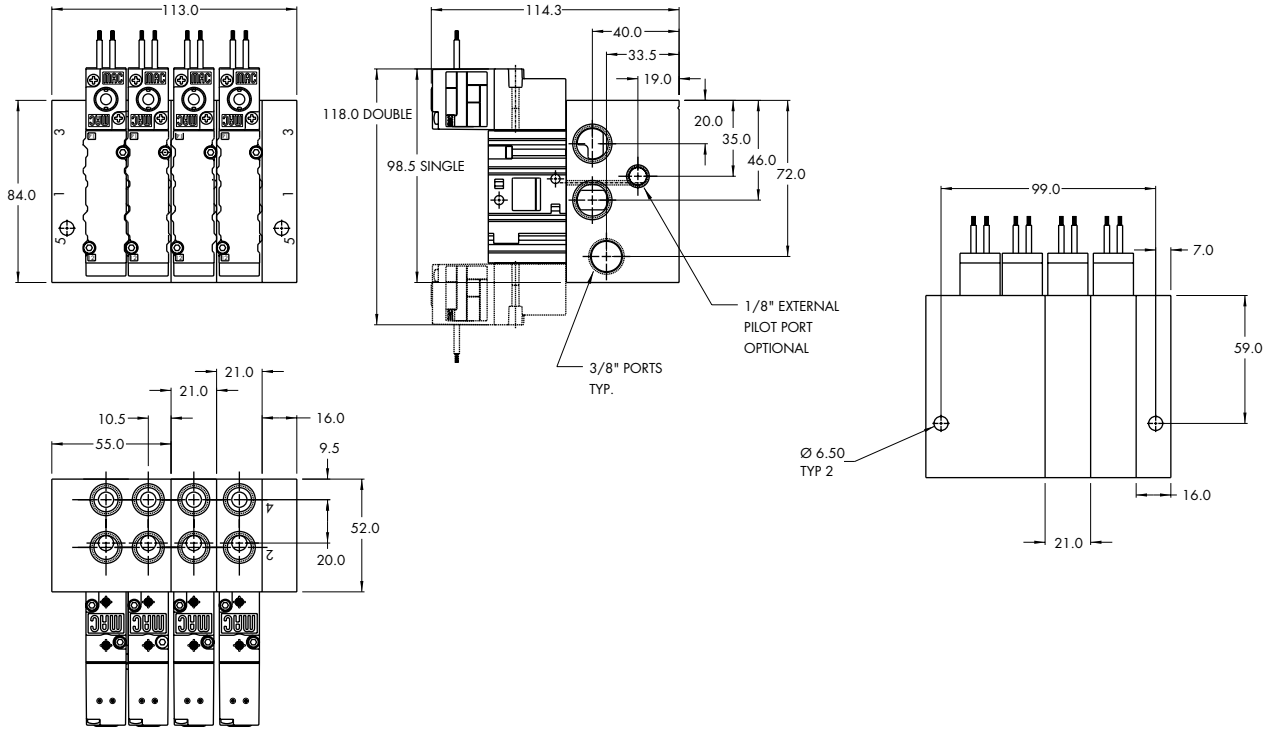
Fluid :	Compressed air, vacuum, inert gases		
Pressure range :	Internal pilot : 1.3 - 8.5 BAR External pilot : vacuum - 8.5 BAR		
Pilot pressure :	1.3 - 8.5 BAR		
Lubrication :	Not required, if used select a medium aniline point lubricant (between 80°C to 100°C)		
Filtration :	40 µ		
Temperature range :	0°F to 120°F (-18°C to +50°C)		
Orifice :	6.2 mm		
Flow :	1000 NL/min		
Leak rate :	50 cm^3/min		
Coil :	General purpose class A, continuous duty, encapsulated		
Voltage range :	-15% to +10% of nominal voltage		
Protection :	NEMA 4		
Power :	~ Inrush : 10.9 VA = 1.8 to 12.7 W	Holding : 7.7 VA	
Response times :	24 V=/5.4 W	Energize : 7.3 ms	De-energize : 5.3ms
	60Hz/6 W	Energize : 8-12 ms	De-energize : 7-11 ms

Spare parts : • Pilot valve : DM-DXXX-XXX-1, including mounting screws 35069 and seal 16524.

Accessories : • Blanking plate : M-04002. • Seal : 16525. • Mounting screw (x2) : 35043.
• End plate kit : M-04005-01. • End plate kit for common external pilot : M-04006-01.

Options : • NPTF threads. • Isolation of inlet and/or exhaust.

DIMENSIONS



Section 2 Options

Codification table for voltages / Wire length / Manual operator / Electrical connection

VALVE CODE ➤ $DM\text{-}\underset{1}{DXX}\,\underset{2}{X}\,\text{-}\,\underset{3}{X}\,\underset{4}{XX}$

OPTIONS AVAILABLE FOR
- pilot operated valves 400, 52 & 92 Series

OPTIONS

Back

1. VOLTAGE

-D XX X -X XX	VOLTAGE
DB	12 VDC (5.4 W)
DC	12 VDC (7.5 W)
DD	24 VDC (7.3 W)
DE	12 VDC (12.7 W)
DK	110 VDC (5.8 W)
DJ	28 VDC (5.7 W)
DL	64 VDC (6.0 W)
DM	36 VDC (5.8 W)
DN	6 VDC (6.0 W)
DR	90 VDC (6,6 W)
DS	110 VDC (7.3 W), 100 VDC (6.0 W)
DT	75 VDC (5.6 W)
DP	48 VDC (5.8 W)
FA	12 VDC (1.8 W)
FE	12 VDC (2.4 W)
FF	24 VDC (2.4 W)
JD	100/60, 100/50, 110/60

2. WIRE LENGTH

-D XX X -X XX	WIRE LENGTH
B	60 cm
C	90 cm
D	120 cm
E	180 cm
F	240 cm

3. MANUAL OPERATOR

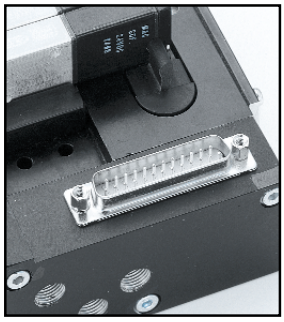
-D XX X -X XX	MANUAL OPERATOR
◯ 0	No operator
◯ 1	Non-locking recessed
◯ 2	Locking recessed
◯ 3	Non-locking extended
◯ 4	Locking extended

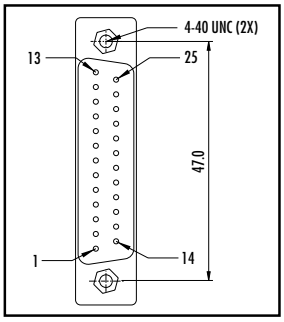
4. ELECTRICAL CONNECTION

-D XX X -X XX	ELECTRICAL CONNECTION
BA	Flying leads
BK	BA with protection diode
BL	BA with protection varistor
CA	1/2" NPS conduit
JB	Rectangular connector
JD	Rectangular connector with light
JM	Rectangular connector, male only
KA	Square connector
KB	Square connector with protection diode
KC	Square connector with protection varistor
KD	Square connector with light
KE	Square connector with light and protection diode
KF	Square connector with light and protection varistor
KJ	Square connector (male only)
KK	Square connector with protection diode (male only)
KL	Square connector with protection varistor (male only)
TA	Dual tabs
TB	TA with protection diode
TD	TA with light
TE	TA with light and protection diode
TJ	Dual tabs (male only)
TK	TJ with protection diode
TM	TJ with light
TN	TJ with light and protection diode
*DN	Plug-in with diode
*DP	Plug-in with M.O.V.
*DH	Plug-in with diode & ground
*DJ	Plug-in with M.O.V & ground

* These options only apply to the 92 series. All others are for the 400 and 52 series.

Connector SUB_D 25 (option ZZZY = SUBY ; Y = cable length)

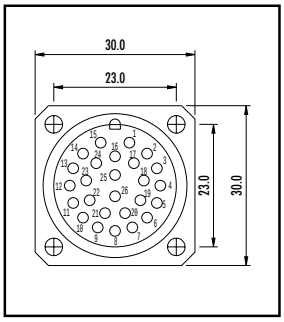




TECHNICAL DATA

- Type «SUB_D»
- Number of contacts : 25
- Solder termination (Dia. 0.6 mm/0.14 mm²/26-22 AWG)
- Operating current 5 A/contact
- Rated voltage 125 V~
- Temp. range –40° to +125°C
- Insulation resistance ≥ 10^{10} Ω
- Protection class IP40 (DIN 40050)
- Number of solenoids : 20 max.
- Max. 24 V=/5.4 W per solenoid
- 5 common wires
- Female plug supplied with circuit bar

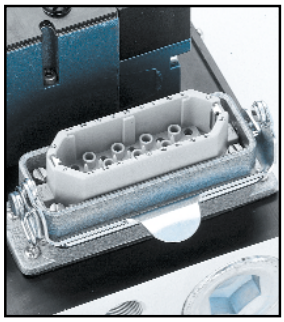
Connector RND (option ZZZY = RNDY ; Y = cable length)

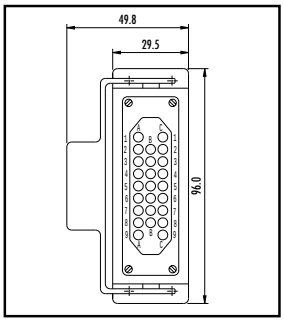


TECHNICAL DATA

- Type «Round connector»
- Number of contacts : 26
- Solder termination (Dia. 1 mm/1 mm²/17 AWG)
- Operating current 7.5 A/contact
- Rated voltage 250 V~
- Insulation resistance ≥ 10^{8} Ω
- Cable entry PG16
- Temp. range –40° to +125°C
- Protection class IP65 (DIN 40050)
- Number of solenoids : 24 max.
- 1 common and 1 ground
- All voltages
- Female plug supplied with circuit bar

Connector HDT (option ZZZY = HDTY ; Y = cable length)

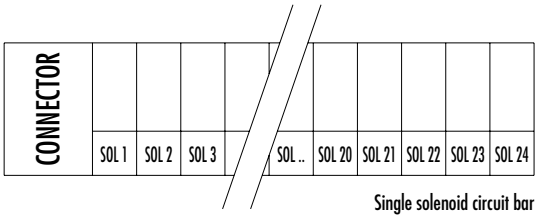




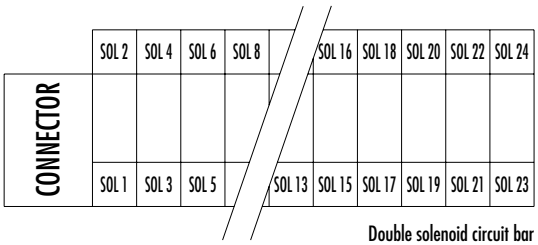
TECHNICAL DATA

- Type «Heavy duty»
- Number of contacts : 25
- Solder termination (Dia. 1.4 mm/0.75 mm²/18 AWG)
- Operating current 10 A/contact
- Rated voltage 250 V~
- Insulation resistance ≥ 10^{10} Ω
- Cable entry PG16
- Temp. range –40° to +125°C
- Protection class IP65 (DIN 40050)
- Number of solenoids : 24 max.
- 1 common and 1 ground
- All voltages
- Female plug supplied with circuit bar

Connector termination details



Single solenoid circuit bar

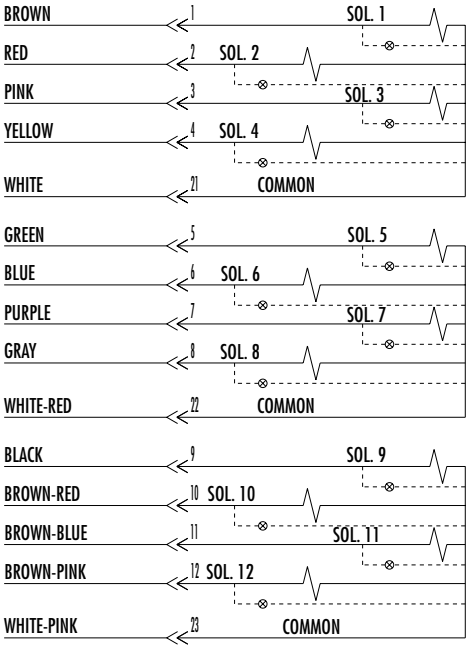


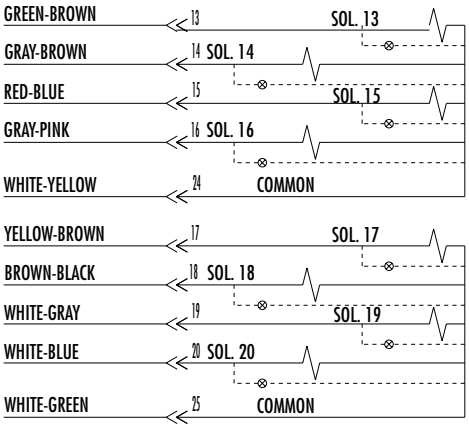
Double solenoid circuit bar

Connector SUB_D25 (option ZZZY = SUBY ; Y = cable length)

TECHNICAL DATA PREWIRED CABLE

- Type : LIYY -0.14 mm²
- Dia. ca. 9.3 mm
- Insulation resistance : 20 MΩ for 1000 meter
- Temp. range -5° to +80°C
- Rated voltage : 250 V~
- PVC core insulation and sheath

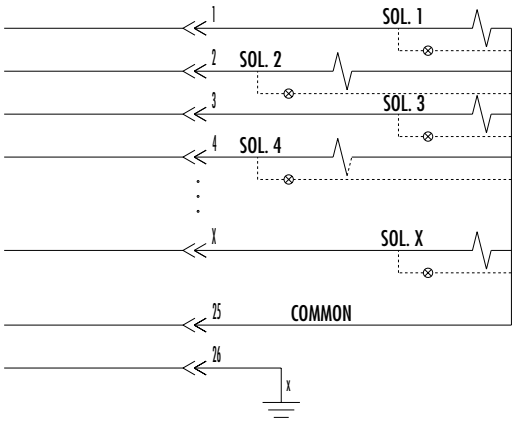




Connector RND [option ZZZY = SNDY ; Y = cable length]

TECHNICAL DATA PREWIRED CABLE

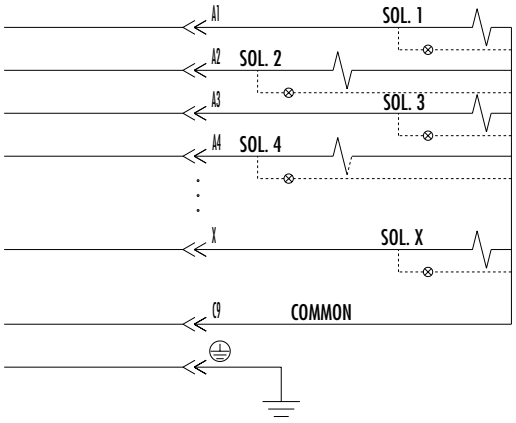
- Type : LIY(C)Y -0.50 mm²
- Dia. ca. 10.8 mm (12 core); 12.9 mm (18 core); 16.0 mm (32 core)
- Insulation resistance : 20 MΩ for 1000 meter
- Temp. range -5° to +80°C
- Rated voltage : 500 V~
- PVC core insulation and sheath
- Tinned copper wire braid



Connector HDT [option ZZZY = HDTY ; Y = cable length]

TECHNICAL DATA PREWIRED CABLE

- Type : LIY(C)Y -0.75 mm²
- Dia. ca. 12.0 mm (12 core); 13.5 mm (18 core); 18.0 mm (32 core)
- Insulation resistance : 20 MΩ for 1000 meter
- Temp. range -5° to +80°C
- Rated voltage : 500 V~
- PVC core insulation and sheath
- Tinned copper wire braid



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 ports are open to the exhaust port(s) of the valve. If having no air in either outlet port 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 ports 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 AND SERVICE PRECAUTIONS :

A. Do not install or service MAC valves without first making sure both the air and electrical power to the machine are off and that all air has been completely bled from the system.

B. MAC valves should only be installed and/or serviced 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 and graphic symbols. Do not install unless these symbols and the valve functions and operations are thoroughly understood.

C. Before service, maintenance, repair or cleaning, consult local distributor or factory for Parts & Operation Sheet and information on proper cleaning and lubrication agents. Do not subject MAC valves' parts to any foreign substance including lubricants and cleaning agents not specifically recommended by MAC valves, Inc.

D. 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 condition.

WARNING :

Under no circumstances are Mac valves to be used in any application where failure of the valve to operate as intended could jeopardize the safety of the operator or any other person.
- Do not operate outside of pressure range listed on valve label or outside of designated temperature range.
- Air supply must be clean. Contamination of valve can affect proper operation.
- Before attempting to repair, adjust or clean valve, consult catalog, parts & operation sheet, or factory for proper maintenance procedures, lubrication, and cleaning agents. Never attempt to repair or perform other maintenance with air pressure to valve.
- If airline lubrication is used, consult catalog, parts & operation sheet, or factory for recommended lubricants.

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.

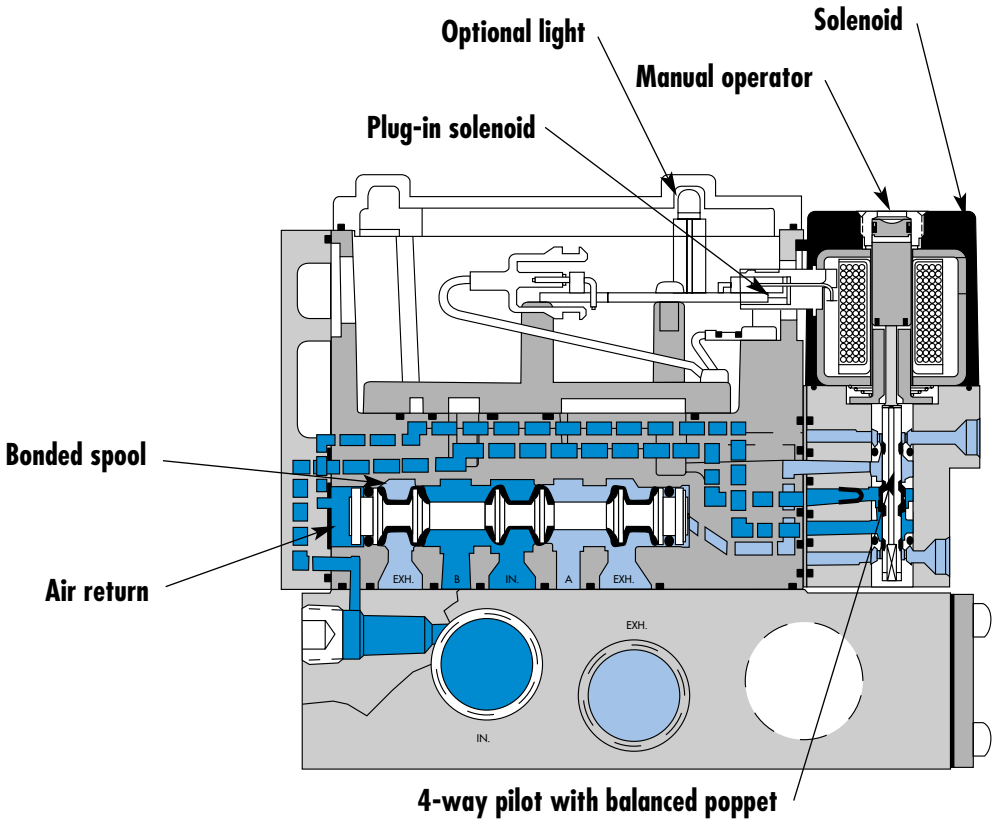
DISCLAIMER OF GUARANTEE

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. The 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.

Circuit bar mounting

standard	add-on style	add-a-unit stations for CBM092B



SERIES FEATURES

- Patented MACSOLENOID® for fastest possible response times and virtually burn-out proof AC solenoid operation.
- Optional low watt DC solenoids.
- Optional memory spring.
- Plug-in design of valves and bases for ease of maintenance.
- 2 position or 3 position valve configurations.

Direct solenoid and solenoid pilot operated valves with multi-pin connector

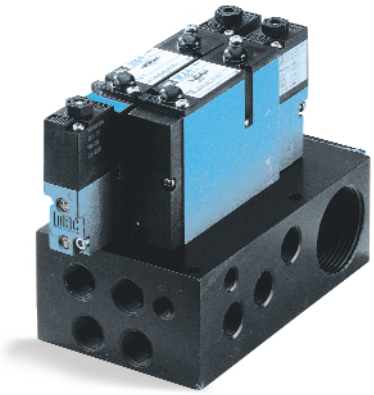
Function	Port size (BSPP)	Flow (Max)	Circuit bar mounting
5/2 - 5/3 - 3/2	**1/8" - 1/4" - 3/8"**	**1000 NL/min**	standard

OPERATIONAL BENEFITS

1. The 4-way pilot develops maximum shifting forces both ways.
2. Memory spring available.
3. Balanced spool, immune to variations of pressure, also provides high flow.
4. Short stroke with high flow.
5. Bonded seal spool with minimum friction, shifting in a glass-like finished bore.
6. Pilot with balanced poppet, high flow, short and consistent response times.
7. Wiping effect eliminates sticking.
8. Long service life.

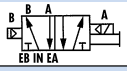
Reset

92B-xxx-000-DM-DxxP-xxx

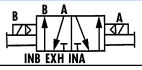


HOW TO ORDER VALVE FOR CIRCUIT BAR MOUNTING

SINGLE PRESSURE MODELS

Port size (see circuit bar)	5/2 Single operator	5/2 Double operator	5/3 Closed center	5/3 Open center	5/3 Pressure center
					
Valve less base	○ 92B-AAA-000-DM-D**XX**P-**XX**	○ 92B-BAA-000-DM-D**XX**P-**XX**	○ 92B-EAA-000-DM-D**XX**P-**XX**	○ 92B-FAA-000-DM-D**XX**P-**XX**	○ 92B-GAA-000-DM-D**XX**P-**XX**

DUAL PRESSURE MODELS (REQUIRES SANDWICH PRESSURE REGULATOR)

Port size (see circuit bar)	5/2 Single operator	5/2 Double operator
		
Valve less base	○ 92B-CAA-000-DM-D**XX**P-**XX**	○ 92B-DAA-000-DM-D**XX**P-**XX**

SOLENOID OPERATOR ➤

DM-D**XX** P- **X XX***

XX	Voltage
○ JB	240/60, 220/50
○ JA	120/60, 110/50
○ JC	24/60, 24/50
○ FB	24VDC (1.8 W)
○ DA	24VDC (5.4 W)
○ DF	24VDC (12.7 W)
○ xx	Other Options

X	Manual operator
○ 1	Non-locking
○ 2	Locking
○ xx	Other Options

XX	Electrical connection
○ DM	Plug-in
○ DG	Plug-in w/ground

Note : Ground wire required for solenoids 30 volts and above.

○ xx Other Options

HOW TO ORDER CIRCUIT BAR

CBM092B-01xxx-AOxx

Port size	Pilot air	Side cylinder ports (25 mm)	Bottom cylinder ports (25 mm)
1/8" BSPP	Internal	○ CBM092B-01AAB-A0*XX	○ CBM092B-01BAB-A0*XX
	Common external	○ CBM092B-01CAB-A0*XX	○ CBM092B-01DAB-A0*XX
1/4" BSPP	Internal	○ CBM092B-01AAE-A0*XX	○ CBM092B-01BAE-A0*XX
	Common external	○ CBM092B-01CADE-A0*XX	○ CBM092B-01DAE-A0*XX
3/8" BSPP	Internal	○ CBM092B-01AAH-A0*XX	○ CBM092B-01BAH-A0*XX
	Common external	○ CBM092B-01CAH-A0*XX	○ CBM092B-01DAH-A0*XX

Number of stations (03=3 stations) ☐

Note : ☐ clic for valves mounted on base at the factory (add - 9 to the model number).
for multi-pin connector (9, 15 or 25).

* If replaced by BO : circuit bar for single operator valves only.

Consult "Precautions" before use, installation or service of MAC Valves.

Menu

MAC

Series 92

100% OF PRODUCTION TESTED 100%

WARRANTY 18 MONTHS

OPTIONS

Sandwich flow controls available, consult factory.

92B-AAA-000-DM-D*XX*P-*1DM*

For lights on valve, replace by B.
For lights and diode on valve, replace by F.
For lights and MOV on valve, replace by H.

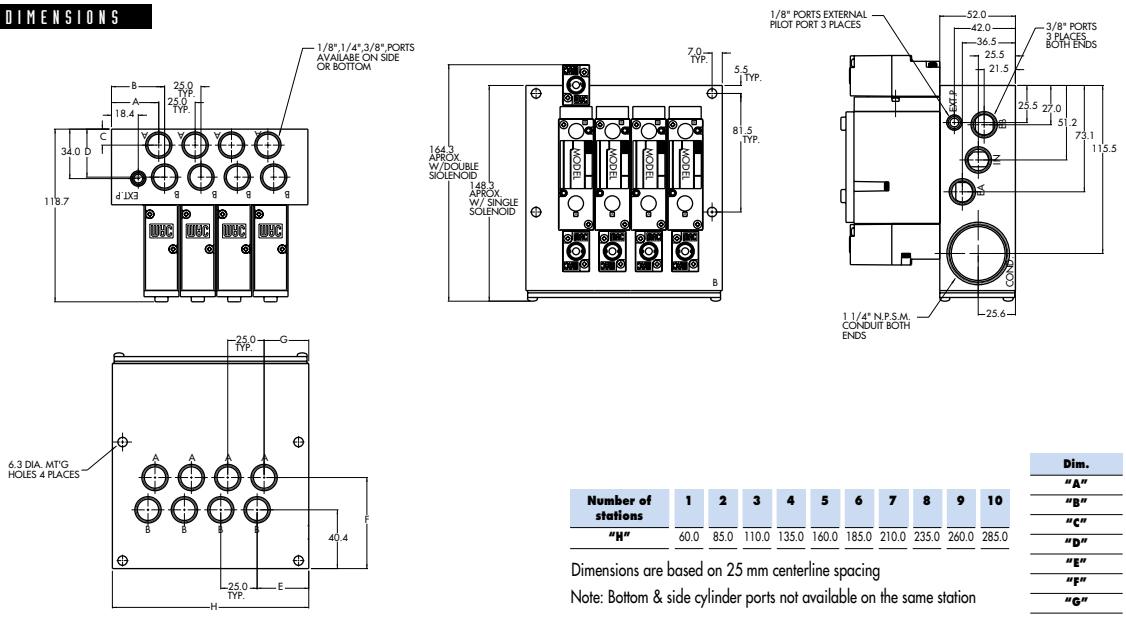
TECHNICAL DATA

Fluid :	Compressed air, vacuum, inert gases		
Pressure range :	Internal pilot : 1.3 - 8 BAR		3 positions : 2.3 - 8 BAR
	External pilot : vacuum to 8 BAR		3 positions : 2.3 - 8 BAR
Pilot pressure :	1.3 - 8 BAR	3 positions : 2.3 - 8 BAR	
Lubrication :	Not required, if used select a medium aniline point lubricant (between 80°C to 100°C)		
Filtration :	40 µ		
Temperature range :	0°F to 120°F (-18°C to +50°C)		
Orifice :	6.2 mm		
Flow (at 6 bar, ΔP=1bar) :	1000 NL/min		
Leak rate :	50 cm³/min		
Coil :	General purpose class A, continuous duty, encapsulated		
Voltage range :	-15% to +10% of nominal voltage		
Protection :	NEMA 4		
Power :	~ Inrush : 7.6 VA	Holding : 4.8 VA	
	= 1.8 to 12.7 W		
Response times :	24 V=/5.4 W	Energize : 8 ms	De-energize : 7 ms
	60Hz/2.9 W	Energize : 7-13 ms	De-energize : 12-20 ms

Spare parts : • Pilot valve : DM-DXXP-XXX-1 including mounting screws 35069 (x2) and seal 16544.
• Pressure seal between valve and base : 16543. • Mounting screws valve to base (x2) : 35050. • Blanking plate : M-92002.

Options : • NPTF threads. • Isolation of inlet and/or exhaust. • Circuit bar for number of stations > 24.

DIMENSIONS



Number of stations	1	2	3	4	5	6	7	8	9	10
"H"	60.0	85.0	110.0	135.0	160.0	185.0	210.0	235.0	260.0	285.0

Dimensions are based on 25 mm centerline spacing
Note: Bottom & side cylinder ports not available on the same station

Dim.	1/8"	1/4"	3/8"
"A"	30.0	30.0	32.5
"B"	39.0	39.0	36.5
"C"	10.0	10.0	11.0
"D"	33.0	33.0	34.0
"E"	40.9	36.9	35.5
"F"	61.1	61.1	62.6
"G"	30.1	30.9	30.7

Direct solenoid and solenoid pilot operated valves with multi-pin connector

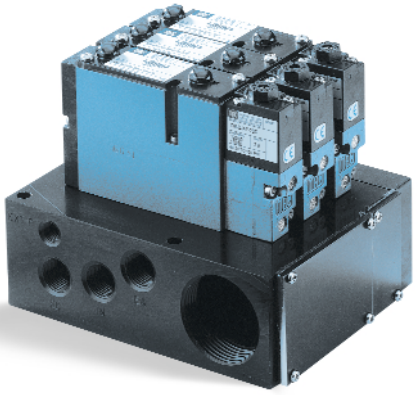
Function	Port size (BSPP)	Flow (Max)	Circuit bar mounting
5/2 - 5/3 - 3/2	**1/8" - 1/4" - 3/8"**	**1000 NL/min**	add-on style

OPERATIONAL BENEFITS

1. The 4–way pilot develops maximum shifting forces both ways.
2. Memory spring available.
3. Balanced spool, immune to variations of pressure, also provides high flow.
4. Short stroke with high flow.
5. Bonded seal spool with minimum friction, shifting in a glass-like finished bore.
6. Pilot with balanced poppet, high flow, short and consistent response times.
7. Wiping effect eliminates sticking.
8. Long service life.

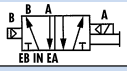
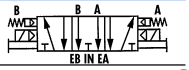
Reset

92B-xxx-000-DM-DxxP-xxx

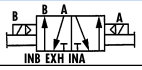


HOW TO ORDER VALVE FOR CIRCUIT BAR MOUNTING

SINGLE PRESSURE MODELS

Port size (see circuit bar)	5/2 Single operator	5/2 Double operator	5/3 Closed center	5/3 Open center	5/3 Pressure center
					
Valve less base	○ 92B-AAA-000-DM-D*xx*P-*xx*	○ 92B-BAA-000-DM-D*xx*P-*xx*	○ 92B-EAA-000-DM-D*xx*P-*xx*	○ 92B-FAA-000-DM-D*xx*P-*xx*	○ 92B-GAA-000-DM-D*xx*P-*xx*

DUAL PRESSURE MODELS (REQUIRES SANDWICH PRESSURE REGULATOR)

Port size (see circuit bar)	5/2 Single operator	5/2 Double operator
		
Valve less base	○ 92B-CAA-000-DM-D*xx*P-*xxx*	○ 92B-DAA-000-DM-D*xx*P-*xxx*

SOLENOID OPERATOR ➤

DM-D*XX* P- *X XX**

XX	Voltage
○ *JB*	240/60, 220/50
○ *JA*	120/60, 110/50
○ *JC*	24/60, 24/50
○ *FB*	24VDC (1.8 W)
○ *DA*	24VDC (5.4 W)
○ *DF*	24VDC (12.7 W)
○ *xx*	Other Options

X	Manual operator
○ *1*	Non-locking
○ *2*	Locking
○ *xx*	Other Options

XX	Electrical connection
○ *DM*	Plug-in
○ *DG*	Plug-in w/ground

Note : Ground wire required for solenoids 30 volts and above.

○ *xx* Other Options

HOW TO ORDER CIRCUIT BAR

CBM092B-01xxx-AOxx

Port size	Pilot air	Side cylinder ports (25 mm)	Bottom cylinder ports (25 mm)
1/8" BSPP	Internal	○ CBM092B-01ABB-A0**xx*	○ CBM092B-01BBB-A0**xx*
	Common external	○ CBM092B-01CBB-A0**xx*	○ CBM092B-01DBB-A0**xx*
1/4" BSPP	Internal	○ CBM092B-01ABE-A0**xx*	○ CBM092B-01BBE-A0**xx*
	Common external	○ CBM092B-01CBE-A0**xx*	○ CBM092B-01DBE-A0**xx*
3/8" BSPP	Internal	○ CBM092B-01ABH-A0**xx*	○ CBM092B-01BBH-A0**xx*
	Common external	○ CBM092B-01CBH-A0**xx*	○ CBM092B-01DBH-A0**xx*

* If replaced by BO : circuit bar for single operator valves only.

Note : add-a-unit stations may be added to above bars. See page for model numbers

Number of stations (03=3 stations) ☐

Note : ☐ clic for valves mounted on base at the factory (add - 9 to the model number). for multi-pin connector (9, 15 or 25).

Consult "Precautions" before use, installation or service of MAC Valves.

Menu

MAC

Series 92

100% OF PRODUCTION TESTED 100%

WARRANTY 18 MONTHS

OPTIONS

Sandwich flow controls available, consult factory.

92B-AAA-000-DM-D*XX*P-1DM

For lights on valve, replace by B.
For lights and diode on valve, replace by F.
For lights and MOV on valve, replace by H.

TECHNICAL DATA

Fluid :	Compressed air, vacuum, inert gases		
Pressure range :	Internal pilot : 1.3 - 8 BAR		3 positions : 2.3 - 8 BAR
	External pilot : vacuum to 8 BAR		3 positions : 2.3 - 8 BAR
Pilot pressure :	1.3 - 8 BAR	3 positions : 2.3 - 8 BAR	
Lubrication :	Not required, if used select a medium aniline point lubricant (between 80°C to 100°C)		
Filtration :	40 µ		
Temperature range :	0°F to 120°F (-18°C to +50°C)		
Orifice :	6.2 mm		
Flow (at 6 bar, ΔP=1bar) :	1000 NL/min		
Leak rate :	50 cm³/min		
Coil :	General purpose class A, continuous duty, encapsulated		
Voltage range :	-15% to +10% of nominal voltage		
Protection :	NEMA 4		
Power :	~ Inrush : 7.6 VA	Holding : 4.8 VA	
	= 1.8 to 12.7 W		
Response times :	24 V=/5.4 W	Energize : 8 ms	De-energize : 7 ms
	60Hz/2.9 W	Energize : 7-13 ms	De-energize : 12-20 ms

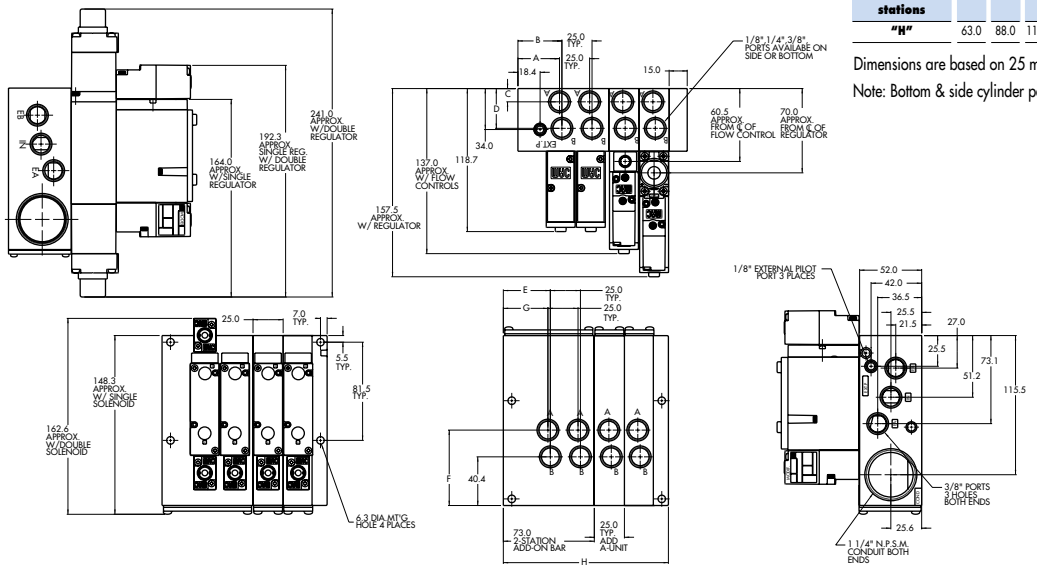
Spare parts :

• Pilot valve : DM-DXXP-XXX-1 including mounting screws 35069 (x2) and seal 16544.
• Pressure seal between valve and base : 16543. • Mounting screws valve to base (x2) : 35050. • Blanking plate : M-92002.
• End plate kit : M-92001-01 • Isolator disc between add-a-units : 28413.

Options :

• NPTF threads. • Isolation of inlet and/or exhaust. • Circuit bar for number of stations > 24.

DIMENSIONS



Number of stations	1	2	3	4	5	6	7	8	9	10
"H"	63.0	88.0	113.0	138.0	163.0	188.0	213.0	238.0	263.0	288.0

Dimensions are based on 25 mm centerline spacing

Note: Bottom & side cylinder ports not available on the same station

Dim.	1/8"	1/4"	3/8"
"A"	32.0	32.0	34.5
"B"	39.0	39.0	36.5
"C"	10.0	10.0	11.0
"D"	33.4	33.4	33.0
"E"	40.9	37.9	36.5
"F"	61.1	61.1	62.6
"G"	30.1	31.9	34.5

Consult "Precautions" before use, installation or service of MAC Valves.

Direct solenoid and solenoid pilot operated valves with multi-pin connector

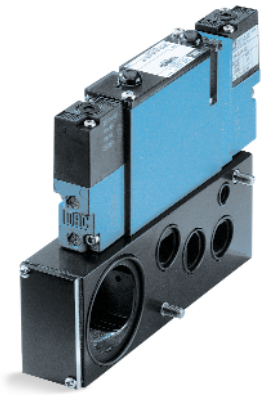
Function	Port size (BSPP)	Flow (Max)	Circuit bar mounting
5/2 - 5/3 - 3/2	**1/8" - 1/4" - 3/8"**	**1000 NL/min**	add-a-unit stations for CBM092B

OPERATIONAL BENEFITS

1. The 4–way pilot develops maximum shifting forces both ways.
2. Memory spring available.
3. Balanced spool, immune to variations of pressure, also provides high flow.
4. Short stroke with high flow.
5. Bonded seal spool with minimum friction, shifting in a glass-like finished bore.
6. Pilot with balanced poppet, high flow, short and consistent response times.
7. Wiping effect eliminates sticking.
8. Long service life.

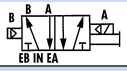
Reset

92B-xxx-000-DM-DxxP-xxx

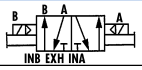


HOW TO ORDER VALVE FOR CIRCUIT BAR MOUNTING

SINGLE PRESSURE MODELS

Port size (see circuit bar)	5/2 Single operator	5/2 Double operator	5/3 Closed center	5/3 Open center	5/3 Pressure center
					
Valve less base	◯ 92B-AAA-000-DM-D**XX**P-**XX**	◯ 92B-BAA-000-DM-D**XX**P-**XX**	◯ 92B-EAA-000-DM-D**XX**P-**XX**	◯ 92B-FAA-000-DM-D**XX**P-**XX**	◯ 92B-GAA-000-DM-D**XX**P-**XXX**

DUAL PRESSURE MODELS (REQUIRES SANDWICH PRESSURE REGULATOR)

Port size (see circuit bar)	5/2 Single operator	5/2 Double operator
		
Valve less base	◯ 92B-CAA-000-DM-D**XX**P-**XXX**	◯ 92B-DAA-000-DM-D**XX**P-**XXX**

SOLENOID OPERATOR ➤

DM-D**XX** P- **X** **XX***

XX	Voltage
◯ JB	240/60, 220/50
◯ JA	120/60, 110/50
◯ JC	24/60, 24/50
◯ FB	24VDC (1.8 W)
◯ DA	24VDC (5.4 W)
◯ DF	24VDC (12.7 W)
◯ XX	Other Options

X	Manual operator
◯ 1	Non-locking
◯ 2	Locking
◯ XX	Other Options

XX	Electrical connection
◯ DM	Plug-in
◯ DG	Plug-in w/ground

Note : Ground wire required for solenoids 30 volts and above.

◯ XX Other Options

HOW TO ORDER CIRCUIT BAR

CBM092B-01xxx-AOxx

Port size	Side cylinder ports (25 mm)	Bottom cylinder ports (25 mm)
1/8" BSPP	◯ CBM092B-01ACB-A0***XX**	◯ CBM092B-01BCB-A0***XX**
1/4" BSPP	◯ CBM092B-01ACE-A0***XX**	◯ CBM092B-01BCE-A0***XX**
3/8" BSPP	◯ CBM092B-01ACH-A0***XX**	◯ CBM092B-01BCH-A0***XX**

Number of stations (01=1 stations). Available in one (1) or two (2) station lenghts. ☐

Note : ☐ clic for valves mounted on base at the factory (add - 9 to the model number).
when add-a-units are added to bars with a multi-pin connector, MOD SD03 should be included with add-a-unit model number.

* If replaced by BO : circuit bar for single operator valves only.

MAC

Series 92

100% OF PRODUCTION TESTED 100%

WARRANTY 18 MONTHS

OPTIONS

Sandwich flow controls available, consult factory.

92B-AAA-000-DM-D*XX*P-1DM

For lights on valve, replace by B.
For lights and diode on valve, replace by F.
For lights and MOV on valve, replace by H.

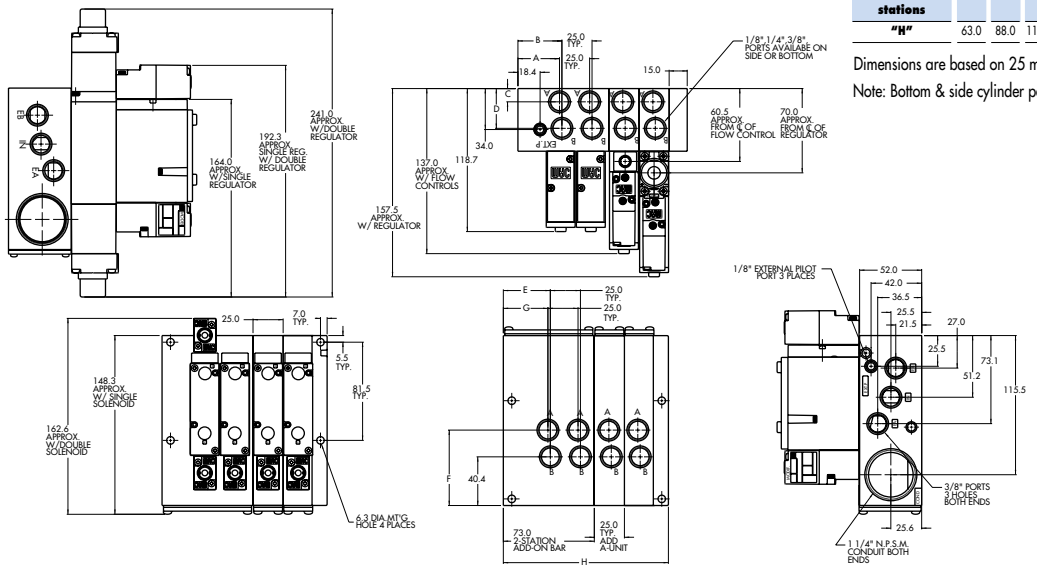
TECHNICAL DATA

Fluid :	Compressed air, vacuum, inert gases		
Pressure range :	Internal pilot : 1.3 - 8 BAR		3 positions : 2.3 - 8 BAR
	External pilot : vacuum to 8 BAR		3 positions : 2.3 - 8 BAR
Pilot pressure :	1.3 - 8 BAR	3 positions : 2.3 - 8 BAR	
Lubrication :	Not required, if used select a medium aniline point lubricant (between 80°C to100°C)		
Filtration :	40 µ		
Temperature range :	0°F to 120°F (-18°C to +50°C)		
Orifice :	6.2 mm		
Flow (at 6 bar, ΔP=1bar) :	1000 NL/min		
Leak rate :	50 cm³/min		
Coil :	General purpose class A, continuous duty, encapsulated		
Voltage range :	-15% to +10% of nominal voltage		
Protection :	NEMA 4		
Power :	~ Inrush : 7.6 VA	Holding : 4.8 VA	
	= 1.8 to 12.7 W		
Response times :	24 V=/5.4 W	Energize : 8 ms	De-energize : 7 ms
	60Hz/2.9 W	Energize : 7-13 ms	De-energize : 12-20 ms

Spare parts : • Pilot valve : DM-DXXP-XXX-1 including mounting screws 35069 (x2) and seal 16544.
• Pressure seal between valve and base : 16543. • Mounting screws valve to base (x2) : 35050. • Blanking plate : M-92002.

Options : • NPTF threads. • Isolation of inlet and/or exhaust. • Circuit bar for number of stations > 24.

DIMENSIONS



Number of stations	1	2	3	4	5	6	7	8	9	10
"H"	63.0	88.0	113.0	138.0	163.0	188.0	213.0	238.0	263.0	288.0

Dimensions are based on 25 mm centerline spacing

Note: Bottom & side cylinder ports not available on the same station

Dim.	1/8"	1/4"	3/8"
"A"	32.0	32.0	34.5
"B"	39.0	39.0	36.5
"C"	10.0	10.0	11.0
"D"	33.4	33.4	33.0
"E"	40.9	37.9	36.5
"F"	61.1	61.1	62.6
"G"	30.1	31.9	34.5

Consult "Precautions" before use, installation or service of MAC Valves.

Section 2 Options

Codification table for voltages / Wire length / Manual operator / Electrical connection

VALVE CODE ➤ $DM\text{-}\underset{1}{DXX}\,\underset{2}{X}\,\text{-}\,\underset{3}{X}\,\underset{4}{XX}$

OPTIONS AVAILABLE FOR
- pilot operated valves 400, 52 & 92 Series

OPTIONS

Back

1. VOLTAGE

-D XX X -X XX	VOLTAGE
DB	12 VDC (5.4 W)
DC	12 VDC (7.5 W)
DD	24 VDC (7.3 W)
DE	12 VDC (12.7 W)
DK	110 VDC (5.8 W)
DJ	28 VDC (5.7 W)
DL	64 VDC (6.0 W)
DM	36 VDC (5.8 W)
DN	6 VDC (6.0 W)
DR	90 VDC (6,6 W)
DS	110 VDC (7.3 W), 100 VDC (6.0 W)
DT	75 VDC (5.6 W)
DP	48 VDC (5.8 W)
FA	12 VDC (1.8 W)
FE	12 VDC (2.4 W)
FF	24 VDC (2.4 W)
JD	100/60, 100/50, 110/60

2. WIRE LENGTH

-D XX X -X XX	WIRE LENGTH
B	60 cm
C	90 cm
D	120 cm
E	180 cm
F	240 cm

3. MANUAL OPERATOR

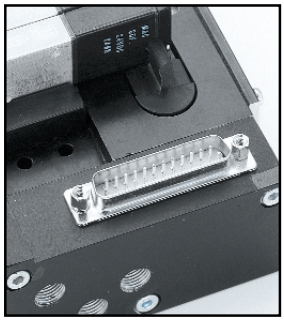
-D XX X -X XX	MANUAL OPERATOR
0	No operator
1	Non-locking recessed
2	Locking recessed
3	Non-locking extended
4	Locking extended

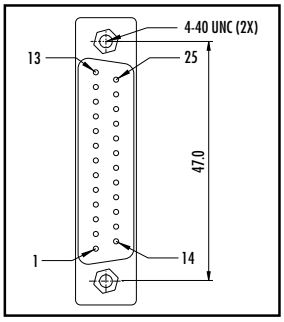
4. ELECTRICAL CONNECTION

-D XX X -X XX	ELECTRICAL CONNECTION
BA	Flying leads
BK	BA with protection diode
BL	BA with protection varistor
CA	1/2" NPS conduit
JB	Rectangular connector
JD	Rectangular connector with light
JM	Rectangular connector, male only
KA	Square connector
KB	Square connector with protection diode
KC	Square connector with protection varistor
KD	Square connector with light
KE	Square connector with light and protection diode
KF	Square connector with light and protection varistor
KJ	Square connector (male only)
KK	Square connector with protection diode (male only)
KL	Square connector with protection varistor (male only)
TA	Dual tabs
TB	TA with protection diode
TD	TA with light
TE	TA with light and protection diode
TJ	Dual tabs (male only)
TK	TJ with protection diode
TM	TJ with light
TN	TJ with light and protection diode
*DN	Plug-in with diode
*DP	Plug-in with M.O.V.
*DH	Plug-in with diode & ground
*DJ	Plug-in with M.O.V & ground

* These options only apply to the 92 series. All others are for the 400 and 52 series.

Connector SUB_D 25 (option ZZZY = SUBY ; Y = cable length)

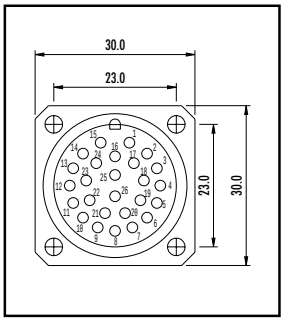




TECHNICAL DATA

- Type «SUB_D»
- Number of contacts : 25
- Solder termination (Dia. 0.6 mm/0.14 mm²/26-22 AWG)
- Operating current 5 A/contact
- Rated voltage 125 V~
- Temp. range –40° to +125°C
- Insulation resistance ≥ 10^{10} Ω
- Protection class IP40 (DIN 40050)
- Number of solenoids : 20 max.
- Max. 24 V=/5.4 W per solenoid
- 5 common wires
- Female plug supplied with circuit bar

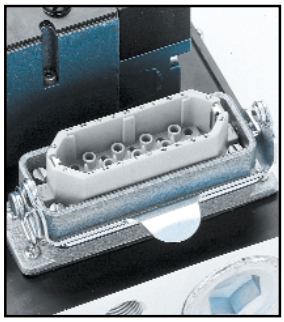
Connector RND (option ZZZY = RNDY ; Y = cable length)

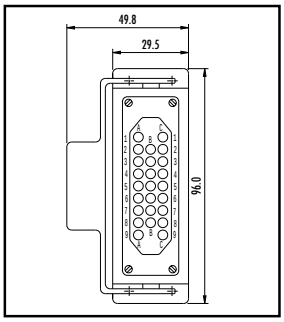


TECHNICAL DATA

- Type «Round connector»
- Number of contacts : 26
- Solder termination (Dia. 1 mm/1 mm²/17 AWG)
- Operating current 7.5 A/contact
- Rated voltage 250 V~
- Insulation resistance ≥ 10^{8} Ω
- Cable entry PG16
- Temp. range –40° to +125°C
- Protection class IP65 (DIN 40050)
- Number of solenoids : 24 max.
- 1 common and 1 ground
- All voltages
- Female plug supplied with circuit bar

Connector HDT (option ZZZY = HDTY ; Y = cable length)

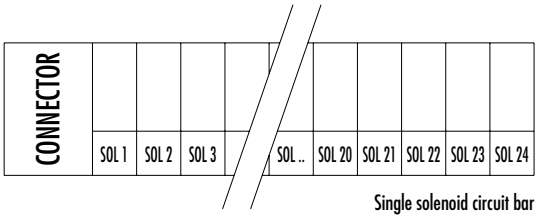




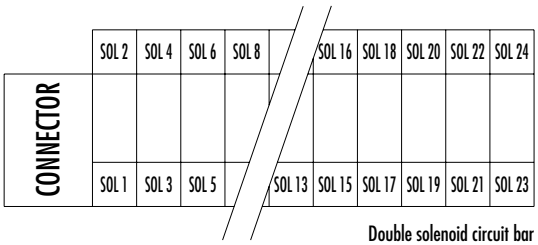
TECHNICAL DATA

- Type «Heavy duty»
- Number of contacts : 25
- Solder termination (Dia. 1.4 mm/0.75 mm²/18 AWG)
- Operating current 10 A/contact
- Rated voltage 250 V~
- Insulation resistance ≥ 10^{10} Ω
- Cable entry PG16
- Temp. range –40° to +125°C
- Protection class IP65 (DIN 40050)
- Number of solenoids : 24 max.
- 1 common and 1 ground
- All voltages
- Female plug supplied with circuit bar

Connector termination details



Single solenoid circuit bar

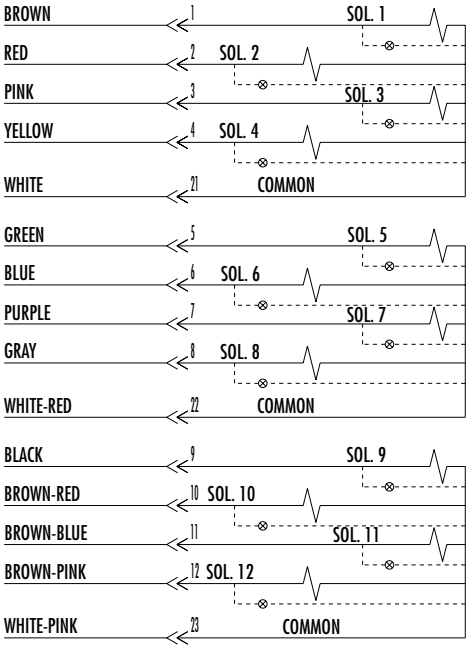


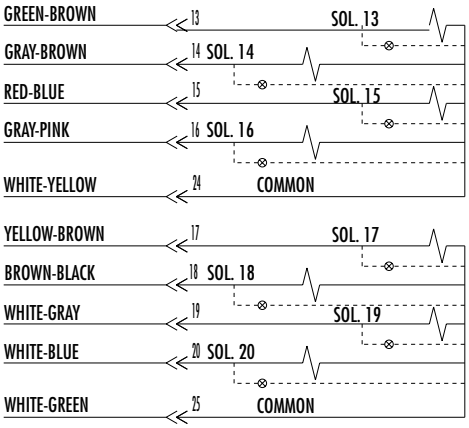
Double solenoid circuit bar

Connector SUB_D25 (option ZZZY = SUBY ; Y = cable length)

TECHNICAL DATA PREWIRED CABLE

- Type : LIYY -0.14 mm²
- Dia. ca. 9.3 mm
- Insulation resistance : 20 MΩ for 1000 meter
- Temp. range -5° to +80°C
- Rated voltage : 250 V~
- PVC core insulation and sheath

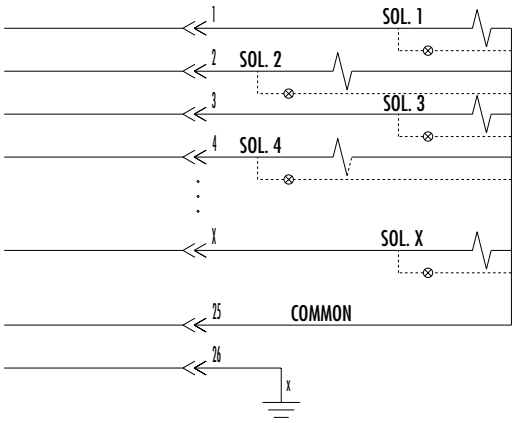




Connector RND [option ZZZY = SNDY ; Y = cable length]

TECHNICAL DATA PREWIRED CABLE

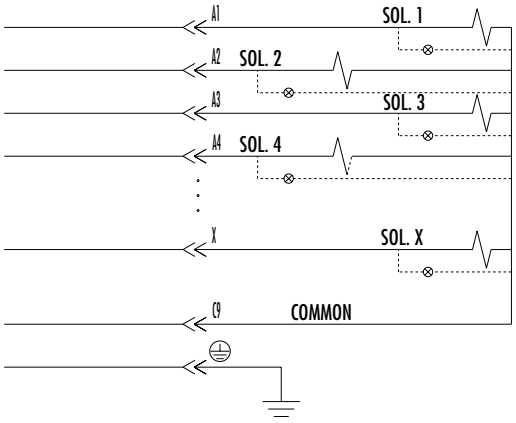
- Type : LIY(C)Y -0.50 mm²
- Dia. ca. 10.8 mm (12 core); 12.9 mm (18 core); 16.0 mm (32 core)
- Insulation resistance : 20 MΩ for 1000 meter
- Temp. range -5° to +80°C
- Rated voltage : 500 V~
- PVC core insulation and sheath
- Tinned copper wire braid



Connector HDT [option ZZZY = HDTY ; Y = cable length]

TECHNICAL DATA PREWIRED CABLE

- Type : LIY(C)Y -0.75 mm²
- Dia. ca. 12.0 mm (12 core); 13.5 mm (18 core); 18.0 mm (32 core)
- Insulation resistance : 20 MΩ for 1000 meter
- Temp. range -5° to +80°C
- Rated voltage : 500 V~
- PVC core insulation and sheath
- Tinned copper wire braid



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 ports are open to the exhaust port(s) of the valve. If having no air in either outlet port 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 ports 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 AND SERVICE PRECAUTIONS :

A. Do not install or service MAC valves without first making sure both the air and electrical power to the machine are off and that all air has been completely bled from the system.

B. MAC valves should only be installed and/or serviced 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 and graphic symbols. Do not install unless these symbols and the valve functions and operations are thoroughly understood.

C. Before service, maintenance, repair or cleaning, consult local distributor or factory for Parts & Operation Sheet and information on proper cleaning and lubrication agents. Do not subject MAC valves' parts to any foreign substance including lubricants and cleaning agents not specifically recommended by MAC valves, Inc.

D. 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 condition.

WARNING :

Under no circumstances are Mac valves to be used in any application where failure of the valve to operate as intended could jeopardize the safety of the operator or any other person.
- Do not operate outside of pressure range listed on valve label or outside of designated temperature range.
- Air supply must be clean. Contamination of valve can affect proper operation.
- Before attempting to repair, adjust or clean valve, consult catalog, parts & operation sheet, or factory for proper maintenance procedures, lubrication, and cleaning agents. Never attempt to repair or perform other maintenance with air pressure to valve.
- If airline lubrication is used, consult catalog, parts & operation sheet, or factory for recommended lubricants.

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.

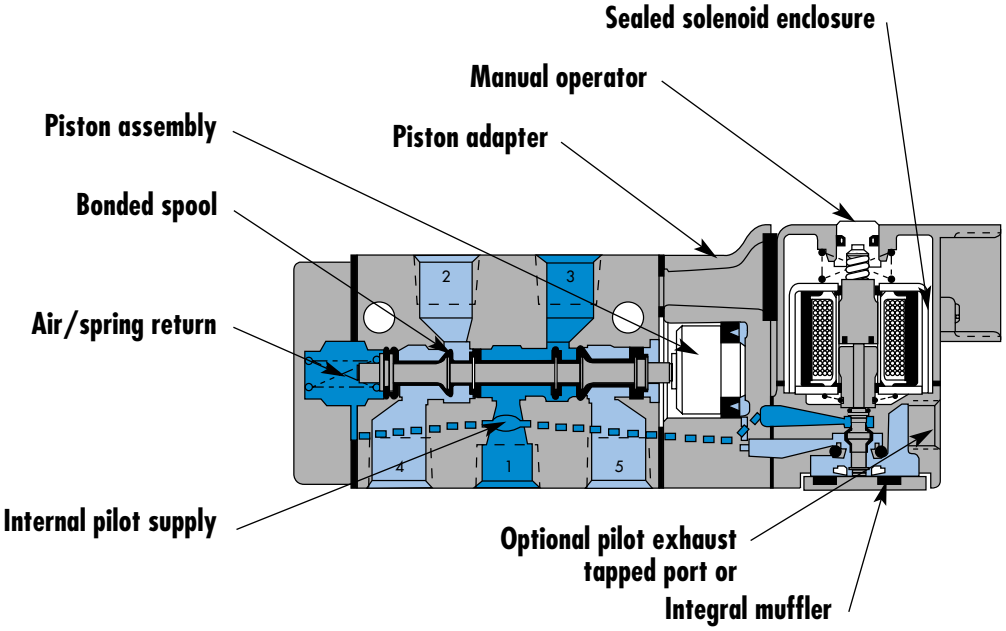
DISCLAIMER OF GUARANTEE

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. The 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.

Circuit bar mounting

cylinder ports in valve	with shut-off valve



SERIES FEATURES

- Patented MACSOLENOID® with its non-burn out feature on AC service.
- Air/spring return on single solenoid valves.
- Use for lube or non-lube service.
- Optional low wattage DC solenoids down to 1 watt.
- Various types of manual operators and solenoid enclosures.
- 2 position or 3 position valve configurations.

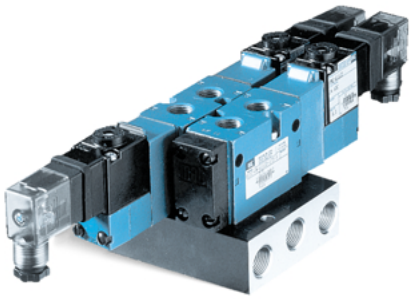
MAC

Series **800**

Function	Port size	Flow (Max)	Circuit bar mounting
5/2 - 5/3	**1/4"**	**1300 NL/min**	cylinder ports in valve

OPERATIONAL BENEFITS

1. Balanced spool, immune to variations of pressure.
2. Short stroke with high flow.
3. The piston (booster) provides maximum shifting forces.
4. Powerful return force thanks to the combination of mechanical and air springs.
5. Bonded spool with minimum friction, shifting in a glass-like finished bore.
6. Wiping effect eliminates sticking.
7. Pilot valve with balanced poppet, high flow, short and consistent response times.
8. Long service life.

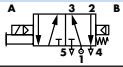
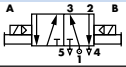
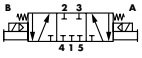
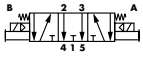
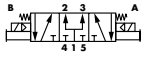


Reset

HOW TO ORDER

xxxx-PM-xxxxx-xxx

HOW TO ORDER VALVE FOR CIRCUIT BAR MOUNTING

Port size	5/2 Single operator	5/2 Double operator	5/3 Closed center	5/3 Open center	5/3 Pressure center
					
1/4" BSPP	○ 811C-PM-*XXYZZ*-175	○ 821C-PM-*XXYZZ*-175	○ 825C-PM-*XXYZZ*-575	○ 825C-PM-*XXYZZ*-675	○ 825C-PM-*XXYZZ*-875

SOLENOID OPERATOR ➤ *XX Y ZZ**

Voltage		Manual operator		Electrical connection	
○ *11*	120/60, 110/50	○ *1*	Non-locking	○ *JB*	Rectangular connector
○ *12*	240/60, 220/50	○ *2*	Locking	○ *JD*	Rectangular connector with light
○ *22*	24/50, 24/60	○ *xx*	Other Options	○ *BA*	Flying leads (45 cm)
○ *59*	24VDC (2.5 W)			○ *xx*	Other Options
○ *87*	24VDC (17.1 W)				
○ *61*	24VDC (8.5 W)				
○ *xx*	Other Options				

EBM800A-xxxx-xx

HOW TO ORDER CIRCUIT BAR**

Port size (Spacing 31 mm)	Standard circuit bar	Circuit bar with flow controls (2 per station)
3/8" BSPP	○ EBM800A-001B-*XX*	○ EBM800A-002B-*XX*

Number of stations (03=3 stations) ☐
Other options available. Consult factory.
Note : ☐ clic for valves mounted on base at the factory (add - 9 to the model number).

MAC

Series 800

100% OF PRODUCTION TESTED 100%

WARRANTY 18 MONTHS

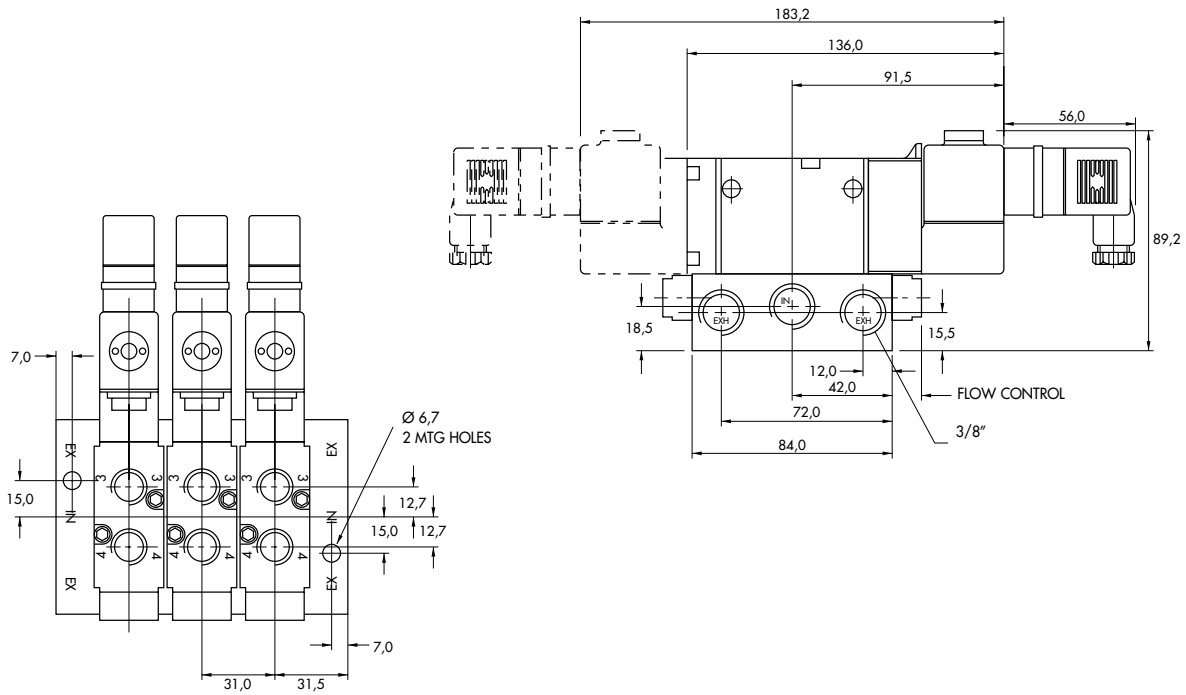
TECHNICAL DATA

Fluid :	Compressed air, vacuum, inert gases		
Pressure range :	Internal pilot : single operator and 3 positions : 1.3 - 10 BAR		double operator : 0.7 - 10 BAR
	External pilot : vacuum to 13.3 BAR		
Pilot pressure :	Single operator and 3 positions : 1.3 - 10 BAR		Double operator : 1.3 - 10 BAR
Lubrication :	Not required, if used select a medium aniline point lubricant (between 80°C to 100°C)		
Filtration :	40 µ		
Temperature range :	0°F to 120°F (-18°C to +50°C)		
Orifice :	7 mm		
Flow (at 6 bar, ΔP=1bar) :	1/4" : 1300 NL/min		
Leak rate :	50 cm^3/min		
Coil :	General purpose class A, continuous duty, encapsulated		
Voltage range :	-15% to +10% of nominal voltage		
Protection :	NEMA 4		
Power :	~ Inrush : 14.8 VA	Holding : 10.9 VA	
	= 1 to 17.1 W		
Response times :	24 V=/8.5 W	Energize : 8 ms	De-energize : 10ms
	60Hz/6 W	Energize : 5-11 ms	De-energize : 9-16 ms

Spare parts : • Pilot valve : PME-XXYZZ. • Mounting screw pilot to main valve : 34364. • Blanking plate : M-08008.
• Mounting screw valve to bar (x2): 35249. • Flow control : N08006.

Options : • NPTF threads. • Isolation of inlet and/or exhaust. • Explosion-proof model.

DIMENSIONS

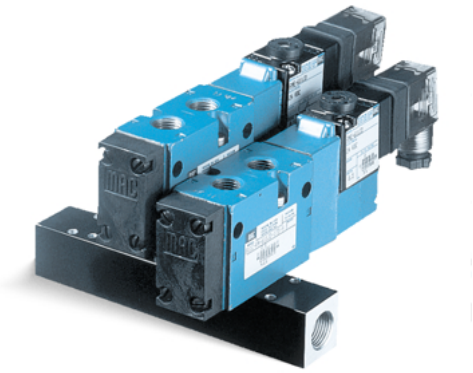


Series **800**

Function	Port size	Flow (Max)	Circuit bar mounting
5/2 - 5/3	**1/4"**	**1300 NL/min**	with shut-off valve

OPERATIONAL BENEFITS

1. Balanced spool, immune to variations of pressure.
2. Short stroke with high flow.
3. The piston (booster) provides maximum shifting forces.
4. Powerful return force thanks to the combination of mechanical and air springs.
5. Bonded spool with minimum friction, shifting in a glass-like finished bore.
6. Wiping effect eliminates sticking.
7. Pilot valve with balanced poppet, high flow, short and consistent response times.
8. Long service life.

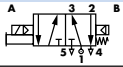
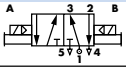
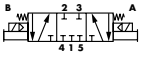
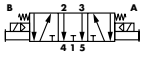
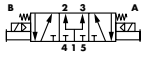


Reset

HOW TO ORDER

xxxx-PM-xxxxx-xxx

HOW TO ORDER VALVE FOR CIRCUIT BAR MOUNTING

Port size	5/2 Single operator	5/2 Double operator	5/3 Closed center	5/3 Open center	5/3 Pressure center
					
1/4" BSPP	○ 811C-PM-**XXYZZ**-175	○ 821C-PM-**XXYZZ**-175	○ 825C-PM-**XXYZZ**-575	○ 825C-PM-**XXYZZ**-675	○ 825C-PM-**XXYZZ**-875

SOLENOID OPERATOR ➤ XX Y ZZ*

Voltage		Manual operator		Electrical connection	
○ 11	120/60, 110/50	○ 1	Non-locking	○ JB	Rectangular connector
○ 12	240/60, 220/50	○ 2	Locking	○ JD	Rectangular connector with light
○ 22	24/50, 24/60	○ xx	Other Options	○ BA	Flying leads (45 cm)
○ 59	24VDC (2.5 W)			○ xx	Other Options
○ 87	24VDC (17.1 W)				
○ 61	24VDC (8.5 W)				
○ xx	Other Options				

EBI800A-xxxx-xx

HOW TO ORDER CIRCUIT BAR**

Port size (Spacing 31 mm)	w/o inlet shut-off valve	w/ inlet shut-off valve
3/8" BSPP	○ EBI800A-001B-**XX**	○ EBI800A-002B-**XX**

Number of stations (03=3 stations) ☐
Other options available. Consult factory.
Note : ☐ clic for valves mounted on base at the factory (add - 9 to the model number).

MAC

Series 800

100% OF PRODUCTION TESTED 100%

WARRANTY 18 MONTHS

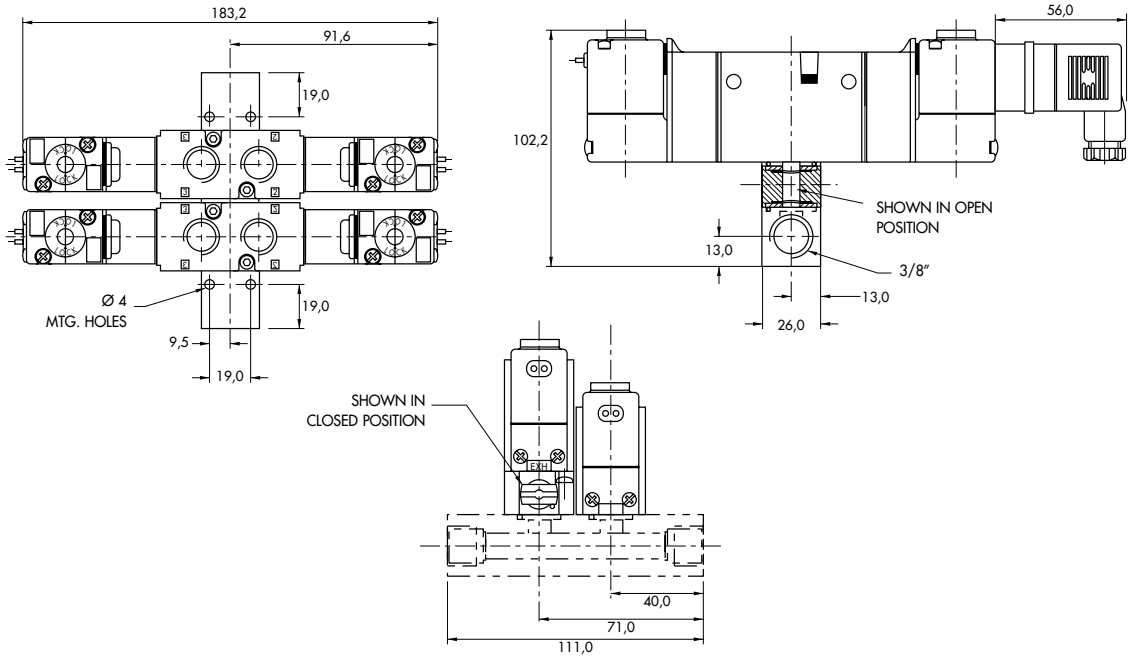
TECHNICAL DATA

Fluid :	Compressed air, vacuum, inert gases		
Pressure range :	Internal pilot : single operator and 3 positions : 1.3 - 10 BAR		double operator : 0.7 - 10 BAR
	External pilot : vacuum to 200 PSI		
Pilot pressure :	Single operator and 3 positions : 1.3 - 10 BAR		Double operator : 1.3 - 10 BAR
Lubrication :	Not required, if used select a medium aniline point lubricant (between 80°C to 100°C)		
Filtration :	40 µ		
Temperature range :	0°F to 120°F (-18°C to +50°C)		
Orifice :	7 mm		
Flow (at 6 bar, ΔP=1bar) :	1/4" : 1300 NL/min		
Leak rate :	50 cm^3/min		
Coil :	General purpose class A, continuous duty, encapsulated		
Voltage range :	-15% to +10% of nominal voltage		
Protection :	NEMA 4		
Power :	~ Inrush : 14.8 VA	Holding : 10.9 VA	
	= 1 to 17.1 W		
Response times :	24 V=/8.5 W	Energize : 8 ms	De-energize : 10ms
	60Hz/6 W	Energize : 5-11 ms	De-energize : 9-16 ms

Spare parts : • Pilot valve : PME-XXYZZ. • Mounting screw pilot to main valve : 34364. • Blanking plate : M-08011.
• Shut-off valve : M-08010. • Mounting screw valve to bar (x2): 35249.

Options : • NPTF threads. • Isolation of inlet and/or exhaust. • Explosion-proof model.

DIMENSIONS



Consult "Precautions" before use, installation or service of MAC Valves.

Section 2 Options

Codification table for voltages / Manual operator / Electrical connection / Wire length

VALVE CODE ➤ $-\underset{1}{XX}\ \underset{2}{Y}\ \underset{3}{ZZ}\ (-\underset{4}{VV})$

OPTIONS AVAILABLE FOR

- valves type 800 Series

OPTIONS

Back

1. VOLTAGE

- XX Y ZZ	VOLTAGE
11	120/60 - 110/50
12	240/60 - 220/50
13	100/60 - 100/50
15	200/60 - 200 V~/50 Hz
16	10/60
20	6/60
21	12/50 - 12/60
22	24/60 - 24/50
23	32/60 - 32/50
24	48/60 - 42/50
26	380/50, 440/50 -440/60, 480/60-CLSF
29	200/60
34	127/50 - 120/50
35	48/50
36	16/60
B1	24/50
50	24 VDC (6W)
51	24 VDC (4W)
54	12 VDC (4W)
55	12 VDC (6W)
57	12 VDC (2.5W)
59	24 VDC (2.5W)
60	12 VDC (8.5W)
61	24 VDC (8.5W)
64	6 VDC (6W)
65	32 VDC (7W)
66	48 VDC (5.8W)
67	64 VDC (7.5W)
68	120 VDC (6.4W)
75	90 VDC (8.8W)
76	100 VDC (6.9W)
*84	125 VDC (10.9W)
*87	24 VDC (17.1W)
*88	12 VDC (17.4W)
*89	36 VDC (18.8W)
90	28 VDC (8.2W)
*91	6 VDC (10.6W)
92	190 VDC (6.5W)
94	3 VDC (7W)
95	38 VDC (6.4W)
A1	24 VDC (1.0W)
A2	12 VDC (1.0W)
A3	9 VDC (1.0W)

MOD. DD01 : Protection diode (DC)

MOD. MOV1 : Protection varistor (AC)

MOD. DD01 : max. 8,5 W

MOD. MOV1 : max. 8,5 W

* Voltages are CLSF only

2. MANUAL OPERATOR

- XX Y ZZ	MANUAL OPERATOR
0	No operator
1	Non-locking recessed
2	Locking recessed
3	Non-locking extended
4	Locking extended

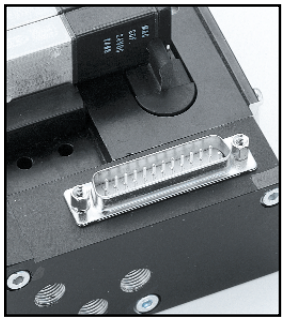
3. ELECTRICAL CONNECTION

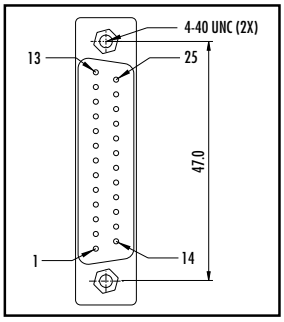
- XX Y ZZ	ELECTRICAL CONNECTION
AA	Wiring box with 1/2" NPS conduit
BA	Flying leads
CA	1/2" NPS conduit
CC	1/2" NPT conduit
FA	Military type 2 PIN
GA	Military type 3 PIN
HA	AA with ground wire
JA	Square connector
JB	Rectangular connector
JC	Square connector with light
JD	Rectangular connector with light
JJ	Square connector, male only
JM	Rectangular connector, male only
NA	CA with ground wire
NC	CC with ground wire
RA	3/8" NPS conduit
CD	20 mm conduit

4. WIRE LENGTH

- XX Y ZZ (-VV)	WIRE LENGTH
AA	45 cm
AB	60 cm
AD	90 cm
AE	120 cm
AF	180 cm
AG	15 cm
AR	30 cm
AU	305 cm
BA	150 cm
BB	366 cm

Connector SUB_D 25 (option ZZZY = SUBY ; Y = cable length)

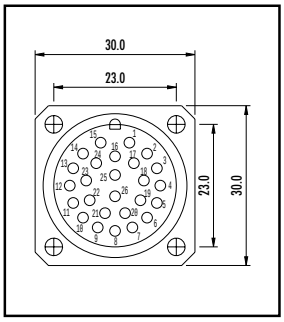




TECHNICAL DATA

- Type «SUB_D»
- Number of contacts : 25
- Solder termination (Dia. 0.6 mm/0.14 mm²/26-22 AWG)
- Operating current 5 A/contact
- Rated voltage 125 V~
- Temp. range –40° to +125°C
- Insulation resistance ≥ 10^{10} Ω
- Protection class IP40 (DIN 40050)
- Number of solenoids : 20 max.
- Max. 24 V=/5.4 W per solenoid
- 5 common wires
- Female plug supplied with circuit bar

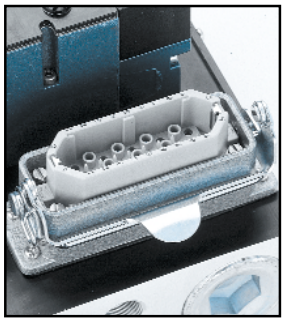
Connector RND (option ZZZY = RNDY ; Y = cable length)

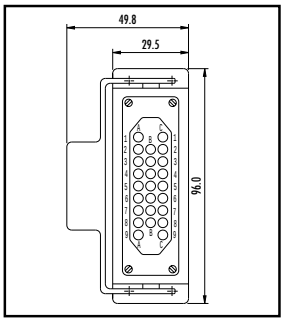


TECHNICAL DATA

- Type «Round connector»
- Number of contacts : 26
- Solder termination (Dia. 1 mm/1 mm²/17 AWG)
- Operating current 7.5 A/contact
- Rated voltage 250 V~
- Insulation resistance ≥ 10^{8} Ω
- Cable entry PG16
- Temp. range –40° to +125°C
- Protection class IP65 (DIN 40050)
- Number of solenoids : 24 max.
- 1 common and 1 ground
- All voltages
- Female plug supplied with circuit bar

Connector HDT (option ZZZY = HDTY ; Y = cable length)

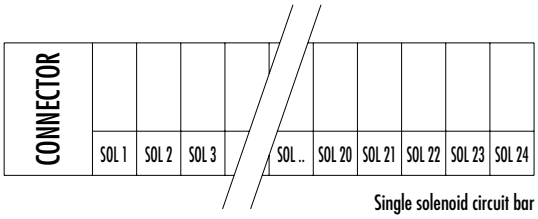




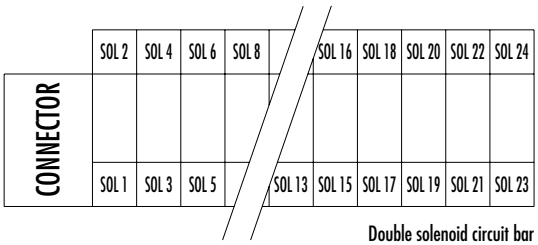
TECHNICAL DATA

- Type «Heavy duty»
- Number of contacts : 25
- Solder termination (Dia. 1.4 mm/0.75 mm²/18 AWG)
- Operating current 10 A/contact
- Rated voltage 250 V~
- Insulation resistance ≥ 10^{10} Ω
- Cable entry PG16
- Temp. range –40° to +125°C
- Protection class IP65 (DIN 40050)
- Number of solenoids : 24 max.
- 1 common and 1 ground
- All voltages
- Female plug supplied with circuit bar

Connector termination details



Single solenoid circuit bar

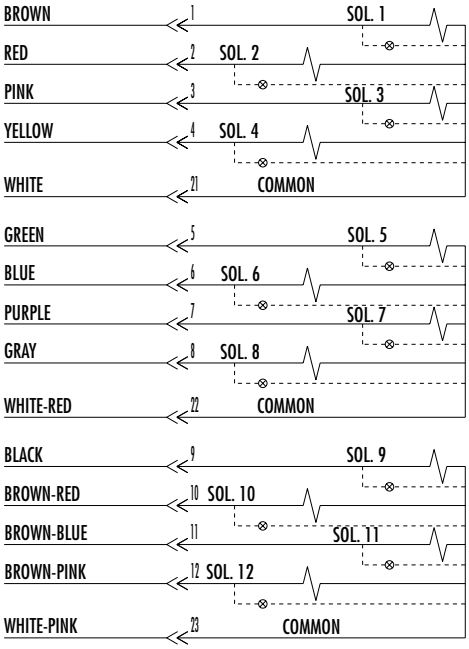


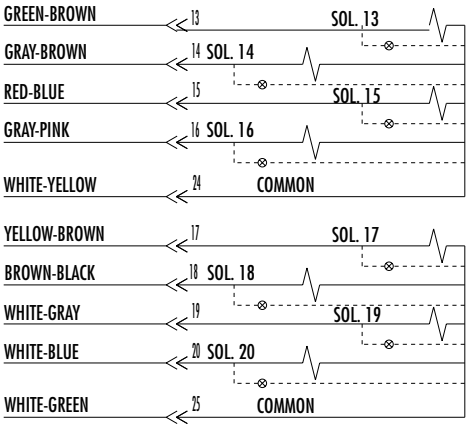
Double solenoid circuit bar

Connector SUB_D25 (option ZZZY = SUBY ; Y = cable length)

TECHNICAL DATA PREWIRED CABLE

- Type : LIYY -0.14 mm²
- Dia. ca. 9.3 mm
- Insulation resistance : 20 MΩ for 1000 meter
- Temp. range -5° to +80°C
- Rated voltage : 250 V~
- PVC core insulation and sheath

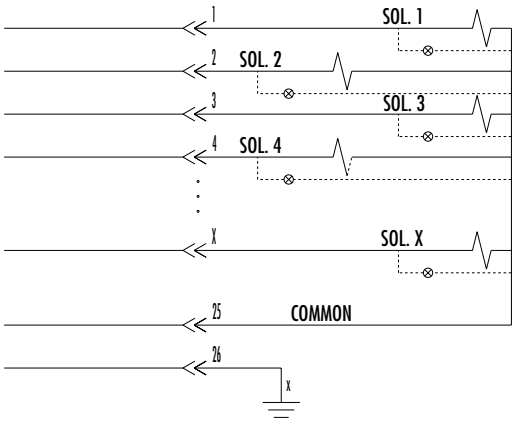




Connector RND [option ZZZY = SNDY ; Y = cable length]

TECHNICAL DATA PREWIRED CABLE

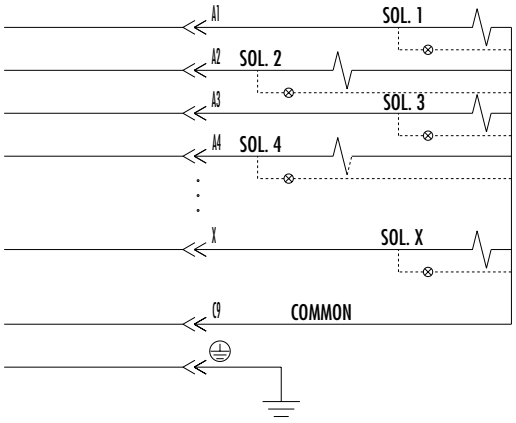
- Type : LIY(C)Y -0.50 mm²
- Dia. ca. 10.8 mm (12 core); 12.9 mm (18 core); 16.0 mm (32 core)
- Insulation resistance : 20 MΩ for 1000 meter
- Temp. range -5° to +80°C
- Rated voltage : 500 V~
- PVC core insulation and sheath
- Tinned copper wire braid



Connector HDT [option ZZZY = HDTY ; Y = cable length]

TECHNICAL DATA PREWIRED CABLE

- Type : LIY(C)Y -0.75 mm²
- Dia. ca. 12.0 mm (12 core); 13.5 mm (18 core); 18.0 mm (32 core)
- Insulation resistance : 20 MΩ for 1000 meter
- Temp. range -5° to +80°C
- Rated voltage : 500 V~
- PVC core insulation and sheath
- Tinned copper wire braid



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 ports are open to the exhaust port(s) of the valve. If having no air in either outlet port 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 ports 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 AND SERVICE PRECAUTIONS :

A. Do not install or service MAC valves without first making sure both the air and electrical power to the machine are off and that all air has been completely bled from the system.

B. MAC valves should only be installed and/or serviced 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 and graphic symbols. Do not install unless these symbols and the valve functions and operations are thoroughly understood.

C. Before service, maintenance, repair or cleaning, consult local distributor or factory for Parts & Operation Sheet and information on proper cleaning and lubrication agents. Do not subject MAC valves' parts to any foreign substance including lubricants and cleaning agents not specifically recommended by MAC valves, Inc.

D. 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 condition.

WARNING :

Under no circumstances are Mac valves to be used in any application where failure of the valve to operate as intended could jeopardize the safety of the operator or any other person.
- Do not operate outside of pressure range listed on valve label or outside of designated temperature range.
- Air supply must be clean. Contamination of valve can affect proper operation.
- Before attempting to repair, adjust or clean valve, consult catalog, parts & operation sheet, or factory for proper maintenance procedures, lubrication, and cleaning agents. Never attempt to repair or perform other maintenance with air pressure to valve.
- If airline lubrication is used, consult catalog, parts & operation sheet, or factory for recommended lubricants.

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. The 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.