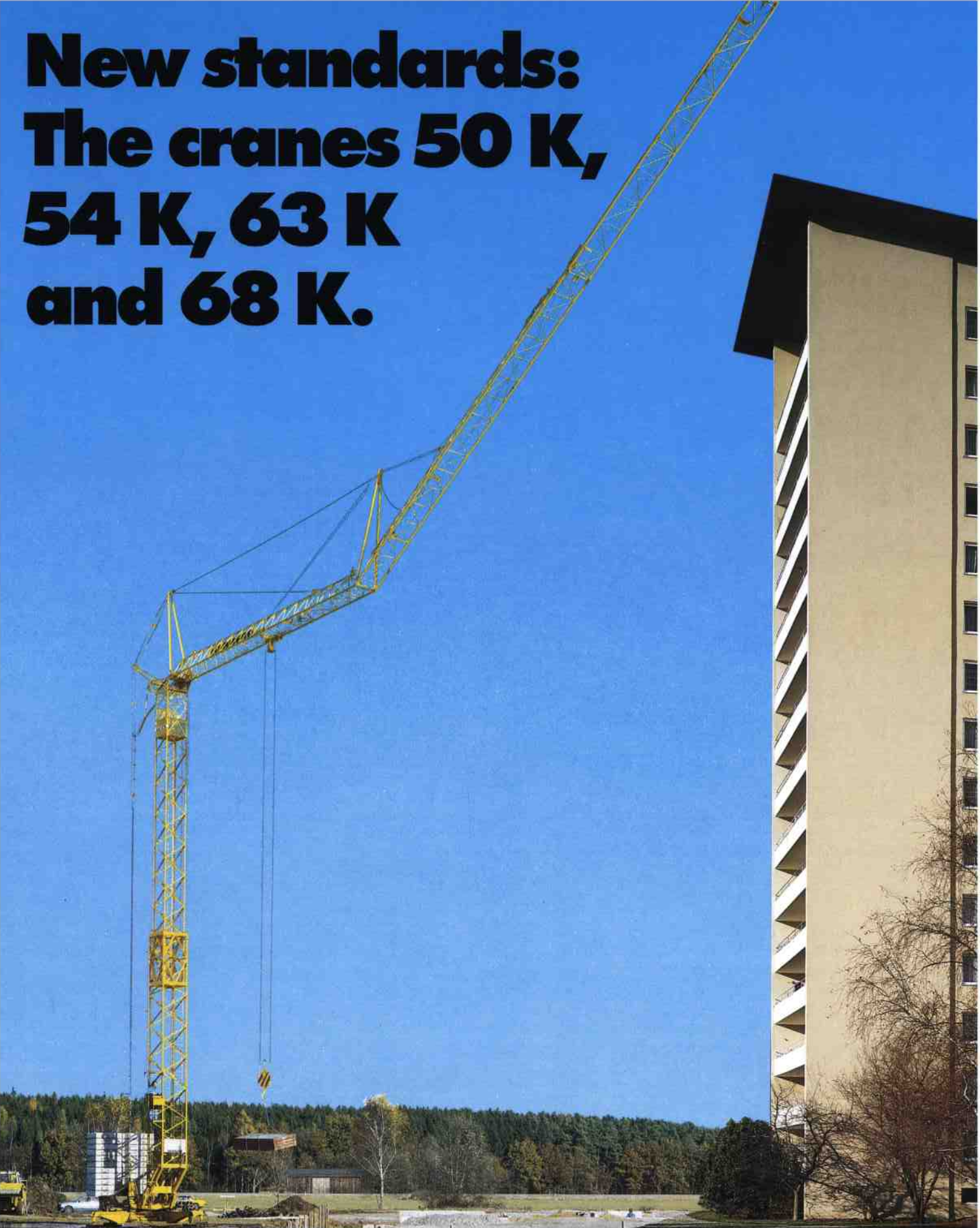
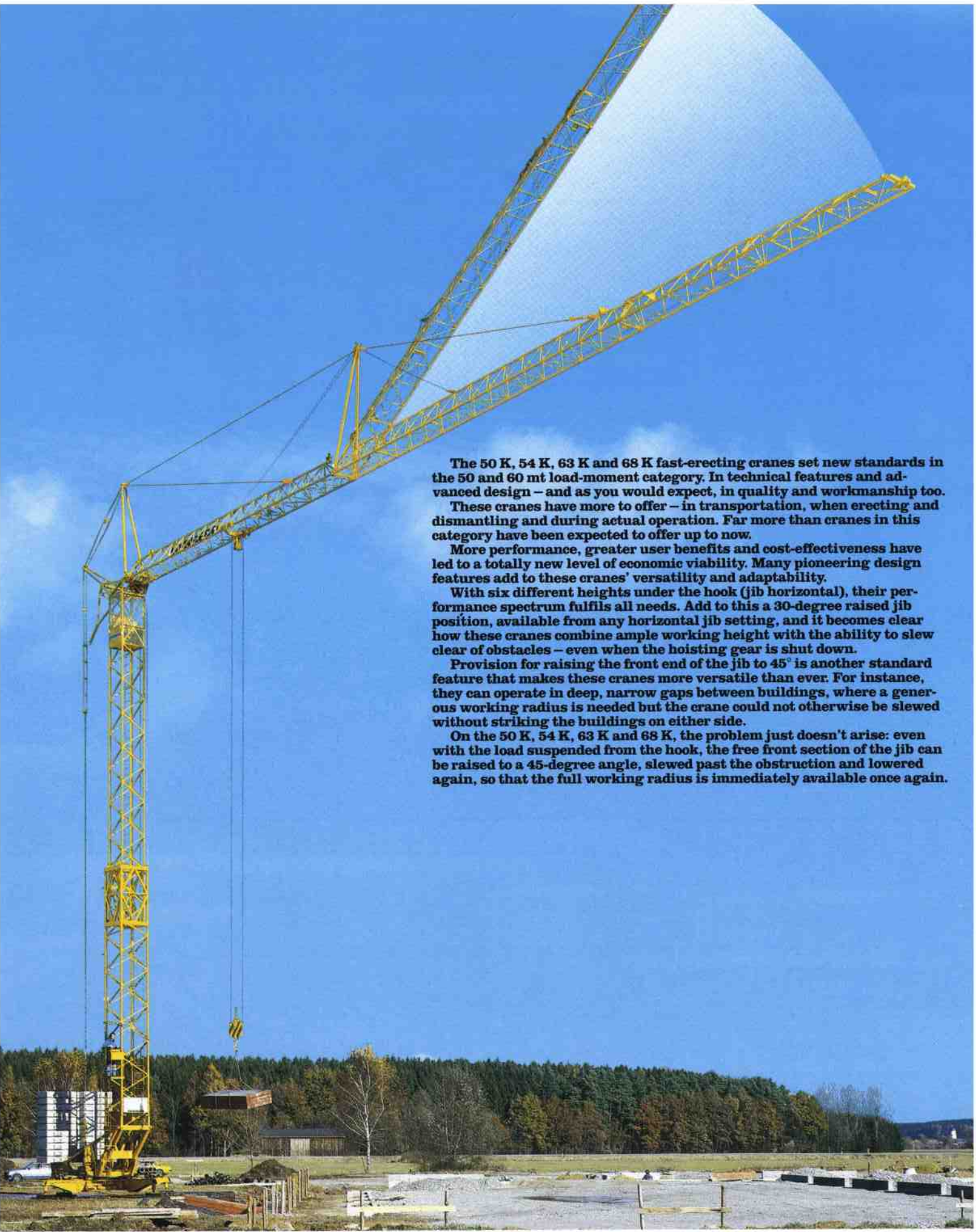


**New standards:
The cranes 50 K,
54 K, 63 K
and 68 K.**



LIEBHERR

How to build cranes.



The 50 K, 54 K, 63 K and 68 K fast-erecting cranes set new standards in the 50 and 60 mt load-moment category. In technical features and advanced design – and as you would expect, in quality and workmanship too.

These cranes have more to offer – in transportation, when erecting and dismantling and during actual operation. Far more than cranes in this category have been expected to offer up to now.

More performance, greater user benefits and cost-effectiveness have led to a totally new level of economic viability. Many pioneering design features add to these cranes' versatility and adaptability.

With six different heights under the hook (jib horizontal), their performance spectrum fulfils all needs. Add to this a 30-degree raised jib position, available from any horizontal jib setting, and it becomes clear how these cranes combine ample working height with the ability to slew clear of obstacles – even when the hoisting gear is shut down.

Provision for raising the front end of the jib to 45° is another standard feature that makes these cranes more versatile than ever. For instance, they can operate in deep, narrow gaps between buildings, where a generous working radius is needed but the crane could not otherwise be slewed without striking the buildings on either side.

On the 50 K, 54 K, 63 K and 68 K, the problem just doesn't arise: even with the load suspended from the hook, the free front section of the jib can be raised to a 45-degree angle, slewed past the obstruction and lowered again, so that the full working radius is immediately available once again.

A new standard in cost-effectiveness.

Despite their size, these cranes can travel on public roads as absolutely complete units, ready to erect. With the 23.1 m basic height under the hook, and the maximum jib length. Steered and rear trailer axles with twin tyres are all that's needed. The steered axle lock angle is 90 degrees. Since no part of the crane projects beyond the towbar, excellent manoeuvrability on the road and on the building site is guaranteed, and the cranes can easily be reversed into position by the towing truck.

Liebherr's typical construction method has long since proved its worth: tight-welded, closed structural sections for greater strength, rigidity and longer life – but also for lower weight, so that manoeuvring into a construction site becomes easier.

These cranes can also travel on the road as semi-trailers, and at up to 80 km/h on main highways if a high-speed trailer axle is fitted.



Only the semi-trailer version needs a tandem rear axle; as a trailer, single axles are sufficient.



A new standard in transportation.



From the control panel, the cranes can be displaced sideways during the railing process.

When the working site is reached, the electric power supply cable is connected up – and these cranes can then be erected immediately! No jacks, inflating bags, wooden blocks or other aids are needed to remove the crane from its axles, place it on the rail track or lower it on to its support spindles. Their brilliantly simple erecting kinematics enable these cranes to lift themselves from their axles on to the track, regardless of on-site ground surface conditions.

And since the amount of lift provided is no less than 500 mm, the crane can even be installed on a raised rail track.

Furthermore, the design of these cranes enables them to be offset to the side by up to 375 mm during railing operations. It isn't essential for them to be driven in precisely on the centreline of the rail track, so time-wasting manoeuvres are avoided.

The result: valuable time and money are saved by starting erecting work sooner.



A new approach to rail track mounting.



These cranes are so simple to ballast. The tower erecting movement and a special drive system lift the ballast slabs off the truck (which can stand on any side of the crane) and set them down on the crane's slewing platform. The ballasting device has a generous 5 m working radius and is always ready for immediate use; it does not have to be installed first. This ballasting method functions effectively wherever the crane is set up, even on sloping sites where the truck stands higher or lower than the crane.

And the same ballasting device can be used to handle the crane's own axles and to help when attaching them, so that the towing vehicle can leave the site without delay.

The result: significantly faster, easier and safer ballasting – saving time and money.



A new standard in ballasting.



A clear lead at all stages in erection.

With the jib horizontal, these cranes offer six different heights under the hook. Fully retracted to 13.7 m, they can even be operated under overhead power lines or other low-height obstructions.

Climbing between the hook heights is very quick affair. And climbing can take place with the undercarriage facing in all four directions. With the jib folded down, tower sections can be picked up and installed with the trolley and hook. This process is controlled from ground level, but the jib never touches the ground.

Tower sections can be installed individually or in succession, with the complete telescopic extension movement performed at once.



Outstanding – the rapid climbing system.



The tower sections are complete units, with ladder and landing platform. The entire tower is constructed from tight-welded, closed hollow profiles (square-section tube). The diagonals meet the uprights at the centre of the tube section, to ensure that the lines of force intersect at the centres of the corner posts and avoid additional load moments. This successful design principle means much-reduced service and transport weights, less ballast, longer life and reduced surface exposed to the wind. Tight-welded joints eliminate all condensation and avoid the risk of gradually spreading corrosion. The tower is extremely rigid, with no tendency to sway or flex during operation, so that crane movements themselves are also more accurate.

Tower sections are joined together by pins at opposite corners.



To retract a telescopic section, the erecting pulley block is simply attached to the final section of the tower, and the tower set down on the support device.



The erecting pulley block is then connected by a threaded stub shaft to the lowest tower section. Telescopic extension takes place – and the crane is ready to operate again at the new height under the hook.



These cranes have an extending-arm undercarriage, again using tight-welded steel sections. The arms are connected to the central element by zero-play taper pins. The plain bearings for these pins are permanently lubricated, but additional grease nipples are provided for subsequent lubrication if needed.

The outrigger jacks feature trapezoidal-pattern fine threads, for easy, straightforward levelling and rapid compensation if the surface should settle during crane operation.



The railborne version can negotiate curved rail track – a worthwhile feature even if it is operated on a straight section of track, since slight track gauge irregularities are cancelled out and excess wear on the crane's wheels is avoided.

The wheels are flangeless; the crane is guided along the track by separate follower rollers.



There are two trolley travel speeds, with automatic notching back to the lower speed shortly before the trolley reaches the maximum working radius. This prevents a high-speed overrun at the outer end of the jib if the operator fails to pay the necessary attention, and avoids the risk of the load beginning to swing uncontrollably – an important operating safety factor.



Generous jib lengths, high lifting capacities and hook heights and the ability to perform such tasks as handling large-area formwork or precast elements – these factors impose severe demands on the slewing gear. These cranes are therefore fitted with a slipping slewing motor, combined spur and planetary gears, a fluid coupling, a disc brake and wind-load control. They can pick up any type and size of load precisely and without uncontrolled swinging movements, set it down on the desired spot whether they are slewed with or against the wind – large or small, light or heavy, bulky or compact – and regardless of jib length or slewing angle.



The cranes are also equipped with automatic re-reeving from the control panel: without any manual effort, they can change from double- to quadruple-run hoisting rope reeving – and back again! The most economical lifting force rating and hoisting speed are always available, for genuine high performance.

The trolley has lateral guide rollers and "Zellamid" support rollers. It travels quietly and smoothly along the jib.



The cranes are equipped with a twin-drum winch assembly driven by a three-speed pole-changing hoisting motor; this motor has forced ventilation as well as the usual fan impeller. Forced ventilation and all-pole motor protection are reliable means of protecting against breakdowns during operation. Changeover from the hoisting to the erecting winch drum is quickly accomplished at an easily accessible drive pin.

The hoisting drum incorporates a slipping clutch which automatically tautens the hoisting rope when the crane is being erected and dismantled.



A current collector is installed between the undercarriage and the slewing platform. The advantages: unrestricted slewing in either direction, and provision for attaching the control cable to the undercarriage if desired.

New standards of operating perfection.



The operator can control the crane from the lower control point, from the cab or remotely, from some other convenient position. Thanks to the generous tower cross-section, the cab is spacious. Liebherr feels that the finest crane technologies are pointless if the controls are inconvenient or hard to use. It has therefore made the crane operator's task as easy as possible: the full-view cab contains a comfortable, adjustable seat with two-section control panel and has safety glass all round, an opening window and a heating and ventilation system. A windscreen wiper and washer is an optional extra. The result: an ergonomically sound, well-equipped cab for safe working without operator fatigue.

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