

P327C Pneumatic Cylinder 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.

Fisher equipment must be installed, operated, and maintained in accordance with federal, state, and local codes and Fisher instructions. The installation in most states must also comply with NFPA No. 58, ANSI K61.1 and DOT standards.

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.

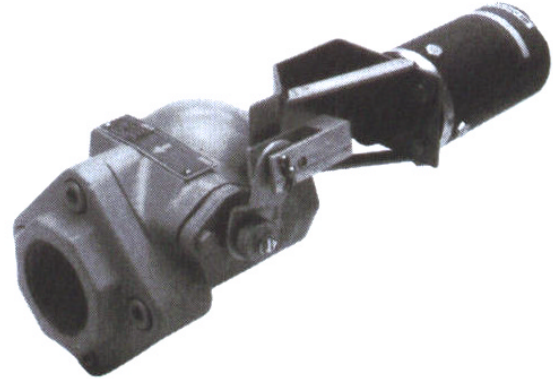


Figure 1. Type P327C Installed on N550

Introduction

Scope of Manual

This instruction manual covers installation of the P327C Pneumatic Cylinder Actuator onto the Type N550 Emergency Shutoff Valve (ESV).

Description

Type P327C pneumatic cylinder kits permit opening and closing Fisher N550 series Snappy Joe® emergency shutoff valves (ESVs) from a remote location. The cylinder opens the valve when pressure is applied.

Upon loss of pressure, the N550 closes, assisted by the spring in the pneumatic cylinder. A bellows covers the cylinder rod to prevent build-up of foreign material around the rod, and a filter in the cylinder vent keeps out dust. All necessary installation hardware for the P327C is furnished.

Specifications

Pressure Source: Air, propane or nitrogen.

Cylinder Pressure Limits: Minimum 20 psig
Maximum 125 psig
Recommended 20-25 psig

Temperature Limits: -60°F - 250°F.

Return Mechanism: Internal Spring, no air

Installation



CAUTION

Do not manually stroke the cylinder. The cylinder contains a “rolled” type of diaphragm which can be deformed if the cylinder is manually operated with the inlet restricted. The cylinder has to be partially disassembled to repair a deformed diaphragm.

Minimum air consumption and maximum cylinder life are obtained by using the minimum cylinder operating pressure - 20 to 25 psig. A Fisher Type 67Y/105 can be used to supply pressure to the cylinder if desired.



P327C Pneumatic Cylinder Actuator

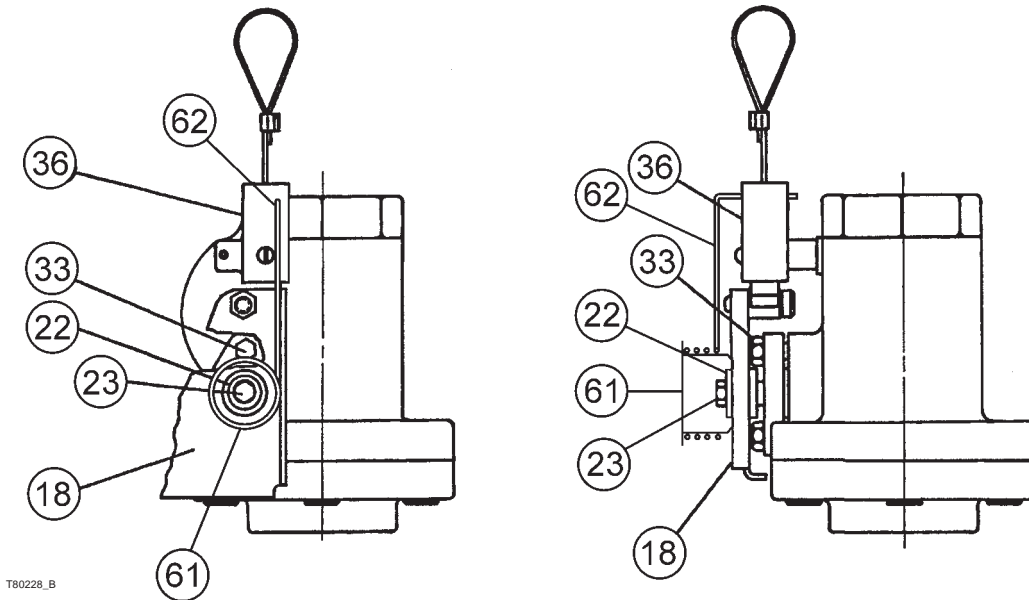


Figure 2. N550 Valve Prior to Mounting P327C

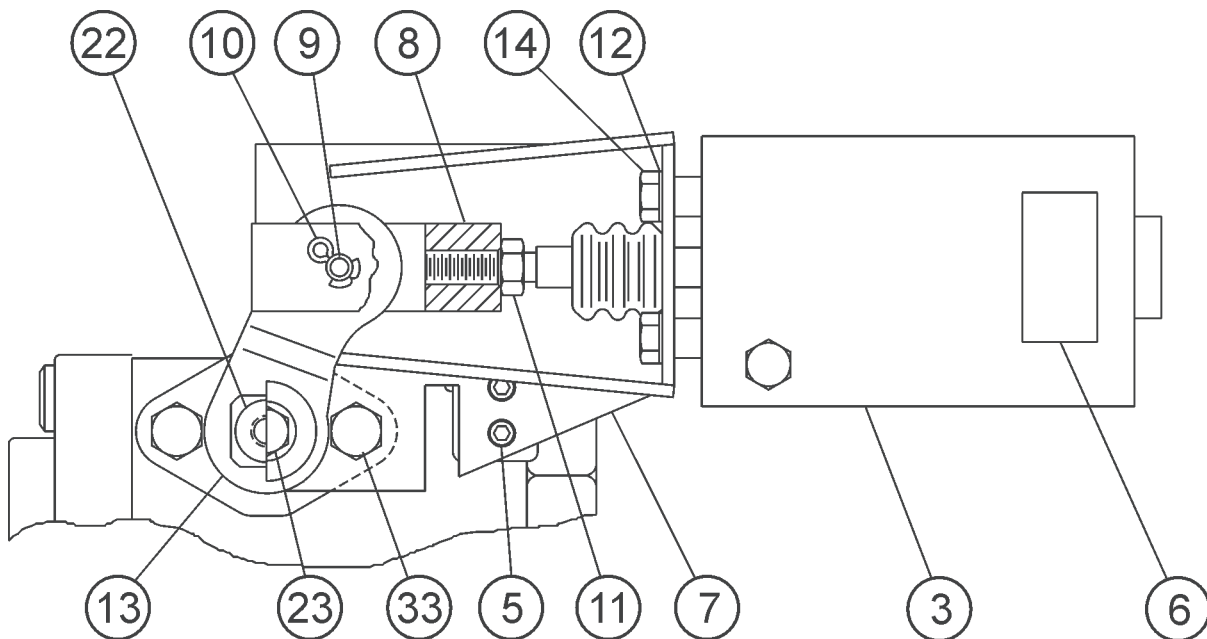


Figure 3. Type P327C Installed on N550

Parts Reference (see Figure 3)

KEY NO.	NAME OF PART	KEY NO.	NAME OF PART
3	Air cylinder	10	Cotter Pin
5	Bolt (2 req'd)	11	Jam Nut
7	Mounting Bracket	12	Washer (4 req'd)
8	Clevis	13	Operating Lever
9	Pin	14	Screw (4 req'd)



WARNING

When installing the bracket on N550s already in-line, first remove all line pressure, inlet and outlet, from the N550. Failure to do so could result in personal injury.

Note: The external spring is not required after installation of the P327C cylinder actuator.

Refer to Figure 2, **for units with an external spring:** Remove the bolt (23), spring mandrel (61), the external spring (62), fuse link (22), operating lever (18), latch block (36), and the rear gland bolt (23). **KEEP THE FUSE LINK (22) AND BOLT (23).**

Refer to Figure 2, **for units without an external spring:** Remove the latch block (36), fuse link (22), bolt (23), operating lever (18), and the rear gland bolt (23). **KEEP THE FUSE LINK (22) AND BOLT (23).**

Refer to Figure 3: Place the bracket (7) in position over the rear gland bolt hole and reinstall the rear gland bolt (Key 33) and two mounting bolts (5) where the latch block used to be. **DO NOT OVER TIGHTEN THE GLAND BOLT** because binding of the ESV's shaft could occur. Tighten the gland bolt only enough to prevent leakage.

Install the operating lever (13) onto the fuse link (22) and the ESV shaft. Reinstall the bolt (23).

Loosen the clevis (Key No. 8) on the cylinder rod and adjust it so that there is about 1/8" movement of the operating lever before it begins to open the ESV. Tighten the nut (Key No. 11) to hold the clevis at this position. Connect the actuating pressure line tubing to the end of the cylinder.

After installing the unit, operate the cylinder with pressure to see that it smoothly opens and closes the N550 without sticking or jamming. Check to make sure the N550 shuts tightly.

A small 3-way control valve (sold separately, part no. T1139599012) for pneumatic ESV installations can be used as primary control (open or close the ESV) or an auxiliary remote release (close only).

Placing the valve's button in the upward position permits pressure to the cylinder; pushing the button down exhausts pressure to close all valves connected to the system.

Maintenance



WARNING

Only qualified service personnel should attempt to repair these valves. Before starting any type of repair, close off the upstream valves and remove all pressure from both the inlet and outlet of the Type N550 Emergency Shutoff Valve.

Because the cylinder has a diaphragm seal and no rod bearing, internal lubrication is not required. Periodic lubrication of the operating lever/clevis pivot is recommended. The breather vent filter on the cylinder should be cleaned occasionally.

At least once a month inspect and check the following things:

1. See that the cylinder fully opens and closes the ESV without sticking. In spite of the bellows protecting the cylinder rod, it is still possible that a build-up of mud, corrosion or foreign material could prevent the cylinder from closing, jamming the N550 open. Do not permit this condition to occur.
2. Make sure that the lever, latch, and release are working smoothly. The latch parts and lever are easily accessible for replacement or repair by removing the securing bolts.
3. Check for packing and joint leakage.

Parts Ordering

When corresponding about this equipment, always reference the equipment type number found on the nameplate. A Replacement Parts List is available for the N550 Series Valves. When ordering replacement parts, reference the complete 11-character part number of each part. For cylinder repair kit, order part number T13622T0012.

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