



**UNIMAT® PLUS 050 with
parallel clamping device**



**UNIMAT® PLUS 050 with
wedge type clamping device**



**UNIMAT® PLUS 050 with
roller type clamping device**



UNIMAT® PLUS 052

UNIMAT® PLUS 050 · 052 · 054

testing equipment for quality management

ERICHSEN

Technical Description

**Powerful
Expandable**

**Tensile and Pressure
Testing Machines**

General information

The compact material testing machines of the **UNIMAT® PLUS** serie have been specifically designed to facilitate goods acceptance inspections and quality checks simply and fast. Their robust construction also makes them suitable for in-process controls as well as for tensile and pressure tests. Together with the integrated measuring system **PHYSIMETER® 906 MC-E** plus force transducer, these machines comply with the current standards ISO 7500-1, EN 10002-4 and EN 10045-2 for tensile testing machines and meet the standards and regulations relating to CE qualification.

UNIMAT® PLUS 050

The desktop model of the **050** series is small in dimension and require only a minimum of space. The spindle-driven cross-arm runs through two supports which are arranged behind each other and connected at the top by a fixed cross-arm. The lower part of the supports joins a base plate which forms the upper element of a sturdy sheet metal casing. The **Model 050** has an electric drive by speed-controlled DC motor and recirculating ball screw.



UNIMAT® PLUS 050

UNIMAT® PLUS 052 and 054

We recommend our serie **UNIMAT® PLUS 052 and 054** testing machines for testing either hard and tough or soft specimens.

These tensile testing machines are equipped with two columns and two recirculating ball screws which guide the travelling cross-arm.

The upper fixed cross-arm and the base plate in conjunction with the travelling cross-arm between the two form two separate working areas.



UNIMAT® PLUS 052

UNIMAT® PLUS 054



Display units

Combined with a suitable force transducer and the measuring system **PHYSIMETER® 906 MC-E** tensile and pressure forces can be determined, stored and statistically evaluated. By entering limit values the testing machine is automatically switched off once a maximum force is reached, thus protecting the installed force transducer from overloading.

Regarding the measured values can also be transferred from the **PHYSIMETER® 906 MC-E** by way of a serial interface to a connected PC for display purposes and further processing.

This is taken on by the measuring and evaluation software **PHYSISOFT II (no application software)** which is available as download free of charge under www.erichsen.de/download.

The system components

UNIMAT® PLUS / Force transducer / Clamping tool / PHYSISOFT II / PC

provide the means to carry out numerous application-related material tests on an economical basis.

Technical testing accessories

A wide range of **clamping tools** and **testing devices** are available as standard equipment or in customized versions for special materials. The grip heads are quick and easy to change by way of appropriate plug-type connections, providing the user with an optimum means to adapt to the various specimen requirements.

A technical information sheet "Grips" is available for these tools.



UNIMAT® PLUS 054 with clamping device

The size and type of **force transducers** to be used is determined by the purpose of the test, the type of stressing, the relevant field of work and the nominal force of the test stand.

All electronic force transducers of the **PHYSIMETER®** series are calibrated with DKD-certified measuring equipment due to international standards in the tensile and pressure ranges. These characteristic values are stored in the connector, ensuring that any force transducer can be attached to the **PHYSIMETER® 906 MC-E** without difficulties.

For the preparation of test runs, recording of measured data, presentation of measuring results, as well as for statistic functions and printing of evaluation lists our **application software UNIMAT® PLUS** is available to all operators. The scope of supply includes an installation CD and a crossover network cable for direct connection between testing machine and PC. The following system requirements are necessary for installation of this software: PC processor: Celeron 2.0 GHz, memory 512 MB RAM, 1 unassigned Ethernet interface RJ45, 1 unassigned USB interface for dongle, Windows XP SP2.

Recommended configurations

A fully-functioning basic unit comprises at least the following:

- 1 **UNIMAT® PLUS**
- 1 Force transducer
- Clamping device (see separate leaflet).

By the addition of **PhysiSoft II** measuring and evaluation software and a PC, the basic unit can be expanded to form a complete measuring station.

Technical Data

	UNIMAT® PLUS 050	UNIMAT® PLUS 052	UNIMAT® PLUS 054
Testing force max.	2 kN	5 kN	10 kN / 20 kN
Measuring uncertainty	0.1 % (depends on force transducer)	0.1 % (depends on force transducer)	0.1 % (depends on force transducer)
Force measurement (option)	Selectable nominal forces: Mod. 906 (20 N up to 2000 N) The force is displayed on the integrated PHYSIMETER® 906 MC-E .	Selectable nominal forces: Mod. 906 (20 N up to 2000 N) Mod. 922 - 5 kN The force is displayed on the integrated PHYSIMETER® 906 MC-E .	Selectable nominal forces: Mod. 906 (20 N up to 2000 N) Mod. 922 (5 kN up to 25 kN) The force is displayed on the integrated PHYSIMETER® 906 MC-E .
Position measurement, incremental (option)	Resolution: 0.01 mm	Resolution: 0.01 mm	Resolution: 0.01 mm
Drive mode	DC motor	DC motor	Motor el. commutated
Cross-arm speed	0.2 ... 1000 mm/min	0.2 ... 1000 mm/min	0.2 ... 1000 mm/min (10 kN) 0.2 ... 500 mm/min (20 kN)
Speed deviation	≤ 0.5 %, from 2 mm/min	≤ 0.5 %, from 2 mm/min	≤ 0.5 %, from 2 mm/min
Working area (inner width)	50 mm	300 mm	380 mm
Max. cross-arm stroke (without force transducer and clamping tools)	720 mm	860 mm	1000 mm
Connected load	230 V - 50/60 Hz	230 V - 50/60 Hz	230 V - 50/60 Hz
Dimensions	1020 x 435 x 390 mm	1145 x 620 x 350 mm	1385 x 765 x 560 mm
Net weight	approx. 34 kg	approx. 47 kg	approx. 170 kg

Order Information	
Ord.-No.	Product-Description
0266.01.31	UNIMAT® PLUS 050 - 2 kN , testing force 2 kN, with electric drive motor
0267.01.31	UNIMAT® PLUS 052 - 5 kN , testing force 5 kN, with electric drive motor
0276.01.31	UNIMAT® PLUS 054 - 10 kN , testing force 10 kN, with electric drive motor
0277.01.31	UNIMAT® PLUS 054 - 20 kN , testing force 20 kN, with electric drive motor

ERICHSEN offers for each material testing machine of the UNIMAT® and the UNIMAT® PLUS series **appropriate column extensions**. In spite of these extensions the criteria of stability (buckling etc.) are furthermore satisfied. The fitting of an extensometer is still possible and an additional adaptation is not necessary. On consultation with ERICHSEN the material testing machines can be equipped with an **appropriate column extension** at surcharge.

Accessories	
Ord.-No.	Product-Description
0813.01.32	Application Software UNIMAT® PLUS
0746.01.32	Wire strain gauge input (1 - 2.2 mV/V)
0747.01.32	Analogue input (± 10 V), incl. data cable
0748.01.32	Analogue output (± 2.5 V), incl. data cable
0749.01.32	Encoder input
0744.01.32	Cable for Trigger (input/output)
0745.01.32	Cable for limit/limiting value outputs
0751.01.32	Cable for analogue output
0752.01.32	Cable for analogue input
0754.01.32	Data cable X RJ 45 (10 m)
	Sensors for use in connection with the UNIMAT® PLUS
	Force transducer (Basis: wire strain gauge bridge)
0756.01.32	Force transducer 906 - 20 N, incl. standard equipment
0756.02.32	dto., 906 - 50 N
0756.02.32	dto., 906 - 100 N
0756.02.32	dto., 906 - 200 N
0756.02.32	dto., 906 - 500 N
0756.02.32	dto., 906 - 1000 N
0756.02.32	dto., 906 - 2000 N (Attention: max. load of the hook 1000 N)

Accessories	
Ord.-No.	Product-Description
	Force transducer for <u>external</u> connection to the measuring system PHYSIMETER® 906 MC-E (measuring system integrated in the testing machine UNIMAT® PLUS).
0820.01.32	Force transducer 922 - 5 kN
0820.02.32	Force transducer 922 - 10 kN
0820.03.32	Force transducer 922 - 25 kN
	for force transducer (5 kN up to 25 kN)
0604.01.32	Load head
0605.01.32	Thrust piece
	Torque transducer (Basis: wire strain gauge bridge)
0757.01.32	Torque transducer 906 - 20 Ncm
0757.02.32	Torque transducer 906 - 50 Ncm
0757.03.32	Torque transducer 906 - 100 Ncm
0757.04.32	Torque transducer 906 - 200 Ncm
0757.05.32	Torque transducer 906 - 500 Ncm
0758.01.32	Torque transducer 906 - 10 Nm
0758.02.32	Torque transducer 906 - 20 Nm
0758.03.32	Torque transducer 906 - 50 Nm
0682.01.32	Test tool set C (4 pcs.), for 10 Nm, 20 Nm, 50 Nm
0683.01.32	Test tool set D (3 pcs.), for 20 - 500 Ncm
	Displacement transducer (Basis: wire strain gauge bridge)
0760.01.32	Displacement transducer 906 - 5 mm
0760.02.32	Displacement transducer 906 - 10 mm
0760.03.32	Displacement transducer 906 - 25 mm
0760.04.32	Displacement transducer 906 - 50 mm
0760.05.32	Displacement transducer 906 - 100 mm
0691.01.32	Clamping device for displacement transducer (5 mm up to 50 mm)
0691.02.32	Clamping device for displacement transducer (100 mm)
	Clamping Accessories (see special price list GRIPS)

On consultation with ERICHSEN, the connection of other sensors (also foreign brands) is possible.

Subject to technical modifications.
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