Superior Energy Services - Modular Rigs

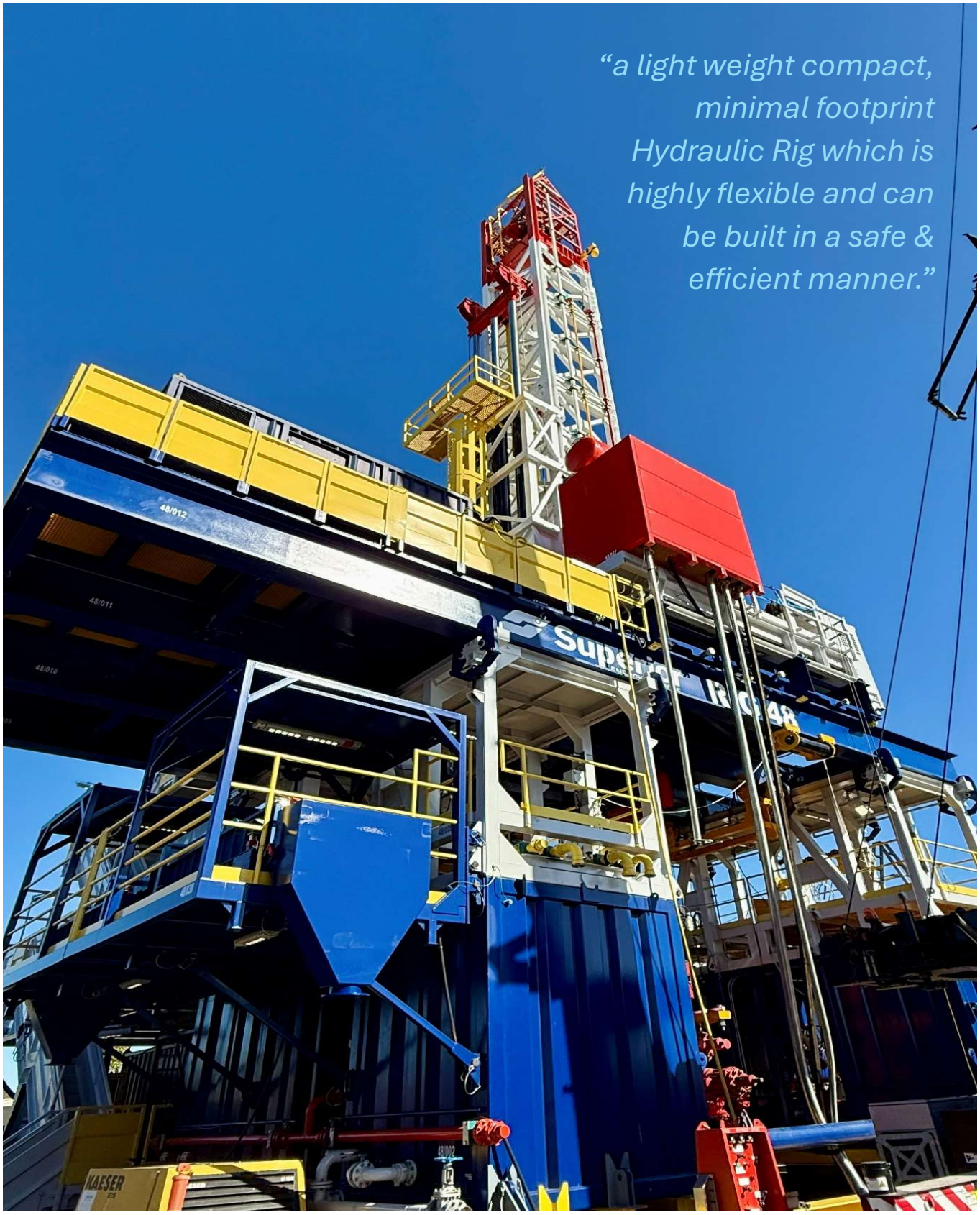
Our Modular Rigs are a step change and breakthrough in their field; an innovative, modular design that offers operational flexibility and cost efficiency unrivalled by other similarly rated, modular offshore workover, intervention and P&A Units on the market.

The 420K Modular Rig by virtue of it's small footprint, quick rig up and rig down, small lift sizes, efficient tripping ability, and other factors is a highly cost effective, and highly efficient package, with an extensive operational track record

Built in accordance with API 4F – 5th Edition 2020, AS1554.1 – 2014: Structural Steel Welding, and AS3990-1993 (R2016): Mechanical Equipment - Steelwork, the 420K Modular Rig is built to a high standard and able to operate in a range of offshore environments.

As a 'doubles', Hydraulic Driven Rig (Cylinders, Sheaves & Drill-Line operation), the 420K Rigs are lightweight, compact and efficient modular packages.

Designed to operate in a stand-alone mode, it can be rigged up rapidly on many offshore installations to provide intermediate drilling, workover and end of well life decommissioning (P&A) services


“a light weight compact, minimal footprint Hydraulic Rig which is highly flexible and can be built in a safe & efficient manner.”

Configuration

Following a review of the existing equipment available globally, and drawing upon the operational experience of the company, Superior has designed and developed a purpose built 420K Modular Intervention Rig.

In developing the concept of the Hydraulic Rig, Superior assessed and addressed the industry need for a bespoke configuration of Modular Rig to suit most platforms, based on their experience of Drilling, HWO, Snubbing and Heavy Intervention requirements.

The outcome is a 190T capacity (420K) Hydraulic Double's Workover, Intervention, and P&A Rig. Supported by a integrated Pipe Deck / Machine Deck Module, which has the ability to be operated from either side of the rig, thus permitting increased 'well access' from minimal footprint

The rig package has integral Active Fluids System and Power Generation System (Diesel / Hydraulic Prime Movers), thus allowing operators the ability to request project specific / bespoke equipment configuration to suit operational requirements.

Design emphasis was placed upon modular, minimal weight & dimension and ergonomics resulting in a light-weight compact product that is highly flexible and can be assembled / disassembled in a safe and efficient manner.

Principle specification for the Modular Rig and Pipe Deck Package components are as follows:

Operations

Through the innovative multipurpose design, the 420K Modular Rigs are capable of intermediate / side track drilling, workover, Intervention and plug & abandonment operations.

The Modular Rigs can run complex completion strings to all conventional well depths.

Superior's Modular Rig packages are designed with the capability for the following services:

- ✓ Intermediate / Side Track Drilling services
- ✓ Through Tubing Rotary Drilling (TTRD)
- ✓ Work-Over Services
- ✓ Completions
- ✓ Plug & Abandonment Services (P&A) and
- ✓ Through Rig Intervention Support Services i.e. Coiled Tubing, Slickline and E-Line, Pumping, Stimulation.

The Modular Rig can be rigged up on most Offshore Installations and perform a diverse range of Well Operations and Services

The Business Case

As Reactivation of platform-based drilling / workover packages and facilities costs continue to rise, along with the cost of Jack Up or Tender Support Rigs; the 420K Modular Rig is an attractive alternative to these expensive, operational options.
The modular rig package concept is lighter and more compact than alternatives, reducing the size of the footprint and associated loading on the platform required.

Basic Rig Package

- ✓ **Weight:** approx. 330 T (Dry)
- ✓ **Weight:** approx. 436T (Wet)
- ✓ **Pull Capacity:** 420,000Lbs
- ✓ **Set Back Capacity:** 201,000Lbs @ 420K Lbs Max Pull
- ✓ **Rig & Tank Package Footprint:**
  - 24Ft (L) x 48Ft (W) (Max)
  - 24Ft (L) x 30Ft (W) (Min)
- ✓ **Pipe Deck Footprint:** 44Ft (W) 41.4Ft (L)
- ✓ **Machine Deck Footprint:** 25Ft (W) x 40.8 Ft (L)
  - *Machine Deck is directly below Pipe Deck*
- ✓ **Pipe Deck / Machine Deck Package Weight:** 90,000Lbs (Dry), 233,000Lbs (Active)

Active Fluid System

- ✓ **Weight:** *included in Rig Weight (Dry & Wet)*
- ✓ **Footprint:** *Included in Rig Footprint*
- ✓ **Capacity:** 800 Bbls.

Power Generation System

Rig Power:

- ✓ Rig Power: Diesel / Hydraulic 500 HP at 2000 rpm (373 kW)
- ✓ **Rotary System**: Diesel / Hydraulic 800 HP at 2300 rpm (600kW)
- ✓ **Fluid Pump Prime Mover** (Per Pump Unit): Diesel / Hydraulic 635 HP at 2000 rpm (475 kW)

Ancillary Power (If required) – *(Offshore normally location supplied)*

Electrical Generation (2 Off): Sound-Proof, 220 kVA (176 kWe)

Pneumatic Generation (2off): Sound-Proof, 210 CFM @ 175 PSI

The Rig package can be tailored to meet well-specific requirements. Utilization of an Modular Rig, in both Greenfield and Brownfield environments, negates expensive CAPAX investments and / or costly re-activation projects.

Rental of an Hydraulic Rig also negates operating, maintenance and re-certification costs on existing rig / platform facilities, therefore the following benefits can be realized: — Low investment, rental alternative (CAPEX vs OPEX) i.e.

- ✓ Greatly reduced time from project start until start operation
- ✓ Low POB
- ✓ No maintenance cost when not in operation – unlike fixed drilling packages
- ✓ Compact, lightweight concept – so reduced platform / jacket size and/or steel weight
- ✓ Capable of a wide range of operations; from
  - Intermediate / Side Track Drilling services
  - Through Tubing Rotary Drilling (TTRD)
  - Work-Over Services
  - Completions
  - Plug & Abandonment Services (P&A) and
  - Through Rig Intervention Support Services i.e. Coiled Tubing, Slickline and E-Line, Pumping, Stimulation.

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