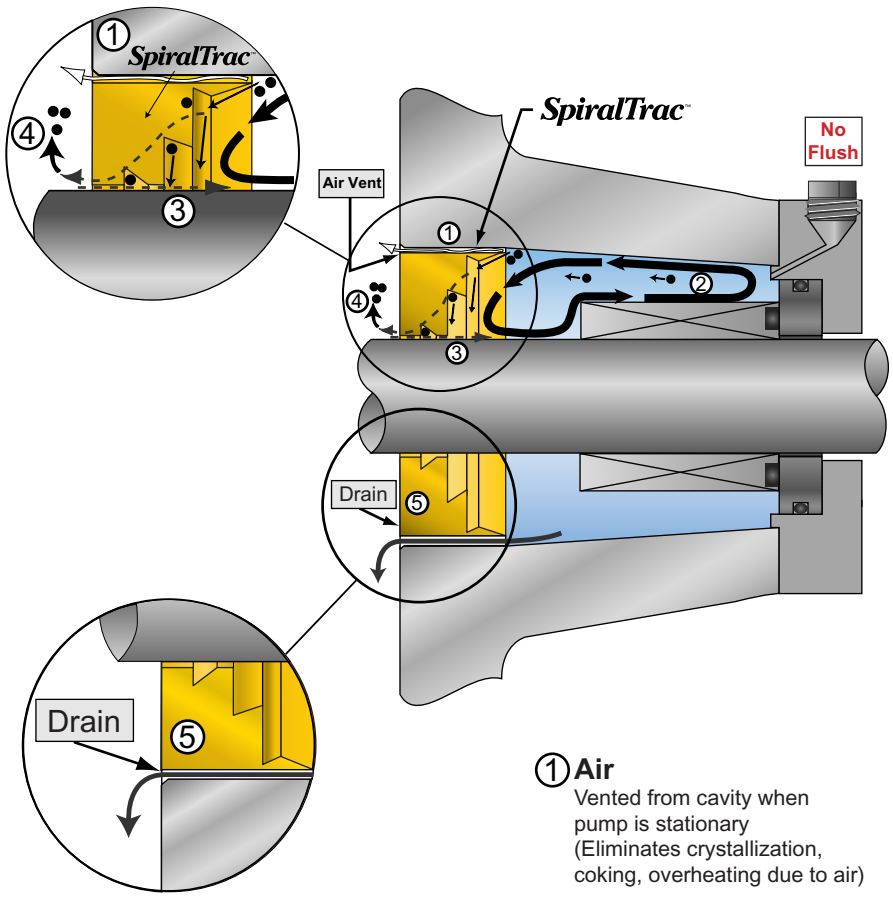
SpiralTrac™ C

How Version C Works

SpiralTrac Version C Installed in a Seal Cavity



① Air
Vented from cavity when pump is stationary (Eliminates crystallization, coking, overheating due to air)

② Circulation
Driven around seal (Excellent face cooling)

③ Exchange
In and out of cavity (Heat removed from cavity)

④ Particulate
Immediately removed from cavity through the exit groove

⑤ Drain
Allows trapped product to drain from the seal cavity,

Total Environmental Control (No Flush)

During operation, ***SpiralTrac*** converts some of the rotating flow in the seal cavity into a strong axial flow component. This axial flow is driven along the seal cavity bore in the direction from the gland towards the throat. Since contaminants are centrifuged to the bore during pump operation, the flow sweeps them in the direction of ***SpiralTrac***, and along a shallow angled lead in ramp, increasing velocity, and therefore centrifugal force on the abrasives. A small groove, machined at the end of the lead in ramp, is then able to collect the particulate because the increased centrifugal force holds them in place.

The collection groove leads directly into the main spiral, which conveys the contaminants radially inward, and out through the exit groove at the shaft. The main spiral continually decreases in diameter and the steadily increasing angular acceleration, forces abrasives deeper and deeper into the groove. This enables the groove design to decrease in depth and width as it approaches the shaft, spilling most of the excess fluid to drive the axial flow pattern in the seal cavity. Only the apex of the spiral needs to continue out to the exit, to expel the abrasives. Abrasives are removed from the cavity without flush.

EnviroSeal machines a unique air vent into the top surface of ***SpiralTrac*** to purge air on initial pump flooding.

SpiralTrac enables venting of the chamber, drives circulation and exchange, and removes abrasives.

Trapped product is allowed to escape through the bottom drain on shut down thereby removing potentially hazardous product from the seal chamber safely, with no user intervention. This prevents damaging crystallization on seal components and improves maintenance personnel safety.

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