

KADANT JOHNSON PT SEAL TECHNOLOGY

A unique configuration for superior performance

With its spring-loaded piston and reverse seal, the Kadant Johnson PT seal technology is a far different design than conventional seal packages. And it's these advanced design differences that make the PT a more reliable, easier-to-maintain joint – even under the most difficult application conditions.

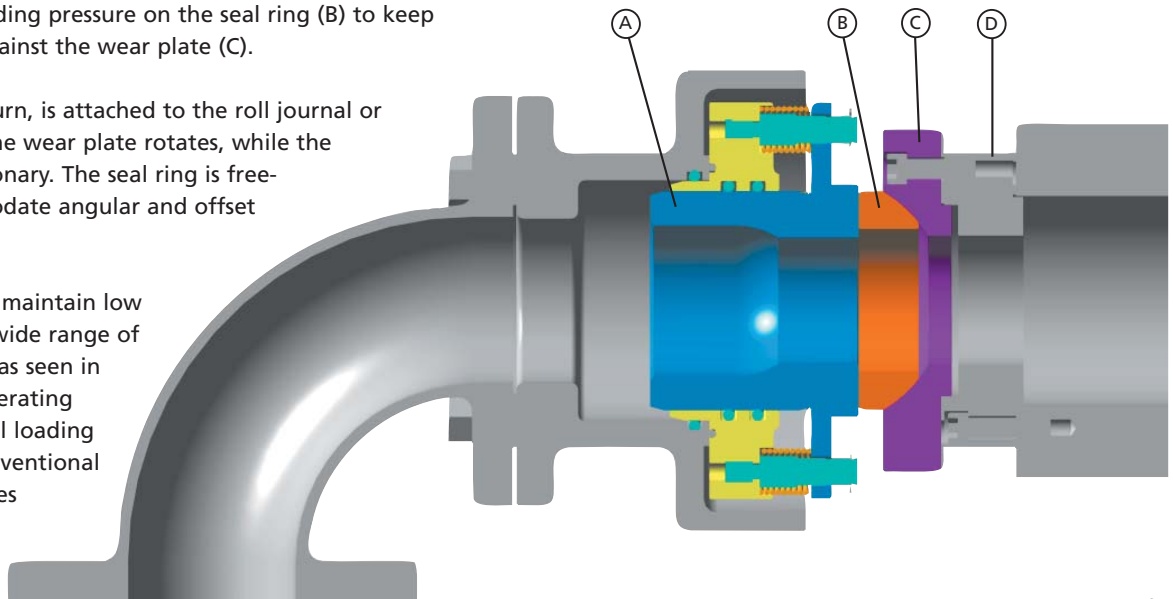
Positive sealing with low loading

The PT seal technology uses a spring-loaded piston (A) that applies constant loading pressure on the seal ring (B) to keep it securely seated against the wear plate (C).

The wear plate, in turn, is attached to the roll journal or a filler flange (D). The wear plate rotates, while the piston remains stationary. The seal ring is free-floating to accommodate angular and offset misalignment.

Balanced seal forces maintain low seal loading over a wide range of operating pressures as seen in Figure 1. At high operating pressures, the PT seal loading is a fraction of a conventional joint's – this translates directly to less seal wear and longer seal life.

- The Benefits:**
- ▶ Speeds up to 500 RPM (11,000 FPM)
 - ▶ Pressures up to 160 PSIG (11 BAR)
 - ▶ Temperatures up to 370°F (184°C)
 - ▶ Balanced loading for longer life
 - ▶ Duplex seal to handle misalignment
 - ▶ External seal wear indicator



PT Upgrade Kit with Beloit CS Steamfit

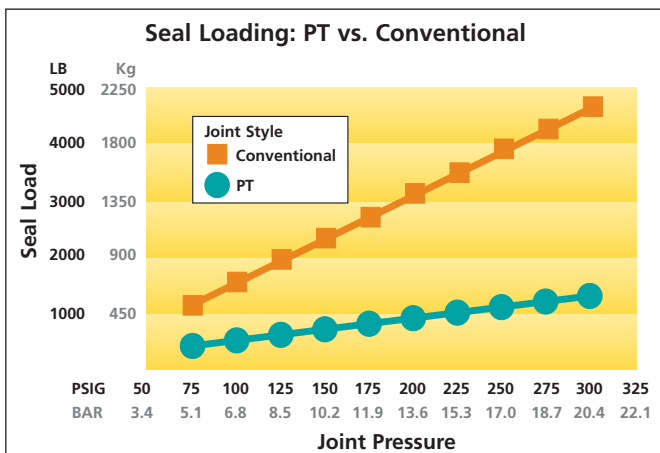


Figure 1. PT seal loads stay low as operating pressures rise.

Another unique feature of the PT seal technology is the reverse seal. The convex surface of the seal ring mates to a precisely-machined concave surface on the wear plate. This allows the seal and mating surface to stay in contact, even when the rotary joint is misaligned, as in Figure 2. As a result, the PT joint can tolerate up to 6° of misalignment without leaking – far more than most conventional joints and those using a flat seal.

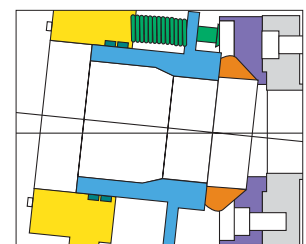


Figure 2. Even when misaligned, the PT keeps a positive seal.

Upgrade kits with PT seal technology from Kadant Johnson

Kadant Johnson is offering an upgrade kit for Beloit CS rotary joints. The upgrade kits include the latest technology in seal design for steam and condensate service. The PT seal technology is a proven technology operating in more than 6,000 installations around the world on machines producing newsprint, LWC, SCA, printing & writing grades, linerboard, and corrugated medium.

The upgrade kit replaces the dynamic o-ring seal with two static o-ring seals. This greatly reduces the likelihood of having steam cuts occur in the cast iron body. The Beloit sealing system is replaced with the Kadant Johnson PT seal package. This consists of Kadant Johnson's patented spherical carbon seal, piston, end cap, and wear plate – available as a single upgrade kit.

BELOIT CS UPGRADE KITS

CS I – Simplex

Used primarily as the condensate outlet, the CS I simplex model can be upgraded with the Kadant Johnson kit RK6550-PT or replaced with the 6000AFY-PT joint.

CS II – Simplex

Used for either the steam inlet or condensate outlet, the CS II simplex model can be upgraded with the Kadant Johnson kit RK6550-PT or replaced with the 6000AFY-PT joint.

CS III – Simplex

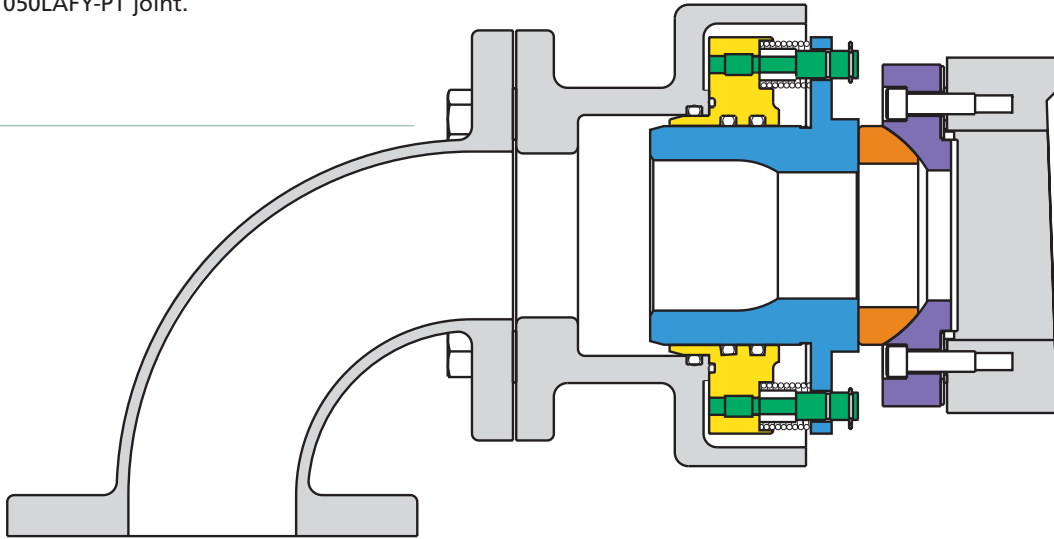
Used for either the steam inlet or condensate outlet with stationary syphon, the CS III can be upgraded with the Kadant Johnson kit RK6750-PT or replaced with the 6000AFY-PT joint for steam service, or the 9800AFYSC-PT joint with cantilever stationary syphon for condensate service.

CS III – Duplex

The duplex version of CS III uses a stationary syphon and can be upgraded with the Kadant Johnson kit RK6750-PT or replaced with the 9800AFYSC-PT joint.

CS IV – Simplex

Used with Yankee dryers, the CS IV can be upgraded with the Kadant Johnson kit RK1050-PT or replaced with the 1050LAFY-PT joint.



To order your PT Upgrade Kit, please send the following items to your local Kadant Johnson office:

- ▶ Beloit assembly drawing (e.g. 4-8017-XXXX)
- ▶ Assembly drawings of the dryer, journal, and bearing cover (if available)

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