

For years, operators working on shale wells have battled substantial amounts of well debris. As fracking and plug parts surface from within the wells, operations are forced to halt to clear the plugged chokes, costing both time and wear on the equipment. This debris accumulation also limits the type of choke trim that can be used, resulting in suboptimal controllability.

Cortec recently introduced its new Wellhead Plug Catcher, which allows large fragments to be filtered out without the constant headache of having to remove unwanted debris.

The plug catcher is installed directly between the wellhead and the production choke. It features an internal screen within a high-pressure vessel, used to filter out problematic debris before it can clog or damage a choke. The plug catcher is a unidirectional flowing device with API 6A flanges on each end. As flow enters the device, it passes through a screen allowing debris to be captured and stored for convenient removal.

“We are applying the device where there is not commonly one installed,” says Stephen Corte, vice president, Cortec. “The compact design is intended to be used in tandem with our production chokes installed directly onto a wellhead.”

The firm’s engineering team has designed the screen volume and hole pattern based on decades of choke



The plug catcher is installed between the wellhead and production choke

PLUGGING A GAP

How a new wellhead plug catcher solves a problem that has plagued wells for years

and debris catcher experience. These screens provide for considerable debris accumulation while still allowing full flow capacity of the system piping design.

The plug catchers are designed and manufactured in accordance with API 6A PSL 3 criteria, ensuring high degree materials and design verification. The engineering team developed the plug catcher after consulting with field operators to accommodate substantial plugging while maintaining full capacity flow. These designs were extensively validated in the field over months of use, resulting in less than half of the previous maintenance downtime and more than doubling choke trim life. Additionally, operators were able to use cage-type trim designs that were more prone to plugging problems prior to proper system filtration. These trim changes have resulted in greater flow control in many cases. Cortec, with considerable experience in choke and valve design, incorporates features within these catchers that enhance their performance and allow for user-friendly operation and maintenance.

SOLVING THE WELLHEAD CHOKE PROBLEM

“Plug and other debris catching devices have been used in the industry for many years, but we are at the forefront of providing a solution to this wellhead choke issue,” says Corte. “Previously, our clients had to accept extensive downtime along with an increase in service and parts needed to maintain their chokes.”

Operators are having to put an increased strain on wells and formations to ramp up production in an effort to meet global energy demands. Increasingly quicker operations and higher flow rates result in more extreme flowing conditions and the wellhead choke receives the brunt of that. To date, Cortec has installed hundreds of these plug catchers on wellheads throughout the US market, providing a solution to this extreme wear on the equipment. The compact wellhead plug catcher design provides a simple, high value solution that its maker believes operators should consider to be a new standard in their production system design. ●



Hundreds of plug catchers have been installed in the field so far