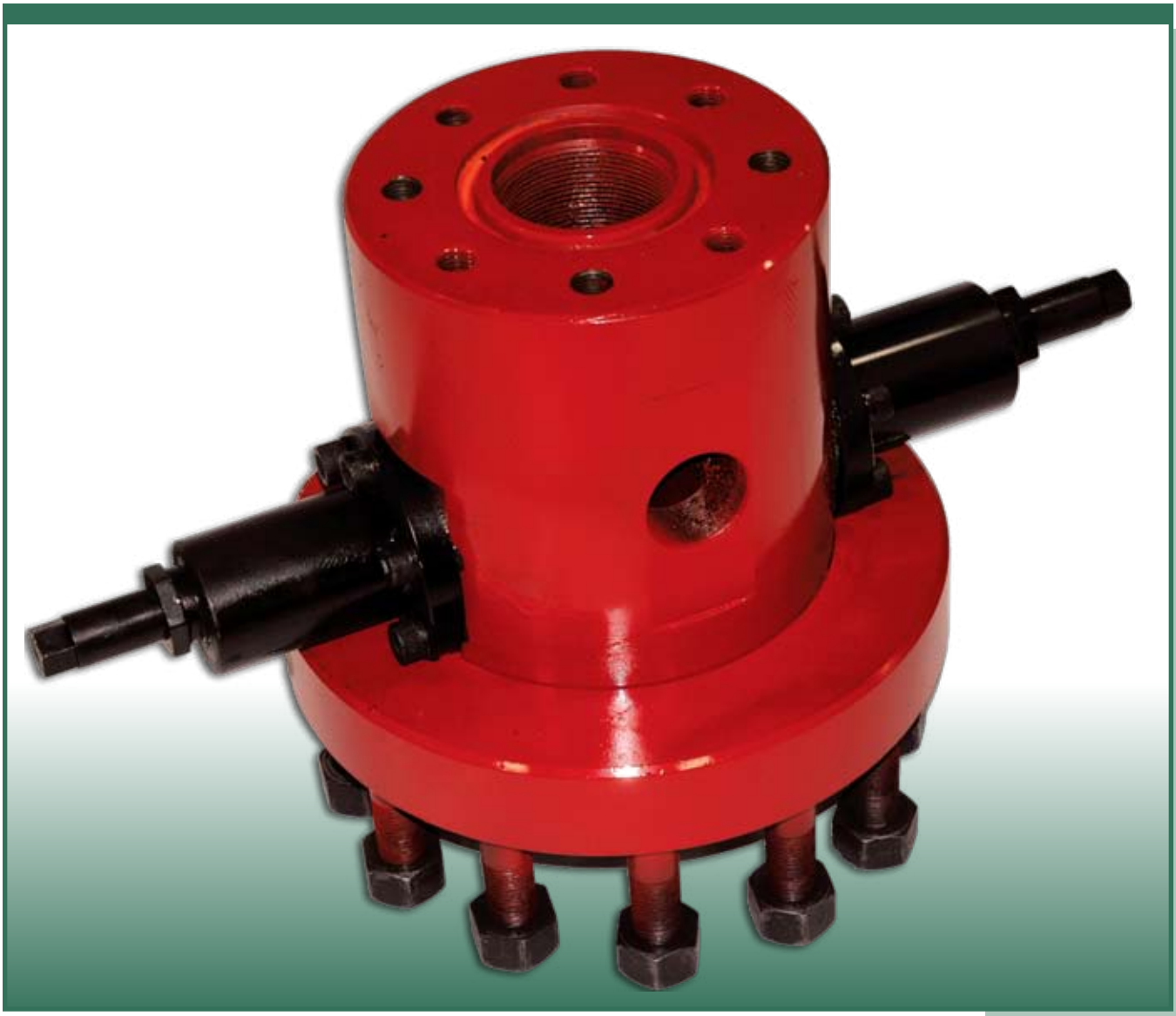
INTRODUCING

Weatherford®

Clamping Blowout Preventer



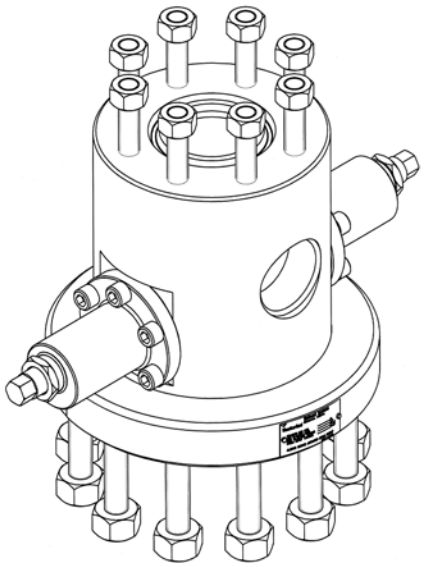
Combining the wellhead flow tee and blowout preventer to transform system performance.

Integrated, innovative composite improves economics, operation and safety.

Offering enhanced economics through time and operational flexibility

Well economics are improved by the clamping BOP system through reductions in rig and workover time, providing increased operational flexibility, including:

- Less rig time for initial drive head installation
- Faster well workovers for lower rig costs and less downtime
- Stuffing box repair using a one-ton picker truck versus a “flush-by-rig” reduces costs and speeds operations



Weatherford’s clamping blowout preventer (BOP) system is a combination wellhead flow tee and BOP that enhances well economics and operational efficiency, safety and service life—by design.

Developed for progressing cavity pump (PCP) applications, the system—typically flanged to the tubing head and the bottom flange of the wellhead drive—clamps the polished rod in place to prevent movement. This innovation enables the drive to be removed without a winch line to hold the polished rod.

In contrast, conventional operations suspend the polished rod using the drawworks while the pump drive is unbolted and lifted by the sand-line cable. A hinged clamp is installed on the polished rod under the drive head so the drawworks can be released, and the sand line is used to lift the drive head off the polished rod.

The clamping BOP system speeds this process by integrating components and reducing rig requirements. Safety is enhanced because the system eliminates the need to work under the suspended drive head.

Operational advantages transform performance for faster production.

The clamping BOP system features many enhancements and efficiencies that improve safety, operation and service life.

Clamping is achieved with ceramic grips that reduce rod damage while providing a secure holding force. Stuffing box life is increased because of better alignment and rigidity between the wellhead drive and wellbore.

Superior well-servicing operations are possible with many features that speed workovers and return wells to production faster with less downtime:

- Maintenance requirements are reduced because threaded connections do not unscrew because of drive torque, which eliminates the need to chain the drive to the polished rod.
- A lower drive height reduces stress on the well and makes it easier to service the drive.
- Rods can be pulled through the clamping BOP system, eliminating the need to remove the BOP and flow tee.
- With fewer connections to make, installation time and the possibilities for leakage are reduced.
- Installation is safer resulting in fewer lost-time accidents because there is no need to work under a suspended drive head.
- Using a picker instead of a rig offers greater service flexibility, reducing costs and speeding operations.

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Additional features ensure reliability.

- The unique ability to maintain electrical conductivity between the polished rod and body when clamped, provides unshakable, uninterrupted performance by preventing misalignment of the pumping unit relative to the wellbore centerline.
- Pressure-balanced rams reduce input torque, prolonging equipment life.
- The system is API-6A monogrammable, assuring adherence to quality standards.

Options create versatility

The clamping BOP system is available in various connection configurations to meet a range of well requirements:

- Threaded, flanged, rotating-flanged or studded bottom connections
- Threaded, studded or flanged top connections

Specifications

Lift applications	Progressing cavity pumping and reciprocating rod	
Polished rod sizes (in./*mm*)	1-1/4 *31.7*	1-1/2 *38.1*
Supported rod string weight (lb/*kg*)	25,000 *11,340*	35,000 *15,876*
Actuation input torque (lbf•ft/*N•m*)	400 *542*	600 *813*
Supported rod torsional load (lbf•ft/*N•m*)[2]	1,000 *1,356*	
Bottom connection[3]	2-7/8 in., 3-1/2 in. or 4-1/2 in. male or female threaded 2-9/16 in., 2,000 psi (*138 bar*) through 9 in., 5,000 psi (*345 bar*) flanged or studded	
Top connection[3]	2-7/8 in., 3-1/2 in. or 4-1/2 in. female threaded 2-9/16 in., 2,000 psi (*138 bar*) through 3-1/8 in., 5,000 (*345 bar)*flanged or studded	
Flowline combinations[3]	1 in. to 3 in. LPO2-1/16 in., 3,000 psi (*207 bar*) or 5,000 psi (*345 bar*) studded side outlets 3-in. line pipe × 2-in. line pipe above blowout preventer rams	
Rotational alignment between lapped flange and body	Infinite (optional)	
API 6A product specification level (PSL)[3]	1	
Operating temperature range (°F/°*C*)[3]	–50° (*–46°C*) to 60°F *(–51°C*) – (special seals) –50° *(–46°C*) to 250°F (*121°C*) (API 6A Class L-U)	
API 6A material class[3]	DD-NL Low-alloy steel acceptable for unlimited H_2S service Fully wrought materials	
Drift through diameter	Top connection size, as applicable, per API 6A and 16A	
Blowout preventer rating (psi/*bar*)	Same as bottom connection	
Flow tee operating pressure (psi/*bar*)		

[1]Sealing-only (non-clamping) configurations are also available.
[2]Device can support axial and torsional loads simultaneously, with or without pressure applied.
[3]The clamping pumping tee can be designed with other connections, outlet combinations, and/or PSLs, and for other temperature ranges and/or material classes, on request.

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For more information about transforming your wellhead systems' performance, contact your local Weatherford representative or email wellhead@weatherford.com.

Weatherford's clamping blowout preventer is not available in the United States or Canada.

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