



**WORKSTRINGS INTERNATIONAL<sup>®</sup>**

"YOUR FIRST CHOICE IN DOWNHOLE TUBULAR RENTALS"

A SUPERIOR ENERGY SERVICES COMPANY



**The Leading Rental Provider of High Specification  
Downhole Tubulars and Accessories**



[www.workstringsinternational.com](http://www.workstringsinternational.com)

## Products

Workstrings International® provides the highest quality downhole rental tubulars and associated accessories, value-added engineering services and operational support while maintaining the industry's highest health, safety and environmental standards.



### Landing String (5" - 7 5/8")

- 7 5/8" MaXit™ 807 Completion Landing String
- 6 5/8" **FASTR**® 2.0 - 2.5 MM lbs Slip-Proof® Landing String

### Completion Strings (2 7/8" - 7 5/8")

- 6 5/8" GTM69
- 6 5/8" TTM710
- 5 7/8" CTM57 .361", .415", .500", .625"
- 4 1/2" CTM43
- 4" CTM39
- 2 7/8" CTM26

### Drill Pipe (2 7/8" - 6 5/8")

- All API Connections and Specialty Connections (HT, XT, uXT, TT®, XTM, CTM, GTM, TTM®, VAM® Express™, VAM® CDS™ GPDS and Delta™)

### Handling Tools & Accessories

- **FASTR**® Slip System
  - Slips, Master Bushings, Bowls, Backsaver®
- Heavy Weight Drill Pipe (3 1/2" - 6 5/8")
  - Slick, Spiral and Tri-Spiral
- Drill Collars (3 1/8" - 9 1/2") Spiral or Slick
- Landing String and Drill Pipe Pup Joints
- Elevators (2 3/8" - 7 5/8")
  - Hydraulic and Manual
- Lower Kelly Valves, IBOPs, Safety Valves
  - On-Site Valve Repair Facility
- B.O.P./Wellhead Washtool
- Certified Cargo Baskets
- Crossover Subs, Pump-In Subs, Drill Collar Lift Subs
- Bit Subs

## **FASTR**® Landing String System

The **FASTR**® Landing String System consists of 6 5/8" FH Slip-Proof® Landing String design that features a 6ft Slip-Proof® section which prevents the crushing of the tubular by the **FASTR**® Slip System. The V-150 grade **FASTR**® Landing String is rated to 2.0 MM lbs, with the UD-165 grade rated to 2.5 MM lbs.



### **FASTR**® 1000 Ton Slips

Optimum angle and length for better load distribution



The **FASTR**® Slip System is used for handling loads of up to 1000 ton encountered when landing long strings of casing in deep water operations. The **FASTR**® Landing String System provides safe and reliable operation using standard rig equipment.



### Split Insert Bowl

Uniquely designed to accommodate the **FASTR**® Slips



### **FASTR**® Landing String

- Tensile and slip crushing capacity for 2.0 MM lbs and 2.5 MM lbs
- Standard 6 5/8" FH connections for easy make-up and handling



### Backsaver®

Hydraulically operated



### Hydraulic 1000 Ton Elevator

Dressed with specially designed inserts for handling the 6 5/8" Slip-Proof® Landing String

## Engineering Services

Workstrings International® has a staff of Petroleum Engineers supporting domestic and international projects by providing the following services to our customers:



**DRILL STRING DESIGN:** An optimum design model utilizing a premium software package that meets all of the rig constraints for each hole section based on trajectory, hydraulics, surface torque, available overpull, and slip crushing

**LANDING STRING DESIGN:** An optimum design for each tubular section based on inspection criteria, pipe management, slip crushing, slip type, and dynamic loading considerations when landing casing strings and liners

**TUBULAR PERFORMANCE ANALYSIS:** An in-house developed calculator as per API 5C3 utilized to evaluate tension, torsion, burst, and collapse of tubulars and accessories, with or without biaxial loading

**ACCESSORY ANALYZER:** The Accessory Analyzer is used to determine the tensile, burst and collapse of crossover subs and pup joints

**CONNECTION ANALYSIS:** Evaluation of the mechanical properties of API and proprietary connections

**TUBULAR STRETCH ANALYSIS:** Calculation of drill string stretch at given intervals, considering the effects of the well path and buoyancy, to determine the cumulative stretch

**SLIP-CRUSHING:** Empirical calculations based on the maximum axial loads that can be safely applied without damaging the pipe for a specific slip design

**STIFFNESS ANALYSIS:** A section moduli ratio of stiff to limber components used primarily as a guideline to evaluate the impact of unlike components in the BHA

### ENGINEERING SUPPORT

Optimized Tubular Project Design • Torque and Drag Modeling • Hydraulics Modeling • Landing String Design  
Reduced Collapse Calculations • Tubular Connection Analysis • Finite Element Analysis • Project Management

# Challenging Drilling & Completion Projects

The Workstrings Engineering and Marketing teams have been instrumental in the success of wells around the world - many record setting in depth, pressure, test depth and discovery.

- Several projects required designs for preliminary drilling plans, following through to the completion of the well.
- Some cases developed new connection designs to handle combined loads during completions.
- Others are slimhole drilling designs and innovative designs to meet the customer's challenges and design limitations.



## This list reflects a sample of challenging projects concerning major operators and independents:

### Deepwater Gulf of Mexico

- Well Depths exceeding 30,000' and casing strings with loads exceeding 1.7 MM lbs)
- Design drill string and landing string for the drilling planning stages
- Design workstring for testing and completing
- Detailed design for each phase of completion for available overpull
- CTM57 connection designed for deep high pressure completions
- GTM69, TTM710 and MaXit connections designed for large ID requirements and high pressure for completion and intervention operation

### Deepwater Gulf of Mexico

- Deepest well drilled in GOM to 35,955', 2009
- Deepened well with 4 ½" XTM40

### Deepwater Gulf of Mexico

- Design drill string and landing string for 35,000' well and 16.0 ppg mud
- Redesign drill string for sidetrack at 24,000' to 30,000'

### Deepwater Gulf of Mexico

- **FASTR**® Landing String system with loads to 2.3 MM lbs

### South America

- Wildcat drilling and well test with limited rig capabilities

### North Africa

- Multiple landing string designs and rental
- Requirement for increased rigorous inspection criteria

### West Africa

- Deepwater well with limited rig equipment
- Provided landing string and handling equipment

### Middle East

- Deepwater drill stem test string design and rental
- Challenging casing design and heavy loads exceeding 1.5 MM lbs

### Asia Pacific

- First ultra deep development gas project
- Design of deepwater completion string

### Asia Pacific

- Increasing landing string requirements
- Landing string designs and accessory support



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Download the Workstrings International Pipe Specification App on the App Store<sup>SM</sup> or Google Play<sup>TM</sup>

Workstrings International, the global leading oilfield equipment rental company providing quality drill strings, tubing, landing strings, completion tubulars and handling accessories with in-house "value-added" engineering, continues to demonstrate commitment to its customer support and investment in latest technologies with the launch of the Workstrings International Pipe Specification App.

The App allows users to access specifications for the most commonly used sizes and connections of drill pipe, landing string, HWDP, drill collars and tubing providing the option to view and email specification sheets conveniently using your mobile device.

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