



**ME840-24  
INSTRUCTION MANUAL  
FOR: ME840-24 BYPASS VALVE ASSEMBLIES**



**WARNING**

Failure to follow these instructions or to properly install and maintain this equipment could result in an explosion, and/or fire causing property damage and personal injury or death.

MEC equipment must be installed, operated, and maintained in accordance with federal, state, and local codes and MEC instructions. The installation in most states must also comply with NFPA. 58 or ANSI standard K61.1.

Only personnel trained in the proper procedures, codes, standards, and regulations of the LP-gas or Anhydrous Ammonia industries should install and service this equipment.

**Introduction**

**Scope of Manual**

This manual covers instructions for the ME840-24 Series Differential Bypass Valves

**Description**

These valves are designed for use with propane, butane, and anhydrous ammonia at ambient temperatures. The valves can be used on other compressed gases, but the user should check with the factory to make sure the valve is suitable for the particular service.

A ¼ NPT tapped and plugged boss on the inlet and outlet side of the body can be used to install a hydrostatic relief valve or a pressure gauge.

The ME 840-24 has internal sensing orifices so that no external sensing line is required.

**ME840-24 Bypass Valve**

This valve is designed for bypass applications on 2 through 4-inch size pumps. The throttling action of the valves allows only surplus pump discharge to be returned to the tank.

**Specifications**

Maximum working pressure: 400 psi (27,5 bar)  
Temperature Range: -40 to 140°F (-29 to 60°C).

**Installation**

**CAUTION**

**Make sure the flow is in the same direction as the arrow cast into the valve body.**

**Marshall Excelsior Company**

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## Maintenance

### CAUTION

Piping to the valve should be kept as short as possible with a minimum number of pipe fittings. Remove any pipe scale or foreign material from the piping before installing the valves.

The valves can be installed in any position. Make certain that flow is in the same direction as the arrow cast on the body.

Use an appropriate pipe compound on the male pipeline threads. Pull the valve onto the pipe until hand tight and then wrench tighten it for approximately two additional turns. Larger size valves may require an additional amount of torque to obtain a leak free connection.

After installation, pressurize the piping and use a leak detect solution, such as Marshall Excelsior "Low Temperature Leak Detector", on all joints to check for leakage. If leakage is found retighten fittings until leaking stops.

Valve outlet piping should be connected to the tank vapor space. An external sensing line is not required for these valves.

### Principle of Operation

#### 3" Bypass Valves

Tank pressure registers through an orifice onto the spring case side of the inner valve. When pump pressure exceeds the tank pressure by the differential set point of the bypass valve, the inner valve lifts off the seat allowing flow through the valve back into the tank.

**Due to normal wear or damage that may occur from external sources, MEC equipment must be inspected and maintained periodically. The frequency of inspection and replacement of equipment depends upon the severity of the service conditions or the requirements of local, state, federal regulations and MEC instructions.**

**Do not use these valves if they leak, fail to work properly, have missing parts or have been damaged. A properly trained serviceman should make prompt repairs or replace the valve. Continued use without repair can create a hazardous or injurious situation.**

**Use only replacement parts from MEC.**

Periodically inspect and verify the differential set point of the valves.

### Adjustment

Each unit is factory set to a specified bypass pressure. Settings can be adjusted within the ranges specified. Remove the closing cap and turn the adjusting screw clockwise to increase the differential setting or counterclockwise to decrease the setting.

Use a pressure gauge on the outlet of the valve to monitor the change in the differential pressure setting.

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