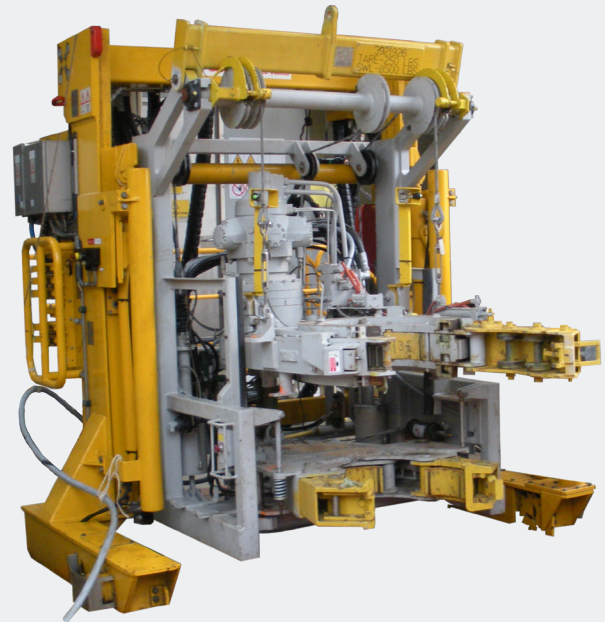


RTS-H Cassette

Interfaced to NOV MPT-200

Key Benefits and Features

- Modular Cassette System can be installed into carriage in minutes
- The use of NOV's HydraTong™ carriage provides tie-in to the rig's ZMS system and ESD
- Self-contained air-over-hydraulic cassette controls operate independently from rig's control systems
- Compatible with Frank's Data Trek® Torque Turn Monitoring System
- Compatible with Frank's Integrated Control System for torque-hold required connections
- 14 3/8 inch cassette provides variable separation distance between tong and backup to accommodate casing and drill pipe landing string connections
- A 7 5/8 inch Reducer Kit can be installed in the 14 3/8 inch tong to run smaller pipe sizes with standard 7 5/8 inch tong jaws
- The 7 5/8 inch kit also allows for Frank's Fluid Grip® for the ultimate in non-marking gripping system for use on CRA tubulars



Use in the following applications:

Deepwater and ultra-deepwater

Mid-water shelf

The RTS-H is a special development of the original RTS product line, designed specifically for use with NOV's HydraTong™ MPT-200 modular iron roughneck system.

The system is capable of making up and breaking out a large range of pipe sizes using three tong cassette modules to accommodate sizes ranging from 22 inches to 4 1/2 inches. The self-contained system supports the Frank's 7 5/8, 14 3/8, and 22 inch Casing Tong Cassettes. The larger cassette employs an adapter carriage to allow the heavy tong to be managed by the rig's iron roughneck. The RTS-H cassettes hook into the rig's MPT-200 Carriage system, which is used to transport the cassette on/off the tubular. The HydraTong is available in two rail widths, and the Frank's cassette systems can accommodate either.

The rig supplies the hydraulic power to the cassette via the HydraTong service loop. The pneumatic RTS Tong Control Console is connected to the cassette via a multi-conductor umbilical.

The driller controls the HydraTong/Cassette positioning, thereby maintaining the ZMS and ESD functionality, while the tong operator controls the cassette's tong and backup functions. The HydraTong can be driven to and from the well center on the rails, and be decelerated to a stop at the programmable well center. Vertical adjustment for the smaller cassettes is controlled by the HydraTong.

When the XT-22 cassette system is installed, a Frank's Adapter Carriage provides the vertical height adjustment of the heavier cassette.

RTS-H Cassette - Interfaced to NOV MPT-200

	XT-22	14 3/8 Inch Tong	14 3/8 Inch Tong with 7 5/8 Inch Reducer	7 5/8 Inch Tong
Overall Dimensions (LXWXH)	105 inches x 63 inches x 96 inches	90 inches x 54 inches x 90 inches	90 inches x 54 inches x 90 inches	85 inches x 54 inches x 90 inches
Cassette Weight	8,500 pounds	6,700 pounds	7,200 pounds	5,500 pounds
Torque	High Gear	18,000 foot-pounds	11,000 foot-pounds	4,130 foot-pounds
	Low Gear	100,000 foot-pounds	70,000 foot-pounds	30,000 foot-pounds
Maximum Speed	9.5 revolutions per minute	17 revolutions per minute	17 revolutions per minute	30 revolutions per minute
Casing Size Range	13 1/4 inches to 22 inches	7 inches to 14 3/8 inches	4 1/2 inches to 7 5/8 inches	4 1/2 inches to 7 5/8 inches
Additional Features			Optional Fluid Grip® Available	Optional Fluid Grip® Available

Use in the following applications: Deepwater and ultra-deepwater Mid-water shelf

