

# Cflex® F

## Enhanced well integrity

Multistage cementing system, cement placement control

Cflex® technology is now available with a flexible annulus cement base to deliver high-performance multistage cementing. It provides cement placement control and aims to enable a desired cementing height when performing a stage cementing job.

The Cflex® cementing system now includes a flexible annular cement base, which improves annular seal integrity and overcomes the shortcomings of previous stage cementing technology.

This particular Cflex®'s built-in fundament is activated during the opening of the cement ports, so it prevents a mixture of fluids and creates a solid base for the cement. Qualified "gas tight", tested according to ISO 14998, and with a permanent lock system, Cflex® performs to the highest integrity standards.

With this Cflex®, it is possible to activate permanent lock with hydraulic pressure. Its fundament prevents cement contamination and can hold differential pressure. It is mechanically activated, so there is no need to pressure the well to activate the fundament.

### Integrity

Cflex® is engineered to the highest possible integrity standards. In addition to its high tensile strength, burst and collapse ratings, Cflex® is VO qualified and tested according to ISO 14998 standard, which means it provides an absolute "gas tight" seal. Locking Cflex® permanently closed following a successful operation adds further security.

### Flexibility

Cflex® is available in a wide range of sizes and materials, and can be custom-built. Multiple Cflex® devices can be positioned within the casing string and accessed selectively for any number of cementing stages. Cflex® also accommodates different equivalent circulating density (ECD) and flow rate requirements. Various circulating ports provide a large flow area, expanding the envelope of possible flow rates. Taking flexibility one step further, because Cflex® provides secure controlled access to the casing annulus, it can be used for other applications that require this functionality.



# Archer

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## Efficiency and performance

Operating Cflex® is straightforward, fast and precise. The multifunction operating tool is designed to both operate the Cflex® valve and inject fluids. And if multiple Cflex® devices are present, each can be accessed and controlled selectively according to the multistage program. Another key feature of Cflex® is its slim design. The full bore internal diameter (ID) matches the casing drift ID, offering unrestricted passage; and the outside diameter is no larger than the casing collar, thereby minimizing ECD effects and reducing the risk of surge or swab. Finally, cementing performance is enhanced by the large flow area ports, which enable high circulation rates and a significantly improved cement job.

## Applications

- Controlled, secure and selective access to casing annulus
- Multistage cementing
- Annulus cleanout
- Fracturing

## Features

- Cement valve included in an ISO 14310/14998 VO Cflex stage cementing valve, which ensures no bubbles.
- Steel enforced rubber ring that is expanded to the ID of the next casing/open hole.
- The cement fundament eliminates the need to use additional equipment such as ICP or “basket type” to form a fundament for the cement.
- The fundament is fully mechanical, will always be activated when the valve is opened.

## Benefits

- Provides cement direction control.
- Improved method of retaining cement.
- Minimizes cement contamination.
- No extra operation needed to activate the cement fundament.