



## Description

This compact universal tester is especially designed for testing flexible materials, such as paper or plastic films, as well as laminated materials produced therewith. You can use a single device to determine all relevant material properties.

This tensile-testing machine has primarily been developed to determine the bond strength, seam strength and the CoF of packaging materials. The software allows you to store your results to a database for documentation purposes. Standard film strips for testing the bond strength and seam strength as well as tensile strength may be prepared with our Strip Cutter (STR) according to applicable industry standards.

The control of the VNG-E, data collection and evaluation and the documentation is done with a PC software, connected via a serial interface.

Compared to other tensile testing machines, the VNG-E scores with its compact design, high precision even with low forces (CoF) and its universal use.

The adaptation of the VNG-E to the respective test method can be carried out without any significant effort. All components required for this are included in the scope of delivery.

## Features

- **Universal Use:** One single unit covers four different test methods.
- **Easy to Use:** The VNG-E can be adjusted to the relevant test method without any noteworthy effort. All components required are included.
- **Newest Technology:** Through use of latest electronics and motion control, power consumption and noise emission are kept very low, while delivering a high precision of measurement.
- **Compact Design:** Thanks to its compact dimensions you can install the unit almost everywhere.
- **PC Operation:** Control and measured data logging, and also data evaluation, are completely software controlled.
- **Several User Profiles:** A separate user profile can be defined for each user, whose defaults are then loaded automatically when the user logs in.
- **Simple Data Backup:** Test results are written to an additionally file, compatible to Microsoft Access database.
- **Flexible Data Access:** Measured data is saved in the ASCII format and therefore can be imported at any time to Office compatible applications such as EXCEL.

## Specifications

Mechanism	stepper motor
Load cell	DMA load cell (bridge circuit); Digital evaluation
Measuring range (force)	max 100 N (200 N upon request)
Resolution	0.01 N
Clamping width of the sample	up to 20 mm
Gauge length	up to 400 mm
Resolution	0.01 mm
PC interface	Serial standard interface RS232, 115200 Baud
Dimensions	71 x 50 x 27 cm
Weight	27 kg
Storage temperature	0°C - 50°C
Test temperature	room temperature ( etwa 23°C)
Relative humidity	max. 80%, non-condensing
Electrical connection VNG-E	110-240 V / 50 - 60Hz, power consumption ca. 20 W, approx.
Electrical connection PC	110-240 V / 50 - 60Hz, power consumption max. 350 W, approx.

## Standard

DIN 55543-5	Determination of adhesion strength (2017)
DIN 53357	Delamination strength test (withdrawn)
DIN 55529	Packing – determining the sealed-seam strength of sealings...
ISO 8295	Plastics – Film and sheeting – determination of coefficients of friction
DIN EN ISO 527-1	Determination of tensile properties (Part 1: General principles)
DIN EN ISO 527-3	Test conditions for films and sheets

## Typical application

Use in [product development](#) and [quality control](#)

For determination of:

[Bond strength](#), [seam strength](#), [CoF of packaging materials](#) and the [general tensile properties](#)

## Accessories

### Windows PC

The Computer is required for the control, evaluation and documentation of the tests.

### Calibration weights

Optional for test equipment monitoring of the load cell



### Strip Cutter STR

recommended for simple fabrication of sample strips