# Bulldog<sup>™</sup> Frac Bottom Hole Assembly (BHA)

The Bulldog Frac BHA is bred from offshore heritage, utilizing field proven locating and shifting capability of the i-Shift teamed with out best-in-class coiled tubing straddle frac and abrasive jet components. The payoff is a modular, robust and reliable means for conducting cost effective annular frac stimulations designed specifically for all land-based operations.

#### Features

- Legacy North Sea i-Shift design
- Proven packer system designed to withstand up to 10,000 psi (69,000 kPa) differential
- Integral abrasive perforating tool with ceramic nozzles
- Slim design and improved clearances over the competition
- Modular concept allows compatibility with all Bulldog frac sleeves
- Boron carbide equalizing valve, outperforms industry standard elastomeric seal designs
- Laser-cladding for enhanced erosion resistance

#### Benefits

- Reliable shifting and active sleeve locating
- Extremely tolerant to high rate abrasive fluids
- Increased pumping efficiency and rate with slim design
- Abrasive perforation contingency allows for "on-the-fly" increase to the number of stimulated intervals
- Ability to pump down the coiled tubing to mitigate an impending screenout
- Utilizes the deadleg for fracture diagnostics
- No stage count limitations

### Applications

- Completions requiring reliable, single point of entry
- Formations with a high frequency of screenouts
- High stage count stimulation designs
- Wells requiring abrasive perforating

## **Technical Data**

Bulldog Frac	Casing Weight lb/ft (kg/m)	<b>OD</b> in. (mm)	<b>ID</b> in. (mm)	MUL in. (m)	<b>Rated Pressure</b> psi (kPa)
450 A	11.60 (17.26)	3.875 (98.4)	1.700 (43.2)	266.0 (6.756)	10,000 (69,000)
450 B	13.50 (20.09)	3.750 (95.3)	1.700 (43.2)	266.0 (6.756)	10,000 (69,000)



