



INSTALLATION, OPERATION AND MAINTENANCE INSTRUCTIONS FIGURE HD150

FABRI-VALVE® HEAVY DUTY BI-DIRECTIONAL KNIFE GATE VALVE

CAUTION: IF THE VALVE IS TO BE STORED FOR A LONG PERIOD OF TIME BEFORE INSTALLATION IT SHOULD BE STORED IN A VERTICAL POSITION AND IN A COOL, CLEAN AREA TO PREVENT DAMAGING EFFECTS ON THE PACKING.

INSTALLATION:

The valve can be installed in either orientation.

Use a gasket material suitable for the pressure, temperature, and media and cut to fit face of the valve. If the valve is supplied with a non-metallic replaceable seal, no gasket should be used on the replaceable seal side.

Bolt the valve to the mating flange using proper sized bolts.

The stud lengths are based on the following:

- 1.) 1/16" allowed for compressed gasket thickness.
- 2.) Mating flange thickness based on ASME B16.5 CL150/ASME B16.47 Series A CL150.
- 3.) It is recommended that studs be used to insure the full thread engagement required by ASME B16.34.

When tightening flange studs, work from side to side to ensure even compression of the gasket. The amount of torque required is determined by the type of gasket, line pressure, type of bolt and bolt lubrication.

RECOMMENDED STUD LENGTHS

Valve Size (inches)	Face to Face (inches)	Port ID (inches)	Studs	Stud Length (inches)
12	3.25	12	.875-9NC	4
16	3.75	15.25	1.0-8NC	4.5
18	4.125	17.25	1.125-8NC	5
20	4.5	19.25	1.125-8NC	5
24	5.0	23.25	1.25-8NC	5.5
26	6.75	25.25	1.25-8NC	6.5
28	7.125	27.25	1.25-8NC	6.5
30	7.375	29.25	1.25-8NC	7
32	8.125	31.25	1.25-8NC	7.5
36	8.875	35.25	1.5-8NC	8
48	11.5	47.25	1.5-8NC	9

WARNING: THESE VALVES HAVE REPLACEABLE METAL AND ELASTOMER SEATS. THESE SEATS ARE LOOSE PIECES AND NOT ATTACHED TO THE VALVE

BODY. THE VALVE MUST BE INSTALLED BETWEEN TWO MATING FLANGES BEFORE PRESSURIZING. FAILURE TO DO THIS MAY CAUSE DAMAGE OR INJURY. IF THE VALVE IS INSTALLED ON THE DISCHARGE END OF A PIPELINE A COMPANION FLANGE MUST BE BOLTED TO THE OUTLET FLANGE OF THE VALVE TO RETAIN THE REPLACEABLE SEAT. THE GATE MUST BE SLIGHTLY OPEN WHEN INSTALLING.

The packing gland may require some adjustment after line pressure is up to normal. Tighten just enough to stop leakage. Over-tightening may cause undue pressure against the gate making the valve difficult to operate and cause rapid packing wear. If possible, stroke the valve a few times before setting packing bolts. These valves are seat-tested drip tight at 325 psi. Extremely low pressures across a closed gate, below 5 psi, may result in higher leakage rates.

Double seated valves may require special flushports if solids materials are present in the pipeline and can collect between the seats. Consult the factory for technical advice.

If the valve is installed in horizontal position and a heavy, powered actuator is included with the valve, support of the actuator may be required. Consult the factory for technical advice.

Air operated valves must be supplied with clean, dry, regulated air.

CAUTION: THE VALVES ARE SUPPLIED WITH CYLINDERS SIZED FOR A SPECIFIED AIR PRESSURE AND PRESSURES EXCEEDING THIS MAY CAUSE DAMAGE TO THE VALVE. AIR REGULATORS AND AIR FILTERS ARE AVAILABLE FROM YOUR ITT SALES REPRESENTATIVE.

MAINTENANCE:

TO REPACK STUFFING BOX:

DANGER: DO NOT REPACK VALVE UNDER PRESSURE

1. Disconnect stem from gate. Raise stem.
2. Remove gland nuts and raise the packing gland.
3. Remove old packing and clean the packing chamber.
4. Install new packing assembly in the following manner: scraper-packing-packing-packing-scraper-packing-packing-packing-scraper. Cut the braided packing to fit around the gate, cutting each end at a 45-degree bevel. Stagger the joints on opposite sides of the gate.
5. Reseat the packing gland and replace the packing nuts, making sure the gate is centered and against the valve body seat. Tighten nuts just to the point that the gland contacts and sets the packing. Do not tighten completely.
6. Lower the stem and reconnect to the gate.
7. Pressurize the valve to the working pressure and tighten the gland nuts evenly from side to side until leakage is stopped. Do not over tighten.

LUBRICATION:

The stem and stem-nut are lubricated at the factory before shipment. However, these parts should be lubricated periodically to prevent wear and to minimize operating forces. Some recommended lubricants are:

CHEVRON INDUSTRIAL GREASE-MEDIUM
TEXACO MOLYTEX GREASE #2

MOLY XL 47-F2-75
FEL-PRO C5-A COMPOUND

The elastomer seat is lubricated prior to installing the metal seat. Recommended lubricants are:

DOW CORNING 111

VALVES WITH REPLACEABLE SEATS:

REPLACEABLE METAL SEATS

1. Remove the valve from the pipeline and open gate.
2. Seat ring is loose and may be removed from outlet flange of valve. If necessary, it may be driven out with a piece of wood from the inlet side.
3. Inspect the seat surface of the ring. If wear appears on only a small area the seat ring may be rotated to put wear point towards the top of the port and further service obtained.
4. Clean the recess where the seat ring fits.
5. Install the new or rotated ring with a new, 1/16" thick gasket between the body and seat ring.

L-RING SEALS

1. Remove valve from line and disassemble.
2. Remove old seal from groove. The groove must be clean and dry before installing new seal.
3. Make a 45-degree cut on one end of the new seal.
4. Wrap the seal around the outside of the replaceable metal seat. Place a mark where the end overlaps. Remove the seal from the replaceable metal seat and make a 45-degree cut at the mark. Use a thin layer of adhesive to bond the two ends together.
5. Lay seal ring on flat surface. Apply a thin layer of adhesive to the surfaces indicated in Figure #1 (.003 to .005 thick or like a sheet of paper).
6. Note: Black Max adhesive #38050 is available from factory under part no. 137-900.
7. Press seal into the groove starting at the top and then move to the bottom, and then to the sides as illustrated in Fig #2. All rings must be stretched slightly to fit and care must be taken to keep ring smooth and flat.
8. Wipe off any excess adhesive.
9. Allow adhesive to dry for a minimum of 8 hours for full bond strength.
10. Reassemble valve and repack per instructions above.

Maintenance manuals for cylinders, electric motors, and other accessories are available from the factory.

VALVES WITH ELECTRIC ACTUATORS

Valves with electric motors should be set up torque closed, position open if valve is single seated and position closed, position open if valve is double seated.

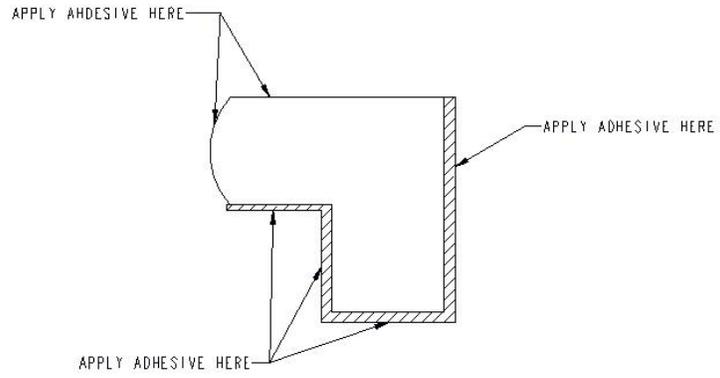


Figure #1: Lubricant and Adhesive Application

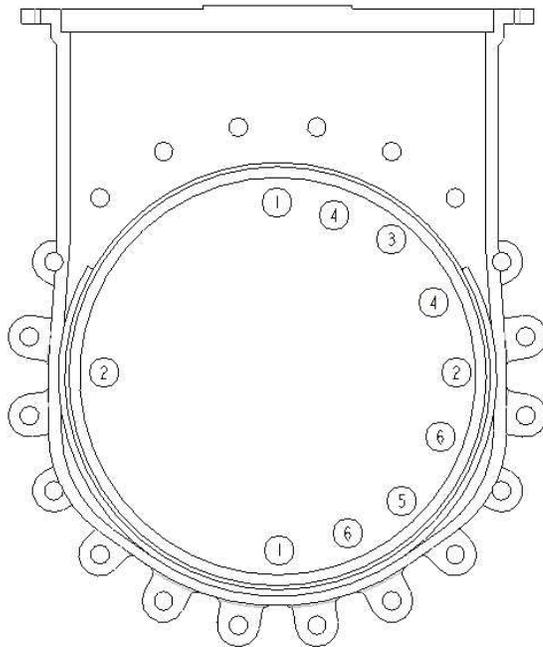


Figure #2: Seal Installation Sequence

WARNING:

Valves and valve actuators supplied by Engineered Valves are designed and manufactured using good workmanship and materials, and they meet the applicable industry standards. These valves are available with components of various materials, and they should be used only in services recommended herein or by a company valve engineer. Misapplication of the product may result in injuries or property damage. A selection of valve components of the proper material consistent with the particular performance requirement is important for proper application.

Examples of the misapplication or misuse of a valve or valve actuator includes use in an application that exceeds the pressure / temperature rating, or failure to maintain the equipment as recommended.