
SpiralTrac™ Mechanical Seal Versions

CUSTOMER BENEFITS

For years SpiralTrac technology has been blazing trails for customers who use single, double or split mechanical seals, allowing them to gain outstanding features and important benefits not available previously. Customers are afforded a unique sealing solution for any application, while also being provided the opportunity to dramatically reduce direct and indirect costs associated with the operation of process pumps and equipment. Some of these benefits are:

Increases seal MTBF

By preventing accumulation of solids in the cavity, circulating fluid around the seal, exchanging internal **cleaned** flush and venting the cavity when the pump is stationary, SpiralTrac is able to increase mechanical seal MTBF by (typically) two to six times the previous level.

Decreases or eliminates flush

SpiralTrac's patented design permits users to greatly reduce or eliminate flush in many standard process applications. Although complete elimination of flush is dependent on the type of application, EnviroSeal's technical support staff can assist you in determining your application's suitability for total flush elimination.

Eliminates seal and cavity erosion

In most mill and mining services, the flush itself contains solids from pipe scale, silt or settling ponds. This dirt is injected with the flush and, due to flow patterns within the seal cavity, causes premature wear of the seal and cavity itself. SpiralTrac develops a flow pattern whereby solids are drawn towards the front of the box, and subsequently channeled through the exit groove of the device and expelled at the impeller.

Reduces shaft or sleeve wear

One of the problems caused by particulate circulating in the seal cavity is excessive shaft or sleeve wear. As noted above, SpiralTrac draws this particulate through its spiral grooving system, and expels it at the impeller, significantly reducing erosion of the shaft or sleeve.

Permits the use of soft faces in non-crystallizing applications

Typically, hard face seal combinations are used when erosive solids are present in a seal cavity. With SpiralTrac, however, solids are no longer present in the cavity. Since the seal is now operating in a cleaner environment, soft face seal combinations can be used at substantially reduced costs. Soft face seal combinations will also run cooler, further extending the mechanical seal's life.

Reduces sensitivity to flush pressure loss

In a standard seal cavity, if flush pressure is lost for a period of time, solids will quickly enter the cavity. Once inside the seal cavity, centrifugal force will throw the solids to the bore, and even when the flush comes back on, it cannot push the solids out because they are trapped along the bore.

With SpiralTrac installed, solids are continuously removed **even if flush pressure is lost**. Since solids are kept away from the seal, premature failure as a result should not occur.

Enables seals to operate in applications not possible before

Many customers have had poor results using mechanical seals because of high solids/fiber content in the process. These solids get in around the seal area, de-water and consequently cause the seal to overheat and/or fail. SpiralTrac's inherent ability to remove solids/fibers from around the seal allows many of these applications to be revisited. The end result? A typical seal MTBF increase of approximately 2 to 6 times that of a conventional seal operating alone.

Protects single or double seals

Solids will enter into the seal cavity whether or not a single or double seal is installed. SpiralTrac will develop a flow to remove these solids **regardless of the seal design**, resulting in a significant reduction or elimination of flush and increased seal MTBF.