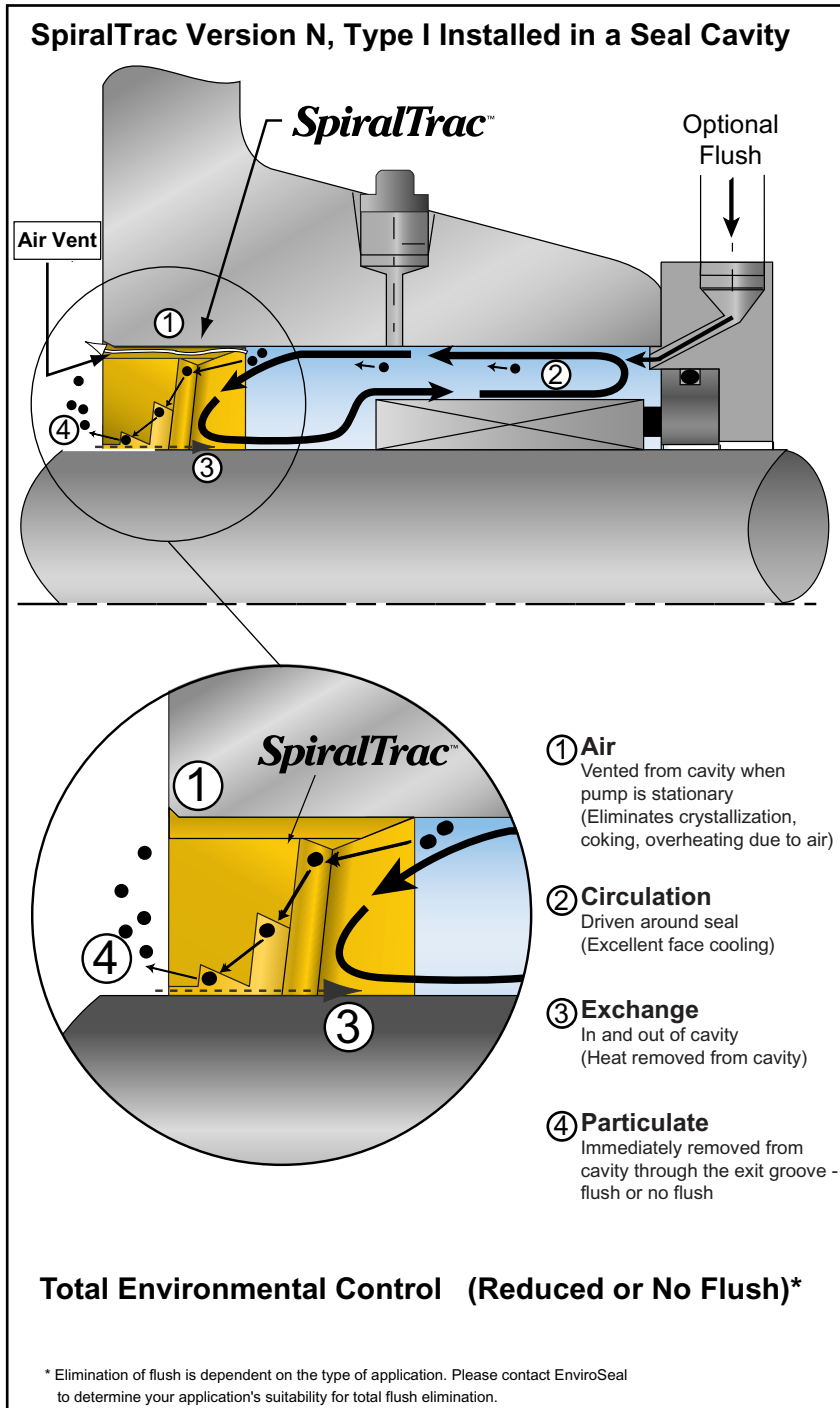


SpiralTrac™ N

How Version N Works in Non Fibrous Applications



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 with or without flush.

EnviroSeal machines a unique air vent into the top surface of the *SpiralTrac* to purge air on initial pump flooding. Flush is only required for face cooling if the product is aerated or the pump runs dry.

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