

Additional Functions for Downloadable Force Recorder Next Series Software

For the downloadable graphing software Force Recorder Next Standard and Force Recorder Next Professional, the functionality can be expanded by downloading additional functions from IMADA Connected (some functions are available at an additional cost). This document introduces the various additional functions available for downloading from IMADA Connected.

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The image shows an IMADA Download Card for the Basic Option. It includes a redemption code (XXXX - XXXX - XXXX - XXXX), an IMADA Central Code (XXXXXX), and a QR code. Instructions in Japanese and English are provided for redeeming the code.

The following information can be found on [pages 12–13](#):

- Download cards required for each additional function
- List of functions that can be used simultaneously
- Procedure for downloading additional functions
- Procedure for updating the software and additional functions

Note
Additional functions cannot be used with the floating license versions of the software, Force Recorder Next Standard-FLT and Force Recorder Next Professional-FLT. For details, please refer to the specifications of the Force Recorder Next series.



Supports Coefficient of Friction (COF) Calculation and Software Settings Compliant

Friction Testing Module

Feature 1

Automatic Calculation and Display of Static and Average Kinetic Coefficients of Friction



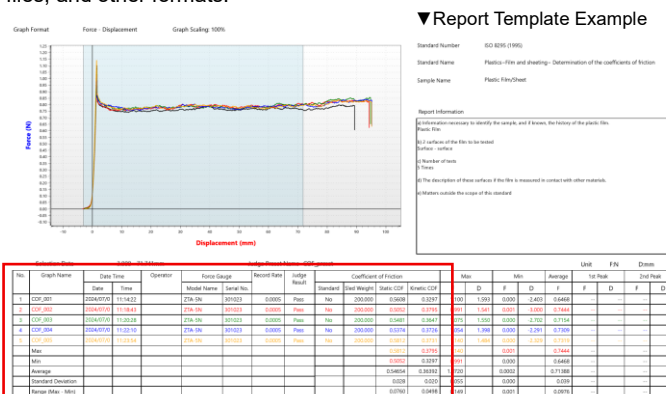
- By presetting parameters such as the weight of the load (mass) and the calculation range, the static coefficient of friction and the average kinetic coefficient of friction are automatically calculated and displayed after the friction force measurement. Since the same settings can be applied repeatedly, this improves the efficiency of post-measurement analysis.

Sled Weight	200.000 g
Static COF	0.5481
Kinetic COF	0.3943

- The calculated coefficient of friction can be exported to reports, CSV files, and other formats.

No.	Graph Name	Date	Standard	Sled Weight	Static COF	Kinetic COF
1	COF_001	2024/	No	200.000	0.5608	0.3297
2	COF_002	2024/	No	200.000	0.5052	0.3795
3	COF_003	2024/	No	200.000	0.5481	0.3647
4	COF_004	2024/	No	200.000	0.5374	0.3726
5	COF_005	2024/	No	200.000	0.5812	0.3731
	Max				0.5812	0.3795
	Min				0.5052	0.3297
	Average				0.54654	0.36392
	Standard Deviation				0.028	0.020
	Range (Max - Min)				0.0760	0.0498

Enlarge



Feature 2

Templates to support software configurations that comply with friction test standards

- Software settings compliant with friction testing standards—such as graph types and calculation ranges—are pre-registered as templates, enabling efficient software configuration. In addition, for each recorded graph, the software displays a judgment result indicating whether it meets the specified requirements (e.g., graph type). *1

- An overview of each standard is also displayed on the settings screen.

Coefficient of Friction

Standard User

Standard Information

Standard Number: JIS K7125 (1999)
Standard Name: Plastics-Film and sheeting- Determination of the
Sample Name: Plastic Film/Sheet

Standard Template

ASTM D1894 (2014 Withdraw) -inch
ASTM D1894 (2014 Withdraw) -mm
ISO 8295 (1995)
JIS K7125 (1999)
JIS P8147 (2010)
TAPPI T549 (2020) -inch
TAPPI T549 (2020) -mm

▲ Standard Templates (the supported standards differ between the Standard version and the Professional version).

Standard Information

Standard Number: JIS K7125 (1999)
Standard Name: Plastics-Film and sheeting- Determination of the coefficients of friction
Sample Name: Plastic Film/Sheet

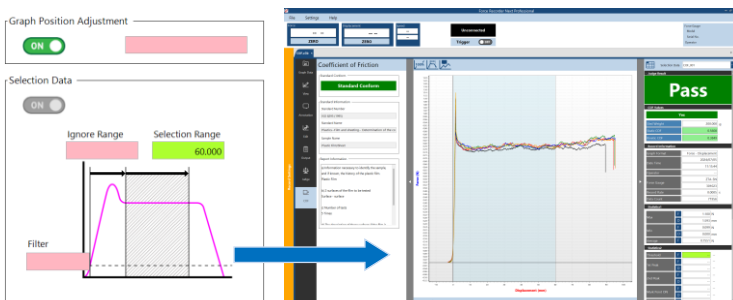
Overview

The sled is a metal block with dimensions of 63.5 mm square, and its weight is 200 ± 2 g. Move at a uniform speed of 100 ± 10 mm/min. Measure the static friction force when the weight starts to move and the dynamic friction force during the interval of 60 mm after the weight starts moving. Calculate the static and dynamic friction coefficients from the respective static and dynamic friction forces.

Report Information

a) Information necessary to identify the sample, and if known, the history of the plastic film.
b) 2 surfaces of the film to be tested
c) Number of tests
d) The description of these surfaces if the film is measured in contact with other materials.

A report information format listing the report items required by each standard is provided for each standard. By entering information according to the format, a report can be created.



- In addition to the result of standard conformity judgment of each graph, it also displays the result of standard conformity judgment of file. *1

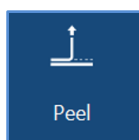
Standard Conform

Standard Conform

Standard Conform

Standard Non-Conform

*1 For information on the display of conformity judgment, please refer to [\[Standard Conformity Judgment\]](#) on page 10.



Supports automatic conversion to peel strength units and software settings compliant with packaging industry standards

Peel Testing Module 1

Feature 1

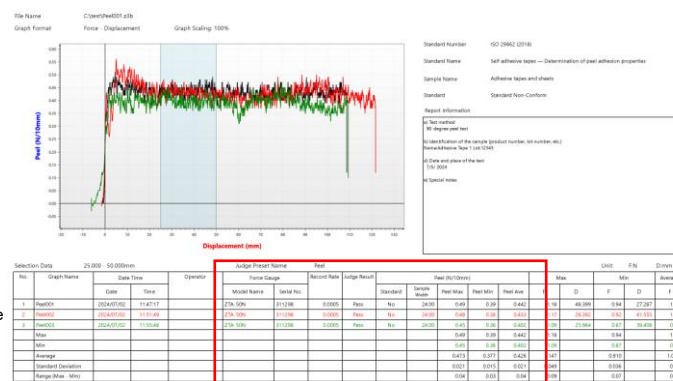
Automatically converts and displays force values in peel strength units.



- By preconfiguring parameters such as sample width, conversion units, and calculation ranges, the measurement results are automatically converted and displayed in the specified peel strength units (e.g., N/10 mm). The vertical axis of the graph can also be displayed in peel strength units.

Sample Width	24.00 mm
Peel Max	0.43 N/10mm
Peel Min	0.33 N/10mm
Peel Ave	0.380 N/10mm

- The converted peel strength data can be output to reports, CSV files, and other formats.



No.	Graph Name	Unit	Peel (N/10mm)				
			Standard	Sample Width	Peel Max	Peel Min	Peel Ave
1	Peel001		Yes	24.00	0.43	0.33	0.380
2	Peel002		Yes	24.00	0.43	0.31	0.372
3	Peel003		Yes	24.00	0.48	0.32	0.418
	Max				0.48	0.33	0.418
	Min				0.43	0.31	0.372
	Average				0.447	0.320	0.390
	Standard Deviation				0.029	0.010	0.025
	Range (Max - Min)				0.05	0.02	0.05

Enlarge

Feature 2

Templates to support software configurations that comply with packing industry peel test standards

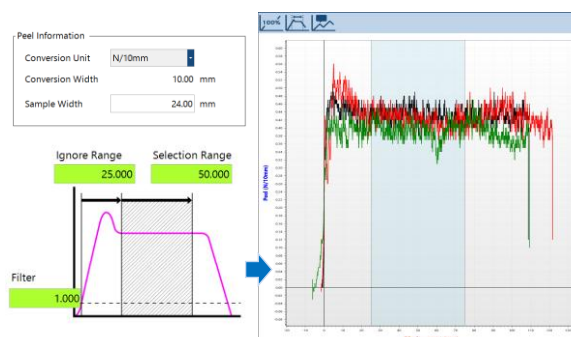
- Software settings compatible with peel testing for the packaging industry—such as graph types and calculation ranges—are pre-registered as templates, enabling efficient software configuration. In addition, for each recorded graph, the software displays a judgment result indicating whether it meets the specified requirements (e.g., graph type). *1

Standard	90°	180°	T-Peel
ASTM D3330/D3330M-04 (2018)	✓	✓	—
ASTM D6862-11 (2021)	✓	—	—
ISO 29862 (2018)	✓	✓	—
Japanese Pharmacopoeia (18th) Edition	✓	✓	—
JIS Z0237 (2022)	✓	✓	—
ASTM F88/F88M-23 (2023)	—	✓	✓
ASTM D1876-08 (2023)	—	—	✓
ISO 11339 (2022)	—	—	✓
JIS K6854-3 (1999)	—	—	✓
JIS Z0238 (1998)	—	—	✓
JIS Z1707 (2019)	—	—	✓
BS EN 868-5:2018	—	—	✓

▲ Standard Templates

(The supported standards differ between Force Recorder Next Standard version and Professional version.)

- As additional functions for the packaging industry, standard templates related to adhesive tapes and heat seals are provided. An overview of each standard is displayed on the settings screen.



- In addition to the result of standard conformity judgment of each graph, it also displays the result of standard conformity judgment of file. *1



*1 For information on the display of conformity judgment, please refer to [\[Standard Conformity Judgment\]](#) on page 10.



For the electronics manufacturing industry. Supports automatic peel strength conversion and standards-compliant testing for PCBs and FPCs.

Peel Testing Module 2

Feature 1

Automatically converts measured force values (N) into peel strength values (e.g., N/mm) and displays the results.



- By presetting parameters such as sample width, conversion units, and calculation range, the system automatically converts measured force values into peel strength values and displays the results. The graph's vertical axis can also be shown in the specified conversion units.

Sample Width	10.00 mm	Peel Min	0.979 N/mm
Peel Max	1.18 N/mm		1.0000~60.0000 s
Peel Min	0.73 N/mm		
Peel Ave	0.930 N/mm		

▲ A result option defines peel strength as the minimum of 1-second average peel values over a 60-second force–time interval is selectable.

- The converted peel strength data can be exported to reports, CSV files, and other formats.

No.	Graph Name	Date Time		Standard	Sample Width mm	Peel Max N/mm	Peel Min N/mm	Peel Ave N/mm
		Date	Time					
1	Sample_173948	2026/06/17	17:38:39	Yes	10.00	1.07	0.68	0.930
2	Sample_174141	2026/06/17	17:40:32	Yes	10.00	1.24	0.00	0.889
3	Sample_174244	2026/06/17	17:41:47	No	10.00	0.96	0.00	0.782
	Max					1.24	0.68	0.930
	Min					0.96	0.00	0.782
	Average					1.090	0.227	0.867
	Standard Deviation					0.141	0.393	0.076
	Range (Max - Min)					0.28	0.68	0.15

Feature 2

Standard-compliant templates for peel testing in the electronics manufacturing industry

- Standard templates incorporating measurement conditions in accordance with JIS and IEC standards for evaluating peel characteristics of PCBs, FPCs, CCL*, and electrical insulation adhesive tapes are pre-installed, enabling efficient software configuration. *1
- The settings screen displays applicable standard information to guide users in configuring measurements accurately.

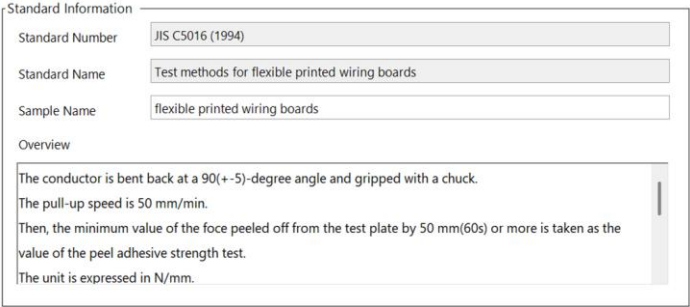
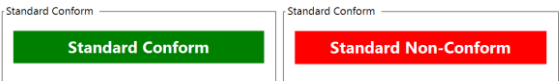
Standard	90°	180°
IEC 60454-2(2007)	—	✓
JIS C2107(2011)	—	✓
JIS C5016(1994)	✓	✓
JIS C6471(1995)	✓	✓
IEC 60249-1(1982)	✓	—
JIS C5012 (1993)	✓	—
JIS C6481(1996)	✓	—

▲ Standard Templates

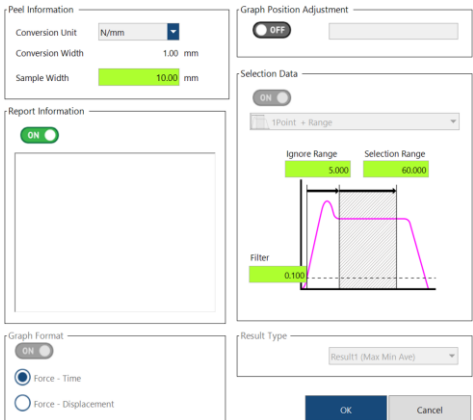
(The supported standards differ between Force Recorder Next Standard version and Professional version.)

*PCB (Printed Circuit Board)
*FPC (Flexible Printed Circuits)
*CCL (Copper Clad Laminate)

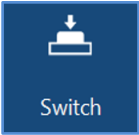
- In addition to the result of standard conformity judgment of each graph, it also displays the result of standard conformity judgment of file. *1



- Using presets based on standard requirements, such as graph type and calculation range, simplifies software configuration and enables efficient measurement.



*1 For information on the display of conformity judgment, please refer to [\[Standard Conformity Judgment\]](#) on page 10.



Supports automatic display of switch characteristics—such as click rate—
and software settings compliant with relevant standard

Switch Operating Force Testing Module

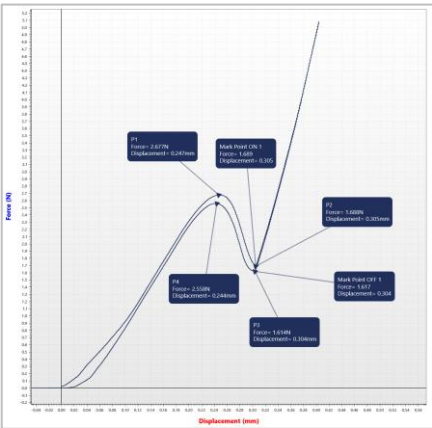
Feature 1

Automatically detects and calculates push-button switch characteristics, such as click rates



- Switch characteristic parameters—such as operating force, bottom reaction force, and click rate—are automatically detected, calculated, and displayed. When force–displacement graphs are generated, switch characteristics in both the pressing and releasing directions can be displayed.

* Force–displacement graph plotting is available only in Force Recorder Next Professional.



Switch Operating Force Values			
Yes			
Threshold	F	0.100	
P1	F	2.677 N	
	D	0.247 mm	
P2	F	1.688 N	
	D	0.305 mm	
P3	F	1.614 N	
	D	0.304 mm	
P4	F	2.558 N	
	D	0.244 mm	
Fwd. Factor	F	0.369	
	D	0.190	
Rtn. Factor	F	0.369	
	D	0.197	
Fwd. Angle		1.095 rad	
Rtn. Angle		1.080 rad	
Fwd. Tease	F	0.001 N	
	D	0.000 mm	
Rtn. Tease	F	0.003 N	
	D	0.000 mm	

- The detected and calculated switch characteristics can be exported to reports, CSV files, and other formats.

No.	Graph Name	Judge Result	Standard	P1		P2		P3		P4		Fwd. Factor		Rtn. Factor		Fwd. Angle (rad)	Rtn. Angle (rad)	Fwd. Tease		Rtn. Tease		Mark Point ON		Mark Point OFF	
				F	D	F	D	F	D	F	D	F	D	F	D			F	D	F	D	F	D	F	D
1	Switch_133712	--	Yes	2.677	0.140	1.688	0.198	1.614	0.197	2.558	0.137	0.369	0.293	0.369	0.305	0.900	0.880	0.001	0.000	0.003	0.000	1.689	0.198	1.617	0.197
2	Switch_133638	--	Yes	2.675	0.139	1.689	0.198	1.612	0.197	2.557	0.136	0.369	0.298	0.370	0.310	0.891	0.873	0.000	0.000	0.004	0.000	1.689	0.198	1.616	0.197
3	Switch_134235	--	No	2.676	0.139	1.677	0.198	--	--	--	--	0.373	0.298	--	--	0.897	--	0.000	0.000	--	--	1.677	0.198	--	--
4	Switch_134301	--	No	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.686	0.199	--	--
5	Switch_134319	--	No	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.687	0.199	--	--
	Max			2.677		1.689		1.614		2.558		--		0.370		0.900	0.880	0.001	0.000	0.004	0.000	1.689		1.617	
	Min			2.675		1.677		1.612		2.557		--		0.369		0.891	0.873	0.000	0.000	0.003	0.000	1.677		1.616	
	Average			2.6760		1.6847		1.6130		2.5575		--		0.3695		0.8960	0.8765	0.0003	0.0000	0.0035	0.0000	1.6856		1.6165	
	Standard Deviation			0.001		0.007		0.001		0.001		--		0.001		0.005	0.005	0.001	0.000	0.001	0.000	0.005		0.001	
	Range (Max - Min)			0.002		0.012		0.002		0.001		--		0.001		0.009	0.007	0.001	0.000	0.001	0.000	0.012		0.001	

Feature 2

Template to support software configurations that comply with switch operating test standard

- Software settings compatible with switch operating force test standards—such as graph types—are pre-registered as templates, enabling efficient software configuration. In addition, for each recorded graph, the software displays a judgment result indicating whether it meets the specified requirements (e.g., graph type). *1

- User-specific conditions can also be configured. Threshold values used for detecting parameters such as operating force are configurable, enabling software settings optimized for the switch and measurement content.

Switch Operating Force

Standard

User

Standard Information

Standard Number

ASTM F2592-16 (2016 Withdrawn)

Standard Name

Standard Test Method for Measuring the Force-

Sample Name

Membrane Switch

Switch Information

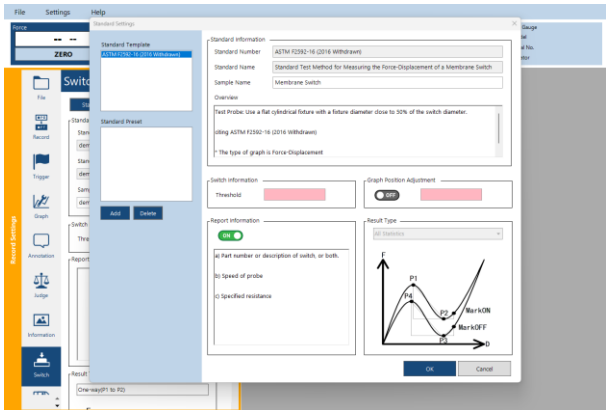
Threshold

2.000

Standard Template

ASTM F2592-16 (2016 Withdrawn)

▲ Standard Template
(Additional standards can be added as custom options.
Please contact us for details.)



*1 For information on the display of conformity judgment, please refer to [\[Standard Conformity Judgment\]](#) on page 10.

P/S

Automatic conversion of force values into pressure units and displacement into stretchability

PRESS./Stretch.

Pressure/Stretchability Measurement Module

Feature

Measurement data are automatically converted and displayed as pressure (Force per unit area) as well as stretchability and stretchability rate.



- By presetting the area (such as the contact area with the sample or the cross-sectional area) and the conversion units, measured force values are automatically converted and displayed in the specified pressure units. In addition, by presetting the initial length or height of the sample, the displacement values of the measurement results can also be converted and displayed as stretchability and stretchability rate. Switching the vertical axis (force $\leftrightarrow$ pressure) and the horizontal axis (displacement $\leftrightarrow$ stretchability / stretchability rate) of the graph is also possible.

Pressure/Stretchability Values	
Area	28.000 mm ²
Initial Length	10.000 mm
Max Pressure	P 1.814 MPa
	Δ 41.160 %
Min Pressure	P 0.000 MPa
	Δ 0.000 %
Ave Pressure	P 0.9760 MPa

* Parameters such as Young's modulus and yield point are not displayed. If required, these can be supported as a custom option. Please contact us for details.

* Conversion to stretchability and stretchability rate is available only when a force-displacement graph is plotted using Force Recorder Next Professional.

- The converted pressure, stretchability, and stretchability rate data can be exported to reports, CSV files, and other formats.

No.	Graph Name	Judge Result	Pressure/Stretchability						
			Area	Length	Max(MPa)	Max(Δ%)	Min(MPa)	Min(Δ%)	Average(MPa)
1	Film_110749	200 Pass	28.000	10.000	1.814	41.160	0.000	0.000	0.9760
	Max				1.814		0.000		0.9760
	Min				1.814		0.000		0.9760
	Average				1.8140		0.0000		0.97600
	Standard Deviation				--		--		--
	Range (Max - Min)				0.000		0.000		0.0000



Bending Stress

Automatic calculation of bending stress in bending tests

Bending Stress Measurement Module

Feature

Automatic calculation and display of bending stress in three-point bending, four-point bending, and cantilever beam tests



- By entering parameters such as the support span and sample shape in advance, the force values of the measurement results are automatically converted and displayed as bending stress (MPa). The vertical axis of the graph can also be switched to display bending stress (MPa).

3 Point Bending Statistics		4 Point Bending Statistics		Cantilever Bending Statistics	
Bending Stress	194.583 MPa	Bending Stress	172.000 MPa	Bending Stress	130.000 MPa
Length	100.000 mm	Length	100.000 mm	Length	100.000 mm
Width	4.000 mm	Upper Span	60.000 mm	Width	4.000 mm
Height	3.000 mm	Width	4.000 mm	Height	3.000 mm
		Height	3.000 mm		

- The calculated bending stress data can be exported to reports, CSV files, and other formats.

No.	Graph Name	Judge Result	3 Point Bending			
			Bending Stress	Length	Width	Height
1	3Point_114115	Pass	194.583	100.000	4.000	3.000
	Max		194.583			
	Min		194.583			
	Average		194.583			
	Standard Deviation		--			
	Range (Max - Min)		0.000			

* Applicable only bending tests with a single-point concentrated force.

* Applicable only for square/rectangular bar and round bar samples. Not applicable for hollow bars.



Spring

Automatic calculation of spring rates for compression springs, tension springs, and disc springs

Spring Rate Measurement Module

- This is an additional function exclusively for Force Recorder Next Professional and can be used only when force-displacement graphs are plotted.
- This additional function is recommended to be used in combination with the Additional Function: **Deflection Correction Function (page 7)**.

Feature

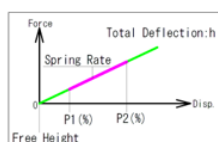
Automatic calculation and display of spring rates from measurement data

- The spring constant (N/mm), which represents the force required to extend or compress a spring by 1 mm, is automatically calculated and displayed. The calculated spring constant can be exported to reports, CSV files, and other formats.



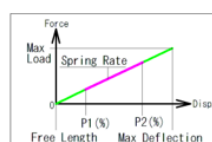
- Tension Spring Statistics		
Spring Rate		3.674 N/mm
Maximum Load	F	58.2 N
	D	13.970 mm
P1	F	11.9 N
	D	1.397 mm
P2	F	42.7 N
	D	9.779 mm

No.	Graph Name		Tension Spring					
			Spring Rate	Max Load	Total Deflection	P1 (F)	P1 (D)	P2 (F)
1	sample001	20	3.650	58.2	14.017	11.9	1.402	42.6
2	sample002	20	3.674	58.2	14.062	11.7	1.407	42.7
3	sample003	20	3.660	58.2	14.253	11.0	1.426	42.3
4	sample004	20	---	---	---	---	---	---
5	sample005	20	3.684	58.2	13.797	12.3	1.380	42.8
6	sample006	20	3.674	58.2	13.970	11.9	1.397	42.7
Max			3.694			12.3		42.8
Min			3.650			11.0		42.3
Average			3.668			11.76		42.62
Standard Deviation			0.013			0.477		0.192
Range (Max - Min)			0.034			1.3		0.5



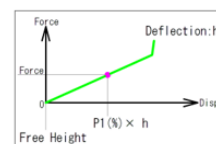
[Compression Spring]

By presetting the calculation range (the total deflection amount and the ratio relative to the total deflection), the spring rate is calculated.



[Tension Spring]

By presetting the calculation range (the maximum force value and the ratio relative to the deflection at the maximum force value), the spring constant is calculated.



[Disk Spring]

By presetting the calculation range (the total deflection amount and the ratio relative to the total deflection), the spring constant is calculated.



Tenacity

Automatic conversion of force values into yarn strength units (e.g., N/tex) and displacement into stretchability and stretchability rate

Yarn Tenacity Testing Module

Feature

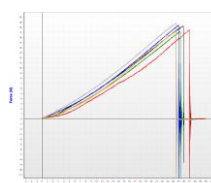
Measurement data are automatically converted and displayed as yarn tenacity units (force per unit linear density, e.g., N/tex), as well as stretchability and stretchability rate.



- By presetting the sample linear density and conversion units, the measured force values are automatically converted into the specified units. The conversion units can be selected from **[N/tex]**, **[cN/tex]**, **[N/dtex]**, and **[cN/dtex]**. In addition, by presetting the initial length of the yarn sample, stretchability and stretchability rate (*) can also be calculated automatically.

* Conversion to stretchability and stretchability rate is available only when a force-displacement graph is plotted using Force Recorder Next Professional.

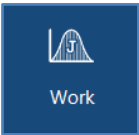
- Yarn Tenacity Statistics		
Fineness		29.5 tex
Initial Length		100.000 mm
Max Tenacity	Y	0.618 --
	Δ	0.258 --
Min Tenacity	Y	-0.293 --
	Δ	0.259 --
Ave Tenacity	Y	0.1690 --



◀ The display of the graph axes can also be switched between the vertical axis (force ↔ yarn tenacity) and the horizontal axis (displacement ↔ stretchability / stretchability rate).

- The converted yarn tenacity data as well as stretchability data can be exported to reports, CSV files.

No.	Graph Name	Date Time		Judge Result	Fineness	Initial Length	Max Tenacity		Min Tenacity		Ave Yarn Tenacity
		Date	Time				N/tex	Δ	N/tex	Δ	
1	Yarn_101856	2025/11/19	10:18:48	--	29.5	100.000	0.618	0.258	-0.293	0.259	0.169
2	Yarn_102231	2025/11/19	10:22:20	--	29.5	100.000	0.593	0.269	-0.437	0.270	0.120
3	Yarn_102414	2025/11/19	10:24:05	--	29.5	100.000	0.582	0.253	-0.474	0.253	0.135
4	Yarn_102658	2025/11/19	10:26:48	--	29.5	100.000	0.624	0.250	-0.469	0.250	0.138
5	Yarn_102955	2025/11/19	10:29:47	--	29.5	100.000	0.584	0.245	-0.366	0.245	0.150
6	Yarn_103245	2025/11/19	10:32:35	--	29.5	100.000	0.637	0.243	-0.487	0.246	0.159
Max							0.637		-0.293		0.1690
Min							0.582		-0.487		0.1200
Average							0.6063		-0.4210		0.14367
Standard Deviation							0.023		0.076		0.017
Range (Max - Min)							0.055		0.194		0.0490



Automatically calculates the area under
force–displacement curves (work) and force–time curves (impulse)

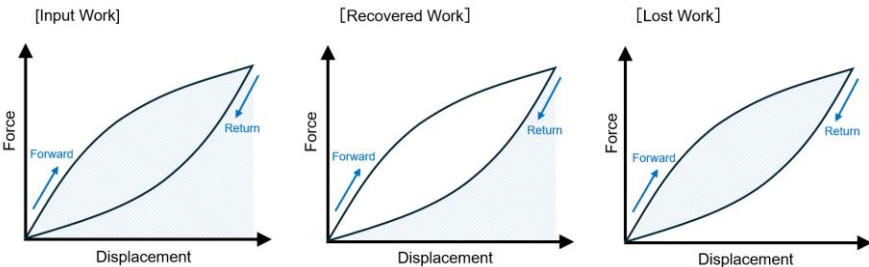
Work Calculation Module

● The calculation of the area under the force–displacement curve is available only when using Force Recorder Next Professional to plot the force–displacement curve.

Feature

Automatically calculates and displays three types of work: Input, Recovered, and Lost work

■ Automatically calculates and displays the area after plotting force–displacement and force–time graphs.



Selectable Units

- For force–displacement measurement: [J], [mJ]
- For torque–angle measurement: [Nm rad]
- For force/torque–time measurement: [F (force unit) · s (time)]

Note: During force/torque–time measurement, the impulse is displayed as the input energy. Recovered energy and dissipated energy are not calculated or displayed.

■ The work values can be selected as judgment criteria for the pass/fail evaluation function.
In addition, the calculated work values can be exported via the clipboard or as CSV files.

Judge

☒ ON

test

Statistics1 Statistics2 Work

Item	Upper Limit	Lower Limit
Input Work	0.200	0.150
Recovered Work		0.100
Lost Work		0.050

Work Statistics

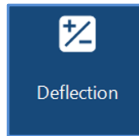
Input Work	0.171 J
Recovered Work	0.125 J
Lost Work	0.046 J

Judge Result

Fail

No.	Graph Name	Work		
		Input(J)	Recovered(J)	Lost(J)
- Graph Data				
1	Sample_102342	0.171	0.125	0.046
2	Sample_102353	0.151	0.122	0.029
3	Sample_102405	0.147	0.120	0.027
4	Sample_102416	0.145	0.120	0.025
5	Sample_102427	0.143	0.119	0.024

Note: This function does not support the range selection feature.



Corrects displacement errors to display more accurate force–displacement data

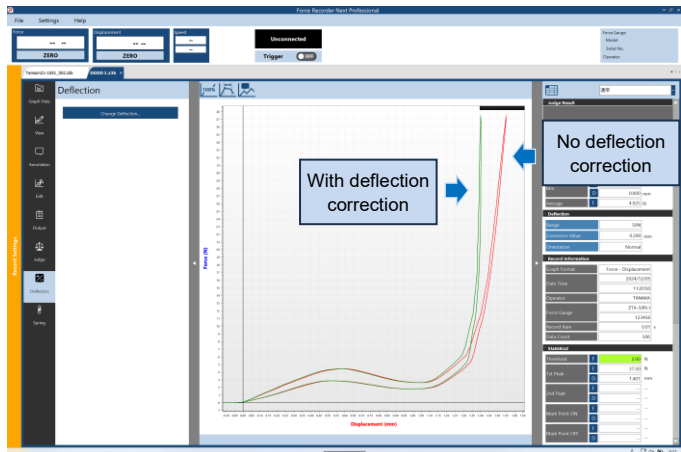
Deflection Correction Function

● This is an additional function exclusively for Force Recorder Next Professional and can be used only when force–displacement graphs

Feature

Displacement errors caused by deflection of the measuring instrument are corrected by the software and reflected in the measurement results.

● The corrected, more accurate displacement values are reflected in the measurement results.



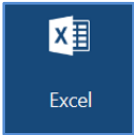
● Deflection correction information can be exported to reports and CSV files.

No.	Graph Name	Deflection Correction		
		Range	Correction Value	Orientation
1	None	--	--	--
2	Reverse	--	--	--
3	Normal	50N	0.200 mm	Normal

● This function can be used simultaneously with other additional functions.
(Combination Examples)



* Up to **one additional function that cannot be enabled simultaneously** (such as the Friction Testing Module or the Pressure/Stretchability Measurement Module) can be enabled at the same time. For details on whether each function can be enabled simultaneously, please refer to [\[Supplementary Information on Additional Functions\]](#) on page 11.



Automatic writing of measurement data to a user-specified Excel file

Excel Data Writing Function

Feature

Automatically writes measurement results, such as statistical values, to a specified Excel file.

- After recording is completed, specified parameters—such as statistical values and pass/fail judgment results—are automatically written to the designated Excel file.



*Supported excel file formats: [.xlsx] and [.xslm].

[Disclaimer]

- Microsoft Excel is a registered trademark of Microsoft Corporation in the United States and other countries.
- This software is independently developed by our company and is not affiliated with, endorsed by, or associated with Microsoft Corporation.

Judge		Record Information		Statistics1	Statistics2	Bending S
Item		Enable / Disable				
Max (Y-Axis)				☐		
Max (X-Axis)				☐		
Min (Y-Axis)				☐		
Min (X-Axis)				☐		
Average (Y-Axis)				☐		

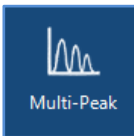
▲ Parameters calculated using additional functions, such as bending stress, can also be selected as targets for writing to the Excel file.

- This function can be used simultaneously with other additional functions.
(Combination Examples)



* Up to **one additional function that cannot be enabled simultaneously** (such as the Friction Testing Module or the Pressure/Stretchability Measurement Module) can be enabled at the same time. For details on whether each function can be enabled simultaneously, please refer to [\[Supplementary Information on Additional Functions\]](#) on page 11.

* There are limitations on specifying the cells to which data is written. For details, please refer to the [User Guide video](#) on our website.



Automatic displays up to seven peak values extracted from measurement data

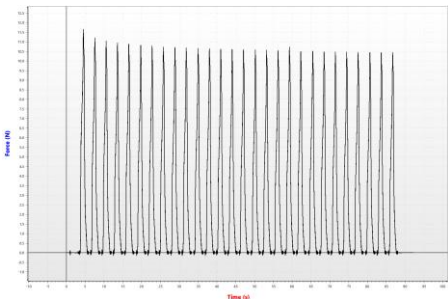
Multi-Peak Extraction Function

Feature

Displays peak value information for up to seven peaks in graphs with multiple peaks.

- In addition to the first and last peak values, force value data for the peak detected at the specified nth occurrence (up to five can be specified) are displayed. Along with peak value information, peak ratios (last/first and minimum/maximum) and the total number of peaks are also displayed automatically.

Multi-Peak Extraction Statistics			
First Peak	F	11.66	N
Last Peak	F	10.43	N
Point A (5)	F	10.88	N
Point B (10)	F	10.68	N
Point C (15)	F	10.59	N
Point D (20)	F	10.50	N
Point E (25)	F	10.45	N
Last/First Ratio		0.894	
Min/Max Ratio		0.960	
Peak Count		28	Count

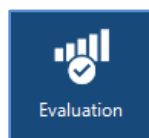


◀ This function allows changes in the sample to be easily monitored when conducting durability tests, such as tests in which a constant displacement is repeatedly compressed. Peak detection is performed using the first-peak and second-peak threshold values that can be configured in the software.

Multi-Peak Extraction Statistics

No.	Graph Name	Date Time		Judge Result	First Peak	Last Peak	Point A	Point B	Point C	Point D	Point E	Last/First Ratio	Min/Max Ratio	Peak Count
		Date	Time		F	F	F	F	F	F	F			Count(s)
1	continuous_104100	2025/11/19	10:39:28	--	11.66	10.43	10.88	10.68	10.59	10.50	10.45	0.894	0.960	28
	Max				11.66	10.43	10.88	10.68	10.59	10.50	10.45	0.894	0.960	28
	Min				11.66	10.43	10.88	10.68	10.59	10.50	10.50	0.894	0.960	28
	Average				11.660	10.430	10.880	10.680	10.590	10.500	10.450	0.8940	0.9600	28.0
	Standard Deviation				--	--	--	--	--	--	--	--	--	--
	Range (Max - Min)				0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	0.000	0

Unit F : N



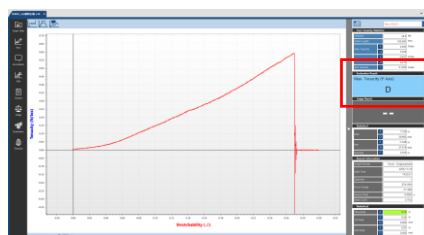
Classifies measurement results into up to five levels based on user-defined evaluation criteria

Multi-Level Evaluation Function

Feature

Automatically evaluates measurement results based on user-defined evaluation items and criteria.

- This function allows users to define their own evaluation items and evaluation criteria (up to five levels). After graph recording is completed, the measurement results are automatically evaluated according to the configured criteria.



▲ In the multi-level evaluation function, evaluation items can be selected from options such as the maximum, minimum, and average force values; the horizontal-axis positions (time or displacement) at which the maximum and minimum values are detected; the first peak value; the second peak value; and others. In addition, the text and colors displayed as the evaluation results can also be customized.

- Evaluation results can be exported to reports, CSV files, and other formats.

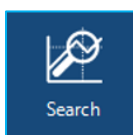
No.	Graph Name	Evaluation
1	Yarn_101856	E
2	Yarn_102231	D
3	Yarn_102414	D
4	Yarn_102658	E
5	Yarn_102955	D
6	Yarn_103245	E

- This function can be used simultaneously with other additional functions.

(Combination Examples)



* Up to **one additional function** that cannot be enabled simultaneously (such as the Friction Testing Module or the Pressure/Stretchability Measurement Module) can be enabled at the same time. For details on whether each function can be enabled simultaneously, please refer to [\[Supplementary Information on Additional Functions\]](#) on page 11.



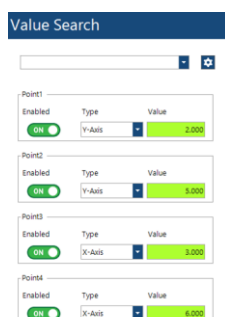
Automatically searches for specified values on the graph

Value Search Function

Feature

Automatically searches for corresponding data on the graph by specifying force values, time, or displacement value.

- The software automatically identifies and displays the time or displacement at which a specified force is reached, as well as the force at a specified time or displacement. Up to four search values can be specified, enabling efficient analysis of measurement data.



- Search Values			
Point1	F	2.0	N
	T	0.1615	s
Point2	F	5.0	N
	T	0.3295	s
Point3	F	18.1	N
	T	3.0000	s
Point4	F	17.7	N
	T	6.0000	s

*If the specified value is detected multiple times, the first detected value is displayed as the search result.

*If the specified search value is not present on the graph, the value immediately after the specified value is exceeded (either above or below) is used as the search result.

- Search results can be exported to reports and CSV files.

No.	Graph Name	Point1		Point2		Point3		Point4	
		F	T	F	T	F	T	F	T
1	Sample001	2.0	0.1615	5.0	0.3295	18.1	3.0000	17.7	6.0000
	Max	2.0	0.1615	5.0	0.3295	18.1	3.0000	17.7	6.0000
	Min	2.0	0.1615	5.0	0.3295	18.1	3.0000	17.7	6.0000
	Average	2.00	0.16150	5.00	0.32950	18.10	3.00000	17.70	6.00000
	Standard Deviation	--	--	--	--	--	--	--	--
	Range (Max - Min)	0.0	0.0000	0.0	0.0000	0.0	0.0000	0.0	0.0000

Standard Conformity Judgment

* This function is not available in additional chargeable function without [Standard Settings].

The [Standard Conformity Judgment] is available in additional chargeable functions with [Standard Setting]. Each judgment result can be confirmed in the measurement results viewing window. The [Conformity Judgment of File] is displayed on the left side, and the [Conformity Judgment of Selected Data] is displayed on the right side.

Conformity Judgment of File

Standard Conform
All conditions conform to the standards.

Standard Non-Conform
The graph format does not conform to the standard. //Force - Displacement

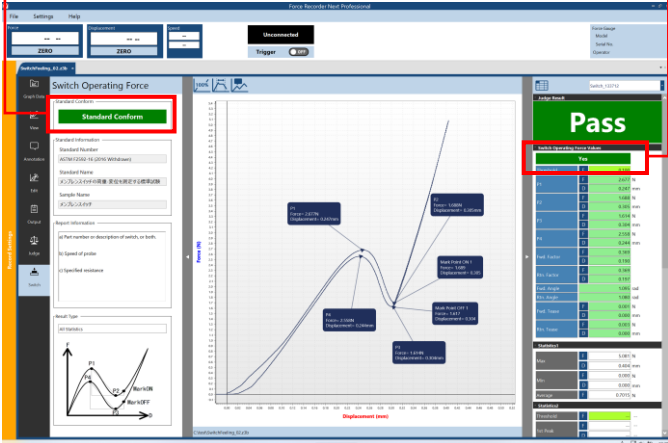
- The software determines whether the entire file data has been acquired based on the standard conditions set in the software.
- The reasons for “Conform / Non-Conform” are displayed in the popup window over the judgment result.
- The [Conformity Judgment of File] and [Conformity Judgment of Selected Data] will not be conducted in the measurement result acquired by using user preset conditions. The judgment result will be displayed as [--].

Conformity Judgment of Selected Data

Standard Conform
All conditions conform with the standard.

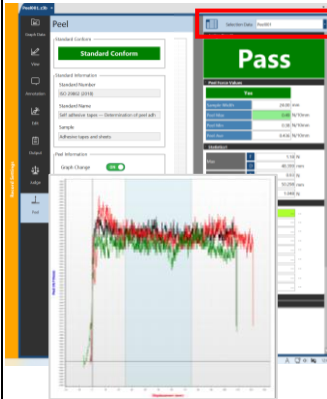
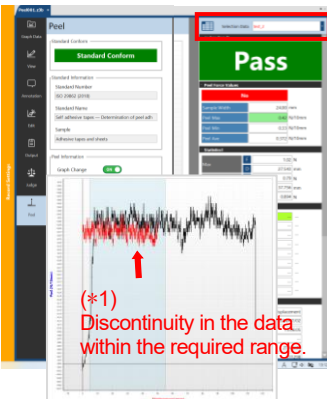
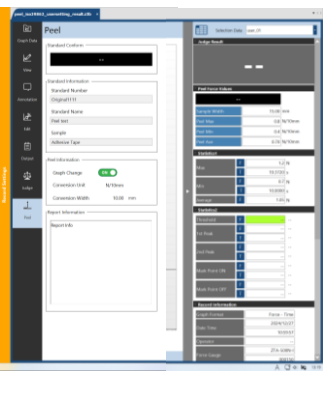
Non-Conforming Standard
The graph data is not within the range of the section data.

- The software evaluates whether the individual measurement data in the file meet the selected standards.
- The reasons for “Yes / No” are displayed in the popup window over the judgment result.
- The reason of judgment result “No” varies depending on the additional chargeable function. Please refer to the instruction manual for each function.



[Conformity Judgement Pattern]

*An example of applying the ISO 29862(2018) preset in the Peeling Test Module.

	Pattern1		Pattern2		Pattern3		Pattern4	
Compliance Conditions	1. Force Unit:N 2. Displacement Unit:mm 3. Conversion Unit:N/10mm 4. Graph Format:Force-Displacement 5. Selection Data Range:50mm 6. Sample Width:≤24±0.5mm							
Judgment Result	Standard Conform	Yes	Standard Conform	No	Standard Non-Conform	No	--	--
Description of Result	The measurement was conducted according to the compliance conditions.	The selected measurement data meets the compliance conditions.	The measurement was conducted according to the compliance conditions.	The selected measurement data does not meet the compliance conditions. (Refer to *1)	The measurement was not conducted according to the compliance conditions. (Refer to *2)	Regardless of the results, if the result of Conformity Judgment of File is [Standard Non-Conform], all result of Conformity Judgment of Selected Data will be [No].	The measurement was conducted under user preset conditions,	The measurement data was acquired by using user preset conditions.
Example	Selected data 		Selected data 		Selected data 			

[Notes]

- When adding graph data from different files, it can be added if the units of the Y-axis/X-axis are the same. However, the preset conditions, including the standard compliance judgement of the destination file, will be those of the destination file.
- Compliance requirements for the standards vary depending on the additional features, so please refer to the instruction manuals for the respective additional features.

Supplementary Information on Additional

Additional Functions	Required Download Card	Supported Software (*1)		Simultaneous activation with other additional functions(*4)
		Standard	Professional	
Friction Testing Module	Basic	✓	✓	N/A
Peel Testing Module 1	Advanced	✓	✓	N/A
Peel Testing Module 2	Advanced	✓	✓	N/A
Switch Operating Force Testing Module	Light	✓ (*2)	✓	N/A
Pressure/Stretchability Measurement Module	Basic	✓ (*3)	✓	N/A
Bending Stress Measurement Module	Basic	✓	✓	N/A
Spring Rate Measurement Module	Basic	N/A	✓	N/A
Yarn Tenacity Testing Module	Basic	✓ (*3)	✓	N/A
Work Calculation Module	Basic	✓	✓	N/A
Deflection Correction Function	Basic	N/A	✓	✓
Excel Data Writing Function	Basic	✓	✓	✓
Multi-Peak Extraction Function	Basic	✓	✓	N/A
Multi-Level Evaluation Function	Basic	✓	✓	✓
Value Search Function	Not Required	✓	✓	N/A

*1 Only the **download version** of the Force Recorder Next series is supported.

Additional functions cannot be added to the **floating license version** of the Force Recorder Next series (-FLT).

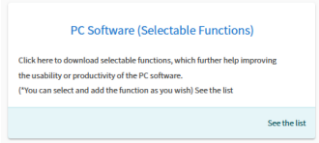
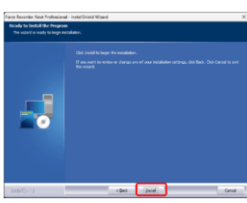
*2 The registered standard templates are **not supported by Force Recorder Next Standard**.

*3 The conversion function to stretchability and stretchability rate is **not available**.

*4 Up to **one function marked with "N/A"** (not supported for simultaneous activation) can be enabled at the same time, while **functions marked with "✓"** can be enabled simultaneously **without limitation**.

Procedure for Downloading Additional Functions

Additional functions are downloaded via IMADA Connected.

Step 1: Log in to IMADA Connected using the user account under which the compatible product has been registered. (*1)	Step 2: Select the function you want to download from [Downloads] – [PC Software (Selectable Functions)].	Step 3: When you click the Download button, the redemption code entry screen will appear. Enter the code listed for the download card.	Step 4: An email containing the product key will be sent to the registered email address. Please follow the instructions in the email to complete the installation. (*2)
			

● Free additional functions do not require entry of a redemption code.

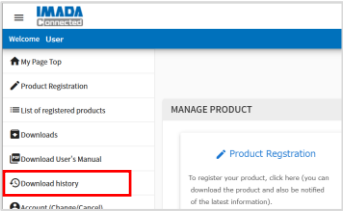
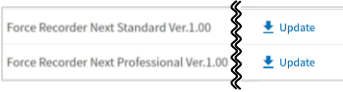
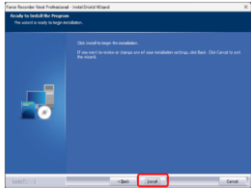
*1 Paid additional functions can be downloaded only using a user account with administrator privileges.

*2 A product key is required when activating an optional feature for the first time. Please ensure that the registered email address is valid before downloading.

Download Version of the Force Recorder Next Series and Additional Functions

Version Update Procedure

When installing additional functions, it may be necessary to update the installed Force Recorder Next series to the latest version.
Force Recorder Next series can be updated by following the procedure below.

Step 1: Log in to IMADA Connected using the user account that was used to download the Force Recorder Next series.	Step 2: Select [Download history] from the menu bar on the left.	Step 3: Click Update on the right side of the software to download the installer for the version update.	Step 4: Run the downloaded file to complete the version update.
			

[IMPORTANT NOTICE]

- 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.
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