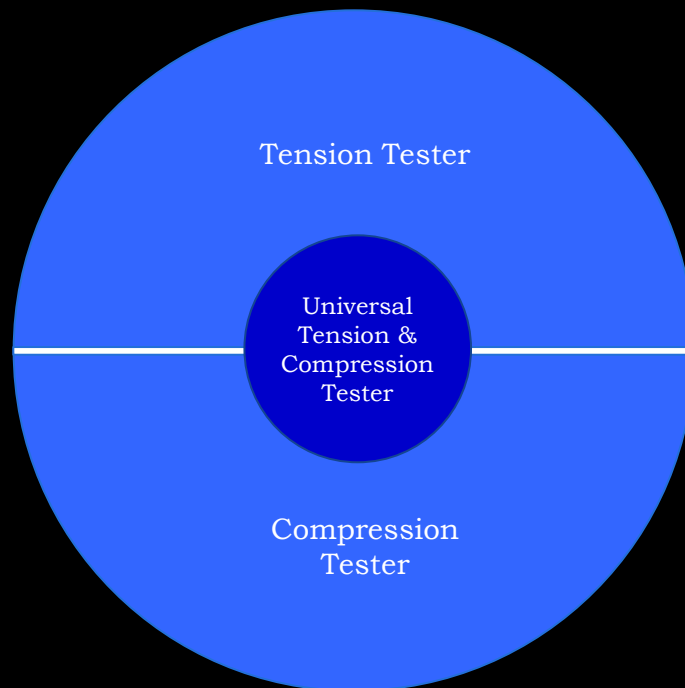


Tension- and Compression



TIEDEMANN

Tension & Compression Tester

In this catalogue, Tiedemann offers an almost complete list of all necessary devices and systems for tensile and compression force testing for use in the packaging industry. The nominal load here ranges from 0 up to 2500 N.

The tensile and peel test devices test, among other things, the tensile strength, the coefficient of elongation, the peel resistance at a 90 or 180 degree angle as well as the seal seam and tear strength of various material samples. The high-precision devices work with the latest and partly integrated software with an integrated microcomputer, tablet or connection to a handheld tester or computer.

The software allows the user a precise data evaluation through different display options as well as comparison, search and help functions and an automated status query of the device with regular calibration reminders.

In addition, we can also offer you devices that exceed the 2.5 kN tensile or compressive force. This would be a maximum of systems up to 200 kN.

Please contact us if you are interested!

Tension & Compression Testers

The models **TST-01B, TST-01M, TST-01H, TST-02M, TST-02H, BLD-01, XLW (PC), DFG, DFC, MTL/MTH, FFM and FFM/X** are material testers that can test, among other things, the tensile and compressive strength, the coefficient of elongation, the peel resistance at 90 or 180 degrees, the seal strength and the tear strength of a wide variety of material samples.

To do this, the sample is clamped between the clamps of the device. These move away from or towards each other while the change in force and deformation is measured. Approximately 100 different clamps are available for the devices, which can clamp up to 1000 materials, such as plastic films, laminated material, adhesives, adhesive tape, tape, leather, rubber and paper.

The models differ in their nominal load, lifting height and accuracy as well as the test variants stored in the software. The speed of the clamps is also variable; the **TST-01M, TST-01H, TSH-02M and TST-02H, MTL/MTH, FFM and FFM/X** units can even be used bidirectionally for tensile and compression tests. For stretchable material, the models with a large lifting height are particularly suitable. While the **MTL/MTH, XLW (PC) and TST-01B** models, as entry-level models for tension force only, are characterised by ease of use and economy, the **TST-02H**, as a high-end model, stands out with the latest technology.

With the **FFM / FFMX** model, various automated and reproducible tensile and compressive force tests up to 2500 N can be carried out. For particularly high nominal loads, the numerous devices are suitable, which we would be pleased to present to you on request.

The **BLD-01** device is especially suitable for determining the pull-off resistance at a 90 or 180 degree angle.

Overviw of Testers

Tester	Force N	Speed in mm/min	Stroke mm	Bidirektional Tension & Compression	Accuracy Grade	Tablet or Micro Computer
BLD-01	≤500	0,5 - 1000	500		0,5	X
TST-01B	≤500	0,05 - 500	600		0,5	X
TST-01M	≤500	0,05 - 500		X	0,2	X
TST-01H	≤1000	0,05 - 1000		X	0,1	X
XLW (PC)	≤500	50 - 500	1000		0,5	X
TST-02M	≤1000	0,05 - 1000 (3000)		X	0,2	X
TST-02H	30-1000 (Zwei Kraft- messer)	0,05 - 1000 (3000)		X	0,1	X
DFG	≤2500				0,2	X
DFC	≤2500				0,1	X
MTL-110	≤500	manual	150		0,1	X
MTL-330	≤1500	manual	100		0,1	X
MTH-550	≤2500	manual	100		0,1	X
FFM 110/110X	≤550	0,05 - 1000	500/760		0,1	X
FFM 330/330X	≤1500	0,05 - 1000	500/760		0,1	X
FFM 550/550X	≤2500	0,05 - 1000	500/760		0,1	X

Auto Stripping Tester

BLD-01

Features:

- Peel and strip tests of plastic films, adhesive tapes, paper, cardboard, laminated films, laminating films, fabrics, etc.
- 180° peel-off test of adhesive materials, such as adhesive tape, tape, plaster, laminating film, etc.



Advantages:

- Variable test speeds

Force Gauge	30, 50 100, 200 or 500 N
Jaw width	30 mm
Accuracy	0,5% FS
Speed	Variable from 0,05 - 1000 mm/min
Stroke	500 mm
Standards	GB/T 4850-2002、 GB 8808、 GB/T 1040.3-2006、 GB/T 17200、 GB/T 2790、 GB/T 2791、 GB/T 2792、 QB/T 2358

0 – 500 N

TST-01B

Features:

- Tension test up to 500 N
- Manual jaw, optional pneumatic
- jaw 30 mm, optional 50 mm
- Incl. Software and Tablet

Advantage:

- Good value basic unit

Force Gauge	50 N / 100 N / 200 N or 500 N
Speed	Variable from 0,5 - 500 mm/min
Stroke	600 mm
Accuracy Grade	0,5
Standards	ISO 37, ASTM E4, ASTM D882, ASTM D1938, ASTM D3330, ASTM F88, ASTM F904, JIS P8113, QB/T 2358, GB/T1040.2-2006, GB/T 1040.3-2006, GB/T1040.4-2006, GB/T1040.5-2008, GB/T12914-2008, GB/T 17200, GB/T 16578.1-2008, GB/T 7122, GB/T 2790, GB/T 2791, GB/T 2792, GB/T 17590



TST-01M

Features:

- Tension and Compression force up to 500 N
- Manual jaw, optional pneumatic
- Clamp width 30 mm, optional 50 mm
- Incl. Software and Tablet

Vorteile:

- Universal test instrument



Tension and Compression force gauge	50 N / 100 N / 200 N or 500 N
Speed	Variable from 0,5 - 500 mm/min
Stroke	600 mm
Accuracy Grade	0,2
Standards	ISO 37, ASTM E4, ASTM D882, ASTM D1938, ASTM D3330, ASTM F88, ASTM F904, JIS P8113, QB/T 2358, QB/T 1130, GB 8808, GB/T1040.1-2006, GB/T1040.2-2006, GB/T 1040.3-2006, GB/T1040.4-2006, GB/T1040.5-2008, GB/T4850-2002, GB/T12914-2008, GB/T 17200, GB/T 16578.1-2008, GB/T 7122, GB/T 2790, GB/T 2791, GB/T 2792, GB/T 17590

XLW (PC)

Features:

- Tension tester up to 500 N
- Good for elastic material
- Stroke 1000 mm
- Integrated Computer system

Advantages:

- Economical
- Long stroke



Force Gauge	500N
Speed	50, 100, 150, 200, 250, 300, 500 mm/min
Stroke	1000 mm
Accuracy	0,5% FS
Standards	ISO 37, GB 8808, GB/T 1040.1-2006, GB/T 1040.2-2006, GB/T 1040.3-2006, GB/T 1040.4-2006, GB/T 1040.5-2008, GB/T4850-2002, GB/T12914-2008, GB/T 17200, GB/T 16578.1-2008, GB/T 7122, GB/T 2790, GB/T 2791, GB/T 2792, GB/T 17590, ASTM E4, ASTM D882, ASTM D1938, ASTM D3330, ASTM F88, ASTM F904, JIS P8113, QB/T 2358, QB/T 1130

0 to 1000 N

TST-01H

Features:

- Tension and Compression for up to 1000 N
- Manual jaw, optional pneumatic
- Standard clamp width 30 mm, optional 50 mm

Advantages:

- Very high accuracy
- Good universal testing instrument

Force Gauge Tension & Compression	30N/50N/100N/200N/500N or 1000N
Speed	0,05 – 1000 mm/min
Stroke	600 mm
Accuracy Grade	0,1
Standards	ISO 37, ASTM E4, ASTM D882, ASTM D1938, ASTM D3330, ASTM F88, ASTM F904, JIS P8113, GB 8808, GB/T 1040.1-2006, GB/T 1040.2-2006, GB/T 1040.5-2008, GB/T 4850-2002, GB/T 12914-2008, GB/T 17200, GB/T 16578.1-2008, GB/T 7122, GB/T 2790, GB/T 2791, GB/T 2792, GB/T 17590, QB/T 2358, QB/T 1130



TST-02M

Features:

- Tension and Compression for up to 1000 N
- Manual jaw, optional pneumatic
- Standard clamp width 30 mm, optional 50 mm
- Ideal for elastic material samples
- Optional very high speed

Advantages:

- Large stroke 1000 mm
- Good universal testing instrument

Force gauges	30N/50N/100N/200N/500N or 1000N
Speed	0,05 – 1000, optional 3000 mm/min
Stroke	1000 mm
	0,2
Standards	ISO 37, ASTM E4, ASTM D882, ASTM D1938, ASTM D3330, ASTM F88, ASTM F904, JIS P8113, GB 8808, GB/T 1040.1-2006, GB/T 1040.2-2006, GB/T 1040.5-2008, GB/T 4850-2002, GB/T 12914-2008, GB/T 17200, GB/T 16578.1-2008, GB/T 7122, GB/T 2790, GB/T 2791, GB/T 2792, GB/T 17590, QB/T 2358, QB/T 1130



TST-02H

Features:

- Tension and Compression up to 1000 N
- 2 Force gauges included
- Manual, jaw optional pneumatic
- Standard clamp 30 mm, optional 50 mm
- Ideal for elastic samples
- Optional very high speed

Advantages:

- Large stroke of 1000 mm
- High accuracy
- 2 force gauges included
- Excellent universal testing instrument



Tension & Compression	2 force gauge of 30N/50N/100N/200N/500N or 1000N
Geschwindigkeit	0,05 – 1000, optional 3000 mm/min
Stroke	1000 mm
Accuracy Grade	0,1
Standards	ISO 37, ASTM E4, ASTM D882, ASTM D1938, ASTM D3330, ASTM F88, ASTM F904, JIS P8113, GB 8808, GB/T 1040.1-2006, GB/T 1040.2-2006, GB/T 1040.5-2008, GB/T 4850-2002, GB/T 12914-2008, GB/T 17200, GB/T 16578.1-2008, GB/T 7122, GB/T 2790, GB/T 2791, GB/T 2792, GB/T 17590, QB/T 2358, QB/T 1130

0 to 2500 N

With the **DFG and DFC** force gauges, accurate tensile and compressive force measurements can be made. The measuring ranges are between 0 and 2500 N. Both devices can be used as a hand-held device as well as on the manual force test stand **MTL / MTH**.

The DFC model can also be used as a control unit on the CNC force test stand **FMM / FMMX** to carry out fully automated and reproducible tests. In addition, measurement results can be transferred directly to PC applications via Bluetooth.



The easy-to-read OLED display provides an optimal overview. For example, if the main display is set to peak pressure, the secondary display simultaneously shows the current force. The display can be switched between N, gf, kgf, lbf, ozf. The value is stored at the push of a button. From up to 50 (DFG) or 99 values (DFC), the statistics function shows min. maxima, mean value, range and standard deviation. In addition, the units have a graphic force – bar.

Overview of Instruments

	DFC	DFG
Accuracy	+/- 0.1% FS	+/- 0.2% FS
Force range	0 bis 2500 N	0 bis 2500 N
Internal storage for measured values	99	50
Connections	Bluetooth, USB or RS232	USB or RS232
For manual testing instruments	X	X
For CNC Tension Tester	X	
Max. overload	200%	200%
Max. weight of jaws vs range	10%	10%
Display resolution	10.000:1	5000:01:00
Measurements frequency (Hz)	25 kHz	10 kHz

0 to 2500 N

MTL / MTH

Features:

- Manual Tension tester for 500, 1500 or 2500 N
- Equipped with force gauge DFG or DFC
- Can be equipped with various clamping devices
- For forces up to 2500 N with handwheel
- Very high accuracy

Advantages:

- Excellent for use during production
- Economical instruments solution
- Easy to use



Instruments	MTL-110	MTL-330	MTH-550
Force max.	500 N	1500 N	2500 N
Stroke	150 mm	100 mm	100 mm
Cross slide travel per revolution	76 mm	76 mm	0,76 mm
Blockable	X	X	X
Vertical Test	Standard	Standard	Standard
Horizontal Test (Convertible)	X	X	
Can be screwed to worktop	X	X	X
Thread for clamps	M6	M10	M10
Operation via	Lever	Lever	Handwheel
Adapter Kit for different standard clamps	X	X	X

0 to 2500 N

FFM / FFMX

Features:

- Tension and Compression up to 2500 N
- Software L1 / L2 or DFC Force Gauge can be used as a control unit
- Is a universal testing instrument
- Many different clamps are available as accessories

Advantages:

- Can do automated and reproducible tests
- Very high accuracy



Geräte	FFM 110 / 110X	FFM 330 / 330X	FMM 550 / 550X
Force max.	550 N	1500 N	2500 N
Stroke	500/760 mm	500/760 mm	500/760 mm
Minimal Speed	0,05 mm/min	0,05 mm/min	0,05 mm/min
Maximal Speed	1000 mm/min	1000 mm/min	1000 mm/min
Speed accuracy	< 0,1%	< 0,1%	< 0,1%
Vertical Test	Standard	Standard	Standard
Accuracy of positioning	< 0,02 mm	< 0,02 mm	< 0,02 mm
Can be screwed to worktop	X	X	X

L1 / L2 Testing Software

The innovative concept of the L1/L2 software for force measurement:

The logical operation and the graphic interface allow safe operation with little training.

The measurement results are presented in a comprehensible way and can be easily printed and exported (e.g. for Excel®).



Tests are saved as test sequences and can be called up later to continue the tests or to view the results.

With the L2 measurement software, preconfigured tests are simply given the desired parameters or one creates one's own test sequences with the configurator. In the configurator, the individual steps are put together to form the sequence as it is needed. In addition to tension and compression processes, the machine can hold the force or position and perform repetitions. Exactly as desired. The results are clearly presented and shown with pre-filled limit values with tolerance evaluation.

If desired, the report printout and/or data export is triggered automatically after each run. Force-distance and force-time diagrams can be superimposed in the L2 software for several runs. This results in a meaningful graphical comparison.

Software	L1	L2
Graphical display of the progress	X	X
Limit setting with good/bad indication	X	X
Results table	X	X
Graphical comparison of the test runs		X
Saving, editing and copying exams	X	X
Configure test procedures		X
Configure test loops		X
Export of results and raw data		X
Variable query		X

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