## Direct solenoid and solenoid pilot operated valves

### Series ISO 1

#### Individual mounting

<table>
<thead>
<tr>
<th>Value only – No base non “plug-in” Conform to ISO 5599/1</th>
<th>Value only – No base “plug-in” Conform to ISO 5599/2</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Manifold mounting

<table>
<thead>
<tr>
<th>Value only – No base non “plug-in” Conform to ISO 5599/1</th>
<th>Value only – No base “plug-in” Conform to ISO 5599/2</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### SERIES FEATURES

- Plug-in (5599/2) and non plug-in (5599/1) models.
- 2-position, single or double operator. (Solenoid or Remote Air)
- 3-position, double solenoid, open center, closed center, and pressure center.
- Extended or recessed manual operators.
- Single pressure and dual pressure.
- Individual base or add-e-unit manifold base.
- Plug-in, sandwich, single and dual pressure regulators for both individual and manifold valves.

---

Consult “Precautions” page 327 before use, installation or service of MAC Valves.
### OPERATIONAL BENEFITS

1. Unique patented Macsolennoid® for fastest possible response times and virtually burn-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.
8. Air only return. Optional memory spring is also available.
9. Optional low wattage DC solenoid down to 1.0 watt.

### HOW TO ORDER

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

### SERIES ISO 1

**Valve only** - No base non “plug-in” Conform to ISO 5599/1

<table>
<thead>
<tr>
<th>Function</th>
<th>Port size</th>
<th>Flow (Max)</th>
<th>Individual/Manifold mounting</th>
</tr>
</thead>
<tbody>
<tr>
<td>5/2, 5/3</td>
<td>1/4” - 3/8”</td>
<td>1.8 Cv</td>
<td></td>
</tr>
</tbody>
</table>

### OPTIONS

**Valve function:**
- MV-B1A-XXXX-XX-Dxxx-xxx for single operator universal spool (ext. pilot only)
- MV-B1A-AABB-DM-Dxxx-xxx for double operator universal spool (ext. pilot only)

**Pilot style:**
- MV-B1A-JXXX-DM-Dxxx-xxx for standard single pilot
- MV-B1A-JXXX-DM-Dxxx-xxx for standard double pilot
- MV-B1A-JXXX-DM-Dxxx-xxx for memory spring pilot

### Pilot air

**SINGLE PRESSURE MODELS**

<table>
<thead>
<tr>
<th>Pilot air</th>
<th>5/2 Single operator</th>
<th>5/2 Double operator</th>
<th>5/3 Closed center</th>
<th>5/3 Open center</th>
</tr>
</thead>
</table>

**DUAL PRESSURE MODELS**

<table>
<thead>
<tr>
<th>Pilot air</th>
<th>5/2 Single operator</th>
<th>5/2 Double operator</th>
<th>5/3 Pressure center</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internal pilot from port #3</td>
<td>MV-B1A-ADAD-DM-Dxxx</td>
<td>MV-B1A-ADAD-DM-Dxxx</td>
<td>MV-B1A-ADAD-DM-Dxxx</td>
</tr>
<tr>
<td>Internal pilot from port #5</td>
<td>MV-B1A-ACAB-DM-Dxxx</td>
<td>MV-B1A-ACAB-DM-Dxxx</td>
<td>MV-B1A-ACAB-DM-Dxxx</td>
</tr>
<tr>
<td>External pilot from &quot;12&quot; end</td>
<td>MV-B1A-ACAB-DM-Dxxx</td>
<td>MV-B1A-ACAB-DM-Dxxx</td>
<td>MV-B1A-ACAB-DM-Dxxx</td>
</tr>
</tbody>
</table>

### SOLENOID OPERATOR

DM-D  XXX-XXX

**Voltage:**
- JA 110/50, 120/60
- JB 220/50, 240/60
- JC 24/50, 24/60
- FB 24 VDC (1.8W)
- DA 24 VDC (5.4W)
- DP 24 VDC (12.7W)

**Lead wire length:**
- A 18" (Flying leads)
- B 24" (Flying leads)
- J Connector

**Manual operator:**
- 1 Non-locking recessed
- 2 Locking recessed

**Electrical connection:**
- KA Square connector
- KD Rectangular connector with light
- JB Rectangular connector with light
- JA Flying leads

* Other options available, see page 309.

Note: ISO series, valve and base are ordered separately, see page 231 for base code.

Consult “Precautions” page 327 before use, installation or service of MAC Valves.
**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 Cv) – 1/4": (1.6 Cv)
- **Coil:** Class A continuous duty, #22 AWG x 18 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:**
  - Energize: 11.3 ms
  - De-energize: 7.8 ms

**Options:**
- Sandwich flow controls: FCP1A-BA (screwdriver slot adjustment)
- Sandwich regulator, see ‘Regulators’ section

**Spare parts:**
- Pilot valve: DMB-Dxxxxxx • Valve to base pressure seal: 16661

---

**DIMENSIONS**

**Individual base**

**Manifold base**

Dimensions shown are metric (mm)

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

HOW TO ORDER

1. Consult “Precautions” page 327 before use, installation or service of MAC Valves.

FUNCTION PORT SIZE FLOW (MAX) INDIVIDUAL/MANIFOLD MOUNTING SERIES

<table>
<thead>
<tr>
<th>Function</th>
<th>Port Size</th>
<th>Flow (Max)</th>
<th>Individual/Manifold Mounting</th>
<th>Series</th>
</tr>
</thead>
<tbody>
<tr>
<td>5/2, 5/3</td>
<td>1/4” - 3/8”</td>
<td>1.8 Cv</td>
<td>No base “plug-in” conform to ISO SSW/2</td>
<td>33</td>
</tr>
</tbody>
</table>

DUAL PRESSURE MODELS

SOLENOID OPERATOR

<table>
<thead>
<tr>
<th>Voltage</th>
<th>Manual Return</th>
<th>Electrical Connection</th>
</tr>
</thead>
<tbody>
<tr>
<td>JA 110/50, 120/60 (2 kW)</td>
<td>1 Non-locking recessed</td>
<td>DM Plug-in</td>
</tr>
<tr>
<td>JB 220/50, 240/60 (2 kW)</td>
<td>2 Locking recessed</td>
<td>DN Plug-in with diode</td>
</tr>
<tr>
<td>KC 24/50, 24/60 (2 kW)</td>
<td></td>
<td>DP Plug-in with M.O.V.</td>
</tr>
<tr>
<td>FB 24 VDC (1.8W)</td>
<td></td>
<td>DG Plug-in with ground</td>
</tr>
<tr>
<td>DA 24 VDC (15.4W)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DF 24 VDC (12.7W)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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-XXX-XX-DvxP-xxx
  - J for single operator universal spool (ext. pilot only)
  - K for double operator universal spool (ext. pilot only)

Pilot style:
- MV-P1A-XXX DM-DvxP-xxx
  - DM-D Pilot exhaust muffled
  - DP Pilot exhaust piped (#10-32)

Spool return:
- MV-P1A-XXX-XX-DvxP-xxx
  - A Standard return
  - B Memory spring return
  - C Standard return with light
  - D Memory spring return with light

Consult “Precautions” page 327 before use, installation or service of MAC Valves.
**TECHNICAL DATA**

<table>
<thead>
<tr>
<th>Feature</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fluid</strong></td>
<td>Compressed air, vacuum, inert gases</td>
</tr>
</tbody>
</table>
| **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 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 Cv) – 1/4": (1.6 Cv)                                         |
| **Coil**           | Class A continuous duty, #22 AWG x 12 base leads                        |
| **Voltage range**  | -1.5% 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: 0.1 ms  
                      - De-energize: 9 ms                                              |

**Options:**
- Sandwich flow controls: FCP1A-AA (screwdriver slot adjustment)
- Sandwich regulator, see 'Regulators' section

**Spare parts:**
- Pilot valve: DMB-OxxP-xxx • Valve to base pressure seal: 16661

**DIMENSIONS**

**Individual base**

**Manifold base**

Dimensions shown are metric (mm)
## Non plug-in base / manifold

### HOW TO ORDER

**INDIVIDUAL BASE**

<table>
<thead>
<tr>
<th>Port size</th>
<th>Side ports</th>
<th>Side &amp; bottom ports</th>
<th>Bottom cylinder ports 2 and 4.</th>
<th>Bottom inlet port 1</th>
</tr>
</thead>
</table>

**MANIFOLD BASE**

<table>
<thead>
<tr>
<th>Port size</th>
<th>Side ports</th>
<th>Side &amp; bottom ports</th>
<th>Bottom cylinder ports 2 and 4.</th>
<th>Bottom inlet port 1</th>
</tr>
</thead>
</table>

Manifold fastening kit: N43002-01.
Valve blanking plate: MA1003.
Inlet/exhaust isolator plug: 32835.
Consult “Precautions” page 327 before use, installation or service of MAC Valves.
**Plug-in base / manifold**

### HOW TO ORDER

**INDIVIDUAL BASE**

<table>
<thead>
<tr>
<th>Port size</th>
<th>Wired for</th>
<th>Side ports</th>
<th>Side ports w/ bottom 2 &amp; 4 ports</th>
<th>All side &amp; bottom ports</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/4” NPTF</td>
<td>Single solenoid</td>
<td>MB-P1A-221-A</td>
<td>MB-P1A-222-A</td>
<td>MB-P1A-223-A</td>
</tr>
<tr>
<td></td>
<td>Double solenoid</td>
<td>MB-P1A-221-B</td>
<td>MB-P1A-222-B</td>
<td>MB-P1A-223-B</td>
</tr>
<tr>
<td>3/8” NPTF</td>
<td>Single solenoid</td>
<td>MB-P1A-231-A</td>
<td>MB-P1A-232-A</td>
<td>MB-P1A-233-A</td>
</tr>
<tr>
<td></td>
<td>Double solenoid</td>
<td>MB-P1A-231-B</td>
<td>MB-P1A-232-B</td>
<td>MB-P1A-233-B</td>
</tr>
</tbody>
</table>

**MANIFOLD BASE**

<table>
<thead>
<tr>
<th>Port size</th>
<th>Wired for</th>
<th>Side ports</th>
<th>Side ports w/ bottom 2 &amp; 4 ports</th>
<th>All side &amp; bottom ports (see note)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/4” NPTF</td>
<td>Single solenoid</td>
<td>MM-P1A-221-A</td>
<td>MM-P1A-222-A</td>
<td>MM-P1A-223-A</td>
</tr>
<tr>
<td></td>
<td>Double solenoid</td>
<td>MM-P1A-221-B</td>
<td>MM-P1A-222-B</td>
<td>MM-P1A-223-B</td>
</tr>
<tr>
<td>3/8” NPTF</td>
<td>Single solenoid</td>
<td>MM-P1A-231-A</td>
<td>MM-P1A-232-A</td>
<td>MM-P1A-233-A</td>
</tr>
<tr>
<td></td>
<td>Double solenoid</td>
<td>MM-P1A-231-B</td>
<td>MM-P1A-232-B</td>
<td>MM-P1A-233-B</td>
</tr>
</tbody>
</table>

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

### OPTIONS

**Manifold options:**
- External pilot
- Terminal strip
- Base / Manifold option: light(s)

**Accessories:**
- M-P1001: Valve blanking plate
- NP1007: Manifold fastening kit
- 32835: Inlet/exhaust isolator plug

Consult “Precautions” page 327 before use, installation or service of MAC Valves.
Consult "Precautions" page 327 before use, installation or service of MAC Valves.
Codification table for voltages / Manual operator / Electrical connection

<table>
<thead>
<tr>
<th>VALVE CODE</th>
<th>-DM- D XX X-X XX</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1 2 3 4</td>
</tr>
</tbody>
</table>

**OPTIONS AVAILABLE FOR**

- Pilot operated valves 52, 67, 92, 93, 400, ISO1, ISO2, ISO3 Series
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.
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 (solenoid 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: 1 Bar = 14.5 PSIG

Consult "Precautions" page 364 before use, installation or service of MAC Valves.
### 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.
7. Pilot valve with balanced poppet, high flow, short and consistent response times.
8. Long service life.

### How to Order

**Single Pressure Valves**

<table>
<thead>
<tr>
<th>Pilot air</th>
<th>5/2 Single operator</th>
<th>5/2 Double operator</th>
<th>5/3 Closed center</th>
<th>5/3 Open center</th>
</tr>
</thead>
</table>

**Dual Pressure Valves**

<table>
<thead>
<tr>
<th>Pilot air</th>
<th>5/2 Single operator</th>
<th>5/2 Double operator</th>
<th>5/3 Pressure center</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internal Port 3</td>
<td>MV-A1C-A131-PM-XYZZZ</td>
<td>MV-A1C-A231-PM-XYZZZ</td>
<td>MV-A1C-A331-PM-XYZZZ</td>
</tr>
</tbody>
</table>

**Solenoid Operator**

<table>
<thead>
<tr>
<th>XX</th>
<th>Voltage</th>
</tr>
</thead>
<tbody>
<tr>
<td>11</td>
<td>120/60, 110/50</td>
</tr>
<tr>
<td>12</td>
<td>240/60, 220/50</td>
</tr>
<tr>
<td>22</td>
<td>24/60, 24/50</td>
</tr>
<tr>
<td>59</td>
<td>24 VDC (2.5 W)</td>
</tr>
<tr>
<td>87</td>
<td>24 VDC (17.1 W)</td>
</tr>
<tr>
<td>61</td>
<td>24 VDC (8.5 W)</td>
</tr>
</tbody>
</table>

* Other options available, see page 357.

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

**Options**

- 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.
**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 anti-seize 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=1 bar):**
- 1/4" : (1.6 Cv), 3/8" : (1.6 Cv)

**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**

<table>
<thead>
<tr>
<th>TYPE</th>
<th>A</th>
<th>B</th>
</tr>
</thead>
<tbody>
<tr>
<td>JA &amp; JC</td>
<td>271.6</td>
<td>195.8</td>
</tr>
<tr>
<td>JB &amp; JD</td>
<td>294.6</td>
<td>207.3</td>
</tr>
</tbody>
</table>

**ISO 1 Individual mounting**

<table>
<thead>
<tr>
<th>TYPE</th>
<th>A</th>
<th>B</th>
</tr>
</thead>
<tbody>
<tr>
<td>JA &amp; JC</td>
<td>271.6</td>
<td>185.6</td>
</tr>
<tr>
<td>JB &amp; JD</td>
<td>294.6</td>
<td>197.3</td>
</tr>
</tbody>
</table>
## HOW TO ORDER

### INDIVIDUAL BASE

<table>
<thead>
<tr>
<th>Port size</th>
<th>Side ports</th>
<th>Side &amp; bottom ports</th>
<th>Bottom cylinder ports 2 and 4.</th>
<th>Bottom inlet port 1</th>
</tr>
</thead>
</table>

### MANIFOLD BASE

<table>
<thead>
<tr>
<th>Port size</th>
<th>Side ports</th>
<th>Bottom ports</th>
<th>Bottom cylinder ports 2 and 4.</th>
<th>Bottom inlet port 1</th>
</tr>
</thead>
</table>

Manifold fastening kit : N-63002-01.
### Codification table for voltages / Manual operator / Electrical connection / Wire length

**Valve Code:**

- **XX Y ZZ (-VV)**
  - 1
  - 2
  - 3
  - 4

### Options Available for

<table>
<thead>
<tr>
<th>Options Available For</th>
<th>Options Available For</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Valves type 100 Series</td>
<td>- Valves type 200 Series</td>
</tr>
<tr>
<td>- Pilot valves &quot;CNOMO&quot;</td>
<td></td>
</tr>
</tbody>
</table>

- 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 "CNOMO"
  Series: ISO1 - ISO2 - ISO3

Consult "Precautions" page 364 before use, installation or service of MAC Valves.
### 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.
7. Low leakage rate.

### How to Order

#### Single Pressure Valves

<table>
<thead>
<tr>
<th>Air spring</th>
<th>5/2 Single operator</th>
<th>5/2 Double operator</th>
<th>5/3 Closed center</th>
<th>5/3 Open center</th>
</tr>
</thead>
</table>

#### Dual Pressure Valves

<table>
<thead>
<tr>
<th>Air spring</th>
<th>5/2 Single operator</th>
<th>5/2 Double operator</th>
<th>5/3 Pressure center</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internal part 3</td>
<td>MV-A1C-B131</td>
<td>MV-A1C-B241</td>
<td>MV-A1C-B341</td>
</tr>
<tr>
<td>Internal part 5</td>
<td>MV-A1C-B135</td>
<td>MV-A1C-B241</td>
<td>MV-A1C-B341</td>
</tr>
<tr>
<td>External</td>
<td>MV-A1C-B141</td>
<td>MV-A1C-B241</td>
<td>MV-A1C-B341</td>
</tr>
</tbody>
</table>

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

**Leak rate:**

**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)

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.

**HOW TO ORDER**

### INTERNAL PILOT

<table>
<thead>
<tr>
<th>Gauges</th>
<th>Single pressure Regulator 14 and Same regulated pressure to ports 2 and 4</th>
<th>Single pressure Regulator 12 and Same regulated pressure to ports 2 and 4</th>
<th>Dual pressure Regulator 14 and Regulated pressure to port 4</th>
<th>* Dual pressure Regulator 12 and Regulated pressure to port 2</th>
<th>* Dual pressure Dual regulator Two regulated pressures to ports 2 and 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>No gauge</td>
<td>PRA1A-GAAA</td>
<td>PRA1A-GCAA</td>
<td>PRA1A-GBAA</td>
<td>PRA1A-GDAA</td>
<td>PRA1A-GEAA</td>
</tr>
<tr>
<td>Gauge parallel to regulator(s)</td>
<td>PRA1A-GADA</td>
<td>PRA1A-GBA</td>
<td>PRA1A-GBDA</td>
<td>PRA1A-GDDA</td>
<td>PRA1A-GEEA</td>
</tr>
<tr>
<td>Gauge perpendicular to regulator(s)</td>
<td>PRA1A-GABA</td>
<td>PRA1A-GBCA</td>
<td>PRA1A-GBBA</td>
<td>PRA1A-GDBA</td>
<td>PRA1A-GECB</td>
</tr>
</tbody>
</table>

### EXTERNAL PILOT AND REMOTE AIR

<table>
<thead>
<tr>
<th>Gauges</th>
<th>Single pressure Regulator 14 and Same regulated pressure to ports 2 and 4</th>
<th>Single pressure Regulator 12 and Same regulated pressure to ports 2 and 4</th>
<th>Dual pressure Regulator 14 and Regulated pressure to port 4</th>
<th>* Dual pressure Regulator 12 and Regulated pressure to port 2</th>
<th>* Dual pressure Dual regulator Two regulated pressures to ports 2 and 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>No gauge</td>
<td>PRA1A-HAAA</td>
<td>PRA1A-HCAA</td>
<td>PRA1A-HBAA</td>
<td>PRA1A-HDAA</td>
<td>PRA1A-HEA</td>
</tr>
<tr>
<td>Gauge parallel to regulator(s)</td>
<td>PRA1A-HADA</td>
<td>PRA1A-HCDA</td>
<td>PRA1A-HBDA</td>
<td>PRA1A-HDDA</td>
<td>PRA1A-HEEA</td>
</tr>
<tr>
<td>Gauge perpendicular to regulator(s)</td>
<td>PRA1A-HABA</td>
<td>PRA1A-HBCA</td>
<td>PRA1A-HBBA</td>
<td>PRA1A-HDBA</td>
<td>PRA1A-HECA</td>
</tr>
</tbody>
</table>

* - 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.

**ADJUSTMENT OPTIONS**

- 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)

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.

Consult “Precautions” page 364 before use, installation or service of MAC Valves.
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 Cv)

Spare parts:
- Pressure regulator (less sandwich block): PRA1AJOAA (KNOB), PRA1AC0AA (SLOTTED STEM), PRA1AM0AA (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
- Replace by E - 0 to 120 PSI on "12" end
- Replace by F - 0 to 80 PSI on "14" end
- Replace by G - 0 to 120 PSI on "12" end
- Replace by H - 0 to 80 PSI on "14" end
- Replace by J - 0 to 30 PSI on "14" end

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

<table>
<thead>
<tr>
<th>Gauges</th>
<th>Single pressure Regulator 14 and Same regulated pressure to ports 2 and 4</th>
<th>Single pressure Regulator 12 and Same regulated pressure to ports 2 and 4</th>
<th>Dual pressure Regulator 14 and Regulated pressure to port 4</th>
<th>Dual pressure Regulator 12 and Regulated pressure to port 2</th>
<th>Dual pressure Dual regulator Two regulated pressures to ports 2 and 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>No gauge</td>
<td>PRA1A-DAAA</td>
<td>PRA1A-DCAA</td>
<td>PRA1A-DBAA</td>
<td>PRA1A-DDAA</td>
<td>PRA1A-DEAA</td>
</tr>
<tr>
<td>Gauge</td>
<td>PRA1A-DADA</td>
<td>PRA1A-DCDA</td>
<td>PRA1A-D8DA</td>
<td>PRA1A-DDDA</td>
<td>PRA1A-D8EA</td>
</tr>
<tr>
<td>parallel</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>to regulator(s)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gauge</td>
<td>PRA1A-DABA</td>
<td>PRA1A-DCBA</td>
<td>PRA1A-D8BA</td>
<td>PRA1A-DDBA</td>
<td>PRA1A-D8EA</td>
</tr>
<tr>
<td>perpendicular</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>to regulator(s)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

EXTERNAL PILOT AND REMOTE AIR

<table>
<thead>
<tr>
<th>Gauges</th>
<th>Single pressure Regulator 14 and Same regulated pressure to ports 2 and 4</th>
<th>Single pressure Regulator 12 and Same regulated pressure to ports 2 and 4</th>
<th>Dual pressure Regulator 14 and Regulated pressure to port 4</th>
<th>Dual pressure Regulator 12 and Regulated pressure to port 2</th>
<th>Dual pressure Dual regulator Two regulated pressures to ports 2 and 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>No gauge</td>
<td>PRA1A-EAAA</td>
<td>PRA1A-ECAA</td>
<td>PRA1A-EBAA</td>
<td>PRA1A-EDAA</td>
<td>PRA1A-EEAA</td>
</tr>
<tr>
<td>Gauge</td>
<td>PRA1A-EADA</td>
<td>PRA1A-ECDA</td>
<td>PRA1A-EBDA</td>
<td>PRA1A-EDDA</td>
<td>PRA1A-EEEA</td>
</tr>
<tr>
<td>parallel</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>to regulator(s)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gauge</td>
<td>PRA1A-EABA</td>
<td>PRA1A-ECBA</td>
<td>PRA1A-EBBA</td>
<td>PRA1A-EBDA</td>
<td>PRA1A-EECA</td>
</tr>
<tr>
<td>perpendicular</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>to regulator(s)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

Consult “Precautions” page 364 before use, installation or service of MAC Valves.
**TECHNICAL DATA**

<table>
<thead>
<tr>
<th>Fluid</th>
<th>Compressed air, inert gases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pressure range</td>
<td>0 to 150 PSI</td>
</tr>
<tr>
<td>Regulating range</td>
<td>0 to 120 PSI</td>
</tr>
<tr>
<td>Lubrication</td>
<td>Not required, if used select a medium aniline point lubricant (between 180°F to 210°F)</td>
</tr>
<tr>
<td>Filtration</td>
<td>40 µ</td>
</tr>
<tr>
<td>Temperature range</td>
<td>0°F to 120°F (-18°C to 50°C)</td>
</tr>
<tr>
<td>Flow</td>
<td>(1.0 Cᵥ)</td>
</tr>
</tbody>
</table>

**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)
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**

<table>
<thead>
<tr>
<th>Gage</th>
<th>Single pressure Regulator 14 and Same regulated pressure to ports 2 and 4</th>
<th>Single pressure Regulator 12 and Same regulated pressure to ports 2 and 4</th>
<th>Dual pressure Regulator 14 and Regulated pressure to port 4</th>
<th>Dual pressure Regulator 12 and Regulated pressure to port 2</th>
<th>Dual pressure Dual regulator Two regulated pressures to ports 2 and 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>No gage</td>
<td>PRA1A-DAAA</td>
<td>PRA1A-DCAA</td>
<td>PRA1A-DBAA</td>
<td>PRA1A-DDAA</td>
<td>PRA1A-DEAA</td>
</tr>
<tr>
<td>Gage perpendicular to regulator(s)</td>
<td>PRA1A-DABA</td>
<td>PRA1A-DCBA</td>
<td>PRA1A-DBBA</td>
<td>PRA1A-DDBA</td>
<td>PRA1A-DECA</td>
</tr>
<tr>
<td>Gage parallel to regulator(s)</td>
<td>PRA1A-DADA</td>
<td>PRA1A-DCDA</td>
<td>PRA1A-DBDA</td>
<td>PRA1A-DDDA</td>
<td>PRA1A-DEEA</td>
</tr>
</tbody>
</table>

**EXTERNAL PILOT AND REMOTE AIR**

<table>
<thead>
<tr>
<th>Gage</th>
<th>Single pressure Regulator 14 and Same regulated pressure to ports 2 and 4</th>
<th>Single pressure Regulator 12 and Same regulated pressure to ports 2 and 4</th>
<th>Dual pressure Regulator 14 and Regulated pressure to port 4</th>
<th>Dual pressure Regulator 12 and Regulated pressure to port 2</th>
<th>Dual pressure Dual regulator Two regulated pressures to ports 2 and 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>No gage</td>
<td>PRA1A-EAAA</td>
<td>PRA1A-ECAA</td>
<td>PRA1A-EBAA</td>
<td>PRA1A-EDAA</td>
<td>PRA1A-EEAA</td>
</tr>
<tr>
<td>Gage perpendicular to regulator(s)</td>
<td>PRA1A-EABA</td>
<td>PRA1A-ECBA</td>
<td>PRA1A-EBBA</td>
<td>PRA1A-EDBA</td>
<td>PRA1A-EECA</td>
</tr>
<tr>
<td>Gage parallel to regulator(s)</td>
<td>PRA1A-EADA</td>
<td>PRA1A-ECDA</td>
<td>PRA1A-EBDA</td>
<td>PRA1A-EDDA</td>
<td>PRA1A-EEEA</td>
</tr>
</tbody>
</table>

* - 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.

Consult “Precautions” page 327 before use, installation or service of MAC Valves.
**TECHNICAL DATA**

<table>
<thead>
<tr>
<th>Fluid</th>
<th>Compressed air, inert gases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pressure range</td>
<td>0 to 150 PSI</td>
</tr>
<tr>
<td>Regulating range</td>
<td>0 to 120 PSI</td>
</tr>
<tr>
<td>Lubrication</td>
<td>Not required, if used select a medium aniline point lubricant (between 180°F to 210°F)</td>
</tr>
<tr>
<td>Filtration</td>
<td>40 µ</td>
</tr>
<tr>
<td>Temperature range</td>
<td>0°F to 120°F (-18°C to +50°C)</td>
</tr>
<tr>
<td>Flow</td>
<td>1.0 Cv</td>
</tr>
</tbody>
</table>

**Spare parts:**
- Pressure regulator (less sandwich block) : PRA1-A-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)**

<table>
<thead>
<tr>
<th>Gage</th>
<th>Single pressure Regulator 14 and Same regulated pressure to ports 2 and 4</th>
<th>Single pressure Regulator 12 and Same regulated pressure to ports 2 and 4</th>
<th>Dual pressure Regulator 14 and Regulated pressure to port 4</th>
<th>Dual pressure Regulator 12 and Regulated pressure to port 2</th>
<th>Dual pressure Dual regulator Two regulated pressures to ports 2 and 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gage port only</td>
<td>PRP1A-GAKA</td>
<td>PRP1A-GCKA</td>
<td>PRP1A-GBKA</td>
<td>PRP1A-GDKA</td>
<td>PRP1A-GEKA</td>
</tr>
<tr>
<td>Gage perpendicular to manual operator</td>
<td>PRP1A-GABA</td>
<td>PRP1A-GCBA</td>
<td>PRP1A-GBBA</td>
<td>PRP1A-GDBA</td>
<td>PRP1A-GECA</td>
</tr>
<tr>
<td>Gage parallel to manual operator</td>
<td>PRP1A-GADA</td>
<td>PRP1A-GCDA</td>
<td>PRP1A-GBDA</td>
<td>PRP1A-GDDA</td>
<td>PRP1A-GECA</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Gage</th>
<th>Single pressure Regulator 14 and Same regulated pressure to ports 2 and 4</th>
<th>Single pressure Regulator 12 and Same regulated pressure to ports 2 and 4</th>
<th>Dual pressure Regulator 14 and Regulated pressure to port 4</th>
<th>Dual pressure Regulator 12 and Regulated pressure to port 2</th>
<th>Dual pressure Dual regulator Two regulated pressures to ports 2 and 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>No gage</td>
<td>PRP1A-HAKA</td>
<td>PRP1A-HCKA</td>
<td>PRP1A-HBKA</td>
<td>PRP1A-HDKA</td>
<td>PRP1A-HEKA</td>
</tr>
<tr>
<td>Gage perpendicular to manual operator</td>
<td>PRP1A-HABA</td>
<td>PRP1A-HCBA</td>
<td>PRP1A-HBBA</td>
<td>PRP1A-HDBA</td>
<td>PRP1A-HECA</td>
</tr>
<tr>
<td>Gage parallel to manual operator</td>
<td>PRP1A-HADA</td>
<td>PRP1A-HCDA</td>
<td>PRP1A-HBDA</td>
<td>PRP1A-HDDA</td>
<td>PRP1A-HEEA</td>
</tr>
</tbody>
</table>

* 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**

<table>
<thead>
<tr>
<th>PRP1A-xxxxx</th>
<th>A</th>
<th>for slotted stem adjustment (internal pilot)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>for slotted stem adjustment (external/remote air)</td>
</tr>
<tr>
<td></td>
<td>K</td>
<td>for slotted stem with locknut (internal pilot)</td>
</tr>
<tr>
<td></td>
<td>L</td>
<td>for slotted stem with locknut (external/remote air)</td>
</tr>
</tbody>
</table>

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.

Consult “Precautions” page 327 before use, installation or service of MAC Valves.
**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 Cv

**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)
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**

<table>
<thead>
<tr>
<th>Gage</th>
<th>Single pressure Regulator 14 and Same regulated pressure to ports 2 and 4</th>
<th>Single pressure Regulator 12 and Same regulated pressure to ports 2 and 4</th>
<th>Dual pressure Regulator 14 and Regulated pressure to port 4</th>
<th>Dual pressure Regulator 12 and Regulated pressure to port 2</th>
<th>Dual pressure Dual regulator Two regulated pressures to ports 2 and 4</th>
</tr>
</thead>
</table>

**REGULATORS FOR EXTERNAL PILOT AND REMOTE AIR**

<table>
<thead>
<tr>
<th>Gage</th>
<th>Single pressure Regulator 14 and Same regulated pressure to ports 2 and 4</th>
<th>Single pressure Regulator 12 and Same regulated pressure to ports 2 and 4</th>
<th>Dual pressure Regulator 14 and Regulated pressure to port 4</th>
<th>Dual pressure Regulator 12 and Regulated pressure to port 2</th>
<th>Dual pressure Dual regulator Two regulated pressures to ports 2 and 4</th>
</tr>
</thead>
</table>

* - 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.

Consult “Precautions” page 327 before use, installation or service of MAC Valves.
### Technical Data

<table>
<thead>
<tr>
<th>Fluid</th>
<th>Compressed air, inert gases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pressure range</td>
<td>0 to 150 PSI</td>
</tr>
<tr>
<td>Regulating range</td>
<td>0 to 120 PSI</td>
</tr>
<tr>
<td>Lubrication</td>
<td>Not required, if used select a medium aniline point lubricant (between 180°F to 210°F)</td>
</tr>
<tr>
<td>Filtration</td>
<td>40 µ</td>
</tr>
<tr>
<td>Temperature range</td>
<td>0°F to 120°F (-18°C to +50°C)</td>
</tr>
<tr>
<td>Flow</td>
<td>1.1 Cv</td>
</tr>
</tbody>
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**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.
The warnings and precautions below are important to be read and understood before designing into a system any MAC Valves products, and before installing or servicing any MAC Valves product. Improper use, installation or servicing of any MAC Valves product in some systems could create a hazard to personnel or equipment. No distinction in importance should be made between the terms warnings and precautions.

**WARNING:**

Under no circumstances are MAC Valves products to be used in any application or in any manner where failure of the MAC Valves product to operate as intended could in any way jeopardize the safety of the operator or any other person or property.

- Do not operate outside of pressure range listed on a valve label or outside of the designated temperature range.
- Air supply must be clean and dry. Moisture or contamination cannot affect proper operation of the valve.
- Before attempting to repair, adjust or clean a MAC Valves product, consult catalog, parts & operation sheet, or factory for proper maintenance procedures, lubrication and cleaning agents. Never attempt to repair or perform other maintenance with air pressure to the valve.
- If air line lubrication is used do not use any lubrication other than those recommended in the catalog, parts & operation sheet or by the factory.

**APPLICATION PRECAUTIONS:**

**INDUSTRIAL USE:**

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

**POWER PRESSES:**

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

**2-POSITION VALVES:**

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

**3-POSITION VALVES:**

Some MAC valves are 3-position, 4-way valves. These valves are either double solenoid or double remote air operated.

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

**A. CLOSED CENTER:**

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

**B. OPEN CENTER:**

With this type valve, when in the center position, the inlet port(s) is blocked and the two outlet ports are open to the exhaust port(s) of the valve. If having pressurized air to either or both outlet ports would present a hazard in the application or servicing of the valve or system, a separate method in the system must be provided to remove the retained air or this type valve should not be used.
MAC Valves Product Warranty Information

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 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 stamp (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.