

# 180-degree High Speed Peeling Tester IPTS-20N/50N

- Handles a wide range of test speed up to 1500 mm/min
- Enable accurate data Graphing with 2000Hz sampling rate with easy operation
- Interlocking Shield is available as an optional equipment for safety



IPTS-50N



Test image

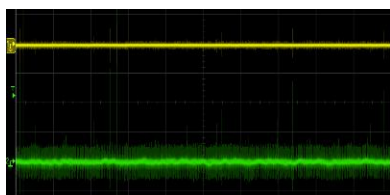
| Features                                                                                                                           |                                                                                                                                                                                            |
|------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Accurate graphing</b><br>It captures rapid force change due to its high sampling rate (2000Hz) thus ensures high repeatability. | <b>One-click operation</b><br>Simply press the START button to start the test. It peels the sample to the set stroke (peel length).                                                        |
| <b>Automatic recording</b><br>Automatic recording, graphing and saving data when testing.                                          | <b>Visual analysis</b><br>Overlays Max. 5 graphs to allow easy comparison and visual analysis. Automatically calculates Max/Min/Ave values of each graph and shows them in the same table. |

## [Evolution to the Next Series]

Next Series is a generic term for IMADA measurement devices with upgraded functions and performances with the essential modifications. The devices enable to install additional functions from the user support site, IMADA-Connected. On the website, related data such as software and instruction manuals can also be downloaded. New Series: IPTS-20N/50N Firmware Ver.5 or later.

### New Features

-Increased measurement stability achieved from further noise reduction of the measurement circuit.



Internal analog wave comparison  
Yellow: Next series/Green: Old Model

- Measurement device program (firmware) online updates available.
- Various software and additional functions downloadable to increase the measurement conveniences.



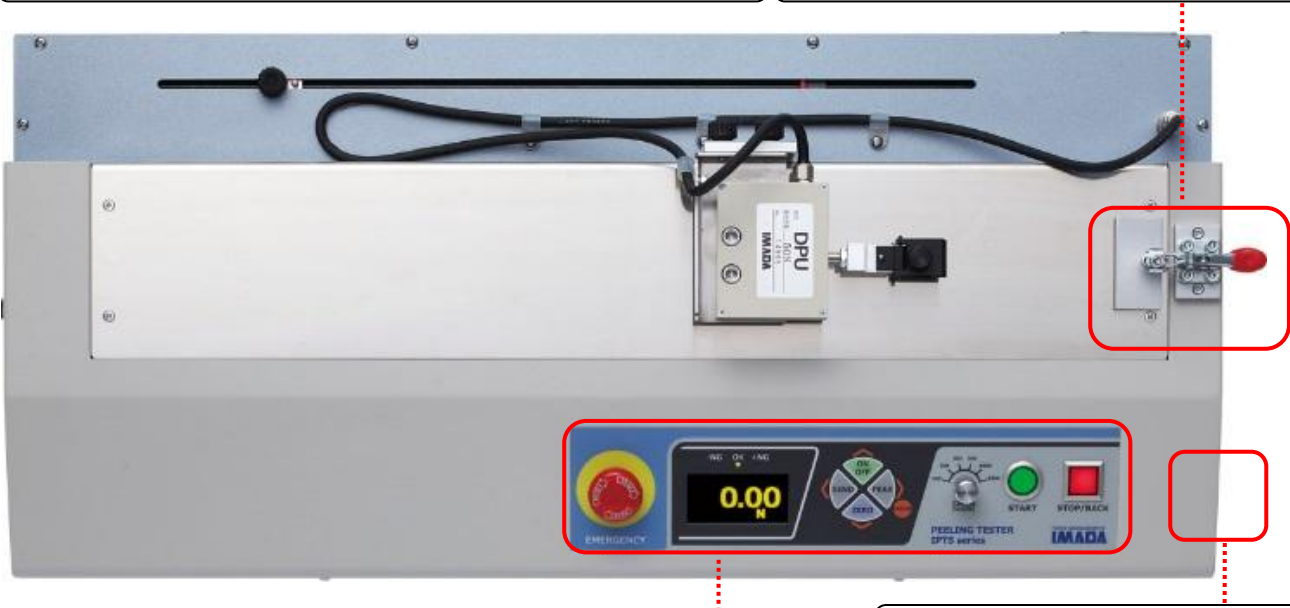
IMADA Connected  
(<https://www.imada-connected.com/>)

|                |                                                                                                                                                                                                                                                                      |
|----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Samples</b> | Stickers, adhesive tapes, screen protection films for cellphones, low-friction silicon rubber sheet, laminated packages, medical bandages and tapings, Crimping postcards, magnetic tapes, electrode lines of solar cells, copper foil of circuit boards, and others |
|----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

\*1 The IPTS series cannot measure the length peeled. The peeled length must be calculated based on the test speed and test duration.

**[Main functions]**

|                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                   |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>[Test conditions]</b> <ul style="list-style-type: none"><li>- <b>Peel length:</b> Max. 200mm.</li><li>- <b>Load cell height adjustment:</b> Handles sample height up to 13mm. Easily adjust the height of load cell by rotating the knob to suit the sample.</li><li>- <b>Stroke limit knob:</b> Adjust stroke (peel length) easily by the limit knob.</li></ul> | <b>[Sample fixing]</b> <ul style="list-style-type: none"><li>- <b>Sample clamp:</b> Insert the sample into the sample clamp and fix it. If the sample is an adhesive tape, fix it directly on to the table.</li><li>- <b>Easy gripping:</b> Grip the sample film with the film grip and hang the grip to the load cell.</li></ul> |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|



|                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                 |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>[Controls]</b> <ul style="list-style-type: none"><li>- <b>Organic EL display</b><br/>Clear organic display provides excellent readability.</li><li>- <b>Simple operation</b><br/>Simply press start button to start the test. It enables automatic graphing by software.</li><li>- <b>A wide range of test speed</b><br/>120, 200, 300, 500, 1000, 1500mm/min (Switchable by a knob)</li></ul> | <b>[Output]</b> <ul style="list-style-type: none"><li>- <b>USB connector</b><br/>Connect it to a PC using a supplied USB cable.</li></ul>  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

| Procedure of Test                                                                   |                                                                                     |                                                                                      |                                                                                       |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| Attach a sample                                                                     | Set test speed and stroke                                                           | Grip film                                                                            | Start test                                                                            |
| Insert the sample into the sample clamp and fix it.                                 | Select test speed with SPEED dial and set stroke (peel length) by limit knob.       | Grip the peeled covering tape film with the film grip.                               | Press START button to start test. Meanwhile it starts automatic recording.            |
|  |  |  |  |

## [Main functions of the included software]

### [Basic operation]

#### - Save graphs automatically

It enables automatic graphing and data saving by using trigger function.

#### - Switch graphs with plural tabs

The recorded graphs can be displayed in plural tabs.

#### - Add notes

Notes can be inserted at desired points on the graph.

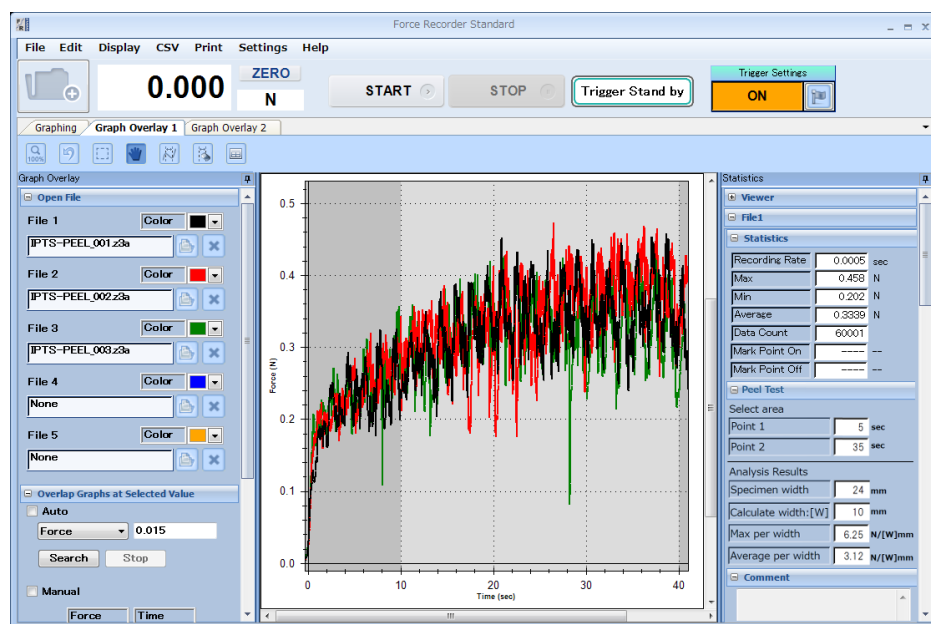
### [Advanced operation]

#### - Overlay graphs

Max. 5 graphs can be overlaid. It can be printed and output in desired format.

#### - Zoom graph

Simply click and drag to specify an area to zoom-in. The Max, Min, and Ave. values of the selected area are displayed. It allows you to print or output in desired format.



### [Others]

#### - Statistics display

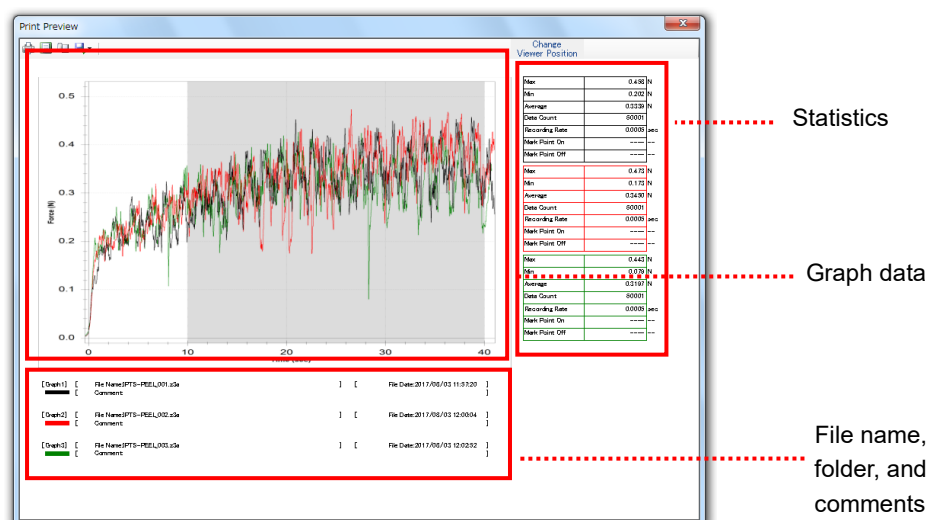
The Max, Min, and Ave. values can be displayed. When the specimen width and calculate width are input, the Max and Ave per width can be calculated and shown as N/(width)mm.

| Peel Test            |              |
|----------------------|--------------|
| Select area          |              |
| Point 1              | 5 sec        |
| Point 2              | 35 sec       |
| Analysis Results     |              |
| Specimen width       | 24 mm        |
| Calculate width: [W] | 10 mm        |
| Max per width        | 6.25 N/[W]mm |
| Average per width    | 3.12 N/[W]mm |

#### - Input comment

Notes such as testing conditions up to 198 characters can be input.

## [Output sample image]



### [Output]

#### - Printing

Prints out in A4 or letter size.

#### - Digital output

The data can be output in Word, Excel, and PDF format.  
Graph is attached as an image file.

| Specifications        |                                                                                                                                          |          |
|-----------------------|------------------------------------------------------------------------------------------------------------------------------------------|----------|
| Model                 | IPTS-20N                                                                                                                                 | IPTS-50N |
| Capacity              | 20N                                                                                                                                      | 50N      |
| Resolution            | 0.01N                                                                                                                                    |          |
| Accuracy              | ±0.2%F.S. ±1digit                                                                                                                        |          |
| Overload              | Approx.150%F.S.<br>(It warns with light flashing and buzzer when the force is over 110% of capacity.)                                    |          |
| Sampling rate         | Max.2000 data / sec (2000Hz)                                                                                                             |          |
| Test speed            | 120, 200, 300, 500, 1000, 1500mm/min (Switchable)                                                                                        |          |
| Stroke (length)       | Travel of load cell: Approx. 400mm (Peel length: Approx.200mm)                                                                           |          |
| Peel angle            | 165°-180° (Height and angle are adjustable.)                                                                                             |          |
| Max. sample width     | Adhesion: 88mm (Grip: 20mm, Clamp: 50mm)                                                                                                 |          |
| Max. sample thickness | Grip: 3mm / Clamp: 13mm                                                                                                                  |          |
| Safety device         | Emergency stop button, Overload stop function (Valid with the power ON) *1                                                               |          |
| Power                 | AC100 to 240V free input *2                                                                                                              |          |
| Weight                | Approx. 11kg                                                                                                                             |          |
| Operating environment | Temperature: 0 to 40°C Humidity: 20 to 80%RH                                                                                             |          |
| Accessories           | Force Recorder Standard (graphing software), USB cable, Power cable, Film grip, Spacer block, Inspection certificate, Instruction manual |          |

\*1 The Overload stop function does not guarantee complete protection against overload.

\*2 Please specify the voltage when you order. (Accessory varies depending on voltage.)

#### [Option Model (-IC) with Interlocking Shield]

| Model                     | Code   | Description                                                                                                                                                              | Image                                                                                 |
|---------------------------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| Interlocking Shield Model | -IC *1 | The transparent polycarbonate interlock shield prevents the testers from contacting samples during measurements. The operation automatically stops when the cover opens. |  |

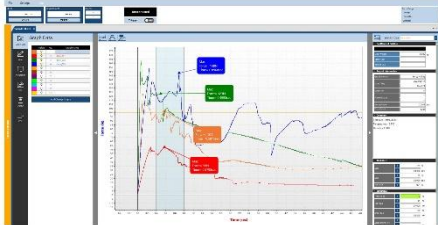
- Interlocking shield is a factory-installed option. In the case you would like to install the shield to your owned IPTS, please contact the local distributor or us for details.

\*1 Please add the code (-IC) to the standard model code end (Example: IPTS-20N-IC) when you order this option model.

| Specifications for the included software |                                                                                                               |
|------------------------------------------|---------------------------------------------------------------------------------------------------------------|
| Data transferring speed                  | Max. 2000 data / sec (2000Hz)                                                                                 |
| Recording data point                     | Max. 7.2 million                                                                                              |
| Graph                                    | Graph overlaying function, Capture function, Graph scaling, Statistics output, Point marking                  |
| Graph recording                          | Trigger function                                                                                              |
| Edit                                     | Comment, Add notes, Borderline function                                                                       |
| Output                                   | Printing (A4, letter size), CSV, Word, Excel, PDF                                                             |
| OS                                       | Windows 8.1/10/11                                                                                             |
| Hardware                                 | CPU: 1GHz or more recommended, Memory: 2GB or more recommended<br>Hard disk: 10GB (Data storage area) or more |
| Platform                                 | NET Framework 4.8 or later                                                                                    |
| Image size                               | Resolution 1024×768 pixel or more                                                                             |

\* Some old versions of Excel show data up to 65,531 only.

## [Downloadable Graphing Software Option]

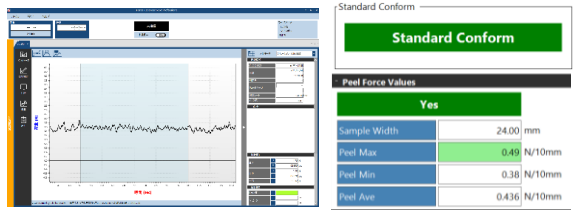
| Downloadable Force-Time Graphing Software                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|-----------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>-NEXT</b>                                                                                                          | With this option, Downloadable Graphing Software Force Recorder Next Standard is included instead of CD version Graphing Software Force Recorder Standard. *1<br>Please add the code to the end of model. Example: IPTS-20N-NEXT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|  <p>Force Recorder Next Standard</p> | <ul style="list-style-type: none"> <li>- High-speed communication of up to 2000 times/second achieves high accuracy load-time graphs.</li> <li>- The measurement results recorded and analyzed efficiently with an enforced range of preset functions.</li> <li>- Data analysis functions for various graph editing, such as up to 10 graph overlays with the reference graph.</li> <li>- Notes and images input for additional measurement information.</li> <li>- Graph images and statistics output in various file formats (PDF, Word, Excel) for easy report creation.</li> </ul> <p>*The conversion function for peel force units (N/10mm, etc.) is unavailable. Please download the chargeable additional function "Peel Testing Module 1" for the peel force unit conversion function.</p> |

\*1 When -NEXT option is applied, the dedicated download card providing the redemption code is included.

To use the software, downloading the software from IMADA Connected is required.

- \* To download Force Recorder Next Standard, user & product registration on IMADA Connected is required.
- \* An Internet connection is required in the process of user & product registration and downloading the software.
- \* Some specification such as operating environment is different from the CD version.  
Please refer to the specification sheet of the Force Recorder Next series for details.

## The Additional Function Introduction to the Force Recorder Next Series

|                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|-------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | <p>[Peel Testing Module 1]<br/>Automatically converts measured force values into peel force units. Also it supports measurement compliance with industry standards.</p> <ul style="list-style-type: none"> <li>- By setting the sample width, etc., the measurement results' statistical values are automatically converted into peel force units (N/10mm, etc.) and displayed when the test is completed.</li> <li>- The preset function supports easy test condition setting complying with the industry standards. Test conditions designed by users can be registered and saved to recall the setting conditions. (Regarding the preset industry standard lineups, please contact us for details)</li> </ul> |
|-------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

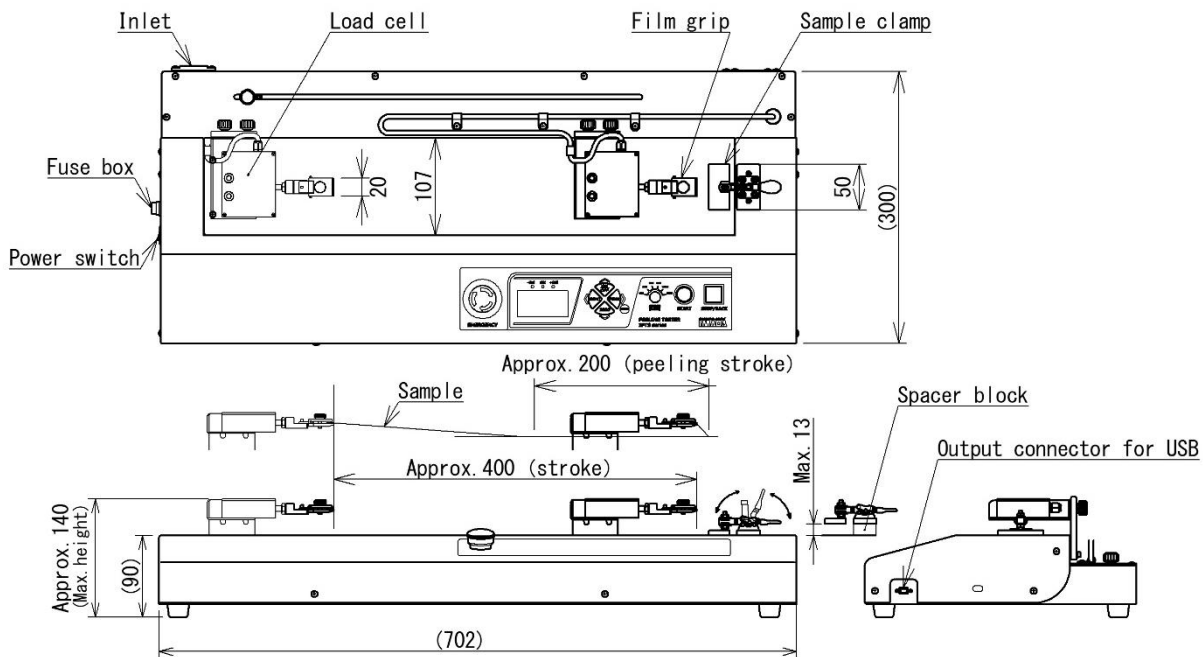
- After installing the Force Recorder Next series, additional function downloads are available from IMADA Connected.

- For "Peel Test Optimization Function", purchase Download Card Advanced in advance.

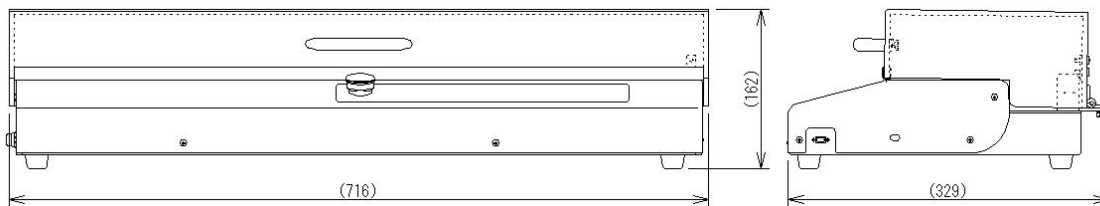
## [Related Products]

| 180-degree peel test fixture<br><b>P180-200N</b>                                                                                                                                                                  | Rubber roller for peel test<br><b>APR-97 series</b>                                                                                  | Film cutter<br><b>FSC-1525</b>                                                                                                                       |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|
| Ideal for 180-degree peel testing for adhesive tape. (Complies with the corresponding part of the standard, IEC 249-1:1982, IEC 326-2:1990, ISO 29862:2018, Japanese Pharmacopoeia 18th Edition, ASTM D3330:2010) | Designed to bond a sample at a regular pressure in peel test. (Complies with the corresponding part of the standard, ISO 29862:2007) | Designed to cut film and paper at stable width. (Complies with the corresponding part of the standard, JIS Z1707:2019, JIS Z0238:1998, and ATSM F88) |
|                                                                                                                                |                                                   |                                                                 |

## [IPTS-20N/50N Dimensions]



### Interlocking shield (-IC option)



Unit: mm

## [ISO Calibration Service and Calibration Certificate]

- We are the accredited ISO/IEC 17025:2017 Calibration Organization with the in-house Calibration Service facility.
- The Calibration Service and Issuing of the Calibration Certificates and Traceability Chart are available at extra cost.
- For further information, please kindly contact the local authorized distributor or us.

## [Cautions]

- Specifications are subject to change without prior notice.
- This product is designed for force testing only. Do not use it for any other purposes.
- Some samples may not be suitable to grip with this product.
- Do not copy and use this content without authorization.
- Some samples are not suitable due to the materials of the sample and measuring conditions.

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