

# Mobile crane Product advantages

# LTM 1060/2

**Max. lifting capacity: 60 t**

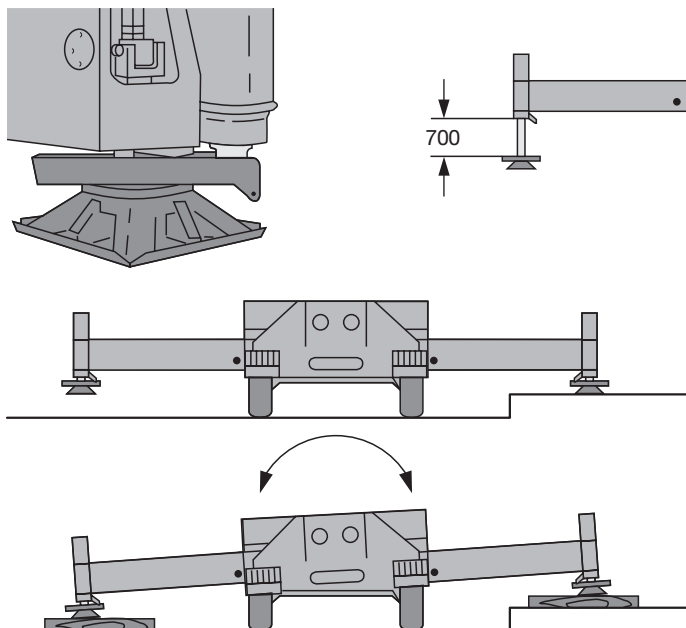
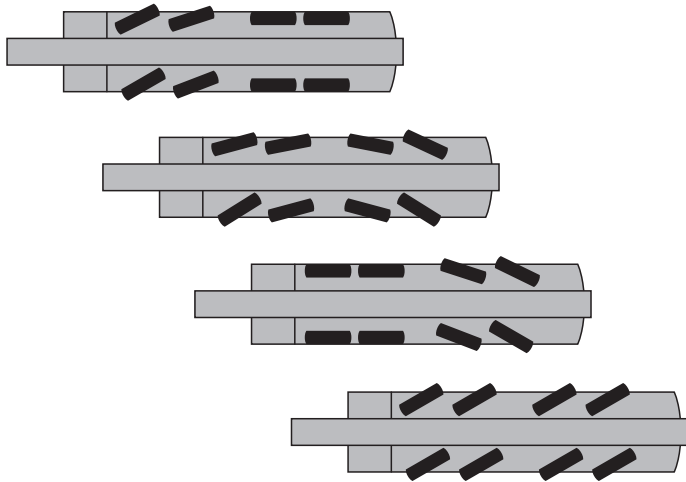
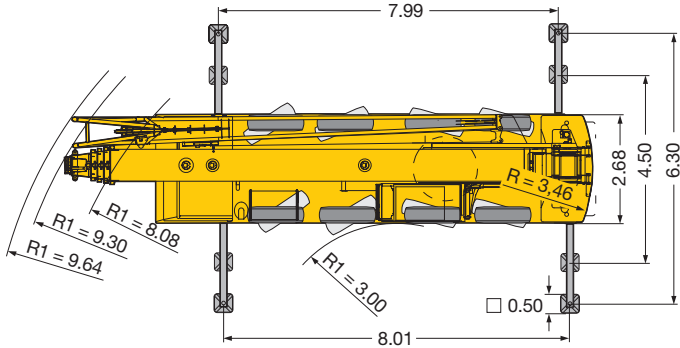
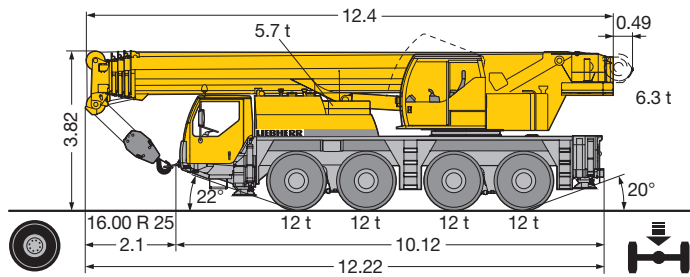
**Max. height under hook: 60 m with biparted swing-away jib**

**Max. radius: 48 m with biparted swing-away jib**



# LIEBHERR

*Courtesy of Crane.Market*



## Compact, manoeuvrable and weight-optimized

- Overall length 12.46 m, length of carrier 10.12 m
- Large overhang angles of up to 22°
- Smallest turning radius of 8.1 m with all-wheel steering
- 48 t total weight, incl. 12 t counterweight, 17 m biparted swing-away jib, drive 8 x 6, 16.00 tyre size, 17 t hook block (axle load 4 x 12 t)
- 3 optional tyre sizes
  - 14.00 R 25 - vehicle width 2.55 m
  - 16.00 R 25 - vehicle width 2.68 m
  - 20.5 R 25 - vehicle width 2.68 m

## Variable drive and steering concept

- Drive 8 x 4, axles 3 and 4 are driven
- Drive 8 x 6 (optional), axles 1, 3 and 4 are driven, for road travel only 3rd and 4th axle are driven, 1st axle activatable for off-road travel
- All-wheel steering, 3rd and 4th axle also steerable independent of axles 1 and 2 (crab steering); the additional hydraulic steering is locked mechanically during road travel; all steering versions can equally be performed from the crane cab

## Setting crane on outriggers - quick, convenient and safe

- Variable supporting basis
  - Outriggers retracted
  - Supporting basis 4.3 m x 8 m
  - Supporting basis 6.3 m x 8 m
- Fix-mounted supporting pads, protected by splash guards
- Supporting ram travel up to 700 mm
- Levelling control of outrigger system, fully automatic levelling of the crane during the supporting procedure by „pushbutton“
- 2 x 7.5° lateral inclination of carrier and crane superstructure
- The operator's panels with membrane keyboard and reflecting level as well as keyboard for ENGINE/START/STOP and engine control are illuminated and lockable
- Operation of the outrigger system in accordance with the rules for the prevention of accidents

### Torsional rigid telescopic boom

- Oviform boom profile of particular inherent stability
- Telescopes mounted on maintenance-free polyamide slide pads
- First-rate lifting capacities, e.g.
  - 17.4 t at 10 m radius
  - 6.4 t at 20 m radius
  - 2.9 t at 30 m radius
  - 1.7 t at 40 m radius
  - 0.7 t at 48 m radius
- Telescoping by rapid cycle approx. 250 s for boom length of 10.9 m - 42 m

### Modern and powerful carrier and crane drive

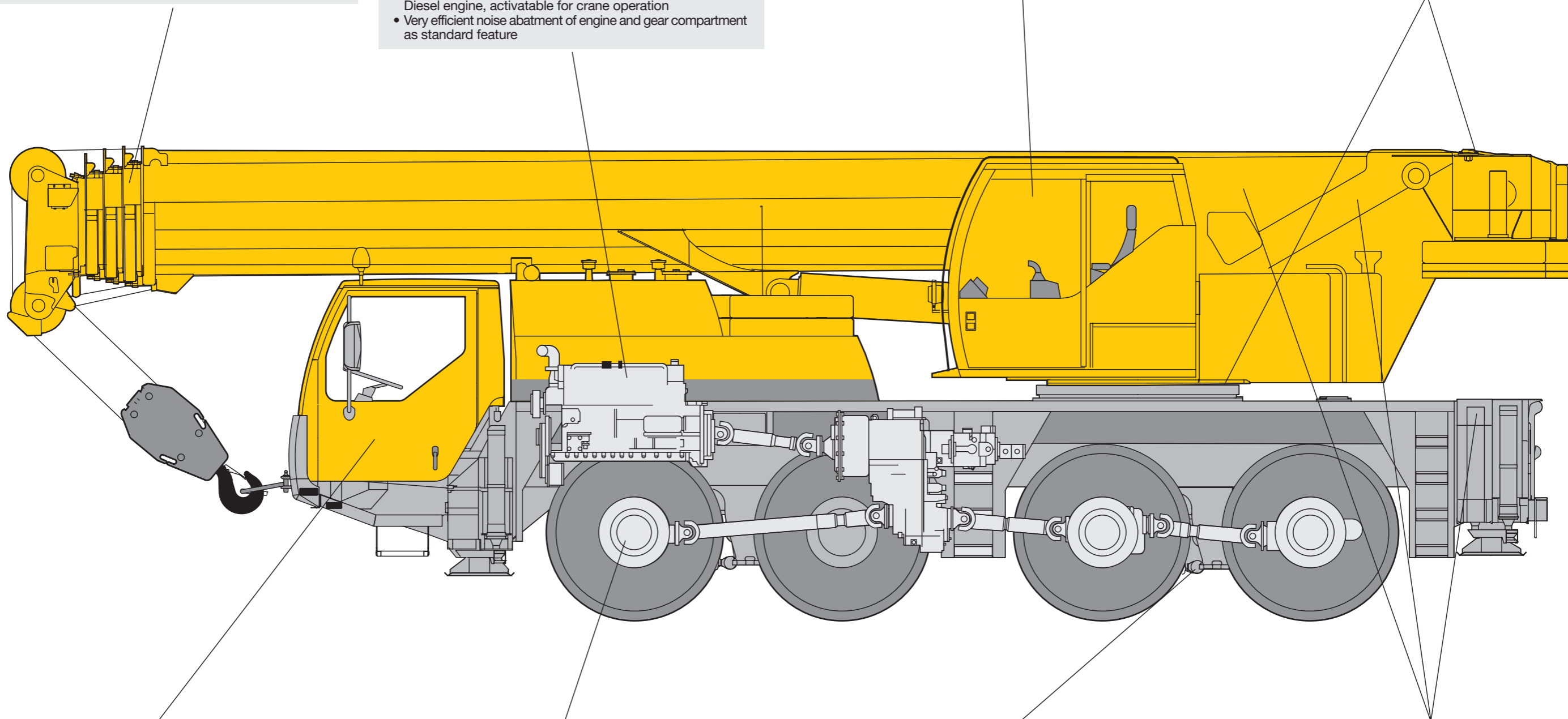
- Economical single-engine concept
- 6-cylinder Liebherr turbo-charged Diesel engine of 270 kW/367 h.p. (EURO 3), robust and reliable, with electronic engine management
- Entire exhaust gas system of stainless steel
- ZF power shift gear type 6 WG 260 with torque converter and lock-up clutch, electronic gear management, 6 forward, 2 reverse speeds, integrated off-road ratio
- Max. driving speed 80 km/h, max. gradability 60 %
- Liebherr axial variable displacement pump driven by the Diesel engine, activatable for crane operation
- Very efficient noise abatement of engine and gear compartment as standard feature

### Crane cabin of new design

- Modern, steel-fabricated and corrosion-resistant crane cabin, entirely powder-coated, with internal sound and heat absorbing panelling, tinted panes all-round, front knockout window with large windscreen wiper, skylight of bullet-proof glass with parallel windscreen wiper, roller blinds on front window and skylight, space saving sliding door
- Hydraulic-operated footboard for save access to the carrier

### Liebherr drive components - reliable and easy-to-service

- Diesel engine, slewing ring slewing gear and winches are self-manufactured components, specially matched for the application on mobile cranes
- Components have been subject to rough preliminary fatigue tests
- The centralized lubricating system for slewing ring, boom bearing application, luffing ram and winch bearings is a standard feature
- Hydraulic interlocking device of superstructure



### Modern comfortable driving cab

- Wide, steel-made, corrosion-resistant driving cab, cataphoretic dip-primed and entirely powder coated, front section mounted on rubber shock absorbers, rear section on hydraulic dampers, internal sound and heat absorbing panelling, modern interior design of outstanding functionality
- Safety glass all-round, tinted panes for heat-isolation
- Standardized digital operating and control elements arranged in an operator-friendly half-round shape

### Outstanding carrier technology for road and off-road application

- Weight-optimized axles, almost maintenance-free, made of high-tensile steel, perfect track keeping and lateral stability due to special control linkage arrangement
- The maintenance-free steering knuckles are steel and rubber mounted
- The perfected and robust axles are manufactured in large series and are troublefree components
- The cardan shafts are maintenance-free; easy and quick fitting of the cardan shafts due to 70° diagonal toothing and 4 fixing screws

### Niveaumatik suspension - preserving crane and roads

- Maintenance-free suspension rams, free of lateral forces, protected against damage by synthetic tubes
- Level position (suspension on „travelling mode“) can be adjusted automatically by pushbutton control from the driving cab at any position
- Stable cornering ability due to cross mounting of the hydropneumatic suspension
- Axle locking system (locking of the suspension for the displacement with loads) controlled from the driving cab
- Suspension travel +/- 100 mm

### Weight-optimized steel structure

- Steel structure of the carrier, superstructure and telescopic boom in light-gauge design, calculated by the F.E.M. method, weight-optimized and of outstanding torsional rigidity
- Tensile property of the material with high safety factors through the application of STE 960 (960 N/mm<sup>2</sup>) for all supporting members. Telescopic boom consisting partially of ultrahigh-tensile steel S 1100 (1100 N/mm<sup>2</sup>)
- Welds of the highest quality are performed by computer-aided welding machines
- The weld quality is documented by ultrasonic test

## Comfortable driving cabin of outstanding functionality

- Modern and comfortable driver's cab of high functionality and convincing design
- Ergonomically arranged operating and display elements for safe and convenient handling at continuous operation
- Digital display and keyboard units interconnected with the functional blocks by data bus technique
- Air-cushioned driver's and co-driver's seats, headrests, driver's seat with pneumatic lumbar support
- Height and inclination adjustable steering wheel
- Heated and electrically adjustable rear mirrors
- Safety belts for driver and co-driver
- Automatic windscreen washers/wipers with intermittent control
- Delayed disconnection of interior lighting
- Various racks and boxes
- Radio preparation



## Comfortable crane cabin of outstanding functionality

- Spring-mounted and hydraulically cushioned crane operator's seat with pneumatic lumbar support and headrest
- Operator-friendly armrest-integrated controls, vertically and horizontally adjustable master switch consoles and armrests, ergonomically inclined operating consoles
- Display of all essential operating data on the LICCON monitor
- Wash/windscreen wiper for front window and skylight
- Engine independent additional warm water heating „Thermo 90 S“
- Radio preparation
- Travel control and outrigger actuation from the crane cab, a standard feature



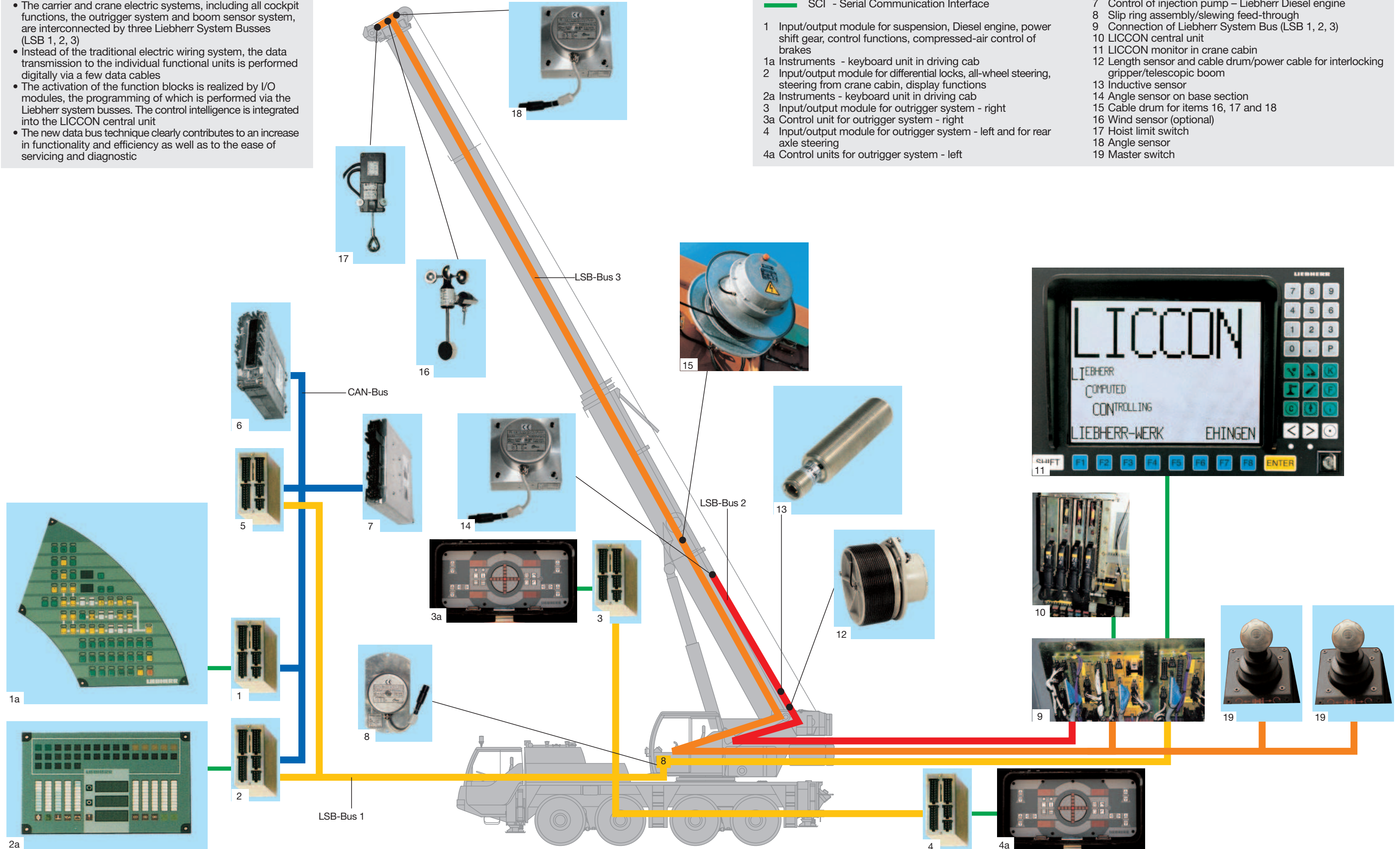
- The electric and electronic components are interconnected by the latest data bus transmission technique
- The Diesel engine and power shift gear are controlled by a CAN data bus. The fully electronic drive management reduces fuel consumption and improves the exhaust gas emission.
- The carrier and crane electric systems, including all cockpit functions, the outrigger system and boom sensor system, are interconnected by three Liebherr System Busses (LSB 1, 2, 3)
- Instead of the traditional electric wiring system, the data transmission to the individual functional units is performed digitally via a few data cables
- The activation of the function blocks is realized by I/O modules, the programming of which is performed via the Liebherr system busses. The control intelligence is integrated into the LICCON central unit
- The new data bus technique clearly contributes to an increase in functionality and efficiency as well as to the ease of servicing and diagnostic

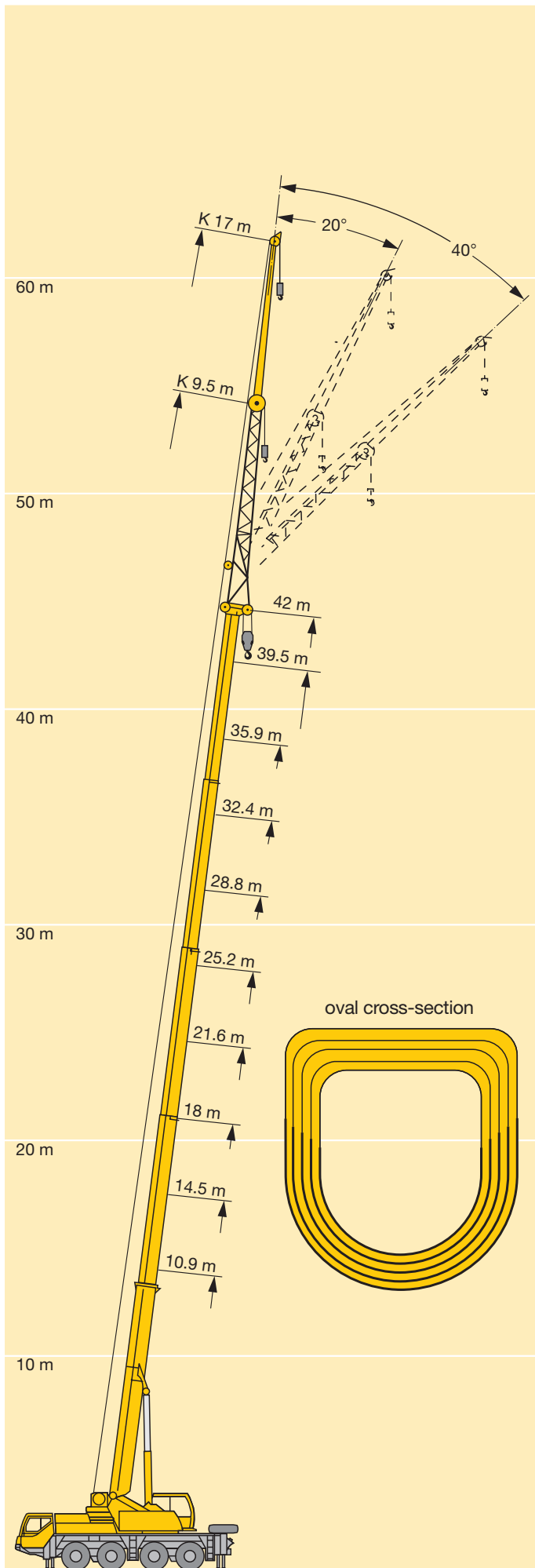
Legend

- █ LSB - Liebherr System Bus 1
- █ LSB - Liebherr System Bus 2
- █ LSB - Liebherr System Bus 3
- █ CAN - Bus
- █ SCI - Serial Communication Interface

- 1 Input/output module for suspension, Diesel engine, power shift gear, control functions, compressed-air control of brakes
- 1a Instruments - keyboard unit in driving cab
- 2 Input/output module for differential locks, all-wheel steering, steering from crane cabin, display functions
- 2a Instruments - keyboard unit in driving cab
- 3 Input/output module for outrigger system - right
- 3a Control unit for outrigger system - right
- 4 Input/output module for outrigger system - left and for rear axle steering
- 4a Control units for outrigger system - left

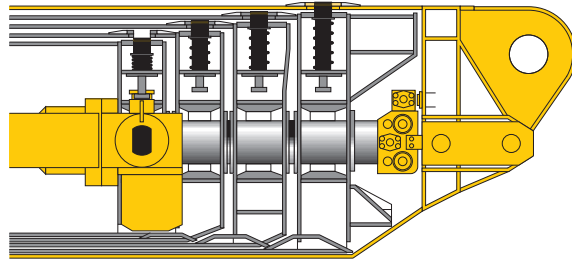
- 5 Input/output module for engine brake, cruise controller, speed setter, electronic control of Diesel engine (steering column switch - right)
- 6 Control of ZF power shift gear
- 7 Control of injection pump - Liebherr Diesel engine
- 8 Slip ring assembly/slewing feed-through
- 9 Connection of Liebherr System Bus (LSB 1, 2, 3)
- 10 LICCON central unit
- 11 LICCON monitor in crane cabin
- 12 Length sensor and cable drum/power cable for interlocking gripper/telescopic boom
- 13 Inductive sensor
- 14 Angle sensor on base section
- 15 Cable drum for items 16, 17 and 18
- 16 Wind sensor (optional)
- 17 Hoist limit switch
- 18 Angle sensor
- 19 Master switch





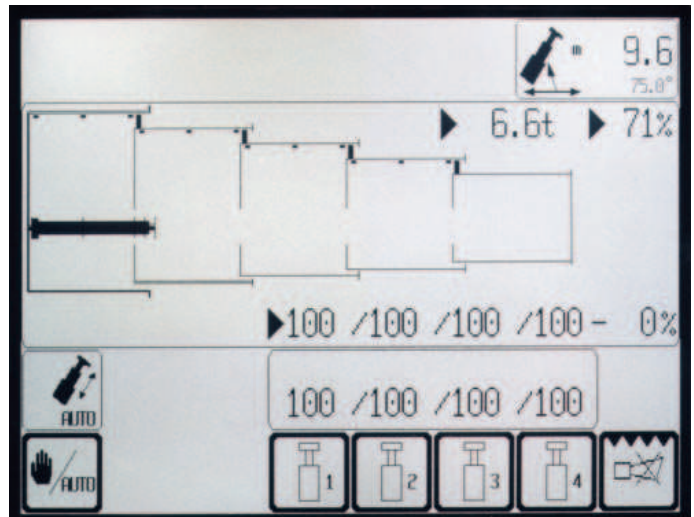
## Lifting loads - precise and safe

- 5-section, 42 m long telescopic boom and biparted swing-away jib of 17 m for 60 m height under hook and 48 m radius
- Telescopic boom with rounded, oviform bottom shell, thus maximum lateral rigidity
- Optimal utilization of the telescopic boom through a multitude of telescoping variants
- Swing-away jib mountable at 0°, 20° or 40°, hydraulic fitting aid
- Easy and quick re-reiving of the hoist rope due to self-locking rope dead end connection
- Load hook with self-locking rope dead end connection, cylindrical shape which enables easy displacement by rolling on hard surface



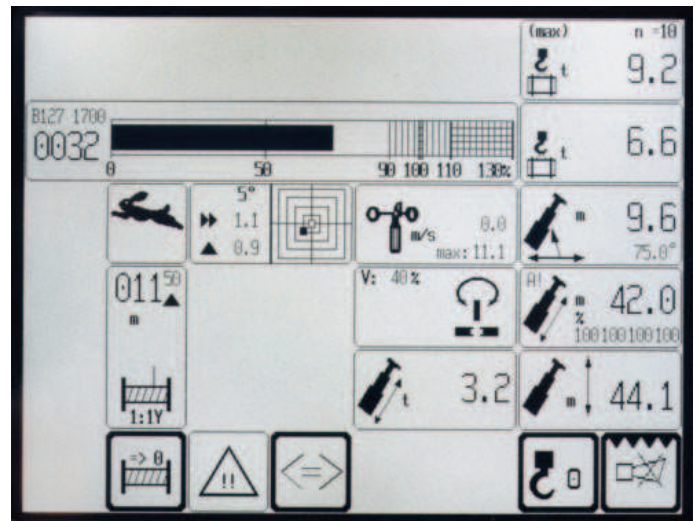
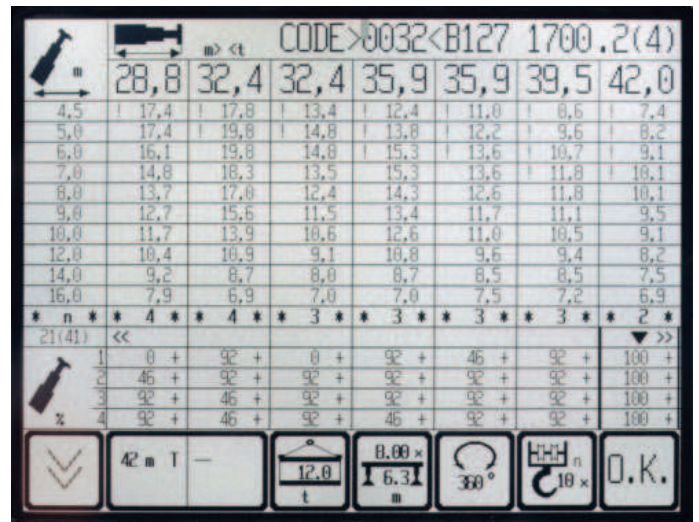
## LICCON-assisted telescoping system

- 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 interlocking positions
- Telescopable loads are displayed on the LICCON operating image
- Rapid-cycle telescoping system „with automatic mode“, i.e. fully automatic telescoping of the boom to the desired length
- Particularly compact and light-weight telescoping system, thus increase of lifting capacities, with long booms and at large radii
- Automatic cushioning in end positions during telescoping and retracting for the preservation of the structural members



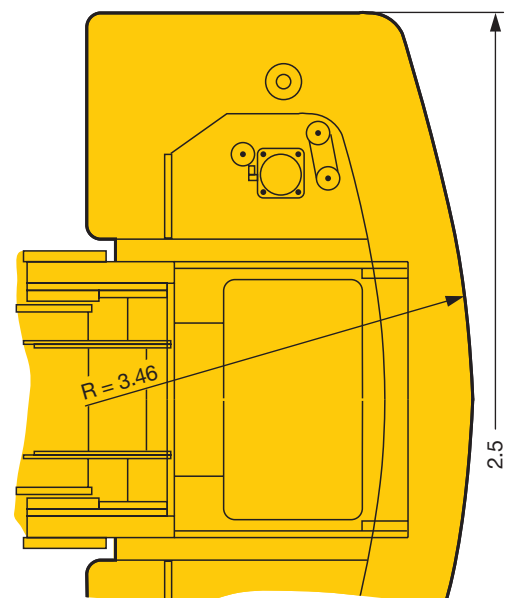
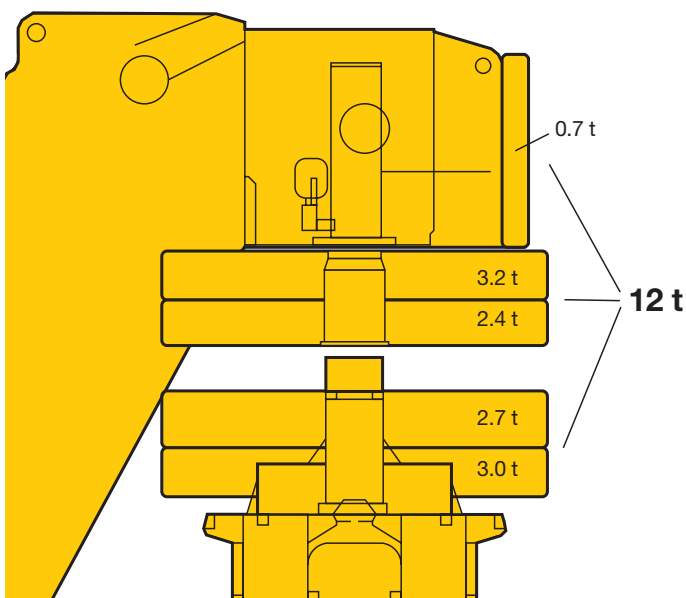
## LICCON computer system with safe load indicator and test system

- Setting of crane configuration by convenient interactive functions
- Safe and reliable acknowledgement of the crane configuration set
- Representation of all essential data by graphic symbols on the operating image
- Integrated wind speed control (optional)
- Reliable cut-off device in the event of exceeding the permissible load moments
- Indication of lifting capacities for any intermediate boom length
- Winch indications for ultra-precise lifting and lowering of the load
- Test system for servicing, providing the facility of checking all sensors within the system on the monitor



## Mounting of counterweight - just a matter of minutes

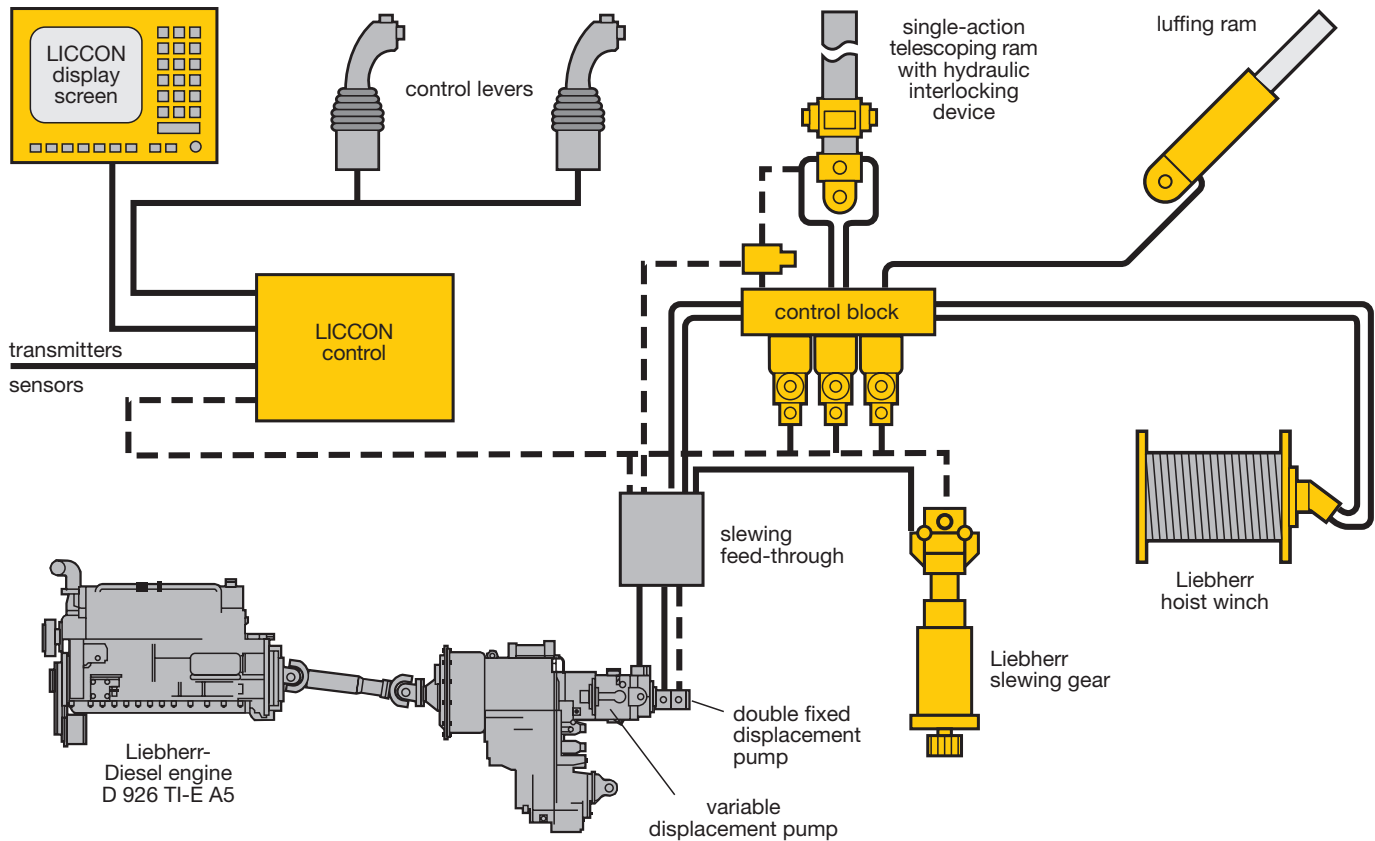
- Ballasting controlled from the crane cabin
- Quick ballasting due to a modern „keyhole“ system
- Compact counterweight dimensions, e.g. 12 t counterweight of 2.5 m width only



## Electric/electronic PLC crane control with test system

- Control of the winches, slewing gear as well as of the luffing and telescoping motions by the LICCON computer system (PLC control)
- Electric load sensing, summation regulated open oil circuits
- Four working motions can be performed independent of one another

- High-speed activation, even during a working motion
- Luffing and slewing speeds preselectable in 5 steps
- Extremely short reaction times on the selection of crane motions
- Functional test of all essential components by means of the LICCON test system



## Optional features extend the application spectrum and increase comfort and safety

### On the carrier

- Auxiliary heating Thermo 90 S with engine pre-heating
- Eddy-current-brake
- Supporting pressure indication on the carrier and in the crane operator's cabin
- Rope box
- Air-conditioning system
- Trailer coupling D12/D19
- Radio preparation
- Seat heating for driver's and co-driver's seat
- Antiskid system in conjunction with automatic track control
- Cassette radio set

### On crane superstructure

- 2nd hoist gear
- Air-conditioning system
- Seat heating
- Work area limitation system
- Wind warning device - telescopic boom/swing-away jib
- Aircraft warning light
- Work projector 2 x 150 W on base section, adjustable electrically
- Twist absorber
- GMS module for remote diagnostic
- Cassette radio set
- Radio control

Further optional features by request.