

Openhole Completion Systems

Discontinuous HD BULLDOG™ ACP™ Annulus Casing Packer

Weatherford's discontinuous HD *BULLDOG ACP* annulus casing packer is a discontinuous-rib premium inflatable assembly that runs as an integral part of the casing string. When inflated, the packer provides an annular seal between the casing and the wellbore or a previously installed casing string. For inflation, the packer uses water, cement, or drilling fluid. Cement inflation provides a high-pressure, permanent annular barrier.

This packer includes the reliable, well-proven McAllister element that Weatherford has used for years; however, the valve system has been redesigned for easier access to the shear pins for simpler, faster field dressing and maintenance. No special tools are required. A chevron seal has also been added to prevent fluid loss through the valve system at higher pressures.

The rubber element is reinforced by stainless steel ribs only at the top and bottom. The non-reinforced portion of the element in between allows better expansion for effective isolation in open holes, elliptical hole shapes, washouts, and soft or unconsolidated formations.

The packer consists of an opening valve and a closing valve, the closing valve using a chevron seal for increased pressure-holding capabilities. Pressure applied inside the casing shears open the opening valve, enabling fluid to enter the element. Pressure applied inside the element shears the closing valve closed, preventing rupture and over-inflation. An added chevron seal increases the pressure-holding capabilities for the higher-differential-pressure applications. The opening valve also provides redundancy to the closing valve by locking closed when pressure is released.

Applications

- Prevention or reduction of water production
- · Prevention of gas migration
- · Reduction of the gas/oil ratio
- Isolation of differentially pressured zones
- Shutoff of openhole sections as a one-trip plug-and-abandon or retainer packer
- Isolation of zones during frac jobs



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Features, Advantages and Benefits

- The packer lengths provide flexibility for running through severe doglegs and high hole inclinations.
- This packer includes the proven McAllister element that Weatherford has used for years, but the shear
 pins in the redesigned valve system are now easily accessible for field dressing. The chevron seal holds
 in pressure in the element at higher differential pressures. No special tools are required.
- A patented wire-locking design secures the valve and end sleeve to the mandrel, with threaded connections on all components rather than welds. This design provides faster, more cost-effective assembly.
- The shoulder on the valve sleeve protects the valve system from run-in damage.
- The top-mounted, locking valve system senses the true hydrostatic pressure above the packer for reliable inflation of the element.
- The elastomers and metals are designed for standard and severe service, making the packer suitable for a wide variety of applications.



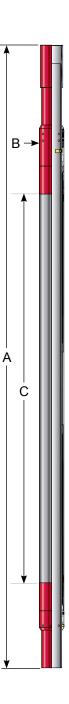
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Specifications

Packer length (ft/m)	10 3	20 6
A Overall length (ft/m)	15.56 <i>4</i> .74	25.56 7.79
C Inflatable element length (ft/m)	10 3. <i>0</i> 5	20 6.1
Set of opening and closing valves	1	2

Casing Size ^a (in./mm)	B Maximum Standard OD ^b (in./mm)	B Maximum Slimline OD (in./mm)
4.5 114.3	5.75 146.05	_

(3)



^aNonstandard API sizes may be specially ordered. ^b1.25 in. (31.75 mm) larger than the OD of the casing.