Annular Safety Valve System

Helps to prevent unplanned gas releases during gas-lift operations

Applications

- Isolating the lower annulus during gas-lift completions
- Testing wells with unsupported casing

Features and Benefits

- The Optimax[™] series annular safety valve (ASV) system is the first ASV to incorporate an API-qualified flapper.
- The flapper-based ASV offers a larger, optimized flow area that eliminates tortuous paths, minimizes the pressure drop through the system, reduces friction, and provides greater erosion resistance compared to poppet valves.
- The ASV packer is released by punching the mandrel and applying pressure to pump the packer into the retracted release position.
- The packer includes a built-in anti-preset feature that enables the packer to remain in the retained release position, where it can be retrieved easily during planned workover operations.
- A communication sub enables setting the ASV packer independently from production packers.
- Setting options include applying direct tubing pressure, applying pressure via a surface control line, actuating a mechanical communication sub, or remotely actuating an RFID communication sub.
- The system is fully assembled and tested before delivery.
- The full-circumference, low-stress, multicone-slip design optimizes load capacity and makes the system well suited for use in applications with unsupported casing.

Tool Description

The Weatherford ASV system incorporates three field-proven technologies: the Weatherford OptiPkr+ production packer, Optimax series ASV, and RFID-enabled hydraulic communication sub. All components are integrated in a single tool body, which enables operators to easily feed multiple lines through the tool.

The system offers multiple setting options and easy packer retrieval. Designed for high-risk operations including offshore wells and jobs with high axial casing loads, the system enables operators to achieve the level of reliable performance traditionally associated with tubingretrievable safety values without the need for a tubing intervention.

By reducing the risk of unplanned gas releases at the surface, the ASV system enhances the safety of gas-lift operations.



The ASV system includes an OptiPkr+ production packer, an Optimax series ASV, and an RFID-enabled communication sub.



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Specifications*

Casing size	9.625 in. (244.47 mm)
Casing weight	53.5 lb/ft (73.96 kg/m)
Maximum OD	8.44 in. (214.30 mm)
Minimum OD	4.70 in. (119.30 mm)
Connections	5 1/2-in. premium
Packer seal element	HNBR
Gas flow area	0.31 in. ² (198.06 mm ²)
Differential pressure rating	5,000 psi (34.47 MPa)
Temperature	39° to 167°F (4° to 75°C)

* Specifications for customer-specific variants are available upon request.

Certifications

- The packer is fully tested and qualified to ISO 14310 V0 standards.
- The valve is API qualified.



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