

brands you trust.

Actuated Valves PTFE Diaphragms Installation & Maintenance Instructions

Saunders® HC4 Diaphragm Valves



www.cranecpe.com



Index

Installation & Operation	Page 3-6
Torque Spec Table	Page 7

READ INSTRUCTIONS BEFORE INSTALLATION or valve service. Failure to follow instructions could result in death or serious injury. If there is any question, contact the factory at U.S: 936-588-8360 or UK: +44 1633 486666

A WARNING

Proper installation plays an important role in valves performance. Installation must be performed by qualified technicians only. Customer assumes all responsibility for valve performance on valves installed in the field by non-Crane ChemPharma & Energy, Saunders personnel. Improper installation will result in damage to the valve.



IMPORTANT:

Before removing the valve/actuator fastenings, note the following:

- For normally closed (NC) valves, apply air to activate the actuator to the open position.
- For normally open (NO) valves, no air is required for this step.

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 and ensure you follow recommended safe working practices.

1. Start to loosen the fastenings.

IMPORTANT: Do not remove the fastenings completely as there may be pressure remaining in the system. Wait for any excess pressure to finish venting.



2. Remove the fasteners and the valve actuator.





3. Inspect the valve body sealing surfaces for damage.



4. Set actuator in its closed position:

• Release air pressure to "NC' actuators.

Apply air pressure to "NO' actuators.

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



5. Remove diaphragm from actuator by turning through 90°.





Attach new diaphragm:

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



- **7.** Set actuator in its fully open position:
 - Release air pressure on 'NO' actuators.
 - · Apply air pressure to "NC' actuators.

Molded closed diaphragms 214S/425 should be opened until diaphragm backing is flush with actuator base.



8. Attach the actuator to the valve body; insert the retaining fasteners.

Hand tighten fasteners as shown below in Figure 1

Use diagonally opposing technique to tighten fastenings at all times.





- 9. Set actuator in its closed position:
 - Release air pressure to "NC' actuators.
 - \cdot Apply air pressure to "NO' actuators.

10. Gradually tighten the fasteners as per figure 1, to³/₄ of full torque. (See torque spec table).



This ensures that the diaphragm correctly seats before further tightening.

- 11. Set actuator in its open position:
 - Release air pressure to "NO' actuators.
 - \cdot Apply air pressure to "NC' actuators.

12. Fully tighten all fasteners to the specified torque setting, (see torque spec table) using method shown in Figure 1.

13. Remove air pressure from actuator (only applicable to spring closing mode)





Torque Spec Table

Valve Size (DN)	Maximum Torque (Nm)
8	3
15	6.6
20	6.6
25	8
40	17
50	33
65	47
80	67

IMPORTANT:

14. Re-tighten fastenings to the maximum torque after 24 hours or first heat cycle, ideally the retightening operation should be carried out with the valve in the open position and the valve temperature at 40°C or below.



Crane ChemPharma & Energy

Crane ChemPharma & Energy 9860 Johnson Road Montgomery, Texas USA 77316 Tel: +1 936 588 8360 Fax: +1 936 588 8302 Crane Process Flow Technologies Ltd. Grange Rd, Cwmbran, Gwent NP44 3XX Tel: +44 1633 486666 Fax: +44 1633 486777

www.cranecpe.com







Crane Co., and its subsidiaries cannot accept responsibility for possible errors in catalogues, brochures, other printed materials, and website information. Crane Co. reserves the right to alter its products without notice, including products already on order provided that such alteration can be made without changes being necessary in specifications already agreed unless otherwise indicated. All trademarks in this material are property of the Crane Co. or its subsidiaries. The Crane and Crane brands logotype (DEPA®, ELRO®, Krombach®, PSI®, Resistoflex®, ResistoPure™, Revo®, Saunders®, and XOMOX®) are registered trademarks of Crane Co. or its subsidiaries. All rights reserved.