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## I & M HexBlok Needle Valves

### Installation & Maintenance Instructions for HexBlok Needle Valves

**Warning:** Hex Valves must only be used, installed, and repaired in accordance with these Installation & Maintenance Instructions. Observe all applicable public and company safety codes and regulations. In the event of leakage or other malfunction, call a qualified service person; continued operation may cause system failure or a general hazard.

### **Please read these instructions carefully!**

Your Hex Valve product will provide you with long, trouble-free service if it is correctly installed and maintained. Spending a few minutes now reading these instructions can save hours of trouble and downtime later. When making repairs, use only genuine Hex Valve parts, available for immediate shipment from the factory.

### **Scope**

This manual is intended as a guide to assist customers in the storage, installation, and maintenance of HexBlok needle valves. Subsequent additions or special instructions will be provided for special valves, critical service or customer requirements.

### **Applicability**



This manual is applicable to the HexBlok needle valves.

### **Caution**

**To help prevent injury to personnel or damage to equipment, please read this section completely before performing any operations.**

1. Valve pressure ratings are based on many variables, including valve series and size, as well as body, flange, seat and bolt material. Verify that application does not exceed the pressure or temperature rating on the name plate, or the flange rating.

2. Always depressurize the line where the valve is installed, before removal or disassembly. Cycle valve in depressurized line before removing valve. Make sure that all pressure is released from inside the valve before removal or disassembly.
3. Wear protective equipment and take appropriate precautions to safeguard against injury caused by the discharge of trapped fluids.
4. Use only Hex Valve recommended spare parts for maintenance.
5. To ensure safety and maintain warranty, never modify valve in any way without prior approval from Hex Valve.

### **Storage**

All valves are adequately packed in a strong cardboard case in such a way as to avoid any possible damage during transport and storage.

*Caution: If valves are not destined for immediate use, the following precautions should be taken:*

1. If possible, leave the HexBlocs in their packing cases during the period of storage.
2. In order to prevent damage, protective plastic covers on valve ends should not be removed until immediately prior to installation.
3. It is advisable to store the valves in waterproof conditions. Valves should be protected to safeguard against humidity, moisture, dust, dirt, sand, mud, salt spray and seawater.
4. Valves to be stored for a long period of time should be checked by the quality control personnel every six months.

### **Installation**

The valves may be installed using standard pipe fitting practices.

*Caution: Before installation of the valve:*

1. Pipe must be free of tension both during and after installation.
2. Pipe must be flushed to clean dirt, welding residues, etc. which would damage stem tip and seat.
3. The valve should be kept in Open Position during installation and protective plastic covers must be removed only at the moment of installation.
4. If the valve was specified to be hydro tested, there may be some trapped water in the valve body cavity. This can be removed by partially opening the valve, thereby exposing the internal cavities to the atmosphere.

### **Installation of Flanged Process Ends**

1. Verify valve is in the full open position.
2. Use the appropriate size bolt and heavy hex nut (not included) as recommended for flange size and class.
3. Flange connection requires gasket (not included).
4. Following gasket manufacturer's recommended practice for tightening flanged bolts.
5. Always leak test the system before using.

### **Installation of Instrument Connection Threaded Ends**

1. Unless otherwise specified, pipe threads are American National Standard Taper Pipe Threads (NPT) per ANSI B1.20.1, and require that a pipe sealant be used.
2. Using an anti-seize thread sealant to seal and prevent galling.
  - a. Hex Valve recommends PTFE-based liquid sealant or Gra-foil tape as thread sealants.
  - b. Notes:
    - i. Use all pipe sealant products in accordance with the manufacturer's instructions and good piping practices.
    - ii. Correct lubricant of stainless steel pipe threads is especially important to prevent galling.
3. Always leak test the system before using.

### **Maintenance**

Please read warning and caution information contained at the beginning of this manual before removing the HexBlok from the pressure line or depressurizing it for maintenance. After the HexBlok has been depressurized and the vent valve is open inspect the stem and packing chamber.

#### ▪ **OS&Y Bonnets**

1. Inspect stem and packing chamber bore. Replace stem if damaged or shows evidence of corrosion in the area of the packing. (The bonnet must be removed from the body by removing the four bonnet bolts to replace the stem. If the bonnet is removed, replace the bonnet gasket before reinstalling the bonnet. The bonnet bolt threads must be cleaned and lubricated prior to installation. (Torque the bolts to 90 in-lbs.)
2. Lubricate the stem in the packing area with an Anti-Seize compound such as "THRED-GARD", that is appropriate for your process.
3. Install the three pieces of Teflon Chevron packing, or three pieces of braided or graphite packing, one piece at a time.
4. Install the packing follower and gland, and tighten the two gland cap screw nuts evenly and with just enough torque to seal the packing.

#### ▪ **Screwed Bonnet / OBS Bonnet**

1. Inspect stem and packing chamber bore. Replace stem if damaged or shows evidence of corrosion in the area of the packing. (The bonnet must be removed from the body to replace the stem. Lubricate the bonnet threads prior to reinstalling bonnet into body and torque it to *55 ft-lbs for carbon steel and 90 ft-lbs for SST*). Note: bonnet retaining pin should be installed again to prevent inadvertent bonnet removal.
2. Lubricate the stem in the packing area with an Anti-Seize compound such as "THRED-GARD".
3. With the retaining ring in the packing chamber, install the four pieces of Teflon Chevron packing, or four pieces of braided or graphite packing, one piece at a time.
4. Install the packing follower and packing nut, and tighten with just enough torque to seal the packing.
5. Put the handle back on stem and retighten cap screw.

### **Packing Adjustment**

1. Loosen the packing gland (or packing nut) and rotate the stem back and forth a few times before making any adjustments to packing compression.
2. After tightening the packing gland (or packing nut), again rotate the stem back and forth.

Note: The HexBlok screwed bonnet retaining pin should be reinstalled to prevent inadvertent bonnet removal.

