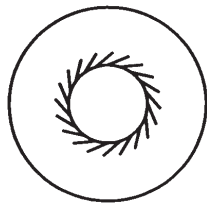
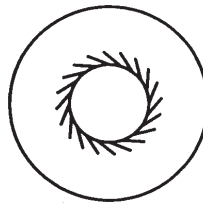


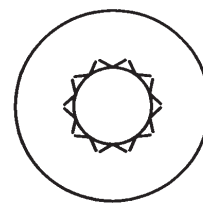
Helix Designs



Counter Clockwise



Clockwise



Bi-Directional

The uni-directional Helix design provides ribs along the seal lip on the air side. This design is used exclusively for shafts rotating in one direction. The ribs function as pumping veins that force any fluid passing under the seal lip back onto the fluid side of the seal. This design has been accepted as a standard in many automotive transmission applications. In specifying an uni-directional Helix, the shaft rotation should be described as clockwise or counter-clockwise when viewing the shaft from the primary lip side of the seal. A caution for the uni-directional Helix should be noted; if the shaft rotates in the reverse direction, the Helical ribs will act as a pump and force fluid past the seal lip onto the air side of the seal.

A bi-directional Helix design incorporates triangular shaped wedges beneath the seal lip on the airside of the seal's contact edge. These wedges provide the same pumping action as the uni-directional Helix. This configuration, however, does not permit as many pumping veins on the seal surface and therefore is not as effective as the uni-directional Helix.

Our helix designs are specifically engineered to provide the return pumping action during shaft rotation and have the ability to seal while the shaft is stationary.