

TPG-U

Carrying Strength Tester

The Carrying Strength Tester TPG allows you to determine the strength of handles on packaging material, such as carrier bags. Constant up and down movements simulate the stress on handles. Examples are handles on filled carrier bags. The cycle frequency and the drop height may be adjusted in a wide range, thus allowing a perfect adjustment to the handles. As soon as the specified number of cycles has been reached, the device is switched off automatically.

Our Carrying Strength Tester has been successfully used for the following:

- Testing new material during development
- Testing specimen for the quality control process

Features

- **Good reproducibility:** Constant test conditions ensure a good reproducibility of the test results.
- **User-friendly operation:** This easy-to-use device can be put into operation anywhere; there are no special laboratory requirements.
- **Adjustable drop heights:** Using different drop heights ensures a perfect adjustment of the materials being tested.
- **Wide selection range for the cycle frequency:** The cycle frequency from 1 to 100 cycles can be adjusted to the required test conditions.
- **Long life:** High-quality manufacturing adds value and reduces overall downtime.
- **Heavy-duty three-phase motor:** The powerful three-phase motor is driven by a frequency converter (230 V), allowing a variable number of revolutions.
- **No maintenance:** For the TPG-U, no special maintenance efforts are required.
- **Safety:** A special construction virtually eliminates danger of injuries during the operation of the unit.
- **Future:** The device meets the increasing QC requirements for the packaging industry.



Service

- **Hotline:** Our support team helps you to determine the suitable equipment and assists you when troubleshooting issues arise. You can contact our support team by phone and by email.
- **Introduction:** This service is free of charge and lasts approximately three to four hours. Thanks to the real-life operation demonstrated by the instructor, participants will be able to operate the unit in a reliable way.
- **Customisation:** Let us tailor our devices and software to meet your specific lab and test requirements.

Description

A powerful three-phase motor is driven by a frequency converter (230 V). Thus, no special three-phase connector is needed. The frequency converter also allows for a variable number of revolutions together with constant performance of the motor. Using an eccentric cam, the rotation of the three-phase motor is transformed into up and down cycle movements of a lever arm. The special shape of the eccentric cam provides a slow up movement followed by a drop, thus simulating a free fall from a specified drop height. This variable drop height can be adjusted in four steps between 10 mm to 30 mm. As soon as the specified number of cycles has been reached, the device is switched off automatically.

Test method

Fill the carrier bags with the nominal filling weight using a suitable charge. For instance, you can use cloth bags filled with polythene granulate (or fine sand). At the TPG-U, set the desired number of cycles and the drop height. Adjust these two parameters according to the requirements of your test regulations.

Example: W. Teichmann: Eine einfache und praxisnahe Methode zur Bestimmung der Tragfestigkeit von Kunststofftragetaschen. Verpackungs-Rundschau 30 (1979) Nr. 5. Techn.-wiss. Beilage S41 - 42.

Affix the filled carrier bag with one or two handles to the hook using the holding bracket. Now start the test.

Evaluation

Depending on the underlying test regulations, there are different evaluation criteria, such as:

- Maximum number of cycles needed to tear the handles
- Maximum number of cycles needed to show first signs of damage
- Checking the occurrence of damage after a set number of cycles
- Evaluation using an endurance graph according to DIN 55 445, sheet 3, package test; testing of seams at sacks, evaluation method

Specifications

Cycle frequency:	1 - 100 per min.
Drop heights:	10/15/23/30 mm
Preset number of cycles (counter):	up to 99999
Dimension:	48 x 42 x 28 cm (L x W x H)
Weight:	32.5 kg
Storage temperature:	5°C to 50°C
Normal operating temperature:	23°C
Relative humidity (RH):	max. 80%, non-condensing
Electrical connection:	230 V/50 - 60 Hz, power consumption 350 W, approx.