

Use these instructions to install ENVIRO-SEAL packing in valves that have standard packing or when inspecting or replacing ENVIRO-SEAL packing.

WARNING

Avoid personal injury or property damage from sudden release of process pressure or bursting of parts. Before performing any maintenance operations:

- **Disconnect any operating lines providing air pressure, electric power, or a control signal to the actuator. Be sure the actuator cannot suddenly open or close the valve.**

- **Use bypass valves or completely shut off the process to isolate the valve from process pressure. Relieve process pressure from both sides of the valve. Drain the process media from both sides of the valve.**

- **Vent the pneumatic actuator loading pressure and relieve any actuator spring precompression.**

- **Use lock-out procedures to be sure that the above measures stay in effect while you work on the equipment.**

If you are installing the system in a valve that is still connected to an actuator, remove the actuator from the valve to provide sufficient space to install the packing assembly. If a spring-return actuator is used, it is possible that disconnecting the stem connector will allow the spring to force the actuator to the end of its travel. Be sure the actuator spring is resting on its travel stop. Refer to the appropriate valve and actuator instruction manuals to remove the actuator.

Pressures and Temperatures

Maximum to Maintain Leakage of Less Than 500 ppm: Full ANSI Class 300 pressures to 450°F (232°C).

1. Carefully remove the old packing parts from the packing box. The surface condition of the valve stem and the packing box wall is critical in obtaining a good seal. If the valve stem needs to be replaced, or any other valve part, refer to the appropriate valve instruction manual for replacement procedures. Complete all valve maintenance before installing the ENVIRO-SEAL packing system into the bonnet.

2. If a retrofit kit is being installed in place of the original packing, it may be necessary to remove the old studs (key 200) from the valve because they are too short. Check stud length by installing the packing and the spring pack assembly using the following assembly procedures, and try installing the packing nuts (key 212). If the packing nuts will not

start on the threads of the studs, it will be necessary to install new studs and nuts (keys 200 and 212) from the retrofit kit.

Note

Ensure that the packing box parts are assembled in the correct order. Packing parts can not function properly if the Belleville springs or other packing parts are not stacked correctly.

3. Use the drawing provided to ensure that the packing parts are assembled in the correct order. Install the ENVIRO-SEAL packing parts into the packing box.

4. **For 72 spring construction:**

Note

For valves with a new spring pack assembly (key 217), the springs are tight on the packing flange. When the spring pack assembly is removed from the valve after being in service for some period of time, the springs may be loosened within the spring pack assembly. This is not an indication of defective springs, but that the springs have “set” in the operating position.

Install the spring pack assembly (key 217), which includes the attached springs and packing flange, onto the stem. Install the nuts (key 212), and hand tighten them.

5. **For 7, 9, & 10 spring construction:**

Install the spring pack assembly (key 217), with the attached springs, onto the stem. Install the packing flange (key 201), and packing box nuts (key 212). And hand tighten them.

Note

Lubrication is required for the packing studs and nuts. Although it is important to properly lubricate the stud threads and internal nut threads, it is also important to properly lubricate the contacting face of the nut.

6. You will obtain maximum benefit from your ENVIRO-SEAL packing system when you tighten the packing flange nuts and compress the Belleville springs to their “target load.” The target load is the point where the Belleville springs are designed for optimum performance, when they are compressed to 85% of their maximum deflection, or nearly flat. (Maximum deflection is when the springs are 100% compressed, or completely flat.)

To obtain the target load of 85% compression of maximum deflection, perform the following:

- **Tighten the packing flange nuts alternately and evenly, keeping the packing flange parallel with the valve flange,**

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Installation Instructions

Design CE ENVIRO-SEAL™ PTFE Packing



until the Belleville springs are compressed 100% (or completely flat). Refer to the instruction manual for ENVIRO-SEAL packing systems for sliding stem valves if you need further assistance.

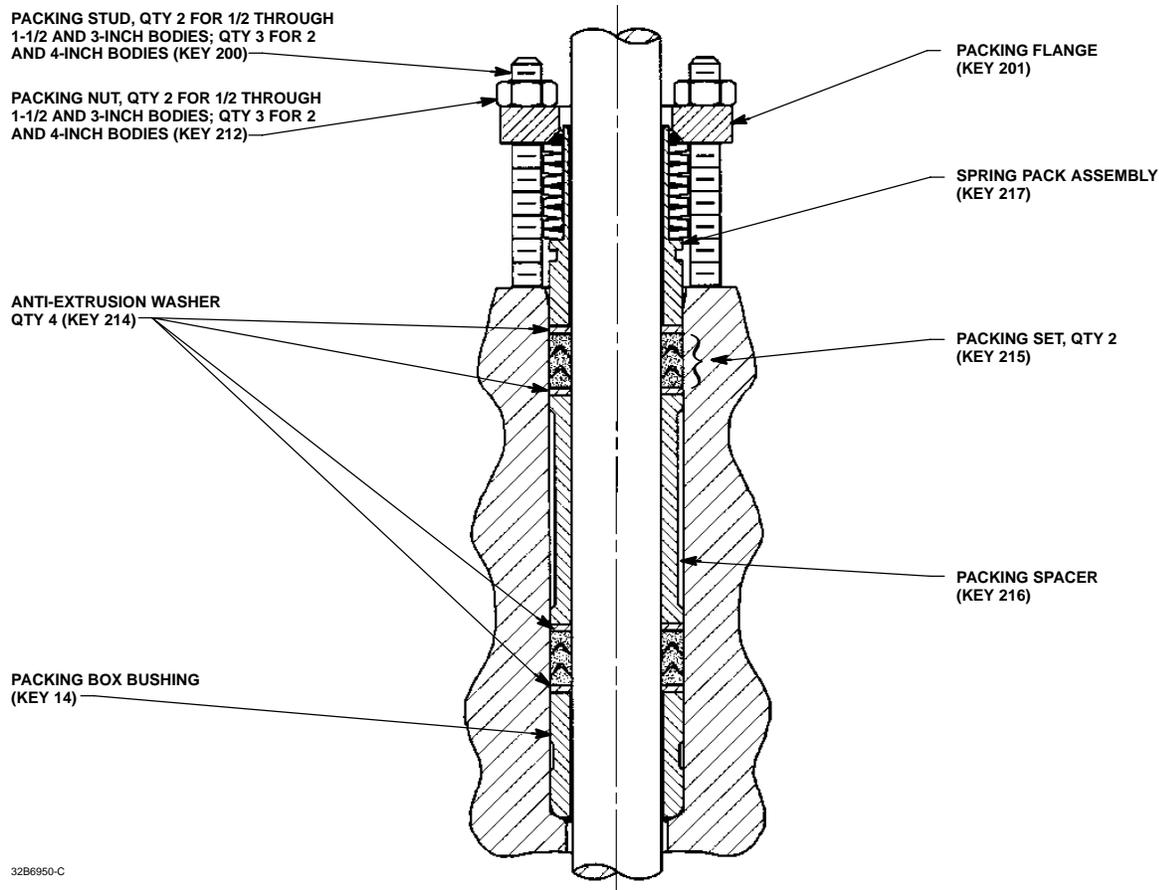
- For PTFE packing, loosen each packing flange nut 1/2 turn (180 degrees rotation).

The “target load” of 85% compression has now been reached.

7. Refer to the appropriate valve and actuator instruction manuals when connecting the valve to the actuator. Under normal conditions, the packing nuts should not require re-tightening.

PACKING RETROFIT		PACKING REPAIR	STEM SIZE DIAMETER, IN. (mm)
RCEXPKRT012	RCEXPKRT052	RCEXPACK012	1/2 (12.7)
RCEXPKRT022	RCEXPKRT062	RCEXPACK022	3/4 (19.1)
RCEXPKRT032	RCEXPKRT072	RCEXPACK032	1 (25.4)
RCEXPKRT042	RCEXPKRT082	RCEXPACK042	1-1/4 (31.8)

For additional information concerning the installation of this packing kit, please consult the appropriate Fisher Controls product instruction manual.



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Stems and packing box constructions that do not meet Fisher Controls stem finish specifications, dimensional tolerances, and design specifications, may adversely alter the performance of this packing kit.

Note for CE valves fitted with Fisher Type 585 actuators: ENVIRO-SEAL packing will interfere with the plastic covers of the Type 585 actuator. Discard the covers or cut to fit.

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