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INSTRUCTION MANUAL

NEW! REDUCING CO_2 EMISSION IMPACT ON ENVIRONMENT BY **11%**

SAUNDERS® - P345
PNEUMATIC ACTUATOR
Normally Closed

CRANE

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Contents

Basic Safety instructions

These safety instructions do not make allowance for the following :

• Contingencies and events which may arise during the installation, operation and maintenance of the Actuator.
• Local safety regulations - the operator is responsible for observing these regulations, also with reference to the installation personnel.

⚠ ATTENTION

High Pressure:
Before removing the Valve/Actuator fastenings, note the following:
• For normally closed (NC) Valves, apply air to activate the Actuator to the open position.

Ensure that the line pressure has been removed and the system is drained and flushed.
Please ensure that you have the correct tools and safety equipment to disassemble valves correctly following the recommended safe working practices.

Hazardous Situation

To avoid injury, ensure the following:
- The system cannot be activated unintentionally.
- Installation and maintenance may be carried out by authorized technicians only.
- After an interruption in the power or pneumatic supply, ensure that the process will be restarted in a defined and controlled manner.

1. Actuator Change Out Disassembly Procedure

Start to loosen the fastenings
Important: Ensure the excess pressure has vented prior to fastening removal

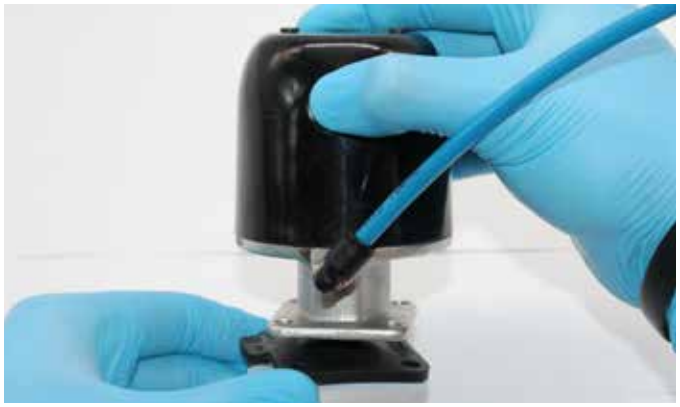
2. Removal of fastenings & actuator

Remove the fasteners and the valve actuator

3. Diaphragm Removal

Inspect the valve body Sealing surfaces for damage.

4. Removal of fastenings & actuator



Ensure actuator is in the closed position:
Release air pressure on NC Actuators

Compressor face must be exposed.
This will provide better access to the diaphragm, compressor and fixing

5. Diaphragm Replacement

Remove Diaphragm From Actuator

- If one piece elastomer (threaded attachment), rotate anticlockwise.
- If PTFE with elastomer backing(bayonet attachment), turn through 90°

6. Elastomer Single piece Diaphragm

Engage diaphragm threaded stud into the compressor by applying pressure to the centre of the diaphragm. Ensure correct engagement and continue to rotate clockwise until resistance felt. Rotate diaphragm anti-clockwise until diaphragm bonnet hole alignment is achieved

7. PTFE Faced Two Piece Diaphragm

Engage diaphragm bayonet into the compressor slot by applying pressure to the centre of the diaphragm. Ensure correct engagement and continue to apply pressure to the centre of the diaphragm and turn through 90°

8. Ensure actuator is full open

Apply air pressure to 'NC' actuators.

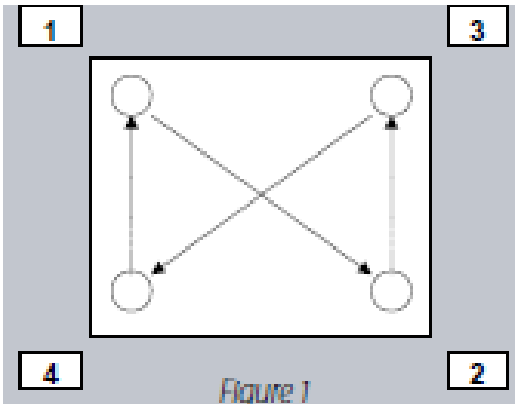


Figure 1

Attach the actuator to valve body;
Insert the retaining fasteners.
Hand tighten fasteners in the order shown in Figure 1.
Use diagonally opposing technique to tighten fastenings at all times.

9. Ensure actuator is in the closed

position:
• Release air pressure on 'NC' actuators

10. Gradually tighten the fasteners as per figure 1 to approximately 3/4 of full torque. (See torque specification table). This ensures that the diaphragm seats correctly before further tightening

11. Ensure Actuator is fully open:
• Apply air pressure to 'NC' actuators

12. Tighten all fasteners to the specified torque setting as per figure 1. (see torque specification table)
• It is recommended that torque is applied to the nut. (For DN8 (1/4") Actuators, apply torque to the bolt head.)
• It is recommended that the final torque is applied in three passes following the correct sequence.
• Re-apply the final torque to the first nut after the third pass to ensure the application of a consistent torque across all fastenings.
• The compression of the diaphragm periphery should be consistent.
• The exposed threads at the top of the nuts should be consistent in length.

13. This determines that even compression has been applied to all fastenings.

Torques	
Torque Specification Table	
Valve Size	**Maximum Torque**
(DN)	**(Nm)**
8	3
15	6.6
20	6.6
25	8
40	17
50	33
65	47
80	67
100	53

IMPORTANT: Re-tighten fastenings to the maximum torque after 24 hours or first heat cycle.
It is recommended that the retightening operation should be carried out with the valve in the open position and the valve temperature 40°C or below.

Tools required for installation

14. Insert flat head screwdriver (3mm x 100mm) through the compressor.

15. Engage screwdriver into spindle adaptor slot.

16. Unwind the spindle adaptor releasing the compressor

17. Assemble replacement compressor/spindle adaptor sub assembly and apply Loctite 222 to thread.

18. Assemble replacement spindle adaptor/compressor sub assembly to master spindle on actuator with flat head screwdriver.

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Saunders P345 Pneumatic Actuator
Product makings & Weights

Marking

Each actuator is laser etched, containing the following information:

- Model
- Size
- Mode of Operation
- Operating Pressure
- Date of Manufacture
- QR Code Link to Crane CPE Product Website

Weights Table

Valve Size (DN)	Valve Weight (kg/lbs)
8	0.4 / 0.9
15	0.8 / 1.8
20	1.3 / 2.9
25	1.8 / 4.0
40	3.0 / 6.6
50	6.1/ 13.2

Available Accessories

- Position Feedback Switchboxes
- Positioners
- Adjustable Limit Open Stop
- Other accessories available on request

Notes

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