HANATEK INSTRUMENTS

www.hanatekinstruments.com

HANATEK
PRECISION THICKNESS GAUGE FT3

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

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### Defined 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.**

<table>
<thead>
<tr>
<th>Instrument</th>
<th>The instrument is linearised throughout its measurement range using a multi point calibration.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Flatness of measurement head/anvil &lt;0.1μm</td>
</tr>
<tr>
<td></td>
<td>Typical parallelism &lt;1μm</td>
</tr>
</tbody>
</table>

- **Accuracy, linearity, calibration**
- **Flatness/parallelism of measurement area**

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

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### External Effects

- **Temperature**

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

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### Test Parameters

<table>
<thead>
<tr>
<th>Test Parameters</th>
<th>Physical test parameters can be factory configured according to International Standards or customer requirements.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Measurement speed and dwell time are controlled by user defined parameters.</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Operator</th>
<th>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.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>User defined routines or the optional foot switch mean hands free operation for easy sample manipulation.</td>
</tr>
</tbody>
</table>

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### 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
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 0.01µm 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.
<table>
<thead>
<tr>
<th>Application</th>
<th>Standard</th>
<th>Description</th>
<th>Order Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carton board</td>
<td>ISO 3034</td>
<td>Board Thickness</td>
<td>HAN-A8041-ISO3034</td>
</tr>
<tr>
<td>Film</td>
<td>ASTM6988</td>
<td>Thickness of plastic film, standard pressure</td>
<td>HAN-A8041-ASTMD6988/STD</td>
</tr>
<tr>
<td>Film</td>
<td>ASTM6988</td>
<td>Thickness of plastic film</td>
<td>HAN-A8041-ASTMD6988</td>
</tr>
<tr>
<td>Film</td>
<td>ISO 4593 / BS2782-6 PART B</td>
<td>Plastic film thickness (Rhopoint recommended configuration)</td>
<td>HAN-A8041-ISO4593/BS2782-6</td>
</tr>
<tr>
<td>Film (films &lt;25 µm)</td>
<td>ASTM6988</td>
<td>Thickness of plastic film, low pressure (films &lt;25 µm)</td>
<td>HAN-A8041-ASTMD6988/LOW</td>
</tr>
<tr>
<td>Flexible Packaging</td>
<td>ASTM F2251</td>
<td>Flexible packaging thickness</td>
<td>HAN-A8041-ASTMF2251</td>
</tr>
<tr>
<td>Flooring</td>
<td>EN428</td>
<td>Resilient floor coverings thickness - Composition Cork</td>
<td>HAN-A8041-EN428/11.3MM</td>
</tr>
<tr>
<td>Flooring</td>
<td>EN428</td>
<td>Resilient floor coverings thickness - at least 1 non solid layer</td>
<td>HAN-A8041-EN428/25.3MM</td>
</tr>
<tr>
<td>Flooring</td>
<td>EN428</td>
<td>Resilient floor coverings thickness - Rubber and other relief materials</td>
<td>HAN-A8041-EN428/50MM</td>
</tr>
<tr>
<td>Flooring</td>
<td>EN428</td>
<td>Resilient floor coverings thickness - Solid throughout</td>
<td>HAN-A8041-EN428/8MM</td>
</tr>
<tr>
<td>Paper, Carton Board</td>
<td>ISO534</td>
<td>Thickness of paper and board</td>
<td>HAN-A8041-ISO534</td>
</tr>
<tr>
<td>Paper, Carton Board</td>
<td>TAPPI T411</td>
<td>Thickness of Paper and Board</td>
<td>HAN-A8041-TAPPI T411</td>
</tr>
<tr>
<td>Paper, Carton Board</td>
<td>TAPPI T411+ISO534</td>
<td>Thickness of Paper and Board</td>
<td>HAN-A8041-TAPPI T411+ISO534</td>
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<tr>
<td>Tape</td>
<td>ASTM 3652</td>
<td>Standard test method for thickness of pressure sensitive tapes</td>
<td>HAN-A8041-ASTM3652</td>
</tr>
<tr>
<td>Tape</td>
<td>DIN EN 1942</td>
<td>Self-adhesive tape thickness</td>
<td>HAN-A8041-DINEN1942</td>
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<tr>
<td>Textile</td>
<td>ASTM D1777 PART 1</td>
<td>Woven, knitted and textured fabrics thickness</td>
<td>HAN-A8041-ASTMD1777/1</td>
</tr>
<tr>
<td>Textile</td>
<td>ASTM D1777 Part 1 &amp; 5</td>
<td>Woven, knitted and textured fabrics thickness &amp; Blankets, Pile fabrics, Napped fabrics thickness</td>
<td>HAN-A8041-ASTMD1777/1+5</td>
</tr>
<tr>
<td>Textile</td>
<td>ASTM D1777 PART 2</td>
<td>Coated fabrics, Narrow fabrics, Webbings, Tapes, Ribbons, Braids</td>
<td>HAN-A8041-ASTMD1777/2</td>
</tr>
<tr>
<td>Textile</td>
<td>ASTM D1777 PART 3</td>
<td>Films, Glass cloths, Glass tapes thickness</td>
<td>HAN-A8041-ASTMD1777/3</td>
</tr>
<tr>
<td>Textile</td>
<td>ASTM D1777 PART 4</td>
<td>Glass fiber mat thickness</td>
<td>HAN-A8041-ASTMD1777/4</td>
</tr>
<tr>
<td>Textile</td>
<td>ASTM D1777 PART 5</td>
<td>Blankets, Pile fabrics, Napped fabrics thickness</td>
<td>HAN-A8041-ASTMD1777/5</td>
</tr>
<tr>
<td>Textile</td>
<td>ASTM D5199</td>
<td>Geosynthetics thickness (Geomembranes only)</td>
<td>HAN-A8041-ASTMD5199</td>
</tr>
<tr>
<td>Textile</td>
<td>ISO 2589</td>
<td>Thickness of Leather</td>
<td>HAN-A8041-ISO2589</td>
</tr>
<tr>
<td>Textile</td>
<td>ISO 5084</td>
<td>Thickness of Textile</td>
<td>HAN-A8041-ISO5084</td>
</tr>
<tr>
<td>Textile</td>
<td>ISO 9073-2/EDANA</td>
<td>Nonwoven thickness</td>
<td>HAN-A8041-ISO9073/2</td>
</tr>
<tr>
<td>Tissue</td>
<td>ISO 12625</td>
<td>Tissue Thickness</td>
<td>HAN-A8041-ISO12625</td>
</tr>
</tbody>
</table>
**OPTIONS**

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 that is not listed on page 5, 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).

**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**

**Test Masses:**

- **FT3 Standard:** 50g – 2000g
- **FT3-V:** 100g – 4000g
- **FT3-U:** 50g – 500g
- **FT3V-LAB:** 100g – 4000g

**OPTIONAL ACCESSORIES**

- Results printer
- Data transfer software
- Foot switch
- Additional weights

Simple reporting of results which can be attached to retained samples

Certificate no: FM 29541
ISO 9001:2008

**LOCAL AGENT**

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