



ME228 PowerTorq Series

Pneumatic 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 Pamphlet #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 kit 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 MANUAL

This manual covers instructions for the ME228 Pneumatic Actuator kit. This kit allows for remote operation of the ME990-4F (Fisher® C404-32) internal valve.

DESCRIPTION

The ME228 Marshall Excelsior Co. Pneumatic Actuator kit fits the ME990-4F (Fisher® C404) 4" Single flange internal valve to allow for remote valve operation utilizing air pressure. Applying air pressure to the actuator moves the drive coupling and the internal valve shaft to open the valve. Upon loss of air pressure, the valve's operating lever immediately returns to the closed position.

ME228 – For ME990-4F (Fisher® type C404) internal valve (4" Single flange)

This kit features a spring return design that eliminates the need for an air return.

SPECIFICATIONS

Pressure Source: Air

Cylinder Pressure Limits: Minimum – 80 psig
 Maximum – 125 psig
 Recommended – 100 to 125 psig

Temperature Limits: -60°F to 250°F

Return Mechanism: Spring only – no air

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. Inspect the operating lever to see that it operates freely.
2. 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.
3. Because the actuator has a sealed housing, internal lubrication is not required. For smooth operation, lubricate the operating coupling joint.
4. Regularly inspect, clean and oil all operating controls.

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INSTALLATION

CAUTION

The use of a pressure reducing regulator to supply the minimum cylinder operating pressure (100-125 psig) to the actuator will maximize product life and minimize air consumption.

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

WARNING

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.

When installing the ME228, first install the drive coupling over the internal valve shaft with the cross hole toward the valve. Align the drive coupling crosshole with the internal valve shaft and pin in place with the split pin. 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 re-assembly. With the cover plate in position, install stand-offs through cover plate and hand tighten to internal valve. Position actuator mounting plate over stand-offs with counter-sink holes facing out. Install mounting screws through mounting plate and hand tighten to stand-offs. Wrench tighten stand-offs to internal valve then wrench tighten mounting plate to the stand-offs. Ensure even gap between cover plate and internal valve packing. Rotate drive coupling clockwise by hand until it stops, then back off counterclockwise 1/8 turn.

Position actuator with air inlet connection facing away from container and install over drive coupling. Install mounting bolts with lockwashers through mounting bracket 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.

