

OPERATING PROCEDURES FOR FPT VALVE CHANGING TOOLS

WARNING!

- ♦ **STRICT ADHERENCE TO THESE OPERATION INSTRUCTIONS AND INDUSTRY SAFETY PRACTICES COULD PREVENT INJURY TO PERSONNEL.**

INSTALLATION PROCEDURE.

1. With faulty valve in closed position and FPT Valve Changing tool fully retracted, install flange/seal housing assembly to faulty valve. **For 6" & 8" tools**, align drain valve with bottom of flange to aid draining of pipe.
2. Install and tighten flange mounting bolts on outer perimeter of tool. (For 6" and 8" valves only).
3. With drain valve in closed position (6" & 8" valves only) and tool fully retracted, turn faulty valve to open position.

WARNING! IF SHAFT IS NOT FULLY RETRACTED, FLUID PRESSURE COULD CASUE THE SHAFT TO THRUST VIOLENTLY INTO THE RETRACTED POSITION

4. If any leaks occur, upper or lower packing gland nut should be further tightened to stop leak.
5. **For 6" & 8" tools**, install pulley bracket over pinned collar.
6. **For 6" & 8" tools**, secure both ends of customer supplied cable to one (1) cable guide on flange/seal housing. Cable loop must be long enough to wrap around pulley bracket assembly.
7. **For 6" & 8" tools**, secure one end of customer supplied jacking winch to second cable guide on flange/seal housing. Secure other end of jacking winch to cable loop.
8. **When Installing / Locking FPT Tool Into A Tank or Header**
 - a. Using jacking winch, push tool through valve so locking linkage of tool will be inside tank or header.
 - b. While holding compression tube from turning, turn main shaft clockwise to allow joggle locking device to expand. Continue tightening until main shaft reaches end of adjustment, with locking linkage at full expansion.
 - c. Slowly begin to retract shaft using jacking winch until toggle locking device seats on inside of tank or header, proceed to Step 10.
9. **When Installing / Locking Toll Into Pipe ID**
 - a. Using jacking winch, push tool through valve so seal and locking linkage clear valve and allow toggle locking device to expand.
 - b. While holding compression tube from turning, turn main shaft clockwise to allow toggle locking device to expand. Continue to tighten shaft until grippers lock onto pipe lid. (Approximately 90 ft-lbs; 100 ft-lbs max).
 - c. Slowly begin to retract shaft using jacking winch. FDT should not move. If movement occurs, take up slack on jacking winch and check installation torque. Proceed to Step 10.



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10. Remove jacking winch.
11. While holding compression tube from turning, turn compression nut clockwise to engage seal. (Approximately 90 ft-lbs; 100 ft-lbs maximum).
12. **For 6" & 8" tools.** Purge valve body by opening drain valve.(Keep clear of valve path while purging). When valve body is purged, loosen lower packing gland nut and unbolt flange/seal housing from faulty valve.
13. **For 2" through 4" tools.** Loosen lower packing gland nut to allow pressure and fluid to escape. Loosen seal housing assembly from fault valve.
14. Remove flange/seal housing over comp tube.
15. Remove faulty valve and repair or replace as required. Reinstall valve in open position.
16. **For 6" & 8" tools,** reinstall flange/seal housing. Bolt up to new valve with drain valve aligned with bottom of flange.
17. Firmly tighten lower packing gland nut.
18. Reinstall jacking winch and tighten to secure valve changing tool.
19. **For 6" & 8" tools,** with drain valve in closed position, loosen compression nut while holding comp tube from turning. Loosen nut fully to retract seals.
20. Keeping clear of FPT end, loosen main shaft while holding comp tube from turning. Loosen nut fully to retract locking linkage.
21. Using jacking winch, fully retract valve changing tool.
22. Turn replaced valve to closed position.
23. Purge valve body.
 - a. **For 2" through 4" tools,** loosen lower packing gland to allow pressure and fluid to escape.
 - b. **For 6" & 8" tools,** purge valve body by opening drain valve.
24. Unbolt / loosen housing assembly and remove tool.

QUESTIONS? Contact EST Group Customer Service at any of the following locations with questions.

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EST Group is a business unit of Curtiss-Wright Flow Control Company. **EST Group** provides a complete range of repair products, services and replacement parts covering the life cycle of tubular heat exchangers and condensers; additionally EST Group provides products and services to facilitate pressure testing pipe, piping systems, pressure vessels and their components. Visit EST Group on the Internet at <http://estgroup.cwfc.com>.



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