

Product Information

Automatic Testing of Metals : Polar Specimen Feeding



Pic 1: Automatic Specimen Feeding System "Polar" for Testing Metals



Pic 2: Robot takes the specimen into the machine

Automatic Tensile Test on Metals

The automatic testing system in "Polar" type is for the automatical implementation of tensile tests according to EN 10002-1 and other standards.

Material testing machines from 5 kN to 2500 kN can be integrated into the automatic specimen feeding system.

The testing system shown consists of a Zwick 250 kN materials testing machine as well as an automatical specimen feed system with 6-axis industrial robot. The test system could be optional complete with barcode reader, cross-section measuring device, spectral analysis, scale, temperature unit, hardness test device as well as additional materials testing machines.

The specimen magazine could take 400 specimen. The magazine's filling could be done from a secure position also during operation.

The specimen could be identified automatically and without error by an optional barcode reader

A specimen rests removal with good/bad sorting is possible by corresponding inputs.

The measured test results could be send to a host computer system for report's preparation and production controlling.

The easy and user friendly software Zwick *testXpert*[®] and *testXpert*[®] autoEdition controls the complete system.

For manual tests the robot could be brought in a park position, so the user has free access to the testing machine.

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Pic 3: Cross-section measurement device

Main benefits of automatic specimen feeding

- Secure documentation and statistical long-term control of process and production (also in the sense of DIN ISO 9001)
- The test system with automatic specimen feeding amortizes itself within approximately 2 years because of the low test costs per specimen
- Subjective influences of the users are eliminated by high positioning accuracy of the automatic specimen feeding
- The intuitive and easy operation of the automatic test system is guaranteed through collection of all system functions in the operational masks of the Zwick user's software *testXpert*[®] autoEdition
- The order of testing can be controlled by the operator
- The accurate determination of the specimen's thickness and width is enabled by the exact specimen's centring in the cross section measuring device and the measuring by use of rounded sensors
- The modular system makes an economic adaptation to specific customer requirements possible. Software-adjustments are possible by application of standardized components and flexible data connection

- The connection to MS Office programs like Access, Excel or Word is possible by easy Visual Basic Applications
- The use of modern Web technologies ensures a persistent process controlling and remote diagnosis of the automatic test system. Results as well as status messages could be send directly per email or SMS

Further advantages

- "All from one source": Zwick takes over everything from consultation until service, for the testing machine, as well as for the automated specimen feeding
- The Zwick maintenance and calibration service is officially approved by the Physical-Technical Institute (PTB) as a DKD calibration laboratory. Zwick is thereby authorized to check materials testing machines on location and issue DKD calibration certificates for the measurement units for force and extension measurements