

# **The 42 K.1 fast-erecting crane Highly adaptable**



# **LIEBHERR**

# Flexible and highly adaptable.

The 42 K.1 fast-erecting crane has been developed from scratch for use on building sites. It replaces the tried and tested 42 K fast-erecting crane. With the same jib-end load, this crane now provides a higher load moment over the entire load curve. Model improvements mean that the 42 K.1 now offers significantly improved performance standards. Many well-established features were taken from the TT range: the semi-automatic ballasting device, automatic ballast slab centring, the Quick Connection system and the rapid erecting linkage. This crane can now travel with the tower erected. It is also available on crawler tracks as the 42 KR.1 for use on difficult terrain. All in all, the 42 K.1 provides you with a wealth of benefits on the building site.

## 1 Highly adaptable.

The 42 K.1 fast-erecting crane is ideal for the widest possible range of construction tasks. In addition to seven hook heights, it offers the time-tested 30° angled jib position and the 45° obstacle-avoidance position. These features make this crane extremely adaptable and cost-effective.

## 3 Rapid, user-friendly erecting.

The entire erecting linkage is new. The 42 K.1 is now erected by means of two double arms. This well-designed erecting linkage allows the 42 K.1 to lift itself automatically from its road axles on to its support spindles. Only one person is needed to erect the crane ready for use within a very short time. The crane is erected at the touch of a button from the control panel or a radio remote control.

## 2 Compact and quick to transport.

The new 42 K.1 fast-erecting crane is an extremely compact piece of equipment. During road transport, it has the lowest overall length of all cranes in its class. It is transported on the road as a complete, ready-to-erect unit, ensuring that it can be used soon after arrival at the site. The 90° steering angle of the steered axle allows optimum manoeuvrability on the building site. Depending on where it is to be used, the crane can be transported on slow-speed or high-speed axles.

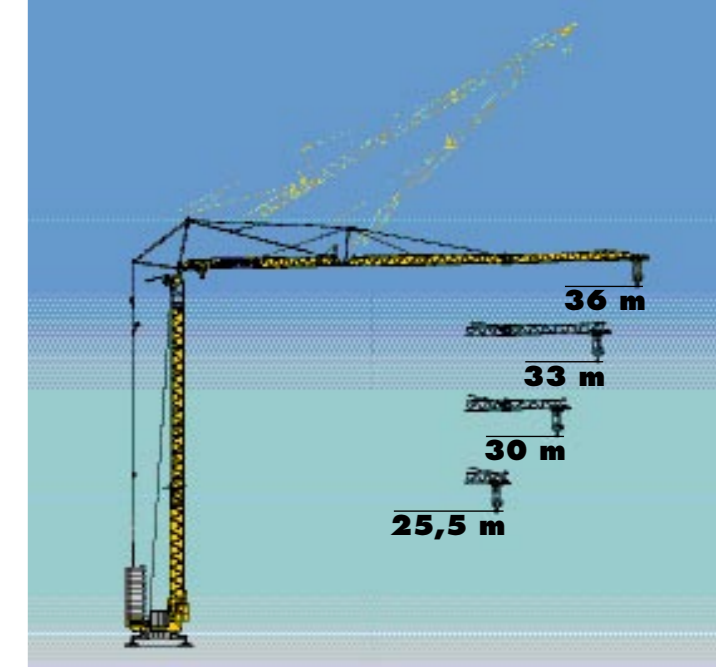
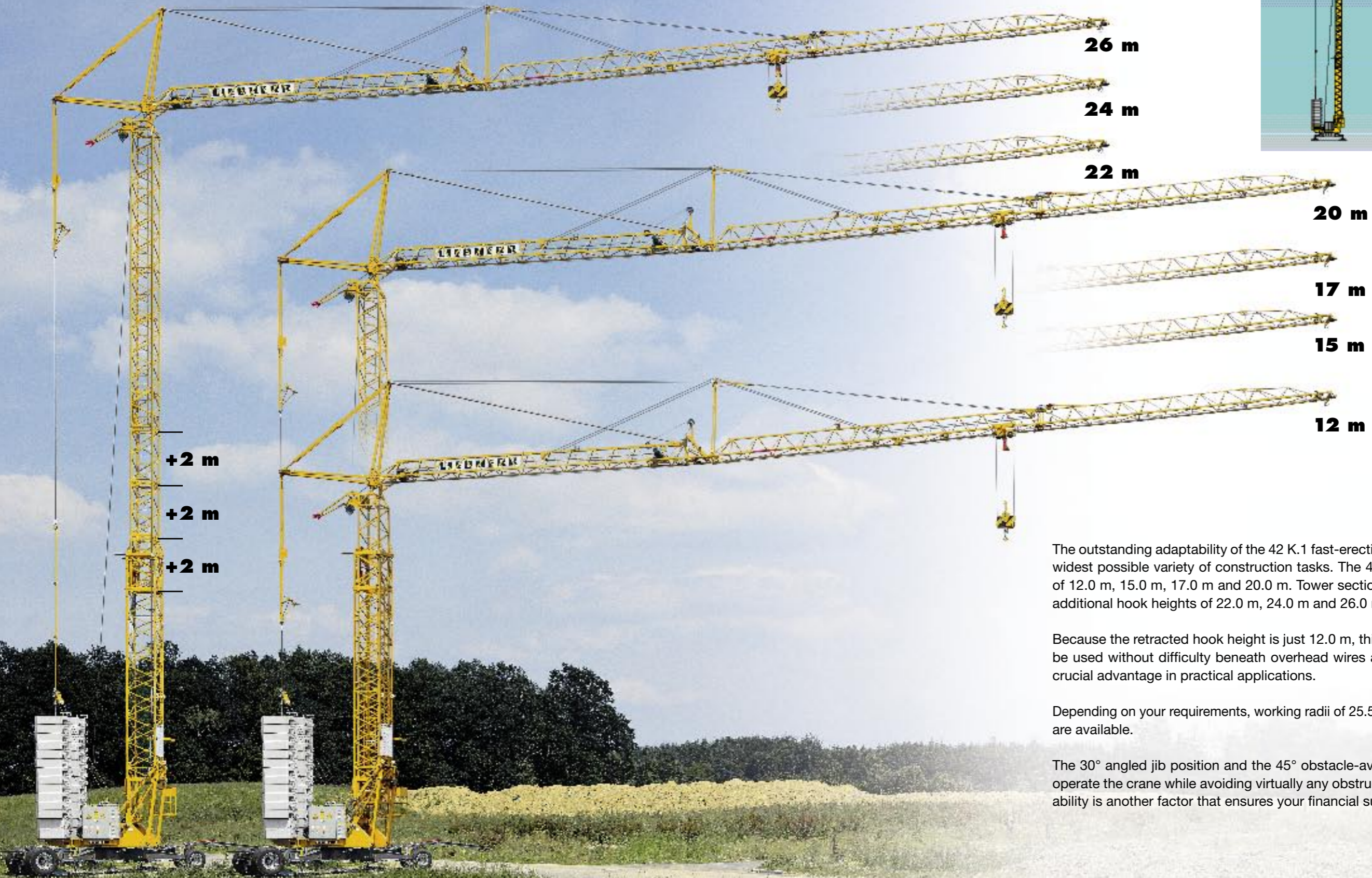
## 4 Perfect down to the smallest detail.

Tried and tested details such as the Quick Connection system, automatic ballast slab centring, jib guy rods and the optimised operating support help to ensure that this new fast-erecting crane is ready for action in no time. This is where you benefit from our many years of experience in the construction industry.



# 1 Highly adaptable.

7 hook heights, 4 jib lengths, 30° inclined angle position and 45° obstacle-avoidance position.



4 jib lengths, 30° angled jib position, 45° obstacle-avoidance position.

The outstanding adaptability of the 42 K.1 fast-erecting crane makes it ideal for the widest possible variety of construction tasks. The 42 K.1 integrates hook heights of 12.0 m, 15.0 m, 17.0 m and 20.0 m. Tower sections can be inserted to provide additional hook heights of 22.0 m, 24.0 m and 26.0 m.

Because the retracted hook height is just 12.0 m, this fast-erecting crane can also be used without difficulty beneath overhead wires and other obstacles. This is a crucial advantage in practical applications.

Depending on your requirements, working radii of 25.5 m, 30.0 m, 33.0 m and 36.0 m are available.

The 30° angled jib position and the 45° obstacle-avoidance position allow you to operate the crane while avoiding virtually any obstruction. This outstanding adaptability is another factor that ensures your financial success.

# 2 Compact and quick to transport.

The 42 K.1 fast-erecting crane can be transported extremely compactly on the road. The low wheelbase of 5.9 m makes this crane highly manoeuvrable. All existing Liebherr road axles can be used without difficulty thanks to the standardised mountings for adapters and axles on the undercarriage. The axles can be attached at either end, so that transport is possible in both directions. A three-axle truck is all that is required. The road axles can remain attached to the crane's undercarriage while it is in operation.

The crane is transported using slow-speed or high-speed axles. The high-speed axle turns the 42 K.1 fast-erecting crane into a normal trailer that can be driven at up to 80 km/h on motorways or similar high-speed main roads. A special operating permit (German ABE) has been granted for the 42 K.1 and for all Liebherr tower cranes.

For use on difficult terrain, this crane is also available with crawler travel gear. Rapid relocation from one site to another with full ballast causes no problems.



The 42 KR.1's compact crawler travel gear.



# 3 Rapid, user-friendly erecting.

## Crane travel in the upright position.

This fast-erecting crane can be moved on the most cramped of construction sites with the tower erected and without any special aids. On the building site itself, this ensures that the best use is made of the available space and no working radius is wasted. This crucial advantage saves you money. The 90° steering angle of the front axle and the short wheelbase ensure easy manoeuvring.



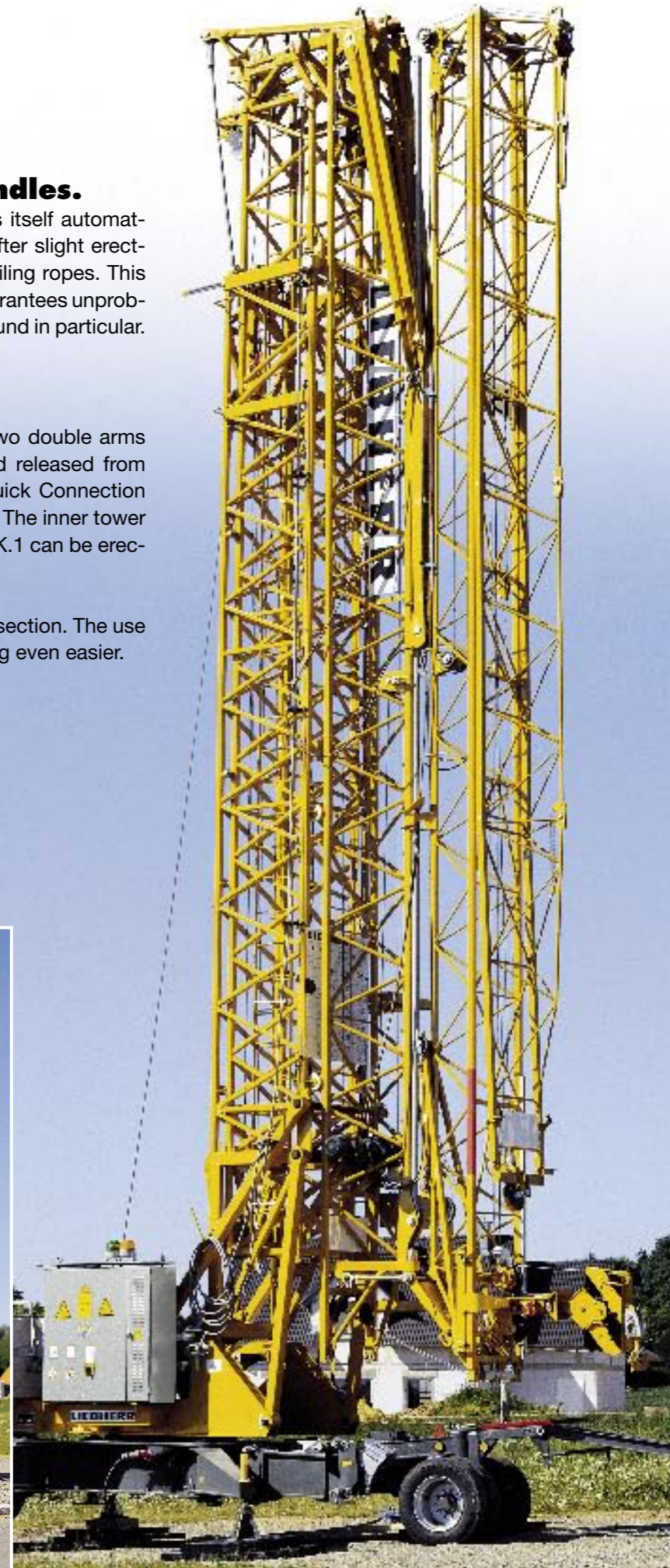
## Precision placing on support spindles.

Using its easy-to-use erecting linkage, the 42 K.1 lifts itself automatically from its road axles on to its support spindles. After slight erecting of the tower, the crane is lifted by means of the railing ropes. This exceptional height to which this crane can be raised guarantees unproblematic placing on the support spindles, on uneven ground in particular. The axles can remain attached to the crane.

## Fast erecting.

The 42 K.1 fast-erecting crane now erects itself via two double arms using the erecting winch. The tower is locked to and released from the slewing platform semi-automatically, using the Quick Connection system. Only a wedge is used to secure the taper pins. The inner tower is locked fully automatically to the outer tower. The 42 K.1 can be erected in a very small space.

Another practical feature is the guy rod on the jib pivot section. The use of guy ropes has been further reduced to make erecting even easier.



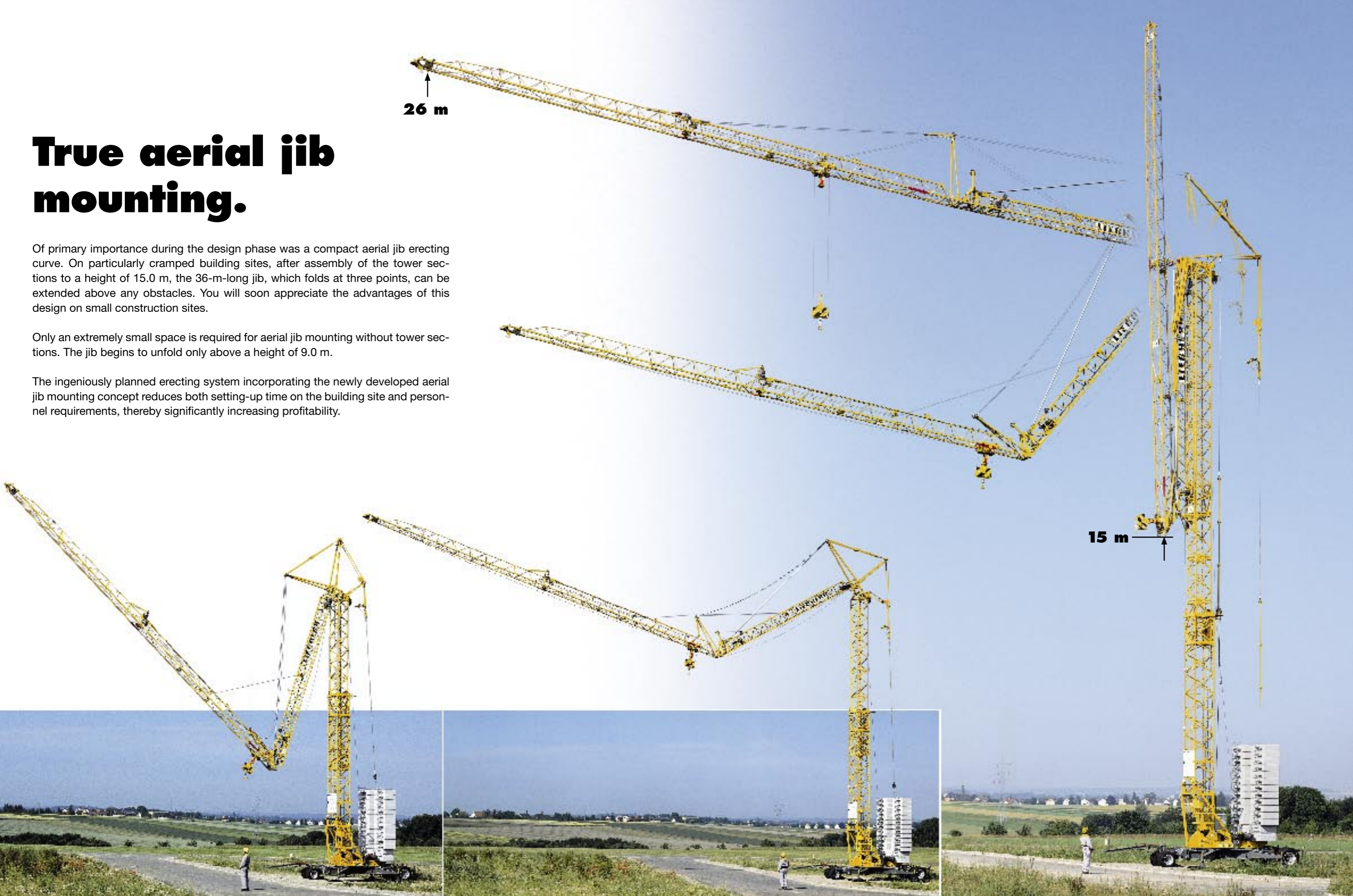
Unproblematic placing on support spindles, even on uneven ground.

# True aerial jib mounting.

Of primary importance during the design phase was a compact aerial jib erecting curve. On particularly cramped building sites, after assembly of the tower sections to a height of 15.0 m, the 36-m-long jib, which folds at three points, can be extended above any obstacles. You will soon appreciate the advantages of this design on small construction sites.

Only an extremely small space is required for aerial jib mounting without tower sections. The jib begins to unfold only above a height of 9.0 m.

The ingeniously planned erecting system incorporating the newly developed aerial jib mounting concept reduces both setting-up time on the building site and personnel requirements, thereby significantly increasing profitability.



Aerial jib mounting without tower sections.

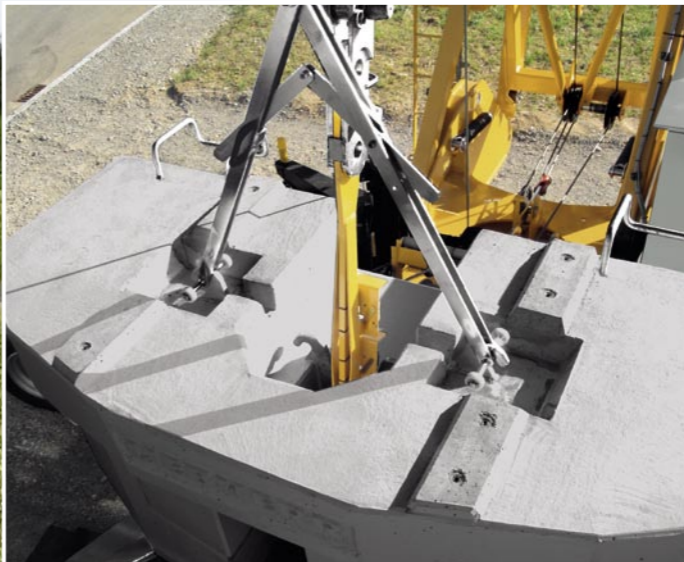


# Straightforward ballasting.

Interaction of the hoisting and erecting winches ensures rapid and straightforward ballasting. The erecting winch moves the tower to a very large working radius for ballasting. The ballast slabs are positioned with the hoisting winch. The new semi-automatic ballasting device, in conjunction with centring of the 32 TT ballast slabs, gives you discernable time advantages. The ballast slabs can be lifted from all sides of the truck, with a working radius for ballasting of up to 5 m.

Operation of the semi-automatic ballasting tongs is remarkably simple. They are simply placed in position on the ballast, released by hand, and the remainder of the process is automatic. Automatic centring means that re-alignment of the individual ballast slabs is not required.

Ballast slabs from many Liebherr fast-erecting cranes can also be used with this crane – a further benefit that helps to reduce crane fleet costs.



The semi-automatic ballasting device.

Automatic ballast slab centring.

# Quick climbing.

42 K.1 crane hook heights can be adapted to suit site requirements by inserting three 2 m tower sections, thus enabling the 42 K.1 fast-erecting crane to reach hook heights of 22.0 m, 24.0 m and 26.0 m.

The tower sections are inserted from below by means of the quick climbing device. The tower section is bolted to the inner tower and telescoped upwards using the erecting hook block.

To minimise costs in the crane park, tower sections from 35 K and 40 K models can also be used with the new 42 K.1 fast-erecting crane: an additional building block in Liebherr's modular system.



Further tower sections are inserted for greater hook heights.





# 4 Perfect down to the smallest detail.

## The Quick Connection system.

The tower is locked to and released from the slewing platform by an automatic Quick Connection system. As an additional safety precaution, wedges are then driven in with a hammer to secure the spring-loaded taper pins. The inner tower is locked fully automatically to the outer tower.

## The new operating support.

The new operating support has been modified with respect to safety and functionality. The inner and outer towers are now positively clamped to ensure noiseless operation.

## The new jib pivot.

The jib pivot is now located centrally in the tower. This results in uniform forces in the tower that do not cause wear to the materials.

## Automatic rope re-reeving.

This crane is equipped with Liebherr's patented automatic rope re-reeving system. The crane operator only needs to press a button on the control panel or the remote control to order to switch from double to quadruple hoisting rope reeving or back again. This permits an optimal hoisting speed for the given task. Automatic rope re-reeving offers you crucial time advantages in your work.



The new operating support.

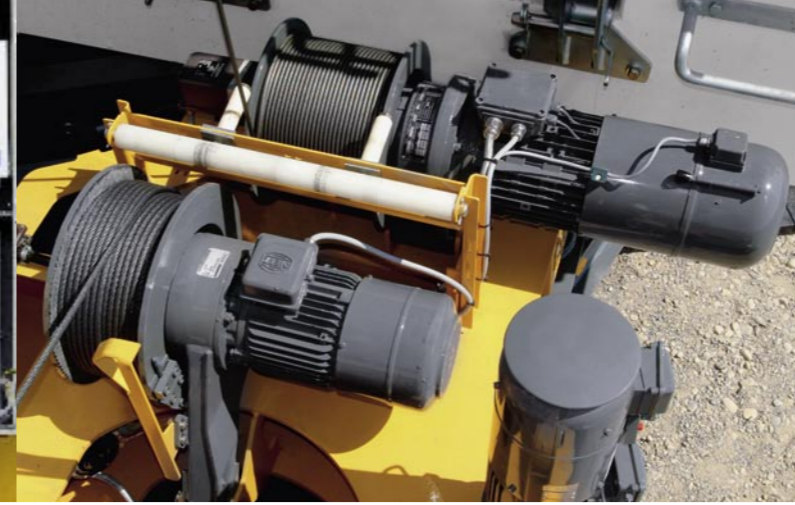
Central jib pivoting ensures uniform distribution of forces in the tower.

Patented automatic rope re-reeving.

The Quick Connection system for rapid tower locking.



The switchgear cabinet.



The hoisting and erecting winches.



The EDC slewing gear.



The trolley travel gear.



# Powerful Liebherr drives.

All drives and the switchgear cabinet are manufactured by Liebherr. We guarantee quality, long operating life and high availability.

## The switchgear cabinet.

The 42 K.1 is equipped as standard with contactor control. The EDC slewing gear controller and the frequency-controlled hoisting gear controller (option) are integrated into the switchgear cabinet. Particular attention was paid to straightforward long-term functionality of the components.

## The hoisting and erecting winches.

The hoisting and erecting winches have separate drives. For continuously variable hoisting and lowering speeds from 0 to 50 m/min, hoisting gear with a frequency converter is available as an option. Precise positioning of the load to an accuracy of a few millimetres is guaranteed. Liebherr manufactures these drives itself.

## The EDC slewing gear.

The 42 K.1's standard equipment includes patented EDC slewing gear. Electronic monitoring allows the crane operator to reverse the slewing gear by applying power in the opposite direction. Continuously variable working speeds, automatic damping to prevent load oscillation and electronic wind-load regulation are critical advantages for safe operation on the building site. The electronic control system permits extremely sensitive, jolt-free slewing movements, allowing you to position your loads safely, precisely and accurately.

## The trolley travel gear.

The trolley travel gear has an impressively sensitive movement, with two speeds. A more powerful drive is not required for the 30° angle jib position.

# A performance overview.



## Technical data

- Max. lifting capacity: 2,500 kg/4,000 kg
- Jib-end load: 1,100 kg
- Max. working radius: 36.0 m
- Max. hook height: 26.0 m
- In 30° angled jib position: 40.5 m

## Hook heights

- 12.0 m, 15.0 m, 17.0 m, 20.0 m, 22.0 m, 24.0 m, 26.0 m
- 30° angled jib position
- 45° obstacle-avoidance position

## Working radii

- 25.5 m, 30.0 m, 33.0 m, 36.0 m

## Slewing radii

- 2.25 m, 2.5 m

## Ballasting

- Semi-automatic ballasting tongs
- Self-centring ballast slabs
- 35 K, 40 K and 32 TT ballast slabs can be used
- Large 5.0 m ballasting radius

## Crane movement in the upright position

- Suitable for the most cramped of sites

## Switchgear cabinet

- Contactor control
- EDC controller
- Frequency converter

## Automatic rope reeving

- Double/quadruple hoisting rope reeving

## Drives

- EDC slewing gear
- Triple pole-changing hoisting gear
- Hoisting gear with frequency converter
- Double pole-changing trolley travel gear

## Extremely easy erecting

- Quick Connection system
- Ingenious erecting linkage
- Jib guy rod
- Hoisting and erecting winches

## Aerial jib mounting

- Jib can be unfolded above obstacles

## Climbing

- Rapid climbing equipment
- Hook heights: 22.0 m, 24.0 m, 26.0 m
- 35 K, 40 K tower sections can be used

## Transportation

- Only 14.3 m long
- Up to 80 km/h with high-speed axle
- Up to 25 km/h with slow-speed axle
- Universal ABE operating permit
- 90° steering angle
- Standardised axle mountings
- All Liebherr road axles can be used
- Attachment of axles at either end

## Crawler travel gear

- Compact design
- Low ground contact pressure
- Excellent off-road mobility
- Rapid relocation with full ballast