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

### SERIES FEATURES

- Short stroke solenoid produces high energization shifting force.
- High force return spring due to high force solenoid maximizes both energization and de-energization shifting forces.
- Built-in wear compensation - valve stroke is shorter than solenoid stroke.
- Four (4) bonded balanced poppets on a one-piece valve stem.
- End poppets seal first on conical seats and cushion inlet poppet, eliminating cutting.
- Exhaust seals are not under inlet pressure thus reducing friction.
- Short stroking balanced poppet allows for direct solenoid operation with high shifting forces, minimized friction, fast response and high flow in a small package.
**Consult “Precautions” before use, installation or service of MAC Valves.**

### Operational Benefits
1. Direct solenoid operated valve.
2. Balanced poppet, immune to variations of pressure.
3. Short stroke with high flow.
4. The patented solenoid develops high shifting forces.
5. Powerful return spring.

### How to Order

#### Valve port size

<table>
<thead>
<tr>
<th>Port size (Inlet &amp; Exhaust)</th>
<th>Flow (Max)</th>
<th>Circuit bar mounting</th>
<th>Profile</th>
</tr>
</thead>
<tbody>
<tr>
<td>3/8&quot;</td>
<td>0.5Cv</td>
<td>non plug-in cyl. ports in valve with opt. F.</td>
<td>29 mm</td>
</tr>
</tbody>
</table>

#### Valve less base

<table>
<thead>
<tr>
<th>Valve less base</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/8&quot; NPTF</td>
</tr>
<tr>
<td>1/4&quot; NPTF</td>
</tr>
</tbody>
</table>

**Direct solenoid and solenoid pilot operated valves**

### How to Order Valve for Circuit Bar Mounting

#### Valve port size

<table>
<thead>
<tr>
<th>Port size (Inlet &amp; Exhaust)</th>
<th>Flow (Max)</th>
<th>Circuit bar mounting</th>
<th>Profile</th>
</tr>
</thead>
<tbody>
<tr>
<td>3/8&quot;</td>
<td>0.5Cv</td>
<td>non plug-in cyl. ports in valve with opt. F.</td>
<td>29 mm</td>
</tr>
</tbody>
</table>

#### Valve less base

<table>
<thead>
<tr>
<th>Valve less base</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/8&quot; NPTF</td>
</tr>
<tr>
<td>1/4&quot; NPTF</td>
</tr>
</tbody>
</table>

### Solenoid Operator

<table>
<thead>
<tr>
<th>Voltage</th>
<th>Wire length</th>
<th>Manual operator</th>
<th>Electrical connection</th>
</tr>
</thead>
<tbody>
<tr>
<td>DA 24VDC (5.2 W)</td>
<td>A 18&quot;</td>
<td>1 Non-locking</td>
<td>BA Flying leads</td>
</tr>
<tr>
<td>DB 24VDC (2.4 W)</td>
<td>C 36&quot;</td>
<td></td>
<td>BC Flying leads with light</td>
</tr>
<tr>
<td>DC 24VDC (1.8 W)</td>
<td></td>
<td></td>
<td>MA Plug-in wire assy</td>
</tr>
<tr>
<td>DD 24VDC (1.0 W)</td>
<td></td>
<td></td>
<td>MC Plug-in wire assy with light</td>
</tr>
<tr>
<td>AA 120VAC (must use with rectified connector)</td>
<td></td>
<td></td>
<td>JA Plug-in connector with rectifier and light</td>
</tr>
</tbody>
</table>

### How to Order Circuit Bar

<table>
<thead>
<tr>
<th>Part size (Inlet &amp; Exhaust)</th>
<th>Without flow controls (20 mm)</th>
<th>With flow controls (20 mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>3/8&quot; NPTF</td>
<td>EBM47A-01CAK-xx</td>
<td>EBM47A-01DAK-xx</td>
</tr>
</tbody>
</table>

**Other Options**

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

Vacuum to 120 PSI

Not required, if used select a medium aniline point lubricant (between 180°F and 210°F)

40 µ

0°F to 120°F (-18°C to 50°C)

4.3 mm

5.2 W : 0.50 CV, 2.4 W : 0.30 CV, 1.8 W : 0.25 CV, 1.0 W : 0.25 CV

General purpose class A, continuous duty, encapsulated

-15% to +10% of nominal voltage

5.2 W - 2.4 W - 1.8 W - 1.0 W

Energize : 14.0 ms
De-energize : 5.0 ms

• Valve and coil are not interchangeable.

• Seal between valve and bar : 16629.
• Mounting screw (x2) : 35043.
• Valve blanking plate : M-47002.

• Flow control kit (x2) : N-37001.

• Isolation of inlet and/or exhaust. Special bar. Consult factory.
• BSPP Threads.
## OPERATIONAL BENEFITS

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

### HOW TO ORDER

**47A-xxx-Hxxxx-xxx**

#### HOW TO ORDER VALVE FOR CIRCUIT BAR MOUNTING

<table>
<thead>
<tr>
<th>Port size (see base)</th>
<th>Valve</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>[Diagram] 47A-U8-H xxx-xxx</td>
</tr>
</tbody>
</table>

**Solenoid Operator**

- **Voltage**
  - DA: 24VDC (5.2 W)
  - DB: 24VDC (2.4 W)
  - DC: 24VDC (1.8 W)
  - DD: 24VDC (1.0 W)
  - AA: 120VAC (must use with rectified connector)

- **Wire length**
  - A: 18”
  - C: 36”

- **Manual operator**
  - Non-locking

- **Electrical connection**
  - BA: Flying leads
  - BC: Flying leads with light
  - MA: Plug-in wire assy
  - MC: Plug-in wire assy with light
  - HA: Plug-in connector with rectifier and light

**How to Order Circuit Bar**

<table>
<thead>
<tr>
<th>Port size</th>
<th>Bottom cylinder ports (18 mm)</th>
<th>Bottom cylinder ports with flow controls (18 mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/8” NPTF</td>
<td>EBM47A-00AAA-xx</td>
<td>EBM47A-00BAA-xx</td>
</tr>
<tr>
<td>1/4” NPTF</td>
<td>EBM47A-00ABA-xx</td>
<td>EBM47A-00BAA-xx</td>
</tr>
<tr>
<td>6 mm tube receptacle</td>
<td>EBM47A-00AAG-xx</td>
<td>EBM47A-00BAG-xx</td>
</tr>
</tbody>
</table>

Number of stations (03=3 stations). Note: add 9 to the model number.

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

**TECHNICAL DATA**

- **Fluid:** Compressed air, vacuum, inert gases
- **Pressure range:** Vacuum to 120 PSI
- **Lubrication:** Not required, if used select a medium aniline point lubricant (between 180°F and 210°F)
- **Filtration:** 40 µ
- **Temperature range:** 0°F to 120°F (-18°C to 50°C)
- **Orifice:** 4.3 mm
- **Flow (at 6 bar, ∆P=1bar):**
  - 5.2 W: 0.50 Cv
  - 2.4 W: 0.30 Cv
  - 1.8 W: 0.25 Cv
  - 1.0 W: 0.25 Cv
- **Leak rate:** 50 cm³/min
- **Coil:** General purpose class A, continuous duty, encapsulated
- **Voltage range:** -15% to +10% of nominal voltage
- **Power:** 5.2 W - 2.4 W - 1.8 W - 1.0 W
- **Response times:**
  - Energize: 14.0 ms
  - De-energize: 5.0 ms

**Note:**
- Valve and coil are not interchangeable.

**Spare parts:**
- Seal between valve and bar: 16629
- Mounting screw (x2): 35043
- Valve blanking plate: M-47001
- Flow control kit (x2): N-37001

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

**DIMENSIONS**

Consult "Precautions" before use, installation or service of MAC Valves.
**Function** | **Part size (Inlet & Exhaust)** | **Flow (Max)** | **Circuit bar mounting** | **Profile**
--- | --- | --- | --- | ---
5/2 | 3/8” | 0.5Cy | add-on style non plug-in cyl. ports in valve with opt. F.C. | 35 mm

**Operational Benefits**
1. Direct solenoid operated valve.
2. Balanced poppet, immune to variations of pressure.
3. Short stroke with high flow.
4. The patented solenoid develops high shifting forces.
5. Powerful return spring.

**How to Order**

**HOW TO ORDER VALVE FOR CIRCUIT BAR MOUNTING**

<table>
<thead>
<tr>
<th>Valve port size</th>
<th>Valve</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/8” NPTF</td>
<td>47A-MG0-Hxxx.xxx</td>
</tr>
<tr>
<td>1/4” NPTF</td>
<td>47A-MHD-Hxxx.xxx</td>
</tr>
</tbody>
</table>

**Solenoid Operator**

<table>
<thead>
<tr>
<th>XX</th>
<th>Voltage</th>
<th>X</th>
<th>Wire length</th>
<th>XX</th>
<th>Manual Operator</th>
<th>XX</th>
<th>Electrical Connection</th>
</tr>
</thead>
<tbody>
<tr>
<td>DA</td>
<td>24VDC (5.2 W)</td>
<td>A</td>
<td>18”</td>
<td>4A</td>
<td>Flying leads</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DB</td>
<td>24VDC (2.4 W)</td>
<td>C</td>
<td>36”</td>
<td>4B</td>
<td>Flying leads with light</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DC</td>
<td>24VDC (1.8 W)</td>
<td>x</td>
<td>Other Options</td>
<td>4C</td>
<td>Plug-in wire assy</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DD</td>
<td>24VDC (1.0 W)</td>
<td></td>
<td>Other Options</td>
<td>4D</td>
<td>Plug-in wire assy with light</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AA</td>
<td>120VAC (must use with rectified connector)</td>
<td></td>
<td>Other Options</td>
<td>4A</td>
<td>Plug-in connector with rectifier and light</td>
<td></td>
<td></td>
</tr>
<tr>
<td>XX</td>
<td>Other Options</td>
<td></td>
<td>Other Options</td>
<td>XX</td>
<td>Other Options</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**How to Order Circuit Bar**

<table>
<thead>
<tr>
<th>Part size COMMON INLET &amp; EXHAUST</th>
<th>Without flow controls (20 mm)</th>
<th>With flow controls (20 mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>3/8” NPTF</td>
<td><strong>EBM47A-01GBK-xx</strong></td>
<td><strong>EBM47A-01HBK-xx</strong></td>
</tr>
</tbody>
</table>

Number of stations (03=3 stations)
Note: clic for valves mounted on base at the factory (add - 9 to the model number).
add-a-unit stations may be added to above bars.
Maximum length for add-a-unit is 4 stations.

**Options**

**EBM47A-01GBK-xx** clic replace with “C” for add-a-unit.
Consult "Precautions" before use, installation or service of MAC Valves.

### Technical Data

**Fluid:** Compressed air, vacuum, inert gases

**Pressure range:** Vacuum to 120 PSI

**Lubrication:** Not required, if used select a medium aniline point lubricant (between 180°F and 210°F)

**Filtration:** 40 μ

**Temperature range:** 0°F to 120°F (-18°C to 50°C)

**Orifice:** 4.3 mm

**Flow (at 6 bar, ∆P=1 bar):**

- 5.2 W: 0.50Cv
- 2.4 W: 0.30Cv
- 1.8 W: 0.25Cv
- 1.0 W: 0.25Cv

**Leak rate:** 50 cm³/min

**Coil:**

- General purpose class A, continuous duty, encapsulated
- Voltage range: -15% to +10% of nominal voltage
- Power: 5.2 W - 2.4 W - 1.8 W - 1.0 W
- Energize: 14.0 ms
- De-energize: 5.0 ms

**Note:**

- Valve and coil are not interchangeable.

**Spare parts:**

- Seal between valve and bar: 16629
- Mounting screw (x2): 35043
- Valve blanking plate: M-47002
- Flow control kit (x2): N-37001
- End plate kit: M-47004-01
- Isolation of inlet and/or exhaust. Special bar. Consult factory

**Options:**

- BSPP Threads

### Dimensions

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

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

### How to Order

#### How to Order Valve for Circuit Bar Mounting

<table>
<thead>
<tr>
<th>Port size (see base)</th>
<th>Valve</th>
</tr>
</thead>
<tbody>
<tr>
<td>X</td>
<td>47A-U0-Hxxxx-xxx</td>
</tr>
</tbody>
</table>

#### Solenoid Operator

<table>
<thead>
<tr>
<th>Voltage</th>
<th>Wire Length</th>
<th>Manual Operator</th>
<th>Electrical Connection</th>
</tr>
</thead>
<tbody>
<tr>
<td>DA</td>
<td>A</td>
<td>Non-locking</td>
<td>BA (flying leads)</td>
</tr>
<tr>
<td>DB</td>
<td>C</td>
<td></td>
<td>BC (flying leads with light)</td>
</tr>
<tr>
<td>DC</td>
<td></td>
<td></td>
<td>MA (plug-in wire assy)</td>
</tr>
<tr>
<td>DD</td>
<td></td>
<td></td>
<td>MC (plug-in wire assy with light)</td>
</tr>
<tr>
<td>AA</td>
<td></td>
<td></td>
<td>HA (plug-in connector with rectifier and light)</td>
</tr>
<tr>
<td>XX</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### How to Order Circuit Bar

<table>
<thead>
<tr>
<th>Port size</th>
<th>Bottom cylinder ports (18 mm)</th>
<th>Bottom cylinder ports with flow controls (18 mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/8” NPTF</td>
<td>EBM47A-00EBA-xx</td>
<td>EBM47A-00FBA-xx</td>
</tr>
<tr>
<td>1/4” NPTF</td>
<td>EBM47A-00EBB-xx</td>
<td>EBM47A-00FBB-xx</td>
</tr>
<tr>
<td>6 mm tube receptacle</td>
<td>EBM47A-00EBG-xx</td>
<td>EBM47A-00FBG-xx</td>
</tr>
</tbody>
</table>

Number of stations (03=3 stations).

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

Add-a-unit stations may be added to above bars. Maximum length for add-a-unit is 4 stations.

### Options

- EBM47A-00EBA-xx

Consult “Precautions” before use, installation or service of MAC Valves.
**Fluid:** Compressed air, vacuum, inert gases

**Pressure range:** Vacuum to 120 PSI

**Lubrication:** Not required, if used select a medium aniline point lubricant (between 180°F and 210°F)

**Filtration:** 40 µ

**Temperature range:** 0°F to 120°F (-18°C to 50°C)

**Orifice:** 4.3 mm

**Flow (at 6 bar, ∆P=1bar):**
- 5.2 W: 0.50Cv
- 2.4 W: 0.30Cv
- 1.8 W: 0.25Cv
- 1.0 W: 0.25Cv

**Leak rate:** 50 cm³/min

**Voltage range:** General purpose class A, continuous duty, encapsulated -15% to +10% of nominal voltage

**Power:**
- 5.2 W
- 2.4 W
- 1.8 W
- 1.0 W

**Response times:**
- Energize: 14.0 ms
- De-energize: 5.0 ms

**Coil:**
- 5.2 W: 2.4 W: 1.8 W: 1.0 W

**Note:**
- Valve and coil are not interchangeable.

**Spare parts:**
- Seal between valve and bar: 16629.
- Mounting screw (x2): 35043.
- Valve blanking plate: M-47001.
- Flow control kit (x2): N-37001.
- End plate kit: M-47004-01.

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

### Dimensions

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

Series 47

Function | Port size (Inlet & Exhaust) | Flow (Max) | Circuit bar mounting | Profile
---|---|---|---|---
5/2 | 3/8" | 0.5Cv | non plug-in cyl. ports in valve with opt. Pr. Reg. | 44 mm

OPERATIONAL BENEFITS

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

HOW TO ORDER

47A-xxx-Hxxxx-xxx

HOW TO ORDER VALVE FOR CIRCUIT BAR MOUNTING

<table>
<thead>
<tr>
<th>Valve port size</th>
<th>Valve</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/8&quot; NPTF</td>
<td>47A-MG0-Hxxxx-xxx</td>
</tr>
<tr>
<td>1/4&quot; NPTF</td>
<td>47A-MH0-Hxxxx-xxx</td>
</tr>
</tbody>
</table>

SOLENOID OPERATOR

Voltage | Wire length | Manual operator | Electrical connection
---|---|---|---
DA | 24VDC (5.2 W) | A | 18" | MA
DB | 24VDC (2.4 W) | C | 36" | MA
DC | 24VDC (1.8 W) | | | MA
DD | 24VDC (1.0 W) | | | MA
AA | 120VAC (must use with rectified connector) | | | MA
XX | Other Options

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

<table>
<thead>
<tr>
<th>Part size</th>
<th>Without regulator (20 mm)</th>
<th>With regulator (20 mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMMON INLET &amp; EXHAUST</td>
<td>EBM47A-01NAK-xx</td>
<td>EBM47A-01PAK-xx</td>
</tr>
<tr>
<td>3/8&quot; NPTF</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

** Pressure Regulators:
- PR47A-GOAx
  - X=A (0 to 120 PSI)
  - X=B (0 to 80 PSI)
  - X=C (0 to 30 PSI)

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

### Technical Data

**Fluid:** Compressed air, vacuum, inert gases

**Pressure range:** Vacuum to 120 PSI

**Lubrication:** Not required, if used select a medium aniline point lubricant (between 180°F and 210°F)

**Filtration:** 40 µ

**Temperature range:** 0°F to 120°F (-18°C to 50°C)

**Orifice:** 4.3 mm

**Flow (at 6 bar, ∆P=1 bar):**
- 2 W: 0.50CV
- 2.4 W: 0.30CV
- 1.8 W: 0.25CV
- 1.0 W: 0.25CV

**Leak rate:** 50 cm³/min

** Coil:** General purpose class A, continuous duty, encapsulated

**Voltage range:** -15% to +10% of nominal voltage

**Power:**
- 5.2 W
- 2.4 W
- 1.8 W
- 1.0 W

**Response times:**
- Energize: 14.0 ms
- De-energize: 5.0 ms

**Note:**
- Valve and coil are not interchangeable.

**Spare parts:**
- Seal between valve and bar: 16629
- Mounting screw (x2): 35043
- Valve blanking plate: M-47002
- Regulator blanking plate: R-47003

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

### Dimensions

<table>
<thead>
<tr>
<th>Dim.</th>
<th>Regulator with locking adjusting screw</th>
<th>Regulator with adjusting screw</th>
<th>Regulator with adjusting knob</th>
</tr>
</thead>
<tbody>
<tr>
<td>g2</td>
<td>13.8 x 13.8</td>
<td>10.3</td>
<td>13.8</td>
</tr>
</tbody>
</table>
**Operational Benefits**

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

**How to Order**

**47A-xxx-Hxxxx-xxx**

**How to Order Valve for Circuit Bar Mounting**

<table>
<thead>
<tr>
<th>Port size (see base)</th>
<th>Valve</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Solenoid Operator**

<table>
<thead>
<tr>
<th>Voltage</th>
<th>Wire Length</th>
<th>Manual Operator</th>
<th>Electrical Connection</th>
</tr>
</thead>
<tbody>
<tr>
<td>DA</td>
<td>18&quot;</td>
<td>Non-locking</td>
<td>Flying leads</td>
</tr>
<tr>
<td>DB</td>
<td>36&quot;</td>
<td></td>
<td>Flying leads with light</td>
</tr>
<tr>
<td>DC</td>
<td></td>
<td></td>
<td>Plug-in wire assy</td>
</tr>
<tr>
<td>DD</td>
<td></td>
<td></td>
<td>Plug-in wire assy with light</td>
</tr>
<tr>
<td>AA</td>
<td></td>
<td></td>
<td>Plug-in connector with rectifier and light</td>
</tr>
<tr>
<td>xx</td>
<td>Other Options</td>
<td>Other Options</td>
<td>Other Options</td>
</tr>
</tbody>
</table>

**How to Order Circuit Bar**

<table>
<thead>
<tr>
<th>Port size</th>
<th>Side cylinder ports (18 mm)</th>
<th>Bottom cylinder ports (18 mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/8&quot; NPTF</td>
<td>EBM47A-000AA-xx</td>
<td>EBM47A-000AA-xx</td>
</tr>
<tr>
<td>1/4&quot; NPTF</td>
<td>EBM47A-000AB-xx</td>
<td>EBM47A-000AB-xx</td>
</tr>
<tr>
<td>6 mm tube receptacle</td>
<td>EBM47A-000AG-xx</td>
<td>EBM47A-000LAG-xx</td>
</tr>
</tbody>
</table>

Number of stations (03=3 stations)

Note: Add - 9 to the model number for valves mounted on base at the factory.
**TECHNICAL DATA**

**Fluid:** Compressed air, vacuum, inert gases

**Pressure range:** Vacuum to 120 PSI

**Lubrication:** Not required, if used select a medium aniline point lubricant (between 180°F and 210°F)

**Filtration:** 40 μ

**Temperature range:** 0°F to 120°F (-18°C to 50°C)

**Orifice:** 4.3 mm

**Flow at 6 bar, ∆P=1bar:** 5.2 W : 0.50 Cv, 2.4 W : 0.30 Cv, 1.8 W : 0.25 Cv, 1.0 W : 0.25 Cv

**Leak rate:** 50 cm³/min

**Coil:** General purpose class A, continuous duty, encapsulated

**Voltage range:** -15% to +10% of nominal voltage

**Power:** 5.2 W - 2.4 W - 1.8 W - 1.0 W

**Response times:**
- Energize: 14.0 ms
- De-energize: 5.0 ms

**Note:** Valve and coil are not interchangeable.

**Spare parts:**
- Seal between valve and bar: 16629.
- Mounting screw (x2): 35043.
- Valve blanking plate: M-47001.

**Options:**
- Isolation of inlet and/or exhaust. Special bar. Consult factory.
- BSPF Threads.

**DIMENSIONS**

<table>
<thead>
<tr>
<th>Number of stations</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>&quot;A&quot;</td>
<td>18.00</td>
<td>18.00</td>
<td>18.00</td>
<td>18.00</td>
<td>18.00</td>
<td>18.00</td>
<td>18.00</td>
<td>18.00</td>
<td>18.00</td>
<td>18.00</td>
</tr>
<tr>
<td>&quot;B&quot;</td>
<td>16.00</td>
<td>16.00</td>
<td>16.00</td>
<td>16.00</td>
<td>16.00</td>
<td>16.00</td>
<td>16.00</td>
<td>16.00</td>
<td>16.00</td>
<td>16.00</td>
</tr>
<tr>
<td>&quot;C&quot;</td>
<td>14.00</td>
<td>14.00</td>
<td>14.00</td>
<td>14.00</td>
<td>14.00</td>
<td>14.00</td>
<td>14.00</td>
<td>14.00</td>
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<td>14.00</td>
</tr>
<tr>
<td>1/4&quot; Port</td>
<td>25.90</td>
<td>25.90</td>
<td>25.90</td>
<td>25.90</td>
<td>25.90</td>
<td>25.90</td>
<td>25.90</td>
<td>25.90</td>
<td>25.90</td>
<td>25.90</td>
</tr>
<tr>
<td>3/8&quot; 4A. Canitch port</td>
<td>59.4</td>
<td>38.3</td>
<td>18.00</td>
<td>18.00</td>
<td>18.00</td>
<td>18.00</td>
<td>18.00</td>
<td>18.00</td>
<td>18.00</td>
<td>18.00</td>
</tr>
<tr>
<td>3/8&quot; 18 N.P.T.F.</td>
<td>59.4</td>
<td>38.3</td>
<td>18.00</td>
<td>18.00</td>
<td>18.00</td>
<td>18.00</td>
<td>18.00</td>
<td>18.00</td>
<td>18.00</td>
<td>18.00</td>
</tr>
<tr>
<td>3/8&quot; 18 B.S.P. TR</td>
<td>59.4</td>
<td>38.3</td>
<td>18.00</td>
<td>18.00</td>
<td>18.00</td>
<td>18.00</td>
<td>18.00</td>
<td>18.00</td>
<td>18.00</td>
<td>18.00</td>
</tr>
</tbody>
</table>

Dimensions are based on 18 mm centerline spacing.

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

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

### Direct solenoid and solenoid pilot operated valves

#### Series 47

<table>
<thead>
<tr>
<th>Function</th>
<th>Port size</th>
<th>Flow (Max)</th>
<th>Circuit bar mounting</th>
<th>Profile</th>
</tr>
</thead>
<tbody>
<tr>
<td>5/2</td>
<td>1/8&quot; - 1/4&quot;</td>
<td>0.5Cv</td>
<td>non plug-in cyl. ports in base with Pr. Reg.</td>
<td>44 mm</td>
</tr>
</tbody>
</table>

#### Operational Benefits

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

### HOW TO ORDER

**47A-xxx-Hxxxx-xxx**

#### HOW TO ORDER VALVE FOR CIRCUIT BAR MOUNTING

<table>
<thead>
<tr>
<th>Port size (see base)</th>
<th>Valve</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/8&quot; NPTF</td>
<td></td>
</tr>
<tr>
<td>1/4&quot; NPTF</td>
<td></td>
</tr>
<tr>
<td>6 mm tube receptacle</td>
<td></td>
</tr>
</tbody>
</table>

**Valve less base**

<table>
<thead>
<tr>
<th>1/8&quot; NPTF</th>
<th>1/4&quot; NPTF</th>
<th>6 mm tube receptacle</th>
</tr>
</thead>
<tbody>
<tr>
<td>47A-U0-Hxxxx-xxx</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### SOLENOID OPERATOR

<table>
<thead>
<tr>
<th>Voltage</th>
<th>Wire length</th>
<th>Manual operator</th>
<th>Electrical connection</th>
</tr>
</thead>
<tbody>
<tr>
<td>DA</td>
<td>A</td>
<td>Non-locking</td>
<td>BA</td>
</tr>
<tr>
<td>DB</td>
<td>C</td>
<td></td>
<td>BC</td>
</tr>
<tr>
<td>DC</td>
<td>A</td>
<td></td>
<td>MA</td>
</tr>
<tr>
<td>DD</td>
<td>C</td>
<td></td>
<td>MC</td>
</tr>
<tr>
<td>AA</td>
<td>X</td>
<td></td>
<td>MA</td>
</tr>
<tr>
<td>xx</td>
<td>xx</td>
<td></td>
<td>xx</td>
</tr>
</tbody>
</table>

**Note:**
- Flying leads
- Flying leads with light
- Plug-in wire assy
- Plug-in wire assy with light
- Plug-in connector with rectifier and light
- Other Options

#### HOW TO ORDER CIRCUIT BAR (REGULATOR ORDERED SEPARATELY)**

**Pressure Regulators:**

<table>
<thead>
<tr>
<th>Pressure Regulators</th>
</tr>
</thead>
<tbody>
<tr>
<td>X=A (0 to 120 PSI)</td>
</tr>
<tr>
<td>X=B (0 to 80 PSI)</td>
</tr>
<tr>
<td>X=C (0 to 30 PSI)</td>
</tr>
</tbody>
</table>

**HOW TO ORDER VALVE FOR CIRCUIT BAR MOUNTING**

**EBM47A-xxxx-xx**

<table>
<thead>
<tr>
<th>Port size</th>
<th>Side cylinder ports (18 mm)</th>
<th>Bottom cylinder ports (18 mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/8&quot; NPTF</td>
<td>EBM47A-00KAA-xx</td>
<td>EBM47A-00MAA-xx</td>
</tr>
<tr>
<td>1/4&quot; NPTF</td>
<td>EBM47A-00KAB-xx</td>
<td>EBM47A-00MAB-xx</td>
</tr>
<tr>
<td>6 mm tube</td>
<td>EBM47A-00KAG-xx</td>
<td>EBM47A-00MAG-xx</td>
</tr>
</tbody>
</table>

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

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

**Fluid:** Compressed air, vacuum, inert gases

**Pressure range:** Vacuum to 120 PSI

**Lubrication:** Not required, if used select a medium amine point lubricant (between 180°F and 210°F)

**Filtration:** 40 µ

**Temperature range:** 0°F to 120°F (-18°C to 50°C)

**Orifice:** 4.3 mm

**Flow (at 6 bar, ∆P=1 bar):**
- 5.2 W: 0.50 Cv
- 2.4 W: 0.30 Cv
- 1.8 W: 0.25 Cv
- 1.0 W: 0.25 Cv

**Leak rate:** 50 cm³/min

**Coil:**
- General purpose class A, continuous duty, encapsulated
- Voltage range: -15% to +10% of nominal voltage
- Power:
  - 5.2 W - 2.4 W - 1.8 W - 1.0 W
  - Energize: 14.0 ms
  - De-energize: 5.0 ms

**Note:** Valve and coil are not interchangeable.

**Spare parts:**
- Seal between valve and bar: 16629
- Mounting screw (x2): 35043
- Valve blanking plate: M-47001
- Regulator blanking plate: R-47003
- Isolation of inlet and/or exhaust. Special bar. Consult factory

**Options:**
- BSPP Threads

### Dimensions

<table>
<thead>
<tr>
<th>Number of stations</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>&quot;A&quot;</td>
<td>48.0</td>
<td>68.0</td>
<td>120.0</td>
<td>140.0</td>
<td>166.0</td>
<td>180.0</td>
<td>192.0</td>
<td>202.0</td>
<td>212.0</td>
<td>222.0</td>
</tr>
<tr>
<td>&quot;B&quot;</td>
<td>60.6</td>
<td>80.6</td>
<td>132.6</td>
<td>152.6</td>
<td>178.6</td>
<td>192.6</td>
<td>202.6</td>
<td>212.6</td>
<td>222.6</td>
<td>232.6</td>
</tr>
<tr>
<td>&quot;C&quot;</td>
<td>73.2</td>
<td>93.2</td>
<td>145.2</td>
<td>165.2</td>
<td>191.2</td>
<td>205.2</td>
<td>215.2</td>
<td>225.2</td>
<td>235.2</td>
<td>245.2</td>
</tr>
<tr>
<td>1/4&quot; Part</td>
<td>20.0</td>
<td>20.0</td>
<td>20.0</td>
<td>20.0</td>
<td>20.0</td>
<td>20.0</td>
<td>20.0</td>
<td>20.0</td>
<td>20.0</td>
<td>20.0</td>
</tr>
<tr>
<td>RA Gasket port</td>
<td>25.6</td>
<td>25.6</td>
<td>25.6</td>
<td>25.6</td>
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<td>25.6</td>
<td>25.6</td>
<td>25.6</td>
<td>25.6</td>
</tr>
</tbody>
</table>

Dimensions are based on 18 mm centerline spacing

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

<table>
<thead>
<tr>
<th>Dim.</th>
<th>Regulator with locking adjusting screw</th>
<th>Regulator with adjusting screw</th>
<th>Regulator with adjusting back</th>
</tr>
</thead>
<tbody>
<tr>
<td>&quot;A&quot;</td>
<td>10.4 k</td>
<td>10.4 k</td>
<td>10.4 k</td>
</tr>
</tbody>
</table>

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

### Series 47

<table>
<thead>
<tr>
<th>Function</th>
<th>Port size</th>
<th>Flow (Max)</th>
<th>Circuit bar mounting</th>
<th>Profile</th>
</tr>
</thead>
<tbody>
<tr>
<td>5/2</td>
<td>1/8&quot; - 1/4&quot;</td>
<td>0.5Cv</td>
<td>add-on style</td>
<td>44 mm</td>
</tr>
<tr>
<td></td>
<td>6 mm tube receptacle</td>
<td></td>
<td>non plug-in</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>cyl. ports in base</td>
<td></td>
</tr>
</tbody>
</table>

### Operational Benefits

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

### How to Order

**HOW TO ORDER VALVE FOR CIRCUIT BAR MOUNTING**

<table>
<thead>
<tr>
<th>Port size (see base)</th>
<th>Valve</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>47A-U0-HXXX-XXX</td>
</tr>
</tbody>
</table>

**Solenoid Operator**

<table>
<thead>
<tr>
<th>Voltage</th>
<th>Wire length</th>
<th>Manual operator</th>
<th>Electrical connection</th>
</tr>
</thead>
<tbody>
<tr>
<td>DA</td>
<td>A</td>
<td>Non-locking</td>
<td>BM Flying leads</td>
</tr>
<tr>
<td>DO</td>
<td>C</td>
<td></td>
<td>BC Flying leads with light</td>
</tr>
<tr>
<td>DC</td>
<td>x</td>
<td></td>
<td>HA Plug-in connector with rectifier and light</td>
</tr>
<tr>
<td>DD</td>
<td>x</td>
<td>Other Options</td>
<td>Other Options</td>
</tr>
<tr>
<td>AA</td>
<td>x</td>
<td>Other Options</td>
<td>Other Options</td>
</tr>
<tr>
<td>xx</td>
<td>x</td>
<td>Other Options</td>
<td>Other Options</td>
</tr>
</tbody>
</table>

**How to Order Circuit Bar**

<table>
<thead>
<tr>
<th>Port size</th>
<th>Side cylinder ports (18 mm)</th>
<th>Bottom cylinder ports (18 mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/8” NPTF</td>
<td>EBM47A-00BA-XX</td>
<td>EBM47A-00BA-XX</td>
</tr>
<tr>
<td></td>
<td>EBM47A-00BB-XX</td>
<td>EBM47A-00BB-XX</td>
</tr>
<tr>
<td>1/4” NPTF</td>
<td>EBM47A-00BA-XX</td>
<td>EBM47A-00BA-XX</td>
</tr>
<tr>
<td></td>
<td>EBM47A-00BB-XX</td>
<td>EBM47A-00BB-XX</td>
</tr>
<tr>
<td>6 mm tube receptacle</td>
<td>EBM47A-00BG-XX</td>
<td>EBM47A-00BG-XX</td>
</tr>
<tr>
<td></td>
<td>EBM47A-00BB-XX</td>
<td>EBM47A-00BB-XX</td>
</tr>
<tr>
<td></td>
<td>EBM47A-00BG-XX</td>
<td>EBM47A-00BG-XX</td>
</tr>
</tbody>
</table>

Number of stations (03=3 stations)
Note: clic for valves mounted on base at the factory (add - 9 to the model number).
add-a-unit stations may be added to above bars. Maximum length for add-a-unit is 4 stations.

**Options**

- clic replace with “C” for add-a-unit.
**Technical Data**

**Fluid:** Compressed air, vacuum, inert gases

**Pressure range:** Vacuum to 120 PSI

**Lubrication:** Not required, if used select a medium aniline point lubricant (between 180°F and 210°F)

**Filtration:** 40 µ

**Temperature range:** 0°F to 120°F (-18°C to 50°C)

**Orifice:** 4.3 mm

**Flow (at 6 bar, ∆P=1bar):**
- 5.2 W: 0.50 Cv
- 2.4 W: 0.30 Cv
- 1.8 W: 0.25 Cv
- 1.0 W: 0.25 Cv

**Leak rate:** 50 cm³/min

**Coil:**
- General purpose class A, continuous duty, encapsulated
- Voltage range: -15% to +10% of nominal voltage
- Power: 5.2 W - 2.4 W - 1.8 W - 1.0 W
- Response times (with 5.2 W coil):
  - Energize: 14.0 ms
  - De-energize: 5.0 ms

**Note:**
- Valve and coil are not interchangeable.

**Spare parts:**
- Seal between valve and bar: 16629
- Mounting screw (x2): 35043
- Valve blanking plate: M-47001
- End plate kit: M-47005-01
- Isolation of inlet and/or exhaust. Special bar. Consult factory
- BSP Threads

**Options:**
- Bottom & side cylinder ports not available on the same station

**Dimensions**

<table>
<thead>
<tr>
<th>Number of stations</th>
<th>Dim.</th>
<th>1/4&quot;</th>
<th>M6 Carstick</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>&quot;A&quot;</td>
<td>25.90</td>
<td>28.60</td>
</tr>
<tr>
<td></td>
<td>&quot;B&quot;</td>
<td>25.90</td>
<td>28.60</td>
</tr>
</tbody>
</table>

* M6 Carstick available only on side port

Consult "Precautions" before use, installation or service of MAC Valves.
Direct solenoid and solenoid pilot operated valves

**Series 47**

Function | Port size | Flow (Max) | Circuit bar mounting | Profile
---|---|---|---|---
5/2 | 1/8” - 1/4” | 0.5Cv | add-on style | 44 mm

**OPERATIONAL BENEFITS**
1. Direct solenoid operated valve.
2. Balanced poppet, immune to variations of pressure.
3. Short stroke with high flow.
4. The patented solenoid develops high shifting forces.
5. Powerful return spring.

**HOW TO ORDER**

**OPERATIONAL BENEFITS**
1. Direct solenoid operated valve.
2. Balanced poppet, immune to variations of pressure.
3. Short stroke with high flow.
4. The patented solenoid develops high shifting forces.
5. Powerful return spring.

**PORT SIZE**
- 1/8” NPTF
- 1/4” NPTF
- 6 mm tube receptacle

**VALVE**
- EBM47A-00KBA-xx
- EBM47A-00KBB-xx
- EBM47A-00KBG-xx
- EBM47A-00MBA-xx
- EBM47A-00MBB-xx
- EBM47A-00MBG-xx

**VOLTAGE**
- DA: 24VDC (5.2 W)
- DB: 24VDC (2.4 W)
- DC: 24VDC (1.8 W)
- DD: 24VDC (1.0 W)
- AA: 120VAC (must use with rectified connector)
- XX: Other Options

**WIRE LENGTH**
- A: 18”
- C: 36”
- XX: Other Options

**MANUAL OPERATOR**
- 1: Non-locking

**ELECTRICAL CONNECTION**
- BA: Flying leads
- BC: Flying leads with light
- MA: Plug-in wire assy
- MC: Plug-in wire assy with light
- HA: Plug-in connector with rectifier and light
- XX: Other Options

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

**PORT SIZE**
- 1/8” NPTF
- 1/4” NPTF
- 6 mm tube receptacle

**SIDE CYLINDER PORTS (18 mm)**
- EBM47A-00KBA-xx
- EBM47A-00KBB-xx
- EBM47A-00KBG-xx

**BOTTOM CYLINDER PORTS (18 mm)**
- EBM47A-00MBA-xx
- EBM47A-00MBB-xx
- EBM47A-00MBG-xx

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

Note: Add - 9 to the model number for valves mounted on base at the factory. Maximum length for add-a-unit is 4 stations.

**OPTIONS**
- EBM47A-00KBA-xx
- EBM47A-00KBB-xx
- EBM47A-00KBG-xx
- EBM47A-00MBA-xx
- EBM47A-00MBB-xx
- EBM47A-00MBG-xx

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

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

**DIMENSIONS**

<table>
<thead>
<tr>
<th>Number of stations</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>w/regulator</td>
<td>96.7</td>
<td>146.7</td>
<td>196.7</td>
<td>246.7</td>
<td>296.7</td>
<td>346.7</td>
<td>396.7</td>
<td>446.7</td>
<td>496.7</td>
<td>546.7</td>
</tr>
<tr>
<td>w/ regulator</td>
<td>96.7</td>
<td>146.7</td>
<td>196.7</td>
<td>246.7</td>
<td>296.7</td>
<td>346.7</td>
<td>396.7</td>
<td>446.7</td>
<td>496.7</td>
<td>546.7</td>
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<tr>
<td>w/adjusting screw</td>
<td>237.8</td>
<td>287.8</td>
<td>337.8</td>
<td>387.8</td>
<td>397.8</td>
<td>387.8</td>
<td>337.8</td>
<td>287.8</td>
<td>237.8</td>
<td>187.8</td>
</tr>
</tbody>
</table>

Dimensions are based on 18 mm centerline spacing.

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

* M6 Carstick available only on side port

**TECHNICAL DATA**

**Fluid:** Compressed air, vacuum, inert gases

**Pressure range:** Vacuum to 120 PSI

**Lubrication:** Not required, if used select a medium aniline point lubricant (between 180°F and 210°F)

**Filtration:** 40 μ

**Temperature range:** 0°F to 120°F (-18°C to 50°C)

**Orifice:** 4.3 mm

**Flow (at 6 bar, ΔP=1bar):**
- 5.2 W: 0.50 Cv
- 2.4 W: 0.30 Cv
- 1.8 W: 0.25 Cv
- 1.0 W: 0.25 Cv

**Leak rate:** 50 cm³/min

**Coil:** General purpose class A, continuous duty, encapsulated

**Voltage range:** -15% to +10% of nominal voltage

**Power:**
- 5.2 W
- 2.4 W
- 1.8 W
- 1.0 W

**Response times:**
- Energize: 14.0 ms
- De-energize: 5.0 ms

Note:
- Valve and coil are not interchangeable.
- Seal between valve and bar: 16629.
- Mounting screw (x2): 35043.
- Valve blanking plate: M-47001.
- End plate kit: M-47005-01.
- Regulator blanking plate: R-47003.
- Isolation of inlet and/or exhaust. Special bar. Consult factory.

Options:
- BSPP Threads.

**Spare parts:**
- M6 Carstick available only on side port

**Options:**
- 2/8", 1/4" B.S.P. PL.
- 3/8" B.S.P. TR.
- 1/4" M.P.T.F.
- M6 Carstick available only on side part
### Direct solenoid and solenoid pilot operated valves

#### Series 47

<table>
<thead>
<tr>
<th>Function</th>
<th>Port size</th>
<th>Flow (Max)</th>
<th>Circuit bar mounting</th>
</tr>
</thead>
<tbody>
<tr>
<td>5/2</td>
<td>1/8&quot; - 1/4&quot;</td>
<td>0.5Cv</td>
<td>plug-in</td>
</tr>
</tbody>
</table>

#### Operational Benefits
1. Balanced poppet, immune to variations of pressure.
2. Short stroke with high flow.
3. The patented solenoid develops high shifting forces.
4. Powerful return spring.
6. Direct solenoid operated.

#### HOW TO ORDER

**47A-xxx-HxxP-xxx**

**HOW TO ORDER VALVE FOR “PLUG-IN” CIRCUIT BAR**

<table>
<thead>
<tr>
<th>Voltage</th>
<th>Manual operator</th>
<th>Electrical connection</th>
</tr>
</thead>
<tbody>
<tr>
<td>DA</td>
<td>24VDC (5.2 W)</td>
<td>Plugs-in</td>
</tr>
<tr>
<td>DB</td>
<td>24VDC (2.4 W)</td>
<td>Plugs-in with light</td>
</tr>
<tr>
<td>DC</td>
<td>24VDC (1.8 W)</td>
<td>Plug-in with suppression diode</td>
</tr>
<tr>
<td>DD</td>
<td>24VDC (1.0 W)</td>
<td>Plug-in with suppression diode with LED light</td>
</tr>
<tr>
<td>AA</td>
<td>120VAC (Mod. No. required see below)</td>
<td></td>
</tr>
<tr>
<td>xx</td>
<td>Other Options</td>
<td></td>
</tr>
</tbody>
</table>

#### SOLENOID OPERATOR

**47A-L0HxxP-xxx**

**HOW TO ORDER “PLUG-IN” CIRCUIT BAR**

<table>
<thead>
<tr>
<th>Port size</th>
<th>Spacing mm</th>
<th>Side cylinder ports</th>
<th>Bottom cylinder ports</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/8&quot; NPTF</td>
<td>18</td>
<td>ECD47A-00AAA-A0xx</td>
<td>ECD47A-00AA-A0xx</td>
</tr>
<tr>
<td>1/4&quot; NPTF</td>
<td>18</td>
<td>ECD47A-00AB-A0xx</td>
<td>ECD47A-00AB-A0xx</td>
</tr>
<tr>
<td>6 mm tube receptacle</td>
<td>18</td>
<td>ECD47A-00AAG-A0xx</td>
<td>ECD47A-00BAG-A0xx</td>
</tr>
<tr>
<td>1/8&quot; NPTF</td>
<td>30</td>
<td>ECD47A-01AAA-C0xx</td>
<td>ECD47A-01BAA-C0xx</td>
</tr>
<tr>
<td>1/4&quot; NPTF</td>
<td>30</td>
<td>ECD47A-01AAB-C0xx</td>
<td>ECD47A-01BAB-C0xx</td>
</tr>
<tr>
<td>6 mm tube receptacle</td>
<td>30</td>
<td>ECD47A-01AAG-C0xx</td>
<td>ECD47A-01BAG-C0xx</td>
</tr>
</tbody>
</table>

Number of stations (03=3 stations)

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

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

### Direct solenoid and solenoid pilot operated valves

#### Series 47

**Function**

<table>
<thead>
<tr>
<th>5/2</th>
<th>1/8” - 1/4”</th>
<th>0.5Cv</th>
<th>Circuit bar mounting</th>
</tr>
</thead>
</table>

**Operational Benefits**

1. Balanced poppet, immune to variations of pressure.
2. Short stroke with high flow.
3. The patented solenoid develops high shifting forces.
4. Powerful return spring.
6. Direct solenoid operated.

### How to Order

**47A-xxx-HxxP-xxx**

**How to Order Valve for “Plug-in” Circuit Bar**

<table>
<thead>
<tr>
<th>Valve</th>
<th>Valve less base</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>47A-LED-HxxP-xxx</td>
</tr>
</tbody>
</table>

**Solenoid Operator**

- **Voltage**
  - DA: 24VDC (5.2 W)
  - DB: 24VDC (2.4 W)
  - DC: 24VDC (1.8 W)
  - DD: 24VDC (1.0 W)
  - AA: 120VAC (Mod. No. required see below)
  - xx: Other Options

- **Manual Operator**
  - 1: Non-locking

- **Electrical Connection**
  - FA: Plug-in
  - FC: Plug-in with light
  - FE: Plug-in with suppression diode
  - FG: Plug-in with suppression diode with LED light
  - xx: Other Options

### How to Order “Plug-in” Circuit Bar (Regulators Ordered Separately)**

**ECD47A-xxxxx-xxxx**

<table>
<thead>
<tr>
<th>Port size</th>
<th>Spacing mm</th>
<th>Bottom cylinder ports</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/8” NPTF</td>
<td>18</td>
<td>ECD47A-00CAA-A0xx</td>
</tr>
<tr>
<td>1/4” NPTF</td>
<td>18</td>
<td>ECD47A-00CAB-A0xx</td>
</tr>
<tr>
<td>1/8” NPTF</td>
<td>30</td>
<td>ECD47A-01CAA-C0xx</td>
</tr>
<tr>
<td>1/4” NPTF</td>
<td>30</td>
<td>ECD47A-01CAB-C0xx</td>
</tr>
</tbody>
</table>

- **Pressure Regulators**: PR47A-G0Ax
  - X-A (0 to 120 PSI)
  - X-B (0 to 80 PSI)
  - X-C (0 to 30 PSI)

**Note**: For AC voltage use mod. FAZ after circuit bar model number. For multi-pin connector (9, 15 or 25).

Consult “Precautions” before use, installation or service of MAC Valves.
Fluid: Compressed air, vacuum, inert gases
Pressure range: Vacuum to 120 PSI
Lubrication: Not required, if used select a medium aniline point lubricant (between 180°F and 210°F)
Filtration: 40 µ
Temperature range: 0°F to 120°F (-18°C to 50°C)
Orifice: 4.3 mm
Flow (at 6 bar, ∆P=1bar): 5.2 W : 0.50Cv, 2.4 W : 0.30Cv, 1.8 W : 0.25Cv, 1.0 W : 0.25Cv
Leak rate: 50 cm³/min
Coil: General purpose class A, continuous duty, encapsulated
Voltage range: -15% to +10% of nominal voltage
Power: 5.2 W - 2.4 W - 1.8 W - 1.0 W
Response times: Energize: 14.0 ms
De-energize: 5.0 ms

Note:
- Valve and coil are not interchangeable.
- Valve and coil are not interchangeable.
- Seal between valve and bar : 16629.
- Mounting screw (x2) : 35043.
- Valve blanking plate : M-47001.
- Base wire plug-in protector : 16520.
- Regulator blanking plate : R-47003.
- Isolation of inlet and/or exhaust. Special bar. Consult factory.
- BSPP Threads.

Spare parts:
- Seal between valve and bar : 16629.
- Mounting screw (x2) : 35043.
- Valve blanking plate : M-47001.
- Base wire plug-in protector : 16520.
- Regulator blanking plate : R-47003.

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

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

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

### FUNCTION PORT SIZE FLOW (MAX) CIRCUIT BAR MOUNTING

<table>
<thead>
<tr>
<th>Function</th>
<th>Port Size</th>
<th>Flow (Max)</th>
<th>Circuit Bar Mounting</th>
</tr>
</thead>
<tbody>
<tr>
<td>5/2</td>
<td>1/8” - 1/4” 6 mm tube receptacle</td>
<td>0.5Cv</td>
<td>add-on style plug-in</td>
</tr>
</tbody>
</table>

### OPERATIONAL BENEFITS

1. Balanced poppet, immune to variations of pressure.
2. Short stroke with high flow.
3. The patented solenoid develops high shifting forces.
4. Powerful return spring.
6. Direct solenoid operated.

### HOW TO ORDER VALVE FOR “PLUG-IN” CIRCUIT BAR

**HOW TO ORDER “PLUG-IN” CIRCUIT BAR**

**Valve**

<table>
<thead>
<tr>
<th>Voltage</th>
<th>Manual operator</th>
<th>Electrical connection</th>
</tr>
</thead>
<tbody>
<tr>
<td>DA</td>
<td>Non-locking</td>
<td>FA Plug-in</td>
</tr>
<tr>
<td>DB</td>
<td>Plug-in with light</td>
<td>FC Plug-in with suppression diode</td>
</tr>
<tr>
<td>DC</td>
<td>Plug-in with suppression diode with LED light</td>
<td></td>
</tr>
<tr>
<td>DD</td>
<td>Plug-in with suppression diode</td>
<td></td>
</tr>
</tbody>
</table>

**Valve less base**

<table>
<thead>
<tr>
<th>47A LI0-HxxP-xx</th>
</tr>
</thead>
</table>

**SOLENOID OPERATOR**

<table>
<thead>
<tr>
<th>XX</th>
<th>Voltage</th>
<th>X</th>
<th>Manual operator</th>
<th>xx</th>
<th>Electrical connection</th>
</tr>
</thead>
<tbody>
<tr>
<td>DA</td>
<td>24VDC (5.2 W)</td>
<td>1</td>
<td>Non-locking</td>
<td>xx</td>
<td>Other Options</td>
</tr>
<tr>
<td>DB</td>
<td>24VDC (2.4 W)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DC</td>
<td>24VDC (1.8 W)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DD</td>
<td>24VDC (1.0 W)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AA</td>
<td>120VAC (Mod. No. required see below)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>xx</td>
<td>Other Options</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### HOW TO ORDER VALVE FOR “PLUG-IN” CIRCUIT BAR

**HOW TO ORDER “PLUG-IN” CIRCUIT BAR**

**Port Size**

<table>
<thead>
<tr>
<th>Spacing mm</th>
<th>Side cylinder ports</th>
<th>Bottom cylinder ports</th>
</tr>
</thead>
<tbody>
<tr>
<td>18</td>
<td>ECD47A-00ABA-A0xx</td>
<td>ECD47A-00BBA-A0xx</td>
</tr>
<tr>
<td>18</td>
<td>ECD47A-00ABB-A0xx</td>
<td>ECD47A-00BBB-A0xx</td>
</tr>
<tr>
<td>18</td>
<td>ECD47A-00ABG-A0xx</td>
<td>ECD47A-00BBG-A0xx</td>
</tr>
<tr>
<td>30</td>
<td>ECD47A-01ABA-C0xx</td>
<td>ECD47A-01BBA-C0xx</td>
</tr>
<tr>
<td>30</td>
<td>ECD47A-01ABB-C0xx</td>
<td>ECD47A-01BBB-C0xx</td>
</tr>
<tr>
<td>30</td>
<td>ECD47A-01ABG-C0xx</td>
<td>ECD47A-01BBG-C0xx</td>
</tr>
</tbody>
</table>

Number of stations (03=3 stations)

Note: Elec for valves mounted on base at the factory (add - 9 to the model number). For AC voltage use mod. FWR2 after circuit bar model number. For multi-pin connector (9, 15 or 25) add-a-units may be added to above bars.

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

**Fluid:**
Compressed air, vacuum, inert gases

**Pressure range:**
Vacuum to 120 PSI

**Lubrication:**
Not required, if used select a medium aniline point lubricant (between 180°F and 210°F)

**Filtration:**
40 µ

**Temperature range:**
0°F to 120°F (-18°C to 50°C)

**Orifice:**
4.3 mm

**Flow** (at 6 bar, ∆P=1bar):
- 5.2 W : 0.50Cv
- 2.4 W : 0.30Cv
- 1.8 W : 0.25Cv
- 1.0 W : 0.25Cv

**Leak rate:**
50 cm³/min

**Coil:**
General purpose class A, continuous duty, encapsulated

**Voltage range:**
-15% to +10% of nominal voltage

**Power:**
- 5.2 W - 2.4 W - 1.8 W - 1.0 W

**Response times:**
- Energize: 14.0 ms
- De-energize: 5.0 ms

**Note:**
- Valve and coil are not interchangeable.

**Spare parts:**
- Seal between valve and bar: 16629
- Mounting screw (x2): 35043
- Valve blanking plate: M-47001
- Base wire plug-in protector: 16520
- Isolator disc between add-a-units: 28438

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

**Dimensions**

<table>
<thead>
<tr>
<th>Number of stations</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>2/8&quot;</td>
<td>27.70</td>
<td>37.70</td>
<td>47.70</td>
<td>57.70</td>
<td>67.70</td>
<td>77.70</td>
<td>87.70</td>
<td>97.70</td>
<td>107.70</td>
<td></td>
</tr>
<tr>
<td>3/8&quot;</td>
<td>21.70</td>
<td>31.85</td>
<td>41.85</td>
<td>51.85</td>
<td>61.85</td>
<td>71.85</td>
<td>81.85</td>
<td>91.85</td>
<td>101.85</td>
<td></td>
</tr>
</tbody>
</table>

Dimensions are based on 18 mm centerline spacing

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

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

1. Balanced poppet, immune to variations of pressure.
2. Short stroke with high flow.
3. The patented solenoid develops high shifting forces.
4. Powerful return spring.
6. Direct solenoid operated.

**HOW TO ORDER**

**HOW TO ORDER VALVE FOR “PLUG-IN” CIRCUIT BAR**

<table>
<thead>
<tr>
<th>Voltage</th>
<th>Manual operator</th>
<th>Electrical connection</th>
</tr>
</thead>
<tbody>
<tr>
<td>DA</td>
<td>Non-locking</td>
<td>FA</td>
</tr>
<tr>
<td>DB</td>
<td>Non-locking</td>
<td>FC</td>
</tr>
<tr>
<td>DC</td>
<td>Non-locking</td>
<td>FE</td>
</tr>
<tr>
<td>DD</td>
<td>Non-locking</td>
<td>FG</td>
</tr>
<tr>
<td>AA</td>
<td>Other Options</td>
<td>Other Options</td>
</tr>
<tr>
<td>XX</td>
<td>Other Options</td>
<td>Other Options</td>
</tr>
</tbody>
</table>

**Solenoid Operator**

$X X P - X X ^ *$

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

<table>
<thead>
<tr>
<th>Port size</th>
<th>Spacing mm</th>
<th>Bottom cylinder ports</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/8” NPTF</td>
<td>18</td>
<td>ECD47A-00CBA-A0xx</td>
</tr>
<tr>
<td>1/4” NPTF</td>
<td>18</td>
<td>ECD47A-00CBB-A0xx</td>
</tr>
<tr>
<td>1/8” NPTF</td>
<td>30</td>
<td>ECD47A-01CBA-C0xx</td>
</tr>
<tr>
<td>1/4” NPTF</td>
<td>30</td>
<td>ECD47A-01CBB-C0xx</td>
</tr>
</tbody>
</table>

Number of stations (03=3 stations)

Note: clic for valves mounted on base at the factory (add - 9 to the model number).
- For AC voltage use mod. FWR2 after circuit bar model number.
- For multi-pin connector (9, 15 or 25).
- Add-a-units may be added to above bars.

**Pressure Regulators**

- PR47A-GoAx
  - X-A (0 to 120 PSI)
  - X-B (0 to 80 PSI)
  - X-C (0 to 30 PSI)

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

**TECHNICAL DATA**

**Fluid:** Compressed air, vacuum, inert gases

**Pressure range:** Vacuum to 120 PSI

**Lubrication:** Not required, if used select a medium aniline point lubricant (between 180°F and 210°F)

**Filtration:** 40 µ

**Temperature range:** 0°F to 120°F (-18°C to 50°C)

**Orifice:** 4.3 mm

**Flow (at 6 bar, ∆P=1bar):**
- 5.2 W: 0.50Cv
- 2.4 W: 0.30Cv
- 1.8 W: 0.25Cv
- 1.0 W: 0.25Cv

**Leak rate:** 50 cm³/min

**Coil:** General purpose class A, continuous duty, encapsulated

**Voltage range:** -15% to +10% of nominal voltage

**Power:**
- Energize: 14.0 ms
- De-energize: 5.0 ms

**Response times (with 5.2 W coil):**
- 2.4 W: 0.50Cv
- 1.8 W: 0.50Cv
- 1.0 W: 0.30Cv

**Dimensions**

<table>
<thead>
<tr>
<th>Number of stations</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>3/8&quot; w/ regulator</td>
<td>24.20</td>
<td>24.20</td>
<td>25.60</td>
<td>25.60</td>
<td>27.00</td>
<td>27.00</td>
<td>28.40</td>
<td>28.40</td>
<td>30.00</td>
<td>30.00</td>
</tr>
<tr>
<td>1/4&quot; w/ regulator</td>
<td>24.20</td>
<td>24.20</td>
<td>25.60</td>
<td>25.60</td>
<td>27.00</td>
<td>27.00</td>
<td>28.40</td>
<td>28.40</td>
<td>30.00</td>
<td>30.00</td>
</tr>
<tr>
<td>6 mm Legris</td>
<td>24.20</td>
<td>24.20</td>
<td>25.60</td>
<td>25.60</td>
<td>27.00</td>
<td>27.00</td>
<td>28.40</td>
<td>28.40</td>
<td>30.00</td>
<td>30.00</td>
</tr>
<tr>
<td>1/8&quot; w/ regulator</td>
<td>24.20</td>
<td>24.20</td>
<td>25.60</td>
<td>25.60</td>
<td>27.00</td>
<td>27.00</td>
<td>28.40</td>
<td>28.40</td>
<td>30.00</td>
<td>30.00</td>
</tr>
<tr>
<td>1/8&quot; w/ regulator</td>
<td>24.20</td>
<td>24.20</td>
<td>25.60</td>
<td>25.60</td>
<td>27.00</td>
<td>27.00</td>
<td>28.40</td>
<td>28.40</td>
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<td>30.00</td>
</tr>
<tr>
<td>1/8&quot; w/ regulator</td>
<td>24.20</td>
<td>24.20</td>
<td>25.60</td>
<td>25.60</td>
<td>27.00</td>
<td>27.00</td>
<td>28.40</td>
<td>28.40</td>
<td>30.00</td>
<td>30.00</td>
</tr>
<tr>
<td>1/8&quot; w/ regulator</td>
<td>24.20</td>
<td>24.20</td>
<td>25.60</td>
<td>25.60</td>
<td>27.00</td>
<td>27.00</td>
<td>28.40</td>
<td>28.40</td>
<td>30.00</td>
<td>30.00</td>
</tr>
</tbody>
</table>

Dimensions are based on 18 mm centerline spacing

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

**Spare parts:**
- Seal between valve and bar: 16629
- Mounting screw (x2): 35043
- Valve blanking plate: M-47001
- Base wire plug-in protector: 16520
- Regulator blanking plate: R-47003
- Isolator disc between add-a-units: 28438

**Options:**
- Isolation of inlet and/or exhaust. Special bar. Consult factory.
- BSP Threads.
Consult "Precautions" before use, installation or service of MAC Valves.

### Functional Port Size Flow (Max) Circuit Bar Mounting

<table>
<thead>
<tr>
<th>Function</th>
<th>Port Size</th>
<th>Flow (Max)</th>
<th>Circuit Bar Mounting</th>
</tr>
</thead>
<tbody>
<tr>
<td>5/2</td>
<td>1/8” - 1/4” 6 mm tube receptacle</td>
<td>0.5Cv</td>
<td>plug-in, add-a-unit stations</td>
</tr>
</tbody>
</table>

#### Operational Benefits

1. Balanced poppet, immune to variations of pressure.
2. Short stroke with high flow.
3. The patented solenoid develops high shifting forces.
4. Powerful return spring.
6. Direct solenoid operated.

### How to Order

**47A-xxx-HxxP-xxx**

#### How to Order Valve for “Plug-in” Circuit Bar

<table>
<thead>
<tr>
<th>Valve</th>
<th>Valve less base</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>47A UG HxxP xxx</td>
</tr>
</tbody>
</table>

#### Solenoid Operator

<table>
<thead>
<tr>
<th>XX</th>
<th>Voltage</th>
<th>X</th>
<th>Manual Operator</th>
<th>XX</th>
<th>Electrical Connection</th>
</tr>
</thead>
<tbody>
<tr>
<td>DA</td>
<td>24VDC (5.2 W)</td>
<td>1</td>
<td>Non-locking</td>
<td>FA</td>
<td>Plug-in</td>
</tr>
<tr>
<td>DB</td>
<td>24VDC (2.4 W)</td>
<td></td>
<td></td>
<td>FC</td>
<td>Plug-in with light</td>
</tr>
<tr>
<td>DC</td>
<td>24VDC (1.8 W)</td>
<td></td>
<td></td>
<td>FE</td>
<td>Plug-in with suppression diode</td>
</tr>
<tr>
<td>DD</td>
<td>24VDC (1.0 W)</td>
<td></td>
<td></td>
<td>FG</td>
<td>Plug-in with suppression diode with LED light</td>
</tr>
<tr>
<td>AA</td>
<td>120VAC (Mod. No. required see below)</td>
<td></td>
<td></td>
<td>xx</td>
<td>Other Options</td>
</tr>
<tr>
<td>xx</td>
<td>Other Options</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### How to Order “Plug-in” Circuit Bar

<table>
<thead>
<tr>
<th>Port Size</th>
<th>Spacing mm</th>
<th>Side Cylinder Ports</th>
<th>Bottom Cylinder Ports</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/8” NPTF</td>
<td>18</td>
<td>ECD47A-00ACA-A0.xx</td>
<td>ECD47A-008CA-A0.xx</td>
</tr>
<tr>
<td>1/4” NPTF</td>
<td>18</td>
<td>ECD47A-00ACB-A0.xx</td>
<td>ECD47A-008CB-A0.xx</td>
</tr>
<tr>
<td>6 mm tube receptacle</td>
<td>18</td>
<td>ECD47A-00ACG-A0.xx</td>
<td>ECD47A-008CG-A0.xx</td>
</tr>
<tr>
<td>1/8” NPTF</td>
<td>30</td>
<td>ECD47A-01ACA-C0.xx</td>
<td>ECD47A-018CA-C0.xx</td>
</tr>
<tr>
<td>1/4” NPTF</td>
<td>30</td>
<td>ECD47A-01ACB-C0.xx</td>
<td>ECD47A-018CB-C0.xx</td>
</tr>
<tr>
<td>6 mm tube receptacle</td>
<td>30</td>
<td>ECD47A-01ACG-C0.xx</td>
<td>ECD47A-018CG-C0.xx</td>
</tr>
</tbody>
</table>

Number of stations (01=1 station). Maximum length is 4 stations.

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

Consult “Precautions” before use, installation or service of MAC Valves.
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### Operational Benefits

1. Balanced poppet, immune to variations of pressure.
2. Short stroke with high flow.
3. The patented solenoid develops high shifting forces.
4. Powerful return spring.
6. Direct solenoid operated.

### How to Order

#### 47A-xxx-HxxP-xxx

**How to Order Valve for "Plug-in" Circuit Bar**

<table>
<thead>
<tr>
<th>Voltage</th>
<th>Manual operator</th>
<th>Electrical connection</th>
</tr>
</thead>
<tbody>
<tr>
<td>DA</td>
<td>Non-locking</td>
<td>Plug-in</td>
</tr>
<tr>
<td>DB</td>
<td>Plug-in</td>
<td>Plug-in with light</td>
</tr>
<tr>
<td>DC</td>
<td>Plug-in</td>
<td>Plug-in with suppression diode</td>
</tr>
<tr>
<td>DD</td>
<td>Plug-in</td>
<td>Plug-in with suppression diode with LED light</td>
</tr>
<tr>
<td>AA</td>
<td>Other Options</td>
<td>Other Options</td>
</tr>
</tbody>
</table>

### SOLENOID OPERATOR

- **Voltage:**
  - DA: 24VDC (5.2 W)
  - DB: 24VDC (2.4 W)
  - DC: 24VDC (1.8 W)
  - DD: 24VDC (1.0 W)
  - AA: 120VAC (Mod. No. required see below)
  - XX: Other Options

- **Manual operator:**
  - 1: Non-locking

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

### How to Order "Plug-in" Circuit Bar (Regulators Ordered Separately)**

<table>
<thead>
<tr>
<th>Port size</th>
<th>Spacing mm</th>
<th>Bottom cylinder ports</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/8” NPTF</td>
<td>18</td>
<td>ECD47A-00CCA-A0xx</td>
</tr>
<tr>
<td>1/4” NPTF</td>
<td>18</td>
<td>ECD47A-00CCB-A0xx</td>
</tr>
<tr>
<td>1/8” NPTF</td>
<td>30</td>
<td>ECD47A-01CCA-C0xx</td>
</tr>
<tr>
<td>1/4” NPTF</td>
<td>30</td>
<td>ECD47A-01CCB-C0xx</td>
</tr>
</tbody>
</table>

**Number of stations (01=1 station). Maximum length is 4 stations.
Note: *clic for valves mounted on base at the factory (add - 9 to the model number).
when add-a-unit stations are added to bars with a multi-pin connector,
MOD SD03 should be included with add-a-unit model number.
for AC voltage use mod. FWR2 after circuit bar model number.**

**Pressure Regulators:**
- PR47A-GOAx
  - X-A: (0 to 120 PSI)
  - X-B: (0 to 80 PSI)
  - X-C: (0 to 30 PSI)

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### Technical Data

**Fluid:**
- Compressed air, vacuum, inert gases

**Pressure range:**
- Vacuum to 120 PSI

**Lubrication:**
- Not required, if used select a medium aniline point lubricant (between 180°F and 210°F)

**Filtration:**
- 40 µ

**Temperature range:**
- 0°F to 120°F (-18°C to 50°C)

**Orifice:**
- 4.3 mm

**Flow (at 6 bar, ∆P=1bar):**
- 5.2 W : 0.50 Cv, 2.4 W : 0.30 Cv, 1.8 W : 0.25 Cv, 1.0 W : 0.25 Cv

**Leak rate:**
- 50 cm³/min

**Coil:**
- General purpose class A, continuous duty, encapsulated

**Voltage range:**
- -15% to +10% of nominal voltage

**Power:**
- 5.2 W - 2.4 W - 1.8 W - 1.0 W

**Response times:**
- Energize : 14.0 ms
- De-energize : 5.0 ms

### Note:
- • Valve and coil are not interchangeable.

### Spare parts:
- • Seal between valve and bar : 16629.
- • Mounting screw (x2) : 35043.
- • Valve blanking plate : M-47001.
- • O-ring port seal (x3) : 17015-01
- • Tie rod (x2) : 79007-01 (one station length).
- • Regulator blanking plate : R-47003.

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

### Dimensions

<table>
<thead>
<tr>
<th>Number of stations</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>&quot;A&quot; w/regulator</td>
<td>34.80</td>
<td>73.70</td>
<td>77.45</td>
<td>81.20</td>
<td>66.40</td>
<td>112.65</td>
<td>116.40</td>
<td>120.15</td>
<td>123.90</td>
<td>127.65</td>
</tr>
<tr>
<td>&quot;B&quot; w/regulator</td>
<td>31.65</td>
<td>67.65</td>
<td>71.40</td>
<td>75.15</td>
<td>60.35</td>
<td>106.60</td>
<td>110.35</td>
<td>114.10</td>
<td>117.85</td>
<td>121.60</td>
</tr>
<tr>
<td>&quot;C&quot; w/regulator</td>
<td>28.50</td>
<td>59.50</td>
<td>63.25</td>
<td>67.00</td>
<td>52.25</td>
<td>98.50</td>
<td>102.25</td>
<td>106.00</td>
<td>109.75</td>
<td>113.50</td>
</tr>
<tr>
<td>&quot;D&quot; w/regulator</td>
<td>26.35</td>
<td>55.35</td>
<td>59.10</td>
<td>62.85</td>
<td>48.10</td>
<td>94.35</td>
<td>98.10</td>
<td>101.85</td>
<td>105.60</td>
<td>109.35</td>
</tr>
<tr>
<td>&quot;E&quot;</td>
<td>32.00</td>
<td>64.00</td>
<td>67.75</td>
<td>71.50</td>
<td>56.75</td>
<td>103.00</td>
<td>106.75</td>
<td>110.50</td>
<td>114.25</td>
<td>118.00</td>
</tr>
</tbody>
</table>

Dimensions are based on 18 mm centerline spacing.

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

Consult "Precautions" before use, installation or service of MAC Valves.
Section 2

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

VALVE CODE ➤ -HXX X - X XX
1 2 3 4

OPTIONS AVAILABLE FOR
- Solenoid valves 37 & 47 Series
### 1. Voltage

<table>
<thead>
<tr>
<th>Option</th>
<th>Voltage</th>
<th>Power Consumption</th>
</tr>
</thead>
<tbody>
<tr>
<td>DA</td>
<td>24 VDC</td>
<td>5.2 W</td>
</tr>
<tr>
<td>DB</td>
<td>24 VDC</td>
<td>2.4 W</td>
</tr>
<tr>
<td>DC</td>
<td>24 VDC</td>
<td>1.8 W</td>
</tr>
<tr>
<td>DD</td>
<td>24 VDC</td>
<td>1.0 W</td>
</tr>
<tr>
<td>DF</td>
<td>12 VDC</td>
<td>5.2 W</td>
</tr>
<tr>
<td>DG</td>
<td>12 VDC</td>
<td>2.4 W</td>
</tr>
<tr>
<td>DH</td>
<td>12 VDC</td>
<td>1.8 W</td>
</tr>
<tr>
<td>DJ</td>
<td>12 VDC</td>
<td>1.0 W</td>
</tr>
<tr>
<td>DL</td>
<td>120 VDC</td>
<td>6.3 W</td>
</tr>
<tr>
<td>AA</td>
<td>120 VAC</td>
<td>6.7 W</td>
</tr>
<tr>
<td>AB</td>
<td>220 VAC</td>
<td>5.6 W</td>
</tr>
<tr>
<td>AC</td>
<td>240 VAC</td>
<td>5.8 W</td>
</tr>
<tr>
<td>AD</td>
<td>24 VAC</td>
<td>7.8 W</td>
</tr>
</tbody>
</table>

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

### 2. Wire Length

<table>
<thead>
<tr>
<th>Option</th>
<th>Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>O</td>
<td>No lead wire</td>
</tr>
<tr>
<td>A</td>
<td>18&quot;</td>
</tr>
<tr>
<td>B</td>
<td>24&quot;</td>
</tr>
<tr>
<td>C</td>
<td>36&quot;</td>
</tr>
<tr>
<td>D</td>
<td>48&quot;</td>
</tr>
<tr>
<td>E</td>
<td>72&quot;</td>
</tr>
<tr>
<td>F</td>
<td>96&quot;</td>
</tr>
<tr>
<td>G</td>
<td>120&quot;</td>
</tr>
<tr>
<td>H</td>
<td>144&quot;</td>
</tr>
<tr>
<td>P</td>
<td>Plug-in (used only with “F” type connector Opts.)</td>
</tr>
</tbody>
</table>

Use “O” with MJ & MM Opts.

### 3. Manual Operator

<table>
<thead>
<tr>
<th>Option</th>
<th>Operator Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>No operator</td>
</tr>
<tr>
<td>1</td>
<td>Non-locking recessed</td>
</tr>
<tr>
<td>2</td>
<td>Locking recessed</td>
</tr>
<tr>
<td>3</td>
<td>Non-locking extended</td>
</tr>
<tr>
<td>4</td>
<td>Locking extended</td>
</tr>
</tbody>
</table>
### 4. Electrical Connection

<table>
<thead>
<tr>
<th>Options</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Flying leads</td>
</tr>
<tr>
<td>B</td>
<td>Flying leads with ground wire</td>
</tr>
<tr>
<td>C</td>
<td>Flying leads with led light</td>
</tr>
<tr>
<td>D</td>
<td>Flying leads with led light &amp; ground wire</td>
</tr>
<tr>
<td>E</td>
<td>Flying leads with suppression diode</td>
</tr>
<tr>
<td>F</td>
<td>Flying leads with suppression diode &amp; ground wire</td>
</tr>
<tr>
<td>G</td>
<td>Flying leads with suppression diode plus led light</td>
</tr>
<tr>
<td>H</td>
<td>Flying leads with suppression diode plus led light &amp; ground wire</td>
</tr>
<tr>
<td>Bn</td>
<td>Flying leads with suppression diode plus blocking diode</td>
</tr>
<tr>
<td>Bp</td>
<td>Flying leads with suppression diode plus blocking diode &amp; ground wire</td>
</tr>
<tr>
<td>Br</td>
<td>Flying leads with suppression diode plus blocking diode &amp; led light</td>
</tr>
<tr>
<td>Bs</td>
<td>Flying leads with suppression diode plus blocking diode &amp; led light &amp; ground wire</td>
</tr>
<tr>
<td>Fa</td>
<td>Plug-in</td>
</tr>
<tr>
<td>Fb</td>
<td>Plug-in with ground wire</td>
</tr>
<tr>
<td>Fc</td>
<td>Plug-in with led light</td>
</tr>
<tr>
<td>Fd</td>
<td>Plug-in with led light &amp; ground wire</td>
</tr>
<tr>
<td>Fe</td>
<td>Plug-in with suppression diode</td>
</tr>
<tr>
<td>Ff</td>
<td>Plug-in with suppression diode &amp; ground wire</td>
</tr>
<tr>
<td>Fg</td>
<td>Plug-in with suppression diode plus led light</td>
</tr>
<tr>
<td>Fh</td>
<td>Plug-in with suppression diode plus led light &amp; ground wire</td>
</tr>
<tr>
<td>Ha</td>
<td>Circuit board plug-in with full wave rectifier &amp; led light</td>
</tr>
<tr>
<td>Hb</td>
<td>Circuit board with full wave rectifier &amp; led with ground wire</td>
</tr>
<tr>
<td>Hc</td>
<td>Same as “Ha” without lead wires</td>
</tr>
<tr>
<td>Hd</td>
<td>Same as “Hb” without lead wires</td>
</tr>
<tr>
<td>Hl</td>
<td>Circuit board plug-in with suppression diode plus blocking diode &amp; led light</td>
</tr>
<tr>
<td>Hn</td>
<td>Same as “Hl” without lead wires</td>
</tr>
<tr>
<td>Ma</td>
<td>Plug-in wire assembly</td>
</tr>
<tr>
<td>Mb</td>
<td>Plug-in wire assembly with ground wire</td>
</tr>
<tr>
<td>Mc</td>
<td>Plug-in wire assembly with led light</td>
</tr>
<tr>
<td>Md</td>
<td>Plug-in wire assembly led light &amp; ground wire</td>
</tr>
<tr>
<td>Me</td>
<td>Plug-in wire assembly with suppression diode</td>
</tr>
<tr>
<td>Mf</td>
<td>Plug-in wire assembly with suppression diode &amp; ground wire</td>
</tr>
<tr>
<td>Mg</td>
<td>Plug-in wire assembly suppression diode plus led light</td>
</tr>
<tr>
<td>Mh</td>
<td>Plug-in wire assembly suppression diode plus led light &amp; ground wire</td>
</tr>
<tr>
<td>Mn</td>
<td>Plug-in wire assembly suppression diode plus blocking diode</td>
</tr>
<tr>
<td>Mp</td>
<td>Plug-in wire assembly with suppression diode plus blocking diode &amp; ground wire</td>
</tr>
<tr>
<td>Mr</td>
<td>Plug-in wire assembly with suppression diode plus blocking diode &amp; led light</td>
</tr>
<tr>
<td>Ms</td>
<td>Plug-in wire assembly with suppression diode plus blocking diode &amp; led light &amp; ground wire</td>
</tr>
<tr>
<td>Mj</td>
<td>Plug-in housing w/o wire assembly (&quot;Ma&quot; option without wire assembly)</td>
</tr>
<tr>
<td>Mm</td>
<td>Plug-in housing w/o wire assembly (&quot;Mb&quot; option without wire assembly)</td>
</tr>
</tbody>
</table>

* Blocking diode is in lead wire.

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MOD. SD09  
**TECHNICAL DATA**
- Type «SUB_D»
- Number of contacts: 9
- Solder termination [Dia. 0.6 mm/0.14 mm²/26-22 AWG]
- Operating current 5 A/contact
- Rated voltage 125 V~
- Temp. range -40° to +125°C
- Insulation resistance ≥ 5.09 Ω
- Protection class IP40 (DIN 40050)
- Number of solenoids: 7 max.
- Max. 24 V=/5.4 W per solenoid
- 2 common wires

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

MOD. SD15  
**TECHNICAL DATA**
- Type «SUB_D»
- Number of contacts: 15
- Solder termination [Dia. 0.6 mm/0.14 mm²/26-22 AWG]
- Operating current 5 A/contact
- Rated voltage 125 V~
- Temp. range -40° to +125°C
- Insulation resistance ≥ 5.09 Ω
- Protection class IP40 (DIN 40050)
- Number of solenoids: 12 max.
- Max. 24 V=/5.4 W per solenoid
- 3 common wires

MOD. SD25  
**TECHNICAL DATA**
- Type «SUB_D»
- Number of contacts: 25
- Solder termination [Dia. 0.6 mm/0.14 mm²/26-22 AWG]
- Operating current 5 A/contact
- Rated voltage 125 V~
- Temp. range -40° to +125°C
- Insulation resistance ≥ 5.09 Ω
- Protection class IP40 (DIN 40050)
- Number of solenoids: 20 max.
- Max. 24 V=/5.4 W per solenoid
- 5 common wires

Note: Use desired MOD. number after circuit bar part number
Connector termination details

**Single solenoid circuit bar**

**Double solenoid circuit bar**