Oceaneering produces reliable and modular Umbilical Connection Systems. The company’s M-Series junction plate includes patented technology. For rapid delivery of the M-Series System, available inventory of modular components can be finished to specification for any flying lead configuration.

**Features**
- ROV-friendly with a Standard API 17D/ISO 13628-8 ROV Torque Tool installation interface
- Non-screw thread Toggle Latch interconnects J-Plate, locking in a single series of actions
- Suitable for thermoplastic hose or steel tube umbilicals
- Modular configurations in standard sizes for a wide range of applications
- J-Plates mate and de-mate under full system pressure with a full or eccentric coupler configuration
**Mini Series J-Plate**
Designed for Electro/Hydraulic tree connections, PLET/PLEM and other small coupler count configurations

- Maximum 9 functions using 1/2 in National Couplers®
- API 17D Class 3 Torque Tool Interface
- J-Plates mate and de-mate at full system pressure
- Qualified using high side and axial loads, applied to simulate stiffness of attached Hydraulic Flying Lead

**M1 Series J-Plate**
Designed for Direct Hydraulic XT connections, IWOCs and other mid-coupler count configurations

- Maximum 14 functions using 1/2 in National Couplers®
- Other configurations of 1/2 in and 1 in couplers available
- API 17D Class 4 Torque Tool Interface
- J-Plates mate and de-mate at full system pressure
- Qualified using high side and axial loads applied to simulate stiffness of attached Hydraulic Flying Lead

**M2 Series J-Plate**
Designed for Subsea Field Development UTA connections and Infield Distribution Umbilical connections

- Maximum 27 functions using 1/2 in National Couplers®
- Other configurations of 1/2 in & 1 in couplers available
- Electrical connections can be incorporated into design
- API 17D Class 4 Torque Tool Interface
- J-Plates mate and de-mate at full system pressure
- Qualified using high side and axial loads applied to simulate stiffness of attached Hydraulic Flying Lead
Design Considerations

Conditions
- Maximum Design Pressure >15,000 psi
- Test Pressure 22,500 psi
- Maximum Water Depth >10,000 ft
- Design Life 20 years
- Compatible with Electrical Flying Leads

Fluid Cleanliness
- Hydraulic Lines AS 4059 class 6
- Chemical Lines AS 4059 class 6

Standards
- ISO 13682-5 • API 17D
- ISO 13682-6 • API 17F
- ISO 13682-8 • API 17H
- ISO 13682-9

Fluid Compatibility
National Couplers® available in metal or elastometric seals for a fluid range including:
- Hydraulic Control Fluid Water Based, Glycol Mix
- Injected Chemicals Ethanol, Scale Inhibitor, Demulsifier, Corrosion Inhibitor
- Other Fluids Completion Fluids, Process Fluids

Installation / Interface
- Patented Toggle Latch provides primary and secondary mating and de-mating
- Standard API 17D Rotary Torque Tool Interface
- Gross, fine, clock and standoff alignments prevent damage to plates and couplers
- Robust design allows ROV “Fly to Place” installation
- National Couplers® interface to subsea structure tubing via weld prep steel tube stubs

Fixed Junction Plate (Fixed Plate, Inboard Plate)
- Fixed J-Plate is rigidly attached to the subsea structure
- Heavy duty constructed carbon steel housing with corrosion and chip resistant coating (Xylan® or other)
- Corrosion resistant alloy internal components
- All couplers are mounted internal to the housing for damage prevention

Removable Junction Plate (Free Plate, Outboard Plate)
- Standardized interface terminates the Removable J-Plate to the flying lead termination head
- Completely constructed of corrosion resistant alloy internal components
- Available with lightweight Thermoplastic, Steel Tube & Direct Umbilical Terminations