



# ME226 AND ME227 POWERTORQ SERIES ACTUATOR INSTRUCTION MANUAL

## !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.

Install, operate and maintain Marshall Excelsior Co. equipment in accordance with federal, state, and local codes and these instructions. The installation in most states must also comply with NFPA No. 58, and ANSI/CGA G-2.1.

For installation in the European Union, the equipment must also comply with PED/TPED and EN ISO standards. Periodic inspections, intermediate inspections and exceptional checks of transportable pressure equipment should be carried out in accordance with the Annexes of Directive 2008/68/EC and with 2010/35/EU Directive (TPED) to ensure continued compliance with their safety requirements.

Only personnel trained in the proper procedures, codes, standards and regulations of the LP-Gas Industry should install, maintain and service this equipment.

Be sure all instructions are read and understood before installation, operation and maintenance. These instructions must be passed along to the end user of the product.



**WARNING:** These products contain a chemical known to the state of California to cause cancer and birth defects or reproductive harm

## Introduction

### Scope of the Manual

This manual covers instructions for the types ME226 & ME227 Pneumatic Actuator kits. These kits allow for remote operation of MEC (Fisher®) internal valves.

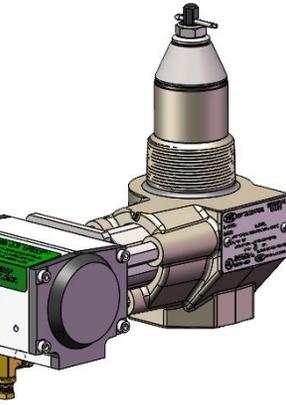
### Description

Marshall Excelsior Co. Pneumatic Actuator kits fit MEC™ (Fisher®) 2 & 3-inch NPT and 3-inch double flange internal valves to allow for remote valve operation utilizing air pressure. Applying air pressure to the actuator moves the drive coupling and the internal valve's operating lever to open the valve. Upon loss of air pressure, the valve's operating lever immediately returns to the closed position.

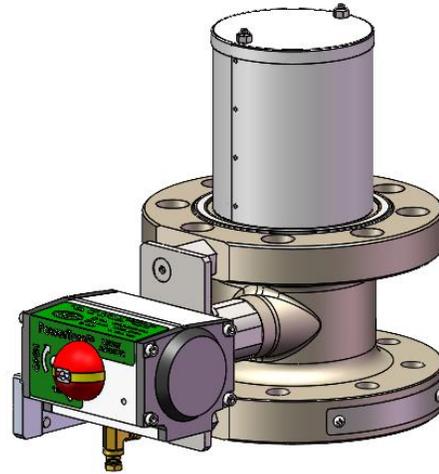
**ME226** – For ME990-16, ME990-24 and ME990-3F-24 (Fisher® type C402, C421, C427, C471 and C477) valves (2 and 3 inch series)  
**ME227** – For ME990-3DF & ME990-3DFM (Fisher® type C403-24 and C483-24) double flanged valves

These kits feature a spring return design that eliminates the need for an air return.

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ME990AR-16



ME990SAR-3DF

### Specifications

**Pressure Source:** Air  
**Pressure Limits:** Minimum – 20 psig / 138 kPa  
Maximum – 125 psig / 861 kPa  
Recommended – 40-60 psig / 276-414 kPa  
**Temperature Limits:** -60°F to 250°F / -51°C to 121°C  
**Return Mechanism:** Spring only – no air

### Installation

## !CAUTION!

**Do not manually stroke the actuator. Only operate through the use of Air/Gas pressure.**

**The use of a pressure reducing regulator to supply the minimum cylinder operating pressure (40-60 psig / 276-414 kPa) to the actuator will maximize cylinder and valve life and minimize air consumption.**

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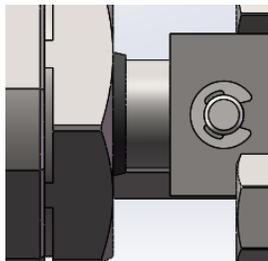
## ME226 AND ME227

1. To install an actuator kit, first remove any existing operating lever from the internal valve shaft.

### !WARNING!

**For Fisher® Valves ONLY: Release all downstream pressure before removing the two screws holding the cover plate to the internal valve body. 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.**

2. When installing the actuator, first install the drive coupling [1] over the internal valve shaft with the coupling cross hole toward the valve. Align the drive with the internal valve shaft and pin in place with the lock pin [2]. Install E-clip [3] into the opposite side of the lock pin [2] to retain it.



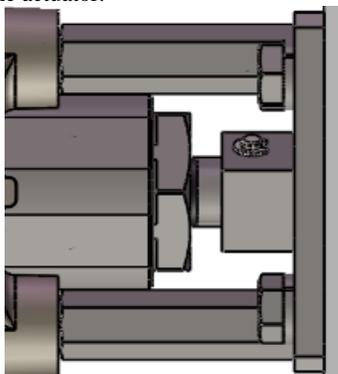
**For Fisher® Valves ONLY:** Remove the screws holding the cover plate to the internal valve body, discard the screws and retain the cover plate. Ensure that the internal valve packing rings remain in position during disassembly and reassembly. With the cover plate in position, install stand-offs [4] through cover plate and hand tighten.

3. Install the stand-offs [4] and hand tighten. Position actuator mounting plate [5] over stand-offs with counter-sunk holes facing out. Install mounting screws [6] through mounting plate [5] and hand tighten to stand-offs [4]. Wrench tighten stand-offs [4] to internal valve then wrench tighten mounting plate [5] to the stand-offs [4].

**For Fisher® Valves ONLY:** Ensure even gap between cover plate and internal valve packing.

4. Rotate drive coupling [1] clockwise by hand until it stops.
5. Position actuator with air inlet connection facing away from container and install over drive coupling. Rotate drive coupling [1] counterclockwise up to 1/8 turn (45°), until it engages with the 8-point female input coupling of the actuator. Install mounting bolts [7] with lock washers [8] through mounting plate [5] and wrench tighten to actuator.

**Note:** The inlet tee connection is factory installed and includes a thermal safety plug which is required by code. This must remain installed to the actuator.



6. Connect the actuator pressure line tubing to the inlet port. After installing the unit, operate the actuator with pressure to confirm it smoothly opens and closes the internal valve without sticking or jamming. Confirm actuator opens the valve a full 90 degrees by watching the indicator lines.

**Note:** Indicator is rounded to prevent manual operation of actuator.

## Maintenance

A simple preventive maintenance program for the valve and its controls will eliminate many potential problems. Marshall Excelsior Co. recommends these steps be conducted at least once a month:

1. Confirm the actuator fully opens and closes the internal valve without sticking. Keep the actuator's drive coupling free of any build-up of mud, corrosion, or other foreign material. Such a build-up could prevent the actuator from closing which could jam the internal valve in the open position. Do not permit this condition to occur.
2. Because the actuator has a sealed housing, internal lubrication is not required. Periodically lubricate the operating coupling joint.
3. Regularly inspect, clean and oil all operating controls.

## Component List

1. Drive Coupling
2. Lock Pin
3. E-clip
4. Stand-offs, ME226 Qty: 3, ME227 Qty: 2
5. Mounting Plate
6. Mounting Screws, ME226 Qty: 3, ME227 Qty: 2
7. Mounting Bolts, Qty: 4
8. Lock Washers, Qty: 4

