

Motorized Tester Models ETM-F/A/M

- Indication range 0-50 N, 0-250 N, 0-500 N, 0-1,000 N, 0-3,000 N
- Motor driven with adjustable test speed
- Password protection of operational levels

General Information:

- Re-designed model series for tensile and compressive force measurements with high measurement accuracy and a simple control concept; durable construction.
- Available in three different versions (see overleaf table).
- Tester with motorized drive unit for precise and reliable measurements for test labs, production lines and quality assurance.
- Suitable for testing ready-made supply cables, plugs, components and ceramic work-pieces and also for tensile and compressive force tests in the field of material testing.
- Password protection between operating and programming levels can easily be activated.
- Display and operation via LED backlight QVGA TFT-touchscreen-display with pictograms, ca. 115×86 mm (5.7"). LCD update rate: 60 Hz.
- New maintenance-friendly drive.
- Optimized protection of linear guidance against dust.
- High internal measurement frequency and resolution to ensure the highest degree of accuracy.
- Tare-compensation.
- Set-point specification with acoustical warning (can be deactivated) and a color change of the display.
- 2 Operating modes:
 - Peak mode: displaying the highest measured force value of the entire measurement procedure,
 - Roll mode: displaying the current force value.
- Memory for measured values, including counter.
- Setup menu for parameter setting and adjustment; Several operational levels with password protection.
- Serial and optional Ethernet interface for data output; Interface for PC-Software mavSTAT_{light}, mavSTAT, mavDATAex and mavGRAPH (ETM-M only), mavCALIB for calibrations in combination with a KMG force gauge.
- Optical and acoustical overload indication.
- Emergency break function when resistance is encountered during rewind.
- Shielding of force transducer and AD-converter against electromagnetic radiation (mobile phone interference etc.).
- ETM Testers have a constant or manually adjustable testing speed (depending on model), which is also displayed.
- Universal quick action clamps for tool fixture.



**Model ETM 300 /
 3,000 N with DKS 20
 & SG 80V**



**Model ETM 50 /
 500 N with MK 8
 SG 80**

Model Overview ETM-F * ETM-A * ETM-M:

| Code | Indication Range [N] | Resolution [N] |
|------|----------------------|----------------|
| 5 | 0 - 50 | 0.005 |
| 25 | 0 - 250 | 0.025* |
| 50 | 0 - 500 | 0.05 |
| 100 | 0 - 1,000 | 0.1 |
| 300 | 0 - 3,000 | 0.3 |

*due to display resolution values are shown as .00; .03; .05; .08

Clamping Tools & Holding Fixtures:

| | |
|---------------------|--|
| Clamping cones | SG 40, SG 80(V) |
| Turntable | UNI-DT-2K |
| Cable tensioner | MK-8, DKS-20 |
| Quick action clamps | KSH-6, KSP-8, SHA-12/-20, DES-10 |
| mm-plug gauge | ML1 for cable isolation pull-off testing |
| Comb tools | KW 1, KW 2 |
| Miniature grips | FSEL, KSEL |

For other tools, please see the catalogue.
 Customized tools upon request.

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Technical Data:

Model designation: ETM.
Indication range: 0- 50/250*/500/1,000/3,000 N.

Test units up to 1,000 N nominal load:

Capacity: 0 - 50/250/500/1,000 N.
Dimensions: W × D × H ca. 200 × 655 × 192 mm.
Weight: ca. 21 kg.

Test unit with 3,000 N nominal load:

Capacity: 0 - 3,000 N.
Dimensions: W × D × H ca. 200 × 655 × 192 mm.
Weight: ca. 25 kg.

Color: blue RAL 5019, cover plates in light grey.
Power supply: 30 V DC, via external power supply.
Drive: Stepping motor with linear drive.

Force Transducer:

Strain gauge-load cell with integrated 16 bit AD-converter and configurable micro controller.

Evaluation:

- Different software features (see overview).
- Operating modes: roll and peak mode.
- Internal measuring frequency ca. 10,000 Hz.
- Zero point adjustment, tare-compensation.
- Optical and acoustical overload indicator.
- Set-value specification, optical and acoustical note.
- Password protected menu for parameter setting and adjustment.
- Single and list output via serial interface;
- Real-time clock for printouts with date and time.

Display and Operation:

Multi-Touch- LED-Display, 5.7", res. 370x240 pixels, LCD Update Rate: 60 Hz. All actuations and inputs via touchscreen. Clear overview of respective operating mode. Operating and programming levels with password protection.

Interface:

RS232C adjustable 1,200-115,200 baud, 8 data bits, 1 stop bits, parity: no, Connector Sub-D (9-pin); Ethernet optional.

Additionally for the ETM-A and ETM-M models:

- Freely adjustable testing speed.
- Force pre-selection: 10-100% of device nominal load.
- Break-stop function: Automatic stop and return after breakage of test specimen.
- Cycle function: load slide moves back and forth between 2 end positions.
- The ETM-M model additionally features a precision force-displacement measuring system.

Optional Accessories:

- Tabletop printer including a data cable.
- Software mavDATAex, mavSTAT, mavSTAT_{light}, mavGRAPH for ETM-M, mavCALIB for calibrations with the KMG.
- Control system KMG.
- Machine's firmware can be updated by operator at no costs.
- Other supplies from the catalogue upon request.

| Equipment | ETM-F | ETM-A | ETM-M |
|--|---|---|---|
| Measurement and drive system | Tractive and compressive force measurements | | |
| Indication range | 0-50/250*/500/1,000/3,000N | | |
| Measurement resolution | 10,000 increments* | | |
| Relative deviation in recommended measuring range | ≤ ± 0.25% of measured value +/-1Digit range | | |
| Recommended measuring range | 10-100% of nominal load | | |
| Operating modes | Peak- and roll- mode | | |
| Operation and display | Multi-Touch- LED-Display 5,7" | | |
| Automatic zero point correction | ● | ● | ● |
| Tare-compensation | ● | ● | ● |
| Set-point specification | ● | ● | ● |
| Serial interface for data output | ● | ● | ● |
| Ethernet interface | - | ○ | ○ |
| Real time clock | ● | ● | ● |
| Memory space | ● | ● | ● |
| Single and listing output | ● | ● | ● |
| Safety components | Emergency stop button & anti-pinch function in fast reverse | | |
| Testing speeds for all Models up to 1,000 N Models up to 3,000 N | Adjustable 25/50/75/100/ 150/600(800) mm/min | Freely adjustable 5-800 5-600 mm/min | Freely adjustable 5-800 5-600 mm/min |
| Pull/push rearrangement | Reverse speed must be higher than testing speed; from firmware version 1.45 also via key switch | | |
| Linear stroke | Max. 150 mm | | |
| Memory (max. saved measured values) | 100 | 4,000 | 4,000 |
| Break-stop function | - | ● | ● |
| Cycle test | - | ● | ● |
| Force pre-selection for non-destructive testing | - | ● | ● |
| Holding under load, preset choices: destruction, back to normal (afterwards) | - | 0-200sec ● ● | 0-200sec ● ● |
| Force/displacement measurement | - | - | ● |
| Repeat tests between two positions | - | ● | ● |
| Software holding time up to max. 2,000 sec. | - | - | ○ |
| Software repeat test force | - | - | ○ |
| Software webserver | - | ○ | ○ |
| Software upgrade | to ETM-A | - | - |
| Firmware update | ● | ● | ● |
| Tabletop printer DPN | ○ | ○ | ○ |

- not available * ○ optional, surcharge * ● Standard

* Due to display resolution ETM25 shows values with: .00; .03; .05; .08.

** smart speed control limits speed during tests at higher forces automatically for more precise Results

Motorized Tester Models ETM-F/A/M

- Indication range 0-6,000 N, 0-10,000 N
- Motor driven with adjustable test speed
- Password protection of operational levels

General Information:

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- Available in three different versions (see overleaf table).
- Tester with motorized drive unit for precise and reliable measurements for test labs, production lines and quality assurance.
- Suitable for testing ready-made supply cables, plugs, components and ceramic work-pieces and also for tensile and compressive force tests in the field of material testing.
- Password protection between operating and programming levels can easily be activated.
- Display and operation via LED backlight QVGA TFT-touchscreen-display with pictograms, ca. 115×86 mm (5.7"). LCD update rate: 60 Hz.
- New maintenance-friendlier drive.
- Optimized protection of linear guidance against dust.
- High internal measurement frequency and resolution to ensure the highest degree of accuracy.
- Tare-compensation.
- Set-point specification with acoustical warning (can be deactivated) and a color change of the display.
- 2 Operating modes:
 - Peak mode: displaying the highest measured force value of the entire measurement procedure.
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- Memory space for measured values, including counter.
- Setup menu for parameter setting and adjustment; Several operational levels with password protection.
- Serial and optional Ethernet interface for data output; Interface for PC-Software mavSTAT_{light}, mavSTAT, mavDATAex and mavGRAPH (ETM-M only), mavCALIB for calibrations in combination with a KMG force gauge.
- Optical and acoustical overload indication.
- Emergency break function when resistance is encountered during rewind.
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- Universal quick action clamps for tool fixture.



Model ETM 600 /
 6,000 N with SHA-40
 & SG 90



Model ETM 1000 /
 10,000 N mit SHA-40
 & WW-MAK

Model Overview ETM-F * ETM-A * ETM-M :

| Code | Indication Range [N] | Resolution [N] |
|-------|----------------------|----------------|
| 600 | 0 - 6,000 | 0.6 |
| 1,000 | 0 - 10,000 | 1.0 |

Clamping Tools & Holding Fixtures:

| | |
|----------------------|------------------------------------|
| Clamping cones | SG 90 |
| Quick action clamps | SHA-40 |
| Interchangeable tool | WW-MAK |
| Power strip | SL-BAT for battery cable terminals |

For more tools and specifications please see the catalogue. Customized tools upon request.

- Indication range 0-6,000 N, 0-10,000 N
- Motor driven with adjustable test speed
- Password protection of operational levels

Technical Data:

Model designation: ETM.
 Indication range: 0 - 6,000/10,000 N.

Test units with 6,000 N / 10,000 N nominal load:

Capacity: 0 - 6,000/10,000 N.
 Dimensions: W × D × H ca. 240 × 725 × 192 mm.
 Weight: ca. 37 kg.

Color: blue RAL 5019, cover plates in light grey.
 Power supply: 30 V DC, via external power supply.
 Drive: Stepping motor with linear drive.

Force Transducer:

Strain gauge-load cell with integrated 16 bit AD-converter and configurable micro controller.

Evaluation:

- Different software features (see overview).
- Operating modes: roll and peak mode.
- Internal measuring frequency ca. 10,000 Hz.
- Zero point adjustment, tare-compensation.
- Optical and acoustical overload indicator.
- Set-value specification, optical and acoustical note.
- Password protected menu for parameter setting and adjustment.
- Single and list output via serial interface;
- Real-time clock for printouts with date and time.

Display and Operation:

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Interface:

RS232C adjustable 1,200-115,200 baud, 8 data bits, 1 stop bits, parity: no, Connector Sub-D (9-pin); Ethernet optional.

Additionally for the ETM-A and ETM-M models:

- Freely adjustable testing speed.
- Force pre-selection: 10-100% of device nominal load.
- Break-stop function: Automatic stop and return after breakage of test specimen.
- Cycle function: load slide moves back and forth between 2 end positions.
- The ETM-M model additionally features a precision force-displacement measuring system.

Optional Accessories:

- Tabletop printer including a data cable.
- Software mavDATAex, mavSTAT, mavSTAT_{light}, mavGRAPH for ETM-M, mavCALIB for calibrations with the KMG.
- Control system KMG.
- Machine's firmware can be updated by operator at no costs.
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| Equipment | ETM-F | ETM-A | ETM-M |
|--|---|--------------------------------------|--------------------------------------|
| Measurement and drive system | Tractive and compressive force measurements | | |
| Indication range | 6,000/10,000 N | | |
| Measurement resolution | 10,000 increments | | |
| Relative deviation in recommended measuring range | ≤ ± 0.25% of measured value +/-1Digit | | |
| Recommended measuring range | 10-100% of nominal load | | |
| Operating modes | Peak- and roll- mode | | |
| Operation and display | Multi-Touch- LED-Display 5,7" | | |
| Automatic zero point correction | ● | ● | ● |
| Tare-compensation | ● | ● | ● |
| Set-point specification | ● | ● | ● |
| Serial interface for data output | ● | ● | ● |
| Ethernet interface | - | ○ | ○ |
| Real time clock | ● | ● | ● |
| Memory space | ● | ● | ● |
| Single and listing output | ● | ● | ● |
| Safety components | Emergency stop button & anti-pinch function in fast reverse | | |
| Testing speeds **for all Models 6,000 N - 10,000 N | Adjustable 25/50/75/100/ 150/250 mm/min | Freely adjustable 5-250 mm/min | Freely adjustable 5-250 mm/min |
| Pull/push rearrangement | Reverse speed must be higher than testing speed; from firmware version 1.45 also via key switch | | |
| Linear stroke | Max. 150 mm | | |
| Memory (max. saved measured values) | 100 | 4,000 | 4,000 |
| Break-stop function | - | ● | ● |
| Cycle test | - | ● | ● |
| Force pre-selection for non-destructive testing | - | ● | ● |
| Holding under load, preset choices: destruction, back to normal (afterwards) | - | 0-200sec ● ● | 0-200sec ● ● |
| Force/displacement measurement | - | - | ● |
| Repeat tests between two positions | - | ● | ● |
| Software holding time up to max. 2000 sec. | - | - | ○ |
| Software repeat test force | - | - | ○ |
| Software webserver | - | ○ | ○ |
| Software upgrade | to ETM-A | - | - |
| Firmware update | ● | ● | ● |
| Tabletop printer DPN | ○ | ○ | ○ |

- not available * ○ optional, surcharge * ● Standard

** smart speed control limits speed during tests at higher forces automatically for more precise results