



# **High Pressure Equipment Company**

## **Hipco Valve – Normally Closed**

### **Maintenance Instructions**



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# 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-**AF4	10,000 psi	20 in. lb.	30 psi	45 psi
10-**AF6	10,000 psi	20 in. lb.	30 psi	45 psi
10-**NFA	10,000 psi	20 in. lb.	30 psi	45 psi
10-**NFB	10,000 psi	20 in. lb.	30 psi	45 psi
10-**NFC	10,000 psi	20 in. lb.	30 psi	45 psi
15F-**NFA	15,000 psi	60 in. lb.	80 psi	100 psi
15F-**NFB	15,000 psi	60 in. lb.	80 psi	100 psi
15F-**NFC	10,000 psi	75 in. lb.	95 psi	100 psi
15F-**NFD	10,000 psi	75 in. lb.	95 psi	100 psi
20-**LF4	20,000 psi	40 in. lb.	55 psi	90 psi
20-**LF6	15,000 psi	60 in. lb.	80 psi	100 psi
20-**LF9	10,000 psi	75 in. lb.	95 psi	100 psi
30-**HF4	30,000 psi	40 in. lb.	55 psi	75 psi
30-**HF6	30,000 psi	60 in. lb.	80 psi	100 psi
30-**HF9	30,000 psi	60 in. lb.	80 psi	100 psi
40-**HF9	30,000 psi	60 in. lb.	80 psi	100 psi
60-**HF4	60,000 psi	50 in. lb.	65 psi	85 psi
60-**HF6	60,000 psi	50 in. lb.	65 psi	85 psi
60-**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.