



Small measuring car

MMD

for track geometry

The MMD is designed for rail geometry measuring of the track at approximately 40 km/h under load.



CONCEPT OF THE MEASURING PART OF THE MMD

The MMD frame has been developed as a fully independent unit and can be mounted under any suitable rail vehicle. The vehicle is only used to provide the movement, power source and the working area.

The measuring bogie has three main parts:

- own mechanism of the bogie
- transducers for measuring
- necessary electronic equipment

On the coach are following features:

- main unit for measuring and evaluating geometry
- graphical printer for printing the evaluated values in graph form in real time
- text printer for printing quality indices of the track and local defects in real time



MEASURING BOGIE

The measuring bogie is furnished with six measuring wheels, on three axles. The axles create a slightly asymmetrical measuring chord of 3 m to measure horizontal and vertical chord on both rails.

The measuring bogie has its own shock absorbing mechanism and dampers for smooth travel over switch points and crossings. Lifting of the measuring bogie from the measuring to travelling position is accomplished by hydraulic cylinders from inside the vehicle. The correct position of the measuring bogie on the rail is monitored by transducers. In case of loss of the rail contact, the bogie is automatically lifted.

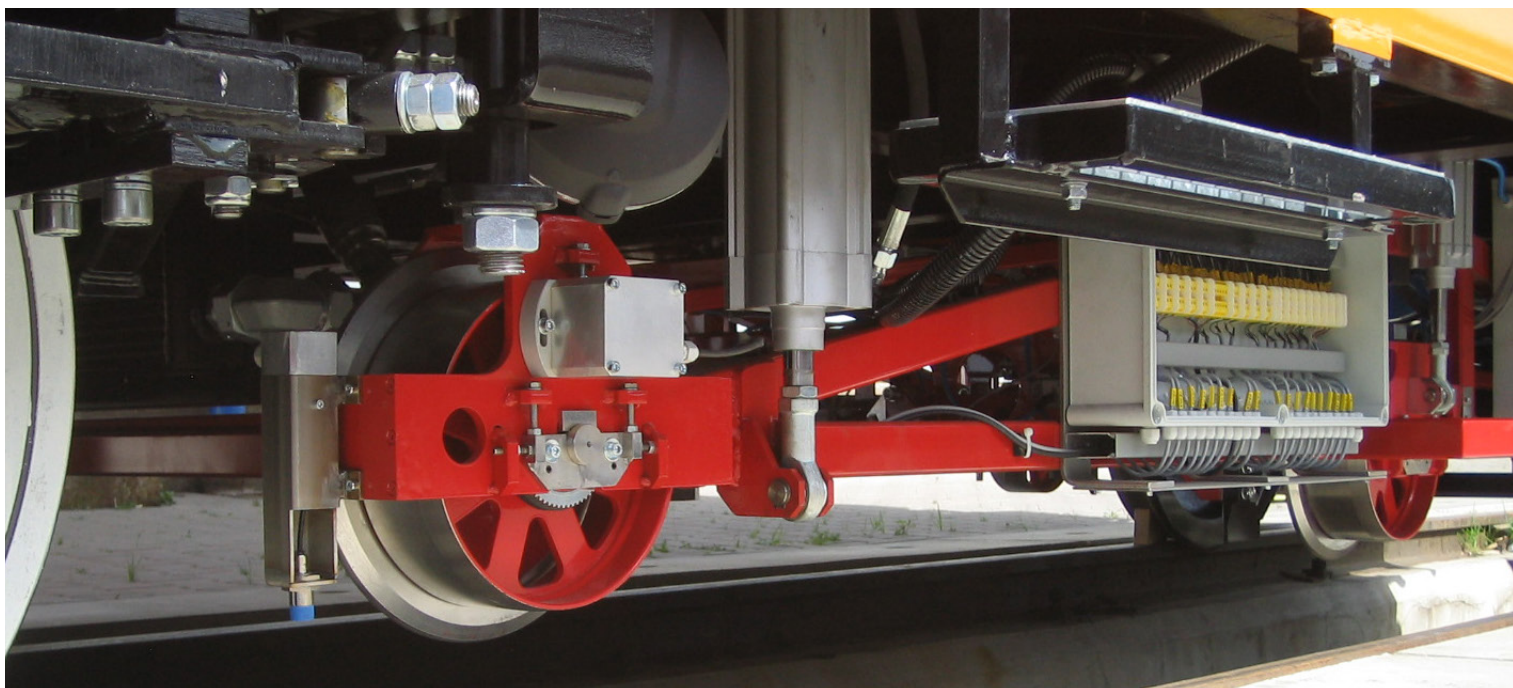
MEASURED VARIABLES

- alignment of both rails
- top of both rails
- cyclical top
- gauge
- change of gauge over (n) base
- cant
- twist on three basis
- radius $1000/R$
- distance
- rail corrugation (optional)

RESOLUTION OF GEOMETRICAL VALUES:

Geometric quantity to be measured	Accuracy	Range
Top, Alignment	1, (3) ^{*)}	$\pm 50, (\pm 100)^{*)}$ mm
Gauge, Gauge over (n) base	0,3 mm	-15 + 50 mm
Cant, Twist	1,0 mm	± 225 mm
Distance	1 ‰	-

^{*)} for wavelength 25-70m



Commercial railway research

Manufacturer:

Komerční železniční výzkum, spol. s r.o.

U Kaplický 1199, PRAGUE 6, CZ-165 00

tel./fax.: +420 233 920 185

cell.: +420 604 830 199

e-mail: jtunek@kzv.cz, web: www.kzv.cz