MAC 52 Series Valve

MAC

52 Series

3/2-way remote & solenoid pilot operated (5-way pilot)

Available configurations:	Individual inline, individual base mounted or manifold mounted bodies
Port sizes:	1/8'', 1/4'' ports
Flow:	Up to 1500 Nl/min (1.5 Cv)
Pressure range:	Vacuum to 8 bar
Function:	3/2 (single & double operator), 3/2 (normally open & normally closed)
Operation:	Electrical / Remote air
Pilot valve:	DM / DP / DU / GM
Accessories:	Circuit bar / Flow controls

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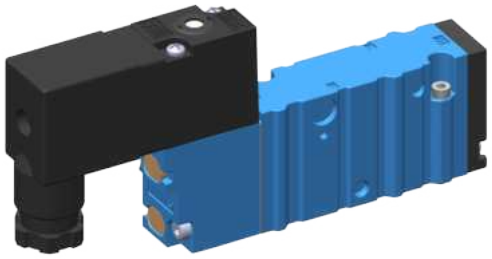
MAC 52 Series Valve

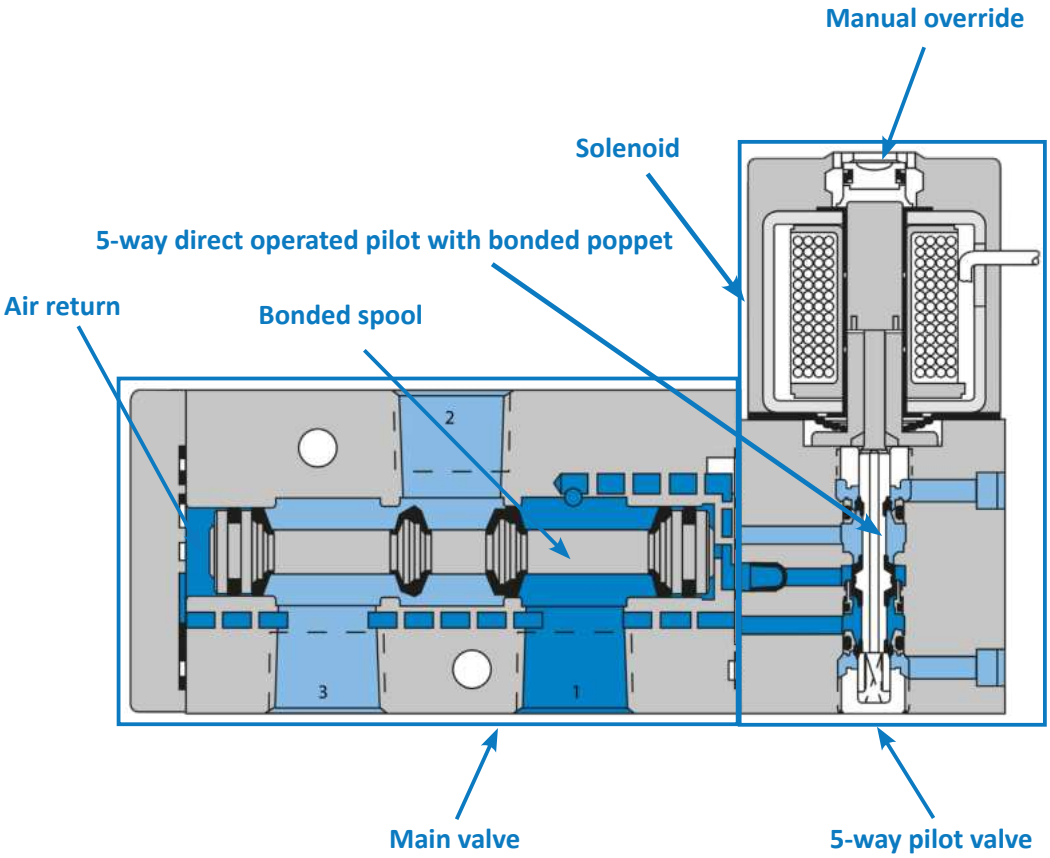
MAC 52 Series - Solenoid pilot operated valve

3-way, 2 position, spool

Flow up to 1500 Nl/min (1.5 Cv)



- ◊ MAC unique patented 5-way direct operating pilot valve
- ◊ The 5-way pilot develops maximum shifting forces both ways
- ◊ Short stroke with high flow
- ◊ Balanced spool, immune to variations of pressure, also provides high flow
- ◊ Bonded spool with minimum friction, shifting in a glass-like finished bore
- ◊ Wiping effect eliminates sticking
- ◊ Long service life
- ◊ Repair kit available for the complete valve



Valve with side ports, single operator, single pressure, internal pilot

MAC 52 Series Valve

MAC 52 Series - Solenoid pilot operated valve

Technical data

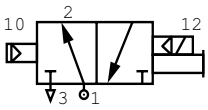
Fluid:	Compressed air, vacuum, inert gases
Pressure range:	Internal pilot : 1.3 to 8 bar External pilot: vacuum to 8 bar
Pilot pressure:	1.3 to 8 bar
Lubrication:	Not required, if used, select a medium aniline point lubricant (between 80°C and 100°C)
Filtration:	40 µ
Temperature range:	-18°C to +50°C
Orifice:	7.3 mm
Flow (at 6 bar, ΔP=1 bar):	G1/8'': 1200 Nl/min (1.2 Cv) - G1/4'': 1500 Nl/min (1.5 Cv)
Coil:	Epoxy encapsulated - Class A wires - 100% ED (mod 0449)
Voltage range:	-15% to +10% of nominal voltage
Protection:	IP54 (GM pilot) - IP65 (DM pilot) (Electrical connection)
Power:	~ Inrush: 10.9 VA Holding: 7.7 VA = 1.8 to 12.7 W
Response times:	24V=/5.4W Energize: 7.3 ms De-energize: 5.3 ms 110V~/50Hz Energize: 8-12 ms De-energize: 7-11 ms

Solenoid pilot operated valve

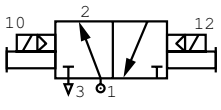
Single pressure models

3/2

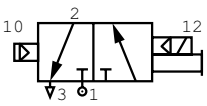
Single operator normally open valve



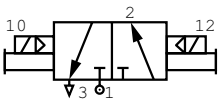
Double operator normally open valve



Single operator normally closed valve



Double operator normally closed valve

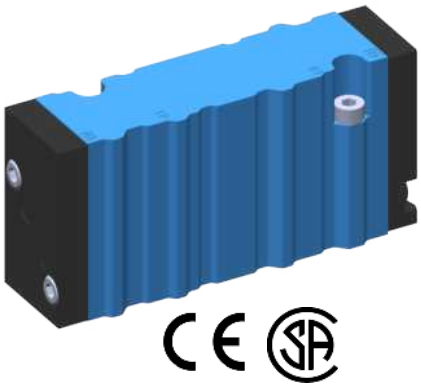


MAC 52 Series Valve

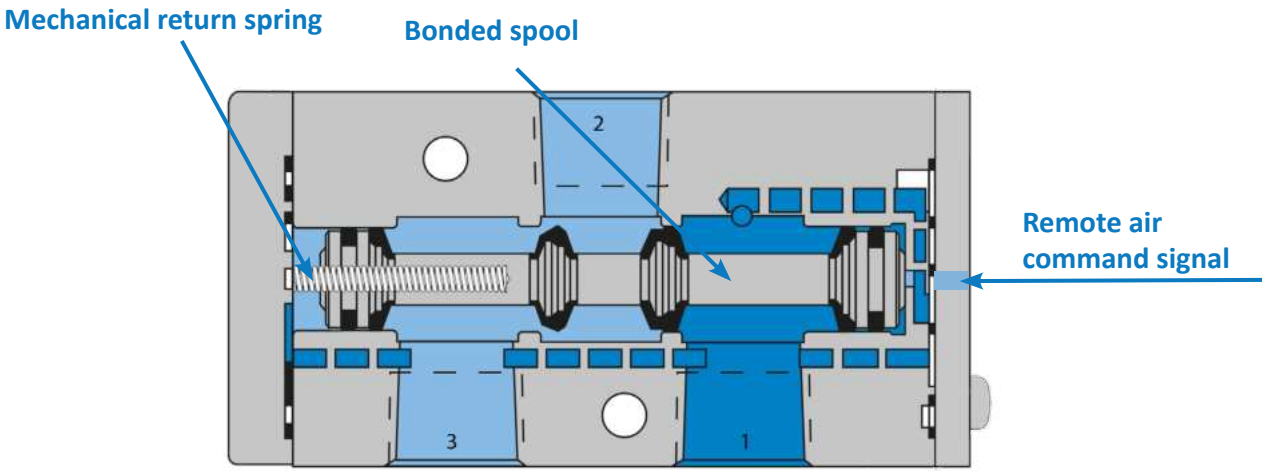
MAC 52 Series - Remote air valve

3 ported, 2 position, spool

Flow up to 1500 Nl/min (1.5 Cv)



- ◊ Balanced spool, immune to variations of pressure, also provides high flow
- ◊ Bonded spool with minimum friction, shifting in a glass-like finished bore
- ◊ Short stroke with high flow
- ◊ Wiping effect eliminates sticking
- ◊ Long service life
- ◊ Repair kit available for complete valve



Valve with single remote operator, single pressure, normally closed, side ports

MAC 52 Series Valve

MAC 52 Series - Remote air valve

Technical data

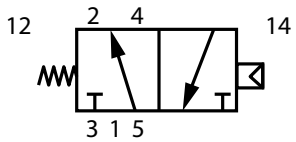
Fluid:	Compressed air, vacuum, inert gases
Pressure range:	Single op.: vacuum to 6.7 bar - Double op.: vacuum to 10 bar
Air signal pressure:	Single op.: 2.7 to 10 bar - Double op.: 1.3 to 10 bar
Lubrication:	Not required, if used, select a medium aniline point lubricant (between 80°C and 100°C)
Filtration:	40 µ
Temperature range:	-18°C to +50°C
Orifice:	7.5 mm
Flow (at 6 bar, ΔP=1 bar):	G1/8'': 1200 Nl/min (1.2 Cv) - G1/4'': 1500 Nl/min (1.5 Cv)

Remote air valve

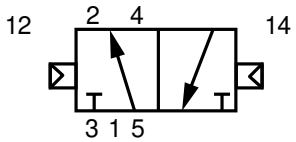
Single pressure models

3/2

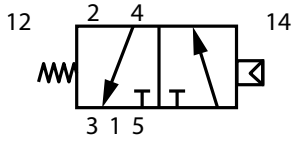
Single operator normally open valve



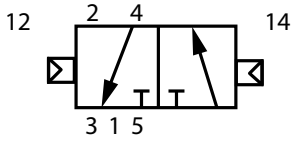
Double operator normally open valve



Single operator normally closed valve

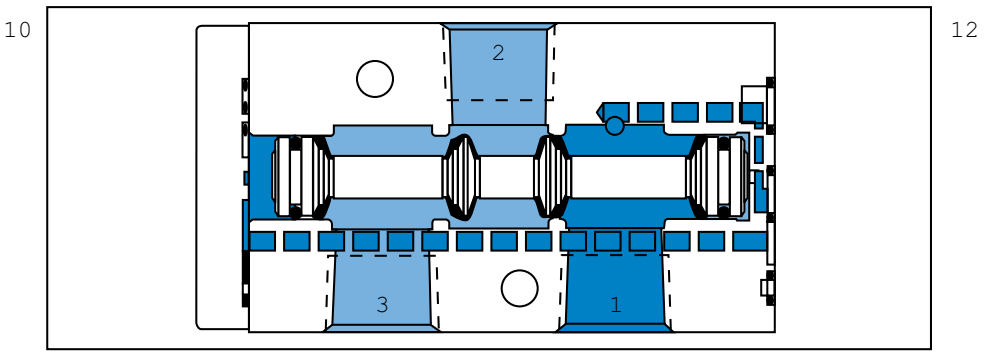


Double operator normally closed valve



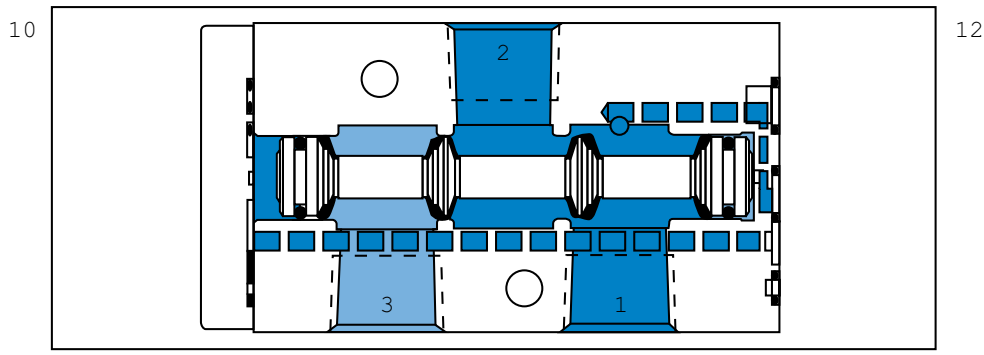
MAC 52 Series - Spool configurations

Internal Pilot



Normally closed 3-way

Internal Pilot



Normally open 3-way

MAC 52 Series Valve

MAC 52 Series - How to order

How to order valve

52A - X X - X X X - X X - X X X X - X X

PILOT VALVE - See below

SPOOL TYPE	BODY OPTIONS	PORT SIZE & THREAD TYPE IN. & CYL.	BASE CONFIGURATION	INT./EXT. PILOT
1 Sgl. oper. N.C. main	**1** Inline 3 port	**0** Manifold body	**0** Inline or manifold body	**A** Internal pilot
2 Dbl. oper. N.C. main	**3** Manifold body	**A** 1/8 NPTF		**B** External pilot - For inline bodies only
3 Sgl.oper. N.O. main	**4** Inline 3 port w/ memory spring	**B** 1/4 NPTF		**C** Common external pilot
4 Dbl.oper. N.O. main	**6** Manifold body w/ memory spring	**C** 1/8 BSPPL		
		D 1/4 BSPPL		
		E 1/8 BSPTR		
		F 1/4 BSPTR		

How to order remote air version

52A - X X - X X X - RA

Remote Air

SPOOL TYPE	BODY TYPE	PORT SIZE & THREAD TYPE	CONFIGURATION	PILOT PORT
1 Sgl. oper. NC.	**1** Inline 3 port	**0** Manifold body	**0** Inline or manifold body	**H** Pilot port size #10-32
2 Dbl. oper. NC.	**3** Manifold body	**A** 1/8'' NPTF		**J** Pilot port size M5 (Metric)
3 Sgl. oper. NO.		**B** 1/4'' NPTF		
4 Dbl. oper. NO.		**C** 1/8'' BSPPL		
		D 1/4'' BSPPL		
		E 1/8'' BSPTR		
		F 1/4'' BSPTR		

* For single operator valves, use MOD 1493

MAC 52 Series Valve

MAC 52 Series - How to order

How to order solenoid operator

DM - D XX X - X XX*

VOLTAGE	LEAD WIRE LENGTH	MANUAL OVERRIDE	ELECTRICAL CONNECTOR*
JA 110 V~ / 50 Hz	**0** No wires	**0** No operator	**BA** Flying leads
JB 220 V~ / 50 Hz	**A** 45 cm	**1** Non-locking recessed	**BK** Flying leads with protection diode
JC 24 V~ / 50 Hz	**B** 60 cm	**2** Locking recessed	**BL** Flying leads with protection varistor
DA 24 V= / 5.4 W	**C** 90 cm	**3** Non-locking extended	**JB** DIN 43650 - Industrial type B connector (male + female)
DB 12 V= / 5.4 W	**D** 120 cm	**4** Locking extended	**JD** DIN 43650 - Industrial type B connector with light (male + female)
DC 12 V= / 7.5 W	**E** 180 cm		**JM** DIN 43650 - Industrial type B connector (male only)
DD 24 V= / 7.3 W	**F** 240 cm		**KA** DIN 43650 - Industrial type C connector
FA 12 V= / 1.8 W	**J** Connector		**KB** DIN 43650 - Industrial type C connector with protection diode
FB 24 V= / 1.8 W			**KJ** DIN 43650 - Industrial type C connector with protection varistor
FE 12 V=/ 2.4 W			**TA** Dual tabs with receptacles
FF 24 V= / 2.4 W			**TB** TA with protection diode

* Other options available, see page 11

GM - G XX X - X XX*

VOLTAGE	LEAD WIRE LENGTH	MANUAL OVERRIDE	ELECTRICAL CONNECTOR*
DC 24 V= / 1.8 W	**0** No wires	**1** Non locking recessed	**BA** Flying leads w/o ground wire
DD 24 V= / 2.5 W	**A** 45 cm	**3** Non locking extended	**BB** Flying leads w/ ground wire
DE 24 V= / 3.0 W	**B** 60 cm		**BT** Flying leads with LED light on top (no ground wire)
DF 24 V= / 4.0 W	**C** 90 cm		**KA** Plug-in wire assembly (no ground wire)
DJ 12 V= / 1.8 W	**D** 120 cm		**KB** Plug-in wire assembly w/ ground wire
DK 12 V= / 2.5 W	**E** 180 cm		**KT** Plug-in wire assembly w/ LED light on top
DM 12 V= / 3.0 W	**F** 240 cm		
DN 12 V= / 4.0 W	**G** 305 cm		
ED 120 V= / 2.5 W	**H** 366 cm		

* Other options available, see page 12

MAC 52 Series Valve

MAC 52 Series - References for DM pilot valve

Codification table for voltages / Manual override / Electrical connection

VALVE CODE □ **-DM- XX X-X XX**
1 2 3 4

* From Lead wire length options choose A through F
Note: When coil is above 30 volts, a ground wire is required. Applies to options with flying leads.

1. VOLTAGE

D-XX X-X XX	VOLTAGE
DA	24V=/5,4W
DB	12V=/5,4W
DC	12V=/7,5W
DD	24V=/7,3W
DE	12V=/12,7W
DF	24V=/12,7W
DK	110V=/4,7W
DJ	28V=/5,2W
DL	64V=/6W
DM	36V=/5,3W
DN	6V=/6W
DR	90V=/6,6W
DS	110V=/7,3W
DT	75V=/5,6W
DP	48V=/5,8W
FA	12V=/1,8W
FB	24V=/1,8W
FE	12V=/2,4W
FF	24V=/2,4W
JA	120V~/60Hz, 110V~/50Hz (2,9W)
JB	240V~/60Hz, 220V~/50Hz (2,9W)
JC	24V~/60Hz, 24V~/50Hz (3,7W)
JD	100V~/60Hz, 100V~/50Hz, 110V~60Hz (3,9W)
JE	220V~/60Hz (3,4W)
JF	240V~/50Hz (2,8W)
JG	200V~/60Hz, 200V~/50Hz (3,9W)

2. WIRE LENGTH

D-XX X-X XX	WIRE LENGTH
0	No wires
A	45 cm – 18''
B	60 cm – 24''
C	90 cm – 36''
D	120 cm – 48''
E	180 cm – 72''
F	240 cm – 96''
J	Connector

3. MANUAL OVERRIDE

D-XX X-X XX	MANUAL OVERRIDE
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 with flying leads
CM*	1/2'' NPS metal conduit with flying leads
CN*	1/2'' NPS metal conduit with flying leads & ground
CK	1/2'' NPS conduit with diode
CL	1/2'' NPS conduit with MOV
HA	MAC JAC plug-in
HB	MAC JAC plug-in with light
HC	MAC JAC plug-in with diode & light
JB	DIN 43650 - Industrial type B connector (male + female)
JD	DIN 43650 - Industrial type B connector with light (male + f.)
JM	DIN 43650 - Industrial type B connector (male only)
JA	DIN 43650 - Industrial type A connector (male + female)
JC	DIN 43650 - Industrial type A connector with light (male + f.)
JJ	DIN 43650 - Industrial type A connector (male only)
KA	DIN 43650 - Industrial type C connector
KB	DIN 43650 - Industrial type C connect. with protection diode
KC	DIN 43650 - Industrial type C conn. with protection varistor
KD	DIN 43650 - Industrial type C connector with light
KE	DIN 43650 - Indust. type C conn. w/ light & protection diode
KF	DIN 43650 - Indust. type C conn. w/ light & protection varistor
KG	DIN 43650 - Industrial type C connector with light & diode
KJ	DIN 43650 - Industrial type C connector (male only)
KK	DIN 43650 - Indust. type C conn. w/ protection diode (male)
KL	DIN 43650 - Indust. type C conn. w/ protection varistor (male)
LA	ISO 15217 standard connector plug-in (male only)
LB	ISO 15217 standard connector plug-in with diode (male only)
LC	ISO 15217 standard connector plug-in with MOV (male only)
LJ	ISO 15217 standard connector plug-in (male only)
LK	ISO 15217 standard connector plug-in with diode (male only)
LL	ISO 15217 standard connector plug-in with MOV (male only)
PA	Pico M8 (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
RA	Euro (M12) - 2 Pin
RB	Euro (M12) - 2 Pin with diode (male only)
RC	Euro (M12) - 2 Pin with MOV
RD	Euro (M12) - 2 Pin with light
RE	Euro (M12) - 2 Pin with diode & light
RF	Euro (M12) - 2 Pin with MOV & light

MAC 52 Series Valve

MAC 52 Series - References for GM pilot valve

Codification table for voltages / Manual override / Electrical connection

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

1. VOLTAGE

G-XX X-X XX	VOLTAGE
DC	24 V =/1.8 W
DD	24 V =/1.8 W
DE	24 V =/3.0 W
DF	24 V =/4.0 W
DJ	12 V =/1.8 W
DK	12 V =/2.5 W
DM	12 V =/3.0 W
DN	12 V =/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	45 cm - 18"
B	60 cm - 24"
C	90 cm - 36"
D	120 cm - 48"
E	180 cm - 72"
F	240 cm - 96"
G	300 cm - 120"
H	365 cm - 144"

3. MANUAL OVERRIDE

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	Flying leads with ground wire
BC	Flying leads with LED light parallel to leads
BD	Flying leads with LED light parallel to leads & ground wire
BE	Flying leads with suppression diode
BF	Flying leads with supp. diode & ground wire
BG	Flying leads with supp. diode plus LED light parallel to leads
BH	Flying leads with supp. diode plus LED light parallel to leads & ground wire
BN	Flying leads with supp. diode plus blocking diode
BP	Flying leads w/ supp. diode plus blocking diode & ground wire
BR	Flying leads w/ supp. diode plus blocking diode & LED light parallel to leads
BS	Flying leads with supp. diode plus blocking diode & LED light parallel to leads & Ground Wire
BT	Flying leads with LED light on top
BU	Flying leads with LED light on top & ground wire
BV	Flying leads with supp. diode plus LED light on top
BW	Flying leads w/ supp. diode plus LED light on top & ground wire
BX	Flying leads w/ supp. diode plus blocking diode & LED on top
BY	Flying leads with supp. diode plus blocking diode & LED on top & ground wire

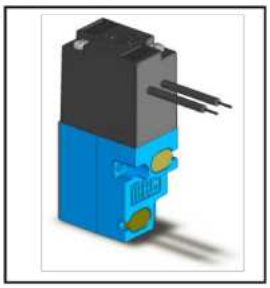
4. ELECTRICAL CONNECTION

G-XX X-X XX	SOLENOID PLUG-IN CONNECTOR WITH LEADS
GA*	MAC JAC Solenoid plug-in
GB*	MAC JAC Solenoid plug-in with diode
GC*	MAC JAC Solenoid plug-in with MOV
GD*	MAC JAC Solenoid plug-in with light
GE*	MAC JAC Solenoid plug-in with diode & light
GF*	MAC JAC Solenoid plug-in with MOV & light
GG*	MAC JAC Solenoid plug-in with rectifier
GH*	MAC JAC Solenoid plug-in with rectifier & light
GJ*	MAC JAC Solenoid plug-in (male only)
GK*	MAC JAC Solenoid plug-in with diode (male only)
GL*	MAC JAC Solenoid plug-in with MOV (male only)
GM*	MAC JAC Solenoid plug-in with LED (male only)
GN*	MAC JAC Solenoid plug-in with diode & LED (male only)
GP*	MAC JAC Solenoid plug-in with MOV & LED (male only)
GR*	MAC JAC Solenoid plug-in with rectifier (male only)
GS*	MAC JAC Solenoid plug-in with rectifier & LED (male only)
HA	Circuit board plug-in w/ full wave rectifier & LED (w/ ground wire)
HD	Same as "HA" without lead wire assembly
KA	Plug-in wire assembly
KB	Plug-in wire assembly with ground wire
KC	Solenoid plug-in wire assembly with rectifier and LED
KD	Solenoid plug-in wire ass. w/ rectifier and LED w/ ground
KE	Plug-in wire assembly w/ suppression diode
KF	Plug-in wire assembly w/ suppression diode & ground wire
KJ	Plug-in without wire assembly for "KA" above
KM	Plug-in without wire assembly for "KB" above
KN	Plug-in wire assembly w/ suppr. diode plus blocking diode
KP	Plug-in wire ass. w/ suppr. diode + blocking diode & ground wire
KT	Plug-in wire assembly with LED light on top (no ground wire)
KU	Plug-in wire assembly with LED light on top & ground wire
KV	Plug-in wire assembly with supp. diode plus LED light on top
KW	Plug-in wire ass. w/ supp. diode + LED light on top & ground wire
KX	Plug-in wire ass. w/ supp. diode + block. diode & LED light on top
KY	Plug-in wire assembly with suppression diode plus blocking diode & LED light on top & ground wire
PA	Pico
TJ	Dual Tabs - Mini Plug-in

Note: Blocking diode is located in the lead wire
* MAC JAC Connector not available with AC Voltage options

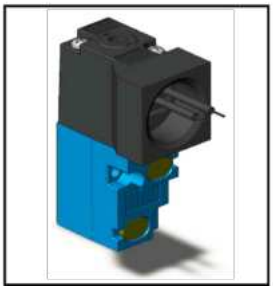
MAC 52 Series Valve

MAC 52 Series - Codification electrical connection DM pilot valve *(coil / connector configurations)*



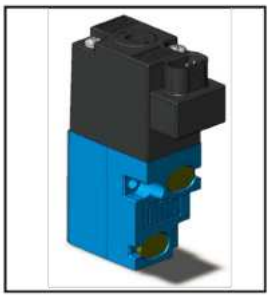
BA*	Flying leads
BK*	BA with protection diode
BL*	BA with protection varistor

* From lead wire length options choose

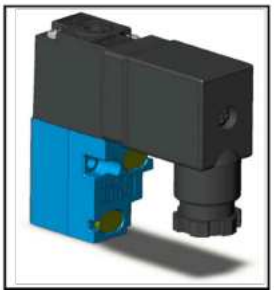


CA*	1/2'' NPS conduit with flying leads
CM*	1/2'' NPS metal conduit with flying leads
CN*	1/2'' NPS metal conduit with flying leads & ground
CK	1/2'' NPS conduit with diode
CL	1/2'' NPS conduit with MOV

* From lead wire length options choose



HA	MAC JAC plug-in
HB	MAC JAC plug-in with light
HC	MAC JAC plug-in with diode & light

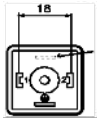


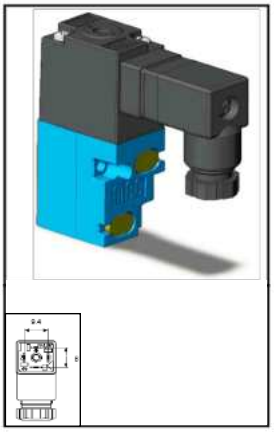
JB	DIN 43650 - Industrial type B connector (male + female)
JD	DIN 43650 - Industrial type B connector with light (male + female)
JM	DIN 43650 - Industrial type B connector (male only)

11mm pin spacing

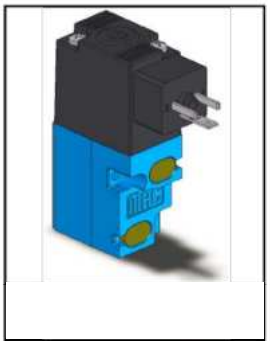
JA	DIN 43650 - Industrial type A connector (male + female)
JC	DIN 43650 - Industrial type A connector with light (male + female)
JJ	DIN 43650 - Industrial type A connector (male only)

Form A - 18mm pin spacing

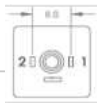


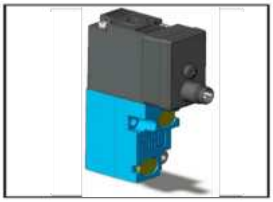


KA	DIN 43650 - Industrial type C connector
KB	DIN 43650 - Industrial type C connector with protection diode
KC	DIN 43650 - Industrial type C connector with protection varistor
KD	DIN 43650 - Industrial type C connector with light
KE	DIN 43650 - Industrial type C connector with light and protection diode
KF	DIN 43650 - Industrial type C connector with light and protection varistor
KG	DIN 43650 - Industrial type C connector with light & diode
KJ	DIN 43650 - Industrial type C connector (male only)
KK	DIN 43650 - Industrial type C connector with protection diode (male only)
KL	DIN 43650 - Industrial type C connector with protection varistor (male only)

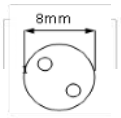


LA	ISO 15217 standard connector plug-in (male only)
LB	ISO 15217 standard connector plug-in with diode (male only)
LC	ISO 15217 standard connector plug-in with MOV (male only)
LJ	ISO 15217 standard connector plug-in (male only)
LK	ISO 15217 standard connector plug-in with diode (male only)
LL	ISO 15217 standard connector plug-in with MOV (male only)

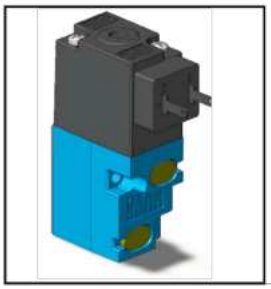




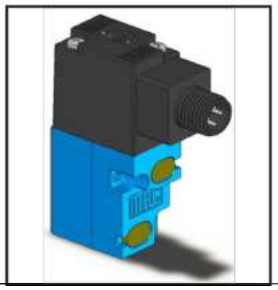
PA	Pico M8 (male only)



M 2-pin thread or snap fit*



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



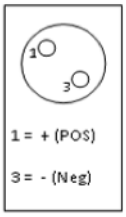
RA	Euro (M12) - 2 Pin
RB	Euro (M12) - 2 Pin with diode (male only)
RC	Euro (M12) - 2 Pin with MOV
RD	Euro (M12) - 2 Pin with light
RE	Euro (M12) - 2 Pin with diode & light
RF	Euro (M12) - 2 Pin with MOV & light

MAC 52 Series Valve

MAC 52 Series - Codification electrical connection GM pilot valve *(coil / connector configurations)*

BA	Flying leads
BB	Flying leads with ground wire
BC	Flying leads with LED light parallel to leads
BD	Flying leads with LED light parallel to leads & ground wire
BE	Flying leads with suppression diode
BF	Flying leads with supp. diode & ground wire
BG	Flying leads with supp. diode plus LED light parallel to leads
BH	Flying leads with supp. diode plus LED light parallel to leads & ground wire
BN	Flying leads with supp. diode plus blocking diode
BP	Flying leads with supp. diode plus blocking diode & ground wire
BR	Flying leads with supp. diode plus blocking diode & LED light parallel to leads
BS	Flying leads with supp. diode plus blocking diode & LED light parallel to leads & Ground Wire
BT	Flying leads with LED light on top
BU	Flying leads with LED light on top & ground wire
BV	Flying leads with supp. diode plus LED light on top
BW	Flying leads with supp. diode plus LED light on top & ground wire
BX	Flying leads with supp. diode plus blocking diode & LED on top
BY	Flying leads with supp. diode plus blocking diode & LED on top & ground wire

KA	Plug-in wire assembly
KB	Plug-in wire assembly with ground wire
KC	Solenoid plug-in wire assembly with rectifier and LED
KD	Solenoid plug-in wire assembly with rectifier and LED with ground
KE	Plug-in wire assembly w/ suppression diode
KF	Plug-in wire assembly w/ suppression diode & ground wire
KJ	Plug-in without wire assembly for "KA" above
KM	Plug-in without wire assembly for "KB" above
KN	Plug-in wire assembly with suppression diode plus blocking diode
KP	Plug-in wire assembly with suppression diode plus blocking diode & ground wire
KT	Plug-in wire assembly with LED light on top (no ground wire)
KU	Plug-in wire assembly with LED light on top & ground wire
KV	Plug-in wire assembly with supp. diode plus LED light on top
KW	Plug-in wire assembly with supp. diode plus LED light on top & ground wire
KX	Plug-in wire assembly with suppression diode plus blocking diode & LED light on top
KY	Plug-in wire assembly with suppression diode plus blocking diode & LED light on top & ground wire



GA*	MAC JAC Solenoid plug-in
GB*	MAC JAC Solenoid plug-in with diode
GC*	MAC JAC Solenoid plug-in with MOV
GD*	MAC JAC Solenoid plug-in with light
GE*	MAC JAC Solenoid plug-in with diode & light
GF*	MAC JAC Solenoid plug-in with MOV & light
GG*	MAC JAC Solenoid plug-in with rectifier
GH*	MAC JAC Solenoid plug-in with rectifier & light
GJ*	MAC JAC Solenoid plug-in (male only)
GK*	MAC JAC Solenoid plug-in with diode (male only)
GL*	MAC JAC Solenoid plug-in with MOV (male only)
GM*	MAC JAC Solenoid plug-in with LED (male only)
GN*	MAC JAC Solenoid plug-in with diode & LED (male only)
GP*	MAC JAC Solenoid plug-in with MOV & LED (male only)
GR*	MAC JAC Solenoid plug-in with rectifier (male only)
GS*	MAC JAC Solenoid plug-in with rectifier & LED (male only)

* MAC JAC Connector not available with AC Voltage options

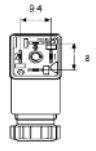
PA	Pico

M 2-Pin Thread or Snap Fit*

HA	Circuit board plug-in with full wave rectifier & LED (with ground wire)
HD	Same as "HA" without lead wire assembly

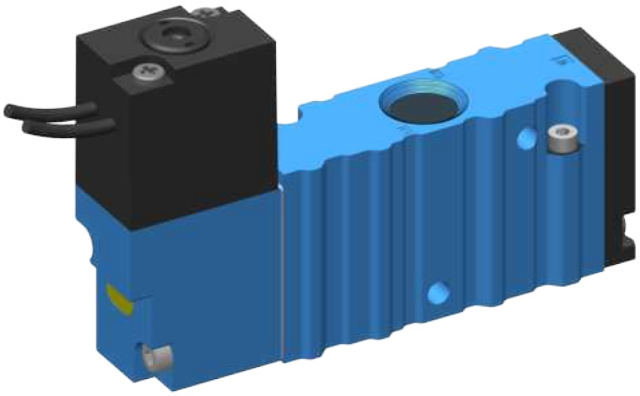
TJ	Dual Tabs - Mini Plug-in

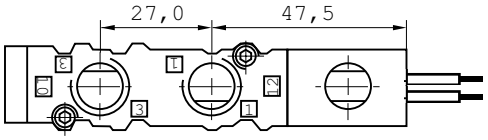
MICRO DIN 43650-Industrial Standard C
9.4mm Pin Spacing



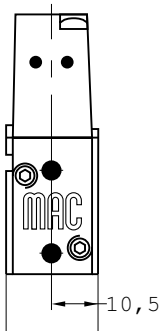
MAC 52 Series - Dimensions

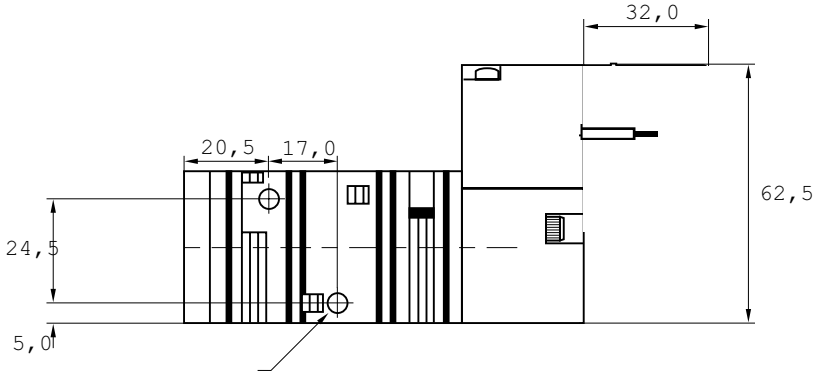
52 Series - Inline valve

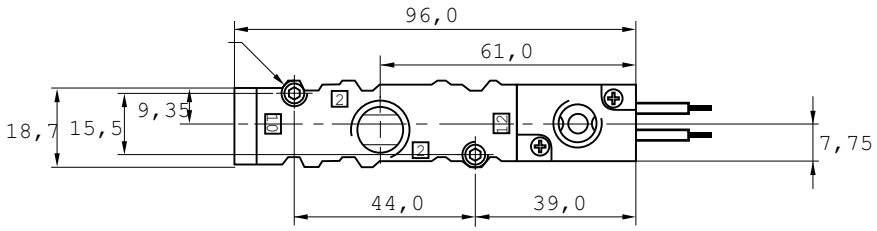




All dimensions are in mm







MAC 52 Series Valve

MAC 52 Series - Repair kits (main ones)

PART REFERENCE	*DESCRIPTION*
S-52001	Spool only, single pressure, single operator, normally closed
S-52002	Spool only, single pressure, single operator, normally closed, with memory spring
S-52004	Spool only, single pressure, single operator, normally open
S-52005	Spool only, single pressure, single operator, normally open, with memory spring
K-52001	Repair kit, single pressure, single operator, normally closed
K-52002	Repair kit, single pressure, double operator, normally closed
K-52003	Repair kit, single pressure, single operator, normally closed, with memory spring
K-52004	Repair kit, single pressure, single operator, normally open, with memory spring
K-52005	Repair kit, single pressure, double operator, normally closed, with memory spring
K-52006	Repair kit, single pressure, single operator, normally open
K-52007	Repair spool, single pressure, double operator, normally open
K-52009	Single pressure, double operator, normally open, with memory spring
DM-D...-...	Complete pilot valve (45 series type)
GM-G...-...	Complete pilot valve (44 series type)
16524	Pressure seal - pilot valve to body
17013-01	O-Ring with manifold base (3 pieces required per valve)
17015-01	O-Ring with inline base (2 pieces required per valve)

MOST COMMON MODIFICATIONS	*DESCRIPTION*
T65C	High temperatures
532B	Washdown IP65
0389	Solenoid turned 180°
0650	Food applications

For other modifications, please consult factory

MAC 52 Series Valve

MAC 52 Series - Circuit bar®

ADD-ON STYLE BAR
WITH MANIFOLD MOUNT VALVES
CBP052A TYPE

STANDARD BAR WITH
INLINE MOUNTED VALVES
CBM052A TYPE

Design description

General

The 52 series circuit bar® is machined from a single block of extruded anodized aluminium to provide a common inlet, common exhaust and optional common external pilot. Two different configurations are available, the standard bar (fixed number of stations), and the add-on style bar which provides a means to attach additional stations as needed.

Electrical

Both styles are non plug-in circuit bars®. All electrical connections are made at the solenoid.

Valving

Inline and manifold type valves can be mounted to the appropriate circuit bar®. Valves using both style pilot valves (44 and 45 series) can be mounted on the same circuit bar®. Both the inlet and exhaust passages can be isolated.

Porting

The common inlet and exhausts have a 3/8 tapped port. The optional common external pilot has an 1/8” tapped port. The CBP type bar is available in 1/8" and 1/4", bottom and side ports.

Accessories

Both the CBP and CBM style circuit bars® are available with an individual exhaust flow control. A blank station valve cover plate is available for both style bars. An end plate kit is supplied with the add-on style circuit bar®.

MAC 52 Series Valve

MAC 52 Series - Circuit bar®

How to order standard bar

CBM052 A - X X X X X - X X - 9

- Valves, cover plates assembled to manifold
- Number of Stations

BAR TYPE	SPACING	CONFIGURATION	STYLE	PORT SIZE (COMMON PORTS)
M Inline body bar	**00** 19.5 mm (standard) **01** 21 mm **02** 26 mm (conduit & rect. DIN type connectors)	**A** Inline body **B** Inline body with F.C. **C** Inline body - Common external pilot **D** Inline body with F.C. Common external pilot	**A** Standard bar **B** Add-on style bar **C** Add-on style bar Common external pilot **E** Add-a-unit station (21 mm minimum)	**A** 3/8" NPTF **B** 3/8" BSPPL **C** 3/8" BSPTR

Right-hand end plate kit included w/ bar ass'y on "B" & "C" style bar

Replacement parts & accessories

M-52001-01	Right-Hand end plate kit (NPTF)
M-52001-01P	Right-Hand end plate kit (BSPPL)
M-52002-01	Right-Hand end plate kit, common ext. pilot (NPTF)
M-52002-01P	Right-Hand end plate kit, common ext. pilot (BSPPL)
M-04001	Blank station kit for inline body
N-04001	Flow control assembly (1 per station)
17015-01	O-Ring body port seal (2 per station)
35043	Body to bar body mounting screw (2 per station)

Ordering examples

CBM052A-00CCA-06

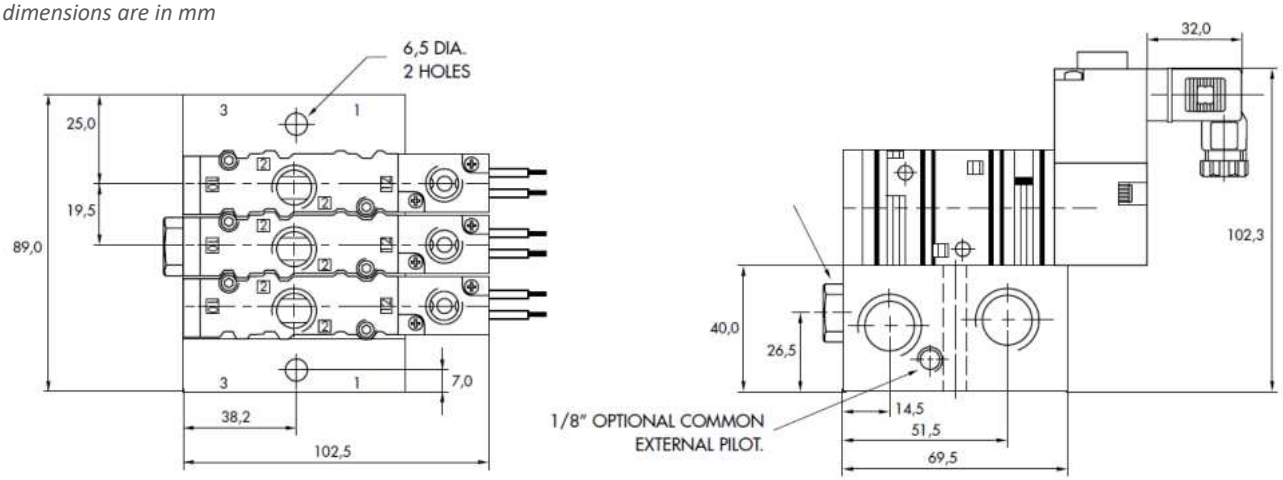
Inline body bar, 19.5 mm spacing, common external pilot, 3/8" NPTF common ports, add-on style bar, six identical stations.

CBM052A-01CEA-01

Inline body bar, 21 mm spacing, common external pilot, 3/8" NPTF common ports, one station add-a-unit, can be added to above 6 station bar.

Dimensions

All dimensions are in mm



Drawing for a standard bar, cylinder ports in valve

MAC 52 Series Valve

MAC 52 Series - Circuit bar®

How to order add-on style bar

CBP052 A - X X X X X - X X - 9

Valves, cover plates assembled to manifold

Number of Stations

BAR TYPE	SPACING	CONFIGURATION	STYLE	PORT SIZE (CYLINDER PORTS)
P Manifold body bar	**00** 19.5 mm (standard) **01** 21 mm **02** 26 mm (conduit & rect. DIN type connectors)	**A** Side cyl. port **B** Bottom cyl. port **C** Side cyl. port w/ F.C. **D** Bottom cyl. port w/ F.C. **E** Side cyl. port Common ext. pilot **F** Bottom cyl. port Common ext. pilot **G** Side cyl. port w/ F.C. Common ext. pilot **H** Bottom cyl. port w/ F.C. Common ext. pilot	**A** Standard bar **B** Add-on style bar **C** Add-on style bar Common external pilot **E** Add-a-unit station (21 mm minimum)	**A** 1/8" NPTF **B** 1/8" BSPPL **C** 1/8" BSPTR **D** 1/4" NPTF **E** 1/4" BSPPL **F** 1/4" BSPTR

Right-hand end plate kit included w/ bar ass'y on "B" & "C" style bar

Replacement parts & accessories

M-52001-01	Right-Hand end plate kit (NPTF)
M-52001-01P	Right-Hand end plate kit (BSPPL)
M-52002-01	Right-Hand end plate kit, common ext. pilot (NPTF)
M-52002-01P	Right-Hand end plate kit, common ext. pilot (BSPPL)
M-52003	Blank station kit for manifold body
N-04001	Flow control assembly (1 per station)
17013-01	Body to base seal (3 per station)
35043	Body to bar mounting screw (2 per station)

Ordering examples

CBP052A-00ABA-06

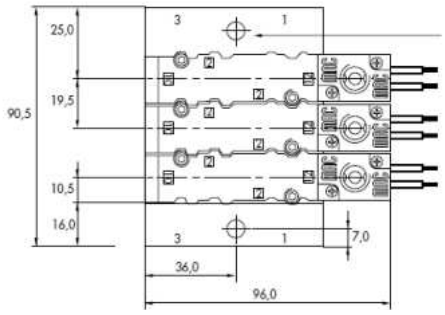
Manifold body bar, 19.5 mm spacing, side cyl. port 1/8" NPTF, add-on style bar, six identical stations.

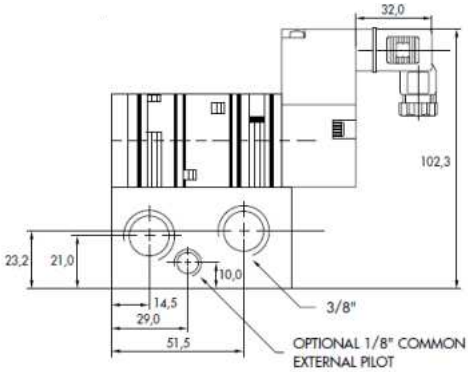
CBP052A-01AEA-01

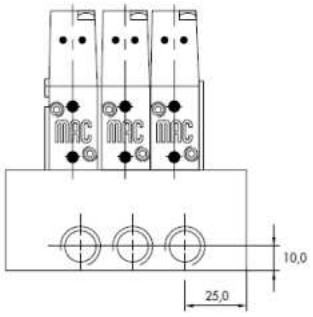
Manifold body bar, 21 mm spacing, one station add-a-unit, side cyl. port 1/8" NPTF, can be added to above 6 station bar.

Dimensions

All dimensions are in mm







Drawing for an add-on style bar, cylinder ports in base

MAC 52 Series - Warranty

MAC VALVES WARRANTY, WARRANTY LIMITATIONS, FLAT RATE REBUILD PROGRAM

The MAC Valves organization has established a reputation over many years for fulfilling the needs and requirements of the users of its products. All MAC Valves are quality products specifically designed and built for long and rugged service. For this reason, MAC Valves is able to provide the Buyer a limited warranty.

WARRANTY: MAC Valves, Inc. hereby warrants to Buyer that, for a period of 18 months from the original date of shipment of each valve from our factory ("Warranty Period"), such valve will be free from significant defects in material and workmanship and will conform to all specifications agreed to by MAC Valves, Inc.. In addition, MAC Valves, Inc. warrants that the electrical coils on such valves will be free from significant defects in material and workmanship for their normal useful life. EXCEPT FOR THESE LIMITED WARRANTIES, MAC VALVES, INC. EXPRESSLY DISCLAIMS ALL REPRESENTATIONS AND WARRANTIES OF ANY KIND (WHETHER EXPRESS, IMPLIED OR ARISING BY OPERATION OF LAW) WITH RESPECT TO THE VALVES, INCLUDING, WITHOUT LIMITATION, ANY WARRANTIES OR REPRESENTATIONS AS TO MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR ANY OTHER MATTER. THIS SECTION SURVIVES THE EXPIRATION, TERMINATION OR CANCELLATION OF ANY AGREEMENTS BETWEEN THE PARTIES RELATING TO THE PURCHASE OF THE VALVES.

WARRANTY LIMITATIONS: This Warranty does not apply where the valves have been (i) subjected to abuse, misuse, damage, neglect, negligence, accident, improper testing, improper installation, improper storage, improper handling, abnormal physical stress, abnormal environmental condition, or use contrary to any instructions issued by MAC Valves, Inc.; (ii) modified, reconstructed, repaired, or altered by persons other than MAC Valves, Inc. or its authorized representative; or (iii) used with any third-party product, hardware, software or other product that has not been previously approved in writing by MAC Valves, Inc. Additionally, this Warranty does not cover claims for labor, material, time or transportation, and 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.

EXCLUSIVE REMEDY: The Buyer's sole remedy under this Warranty is limited to the replacement or rebuilding of any valve which does not conform to the warranties provided herein or, in MAC Valves, Inc.'s sole discretion, refund of the purchase price for the non-conforming valve. Buyer's remedy is conditioned on Buyer's compliance with its obligations under this Warranty. Valves that Buyer believes do not conform to this Warranty must be returned (with or without bases) transportation prepaid and received at our factory within the Warranty Period. If MAC Valves, Inc. determines that the valve is non-conforming and is otherwise covered by this Warranty, the rebuilt or replaced valve will be returned to the customer at the expense of MAC Valves, Inc., and will carry the same warranties as provided under the Flat Rate Rebuild Program described below. MAC VALVES, INC. WILL NOT BE RESPONSIBLE FOR ANY INCIDENTAL, SPECIAL, EXEMPLARY OR CONSEQUENTIAL DAMAGES, INCLUDING WITHOUT LIMITATION DIRECT AND INDIRECT LOST PROFITS, REGARDLESS OF WHETHER THOSE DAMAGES WERE FORESEEABLE.

The Flat Rate Rebuild Program: Valves no longer covered by the MAC Warranty may be eligible for a one-time rebuild under the MAC Valves, Inc. Flat Rate Rebuild Program. Our constant research and testing program is dedicated to extending the life of our valves and maximizing their reliability under the most adverse conditions. Valves returned under this limited program are completely disassembled, inspected, rebuilt to current operating standards whenever possible, tested and returned within a few weeks for a nominal flat rate charge. All rebuilt valves carry the same warranty described (in our MAC Warranty) for new valves for a warranty period of 90 days from the date of shipment from our factory.

Valves that have gone through the one-time rebuild will have been marked with a letter "R" as part of the date (This is an example of a rebuild date stamp from this month E(May)17(Year)Tester Symbol R(Indicates Rebuild).

Please note that any valves sent back for subsequent rebuild that have already been through the program previously (indicated by the "R") will not be eligible for additional rebuild.