Elliott brush ring seals are a reliable alternative for carbon ring seals in rotating equipment. The Elliott brush ring seal technology features a metallic brush and carrier to provide long-term, effective sealing for the most extreme operating conditions. With advanced sealing materials and design, Elliott Group can help you realize energy savings by reducing steam leakage and improving operating reliability.

Why upgrade to an Elliott brush ring seal?
- Decreases maintenance due to steam leakage
- Eliminates high-maintenance carbon ring seals
- Reduces emissions
- Accommodates rotor movement and changes in steam parameters without losing sealing effectiveness
- Reduces energy demands while increasing process throughput
- Customized seal-rotor fit installation kit available
- Patent-pending technology based on more than 100 years of innovative experience and testing

Installation Kit
Ensures that the brush effectively seals with the rotor during process changes and over the entire operating range. Each brush seal kit contains:
- Brush ring seal
- Laminated stainless steel mounting shim pack
- High-temperature adhesive
- Installation instructions
- Elliott supervision and training
Steam Leakage Chart

Brush Ring Seal vs. Carbon Ring Leakage

Steam leakage estimate of a single, worn in brush ring seal versus a single carbon ring in both new and worn condition.

Carbon ring seals continually wear due to friction with the rotor and packing case, which varies with steam parameter changes. The rate of wear increases with the frequency and severity of steam parameter changes. Moreover, severe steam parameter changes can cause the brittle carbon ring to crack and fail.

Brush seals have an initial wear-in period during startup, which typically lasts 4-8 hours depending upon the rotor speed and seal differential pressure. Due to the compliance of the brush, once this wear-in is completed the performance of the seal will not significantly degrade no matter the frequency and severity of the steam parameter changes. Moreover, the metallic bristles are not susceptible to failure due to normal steam parameter changes as long as the differential pressure does not exceed 300 psid.