

# Handling Glowing Wheels

4 gantry robots serve heat treatment furnace and hardening machines



## Industry

Railway



## Processes

Special solution for loading and unloading of heat treatment furnaces and hardening machines for railway wheels in cooperation with TENOVA LOI Thermprocess GmbH



## Key Data

- Workpiece: railway wheel with up to 725 kg weight and 950°C temperature
- Güdel key technology:
  - 2 x 3-axis gantry FP-7
  - 2 x 2-axis gantry ZP-7
  - 6 x special gripper for hot wheels
  - 1 x wheel gripper with servo motor
  - 2 x lifting table for hot wheels
  - 4 x controls area
  - Assembly & commissioning

FP-7 with 4 carriages is taking 4 glowing wheels out of the heat treatment furnace



**FP-7 with 4 hot wheel grippers**



**Stations for wheel stacking**



## Process Description

The core processes of producing railway wheels are forging and heat treatment. During the whole process, the handling of the extremely hot wheels must take place within several seconds in order to ensure that all the requirements on the temperature are met. The equipment must hold the wheels securely and well protected against the radiant heat that occurs.

### 1 FP serves 4 hardening machines

The wheels which are ready for hardening (quenching) are picked up simultaneously from the exit of the heating furnace. In less than 30 seconds, each wheel is deposited into an assigned hardening machine. After the hardening process, the wheels are picked up and fed into the next heat treatment furnace.

### 1 FP & 2 ZP's finish further steps in the heat treatment process

The ZP's are responsible for loading and unloading the trollies which pass through the heat treatment furnaces. They are supported by lifting tables, which ensure synchronous transfer of the wheels. At the end of the line, the wheels are sorted by the FP into 5-fold wheel stack to be transported away by a forklift.

### Customer value

Safe transfer of wheels within strict time limits; ensuring process reliability of heat treatment; protecting employees from high temperature and dirt; more humane working environment.

## Güdel Technology

- Automation of production and testing lines of railway wheels, axles and wheelsets
- 2-axis & 3-axis gantries, grippers, floor conveyors
- Buffer and storage systems
- Heat-resistant special grippers
- Sequence and process optimization for maximum output of the machines
- Worldwide production, assembly and customer services



## Güdel Germany

We, Güdel Germany, a subsidiary of Güdel Group AG with headquarter in Langenthal, Switzerland, stand for the competence center of railway in the group. We support our customers along the complete journey from sales over design, assembly, commissioning to after-sales. With high speed, high precision, heavy payload, maximal availability and reliability all in one, Güdel is your global partner for your individual automation solutions.

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