APMT Maasvlakte II
Automated Stacking Cranes
Crane Technology by Kuenz at the most automated container terminal in the world.

The Port of Rotterdam is Europe’s most important container port and transportation hub. APM’s Terminal Maasvlakte II in Rotterdam is one of the most advanced terminals in the world. Since May 2013, Kuenz has assembled 54 fully Automated Stacking Cranes and two semi-automated Intermodal Cranes at the 860,000 m² Terminal. The installation of another six ASC will be finished by the end of 2017.

Highlights of the Kuenz ASC

- Kuenz engineering is focused on a safe crane design for automated operation and maintenance.
- Gantry design ensures a stiff and rigid structure, minimizing deflections under gantry and trolley movement, while allowing for flexibility to compensate rail tolerances.
- All maintenance areas can be easily accessed.
- Flexibility to compensate crane rail tolerances: The Kuenz directional travelling system lowers and equalizes the horizontal forces.
- Significantly reduced maintenance costs are achieved as a result of: Extended life time of the ropes, no sheaves and eight identical hoist ropes (same rope bending for all ropes), longer lifetime of the wheels and crane rails due to the Kuenz directional travelling system and green cooling technology for the E-house.

The implementation of these benefits in the crane design lead to highly productive cranes with better operational availability, increased reliability and less maintenance costs, all of which lead to more customer satisfaction.

Kuenz Technology – Hoist system

Kuenz provides efficient handling with a patented hoist system for stacking applications. The rope reeving system executed as rope pyramid without sheaves ensures a stable and reliable mechanical anti-sway system. Additional winches, sheaves or electrical parts are not needed. Through a stiff rope tower, consisting of eight ropes with the identical rope length, an optimal load distribution solution is provided. The optimized rope geometry allows a stiff guiding of the load and an absolute vertical load movement during heavy wind conditions. Easy adjustments of the ropes are given when the spreader is lowered to the floor level.

William Rengelink, APM Terminals

“Kuenz convinces with reliable high quality cranes, combined with skilled project execution – as well as with a distinctive idea of service. A combination of all these factors makes Kuenz unique. Kuenz is a qualified and committed partner in the development of our terminal.”

General Facts

Customer: APM Terminals
Project Partner: ABB (Electric)
Scope of supply: ordered in 3 Phases
A1: 26 ASC’s + 2 RMGs
A2: 22 ASC’s
A3: 6 ASC’s
Installation:
A1: May 2013 - August 2014
A3: March 2017 - Oct. 2017

Technical data ASC

Year of construction: 2012/2016/2017
Capacity main hoist: 41 t
Track width: 27.8 m
Lifting height: 18.1 m
Stacking capacity: 9 wide / 1 over 5
Length of crane way: 380 m
Working speeds:
Hoist rated load: 0 - 36 m/min
Hoist empty load: 0 - 60 m/min
Gantry drive: 0 - 270 m/min
Trolley drive: 0 - 70 m/min
Power:
Main hoist: 2 x 170 kW / 100%ED
Gantry drive: 13 x 37 kW / 100%ED
Trolley drive: 4 x 11 kW / 100%ED

Technical data Intermodal Cranes

Year of construction: 2013
Capacity main hoist: 41 t
Track width: 383.3 m
Lifting height: 10 m
Cantilever: 7.5 m / 15 m
Length of crane way: 760 m
The best references are successful projects.

CT Altenwerder Hamburg, Germany
52 fully automated ASC for handling of 20’, 40’, 45’ containers

Year of construction: 2001 – 2006
Capacity: 42 t
Track width (large crane/small crane): 40.1 m / 31 m
Lifting height (large crane/small crane): 15 m / 21.1 m
Stacking capacity: 10 wide, 1 over 5 / 1 over 4

APM Terminals MedPort II, Tangier – Morocco
32 fully automated ASC for handling of 20’, 40’, 45’ containers with Aerodynamic Single Girder

Year of construction: 2018 – 2019
Capacity: 41 t
Track width: 33.7 m
Lifting height: 18.1 m
Stacking capacity: 11 wide, 1 over 5

CT Burchardkai Hamburg, Germany
12 fully automated ASC’s for handling of 20’, 40’, 45’ containers

Year of construction: 2017
Capacity: 42 t
Track width (large crane/small crane): 40.1 m / 31.7 m
Lifting height (large crane/small crane): 18.4 m / 26 m
Stacking capacity: 10 wide, 1 over 5

Further information: www.kuenz.com