



www.hanatekinstruments.com

HANATEK **FT3**
PRECISION THICKNESS GAUGE

- Accurate and repeatable thickness measurements
- Compliant to multiple standards
- Choice of configuration

FT3 Precision Thickness Gauge

PRECISELY MEASURES THE THICKNESS OF A VARIETY OF MATERIALS

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 –



PRECISELY MEASURES THE THICKNESS OF A VARIETY OF MATERIALS

▶ Test Parameters	<ul style="list-style-type: none"> • Momentum and profile of measurement head • Measurement pressure • Measurement dwell time 	<p>Physical test parameters can be factory configured according to International Standards or customer requirements.</p> <p>Measurement speed and dwell time are controlled by user defined parameters.</p>
▶ Instrument	<ul style="list-style-type: none"> • Accuracy, linearity, calibration • Flatness/parallelism of measurement area 	<p>The instrument is linearised throughout its measurement range using a multi point calibration.</p> <p>Flatness of measurement head/anvil <0.1µm Typical parallelism <1µm</p>
▶ Operator	<ul style="list-style-type: none"> • Incorrect recording and analysis of results • Sample handling and measurement technique 	<p>The Hanatek instrument provides full statistical analysis of data. The optional printer allows a time/date stamped results label to be attached to a job sheet or retained samples.</p> <p>User defined routines or the optional foot switch mean hands free operation for easy sample manipulation.</p>
▶ External Effects	<ul style="list-style-type: none"> • Temperature 	<p>Temperature stability circuitry ensures the instrument electronics reach optimum conditions before testing.</p>

DEFINED PARAMETERS

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

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

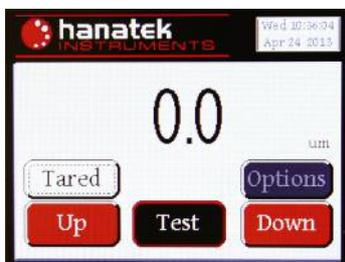
Dwell/Down Time: The dwell time determines the settling time of the measuring head on compressible materials. **1-15 sec**

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

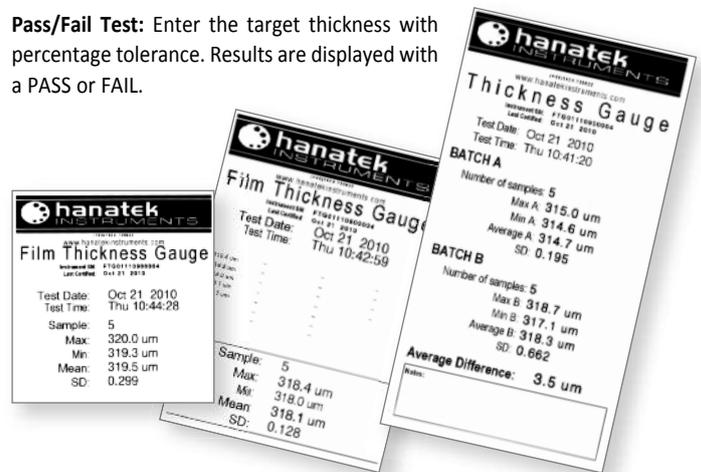
Standard Test: Full statistical analysis of up to 500 readings.

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.



Pass/Fail Test: Enter the target thickness with percentage tolerance. Results are displayed with a PASS or FAIL.



DATA TRANSFER

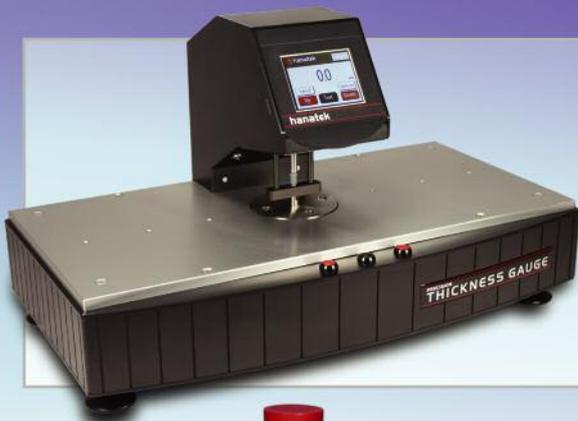
Measurements made using the FT3 thickness gauge can be exported to Microsoft Excel* via interface software.

All measured and calculated parameters are transferred along with the date / time stamp, instrument serial number and calibration date.

**sample excel sheets available on request*

Serial Number	FTG30811001F
Last Cal Date	Oct 01 2012
Test Date	Jan 24 2013
Test Day, Time	Thu 11:47:13
Reading 1	93.5
Reading 2	93.1
Reading 3	93.2
Reading 4	93.2
Reading 5	93.5
MAX	93.5 um
MIN	93.1 um
MEAN	93.3 um
SD	0.201

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 external 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 up to 4kg total.



FT3-U: Ultra High Precision Instrument

Fixed pressure configured to meet a single test standard or specification.

Enhanced resolution of 0.01 μ m 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 extra 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.



APPLICATIONS



Printed carton board



Unprinted carton board



Tissue



Paper



Plastic Film



Flexible Packaging



Tape



Foils



Barcode Labels



Textile

STANDARDS

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** Plastics – film and sheeting – Determination of thickness by mechanical scanning.
- ASTM D6988** Standard guide for determination of thickness of plastic film test specimens.

PAPER & BOARD

- ISO 534** 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.
- 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** Standard test method for thickness of textile materials.
- ASTM D5199** Thickness of geosynthetic material (HDPE Geomembranes).
- ISO 2589** Leather. Physical and mechanical tests. Determination of thickness.

GASKETS

- ASTM F36** Standard test method for compressibility and recovery of gasket materials.

FLOOR COVERINGS

- EN428** Resilient floor coverings. Determination of overall thickness.

FLEXIBLE PACKAGING

- ASTM F2251** Standard test method for thickness measurement of flexible packaging material.

TAPE

- DIN EN 1942** Self adhesive tapes. Measurement of thickness.
- ASTM D3652** Standard test method for thickness of pressure-sensitive tapes.

FT3 Precision Thickness Gauge

CONFIGURATIONS

Each standard of compliance specifies a different pressure which is calculated by the force applied to the sample through a measuring head of a given diameter.

FT3

Single standard of compliance. Fixed pressure measurements.

FT3-20

As per FT3 but with extended 19mm measuring range.

FT3-V

1+ standard(s) of compliance. Pressure varied by adding external weight to the measurement platen.

FT3-V20

As per FT3-V but with 19mm measuring range.

FT3V-LAB

Compliance to multiple standards. Pressure is varied by adding external weight to the platen and by changing the measuring head*.

FT3V20-LAB

As per FT3V-Lab but with 19mm measuring range.

FT3-U

ISO 4593 standard of compliance. Fixed pressure.

*suitable for use in R & D environments or by testing laboratories.

To request a quotation, please choose the model of instrument desired and mail to: sales@hanatekinstruments.com, providing the standard(s) of compliance and the base size required (large or small).

OPTIONAL ACCESSORIES

Results printer



Simple reporting of results which can be attached to retained samples

Data transfer software

Foot switch

Additional weights

SPECIFICATIONS

Resolution:	0.1 μm (0.01 μm on FT3-U)
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
Output:	RS232
Power:	110V/220V 50Hz/60Hz
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, foot switch, additional weights
Weight:	10kg (max)
Dimensions:	(H) 285 x (W) 302 x (D) 285 mm
Packed weight:	15.7kg
Packed dimensions:	(H) 550 x (W) 620 x (D) 430 mm
Commodity code:	9024 8019

*Dependant on operating conditions and configuration of instrument

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 / 35.7 /

50.5mm 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
FT3V-LAB:	100g	– 4000g



Certificate no: FM 29741
ISO 9001:2008

LOCAL AGENT

