

Experience the Progress **LIEBHERR OFFSHORE CRANES**



MTC Type Offshore Cranes

Rev. 02, 11.03.2009

LIEBHERR

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Introduction

Being a high quality, precision-manufactured machine with up-to-date technology, the LIEBHERR MTC mast type offshore crane series is an impressive demonstration of competence and a benchmark for today's offshore industry.

Our Offshore cranes benefit from of the design efforts of a team of over 120 engineers and represent the successful integration of multi-discipline technologies.



Production

LIEBHERR cranes are the result of continuous quality assurance and quality control at all Stages of design, production and after-sales service.

The Quality system has been certified by Det Norske Veritas.



Type Explanation

LIEBHERR Offshore Crane

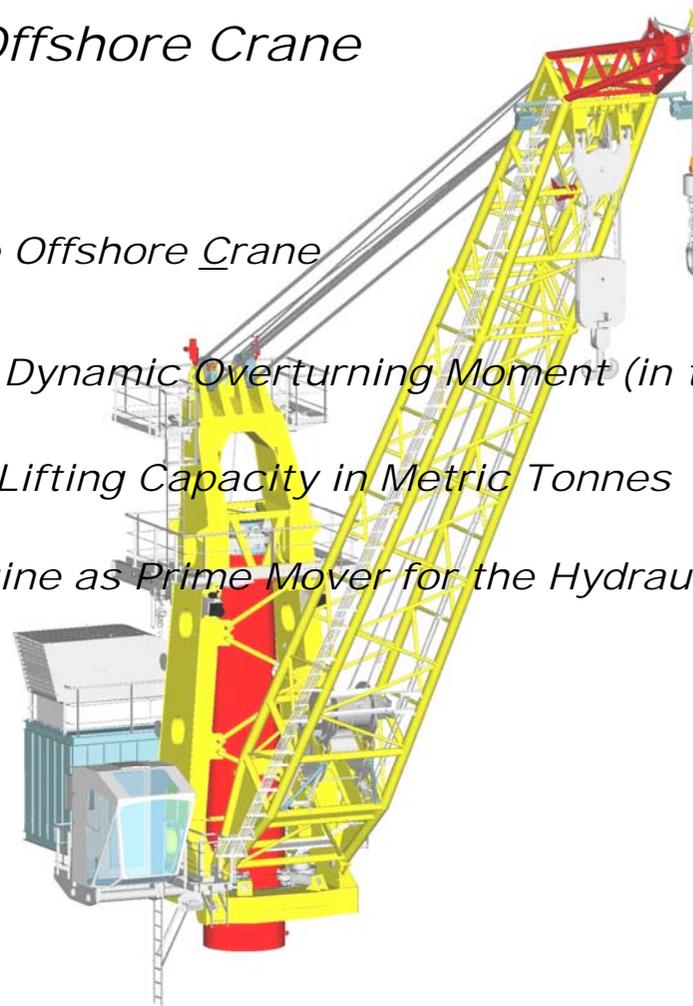
MTC 4200-100 D

MTC . . . Mast Type Offshore Crane

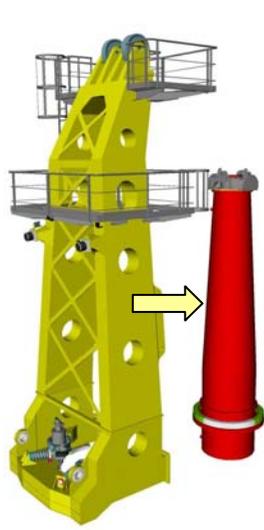
4200 . . . Maximum Dynamic Overturning Moment (in tom) for Crane System

100 Maximum Lifting Capacity in Metric Tonnes

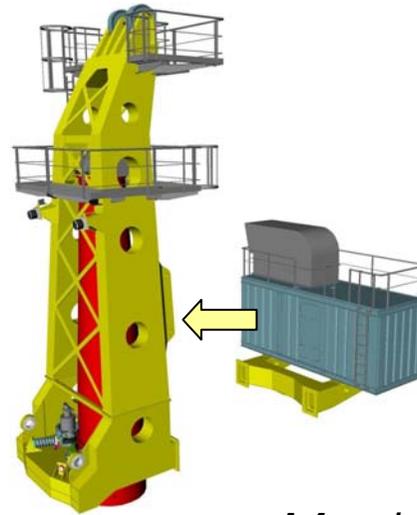
D Diesel Engine as Prime Mover for the Hydraulic System



Main Components



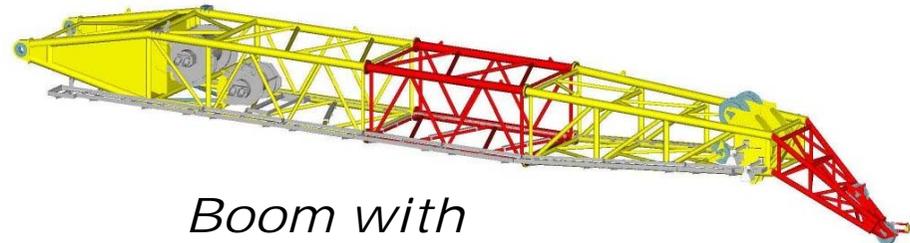
Gantry



*Machinery
Compartment*

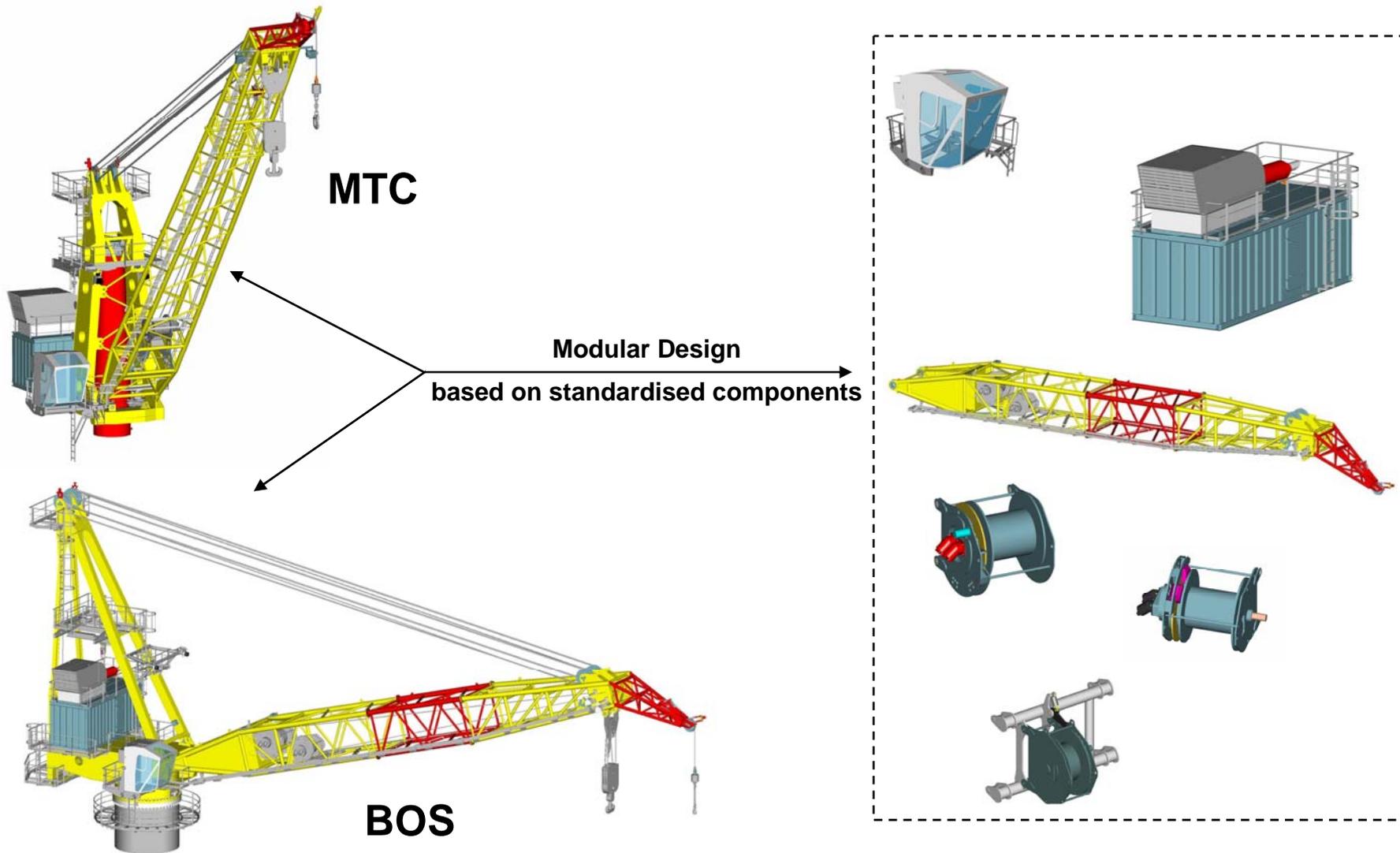


Cabin



*Boom with
Hoist Winch(es)*

Modular Design Concept



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Crane on Test stand



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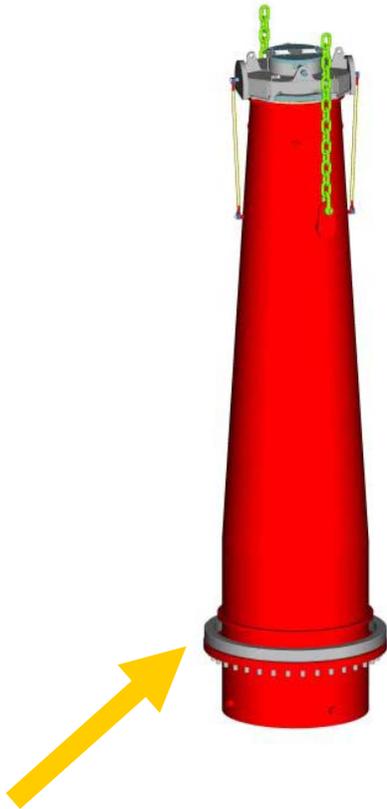
Main Technical Parameters

LIEBHERR MTC Type Offshore Cranes																						
Type Range	Max. SWL	Min. Boom Length				Max. Boom Length				Outer diametre Pedestal (wall thickness)	Maximum dynamic OTM			Interference Radius (Tail Swing)	Weight Slewing Gantry only Tolerance ± 5 %	Available Drives						
		Boom Length	Outreach min. # 1 - Fall reeving	Outreach max. # 1 - Fall reeving	Weight (excl. ropes) Tolerance ± 5 %	Boom Length	Outreach min. # 1 - Fall reeving	Outreach max. # 1 - Fall reeving	Weight (excl. ropes) Tolerance ± 5 %		Crane	Maximum RTF on pedestal incl. additional safety factors acc. rules and regulations				DH	DH	EH				
												API 2C / DNV / LR	EN 13852-1					400kW	2x 450kW	2x 240kW S6	2x 270kW S6	2x 295kW S6
[m]	[m]	[m]	[m]	[kg]	[m]	[m]	[m]	[kg]	[mm] (mm)	[kNm]	[kNm]	[kNm]	[mm]	[mt]								
1900	100	27	6,6	28	28850	60	10,8	60	41900	2300 (35)	19000	31500	31500	5800	71.5	on request	n.a.	standard	on request	on request	on request	n.a.
2600	100	27	6,6	28	28850	60	10,8	60	41900	2300 (45)	26000	40000	40000	5800	77.6	on request	n.a.	standard	on request	on request	on request	n.a.
3100	150	27	7.2	29	34500	72	13	72	57500	3000 (30)	31000	47000	47000	6450	97.0	on request	n.a.	on request	on request	standard	on request	n.a.
3600	150	27	7.2	29	34500	72	13	72	57500	3000 (30)	36000	54000	54000	6450	98.9	on request	n.a.	on request	on request	standard	on request	n.a.
6000	150	36	7,8	29	41700	72	13,6	73	63500	3400 (45)	66450	89000	89000	7000	160.5	on request	n.a.	on request	on request	standard	on request	n.a.

- Data are subject to engineering modification -

Mast

Forces acting on the slewing mechanism are transferred to the mast through a machined flange rather than through a non machined or somewhat oval kingpost.

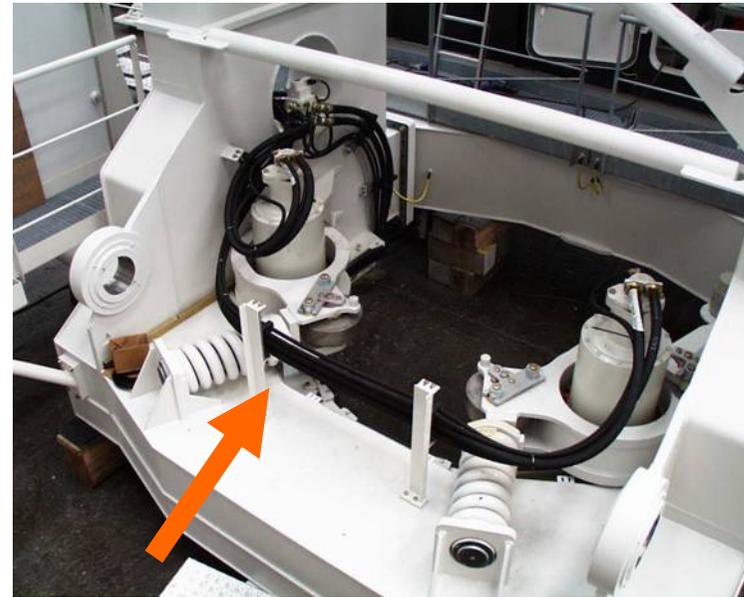
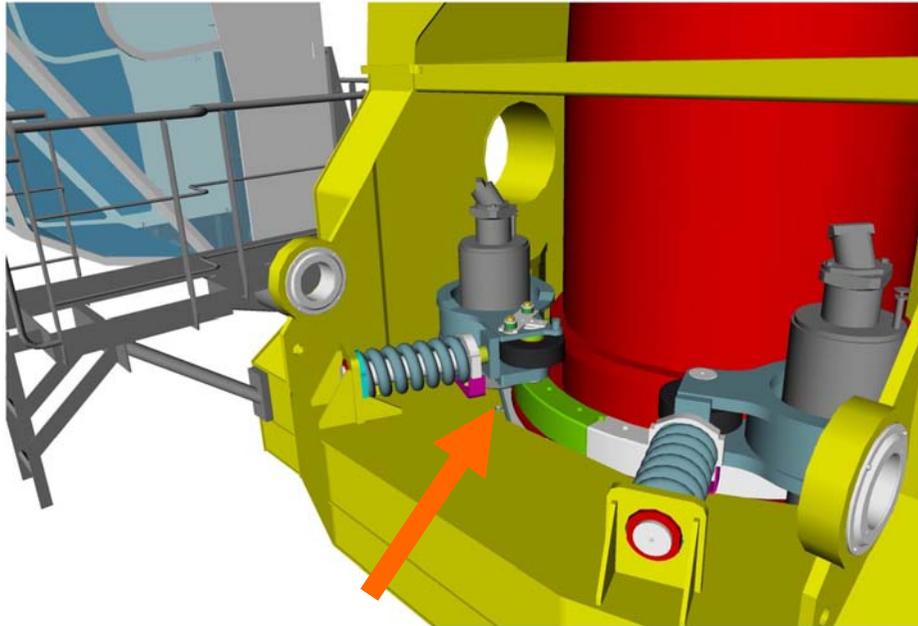


The LIEBHERR design significantly reduces the tolerances between the bearing and the bearing surface which provides an extremely low differential between static and dynamic friction.

This low differential provides for extremely smooth slewing control particularly when handling heavy loads.

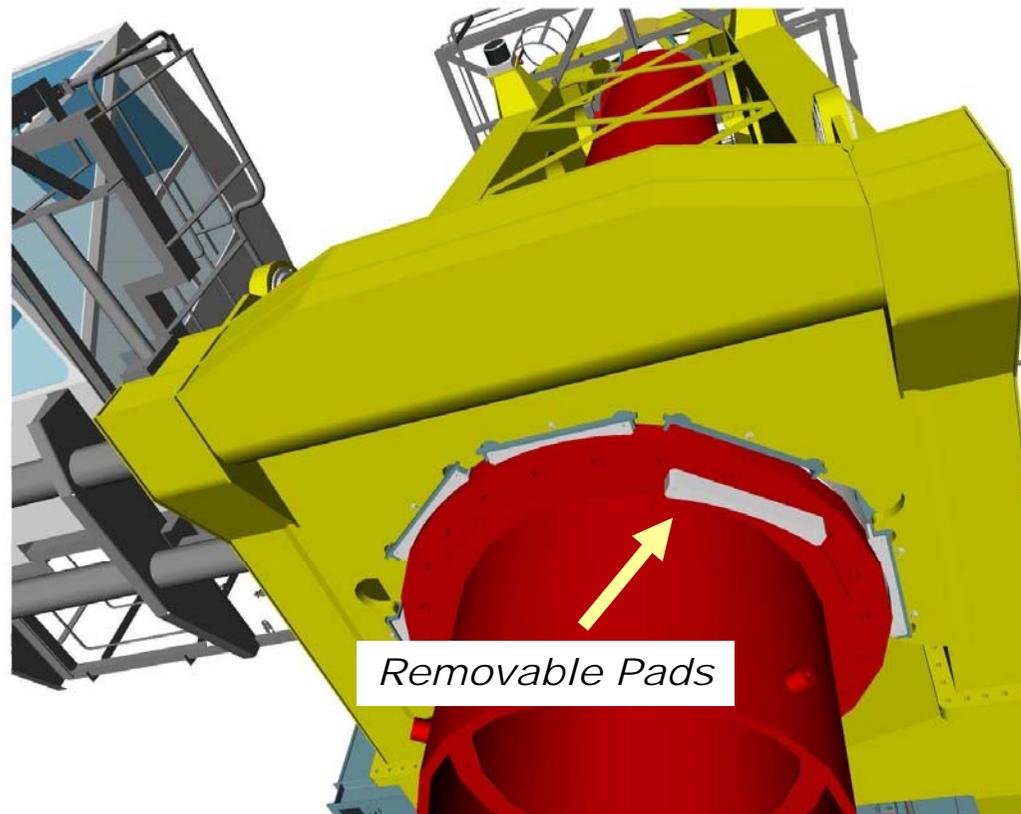
Slewing Mechanism

Each slewing gear box is mounted into a suspension system to maintain a constant pinion back lash under any operational conditions.



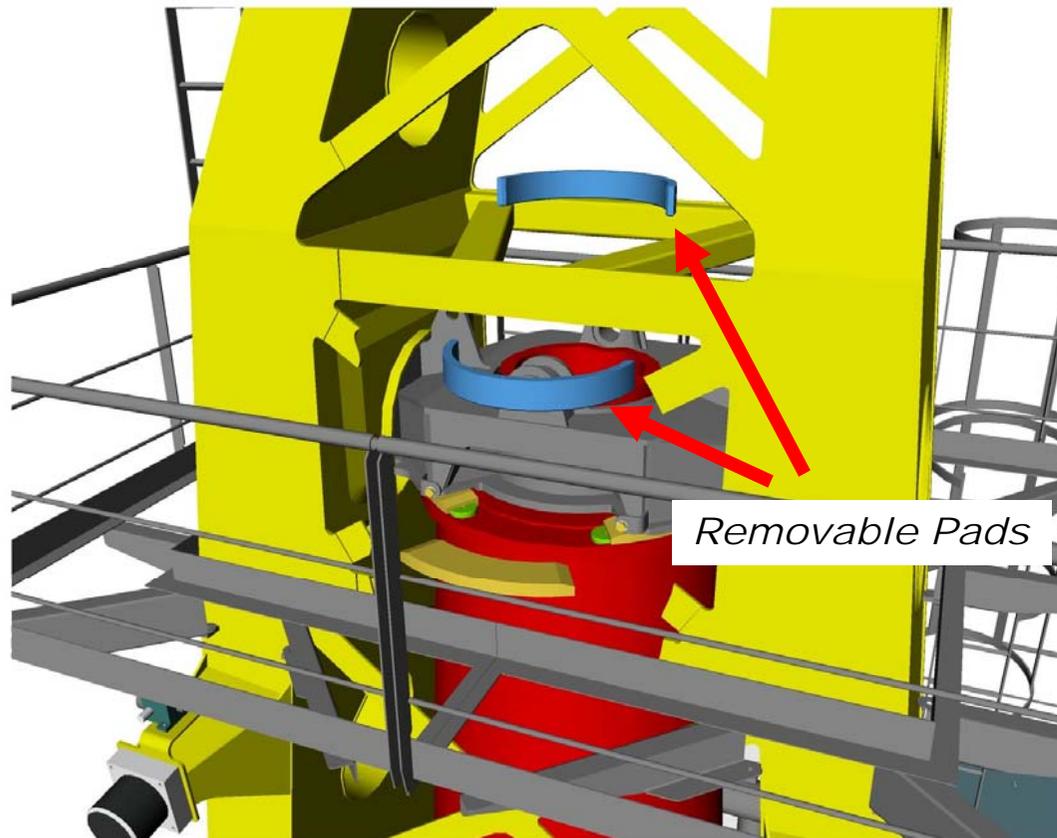
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Lower Slewing Bearing



The surface pressure between the non-metallic bearing and the mast flange is less than 20N/mm².

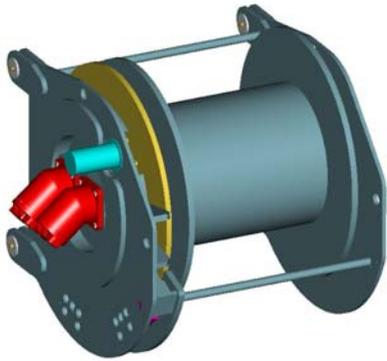
Upper Slewing Bearing



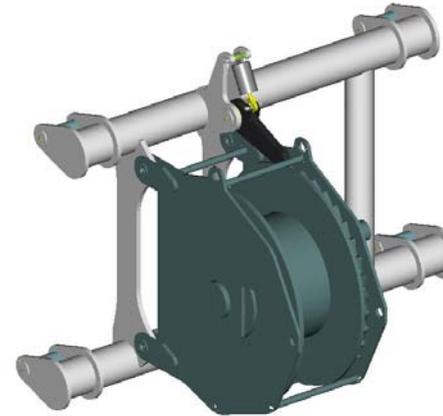
A patented mechanism for clearing the slewing gantry off the mast allows in situ exchange of the gliding plates without requiring a second crane.

Winches

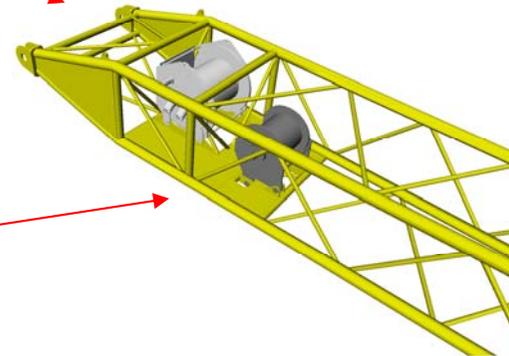
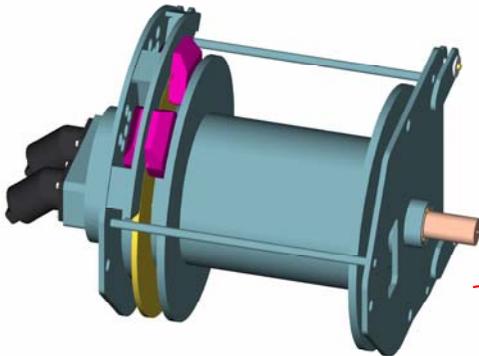
*Main Hoist 15 or 25to Linepull
(optional with secondary brake for
personnel transfer)*



Luffing 25to Linepull

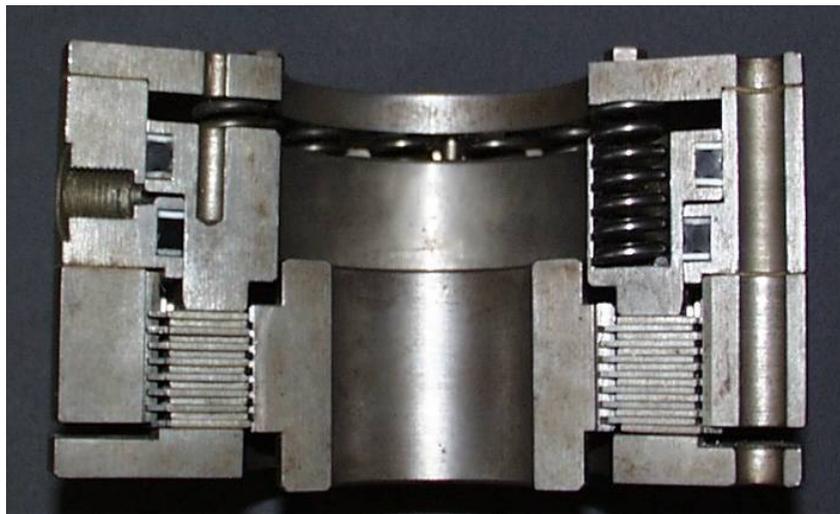
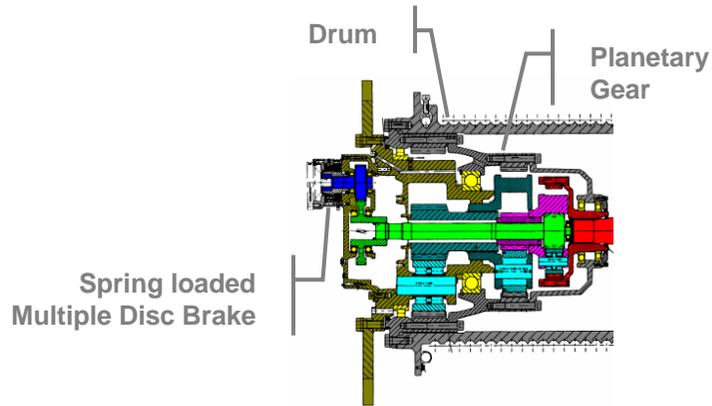


Whip Hoist 15to Linepull

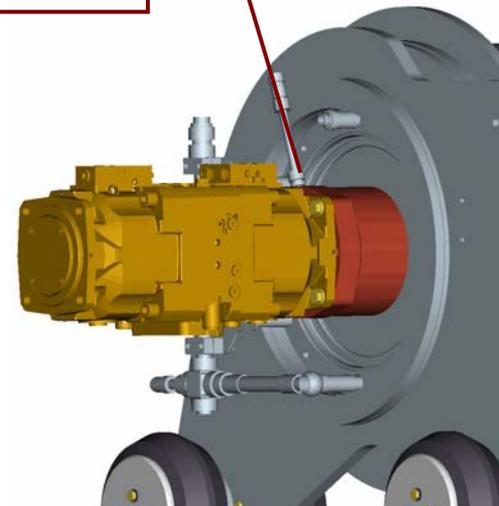


Static Brakes

Maintenance free, spring loaded multi-disc brakes
(static brakes for hoisting, luffing and slewing gear)

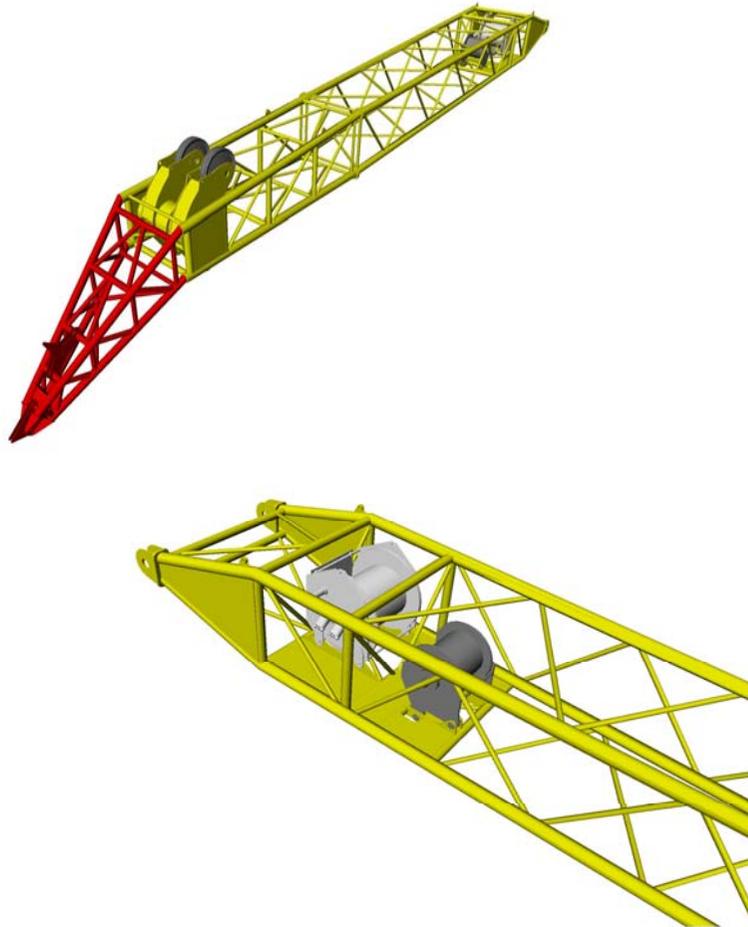


Spring Loaded Multiple Disc Brake



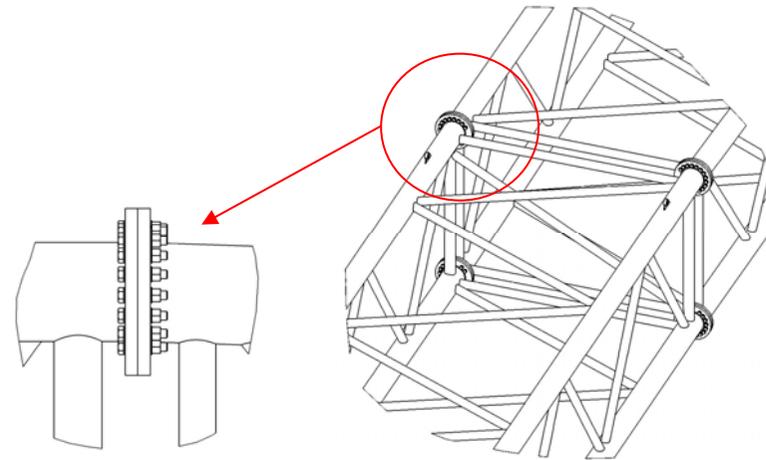
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Boom

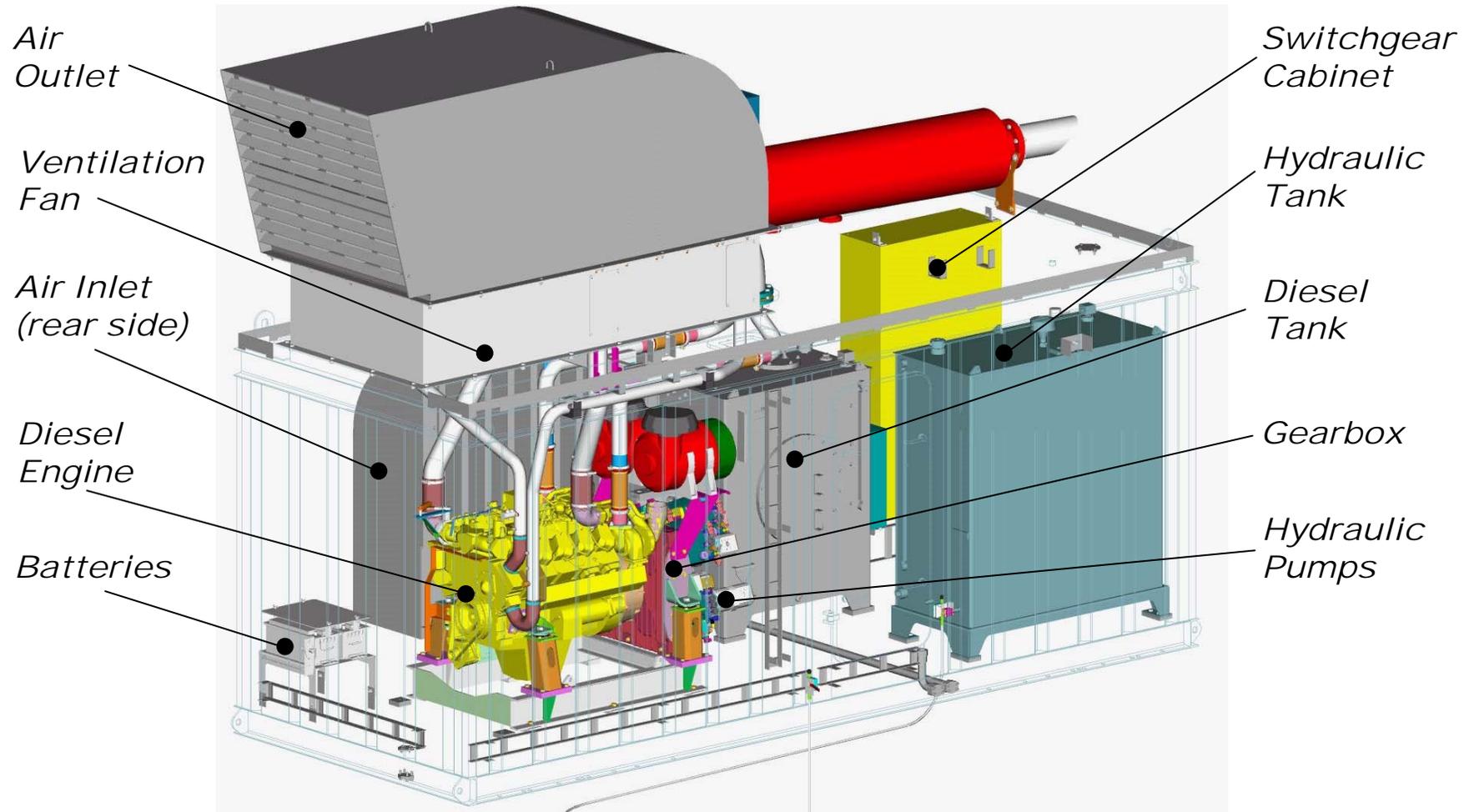


In order to avoid two-blocking between the boom and the hook block when booming out, the hoist winches are located in the base boom section.

Boom sections are connected by precision machined bolt type joint flanges.



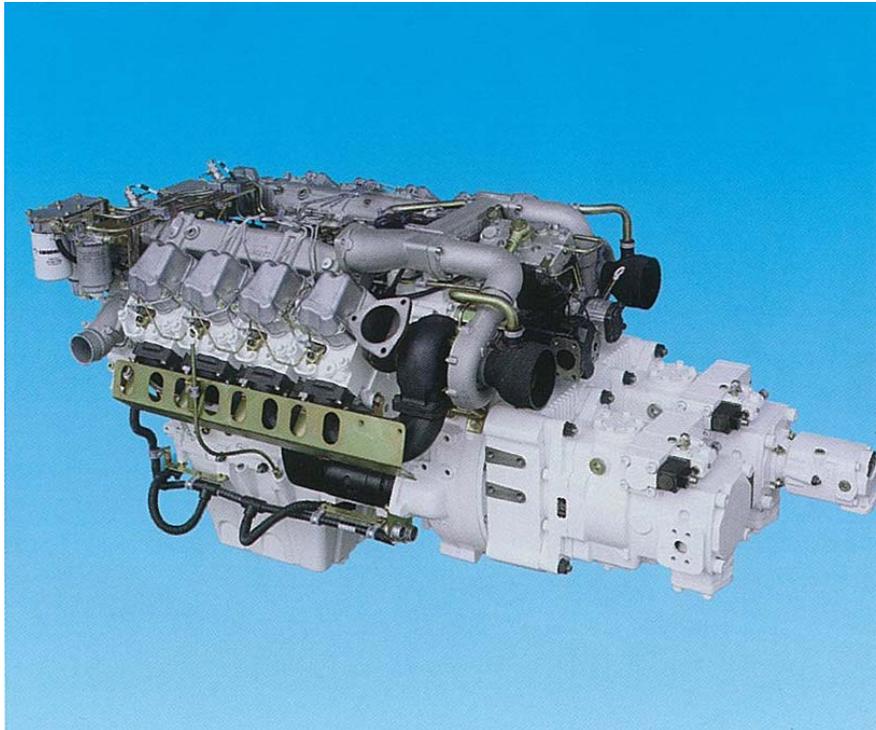
Diesel-Hydraulic Aggregate



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Diesel Power

LIEBHERR V8 Diesel Engine



*Fulfilling Emission
Regulations Required as per*

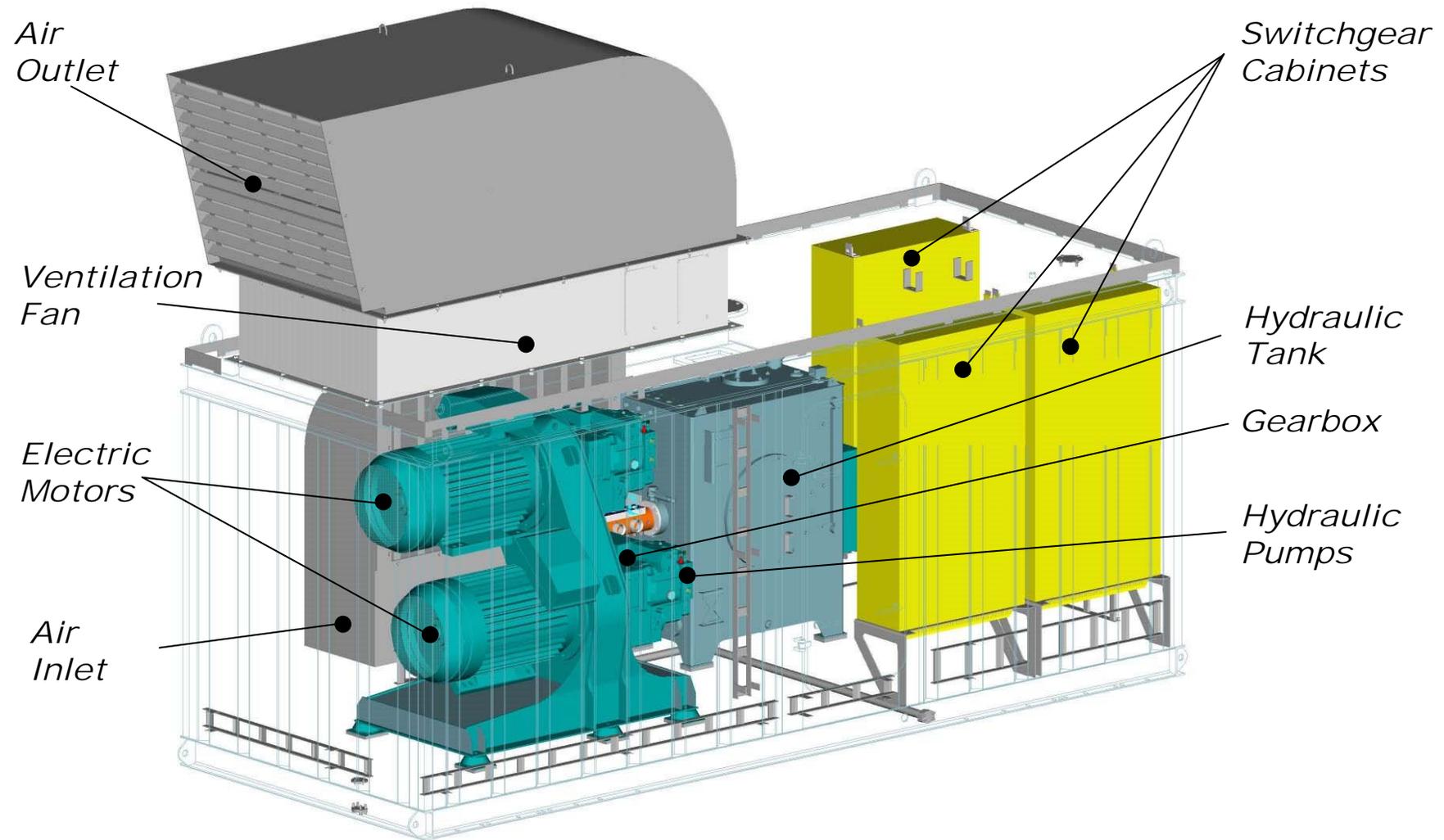
*EUROMOT 1 and 2
EPA/CARB
EPA 2
IMO*

8 Cylinder 400 kW at 1900 RPM

*Direct Injection
Turbo Charged*

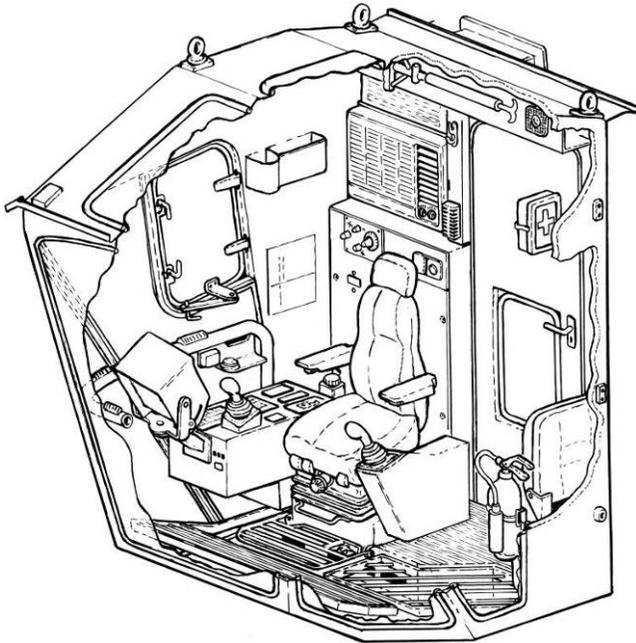
D9408 TIE A4 with CAN-Bus Interface

Electro-Hydraulic Aggregate



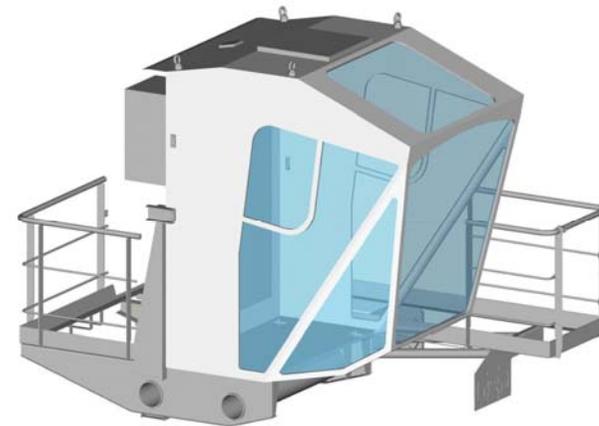
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Cabin



The comfortable and spacious cabin can be installed on either side of the slewing platform.

Included standard features are Noise Insulation, Floor Window, additional fold-away seat etc.



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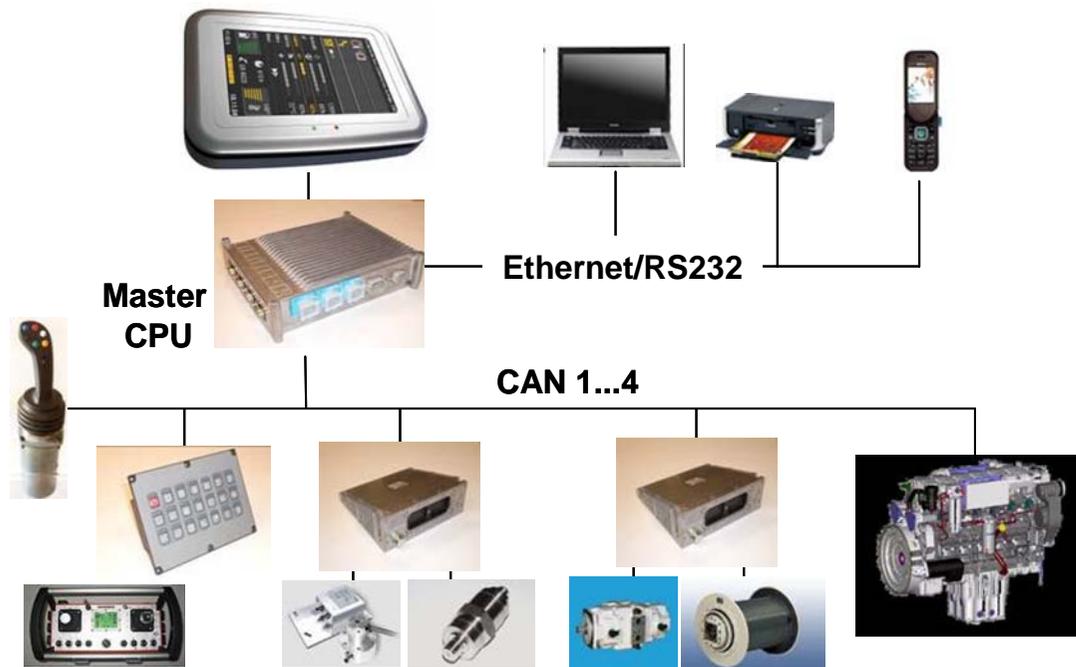
Crane Control System

LITRONIC®

The LIEBHERR developed LITRONIC® crane management system incorporates all relevant crane controls, system diagnosis and recording functions.

Due to the system not being an "Off The Shelf Product" purchased from others, it can be adopted to the project specific requirements and customer needs.

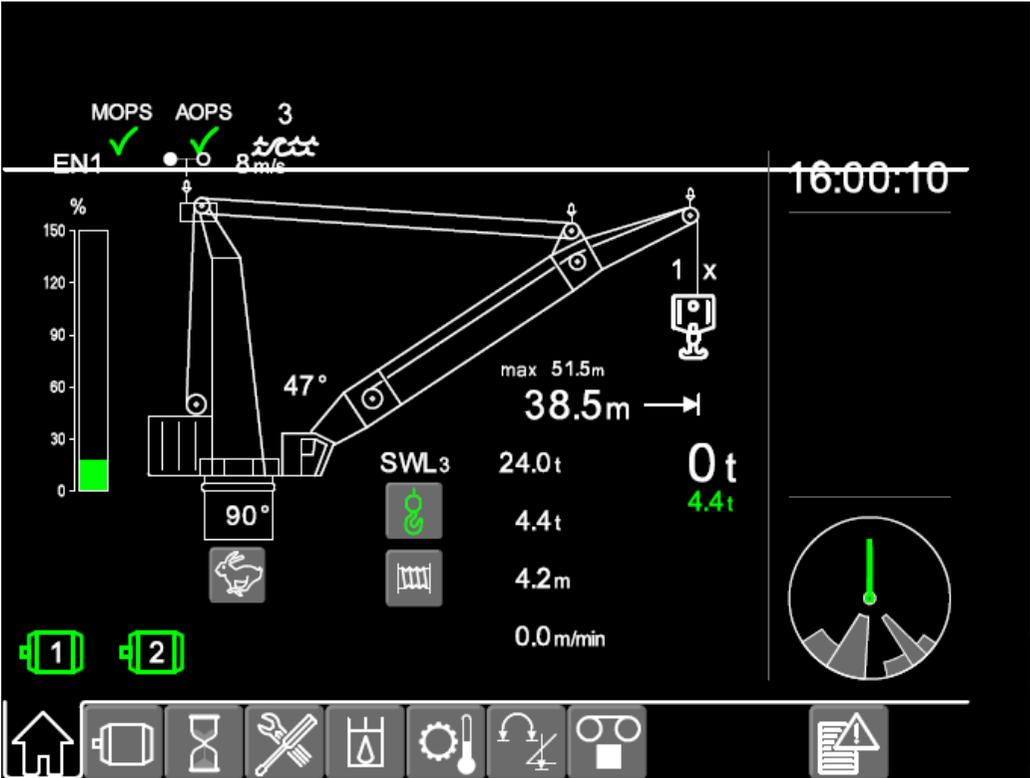
The fact that the LITRONIC is not only installed into our offshore cranes, but is also used for our earth moving machineries and other heavy duty applications underlines it's suitability for nearly all environment conditions.



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Crane Control System

LITRONIC®



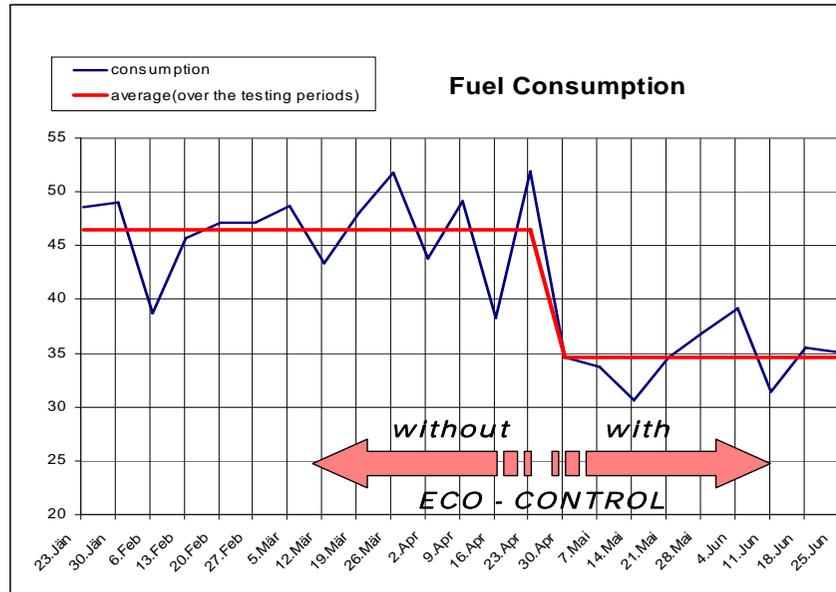
Main Operating Display MTC Crane

Colour monitor with touchscreen function



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System Target:
Reduction of fuel consumption without impacting the crane performance.

Function Principle:
The Litronic® crane control system automatically monitors the required power demand depending on the actual working mode.

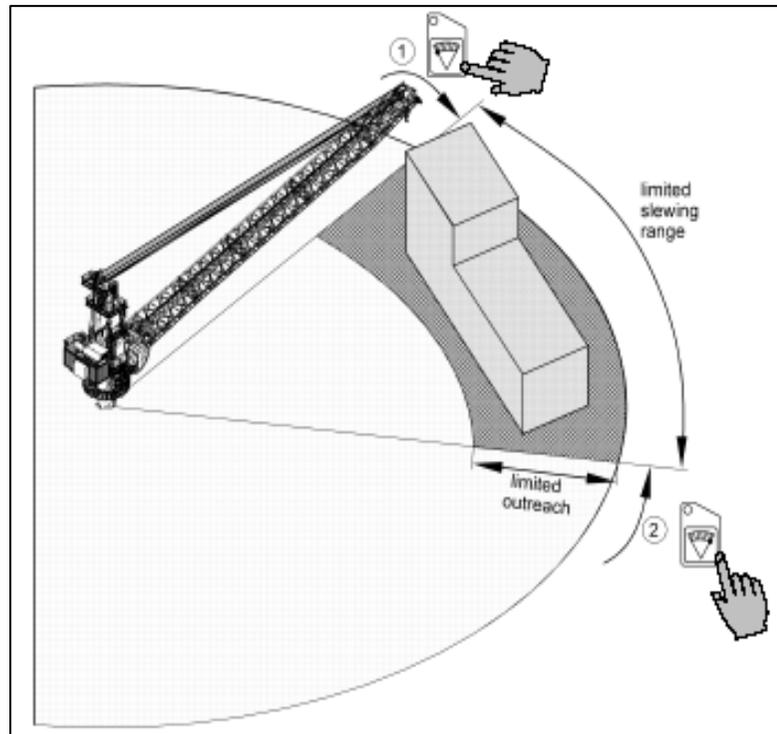
As soon as the operator controls are in neutral position, the diesel engine is throttled to idle speed.

The Eco-Control system renders fuel consumption savings up to 25%, depending on the crane application and supports a longer lifetime of hydraulic pumps and components resulting from optimised working cycles.

In addition, there is a direct impact on reduction of noise exposure and environmental contaminants.

Sector Limits

optional



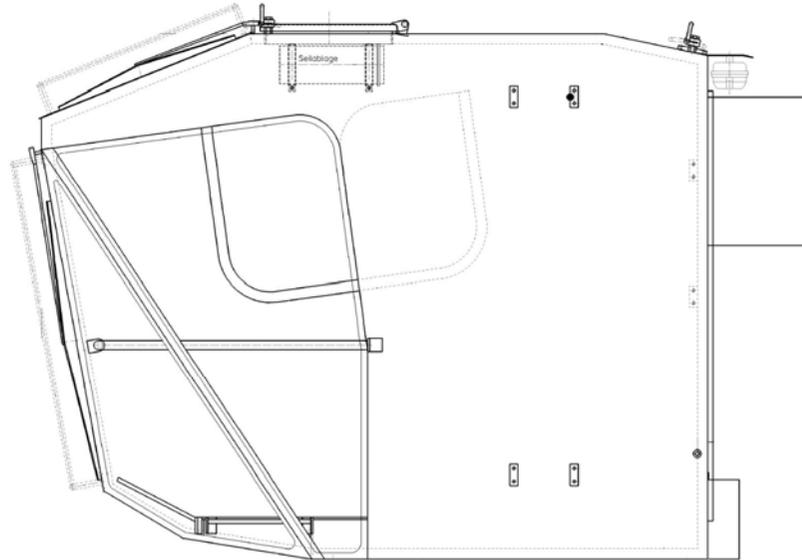
This device allows the operator to define up to five different lock out sectors with the "teach-in" method via the control panel in the cabin.

For special operational requirements an override function is provided.

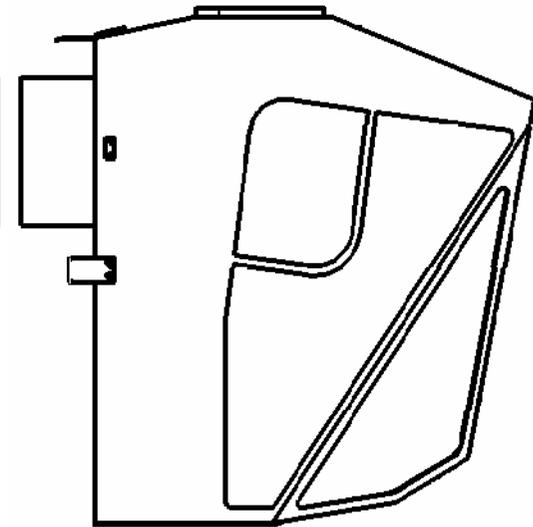
As an option, LIEBHERR offers the possibility to upgrade this system for setting combined "Slewing/ Luffing Sector Limits", allowing the crane to pass certain areas only with the boom at a pre-defined min. angle.



“Optional XL – cabin”



“Standard-cabin”



Operators Cabin – “XL” version

- Ergonomic design with “RECARO” orthopedic operator seat**
- 2 ea. additional fold-away seat for instructors/surveyors**
- Desk-facility for administrative requirements**
- Fully air-conditioned-, sun visors for the cabin windows**

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Project Reference

*Diamond Rover
MTC 2600-100 D Litronic (S/N 170185 - 170187)*



*Max. SWL Main Hoist: 100to
Max. SWL Whip Hoist: 15to
Max. Outreach Main Hoist: 42.8m
Max. Outreach Whip Hoist: 48m
Drive: 400kW
LIEBHERR Engine*

*Special Features:
- Data Recording
- Modified Crane Access*



Project Reference

Seafox II
MTC 2600-100 Litronic (S/N 170269)



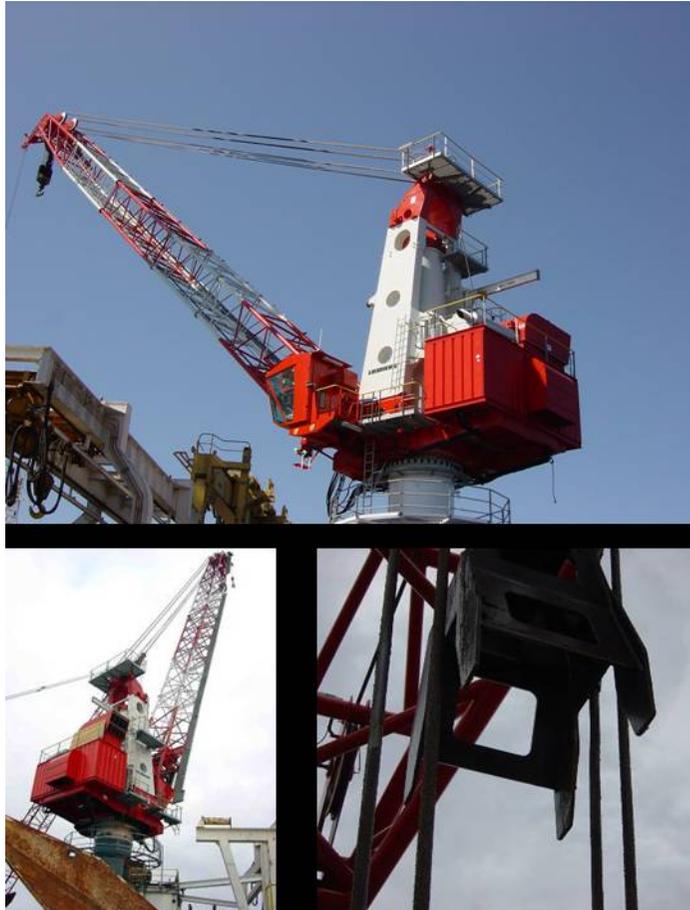
Max. SWL Main Hoist: 100to
Max. SWL Whip Hoist: 15to
Max. Outreach Main Hoist: 37m
Max. Outreach Whip Hoist: 42m
Drive: 400kW
LIEBHERR Engine

Special Features:
- Special Base Column and Crane Access
- Data Recording
- Boom Tip Camera



Project Reference

*Pride South Pacific
MTC 1900-60 D Litronic (S/N 170208)*



*Max. SWL Main Hoist: 60to
Max. SWL Whip Hoist: 15to
Max. Outreach Main Hoist: 45.7m
Max. Outreach Whip Hoist: 50.9m
Drive: 400kW
LIEBHERR Engine*

*Special Features:
- Boom Park Device (Hook Garage)
- Hydraulic Offline Filtration System*

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LIEBHERR MTC Cranes

We extend an open invitation to our clients and potential clients to visit our manufacturing facilities for a first hand look at our products and for a display of state of the art manufacturing.



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