

Y-Chek Automatic ESP Bypass System - Patent Nos: EP2088279B1 & US8104540



The RMSpumptools Y-Chek is a new addition to the RMSpumptools Bypass range. It is an automatic downhole valve located within the world renowned RMSpumptools Y-Tool and is designed to prevent recirculation of pumped fluid from an operated ESP.



The Y-Chek, which features an internal travelling ball, is automatically activated by the flow and pressure produced by the downhole pump. The ball starts off in the flow path of the pump and will lift up and move over to the sealing position on the bypass tubing side upon pump start up. The pressure generated by the pump will keep the ball sealed in the seat position while the pump is running.

When the pump is shutdown and the pressure on the ball has equalised, the ball will return to the pump leg side; thus opening passage on the bypass side to allow well intervention by wireline or coiled tubing.

The Y-Chek is ideally suited for Dual Subsea applications, as the Y-Chek is designed to automatically seal off either leg of the Y-Tool. Therefore when one ESP is operated, the other is isolated and vice versa to provide automatic switching between ESPs.

Bullheading of fluid down the bypass to below both ESPs is also possible because when both ESPs are switched off the ball automatically moves to the Pump side of the upper and lower Y-Cheks, leaving free flow path through the bypass of both ESPs.

Key Performance Features

- Automatic operation on ESP start-up and shut-down
- All metal sealing; i.e. no elastomers
- Simple travelling ball design allowing multiple seal faces
- Ideal for subsea applications
- Suitable for sandy well environments
- 5000psi working pressure
- Eliminates need for blanking plug
- Reduces wireline/CT trips when intervention is required

