



# Ultrasonic Testing System for Hollow Shaft Axles and Mobile Use

Hollow Shaft Axles Testing System HWP-C 2500/30-90



GMH Prüftechnik

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# Hollow Shaft Axle Testing System HWP-C 2500/30/90



## Brief description

The hollow shaft axle testing system HWP-C 2500/30-90 offers operators and workshops of wheel-rail systems the possibility of testing hollow shaft axles with different bore diameters in a mobile and mechanised manner. Thus, it represents the optimum solution for repeated ultrasonic testing of mounted wheel set axles at the highest level.

The innovative design in combination with the patented flange technology and the very powerful software sets new standards for resolution, verifiability and flexibility when testing wheel set axles during maintenance of vehicles and wheel sets in the workshop. Additionally to the already mentioned advan-

tages, the testing system specifically has been designed for often very tight spaces. Due to its small size, it offers a high degree of mobility and in connection with the individually moveable test extension a maximum of operating comfort.

In addition, a patented flange technology requires no additional adapter flange at the axle whereby extensive set-up and assembly times either disappear completely or can be substantially shortened.

In collaboration with a powerful operating and evaluation software, the testing system can be adapted in a very short time to the most different testing requirements and thus satisfies highest testing demands.

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## Technical data

### Features

- Very easy handling
- No additional adapter at the shaft due to patented flange technology
- High test speed therefore short test times with high resolution
- Very short equipping and adjustment times due to 2D CAD interface
- Optimum support in the equipping for new axles types
- Automatic evaluation of the test results according to applicable standards
- Presentation of the test results in A-, B-, C-scan
- Extendable according to customer requirements

### Ultrasonic testing system

- Fully integrated 12-channel ultrasonic test system
- Test results displayed on a 22"-TFT-monitor
- Various access hierarchies always ensured by using passwords
- HELIX-Scan for optimized test sequence
- DAC – dynamic depth compensation
- Apertures according to geometry

No. of ultrasonic probes	11
Incidence angle and direction	$\pm 40^\circ$ , $\pm 60^\circ$ lateral flaw, $\pm 63^\circ$ longitudinal flaw, $2 \times 0^\circ$ volume near / far
Probe frequency	5 MHz (type)
Flaw detection	$\geq$ FBH 1 volume testing $\geq 5 \times 1$ mm groove lat. flaws

### Control system

- Fully integrated PC-based drive and control and system
- Automatic control of the test sequence
- Extremely low-noise precision servo drives
- Lowest interference in testing technology
- Direct move of scanner to indicators via C-scan
- High degree of safety

### Automation and mechanics

- Mobile test system for use in the workshop
- Rigid chain principle for positioning of the probes
- Integrated rotation drive with positioning encoder
- Precision guide of the probes in the bore
- Additional manual height setting of extension

Swivel range (horizontal)	$\pm 90^\circ$
Axle bores	30 mm ... 90 mm
Axle length	1500 mm ... 2500 mm
Height of bore centre	300 mm ... 1400 mm (1800 mm optional)
Repeat accuracy of the test head position	$\pm 2,0$ mm
Displacement resolution	$\pm 0,1$ mm min.
Test speed (typical)	20 min / axle
Overall dimensions (w x h x d)	approx. 1300 x 1000 x 1500 mm
Weight	approx. 250 kg

### Evaluation and operating software

- Operating system Windows 7/64 bit
- Powerful operating and evaluation software
- Very short equipping and adjustment times due to 2D CAD interface
- Manual entry of test and sample data
- Clear arrangement of the most important information
- Various presentation types A-, B-, C-scan
- 2D and 3D evaluation
- Freely adjustable evaluation thresholds (can also be changed later)
- Various evaluation algorithms
- Comprehensive zoom-functions
- Direct move of scanner to indicators via C-scan
- Powerful report generator with range of export functions
- Data backup using USB-drive or LAN/WLAN
- Integration in company network
- Linkage to ERP system
- Remote diagnosis and offline analysis functions



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