

BigCat™ HP/HT Retrievable Packer

The Expro BigCat™ HP/HT packer is a premium high-strength, compression set, retrievable hook-wall packer, ideal for drill stem testing, perforating and stimulation operations. It is capable of withstanding 15,000 psi differential pressure when set, at temperatures up to 350°F. Its unique cone and slip design enables compressive loading of up to 520k lbf.

The modular hydraulic hold down sub, which can be fully pressure tested at surface, 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 and well kill operations. The packer requires only a small amount of right-hand rotation to set and releases with straight pull.

Specifications: Packer with hold down sub

Working pressure & temperature	15,000 psi / 103.42MPa at 350°F / 177°C
Casing Range	7-in 26 lb/ft to 7-in 38 lb/ft
OD in. (mm)	5.968 (151.6) for 26-29 lb/ft casing 5.812 (147.6) for 32-35 lb/ft casing 5.656 (143.7) for 38 lb/ft casing
ID in. (mm)	2.25 (57.2)
Upper thread connection ¹	3.750-in - 6 Stub Acme box
Lower thread connection ²	3.750-in - 6 Stub Acme pin
Tensile strength	200,000 lbf / 88,960 daN
Max compressive load	520,000 lbf / 231,300 daN
Min net setting weight provided by drill collars	25,000lbf / 11,120 daN
Torque strength	10,000 ft-lbs / 13,550 N m
Make-up torque (stub acme only)	4,000 ft-lbs / 5,420 N m
Approx. overall tool length in safety/run position ³	13.25 ft / 4.039 m
Approx. overall tool length when set ³	12.70 ft / 3.872 m
Tail pipe/gun downward movement during packer setting ⁴	1.40 ft / 0.427 m
Approximate tool weight	635 lbs / 250 kg
Service ⁵	H ₂ S per NACE MR-01-75; CO ₂

1. Crossover to 3 1/2-in API IF or PH6 box, or as required
2. Crossover to tail pipe connection as required
3. Make-up length (shoulder-to-shoulder), excluding top and bottom crossovers
4. Includes packer bypass closure (10.25in), slip activation and compression of seal elements
5. CO₂ and acid tolerant. Limits determined by application

Operation:

This packer is used in conjunction with Expro's DST tools, and provides isolation of the formation for production or injection purposes. As it's 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.

