

Smart Reel®
Automatic Control



Tension,
Speed &
Directional
Control



Fast Response
Controls

Lowers Operating Costs & Improves Safety

- **Lowers Operating Cost** by automating the reel control during high value riser deployment times
- **Improves Safety** by Automatically Controlling the Umbilical Tension – Protects the umbilical and down sheaves from Over-tension
- **Improves Operational Efficiency** by preventing umbilical from outrunning the riser
- **Improves Safety and Lowers Operating Cost** – The Smart Reel® upgrade offers near instantaneous response time from controls even mounted several hundred feet away
- Available on **New Radoil Reels** and **Field Retrofit-able** on existing Radoil Reels – BOP Control & IWOCs Reels



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PATENT(S) PENDING

ADVANCED UMBILICAL REEL CONTROLS

Reel Power Oil & Gas' Patent(s) Pending **Smart Reel®** Constant Tension Reel automatically controls the reel during riser deployment and retrieval, allowing for operator-less operation. The **Smart Reel®** control is available for retrofit and new build on BOP Control, IWOCs, Chemical Injection and Deployment Reels.

The innovative **Smart Reel®** System **Lowere Your Operating Expenses:**

- 1) The **Smart Reel®** takes the operator out of the equation, saving labor costs.
- 2) The **Smart Reel®** prevents damage and premature failure of the umbilical due to unintended operator error and/or over-tensioning of the umbilical.
- 3) The **Smart Reel®** prevents the umbilical from over-running the riser deployment, saving hours of rig time for an over-run condition.
- 4) The **Smart Reel®** reduces the chance of damage to the umbilical, support sheaves, the reel and/or injury to personnel;

Payback for the **Smart Reel®** in just a few months, through labor savings, reduced chance of rig downtime, and longer umbilical life.

The Smart Reel® lowers your risk and operational costs.

How the Smart Reel® operates:

- 1) As the riser begins to deploy or retrieved, the **Smart Reel®** automatically calculates the build-up on the reel and adjusts the torque to maintain a constant umbilical tension.
- 2) As the riser is being deployed and a sudden stop occurs, the reel recognizes the umbilical is being deployed faster than the riser and stops the reel from dispensing umbilical.
- 3) If riser is going down faster than the reel, the reel automatically adjusts speed of umbilical deployment to maintain a constant umbilical tension.
- 4) As the riser begins to deploy, the **Smart Reel®** will prevent damage to the umbilical even if the operator is not available to control the reel.
- 5) The **Smart Reel®'s Fast Response** (optional) feature replaces the pneumatic controls with near instantaneous reaction intrinsically safe electric controls, eliminating the delay inherent in pneumatic controls, especially in applications where there are long lengths of air lines.
- 6) The **Smart Reel®'s High Tension Alarm** (optional) gives direct run tension output to driller cabin mounted display, providing relative data in the event of an umbilical failure, streamlining the failure analysis and reducing rig downtime.
- 7) Slack control is pre-programmed into the system and is settable.

The **Smart Reel®** technology is far superior to standard constant torque control reels, widely available on the market. A constant torque reel causes a tension variation of as much as 3 to 1 due to the change in the spooling radius as the umbilical is deployed. This variance in tension during deployment and retrieval can damage umbilical cables, hoses and support sheaves unless the operator intervenes.

The **Smart Reel®** system is available on new BOP, IWOCs and/or Pod Hose reels, plus it is designed to retrofit current reels in the field.

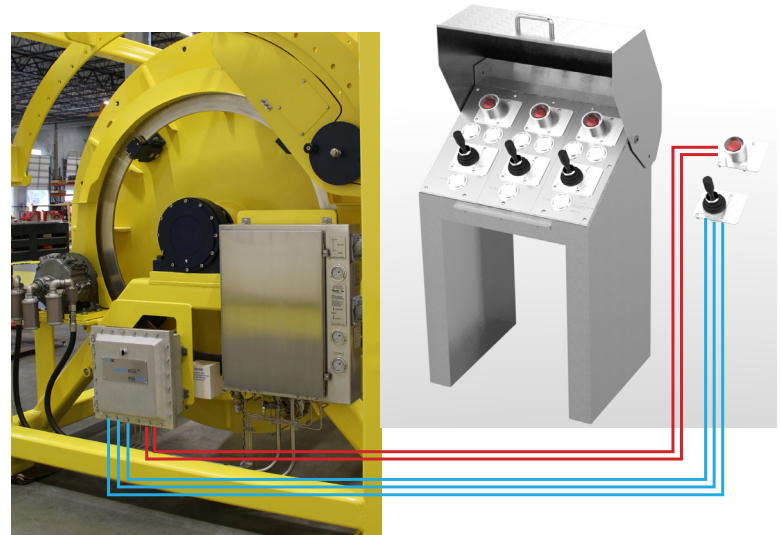
Smart Reel® Advantages:

- **Fully Automatic Reel Operations - No operator input required during operations**
- **BOP Stack can be run from surface to the seafloor and retrieved with the reel automatically controlling tension**
- **Tension range, material diameter and reel width are all driller settable**
- **Field Retrofit-able to reels currently on-board**

Features, Specifications & Options:

The Smart Reel® retrofit kit can be retrofitted in the field in a few hours. The retrofit includes:

- Explosion proof PLC control enclosure with proximity sensor for automatic directional, tension and speed control.
- High Tension Alarm with Load Cell to directly output umbilical tension (optional). Feature includes tension and parameter display (HMI) to mount in drillers cabin. Mounting shackles to accommodate existing sheaves are included.
- Fast Response Controls to replace existing pneumatic remote controls (optional).
- Remote clamp operator control pendant (Wired or Wireless) to provide slack input to **Smart Reel®** system (optional).
- Generator with air motor to allow air flow to provide power to the system (no external electric power required) (optional).
- All necessary tubing, fittings, fasteners, mounting brackets and accessories to easily retrofit to your reels.



Smart Reel® FAST RESPONSE feature



REELPOWER
OIL & GAS

WE SOLVE DEEPWATER PROBLEMS

Our goal is to identify challenges, design innovative solutions and manufacture quality products that solve your deepwater problems.

Our business is saving you time and money.

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