

PRECISION THICKNESS GAUGE



Applications:

Recycled Paper, Leather, LDPE Film, Coatings, Fibreglass, Carbon Fibre, Non-Woven Materials, Envelopes, Laminated Film, Carton Blanks, Foils, Banknotes, Printed Paper, Pouches, Film Lids, Films, Paper Gaskets, Bags & Sacks, Textiles, Paper, Cartons, Tissues, Synthetic Fabric, Ink, Plastic Film, Printed Cartons, Polyester, Shrink Film, PE Film, Floor Tiles, PVC Floor Coverings, Tobacco Cartons, PE Bags, PP Film, PVC Film, Labels, Metallised Film, LLDPE Film, Coex Film, BOPP Film, Surface Print Non-Woven, OPP Film, Galvanised Steel, Foam, Woven Composite Materials, Varnish, Lacquer, Coated Tinfoils.

PRECISION THICKNESS GAUGE

The Hanatek FT3 Precision Thickness Gauge quickly and precisely measures the thickness of a variety of materials.

Accurate & repeatable thickness measurements can improve product quality whilst controlling the costs associated with raw material usage.

The accuracy of thickness measurement is determined by several key operating factors, the Hanatek precision thickness gauge works within the following measurement parameters -

► Test Parameters

- Momentum and profile of measurement head
- Measurement pressure
- Measurement dwell time

Physical test parameters can be factory configured according to International Standards or customer requirements

Measurement speed and dwell time are controlled by user defined parameters

► Instrument

- Accuracy, Linearity, Calibration
- Flatness/Parallelism of Measurement Area

The instrument is linearised throughout its measurement range using a multi point calibration.

Flatness of measurement head/anvil <0.1µm
Typical parallelism <1µm

► Operator

- Incorrect recording and analysis of results
- Sample handling and measurement technique

The Hanatek instrument provides full statistical analysis of data. The optional printer allows a time/date stamped results label to be attached to job sheet or retained samples

User defined routines or the optional footswitch mean hands free operation for easy sample manipulation

External Effects

Temperature

Temperature stability circuitry ensures the instrument electronics reach optimum conditions before testing.



The Hanatek FT3 has the following user defined parameters

Up Time: This parameter allows the user to manipulate samples between measurements. **1-10 sec**

Test Speed: The speed of the measurement head is especially important when measuring deformable materials. **1-5mm/sec**

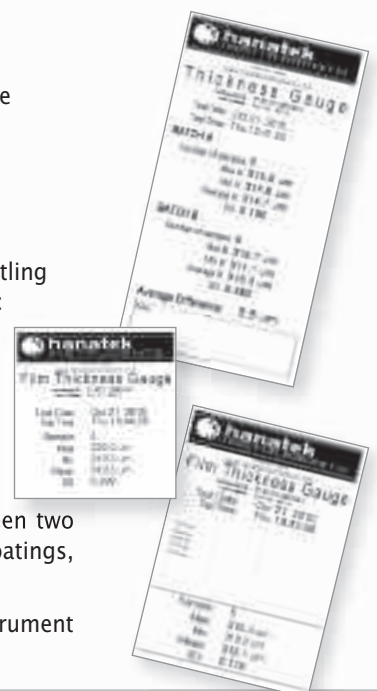
Dwell/Down Time: The dwell time determines the settling time of the probe on compressible materials. **1-15 sec**

The instrument is operated via an integral touch screen and features 3 different measurement modes.

Standard Test: Full statistical analysis of up to 500 readings

Batch Test: Calculates the thickness difference between two measurement sets, used to assess the thickness of coatings, adhesives or sample batches.

Standard Tare Test: Automatically tares the instrument before each test using user defined conditions.



AVAILABLE CONFIGURATIONS ▶▶



▶ FT3: Standard Instrument

Fixed pressure, factory configured to meet a single test standard or specification of your choice



▶ FT3 -V: Variable Instrument

Test pressure is varied by adding additional weights to the instrument platform

Factory configured measurement head size

One external weight is included to achieve compliance to a second measurement standard or assess material compressibility

Additional external weights can be applied to increase measurement pressure upto 4Kg total



▶ FT3-U: Ultra High Precision Instrument

Fixed pressure configured to meet a single test standard or specification

Enhanced resolution of 0.01 μm for applications requiring ultra high precision

Factory configured measurement mass between 50g and 500g available

Measurement Head: 25.5mm radius domed

Custom radius domed heads available on request



▶ FT3-LAB: Laboratory Instrument*

Test pressure is varied by adding additional weights to the instrument platform or changing the size of the measurement head

Two external weights and one additional measuring head included to achieve compliance to multiple standards or customer specifications

*NB: This product is suitable for use by test and calibration laboratories as full re-calibration is required between measurement head changes.

SPECIFICATIONS

FT3 Standard Instrument Configurations

The instrument can be configured to meet any of the standards listed below:

PLASTIC FILM

BS 2782-6	Methods of testing plastics. Dimensional properties. Determination of thickness by mechanical scanning of flexible sheet
DIN 53370	Testing of plastics films - Determination of the thickness by mechanical scanning
ISO 4593:1993	Plastics -- Film and sheeting -- Determination of thickness by mechanical scanning
ASTM D6988 Part A <i>OR</i> B	Standard Guide for Determination of Thickness of Plastic Film Test Specimens

PAPER & BOARD

ISO 534 : 2005	Paper and board. Determination of thickness, density and specific volume
DIN 53105	
BS EN 20534	Method for determination of thickness and apparent bulk density or apparent sheet density of paper and board
TAPPI T 411	Thickness of Paper and Paperboard (Soft Platen Method), Test Method T 551 om-06
SCAN P7	
SCAN P31	
FEFCO No 3	
ISO 3034	Corrugated fibreboard. Determination of single sheet thickness
BS 4817	Method for the determination of the thickness of corrugated fibreboard

TISSUE

BS EN 12625-3	Tissue paper and tissue products. Determination of thickness, bulking thickness and apparent bulk density
SCAN P47	
BS 7387	Method for determination of the bulking thickness, apparent bulk density, compressibility and compressibility index of soft creped tissue paper

TEXTILE

ISO 5084	Determination of thickness of textiles and textile products
ASTM D1777 Part 1, 3, 4 <i>OR</i> 5	Standard Test Method for Thickness of Textile Materials
ISO 2589	Leather -- Physical and mechanical tests -- Determination of thickness

GASKETS

ASTM F36-99	Standard Test Method for Compressibility and Recovery of Gasket Materials
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FLOOR COVERINGS

EN428	Resilient floor coverings - Determination of overall thickness
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FLEXIBLE PACKAGING

ASTMF2251	Standard Test Method for Thickness Measurement of Flexible Packaging Material
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SELF ADHESIVE TAPE

DIN EN 1942	Self adhesive tapes - Measurement of Thickness
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FEATURES

Resolution:	0.1 µm
Repeatability:	Better than 0.4 µm*
Reproducibility:	Better than 0.8 µm*
Measurement Range:	0-4000 [†] µm [†] 0 - 19000 µm extended range instrument also available
Weight:	10kg (max)
Dimensions:	(h) 285 x (w) 302 x (l) 285 mm
Output:	RS232
Power:	110/220V 50/60 Hz
Accessories:	All Hanatek FT3 gauges are supplied with a UKAS traceable calibration certificate and traceable 2000 µm and 500 µm checking gauges
Options:	Results printer, footswitch, additional weights.

*Dependant on operating conditions

Standard Measurement Heads for FT3, FT3-V & FT3-U:

Ball: 3mm radius

Domed: 25.5mm radius

Flat: 6 / 6.35 / 8 / 10 / 11.3 / 16 / 25.3 / 28.7 / 37.5 / 50mm diameter**

**Non standard heads between 6 and 50mm diameter are available on request

Test Masses:

FT3 Standard:	50g - 2000g
FT3-V:	100g - 4000g
FT3-U:	50g - 500g
FT3-LAB:	100g - 4000g



Certificate No. FM29741
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LOCAL AGENT

hanatek

12 Beeching Road | Bexhill-on-Sea | East Sussex | TN39 3LG | UK
 T +44 (0) 1424 739623 F +44 (0) 1424 730600
 sales@hanatekinstruments.com www.hanatekinstruments.com

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