

OKOSCAN ET-73HS High-Speed Eddy Current Rail Testing System

The OKOSCAN 73HS system of combined rail testing is designed for:

- eddy-current (ECT) testing of railway track at a speed up to 40 km/h and detection of all the defects specified in the UIC 712 R (International Union of Railways Code of Rail Defects); measurement of defect parameters and saving the testing results in the database.

The OKOSCAN 73HS system includes:

- Railroad wheeled trolley equipped with positioning system and track width adjustment control.
- Lifting/lowering mechanism for eddy-current probes
- Eddy-current rail test unit
- Hardware and software complex computer system
- Complete kits of manual eddy-current testing equipment for rails
- Spare parts supply package
- Technical documentation.

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Flaw detection trolley

The trolley is a support steel structure with wheels, alignment system (pneumatics), trolley lifting and lowering mechanism (electric monorail hoist), positioning system eddy-current transducers.

The flaw detection trolley provides precise positioning and movement of eddy current transducers (probes). Pneumatic equipment mounted on the trolley is used for automatic adjustment of the trolley to the track width. Also, this equipment allows to ensure positioning of each transducer on its own tested area.

Main advantages of the trolley:

- capabilities of testing the curves with a radius of less than 200 meters;
- automatic positioning and alignment on the track;
- ease of maintenance;
- capability of controlling the suspension system.

Eddy current rail test unit

The eddy-current test unit consists of:

- eddy-current probes - 16 pcs;
- switches - 2 pcs;
- Eddycon D eddy-current flaw detectors - 2 pcs;
- track gauge (traveled distance sensor) - 1 pc;
- PC with preinstalled software - 1 set.



The eddy-current unit of the system provides for eddy-current examination of the working surface of the rail head and of the rail edge for the following types of flaws (defects):

- transverse fatigue cracks and headchecks (defect code UIC-211),
- quench cracks (defect code UIC-2223),
- wheel slippage area (defect code UIC-225).



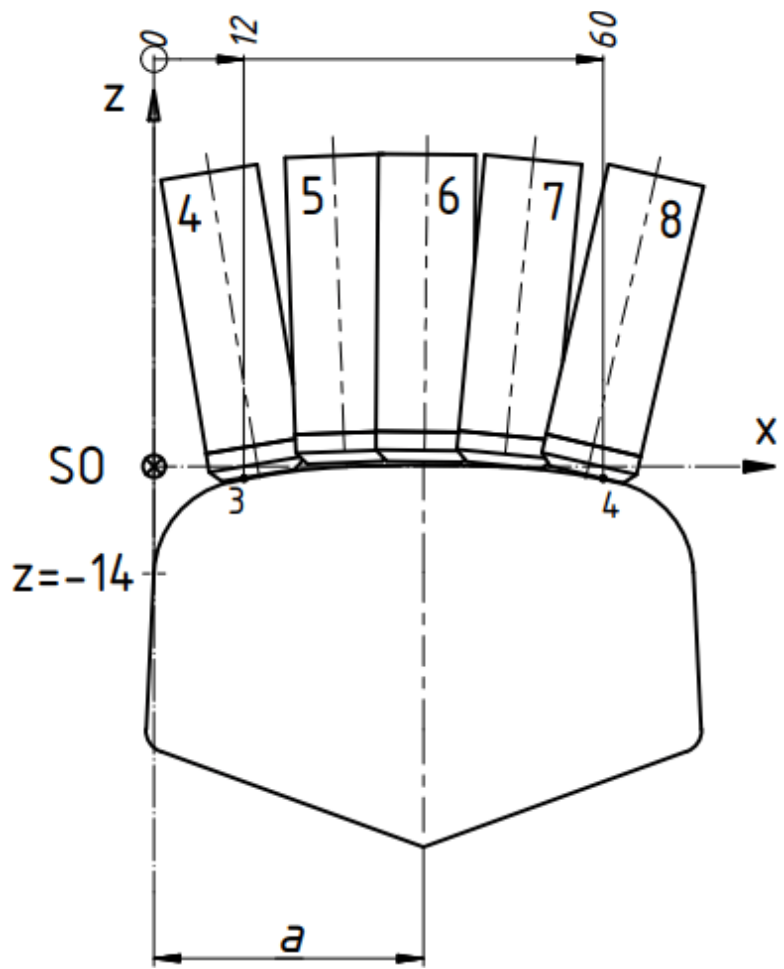
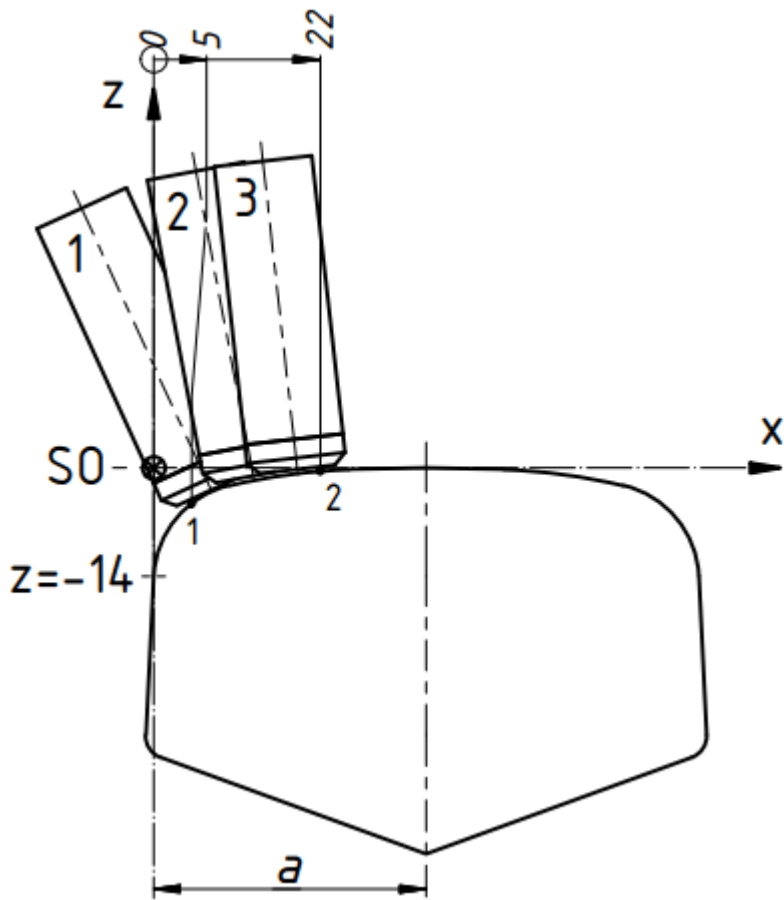
Eddy Current Probes

High-speed eddy current system for rails testing OKOSCAN ET 73HS is equipped with sixteen eddy-current (probes) (ECP) - eight for each rail.

Features and technical specifications of ECT used in the system:

- the central operating frequency is 200 kHz,
- orientation of the detected defects - transverse, at an angle relatively to the rail axis,
- use of fixing bogies made of wear-resistant material,
- individual suspension bracket for each bogie to unambiguously position the probes on various rail profiles,
- clearance between the working surface of ECP and the rail surface to prevent mechanical damage of the probes.

All the ECTs are positioned on the rails so that 100% testing of the working edge and the running surface is ensured.



Eddy Current Flaw Detectors

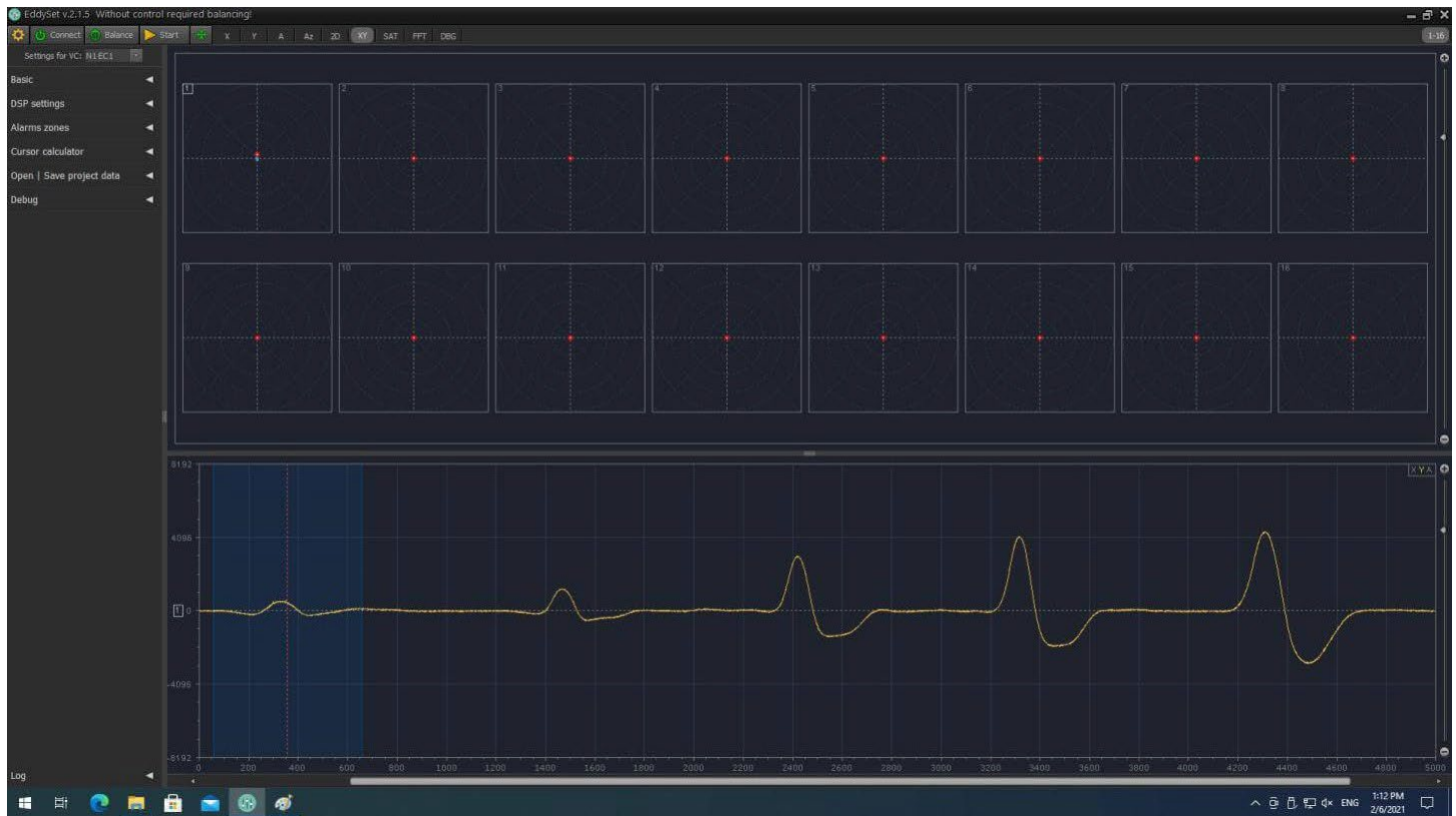
High-speed eddy current system for rails testing OKOSCAN ET 73HS is equipped with two multi-channel eddy-current flaw detectors Eddycon D.

OKOSCAN ET 73HS design provides for the capability to install the flaw detectors both on the flaw detector trolley and in the cab of the rail road vehicle.

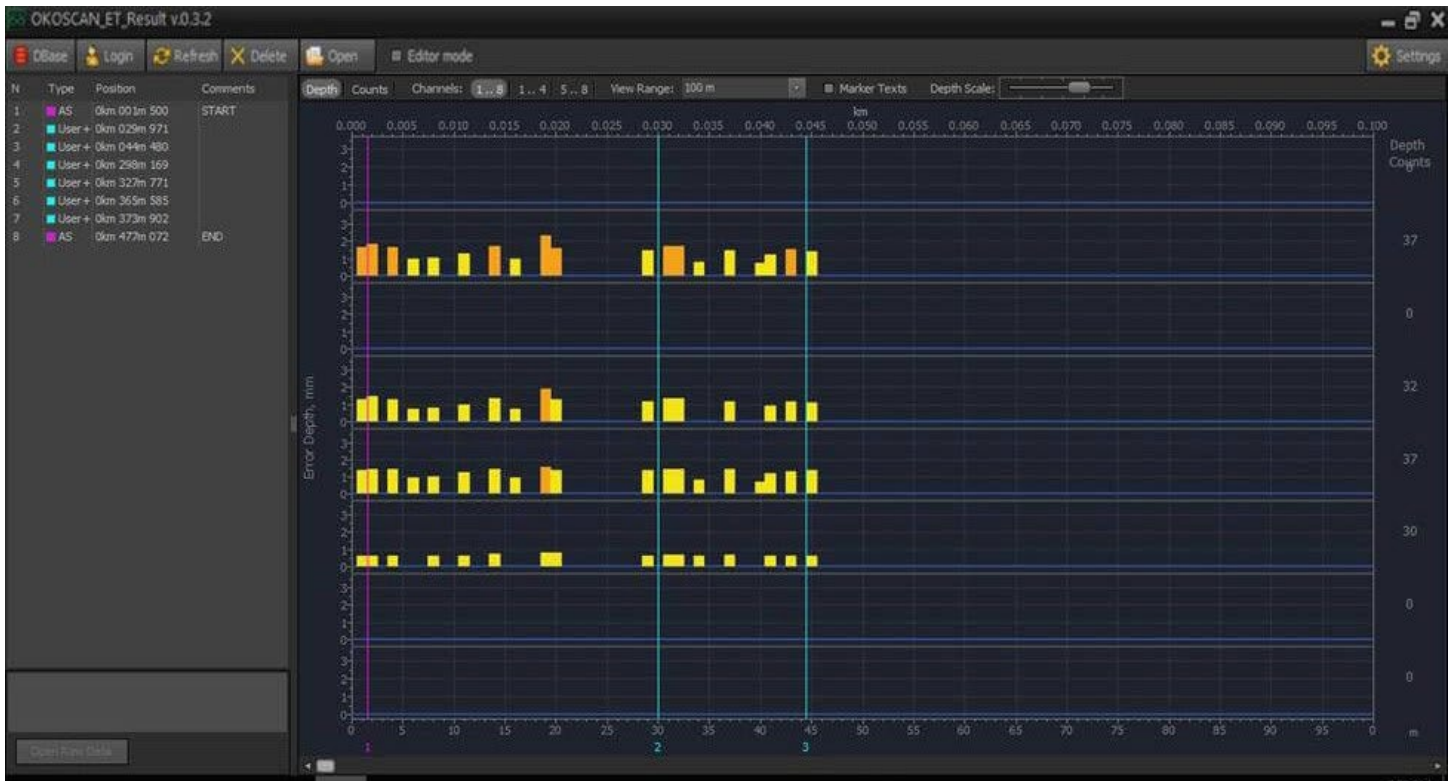
Specialized Software

For eddy-current testing

High-speed eddy current system for rails testing OKOSCAN ET 73HS is supplied with pre-installed software that consists of:



Software for setting up the flaw detectors



Software for viewing the testing results

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