

Motorised Vertical Test Stand SAUTER TVO-S · TVO-LD

PREMIUM



Motorised test stand incl. length measuring system LD

## Premium test stand in table-top version – with precise step motor – now also available as a set



Solid and flexible fixing options for many clamps and accessories from the SAUTER product range, see *Accessories*

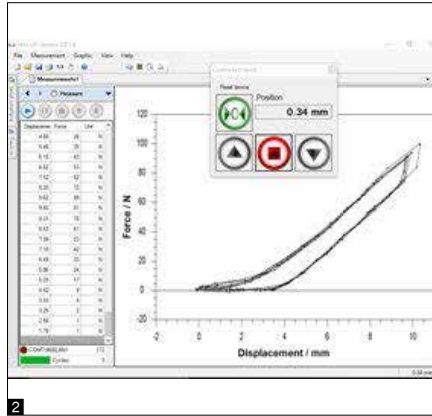


A wide range of application possibilities because of its large travelling distance



Interface for data transmission from the SAUTER FH measuring device and for controlling the test stand with SAUTER AFH software

### Motorised Vertical Test Stand SAUTER TVO-S · TVO-LD



#### Features

- Motorised test stand for tension/compression force testing
- NEW: Now also available as a practical set TVO-LD for force-displacement-measurements in laboratory and industry
- Set TVO-LD: Five in one - motorised test stand, length measuring system LD, interface cable, data transfer software AFH LD, interface converter AFH 12 and mounting
- Stepper motor for greatest ease of use
  - for constant speed from the smallest to the maximum load
  - allows testing at minimum speed and full load
  - for higher positioning accuracy. Precise starting and stopping, without overrun, even at high speeds
  - precise adjustment of the displacement speed using the information shown on the display
- Automatic or manual operation mode

- **1** Premium operating panel:
  - Digital speed display
  - Digital repeat function display
  - Control of the test stand using PC software SAUTER AFH **2**
- Table-top design for comfortable operation
- Robust construction
- Set TVO-LD: with linear potentiometer for length measurement to create force-displacement diagrams on PC, maximum measuring range 300 mm / 500 mm / 700 mm, readability 0,01 mm, measuring accuracy 0.5 % of [Max], USB-A cable 1,5 m, high data acquisition speed
- Set TVO-LD: Data Transfer Software SAUTER AFH LD included with the delivery
- **3** Fixation of SAUTER force measuring devices up to 2 kN possible

#### Technical data

- Speed accuracy: 0,5 % of [Max]
- Positioning accuracy when shutting down: ± 0,05 mm

#### Accessories

- Only TVO-S: Data transfer software with graphic display of the measurement process, force-time, SAUTER AFH FAST
- **3** Holder for force gauges with external measuring cell on test stands, for comfortable reading of the measured value, SAUTER TVO-A01
- Force gauges see page 12 et seq., clamps and other accessories see page 39 et seq.

STANDARD				OPTION	
TVO-LD	TVO-LD			TVO	

Model	Measuring range	Speed range	Maximum travel distance
	[Max] N	[Max] mm/min	mm
SAUTER			
TVO 500N500S	500	1 - 500	270
TVO 1000N500S	1000	1 - 500	500
TVO 2000N500S	2000	1 - 500	700
Sets incl. test stand, length measuring system, interface cable, software AFH LD, assembly:			
TVO 500N500S-LD	500	1 - 500	270
TVO 1000N500S-LD	1000	1 - 500	500
TVO 2000N500S-LD	2000	1 - 500	700

**New model**

 <p><b>Adjusting program (CAL)</b> For quick setting of the instrument's accuracy. External adjusting weight required</p>	 <p><b>Bluetooth* data interface</b> To transfer data from the balance/measuring instrument to a printer, PC or other peripherals</p>	 <p><b>Measuring units</b> Weighing units can be switched to e.g. non-metric. Please refer to website for more details</p>	 <p><b>Conformity assessment</b> Models with type approval for construction of verifiable systems</p>
 <p><b>Calibration block</b> Standard for adjusting or correcting the measuring device</p>	 <p><b>WIFI data interface</b> To transfer data from the balance/measuring instrument to a printer, PC or other peripherals</p>	 <p><b>Measuring with tolerance range (limit-setting function)</b> Upper and lower limiting can be programmed individually. The process is supported by an audible or visual signal, see the relevant model</p>	 <p><b>DAkkS calibration possible</b> The time required for DAkkS calibration is shown in days in the pictogram</p>
 <p><b>Peak hold function</b> Capturing a peak value within a measuring process</p>	 <p><b>Data interface infrared</b> To transfer data from the measuring instrument to a printer, PC or other peripheral devices</p>	 <p><b>Protection against dust and water splashes IPxx</b> The type of protection is shown in the pictogram cf. DIN EN 60529:2000-09, IEC 60529:1989 +A1:1999+A2:2013</p>	 <p><b>Factory calibration (ISO)</b> The time required for factory calibration is specified in the pictogram</p>
 <p><b>Scan mode</b> Continuous capture and display of measurements</p>	 <p><b>Control outputs (optocoupler, digital I/O)</b> To connect relays, signal lamps, valves, etc.</p>	 <p><b>ZERO</b> Resets the display to "0"</p>	 <p><b>Package shipment</b> The time required for internal shipping preparations is shown in days in the pictogram</p>
 <p><b>Push and Pull</b> The measuring device can capture tension and compression forces</p>	 <p><b>Analogue interface</b> To connect a suitable peripheral device for analogue processing of the measurements</p>	 <p><b>Battery operation</b> Ready for battery operation. The battery type is specified for each device</p>	 <p><b>Pallet shipment</b> The time required for internal shipping preparations is shown in days in the pictogram</p>
 <p><b>Length measurement</b> Captures the geometric dimensions of a test object or the movement during a test process</p>	 <p><b>Analogue output</b> For output of an electrical signal depending on the load (e.g. voltage 0 V - 10 V or current 4 mA - 20 mA)</p>	 <p><b>Rechargeable battery pack</b> Rechargeable set</p>	
 <p><b>Focus function</b> Increases the measuring accuracy of a device within a defined measuring range</p>	 <p><b>Statistics</b> Using the saved values, the device calculates statistical data, such as average value, standard deviation etc.</p>	 <p><b>Plug-in power supply</b> 230V/50Hz in standard version for EU. On request GB, AUS or US version available</p>	
 <p><b>Internal memory</b> To save measurements in the device memory</p>	 <p><b>PC Software</b> To transfer the measurement data from the device to a PC</p>	 <p><b>Integrated power supply unit</b> Integrated, 230V/50Hz in EU. More standards e.g. GB, AUS or US on request</p>	
 <p><b>Data interface RS-232</b> Bidirectional, for connection of printer and PC</p>	 <p><b>Printer</b> A printer can be connected to the device to print out the measurement data</p>	 <p><b>Motorised drive</b> The mechanical movement is carried out by an electric motor</p>	
 <p><b>Profibus</b> For transmitting data, e.g. between scales, measuring cells, controllers and peripheral devices over long distances. Suitable for safe, fast, fault-tolerant data transmission. Less susceptible to magnetic interference</p>	 <p><b>Network interface</b> For connecting the scale/measuring instrument to an Ethernet network</p>	 <p><b>Motorised drive</b> The mechanical movement is carried out by a synchronous motor (stepper)</p>	
 <p><b>Profinet</b> Enables efficient data exchange between decentralised peripheral devices (balances, measuring cells, measuring instruments etc.) and a control unit (controller). Especially advantageous when exchanging complex measured values, device, diagnostic and process information. Savings potential through shorter commissioning times and device integration possible</p>	 <p><b>KERN Communication Protocol (KCP)</b> It is a standardized interface command set for KERN balances and other instruments, which allows retrieving and controlling all relevant parameters and functions of the device. KERN devices featuring KCP are thus easily integrated with computers, industrial controllers and other digital systems</p>	 <p><b>Fast-Move</b> The total length of travel can be covered by a single lever movement</p>	
 <p><b>Data interface USB</b> To connect the measuring instrument to a printer, PC or other peripheral devices</p>	 <p><b>GLP/ISO record keeping</b> of measurement data with date, time and serial number. Only with SAUTER printers</p>		

\*The Bluetooth® word mark and logos are registered trademarks owned by Bluetooth SIG, Inc. and any use of such marks by KERN & SOHN GmbH is under license. Other trademarks and trade names are those of their respective owners.