

WellAnchor DW-5

Advanced subsea wellhead system

APPLICATIONS

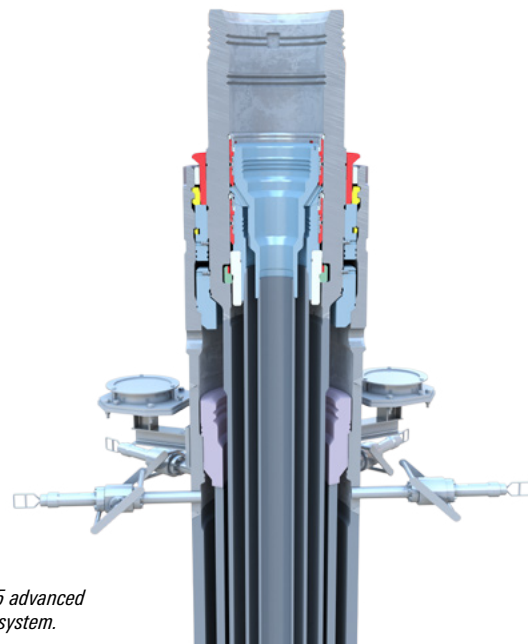
Subsea exploration, appraisal, and development

BENEFITS

- Industry's leading sealing integrity
- Improved service life and operational certainty
- More efficient project execution
- Improved reliability through longer fatigue life

FEATURES

- Patented parallel-bore-metal (PBM) metal-to-metal seal technology and casing hanger seal assembly running tool (CHSART) that does not require a BOP to set the seal
- Robust PBM metal-to-metal seal with lockdown capacity of 1,000,000 lbf and temperature rating of 0 to 300 degF [-18 to 149 degC]
- Qualification to API 6A and 17D
- Seamless interface to subsea production system (SPS) offering
- 7,000,000-lbf-rated landing shoulder that accommodates BOP pressure tests and long casing strings
- Interface between 36-in low-pressure housing and 18.75-in high-pressure housing qualified to 5,250,000-ft.lbf bending capacity with 3,000,000-lbf applied tension for enduring extreme bending forces
- Minimum 2,000,000-lbf preload between low- and high-pressure housings for longer fatigue life
- 17.825-in minimum ID in high-pressure housing that provides clearance for 16-in casing deployment
- 30.60-in minimum ID in low-pressure housing that enables passing a 30-in bit
- High-pressure design rated to 15,000 psi [103 MPa]
- Availability with optional supplemental hangers for 26-in or 28-in conductor



WellAnchor DW-5 advanced subsea wellhead system.

For operators drilling and producing in deep water, WellAnchor* advanced subsea wellhead systems offer the industry's best sealing performance through their patented PBM sealing technology, enhanced fatigue resistance, seamless integration with existing infrastructure, and full regulatory qualification.

The WellAnchor DW-5 system is one of two standardized configurations designed to meet a range of subsea applications. Available for a number of well construction casing programs and pressure and carrying requirements, the WellAnchor system has the modularity, robustness, and field-proven engineering to help operators successfully execute challenging offshore drilling and production operations.

Comprehensive system design

The WellAnchor DW-5 system includes many components that have provided more than 20 years of reliable, repeatable service. The system comprises

- value-engineered running tools
- guidance equipment
- low- and high-pressure housing
- heavy-wall extension adaptor
- 26-in or 28-in submudline hanger system and running tools
- integral hangers, seals, and wear bushings or sleeves
- 16-in, 6,500-psi submudline hanger system and running tools
- 3,000,000-lbf-rated lockdown sleeve.

WellAnchor DW-5

Best sealing performance

The PBM seal design develops high radial contact pressure on the seal surfaces between the casing hanger and the high-pressure wellhead housing. The WellAnchor system's PBM seal spans parallel bores, maintaining seal band contact pressure at all times. For improved sealing reliability, the design also includes multiple metal sealing bands between the seal and hanger and between the seal and housing. The PBM design maintains sealing integrity from pressure originating from above or below the seal element.

Enhanced fatigue resistance

OneSubsea engineered the wellhead system to reroute or more evenly distribute stress concentrations. WellAnchor systems use a high preload between the high- and low-pressure housings to ensure that the structural components are resistant to both vertical and horizontal cycling created by the external environment. The system features a higher active preload technology for the high-pressure housing to mitigate crack propagation caused by higher environmental loads.

Incorporating low-alloy materials, the systems accommodate higher temperatures and pressures and are compatible with NACE requirements for hydrogen sulfide (H₂S) and carbon dioxide (CO₂). Cameron has implemented manufacturing processes for all welded housing extensions that meet stringent DNV fatigue requirements and ISO quality acceptance criteria. Welding processes are qualified to meet or exceed DNV S-N fatigue curves.

Plug-and-play integration

Given the high cost of wells, rigs, and dive support vessels, small issues can translate to increased rig time and costs. Both WellAnchor systems seamlessly interface with technologies and services available from OneSubsea, Cameron, and Schlumberger, including

- BOP connector
- subsea production tree
- subsea control
- subsea manifold
- logging equipment
- cementing and completion operations.

Leveraging the high modularity and versatility of the WellAnchor system helps maximize operational efficiency from exploration to production.

onesubsea.slb.com/wellanchor

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