



MegaRock Railway Equipment (CHENGDU) Co., Ltd



Website QR Code

# NON-CONTACT RAIL HEAD PROFILE MEASURING INSTRUMENT - **P RTP**

The Non-contact rail head profile measuring instrument **P RTP** is a high-precision non-contact laser profile-meter which is specially designed and developed for the accurate detection of the external contour of the rail head profile, the combined profile of tongue rails and stock rails in switch areas, and the wearing conditions of the aforementioned profiles.



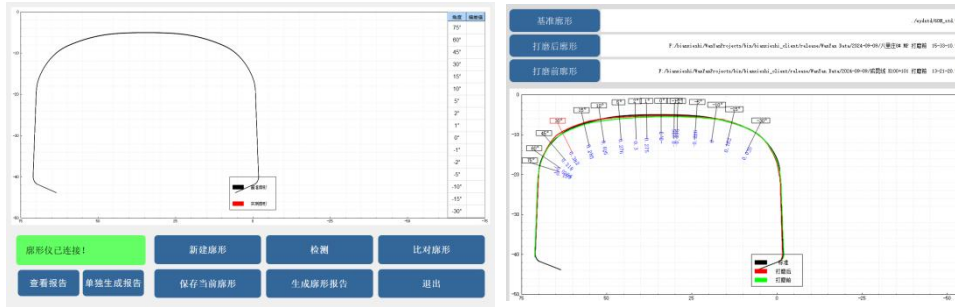
- |                               |   |
|-------------------------------|---|
| ◆ All Rail Head Profiles      | ----- Flat bottom rail, Switch rail, Closed switch rail and stock rail, Frog          |
| ◆ Rail Wear Level Mensuration | ----- Rail head wear level, switch rail side wear for special section, frog rail wear |
| ◆ Grinding Work Mensuration   | ----- Rail height grind calculation, profile comparison before and after grinding     |
| ◆ Other Application           | ----- Flange drop, the wheel/rail contact area distribution, data exchange            |



万岩铁路装备（成都）有限责任公司

Digital No-Contact Laser Measuring Simply by Only One Click

Put the instrument on the rail, click the 'start' button on the screen, you will get the profile. The measuring process is quick and efficient, fool-proof. By using non-contact optical profile measuring method, no more additional manual operation requested. All measuring process automatically controlled by the software, within 1 s to pick up the whole profile.

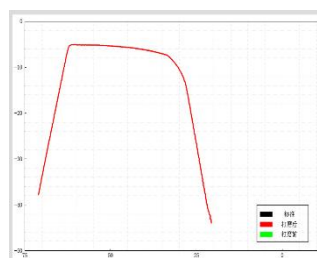


All Type of Rail Head Profile

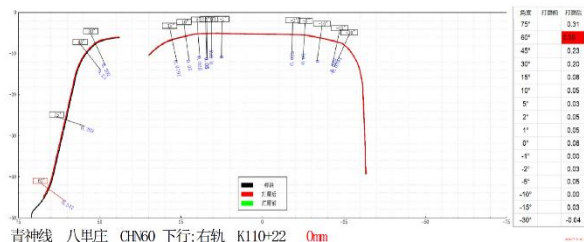
Capable to directly measure the rail head profile for all standard flat bottom rails, closed switch rail and stock rail, single switch rail and all head width between 15mm-140mm rails. (\* the grooved rail for contacting the seller) Allow the custom to load the new standard profile onto the software as the new reference profile.



all standard flat bottom rails



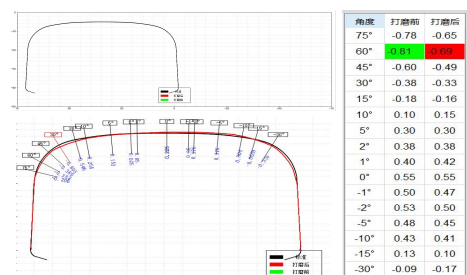
single switch rail



The closed switch rail and stock rail, for measuring the flange drop

Grinding Guide by Comparing the Rail Profile in Real Time

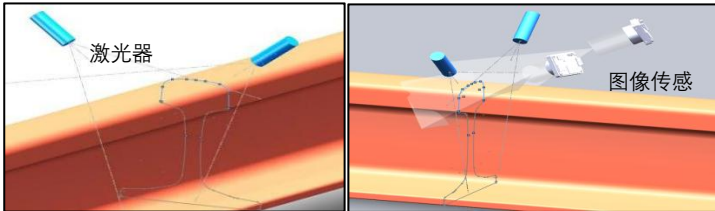
Before the grinding, measure the actual rail head profile then compare with its standard profile. The software can show directly the difference by angle and give the grinding depth's advice. During the grinding, can also take the any profile as the reference to compare the present profile. After the grinding, can show the standard profile, before grinding profile and after grinding profile all together for comparison. If the closed profile be chosen, the flange drop will be calculated and shown.



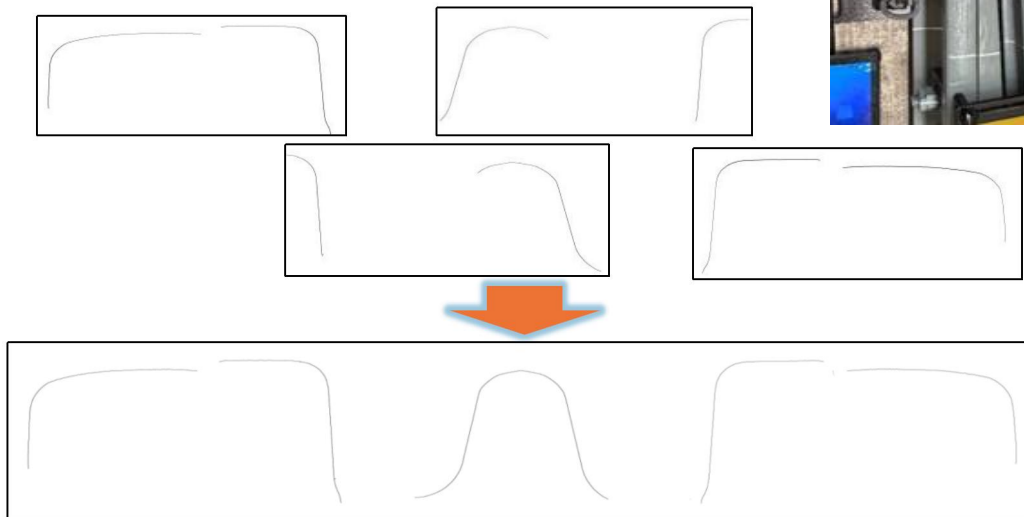
### Innovative Method of Extracting the Profile Regardless the External Environment's Influence

The instrument uses the classic line-structured light and image acquisition system, and adopts the calibration restoration and innovative image processing technology, which can complete the measurement and extraction of rail head profile quickly and efficiently.

The image acquisition:



The image fusion:

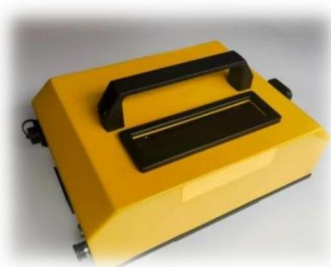


以心轨的融合为例，仅展示过程

### Portable and efficient instrument for the operator

Compared with the other contacting profile-meter, it does not need to manually operate the contact rotating rod to measure the surface of the rail head, and can complete the profile measurement with only one button and view the measurement data of the current rail section profile in real time.

Compared with the other non-contact optical laser profile-meter, the instrument adopts a new calibration method and excellent industrial design, which reduces the space occupied by the laser and image camera, and hence reduces the size of the machine by 30% and the weight by 50%.



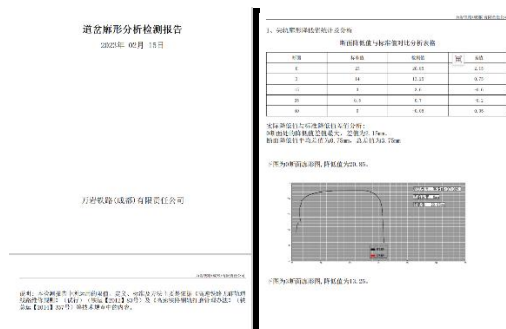
VS



## Supports the measuring and matching of multiple rail profiles

The measuring range of this device can meet the width of one to two stock rail combinations, which can meet the measuring range of both the main line rail head and the turnout area closed switch rail combination at the same time, and can issue different measuring data according to different measuring objects

The software enables cross-sectional profile comparison, calculating normal values for wear or grinding at different angles. It generates PDF reports including individual profiles, comparative profiles, and pre-post grinding comparisons. Costumed profile information saving labels are also supported. It supports multiple data formats and can open contour files on similar software (e.g., Mini-prof), enabling users to perform independent comparisons.



## Technical Specification

Rail Head Width Range	15-140mm
Rail type	Flat bottom rail, Switch rail, Closed switch rail and stock rail
Pixel precision	25um
Profile measuring precision	0.05mm
Repetitive accuracy	0.05 mm
Flange drop repetitive accuracy	±0.25mm
Working temperature	-5°C ~40°C
Protection level	IP65
Wave length	405nm
Laser power level	90mw 3B
Dimension	350*235*200mm
Weight	5 kg
Autonomy:	8h