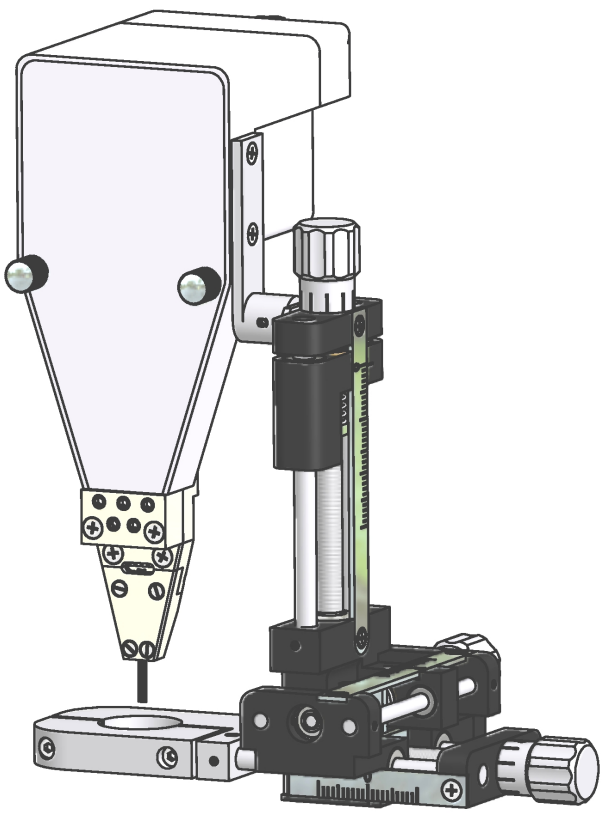
Thomas RECORDING GmbH

„We have the solution!“

Thomas Mini Matrix System



Product Features

- Axial resolution better than 1µm, x-y-z-Positioning with xyz-manipulator and special holder
- Patented rubber-tube drive, no hysteresis, slick or free motion due to patented rubber tube drive (avoids drawbacks of cable, direct or hydraulic driven systems)
- Electrode travel range up to 24.000µm
- Variable speed range from 0...250µm/s, higher velocity on request
- Small and lightweight
- No electrode connection cables free in air! Complete metal shield around all microelectrodes
- Suitable for cortical and deep brain recordings
- Very close electrode spacing available (down to 80µm)
- Different electrode arrangements available (linear, concentric, etc.)
- Stable long-term recordings with thin microelectrodes for hours
- Integrated low noise preamplifier

Made in GERMANY

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Innovative Products for Neurophysiology

The ***Thomas Mini Matrix Systems*** are available for 2-, 3–, 4– and 5– single microelectrode configurations. Figure 1 shows a 5 electrode Mini Matrix system with the following features: (1) Mini Matrix chassis with closed cover, (2) Microdrive motor cabinet, (3) multichannel preamplifier integrated in the Microdrive chassis, (4) exchangeable microdrive head for different electrode configurations (e.g. linear, concentric, etc.), (5) chamber clamp to mount the Microdrive in an implanted primate recording chamber, (6) xyz-manipulator. It is also possible to mount the microdrive to stereotaxic instruments. The microdrive is equipped with the patented Thomas rubber tube drive that avoids positioning errors well known from other microdrive systems [1].

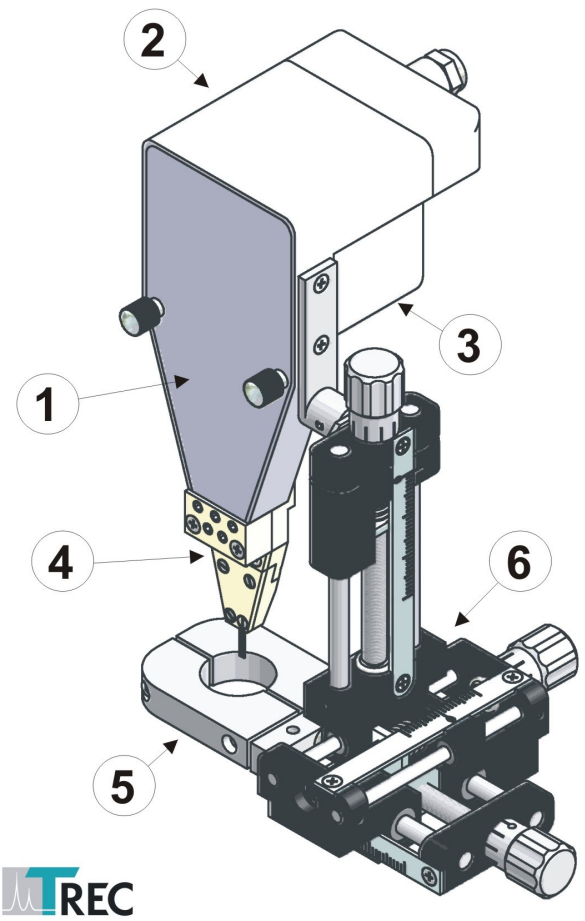

Figure 1: 5 channel Thomas Mini Matrix

The mini matrix has an integrated low noise preamplifier. The microelectrodes are shielded by the microdrive chassis so that there is no electrical noise pickup from the environment.

Different electrode configurations are realized by an exchangeable microdrive head. Very close electrode spacings are possible (down to 80µm). The Thomas Mini Matrix is well suited for cortical and also for deep brain recordings. A ***Thomas Mini Matrix System*** is delivered completely with microprocessor motor control unit, software, multichannel preamplifier, xyz-manipulator, and a set of microelectrodes.

[1] Eckhorn R, Thomas U (1993) A new method for the insertion of multiple microprobes into neural and muscular tissue, including fiber electrodes, fine wires, needles and microsensors. J Neurosci Methods 49:175-179.

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