



Setting a Global Standard



www.dril-quip.com

Template Systems

OVERVIEW

When water depths are shallow, production wells can be spotted and drilled randomly relative to one another. In deeper water and more remote locations, production wells are clustered and directionally drilled to gain access to the largest part of the reservoir.

DRIL-QUIP template systems provide the operator with the ability to arrange production wells in a pattern. This eliminates the possibility of intersecting wells or well misalignment by forcing direct centerline-to-centerline well spacing. All DRIL-QUIP template systems come with the required alignment and concentricity accessories to facilitate vertical installation of equipment during the drilling phase, and also provide trouble-free operations during the tie-back phase.

DRIL-QUIP template systems consist of the following:

- Unitized Template Systems
 - Conductor-Supported Template Systems
 - Bottom-Supported Template Systems
- Modular Template Systems

All DRIL-QUIP template systems are available with bumper-guide receptacles, which can be used to align the jacket and its bell guides with the template well receptacles, ensuring proper alignment. Each bumper-guide receptacle is removable prior to jacket installation. This helps to eliminate the possibility of load shock to the template and predrilled wells during jacket installation.

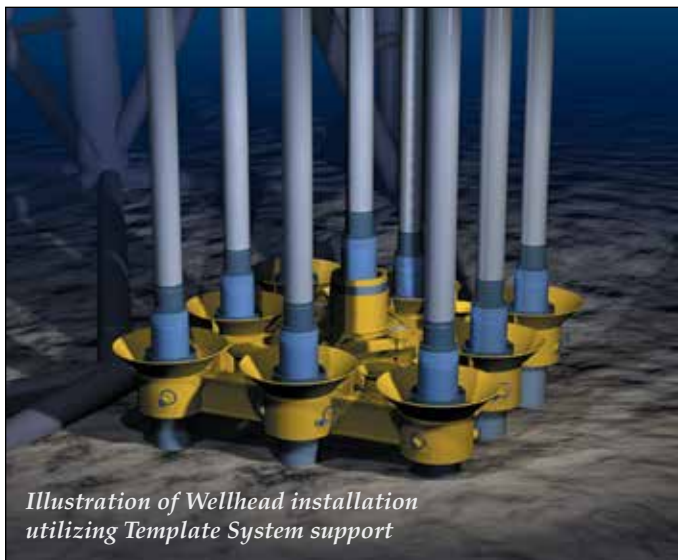
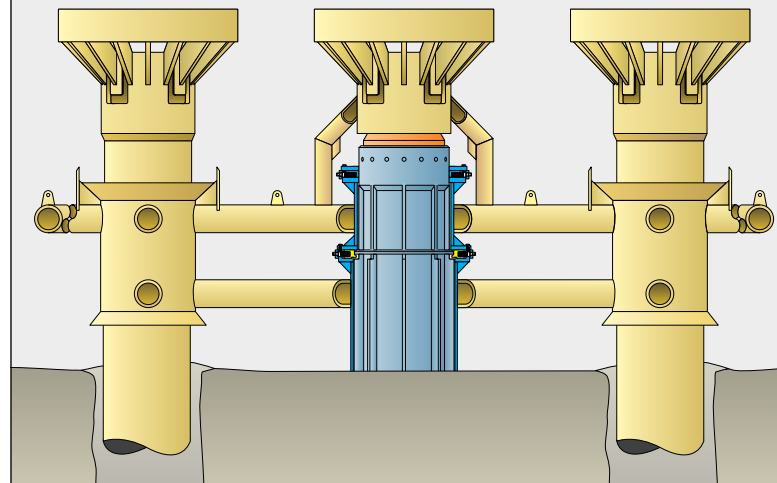


Illustration of Wellhead installation utilizing Template System support

Template Systems Advantages

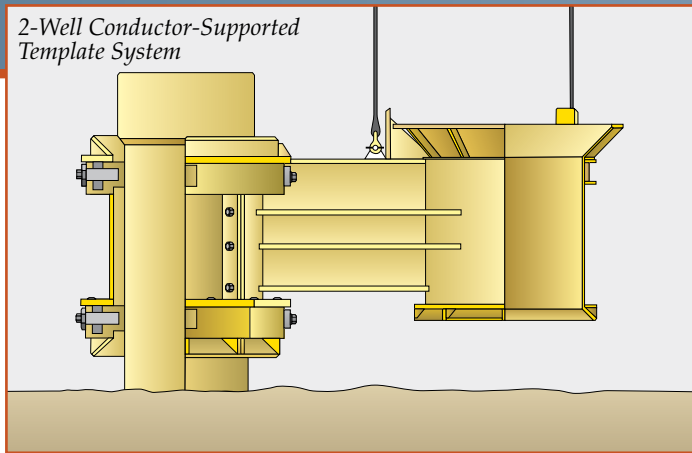
- Predrilling during jacket construction provides early cash flow
- DRIL-QUIP offers flexible template designs, engineered according to customer specifications
- Quality material selection provides the strongest possible template system
- Certified welders and certified welding procedures ensure a quality product
- Qualified and trained field technical representatives are available 24 hours to assist in template installation

Illustration of a Conductor-Supported Template



Operational Advantages

- Systems are designed to stand up to the effects of drilling operations
- Retrievable bumper-guide receptacles provide jacket alignment and tie-back alignment
- Each bumper-guide receptacle is removable, helping to eliminate load shock to the template structure
- All disconnect points can be set at the same distance from the mudline
- Tight centerline-to-centerline control of individual conductors in multi-well template systems



Designed and Tested to Optimize Field Performance

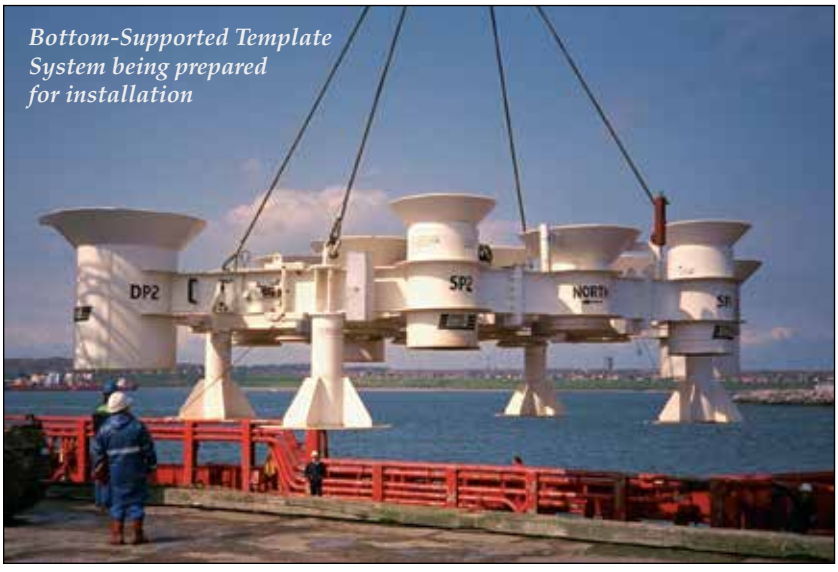
The DRIL-QUIP template system design can be tailored to suit specific customer requirements. Each template system is subjected to computer nodal analysis to ensure its suitability for the drilling environment. Computerized finite element analyses are conducted on areas of expected high loads. This is how DRIL-QUIP's template systems combine drilling technology and production requirements with operational advantages to supply the operator with the latest innovations available in template design at a realistic cost.

Quality Manufacturing Process and On-Time Delivery

DRIL-QUIP has dedicated itself to quality in order to supply consistent equipment performance required in the harsh subsea environment. Only quality materials are selected, and ASME-qualified welding procedures and certified welders are used in the fabrication of each template.



3-Well Bottom-Supported Template System being readied for immersion



Bottom-Supported Template System being prepared for installation

Quality control checks are performed at preset stages of the manufacturing process, and a complete fit-and-function test is performed after the manufacturing and assembly processes are completed. Plus, continuous monitoring of individual orders assures on-time deliveries.

Field Service

Specially trained DRIL-QUIP service representatives are stationed at various locations worldwide and are available on a 24-hour on-call basis to assist the customer in the specification, handling and running of each DRIL-QUIP product.

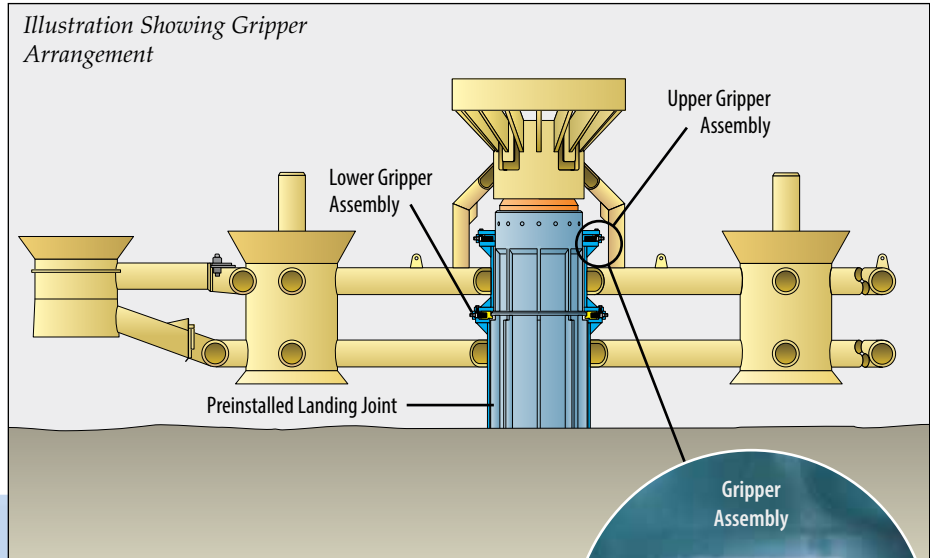
UNITIZED TEMPLATE SYSTEMS

DRIL-QUIP Unitized Template Systems are manufactured from quality steel tubes that incorporate a number of slots, depending on the specifications. Unitized Template

Systems can be either conductor-supported or bottom-supported, and can be designed and configured for jack-up or subsea drilling and completion operations.

Conductor-Supported Template Systems

Conductor-Supported Template Systems are used where ocean floor conditions are known to be unstable and predrilling could undermine the template foundations. The Conductor-Supported Template System is also used in areas where the ocean floor is heavily inclined. A maximum of nine wells is recommended.



3-Well Conductor-Supported Template System

9-Well Conductor-Supported Template System



Dimensional Data

2-Well System (Minimum)

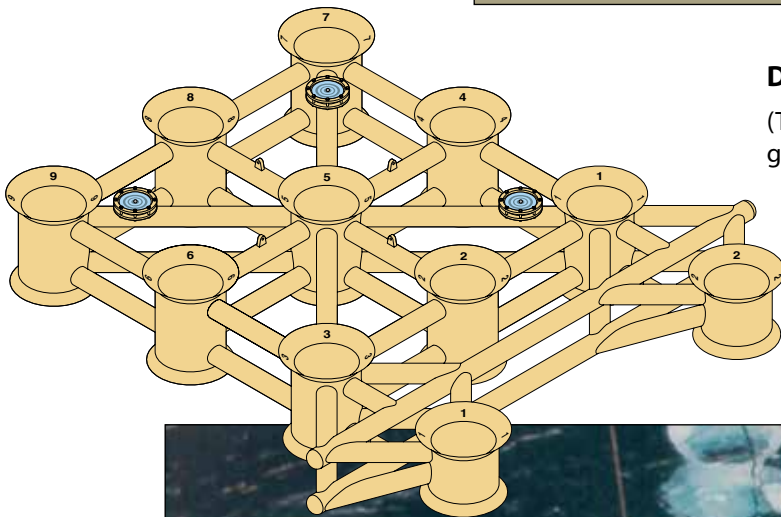
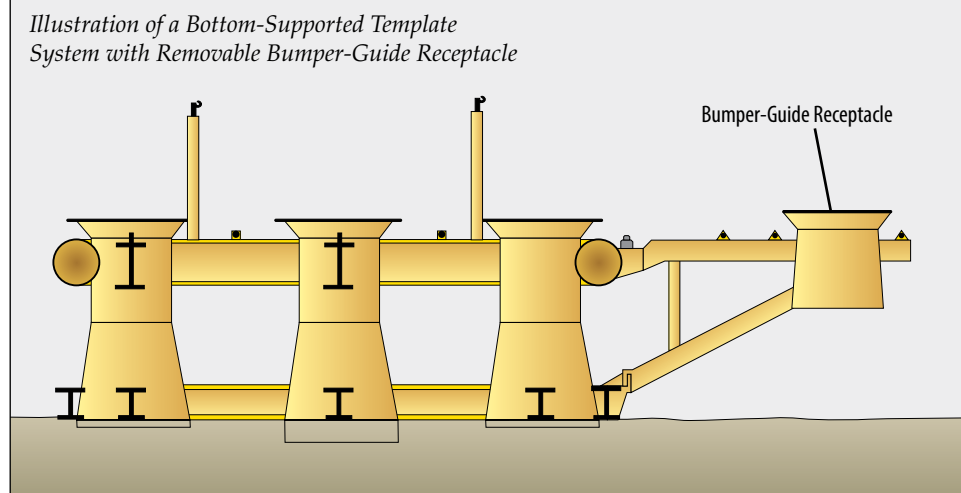
- Length.....11.25' or 3.4 m
- Width.....5' or 1.5 m
- Height.....5.3' or 1.6 m
- Weight in air3.4 tons or 3,100 kg

9-Well System (Minimum)

- Length.....23.6' or 7.2 m
- Width.....23.4' or 7.1 m
- Height.....10.5' or 3.2 m
- Weight in air29.8 tons or 27,000 kg

Bottom-Supported Template Systems

Bottom-Supported Template Systems can be used where ocean floor conditions are known to be stable and where the ocean floor inclination is less than 4°. DRIL-QUIP's Bottom-Supported Template Systems offer superior structural integrity and can accommodate a larger number of predrilled wells.



Dimensional Data

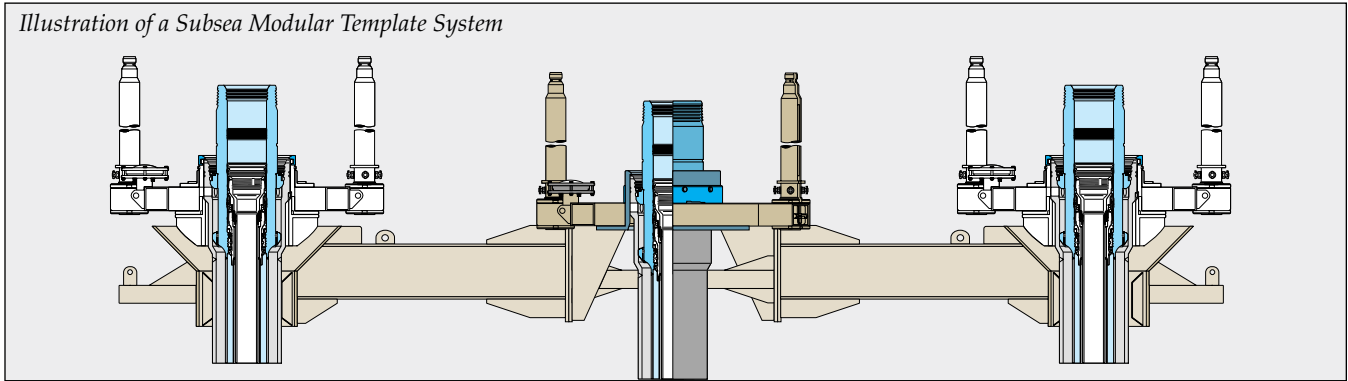
(Typical 9-Well Template System with two additional bumper-guide receptacles that accommodate 30" conductors)

Length.....	33.3' or 10.15 m
Width.....	24.5' or 7.5 m
Height.....	7.8' or 2.4 m
Weight in air.....	42.9 tons or 38,000 kg



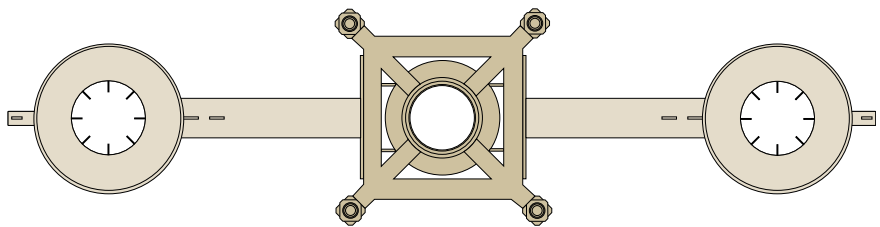
MODULAR TEMPLATE SYSTEMS

Illustration of a Subsea Modular Template System



Modular Template Systems

The DRIL-QUIP Modular (or Spacer) Template Systems offer the flexibility to accommodate last-minute changes in the production program. This allows the operator to “build as you go,” eliminating wasted capital expenditures for unfilled template receptacles. The modular template system is generally used in conjunction with subsea drilling operations.



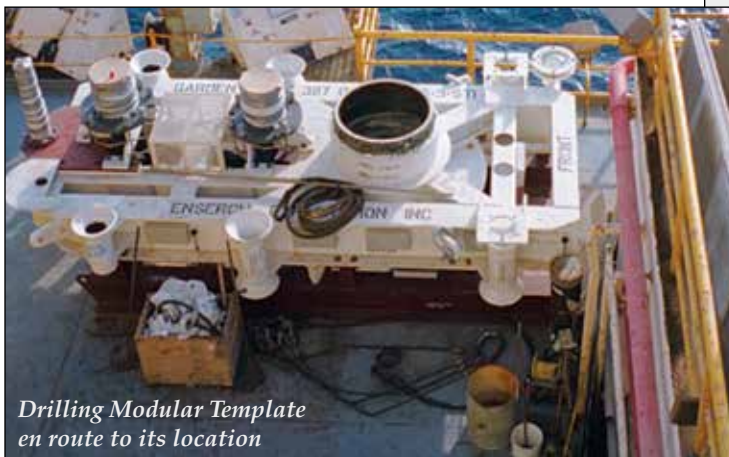
Top View of a Subsea Spacer Template



DRIL-QUIP employees performing a QC check on a Subsea Spacer Template

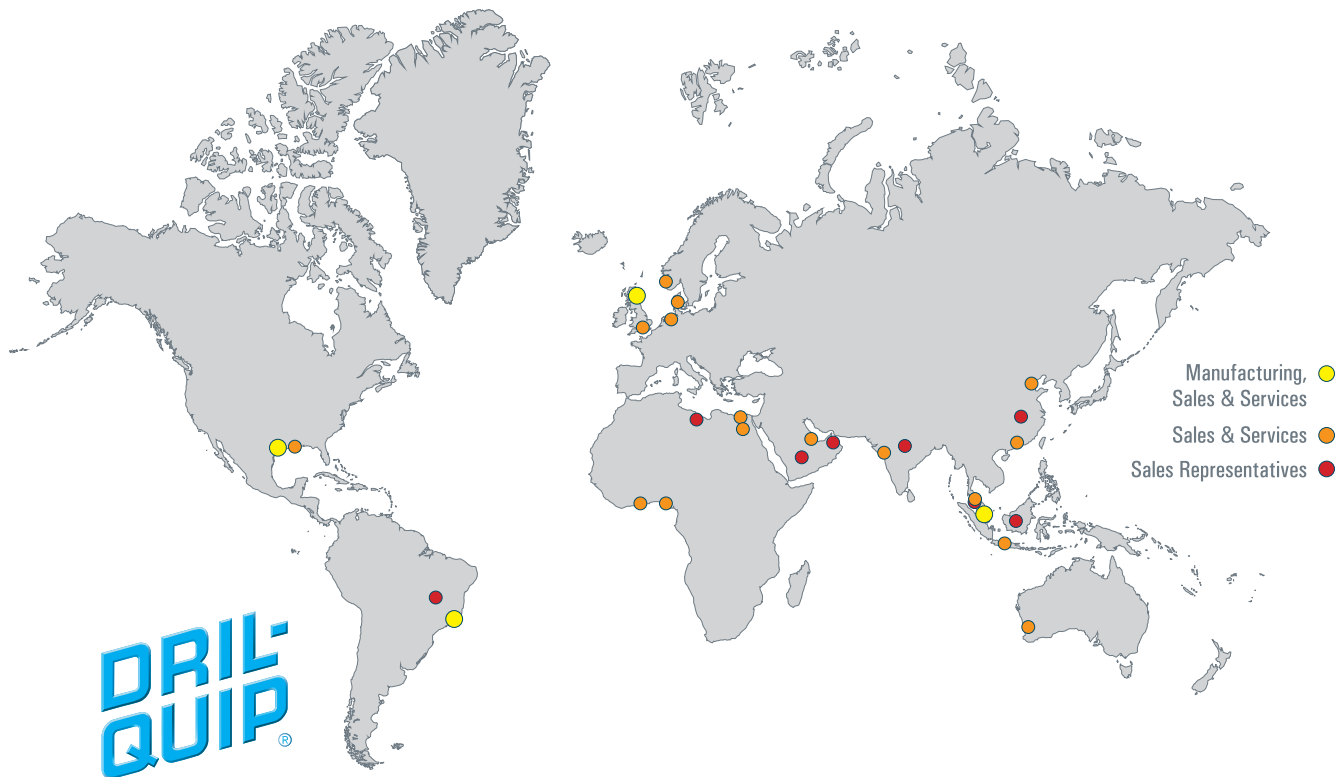


Fit-and-function test of a Subsea Tree on a DRIL-QUIP Modular Drilling and Production Template System



Drilling Modular Template en route to its location





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