Bushing oil seals for hydrocarbon processing equipment

Kaydon has perfected the classic bushing oil seal assembly (K-BOS) with several key advantages. The bore geometry for the bushing oil seal inboard babbitted bushing ring allows each unit to operate with minimal oil leakage to process, while maintaining a generous clearance to the shaft.

Spiral grooves in the shaft seal rings, coupled with shaft rotation, provide a relative offset to the seal oil differential pressure. The result is a non-contacting oil buffered seal that leaks approximately 1.5 gal/day per inch (0.25 liter/day per millimeter) in seal diameter at full operating speed. A straight bore section minimizes leakage rates during shutdown periods.

Each bushing oil shaft seal is provided as a pre-tested seal cartridge, ready to be installed in minutes. Prior to shipment, each seal is tested at full pressure and speed to verify performance. Test results are provided with each seal. Customers are welcome to witness testing.

Typical bushing oil seal cross-section
Corrosion protection

Kaydon’s gold-plated inboard bushing ring is designed for hydrocarbon processing applications involving corrosive process gases, featuring critical seal clearances that resist corrosion. The natural softness of gold provides similar abradable properties to babbitt should contact with the shaft occur. Gold-plated bushing oil seals are ideal for hydrogen recycle centrifugal compressors and oil refinery wet gas applications where H₂S concentrations may be 10% or greater, or where chlorides may form after rotor wash.

Typical applications up to

- Pressure: ≤ 3500 psi (240 bar)
- Speed: 500 ft/s (152 m/s)
- Temperature: 350 °F (175 °C)
- Size: 14 in (355 mm)

Kaydon’s oil seal application group has the experience and expertise to help with new seal designs, upgrades, retrofits, and troubleshooting of Kaydon and other brand seals, and control systems.

Contact us today at kbos@kaydon.com