



GROOVED RAIL MEASUREMENT WITH DQM3 TRAM

Description

The development of the DQM₃ Tram was based on the DQM₃. It serves as a **high-precision rail head cross-section measuring instrument for public transport systems around the world**. The measuring mechanics, developed for grooved and flat bottomed rails, combines a robust carbide length gauge in order to record the driving head with a laser for scanning the groove bottom and the guide rail. During each measuring process on the grooved rails, the height difference between the groove bottom and the driving head is measured in order to calculate the removal of material during track treatment. The laser sensor is deactivated during the measurement of Vignoles rails.

TECHNICAL DATA (differing from the conventional DQM₃)

» horizontal measuring range	up to 135.0 mm
» vertical measuring range	70.0 mm
» resolution probe	0.01 mm
» measurement uncertainty (95% CF) probe	< 0.05 mm
» resolution laser sensor	0.05 mm
» measurement uncertainty (95% CF) sensor	< 0.15 mm
» measurement time (max. measuring range)	approx. 18 s
» battery type / battery capacity	NiMH 12 V / > 3,5 Ah
» coverage (measurements/battery charge)	min. 250
» operating temperature range	-10 °C to +35 °C
» weight	approx. 9 kg

CONSTRUCTION

The mechanical components on the measuring instrument housing as well as the add-on parts are designed in such a way that the measuring instrument rests 50 mm above the upper edge of the rail. Thus, the DQM₃ Tram spans both protruding asphalt in areas with a closed track bed as well as guard rails in Vignoles rail areas. The extension arm covers the gauge of the respective railway infrastructure manager by default. A multi-extension arm is available as an accessory.

This makes the measuring instrument suitable for gauges from 900 mm to 1668 mm, especially for railway workers.

OPERATION AND REAL-TIME EVALUATION

As with our conventional DQM₃, a wireless or a wired connection to a Windows-compatible terminal must be established in order to operate the measuring device. Both models are controlled via the software »DQM Professional«, i.e. the measuring process is started from the software and the route data is recorded digitally. By means of real-time evaluation, records and reports are produced during data acquisition. If further evaluations are required, the measured data can be accessed at any time. In addition to the most common reference templates, the customer has a large number of special templates or also individually created customer templates at his/her disposal. Automatic assignment of distinct file names also enables easy cloud archiving.



UNDERSIDE OF THE DEVICE WITH PROBE AND LASER SENSOR