Variable Weight Reciprocating Friction Test Jig
VWF-10N-J

Jig for Coefficients of Friction (COF) test of a Flat Specimen and a Contactor
Enable to handle various samples using different Contactor Holders
Available to create vertical force by weight and reciprocating friction
Optional Software available for automatic calculation of COF

VWF-10N-J	
VWF-10N-J	COF test of a pen using VWF-10N-J*
*(L) Elevation balance Unit (R) Table Unit	* The force gauge, the stand and the contactor holder sold separately.

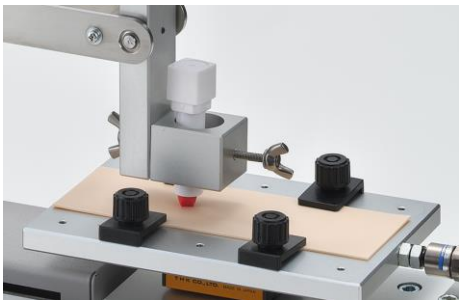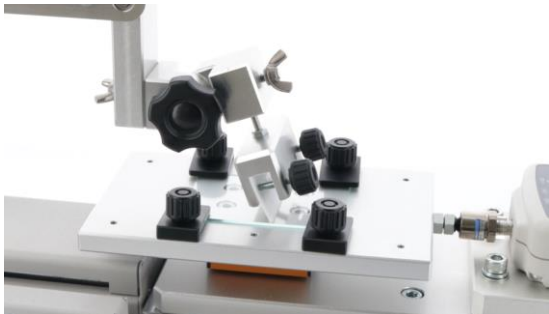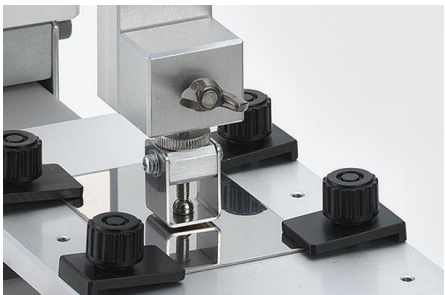| How to set up			
Fix the Flat Specimen to the Table and the Contactor to the Contactor Holder.	After fixing the position of the Counterweight to hold the arm horizontal, rotate the handle of the Elevation balance unit to make the Contactor touch the Flat Specimen.	Put weight on the weight plate to create vertical force.	Set up the measuring speed and then start the measurement

VWF-10N-J Test Examples

Lip cream and artificial skin (with VWF-STH)	Plastic blade and glass plate (with VWF-ATH-VA and VWF-BLH)
Stainless ball and plate (with VWF-ATH and VWF-BAH6)	**Pen and paper (with VWF-STH-VA)**

*Various holders are available to fit different Contactor forms or measuring conditions (P4). Customization is also possible.

Specifications

Model	VWF-10N-J
Maximum vertical force	1000g *At least 5g of weight is required for testing. Weight is not included.
Dimensions	See [Dimensions]
Max. size of Flat Specimen	See [Dimensions]
Max. thickness of Flat Specimen*3	8mm
Max. weight of Contactor	Less than 320g including weight of a Contactor Holder and attachments*4
Product weight	Elevation balance unit: 2.2kg Table unit: 1.6kg Attachment holder: 45g M6 adapter shaft: 6g
Accessory	VWF-ATH (Attachment holder) *5, VWF-CAM6 (M6 adapter shaft) *5
Compatible test stand	MH2-500N
Compatible force gauge	Digital force gauge ZTS/ZTA series

*1   Vertical force on the contacting point and force of friction are not necessarily correlated with each other. Please compare coefficients of friction acquired under the same conditions such as test speed, weight, sample angles and so on.

*2   Test speed should not surpass 300mm/min to limit noises caused by vibration in the test result.

*3   Four clampers and four knobs are included.

*4   If the total weight of a Contactor, a Contactor Holder and attachments exceeds 320g, consult us regarding custom-made option.

*5   IMADA's attachments with M6 screw are able to be attached to this product by using VWF-ATH and VWF-CAM6. Depending on the attachments, various samples such as wire-like form or an eraser can be used as Contactors. See p4 for further information.

Contactor Holders *Sold separately					
Type	Stick Holder	Variable Angle Stick Holder	Variable Angle Attachment Holder	Ball Holder(φ6)	Blade Holder
Model	**VWF-STH**	**VWF-STH-VA**	**VWF-ATH-VA**	**VWF-BAH6**	**VWF-BLH**
Weight	51g	118g	112g	22g	57g
Contactor example	Lip stick, pen	Lip stick, pen	Eraser, needle*1	Round sample with φ6*2	Razor blade, plastic blade*2
Image					

*1   M6 adaptor shaft and attachment to grip the contactor are also needed for measurement.

*2   An attachment holder (VWF-ATH or VWF-ATH-VA) is required for measurement.

[Clamper and Knob]   The set of clamper and knob is available for replacement. *

Model	Included Parts	Images	
SCK-PRT	Sample Clamper and Knob	SCK-PRT	Installation image

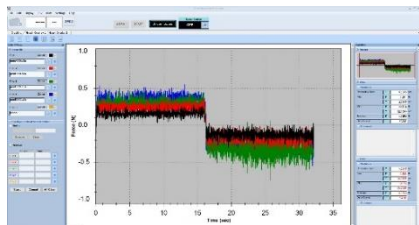* This set of parts is sold in two pairs per order, not sold individually.

[Related Software: Online Download Version]

Downloadable Graphing Software: Force Recorder Next series

▲ Force Recorder Next Professional

Coeffient of Friction

OK	
Sled Weight	200.000 g
Static COF	0.4665
Kinetic COF	0.2695

▲ Friction Testing Module

High sampling rate of max. 2000Hz enables accurate graphing.
- Force Recorder Professional: for graphing force-time / force-displacement.
- Force Recorder Standard: for graphing force-time.
- Test condition presets: for effective recording / analysis of measurement results.
- Data editing: overlaying up to 10 graphs, etc., for results editing / analysis.
- Add Images / Comments function: useful for recording measurement data details.
- The Print Command allows images and statistics output in a file form: PDF/Word/Excel.

[Additional Function: Friction Testing Module with Download Card Basic]
A function is available for additional installation at cost, for the Force Recorder Next series.
- The static and average kinetic COF is automatically calculated and displayed after each measurement by entering weight and other required details before measurement.
- Some pre-registered standards, such as JIS K7125:1999, are installed in the measurement conditions for easy configuration according to the individual requirements.

NOTE: An internet connection is required at all times to use all functions on the IMADA connected. For software online downloads, a purchase of a download card is required with a prior user/product registration on IMADA connected. Product registrations are limited for Next Series products (e.g. ZTA/ZTS Series with firmware version 5.00 or later).

[Related Software: CD version]

Graphing Software: Force Recorder Standard COF Version

- High sampling rate of max. 2000Hz enables highly accurate graphing
- Plots Force vs Time graphs
- By entering weight of the Weight, the static and average kinetic COF are automatically calculated and displayed
- Varieties of data editing functions, such as graph overlaying up to 5 graphs, enable smooth analysis of the measurement results.
- Add Images / Comments function: useful for recording measurement data details
- The Print Command allows images and statistics output in a file form: PDF/Word/Excel

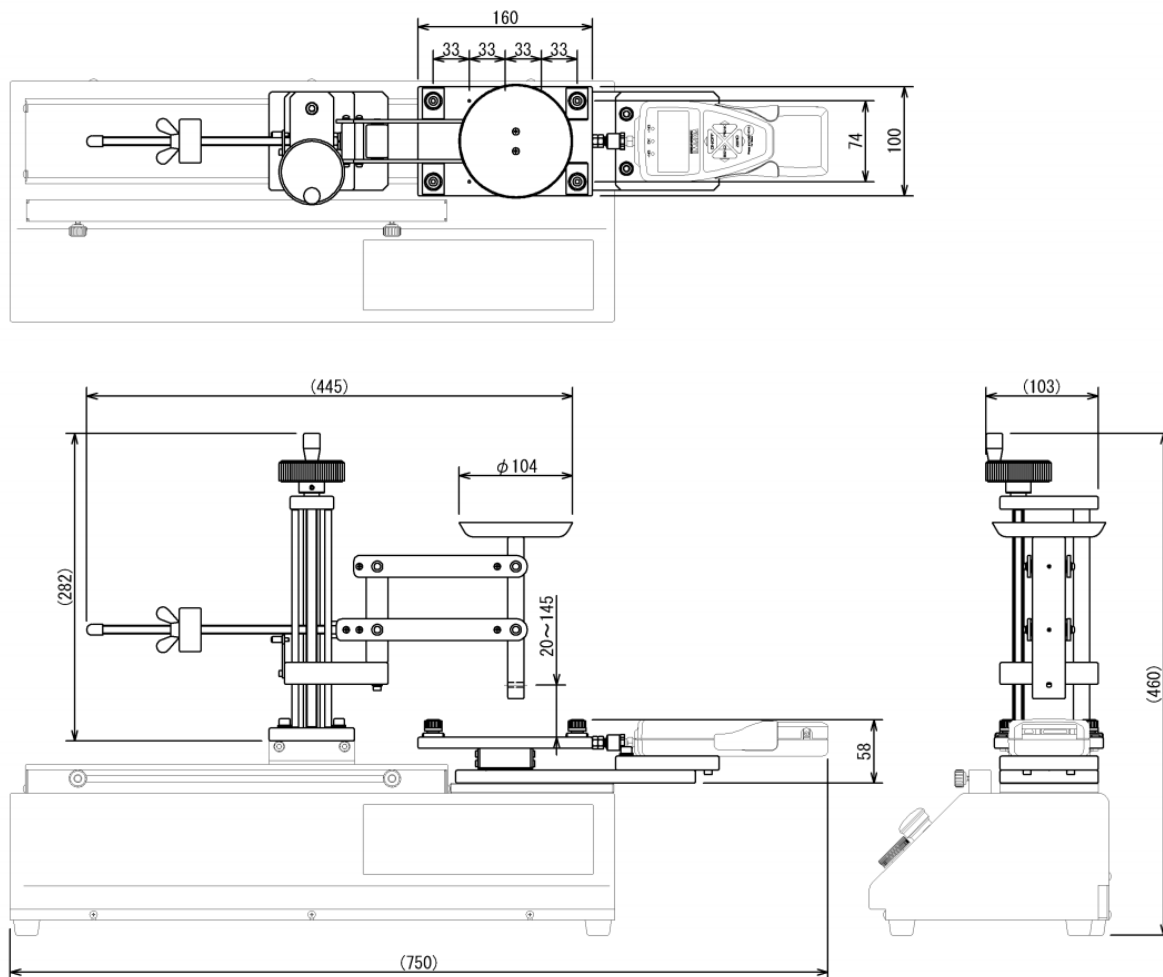| OS	Windows 8.1/10/11
Hardware	CPU: 1GHz or more or more is recommended. Memory: 2GB or more is recommended. Hard disk (data storage area): 10GB or more is recommended.
Platform	.NET Framework4.8 or later
Image size	Resolution 1024×768 pixel or more

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

NOTE: Force Recorder Professional CD version, the force-displacement graphing software, does not offer automatic calculation of the friction coefficient. For details, please refer to the individual specifications or contact us.
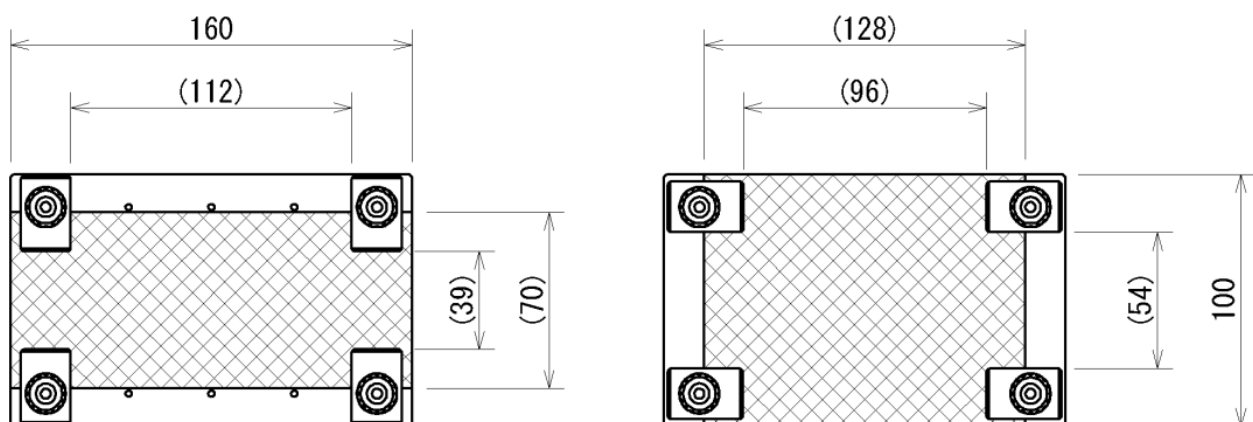
[Related Products]

Option Cable for Force control CB-528	Flat Chuck GC-1100/1200
Connects the force gauge and the stand and allows the software to record test results automatically just by operating the motorized test stand.	ideal for samples with various thickness due to its wide opening.
Pin Chuck CP-150	Horizontal Motorized Test Stand MH2-500N
designed to grip wire-shaped samples up to diameter of 3.2mm.	Only motorized stand compatible with VWF-10N-J in the current product lineup.

[Dimensions]

※Max. size of flat specimen

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 and a motorized test stand (sold separately) are required to use this product.
- Some samples may not be suitable to measure with this product.

IMADA CO., LTD
99 Jinnoshinden-cho aza Kanowari Toyohashi
Japan 441-8077
Tel: +81-(0)532-33-3288
Fax: +81-(0)532-33-3866
E-mail: info@forcegauge.net
Website: https://www.forcegauge.net/en/

Visit our website for more information on wide product specifications, measurement applications and videos.