

# Reliable Sleeve Technology Provides Water Shut-Off & Restimulation Capabilities

**i-Frac and BPS MOC sleeves enhance restimulation and production remediation in a Middle East well**

## Background

A major operator in the Middle East requested a multiple-open-close (MOC) frac sleeves for a multistage fracturing operation. The goal was to perform full stimulation treatments and close each stage after the treatment was completed. This process required a robust sleeve design that is not susceptible to erosion and can maintain seal integrity when reclosed.

## Solution

The customer chose our BPS™ and i-Frac™ multiple open-close (MOC) products due to the confidence of over a decade of successful deployments using MOC sleeves. Our design heritage for these products includes our extremely successful i-Valve™ sleeves, which have been field proven to function even after ten years of wellbore exposure in the North Sea and are ISO 14998 V0 qualified.

The BPS MOC combines our patented burst port technology with an MOC sleeve. Initial stimulation of the toe ports begins when a predetermined pressure is applied to the wellbore, opening each port and providing access to the formation. Once the stimulation is completed, the i-Shift tool can be deployed using either slickline, wireline, or coiled tubing.

The i-Frac MOC used in this application included our patented flex seat technology and an MOC sleeve. The customer performed the initial stimulation treatment by dropping a frac ball from the surface that corresponded to the i-Frac MOC's seat. The flex seat allows the ball to pass once the sleeve is open and can proceed to other flex sleeves or a solid seat below. Once the stimulation treatment is completed, the sleeves can be closed using the same i-Shift tools used on the BPS MOC.

## Results

The BPS MOC activated at designed opening pressure, and the customer performed acid fracturing operations in three stages, as planned. Each sleeve was successfully closed, and the well was pressure tested to ensure the seals had maintained their integrity post-treatment, enabling the customer with operational flexibility and isolation between the stages during acid fracturing.

### Case study facts

**Location:** Middle East

#### Products

- i-Frac MOC
- BPS MOC
- i-Shift

#### General well information

- Casing size: 4½ in. 15.1#
- TVD: 11,542 ft
- Number of stages: 3

