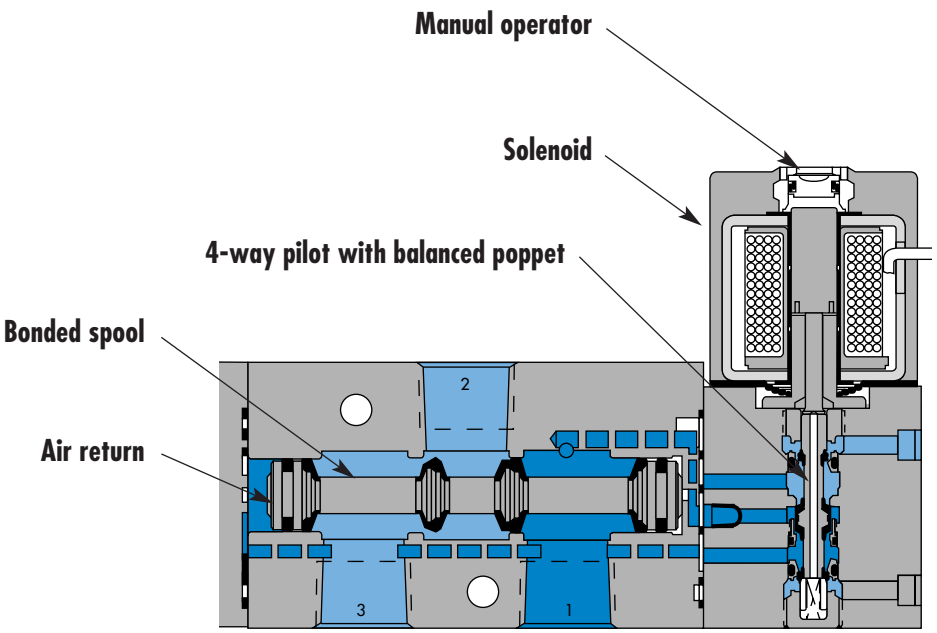
Individual mounting

Inline

Series



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.

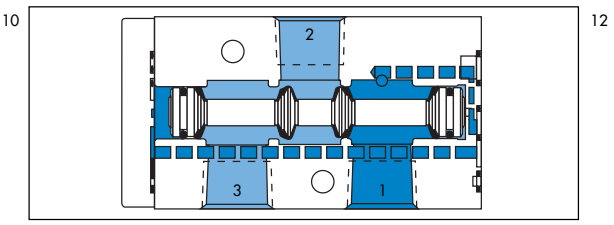
Consult "Precautions" page 327 before use, installation or service of MAC Valves..

100% OF PRODUCTION TESTED 100%

WARRANTY 18 MONTHS

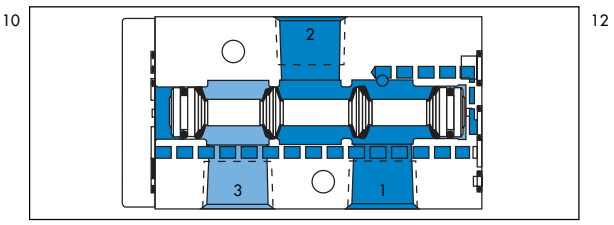
SPOOL CONFIGURATIONS

INTERNAL PILOT



NORMALLY CLOSED 3 WAY

INTERNAL PILOT



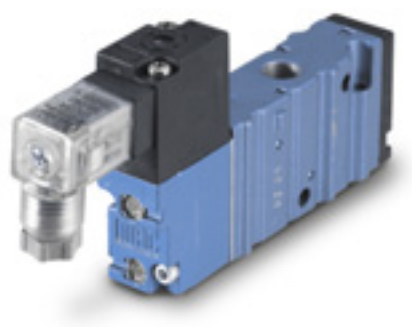
NORMALLY OPEN 3 WAY

Consult "Precautions" page 327 before use, installation or service of MAC Valves..

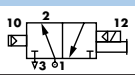
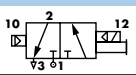
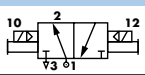
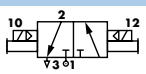
Function	Port size	Flow (Max)	Individual mounting	Series
3/2 NO-NC, 2/2 NO-NC	**1/8" - 1/4"**	**1.5 C_v**	Inline	

OPERATIONAL BENEFITS

1. The 4-way pilot develops maximum shifting force 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.



HOW TO ORDER

Port size	Pilot air	Single Operator NO Valve	Single Operator NC Valve	Double Operator NO Valve	Double Operator NC Valve
					
1/8" NPTF	Internal	52A-31-A0A-XX-X-***XXX-XXX***	52A-11-A0A-XX-X-***XXX-XXX***	52A-41-A0A-XX-X-***XXX-XXX***	52A-21-A0A-XX-X-***XXX-XXX***
1/4" NPTF		52A-31-B0A-XX-X-***XXX-XXX***	52A-11-B0A-XX-X-***XXX-XXX***	52A-41-B0A-XX-X-***XXX-XXX***	52A-21-B0A-XX-X-***XXX-XXX***
1/8" NPTF	External	52A-31-A0B-XX-X-***XXX-XXX***	52A-11-A0B-XX-X-***XXX-XXX***	52A-41-A0B-XX-X-***XXX-XXX***	52A-21-A0B-XX-X-***XXX-XXX***
1/4" NPTF		52A-31-B0B-XX-X-***XXX-XXX***	52A-11-B0B-XX-X-***XXX-XXX***	52A-41-B0B-XX-X-***XXX-XXX***	52A-21-B0B-XX-X-***XXX-XXX***

SOLENOID OPERATOR ➤ DM-D ***XXX-XXX****

XX	Voltage
JA	110/50, 120/60 (2.9W)
JB	220/50, 240/60 (2.9W)
JC	24/60 (2.9W)
FB	24 VDC (1.8W)
DA	24 VDC (5.4W)
DF	24 VDC (12.7W)

X	Wire length
A	18" (Flying leads)
B	24" (Flying leads)
J	Connector

X	Manual operator
1	Non-locking recessed
2	Locking recessed

XX	Electrical connection
KA	Square connector
KD	Square connector with light
JB	Rectangular connector
JD	Rectangular connector with light
BA	Flying leads

SOLENOID OPERATOR ➤ GM-G ***XXX-XXX*****

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

X	Wire length
A	18"
B	24"
C	36"

X	Manual operator
1	Non-locking recessed
2	Locking recessed

XX	Electrical connection
BA	Flying leads
BT	Flying leads with light
KA	Plug-in wire assy.
KT	Plug-in wire assy. with light

* Other options available, see page 309.
** Other options available, see page 313.

OPTIONS

52A-3**1**-A0A-XX-X-***XXX-XXX***

For memory spring, replace by **4** (single solenoid only)

MAC

Series 52

100% OF PRODUCTION TESTED 100%

WARRANTY 18 MONTHS

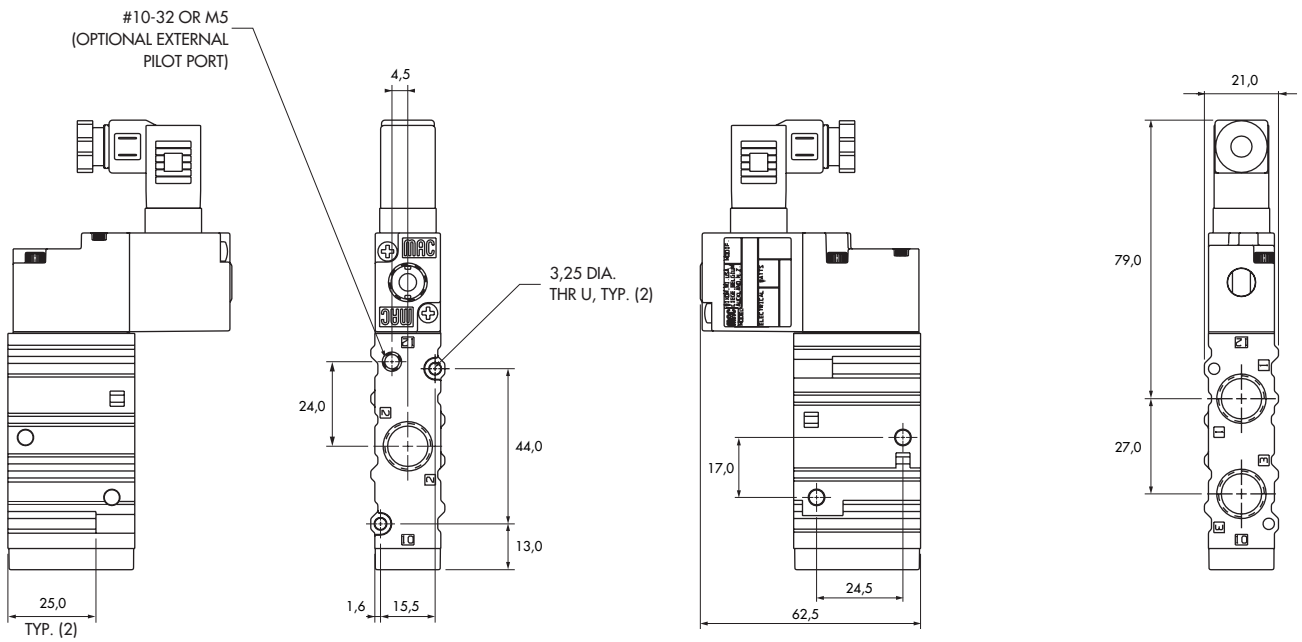
TECHNICAL DATA

Fluid :	Compressed air, vacuum, inert gases		
Pressure range :	Internal Pilot : 20 to 120 PSI External Pilot : 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)		
Flow :	1/8" : (1.2 C_v) – 1/4" : (1.5 C_v)		
Coil :	Class A continuous duty, #22 AWG x 18 lead wires		
Voltage range :	-15% to +10% of nominal voltage		
Protection :	Consult factory		
Power :	~Inrush: 10.9 VA = 1.8 to 12.7 W	Holding: 7.7 VA	
Response times :	24V=/5.4W 120/60	Energize: 7.3 ms Energize: 8-12 ms	De-energize: 5.3 ms De-energize: 7-11 ms

Options : • BSPP threads

DIMENSIONS

Dimensions shown are metric (mm)



Consult "Precautions" page 327 before use, installation or service of MAC Valves..

OPTIONS

Codification table for voltages / Manual operator / Electrical connection

VALVE CODE ➤ **-DM- D XX X-X XX**
1 2 3 4

OPTIONS AVAILABLE FOR
- Pilot operated valves 52, 67, 92, 93, 400, ISO1, ISO2, ISO3 Series

Consult "Precautions" page 327 before use, installation or service of MAC Valves..

MAC

OPTIONS

1. VOLTAGE

D-XX X-X XX	VOLTAGE
DA	24 VDC (5.4W)
DB	12 VDC (5.4W)
DC	12 VDC (7.5W)
DD	24 VDC (7.3W)
DE	12 VDC (12.7W)
DF	24 VDC (12.7W)
DK	110 VDC (4.7W)
DJ	28 VDC (5.2W)
DL	64 VDC (6.0W)
DM	36 VDC (5.3W)
DN	6 VDC (6.0W)
DR	90 VDC (6.6W)
DS	110 VDC (7.3W)
DT	75 VDC (5.6W)
DP	48 VDC (5.8W)
FA	12 VDC (1.8W)
FB	24 VDC (1.8W)
FE	12 VDC (2.4W)
FF	24 VDC (2.4W)
JA	120/60, 110/50 (2.9W)
JB	240/60, 220/50 (2.9W)
JC	24/60, 24/50 (3.7W)
JD	100/60, 100/50, 110/60 (3.9W)
JE	220/60 (3.4W)
JF	240/50 (2.8W)
JG	200/60, 200/50 (3.9W)

2. WIRE LENGTH

D-XX X-X XX	WIRE LENGTH
0	No wires
A	18"
B	24"
C	36"
D	48"
E	72"
F	96"

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 (grommet)
BK*	BA with protection diode
BL*	BA with protection varistor
BM**	Flying leads (solenoid plug-in)
BN**	BM with protection diode
BP**	BM with protection varistor
BG**	BM with ground
BH**	BM with protection diode & ground
BJ**	BM with protection varistor & ground
CA*	1/2" NPS conduit with flying leads
CM*	1/2" NPS metal conduit with flying leads
CN*	1/2" NPS metal conduit with flying leads & ground
JB	Rectangular connector
JD	JB with light
JM	Rectangular connector (male only)
KA	Mini square connector
KB	KA with protection diode
KC	KA with protection varistor
KD	KA with light
KE	KA with light and protection diode
KF	KA with light and protection varistor
KG	KA with light & diode
KJ	Mini square connector (male only)
KK	KJ with protection diode (male only)
KL	KJ with protection varistor (male only)
TA	Dual tabs with receptacles
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

* From Lead wire length options choose A through F

** From Lead wire length options choose 0 through F

Note: When coil is above 30 volts, a ground wire is required. Applies to options with flying leads.

Consult "Precautions" page 327 before use, installation or service of MAC Valves..

OPTIONS

Codification table for voltages / Manual operators / Electrical connections

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

OPTIONS AVAILABLE FOR
- Solenoid valves 52 & 400 Series

Consult "Precautions" page 327 before use, installation or service of MAC Valves..

MAC

OPTIONS

1. VOLTAGE

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)

2. WIRE LENGTH

G-XX X-X XX	WIRE LENGTH
0	No lead wire (use only with "KJ" & "KM" elecrical connectors)
A	18"
B	24"
C	36"
D	48"
E	72"
F	96"
G	120"
H	144"

3. MANUAL OPERATOR

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

4. ELECTRICAL CONNECTION

G-XX X-X XX	ELECTRICAL CONNECTION
BA	Flying leads
BB	BA with ground wire
BC	BA with light parallel to leads
BD	BA with light parallel to leads & ground wire
BE	BA with suppression diode
BF	BA with suppression diode & ground wire
BG	BA with suppression diode plus light parallel to leads
BH	BA with suppression diode plus light parallel to leads & ground wire
*BN	BA with suppression diode plus blocking diode
*BP	BA with suppression diode plus blocking diode & ground wire
*BR	BA with suppression diode plus blocking diode & light parallel to leads
*BS	BA with suppression diode plus blocking diode & light parallel to leads & ground wire
BT	BA with light on top
BU	BA with light on top & ground wire
BV	BA with suppression diode plus light on top
BW	BA with suppression diode plus light on top & ground wire
*BX	BA with suppression diode plus blocking diode & light on top
*BY	BA with suppression diode plus blocking diode & light on top & ground wire

G-XX X-X XX	SOLENOID PLUG-IN CONNECTOR WITH LEADS
GA	MAC JAC Solenoid plug-in
GB	MAC JAC Solenoid plug-in w/Diode
GC	MAC JAC Solenoid plug-in w/MOV
GD	MAC JAC Solenoid plug-in w/LED
GE	MAC JAC Solenoid plug-in w/Diode & LED
GF	MAC JAC Solenoid plug-in w/MOV & LED
GG	MAC JAC Solenoid plug-in w/Rectifier
GH	MAC JAC Solenoid plug-in w/Rectifier & LED
KA	Plug-in wire assembly
KB	KA with ground wire
KE	KA with suppression diode
KF	KA with suppression diode & ground wire
KJ	Plug-in housing without wire assembly ('KA' without wire assembly)
KM	Plug-in housing without wire assembly ('KB' without wire assembly)
*KN	KA with suppression diode plus blocking diode
*KP	KA with suppression diode plus blocking diode & ground wire
KT	KA with light on top
KU	KA with light on top & ground wire
KV	KA with suppression diode plus light on top
KW	KA with suppression diode plus light & ground wire
*KX	KA with suppression diode plus blocking diode & light on top
*KY	KA with suppression diode plus blocking diode & light on top & ground wire

Note: Blocking diode is located in the lead wire

Consult "Precautions" page 327 before use, installation or service of MAC Valves..