ME205

Pneumatic Actuators 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 ME205 Pneumatic Actuator kit. This kit allows for remote operation of the ME990-10 (Fisher® C407) internal valve.

DESCRIPTION

The ME205 Marshall Excelsior Co. Pneumatic Actuator kit fits the ME990-10 (Fisher® C407) 1-1/4" NPT internal valve to allow for remote valve operation utilizing air pressure. Applying air pressure to the actuator moves the cylinder rod 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.

ME205 – For ME990-10 (Fisher® type C407) internal valve (1-1/4" model)

This kit features 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 – 20-25 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 actuating cylinder fully opens and closes the internal valve without sticking. Keep the actuator's cylinder rod free of any build-up of mud, corrosion, or other foreign material. Such a build-up could prevent the cylinder 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 diaphragm seal, internal lubrication is not required. For smooth operation, lubricate the operating lever/cylinder rod pivot point.
4. 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 (20-25 psig) to the actuator will maxlmize cylinder 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 three bolts (#2) holding the bonnet 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 ME205, remove the two screws (#2) holding the cover plate to the internal valve's body. Discard the cover plate. Mount the cylinder bracket (#1) as shown below. Ensure the internal valve packing rings remain in position during disassembly and re-assembly. Place the bushing (#6) over the internal valve shaft and between the cylinder bracket (#1) and the actuator operating lever (#3). Position the operating lever into the internal valve shaft lever hole when moving the bracket into position. Tighten the two screws to 25 to 30 inch-pound torque.

Install the cotter pin (#4) through the operating lever (#3) and the internal valve shaft. Ensure no interference between the cotter pin and the mounting screws. Confirm the actuator's operating lever (#3) has about 1/8" movement before it begins to open the internal valve. Install three-way brass adapter (#7) into connector inlet (#5). Install thermal safety plug (#8) into either open port on three-way brass adapter (#7). Connect the actuating pressure line tubing to the remaining port on three way brass adapter (#7). After installing the unit, operate the cylinder with pressure to confirm it smoothly opens and closes the internal valve without sticking or jamming.