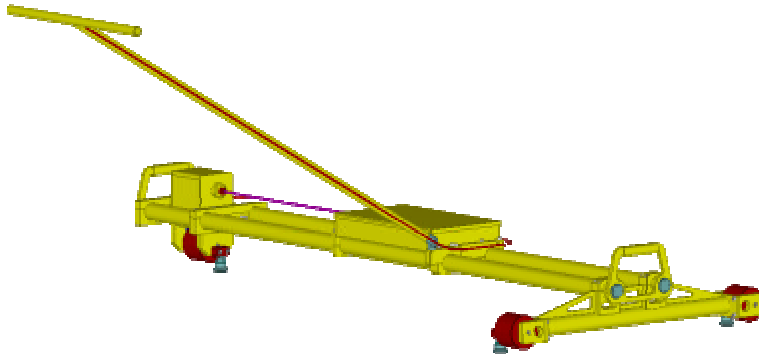


Gauge, cant and twist measuring trolley RBP-E



Otto Dittmann GmbH

Eisenbahnmaterial
Walzwerkerzeugnisse
Import - Transit - Export

Haffkamp 12 × D 23743 Groemitz

Fon: +49 4562 / 66 92

Fax: +49 4562 / 26 67 25

mail@gleisbaustoffe.de

www.gleisbaustoffe.de

RBP-E system has been designed to complete the more complex measuring trolley Krab that measures full set of the track geometry quantities. This equipment measure gauge, cant and twist. It is ideally to be used on secondary routes, sidings and mainly for turnout inspection. For this purpose an extra back gauge measuring is provided. The measurement speed is limited to approx. 6 kph. The trolley has a triangular bogie which is made from duralumin tubes. The wheels are made of special polyamide to achieve electrical insulation. The trolley surface finish is yellow powder paint. Measuring and evaluation software is same like Krab software.

Trolley function

During the measuring running the following track parameters are scanned:

- Gauge
- Cant
- Rail length

In real time the following derived geometric signals are computed:

- twist for selectable length of chord
- gauge change per 1m

Geometric quantity to be measured	Resolution	Uncertainty	Range
Gauge	0.1 mm	±0.6 mm ^{*)}	-15+ 50mm
Gauge change per 1m	0.1 mm	±0.7 mm	±65mm
Cant (the relative value for twist calculation)	0.2 mm	±1 mm	-
Cant (the absolute value)	0.2 mm	±2 mm	±180 mm
Twist	0.2 mm	±1.5 mm	±360 mm
Track distance	1 mm	1 ‰	no limits

^{*)} excluding temperature effect

Transducers to be used

The trolley uses contact LVTD potential sensors combined with an electronic pendulum device. An IRC sensor is used for track length measuring.

On board computer

The real time processing of signals from the sensors is performed by the on-board computer HUSKY or similar (equipped with RAM 2÷8MB), whereby the following items are warranted:

- reading and scanning of signals given above
- on-line processing of the signals: anti-aliasing, optical and acoustical signalling when the geometry data exceed the selectable thresholds
- display of numerical values of the geometry data
- entry of the geometry data into non-erasable storage of on-board computer at the distance 0.25m. The measuring distance is 30-120 km (depending on memory amount 2÷8MB).
- entry of the informational description of the track section to be measured
- entry so called events (mud spots in ballast, damaged sleepers etc.) with exact position along the distance

Assessment of the collected data

After the measuring, the collected raw geometry data are transferred from the on-board computer HUSKY into any PC computer. Sophisticated assessment software makes a graph of geometry values, table of local defects and table of section evaluation - statistic evaluation of the track geometry based on standard deviation and quality index.

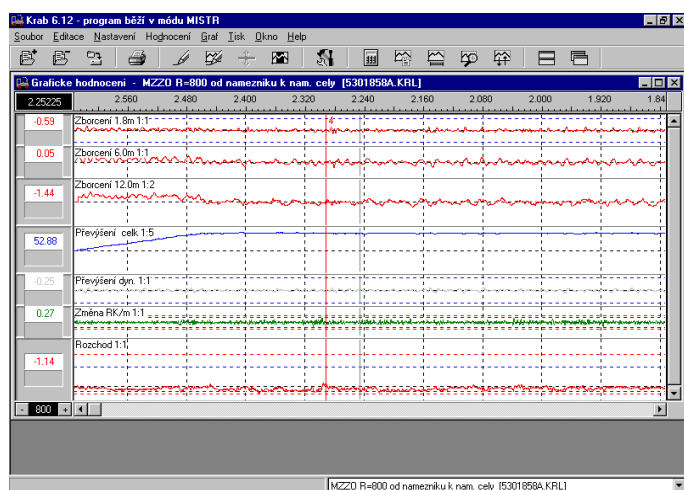


Fig. 1 Graph of the geometry values (example of evaluation software RBP-E6.12 for Windows)

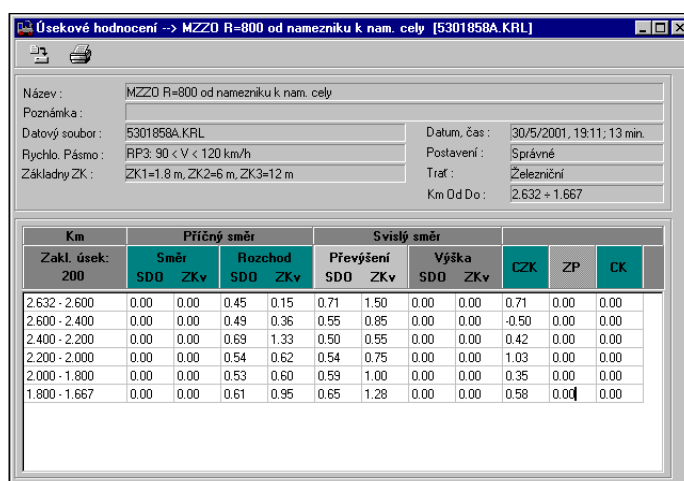


Fig. 2 Table of the section evaluation (example of evaluation software RBP-E6.12 for Windows)

The basic technical data:

- Mass: 25kg basic duralumin version
- 20 hours without battery charge
- working temperature: -5÷55 °C.