

WEIHUA STS Quay Cranes: Intelligent Port Handling Solutions

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As the core equipment for container loading and unloading at the forefront of modern ports, WEIHUA Ship-to-Shore (STS) Quay Cranes integrate advanced technology, reliable performance, and energy-efficient design to deliver exceptional handling efficiency for global port operations. Engineered to meet the diverse needs of container terminals—from small and medium-sized harbors to large-scale automated ports—these cranes redefine productivity and safety in maritime logistics.

Product Overview

WEIHUA STS Quay Cranes (also known as QC Cranes) are specialized lifting systems designed for seamless container transfer between ships, terminal yards, and container trucks . Constructed with high-strength steel structures and precision-engineered mechanisms, they accommodate 20-foot, 40-foot, and 45-foot containers, with dedicated models for Panamax, Post-Panamax, and Super Post-Panamax vessels—including configurations capable of lifting two 40-foot containers simultaneously .

Compliant with international standards such as FEM, DIN, IEC, AWS, and GB , these cranes undergo rigorous quality control throughout the design, manufacturing, and inspection processes, ensuring compatibility with global port infrastructures and operational requirements.

Core Technologies & Features

1. Intelligent Control System

- **Multi-mode Operation:** Supports manual, semi-automatic, and fully automatic remote operation, enabling seamless integration with automated terminal management systems (TOS/TCS) . The automatic mode achieves precise positioning ($\pm 15\text{mm}$ GPS accuracy) and intelligent spreader trajectory control for unmanned operation .

- **Advanced Automation:** Equipped with PLC control and distributed bus technology with optical fiber communication, ensuring anti-interference performance and high operational stability . Optional electronic anti-sway systems minimize container swing, enhancing positioning accuracy .
- **Real-time Monitoring:** Integrated CMS (Condition Monitoring System) and CMMS (Computerized Maintenance Management System) enable automatic fault detection, real-time data display, and predictive maintenance, reducing downtime .

2. High-Efficiency Performance

- **Powerful Lifting Capacity:** Ranges from 30.5t to 80t under the spreader (38t to 60t above the spreader), with working duties up to A7-A8 to handle high-frequency loading/unloading .
- **Optimized Speed Configuration:**
 - Lifting speed: 50-70m/min (full load) and 120-180m/min (no load)
 - Trolley traveling speed: Up to 240m/min
 - Gantry traveling speed: 45m/min
 - One-way boom hoisting time: 5 minutes (80° luffing angle for easy ship berthing) .
- **Extended Working Range:** Front outreach up to 65m, rear outreach up to 25m, and lifting height up to 38m (customizable for deeper vessels and higher stacking needs) .

3. Comprehensive Safety Protection

- **Structural & Mechanical Safety:** High-strength gantry frame with wind-resistant design, intelligent tilting anti-sag protection, and double braking systems for the lifting mechanism prevent load drops .
- **Environmental Adaptability:** Operates reliably in temperatures ranging from -25°C to 40°C, with weather-resistant electrical components and emergency stop systems .
- **Operational Safeguards:** Includes overload protection, limit switches, collision avoidance systems, and well-equipped communication/lighting facilities for safe 24/7 operation .

4. Energy Efficiency & Sustainability

- **Energy-Saving Technologies:** Adopts vector frequency conversion, electric energy feedback, and torque balance control, reducing energy consumption by up to 20% compared to conventional cranes .
- **Eco-Friendly Design:** Low-noise operation, zero-emission electric power (3-phase AC, 380V/50Hz, customizable to local grids), and compatibility with hybrid power systems .

Technical Specifications (Customizable)

Parameter	Range
Lifting Capacity (under spreader)	30.5t - 80t
Span	10.5m - 42m
Working Temperature	-25°C ~ 40°C
Power Supply	3PH, 380V/50Hz (customizable)
Working Duty	A5 - A8
Outreach	30m - 65m
Lifting Height	22m - 38m (customizable)
Control System	PLC + Full Digital Inverter

Global Applications & Brand Strength

WEIHUA STS Quay Cranes are trusted by terminals in over 130 countries, including key projects such as Saudi Arabia’ s NEOM Future City, where 23 WEIHUA cranes support large-scale infrastructure development . Backed by 33 national/provincial R&D platforms, a 1,000+ strong R&D team, and 1,200+ authorized patents, WEIHUA is recognized as a "National Demonstration Enterprise of Technological Innovation" and holds certifications including CE, ISO, and CNAS .

We provide a 12-month warranty for core components, global on-site maintenance, and tailored solutions—from standard single-trolley models for medium ports to dual-trolley automated systems for high-throughput terminals .

Commitment

WEIHUA’ s mission—"Makes The World Easier"—drives continuous innovation in STS Quay Crane technology. Whether for conventional or smart terminals, we deliver reliable, efficient, and sustainable solutions to accelerate global trade.

（注：文档部分内容可能由 AI 生成）