

Cflex®

Improved annulus integrity

Multistage cementing system

Cflex® technology enables high-performance multistage cementing. Qualified “gas tight” equivalent to ISO 14998 VO: 2013 and with a permanent lock system, Cflex® performs to the highest integrity standards.

Despite advances in cement technology, annulus integrity is one of the biggest challenges facing the industry, both in terms of frequency and impact. The Cflex® cementing system improves annular seal integrity and overcomes the shortcomings of previous stage cementing technology. In designing Cflex®, our engineers focused on four key areas, integrity, flexibility, efficiency and performance.

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 through rigorous testing equivalent to the 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. Four 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.

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 ID, offering unrestricted passage; and the outside diameter is no larger than the casing collar, thereby minimising 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.



Specifications

Size, in	7 - 16
Temperature rating, degF [degC]	40 - 302 [4-150]
Standard material	Carbon steel
Elastomer material	HNBR
Permanent lock feature	YES
Max. flow BPM	14
Qualification	ISO 14310 and 14998 VO

Other grades, material and sizes available upon request

Applications

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

Features

- Sealing system qualified to ISO 14998 VO equivalent
- High burst, collapse, torque and tensile ratings
- Full bore ID matches casing ID and slim OD
- Closing utilising push/pull movement
- Permanent close function
- Unlimited number can be installed in liner or casing string
- Can be shifted with high differential pressure without damaging seal
- Large port flow area; 4.4 sq.in. minimum
- Inner sleeve hard coated to reduce wear; anti-rotation system
- Suits all type of premium casing threads
- Wide range of sizes, materials available

Benefits

- Improved annulus integrity and zonal isolation
- Security and confidence in gas tight sealing capability and mechanical integrity
- Easy installation and single-trip operation of multiple Cflex® devices
- Precise and conclusive operation for open, close and lock; no risk of accidental lock
- Improved operational efficiency and effectiveness
- Versatility and flexibility for multiple applications
- Slim design minimises ECD effects
- Large flow area ports maximise possible flow rate



Cflex® multifunction operating tool controls Cflex® selectively and precisely.



Cflex® dart catcher