BAL SEAL® LOW FRICTION SEAL IN ELECTRO-OPTICAL HOUSINGS

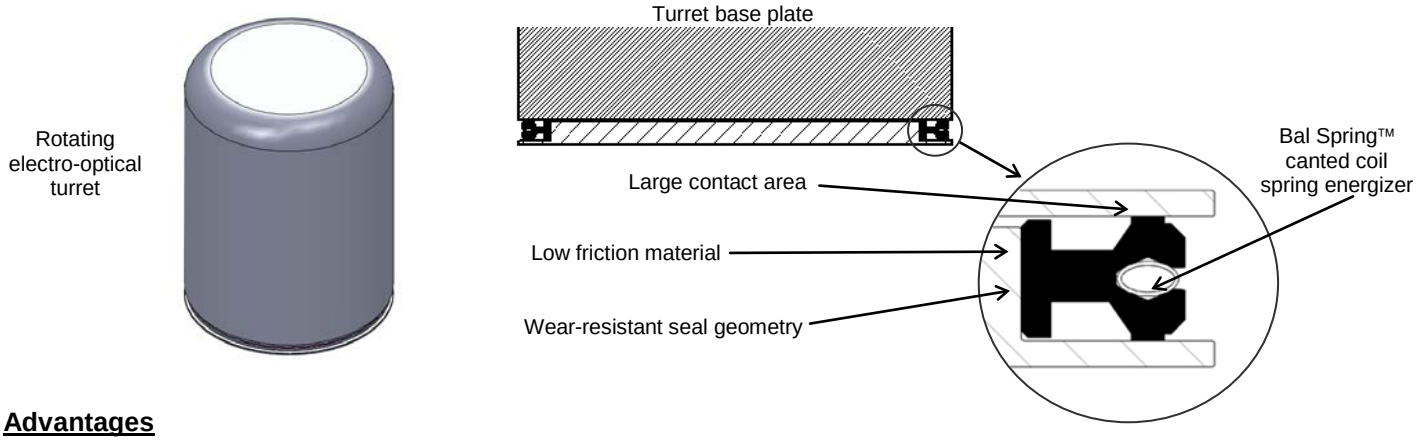
Aircraft design engineers employ turrets, pods, and other types of housings as a means to protect sensitive electronics such as infrared, radar, and weapons targeting systems. These housings are often required to accommodate a range of motion, and their movements are usually controlled by small motors designed to meet strict weight and power specifications. Whether moving or stationary, most housings use one or more seals to exclude their contents from environmental conditions including moisture, pressures, high and low temperatures, dust, and debris.

The aircraft housing seal, which is installed between two moving or static mating surfaces, must maintain sufficient surface contact to keep internal components clean and dry. However, if the seal configuration creates too much friction, housing movement can be restricted, and motor performance and system life can be compromised.

The Bal Seal low friction seal offers an ideal solution for aircraft electronics housing applications. Its seal jacket is constructed of **SP83HT**, a specially formulated polymer-filled polytetrafluoroethylene (PTFE) material that provides excellent sealing performance and an extremely low dynamic coefficient of friction. Additionally, its Bal Spring™ canted coil spring energizer exerts a customizable, near-constant force that compensates for wear and ensures longer service life.

Operating Parameters:

The Bal Seal low friction seal is designed to deliver effective sealing with minimal friction at low speeds, in moderate temperatures, and in dry or moist environments. It can seal against a variety of materials, hardnesses, and finishes, and it can be engineered to meet a wide range of media and pressure requirements.



Advantages

- SP83HT material offers extremely low dynamic coefficient of friction (30% less than Bal Seal's comparable SP45 material)
- Seal can be designed with increased contact areas to permit better sealing performance
- Allows for higher spring force without sacrificing low torque
- Can be used against range of materials (hardness/finishes)
- Design minimizes countersurface wear

For more information about this sealing solution or material, please contact your Bal Seal technical sales representative.

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