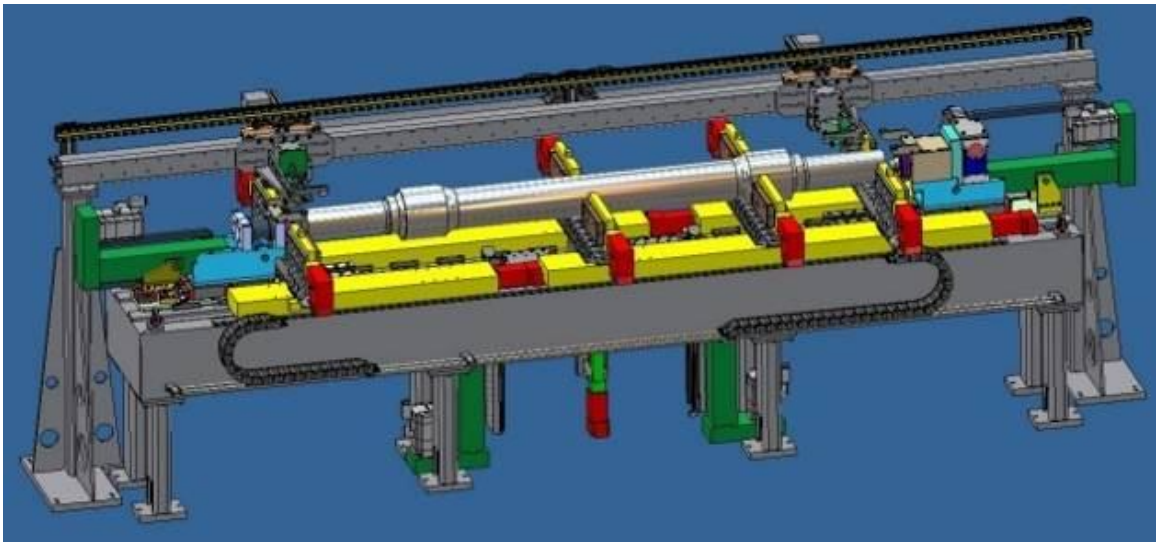
KS551

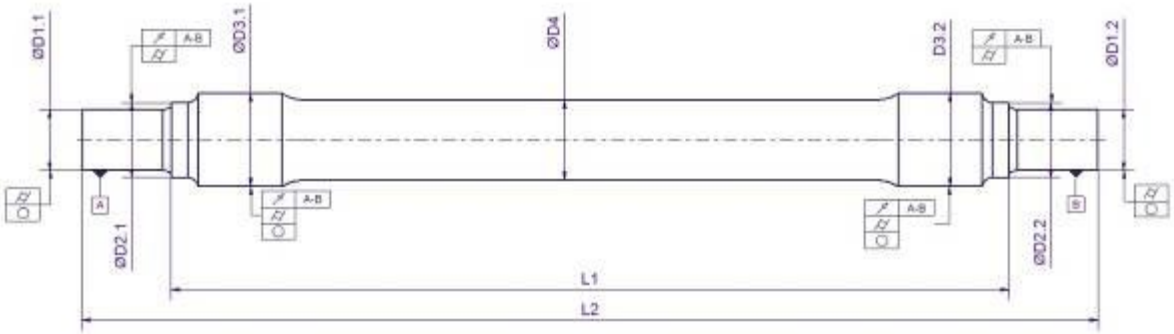
MEASURING OF RAILWAY AXLES – MEASURING STATIONS FOR GEOMETRY CONTROL OF FINAL RAILWAY AXLES KS-551

This equipment is based on the principle of contact measurement, and is set up with four rests, lying next to each other on a linear guidance system. Each rest has its own longitudinal metering and an independent servodrive, which means that it can move longitudinally, and measure at a random crosscut. The outer rests secure measuring of the diameter for both the bearing and the peg. The inner rests secure measuring of the large diameter for pressing on the wheels and other optional diameters of the central part of the axle. Each rest contains a cross non-hysteresis guide, and a linear ruler; two inductive heads opposite each other; and another servodrive, which secures the measuring head feed to the surface of the axle. Measuring the dimensions and shape deviation in both cross and longitudinal directions is secured by the contact of measuring heads.



Using a crane, a worker loads the axle into loading prisms, which safely slide into the measuring position. The axle is rotated by two centring pins, one of which is powered by the servodrive.

Measured parameters



Basic technical parameters

Range of measured parts:

- diameter: 115 – 220 mm
- length: 2100 – 2550 mm (with posibility of flexible adjustment to another range)
- weight: to 1000 kg

Time of measuring cycle:	cca 120 s (for measurement at 20 sections)
Weight:	3500 kg (without measured part)
Energy:	Power supply: 3L+N+PE 400/230 V, 50 Hz, 15 kW
	Compressed air: 4,5 – 10 bar
Dimensions:	2320 mm x 5100 mm x 2100 mm

Measured parameters

Device is able to measure these parameters:

- diameters
- lenghts
- circularity
- cylindricity
- radial run-out
- axial run-out
- parallelity of frontal surfaces

Measurement accuracy (repeatability):

- diameters ±0,5μm
- lenghts ±1,0μm

The final cross dimension is represented by the total of linear ruler figures, and deviations of the inductive heads. Since the equipment has four rests, which simultaneously measure the basic and dependent mean values, it is possible to use the 'floating base' method.

Measured parameters are shown on the measuring system monitor, offering the possibility of storing, and printing of the record of measured and statistically evaluated figures.

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