

Product Information

Robotic Testing System 'roboTest L' (Linear) for Metals



Robotic testing system 'roboTest L' for metals

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).

System Configuration

- Materials testing machine 5 kN up to 250 kN with symmetrically closing, pneumatic or hydraulic specimen grips and optional extensometer
- Robotic feeding system 'roboTest L' including motorized magazine table and safety unit (for CE certification)
- Barcode scanner (optional)
- Cross-section measuring device (optional)
- Industry Controller with test software *testXpert*® and automation software autoEdition2

Advantages of the Robotic Testing System 'roboTest L'

- 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.
- 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.
- Manual tests are still possible by simply moving the robotic feeding system aside.
- 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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Specimen feeding to the cross-section measuring device

Technical Data

Mechanics

| | |
|------------------------|---|
| Mounting | coupled to the load frame |
| Dimensions (H x W x D) | 1200 ¹⁾ x 1340 ²⁾ x 1540 mm |
| Weight | approx. 350 kg (without specimens, depends on the equipment) |

¹⁾ depends on the load frame

²⁾ incl. motorized magazine table; additional travel: 990 mm

Connected values

| | |
|-------------------------|----------------|
| Electrical connection | 230/115 V |
| Output | approx. 200 VA |
| Mains frequency | 50/60 Hz |
| Compressed air | 6 bar |
| Required compressed air | 10 lpm |

Control

| | |
|-----------------------|--------------|
| Automation | autoEdition2 |
| Peripheral connection | PROFIBUS |

Specimens

| | |
|-----------------------|---|
| Specimen type | dumbbells, stripes |
| Specimen gripper | pincer gripper |
| Capacity | max. 160 (depends on specimen dimensions) |
| Material | dimensionally stable, non-adhesive |
| Weight | max. 1 kg |
| Length | max. 300 mm |
| Shoulder width (flat) | 20 ... 40 mm |
| Diameter (round) | 2 ... 20 mm |
| Thickness | 0.1 ... 16 mm |

Options

- Specimen identification by barcode
- Cross-section measuring (1 or 3 measurements per specimen)
- Specimen disposal gripper
- 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)

Test Sequence

- The user fills the removable specimen magazine at the specimen preparation or directly on the test system. The magazin will be placed on the magazine table.
- 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 fragments are carried out automatically.
- After testing of all magazined specimens the magazine can be refilled or changed by a prepared insert. A refilling of specimens in empty magazine places is possible at any time.

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