Mark III subsea multiplex control pod
Meets the challenges of drilling in harsh, deepwater environments

Applications
Offshore drilling depths >3,000 ft

How it improves wells
The Cameron Mark III* subsea multiplex control pod meets the increasing challenges of drilling in harsh, deepwater environments. Point-of-distribution (POD) components incorporate the latest corrosion-resistant alloys, use state-of-the-art technology, and are fully field proven with over 30 years of field experience.

Each control pod houses the electronic and hydraulic packages. Two independent pods provide complete redundancy in the control of the lower marine riser package (LMRP) and lower BOP stack component functions. The overall modular design consists of the subsea electronics module (SEM) and the lower valve unit (LVU). Ergonomic and functional arrangement of hydraulic manifolds and piping provide enhanced serviceability of drilling valves and regulators.

How it works
The Mark III pod uses pressure-compensated dielectric-filled pressure compensated slots for the solenoids and transducers rather than one atmosphere housing. The modular design of the solenoid chambers, transducer chambers, and pilot accumulators provides additional barriers to seawater. Pods are engineered for simplified maintenance of the solenoid valves.

The fundamental design of electronics incorporates several paths of redundancy to minimize the potential for any single-point failures. Pods use dual redundant wire multiplexing cable connecting surface to subsea for transmitting and receiving command and read-back signals.

When paired, pods provide fully redundant electrohydraulic points of distribution with bidirectional communication for the control of the BOP functions.

The SEM has fewer cards and less wiring, providing increased functionality in a smaller footprint. The repackaged electronics improve heat dissipation. Computerized driver modules eliminate the pie connectors used in previous-generation control pods.

Downstream from the solenoid valve modules is the LVU. This lower section of the Mark III pod distributes application-specific pressurized hydraulic supply to the LMRP and lower stack functions (BOP). Pod regulators deliver the requisite pressure to the various stack functions.

Options
- 80- to 128-function availability
- Custom functionality count, valve size, pressure rating (3,000 psi and 5,000 psi) and hydraulic interconnectivity available to meet customer requirements
- Class certification (ABS and DNV) available
- Discrete or direct hydraulic systems available for applications <3,000 ft

Features
- Designed to the latest edition of API Spec S53 and API Spec 16D requirements
- ABS and DNV certification available upon request
- Retractable pod stingers that check hydraulic supply at the pod to enable operator to address abnormal operating conditions, such as surface static testing for leak isolation or subsea troubleshooting that decreases time to resolve
- SEM with fewer cards, less wiring, and computerized driver modules
- Solenoids and transducers with pressure-compensated dielectric-filled chambers
- Power and communication signals simultaneously and independently transmit to SEM and riser control box
- Normal maintenance access without disturbing hydraulic hoses or tubing fittings
- All valves and regulators constructed of corrosion-resistant materials for long service life
- Pilot ports of all the valves equipped with purge or bleed ports so air and stagnant fluid can be flushed without disconnecting tubing or hoses
- Metal-to-metal seal arrangement made of tungsten carbide to extend equipment life and reduce NPT
- POD sensors set regulator pressure and provide system read backs during drilling operations

Support
- Global distribution centers to support immediate spares requirements
- Dedicated product line support in Houston for prompt customer response
- Strong sales history with over 80 Mark III pod installations
- Fifty years of pioneering subsea BOP controls
- Vertically integrated R&D engineering, manufacturing, and services
- Ruggedized portable spare pod tester available—portable electronic test unit

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