

RAW WATER/PRE-LOADING REEL SYSTEMS

INNOVATIVE FLEXIBLE MATERIAL SPOOLING & COILING SOLUTIONS



Safety

Apart from replacing age old Raw Water Towers on Jack-ups, Tulsa Power's Raw water and Pre Loading Reel systems provide a safe and effective solution for raw water supply on offshore structures. The reel shown in the picture accommodates an OSD (oil suction & discharge) hose. At the end of the hose is a suitable submersible deep well pump attached. The entire weight of the pump, motor, and accessories are supported by the hose alone, making it the most maintenance friendly, hassle free compact light weight system available in the market place.

Tulsa Power systems are capable of pulling up the pump in the shortest possible time, ensuring the least rig down time and decreasing overall operating cost. Controls include direction of rotation, emergency down, tension and brake controls for the reel.

Please contact us with your needs for us to design a suitable system for you.

Features

- Rugged structure and components designed for long life in oilfield, marine environment.
- ABS type approved.
- Intrinsically safe, pneumatic drive and braking system.
- Small foot print, minimizes deck-space usage (less than 25 sq. ft.)
- Mechanical safety locking pin prevents inadvertent rotation of the reel.
- Emergency (zero (0) air) down control and emergency air supply shut-off valve.
- Safety line attaches to the reel and the pump to prevent loosing the pump.
- Forklift pockets and certified pad-eyes.
- Reel hose clamps remove pulling force from the hose flange.
- Fully-guarded drive components and pinch points.

EQUIPMENT BENEFITS

- **Weight Savings** – Saves thousands of pounds when compared to raw water towers.
- **Low Center of Gravity** – Lowers center of gravity greatly when compared to raw water towers.
- **Lower Maintenance & Increased Reliability** – Unaffected by barnacle and other debris build-up inherent in raw water towers.
- **Faster Rig Moves** – Deploys and retrieves pump in less than 15 minutes.
- **Less Rig Downtime** – Redundant system when installing pair of reels.
- **Lower Operating Cost** – Pump may be deployed by one individual.
- **Small Footprint** – Total footprint usage of one reel is less than 25 sq. ft. Further footprint savings is realized when installed on optional platform.
- **Intrinsically Safe Pneumatic Drive** – Reduced leaking and simplification of drive system when compared to hydraulic systems. Fail-safe pneumatic brake automatically engages when control is in neutral position or with loss of air pressure.
- **Single Reel System** – Reel stores hose, electrical cable and safety wire rope eliminating the need to synchronize multiple reels.
- **Operates In Any Water Depth** – Full flow capability even when leaving several wraps of hose on the reel when compared to compressible/flat hose reels.
- **Deploys Pump Even Without Air** – Emergency down feature allows lowering of the deepwell pump, even without air pressure.
- **No Need to Disconnect** – Units with rotary union and slip ring allow raising and lowering pump without disconnecting piping or electric pump power.



T U L S A P O W E R

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System Specifications

Flow Rate: Up to 2000 GPM (7,600 l/m) flow rate*

Hose: 150 ft. (46 m) of 6 in. (152 mm) ID, 150 psi (10.3 bar) rated suction hose. 150 ft. of electrical cable & 150 ft. of bitter end safety cable.

Skid Length: 65 in. (5 ft. 5 in.) (1,650 mm).

Skid Width: 65 in. (5 ft. 5 in.) (1,650 mm).

Total Height: 150 in. (12 ft. 6 in.) (3,810 mm).

Reel Weight: 13,000 lbs. (5,909 kg) with empty hose and standard ESP pump.

Drive: Pneumatic (280 CFM, 80 to 120 psi required (132 l/s, 5.5 to 80.3 bar) – powered up or down control – 0 to 15 FPM speed range.

Total Weight Pull Capability: 4,500 lbs. (2,041 kg) hose, cable(s), pump, motor and seawater.

Fail-safe Brake: Fail-safe pneumatic band brake with accumulator offers controlled descent.

Offshore Duty: Heavy duty, offshore, oilfield paint system and non-corroding components provided.

Manual Lock Pin: Manually engaged locking pin positively prevents inadvertent/accidental turning of the reel.

Hose Guides: Removable rollers maintain position of hose and pump below the reel.

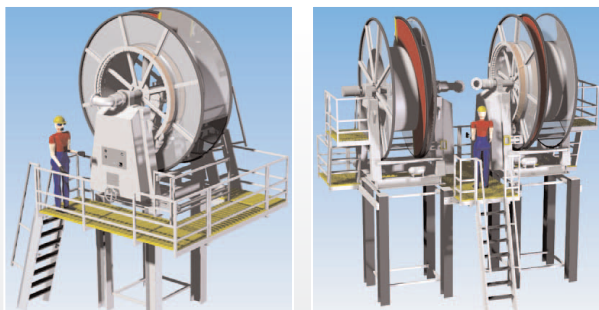
Documentation: Complete documentation package provided.

Including installation, operation & maintenance manuals and data books.

Above specifications for typical raw water applications.

* 2000 GPM thru 6" hose (flow velocity = 22.7 fps, discharge head = 195 ft. – fully deployed pump).

* 1200 GPM thru 6" hose (flow velocity = 13.6 fps, discharge head = 170 ft. – fully deployed pump).



Available Options

Rotary Union & Electric Slip Ring Options: A 90 deg. live swivel connection and electrical slip ring eliminates the need to decouple during raising or lowering the pump. Slip ring may be by-passed in case of failure.

Platforms Options: Single and double (parallel or tandem) reel platforms are available to raise the reel off the deck and provide additional storage space under the platform. Platforms are complete with safety railing and access ladder.

Alternate Hose Capacities: 2", 3", 4", 6", 8", 10", 12" hose capacities available. Various hose lengths available.

Hose Options: Standard and fire resistant hoses. Composite hose eliminates separate power connections.

Drive Options: Hydraulic and electric drive options are also available.

Remote Control Panel Option: Remote control panels are available for ease of operation from the deck, primarily used with the above platform options.

Lifting Accessories Option: Certified single point lift spreader bar, lifting slings & shackles.

Deepwell Pump: Electric submersible pump with electric cable may be supplied to meet your exact requirements.

Chute: To maintain pump/hose position in high winds, waves and current.

Applications

- Jack-up rig raw water delivery.
- Jack-up rig pre-load platform rigs.
- Any off-shore structure fluid & bulk loading transfer



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