



TRACK ROLLER SEALS

Freudenberg Sealing Technologies Track Roller Seals (Floating Seals) commonly used in heavy equipment and construction machinery are noted for their reliable seal endurance characteristics. These durable seals are resistant to moisture, natural contaminants such as sand and fiber, and harsh weather including radical temperature fluctuation, ozone, and extended UV radiation.

In laboratory tests simulating actual field service conditions (e.g., muddy water) at 1 m/s for over 1000 hours, track roller assemblies showed no leakage and essentially no seat wear using standard 80W-90 gear oil as the lubricant. There was also no noticeable deformation or deterioration of elasticity in the floating seal O-rings.

ES Series floating seals are designed to operate under the following conditions:

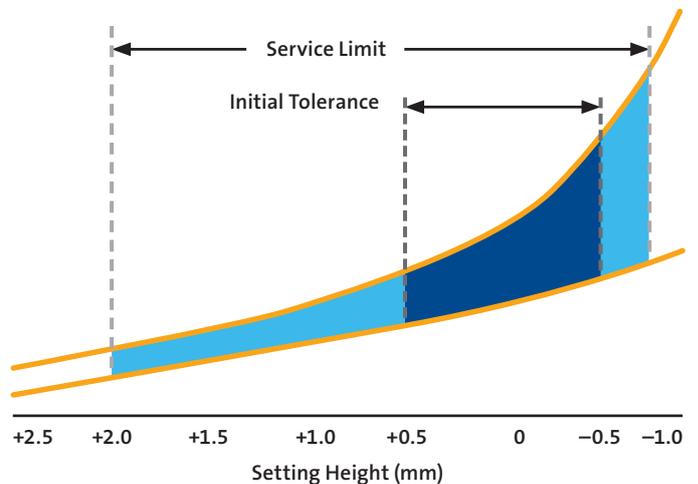
- Lubricant pressure within seal cavity of 1.5 kg/cm² (maximum 2 kg/cm²)
- Circumferential speed of 2 meters/second, maximum
- Temperature range: -40 °C to +100 °C for standard materials

VALUES FOR THE CUSTOMER

Benefits of using Floating Seals include:

- Strong seal performance
- Excellent contamination resistance
- Longer intervals between services
- Lower labor and maintenance costs

Setting Length



Installation of the floating seals requires a recommended setting height of ± 0.5 mm, but they will continue to function beyond these parameters during normal service life.



FEATURES AND BENEFITS

Type ES100 Floating Seal

The ES100 floating seal was developed as a seal for the Type ES100 Seal Cross Section track rollers used in construction machinery and vehicles. It is simple in construction, consisting of O-rings and floating seats made of special cast iron. Its performance is dependent on the sealing capabilities and elastic distortion of the O-rings, as the floating seats are supported by the O-rings.

The seal effectively excludes sand, dirt, and water and is widely used in bulldozer and excavator undercarriage applications. The ES100 is generally the most common and most cost-effective solution, but requires precise machining of the housing bore.

ES100 Seal Construction

The seal seat is a special alloy cast iron. The O-ring component is standard material NBR A627, or optional materials, FKM F201 and HNBR G969.

Specifications–Standard Material

- Lubricant pressure within seal cavity: 2 kg/cm², maximum
- Circumferential speed: 2 m/sec., maximum
- Temperature range: –40 °C to 100 °C
- Fluid retained: lubricating oil
- Foreign material excluded: soil, sand, mud, water, etc.
- Sizes: 38 mm to 429 mm (inside diameters)

Type ES764 Floating Seal

A sister product of the type ES100 seal, the ES764 allows for a simpler housing design and construction. The housing is easier to machine, but more housing space is required and fewer tooled sizes are available. This economy of design provides reduced manufacturing costs in agricultural equipment and other field machinery.

The ES764 has a higher pressure capability and range compared to the type ES100 seal. The type ES764 seal utilizes a unique wing-form elastomeric packing with floating seats made of special alloy cast iron.

ES764 Seal Construction

The seal seat is a special alloy cast iron. The O-ring component is standard material NBR A627.

Specifications–Standard Material

- Lubricant pressure within seal cavity: 3 kg/cm², maximum
- Circumferential speed: 2 m/sec., maximum
- Temperature range: –40 °C to 100 °C
- Fluid retained: lubricating oil
- Foreign material excluded: soil, sand, mud, water, etc.
- Sizes: 35 mm to 96 mm (inside diameters)

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