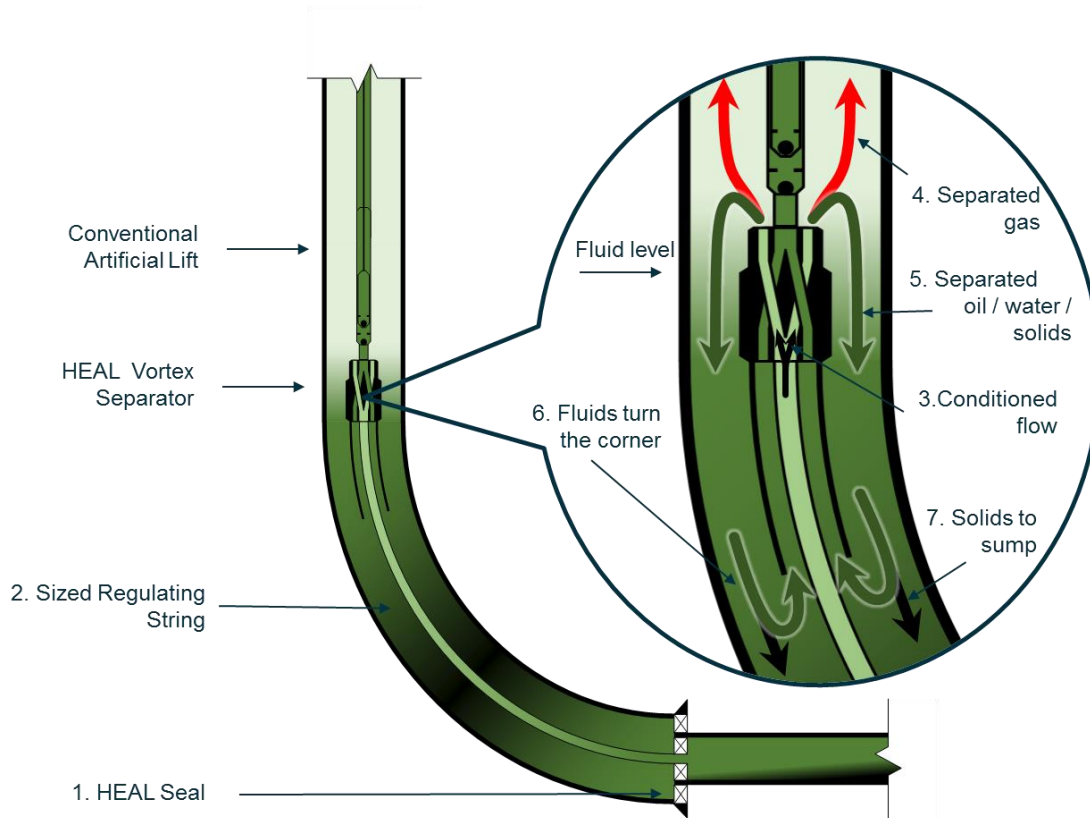




HEAL System™: Where does the flow go?



The HEAL System is a mechanical system comprised of three components: a HEAL Seal, a sized regulating string (SRS), and a HEAL Vortex Separator™. To minimize operational risk, the System was designed with no moving parts and does not extend into the horizontal.

Where does the flow go?

1. A floating non-latching seal forces all of the production from the horizontal section into the SRS through the build section of the well.
2. Production from the horizontal flows up the SRS where it is conditioned into a multiphase state.
3. Conditioned flow is delivered to the Vortex Separator where the cyclonic effect of the Vortex Separator efficiently separates gas and solids from the liquid, and is then discharged to the well's annulus.
4. Separated gas rises up through the annulus.
5. Separated oil, water and solids exit the top of the Vortex Separator, and head back down the tubing string.
6. Fluids turn the corner and are drawn back up the Vortex Separator in the crossover path and delivered to the pump.
7. Solids are intentionally dropped out into the sump for a second stage of solids control.