

RIDER-NK FAMILY

A perfect solution for certifying the quality of plates.

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Most producers of plates meet periodically challenges related to ultrasonic tests (UT) or eddy current (EC) tests of their products, striving for achieving a formal compliance with the respective norms and specifications.

Organization of high capacity automatic examination – with the UT probes (for laminations and cracks) or with the EC probes (for Hard Spots) involves investments, attracts resources, and takes time. Nordinkraft can provide you with such stationary test stations in the best way. However, we can propose you also an attractive option.

A mobile, modern and smart UT or EC system may be an optimal solution or, at least, a temporary option allowing one to start examination of plates in accordance with most of international and national norms or specifications, almost immediately, economizing a lot of time and resources. `This option is called "RIDER-NK".

RIDER-NK is an attractive option for your quality management

NORDINKRAFT AG has developed a family of a compact equipment for the industrial non-destructive examination of heavy plates and slabs. The common name of the family members is RIDER-NK.

The common specific of all the new generation of RIDER is a compact PC, sophisticated test electronics and robust sensors located on a light and convenient trolley controlled by operator.

This combination "Operator – RIDER" facilitates a smart and reproducible scanning of the plate with the line of probes, automatic collecting and processing the test data according to the pre-selected norm/specification, creating a digital certificate on the current plate quality, and transmitting it to the work shop PC for further processing. The operator is to control the scanning parameters and interact with the on-board PC, following its instructions.

RIDER-NK automatically evaluates defective areas in platers, their dimensions, location, depth and mutual position, as the stationary in-line systems do, and automatically sorts the plates according to the applied norms and quality classes. According to your specific needs, RIDER-NK may have three basic configurations:



RIDER-NK-UT-I for the industrial smart ultrasonic examination of plates for detecting of laminations, cracks, inclusions, etc. It is equipped with the line of phase array probes, covering at once big areas when operator moves the trolley. They are to transmit and receive longitudinal waves normal to the plate surface, being automatically and electronically focused through the whole plate thickness.

RIDER-NK-UT-S for the industrial and smart ultrasonic examination of plates for detecting of laminations, cracks, inclusions, etc. It is equipped with the UT array probes allowing fast scanning and automatic evaluations of the defective areas. They transmit/ receive shear waves in the direction of about 45 degrees (RIDER-NK-UT-S).

RIDER-NK-HS for the industrial and smart examination of plates for detecting of hard spots (HS) – areas of plates where the hardness of the material exceeds the pre-set limit. It is equipped with a special kind of EC-array probes, sensitive to variations of the mechanical properties of the material of the plate to be tested.

Every kind of RIDER is based on a sophisticated and flexible SONAFLEX-MINI platform developed by Nordinkraft AG for a wide range of industrial tasks related to quality of materials and/or components examination.

> Industrial laptop with displayed "defect map"

Main characteristics of RIDER-NK-UT-L

- Test for laminations, inclusions, etc. with longitudinal waves.
 Automatic evaluation of defective areas according to the applied norm/class/specification.
- Automatic sorting of plates according to the test results.
 Main function of operator is to move the trolley only.
- Decision on the plate status is made by PC automatically.
 Wheels of the trolley are equipped with the encoder, allowing automatic sizing of defects and plates sorting.
- Coupling automatic monitoring.
- Reference time for examination of one plate 10000 mm X 3000 mm is about 15 min.
- Range of plates thicknesses, mm 5 300
- Range of plates materials steel, aluminum, bronze, copper, etc.
- Type of the UT- probes phase array TR-probes working in the multifocal mode.
- Width of the UT-probes line, mm, about 220;
- Power battery 48 V
- Battery life, hours 8
- Industrial laptop on board
- Tanks on board for coupling water two tanks 15 liters in each
 Sensitivity up to 0,8 mm FBH
- Industrial laptop with sophisticated software, displaying A, B, and C –scans, Wi-Fi connection with the higher level PC.
- Light material trolley robust and convenient.
- Automatic and convenient calibration
- Low consumption of coupling water
- Automatically issued calibration report
 Automatically issued test report with the examination result for every plate
- Weight (empty coupling water tanks), kg, about 30 • Data base of up to 1 TB
- The best S/N ratio assumed by phased array technology application.

lock of phased array probes with suspension system

RIDER-NK-UT-S specifics

This version of RIDER is devoted to the detection of cracks in both surfaces of the plate, and internal defects, reflecting ultrasonic shear waves propagating in the direction of about 45 degrees to the surfaces. Generally, considering the natural differences with the above specified system, it has similar to RIDER-NK-UT-L characteristics. It can detect cracks 0,2 mm in depth or more.

Main characteristics of RIDER-NK-UT-HS

Test for Hard Spots and surface defects.

- Reference time for examination of one plate 10000 mm X 3000 mm, min, about 15 min.
- Range of plates thicknesses, mm 5 300.
- Range of plates materials steel of different grades.
- Type of the probes EC arrays
- Width of the UT-probes line, mm, about 220;
- Power battery 48 V
- Autonomy, Hours, about 8
- Industrial laptop on board
- Industrial laptop with sophisticated software, displaying multicolor C –scans, Wi-Fi connection with the higher-level PC.
- Light material trolley robust and convenient.
- Automatic and convenient calibration
- Automatically issued calibration report
- Automatically issued test report with the examination result for every plate
- Weight, kg, about 30
- Data base of up to 1 TB
- The best S/N ratio assumed by a patented NK technology application.

More details/information upon request.

RIDER can be a perfect solution for certifying the quality of your plates. Let your quality inspector be satisfied.

YOUR QUALITY GUARD.

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