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VOGT
Ultrasonics



PHAsisNEO

Ultrasonic inspection device for the fast and precise inspection of welded joints in production, especially spot welds and short weld seams (e.g. Arplas®)

For fast, simple use in production
– reliable testing without profound
ultrasonic knowledge.



Imaging inspection

Phased array technology for simple and reliable inspection and evaluation



Precise inspection

729 virtual probes and a physical resolution more accurate than 0.35 mm



Over 25 years of experience

in spot weld inspection combined in our innovative PHAsis inspection systems



System highlights

- Precise testing of resistance welded spots of steel or aluminum sheets
- Minimal training time of approx. 4 hrs.
- 2- and 3-sheet joints with single sheet thickness from 0.6 mm to 5 mm
- Extremely high image sequence and inspection speed due to 20,000 ultrasonic measurements per second for high-resolution spot weld inspection
- More than 700 measuring points (A-scans) recorded in the inspection area per spot weld
- Storage of all A-scans for possible re-evaluation and correlation to destructive testing
- Imaging display of the spot weld as live scan (C-scan) and as result (D-scan, depth accurate)
- A universal standard probe; special solutions available (e.g. for coarse grain structure / aluminum / hard-to-reach areas)
- All in one device: management of inspection plans, monitoring of inspection equipment, secured inspection according to inspection plan or flexible with one-click presets or individual parameters in „free inspection“ mode
- Support of high probe frequencies up to 25 MHz for reliable spot weld inspection

 121 elements, 11 x 11 matrix for a high resolution of the lens diameter more accurate than 0.35 mm

 Intuitive operation with touchscreen, keyboard or remote control

 Ideal operation and screen display with good visibility – even from a distance (13" with 16:9 widescreen)

 “Free testing” mode: Test immediately with just a few clicks thanks to supplied standard parameter sets

 Testing of a 3-sheet connection from one side only



Innovative probe technology

Fixed rexolite delay or flexible water delay paths with membrane for best results – even on rough or uneven surfaces.



PHAsisNEO has a high-quality, powder-coated housing with shock protection, replaceable display and passive cooling (no annoying fan noise).

The swiveling handle with fixed locking positions guarantees the best view on the display.



Single and multi-user solution

Single User

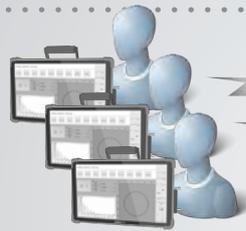
PHAsisNEO
(alle in one)



- **PHAsisMANAGER** administration software
- **PHAsisDEVICE** inspection and evaluation software
- MS SQL Express database

Multi-user solution for central management:

PHAsisNEO
(one or more)



PHAsisDEVICE
inspection and evaluation software

Server with
MS SQL database



Workplace



PHAsisMANAGER
administration software: Central organization of test plans, equipment and results, imports, exports etc.

When using multiple **PHAsisNEO** inspection systems, the **PHAsisMANAGER** administration software can be installed on an independent PC as to organize and synchronize all information with the **PHAsisNEO** ultrasonics devices:

- Single user or central management of test equipment, plans and results
- Management of access rights
- Monitoring of inspection equipment incl. scheduling for calibrations
- Data import of test plans (CSV files)
- Data export of test results (modern REST interface)
- Secured test sequence up to 100% fulfillment through preset test plans
- Wireless test plan and data synchronization via WLAN between device and server
- If required, **PHAsisNEO** can communicate with the customer's existing database system via standardized interface.

Scan to visit
our website.



Intuitive operation and reliable testing with minimal training time

Inspection software

The inspection time with **PHAsis** inspection and evaluation software is just a few seconds per spot. The evaluation provides data on the diameter of the welded spot, the remaining wall thickness of the welded area as well as the sound attenuation caused by structural transformation as possible evaluation criteria for zinc adhesion bonding.

Mode 'Inspection according to test plan'

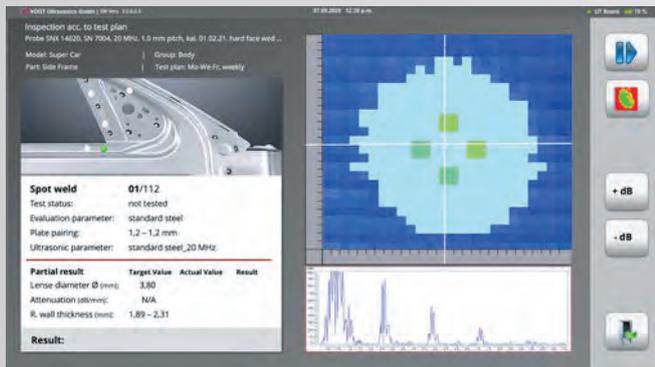
In this mode, the inspection plans are created by an experienced ultrasonic inspector and made available to the users by means of synchronization with the individual inspection devices. As a result, the users no longer have to make any test settings. They only inspect the spot welds

using the visually displayed test plan and the automated proposed evaluation. This means even test personnel without in-depth knowledge of ultrasonics is easily able to perform reliable testing.

Mode 'Free testing'

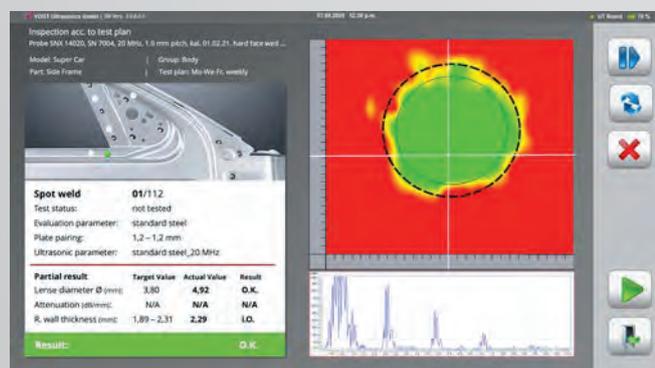
The mode 'Free testing' enables a fast inspection of various spot welds, without the use of test plans.

Access to the full functionality of inspection and evaluation as known from the mode „Inspection according to test plan“ is still possible. After the inspection, the results of the free testing can be transferred into an inspection plan as well as into and a standard inspection.



Live C-Scan for positioning

- Runtime-based orientation points for vertical positioning of the probe to the surface of the spot weld
- Automatic adjustment of the display depending on the probe position (right- and left-handed)

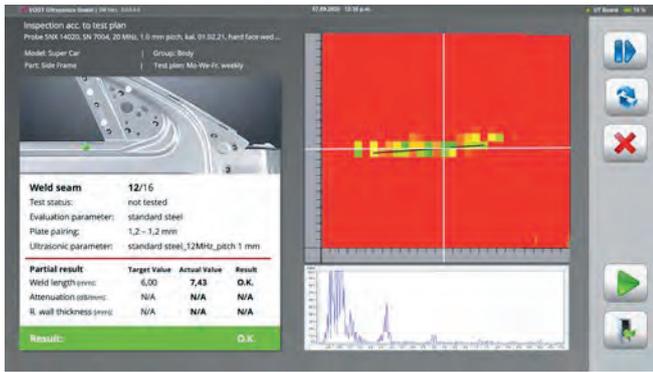


D-Scan as an evaluation proposal

- Colored imaging of the spot weld with their positioning in depth (D-Scan) allows quick detection of possible defects (e.g. pores / lens too small)
- Freezing of the spot weld and the evaluation suggestion

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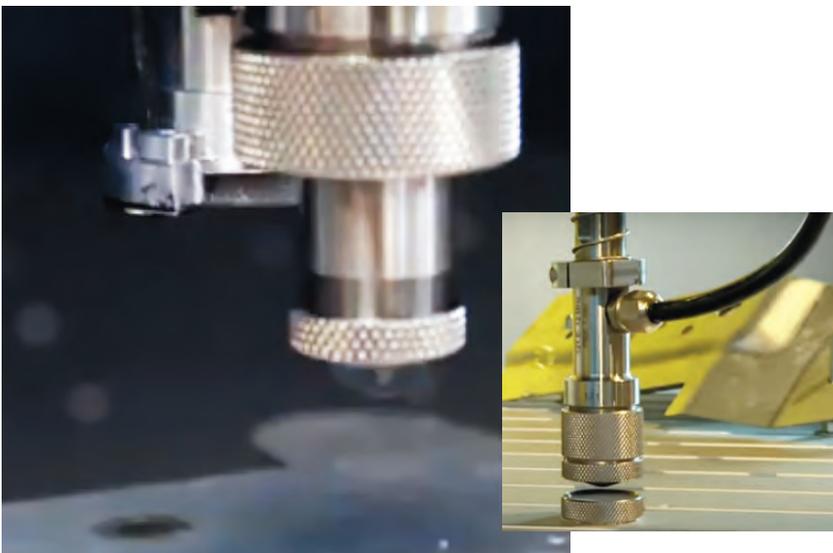


Option: Weld seam testing module

- Testing of short seams, e.g. Arplas®, with a length of approx. 3 - 12 mm without changing the probe
- Intelligent evaluation, even of interrupted weld seams

Option: Universal robot control for all types

PHAsis in use with industrial robots and cobots for automated testing



For spot weld inspection with industrial robots or cobots we have developed the **PHAsisBLU**. **PHAsisBLU** has the same excellent inspection performance and intuitive software units as **PHAsisNEO**, but it has been optimally adapted for robotic use in production: Reduction of mass, stable for movements, longer cable, mounting ability, splash-proof.

The implementation with various robot systems is possible thanks to our universal automation interface.



Fig. **PHAsisBLU** inspection device

Here you can find more info:
ramsolutions.com/products/vogt-phasisneo
ramsolutions.com/products/vogt-phasisblu

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Technical data

Here you will find an overview of the most important technical data. Further questions? Send us an e-mail to orders@ramsolutions.com

Hardware

Dimensions	350 x 280 x 90 mm
Weight	4,95 kg incl. batteries
Display	13.3" TFT, Multi-Touch 1920 x 1080 Pixel, 16:9, hardened, replaceable
PC Board	Intel Pentium QuadCore @ 2.5 GHz, 8 GB RAM, 512 GB SSD
Protection class	IP 64, restricted
Battery	2x Lithium-Ion, min. runtime 7 hours, hot swap capable
Phased Array test channels	128, 16 thereof parallel
Digitization rate	100 MHz
Communication	2 x USB 2.0, 1 x USB 3.0 1 x LAN 1Gbit/s, WLAN, HDMI, Bluetooth 4.2
Max. IFF	20 KHz
Max. pulse amplitude	+/- 100 V (neg. square pulse)
Band width (-3dB)	0.5 - 25 MHz
Pulse width	≥ 5 ns
Focal Laws	> 700 (virtual probes)
Power supply	100 - 240 VAC 50 Hz - 60 Hz
Operation temperature	0°C - 40°C
Relative Humidity	80%, non-condensing
Cooling	passive (no fan)

Standard Probe

Type	Phased Array 2D Matrix	
Number of elements	11 x 11 arranged in square	
Cable	Long-Life 2.5 m; 5 m for robot applications	
Nominal frequency	12 MHz	20 MHz
Inspection area	9 x 9 mm	11.7 x 11.7 mm
Physical resolution more precise than	0.35 mm	0.45 mm

Software

Administration and communication:

- Access rights and user management
- Test equipment monitoring and management of inspection devices
- Management of plate pairing and materials
- Various interfaces such as test plan import, result export or communication interface for automated testing

Inspection:

- "Inspection according to test plan" mode: secures testing with 100% fulfillment and enables safe testing with minimal training
- Improved setup of inspection plans and easy to go inspection according to proven standards of conventional ultrasonic inspection
- "Free testing" mode: fast testing without a test plan with instantly selectable standard or individual parameter sets
- Inspection mode for highly sound-attenuating materials or very rough surfaces
- Multiple modes for detection of cladding
- Access to all setting parameters at any time for the implementation of individual evaluations

Data management:

- Creation and administration of test plans and free testing
- Transfer of the results of the free testing into new test plans
- Management of plate pairings, evaluation and ultrasonic parameters
- Inspection plans on all devices by means of synchronization
- Individual color display of spot welds (D-Scan)
- Test reports can be exported as Word, Excel or PDF documents. Two different types of reports available: detailed and compressed
- Predefined, universal ready to go setups as well as the creation of individual advanced setups



Arrange an appointment now for a live/online presentation with us!



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Proven quality
Accredited as independent testing laboratory according to DIN EN ISO / IEC 17025; Certified according to DIN EN ISO 9001 und DIN EN 9100



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