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

**Series 44**

---

**Function** | **Port size** | **Flow (Max)** | **Circuit bar mounting**
---|---|---|---
5/2, 3/2 NO-NC | M5 - #10-32 | 0.093Cv | non-plug-in cylinder ports in base

**Operational Benefits**

1. 10 mm valve, direct solenoid operated.
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.
6. Flow is specifically adjusted on each valve.

**HOW TO ORDER**

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

<table>
<thead>
<tr>
<th>Port size (see base)</th>
<th>Valve less base</th>
<th>Valve for use with external flow controls</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>44B-100-GXXX-XXX</td>
<td>44B-MOO-GXXX-XXX</td>
</tr>
</tbody>
</table>

**Solenoid Operator**

<table>
<thead>
<tr>
<th>XX</th>
<th>Voltage</th>
<th>X</th>
<th>Wire length</th>
<th>X</th>
<th>Manual operator</th>
<th>XX</th>
<th>Electrical connection</th>
</tr>
</thead>
<tbody>
<tr>
<td>DA</td>
<td>24VDC (1.0 W)</td>
<td>A</td>
<td>18”</td>
<td>1</td>
<td>Non-locking</td>
<td>KA</td>
<td>Mini connector</td>
</tr>
<tr>
<td>DC</td>
<td>24VDC (1.8 W)</td>
<td>C</td>
<td>36”</td>
<td></td>
<td></td>
<td>KT</td>
<td>Mini connector with light</td>
</tr>
<tr>
<td>DP</td>
<td>24VDC (2.5 W)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>KA</td>
<td>Mini connector</td>
</tr>
<tr>
<td>DF</td>
<td>24VDC (4.0 W)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>KT</td>
<td>Mini connector with light</td>
</tr>
<tr>
<td>XX</td>
<td>Other Options</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>XX</td>
<td>Other Options</td>
</tr>
</tbody>
</table>

**HOW TO ORDER CIRCUIT BAR**

<table>
<thead>
<tr>
<th>Port size</th>
<th>Side cylinder ports</th>
<th>Bottom cylinder ports</th>
</tr>
</thead>
<tbody>
<tr>
<td>M5 # 10-32</td>
<td>EBP44B-001D-XX</td>
<td>EBP44B-002D-XX</td>
</tr>
<tr>
<td></td>
<td>EBP44B-001B-XX</td>
<td>EBP44B-002B-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 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**: 1.8 mm
- **Flow (at 6 bar, ∆P=1bar)**: 4 W: 0.093 Cv, 2.5 W: 0.077 Cv, 1.8 W: 0.057 Cv, 1.0 W: 0.048 Cv
- **Coil**: General purpose class A, continuous duty, encapsulated
- **Voltage range**: -15% to +10% of nominal voltage
- **Power**: 4 W - 2.5 W - 1.8 W - 1.0 W
- **Response times**: Energize: 3.4 ms, De-energize: 1.5 ms

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

**Spare parts**: Valve mounting kit: N-44001-03. Blanking plate: M-44003.

**Options**: Isolation of inlet and/or exhaust. Special bar. Consult Factory.

**Dimensions**

- **MS VALVE MTG. SCR**
- **1/8" NPTF PORTS**
- **18,3**
- **44,8**
- **24,8**
- **56,3**
- **57,3**

Consult "Precautions" before use, installation or service of MAC Valves.
### Series 44

#### Direct solenoid and solenoid pilot operated valves

<table>
<thead>
<tr>
<th>Function</th>
<th>Port size (Inlet &amp; Exhaust)</th>
<th>Flow (Max)</th>
<th>Circuit bar mounting</th>
</tr>
</thead>
<tbody>
<tr>
<td>5/2, 3/2 NO-NC</td>
<td># 10-32 - 1/8&quot;</td>
<td>0.093c</td>
<td>non plug-in cylinder ports in valve</td>
</tr>
</tbody>
</table>

**Operational Benefits**

1. 10 mm valve, direct solenoid operated.
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.
6. Flow is specifically adjusted on each valve.

**How to Order**

**44B-xxx-Gxxxx-xxx**

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

<table>
<thead>
<tr>
<th>Valve port size</th>
<th>Valve</th>
<th>Valve for use with external flow controls</th>
</tr>
</thead>
<tbody>
<tr>
<td># 10-32</td>
<td>44B-ABA-Gxxxx-xxx</td>
<td>44B-BAA-Gxxxx-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>18&quot;</td>
<td>Non-locking</td>
<td>BA - Flying leads</td>
</tr>
<tr>
<td>DC</td>
<td>36&quot;</td>
<td></td>
<td>BT - Flying leads</td>
</tr>
<tr>
<td>DB</td>
<td>Other Options</td>
<td></td>
<td>RA - Mini connector</td>
</tr>
<tr>
<td>DF</td>
<td>Other Options</td>
<td></td>
<td>RT - Mini connector</td>
</tr>
</tbody>
</table>

**How to Order Circuit Bar**

**EBM44A-xxxx-xx**

**How to Order**

**Valve port size**  **Valve**  **Valve for use with external flow controls**

<table>
<thead>
<tr>
<th>Port size COMMON INLET &amp; EXHAUST</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td># 10-32</td>
<td>1/8&quot; NPTF</td>
<td></td>
</tr>
</tbody>
</table>

Number of stations (03=3 stations)

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

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**: 1.8 mm

**Flow (at 6 bar, ∆P=1 bar)**:
- 4 W: 0.093 Cv
- 2.5 W: 0.077 Cv
- 1.8 W: 0.057 Cv
- 1.0 W: 0.048 Cv

**Leak rate**: 50 cm³/min

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

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

**Power**: 4 W - 2.5 W - 1.8 W - 1.0 W

**Response times** (with 4 W coil):
- Energize: 3.5 ms
- De-energize: 1.5 ms

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

**Spare parts**:
- Valve mounting kit (M5): M-44001-21
- Valve mounting kit (1/8”): M-44001-01
- Blanking plate: 30426-A

**Options**:
- Isolation of inlet and/or exhaust. Special bar. Consult Factory.

---

**DIMENSIONS**

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

### Series 44

#### Function

<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, 3/2 NO-NC</td>
<td>M5 - #10-32</td>
<td>0.09Cv</td>
<td>plug-in</td>
</tr>
</tbody>
</table>

#### Operational Benefits

1. 10 mm valve, direct solenoid operated.
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.
6. Flow is specifically adjusted on each valve.

#### How to Order

**44B-xxx-GxxO-xxx**

### How to Order Valve for Circuit Bar Mounting

<table>
<thead>
<tr>
<th>Port size (see base)</th>
<th>Single operator</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valve less base</td>
<td>44B-LOO-GxxO-xxx</td>
</tr>
</tbody>
</table>

#### Solenoid Operator

**G XX O- X XX**

<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 (1.0 W)</td>
<td></td>
<td>Non-locking</td>
<td>DJ</td>
<td>Plug-in</td>
</tr>
<tr>
<td>DC</td>
<td>24VDC (1.8 W)</td>
<td></td>
<td></td>
<td>DT</td>
<td>Plug-in with light</td>
</tr>
<tr>
<td>DD</td>
<td>24VDC (2.5 W)</td>
<td></td>
<td></td>
<td>DE</td>
<td>Plug-in with suppression diode</td>
</tr>
<tr>
<td>DF</td>
<td>24VDC (4.0 W)</td>
<td></td>
<td></td>
<td>DV</td>
<td>Plug-in with light and suppression diode</td>
</tr>
<tr>
<td>xx</td>
<td>Other Options</td>
<td></td>
<td></td>
<td>xx</td>
<td>Other Options</td>
</tr>
</tbody>
</table>

#### How to Order Circuit Bar

**ECD044B-00xxx-AOxx**

<table>
<thead>
<tr>
<th>Port size</th>
<th>Side cylinder ports (10.5 mm)</th>
<th>Bottom cylinder ports (10.5 mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>M5 #10-32</td>
<td>ECD044B-001AD-AOxx</td>
<td>ECD044B-002AD-AOxx</td>
</tr>
<tr>
<td></td>
<td>ECD044B-001AB-AOxx</td>
<td>ECD044B-002AB-AOxx</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).

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

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

**Orifice:** 1.8 mm

**Flow (at 6 bar, ∆P=1bar):**

- 4 W: 0.09 \(C_v\)
- 2.5 W: 0.08 \(C_v\)
- 1.8 W: 0.06 \(C_v\)
- 1.0 W: 0.05 \(C_v\)

**Leak rate:** 50 cm³/min

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

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

**Power:**

- 4 W - 2.5 W - 1.8 W - 1.0 W

**Response times:**

- Energize: 4 ms
- De-energize: 1.5 ms

**Note:**

- Valve and coil are not interchangeable.

**Spare parts:**

- Valve mounting kit: N-44001-03.
- Blanking plate: M-44003.

**Options:**

- Isolation of inlet and/or exhaust.
- BSPP Threads.

---

**DIMENSIONS**

<table>
<thead>
<tr>
<th>Number of stations</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><strong>DIN L</strong></td>
<td>20.5</td>
<td>24.9</td>
<td>20.1</td>
<td>13.0</td>
<td>16.9</td>
<td>32.3</td>
<td>19.9</td>
<td>20.5</td>
<td>24.9</td>
</tr>
<tr>
<td><strong>DIN 5</strong></td>
<td>38.6</td>
<td>33.0</td>
<td>22.5</td>
<td>17.7</td>
<td>5.0</td>
<td>26.0</td>
<td>13.8</td>
<td>24.5</td>
<td>18.5</td>
</tr>
<tr>
<td><strong>DIN 4</strong></td>
<td>40.0</td>
<td>42.0</td>
<td>31.5</td>
<td>23.0</td>
<td>18.5</td>
<td>19.9</td>
<td>20.1</td>
<td>20.5</td>
<td>24.9</td>
</tr>
<tr>
<td><strong>DIN 3</strong></td>
<td>61.2</td>
<td>61.2</td>
<td>52.0</td>
<td>38.6</td>
<td>26.0</td>
<td>13.8</td>
<td>13.0</td>
<td>16.9</td>
<td>20.5</td>
</tr>
<tr>
<td><strong>DIN 2</strong></td>
<td>90.7</td>
<td>90.7</td>
<td>71.7</td>
<td>52.0</td>
<td>38.6</td>
<td>26.0</td>
<td>13.8</td>
<td>13.0</td>
<td>16.9</td>
</tr>
<tr>
<td><strong>DIN 1</strong></td>
<td>55.5</td>
<td>55.5</td>
<td>45.5</td>
<td>31.5</td>
<td>23.0</td>
<td>18.5</td>
<td>19.9</td>
<td>20.1</td>
<td>20.5</td>
</tr>
</tbody>
</table>
Consult “Precautions” before use, installation or service of MAC Valves.

**Series 44**

Direct solenoid and solenoid pilot operated valves

**FUNCTIONS**

<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, 3/2 NO-NC</td>
<td>M5 - #10-32</td>
<td>0.08Cv</td>
<td>plug-in with F.C.</td>
</tr>
</tbody>
</table>

**OPERATIONAL BENEFITS**

1. 10 mm valve, direct solenoid operated.
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.
6. Flow is specifically adjusted on each valve.

**HOW TO ORDER**

**44B-xxx-GxxO-xxx**

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

<table>
<thead>
<tr>
<th>Port size</th>
<th>Single operator</th>
</tr>
</thead>
<tbody>
<tr>
<td>(see base)</td>
<td>44B-MOO-GxxO-xxx</td>
</tr>
</tbody>
</table>

**VOLTAGES**

<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>DC</td>
<td></td>
<td>Plug-in with light</td>
</tr>
<tr>
<td>DD</td>
<td></td>
<td>Plug-in with suppression diode</td>
</tr>
<tr>
<td>DF</td>
<td></td>
<td>Plug-in with light and suppression diode</td>
</tr>
<tr>
<td>xx</td>
<td>Other Options</td>
<td>Other Options</td>
</tr>
</tbody>
</table>

**SOLENOID OPERATOR ➤**

**HOW TO ORDER CIRCUIT BAR WITH FLOW CONTROLS**

<table>
<thead>
<tr>
<th>Port size</th>
<th>Side cylinder ports (10.5 mm)</th>
<th>Bottom cylinder ports (10.5 mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>M5 # 10-32</td>
<td>ECD044B-005AD-AOxx</td>
<td>ECD044B-005AB-AOxx</td>
</tr>
<tr>
<td></td>
<td>ECD044B-006AD-AOxx</td>
<td>ECD044B-006AB-AOxx</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).

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 44**

<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, 3/2 NO-NC</td>
<td>M5 - #10-32</td>
<td>0.08Cv</td>
<td>plug-in with Pr. Reg.</td>
</tr>
</tbody>
</table>

### Operational Benefits

1. 10 mm valve, direct solenoid operated.
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.
6. Flow is specifically adjusted on each valve.

### How to Order

**44B-xxx-GxxO-xxx**

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

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

- Valve less base
- 44B-LOO-GxxO-xxx

**Solenoid Operator**

- Voltage
  - DA: 24VDC (1.0 W)
  - DC: 24VDC (1.8 W)
  - DD: 24VDC (2.5 W)
  - DF: 24VDC (4.0 W)
  - xx: Other Options

- Manual operator
  - 1: Non-locking

- Electrical connection
  - DJ: Plug-in
  - DT: Plug-in with light
  - DE: Plug-in with suppression diode
  - DV: Plug-in with light and suppression diode
  - xx: Other Options

**How to Order Circuit Bar for Pressure Regulators** (to be ordered separately)

- Port size
  - M5
  - #10-32

- Bottom cylinder ports (10,5 mm)
  - ECD044B-00A4D-AA-xx
  - ECD044B-00A48-A0-xx

**Pressure Regulators**

- Y=A (no gage port)
- Y=B (with gage port)
- X=A (0 to 100 PSI)
- X=B (0 to 60 PSI)
- X=C (0 to 40 PSI)
- X=D (0 to 15 PSI)

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

**Technical Data**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fluid</td>
<td>Compressed air, vacuum, inert gases</td>
</tr>
<tr>
<td>Pressure range</td>
<td>Vacuum to 120 PSI</td>
</tr>
<tr>
<td>Lubrication</td>
<td>Not required, if used select a medium aniline point lubricant (between 180°F and 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>Orifice</td>
<td>1.8 mm</td>
</tr>
<tr>
<td>Flow (at 6 bar, ∆P=1bar)</td>
<td>4 W: 0.09 Cv, 2.5 W: 0.08 Cv, 1.8 W: 0.06 Cv, 1.0 W: 0.05 Cv</td>
</tr>
<tr>
<td>Coil</td>
<td>General purpose class A, continuous duty, encapsulated</td>
</tr>
<tr>
<td>Voltage range</td>
<td>-15% to +10% of nominal voltage</td>
</tr>
<tr>
<td>Power</td>
<td>4 W: 2.5 W: 1.8 W: 1.0 W</td>
</tr>
<tr>
<td>Response times</td>
<td>Energize: 4 ms</td>
</tr>
<tr>
<td></td>
<td>De-energize: 1.5 ms</td>
</tr>
</tbody>
</table>

Note:
- Valve and coil are not interchangeable.
- Pressure range regulators: (0-100 PSI).
- Spare parts:
  - Valve mounting kit: N-44001-03.
  - Blanking plate: M-44003.
  - Blanking plate regulator: N-44003.
  - Base wire Plug-in protector: 24180.
- Options:
  - Isolation of inlet and/or exhaust.
  - BSPP Threads.

**Dimensions**

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, 3/2 NO-NC</td>
<td>M5 - #10-32</td>
<td>0.07Cv</td>
<td>plug-in with Pr. Reg. and F. C.</td>
</tr>
</tbody>
</table>

### Operational Benefits
1. 10 mm valve, direct solenoid operated.
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.
6. Flow is specifically adjusted on each valve.

### How to Order

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

Port size (see base)

Valve less base

44B-xxx-GxxO-xxx

**How to Order Circuit Bar with Flow Controls and Pressure Regulators**

Port size

M5 - #10-32

Bottom cylinder ports (10.5 mm)

ECD044B-007AD-A0-xx
ECD044B-007AB-A0-xx

Number of stations (03=3 stations)

Note: Clic for valves mounted on base at the factory (add - 9 to the model number).
Clic for multi-pin connector option (9, 15 or 25).

**Pressure Regulators:**

- Y=A (no gage port)
- Y=B (with gage port)
- X-A (0 to 100 PSI)
- X-B (0 to 60 PSI)
- X-C (0 to 40 PSI)
- X-D (0 to 15 PSI)

Clic for multi-pin connector option (9, 15 or 25).
Consult "Precautions" before use, installation or service of MAC Valves.

**Dimensions**

- 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: 1.8 mm
- Flow (at 6 bar, ∆P=1bar): 4 W: 0.07 Cv, 2.5 W: 0.06 Cv, 1.8 W: 0.06 Cv, 1.0 W: 0.05 Cv

**Note:**
- Valve and coil are not interchangeable.
- Pressure range regulators: (0-100 PSI).
- Valve mounting kit: N-44001-03.
- Blanking plate: M-44003.
- Blanking plate regulator: N-44003.
- Base wire Plug-in protector: 24180.
- Isolation of inlet and/or exhaust.
- BSPP Threads.

**Options:**
- Spare parts:
- Options:

**Technical Data**

- **Coil:** General purpose class A, continuous duty, encapsulated
- **Voltage range:** -15% to +10% of nominal voltage
- **Power:** 4 W - 2.5 W - 1.8 W - 1.0 W
- **Response times:**
  - Energize: 4 ms
  - De-energize: 1.5 ms
Consult “Precautions” before use, installation or service of MAC Valves.

### Series 44

**Function** | **Part size** | **Flow (Max)** | **Circuit bar mounting**
---|---|---|---
5/2, 3/2 NO-NC | M5 - #10-32 | 0.09Cy | add-on style plug-in

### Operational Benefits
1. 10 mm valve, direct solenoid operated.
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.
6. Flow is specifically adjusted on each valve.

### How to Order

**How to order valve for Circuit Bar Mounting**

<table>
<thead>
<tr>
<th>Port size (see base)</th>
<th>Single operator</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Valve less base</td>
</tr>
<tr>
<td></td>
<td>44B-LOO-GxxO-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 (1.0 W)</td>
<td>1</td>
<td>Non-locking</td>
<td>DJ</td>
<td>Plug-in</td>
</tr>
<tr>
<td>DC</td>
<td>24VDC (1.8 W)</td>
<td></td>
<td></td>
<td>DT</td>
<td>Plug-in with light</td>
</tr>
<tr>
<td>DD</td>
<td>24VDC (2.5 W)</td>
<td></td>
<td></td>
<td>DF</td>
<td>Plug-in with suppression diode</td>
</tr>
<tr>
<td>DF</td>
<td>24VDC (4.0 W)</td>
<td></td>
<td></td>
<td>D</td>
<td>Plug-in with light and suppression diode</td>
</tr>
<tr>
<td>xx</td>
<td>Other Options</td>
<td></td>
<td></td>
<td>xx</td>
<td>Other Options</td>
</tr>
</tbody>
</table>

**How to Order Circuit Bar**

<table>
<thead>
<tr>
<th>Port size</th>
<th>Side cylinder ports (10.5 mm)</th>
<th>Bottom cylinder ports (10.5 mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>M5</td>
<td>ECD044B-001BD-AOxx</td>
<td>ECD044B-002BD-AOxx</td>
</tr>
<tr>
<td># 10-32</td>
<td>ECD044B-001BB-AOxx</td>
<td>ECD044B-002BB-AOxx</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),
clic for multi-pin connector option (9, 15 or 25),
add-a-unit stations may be added to above bars.
Consult "Precautions" before use, installation or service of MAC Valves.

### Technical Data

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fluid</strong></td>
<td>Compressed air, vacuum, inert gases</td>
</tr>
<tr>
<td><strong>Pressure range</strong></td>
<td>Vacuum to 120 PSI</td>
</tr>
<tr>
<td><strong>Lubrication</strong></td>
<td>Not required, if used select a medium aniline point lubricant (between 180°F and 210°F)</td>
</tr>
<tr>
<td><strong>Filtration</strong></td>
<td>40 µ</td>
</tr>
<tr>
<td><strong>Temperature range</strong></td>
<td>0°F to 120°F (-18°C to +50°C)</td>
</tr>
<tr>
<td><strong>Orifice</strong></td>
<td>1.8 mm</td>
</tr>
<tr>
<td><strong>Flow (at 6 bar, ΔP=1 bar)</strong></td>
<td>4 W: 0.09 Cv, 2.5 W: 0.08 Cv, 1.8 W: 0.06 Cv, 1.0 W: 0.05 Cv</td>
</tr>
<tr>
<td><strong>Coil</strong></td>
<td>General purpose class A, continuous duty, encapsulated</td>
</tr>
<tr>
<td><strong>Voltage range</strong></td>
<td>-15% to +10% of nominal voltage</td>
</tr>
<tr>
<td><strong>Power</strong></td>
<td>4 W - 2.5 W - 1.8 W - 1.0 W</td>
</tr>
<tr>
<td><strong>Response times</strong> (with 4 W coil)</td>
<td>Energize: 4 ms - De-energize: 1.5 ms</td>
</tr>
</tbody>
</table>

#### Note:
- Valve and coil are not interchangeable.
- Valve mounting kit: N-44001-03. Blanking plate: M-44003.
- Isolation of inlet and/or exhaust. BSPP Threads.

#### Options:
- Valve mounting kit: N-44001-03. Blanking plate: M-44003.
- Isolation of inlet and/or exhaust. BSPP Threads.

### Dimensions

[Diagram of dimensions]
Consult "Precautions" before use, installation or service of MAC Valves.

**Series 44**

**Direct solenoid and solenoid pilot operated valves**

<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, 3/2 NO-NC</td>
<td>M5 - #10-32</td>
<td>0.08C</td>
<td>add-on style plug-in with F.C.</td>
</tr>
</tbody>
</table>

**OPERATIONAL BENEFITS**

1. 10 mm valve, direct solenoid operated.
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.
6. Flow is specifically adjusted on each valve.

**HOW TO ORDER**

44B-xxx-GxxO-xxx

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

<table>
<thead>
<tr>
<th>Port size (see base)</th>
<th>Single operator</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Valve less base</td>
</tr>
<tr>
<td></td>
<td>44B-MOO-GxxO-xxx</td>
</tr>
</tbody>
</table>

**SOLENOID OPERATOR ➤**

<table>
<thead>
<tr>
<th>Voltage</th>
<th>Manual operator</th>
<th>Electrical connection</th>
</tr>
</thead>
<tbody>
<tr>
<td>DA 24VDC (1.0 W)</td>
<td>Non-locking</td>
<td>Plug-in</td>
</tr>
<tr>
<td>DC 24VDC (1.8 W)</td>
<td>Plug-in with light</td>
<td></td>
</tr>
<tr>
<td>DD 24VDC (2.5 W)</td>
<td>Plug-in with suppression diode</td>
<td></td>
</tr>
<tr>
<td>DF 24VDC (4.0 W)</td>
<td>Plug-in with light and suppression diode</td>
<td></td>
</tr>
<tr>
<td>xx Other Options</td>
<td>Other Options</td>
<td></td>
</tr>
</tbody>
</table>

**HOW TO ORDER CIRCUIT BAR WITH FLOW CONTROLS**

ECD044B-00xxx-AOxx

<table>
<thead>
<tr>
<th>Port size</th>
<th>Side cylinder ports (10.5 mm)</th>
<th>Bottom cylinder ports (10.5 mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>M5 #10-32</td>
<td>ECD044B-005BD-AOxx</td>
<td>ECD044B-006BD-AOxx</td>
</tr>
<tr>
<td></td>
<td>ECD044B-005BB-AOxx</td>
<td>ECD044B-006BB-AOxx</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 multi-pin connector option (9, 15 or 25).
add-a-unit stations may be added to above bars.

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

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fluid</td>
<td>Compressed air, vacuum, inert gases</td>
</tr>
<tr>
<td>Pressure range</td>
<td>Vacuum to 120 PSI</td>
</tr>
<tr>
<td>Lubrication</td>
<td>Not required, if used select a medium aniline point lubricant (between 180°F and 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>Orifice</td>
<td>1.8 mm</td>
</tr>
<tr>
<td>Flow (at 6 bar, ∆P=1bar)</td>
<td>4 W : 0.09 Cv, 2.5 W : 0.08 Cv, 1.8 W : 0.06 Cv, 1.0 W : 0.05 Cv</td>
</tr>
<tr>
<td>Coil</td>
<td>General purpose class A, continuous duty, encapsulated</td>
</tr>
<tr>
<td>Voltage range</td>
<td>-15% to +10% of nominal voltage</td>
</tr>
<tr>
<td>Power</td>
<td>4 W - 2.5 W - 1.8 W - 1.0 W</td>
</tr>
<tr>
<td>Response times (with 4 W coil)</td>
<td>Energize : 4 ms, De-energize : 1.5 ms</td>
</tr>
</tbody>
</table>

#### Notes
- Valve and coil are not interchangeable.
- Valve mounting kit : N.44001.03. Blanking plate : M.44003. Flow control needle (x2) : N.44002.
- Valve mounting kit : N.44001.03. Blanking plate : M.44003. Flow control needle (x2) : N.44002.
- Valve mounting kit : N.44001.03. Blanking plate : M.44003. Flow control needle (x2) : N.44002.
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- Valve mounting kit : N.44001.03. Blanking plate : M.44003. Flow control needle (x2) : N.44002.
- Valve mounting kit : N.44001.03. Blanking plate : M.44003. Flow control needle (x2) : N.44002.

### Dimensions

![Diagram of valve dimensions](image-url)
Consult “Precautions” before use, installation or service of MAC Valves.

### Series 44

<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, 3/2 NO-NC</td>
<td>M5 - #10-32</td>
<td>0.08 CV</td>
<td>add-on style plug-in with Pr. Reg.</td>
</tr>
</tbody>
</table>

#### Operational Benefits
1. 10 mm valve, direct solenoid operated.
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.
6. Flow is specifically adjusted on each valve.

#### How to Order

**44B-xxx-GxxO-xxx**

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

<table>
<thead>
<tr>
<th>Port size (see base)</th>
<th>Single operator</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valve less base</td>
<td>44B-LOO-GxxO-xxx</td>
</tr>
</tbody>
</table>

**Solenoid Operator**

<table>
<thead>
<tr>
<th>Voltage</th>
<th>Manual operator</th>
<th>Electrical connection</th>
</tr>
</thead>
<tbody>
<tr>
<td>DA 24VDC (1.0 W)</td>
<td>Non-locking</td>
<td>Plug-in</td>
</tr>
<tr>
<td>DC 24VDC (1.8 W)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DD 24VDC (2.5 W)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DF 24VDC (4.0 W)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>xx Other Options</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**How to Order Circuit Bar for Pressure Regulators**

**ECD044B-00xxx-AOxx**

**Port size**

| M5 | # 10-32 |

**Bottom cylinder ports (10,5 mm)**

| ECD044B-0048D-A0-xx | ECD044B-0048B-A0-xx |

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

Note:  
- clic for valves mounted on base at the factory (add - 9 to the model number).
- clic for multi-pin connector option (9, 15 or 25).
- add-a-unit stations may be added to above bars.

**Pressure Regulators:**

- Y=A (no gage port)
- Y=B (with gage port)
- X=A (0 to 100 PSI)
- X=B (0 to 60 PSI)
- X=C (0 to 40 PSI)
- X=D (0 to 15 PSI)
Consult "Precautions" before use, installation or service of MAC Valves.

### Technical Data

<table>
<thead>
<tr>
<th><strong>Fluid</strong></th>
<th>Compressed air, vacuum, inert gases</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pressure range</strong></td>
<td>Vacuum to 120 PSI</td>
</tr>
<tr>
<td><strong>Lubrication</strong></td>
<td>Not required, if used select a medium aniline point lubricant (between 180°F and 210°F)</td>
</tr>
<tr>
<td><strong>Filtration</strong></td>
<td>40 µ</td>
</tr>
<tr>
<td><strong>Temperature range</strong></td>
<td>0°F to 120°F (-18°C to +50°C)</td>
</tr>
<tr>
<td><strong>Orifice</strong></td>
<td>1.8 mm</td>
</tr>
<tr>
<td><strong>Flow (at 6 bar, ∆P=1 bar)</strong></td>
<td>4 W : 0.09 Cv, 2.5 W : 0.08 Cv, 1.8 W : 0.06 Cv, 1.0 W : 0.05 Cv</td>
</tr>
<tr>
<td><strong>Coil</strong></td>
<td>General purpose class A, continuous duty, encapsulated</td>
</tr>
<tr>
<td><strong>Voltage range</strong></td>
<td>-15% to +10% of nominal voltage</td>
</tr>
<tr>
<td><strong>Power</strong></td>
<td>4 W - 2.5 W - 1.8 W - 1.0 W</td>
</tr>
<tr>
<td><strong>Response times (with 4 W coil)</strong></td>
<td>Energize : 4 ms</td>
</tr>
<tr>
<td></td>
<td>De-energize : 1.5 ms</td>
</tr>
</tbody>
</table>

**Note:**
- Valve and coil are not interchangeable.
- Pressure range regulators : (0-100 PSI).
- Valve mounting kit : N-44001-03. • Blanking plate : M-44003. • Blanking plate regulator: N-44003.
- Base wire Plug-in protector : 24180.
- Isolation of inlet and/or exhaust. • BSPP Threads.

### Dimensions

![Diagram showing dimensions](image-url)

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

### Series 44

**Function** | **Port size** | **Flow (Max)** | **Circuit bar mounting**
--- | --- | --- | ---
5/2, 3/2 NO-NC | M5 - #10-32 | 0.07Cv | add-on style plug-in with Pr. Reg. and F. C.

### Operational Benefits
1. 10 mm valve, direct solenoid operated.
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.
6. Flow is specifically adjusted on each valve.

### HOW TO ORDER

**44B-xxx-GxxO-xxx**

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

<table>
<thead>
<tr>
<th>Port size (see base)</th>
<th>Single operator</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valve less base</td>
<td>44B-MOO-GxxO-xxx</td>
</tr>
</tbody>
</table>

**Solenoid Operator**

- **Voltage**
  - DA: 24VDC (1.0 W)
  - DC: 24VDC (1.8 W)
  - DD: 24VDC (2.5 W)
  - DF: 24VDC (4.0 W)
  - xx: Other Options

- **Manual operator**
  - Non-locking

- **Electrical connection**
  - DJ: Plug-in
  - DT: Plug-in with light
  - DF: Plug-in with suppression diode
  - DV: Plug-in with light and suppression diode
  - xx: Other Options

**ECD044B-00xxx-AOxx**

**HOW TO ORDER CIRCUIT BAR WITH FLOW CONTROLS AND PRESSURE REGULATORS** *(pressure regulators to be ordered separately)*

<table>
<thead>
<tr>
<th>Port size</th>
<th>Bottom cylinder ports (10,5 mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>M5 #10-32</td>
<td>ECD044B-007BD-A0-xx</td>
</tr>
<tr>
<td></td>
<td>ECD044B-007BB-A0-xx</td>
</tr>
</tbody>
</table>

Note: **Number of stations (03=3 stations)**
- clic for valves mounted on base at the factory (add - 9 to the model number).
- clic for multi-pin connector option (9, 15 or 25).
- add-a-unit stations may be added to above bars.

**Pressure Regulators:**
- PR44A-AOxx
  - Y-A: (no gage port)
  - Y-B: (with gage port)
  - X-A: (0 to 100 PSI)
  - X-B: (0 to 60 PSI)
  - X-C: (0 to 40 PSI)
  - X-D: (0 to 15 PSI)

Consult “Precautions” before use, installation or service of MAC Valves.
Consult “Precautions” before use, installation or service of MAC Valves.
**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>M5 - #10-32</td>
<td>0.09Cv</td>
<td>plug-in add-a-unit stations</td>
</tr>
</tbody>
</table>

### Operational Benefits
1. 10 mm valve, direct solenoid operated.
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.
6. Flow is specifically adjusted on each valve.

### How to Order

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

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

#### SOLENOID OPERATOR

- **Voltage**
  - DA 24VDC (1.0 W)
  - DC 24VDC (1.8 W)
  - DD 24VDC (2.5 W)
  - DF 24VDC (4.0 W)
  - xx Other Options

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

- **Electrical connection**
  - DJ Plug-in
  - DT Plug-in with light
  - DE Plug-in with suppression diode
  - DF Plug-in with light and suppression diode
  - xx Other Options

### How to Order Circuit Bar

#### Port size

<table>
<thead>
<tr>
<th>M5 #10-32</th>
</tr>
</thead>
</table>

#### Side cylinder ports

- ECD044B-001CD-AOxx
- ECD044B-001CB-AOxx

#### Bottom cylinder ports

- ECD044B-002CD-AOxx
- ECD044B-002CB-AOxx

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

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.

### Series 44

**Function** | **Port size** | **Flow (Max)** | **Circuit bar mounting**
---|---|---|---
5/2 | M5 - #10-32 | 0.08Cv | plug-in add-a-unit stations with F.C.

**Operational Benefits**
1. 10 mm valve, direct solenoid operated.
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.
6. Flow is specifically adjusted on each valve.

**How to Order**

**44B-xxx-GxxO-xxx**

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

<table>
<thead>
<tr>
<th>Port size (see base)</th>
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</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Valve less base</td>
</tr>
<tr>
<td></td>
<td>44B-M0O-GxxO-xxx</td>
</tr>
</tbody>
</table>

**Solenoid Operator**

<table>
<thead>
<tr>
<th>Voltage</th>
<th>Manual operator</th>
<th>Electrical connection</th>
</tr>
</thead>
<tbody>
<tr>
<td>DA 24VDC (1.0 W)</td>
<td>1 Non-locking</td>
<td>DJ Plug-in</td>
</tr>
<tr>
<td>DC 24VDC (1.8 W)</td>
<td></td>
<td>DT Plug-in with light</td>
</tr>
<tr>
<td>DD 24VDC (2.5 W)</td>
<td></td>
<td>DE Plug-in with suppression diode</td>
</tr>
<tr>
<td>DF 24VDC (4.0 W)</td>
<td></td>
<td>DF Plug-in with light and suppression diode</td>
</tr>
<tr>
<td>xx Other Options</td>
<td></td>
<td>xx Other Options</td>
</tr>
</tbody>
</table>

**How to Order Circuit Bar with Flow Controls**

<table>
<thead>
<tr>
<th>Port size</th>
<th>Side cylinder ports</th>
<th>Bottom cylinder ports</th>
</tr>
</thead>
<tbody>
<tr>
<td>M5 #10-32</td>
<td>ECD044B-005CD-AOxx</td>
<td>ECD044B-006CD-AOxx</td>
</tr>
<tr>
<td></td>
<td>ECD044B-005CB-AOxx</td>
<td>ECD044B-006CB-AOxx</td>
</tr>
</tbody>
</table>

Number of stations (03=3 stations) - 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.
**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:** 1.8 mm

**Flow (at 6 bar, ∆P=1 bar):** 4 W: 0.09 Cv, 2.5 W: 0.08 Cv, 1.8 W: 0.06 Cv, 1.0 W: 0.05 Cv

**Leak rate:** 50 cm³/min

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

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

**Power:** 4 W - 2.5 W - 1.8 W - 1.0 W

**Response times:** Energize: 4 ms  
De-energize: 1.5 ms

---

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

**Spare parts:***
- Valve mounting kit: N-44001-03.  
- Blanking plate: M-44003.  
- Flow control needle (x2): N-44002.

**Options:**
- Isolation of inlet and/or exhaust.  
- BSPP Threads.

---

**DIMENSIONS**

Consult “Precautions” before use, installation or service of MAC Valves.
Function | Port size | Flow (Max) | Circuit bar mounting
---|---|---|---
5/2 | M5 - #10-32 | 0.08C | plug-in add-a-unit stations with Pr. Reg.

**OPERATIONAL BENEFITS**
1. 10 mm valve, direct solenoid operated.
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.
6. Flow is specifically adjusted on each valve.

**HOW TO ORDER**

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

<table>
<thead>
<tr>
<th>Port size (see base)</th>
<th>Single operator</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valve less base</td>
<td>44B-LOO-GxxO-xxx</td>
</tr>
</tbody>
</table>

**SOLENOID OPERATOR**

<table>
<thead>
<tr>
<th>Voltage</th>
<th>Manual operator</th>
<th>Electrical connection</th>
</tr>
</thead>
<tbody>
<tr>
<td>DA 24VDC [1.0 W]</td>
<td>Non-locking</td>
<td>DJ Plug-in</td>
</tr>
<tr>
<td>DC 24VDC [1.8 W]</td>
<td></td>
<td>DT Plug-in with light</td>
</tr>
<tr>
<td>DD 24VDC [2.5 W]</td>
<td></td>
<td>DE Plug-in with suppression diode</td>
</tr>
<tr>
<td>DF 24VDC [4.0 W]</td>
<td></td>
<td>DV Plug-in with light and suppression diode</td>
</tr>
<tr>
<td>xx Other Options</td>
<td></td>
<td>xx Other Options</td>
</tr>
</tbody>
</table>

**HOW TO ORDER CIRCUIT BAR FOR PRESSURE REGULATORS** *(to be ordered separately)*

<table>
<thead>
<tr>
<th>Part size</th>
<th>Bottom cylinder ports (10.5 mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>M5 - #10-32</td>
<td>ECD044B-004CD-AOxx</td>
</tr>
</tbody>
</table>

Number of stations (03=3 stations) - 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 multipin connector, MOD. SD03 should be included with add-a-unit 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:** 1.8 mm

**Flow (at 6 bar, ∆P=1 bar):**

<table>
<thead>
<tr>
<th>Power</th>
<th>Flow (4 W coil)</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 W</td>
<td>0.09 Cv</td>
</tr>
<tr>
<td>2.5 W</td>
<td>0.08 Cv</td>
</tr>
<tr>
<td>1.8 W</td>
<td>0.06 Cv</td>
</tr>
<tr>
<td>1.0 W</td>
<td>0.05 Cv</td>
</tr>
</tbody>
</table>

**Leak rate:** 50 cm³/min

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

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

**Power:** 4 W - 2.5 W - 1.8 W - 1.0 W

**Response times:**

- Energize: 4 ms
- De-energize: 1.5 ms

**Note:**

- Valve and coil are not interchangeable.
- Pressure range regulators: (0-100 PSI).
- Valve mounting kit: N-44001-03. • Blanking plate: M-44003. • Blanking plate regulator: N-44003.
- Base wire Plug-in protector: 24180.
- Isolation of inlet and/or exhaust. • BSPP Threads.

### DIMENSIONS

[Diagram and measurements are not transcribed due to the nature of the task.]
Consult “Precautions” before use, installation or service of MAC Valves.

### Series 44

**OPERATIONAL BENEFITS**

1. 10 mm valve, direct solenoid operated.
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.
6. Flow is specifically adjusted on each valve.

**OPERATIONAL BENEFITS**

**HOW TO ORDER**

**44B-xxxx-GxxO-xxx**

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

<table>
<thead>
<tr>
<th>Port size (see base)</th>
<th>Single operator</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valve less base</td>
<td>44B-MOO-GxxO-xxx</td>
</tr>
</tbody>
</table>

**SOLENOID OPERATOR**

**HOW TO ORDER CIRCUIT BAR WITH FLOW CONTROLS AND PRESSURE REGULATORS**

<table>
<thead>
<tr>
<th>Port size</th>
<th>Bottom cylinder ports (10.5 mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>M5</td>
<td>ECD044B-007CD-AOxx</td>
</tr>
<tr>
<td>#10-32</td>
<td>ECD044B-007CB-AOxx</td>
</tr>
</tbody>
</table>
Consult "Precautions" before use, installation or service of MAC Valves.

### Technical Data

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fluid</td>
<td>Compressed air, vacuum, inert gases</td>
</tr>
<tr>
<td>Pressure range</td>
<td>Vacuum to 120 PSI</td>
</tr>
<tr>
<td>Lubrication</td>
<td>Not required, if used select a medium aniline point lubricant (between 180°F and 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>Orifice</td>
<td>1.8 mm</td>
</tr>
<tr>
<td>Flow (at 6 bar, ΔP=1 bar)</td>
<td>4 W: 0.07 Cv, 2.5 W: 0.06 Cv, 1.8 W: 0.06 Cv, 1.0 W: 0.05 Cv</td>
</tr>
<tr>
<td>Coil</td>
<td>General purpose class A, continuous duty, encapsulated</td>
</tr>
<tr>
<td>Voltage range</td>
<td>-15% to +10% of nominal voltage</td>
</tr>
<tr>
<td>Power</td>
<td>4 W - 2.5 W - 1.8 W - 1.0 W</td>
</tr>
<tr>
<td>Response times</td>
<td>Energize: 4 ms De-energize: 1.5 ms</td>
</tr>
</tbody>
</table>

**Note:**
- Valve and coil are not interchangeable.
- Pressure range regulators: (0-100 PSI).
- Base wire Plug-in protector: 24180.
- Isolation of inlet and/or exhaust. BSPP Threads.

### Dimensions

![Dimension Diagram]

Consult "Precautions" before use, installation or service of MAC Valves.
**Series 44**

**Function** | **Port size** | **Flow (Max)** | **Circuit bar mounting**
---|---|---|---
5/2, 3/2 NO-NC | M5 - #10-32, 4 mm tube receptacle | 0.10Cv | plug-in with pre-wired connector

**Operational Benefits**
1. 10 mm valve, direct solenoid operated.
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.
6. Flow is specifically adjusted on each valve.

**How to Order**

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

<table>
<thead>
<tr>
<th>Port size (see base)</th>
<th>Single operator</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valve less base</td>
<td>44B-1OO-GxxO-XXX</td>
</tr>
</tbody>
</table>

**Solenoid Operator**

<table>
<thead>
<tr>
<th>XX</th>
<th>Voltage</th>
</tr>
</thead>
<tbody>
<tr>
<td>DA</td>
<td>24VDC (1.0 W)</td>
</tr>
<tr>
<td>DC</td>
<td>24VDC (1.8 W)</td>
</tr>
<tr>
<td>DD</td>
<td>24VDC (2.5 W)</td>
</tr>
<tr>
<td>DF</td>
<td>24VDC (4.0 W)</td>
</tr>
<tr>
<td>Other Options</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>X</th>
<th>Manual operator</th>
</tr>
</thead>
<tbody>
<tr>
<td>O</td>
<td>Non-locking</td>
</tr>
<tr>
<td>Other Options</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>XX</th>
<th>Electrical connection</th>
</tr>
</thead>
<tbody>
<tr>
<td>DJ</td>
<td>Plug-in</td>
</tr>
<tr>
<td>DT</td>
<td>Plug-in with light</td>
</tr>
<tr>
<td>DE</td>
<td>Plug-in with suppression diode</td>
</tr>
<tr>
<td>DV</td>
<td>Plug-in with light and suppression diode</td>
</tr>
<tr>
<td>Other Options</td>
<td></td>
</tr>
</tbody>
</table>

**How to Order Circuit Bar**

<table>
<thead>
<tr>
<th>Port size</th>
<th>Side cylinder ports (10.5 mm)</th>
<th>Bottom cylinder ports (10.5 mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>M5</td>
<td>ECF44B-008DA-XX</td>
<td>ECF44B-00CDX-XX</td>
</tr>
<tr>
<td>#10-32</td>
<td>ECF44B-008BA-XX</td>
<td>ECF44B-00CBX-XX</td>
</tr>
<tr>
<td>4 mm tube receptacle</td>
<td>ECF44B-00BEA-XX</td>
<td>ECF44B-00CBAX-XX</td>
</tr>
</tbody>
</table>

---

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

1. 10 mm valve, direct solenoid operated.
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.
6. Flow is specifically adjusted on each valve.

### HOW TO ORDER

**44B-xxx-GxxO-xxx**

### HOW TO ORDER VALVE FOR CIRCUIT BAR MOUNTING

<table>
<thead>
<tr>
<th>Port size (see base)</th>
<th>Single operator</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valve less base</td>
<td>44B-MOO-GxxO-xxx</td>
</tr>
</tbody>
</table>

### SOLENOID OPERATOR

- **XX** Voltage
  - DA 24VDC (1.0 W)
  - DC 24VDC (1.8 W)
  - DD 24VDC (2.5 W)
  - DF 24VDC (4.0 W)
  - xx Other Options

- **X** Manual operator
  - Non-locking

- **XX** Electrical connection
  - DJ Plug-in
  - DT Plug-in with light
  - DE Plug-in with suppression diode
  - DV Plug-in with light and suppression diode
  - xx Other Options

### HOW TO ORDER CIRCUIT BAR WITH FLOW CONTROLS

**ECF44B-00xxx-xxxx**

<table>
<thead>
<tr>
<th>Port size</th>
<th>Bottom cylinder ports (10.5 mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>M5</td>
<td>ECF44B-00EDA-xxxx</td>
</tr>
<tr>
<td># 10-32</td>
<td>ECF44B-00EBA-xxxx</td>
</tr>
</tbody>
</table>

**Note:**
- Left and right end is determined by facing conduit passage.
- Consult "Precautions" before use, installation or service of MAC Valves.
**Technical Data**

<table>
<thead>
<tr>
<th>Fluid</th>
<th>Compressed air, vacuum, inert gases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pressure range</td>
<td>Vacuum to 120 PSI</td>
</tr>
<tr>
<td>Lubrication</td>
<td>Not required, if used select a medium aniline point lubricant (between 180°F and 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>Orifice</td>
<td>1.8 mm</td>
</tr>
<tr>
<td>Flow (at 6 bar, ∆P=1bar)</td>
<td>- 4 W : 0.09 C_v 2.5 W : 0.08 C_v 1.8 W : 0.06 C_v 1.0 W : 0.05 C_v -</td>
</tr>
<tr>
<td>Voltage range</td>
<td>General purpose class A, continuous duty, encapsulated</td>
</tr>
<tr>
<td>Power</td>
<td>4 W - 2.5 W - 1.8 W - 1.0 W</td>
</tr>
<tr>
<td>Response times</td>
<td>Energize : 4 ms De-energize : 1.5 ms</td>
</tr>
</tbody>
</table>

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

**Spare parts:**
- Valve mounting kit: N-44001.03
- Blanking plate: M-44003
- Flow control needle (x2): N-44002
- Base wire Plug-in protector: 24180

**Options:**
- Isolation of inlet and/or exhaust
- BSPP threads

**Dimensions**

[Diagram of valve dimensions]

Consult "Precautions" before use, installation or service of MAC Valves.
**Series 44**

**Function**

<table>
<thead>
<tr>
<th>Port size</th>
<th>Flow (Max)</th>
<th>Circuit bar mounting</th>
</tr>
</thead>
<tbody>
<tr>
<td>5/2, 3/2 NO-NC</td>
<td>M5 - #10-32</td>
<td>0.09Cy</td>
</tr>
</tbody>
</table>

**Operational Benefits**

1. 10 mm valve, direct solenoid operated.
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.
6. Flow is specifically adjusted on each valve.

**How to Order**

44B-xxx-GxxO-xxx

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

<table>
<thead>
<tr>
<th>Port size (see base)</th>
<th>Single operator</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Valve less base</td>
</tr>
<tr>
<td></td>
<td>44B-LOO-GxxO-xxx</td>
</tr>
</tbody>
</table>

**Solenoid Operator**

- Voltage: 24VDC (1.0 W), 24VDC (1.8 W), 24VDC (2.5 W), 24VDC (4.0 W), Other Options
- Manual operator: Non-locking
- Electrical connection: Plug-in, Plug-in with light, Plug-in with suppression diode, Plug-in with light and suppression diode, Other Options

**How to Order Circuit Bar for Pressure Regulators**

<table>
<thead>
<tr>
<th>Port size</th>
<th>Bottom cylinder ports (10.5 mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>M5</td>
<td>ECF44B-00xxx-xxxx</td>
</tr>
</tbody>
</table>

**How to Order**

- Pressure Regulators: PR44A-AOxx
  - Y=A (no gage port)
  - Y=B (with gage port)
  - X=A (0 to 100 PSI)
  - X=B (0 to 60 PSI)
  - X=C (0 to 40 PSI)
  - X=D (0 to 15 PSI)

**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:** 1.8 mm  
**Flow (at 6 bar, ∆P=1 bar):**  
- 4 W: 0.09 Cv  
- 2.5 W: 0.08 Cv  
- 1.8 W: 0.06 Cv  
- 1.0 W: 0.05 Cv  
**Leak rate:** 50 cm³/min  
**Coil:** General purpose class A, continuous duty, encapsulated  
**Voltage range:** -15% to +10% of nominal voltage  
**Power:** 4 W - 2.5 W - 1.8 W - 1.0 W  
**Response times:**  
- Energize: 4 ms  
- De-energize: 1.5 ms

**Note:**  
- Valve and coil are not interchangeable.  
- Pressure range regulator (0-100 PSI)  
- Spare parts:  
  - Valve mounting kit: N-44001-03  
  - Blanking plate: M-44003  
  - Blanking plate regulator: N-44003  
- Base wire Plug-in protector: 24180  
- Isolation of inlet and/or exhaust.  
- BSPP threads  

### Dimensions

![Diagram](image_url)
### Operational Benefits

1. 10 mm valve, direct solenoid operated.
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.
6. Flow is specifically adjusted on each valve.

### How to Order

**44B-xxx-GxxO-xxx**

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

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

**Solenoid Operator**

- **Voltage**
  - DA: 24VDC (1.0 W)
  - DD: 24VDC (2.5 W)
  - DF: 24VDC (4.0 W)
  - Other Options

- **Manual operator**
  - Non-locking

- **Electrical connection**
  - DJ: Plug-in
  - DT: Plug-in with light
  - DE: Plug-in with suppression diode
  - DV: Plug-in with light and suppression diode
  - Other Options

**How to Order Circuit Bar**

<table>
<thead>
<tr>
<th>Port size</th>
<th>Side cylinder ports (10.5 mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>M5</td>
<td>ECF44B-00BD8-xxxx</td>
</tr>
<tr>
<td># 10-32</td>
<td>ECF44B-00BB8-xxxx</td>
</tr>
<tr>
<td>4 mm tube receptacle</td>
<td>ECF44B-00BB8-xxxx</td>
</tr>
</tbody>
</table>

**Note:** Left and right end is determined by facing conduit passage.

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

<table>
<thead>
<tr>
<th>VALVE CODE</th>
<th>-GXX X - XX</th>
<th>1 2 3 4</th>
</tr>
</thead>
</table>

**OPTIONS AVAILABLE FOR**

- solenoid valves 34 & 44 Series

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

### 1. VOLTAGE (type 34 Series)

<table>
<thead>
<tr>
<th>-G XX X - X XX</th>
<th>VOLTAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>DC</td>
<td>24 VDC (1.8 W)</td>
</tr>
<tr>
<td>DD</td>
<td>24 VDC (2.5 W)</td>
</tr>
<tr>
<td>DE</td>
<td>24 VDC (3.0 W)</td>
</tr>
<tr>
<td>DF</td>
<td>24 VDC (4.0 W)</td>
</tr>
<tr>
<td>DJ</td>
<td>12 VDC (1.8 W)</td>
</tr>
<tr>
<td>DK</td>
<td>12 VDC (2.5 W)</td>
</tr>
<tr>
<td>DM</td>
<td>12 VDC (3.0 W)</td>
</tr>
<tr>
<td>DN</td>
<td>12 VDC (4.0 W)</td>
</tr>
</tbody>
</table>

### 1. VOLTAGE (type 44 Series)

<table>
<thead>
<tr>
<th>-G XX X - X XX</th>
<th>VOLTAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>DA</td>
<td>24 VDC (1.0 W)</td>
</tr>
<tr>
<td>DC</td>
<td>24 VDC (1.8 W)</td>
</tr>
<tr>
<td>DD</td>
<td>24 VDC (2.5 W)</td>
</tr>
<tr>
<td>DF</td>
<td>24 VDC (4.0 W)</td>
</tr>
<tr>
<td>DG</td>
<td>12 VDC (1.0 W)</td>
</tr>
<tr>
<td>DJ</td>
<td>12 VDC (1.8 W)</td>
</tr>
<tr>
<td>DK</td>
<td>12 VDC (2.5 W)</td>
</tr>
<tr>
<td>DN</td>
<td>12 VDC (4.0 W)</td>
</tr>
</tbody>
</table>

### 2. WIRE LENGTH (Common options for 34 & 44 Series)

<table>
<thead>
<tr>
<th>-G XX X - X XX</th>
<th>WIRE LENGTH</th>
</tr>
</thead>
<tbody>
<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>
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<tr>
<td>F</td>
<td>96&quot;</td>
</tr>
<tr>
<td>G</td>
<td>120&quot;</td>
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<td>144&quot;</td>
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### 3. MANUAL OPERATOR (COMMON OPTIONS FOR 34 & 44 SERIES)

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<th>-G XX X - X XX</th>
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<td>3</td>
<td>Non-locking extended</td>
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### 4. ELECTRICAL CONNECTION (COMMON OPTIONS FOR 34 & 44 SERIES)

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<table>
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<tr>
<th>-G XX X - X XX</th>
<th>PLUG-IN CONNECTOR</th>
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</thead>
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<tr>
<td>🔄</td>
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<td>KF</td>
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<td>KJ</td>
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</table>

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

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**

**SD09**

<table>
<thead>
<tr>
<th>SOL 1</th>
<th>SOL 2</th>
<th>SOL 3</th>
<th>SOL 4</th>
<th>SOL 5</th>
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<th>SOL 7</th>
<th>SOL 8</th>
<th>SOL 9</th>
<th>SOL 10</th>
<th>SOL 11</th>
<th>SOL 12</th>
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**SD15**

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**SD25**

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**OPTIONS**
The precautions below are important to be read and understood before 
departing into which any MAC valve, and before installing, or servicing any MAC 
valve. Improper use, installation or servicing of any MAC valve in some systems could 
create a hazard to personnel or equipment.

APPLICATION PRECAUTIONS:

INDUSTRIAL USE -

MAC valves are intended for use in industrial pneumatic and/or vacuum systems. They 
are not intended for consumer use or service. They are general purpose industrial valves 
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 valves 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 retained in the system 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 
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, air supplied to the inlet port(s) will pass 
through the valve to one of the outlets as 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 no air in either outlet 
port would present a hazard in the application or servicing, this type valve should not 
be used.

C. PRESSURE CENTER -

With this type valve, when in the center position, the inlet port(s) is connected to both 
outlet ports 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.

OPERATING SPECIFICATIONS -

MAC valves are to be installed only on applications that meet all operating 
 specifications described in the MAC catalog for the valve.

MANUAL OPERATORS -

Most MAC valves can be ordered with manual operators. Manual operators when 
depressed, are designed to shift the valve to the same position as would the 
corresponding solenoid or remote air pilot operator if it were activated. Care must be 
taken to order a type, if any, that will be safe for the physical location of the manual 
operator in the system. Accidental activation of a manual operator could create a 
dangerous situation. If intentional or accidental operation of a valve by a manual 
operator could create a dangerous situation then the "no operator" option should be 
used.

REMOTE AIR OPERATED VALVES

Pilot valves supplying signal pressure to remote air operated valves should be 3-way 
valves with adequate supply and exhaust capacity to provide positive pressurizing and 
exhausting of the pilot supply line. Pilot lines should be open to exhaust when valves 
are deenergized.

INSTALLATION AND SERVICE PRECAUTIONS -

A. Do not install or service MAC valves without first making sure both the air and 
electrical power to the machine are off and that all air has been completely bled 
from the system.

B. MAC valves should only be installed and/or serviced by qualified, knowledgeable 
personnel who understand how the specific valve is to be pneumatically piped and 
electrically connected (where applicable). Flow paths through the valve are shown 
in the catalog and on the valve by use of ANSI or ISO type standard and graphic 
symbols. Do not install unless these symbols and the valve functions and operations 
are thoroughly understood.

C. Before service, maintenance, repair or cleaning, consult local distributor or factory 
for Parts & Operation Sheet and information on proper cleaning and lubrication 
agents. Do not subject MAC valves' parts to any foreign substance including 
lubricants and cleaning agents not specifically recommended by MAC valves, Inc.

D. MAC valves are never to be stepped on while working on a machine. Damage to 
the valve, or lines to the valve (either air or electrical lines) or accidental activating 
of a manual operator on the valve could result in a dangerous condition.

WARNING:

Under no circumstances are MAC valves to be used in any application where failure of 
the valve to operate as intended could jeopardize the safety of the operator or any 
other person.

- Do not operate outside of pressure range listed on valve label or outside of 
designated temperature range.

- Air supply must be clean. Contamination of valve can affect proper operation.

- Before attempting to repair, adjust or clean valve, 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 valve.

- If airline lubrication is used, consult catalog, parts & operation sheet, or factory for 
recommending lubricants.

LIMITATION OF GUARANTEE:

This Guarantee is limited to the replacement or rebuilding of any valve which should 
fail to operate properly. Valves, under the MAC Guarantee, must be returned (with or 
without bases) transportation prepaid and received at our factory within the Guarantee 
period. They will be returned to the customer at the expense of MAC Valves, Inc., and 
will carry the same guarantee as provided under the Flat Rate Rebuild Program.

DISCLAIMER OF GUARANTEE:

No claims for labor, material, time, damage, or transportation are allowable nor will 
any valve be replaced or rebuilt under this guarantee which has been damaged by the 
purchaser not in the normal course of its use and maintenance during the warranty 
period. The guarantee does not apply to loss or damage caused by fire, theft, riot, 
exploration, labor dispute, act of God, or other causes beyond the control of MAC 
Valves, Inc. MAC Valves, Inc. shall in no event be liable for remote, special or 
consequential damages under the MAC Guarantee, nor under any implied warranties, 
including the implied warranty of merchantability.

The above Guarantee is our manner of extending the engineering and service 
resources of the MAC Valves, Inc. organization to assure our customer long, and 
continued satisfaction.