

BigCat™ HPHT Retrievable Packer

The Expro BigCat™ HPHT packer is a premium high-strength, compression set, retrievable hook-wall packer, ideal for Drill Stem Testing (DST), perforating and stimulation operations. It is capable of withstanding 15,000 psi differential pressure when set, at temperatures up to 400°F. The hydraulic hold down sub¹ ensures that the packer remains set when subjected to excessive pressure from below - during stimulation operations, for example. An integral fluid bypass ensures efficient deployment. The packer requires only a small amount of right-hand rotation to set (one-eighth of a turn at the tool) and releases with straight pull.

This packer is available with standard or premium element sealing systems, depending on the service requirements.

Specifications: Packer with Hold Down Sub

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| Working Pressure and Temperature | 10,000 psi / 68.95 Mpa at 350°F/177°C (Standard dress) |
| | 15,000 psi / 103.42 Mpa at 400°F/204°C (Premium dress) |
| Casing Weight Range | 7 in, 26 lb/ft to 7 in, 38 lb/ft |
| Casing ID Range | 5.868 in / 149.0 mm to 6.492 in / 164.9 mm |
| Max. OD (Gauge Ring) | 5.968 in / 151.6 mm (for 26 – 29 lb/ft casing) |
| | 5.812 in / 147.6 mm (for 32 – 35 lb/ft casing) |
| | 5.656 in / 143.7 mm (for 38 lb/ft casing) |
| Min. ID | 2.25 in / 57.2 mm |
| Upper Thread Connection ² | 3.750 in – 6 Stub Acme Box |
| Lower Thread Connection ³ | 3.750 in – 6 Stub Acme Pin |
| Min. Required Setting Weight ⁴ | 8,000 lbf / 3,560 daN (for standard dress – 10k) |
| | 2,500 lbf / 1,120 daN (for premium dress – 15k) |
| Max. Compressive Load | 520,000 lbf / 231,300 |
| Tensile Strength ⁵ | 200,000 lbf / 89,000 daN |
| Approx. Length | 13.25 ft / 4.039 m |
| Approx. Weight | 635 lbs / 288 kg |
| Service Condition | H ₂ S per NACE MR-01-75, CO ₂ |

- (1) Hydraulic hold down sub, not shown in tool illustration, opposite.
- (2) Crossover to work string, as required.
- (3) Crossover to tail pipe assembly, as required.
- (4) Operationally, when run with Slip Joints, a min. net weight of 15,000 lbf should be included below the free-point.
- (5) Limited by design to allow controlled parting of the packer body mandrel.

Operation:

The packer is used in conjunction with Expro's DST tools, and provides isolation of the formation for production or injection purposes. As it is a compression-set packer, drill collars are incorporated in the bottomhole assembly (BHA) to provide the necessary setting weight. The packer is deployed in the 'safety' position, and has an integral bypass allowing fluid to displace from below the packer whilst running in hole. When at setting depth, the packer is set by picking up on the string, then applying right-hand rotation to give one-eighth turn at the tool. The string is then lowered to set the packer, also closing the bypass. The bypass can be opened by limited pick up of the string without unsetting the packer, allowing pressure equalisation across the packer or to monitor for losses. Set down weight will reclose the bypass. To fully unset the packer, pick up on the string; the packer will automatically move to the 'safety' position, which allows movement down the hole, should this be required. The packer can be reset as many times as desired by repeating the setting process described above and ultimately retrieved from the well with the rest of BHA on completion of in-hole operations.



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