

# Well Construction

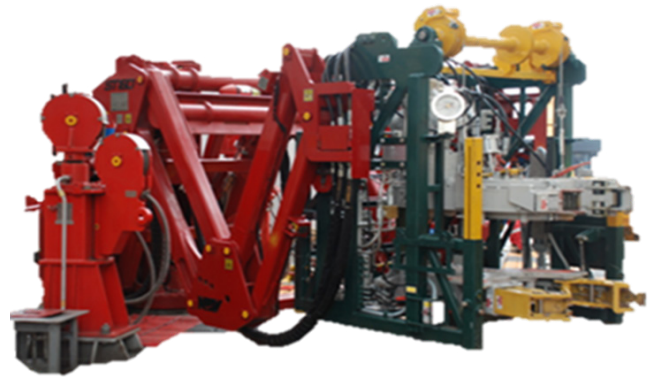
## Frank's Tubular Running Service (TRS) - Casing Technologies

### RTS-ST Integrated Cassette Tongs for NOV ST-160

Expro's RTS-ST Cassette Tongs are designed specifically for use in NOV's HYDRATONG™ ST-160 modular iron roughnecks.

Three cassette tong modules are available for making up and breaking out tubular sizes 2 in to 22 in. The HYDRATONG™ ST Main Frame supports the weight of the cassettes. The ST Main Frame transports the cassettes to and from 'Home' and 'Work' positions that are programmable in the NOV Control System. The NOV Control System controls the height of the cassettes, to programmable 'Home' and 'Work' heights.

The cassette tongs are typically powered by Rig Hydraulics via the HYDRATONG service loop, though standalone hydraulic supply is possible. The standard option is for the Cassette Tong functions to be remotely controlled from the Remote Tong System (RTS) Control Console. However, the Cassette Tongs can be Wirelessly controlled from a 'Belly Pack' using Expro's Radio Remote Control (RRC) system.



#### Features and benefits

- Expro Cassette Tongs are quick and efficient to rig-up & rig-down and take up very minimal space on the rig floor
- Integration with NOV's HYDRATONG™ provides tie-in to the rig's Zone Management System (ZMS) and Emergency Stop Device (ESD) systems
- Preprogrammed 'Home' and 'Work' positions allow the cassette tongs to be positioned with the push of a single button on the NOV Operators Chair
- Remote control allows the cassette tong to be operated from a safe area outside the Red-Zone
- Optional Auto-Alignment & Make-Break Paddle kit eliminate the need for any Red-Zone entries during use
- Optional Wireless Control with Expro RRC enables full operation from inside the Drillers Cabin (and from the rig floor)
- Compatible with Expro's DATA TREK® Torque Turn Monitoring System
- 14 3/8 in close-proximity tong and backup allows for make-up & break-out of drill pipe landing string connections
- 7 5/8 in Jaw Reducer Kit can be installed in the 14 3/8 in tong to run smaller pipe sizes with standard 7 5/8 in tong jaws
- The 8 3/4 in and 12 in FLUID GRIP® housings can be installed on the 7 5/8 in and 14 3/8 in tongs respectively to enable non-marking make-up & break-out of CRA tubulars

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Specifications	XT-22 RTS-ST Cassette	14 3/8 in RTS-ST Cassette	7 5/8 in RTS-ST Cassette
Overall dimensions (l x w x h)	104 in x 67 in x 93 in	89 in x 67 in x 93 in	78 in x 67 in x 93 in
Cassette weight	8,500 lbs	6,700 lbs	6,500 lbs
Torque high gear	10,500 ft-lbs	11,000 ft-lbs	5,600 ft-lbs
Torque low gear	100,000 ft-lbs	70,000 ft-lbs	30,000 ft-lbs
Maximum speed	19.25	34.6 rpm	60 rpm
Casing size range	9 5/8 in - 22 in	4 5/8 in - 14 3/8 in	2 in - 7 5/8 in
Additional features			Optional FLUID GRIP® available

