

TT-AFM Stage

Model ID: MS-3230

The **TT-AFM stage** has the excellent thermal and mechanical stability required for high-resolution AFM scanning. Additionally, its open design facilitates user modification. This stage is designed to work with the AFMWorkshop Control Station including an Ebox and AFMControl software.

Features and Benefits of the TT-AFM Stage include:

- ▶ **Rigid Frame Design**
The crossed beam design for stage support is extremely rigid, making the AFM less susceptible to external vibrations.
- ▶ **Light Lever AFM Force Sensor**
Light lever force sensors are used in almost all atomic force microscopes and permit many types of experiments.
- ▶ **Integrated Probe Holder/Probe Exchanger**
Probe Exchange is made quick and easy with AFMWorkshop's unique probe holder and clipping mechanism.
- ▶ **Direct Drive Z Stage**
A fast probe approach is possible because probe/sample angle alignment is not required. A linear motion stage is used to move the probe in a perpendicular motion to the sample.
- ▶ **Small Footprint**
Requires little space and fit easily on a tabletop with stage dimensions of 7.5 x 12".
- ▶ **Precision XY Stage with Micrometer**
The sample can be moved without touch. The sample is moved relative to the probe with a precision XY micrometer stage.
- ▶ **Modes Electric Plug**
Capabilities of the TT-AFM are dramatically expanded via a six pole electrical plug at the back of the stage.
- ▶ **Laser/Detector Alignment**
Laser/detector alignment is simplified via a direct view to both the light lever laser and the photo detector adjustment mechanism.
- ▶ **Video Optical Microscope**
A high resolution video optical microscope is used for locating features on a surface, aligning the light lever force sensor, and facilitating probe approach. The video optical microscope includes an XY micrometer stage for moving the video microscope relative to the AFM probe.

INCLUDED WITH THE PRODUCT

- * TT-AFM Stage
- * Video Optical Microscope
- * 60 pin ribbon cable
- * USB cable
- * TT-AFM Manual

Note: This product does not include an XYZ piezoelectric scanner

SPECIFICATIONS

▶ Light Lever AFM Force Sensor

- » Type Magnet
- » Probe Types Industry standard
- » Probe Insertion Manual – probe exchange tool
- » Probe Holding Mechanism Clip
- » Laser/Detector Adjustment Range Vibrating mode piezo
- » Adjustment resolution Electrical connector to probe
- » Minimum Probe to Objective +/- 1.5 mm
- » Laser Type 1 μ
- » Laser Type 25 mm
- » Laser Type 670 nm diode, < 5 mw

▶ Detector

- » Type 4 quadrant
- » Band Width > 500 kHz
- » Signals Transmitted TL, BL, TR, BR
- » Gain Lo, High Settings
- » Probe sample angle 10°

▶ Video Microscope

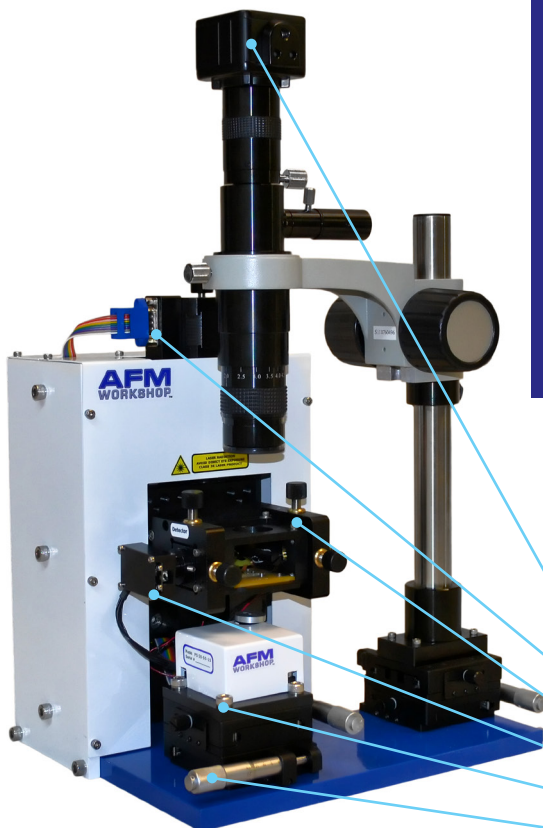
	Minimum Zoom	Maximum Zoom
Field of view	2 X 2 mm	300 X 300 μ
Resolution	20 μ	2 μ
Working Distance	114 mm	114 mm
Magnification	45 X	400 X

▶ XY Translator

- » Range 25.4 mm
- » Resolution 2 μ
- » Type Bearing - spring loaded
- » Lock Down Yes

▶ Z Motion

- » Type Direct Drive
- » Range 25 mm
- » Drive Type Stepper Motor
- » Min. Step Size 330 nm
- » Slew Rate 8 mm/minute
- » Limit Switch Top, Bottom
- » Control Software – rate, step size



- High resolution video microscope
- Direct drive Z motor stage
- Light lever force sensor
- Mode input/output plug
- XYZ linearized piezo scanner (PURCHASED SEPARATELY)
- XY sample translation stage