Technical Description
Rail Mounted Gantry Cranes

LIEBHERR
**Technical Data**

![Diagram of Rail Mounted Gantry Crane (RMG)](image)

**Typical RMG Model Range**

- **A:** Gantry span 22 - 70 m
- **B:** Lifting Height From 9.2 m for 1 over 2 Up to 26.9 for 1 over 8
- **C:** Cantilever 0 - 20 m
- **D:** Cantilever 0 - 20 m
- **E:** Travel wheel guage 16.5 m - 18.2 m
- **F:** Buffer to buffer 23.2 m - 25.5 m
- **G:** Wheel spacing 1 m - 2 m dependant on wheel loads
- **Wheels per corner:**
  - 6 - wide leg
  - 4 - narrow leg
- **SWL:** 40.6 - 50 t single | 50 - 65 t twin

*Other features and dimensions also available*

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**RMG Model Designation**

S190 L (MT) / (RT)

- Rotating machinery trolley (optional)
- Machinery trolley
- Lattice structure for main beam
- Hoist motor size

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**Advantages of RMG for Yard Stacking**

- Suitable for both port and rail terminals.
- Suitable for various yard space conditions.
- Increased yard capacity with wider and higher stack possibilities.
- Reduction in emissions and noise.
- Minimal maintenance.
- Electric supply for energy efficiency and reduced running costs.

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**Typical Design Parameters**

- **Classification according to F.E.M.:** U7-Q2-A7 (Single lift)
- **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:** -45°C to +45°C

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**Working Speeds**

- **Hoisting with no load:** 56 m/min
- **Hoisting with rated load:** 28 m/min
- **Trolley travel (with and without load):** 70 m/min
- **Gantry travel without load:** 130 m/min
- **Slewing ± 190° (optional):** 1.2 RPM
Motors and Speed Control System

**Advantages by Design**

- Minimal spreader positioning times.
- No-sway in hoist, trolley and travel directions.
- Anti-sway.
- No additional ropes or devices necessary.
- No head block - Reduced rope load and tare weight.
- Lower energy consumption.
- All electric spreader - Less maintenance.
- Significant increase in productivity when compared with alternative designs.

**Motors / Suppliers**

- All drives are sized for maximum torque and power requirements, guaranteeing extended lifetime.
- All major components are sourced from reputable European manufacturers.

**Speed Control System**

- The control system used has been specifically developed for container cranes by Liebherr, which has resulted in a flexible, robust construction with exceptional reliability.
- The “plug-in” modular construction of the electronic equipment is designed to maximise crane availability and minimise the necessity for highly skilled electronic personnel.
Liebherr Rail Mounted Gantry Crane

• Liebherr reeving system: Sway prevention, not sway correction.
• Regeneration during lowering of load and drive deceleration, results in overall reduction in power consumption.
• Electric (gantry align) steering.
• Rigid robust structure - Optimum for automation. Optional DGPS auto steering and container positioning.
• Direct gearbox driven travel systems.
• Separate drives for hoist, travel and trolley, with no need for side shift on the spreader. Allows superior fine positioning with simultaneous motion.

Options

• Rotating machinery trolley.
• Interface with TOS (terminal operating system).
• Trim and skew spreader positioning.
• Energy chain / festoon system.
• Non-contact anti-collision system.
• Worldwide Liebherr service network.
• Extensive training (in-house and on-site).
• Purpose built state-of-the-art design and production facilities located in Ireland since 1958.
• Highly skilled and experienced employees with expertise in-house for after sales service.
• Responsibility with Liebherr, eliminating interface and compatibility problems (i.e. structural, mechanical and electrical design, production, commissioning and service).

Diagnostic and Management System

Description

• Liebherr designed and built.
• Windows OS with CoDeSys logic control system.
• Status of switchgear and external electrical components.
• Stores up to 20,000 faults.
• User-friendly interface with easy to use colourful screens.
• Independence of crane logic system, therefore does not interfere with crane control in the event of self failure.
• Includes trending and tables for production data and drive data.

Summary of Main System Features

• General Control Overview.
• “Crane ON” status.
• Individual Drive ON screens (one for each drive).
• Detailed drive data (motor current, voltage, speed).
• Wind speed and history.
• Spreader status.
• Fault stack.
• Load statistics.
• Maintenance.