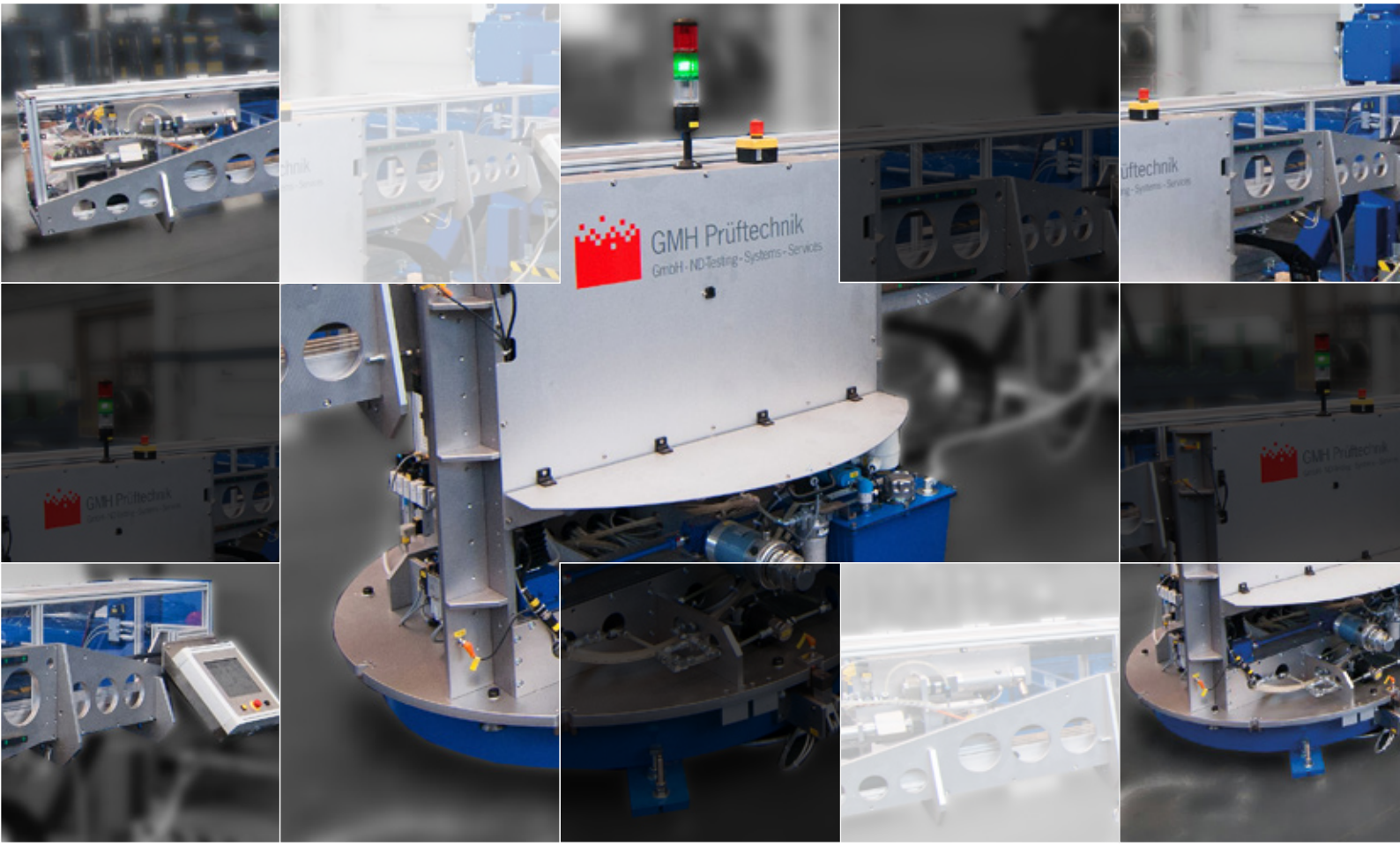
Ultrasonic Testing System
for Hollow Shaft Axles in Production

Hollow Shaft Axles Testing System HWP-PD 2700/30-90



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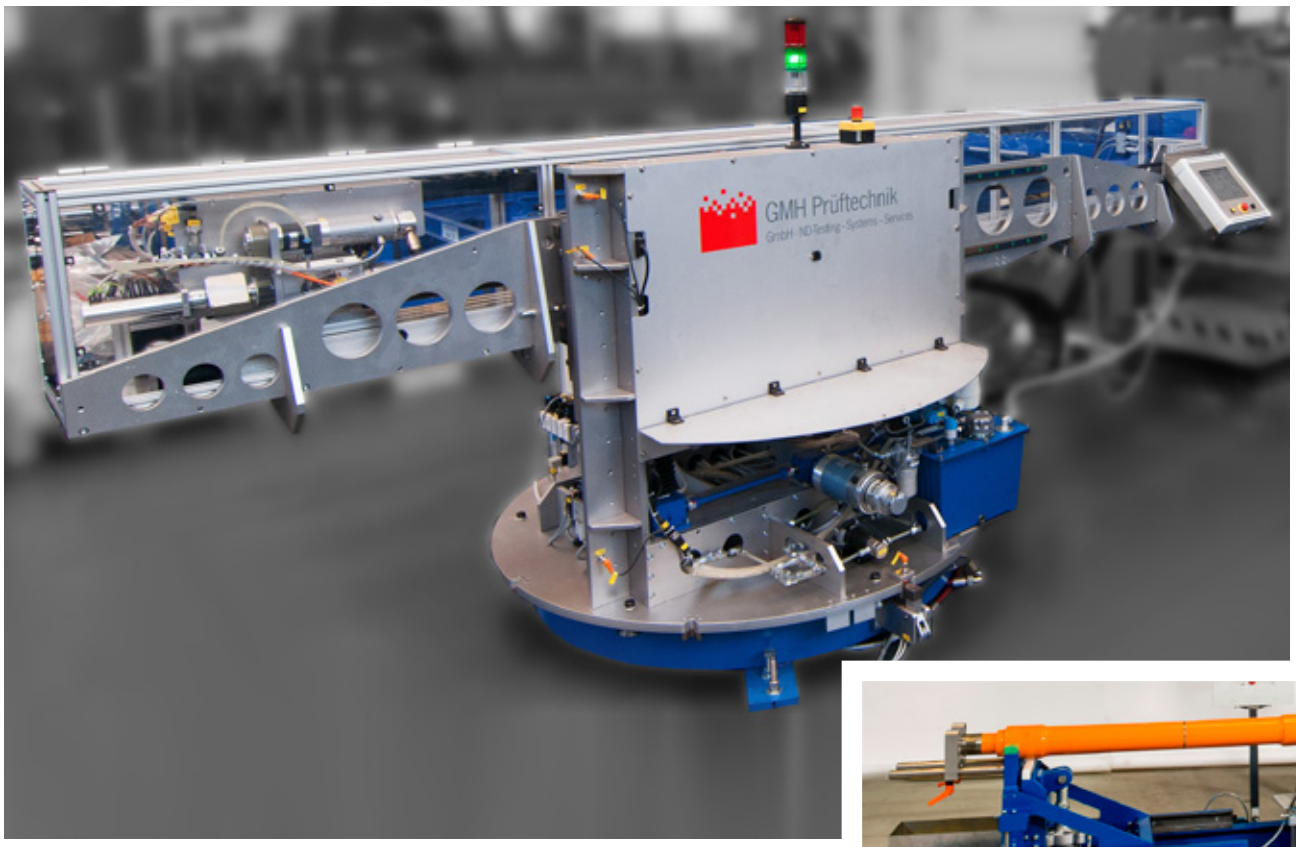
HWP-PD 2700/30-90



Brief description

The hollow shaft test system HWP-PD 2700/30-90 represents the first mechanized testing system for hollow shaft axles that can test everything and therefore combines two test procedures (ultrasonic and eddy current).

Irrespective of whether the shaft is 1.5 m or 2.7 m long and independently of whether the bores are in the range of 25 mm to 110 mm in diameter, they can all be tested. In combination with a 2D CAD interface that simplyfies enormously the re-equipping and adjusting to a different wheel axle geometry, the user finds this testing system a very powerful tool for the production of hollow shaft axles.

For the first time, two test procedures have been combined for testing hollow shft axles in production. Thereby, the ultrasonic technology carries out the volume and surface flaw testing and the eddy current technology the testing of the surface of teh bore – both together in one work step and, for the display, an in-house developed software in a single image. It couldn´t be easier.

Thus, the testing system satisfies all common standards and regulations and also possesses the patented flange technology for simple adaptation to various shaft geometries.

The overall concept of patented flange technology, wide bore diameters and longitudinal range, most easiest adjustment process and powerful software sets new standards for operation, flexibility, verifiability and resolution in testing of hollow shaft axles in production.

If required, this testing system can also be combined with the solid axle testing system (VWP-PD 2700/80-320), which gives you a universal testing system for ALL axle types.

Hollow Shaft Axles Testing System
HWP-PD 2700/30-90

Technical data

Features

- 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 axle types
- Automatic evaluation of the test results according to applicable standards
- Presentation of the test results in A-, B-, C-scan

Ultrasonic / eddy current testing system

- Fully integrated 12-channel ultrasonic testing system
- Fully integrated 2-channel multiple-frequency eddy current testing system
- Presentation of the test results on 27”-TFT-Monitor (approx.)
- Various access hierarchies always ensured by using passwords
- HELIX-scan for optimized test sequence
- DAC – distance amplitude correction
- Apertures according to geometry

No. of ultrasonic probes	11
Incidence angle and direction	± 40°, ± 60° lateral flaw ± 63° longitudinal flaw, 2 x 0° volume near/far
Probe frequency	5 MHz (type)
Flaw resolution	≥ FBH 1 volume testing, ≥ 5 x 1 mm groove lat. flaw
No. of eddy current sensors	2 differential sensors
Flaw detection (bore surface)	≥ 5 x 1 mm groove lat. flaw

Control system

- Fully integrated PC-based drive and control 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 screen
- High degree of safety

Automation and mechanics

- Stationary testing system for use in production
- Erection on a turntable for optimized arrangement of axles and wheel sets
- Lance-principle for positioning of probes
- Integrated rotation drive with positioning encoder
- Precision guide of the probes in the bore
- Motorized height adjustment of the extension

Swivel range (turn table horizontal)	360°
Axle bores	25, 30 ... 110 mm
Axle length	1500 mm ... 2700 mm
Height of bore centre	ca. 600 mm ... 900 mm
Repeat accuracy of the probe position	± 0,5 mm
Displacement resolution	± 0,1 mm min.
Test speed (type)	20 min/shaft
Overall dimensions (w x h x d)	approx. 4000 x 1500 x 1800 mm
Weight	approx. 1500 kg

Evaluation and operating software

- Operating system Windows 10/64 bit or higher
- 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
- Integrated ultrasonic and eddy current 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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