

# SCORE BEND/OPENING FORCE TESTER (PCA)

As the packaging industry depends ever more on high speed automation, it's imperative to know precisely how carton materials will behave in production.

This instrument gives you vital information to :

- accurately configure machinery that controls cartons on form, fill and seal lines
- analyse carton performance characteristics for development and quality control
- evaluate the efficiency of cartons during production runs.

This tester determines the force required to fold carton stock along a score and the force necessary to open a carton.

The PCA is easy to use : bending and opening force (measured in grams) appears on a clearly readable LED panel.

Its high quality construction and sophisticated electronics ensure accurate data through continuous use, with very little maintenance.

This instrument is precise enough for exacting R&D work, yet durable enough for the factory floor.

Predetermination of settings and adjustments to produce cartons within required performance levels can increase production and efficiency. Close correlation of proper numerical levels by both the producer and the packager have shown to be of mutual benefit in effecting savings - less rework, rejects and down-time. The evaluation of spring back after bending could affect sealing or glueing operations.

System exists of :

- pulling unit
- opening force fixture



## Features

- Measures bending and opening force, stiffness of unscored paperboard, residual spring back force and score ratio of scored or unscored paperboard. Measurement capacity up to 10 kg
- Statistics include average, high, low and standard deviation
- Constant loading rate
- Auto-zero & semi-automatic calibration
- Test result and curve data for PC interface
- Automatic stop & return with overload protection
- Save up to 99 test results
- Sample ID capability

## Physical specifications

### Software control

The front panel provides easy access for configuring test parameters incl. test mode, force and distance units, sample ID and crosshead return. Statistics for peak force as well as angle, force & distance traps values are automatically calculated and displayed. Test results and curve data can be output via a RS-232 interface for data collection to a PC or parallel printer.

### Dimensions

56 x 41 x 122 cm (WxDxH)

### Net Weight

68 kg

### Operating / storage environment

air temperature : 15 to 25 ° C, relative humidity : 20 to 60 % (non-condensing)

## Options

- Pneumatic clamping assembly
- Bending fixture : for measuring the max. force to bend a carton sample up to 90°
- COF fixture : for measuring static and kinetic coefficient of friction
- Printer
- Data acquisition software : to capture serial data and transfer it to any Windows® application
- Load cell

## Standards

TAPPI RC-284, PI 110.10

## Performance data

### Load cell

500, 2000, 5000 and 10000 grams

### Force reading accuracy

± 0.25 % of full scale reading

### Crosshead speed

5 - 500 mm/min

### Air pressure requirements

75 psi / 5.2 bar

### Angle measurement range / reading resolution

between 0-90° (selectable in 0.1°) / 0.36° or better

### Position measurement accuracy

± 0.1 % of full scale distance

### Sample size opening force / bending force

from 25.4 to 457.2 mm when flat / up to 152.4 mm sample width, up to 6.35 mm sample thickness

### Force units / Distance units

gr, ounces, pounds, newtons, kg / inches, cm, mm

### Power Requirements

110-120 / 220-240 V, 50/60Hz, 33 W (operating)

### Fuse rating

6 A @ 110 V, 60 Hz - 3 A @ 220 V, 50 Hz

### Safety features

- overload protection system (electronic)
- angle over-travel limit switch
- load cell incorporates mechanical limit stops
- upward and downward motion limit switches
- emergency stop button

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