

HMK



Higher Performance and Faster Handling
Mobile Harbour Crane HMK 300 E

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In a Class of its Own

Worldwide cargo traffic is continuously growing – accordingly, professional cargo handling equipment is not only required by port operators, but expected by shipping lines. This boom is illustrated in particular by the increasing number of Gottwald Port Technology Mobile Harbour Cranes supplied worldwide. There are currently more than 800 in more than 70 countries.

Mobile Harbour Cranes from the world's market leader are used in all types of ports for all manner of handling work. Equipped with spreaders, grabs and other lifting gear, the cranes handle containers, bulk materials and general cargo. Even in large terminals, Mobile Harbour Cranes, due to their flexibility, are an ideal supplement during peak loading.

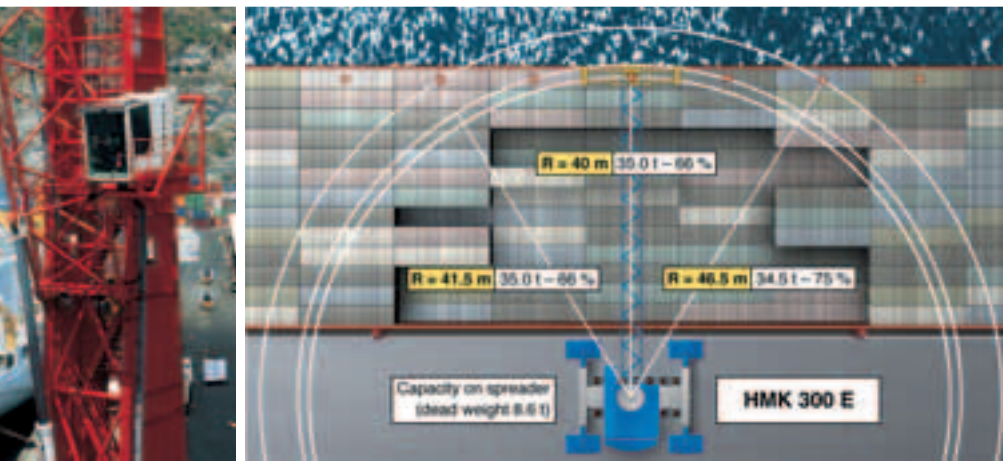
The advanced product line of Gottwald Port Technology cranes is continuously developing in parallel to ship size and stevedores' requirements – currently with lifting capacities from 6 to 120 tonnes and radii of 8 to 56 m.

Gottwald Mobile Harbour Cranes are synonymous with:

- Economic efficiency
- Availability
- Versatility
- Mobility

The HMK 300 E, a diesel-electric 100-tonne crane, successfully launched onto the market in 2000, also guarantees these features.





Benefitting from Operating Experience

The HMK 300 E is the successor of the HMK 280 E, the most successful Mobile Harbour Crane worldwide to date. Based on many years of experience with more than 180 HMK 280 E cranes worldwide, this crane is the result of continual design improvement committed to component and assembly innovations.

Due to the design of the steel structure, the crane has now been placed in a higher classification category and guarantees a longer service life. The diesel-electric concept with the superior degree of efficiency and exceptional reliability continues to demonstrate the technological advantage of the new crane.

Increased Lifting Capacity

The marked increased lifting capacity of the crane at the same radius means the HMK 300 E is capable of handling any fully laden 40 ft. container in an operating window of 13 container rows across the vessel and five rows lengthways along the vessel without any need for repositioning in relation to the ship. On large ships, this crane even operates up to the 16th row.



Chassis

The compact 7-axle chassis with small turning radii guarantees excellent manoeuvrability. This means that the crane positioning next to the ship is possible even if space is very limited.

The maintenance-free mechanical axle suspension with up to 460 mm of vertical travel ensures, by means of balances, that the axle load is always uniformly distributed, even on uneven quays. In addition, large wheels make it possible to travel over obstacles such as rails without any problems.

Stabilisers

Gottwald Port Technology uses the proven 'H'-stabiliser design to transfer the forces to the ground. Where necessary, the crane stabilisers can be adapted to the requirements of the quay.



2-Level Superstructure

The machinery house is made up of two levels. The upper level houses three separate sections for the diesel-generator set, the hoisting gear and the electrical equipment. The hydraulic unit and slewing gear are on the lower level. All the machine units are arranged in closed rooms in such a way as to provide an overview and good accessibility for servicing.

Diesel-Generator Unit

The generator driven by the diesel engine provides sufficient power to carry out all crane functions simultaneously and independently at maximum speed.

Hoisting Gear

Provides good cooling and accessibility of components by means of modular structure in an U shape. The hoisting gear comprises: High-response DC motor, spring-loaded disc brake, spur gear and rope drum.

Slewing Gear

The slewing gear in a modular design comprises: High-response DC motor, vertical planetary gears and disc brake.

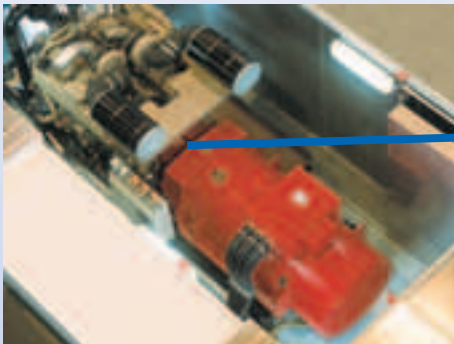
Hydraulic Unit

Driven by an AC motor, it provides energy for luffing gear and auxiliary drives. Luffing is undertaken by means of a hydraulic cylinder under compressive load. Luffing cylinder and valve block are easily accessible from the platform of the chassis and simplify servicing.

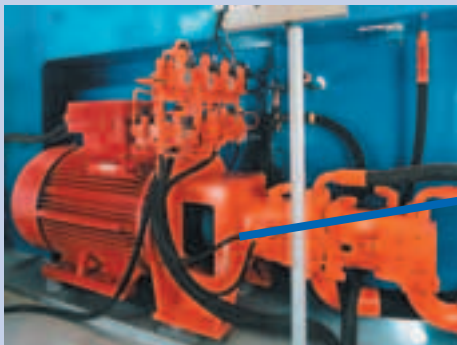
All-round Premier Concept

The HMK 300 E in Detail

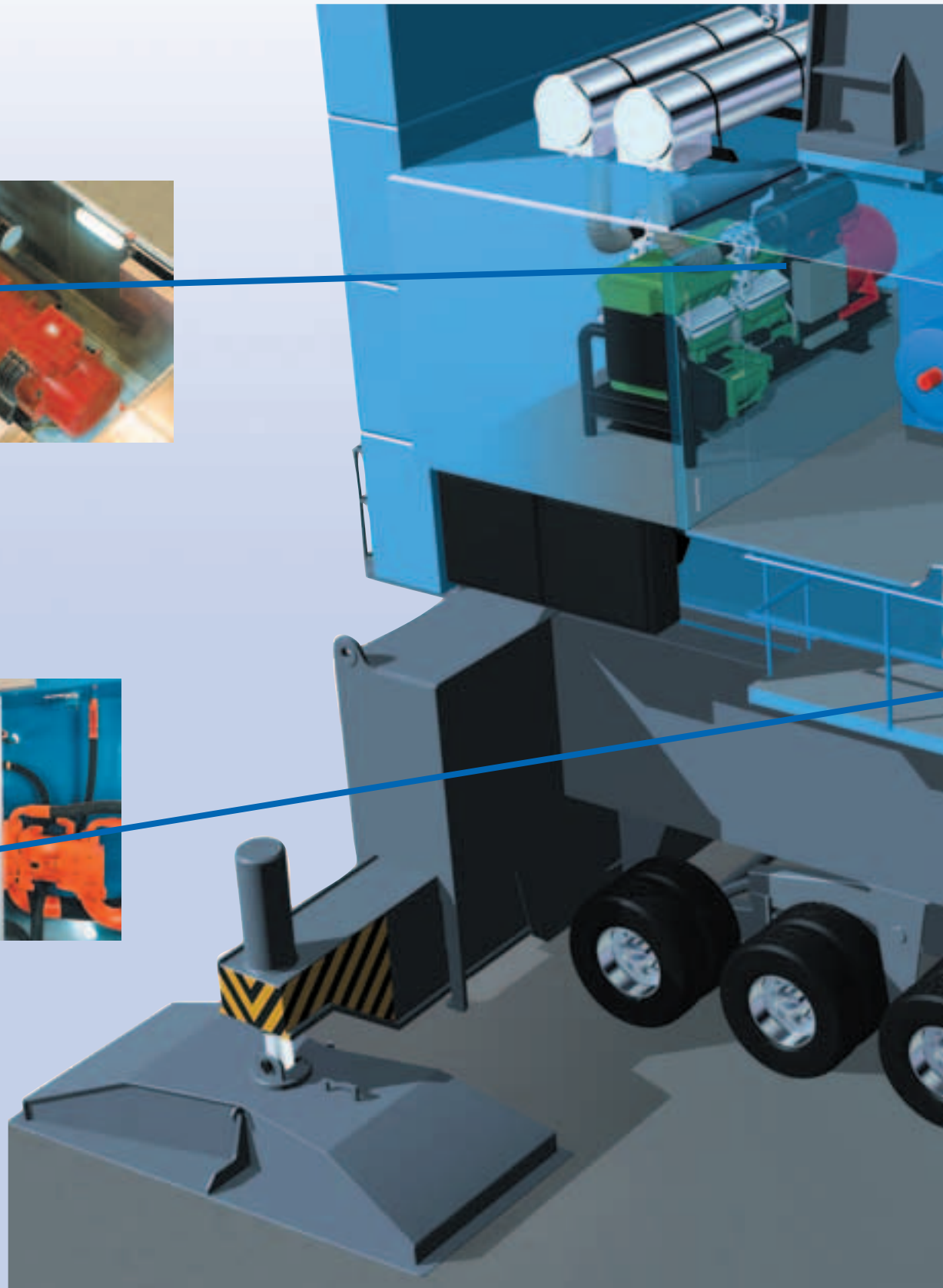
All drives and components of Gottwald Mobile Harbour Cranes are coordinated according to state-of-the-art technology and optimised in detail – for reliable operation and uncomplicated service.



Diesel-generator unit



Hydraulic unit

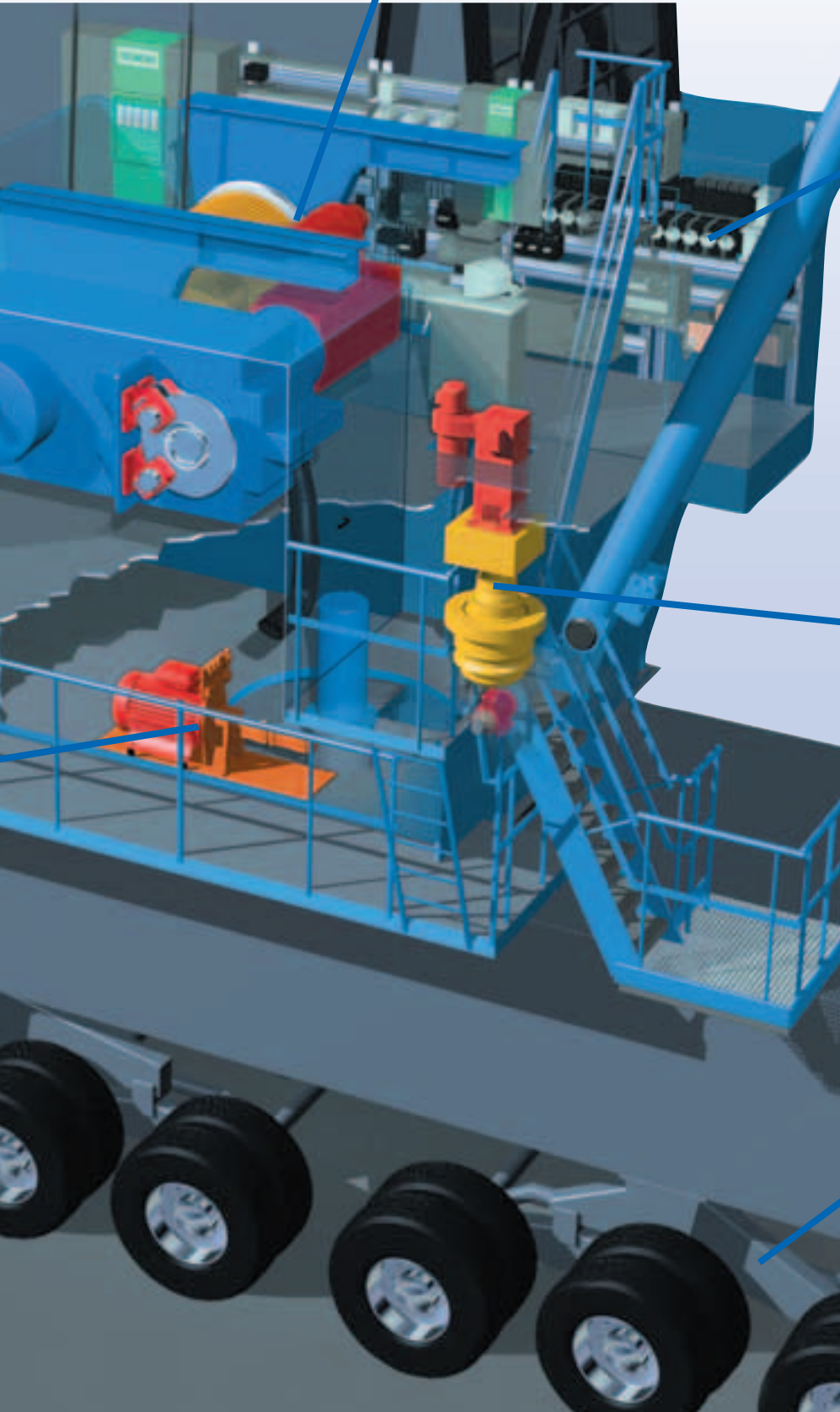




Hoisting gear with DC motor, spur gear and rope drum



Air-conditioned electric compartment



Slewing gear and locking device



Balances



Cable reel on the boom head



Tower cab



Additional cab on the chassis

Tower/Boom

The torsionally stiff plate girder structure ensures that the forces are distributed equally from the boom to the tower. In order to be able to safely, quickly and comfortably access cabs and components, the inside of the tower is fitted with steps, ladders and platforms.

The triangular lattice boom is constructed in a robust tube design. A specially-designed rope geometry between the tower and the boom provides a horizontal load path. The cable reel is positioned on the boom head in such a way as to provide good cable guidance.

Cabs

All crane functions are controlled from the tower cab. Optimum height on the tower guarantees an excellent view; ergonomic shape provides unrivalled comfort. The crane can be travelled and propped from an additional cab positioned on the chassis, if required.

Control System

The new Gottwald Port Technology Visumatic® control system has been founded on decades of experience in building Mobile Harbour Cranes and consists of off-the-shelf components tested and tried for port technology. The system is based on state-of-the-art bus technology, whereby a multitude of data can be transferred simultaneously, securely and quickly. Visumatic® also features:

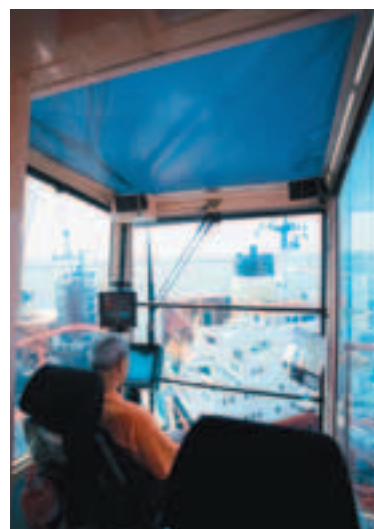
- Display of all the crane functions on the monitor
- Menu-guided selection of various operating modes
- Statistic evaluation of handling performance, operating hours and maintenance status

Special Features

Gottwald Mobile Harbour Cranes can, of course, be adapted to special customer needs. In the case of the HMK 300 E, the following features have already been incorporated.

- 5 m long tower extension for high viewing position
- External power supply for reducing operating and engine maintenance costs
- Auxiliary power unit for mains-independent functional capability of the crane when parked
- Cab with second seat for a stevedore checker

Slip ring assembly for external power supply



Cab with second seat

Gottwald Mobile Harbour Cranes

The Right Solution for Every Application

Four-Rope Grab Cranes

This crane is available as a four-rope grab crane with the name HMK 330 EG. Equipped with a second hoisting and slewing gear, the professional grab crane is able to handle up to 1,200 t/h of bulk goods.



Customer Support

Gottwald Port Technology's portfolio also includes customer support. Global service network including spare part stocks, field service, spare parts, full service contracts and 24-hour call-out are all part of the comprehensive range of services, guaranteeing continual success for customers.

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HMK 300 E Technical Data

Capacities	heavy lift	100 t
	standard lift	63 t
Working speeds	hoisting/lowering	70 m/min
	slewing	1.35 rpm
	luffing	60 m/min
	travelling	80 m/min
Hoisting height	above ground level	40 m
	below ground level	12 m
Dimensions	propping base	13.0 m x 12.0 m
	crane in travel mode (approx.)	15.7 m x 8.7 m
Weight (approx.)		420 t
Diesel engine	at 1,500 rpm (50 Hz)	701 kW
	at 1,800 rpm (60 Hz)	847 kW
Chassis	number of axles	7
	steerable	6
	driven	3

HMK 300 E Capacities

Operation modes Radius [m]	Heavy lift		Standard lift	Motor grab
	on ropes [t] (75%)	on hook [t] (66%)	on hook [t] (66%)	on ropes [t] (50%)
11-22	103.6	100.0	63.0	50.0
24	103.6	88.0	63.0	50.0
26	95.6	81.0	63.0	50.0
28	87.6	73.9	63.0	50.0
30	81.6	68.6	63.0	50.0
32	75.6	64.2	63.0	49.4
34	70.6	59.0	59.0	44.9
36	65.6	54.6	54.6	41.1
38	61.6	51.9	51.9	37.7
40	58.1	48.0	48.0	34.8
42	54.2	44.6	44.6	32.1
44	50.8	41.5	41.5	29.7
46	47.6	38.7	38.7	27.6
48	44.8	36.2	36.2	25.7
50	41.6	33.4	33.4	23.9

Mobile Harbour Cranes for Container Handling

Gottwald Port Technology's range of Mobile Harbour Cranes for container handling includes the 63 t crane HMK 170, the 100 t cranes HMK 260 and HMK 300 as well as the 120 t crane HMK 360.

