

# LHM 280

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## LIEBHERR

Mobile harbour crane

EN



Maximum lifting capacity  
84t



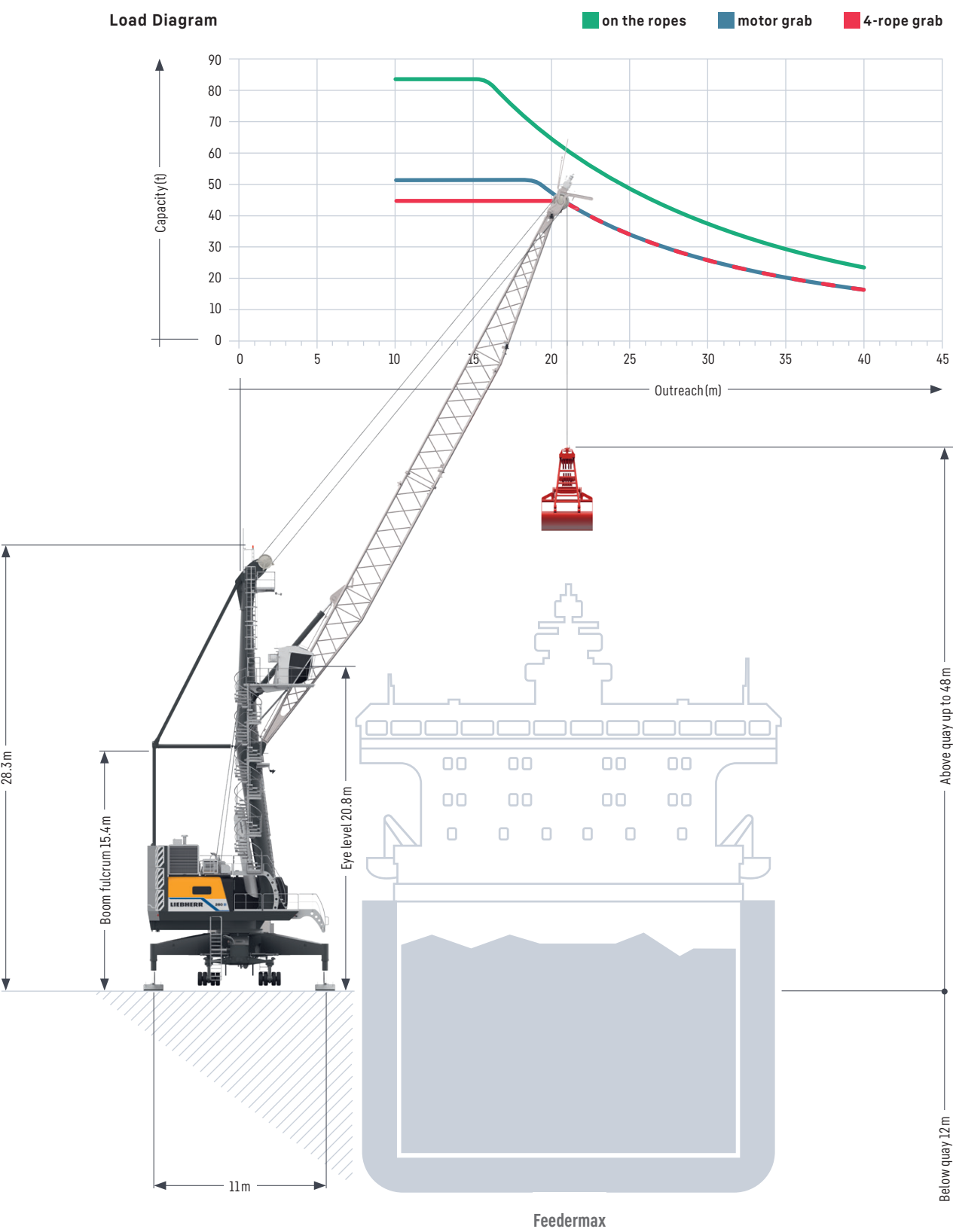
Maximum outreach  
40 m



Drive systems  
Electric, Hybrid, Diesel (HVO 100-ready)

# Main dimensions

## Bulk operation



# Lifting capacities

## Bulk operation

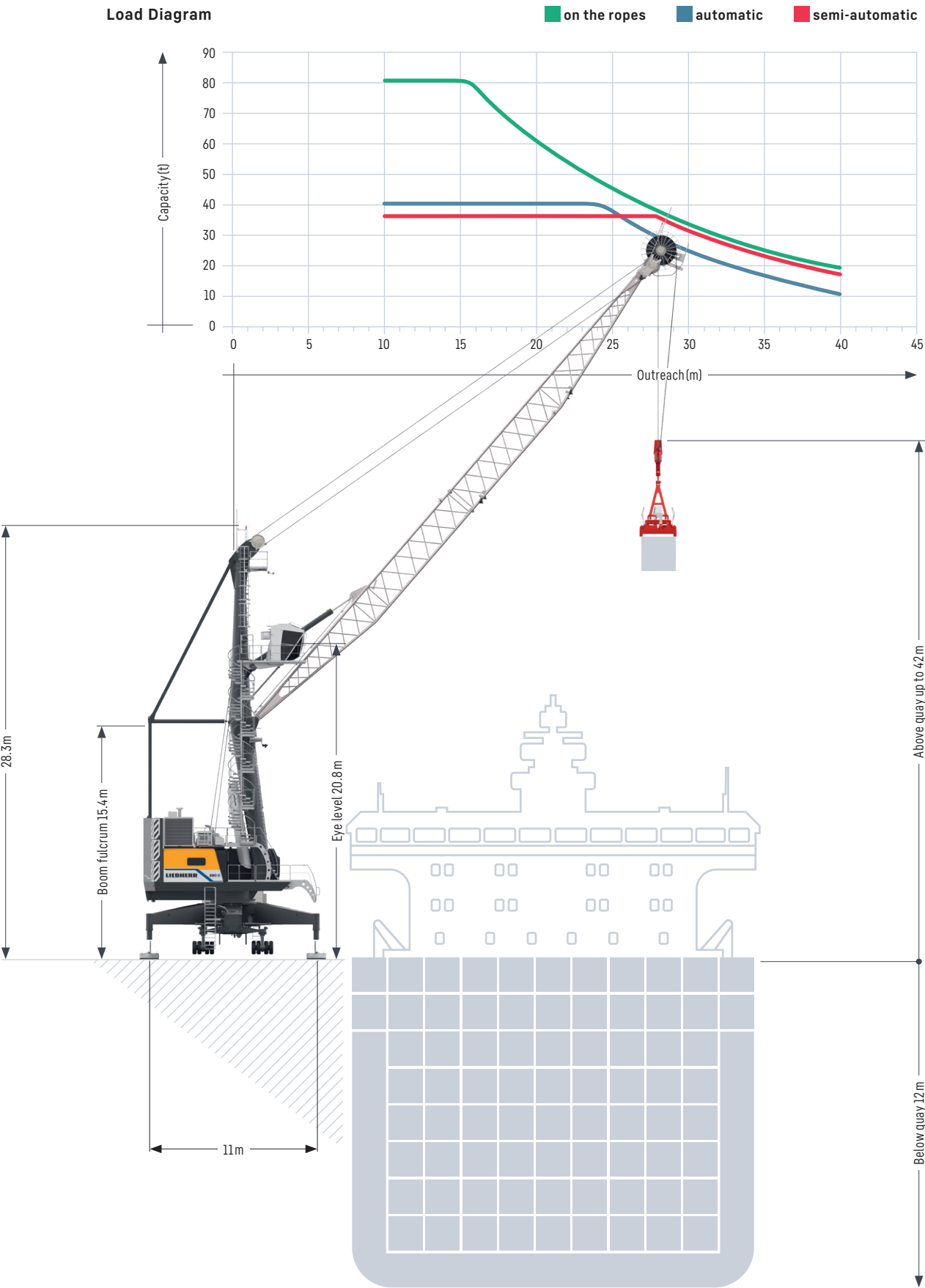
Lifting capacity 84 t				Lifting capacity 64 t			
Outreach	Hook operation	Grab operation		Outreach	Hook operation	Grab operation	
(m)	on the ropes	4-rope grab	motor grab	(m)	on the ropes	4-rope grab	motor grab
	(t)	(t)	(t)		(t)	(t)	(t)
10	84.0	45.0	52.0	10	64.0	35.0	42.0
11	84.0	45.0	52.0	11	64.0	35.0	42.0
12	84.0	45.0	52.0	12	64.0	35.0	42.0
13	84.0	45.0	52.0	13	64.0	35.0	42.0
14	84.0	45.0	52.0	14	64.0	35.0	42.0
15	84.0	45.0	52.0	15	64.0	35.0	42.0
16	81.8	45.0	52.0	16	64.0	35.0	42.0
17	76.5	45.0	52.0	17	64.0	35.0	42.0
18	72.8	45.0	51.7	18	64.0	35.0	42.0
19	68.3	45.0	48.5	19	64.0	35.0	42.0
20	65.1	45.0	46.3	20	64.0	35.0	42.0
21	62.2	44.2	44.2	21	62.2	35.0	42.0
22	58.6	41.7	41.7	22	58.6	35.0	41.7
23	55.0	39.1	39.1	23	55.0	35.0	39.1
24	51.4	36.5	36.5	24	51.4	35.0	36.5
25	48.5	34.5	34.5	25	48.5	34.5	34.5
26	45.6	32.4	32.4	26	45.6	32.4	32.4
28	40.7	29.0	29.0	28	40.7	29.0	29.0
30	36.6	26.0	26.0	30	36.6	26.0	26.0
32	33.1	23.5	23.5	32	33.1	23.5	23.5
34	30.1	21.4	21.4	34	30.1	21.4	21.4
36	27.4	19.5	19.5	36	27.4	19.5	19.5
38	25.1	17.9	17.9	38	25.1	17.9	17.9
40	22.6	16.1	16.1	40	22.6	16.1	16.1

## Performance – Turnover up to 800 t per hour

The powerful hydrostatic transmission and advanced Liebherr electronics ensure short, productive working cycles during bulk handling.

# Main dimensions

## Container operation



# Lifting capacities

## Container operation

Lifting capacity 84 t

Outreach (m)	Hook operation on the ropes (t)	Capacity under 40' spreader	
		automatic (t)	semi-automatic (t)
10	84.0	41.0	36.0
11	84.0	41.0	36.0
12	84.0	41.0	36.0
13	84.0	41.0	36.0
14	84.0	41.0	36.0
15	84.0	41.0	36.0
16	81.8	41.0	36.0
17	76.5	41.0	36.0
18	72.8	41.0	36.0
19	68.3	41.0	36.0
20	65.1	41.0	36.0
21	62.2	41.0	36.0
22	58.6	41.0	36.0
23	55.0	41.0	36.0
24	51.4	39.9	36.0
25	48.5	37.0	36.0
26	45.6	34.1	36.0
28	40.7	29.2	35.6
30	36.6	25.1	31.5
32	33.1	21.6	28.0
34	30.1	18.6	25.0
36	27.4	15.9	22.3
38	25.1	13.6	20.0
40	22.6	11.1	17.5

Weight rotator 2.5t  
Weight fully automatic (telescopic) spreader 9t  
Weight semi-automatic spreader 1.3t (20ft), 2.6t (40ft)

Lifting capacity 64 t

Outreach (m)	Hook operation on the ropes (t)	Capacity under 40' spreader	
		automatic (t)	semi-automatic (t)
10	64.0	41.0	36.0
11	64.0	41.0	36.0
12	64.0	41.0	36.0
13	64.0	41.0	36.0
14	64.0	41.0	36.0
15	64.0	41.0	36.0
16	64.0	41.0	36.0
17	64.0	41.0	36.0
18	64.0	41.0	36.0
19	64.0	41.0	36.0
20	64.0	41.0	36.0
21	62.2	41.0	36.0
22	58.6	41.0	36.0
23	55.0	41.0	36.0
24	51.4	39.9	36.0
25	48.5	37.0	36.0
26	45.6	34.1	36.0
28	40.7	29.2	35.6
30	36.6	25.1	31.5
32	33.1	21.6	28.0
34	30.1	18.6	25.0
36	27.4	15.9	22.3
38	25.1	13.6	20.0
40	22.6	11.1	17.5

## Performance – Turnover up to 35 cycles per hour

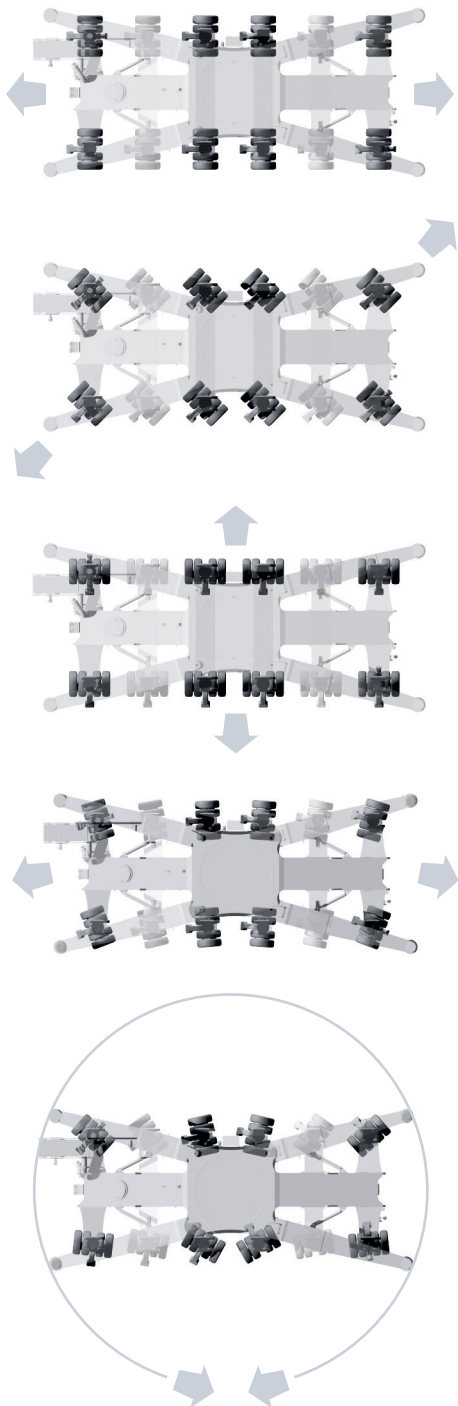
Precision to perfection: With incredibly short acceleration times for all crane motions, Liebherr is the top performer in container handling.

# Undercarriage

### Mobility

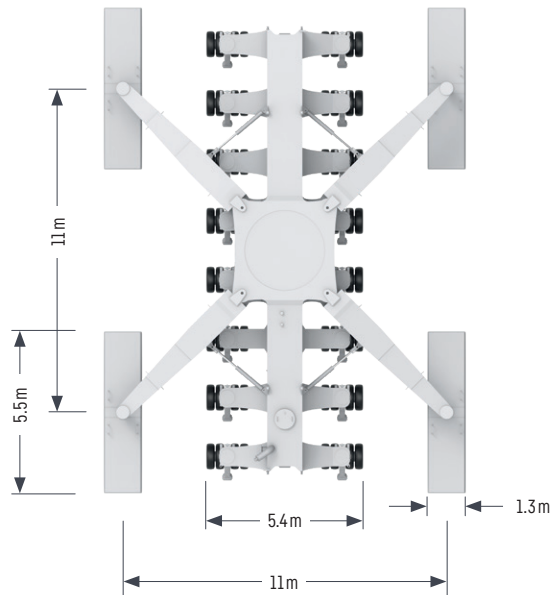
- Outstanding mobility and manoeuvrability
- Curves at any possible radii and even slewing on the spot

### Schematic diagram



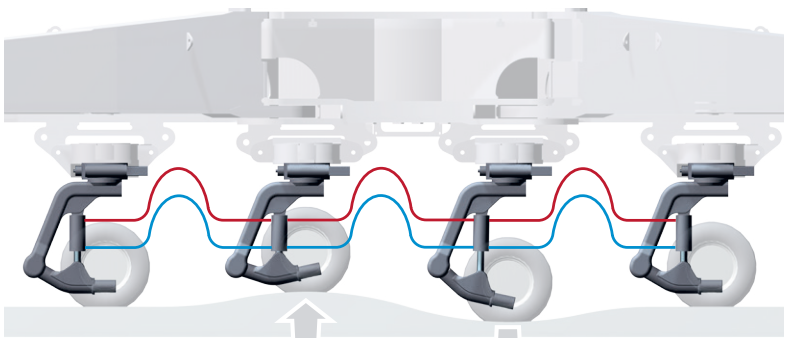
### Modular propping system

- Minimised stress and strain of undercarriage due to cruciform support base which directs the load path from boom tip to quay
- Modular system allows further reduction of quay loads by installing additional axle sets
- Easy adaptation to various sizes of support pads and bases



### Hydraulic load distribution

- Hydraulic suspension avoids overloading of individual wheel sets
- Standard trailer tyres making requisition of spares economical and time-saving
- Increased lifetime of tyres due to individually steerable wheel sets



Optimum pressure distribution and adaption of wheel sets on uneven surfaces

# Technical data

### Capacity and Classification

	Capacity	Classification
Four rope grab operation	≤ 36 t	A8
Four rope grab operation	≤ 45 t	A7
Motor grab operation	≤ 45 t	A7
Container operation	≤ 55 t	A6
Heavy lift operation	≤ 84 t	A4

### Main Dimensions

Min. to max. outreach	10 – 40 m
Height of boom fulcrum	15.4 m
Tower cabin height (eye level)	20.8 m
Overall height (top of tower)	28.3 m
Overall length of undercarriage	16.2 m
Overall width of undercarriage	5.4 m

### Working Speeds

Hoisting / lowering	0 – 115 m/min
Slewing	0 – 1.6 rpm
Luffing (average horizontal speed)	0 – 50 m/min
Travelling	0 – 5 km/h

### Propping Arrangements

Standard supporting base	11.0 m x 11.0 m
Standard pad dimension	5.5 m x 1.3 m
Standard supporting area of pads	7.15 m²

Optional size of supporting pads and bases on request

### Quay Load Arrangements

Uniformly distributed load	1.63 t/m²
Max. load per tyre	5.0 t

Due to a unique undercarriage design the quay loads specified above can even be reduced. Pad sizes, supporting base and the number of axle sets can easily be adapted to comply with the most stringent quay load restrictions.

### Weight

Total weight of crane LHM 280	approx. 241 t
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### Hoisting Heights

Above quay at minimum radius	48.0 m
Above quay at maximum radius	22.0 m
Below quay level (approx)	12.0 m

### Noise emissions and vibrations

Emission sound pressure level LPA in the cabin	65 dB(A)
Guaranteed sound power level LWA of the machine	109 dB(A)
Vibrations on upper limbs of the machine operator	< 2.5 m/s²
Vibrations on the entire body of machine operator	< 0.5 m/s²

# Optional Equipment

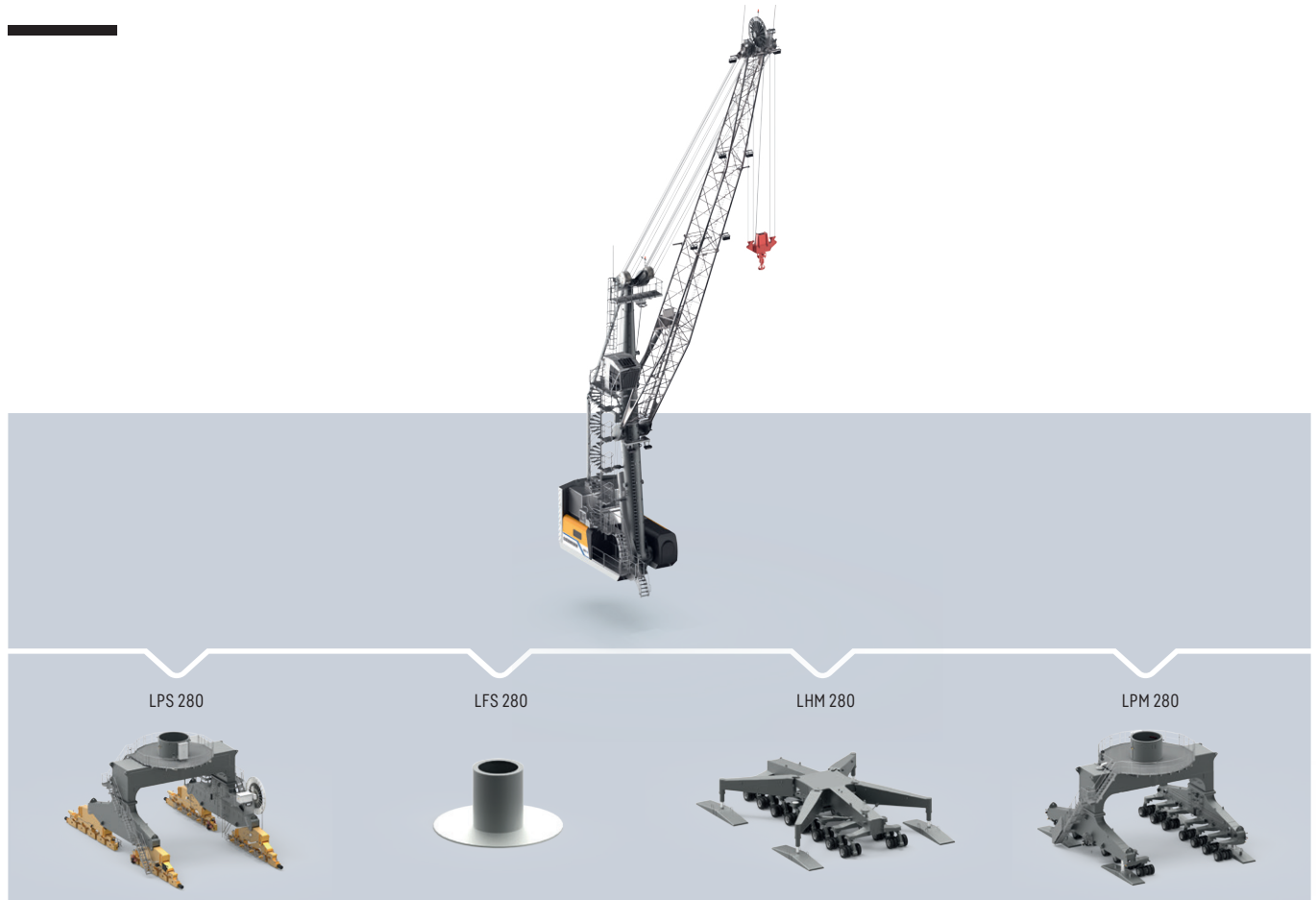
### Additional products and services

- Electric drive with high or low voltage connection
- Fully biodegradable hydraulic fluids
- HVO 100 certified drives
- Anti-sway system
- SmartGrip – intelligent grabbing
- Teach-In – semi-automatic point to point system
- Sycratronic® – synchronizing crane control system
- Vertical Line Finder – diagonal pull preventing system
- Collision alert system
- LiDAT® smartApp
- Economy software – for optimised fuel consumption

- Video monitoring system
- Radio remote control
- Autopropping undercarriage
- Cyclone air-intake system for the engine
- Low temperature package
- Customer-specific painting & logo
- Additional (driven) axle sets
- Axle sets equipped with foamed tyres
- Different supporting bases and pad sizes
- And many more as per customers' requirements



# Practical solutions



## Liebherr develops and produces special designs and solutions to meet customer-specific requirements

The Liebherr Portal Crane (LPS) is an efficient combination of a space-saving portal (mounted on rails) and the proven mobile harbour crane concept. Particularly on narrow quays, individual portal solutions permit (railway) trains and (road) trucks to travel below the portal.

The Liebherr Portal Mobile Crane (LPM) is the perfect combination of a space-saving portal undercarriage, efficient mobile harbour crane technology and unrestricted mobility. A gantry on rubber tyres enables the crane to be travelled from one quay to another. Supporting pads allow the crane to be used on quays with or without rail tracks.

The LPM offers the same 360-degree mobility as the LHM. Driving in longitudinal, diagonal or transverse direction. Performance of conventional steering or slewing on the spot is possible and provided as standard.

Liebherr Fixed Slewing Cranes (LFS) are an efficient combination of a mobile harbour crane upper carriage and a fixed pedestal. LFS cranes provide an economical and space-saving solution for the installation on quaysides and jetties, especially where room for manoeuvring is limited and low ground pressure is essential. Additionally LFS solutions are also ideally suited for the installation on crane barges.