

FIBRE ROPE CRANES (FRC 150T)



KONGSBERG



KONGSBERG SUBSEA CRANES

Fibre rope cranes (FRC 150t) Working better deeper

The crane is designed for continuous operation in a tough and corrosive offshore environment with focus on efficient and safe load handling.

Fibre rope cranes

A range of offshore cranes up to 400 tonnes load using field proven Kongsberg Maritime fibre rope handling technology is now launched. The crane structure has an integrated operator cabin and the fibre rope runs over large diameter sheaves.

Below deck is a compact CTCU (cable traction control unit) which forms the crane winch, provides active heave compensation and stores the rope on a reel. This system has a proven track record of more than 10 years. Particular attention has been made to ease of access and maintenance of all main components.

Because the selected rope has neutral buoyancy, the crane can handle loads to its full rated capacity down to 4,500 metres water depth. Cranes using heavy steel wire must begin derating at depths more than about 700m, so by 2,500m a 400t wire crane can only handle the same load as a 250t FRC.

The Kongsberg Maritime rope management system monitors rope condition enabling abraded or damaged sections to be easily repaired by splicing onboard.

OPTIONS

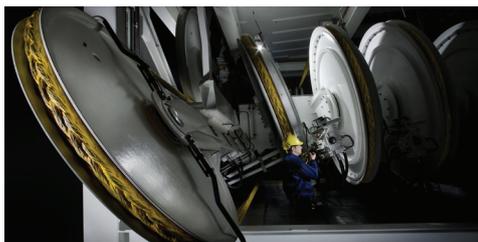
- Auxiliary winch
- Personnel lifting
- Tugger winches
- Remote access
- Anti-collision system
- Pedestal
- Heavy lift double fall arrangement
- Health monitoring

Cabin



A sound insulated state-of-the-art cabin houses the operator's chair with redundant touch screens, camera monitors, a writing desk and a co-pilot chair. Heating and air conditioning allows the operator to work comfortably and efficiently in all climates.

CTCU



Fibre rope handling is taken care of below deck, in a compact system using the field-proven Kongsberg Maritime cable traction control unit (CTCU), which assures reliable and predictable rope spooling and storage in all conditions.

General design features

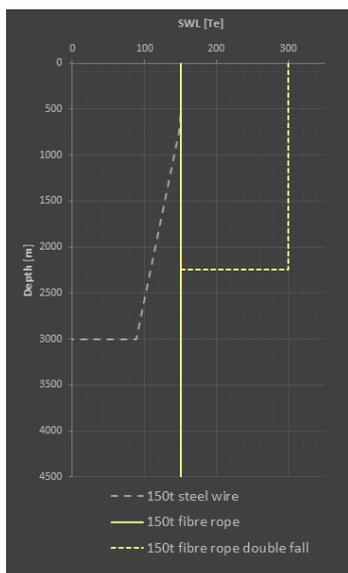
- Field proven CTCU technology for fibre rope handling
- Smart integration in vessel – below deck
- Innovative crane structure – reduced weight
- High-end control system
- Active heave compensation
- Constant tension, with auto landing and auto lift-off mode
- Pull limit and controlled emergency pay-out function
- State-of-the-art operator cabin
- High quality – low maintenance, robust and field proven technology
- Cost efficient logistics for rope replacement
- In-field splicing of rope
- Easy inspection of rope
- Rope management system – full wear traceability
- DNV GL certification

SWL	150T
Operating depth	4500 m
Min outreach	7 m
Max outreach	31 m
Winch speed	00 - 1.5 m/s (all layers)*
AHC capacity (Peak to peak)	4.8 m at 10 s period (150t, all layers)
Heavy lift capacity (double fall)	300t at 2250 m
Aux winch capacity	0t / 20t
Tugger winch capacity	5t
Slewing	+/-200 degrees rotation
Peak winch consumption	1300 kW
Certification	DNVGL-ST-E407 "Rope based deployment and recovery systems for designed service"

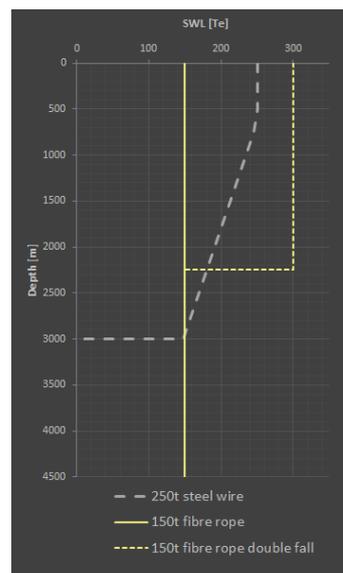
Approximate values, provided for information only. Specifications may vary for given applications. * Varies according to applied load.

The graphs to right compare the subsea lifting capacity of fibre rope vs. steel wire. Unlike steel wire, fibre rope suffers no depth derating as it has neutral buoyancy. In addition, the fibre rope's twist free construction enables deepwater operations in double fall which effectively doubles the crane's lifting capacity.

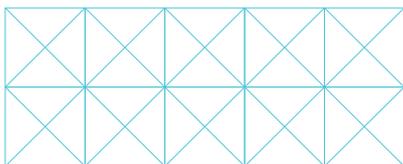
Use of steel wires practically stops at approx. 3000 m due to size of handling equipment and high water pressure causing wire core corrosion issues.



Fibre rope crane 150t vs. 150t steel wire



Fibre rope crane 150t vs. 250t steel wire



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