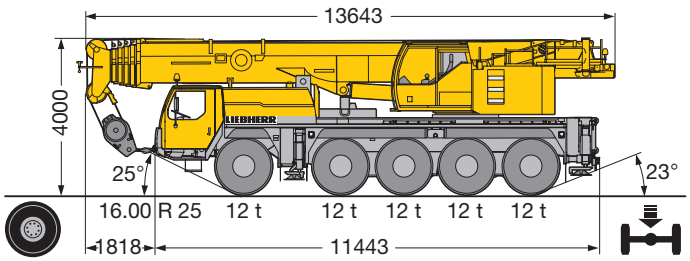
Mobile crane
Product advantages

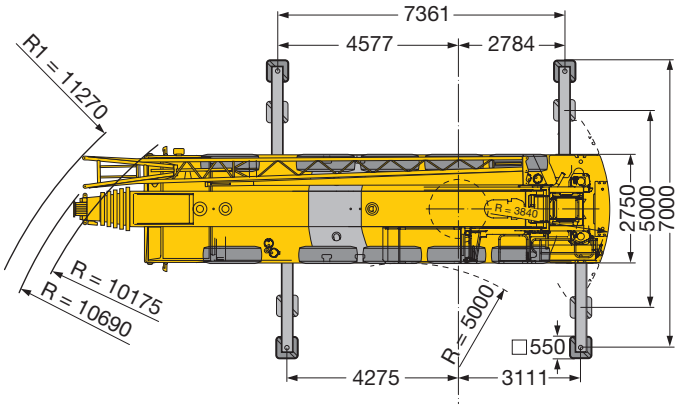
LTM 1100-5.2

max. load capacity: 100 t
max. height under hook: 84 m
max. radius: 66 m

LIEBHERR

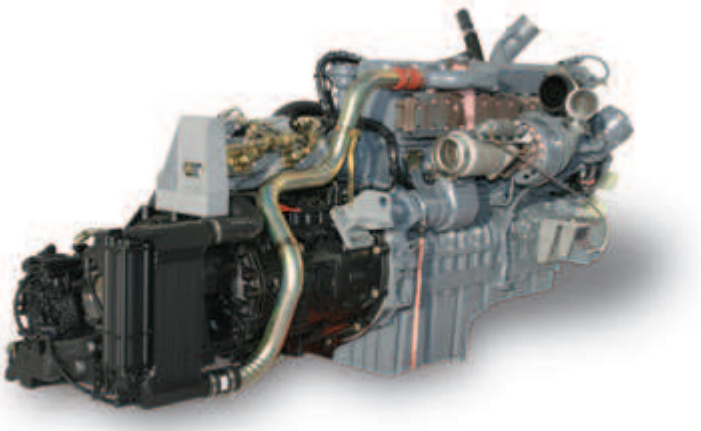
Courtesy of Crane.Market





Compact, maneuverable and weight-optimized

- Overall length 13.64 m, carrier length 11.44 m
- Large overhang angles of up to 25°
- Smallest turning radius of 10.18 m with all-wheel steering
- Rear counterweight radius only 3.84 m
- 60 t total weight incl. 15 t counterweight, drive 10 x 6, crane hook (axle load 5 x 12 t)
- 3 optional tyre sizes
  - 14.00 R 25 carrier width 2.75 m
  - 16.00 R 25 carrier width 2.75 m
  - 20.5 R 25 carrier width 2.98 m



Modern drive concept

- Powerful, 6-cylinder Liebherr turbo-charged Diesel engine type D846 A7, 370 kW/503 h.p, exhaust gas emissions correspond to the directives 97/68/EG step 3 and EPA/CARB Tier 3, robust and reliable, modern, electronically controlled engine management
- ZF power shift gear with automated control system AS-TRONIC. ZF intarder fitted directly to the gear unit, 12 forward and 2 reverse gears, automated control, reduced fuel consumption due to a great number of gears
- 2-step, robust transfer case with lockable transfer differential, creeping speed 0,72 km/h
- Drive 10 x 6, axles 2, 4 and 5 driven
- Drive 10 x 8 (optional), axles 2, 4 and 5 driven, axle 1 activatable for off-road displacement
- Weight-optimized, robust axles of minor maintenance, perfect track keeping and lateral stability due to special arrangement of the steering knuckles, steel- and rubber mounted
- Maintenance-free cardan shafts; easy and quick fitting due to 70° diagonal toothing
- Hydropneumatic suspension „Niveaumatik“, program-controlled for „setting crane on outriggers“, „crane displacement with equipment“ and for „road displacement of the crane“, suspension travel +150/-100 mm
- Lateral force released and maintenance-free suspension rams, protected against damage by synthetic pipes
- Level control (suspension on „displacement mode“) can be performed automatically from any position by push-button
- Stable cornering of the crane due to cross mounting of the hydropneumatic suspension
- Max. displacement speed 80 km/h, max. gradability 60 %

Courtesy of Crane.Market

Variable steering concept with „active rear-axle steering“

Axles 3, 4 and 5 set up as „active rear-axle steering, 5 steering methods are preselectable by fixed programs (P):

P1: On-road steering
Axles 1 and 2 are steered mechanically with hydraulic assistance by the steering wheel. Axles 3, 4 and 5 are steered „actively“ speed-dependent, subject to the cramp of the front axles, and over 30 km/h, axles 3 and 4 are set to straight displacement and fixed, from 60 km/h, axle 5 is fixed equally to straight displacement. The change of the steering angle in accordance with the speed, results in a precise and stable driving quality during higher speeds, tyre abrasion is reduced and the maneuverability clearly improved.

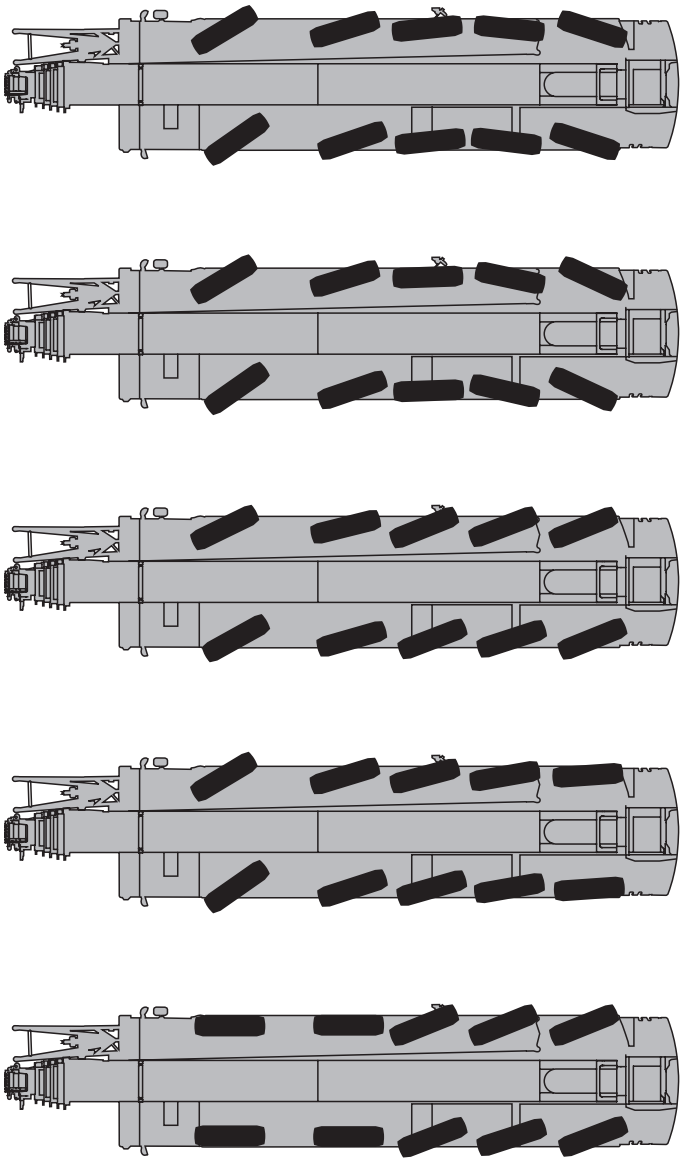
P2: All-wheel steering
Axles 3, 4 and 5, dependent on the steering angle of axle 1 are cramped by means of the steering wheel so that the smallest turning radii can be performed.

P3: Crab steering
Axles 3, 4 and 5 are cramped into the same direction as axles 1 and 2 by means of the steering wheel.

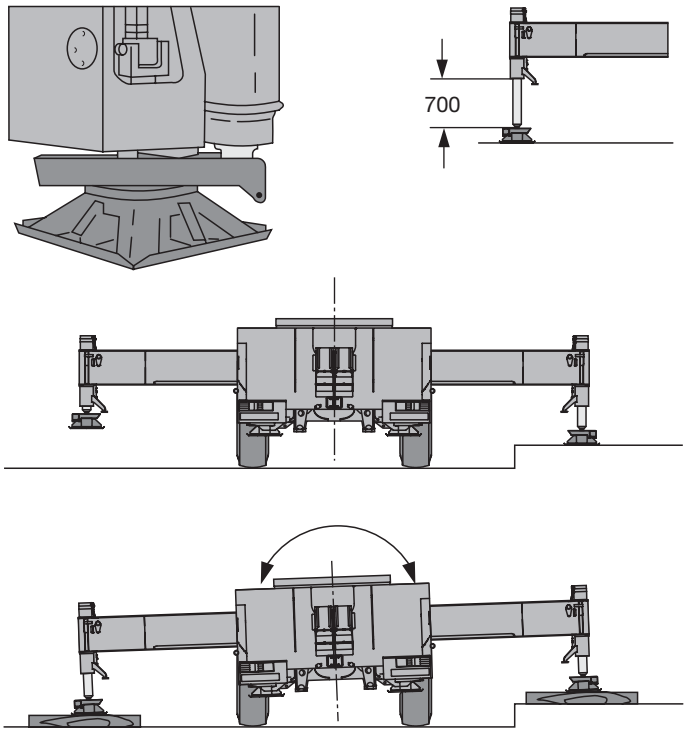
P4: Steering without swerving
Axles 3, 4 and 5 are cramped in accordance with axle 1 so that no swerve out of the rear of the carrier takes place.

P5: Independent rear-axle steering
Axles 1 and 2 are cramped by the steering wheel, axles 3, 4 and 5 steered independent of the cramp of axles 1 and 2 by momentary-contact buttons, whereby the cramp of axle 3 is adapted to the required situation.

- A failure in the rear-axle steering does make it ineffective and the rear axles are set to straight displacement by the centering rams
- Two independent hydraulic circuits with wheel- and engine driven hydraulic pump, thus maximum safety standard
- Two independent control processors (by existing E/A modules) and diversified sensoriel system
- Entire know-how of the „active rear-axle steering“ by Liebherr



Courtesy of Crane.Market



Setting crane on outriggers – quick, convenient and safe

- Variable supporting basis
  - Outriggers retracted
  - Supporting basis 5 m x 7.36 m
  - Supporting basis 7 m x 7.36 m
- Fix-mounted supporting pads with splash guard
- Travel of supporting ram of up to 700 mm
- Level control of the outriggers, all-automatic levelling of the crane during the supporting procedure by „push-button“
- 2 x 9° lateral inclination of crane and crane superstructure
- Control panels at either side of the carrier with membrane keyboard and electronic inclination indicator, push-buttons for ENGINE/START/STOP and speed control are illuminated and lockable
- Control of the outrigger system and displacement of the crane even from the crane cab is a standard feature
- Operation of the outrigger system in accordance with the rules for the prevention of accidents
- Illumination of the supporting area by 4 incorporated projectors

Comfortable driver's cab of high functionality

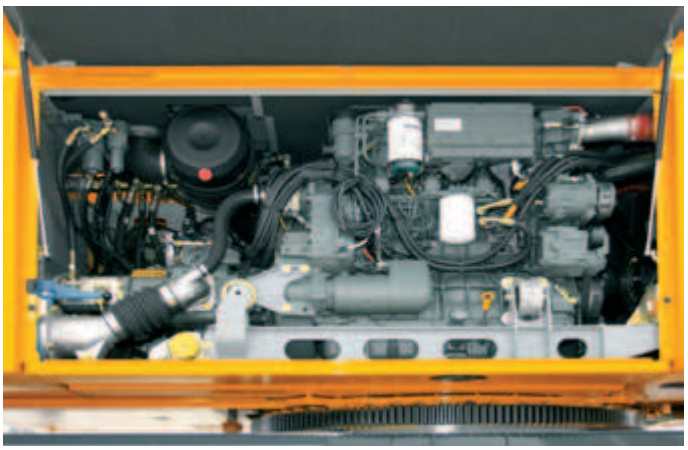
- Modern, comfortable driver's cab of high functionality and convincing design, corrosion resistant, sheet steel version, cataphoretic dip-primed, front mounted on rubber shock absorbers, rear cushioned hydraulically, internal sound and heat absorbing panelling
- Safety glass all-round, greenish tinted front and side windows for heat absorption, electric window lifters
- Arrangement of the control elements and displays according to ergonomical aspects for safe and convenient handling during continuous operation
- Digital display and keyboard units interconnected with the functional blocks by data bus technology
- Driver's seat cushioned pneumatically, with pneumatic lumber support, headrest
- Steering wheel adjustable in height and inclination
- Heatable and electrically adjustable rear mirrors
- Safety belts for driver and co-driver
- 3 windscreen wipers with automatic wipe/wash system and intermittent control
- Delayed switch-off of the interior lights
- Various racks and stackers
- Radio preparation

Courtesy of Crane.Market

Comfortable crane cab of high functionality

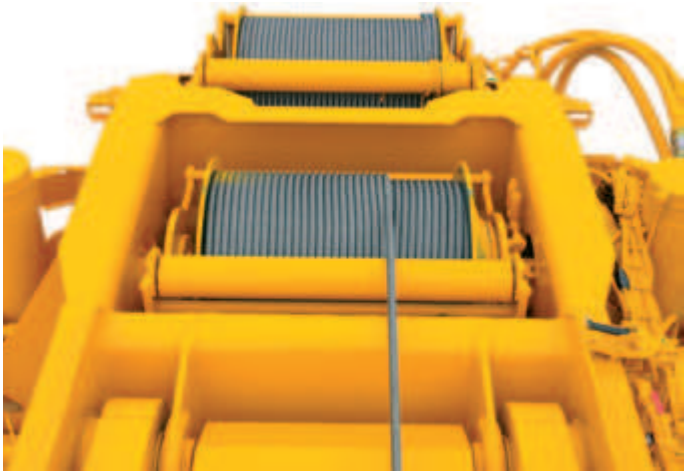
- Crane cab in corrosion-resistant galvanized sheet steel version, powder-coated, with sound and heat absorbing internal panelling, interior of modern design, tinted windows all-round, front knock-out window with large windscreen wiper and wipe/wash device, skylight of bullet-proof glass with large screen wiper and wipe/wash device, roller blind on front window and skylight, space-saving sliding door
- Greenish tinted front and side windows for heat absorption
- Pneumatically lateral extendable footboard for safe access to and from the carrier
- Crane cab tiltable to the rear by 20° to improve the sight
- 1 working projector of 70 Watt, at the front of the cab
- Spring-mounted and hydraulically cushioned crane operator's seat with pneumatic lumber support and head rest
- Operator-friendly armrest-integrated controls, vertically and horizontally adjustable joystick selector consoles and armrests, ergonomically adjustable operating consoles
- Ergonomic control levers with integrated winch rotation and slewing gear signalling device
- Modern instrument supporting base with incorporated LICCON monitor, display of all essential operating data on the LICCON screen
- Radio preparation

Courtesy of Crane.Market



Crane drive with field-proven components

- Crane engine: 4-cylinder Liebherr turbo-charged Diesel engine type D934S A6 of 145 kW/197 h.p, exhaust gas emissions in accordance with the directives 97/68/EG step 3 and EPA/CARB Tier 3, robust and reliable, located opposite to the crane cab, thus less noise molestation, electronic engine management, optimized fuel consumption, exhaust gas system of special steel
- Hydraulic system with 1 axial-piston variable displacement pump with pilot control and capacity regulation, double gear pump for slewing gear and secondary consumers, electric controlled oil cooler as standard feature
- Standard high-efficient noise abatment of the diesel-hydraulic crane drive

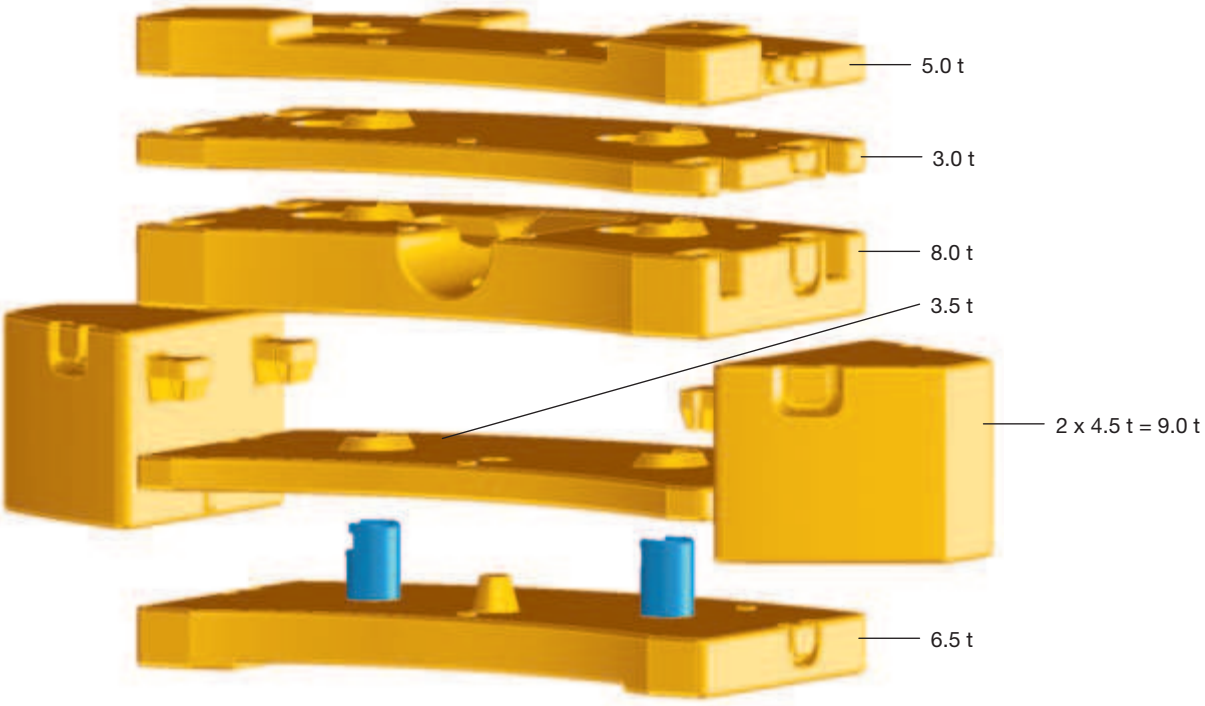


Winch technology by Liebherr

- Self-manufactured Liebherr winches (hoist gear 1 and 2) with special grooving, with incorporated planetary gears and spring-mounted multi-disk brakes as static brakes
- Axial-piston fixed displacement pump of own production, specially designed for crane operation, exposed successfully to tough fatigue tests
- Display of the winch rotation on the LICCON screen
- Non-rotating hoist rope

Ballasting – just a matter of minutes

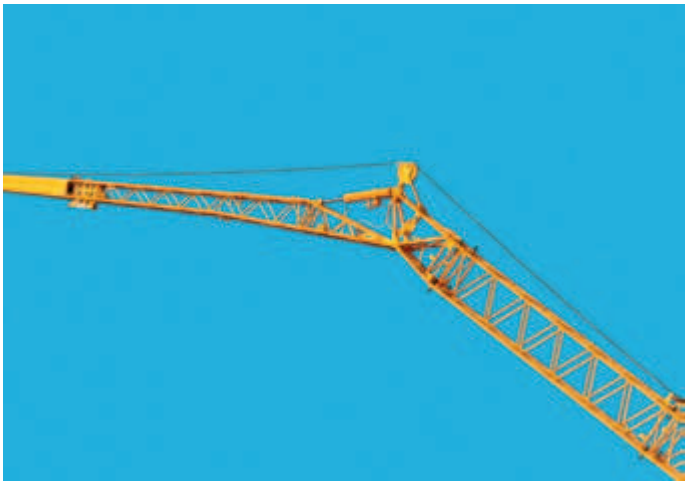
- Counterweight variants 35 t, 26 t, 15 t, 11,5 t, 5 t, 0 t
- Control of ballasting from the crane cab
- Quick ballasting by „key-hole“ method
- Compact counterweight dimensions, e.g. 26 t counterweight of only 2.7 m width
- Counterweight radius only 3.84 m



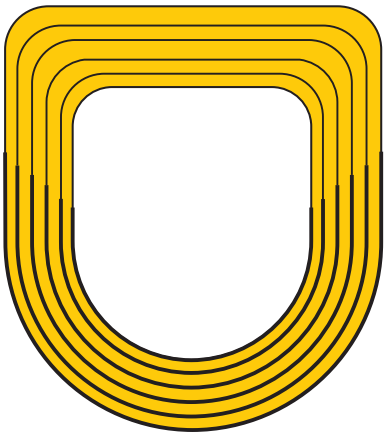
Courtesy of Crane.Market

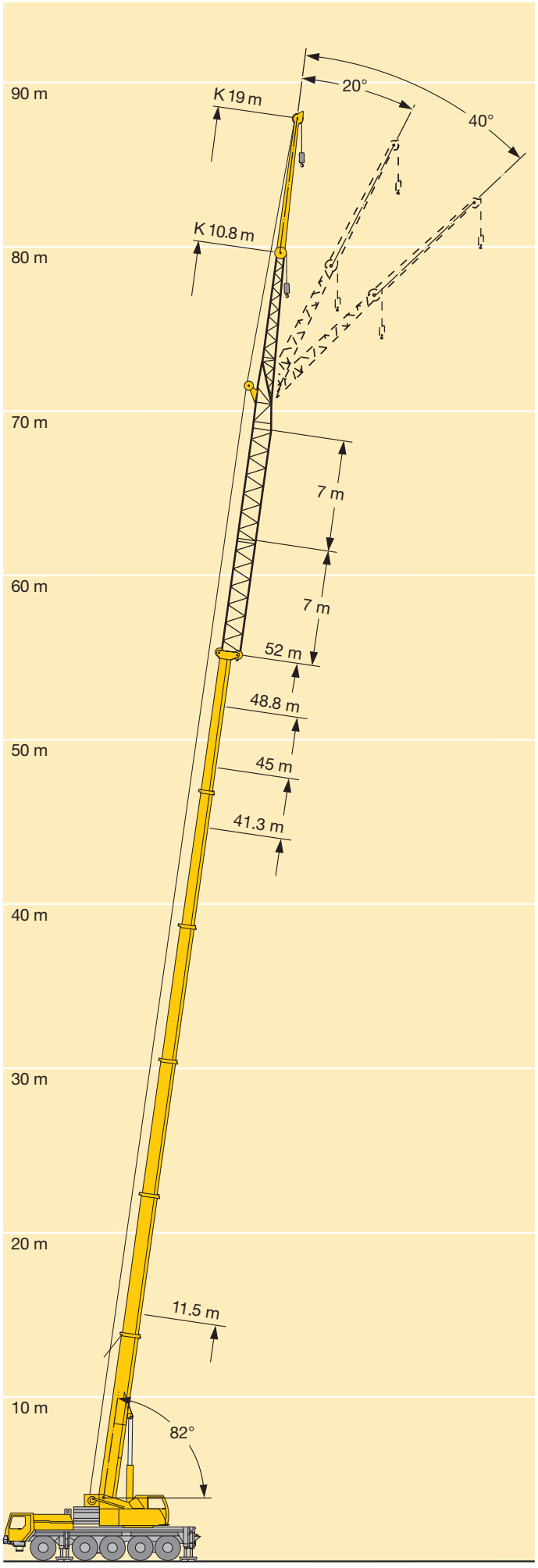
Lifting of loads - precise and safe

- 6-section, 52 m long telescopic boom and biparted, 10.8 m - 19 m long swing-away jib
- Two intermediate sections of 7 m each for the extension of the telescopic boom at operation with swing-away jib, max. height under hook 84 m and 66 m radius
- Telescopic boom with rounded, oviform bottom shell, thus high lateral stability
- Optimal utilization of the telescopic boom due to a multitude of telescoping variants
- Swing-away jib mountable at 0°, 20° and 40°, hydraulic fitting aid, hydraulic ram for continuous variation of the swing-away jib from 0° - 40° (optional)
- Luffing under load (interpolation of the loads)
- Easy and quick re-reeving of the hoist rope by rope dead end connection
- Load hook with rope dead end connection, cylindrical shape of the load hook for easy displacement by rolling on the ground



oviform boom profile





Courtesy of Crane.Market

Outstanding boom technology

The focal points of the successful boom technology for the Liebherr mobile cranes are the oviform boom profile, the internal interlocking system of the telescopes and the telescoping system „Telematik“.

The oviform boom profile

It features a particular inherent stability against deflection and torsion. In steep boom position as well as at large radii, the oval boom profile offers optimal lifting capacities.

The patented internal interlocking system of the telescopes

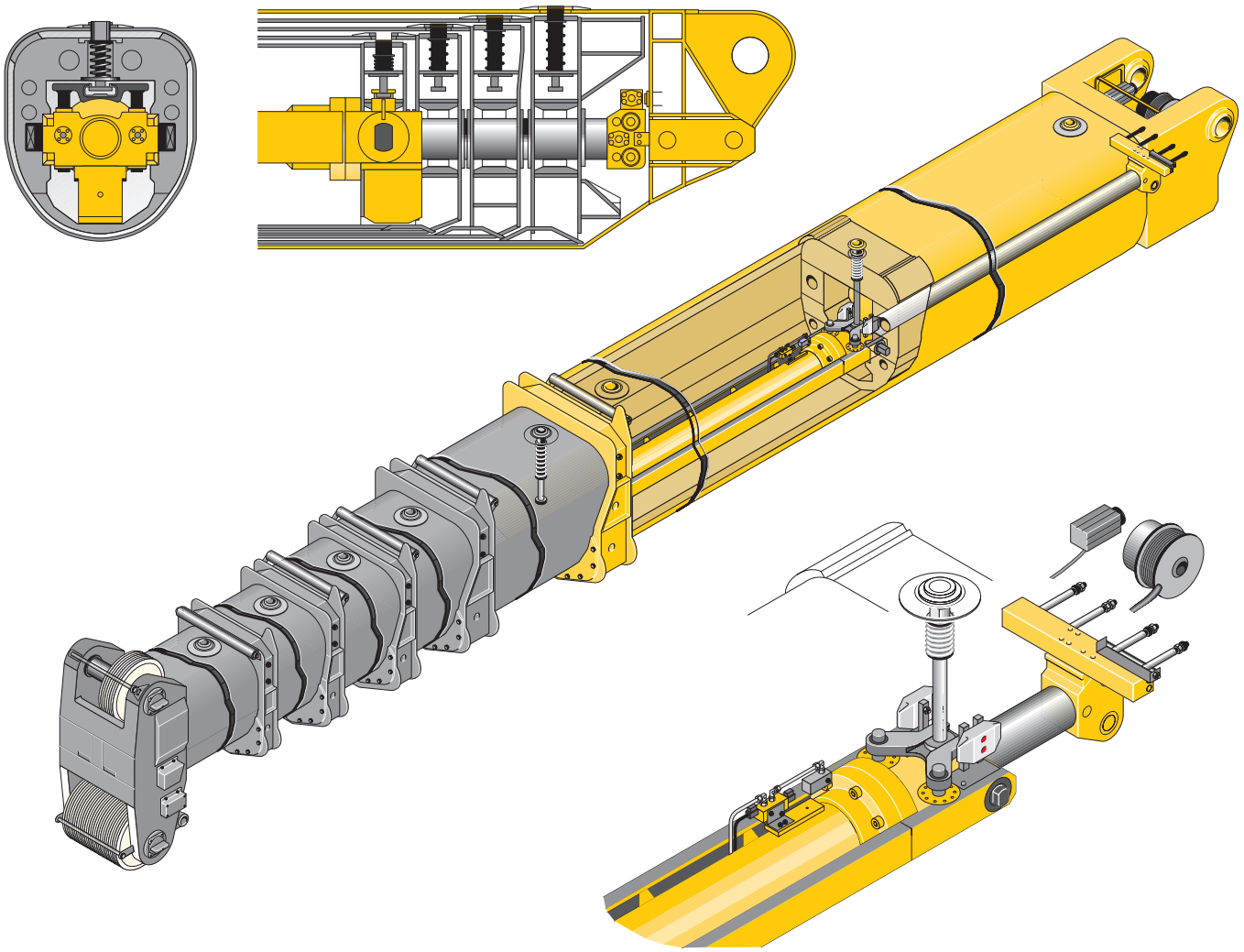
The interlocking process of the telescoping ram with a boom section is performed successively by spring-loaded pins, and followed by the mechanical release of the same section of the telescopic boom. This method guarantees that a telescope release can only take place if the telescopic section is interlocked with the hydraulic ram.

The automatic telescoping system „Telematik“

An outstanding flexibility in controlling the various telescoping lengths of the boom is achieved by the rapid-cycle telescoping system. The most suitable boom configuration can be preselected dependent on the job requirements. The telescoping of the boom is practicable either by manual or fully automatic control. The saving of time during the automatic telescoping procedure and the combinatorial variety of the telescoping paths determine the functionality of the telescopic booms.

The advantages of the boom technology at a glance

- Considerable increase in lifting height and reach due to extraordinarily long telescopic booms
- Telescopic booms of inherent and lateral stability for maximum lifting capacity requirements
- Outstanding functionality due to the automatic telescoping system „Telematik“
- High working speeds due to the fully automatic telescoping procedure
- Outstandingly easy operation - control of the telescoping procedure by means of telescoping images on the LICCON display screen
- Maintenance-free telescoping system



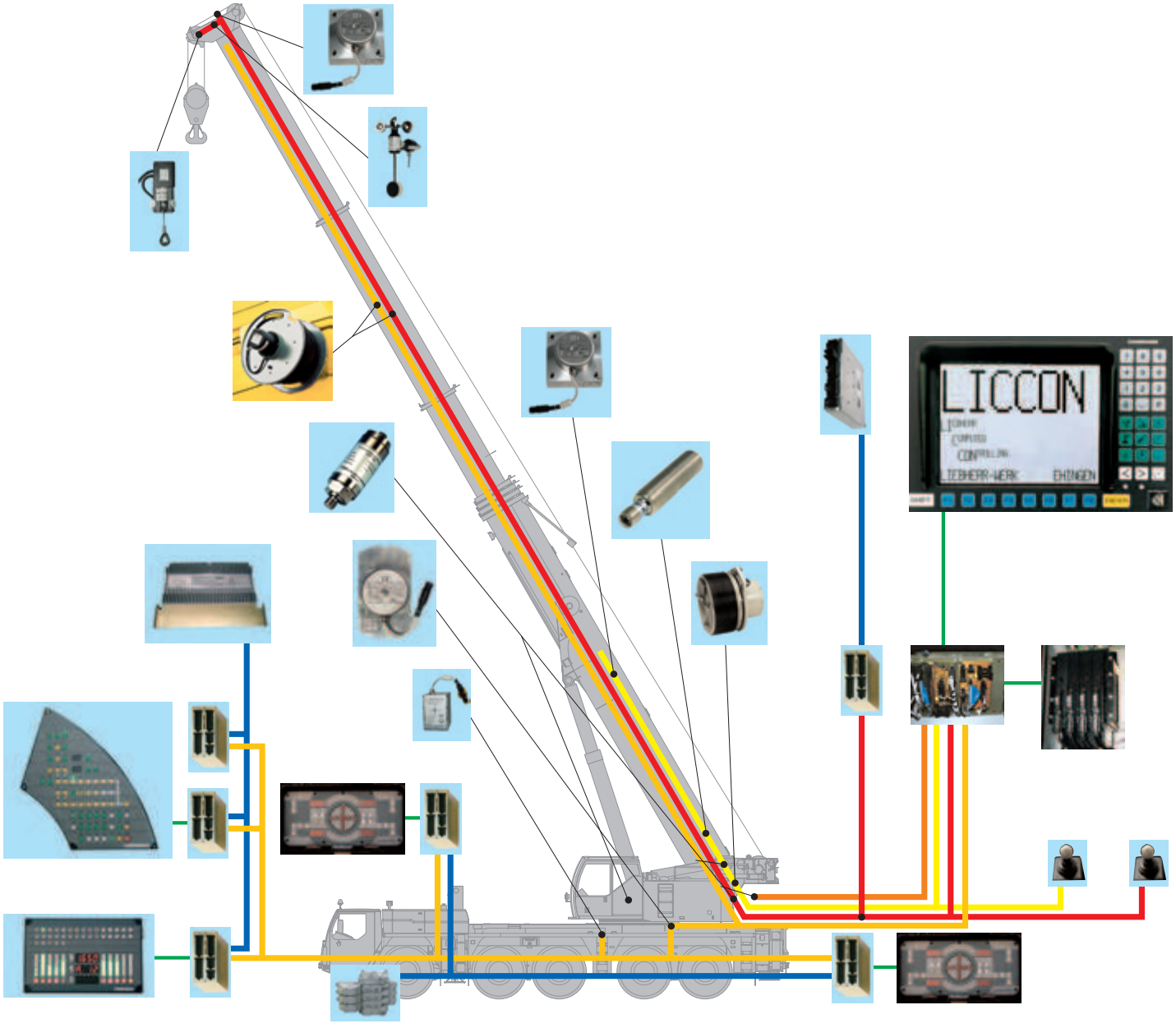
Courtesy of Crane.Market

Data bus technique revolutionises the crane electric system

The Liebherr mobile cranes are entirely equipped with data bus transfer systems. The digital system is the basis for the data bus. It permits the transfer of a multitude of information almost parallel and faultless via one only cable. Liebherr has developed its own system bus (LSB) which corresponds to the manifold requirements in respect to all possible mobile crane operations. All important electrical and electronical components on the superstructure, such as length sensors, angle sensors, load cells, proximity switches, master switches and hoist limit switch are equipped with their own microprocessors and communicate via various data bus networks. The keyboard and display units, the outrigger control as well as the engine and transmission control on the vehicle are intelligent function blocks and equipped with bus interfaces. A continuous self-test of the sensors during operation guarantees a high functional reliability. The internetworking of the LICCON computer system with the system bus establishes entirely new and comprehensive diagnostic facilities in respect to the crane.

The advantages of the data bus technique at a glance

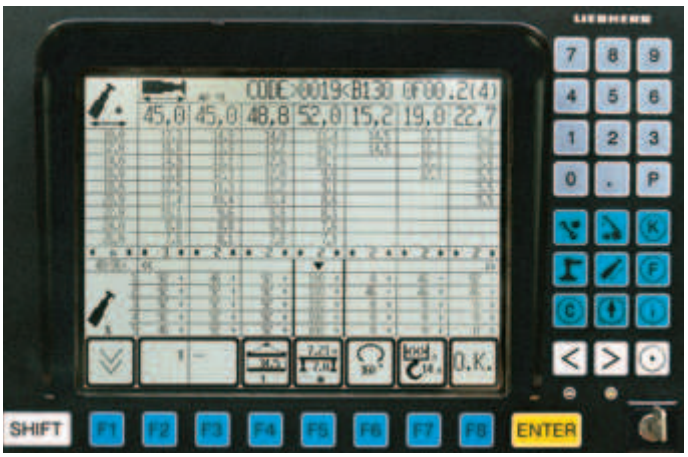
- Reduction of the operating costs due to a modern engine and transmission management (CAN bus system); increased economy due to improved endurance of the individual units
- Improved reliability due to a considerably reduced number of electrical cables and contacts
- A continuous self-test of the „intelligent sensors“ guarantees a maximum of reliability
- Comprehensive diagnostic facilities - quick error detection
- Self-manufactured bus systems, specially adapted to the requirements of a mobile crane
- The data bus technique increases the comfort and safety during driving and crane operation

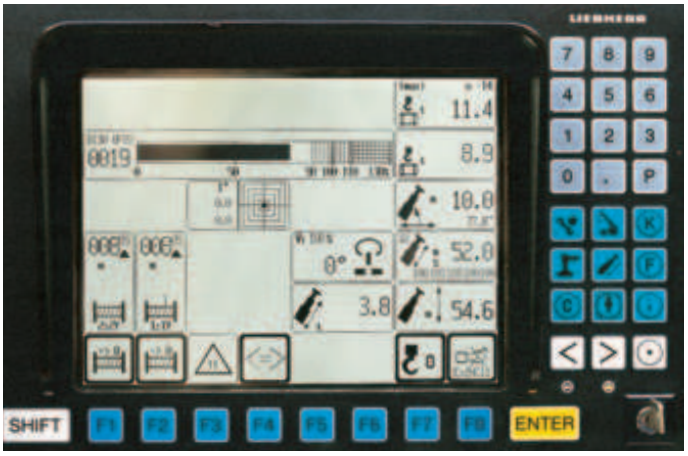


Courtesy of Crane.Market

LICCON configuration and operation program

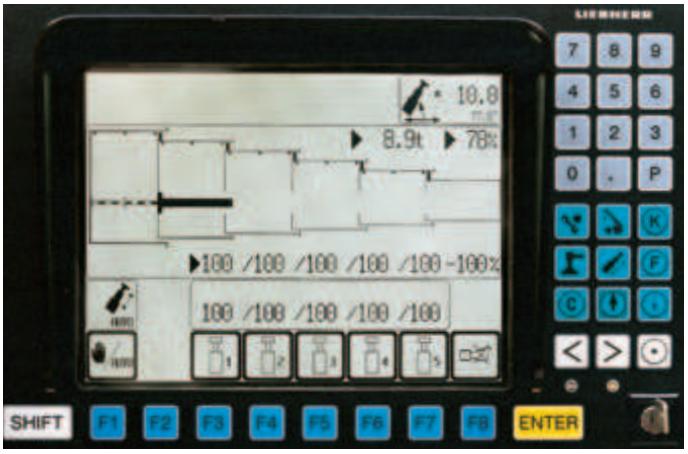
- Standard application programs: Safe load indicator (LMB), configuration program with configuration picture, operation program with operating picture, telescoping program with telescoping picture, test parameter program, test system; supporting force indication and work area limitation as an optional feature
- Setting of the configuration program by convenient interactive functions
- Safe and reliable acknowledgement of the configuration set
- Representation of all essential data by graphic symbols on the operation picture
- With integrated wind force test (optional)
- Reliable cutoff device when exceeding the admissible load moments
- Load capacity values for any boom intermediate length
- Winch indications for precise lifting/lowering of the load





LICCON-assisted telescoping system

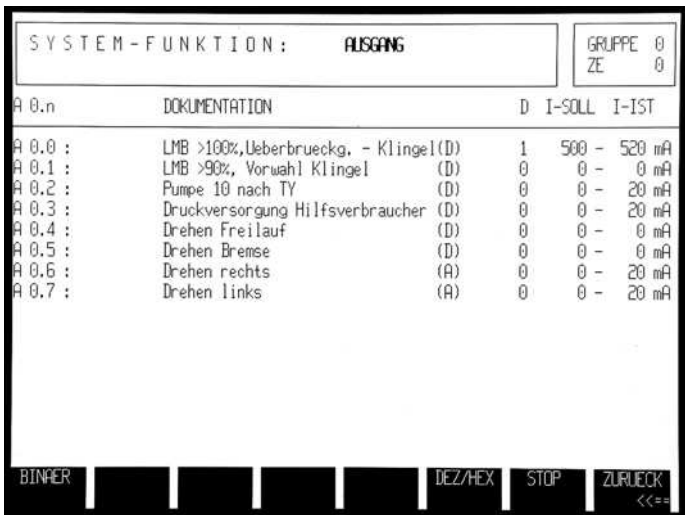
- Telescoping by single-stage hydraulic ram with hydraulic driving tenons (patented internal interlocking system)
- Telescoping procedure controllable by convenient operator's guide on the monitor, precise approach of the interlocking positions
- Telescopable loads are displayed on the LICCON operating picture
- Rapid-cycle telescoping system with „automatic mode", i.e. all-automatic telescoping to the required boom length
- Very compact and light-weight telescoping system, thus increased load capacities, especially with long booms and large radii
- Automatic cushioning in end positions during telescoping and retracting for the preservation of the structural members



Courtesy of Crane.Market

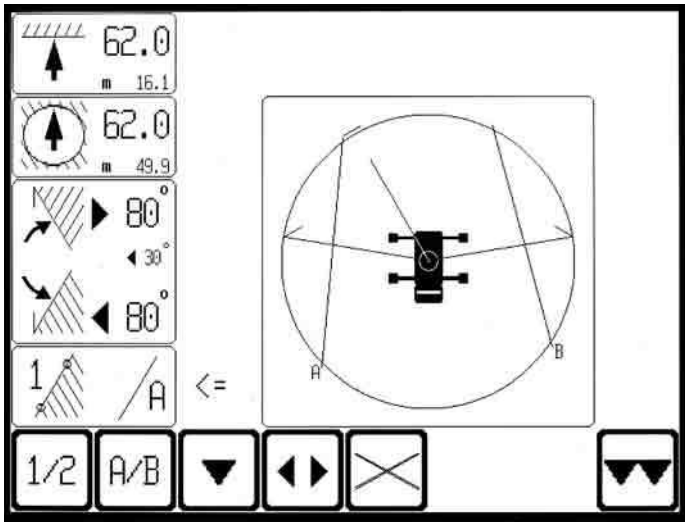
The LICCON test system

- The test system assists the servicing personnel in quickly localizing failures of the crane sensory system without the need of measuring instruments
- The service starts on the display screen, troubleshooting becomes a matter of minutes
- Occurring errors are indicated by error codes and error descriptions on the display screen
- Convenient interactive functions permit the observation of all inputs and outputs of the entire system by different representations on the display screen even during crane operation. It equally visualizes the allocation of the individual sensors and actuators of the system and their functions.



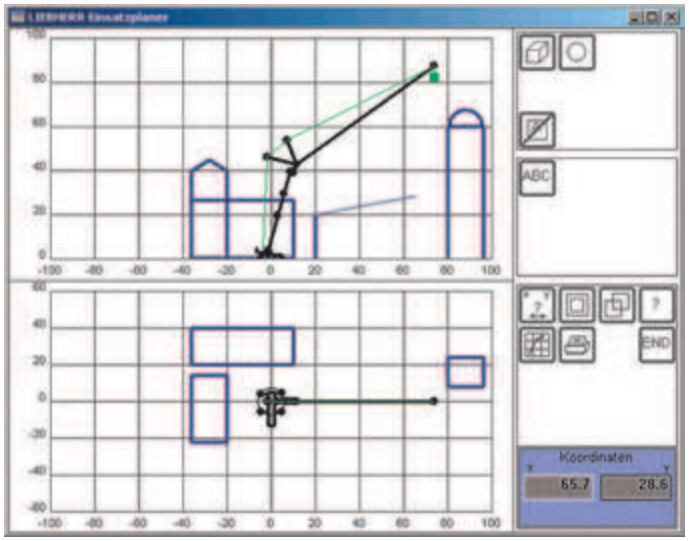
The LICCON work area limitation system

- It relieves the crane operator, especially in situations where the handling of loads requires his full attention, by controlling the work area limits. Work areas can be restricted by buildings, bridges, roofs, high-tension power lines, pipe lines or adjacent cranes. The automatic work area limitation system (optional), can easily be programmed. Four different limitation functions are practicable:
  - Height limitation of the pulley head
  - Radius limitation
  - Slewing angle limitation
  - Limitation of edges



The LICCON work planner

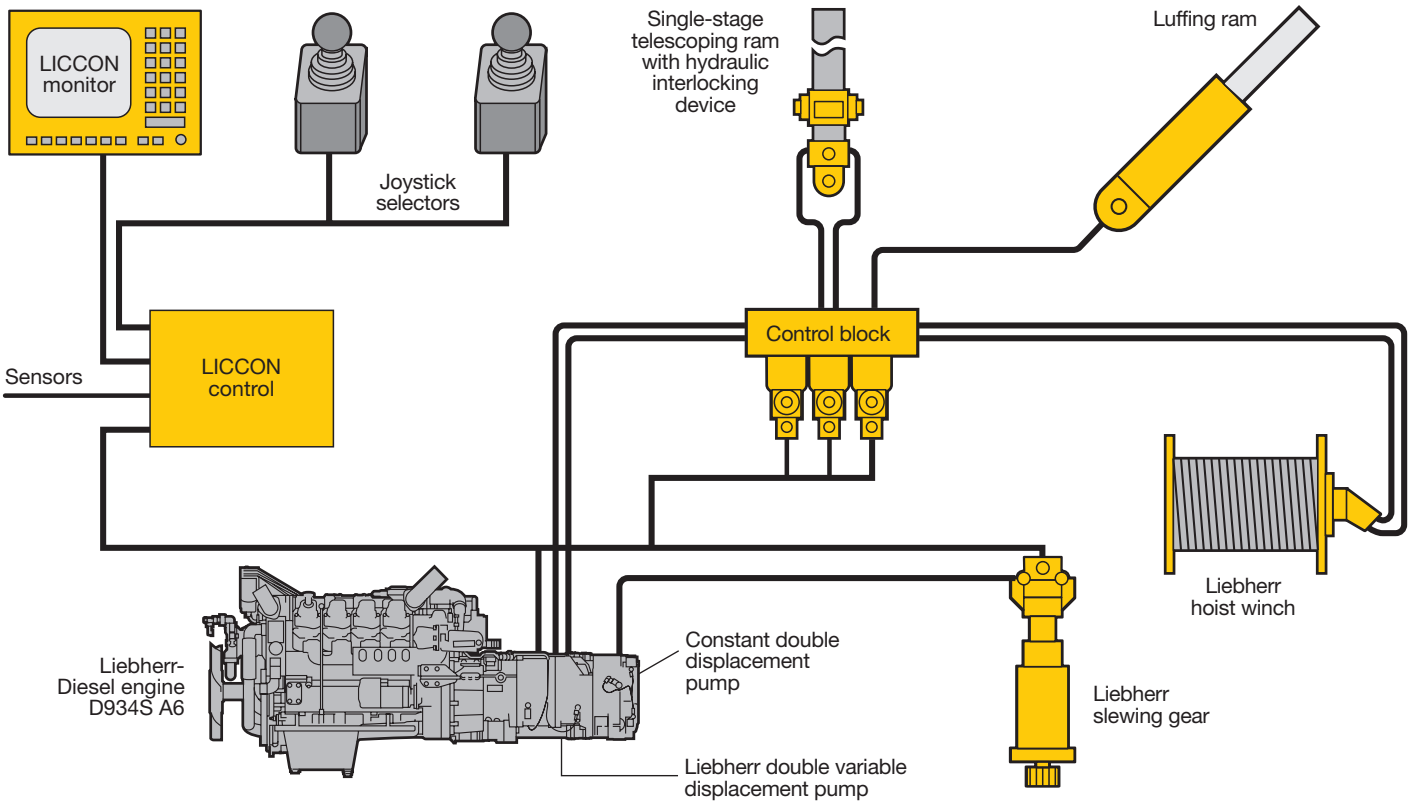
- The LICCON work planner consists of a software program on CD for planning, simulation and documentation of crane applications on the display screen (optional)
- The 2D planner program enables the drawing of buildings, to write texts and to represent a crane model true to scale including the entire motions within a fictional construction site
- The work planner permits the preparation of more transparent offers, facilitates the briefing of crane operators and can be run on a Laptop at the construction site



Courtesy of Crane.Market

Electronic SPS crane control with test system

- Control of the winches, of the slewing gear as well as the luffing and telescoping motions by the LICCON computer system (PLC control)
- Summation output control, i.e. both pumps can be switched over to one only consumer
- Electric load-sensing, hoist and slewing gear are operated within a „controlled open oil circuit“
- Four working motions can be performed independent from one another
- High-speed activation even during a working motion
- Slewing speed preselectable by 5 steps between 10 % and 100 %
- Slewing gear invertible from released to locked as a standard feature
- Very short response rates at the initiation of crane motions
- Functional test of all essential components by means of the LICCON test system



Optional features contribute to an expension of the application spectrum and increase comfort and safety

On the carrier
- Additional heater with engine preheating
- Eddy-current brake
- Supporting force indicator on the carrier and in the operator’s cab
- Rope box
- Air-conditioning system
- Trailer coupling D12/D19
- Radio preparation
- Seat heating for driver’s and co-driver’s seats
- CD radio set

On the crane superstructure
- Additional heater with engine preheating
- 2nd hoist gear
- Air-conditioning system
- Seat heating
- Work area limitation
- Aircraft warning light
- XENON working projector on base section, electrically adjustable
- Tele-diagnostic with installed GSM module
- CD radio set
- Emergency actuation

Further optional features by request.

Subject to modifications.

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