

!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 #58, ANSI K61.1 and DOT standards.

Proper installation of remote actuation devices should include thermal protection to close the internal valve in case of a fire. This pneumatic actuator includes thermal protection.

Only personnel trained in the proper procedures, codes, standards, and regulations of the LP Gas or anhydrous ammonia (NH3) industries should install and service this equipment.

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.

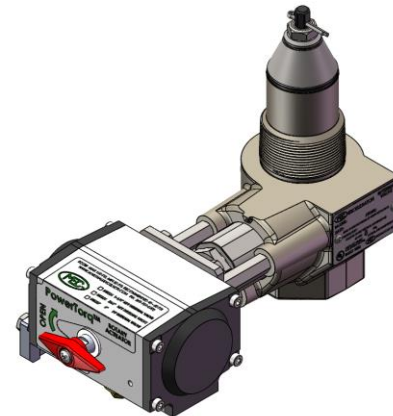
ME226 – For ME990-16, ME990-24 and ME990-3F-24 (Fisher® type C402, C421, C427, C471 and C477) valves (2 and 3 inch series)

ME227 – For ME990-3DF & ME990-3DFM (Fisher® type C403-24 and C483-24) double flanged valves

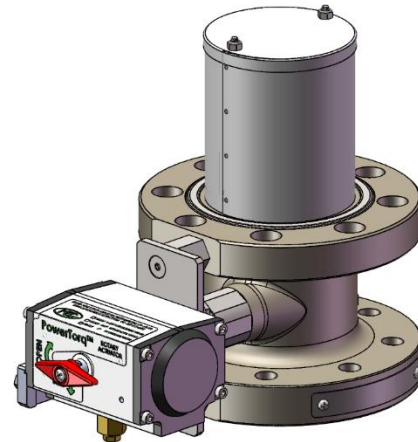
These kits feature a spring return design that eliminates the need for an air return.

Specifications

Pressure Source:	Air
Cylinder Pressure Limits:	Minimum – 20 psig Maximum – 125 psig Recommended – 40-60 psig
Temperature Limits:	-60°F to 250°F
Return Mechanism:	Spring only – no air



ME990AR-16



ME990SAR-3DF

Installation

!CAUTION!

Do not manually stroke the actuator.

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

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

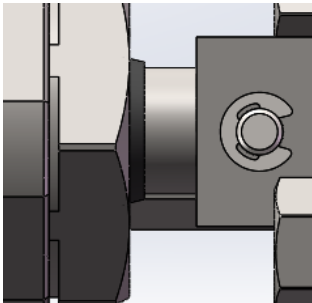
!WARNING!

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.

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ME226 AND ME227

- 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.



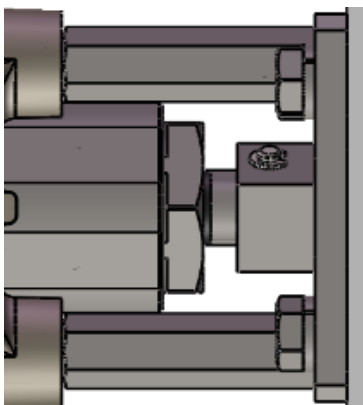
For Fisher® Valves ONLY: Remove the screws holding the cover plate to the internal valve body, discard the screws and retain the cover plate. Ensure that the internal valve packing rings remain in position during disassembly and reassembly. With the cover plate in position, install stand-offs [4] through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

- 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.
- Rotate drive coupling [1] clockwise by hand until it stops, then back off counterclockwise 1/8 turn (°45).
- Position actuator with air inlet connection facing away from container and install over drive coupling. 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.

- 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 arrow.

Note: The plastic arrow located on the actuator shaft is an indicator only and is not a manual operation handle.



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:

- 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.
- Because the actuator has a sealed housing, internal lubrication is not required. Periodically lubricate the operating coupling joint.
- Regularly inspect, clean and oil all operating controls.

Component List

- Drive Coupling
- Lock Pin
- E-clip
- Stand-offs, ME226 Qty: 3, ME227 Qty: 2
- Mounting Plate
- Mounting Screws, ME226 Qty: 3, ME227 Qty: 2
- Mounting Bolts, Qty: 4
- Lock Washers, Qty: 4

