



**High Pressure  
Equipment  
Company**



## **Hipco Valve – Normally Closed**

### **Maintenance Instructions**



## Hipco - Normally Closed Valve

### Description:

These diaphragm air operators provide remote automatic on/off operation of valves and can be controlled by means of an air regulator, an electrical solenoid, or a manual low pressure valve in the user's air supply line. Air inlet is 1/4" NPT.

The Hipco air operators may be supplied with the valves and operating pressures shown in table.

- Hipco 30-11HF4 (normally closed)
- Hipco 10-15AF4 (normally open/normally closed)
- Stems & Seats
- Carbide (for cyclic service)
- Stellite (for cyclic service)
- 17-4 (for cyclic service)
- Valve Bodies
- Hastelloy C, Hastelloy B
- Inconel 600, Inconel 625
- Incoloy 800, Incoloy 825
- Titanium Grade 2, Titanium 6AL4V
- Nickel
- Monel
- Packing
- PolyPak
- Temperature Considerations
- Extended stuffing box for temperatures from -423°F to 1,200°F (medium and high pressure connections only)

| Valve Series       | Maximum Operating Pressure | Minimum Adjusting Screw Torque | Approximate Air Pressure to Unseat Valve | Approximate Air Pressure to Fully Open Valve |
|--------------------|----------------------------|--------------------------------|------------------------------------------|----------------------------------------------|
| 10- <b>**</b> AF4  | 10,000 psi                 | 20 in. lb.                     | 30 psi                                   | 45 psi                                       |
| 10- <b>**</b> AF6  | 10,000 psi                 | 20 in. lb.                     | 30 psi                                   | 45 psi                                       |
| 10- <b>**</b> NFA  | 10,000 psi                 | 20 in. lb.                     | 30 psi                                   | 45 psi                                       |
| 10- <b>**</b> NFB  | 10,000 psi                 | 20 in. lb.                     | 30 psi                                   | 45 psi                                       |
| 10- <b>**</b> NFC  | 10,000 psi                 | 20 in. lb.                     | 30 psi                                   | 45 psi                                       |
| 15F- <b>**</b> NFA | 15,000 psi                 | 60 in. lb.                     | 80 psi                                   | 100 psi                                      |
| 15F- <b>**</b> NFB | 15,000 psi                 | 60 in. lb.                     | 80 psi                                   | 100 psi                                      |
| 15F- <b>**</b> NFC | 10,000 psi                 | 75 in. lb.                     | 95 psi                                   | 100 psi                                      |
| 15F- <b>**</b> NFD | 10,000 psi                 | 75 in. lb.                     | 95 psi                                   | 100 psi                                      |
| 20- <b>**</b> LF4  | 20,000 psi                 | 40 in. lb.                     | 55 psi                                   | 90 psi                                       |
| 20- <b>**</b> LF6  | 15,000 psi                 | 60 in. lb.                     | 80 psi                                   | 100 psi                                      |
| 20- <b>**</b> LF9  | 10,000 psi                 | 75 in. lb.                     | 95 psi                                   | 100 psi                                      |
| 30- <b>**</b> HF4  | 30,000 psi                 | 40 in. lb.                     | 55 psi                                   | 75 psi                                       |
| 30- <b>**</b> HF6  | 30,000 psi                 | 60 in. lb.                     | 80 psi                                   | 100 psi                                      |
| 30- <b>**</b> HF9  | 30,000 psi                 | 60 in. lb.                     | 80 psi                                   | 100 psi                                      |
| 40- <b>**</b> HF9  | 30,000 psi                 | 60 in. lb.                     | 80 psi                                   | 100 psi                                      |
| 60- <b>**</b> HF4  | 60,000 psi                 | 50 in. lb.                     | 65 psi                                   | 85 psi                                       |
| 60- <b>**</b> HF6  | 60,000 psi                 | 50 in. lb.                     | 65 psi                                   | 85 psi                                       |
| 60- <b>**</b> HF9  | 60,000 psi                 | 50 in. lb.                     | 65 psi                                   | 85 psi                                       |

**\*\*** Standard Valve Patterns (reference Page 1.4)

## Hipco - Normally Closed Valve Maintenance Instructions:

### Packing Gland Adjustment Instructions:

1. Relieve the system pressure. Remove the valve from the system and place it securely in a vice.
2. Loosen the lock nut at the top of the operator and loosen the set screw to relieve spring tension.
3. Tighten the packing gland to the appropriate torque for the valve. Suggested packing gland torque values are listed in the Technical Information Section of the High Pressure Equipment Company Catalog.
4. Retighten the set screw at the top of the operator to the required torque. Suggested set screw torque values are listed in the Technical Information Section of the High Pressure Equipment Company Catalog.

### Packing Replacement Instructions:

1. Relieve the system pressure. Remove the valve from the system and place it securely in a vice.
2. Loosen the lock nut at the top of the operator and loosen the set screw to relieve spring tension.
3. Unscrew the packing gland and remove the packing gland, stem, and top works assembly from the body. Note the packing and packing washer arrangement.
4. Replace the packing, and place the packing and packing washers into the valve body.
5. Replace the packing gland, stem, and top works assembly into the valve body.
6. Tighten the packing gland to the appropriate torque for the valve. Suggested packing gland torque values are listed in the Technical Information Section of the High Pressure Equipment Company Catalog.
7. Retighten the set screw at the top of the operator to the required torque. Suggested set screw torque values are listed in the Technical Information Section of the High Pressure Equipment Company Catalog.
8. Tighten the lock nut to secure the set screw.

### Stem Replacement Instructions:

1. Relieve the system pressure. Remove the valve from the system and place it securely in a vice.
2. Loosen the lock nut at the top of the operator and loosen the set screw to relieve spring tension.
3. Unscrew the packing gland and remove the body.
4. Loosen and remove the 5/16-18 hex head screws and nuts located along the perimeter of the diaphragm housing. Remove the top section of the diaphragm housing.
5. Remove the 1/4-20 hex nut that holds the stem to the diaphragm support.
6. Remove the old stem and insert the new stem. Replace and tighten the 1/4-20 hex nut onto the end of the stem.
7. Reassemble the diaphragm housing using approximately 20 ft-lb on the 5/16-18 cap screws.
8. Replace the packing as required, and place the packing and packing washers into the valve body.
9. Replace the packing gland, stem, and tops works assembly into the valve body.
10. Tighten the packing gland to the appropriate torque for the valve. Suggested packing gland torque values are listed in the Technical Information section of the High Pressure Equipment Company catalog.
11. Retighten the set screw at the top of the operator to the required torque. Suggested set screw torque values are listed in the Technical Information section of the High Pressure Equipment Company Catalog.