

**INSTALLATION AND MAINTENANCE INSTRUCTIONS
C45 DFV (Drilling Fluid Valve)
FABRI-VALVE® KNIFE GATE VALVE**

CAUTION: IF THE VALVE IS TO BE STORED FOR AN EXTENDED PERIOD OF TIME BEFORE INSTALLATION, IT SHOULD BE STORED IN A VERTICAL POSITION AND IN A COOL, CLEAN AREA.

INSTALLATION

Valves may be either single seated or double seated. Double seated valves are bi-directional and may be installed in either direction.

The seats form a seal between the mating flange and the valve flange. The seats will extend the face-to-face of the valve by approximately 1/8 to a 1/4 of an inch. If the seats extend beyond this or come completely out, verify that no obstructions are preventing the seat face from reaching the valve gate. **NO FLANGE GASKETS SHOULD BE USED WHEN INSTALLING THE VALVE.** Use of flange gaskets will decrease the life of the seats and increase the actuator thrust requirements of the valve. **FULLY OPEN OR FULLY CLOSE THE VALVE BEFORE THE SEATS ARE INSTALLED.** **Note: When rubber lined pipe and flanges are used, do not tighten the flange connection more than 25% of the rubber flange thickness or 1/16 of an inch maximum. For example if the rubber lining is 1/8 of an inch thick, do not compress the flange connection more than 1/32 of an inch.** Over-tightening the rubber lined flange connection will decrease the life of the seats and increase the actuator thrust requirements of the valve.

WARNING: 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.

NOTE: BOTH SEATS OF THE VALVE MUST BE FULLY SUPPORTED BY THE MATING FLANGES OF THE PIPE. IF THE INTERNAL DIAMETER (I.D.) OF THE MATING FLANGE IS 1/2" (13mm) OR GREATER THAN THE I.D. OF THE RUBBER SEATS, A LOAD DISTRIBUTION RING IS REQUIRED. CONSULT FACTORY FOR PRICING AND AVAILABILITY.

WARNING: VALVES EQUIPPED WITH SPRING CYLINDERS WILL CONTAIN A SPRING PRELOADED UNDER HIGH PRESSURE. IMPROPER DISASSEMBLY MAY RESULT IN SERIOUS BODILY INJURY. ANY ATTEMPT TO SERVICE, DISASSEMBLE, OR REASSEMBLE A SPRING LOADED VALVE MUST BE CONDUCTED IN STRICT COMPLIANCE TO THE MANUFACTURER'S MAINTENANCE INSTRUCTIONS. PLEASE CONTACT THE FACTORY FOR THE PROPER DOCUMENTATION.

Flange Connections:

To ensure even loading on the flanges and the replaceable seat, tighten the bolts using the sequence shown in Figure 1. The sequence is to tighten the first bolt then move 1/2 of the way around the flange to tighten the second bolt, then move 1/4 of the way around the flange for the third bolt, then 1/2 of way around the flange for the fourth. Continue this sequence (1/4 of the way, 1/2 of the way) until all the bolts are tightened and the mating flanges have metal to metal contact. The amount of torque required is determined by the line pressure, the type of bolt, and the bolt lubrication.

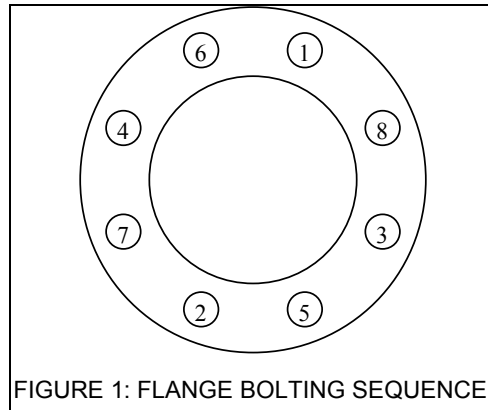


FIGURE 1: FLANGE BOLTING SEQUENCE

PACKING ADJUSTMENT:

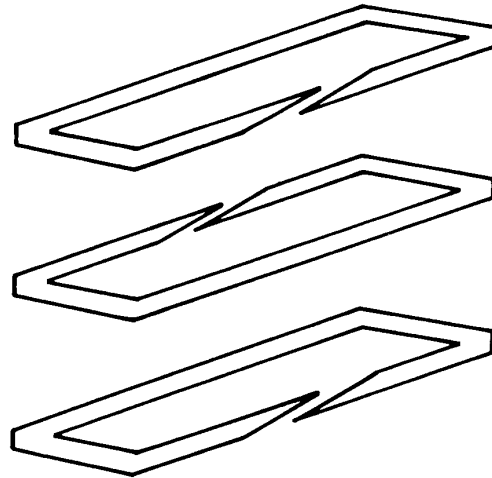
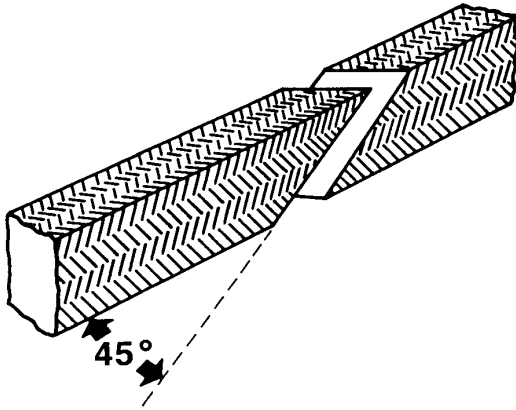
All valves are hydrostatically seat tested before shipment. Each is seat tested at 15 PSI and 150 PSI for seat and body leakage. Test criteria for the DFV require Zero Leakage for the seat test. The packing gland may require some adjusting after line pressure is up to normal. Tighten just enough to stop leakage. Over tightening the packing gland may cause undue pressure against the gate making the valve difficult to operate and cause packing wear. If possible, stroke the valve a few times before setting packing bolts.

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 per table below. Cut to fit around the gate, cutting each end of the packing at a 45 degree bevel (see picture below). Stagger the joints on opposite sides of the gate.

Packing Installation

- Do not over tighten packing. Tighten until the leaking stops. If adjustment does not stop leaking, replace packing.
- Chamfer ends of each row at 45° angle to form a scarf joint as shown below.



STAGGER JOINTS

- Alternate the scarf joint location for each row of packing as shown at right.

Valve Size	Packing Kit Part Number
2"	F329836
3"	F329837
4"	F329838
6"	F329839
8"	F329840
10"	F329841

Valve Size	Packing Kit Part Number
12"	F329842
14"	F329843
16"	F329844
18"	F329845
20"	F329846
24"	F329847

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.

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

REPLACEABLE SEATS:

REPLACEABLE SEATS-RP

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 opposite 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 new seat or use existing seat if wear is minimum.

Blue Poly Seats:

Valve Size	Seat Part Number	Valve Size	Seat Part Number
2"	F329752	12"	F329759
3"	F329753	14"	F329758
4"	F329754	16"	F329760
6"	F329755	18"	F329761
8"	F329756	20"	F329762
10"	F329757	24"	F329763

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

GV Air Cylinder Kits

Cylinder Size	Piston and Rod Seal Kit	Cylinder Size	Piston and Rod Seal Kit
	Part Number		Part number
2.50"	F336414	12"	F336421
3.25"	F336415	14"	F336422
4"	F336416	16"	F336423
5"	F336417	18"	F336424
6"	F336418	20"	F336425
8"	F336419	22"	F336426
10"	F336420	24"	F336427

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 (150 psi CWP) / temperature rating, or failure to maintain the equipment as recommended.