



APMT Maasvlakte II

Automated Stacking Cranes

kühz

Crane Technology by Kuenz at the most automated container terminal in the world.

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.“



Maasvlakte II Terminal



Patented Kuenz hoist system

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 sheeves ensures a stable and reliable mechanical anti-sway system. Additional winches, sheeves 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.

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 A2: Dec. 2014 - March 2016 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	38.3 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

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