Mobile crane LTM 1050-3.1

Max. lifting capacity: 50 t
Max. lifting height: 54 m
Max. working radius: 44 m

LIEBHERR

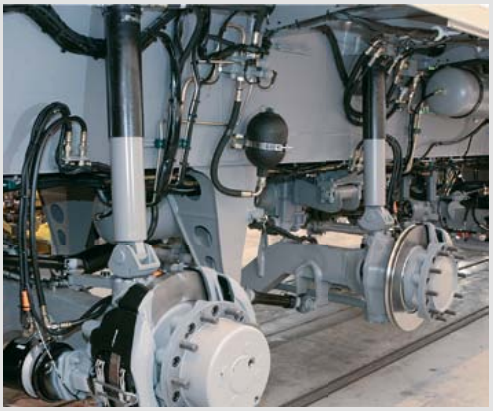
Mobile crane LTM 1050-3.1
Innovative and economical

The Liebherr LTM 1050-3.1 mobile crane is characterised by its long telescopic boom, strong lifting capacities, exceptional mobility and comprehensive comfort and safety equipment. This 50-tonne crane features top-of-the-range technology for more effectiveness in practical operation.

- **38-m telescopic boom**
- **16-m double folding fly-jib with integrated assembly jib**
- **36 tonne overall weight, incl. 7 tonne counterweight at 12 tonne axle load**
- **Vehicle width: 2.54 m with 445/95 R 25 (16.00 R 25) tyres**
- **Great flexibility of use due to optimum lifting capacities with full and partial counterweight**
- **Active, speed-dependent rear-axle steering**
- **Pneumatic disc brakes**
- **Sensitive working due to electronic crane control**

Drive train

- Six-cylinder Liebherr turbo-diesel engine, 270 kW/367 hp at 2000 rpm, max. torque 1720 Nm at 1000 – 1500 rpm
- Automated ZF AS-TRONIC gearbox, 12 forward and 2 reverse speeds
- 2-stage transfer case, 0.73 km/h crawling speed
- Axles two and three driven, axle one as option



State-of-the-art chassis and drive technology

High mobility and cost effectiveness

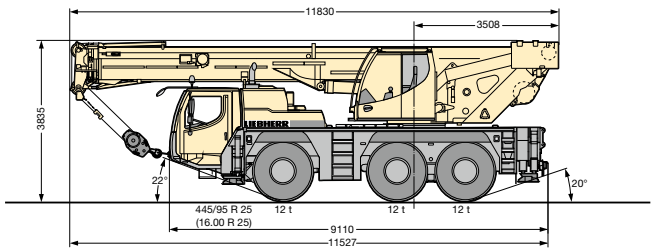
A powerful six-cylinder Liebherr turbo-diesel engine with 270 kW/367 hp ensures swift driving performance. The 12-speed ZF gearbox with automated AS-TRONIC control system provides a high level of cost effectiveness and excellent comfort.

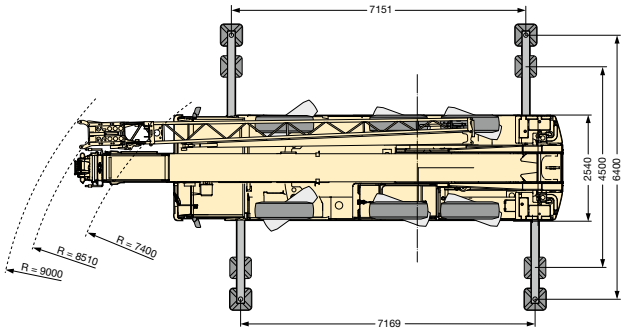
- Reduced fuel consumption due to the large number of gears and the high efficiency of the dry clutch.
- Excellent manoeuvrability and minimum crawling speed due to two-stage transfer case
- ABV automatic blocking prevention with ASR slippage control
- Telma eddy current brake optional, wear free and comfortable

Compact, agile and weight-optimised

Thanks to its extremely compact design, the LTM 1050-3.1 can operate on the smallest of construction sites. At an axle load of 12 t, it can drive with up to 7 t of counterweight, making it flexible and economical to use.

- Chassis length only 9.11 m
- Smallest turning radius only 7.40 m
- Vehicle width only 2.54 m, even with 445/95 R 25 (16.00 R 25) tyres
- Tail swing radius only 3.53 m





Hydro-pneumatic suspension Niveaumatik

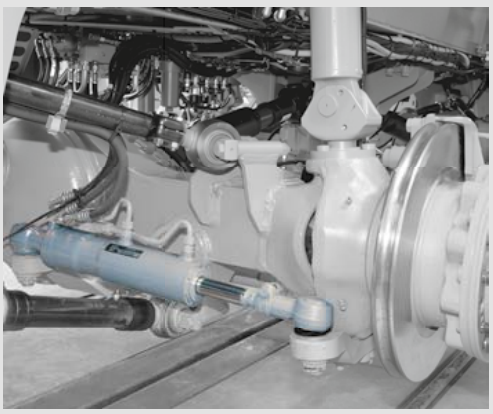
- Maintenance-free suspension cylinders
- Large dimensions to cope with high axle loads
- Suspension travel: +100/-100 mm
- High lateral stability when cornering
- Choice of driving states using fixed programmes

Pneumatic disc brakes

- High braking power, improved control
- Improved directional stability
- No reduction of braking force at high braking temperatures (fading)
- Longer service life
- Shorter labour times for changing the braking pads
- Brake pads with wear indicators

5 Steering programs

- Selection of programme by simple push button
- Clear layout of control elements and displays
- Programmes changeable during driving
- Crab steering comfortably controlled by steering wheel, no lifting of the middle axle



Variable steering concept

Centring cylinder on the rear axles

- Automatic straightening of rear axles in case of failure

Active rear-axle steering

The rear axles are actively electro-hydraulically controlled in accordance with the speed and steering angle of the front axle.

Five different steering programmes (P) can be selected by touch button.

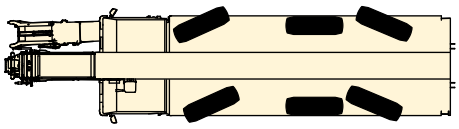
- Remarkably reduced tyre wear
- Improved manoeuvrability
- Stable driving condition even at high speeds
- All three axles can be steered

High safety standards – entire know-how from Liebherr

- Centring cylinder for automatic straightening of rear axles in case of failure
- Two independent hydraulic circuits with wheel and engine driven hydraulic pump
- Two independent control computers

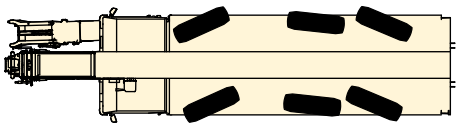
P1 Road steering

Axle 1 is steered mechanically by using the steering wheel. Axle 3 is actively steered, depending on the speed and the front axle lock angle. At speeds of 30 km/h and higher, axle 3 is set to straight-ahead position and locked



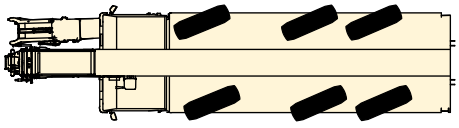
P2 All-wheel steering

Using the steering wheel, axles 2 and 3 are turned in accordance with the steering angle of axle 1 to achieve the smallest possible turning radii.



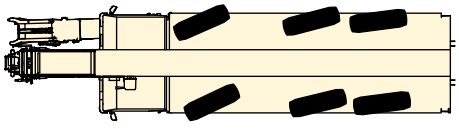
P3 Crab steering

Axles 2 and 3 are turned in the same direction as the wheel lock on axle 1 by using the steering wheel.



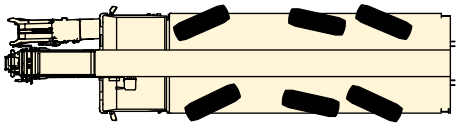
P4 No swing-out steering

Axles 2 and 3 are turned as a function of the wheel lock on axle 1 to prevent the rear end swinging out.



P5 Independent rear-axle steering

Axle 1 is turned by using the steering wheel; axles 2 and 3 are turned independently of the wheel lock on axles 1 by activating push buttons



The driver's cab

- Corrosion-resistant steel plate execution, cataphoretic dip-primed steel
- Doors in fibre composite execution with electric window winders
- Safety glass on all sides
- Tinted glass
- Heated and electrically adjustable outside mirrors
- Air-sprung driver's seat with lumbar support

Comfort and functionality

Modern driver's cab and crane cab

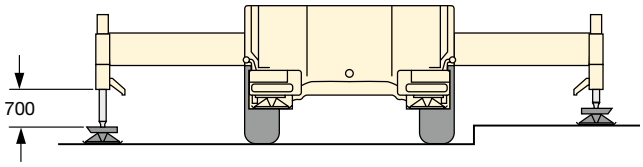
Both the modern driver's cab and the crane cab offer a comfortable and functional working environment. The control elements and displays are ergonomically arranged. Thus a safe and fatigue free working is assured. For the driver cabin, the crane cabin, the ignition lock and tank cap a single key system is provided.

Speedy and safe set-up

Setting of the outriggers, counterweight assembly and attachment of additional equipment have all been designed with speed, safety and comfort in mind. Specific ascents, handholds and rails are provided to ensure the safety of the operating staff.

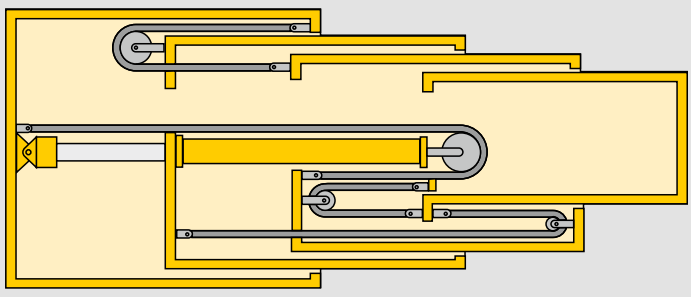
Supporting crane on outriggers – quick, comfortable and safe

- BTT blue tooth terminal, mobile control and display unit
- Electronic inclination display
- Fully automatic levelling by push button
- Engine start/stop and speed control
- Support area lighting with four integrated lights
- Support cylinder stroke: 650 mm front, 700 mm rear
- One-stage outrigger beams, fully hydraulic, low-maintenance extension system



The crane cab

- Large field of vision
- Safety glazing
- Tinted window panes
- Crane driver's seat with lumbar support, multiply adjustable
- Heat and noise insulated interior cladding
- Corrosion resistant
- Working floodlight
- Engine-independent heating



Proven hydro-mechanical telescoping system

- Reliable single step double acting hydraulic cylinder
- Low centre of gravity due to double sheave block for telescopic section 2 and 3
- Section 1 extended/retracted by hydraulic cylinder, sections 2 and 3 by ropes
- High telescopable loads

High lifting capacities and flexible boom system

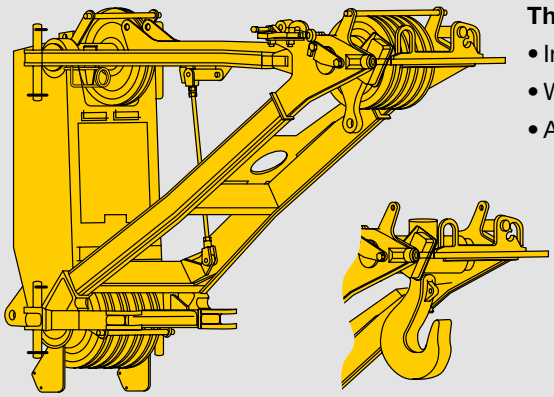
High-capacity, long telescopic boom and functional lattice extensions

The telescopic boom comprises the base section and three telescopic sections which can be extended comfortably by a hydro-mechanic extension system to any requested length.

- 38-m telescopic boom
- 9.2-m to 16-m folding double fly-jib, attachable at 0°, 20°, 40° and 60°
- 1.4-m assembly jib, consisting of the fly-jib adapter and an additional sheave set or a hook beam

High lifting capacities both with full and partial counterweight offer a wide operational range

- High lateral stability due to the oval boom profile
- Telescoping under load
- Lifting capacity: 7.5 t at 38 m lifting height
- Maximum hook height: 54 m
- Maximum radius: 44 m



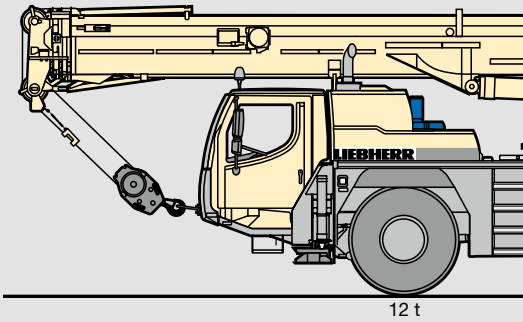
The assembly jib

- Integrated in folding fly jib
- With sheave set or hook beam
- Attachable under 0°, 20°, 40° and 60°

Variable counterweight

Counterweight assembly – a matter of minutes

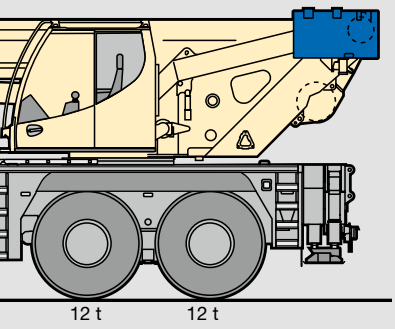
- Multiple counterweight variations from 2.9 t to 9 t
- Rapid ballasting with keyhole technology from within the crane cab
- Compact counterweight dimensions: with 9 t counterweight, the width is only 2.54 m
- Tail swing: only 3.5 m
- 36 t total weight incl. 7 t counterweight at 12-t axle load



The hoist gear

- Hoist gear with integrated planetary gear and spring loaded multi-disc brake
- Line pull 45 kN at outer layer
- Maximum line speed 120 m/min
- 2. hoist gear optional

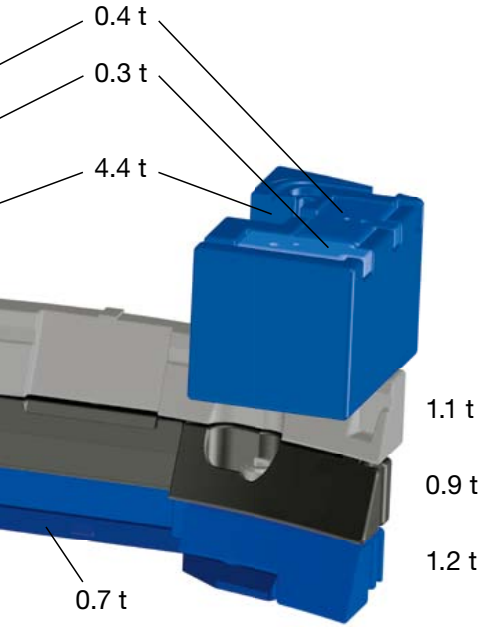
High-power crane drive



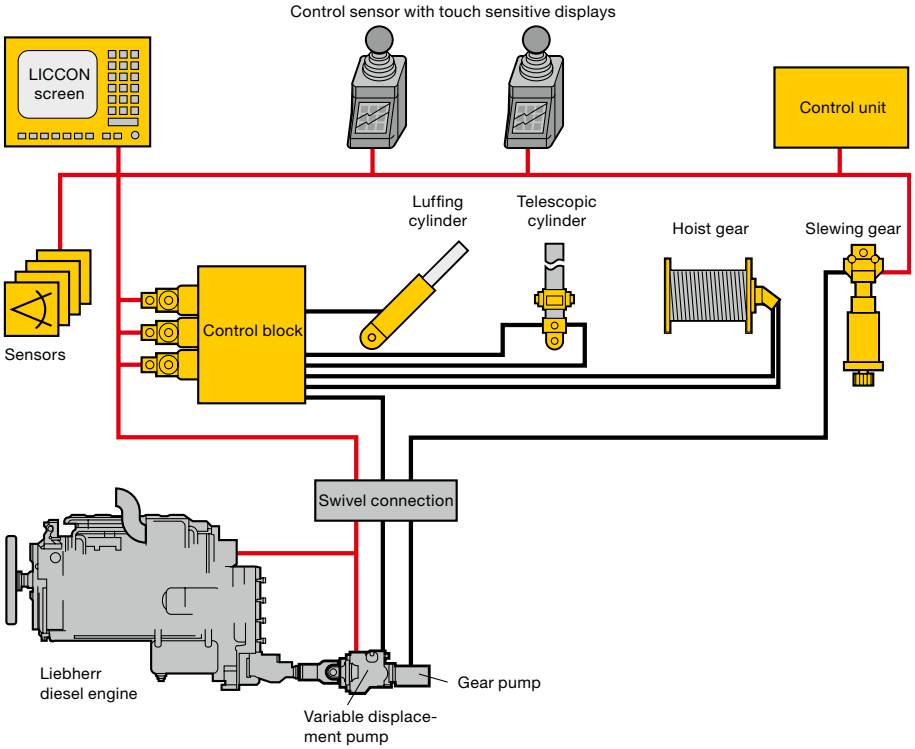
With tried-and-tested components

The drive components for crane operation are designed for high performance and ensure sensitive and precise load handling. They are specially designed to suit the crane's usage and have been subjected to hard endurance tests.

- Crane drive from chassis engine
- Optimized fuel consumption by electronic engine management
- Diesel-hydraulic crane drive, open hydraulic circuits with electronic "Load Sensing" control, 4 working movements simultaneously possible
- Electric/electronic SPS crane control through the LICCON computer system
- Comfort armrest control with 2 self-centering, 4-fold multifunctional joysticks, stepless control of all crane movements, with vibration joysticks for slewing gear and winch operation, electronic pilot control
- Slewing system changeable from open to hydraulically locked as standard, thus the movement can be adjusted to the different operational conditions, e. g. sensitive control for assembly work or fast cycle work



Basic counterweight	7 t
Additional counterweight	2 t
Total	**9 t**



The slewing gear

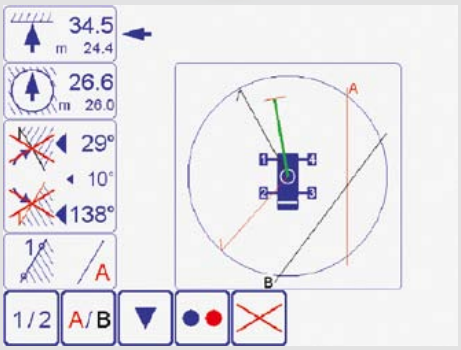
- Planetary gear, spring loaded multi-disc brake
- Slewing speed from 0 – 1.9 m/min step less adjustable
- Slewing gear changeable from open to hydraulically locked

Centralised lubrication

- Centralised lubrication system as standard for slewing ring, boom bearings, luffing ram and winch bearings
- Uniform application of lubricant
- Lubricant level visible in transparent container at all times

The LICCON test system

- Rapid localisation of problems on-screen without any measuring instruments
- Display of error codes and descriptions
- Convenient interactive functions for monitoring all inputs and outputs
- Displays of functions and allocation of sensors and actuators



Intelligent crane controls

For functional and safe crane operation: the LICCON computer system

Both the software and hardware for operating the mobile crane have been developed by Liebherr itself. The base is the LICCON computer system (Liebherr Computed Controlling). This system performs various information, control and monitoring functions. The control components have proved themselves worldwide in the most diverse climatic conditions.

LICCON configuration and operating programme

- Application programmes:
  - Safe load indicator (LMB)
  - Configuration programme with configuration display
  - Operating programme with operating display
  - Telescoping programme with telescoping display
- Setting of the configuration by convenient interactive functions
- Display of all important data using graphic symbols
- Reliable cut-off when permissible load moments are exceeded
- Winch indications for highly precise lifting/lowering of load

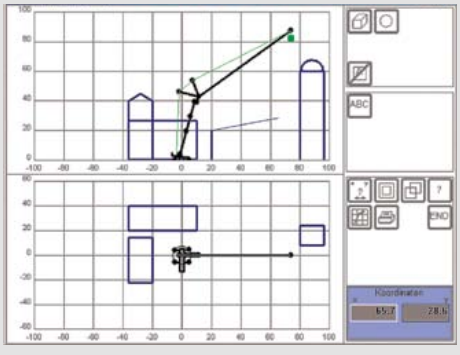
Data bus technology

Liebherr mobile cranes are fully interlaced using data bus systems. All major electric and electronic components are fitted with their own microprocessors and communicate with each other via only a small number of data cables. Liebherr has developed a bus system to meet the special demands of mobile cranes (LSB - Liebherr-System-Bus). The data bus technology increases reliability, comfort and safety when driving and operating the cranes:

- Improved reliability due to greatly reduced number of electric cables and contacts
- Constant self-testing of the ‘intelligent sensors’
- Extensive diagnosis possibilities, fast fault finding

The LICCON work area limitation system (optional)

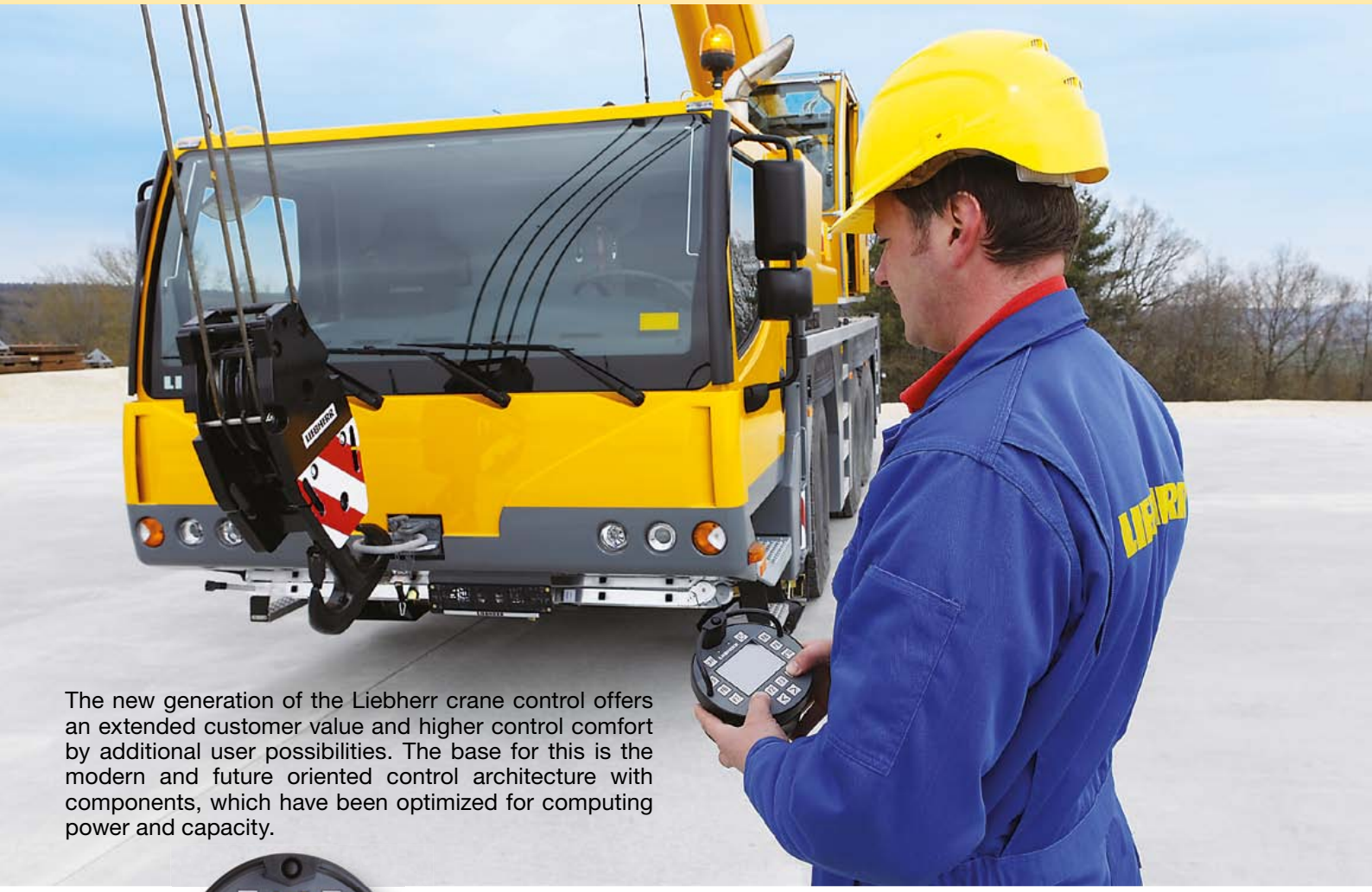
- Relief for the crane operator’s job by automatically monitoring workspace restrictions such as bridges, roofs, power lines, etc.
- Simple programming
- Four different limitation functions:
  – Pulley-head height limitation
  – Radius limitation
  – Slewing angle limitation
  – Edge limitation



The LICCON works planner (optional)

- Computer programme for planning, simulating and documenting crane operations on a PC
- Representation of all the crane’s load charts
- Automatic search for suitable crane based on entry of load, radius and lifting height parameters
- Simulation of crane operations with outline functions and supporting force display

The new control generation – LICCON2



The new generation of the Liebherr crane control offers an extended customer value and higher control comfort by additional user possibilities. The base for this is the modern and future oriented control architecture with components, which have been optimized for computing power and capacity.

Attaching and detaching the hook block

The BTT Bluetooth terminal, allows the crane driver to attach the hook block to or detach it from the front bumper within view by remote control of the hoist gear and the luffing cylinder of the telescopic boom.

Crane support

By use of the BTT the mobile crane will be setup comfortably and safely. Engine start/stop and speed regulation, electronic inclination display and automatic levelling are standard. Optionally the BTT can also display the outrigger forces.

Colour monitor

The readability of the data on the monitor of the LICCON2 control unit in the crane cabin is improved by the colour display. Warning indications and crane utilisation are more clearly visible.

Touch display

Below the joysticks integrated in the arm rest touch displays are provided with which various working functions can be selected. Beside others these are the drive and steering programmes of the carrier, the axle suspension, the supporting of the crane, the adjustment of the working floodlights as well as the heating and ventilation control.

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