

1. Description

By carefully following these installation instructions, you can achieve maximum performance from your John Crane Packings. This will ensure reliable performance and a long service life.

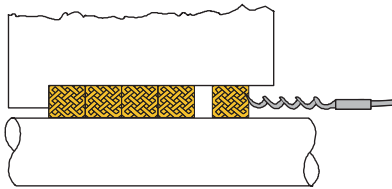
2. Prepare the Equipment

- 1) Shut off all valve lines leading to and from equipment, including pressurized flush if any. Bleed off equipment pressure.



Do not use system pressure to blow out (remove) packing rings.

- 2) Remove all old packing rings and the lantern ring by using the proper size packing removal hook.



- 3) Check the shaft/sleeve for nicks and score marks; repair or replace as necessary. Clean stuffing box bore if required.



3. Select the Correct Packing Cross Section

$$\frac{A - B}{2} = \text{Cross section}$$

A = Box diameter

B = Shaft/sleeve diameter

4. Determine the Required Amount of Rings

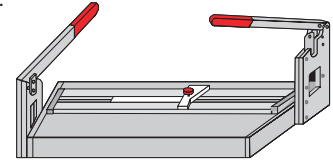
$$\frac{\text{Depth}}{\text{Cross section}} = \# \text{ of rings (round to nearest whole number)}$$

If lantern ring is used, subtract one (1) to two (2) rings depending on the lantern ring height.

5. Cut Rings

Wrap and cut packing rings using proper mandrel size or John Crane's guillotine cutter (preferred cut 45°).

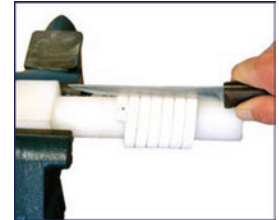
Guillotine Cutter



Butt cut



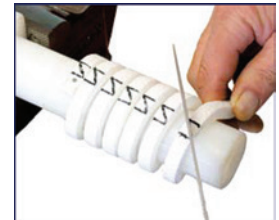
Cut directly across the packing.



Diagonal cut



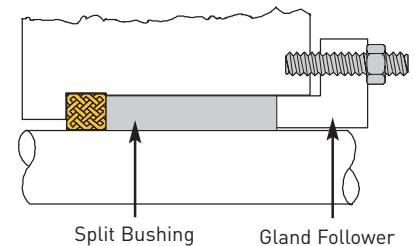
Draw two parallel lines on the packing, then individually cut each ring at a 45° angle.



6. Method of Installation

1. Begin by installing the first ring with ring joint at approximately the "1 o'clock position". Seat ring firmly against bottom of stuffing box using a split bushing and gland follower.

"S" twist ring and insert around shaft.

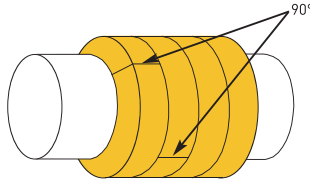


Split Bushing

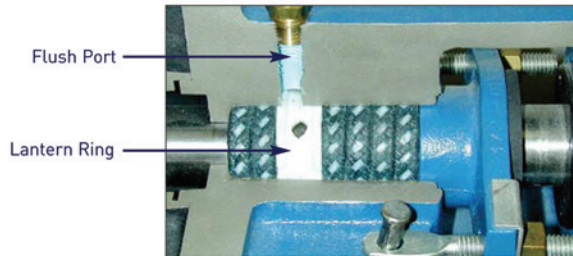
PACKING RINGS

Installation, Operation & Maintenance Instructions

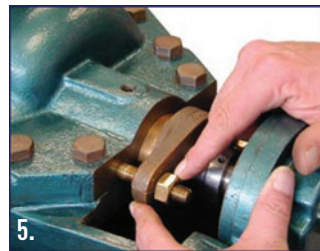
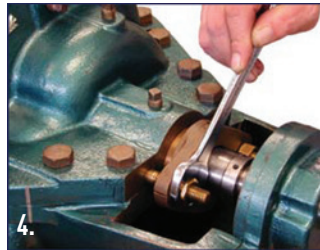
- Repeat procedure as previously described in number 1 above and install remaining packing rings. Ring joints should be staggered 180° apart for a two (2) ring set, 120° for a three (3) ring set, and 90° for a four (4) or more ring set.



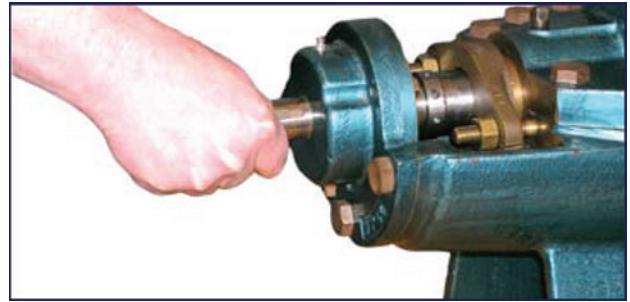
- If lantern ring is used, be sure it is properly aligned with lantern ring port.



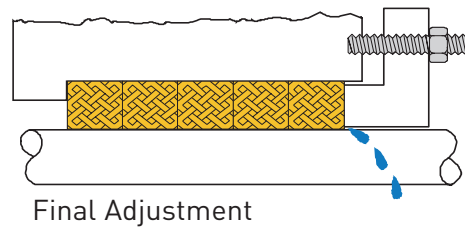
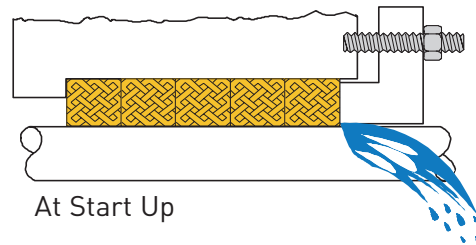
- Seat final ring firmly with wrench. Loosen gland nuts and finger tighten.
- At minimum, gland follower lead-in should be approximately 1/8" to 3/16". The remaining exposed portion of gland follower should at least equal the cross section of packing used, allowing for future gland adjustments.



- Rotate shaft by hand to ensure shaft is not binding.



- Allow liberal leakage at start up. Slowly adjust leakage flow to an acceptable level by tightening gland nuts slowly and evenly. Final adjustments should be made by rotating gland nuts one (1) flat at a time.



- Packing may run warm during break-in period, a day or two.
- Do not adjust the packing unless necessary.
- If uncontrolled excessive leakage occurs or gland follower bottoms out, repack the pump.