Test Bench PTB and FTB

for testing cable tie tighten pistols

MI&T GmbH Berlin
Mess- & Prüftechnik
Measuring Instruments & Testers

General Information:

- Small and handy Test Benches for testing the tension force of cable tie tighten pistols (tie rap guns)
- Quick change tool mounting adapters for assembly of different fixtures for different models of cable tie pistols and for test fixtures for the cable ties.
- Test benches can be positioned length- and crosswise to the operator because the force gauge can be fixed user-defined at both sides of the test bench's housing and in any orientation.
- **Model PTB 50** with indication range 0-500 N,
  resolution 0.5 N, accuracy class 0.5
- **Model FTB** available with different measuring ranges:
  FTB 5: range 0-50 N with resolution 0.01 N
  FTB 10: range 0-100 N, with resolution 0.02 N
  FTB 25: range 0-250 N, with resolution 0.05 N
  FTB 50: range 0-500 N, with resolution 0.1 N
  FTB 100: range 0-1000 N, with resolution 0.2 N
  Accuracy class FTB models: 0.25
- Easy to operate and space-saving test benches.
- 10000 Hz internal update rate for exact force readings.
- Indication and operation of the measuring system via durable infrared sensor screen with dot matrix LCD-Display.
- Peak Point Mode with indication of the highest measured force value.
- Tracking Mode with indication of current force values.
- Tare compensation.
- Optical and acoustic overload indication
- High mechanical overload protection of load cell.
- FTB models: Set point capability with optical and acoustic status signal.
- FTB models: Measured value memory.
- FTB models: Real time clock for data output with date and time.
- FTB models: Single and listing output (with statistical evaluation) of measured values.
- Serial port for data output of measured values.
- Setup menu for internal parameter setting and adjustment.
- Language for printout and display selectable: D, E
- Maintenance-free and durable all metal construction.
- Dimensions of basic unit: 275x116x124 mm (LxWxH).
  weight ca. 4 kg
- For a detailed technical description of the measuring system please see the technical data of FT respectively PT testers.

Test Bench FTB
(lengthwise positioned)

Test Bench FTB
(crosswise positioned)

Clamping Tools and Test Fixtures:

for testing cable tie pistols

Special Fixtures	KBP for cable tie pistols
3 pin Plug-in Plate	SL-3P
Quick Action Grippers	KSH-6
Clamping Crown	SG 80

For detailed description of tools and fixtures for testing cable tie pistols please see corresponding tool pages in our catalogue.

Test Bench PTB 50
with KSH-6/M and KBP-MK7

Optional Accessories:

- Mini Table Printer
- Data Transmission Cable for printer connection
- Data Transmission Cable for PC connection
- Keytast Interface
- Please see our catalogue for additional accessories.

Technical Specifications:

Model Designations: PTB 50

Indication Range:	0 to 500 N.
Resolution:	0.5 N
Rel. accuracy error:	≤ ±0,5% ± LSD (within the measuring range).

Force Measuring System:

Control Unit:

Dimensions:	ca. 125x105x70 mm (WxDxH);
Supply voltage:	12-24 V DC.

Force Transducer:
DMS-load cells type MWM 80108 with integrated AD-converter and RS485 bus. Overload protection up to 3500 N.

Display:
Dot matrix LCD display with LED background lighting, 128x64 pixel, 56.3x38.4 mm. LCD update rate: 5 Hz.

Operation:
Operation of all displayed keys via infrared sensor screen.

Evaluation:
Internal measuring rate: 10000 Hz;
Operating Modes: Tracking Mode and Peak Point Mode;
Tare compensation;
Single output of measured value via serial port;
Overload indication;
Setup Menu internal parameter selection and adjustment of measuring system;
Language for setup menu selectable: D, E

Serial Port:

RS232C	selectable parameters: 300-76800 Baud, 7/8 data bits, 1/2 stop bits, parity: none/even/odd. connector: RJ45.

Basic Unit:

Dimensions:	ca. 116x275x124 mm (WxDxH);
Weight:	ca. 4 kg;
Construction:	Maintenance-free all metal construction.
Housing:	Aluminium
Finish:	anodised oxide layer, blue

PTB 50 with 3-pin Plug-in Plate and KBP fixture with MK7

Technical Specifications:

Model Designations: FTB:

Indication Ranges:	0- 50/100/250/500/1000 N.
Resolution:	5000 increments, see model overview
Rel. accuracy error:	≤ ±0.25% ± LSD (within the measuring range).

Force Measuring System FMS:

Control Unit:

Dimensions:	ca. 125x105x70 mm (WxDxH);
Supply voltage:	12-24 V DC.

Force Transducer:
DMS-load cells type MWM 80108V with integrated AD-converter and RS485 bus. Overload protection 700 to 2000% according to nominal load of load cell.
Internal measuring rate: 10000 Hz;

Display:
Dot matrix LCD display with LED background lighting, 128x64 pixel, 56.3x38.4 mm. LCD update rate: 5 Hz.

Operation:
Operation of all displayed keys via infrared sensor screen.

Evaluation:
Operating Modes: Tracking Mode and Peak Point Mode;
Tare compensation; Set point capability;
Measured value memory for 10000 measured values;
Single and listing output via serial port;
Real time clock for printout with date and time.
Language for printout selectable: D, E.
Overload indication;
Setup Menu internal parameter selection and adjustment of measuring system.

Serial Port:

RS232C	selectable parameters: 300-76800 Baud, 7/8 data bits, 1/2 stop bits, parity: none/even/odd. connector: RJ45.

Basic Unit:

Dimensions:	ca. 116x275x124 mm (WxDxH);
Weight:	ca. 4 kg;
Construction:	Maintenance-free all metal construction.
Housing:	Aluminium
Finish:	anodised oxide layer, blue.

Model Overview FTB:

Type	Indication Range [N]	Resolution [N]
5	0- 50	0.01
10	0- 100	0.02
25	0- 250	0.05
50	0- 500	0.1
100	0- 1000	0.2

Clamping Tools and Test Fixtures

Testing tools for special applications

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General Information

The versatile **MI&T** testers in combination with clamping tools and test fixtures suitable for the respective application provides flexible test systems for varying test applications in production line testing, material testing, incoming inspection and development. The special application presented below for testing cable ties and hand tools is an example for the versatile possible applications.

Testing cable tie tighten pistols

For testing the tensile force of cable tie hand tools the tool set KBP can be used. The tool set consists of a special fixture for the cable tie pistol for assembly on the load slide of the tester and either of a plug-in plate with 3 pins of diameter 12, 20 and 30 mm or alternatively a suitable clamping tool for assembly on the measuring point of the tester.
For the test the cable tie is looped around one of the 3 pins or clamped by a quick action grippers and the strip end is inserted through the cable tie head. The tie is tightened firmly in such a way that one stroke of the pistol is sufficient to tension and cut-off. The free strip end is inserted into the open side of the cable tie tool head according to manufacturer's instructions. The head of the tool must have a distance of only a few millimetres to the cable tie head. Then the manual lever of the cable tie tool (trigger) is pulled to the stop. As soon as the pre-selected tension force of the pistol is reached, the free tie end is cut-off by the tool automatically. The tension force achieved at cut-off of the cable tie is determined and indicated on tester's display.

The special fixture for the cable tie pistol must be designed for the respective cable tie pistol model. Due to the manifold different shapes and dimensions of the different cable tie pistol models there is no all-purpose fixture, suitable for all pistol models, available. In principle special fixtures for all models of cable tie pistols are available respectively can be designed on request. Our standard delivery programme provides fixtures for cable tie tools model HellermannTyton MK3SP, MK3PNSP, MK 6PN, MK 7, MK 7HT, MK 7P, MK9, MK 9HT as well as Panduit GS2B, GS4H, PPTS and GTS.

The tool sets are available for all tester models up to a nominal load of 1000 N and with tool reception bar on tester's load slide.

Testing cable ties

Test procedure to determine the minimum tensile strength:

1. The cable tie is looped around a step of the mandrel with suitable diameter in such a way that the cable tie head is positioned to the side of the mandrel's slit.
2. For testing the cable tie the two parts of the mandrel are extended by the testers load slide. Using a motorized tester the mandrel can be opened with defined test speed.
3. The loading at which the cable tie fails or at which the material of the cable tie begins to show plastic deformation is determined.