

# LF VENT PAC® ASSEMBLY

Patented\* design extends vent seal service life

Low-Friction™ technology produces vent seals that reduce rod temperatures for longer-lasting rings and packing cases

For years, the Cook Compression "WAT" ring has set the industry standard for vent seals in environmentally sensitive packing cases. Now Cook Compression takes this proven technology to the next level of performance with the LF Vent Pac assembly.

### WAT RING FUNCTION

The WAT ring side-loads the seal ring against the downstream side of the ring groove to maintain a consistent seal during either direction of rod travel. Side loading is accomplished using a wedge ring. A spring on the wedge ring exerts force radially (Fig. 1). The radial force is split into axial and radial components by the wedge-shaped contact surface. The axial force creates highly effective sealing action, which has made WAT rings the preferred design in the industry.

However, Cook Compression engineers are continually searching for opportunities to make components more robust and cost-effective. Internal testing on the WAT design revealed that the radial component exerted by the center wedge ring creates

additional undesirable heat, which can reduce the service life of the ring. Further research led to the development of Low-Friction (LF) technology, which creates effective side-loading without using a wedge ring.

### LF VENT PAC ASSEMBLY

LF Vent Pac assemblies offer the high performance of previous designs, plus extended service life and simplified field maintenance.

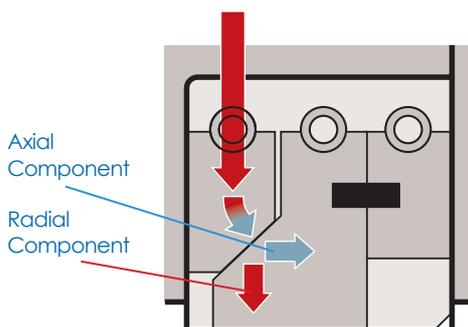


Figure 1. WAT Ring

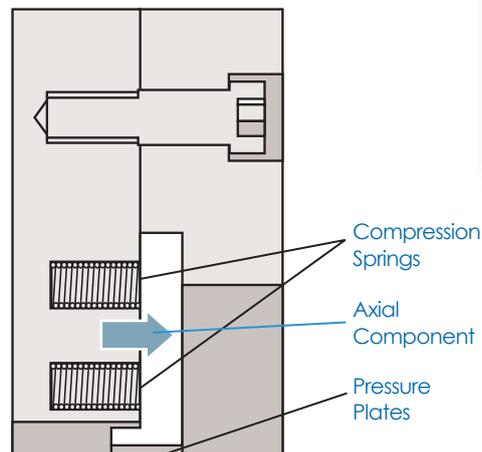


Figure 2. LF Vent Pac Assembly

### BENEFITS

- Extends seal ring and packing case life
- Effectively seals vent
- Retrofits to most packing cases
- Accommodates standard size seal rings
- Cartridge design for trouble-free field maintenance

The assembly uses internal compression springs and a pressure plate to side-load a standard seal ring (Fig 2) without the increased heat generated by a wedge-type ring.

The convenient and innovative cartridge design of the LF Vent Pac assembly simplifies installation and maintenance by eliminating the need to handle small, loose parts.

### OPERATION

The side-loading technology eliminates the radial component of the wedge ring. Field data and internal testing on instrumented Cook test compressors demonstrate that Low-Friction technology reduces rod temperatures by 50°F (27.8°C) or more.

The plate and springs are preassembled and bolted into the LF Vent Pac assembly at the factory to create a .375 in. (9.5 mm) cavity where a standard seal ring will fit. This design simplifies maintenance by eliminating the need to handle individual springs and other internal components when rings are installed or replaced in the field.

### APPLICATIONS

An LF Vent Pac assembly can be retrofitted to most packing cases with at least 1.0 inch (25.4 mm) of axial space. If space is limited, the axial dimension can be reduced to 0.94 inch (23.9 mm) by substituting a thinner seal ring.

To enhance ring life and performance in your environmentally sensitive packing cases, contact your Cook Compression representative for details on LF Vent Pac assemblies.

*LF Vent Pac assemblies are designed to fit most packing cases*

