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THE SMART SOLUTION

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Diagnostic vehicle for rail non-destructive testing

- Independent traction diagnostic vehicle exploiting the latest modern technologies for railway infrastructure diagnostics
- Two-unit configuration vehicle: measuring and service section
- Non-destructive measurement of rail defects - ultrasonic and eddy current technologies, video inspection
- Evaluation station evaluating measured data directly on the vehicle - diagnostic control room
- The ability to carry out continuous measurements of the railway track over a period of several days
- Specially developed software solution intended for storage, transmission and evaluation of measured data and their archiving in the diagnostics data warehouse (DSD)
- Comprehensive facilities for diagnostic vehicle staff - living compartment, sanitary facilities, kitchen, presentation room

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Diagnostic vehicle for rail non-destructive testing DV NDT

Technical specification of the DV NDT vehicle

▶ Track	1 435 mm
▶ Maximum operating speed	120 km/h
▶ Measuring speed	0 – 70 km/h
▶ Rail vehicle outline	according to the UIC 505-1 standard
▶ Curve clearance	150 m
▶ Total weight	128 000 kg (2x 64 000 kg)
▶ Weight per axle	16 000 kg
▶ Vehicle length over bumpers	50 360 mm
▶ Maximum width	2 800 mm
▶ Maximum height	4 265 mm
▶ Vehicle wheelbase	17 200 mm
▶ Bogie wheelbase	2 600 mm
▶ Wheel diameter	920 mm
▶ Traction system	2x VOITH RailPack R2876 T3-390
▶ Brake system	Knorr-Bremse

Technology

- ▶ Ultrasonic rail inspection system
- ▶ Video inspection system for rail passes
- ▶ Eddy current contact fatigue defect inspection system
- ▶ Frontal photo track sensing system
- ▶ Track locating system for precise positioning of measured points
- ▶ Dispatcher's evaluation station for measured defects
- ▶ Automated data transfer to the diagnostics data cluster

Internal layout of the DV NDT diagnostic unit

■ Measuring section:

Engine driver's cab – Entrance area – Workshop – Technological area with switchboards – Measuring workstation (control room) – Conference room – Technological area with water tanks – Sanitary facilities – Warehouse

■ Maintenance section:

Engine driver's cab – Boarding area – Technological area with switchboards – Kitchenette – 4x living compartment – Technological area with water tanks – Restroom – Warehouse

