

FP-7 & ZP-7

Automated gantry systems for machining and testing railway wheels with maximum utilization



The gripper holds the wheel in front of the forged text reading station

Customer

Leading manufacturer in railroad and rail vehicle construction

Industry

Rail vehicle construction / heavy industry

Application

Automated processing and testing line for railway wheels

Technology

2 x FP-7 3-axis gantry

2 x ZP-7 Linear axis

10 x Servomotor wheel gripper

5 x Tilting tables with chain conveyor control

Location

India

Customer Benefit

Safe handling in restricted time frames

Process reliability in heat and dirt

Employee protection and a more ergonomic environment

Fully automated process from hardening to final stacking

Production time per wheel

< 4 Min.

Wheels per year

100 000

Max. Workpiece weight

1 000 kg

Güdel Technologie

2 x FP-7 3-axis gantry, Turning

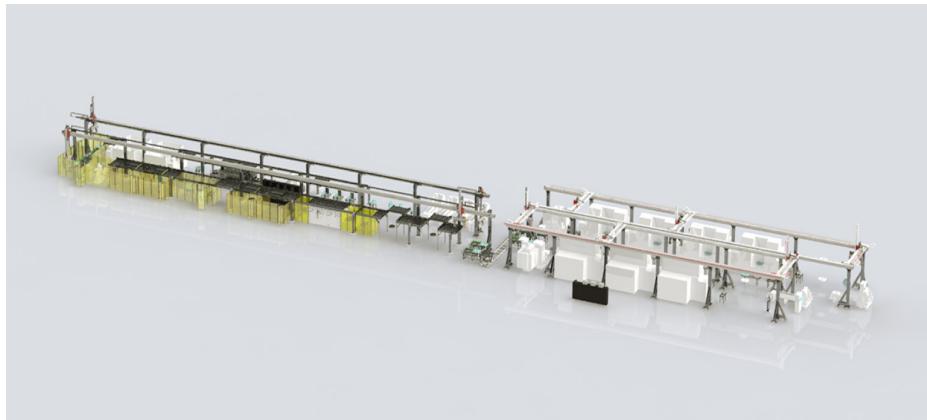
and drilling machines

2 x ZP-7 Linear axis,

marking, washing, testing

10 x wheel grippers up
to 1000 kg workpiece weight5 x tilting tables with chain
conveyor

20 storage spaces, sorted stacking

Floor conveyor systems
for material flowReading and marking systems,
traceability4 control areas, protective
housing, assemblyScan QR code for
product details

Layout of the wheel line automation

Safe interlinking for maximum productivity

The production of railway wheels includes forging, heat treatment, mechanical processing and testing. For high throughput and complete traceability, Güdel combines these steps with highly automated interlinking technology – reliable, precise and efficient. The complete line was assembled and put into operation, including protective equipment for maximum safety.

Area gantries for turning and drilling machines

The two FP-7s operate seven lathes and two drills. During machining, they turn the wheels are rotated 180° so that both sides are fully processed. The number stamped during forging is read automatically and ensures the exact allocation of the raw parts. Two wheel types can run through the line in parallel without interrupting the production flow.

Linear gantries for the test line

The ZP-7s links the test line, in which marking, washing, painting and six test processes take place. 5 tilting tables with chain conveyors ensure a smooth material flow between the stations. At the end of the line, the wheels are arranged in stacks according to type, prepared for onward transportation and stored in a traceable manner until delivery. This results in a finished wheel in less than four minutes – up to 100 000 per year.

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Güdel is an internationally active Swiss industrial company founded in 1954. As one of the world's leading suppliers of industrial automation solutions, Güdel offers its customers everything from a single source: from high-precision machine components to customized automation solutions for use in markets such as automotive, railway, logistics, composite and machine tools.

Güdel technology is characterized by innovation, modularity, and quality. Güdel employs around 1,000 people at over 20 locations worldwide. The group of companies has been owned by the founding family since its inception.