



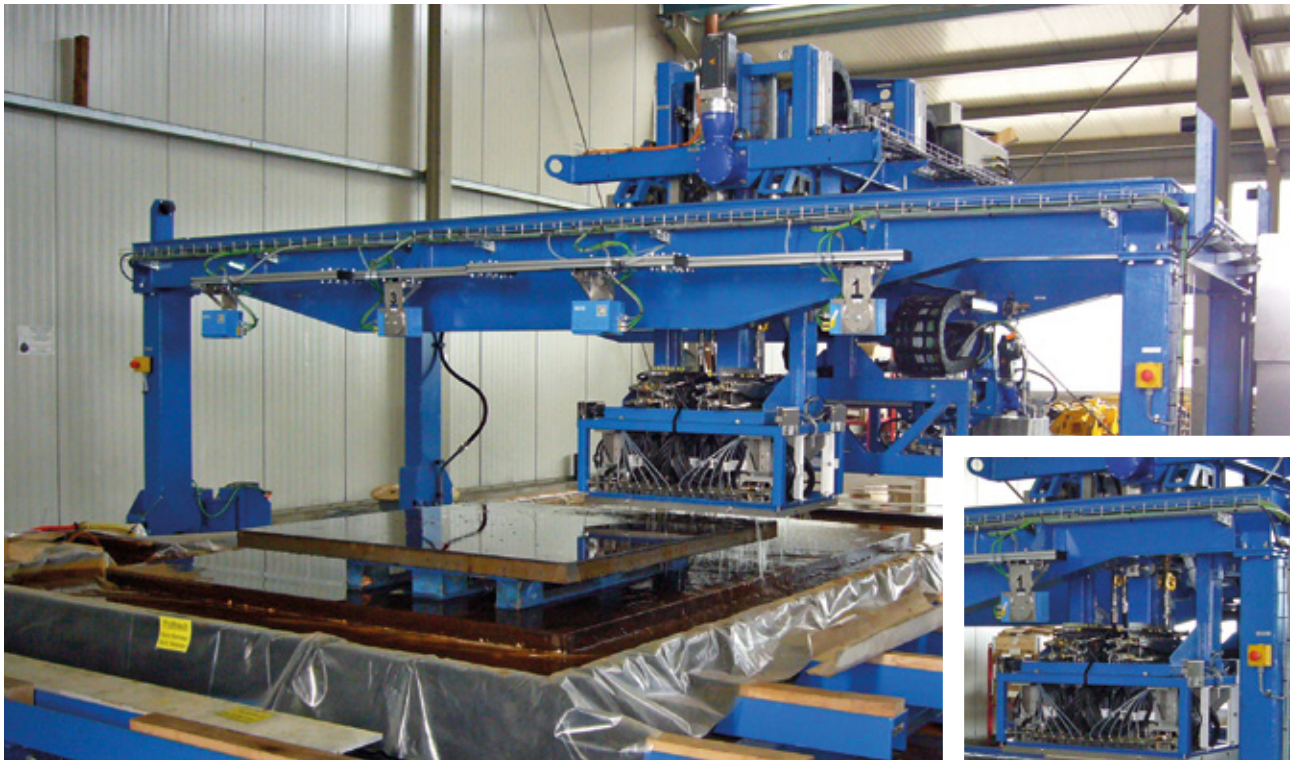
Offline Ultrasonic Testing System for Heavy Plates

Heavy Plate Testing System GBP 13/4-2



GMH Prüftechnik

GmbH · ND · Testing · Systems · Services



Brief description

The GBP 13/4-2 heavy plate testing system has been developed as an “offline testing system” for aggressive conditions in rolling mills in order to test automated heavy plates with high requirements on purity directly in production. Irrespective of whether it’s a matter of dirt, scale, high temperatures or loads - the ultrasonic testing system for heavy plates fully complies with all the sometimes challenging requirements in rolling mills. Thereby it combines state-of-the-art ultrasonic and automation technology with high-performance software. In its basic version, the system has been designed to detect volume flaws. However, it can also be tooled up with an angle test, for example for ASME, and the additionally available “analysis scanner” offers the option for carrying out local detailed scans with considerably increased resolution. With its freely-adjustable grid size and individually adapted ultrasonic probes, local defects can be investigated and assessed very precisely.

The testing system has been fitted with a high-powered geometry measurement system for optimum utilization of the unfinished plate, and this can record the

location, the number of plates on the table and the topology in addition to the pure size determination. In this case, utilization of the deposit table and the plates can be optimized. In many cases several commissions can or have to be cut out of one unfinished plate, and the software supports this to the maximum thanks to its integrated cut pattern generation and differentiation between border zone and core zone testing, even within the same unfinished plate. In doing so, every plate and every commission can be evaluated in accordance with differing standards, and the system offers maximum flexibility when testing plates in connection with numerous already pre-implemented evaluation algorithms.

Depending on the configuration of the testing system the contour of the commission including all plate data can be marked onto the plate following the test process, whereby the downstream cutting process is considerably simplified.

An existing EDP interface enables rapid exchange of production data and test results with a superordinated ERP system.



Technical data

Features

- Fast testing speed, resulting in short testing times with high resolution
- Laser measurement for optimum plate usage
- Maximum tested area $\geq 99\%$
- High testing temperature up to 150°C
- Two independent testing tables
- Automatic evaluation of test results according to different standards
- State-of-the-art operating software
- Presentation of test results in A-, B-, C-scan
- Extendable according to customer requirements

Automation and mechanics

Plate length	1 m ... 25 m (or 2 x 13 m)
Plate width	0,5 m ... 4,2 m
Plate thickness	16 mm ... 280 mm
Plate weight	35 t max.
Testing grid (type)	5 mm ... 16 mm
Optional analysis scanner	0,5 mm ... 10 mm
Maximum testing speed	1000 mm/s
Deposit table	approx. 4,4 m x 13 m
Overall dimensions (W x L)	approx. 6 m x 40 m
Weight (without liquid)	approx. 10 t

Ultrasonic testing system

- Fully-integrated 64-channel ultrasonic testing system
- Test results displayed on a 27"-TFT-monitor
- Various access hierarchies always ensured by using passwords
- DAC – dynamic depth compensation
- Probe frequency 5 MHz (type)
- Error resolution \geq FBH 3 (in special cases for plated plates \geq FBH 1,5)
- Special designed 1S/3E Paintbrush probes
- Special probes for analysis scanner and angle test

Evaluation and operating software

- Operating system Windows 10/64 bit
- Automatic or manual entry of test and plate data
- Range of evaluation algorithms
- Parameters for different standards can be saved
- Freely adjustable evaluation thresholds
- Batch evaluation and administration
- Extensive zoom and evaluation functions
- Cut pattern generator for commissions
- Needle marking system for cut marks, logos and plate description
- Direct move of scanner to indicators via C-scan
- Powerful report generator with a wide range of export functions
- Data backup using USB drive or LAN/WLAN
- Integration in company network
- Linkage to ERP system
- Remote diagnosis and off-line analysis functions

Control system

- Automatic plate measurement and contour recognition
- Fully-integrated control and drive system (Siemens Sinumerik 840D)
- Automatic control of the test sequence
- Extremely low-noise precision AC servo drive
- Monitoring of test process
- Laser pointer for manual teaching
- Several plates can be tested on each table



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