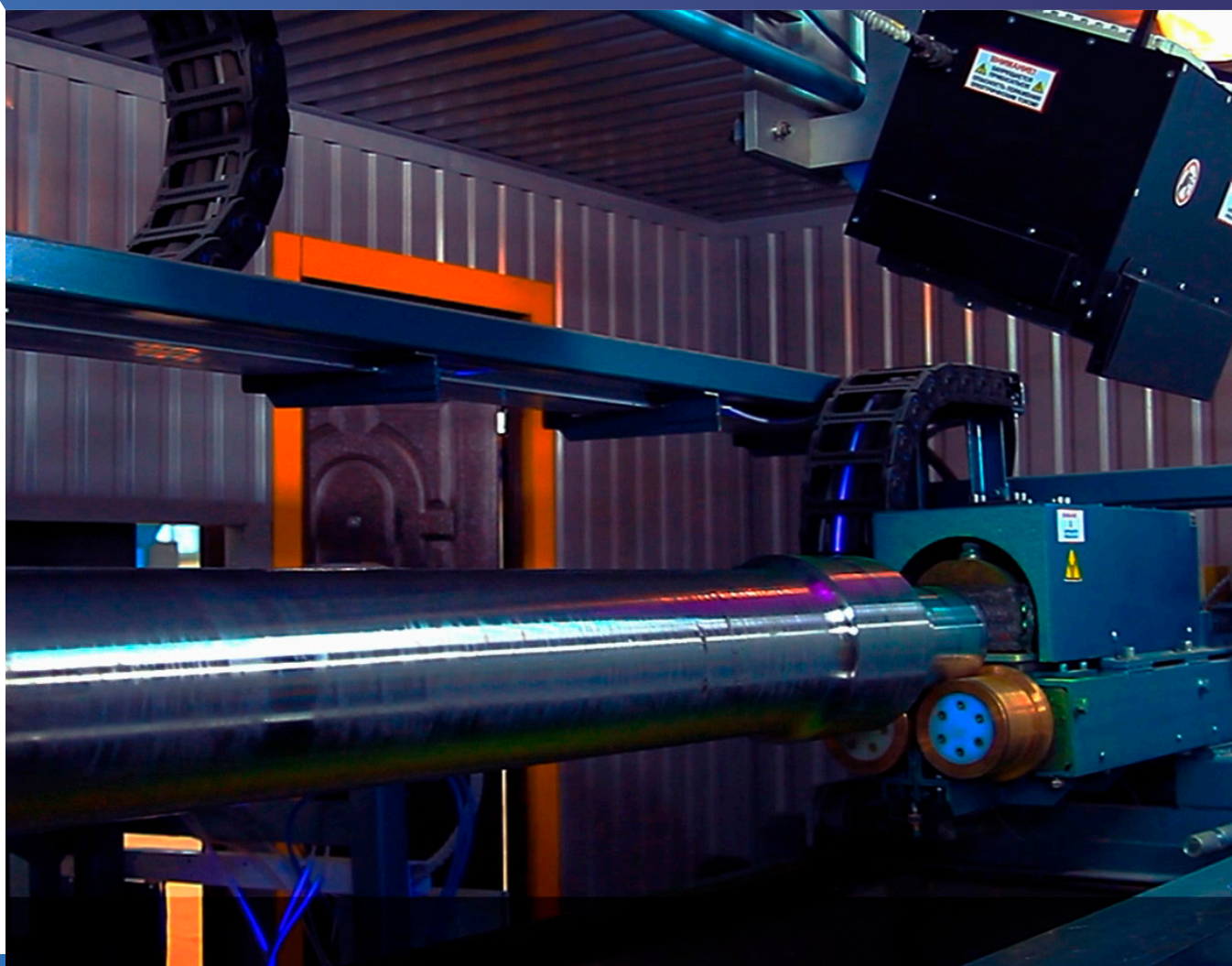


OKO_{ndt} GROUP

WET FLUORESCENT MAGNETIC PARTICLE
TESTING OF RAILWAY AXLES



UMPK OS-38

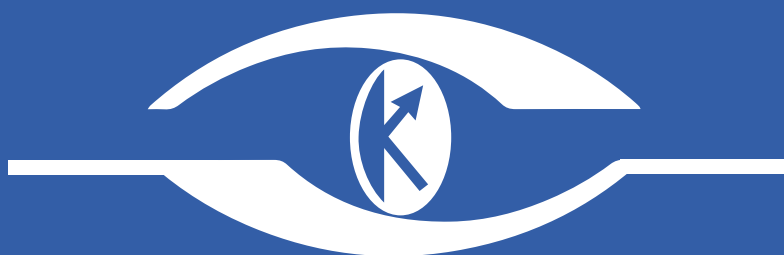
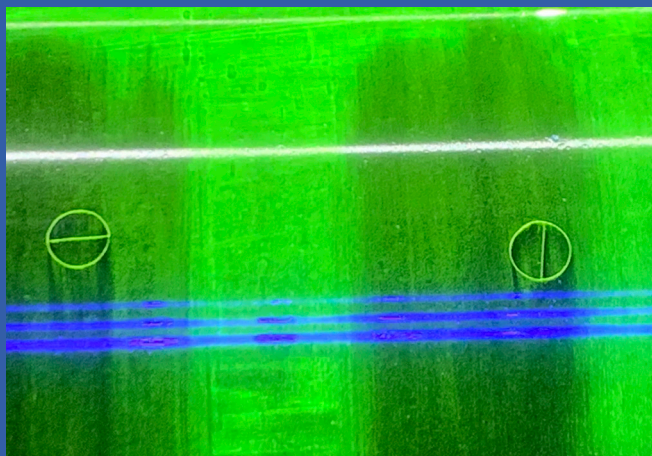
UMPK OS-38

Wet fluorescent magnetic particle testing of railway axles

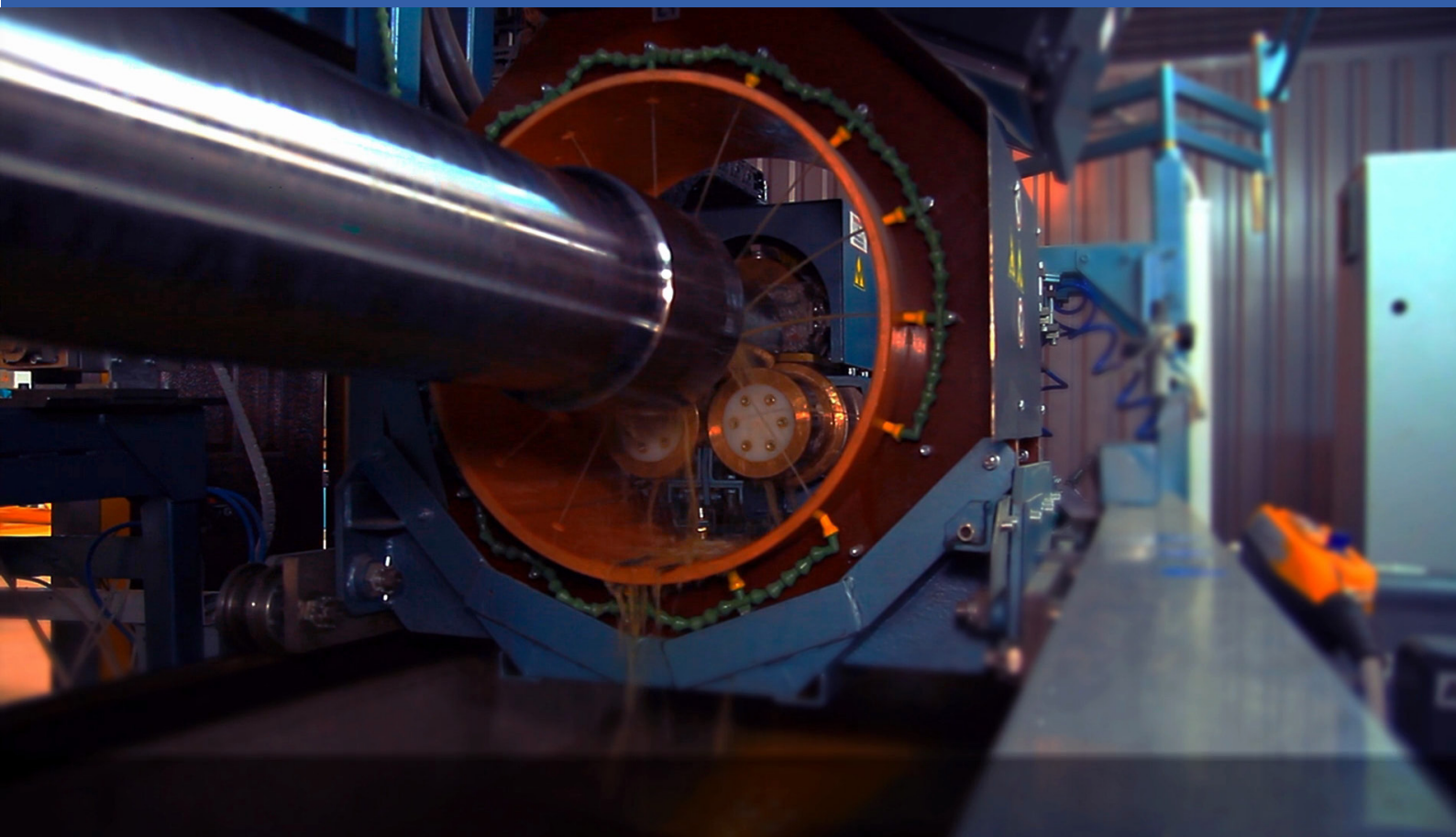
System is designed for magnetic particle inspection of railcar wheel axles during production and after repair.

The system is able to detect both longitudinal and transverse surface flaws (corresponds to 'B' sensitivity level as per GOST 21105) in accordance with EN 13261, GOST 31334, RD 32.144-2000, by wet fluorescent magnetic particle technique, using AC combined magnetizing (circular, longitudinal). The system provides 100% inspection of the entire axle surface, except for ends.

This stationary-type system can be either integrated into the workshop process line or operated independently as a stand-alone MT station. Magnetic fluid is made of finely-cleaned degassed water, free from mechanical impurities and fat inclusions.



OKOndt GROUP



Wet fluorescent magnetic particle testing of railway axles

Test object (TO) parameters:

The System allows for magnetic particle flaw detection of the railway axles within the range as follows:

Maximum diameter	390 mm
Minimum axle journal diameter	100 mm
Maximum length	2600 mm
Minimum length	1500 mm
Temperature of the TO	from 3°C up to 45°C

Major technical characteristics of the Stand

- The System provides for the combined longitudinal and circular magnetizing of the TOs by the applied field method.
- The System provides for the automatic demagnetizing of the TOs by decreasing the AC field amplitude from the maximum value to one close to zero.

The intensity of the magnetic field on the surface of the test object is	not less than 20 A/cm
The current of the longitudinal magnetizing is 50 Hz alternating current with smoothly adjusted magnetic flow	0 to 8500 A-w
UV irradiation intensity on the test surface	not less than 1000 μ W /cm ²
The speed of movement of the magnetization coil along the test object is continuously adjustable	not more than 100 mm/s
Axis rotation speed is continuously adjustable	not less than 2 rpm
Output of the System when testing flawless axles of the assortment in the composition with mechanization of automatic axles loading and unloading	not less than 18 axles per hour
Time of re-adjustment of the System and preparation for testing of another size type	does not exceed 5 min
Powering of the System	three-phase 50 Hz 380 V AC
Installed electrical power	not more than 50 kWA
Weight of the System with the equipment of axles loading/unloading	not more than 7 t
Overall dimensions of the System without axles loading/unloading mechanism	not more than (6600 x 2400 x 2250) mm





**DDAP – RAX
LLC.**



I. Yasyukovycha str. 1,
Kamianske
51925, Ukraine
tel. 067 106 49 94
E-mail: ddaprax@gmail.com

DDAP

**Товариство з обмеженою
відповідальністю
«ДДАП-РАКС»**

вул.І.Ясюковича 1,
Кам'янське
51925, Україна
тел.067 106 49 94
E-mail: ddaprax@gmail.com
ЄДРПОУ № 33984335

23 May 2022 # 292

Operation of the UMPK OS-38 System

DDAP-RAX LLC is the manufacturer of finished railroad axles for Ukrainian market as well as for the countries of Europe, Asia and America.

Magnetic particle inspection System for the railroad axles testing UMPK OS-38 manufactured by ULTRACON-SERVICE LLC is being exploited by our enterprise since January 2022. It is used as a stationary quality control post integrated in the technological production line of the railroad axles.

UMPK OS-38 System ensures testing of finished products by the magnetic particle luminescent method in accordance with the DSTU EN ISO 9934, GOST 21105, ISO 6933, ASTM E1444 standards requirements to the MPI and provides confident detection of the surface flaws of different orientation on the railroad axles as per EN 13261, AAR M-101, AAR S-659, DSTU GOST 31334, GOST 33200, RD 32.144-2000 standards requirements.

Manufacture and assemblage of the **UMPK OS-38 System** are completed taking into account customized requirements to building, dimensions and disposition of the System itself and its control units.

To date, the System's being successfully used; it allows to follow the requirements of both internal and export specifications to high quality non-destructive testing of the axles.

In February 2022, the Magnetic Particle Inspection System **UMPK OS-38** for railroad axles testing successfully passed the audit (Technical Inspection of finished axles) in compliance with the Standard AAR S-659 (Section G-II).

Deputy Head of Q&C

A.V. Pitsyk

tel. +38-067-635-17-28
pitsyk.a@gmail.com



OKOndt GROUP

www.oko-ndt.com

E-mail sales: global-sales@oko-ndt.com