

ELECTRICAL

nautilus wet-mateable connector

Fluid-filled, pressure-balanced, wet-mateable electrical connector. Available in ROV, manual and stab-plate versions.

Shell sizes to mate from 1 to 19 electrical circuits are available in standard configurations.

Custom designs are also available up to 126 circuits.



submersible electric connectors and penetrators

A range of dry-mate, submersible connectors in standard configurations with up to 30 circuits. Other custom designs are available. Penetrators rated to 10,000 psi.



downhole gauge connector

Dual-seal, pressure-compensated connector, featuring the "Nautilus" pin technology, rated open-face to 15,000 psi and 121°C.



nautilus high-power connector

High-power Nautilus connectors are wet-mateable connectors capable of operation up to 15,000 volts and up to 600 amps.

Applications include downhole electric submersible pumps and electric propulsion motors.



subsea power transmission

A wet-mateable high-power connector for use in the transmission of power to subsea equipment, rated for 12 KV and 240 amps per circuit. Developed in association with an oil industry partner.



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NAUTILUS

The Nautilus connector has proven to be extremely reliable, having been in service since 1989 with upwards of 13,000 units currently operating subsea. They are commonly used in applications for the Offshore Oil and Gas and Oceanographic industries in every region where underwater exploration and production occur.

The design features which make the Nautilus connector so reliable include the choice of construction materials from titanium and beryllium copper to stainless steel, and the dual independent oil reservoirs providing two completely separate barriers to the ingress of sea water. The patented design of electrical contact allows the pin to enter these reservoirs and to transfer sealing via a shuttle pin and dual wiper seal assembly.

The Nautilus connector has been qualified for a 30-year operating life at 3,300 volts and 30 amps/circuit at pressures up to 10,000 psi (23,000 ft. water depth) through 1000 mate cycles. In addition, qualification includes operating and storage temperature ranges of 14 to 122°F [-10 to +50°C] and 0 to 140°F [-18 to +60°C] respectively.

Nautilus technology has also been used in development of wet-mateable high-power connectors. This in response to the growing requirements for connection of subsea high power equipment such as electric submersible pumps (ESP's), electric propulsion motors, etc. Connectors are available for voltages up to 15,000 volts and currents up to 600 amps.

Programs for subsea installation of water injection pumps, as well as separation, boosting and processing equipment, have also led to requirements for high-power wet-mateable connectors like the ones mentioned above. Together with an oil industry partner, ODI has developed a dedicated 3-phase connector, qualified to work at 12 KV and 240 amps per circuit.

