Film Puncture Test Fixture
TKS-20N / TKS-250N

- Designed for puncture strength testing of thin samples including film, PET bottles and aluminum
- Performs testing according to the corresponding part of JIS Z1707:2019

| Standard | JIS Z1707:2019 [General rules of plastic films for food packaging] (corresponding part only) |

Simple affordable type for low-force: TKS-20N

Standard type: TKS-250N
IMADA CO., LTD.
Film Puncture Test Fixture TKS-20N/TKS-250N

Measuring Procedures (TKS-250N)

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attach pin to the measuring shaft of force gauge.</td>
<td>Ensure the pin comes in the center of the hole in the table.</td>
</tr>
<tr>
<td>Loosen the fixing plate knobs, set the sample and tighten the knobs.</td>
<td></td>
</tr>
</tbody>
</table>

Specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>TKS-20N</th>
<th>TKS-250N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capacity</td>
<td>20N</td>
<td>250N</td>
</tr>
<tr>
<td>Table</td>
<td>Diameter of Hole *1</td>
<td>10mm</td>
</tr>
<tr>
<td></td>
<td>Weight</td>
<td>Approx. 500g</td>
</tr>
<tr>
<td>Sample Size</td>
<td>20x20 to 60x60 mm</td>
<td>40x40 to 55x55 mm</td>
</tr>
<tr>
<td>Pin</td>
<td>Diameter</td>
<td>1mm</td>
</tr>
<tr>
<td></td>
<td>Tip Shape</td>
<td>SR0.5</td>
</tr>
<tr>
<td></td>
<td>Material</td>
<td>Stainless Steel</td>
</tr>
<tr>
<td></td>
<td>Weight</td>
<td>Approx. 0.2g</td>
</tr>
<tr>
<td></td>
<td>Included Quantity</td>
<td>3 pcs</td>
</tr>
<tr>
<td>Pin Vice</td>
<td>Available Diameter</td>
<td>Up to 3.2mm</td>
</tr>
<tr>
<td></td>
<td>Weight</td>
<td>Approx. 22g</td>
</tr>
<tr>
<td>Mounting screw (Pin/Pin Vice)</td>
<td>M6</td>
<td></td>
</tr>
<tr>
<td>Dimensions</td>
<td>See [Dimensions]</td>
<td></td>
</tr>
</tbody>
</table>

*1 Diameter of hole can be changed to meet your requirements. Contact us for details.

* Weight of the attachment is also applied as a load on the force gauge. Consider it when selecting the capacity of a force gauge.

* Pins may break or bend when offset load is applied.

* Some samples may not be suitable to hold and test with this product.

[Pin parts are available for replacement.]

<table>
<thead>
<tr>
<th>Model</th>
<th>Included Parts</th>
</tr>
</thead>
<tbody>
<tr>
<td>TP-10</td>
<td>Set of pins for TKS-20N (pin part-3pcs) and pin vice *1</td>
</tr>
<tr>
<td>STP-001</td>
<td>Pins for TKS-20N (pin part-3pcs) only *1</td>
</tr>
<tr>
<td>TP-20</td>
<td>Pin for TKS-250N</td>
</tr>
</tbody>
</table>

*1 Pins come in 3 pcs. Single piece of purchase is not available.
**IMADA CO., LTD.**
Film Puncture Test Fixture TKS-20N/TKS-250N

**Table** Only the table part is also available for purchase.

<table>
<thead>
<tr>
<th>Model</th>
<th>Included Parts</th>
<th>Images</th>
</tr>
</thead>
</table>
| TTB-10 | Table for TKS-20N  
Hole diameter: 10 ㎜ | ![TTB-10](image) |
| TTB-20 | Table for TKS-250N  
Hole diameter: 20 ㎜ *1 | ![TTB-20](image) |

* Use with pins of your choice for testing.

*1 Diameter of hole can be changed to meet your requirements. Contact us for details.

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### Examples of Product Configuration TKS-20N

**Example 1**

**Code:** 1T2001A

Simple testing up to 20N

Digital Force Gauge: DST-20N
Motorized Test Stand: MX-500N
Optional Attachment: TKS-20N

**Example 2**

**Code:** 1T2001B

Testing up to 20N according to a part of JIS Z 1707:2019 General rules of plastic films for food packaging

Digital Force Gauge: ZTS-20N
Motorized Test Stand: MX2-500N
Optional Attachment: TKS-20N
Optional Cable: CB-518

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### Examples of Product Configuration TKS-250N

**Example 1**

**Code:** 1T2002A

Simple testing up to 250N

Digital Force Gauge: DST-20N
Motorized Test Stand: MX-500N
Optional Attachment: TKS-250N

**Example 2**

**Code:** 1T2002B

Testing up to 250N according to a part of JIS Z 1707:2019 General rules of plastic films for food packaging

Digital Force Gauge: ZTS-500N
Motorized Test Stand: MX2-500N
Optional Attachment: TKS-250N
Optional Cable: CB-518

* Refer to the specification of each product for details.

* Product configuration varies depending on the shape and characteristic of the sample, and measurement conditions.

* The recommended capacity of force gauge varies depending on the expected force to be loaded.
Mountable Force Gauges for TKS-20N/TKS-250N

<table>
<thead>
<tr>
<th>DST/DSV series</th>
<th>ZTS/ZTA series</th>
<th>FB/PS/PSM series</th>
</tr>
</thead>
<tbody>
<tr>
<td>Digital force gauge with excellent cost performance capable to manage data with PC.</td>
<td>Digital force gauge with high precision, featuring high sampling rate and a variety of useful functions.</td>
<td>Mechanical force gauge for easy handling.</td>
</tr>
</tbody>
</table>

Related Products

<table>
<thead>
<tr>
<th>Film Grip</th>
<th>Cam Grip</th>
<th>Roller Grip</th>
</tr>
</thead>
<tbody>
<tr>
<td>FC-21/20/40/21U/41U/21UQ</td>
<td>GR-30/GR-2000</td>
<td>GC-60/GC-100</td>
</tr>
<tr>
<td>Designed for tensile and peel testing to grip thin samples such as film with capacity of up to 500N.</td>
<td>Designed for efficient tensile testing of thin samples in rectangular shape, such as paper and sheet, with capacity of 2000N.</td>
<td>Ideal for extensible samples such as film and rubber without slipping for testing up to 500N.</td>
</tr>
</tbody>
</table>

Related Tests

<table>
<thead>
<tr>
<th>Breaking tensile strength test of film to check whether it meets the requirement of IEC 60286-3(2013) and JIS C0806-3(2014).</th>
<th>Tensile strength test of heat sealed parts according to a part of JIS Z 1707:2019 7.5. A part of JIS Z0238:1998 can be also conformed.</th>
</tr>
</thead>
</table>

Product Configuration (*) Code: 1G2005A
Digital force gauge: ZTS-200N
Motorized test stand: MX2-500N-L
Optional attachment: GC-60 (2 pieces)
Optional cable: CB-518

Product Configuration (*) Code: 1F2003A
Digital force gauge: ZTS-200N
Motorized test stand: MX2-500N
Optional attachment: FC-21U (2 pieces)
Optional cable: CB-518

* Refer to the specification of each product for details.
* Product configuration varies depending on the shape and characteristic of the sample, and measurement conditions.
* The recommended capacity of force gauge varies depending on the expected force to be loaded.
[Dimensions]

**TKS-20N**

- Dimensions:
  - Pin for Replacement (STP-001)

**TKS-250N**

- Dimensions:
  - Pin for Replacement (STP-001)

Unit: mm
[Cautions]
- Information in this document is subject to change without prior notice.
- This document is product descriptions and handling precautions, and do not guarantee various characteristics or safety.
- This product is designed for force measurement purpose only.
- Do not copy and use this content without authorization.
- A force gauge (sold separately) is required to use this product.
- Some samples may not be suitable to measure with this product.