

Materialprüfung

**Kammrath
Weiss GmbH**



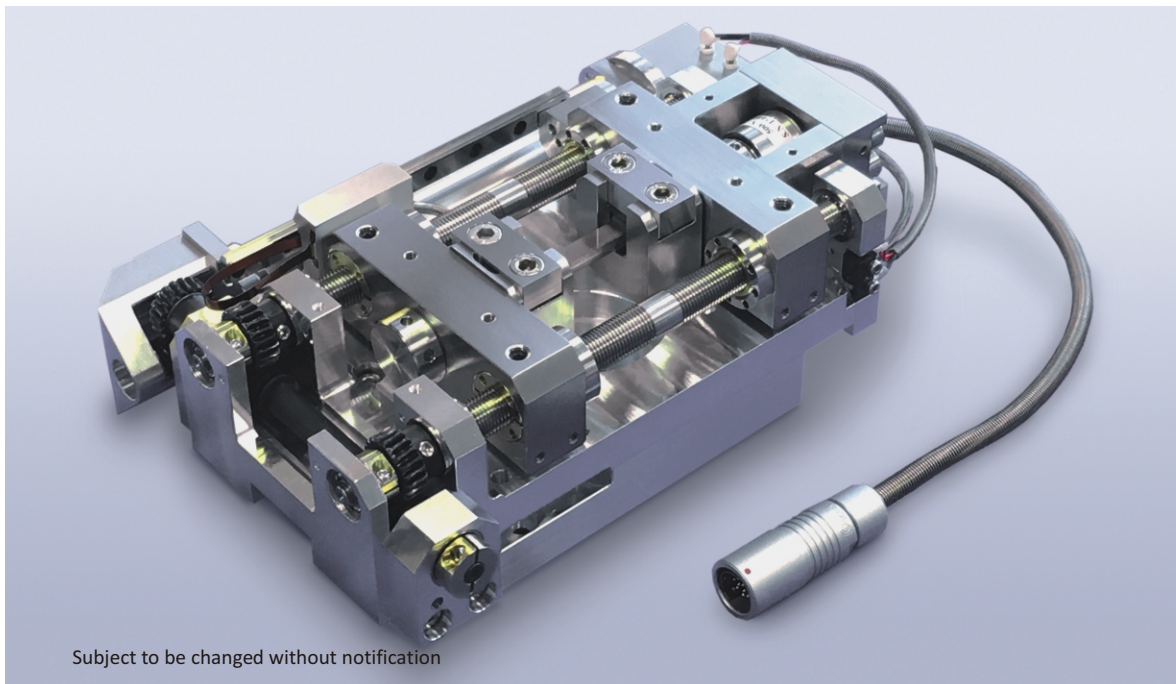
Spezialentwicklungen für die Mikroskopie



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Substages

Tensile (Compression) Module up to 5kN Reinforced Version 10kN



Subject to be changed without notification

5'000N Tensile (Compression) Module, Overall View.

This tensile module (compression as option) for the SEM (and a limited selection of "Atomic Force Microscopes") fits on the sample stage just like an oversize specimen. The test objects should be 20 to 60 mm long, not thicker than 5 mm.

Various type of clamps and holders make sure that the module can be perfectly adjusted to the experimental demands.

The tensile lead screws of the load frame are threaded with right and left pitches at their opposite ends. So the area in the middle from where the specimen elongates in both directions, will stand almost perfectly still.

The PC-controlled microprocessor electronics (DDS-3) with a large software package (MDS) is part of the standard shipment. A great number of test parameters and experiments routines are menu-guided, and easy to use. The program is especially suitable for cyclic tests. Many sub routines, such as compensation of the device's individual flexure and online recording of the modulus of elasticity are integrated. Furthermore crack recognition, ramping, and many other functions are included. Image capturing is available as option and many other features too.

Specifications

Tensile (Compression) Module, 5000 N

This device is a number of a group of testing substages which may all run from the same controller. Available in "TENSILE" and "TENSILE / COMPRESSION" version.

Applications

Static or dynamic observations of surface changes under controlled mechanical load, crack growth, delamination phenomena, formation of slip planes etc.

Metals, ceramics, glass, ceramic bulk materials or layers, galvanic coatings, soldered or welded joints, minerals, wood, organic materials.

This materials testing, device fits most of today's SEM specimen stages. Four small standoffs allow to place it under a light microscope, AFM, Laser- or Raman microscope.

Performance

Load ranges: from 10N up to 5000 N (10kN option)

Specimen dimensions in mm (max. sizes): 60 x 10 x 5

Deformations speed range: 0.3 to 50 $\mu\text{m}/\text{sec}$.

Displacement: The module is equipped with a linear encoder displacement gauge. This gauge covers the total displacement range up to 45mm, with a resolution of 0.1 μm

Module dimensions in mm (w x h x l): 150 x 55 x 220.

Options

Load cells: 1N, 10N, 20N, 50N, 100N, 200N, 500N, 1kN, 2kN, 5kN, 10kN

Extensometer: Range: +/- 1mm, resolution: <100nm; other on request

Heating / Cooling: from room temperature up to 800° C or

+/- 100° C, incl. PID-controller.

Specimen clamping: for loads >500N, <500N, round shaped specimen, choose out of more than 30 different custom tailored clamps

3 point or 4 point bending inserts

Adaptation for: EBSD, Diffractometer, AFM or Synchrotron application.

Video-Extensometer: VEDDAC-strain

Image-Capture: reviewing the image along the data curve

Software interface for remote control e.g. LabView

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Controllers

Choice between manual controller (Starter system), and microprocessor controller (DDS-3) with interface and software (MDS) for PC-operation.