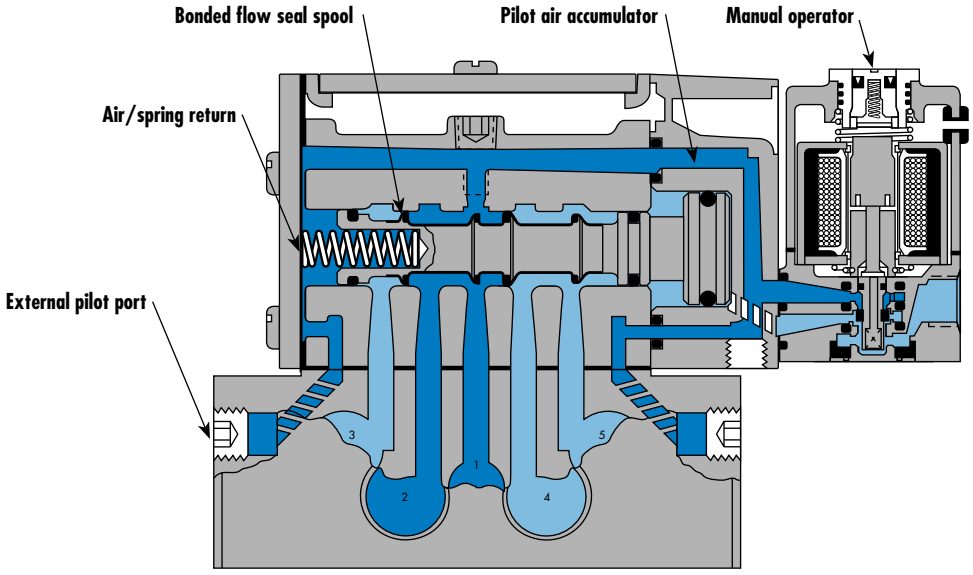
Individual mounting

valve only

Manifold mounting

valve only



SERIES FEATURES

- Fastest available response time with patented MACSOLENOID®.
- No-stick operation is ensured by wiping action of unique MAC spool/bore combination.
- Balanced poppet pilot valve for high flow, precise repeatability, and consistent operation.
- Large spool piston for high shifting force even at minimum operating pressure
- Air/spring return for consistent shifting on single solenoid models.
- Patented virtually burn-out proof AC solenoid.
- Optional low wattage DC solenoids down to 1.0 watt.
- Various manual operators & electrical connectors are available.
- Muffled or threaded pilot exhaust ports.
- Internal of external pilot models available.

Consult "Precautions" page 364 before use, installation or service of MAC Valves

100% OF PRODUCTION TESTED 100%

WARRANTY 18 MONTHS

VALVE CONFIGURATIONS AVAILABLE

- 2-Pos., single or double operators (solenoid or remote air).
- Single or dual pressure.
- 3-Pos., double operator-closed center, open center or pressure center (solenoid or remote air).
- Individual base or add-a-unit manifold base.
- Internal pilot or external pilot (including a common external pilot or manifold models).
- Side porting and bottom porting options.

*International Standards Organization ISO Common Base Interface (ISO Std. 5599/1)

SPECIAL APPLICATION INSTRUCTIONS :

On all models, energizing the "14" operator (solenoid or remote air) connects Port #1 to Cylinder Port #4 and energizing the "12" operator connects Port #1 to Cylinder Port #2. For the following special applications, additional piping considerations are required.

EXTERNAL PILOT APPLICATIONS* - An External Pilot Supply is only required when the main valve pressure is less than 1.8 BARS on single operators (soleneoid or remote air) or 0.7 BARS on double solenoid valves only. In these cases, use an External Pilot model and supply a minimum of 1.8 BARS for single operators or a minimum of 0.7 BARS for double solenoid valves to either the "14" or "12" External Pilot Port of the valve base.

VACUUM APPLICATIONS - Use an External Pilot model as described above and also connect the vacuum source to Port #3 & 5 and leave Port#1 open to atmosphere on single pressure models. On two pressure models, reverse the single pressure piping.

SELECTOR APPLICATIONS - Use an External Pilot Model as described above if both pressures are below the minimum, otherwise use an Internal Pilot model and connect the higher pressure to Port #1 and the lower pressure to either Port #3 or 5 depending on which Cylinder Port is to be active.

TWO PRESSURE APPLICATIONS - For Internal Pilot models specify the model number for connecting either port #3 or 5, whichever is to be the higher pressure, to the Internal Pilot supply. For external Pilot models, pipe as described above for "External Pilot Application."

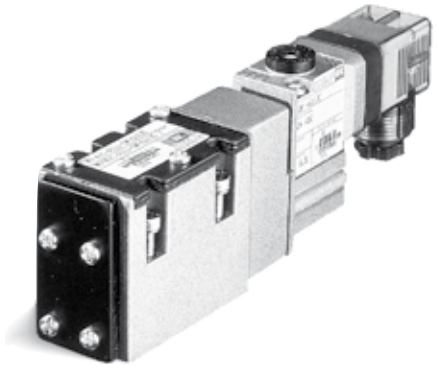
*Note: 1Bar = 14.5 PSIG

Consult "Precautions" page 364 before use, installation or service of MAC Valves

Function	Port size	Flow (Max)	Individual mounting & Manifold mounting	Series
5/2 - 5/3	**1/4" - 3/8"**	**1.6 C_v**	valve only	

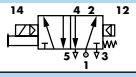
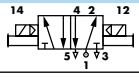
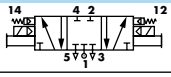
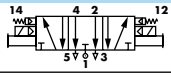
OPERATIONAL BENEFITS

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.

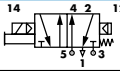
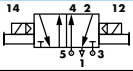
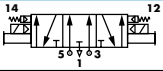


HOW TO ORDER

SINGLE PRESSURE VALVES

Pilot air	5/2 Single operator	5/2 Double operator	5/3 Closed center	5/3 Open center
				
Internal	MV-A1C-A111-PM-*XXYZZ*	MV-A1C-A211-PM-*XXYZZ*	MV-A1C-A312-PM-*XXYZZ*	MV-A1C-A311-PM-*XXYZZ*
External	MV-A1C-A121-PM-*XXYZZ*	MV-A1C-A221-PM-*XXYZZ*	MV-A1C-A322-PM-*XXYZZ*	MV-A1C-A321-PM-*XXYZZ*

DUAL PRESSURE VALVES

Pilot air	5/2 Single operator	5/2 Double operator	5/3 Pressure center
			
Internal port 3	MV-A1C-A131-PM-*XXYZZ*	MV-A1C-A231-PM-*XXYZZ*	MV-A1C-A331-PM-*XXYZZ*
Internal port 5	MV-A1C-A135-PM-*XXYZZ*	MV-A1C-A232-PM-*XXYZZ*	MV-A1C-A332-PM-*XXYZZ*
External	MV-A1C-A141-PM-*XXYZZ*	MV-A1C-A241-PM-*XXYZZ*	MV-A1C-A341-PM-*XXYZZ*

SOLENOID OPERATOR ➤ ***XX Y ZZ****

XX	Voltage
11	120/60, 110/50
12	240/60, 220/50
22	24/60, 24/50
59	24 VDC (2.5 W)
87	24 VDC (17.1 W)
61	24 VDC (8.5 W)

Y	Manual operator
1	Non-locking
2	Locking

ZZ	Electrical connection
JB	Rectangular connector
JD	Rectangular connector with light
JA	Square connector
JC	Square connector with light
BA	Flying leads (18")

Note : Photo shown with JC connector.

* Other options available, see page 357.
Note : ISO valves are delivered w/o base. See page 281 for base code.

OPTIONS

MV-A1C-A111-PM-*XXYZZ*

- For CNOMO pilot, consult factory.
- For universal spool replace by 6 (2 position, sgl. pressure valves only)
- For use with single pressure sandwich regulator, replace by 5.

MAC

Series ISO 1

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 : 25-150 PSI		double operator : 10-150 PSI
	External pilot : vacuum to 150 PSI		
Pilot pressure :	Single operator and 3 positions : 25-150 PSI	Double operator : 10-150 PSI	
Lubrication :	Not required, if used select a medium aniline point lubricant (between 180°F to 210°F)		
Filtration :	40 µ		
Temperature range :	0°F to 120°F (-18°C to 50°C)		
Flow (at 6 bar, ΔP=1bar) :	1/4" : (1.6 C_v), 3/8" : (1.6 C_v)		
Coil :	Epoxy encapsulated - class A wires - Continuous duty		
Voltage range :	-15% to +10% of nominal voltage		
Protection :	Consult factory		
Power :	~ Inrush : 14.8 VA	Holding : 10.9 VA	
	= 1 to 17.1 W		
Response times :	24 VDC (8.5 W)	Energize : 10 ms	De-energize : 11 ms
	120/60	Energize : 7-13 ms	De-energize : 10-17 ms

Spare parts :

- Solenoid operator (power ≥ 4 W) : D1-XXAA, cover mounting screws 35206 and seal 16234.
- Pilot valve : PME-XXYZZ, including seal 16337. • Pressure seal between valve and base : 16344.
- Mounting screw valve to base (x4) : 35304.

DIMENSIONS

Dimensions shown are metric (mm)

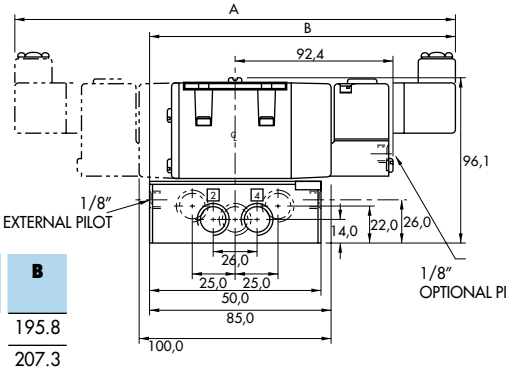
ISO 1 Manifold mounting

TYPE	A	B
JA & JC	271.6	195.8
JB & JD	294.6	207.3

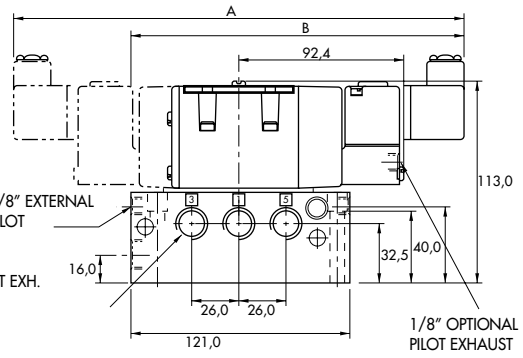
ISO 1 Individual mounting

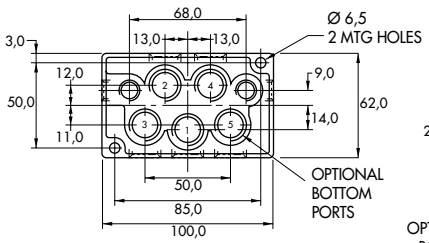
TYPE	A	B
JA & JC	271.6	185.8
JB & JD	294.6	197.3

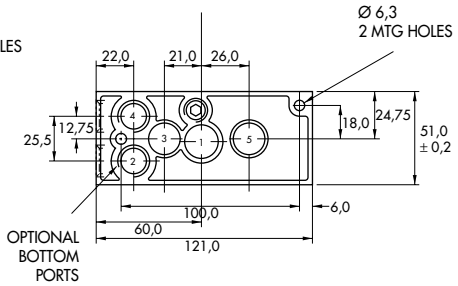
INDIVIDUAL BASE



MANIFOLD BASE







Consult "Precautions" page 364 before use, installation or service of MAC Valves

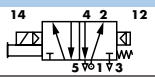
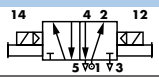
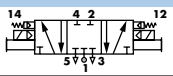
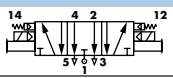
Function	Port size	Flow (Max)	Individual/Manifold mounting	Series
5/2, 5/3	**1/4" - 3/8"**	**1.8 C_v**	Valve only - No base "plug-in" Conform to ISO 5599/2	

OPERATIONAL BENEFITS

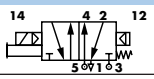
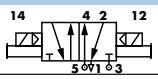
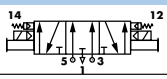
1. Unique patented Macsolenoid® for fastest possible response times and virtually burn-out proof AC solenoid operation.
2. Balanced poppet 4-way pilot valve provides maximum shifting forces, precise repeatability and consistent operation.
3. MAC spool and bore combination wipes away contamination, eliminates sticking and allows for use on non-lube service.
4. Large spool area for maximum shifting forces even at minimum operating pressure.
5. Very high flow in a compact package.
6. Plug-in design of valves, bases and regulators for modular assembly and ease of maintenance.
7. Internal or external pilot operation. Manifolds supplied with common external pilot.
8. Air only return. Optional memory spring is also available.
9. Optional low wattage DC solenoid down to 1.0 watt.

HOW TO ORDER

SINGLE PRESSURE MODELS

Pilot air	5/2 Single operator	5/2 Double operator	5/3 Closed center	5/3 Open center
				
Internal	MV-P1A-AAAA-DM-D*xx*P-*xxx*	MV-P1A-ABAA-DM-D*xx*P-*xxx*	MV-P1A-AEAA-DM-D*xx*P-*xxx*	MV-P1A-AFAA-DM-D*xx*P-*xxx*
External "12" end	MV-P1A-AAAB-DM-D*xx*P-*xxx*	MV-P1A-ABAB-DM-D*xx*P-*xxx*	MV-P1A-AEAB-DM-D*xx*P-*xxx*	MV-P1A-AFAB-DM-D*xx*P-*xxx*

DUAL PRESSURE MODELS

Pilot air	5/2 Single operator	5/2 Double operator	5/3 Pressure center
			
Internal pilot From port #3	MV-P1A-ACAD-DM-D*xx*P-*xxx*	MV-P1A-ADAD-DM-D*xx*P-*xxx*	MV-P1A-AGAD-DM-D*xx*P-*xxx*
Internal pilot From port #5	MV-P1A-ACAE-DM-D*xx*P-*xxx*	MV-P1A-ADAE-DM-D*xx*P-*xxx*	MV-P1A-AGAE-DM-D*xx*P-*xxx*
External pilot From "12" end	MV-P1A-ACAB-DM-D*xx*P-*xxx*	MV-P1A-ADAB-DM-D*xx*P-*xxx*	MV-P1A-AGAB-DM-D*xx*P-*xxx*

SOLENOID OPERATOR ➤ DM-D *xx* P-*xxx**

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

X	Manual operator
1	Non-locking recessed
2	Locking recessed

xx	Electrical connection
DM	Plug-in
DN	Plug-in with diode
DP	Plug-in with M.O.V.
DG	Plug-in with ground

* Other options available, see page 309.
Note: - ISO series, valve and base are ordered separately, see page 233 for base codes.
- Ground wire required for 30 volts or higher.

OPTIONS

Valve function :

MV-P1A-A**X**XX-XX-D*xx*P-*xxx*

- **J** for single operator universal spool (ext. pilot only)
- **K** for double operator universal spool (ext. pilot only)

Pilot style :

MV-P1A-AXXX-**DM**-D*xx*P-*xxx*

- **DM** Pilot exhaust muffled
- **DP** Pilot exhaust piped (#10-32)

Spool return :

MV-P1A-AX**A**X-XX-D*xx*P-*xxx*

- **A** Standard return
- **B** Memory spring return
- **D** Standard return with light
- **E** Memory spring return with light

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

MAC

Series ISO 1

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
Pilot pressure :	Single/double operator : 20 to 120 PSI, 3 positions : 30 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 :	3/8": (1.8 C_V) – 1/4": (1.6 C_V)
Coil :	Class A continuous duty, #22 AWG x 12 base leads
Voltage range :	-15% to +10% of nominal voltage
Protection :	Consult factory
Power :	~ Inrush 7.6 VA Holding: 4.8 VA = 1 to 12.7 W
Response times : **(with 5,4 W coil)**	Energize :10 ms De-energize : 9 ms

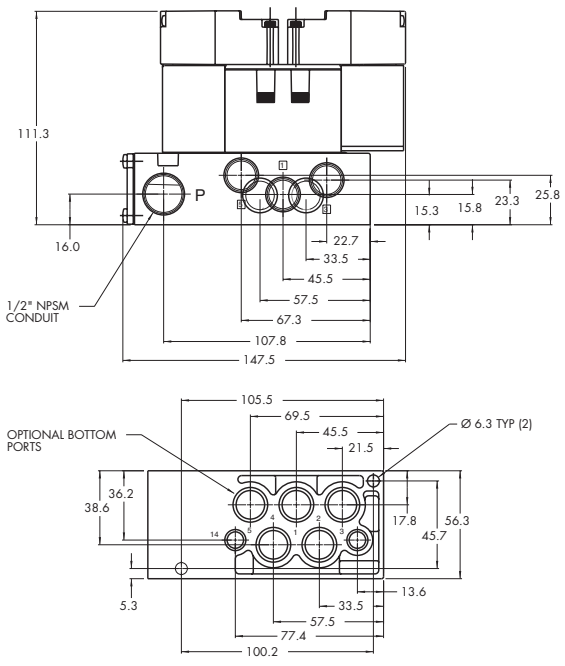
Options :
- Sandwich flow controls: FCP1A-AA (screwdriver slot adjustment)
  FCP1A-AB (locking knob adjustment)
- Sandwich regulator, see ‚Regulators' section

Spare parts :
- Pilot valve: DMB-DxxP-xxx
- Valve to base pressure seal: 16661

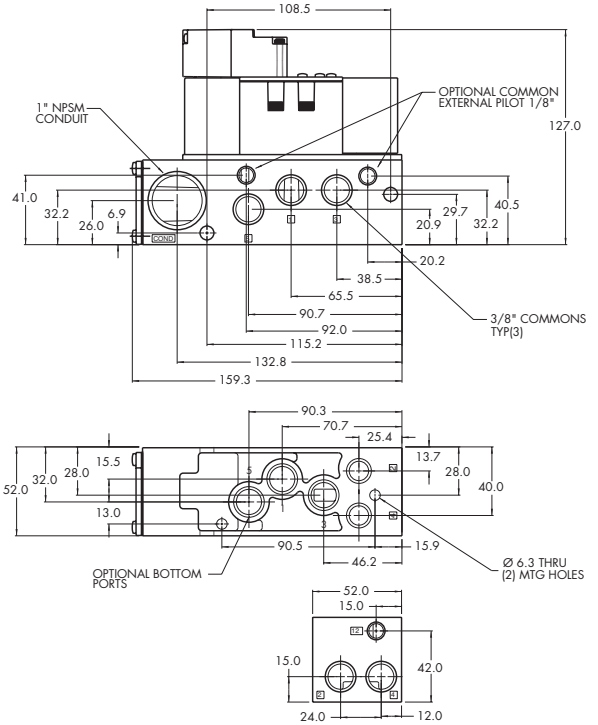
DIMENSIONS

Dimensions shown are metric (mm)

Individual base



Manifold base



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

Non plug-in base / manifold

HOW TO ORDER

INDIVIDUAL BASE

Port size	Side ports	Side & bottom ports	Bottom cylinder ports 2 and 4.	Bottom inlet port 1
1/4" NPTF	MB-A1C-221	MB-A1C-223	MB-A1C-222	MB-A1C-224
3/8" NPTF	MB-A1C-231	MB-A1C-233	MB-A1C-232	MB-A1C-234

MANIFOLD BASE

Port size	Side ports	Side & bottom ports	Bottom cylinder ports 2 and 4.	Bottom inlet port 1
1/4" NPTF	MM-A1C-221	MM-A1C-223	MM-A1C-222	MM-A1C-224
3/8" NPTF	MM-A1C-231	MM-A1C-233	MM-A1C-232	MM-A1C-234

Manifold fastening kit : N-63002-01.
Valve blanking plate: MA1003.
Inlet/exhaust isolator plug: 32835.

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

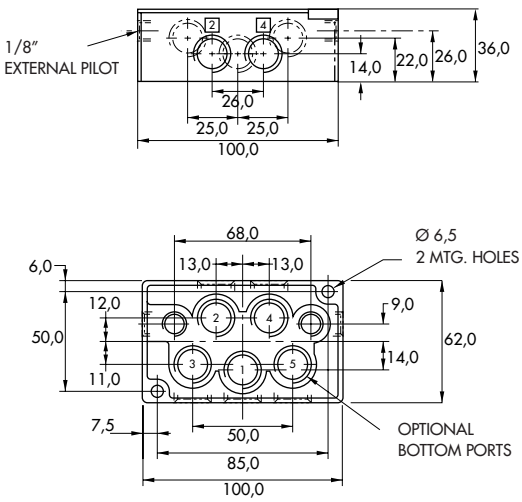
100% OF PRODUCTION TESTED 100%

WARRANTY 18 MONTHS

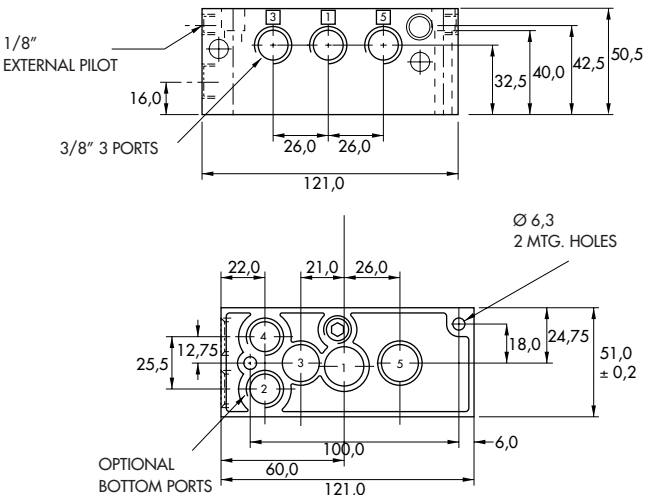
DIMENSIONS

Dimensions shown are metric (mm)

Individual DIN 5599/1



Manifold



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

Series ISO 1-2-3

MV-A1C ISO 1
MV-A2B ISO 2
MV-A3B ISO 3

MAC ISO valves are built to International Standards Organization (ISO) Std. 5599/1. They are available in 3 sizes; ISO 1, 2 & 3. To select th ISO size required, insert the appropriate ISO number in the 5th position of the model code; EXAMPLE MV-A1C for ISO 1, MV-A2B for ISO 2, or MV-A3B for ISO 3.
Bases and manifolds must be ordered separately from the table below.

HOW TO ORDER

SOLENOID PILOT OPERATED VALVES LESS BASE

SINGLE PRESSURE VALVES

SGL. OPERATOR AIR/SPRING RETURN	DBL. OPERATOR 2-POSITION	PILOT SUPPLY	DBL. OPER. 3-POS. CLOSED CENTER	DBL. OPER. 3-POS. OPEN CENTER
MV-AXB-A111-FM-A51JA MV-AXB-A121-FM-A51JA MV-AXB-A151-FM-A51JA	MV-AXB-A211-FM-A51JA MV-AXB-A221-FM-A51JA MV-AXB-A251-FM-A51JA	Internal Pilot External Pilot External Pilot for use with Regulator	MV-AXB-A312-FM-A51JA MV-AXB-A322-FM-A51JA MV-AXB-A352-FM-A51JA	MV-AXB-A311-FM-A51JA MV-AXB-A321-FM-A51JA MV-AXB-A351-FM-A51JA

DUAL PRESSURE VALVES

SGL. OPERATOR AIR/SPRING RETURN	DBL. OPERATOR 2-POSITION	PILOT SUPPLY	DBL. OPER. 3-POS. PRESSURE CENTER
MV-AXB-A131-FM-A51JA MV-AXB-A135-FM-A51JA MV-AXB-A141-FM-A51JA	MV-AXB-A231-FM-A51JA MV-AXB-A232-FM-A51JA MV-AXB-A241-FM-A51JA	Int. Pilot-From Port 3 Int. Pilot-From Port 5 External Pilot	MV-AXB-A331-FM-A51JA MV-AXB-A332-FM-A51JA MV-AXB-A341-FM-A51JA

SOLENOID PILOT VALVE OPTIONS

XX - XXYZZ

XX PILOT EXHAUST	*XX* DC VOLTAGE	*Y* MANUAL OPERATOR	*ZZ* EXTERNAL PLUG-IN	*ZZ* ENCLOSURE
FM Muffled exhaust ***FP*** Piped exhaust	***A5*** 12 VDC (0.6 W) ***A6*** 24 VDC (0.6 W)	***0*** No operator ***1*** Non-locking Recessed (std.) ***2*** Locking Recessed ***3*** Non-locking Extended ***4*** Locking Extended	***JA*** Square without light (on solenoid) ***JB*** Rectangular without light (on solenoid) ***JE*** Square without light (on body) ***JF*** Rectangular without light (on body)	***AA*** JIC w/1/2" NPS Conduit ***BA*** Grommet ***CA*** Conduit 1/2" NPS ***CC*** Conduit 1/2" NPT (CSA Threads)

BASE TABLE

ISO TYPE	PORT SIZE	INDIVIDUAL BASE BSPP	INDIVIDUAL BASE NPTF	MANIFOLD BASE BSPP	MANIFOLD BASE NPTF
ISO 1	1/4" 3/8"	MB-A1C-121 MB-A1C-131	MB-A1C-221 MB-A1C-231	MM-A1C-121 MM-A1C-131	MM-A1C-221 MM-A1C-231
ISO 2	3/8" 1/2"	MB-A2B-121 MB-A2B-131	MB-A2B-221 MB-A2B-231	MM-A2B-121 MM-A2B-131	MM-A2B-221 MM-A2B-231
ISO 3	1/2" 3/4"	MB-A3B-121 MB-A3B-131	MB-A3B-221 MB-A3B-231	MM-A3B-121 MM-A3B-131	N/A N/A

For manifold bases a common external pilot port is available. One connection only is required for all valves in the manifold whether single or double solenoid. Bottom ports are also available; consult factory for ordering information for these options.

MANIFOLD FASTENING KIT — For each gang, one kit is required. To order specify par number **N-63002-01.**

Consult "Precautions" page 364 before use, installation or service of MAC Valves

Plug-in base / manifold

HOW TO ORDER

INDIVIDUAL BASE

Port size	Wired for	Side ports	Side ports w/ bottom 2 & 4 ports	All side & bottom ports
1/4" NPTF	Single solenoid	MB-P1A-221-A	MB-P1A-222-A	MB-P1A-223-A
	Double solenoid	MB-P1A-221-B	MB-P1A-222-B	MB-P1A-223-B
3/8" NPTF	Single solenoid	MB-P1A-231-A	MB-P1A-232-A	MB-P1A-233-A
	Double solenoid	MB-P1A-231-B	MB-P1A-232-B	MB-P1A-233-B

MANIFOLD BASE

Port size	Wired for	Side ports	Side ports w/ bottom 2 & 4 ports	All side & bottom ports (see note)
1/4" NPTF	Single solenoid	MM-P1A-221-A	MM-P1A-222-A	MM-P1A-223-A
	Double solenoid	MM-P1A-221-B	MM-P1A-222-B	MM-P1A-223-B
3/8" NPTF	Single solenoid	MM-P1A-231-A	MM-P1A-232-A	MM-P1A-233-A
	Double solenoid	MM-P1A-231-B	MM-P1A-232-B	MM-P1A-233-B

Note : Ports 1, 3 & 5 are always 3/8"

OPTIONS

Manifold options : External pilot

MM-P1A-**22***x-x*

25 for 1/4" port – common external pilot
26 for 3/8" port – common external pilot

Terminal strip

MM-P1A-*xxx*-**A**
(N/A with light)

J wired for sgl solenoid
K wired for double solenoid

Base / Manifold option: light(s)

MX-P1A-*xxx-x***JA**

JA 110/120 volt
JB 220/240 volt
DA 24 volt

Accessories:
M-P1001 Valve blanking plate.
N-P1007-01 Manifold fastening kit.
32835 Inlet/exhaust isolator plug.

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

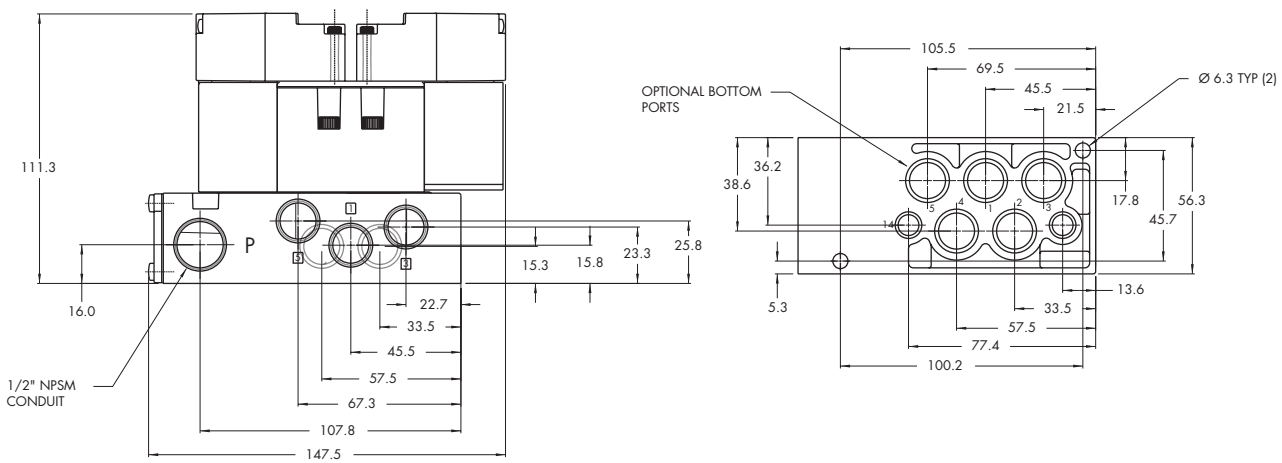
100% OF PRODUCTION TESTED 100%

WARRANTY 18 MONTHS

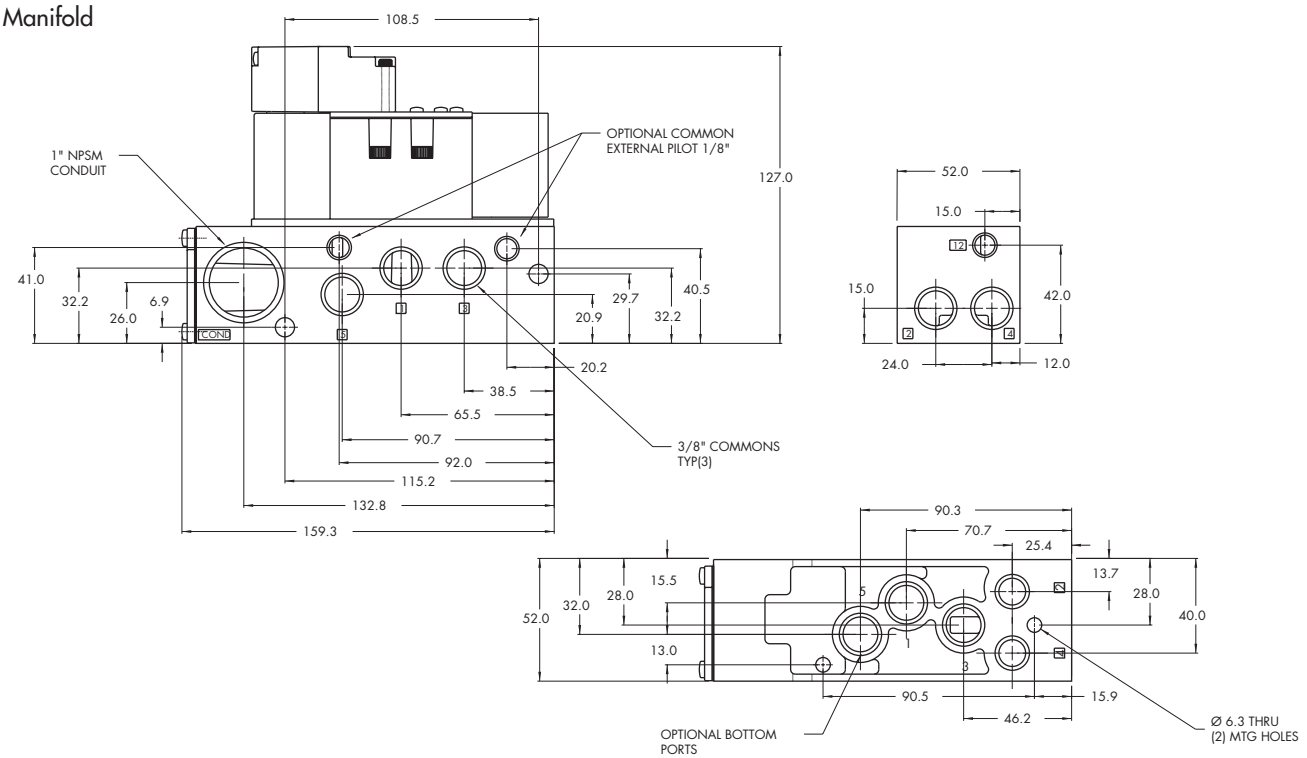
DIMENSIONS

Dimensions shown are metric (mm)

Individual



Manifold



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

HOW TO ORDER

INDIVIDUAL BASE

Port size	Side ports	Side & bottom ports	Bottom cylinder ports 2 and 4.	Bottom inlet port 1
1/4" NPTF	MB-A1C-221	MB-A1C-223	MB-A1C-222	MB-A1C-224
3/8" NPTF	MB-A1C-231	MB-A1C-233	MB-A1C-232	MB-A1C-234

MANIFOLD BASE

Port size	Side ports	Bottom ports	Bottom cylinder ports 2 and 4.	Bottom inlet port 1
1/4" NPTF	MM-A1C-221	MM-A1C-223	MM-A1C-222	MM-A1C-224
3/8" NPTF	MM-A1C-231	MM-A1C-233	MM-A1C-232	MM-A1C-234

Manifold fastening kit : N-63002-01.

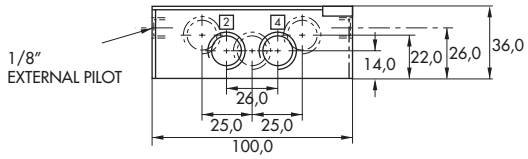
100% OF PRODUCTION TESTED 100%

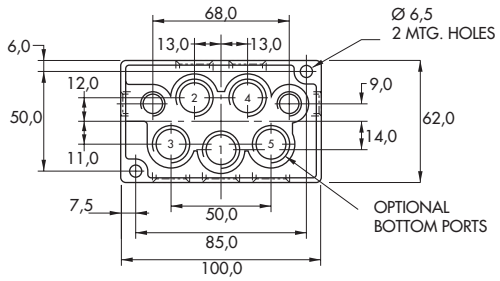
WARRANTY 18 MONTHS

DIMENSIONS

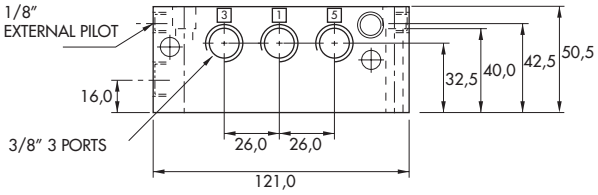
Dimensions shown are metric (mm)

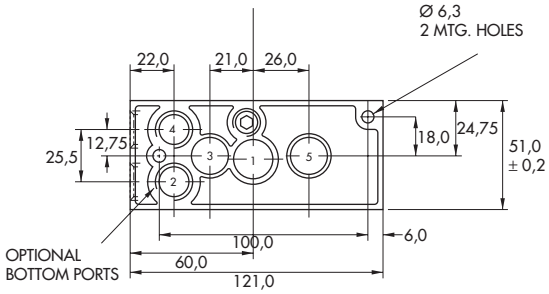
Individual DIN 5599/1



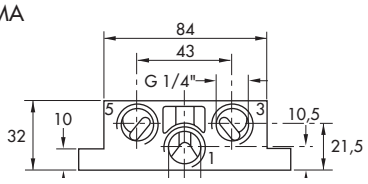


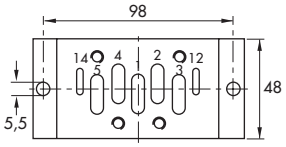
Manifold

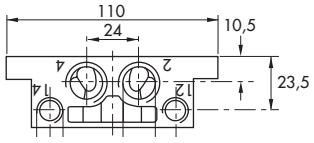




VDMA







Consult "Precautions" page 364 before use, installation or service of MAC Valves

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

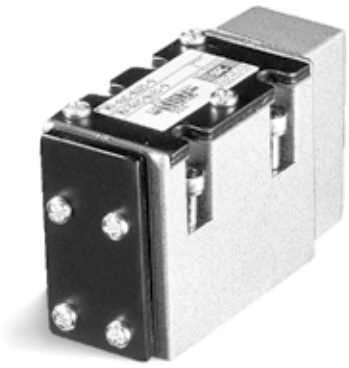
VALVE CODE ➤ $-\underset{1}{XX}\ \underset{2}{Y}\ \underset{3}{ZZ}\ \underset{4}{(-VV)}$

OPTIONS AVAILABLE FOR	OPTIONS AVAILABLE FOR
- valves type 100 Series - pilot valves "CNOMO"	- valves type 200 Series
- Pilot operated valves with pilots type 100 Series Series : 55 - 56 - 700 - 800 - 900 - 6300 - 6500 - 6600 - 1300 - ISO 1 - ISO 2 - ISO 3. - MAC 125 - MAC 250 - MAC 500	- pilot operated valves with pilots type 200 Series Series : 200 - 57 - 58 - 59.
- Pilot operated valves with pilots "CNOMO" Series : ISO1 - ISO2 - ISO3	

Function	Port size	Flow (Max)	Individual mounting & Manifold mounting	Series
5/2 - 5/3	**1/4" - 3/8"**	**1.6 C_v**	valve only	

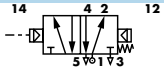
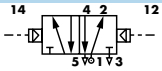
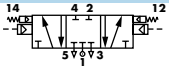
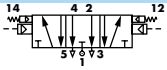
OPERATIONAL BENEFITS

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 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. Low leakage rate.

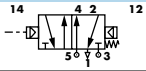
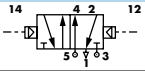
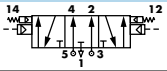


HOW TO ORDER

SINGLE PRESSURE VALVES

Air spring	5/2 Single operator	5/2 Double operator	5/3 Closed center	5/3 Open center
				
Internal	MV-A1C-B111	-----	-----	-----
External	MV-A1C-B121	MV-A1C-B221	MV-A1C-B322	MV-A1C-B321

DUAL PRESSURE VALVES

Air spring	5/2 Single operator	5/2 Double operator	5/3 Pressure center
			
Internal port 3	MV-A1C-B131	-----	-----
Internal port 5	MV-A1C-B135	-----	-----
External	MV-A1C-B141	MV-A1C-B241	MV-A1C-B341

Note : ISO valves are delivered w/o base. See page 281 for base code

1100
55
56
57
58
59
700
900
82
6300
6500
6600
2700
1800
ISO 1
ISO 2
ISO 3

Consult "Precautions" page 364 before use, installation or service of MAC Valves

100% OF PRODUCTION TESTED 100%

WARRANTY 18 MONTHS

TECHNICAL DATA

Fluid :	Compressed air, vacuum, inert gases
Pressure range :	Vacuum to 150 PSI
Air signal pressure :	Single operator and 3 positions : 20 to 150 PSI ≥ main valve pressure Double operator : 10 to 150 PSI
Lubrication :	Not required, if used select a medium aniline point lubricant (between 180°F to 210°F)
Filtration :	40 µ
Temperature range :	0°F to 120°F (-18°C to 50°C)
Flow (at 6 bar, ΔP=1bar) :	1/4" - 3/8" : (1.6 C_V)

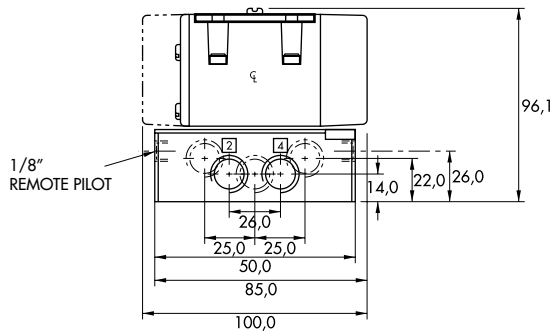
Spare parts :

• Remote air operator 2 positions : R-A1010. • Remote air operator 3 positions : R-A1005B.
• Pressure seal between valve and base : 16344. • Mounting screw body to base (x4) : 35304.

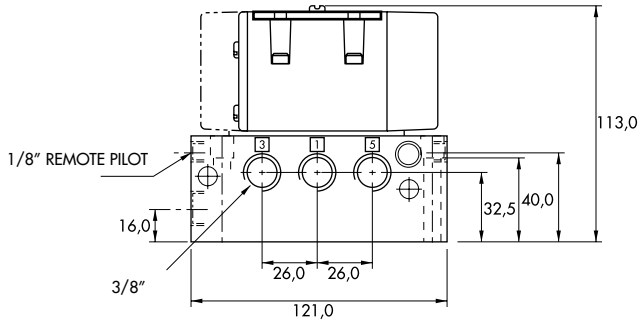
DIMENSIONS

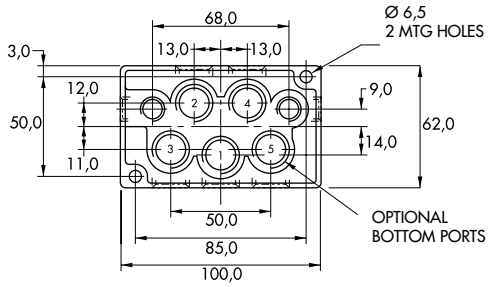
Dimensions shown are metric (mm)

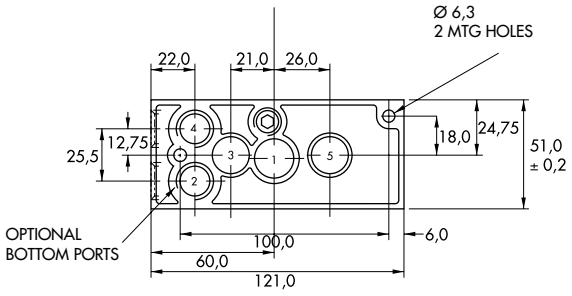
INDIVIDUAL BASE



MANIFOLD BASE







Consult "Precautions" page 364 before use, installation or service of MAC Valves

Sandwich pressure regulator with manual adjust knob.

OPERATIONAL BENEFITS

1. Easy mounting : saves on installation costs in comparison with inline regulators.
2. Allows to have compact, all-included units.
3. Large orifice provides high flow.
4. Various functions available.
5. Simple, reliable and solid design.

PR82A
PR63D
PR65C

HOW TO ORDER

INTERNAL PILOT

Gauges	Single pressure Regulator 14 end Same regulated pressure to ports 2 and 4	Single pressure Regulator 12 end Same regulated pressure to ports 2 and 4	Dual pressure * Regulator 14 end Regulated pressure to port 4	Dual pressure * Regulator 12 end Regulated pressure to port 2	Dual pressure * Dual regulator Two regulated pressures to ports 2 and 4
No gauge	PRA1A-GAAA	PRA1A-GCAA	PRA1A-GBAA	PRA1A-GDAA	PRA1A-GEAA
Gauge parallel to regulator(s)	PRA1A-GADA	PRA1A-GCDA	PRA1A-GBDA	PRA1A-GDDA	PRA1A-GEEA
Gauge perpendicular to regulator(s)	PRA1A-GABA	PRA1A-GCBA	PRA1A-GBBA	PRA1A-GDBA	PRA1A-GECA

EXTERNAL PILOT AND REMOTE AIR

Gauges	Single pressure Regulator 14 end Same regulated pressure to ports 2 and 4	Single pressure Regulator 12 end Same regulated pressure to ports 2 and 4	Dual pressure * Regulator 14 end Regulated pressure to port 4	Dual pressure * Regulator 12 end Regulated pressure to port 2	Dual pressure * Dual regulator Two regulated pressures to ports 2 and 4
No gauge	PRA1A-HAAA	PRA1A-HCAA	PRA1A-HBAA	PRA1A-HDAA	PRA1A-HEAA
Gauge parallel to regulator(s)	PRA1A-HADA	PRA1A-HCDA	PRA1A-HBDA	PRA1A-HDDA	PRA1A-HEEA
Gauge perpendicular to regulator(s)	PRA1A-HABA	PRA1A-HCBA	PRA1A-HBBA	PRA1A-HDBA	PRA1A-HECA

PRA1A
PRA2D
PRA3C

* - To be used with dual pressure valves.
Valve code is : MV-A1C-AX5X-PM-XXYZZ (sgl. pressure ext. pilot)
Valve code is : MV-A1C-AX4X-PM-XXYZZ (dual pressure ext. pilot)
Note : regulating range for above models is 0-120 PSI. For other ranges see technical data page.

Main valve body assembly must be external pilot model. Pilots are supplied internally from primary pressure in regulator block. Cannot field convert regulator block from Single Pressure to dual pressure. Body/Block to base mounting screw #35336.

PR125A
PR250B

ADJUSTMENT OPTIONS

PRA1A-*xxxx*

- Replace by A for slotted stem adjustment (internal pilot)
- Replace by B for slotted stem adjustment (external/remote air)
- Replace by K for slotted stem with locknut (internal pilot)
- Replace by L for slotted stem with locknut (external/remote air)

MAC

Series **PRA1A**

100% OF PRODUCTION TESTED 100%

WARRANTY 18 MONTHS

TECHNICAL DATA

Fluid :	Compressed air, inert gases
Pressure range :	0 to 150 PSI
Regulating range :	0 to 120 PSI (other ranges see below)
Lubrication :	Not required, if used select a medium aniline point lubricant (between 180°F to 210°F)
Filtration :	40 µ
Temperature range :	0°F to 120°F (-18°C to 50°C)
Flow :	(1.0 C_V)

Spare parts :

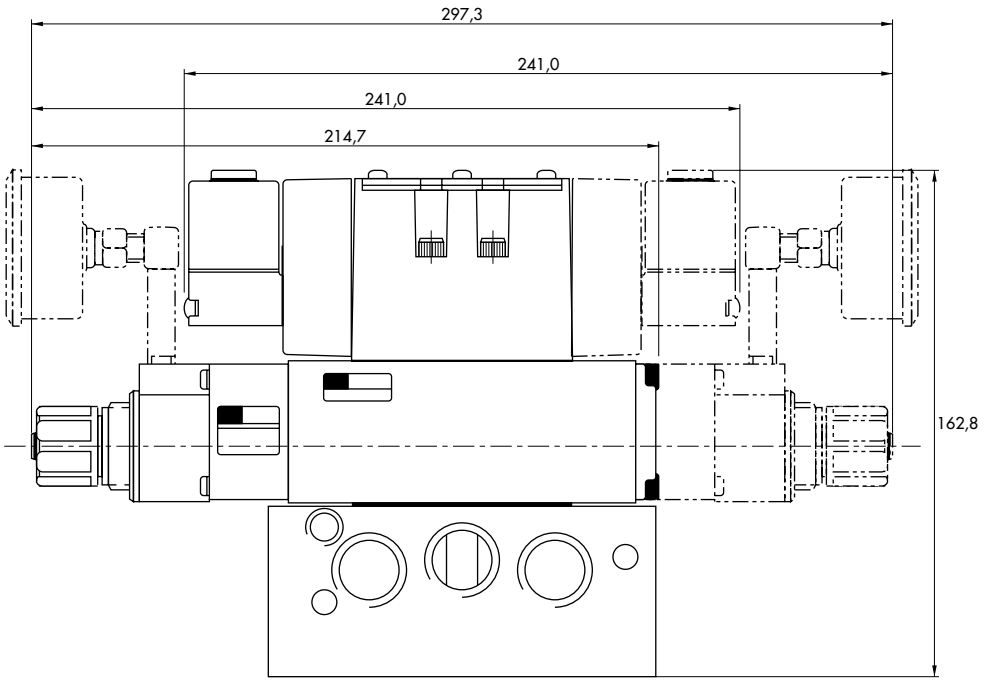
- Pressure regulator (less sandwich block) : PRA1A-J0AA (KNOB), PRA1A-C0AA (SLOTTED STEM), PRA1A-M0AA (SLOTTED STEM WITH LOCKNUT).
- Gauges : N-82016-01 (0-120 PSI perpendicular)
  N-82016-02 (0-120 PSI parallel)
  N-82016-03 (0-80 PSI perpendicular)
  N-82016-04 (0-80 PSI parallel)
  N-82016-05 (0-30 PSI perpendicular)
  N-82016-06 (0-30 PSI parallel)

Regulating range options : PRA1A-XXXA

Replace by B	- 0 to 80 PSI
Replace by C	- 0 to 30 PSI
Replace by D	- 0 to 120 PSI on "14" end - 0 to 80 PSI on "12" end
Replace by E	- 0 to 120 PSI on "12" end - 0 to 80 PSI on "14" end
Replace by F	- 0 to 120 PSI on "14" end - 0 to 30 PSI on "12" end
Replace by G	- 0 to 120 PSI on "12" end - 0 to 30 PSI on "14" end
Replace by H	- 0 to 80 PSI on "14" end - 0 to 30 PSI on "12" end
Replace by J	- 0 to 80 PSI on "12" end - 0 to 30 PSI on "14" end

DIMENSIONS

Dimensions shown are metric (mm)

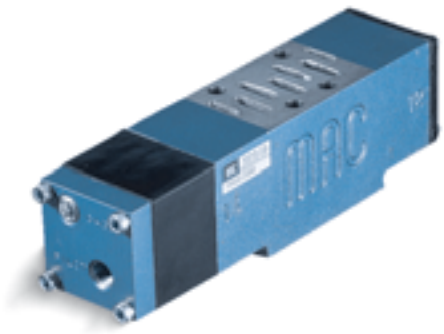


Consult "Precautions" page 364 before use, installation or service of MAC Valves

Sandwich pressure regulator with air pilot adjust.

OPERATIONAL BENEFITS

1. Easy mounting : saves on installation costs in comparison with inline regulators.
2. Allows to have compact, all-included units.
3. Large orifice provides high flow.
4. Various functions available.
5. Simple, reliable and solid design.



HOW TO ORDER

INTERNAL PILOT

Gauges	Single pressure Regulator 14 end Same regulated pressure to ports 2 and 4	Single pressure Regulator 12 end Same regulated pressure to ports 2 and 4	Dual pressure * Regulator 14 end Regulated pressure to port 4	Dual pressure * Regulator 12 end Regulated pressure to port 2	Dual pressure * Dual regulator Two regulated pressures to ports 2 and 4
No gauge	PRA1A-DAAA	PRA1A-DCAA	PRA1A-DBAA	PRA1A-DDAA	PRA1A-DEAA
Gauge parallel to regulator(s)	PRA1A-DADA	PRA1A-DCDA	PRA1A-DBDA	PRA1A-DDDA	PRA1A-DEEA
Gauge perpendicular to regulator(s)	PRA1A-DABA	PRA1A-DCBA	PRA1A-DBBA	PRA1A-DDBA	PRA1A-DECA

EXTERNAL PILOT AND REMOTE AIR

Gauges	Single pressure Regulator 14 end Same regulated pressure to ports 2 and 4	Single pressure Regulator 12 end Same regulated pressure to ports 2 and 4	Dual pressure * Regulator 14 end Regulated pressure to port 4	Dual pressure * Regulator 12 end Regulated pressure to port 2	Dual pressure * Dual regulator Two regulated pressures to ports 2 and 4
No gauge	PRA1A-EAAA	PRA1A-ECAA	PRA1A-EBAA	PRA1A-EDAA	PRA1A-EEAA
Gauge parallel to regulator(s)	PRA1A-EADA	PRA1A-ECDA	PRA1A-EBDA	PRA1A-EDDA	PRA1A-EEEA
Gauge perpendicular to regulator(s)	PRA1A-EABA	PRA1A-ECBA	PRA1A-EBBA	PRA1A-EDBA	PRA1A-EECA

***** - To be used with dual pressure valves.
Valve code is : MV-A1C-AX5X-PM-XXYZZ (sgl. pressure ext. pilot)
Valve code is : MV-A1C-AX4X-PM-XXYZZ (dual pressure ext. pilot)

Main valve body assembly must be external pilot model. Pilots are supplied internally from primary pressure in regulator block. Cannot field convert regulator block from Single Pressure to dual pressure. Body/Block to base mounting screw #35336.

PR82A
PR63D
PR65C
PRA1A
PRA2D
PRA3C
PR125A
PR250B

Series **PRA1A**

100% OF PRODUCTION TESTED 100%

WARRANTY 18 MONTHS

TECHNICAL DATA

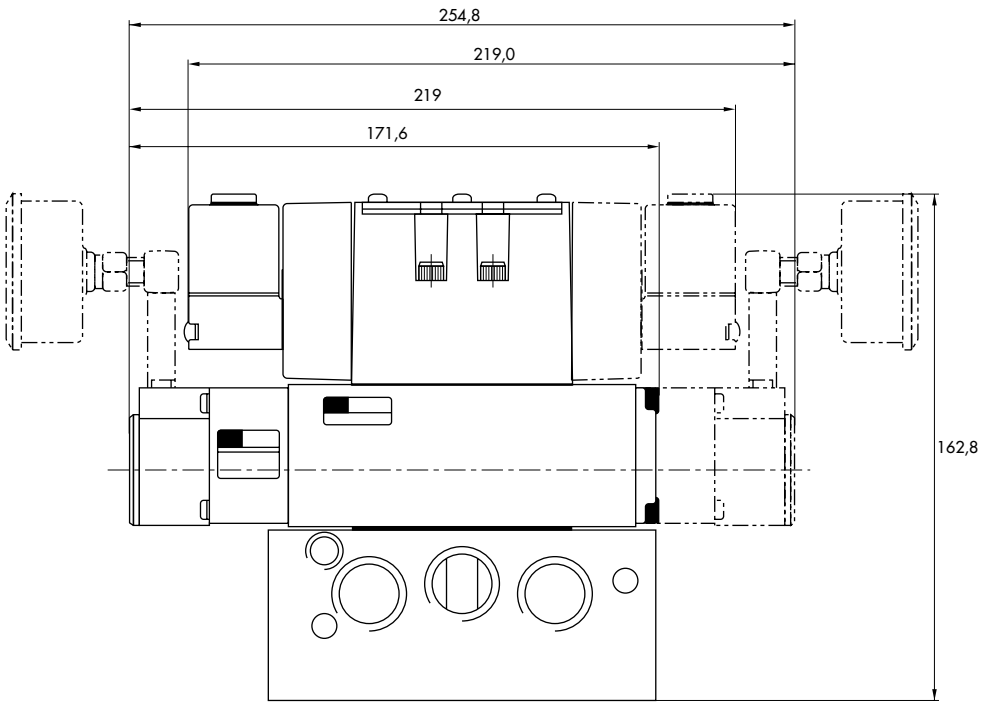
Fluid :	Compressed air, inert gases
Pressure range :	0 to 150 PSI
Regulating range :	0 to 120 PSI
Lubrication :	Not required, if used select a medium aniline point lubricant (between 180°F to 210°F)
Filtration :	40 µ
Temperature range :	0°F to 120°F (-18°C to 50°C)
Flow :	(1.0 C_V)

Spare parts :

- Pressure regulator (less sandwich block) : PRA1A-F0AA.
- Gauges : N-82016-01 (0-120 PSI perpendicular)
  N-82016-02 (0-120 PSI parallel)

DIMENSIONS

Dimensions shown are metric (mm)



Consult "Precautions" page 364 before use, installation or service of MAC Valves

Series PRA1A

Series

Non plug-in sandwich pressure regulator with air pilot adjust

OPERATIONAL BENEFITS

1. Easy mounting : saves on installation costs in comparison with inline regulators.
2. Allows to have compact, all-included units.
3. Large orifice provides high flow.
4. Various functions available.
5. Simple, reliable and solid design.

HOW TO ORDER

INTERNAL PILOT

Gage	Single pressure Regulator 14 end Same regulated pressure to ports 2 and 4	Single pressure Regulator 12 end Same regulated pressure to ports 2 and 4	Dual pressure * Regulator 14 end Regulated pressure to port 4	Dual pressure * Regulator 12 end Regulated pressure to port 2	Dual pressure * Dual regulator Two regulated pressures to ports 2 and 4
No gage	PRA1A-DAAA	PRA1A-DCAA	PRA1A-DBAA	PRA1A-DDAA	PRA1A-DEAA
Gage perpendicular to regulator(s)	PRA1A-DABA	PRA1A-DCBA	PRA1A-DBBA	PRA1A-DDBA	PRA1A-DECA
Gage parallel to regulator(s)	PRA1A-DADA	PRA1A-DCDA	PRA1A-DBDA	PRA1A-DDDA	PRA1A-DEEA

EXTERNAL PILOT AND REMOTE AIR

Gage	Single pressure Regulator 14 end Same regulated pressure to ports 2 and 4	Single pressure Regulator 12 end Same regulated pressure to ports 2 and 4	Dual pressure * Regulator 14 end Regulated pressure to port 4	Dual pressure * Regulator 12 end Regulated pressure to port 2	Dual pressure * Dual regulator Two regulated pressures to ports 2 and 4
No gage	PRA1A-EAAA	PRA1A-ECAA	PRA1A-EBAA	PRA1A-EDAA	PRA1A-EEAA
Gage perpendicular to regulator(s)	PRA1A-EABA	PRA1A-ECBA	PRA1A-EBBA	PRA1A-EDBA	PRA1A-EECA
Gage parallel to regulator(s)	PRA1A-EADA	PRA1A-ECDA	PRA1A-EBDA	PRA1A-EDDA	PRA1A-EEEA

* - To be used with dual pressure valves.

Main valve body assembly must be external pilot model. Pilots are supplied internally from primary pressure in regulator block. Cannot field convert regulator block from Single Pressure to dual pressure. Body/Block to base mounting screw #35336.

PR37A
PR42B
PR46A
PR47A
PR48B
PR92C
PR93A
PRA01A
PRA02A
PRA1A
PRP1A
PRA2D
PRP2B
PRA3C
PRP3B

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

Series **PRA1A**

100% OF PRODUCTION TESTED 100%

WARRANTY 18 MONTHS

TECHNICAL DATA

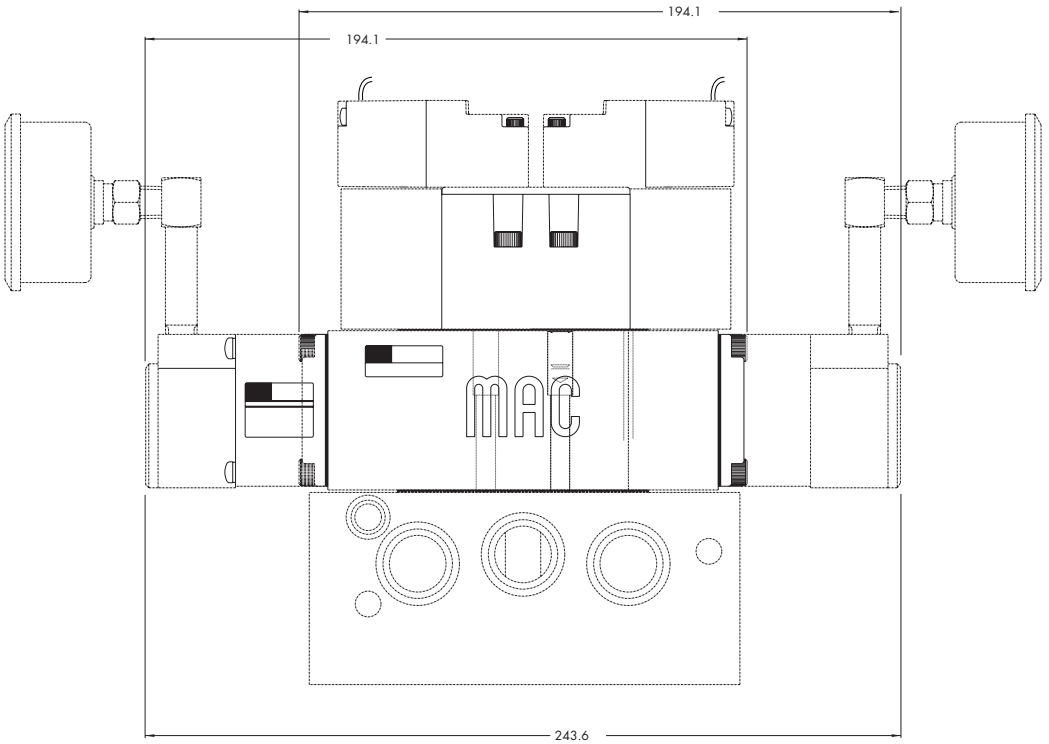
Fluid :	Compressed air, inert gases
Pressure range :	0 to 150 PSI
Regulating range :	0 to 120 PSI
Lubrication :	Not required, if used select a medium aniline point lubricant (between 180°F to 210°F)
Filtration :	40 µ
Temperature range :	0°F to 120°F (-18°C to +50°C)
Flow :	1.0 C_v

Spare parts :

- Pressure regulator (less sandwich block) : PRA1A-F0AA.
- Gage : N-82016-01 (0-120 PSI perpendicular)
  N-82016-02 (0-120 PSI parallel)

DIMENSIONS

Dimensions shown are metric (mm)



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

Plug-in sandwich pressure regulator with manual adjust knob

OPERATIONAL BENEFITS

1. Easy mounting: saves on installation costs in comparison with inline regulators.
2. Compact all-included units.
3. Large orifice provides high flow.
4. Various functions available.
5. Simple, reliable and solid design.

HOW TO ORDER

REGULATORS FOR INTERNAL PILOT (CODED FOR KNOB ADJUSTMENT)

Gage	Single pressure Regulator 14 end Same regulated pressure to ports 2 and 4	Single pressure Regulator 12 end Same regulated pressure to ports 2 and 4	Dual pressure * Regulator 14 end Regulated pressure to port 4	Dual pressure * Regulator 12 end Regulated pressure to port 2	Dual pressure * Dual regulator Two regulated pressures to ports 2 and 4
Gage port only	PRP1A-GAKA	PRP1A-GCKA	PRP1A-GBKA	PRP1A-GDKA	PRP1A-GEKA
Gage perpendicular to manual operator	PRP1A-GABA	PRP1A-GCBA	PRP1A-GBBA	PRP1A-GDBA	PRP1A-GECA
Gage parallel to manual operator	PRP1A-GADA	PRP1A-GCDA	PRP1A-GBDA	PRP1A-GDDA	PRP1A-GEEA

REGULATORS FOR EXTERNAL PILOT AND REMOTE AIR (CODED FOR KNOB ADJUSTMENT)

Gage	Single pressure Regulator 14 end Same regulated pressure to ports 2 and 4	Single pressure Regulator 12 end Same regulated pressure to ports 2 and 4	Dual pressure * Regulator 14 end Regulated pressure to port 4	Dual pressure * Regulator 12 end Regulated pressure to port 2	Dual pressure * Dual regulator Two regulated pressures to ports 2 and 4
No gage	PRP1A-HAKA	PRP1A-HCKA	PRP1A-HBKA	PRP1A-HDKA	PRP1A-HEKA
Gage perpendicular to manual operator	PRP1A-HABA	PRP1A-HCBA	PRP1A-HBBA	PRP1A-HDBA	PRP1A-HECA
Gage parallel to manual operator	PRP1A-HADA	PRP1A-HCDA	PRP1A-HBDA	PRP1A-HDDA	PRP1A-HEEA

* For use with dual pressure valves.
Note: Regulating range for above models is 0 -120 PSI. For other ranges see technical data page.

ADJUSTMENT OPTIONS

PRP1A-*XXXX*

- **A** for slotted stem adjustment (internal pilot)
- **B** for slotted stem adjustment (external/remote air)
- **K** for slotted stem with locknut (internal pilot)
- **L** for slotted stem with locknut (external/remote air)

Notes:
1. Valves used with above models must be external pilot models.
2. Cannot field convert regulator block from single pressure to dual pressure.
3. Cannot field convert from internal pilot to external pilot.
4. Wired for double solenoid valves.

PR37A
PR42B
PR46A
PR47A
PR48B
PR92C
PR93A
PRA01A
PRA02A
PRA1A
PRP1A
PRA2D
PRP2B
PRA3C
PRP3B

MAC

Series **PRP1A**

100% OF PRODUCTION TESTED 100%

WARRANTY 18 MONTHS

TECHNICAL DATA

Fluid :	Compressed air, inert gases
Pressure range :	0 to 150 PSI
Regulating range :	0 to 120 PSI (other ranges see below)
Lubrication :	Not required, if used select a medium aniline point lubricant (between 180°F to 210°F)
Filtration :	40 µ
Temperature range :	0°F to 120°F (-18°C to +50°C)
Flow :	1.1 C_v

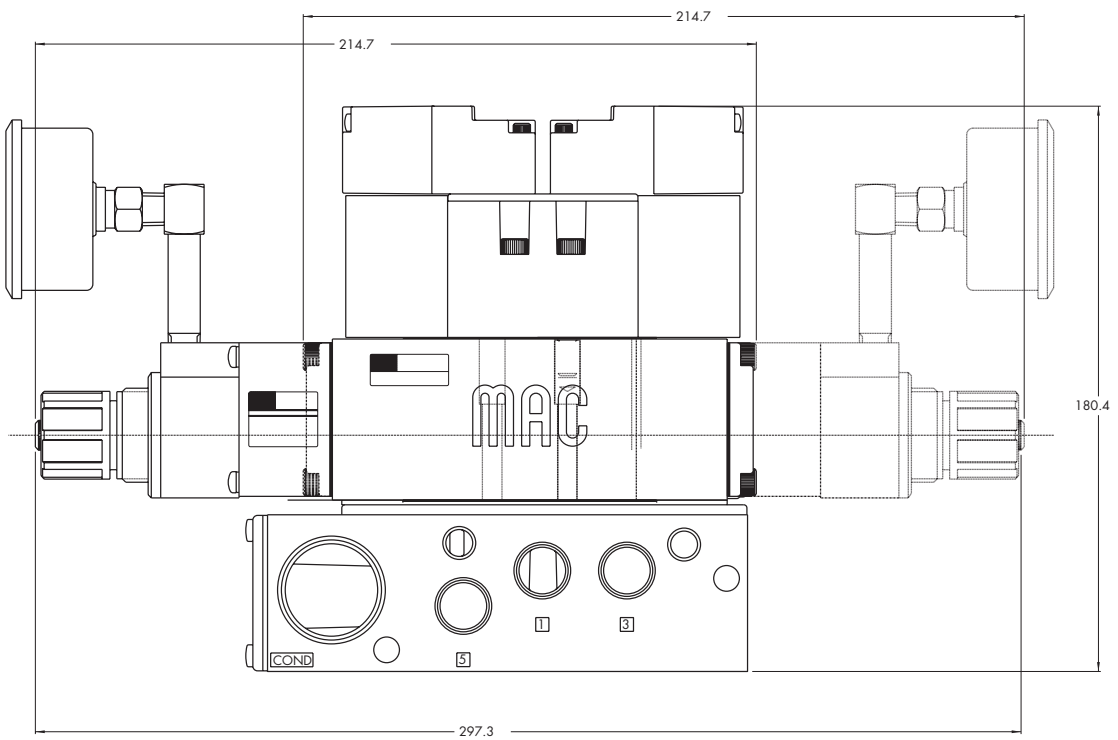
Spare parts : • Pressure regulator (less sandwich block) : PRP1A-J0KA (knob), PRP1A-C0KA (slotted stem)
PRP1A-M0KA (slotted stem with locknut)

Regulating range options : PRP1A-XXXA

Replace by B	- 0 to 80 PSI
Replace by C	- 0 to 30 PSI
Replace by D	- 0 to 120 PSI on "14" end - 0 to 80 PSI on "12" end
Replace by E	- 0 to 120 PSI on "12" end - 0 to 80 PSI on "14" end
Replace by F	- 0 to 120 PSI on "14" end - 0 to 30 PSI on "12" end
Replace by G	- 0 to 120 PSI on "12" end - 0 to 30 PSI on "14" end
Replace by H	- 0 to 80 PSI on "14" end - 0 to 30 PSI on "12" end
Replace by J	- 0 to 80 PSI on "12" end - 0 to 30 PSI on "14" end

DIMENSIONS

Dimensions shown are metric (mm)



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

Series PRP1A

Series

Plug-in sandwich pressure regulator with air pilot adjust

OPERATIONAL BENEFITS

1. Easy mounting: saves on installation costs in comparison with inline regulators.
2. Compact all-included units.
3. Large orifice provides high flow.
4. Various functions available.
5. Simple, reliable and solid design.

HOW TO ORDER

REGULATORS FOR INTERNAL PILOT

Gage	Single pressure Regulator 14 end Same regulated pressure to ports 2 and 4	Single pressure Regulator 12 end Same regulated pressure to ports 2 and 4	Dual pressure * Regulator 14 end Regulated pressure to port 4	Dual pressure * Regulator 12 end Regulated pressure to port 2	Dual pressure * Dual regulator Two regulated pressures to ports 2 and 4
Gage port only	PRP1A-DAKA	PRP1A-DCKA	PRP1A-DBKA	PRP1A-DDKA	PRP1A-DEKA
Gage perpendicular to manual operator	PRP1A-DABA	PRP1A-DCBA	PRP1A-DBBA	PRP1A-DDBA	PRP1A-DECA
Gage parallel to manual operator	PRP1A-DADA	PRP1A-DCDA	PRP1A-DBDA	PRP1A-DDDA	PRP1A-DEEA

REGULATORS FOR EXTERNAL PILOT AND REMOTE AIR

Gage	Single pressure Regulator 14 end Same regulated pressure to ports 2 and 4	Single pressure Regulator 12 end Same regulated pressure to ports 2 and 4	Dual pressure * Regulator 14 end Regulated pressure to port 4	Dual pressure * Regulator 12 end Regulated pressure to port 2	Dual pressure * Dual regulator Two regulated pressures to ports 2 and 4
Gage port only	PRP1A-EAKA	PRP1A-ECKA	PRP1A-EBKA	PRP1A-EDKA	PRP1A-EEKA
Gage perpendicular to manual operator	PRP1A-EABA	PRP1A-ECBA	PRP1A-EBBA	PRP1A-EDBA	PRP1A-EECA
Gage parallel to manual operator	PRP1A-EADA	PRP1A-ECDA	PRP1A-EBDA	PRP1A-EDDA	PRP1A-EEEA

* - To be used with dual pressure valves.

Notes:
1. Valves used with above models must be external pilot models.
2. Cannot field convert regulator block from single pressure to dual pressure.
3. Cannot field convert from internal pilot to external pilot.
4. Wired for double solenoid valves.

PR37A
PR42B
PR46A
PR47A
PR48B
PR92C
PR93A
PRA01A
PRA02A
PRA1A
PRP1A
PRA2D
PRP2B
PRA3C
PRP3B

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

MAC

Series **PRP1A**

100% OF PRODUCTION TESTED 100%

WARRANTY 18 MONTHS

TECHNICAL DATA

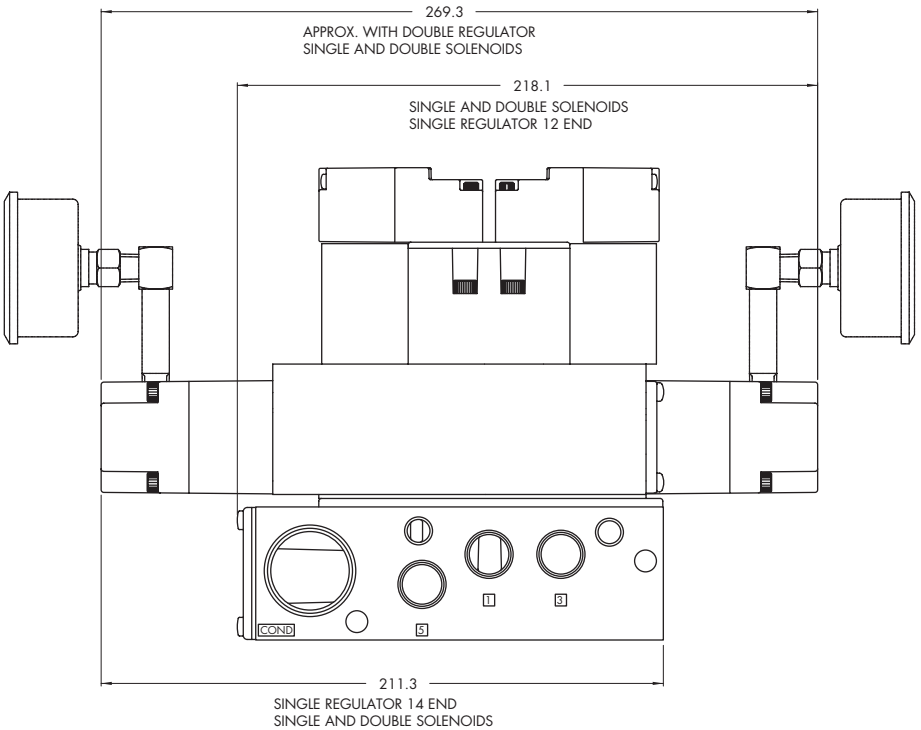
Fluid :	Compressed air, inert gases
Pressure range :	0 to 150 PSI
Regulating range :	0 to 120 PSI
Lubrication :	Not required, if used select a medium aniline point lubricant (between 180°F to 210°F)
Filtration :	40 µ
Temperature range :	0°F to 120°F (-18°C to +50°C)
Flow :	1.1 C_v

Spare parts :

- Pressure regulator (less sandwich block): PRP1A-F0KA
- Regulator block to base mounting tie rod: 19496

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..