

OKO<sub>ndt</sub> GROUP

NON DESTRUCTIVE TESTING



# USR-01 KIT TESTING OF RAIL WELDED JOINTS



Complies with:  
EN14730-1:2006+A1:2010

[www.okondt.com](http://www.okondt.com)



USR-01 Set is intended for ultrasonic inspection of aluminothermic welded rail joints in accordance with EN14730-1 requirements. The USR-01 Set can be used for inspection of joints welded by the electrocontact method, for secondary rail track inspection based on the results of mechanized and quick systems of ultrasonic testing, as well as for pre-weld inspection of end sections of new and used rails before welding them at rail welding enterprises or in tracks.



2

**Sonocon B** offers all the functions necessary to inspect welded rail joints and an easy-to-operate interface.

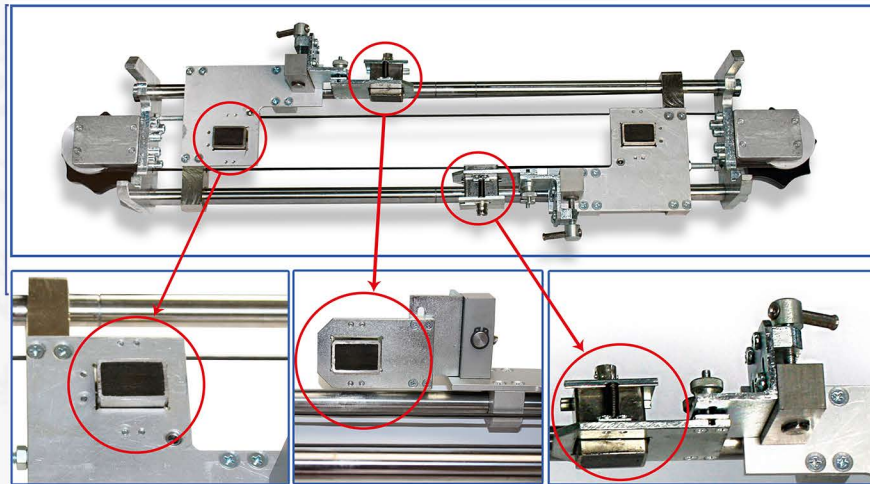
The flaw detector complies with all quality requirements and provides a wide range of standard and additional inspection functions. Grip-oriented and light, the device is easy to operate in the field.





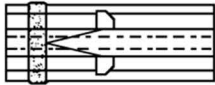
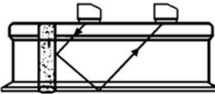
## USR-01 Scanner

USR-01 scanning device is utilized for positioning and movement of probes for inspection of rail aluminothermic welded joints.



## Scanning schemes

3

<p>Test of head for planar defects</p>		<p>Two 70° single crystal probes (TX &amp; RX)</p>
<p>Test of web for planar defects</p>		<p>Two 45° single crystal probes in tandem with a positioning rig</p>



OKOndt GROUP

# Inspection of welded rail joints



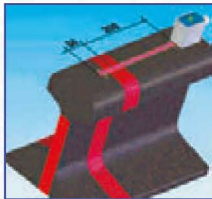
## Manual probes and scanning schemes

*Probes inspect welded joints of rails from various rail surfaces applying the pulse-echo technique.*



4

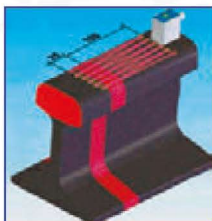
## Scanning schemes



Inspection of the rail web from the running surface of the rail head with  $45^{\circ}$  probes.



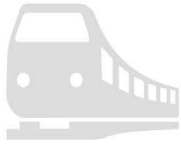
Inspection of the rail web from the lateral surface of the rail web with  $0^{\circ}$  and  $70^{\circ}$  probes (a complementary scheme)



Inspection of the rail head from the running surface ( $70^{\circ}$  probe).



Inspection of the rail head from the lateral face of the rail head with  $0^{\circ}$  and  $70^{\circ}$  probes.



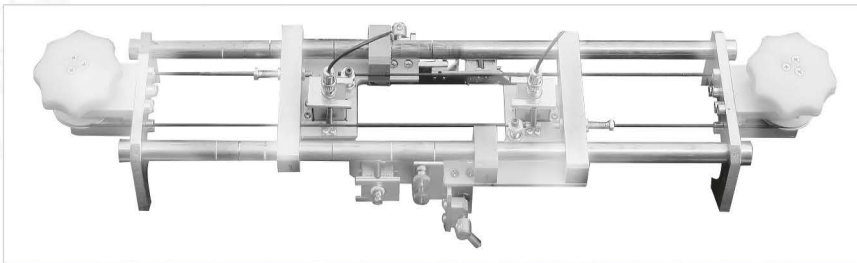
## USR-01 Delivery Specification

1.



Sonocon B

2.



USR-01  
Scanner

3.



Angle Beam Single  
Crystal Probe:  
P121-2-70-R-01  
(TAB2-70-14x14-R)  
(70 degree, 2MHz) - 2pcs

4.



Angle Beam Single Crystal  
Probe: P121-2-45-R-01  
(TAB2-45-14x14-R)  
(45 degree, 2MHz) - 2pcs

5.



Additional manual probe  
Angle Beam Single Crystal  
Probe: TAB2-45-14x14 (45  
degree, 2MHz)



## USR-01 Delivery Specification

- |     |   |  |  |
|-----|---|--|--|
| 6.  |    | <p>Additional manual probe Angle Beam Single Crystal<br/>         Probe: TAB2-70 14x14 (70 degree, 2MHz)</p> |  |
| 7.  |   | <p>Additional manual probe Angle Beam Single Crystal<br/>         Probe: TAB-D-2-70 (70 degree, 2MHz)</p>    |  |
| 8.  |  | <p>Additional manual probe Straight Beam Single Crystal<br/>         Probe: TSD4-20</p>                      |  |
| 6   | 9.  |                           | <p>Calibration block K1 (optional)</p> |
| 10. |  | <p>Calibration block K2 (optional)</p>   |  |



## USR-01 Delivery Specification

11.



Connection cable probe /  
Electronic unit (2Lemo00×2BNC)

12.



Connection cable probe /  
Electronic unit (BNC×BNC)

13.



Connection cable probe /  
Electronic unit (BNC×Lemo00)

14.



Mascot Type 2542 Charger

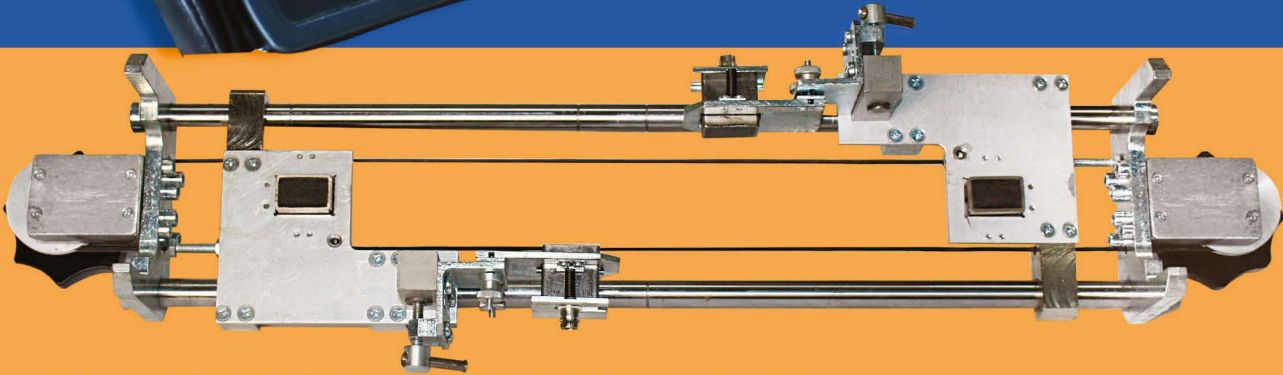
15.



Bag



OKOndt GROUP ™  
E-mail: [sales@okondt.com](mailto:sales@okondt.com)  
[www.okondt.com](http://www.okondt.com)



**USR-01 KIT TESTING OF RAIL WELDED JOINTS**