

Subsea OC Series Box Boom Cranes



Your partner for a Lifetime of Lifting

Over the past 30 years, we have delivered over 250 box boom subsea cranes to the offshore market. This pedestal mounted, slew-bearing crane with cylinder-luffing boom, is designed for the challenges associated with offshore applications.

A box boom crane offers excellent versatility, whether it is performing onboard material handling, off-board loading operations to/from supply-vessels, or subsea lifts with Active Heave Compensation. The crane has a low center of gravity which improves host vessel stability, and when configured in a knuckle boom design, it also provides superior control of free-hanging loads.



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Single-box boom design

Single-box boom cranes are easy to operate and generally provides the highest lifting capacity in its price range. The crane has a low stowing height, which is a benefit for vessels that may need to maneuver under bridges etc.

Knuckle boom design

Knuckle boom cranes are the leading crane type for offshore operation on vessels. This crane type also has a low stowing height and is simple to operate. The main benefit of the knuckle boom design is that it allows the crane operator to vary the length of the wire between the boom tip and the load during pick-up and set-down. This offers two distinct advantages; the crane operator can place the boom tip close to the load, inhibiting the load swinging out of position, and resonance effect due to vessel motion can be mitigated so that pendulum motions are kept to a minimum at all times.

The crane can also be equipped with turning boom tip tools or yokes for special purpose operations, like handling drill pipe, casing or riser. In stowed position, the knuckle boom crane is also very compact providing flexibility during operations. Both single-box and knuckle boom designs can be equipped with a telescopic boom.

To simplify the process of selecting and delivering a suitable crane within a shorter time, we have defined a range of "basis" cranes. The most popular of these are shown in the table below, with pre-defined modules ready for other hoisting capacities, boom lengths etc. If none of these are found suitable for your need, we also deliver fit-for-purpose cranes designed to meet your requirements.

Typical basis knuckle boom AHC crane model data. Any crane type in between or exceeding these models can be delivered	Main winch on crane							Main winch below deck		
	15 t	50 t	70 t	100 t	125 t	150 t	200 t	250 t	250 t	400 t
Capacity (harbour lift) @ maximum load, main winch single line	15 t @ 18 m	50 t @ 16 m	70 t @ 19 m	100 t @ 16 m	125 t @ 13 m	150 t @ 14,5 m	200 t @ 15,5 m	250 t @ 17 m	250 t @ 15 m	400 t @ 19 m
Capacity (harbour lift) @ maximum radius, main winch single line	15 t @ 18 m	37 t @ 20 m	47 t @ 25 m	40 t @ 27 m	46 t @ 30 m	56 t @ 30 m	75 t @ 30 m	87 t @ 36 m	81 t @ 36 m	121 t @ 40 m
Capacity @ maximum radius, aux winch single line	-	10 t @ 21 m	10 t @ 26 m	20 t @ 29 m	10 t @ 32 m	10 t @ 32 m	10 t @ 33 m	20 t @ 40 m	20 t @ 40 m	40 t @ 43 m (2 fall)
Operating depth main winch	500 m	3,000 m	3,000 m	3,000 m	3,000 m	3,000 m	3,000 m	3,000 m	3,000 m	3,000 m
Operating depth aux winch	-	500 m	500 m	500 m	500 m	500 m	1,000 m	500 m	500 m	3,000 m (1 fall)
Minimum working radius	5.5 m	4 m	6 m	6.5 m	7 m	7 m	7 m	8.5 m	8 m	10 m
Typical Main power supply requirement with AHC	~420 KW	~1,150 KW	~1,800 KW	~2,150 KW	~1,800 KW	~1,750 KW	~2,000 KW	~2,950 KW	~2,950 (Hydr.MW)	~3,900 (Hydr.MW)
Typical max. dynamic overturning moment at top of NOV supplied pedestal, with main/aux winch wire as above	~6,500 kNm	~14,200 kNm	~20,800 kNm	~28,500 kNm	~28,500 kNm	~37,000 kNm	~44,800 kNm	~72,800 kNm	~74,500 kNm	~140,900 kNm
Typical operating weigh incl. pedestal (3m), with main/aux winch wire as above	40 t	165 t	210 t	270 t	305 t	355 t	420 t	590 t	250 t*	460 t*

* Without main winch, spooling device and HPU - which is located under deck

Active Heave Compensation (AHC) System

For subsea operations, our cranes are equipped with an AHC winch. This widens the weather window for the operation as the load can be safely transferred through the splash zone and eventually lowered steadily onto the seabed - even if the crane vessel is exposed to motion due to harsh conditions. The AHC winch can be placed on the cranes or on large subsea cranes typically below deck.

Features

- Knuckle boom cranes offer superb flexibility and maneuverability
- The low overall center of gravity of the knuckle boom cranes during lifting reduces the dynamic moment on the vessel structure
- Low hazards to the lifted load and laydown area
- Both knuckle boom and telescopic boom cranes have the ability to stabilize suspended loads during adverse weather conditions by bringing the boom tip closer to the load, thus reducing the pendulum length of the wire
- Ideal for Active Heave Compensation
- Knuckle boom and telescopic boom cranes have a small minimum working radius

Typical Options

- Fiber rope
- Safety system for supply boat lifts and subsea lifts
- Remote control
- Constant tension system
- Specialized lifting yokes
- Splash zone mode
- Path control
- For operation in hazardous zones
- Special high lift mode
- Float the load
- Powerblade™ (Kinetic Energy Recovery System)
- Condition based monitoring: eHawk, Mrec, wire wearing monitoring/logging
- Load turning device

