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Materials Testing

Product Information

Robotic Testing System ‘roboTest P’ (Portal) for Metals

Pic 1: Robotic testing system ‘roboTest P’

Application

The robotic testing system is used for the fully automatic performance of tensile tests on metallic specimens (e.g. according to DIN EN 10002-1, ISO 6892, ASTM E8, JIS Z2201). Additional tests like hardness or roughness measuring can be carried out, too.

System Configuration

- Materials testing machine 5 kN up to 2000 kN with symmetrically closing, pneumatic or hydraulic specimen grips and an optional extensometer
- Specimen magazine for up to 400 specimens (depends on specimen dimensions)
- Robotic feeding system ‘roboTest P’
- Barcode scanner (optional)
- Cross-section measuring device (optional)
- Other devices (see options)
- Industry Controller with test software *testXpert*® and automation software autoEdition2

Advantages of the Robotic Testing System ‘roboTest P’

- A high reproducibility of the test results is obtained because operator influences are excluded (hand temperature, moist hands, eccentric or inclined insertion of specimens etc.).
- Qualified laboratory staff is relieved of routine jobs and is thus available for more complex activities.
- The machine can be used during idle times (break, night shift) and thus increases the rate of utilization and allows „quicker“ results.
- For increasing the specimen throughput several materials testing machines can be integrated.
- The modular system makes an economical adaptation to specific customer requirements possible.
- The system reduces the testing costs per specimen and usually pays off within one to two years.
- For manual tests the specimen gripper can be moved to the side, allowing operator free access to materials testing machine.
- Due to the precise centering of the specimen in the cross-section measuring device and the automation of the measuring sensors, the specimen dimensions can be exactly measured.
- The usage of state-of-the-art web-technologies ensures a constant process control and remote diagnostics of the robotic testing system. Results as well as status messages can be sent directly per email or SMS.
- The automatic data logging system ensures secure documentation and enables statistical long-term monitoring (Statistical Process Control).
- The components of the robotic testing system are not subject to wear; they are maintenance-free and designed for three-shift operation.

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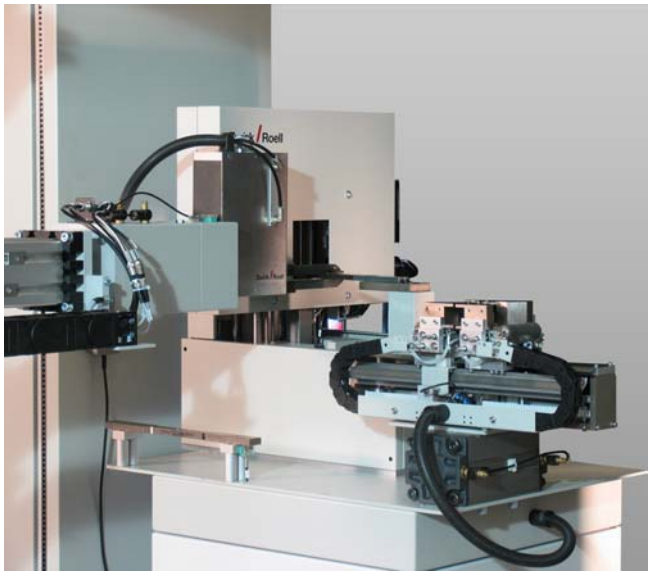

Measuring of the specimen thickness and with by the cross-section measuring device

Test Sequence

- The user fills the specimen magazine directly on the test system or outside the system. The filling of the magazine can be done also during operation.
- The specimen data (ident number, width, thickness,...) are entered on the PC. In barcode operation this step can be omitted.
- After the startup of the system, specimen feed, test and removal of the specimen rests are carried out automatically. The order of testing can be controlled by the operator. A specimen rests removal with good/bad sorting is possible by corresponding inputs.

Technical Data

Mechanics	
Dimensions (H x W x T)	depends on the equipment
Weight	depends on the equipment

Connected values	
Electrical connection	230/400 V
Input / Output	up to 80 kVA[1)]
Mains frequency	50/60 Hz
Compressed air	6 bar
Required compressed air	from 10 lpm[1)]

[1)] depends on the equipment

Control	
Automation	autoEdition2
Peripheral connection	PROFIBUS

Specimens	
Specimen type	dumbbells, stripes, round specimens
Capacity	depends on specimen dimensions
Material	dimensionally stable
Weight	max. 30 kg
Length	max. 500 mm
Shoulder width (flat)	max. 50 mm
Diameter (round)	max. 20 mm
Thickness	max. 80 mm

other specimen dimensions on request

Options

- Specimen identification by barcode
- Cross-section measuring (1 or 3 measurements per specimen)
- Coat thickness measuring
- Roughness measuring
- Hardness measuring
- Spectrum analysis
- Scale
- Specimen removal
- Good/Bad sorting
- Data exchange with superior processor systems (e.g. LIMS) via upload/download of ASCII-files or ODBC
- Optical status indicator by threefold „traffic light“ (running, refill specimens/finished, error)

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