

Chamber Wiper Plug System



The Gryphon Chamber Wiper Plug System is designed to specifically address the challenges of achieving a successful cemented production string in horizontal and deviated extended reach lateral wells. The average lateral length in a horizontal well is now 8,000 ft (2,438 m). With this extensive length, a common problem of poor wiping efficiency has led to excessive cement debris being left behind. The Gryphon Chamber Plug System eliminates the risks of premature plug degradation seen in conventional single wiper plug systems that often leads to NPT. The Gryphon Chamber Plug System is a stage plug system consisting of a pre-determined amount of carrier subs that arrive on location with chamber plugs pre-installed. A separate, single, ridged top, wiper plug is also sent to be launched from surface at the time of the cement job. Pre-job planning is required to determine where the carrier subs will be placed in the casing string. During installation, the carrier subs are threaded onto the casing string at the approved intervals. The carrier subs can be torqued through and clamped on through the body without risk of buckling. Once the casing string is in place, the cement job can be performed as planned. The ID through the chamber plugs equals or exceeds the ID of the floats, allowing the cement to pass through without a significant pressure change. At the end of the cement job, the top plug is dropped from surface. This plug will travel to the first chamber plug where a slight pressure signature will confirm it has latched in, sealed and sheared from the carrier sub. The pressure signature will be seen at each chamber plug, allowing the operator to reset / verify the barrel count. At the toe of the well, the series of chamber plugs will latch in and seal in the landing collar. Once complete, pressure can be removed from the well to check flow back and integrity of the floats.

Features and Benefits

- Eliminates reliance on single plug having to wipe entire length of lateral
- Improve wiping efficiency
- Reduces derbies and cement stingers left behind post cement job
- Latch-in and Seal Nose incorporated into all system wiper plugs
- Allows for recalculation of volumes during cementing
- Reduces risk of frac plug hang-up and pre-sets during pump down operations
- Allows for circulation through the ID of each pre-installed chamber plug
- Carrier sub housing ID comparable to collars
- Ideal for deviated and horizontal wells with extended reach laterals
- Chamber plugs are compatible with Gryphon's full bore SUREstart toe valves

