

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 1,200-38,400 baud, 7/8 data bits, 1/2 stop bits, parity: n/e/o. 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 50/75/100/ 800 600 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.
- Shielding of force transducer and AD-converter against electromagnetic radiation (mobile phone interference etc.).
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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.

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Interface:

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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:

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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 50/75/100/ 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

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