Technical Data

**Typical Quayside Crane**
- **A**: Gantry span 15 - 35 m
- **C**: Backreach 0 - 25 m
- **E**: Clearance under sill beam 12 - 18 m
- **G**: Travel wheel gauge 18.2 m
- **H**: Buffer to buffer 27 m
- **Wheel spacing**: 1 - 2 m
- **Wheels per corner**: 6/12 - Seaside
- **Wheels per corner**: 6/12 - Landside
- **Max. width trolley & main beam/boom**: 7.6 m
  
  **Dependant on required wheel loads**

**Typical Widespan Crane**
- **A**: Gantry span 35 - 50 m
- **B**: Outreach 30 - 40 m
- **C**: Backreach 15 - 30 m
- **D**: Lift height 20 - 25 m
- **SWL**: 40/50 t single | 65 t twin
- **Hoisting speed**: 50/125 m/min
- **Trolley speed**: 180 m/min
- **Travel speed**: 100-140 m/min
- **Wheel load**: 40-50 t per metre
  
  **Based on 8 wheels per corner at 1 m spacing**

**Typical Design Parameters**
- **Classification according to F.E.M.**: U7-Q2-A7
- **In service wind speed**: 72 km/h (20 m/s)
- **Out of service wind speed**: 151.2 km/h (42 m/s)
- **Ambient temperature range**: -40° to 50°C
- **Frequency**: 50 Hz to 60 Hz
- **Voltage**: 3.3 kV to 20 kV
  
  **Other features, dimensions and design parameters also available**

**Typical Feeder - Panamax Crane**
- **B**: Outreach 30 - 40 m
- **D**: Lift height 24 - 30 m
- **SWL**: 40/50 t single | 65 t twin
- **Hoisting speed**: 50/125 m/min
- **Trolley speed**: 150 - 180 m/min
- **Travel speed**: 45 m/min
- **Wheel load**: 30 - 45 t per metre
  
  **Based on 8 wheels per corner at 1 m spacing**

**Typical Post Panamax Crane**
- **B**: Outreach 40 - 45 m
- **D**: Lift height 30 - 35 m
- **SWL**: 40/50 t single | 65 t twin
- **Hoisting speed**: 60/150 m/min
- **Trolley speed**: 180 - 210 m/min
- **Travel speed**: 45 m/min
- **Wheel load**: 40 - 55 t per metre
  
  **Based on 8 wheels per corner at 1 m spacing**

**Typical Super Post Panamax/Megamax**
- **B**: Outreach 46 - 73+ m
- **D**: Lift height 30 - 54+ m
- **SWL**: 70 t twin | 120 t tandem
- **Hoisting speed**: 90/180 m/min
- **Trolley speed**: 210 - 240 m/min
- **Travel speed**: 45 m/min
- **Wheel load**: 60 - 80 t per metre
  
  **Based on 8 wheels per corner at 1 m spacing**
Single Beam Lattice Construction

**Description**
- Single beam of monobox lattice construction for main beam and boom, where the individual members are of box type rectangular section.
- Used on all Liebherr high performance container cranes for over forty years.
- Welded down solid member trolley rails.
- Members of the boom & beam are made from high tensile steel - S355J2+N to DIN 17.

**Advantages by Design**
- Reduced crane deflection/structural sway.
- Maximum boom and beam rigidity levels achieved (without a weight penalty while giving considerable increases in operational performance.
- More precise container handling and driver comfort.
- Reduced boom width - Allowing quick and efficient handling of containers, close to the ship's superstructure and onboard ship cranes.
- Ideally suited for eccentrically loaded containers.
- High tensile steel, allows a lighter overall construction and a reduced wind area.
- Reduces overall crane self weight, minimises wheel loads and assists in ensuring crane stability in out-of-service conditions.
- The monobox design ensures that the trolley travel path is parallel throughout, eliminating the possibility of trolley travel deviations and side forces associated with other crane designs.

**Boom/Beam Hinge Point**
- Unique concept developed over 25 years and refined over that period.
- Hinge point section of the trolley rail has a specially machined profile, bolted into position.
- Low stressed hinge pin connection which is below and close to the rail transition area.
- Designed to provide a shock free transfer from boom to beam and vice-versa, regardless of climatic conditions and with full trolley speed and maximum trolley load.
- Reduces driver fatigue. Improved performance and extends the lifetime of the trolley, wheels, bearings etc.

**Self Powered Trolley**

**Description**
- Fabricated structure with machining after welding, to ensure correct alignment of wheels and drive system.
- Easy replacement and alignment of trolley travel wheels.
- Machined pads throughout to aid alignment and dimensional checks.

**Advantages by Design**
- Fine positioning/inching accuracy. All wheels are direct driven with individual braking systems.
- All components are easily accessible for maintenance.
- Extended trolley wheel lifetime, due to non-skewing trolley and accurate alignment.
- In the event of one motor failing, the trolley can continue working at reduced speed.
• The crane structure is trial assembled and all mechanical and electrical equipment is fitted to the steel structure and extensively tested, allowing for extremely short installation and commissioning times.
• Feedback from our customers worldwide consistently show average availability figures of 99.6% being recorded during actual vessel operation.
• On-site erection reduces unnecessary risks associated with fully erect sea transport.
• Sub-components supplied by established reputable European suppliers.
• Separate drives for hoist, travel and trolley, with no need for side shift on the spreader. Allows superior fine positioning and simultaneous motion.

**Other Design & Technical Features**

• Optimised joystick/drive response - Key factor in crane performance and productivity.
• Separate drive and control electronics for each hoist motor - Hoist can operate at reduced speed in the event of motor damage or fault.
• Industry leading trim/list/skew system and anti-snag technology - Includes individual rope adjustment.
• Liebherr electronic regulation system - Unrivalled reliability and performance.
• Load sharing of gantry travel motors -Eliminates the possibility of 'crabbing' occurring during gantry travel.
• Motor selection is conservative with high overload capacity - Ensuring extended lifetime.
• Anti-sway hoist rope reeving system - Designed for extended service life.
• Liebherr AC or DC drive control system - Specifically designed for container cranes.
• Electronic fault/condition monitoring and crane management system - Developed specifically by Liebherr Container Cranes Ltd.
• Driver's cabin - Ergonomic, spacious, high visibility, user friendly.

**Options**

• Emergency drives for hoist, trolley and boom.
• Emergency hoist brakes.
• Energy chain or festoon system.
• Non contact anti-collision system.
• Straddle carrier/truck positioning systems.
• Fault data, remote access between crane and office.
• Remote access between crane and Liebherr office.
• Checkers cabin.
• Curve going gantry travel system.
• Ground level control station for all drives.
• Lashing/hatch cover storage platforms.
• Container recognition systems.
• Vessel stack profiling, optimum travel/hoist path calculated.
• Automation/semi-automation