PRODUCT DESCRIPTION

DESCRIPTION  A variety of normally open, non-compensating relay valves are available in the WM147 series. Control pressure is used to close these normally open valves; the required control pressure signal differs with each model in the WM147 series. The normally open WM147 relays are available either as two-way valves without an exhaust mode, or as three-way valves if the exhaust mode is desired. The WM147 series relays are noted for their compact size.

OPERATION  Pilot control pressure is required to close the normally open WM147 relay valves. When a sufficient control pressure is applied, a diaphragm in the valve extends. The poppet seats and blocks the flow of air from the supply port to the outlet port. If the valve is a three-way model, it will release air at the outlet port through four exhaust vents. When the pilot control pressure decays below the required level, the valve returns to the normally open position.

APPLICATION  The normally open WM147 relays are installed in control circuits that can provide sufficient control pressures for closing the valves. These relay valves are used in industrial and vehicular applications that require a normally open relay with average flow capacity. The three-way models are frequently used as reversing relays for two-speed axles. As shown in the installation schematic below, the three-way models are also used with a two-position control valve in applications where a four-way function is desired. The normally open, two-way relays are often installed as circuit controls for driveline retarders.

TYPICAL INSTALLATION

EXTERNAL CONFIGURATION

FUNCTIONAL DIAGRAM
SPECIFICATIONS

PORT SIZES: Inlet & Outlet ......................... 1/4-18 NPTF
Control ........................................... 1/8-27 NPTF
Exhaust (WM147 F & P) .......................... Unthreaded

MAXIMUM OPERATING PRESSURE ............. 150 PSI (1034.2 kPa)
OPERATING TEMPERATURE* .................. -20°F to 200°F (-28.9°C to 93.3°C)
FLOW RATING ......................... 35 SCFM @ 100 PSI (1.0 m³/min @ 690 kPa)
MOUNTING ................................... Integral Bracket on Cover and Two 1/4" Fasteners
MOUNTING ATTITUDE ......................... Optional
MATERIALS: Body Castings ..................... Die Cast Zinc Alloy
Stem ......................................... Aluminum
Diaphragm .................................. Fabric-Reinforced Buna N
Poppet ...................................... Buna N with Aluminum Backing
O-Rings ...................................... Buna N

NET WEIGHT .................................. 15 oz. (0.4 kg)

*For continuous operation beyond this range, contact factory.

TO ORDER, SPECIFY

**WM147**

Model Number [Suffix]

PART NUMBER

SELECT SUFFIX & PART NUMBER BELOW

<table>
<thead>
<tr>
<th>SUFFIX</th>
<th>PART NUMBER</th>
<th>DESCRIPTION</th>
<th>CONTROL PRESSURE TO CLOSE</th>
<th>CONTROL PRESSURE TO REOPEN</th>
</tr>
</thead>
<tbody>
<tr>
<td>WM147 F</td>
<td>111531</td>
<td>Normally Open, Three-way</td>
<td>30-50 PSI (207-345 kPa)</td>
<td>15-30 PSI (103-207 kPa)</td>
</tr>
<tr>
<td>WM147 J</td>
<td>111538</td>
<td>Normally Open, Two-way</td>
<td>30-40 PSI (207-276 kPa)</td>
<td>15-30 PSI (103-207 kPa)</td>
</tr>
<tr>
<td>WM147 P</td>
<td>111542</td>
<td>Normally Open, Three-way</td>
<td>10-30 PSI (69-207 kPa)</td>
<td>5-10 PSI (35-69 kPa)</td>
</tr>
</tbody>
</table>

* Asterisk designates parts included in repair kit 114154, 114160, or 114161.