

Product Information

Automatic Testing of Metals: „X-Linear“ Specimen Feeding



Pic 1: Automatic Specimen Feeding System „X-Linear“ for metals

Automated tensile testing on metals

The constantly increasing number of tests and the expected dependability of the results because of establishment of EN ISO 9001 or an audit, require more and more, a fully automatic testing to include results evaluation. The modular testing system in X-linear construction is suitable for 100 to 200 specimen per day.

The testing system shown can test metal specimen to DIN EN 10002-1. The fully automatic specimen feeding consists of an economical basic system and applications specific supplemental units. Various components from the modular system – according to type of automated task – such as specimen grips, dimension measurement instruments and specimen magazines can be combined to a customer specific testing system.

The modular SPS-Control with Feldbus-Interface can be adapted to the most varied requirements. The automation programme is integrated in the user's software, Zwick testXpert.

With the digital positioning of the feeding system, the specimen can be exactly and reproducibly placed in the specimen grips.

The specimen magazine consists of up to 4 removable

racks, each with up to 40 individual specimen places (according to specimen thickness). For continuous operation of the testing system, these racks can be refilled with new specimen while the system is running. The automated testing system guarantees a constantly high testing quality independently of the systems operator.

Because of the low operating costs and reducing operator work to placement of specimen in the magazines, the testing costs can be greatly reduced over a longer period of time.

The testing system can be expanded with a cross-section measuring instrument for measurement of the actual specimen thickness and width.

Through the use of a bar-code-reader, the specimen can be identified without error when removed from the magazine.

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Pic 2: Feeding of the metal sample into the hydraulic grips

Main uses of automatic specimen feeding

- * The modular system makes an economical adaptation to specific customer requirements possible
- * Because of the low test costs per specimen, the test system with automatic specimen feeding amortises itself within approx. 2 years
- * Because of the modular construction of the automatic specimen feeder, manual testing can be performed on the machine at any time
- * Elimination of subjective influences because of the high positioning accuracy of the automatic specimen feeder
- * The order of testing can be controlled by the operator with individual loading of specimen and free selection of where the specimen gripper picks up the specimen

Further advantages of the automatic specimen feeding

- * Reproducibility of the testing requirements even over a long operating time, no influences through different operators
- * Secure documentation and statistical long-term control of process and production to comply with DIN ISO 9001* Unmonitored testing (“ghost shift”), loading of the system by untrained personnel possible

- * “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 recognised by the Physical-Technical Institute (PTB) as a DKD-calibration laboratory. Zwick is thereby authorised to check materials testing machine on location and issue DKD calibration certificates for the measurement units for force and extension measurements.

For further information contact

Zwick Materials Testing
Projects Department - Sales
August-Nagel-Straße 11
D-89079 Ulm-Eisingen

Contact:

Mr. Shelley

Tel. +49 7305 / 10-377

Fax +49 7305 / 10-234

e-mail: gunther.shelley@zwick.de

Mr. Geiselmann

Tel. +49 7305 / 10-259

Fax +49 7305 / 10-234

e-mail: oliver.geiselmann@zwick.de