

EZTest

Shimadzu
Table-Top Universal Tester





Compact and Slim Units Equipped With Enhanced Functions Make High-Efficiency Testing a Reality

- High-speed origin-position return (1000 mm/min.) allows fast setup for testing.
- Easy-to-use jog button allows simple fine-tuning of crosshead position.
- Auto-calibration of test force ensures measurement value is always stable.
- Perform specimen breakage detection.
- Perform simple creep tests using the test-force hold function.
- Easily enter and change multiple test parameters via the test parameter file function.
- Perform simple cycle tests.

EZTest

Shimadzu Compact Table-Top Universal Tester

Enhanced Testing Functionality in a Compact Body

Full-Range Lineup Performs Wide Variety of Testing

Perform a wide range of materials testing, thanks to extended test strokes, a wide range of test speeds, and a larger test space.

- Choose from a wide lineup of 20 models, consisting of both LONG type (EZ-L) and SHORT type (EZ-S) testers and 11 varieties of load cells. (See page 10)

LONG type [EZ-L]

Maximum capacity 5 kN, stroke 920 mm

Perform testing up to 5 kN. Ultra long 920 mm stroke is ideal for elongation testing of materials that elongate significantly, including rubber and films, and for tensile and bend testing of plastics.



SHORT type [EZ-S]

Maximum capacity 500 N, stroke 500 mm

The comparatively short stroke and small testing capacity are ideal for testing of electrical and electronic components, food (rheology), pharmaceutical packages and other products.



Wide Range of Testing Speeds

Testing speeds can be set anywhere from 0.05 mm/min. to 1000 mm/min. Especially useful is a high return speed that helps to reduce test cycle times when moving to the next test during the testing of rubber, film and other materials that elongate significantly.

Test speed range

0.05mm/min

1000mm/min

Easy to use! Closed-Front and Open-Table Design in a Compact Body

A closed-front design means the drive mechanism is not visible from the front of the tester. With no front aperture, scatter from specimens cannot become caught in the drive mechanism. Also, the open-table design of the lower jig clamp surface allows the test area to be easily accessed from three directions – front, left and right.

Compact and Easy to Use

This compact design requires only the absolute minimum of space.

Test Space Rear Clearance Expanded to 100 mm

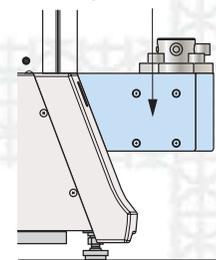
Test space rear clearance has been enlarged to 100 mm allowing even large-sized grips to be used. When testing items are mounted on large-scale electronic circuit boards, 5 kN pneumatic flat grips and 5 kN non-shift wedge-type grips allow even more internal elements to be tested.

Highly-accessible Workspace Makes Work Easy

The loaded section extends outwards from the front and enlarges the workspace, allowing easy access from three directions - front, left and right.

In addition, as shown here, easily connect accessories to the table's left-side attachment surface (M8 type screws, 4 locations), including a extensometer for soft materials (SES-1000), a non-contact video extensometer (DVE-101/201) or a automatic extensometer (SIE-560/560S.).

Accessory attachment face



Solid Basics! A Highly-Precise, Highly-Reliable Testing System

Wide range of measurement is possible.

Measurement is possible of a wide range of testing forces, with load cell ratings from 1/1 to 1/250 and precision of +/-1% the indicated value.

Force measurement is possible to conform to following standards.

JIS B 7721 Grade 1

ISO 7500-1 Class 1

EN 10002-2 Grade 1

ASTEM E4

* Shimadzu recommends certification be performed in the installation location(s) designated by the above-mentioned standards.

Software for High-Dimensional



TRAPEZIUM2 Product number 345-47308-XX (For details, refer to table below.)

Windows 2000/XP compatible

TRAPEZIUM2, Windows® XP compatible software, performs a variety of testing operations, from simple testing control to complicated user-created control patterns, thanks to its Visual Wizard settings and the industry's first operation navigation system.

Also, perform data processing to align testing data with various standards. Perform a range of operations such as re-testing and re-analysis, as well as a variety of advanced functions, such as network transmission of measurement data and screen customization, which provides intelligent navigation during strength tests.

Navigation

Navigation System Makes Testing Easy

Based on current testing conditions, the software's Navigation Bar selectively displays only the necessary functions.

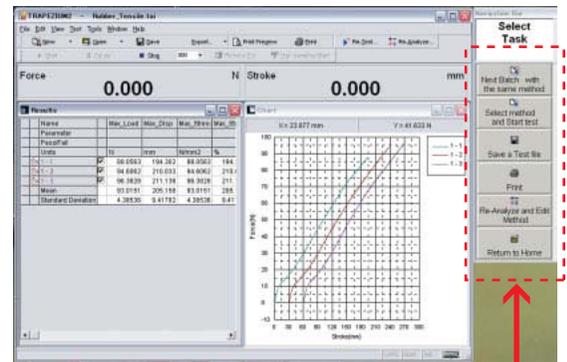
Just a click of the large, easy-to-read buttons allows you to efficiently perform continuous error-free testing.

An optional voice-recognition function allows TRAPEZIUM2 to be operated by voice instructions from the PC.

Analysis

Convenient Built-In Functions For Versatile Data Analysis

- Manually delete errors in results and perform additional "Re-tests" and "Extra Lot Tests" with a single touch.
- Recalculation function allows you to easily re-analyze data, analyze different items and change names.
- Multiple Test Results Files Reading function allows you to easily compare previous and new data.



Navigation Bar

Buttons displayed will change in response to testing conditions and are positioned in order of relevance. A variety of functions can be performed simply by pressing these buttons.

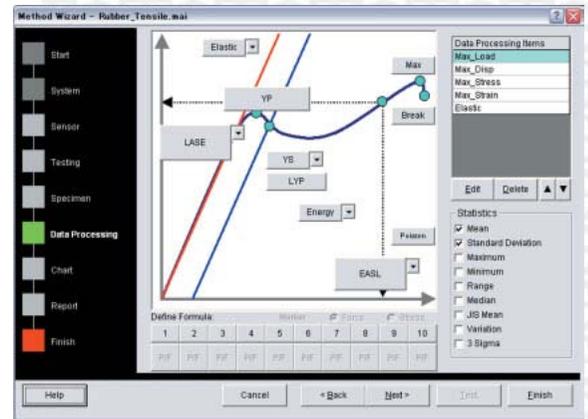


Linkage to Tester

Visual Wizard

Visual Wizard Makes Entering Settings Easy

Displaying of control patterns and data processing items as images allow the easy entry of settings while observing the test's overall flow. Easily call up the desired data windows.



Output

Entering the Broadband Era

Data reports can be automatically sent out via e-mail, LAN or FTP.

Freely define data report styles

- Simple settings allow various types of data to be easily added to reports.
- Custom Report Function allows creation of reports in user-defined formats using a company logo.

Output Test Results as PDF Files

Produce PDF files of testing reports. Since PDF files can be sent by e-mail, you can print out reports even in locations without tester units.

Word/Excel Report Function

Output test results and graphs in report format directly to Word and Excel. Test results and graphs can also be output in CSV format, or copied and pasted to an application.

TRAPEZIUM2 Product Number (including special RS-232C Cable)

Software Type	Product Number
Single Software	345-47308-01
Cycle Software	345-47308-02
Control Software	345-47308-03
Set (includes single software + cycle software + control software)	345-47308

Software for High-Dimensional

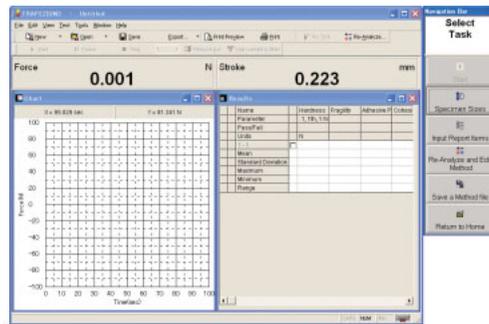


TRAPEZIUM Rheometer Product number 345-47081

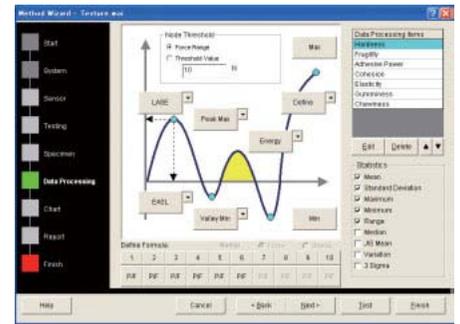
Texture evaluation in food and pharmaceutical industries

The Rheometer soft performs all types of quality evaluation and measurement of material characteristics for foods, cosmetics and pharmaceuticals. Easily create user-defined control patterns and data processing items.

For compression, tensile, mastication, piercing, creep, penetration, cohesiveness, gel strength, shearing, cutting, adhesion, hardness and other tests.



Control Settings Window



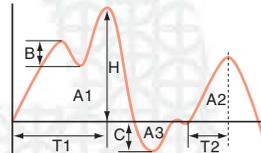
Data Processing Settings Window

Actual Applications

Mastication Test

Tooth-shape press
P/N 346-51814-02
Lower compression plate
P/N 346-51687-12

Measures masticability of rice.

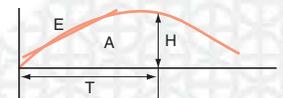


H : hardness
B : brittleness
C : cohesion strength
A3 : cohesiveness
T1 : indentation
A2/A1 : cohesive quality
T2/T1 : elasticity
H x A2/A1 : gum quality
H x A2/A1 x T2/T1 : masticability

Tensile Strength Test

Tensile jig set
P/N 346-51690-03

Measures the tensile strength of adhesive tape.

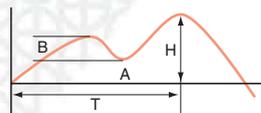


H : tensile strength (stress)
T : tensile elongation
E : Young's modulus
A : energy

Plunger Compression Test

Viscosity test jig (dia. 7)
P/N 346-52252-03
Lower compression plate
P/N 346-51687-12

Measures the firmness of boiled fish paste (kamabako)
(Fish paste is cut into a cylindrical piece for this test.)

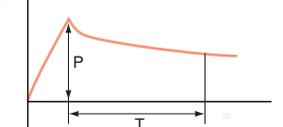


H : hardness
T : indentation
B : brittleness
A : cohesiveness
H x T : Gel strength

Tensile Strength Test

Stress Relaxation Test
Jig for bread (dia. 10)
P/N 346-52255-01
Lower compression plate
P/N 346-51687-12

Measures the resilience of bread.



P : initial stress
T : relaxation time

Linkage to Tester

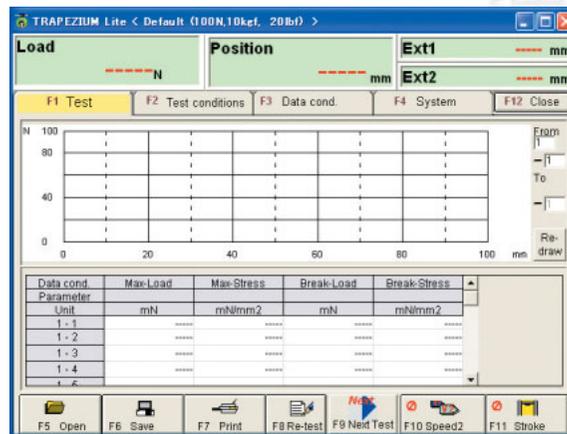


TRAPEZIUM LITE

Product number 345-47150

Easily perform testing

TRAPEZIUM LITE is recommended for customers who perform the same tests repeatedly using a series of simple operations. TRAPEZIUM Lite features automatic saving of test results and a simple design that consists of just four screens (Test, Test Parameters, Data Processing Conditions and System).

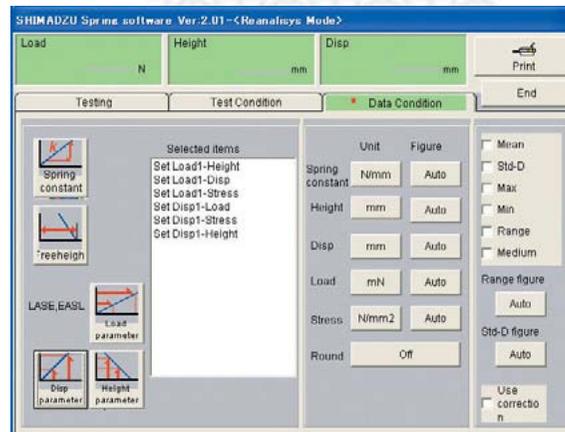


Spring Testing Software

Product number 345-47045

Ideal for spring tests

This software is specially designed to perform coil-spring tensile and compression testing. Tester deflection is measured to obtain the test results.



Data Parameter Settings Window

EZ-L Testing Applications

Rubber Tensile Test Using 5 kN Screw-type Flat Grips + SES-1000 extensometer

This is an example of a dumbbell-shaped rubber specimen being stretched using common-type threaded grips. Use of the SES-1000 extensometer provides accurate measurement of elongation.

Screw-type flat grips

SCG-5 kNA

P/N 346-52326-04

SES-1000 Extensometer

P/N 346-51681-03



O-ring Tensile Testing Using Rotating Roller Grip

Measures the tensile strength of rubber ring-shaped specimens. Linked to the crosshead, the chain rotates the lower rollers, which uniformly elongates the rubber.

1 kN rotating roller grip (for EZ-L)

P/N 346-50636-05



Resin Tensile Testing Using 5 kN Pneumatic Flat Grips + SIE-560S Automatic Extensometer

Tension is applied to resin via 5 kN pneumatic flat grips. When used in combination with the SIE-560S automatic extensometer, specimen attachment and release can be performed quickly, increasing the testing efficiency. Also, the high-precision design of the SIE-560S allows elasticity measurement.

(When performing elasticity measurement, be sure the specimen does not fall over.)

5 kN pneumatic flat grip set (with foot valves)

P/N 346-53849-01

SIE-560S automatic extensometer, high-precision type

P/N 346-53269-04



Thin Copper Tensile Testing Using 5 kN Non-shift Wedge-type Grips + DVE-201 Video Non-Contact Extensometer

Tension applied to a thin copper specimen via 5 kN non-shift wedge-type grips. Use in combination with the DVE-201 non-contact video extensometer enables measurements of the elastic modulus of the material.

5 kN non-shift wedge-type grips

P/N 346-52653-01

DVE-201 kit (for EZ-L)

P/N 346-53879-71



EZ-S Testing Applications

45-Degree Board Peeling Testing

This test measures the peeling strength of electronic components, specifically, IC pins.

45-degree peeling test jig
(for EZ-S, capacity 200 N)
P/N 346-52292-87



Electronic Component Shear Testing

Shear measurement is performed by exerting pressure (pushing) on an electronic component in the longitudinal direction.

Electronic component shear test jig
(for EZ-S, capacity 500 N to 50 N)
P/N 346-52292-48



Food Packaging Bag Tensile Testing

In this example, tensile testing is performed on the opening of a food packaging bag that has been cut off.

Tensile jig set
P/N 346-51690-03



Boiled Fish Paste (kamaboko) Elasticity Measurement Testing

This test measures the firmness of boiled fish paste.

Ball-shaped press jig (dia. 7)
P/N 346-52252-03

Lower compression plate
P/N 346-51687-12



Lipstick Bending Test

Measures the firmness of lipstick.

Lipstick horizontal holder
P/N 346-52022-01

Attachable adapter lower jig
P/N 346-52281-02



Adhesive Tape 180-Degree Peeling Test

Uses a 180-degree peeling test to measure the adhesion strength of adhesive tape.

Tensile jig set
P/N 346-51690-03

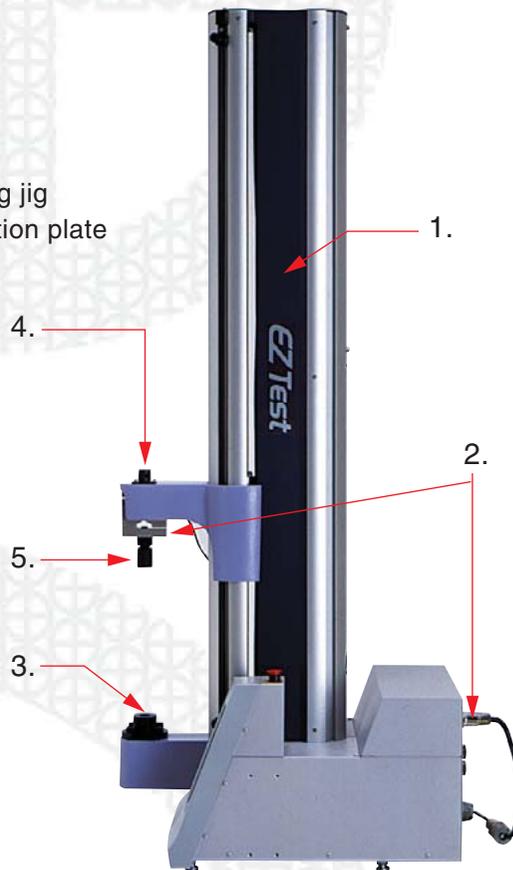
* Adhesion plate should be prepared by the customer.



EZTest Unit Kit System Configuration

Unit kit contents:

1. tester unit
2. load cell set
3. lower coupling
4. cell bolt
5. upper connecting jig
6. overturn-prevention plate



EZTest EZ-L/S Unit Kit P/N List

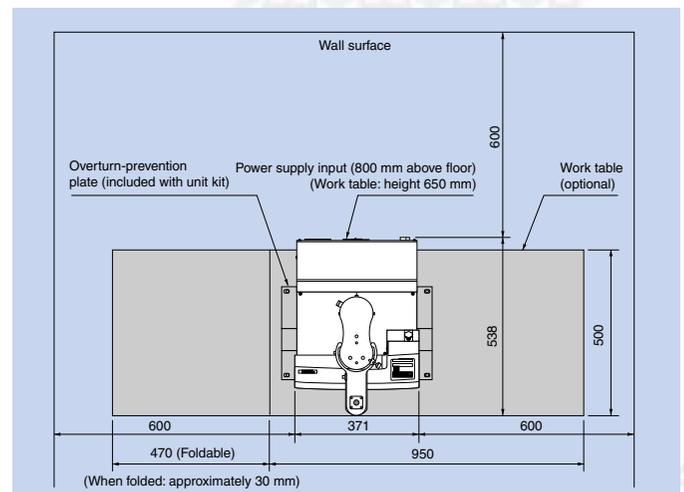
Unit Type	Name	P/N
EZ-L	EZ-L-5 kN unit kit	346-54360-01
	EZ-L-1kN unit kit	346-54360-02
	EZ-L-500N unit kit	346-54360-03
	EZ-L-200N unit kit	346-54360-04
	EZ-L-100N unit kit	346-54360-05
	EZ-L-50N unit kit	346-54360-06
	EZ-L-20N unit kit	346-54360-07
	EZ-L-10N unit kit	346-54360-08
	EZ-L-5N unit kit	346-54360-09
	EZ-L-2N unit kit	346-54360-10
	EZ-L-1N unit kit	346-54360-11
EZ-S	EZ-S-500N unit kit	346-54359-01
	EZ-S-200N unit kit	346-54359-02
	EZ-S-100N unit kit	346-54359-03
	EZ-S-50N unit kit	346-54359-04
	EZ-S-20N unit kit	346-54359-05
	EZ-S-10N unit kit	346-54359-06
	EZ-S-5N unit kit	346-54359-07
	EZ-S-2N unit kit	346-54359-08
	EZ-S-1N unit kit	346-54359-09

Additional Load Cell Kit P/N Table

Select a load cell kit if load cells are to be added to the unit kit. The additional load cell kit comprises a cell set (load cell and calibration cable), cell bolt (if required), and upper connecting jig (if required).

Unit kit capacity	Additional Load Cell Capacity	Kit P/N												
		1kN	500N	200N	100N	50N	20N	10N	5N	2N	1N			
EZ-L-5kN unit kit	346-55126-XX	01												
EZ-L-1kN unit kit			02	03	04	05	06	07	08	09	10			
EZ-L/S-500N unit kit					11									
EZ-L/S-200N unit kit						12								
EZ-L/S-100N unit kit							13							
EZ-L/S-50N unit kit								14						
EZ-L/S-20N unit kit									15					
EZ-L/S-10N unit kit										16				
EZ-L/S-5N unit kit											17			
EZ-L/S-2N unit kit												18		
EZ-L/S-1N unit kit													19	

Installation space

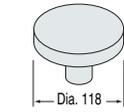


Jig Sets

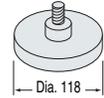
For jigs other than those described below, refer to the separate Autograph Accessories Catalogue (C224-3493).

Compression and Cutting Jig Sets

Compression jig set		346-52282-01	
Contents			
Lower compression plate dia. 118	346-51687-12	1	
Upper compression plate dia. 118	346-51687-11	1	
Upper compression plate dia. 8	346-51687-03	1	
Upper compression plate dia. 10	346-51687-04	1	
Upper compression plate dia. 15	346-51687-06	1	
Upper compression plate dia. 20	346-51687-08	1	
Upper compression plate dia. 30	346-51687-10	1	



Lower compression plate dia. 118

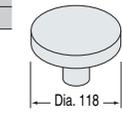


Upper compression plate dia. 118

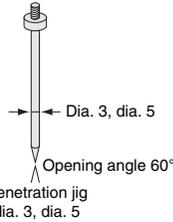


Upper compression plate dia. 8 to dia. 30

Penetration jig set		346-52283-01	
Contents			
Lower compression plate dia. 118	346-51687-12	1	
Penetration jig dia. 3	346-51813-01	1	
Penetration jig dia. 5	346-51813-02	1	

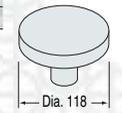


Lower compression plate dia. 118



Penetration jig dia. 3, dia. 5

Penetration elasticity jig set		346-52284-01	
Contents			
Lower compression plate dia. 118	346-51687-12	1	
Penetration elasticity jig dia. 3	346-51687-01	1	
Penetration elasticity jig dia. 5	346-51687-02	1	



Lower compression plate dia. 118

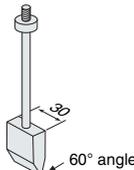


Penetration elasticity jig dia. 3, dia. 5

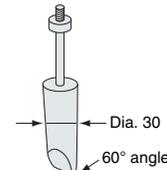
Tooth-shape press set		346-52285-01	
Contents			
Lower compression plate dia. 118	346-51687-12	1	
Tooth-shape press B	346-51814-02	1	
Tooth-shape press C	346-51815-02	1	



Lower compression plate dia. 118



Tooth-shape press B



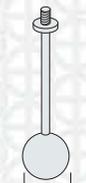
Tooth-shape press C

Boiled fish paste (kamabako) test set		346-52286-01	
Contents			
Ball-shaped press jig dia. 7	346-52252-03	1	
Lower compression plate dia. 118	346-51687-12	1	
Boiled fish paste collector	346-52267-02	1	
Upper compression plate dia. 20	346-51687-08	1	

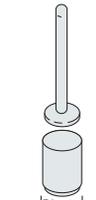
* Requires separately sold adaptor 346-52280-01.



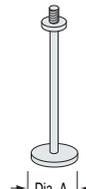
Lower compression plate dia. 118



Ball-shaped press jig dia. 7



Boiled fish paste collector

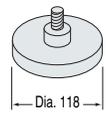


Upper compression plate dia. 20

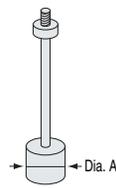
Bread compression jig set		346-52287-01	
Contents			
Lower compression plate dia. 118	346-51687-12	1	
Upper compression plate dia. 118	346-51687-11	1	
Bread jig dia. 10	346-52255-01	1	
Bread jig dia. 15	346-52255-03	1	
Bread jig dia. 20	346-52255-04	1	



Lower compression plate dia. 118



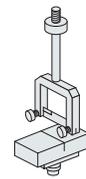
Upper compression plate dia. 118



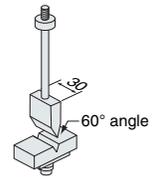
Bread jigs dia. 10, dia. 15, dia. 20

Razor cutter jig		346-51816-01	
-------------------------	--	--------------	--

Cutting force test jig		346-51817-01	
-------------------------------	--	--------------	--



Razor cutter jig



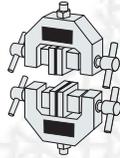
Cutting force test jig

Jig Sets

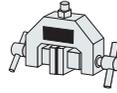
Tensile Jig Sets

Tensile jig set 346-51690-03 Upper/lower 1 each

Upper grip 500 N 346-51690-01 1

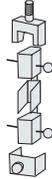


Tensile jig set



Upper grip

Noodle tensile jig 346-52264-01



Noodle tensile jig

Application Jig Sets

Peeling test (cell) jig set 346-52265-01

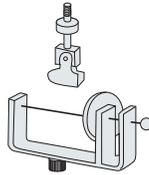
* Requires separately sold adaptor 346-52281-02.

Peeling test jig 346-52289-01

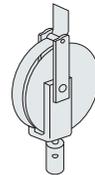
Contents

Rotary drum jig 343-07949-02 1

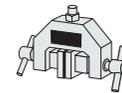
Upper grip 500 N 346-51690-01 1



Peeling test (cell) jig



Rotary drum



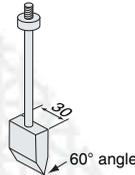
Upper grip 500 N

Break strength test jig 346-52290-01

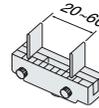
Contents

Tooth-shape press B 346-51814-02 1

Lower break test jig 346-51818-01 1



Tooth-shape press B



Lower break test jig

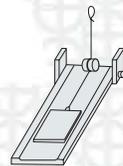
Friction coefficient measuring jig 346-52272-01

* Requires separately sold adaptor 346-52281-02.

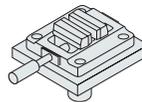
Toothbrush jig set 346-52291-01

IC pin test jig set 346-52292-01

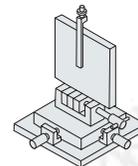
Printed wiring board 45-degree peeling test jig set 346-52292-02



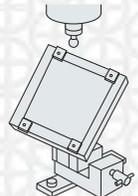
Friction coefficient measuring jig



Toothbrush jig set



IC pin test jig set



Printed wiring board
45-degree peeling test jig set

Spring test set (tensile and compression) 346-52293-01

Contents

Spring tensile jig set 346-52174-02 1

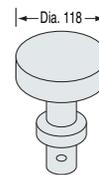
Upper compression plate dia. 118 346-51687-11 1

Lower compression plate 346-52189 1

Spring software (with cable) 345-47052 1



Spring tensile test jig



Lower compression plate
for spring compression



Upper compression plate dia. 118

Spring tensile test set 346-52293-02

Contents

Spring tensile jig set 346-52174-02 1

Spring software (with cable) 345-47052 1



Spring tensile test jig

Spring compression test set 346-52293-03

Contents

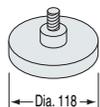
Upper compression plate dia. 118 346-51687-11 1

Lower compression plate 346-52189 1

Spring software (with cable) 345-47052 1



Lower compression plate
for spring compression



Upper compression
plate dia. 118

Application Jig Sets

Retort pouch 346-52271-01

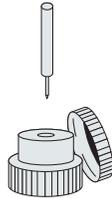
Piercing base

* Requires separately sold adaptor 346-52295-01.

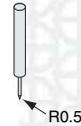
Retort pouch 347-52778

Piercing rod

* Requires separately sold adaptor 346-52280-01.



Retort pouch piercing base



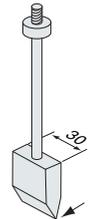
Retort pouch piercing rod

Lipstick test jig set 346-52294-01

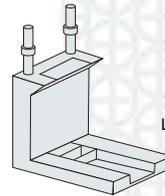
Contents

Tooth-shape press B 346-51814-02 1

Lipstick horizontal holder 346-52022-01 1



Tooth-shape press B

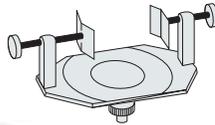


Lipstick horizontal holder

Application Jig Sets

Testpiece Holder 346-51819-01

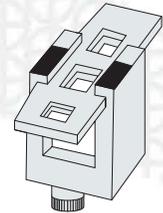
Testpiece Holder



Gum break stress testpiece holder 346-52274-01

* Requires separately sold adaptor 346-52281-02.

Gum break stress testpiece holder



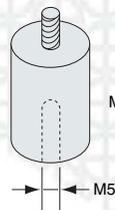
Attachable Adaptors

Attachable adaptor set (Leotech Co.) 346-51820-03

M5 screws 346-51820-01

M5 0.9 mm pitch screws 346-51820-02

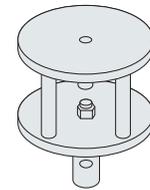
Lower jig 346-52281-01



M5 screws



M5 0.9 mm pitch screws

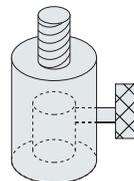


Lower jig

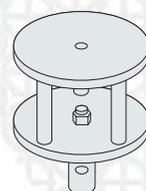
Attachable adaptor set (Sun Science Inc.) 346-52295-01

Upper jig 346-52280-01

Lower jig 346-52281-02



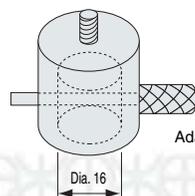
Upper jig



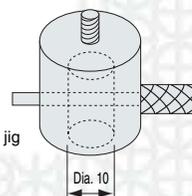
Lower jig

Adaptor for Shimadzu AGS jig dia. 16 346-51692-01

Adaptor for Shimadzu AGS jig dia. 10 346-51692-02



Adaptor for AGS jig

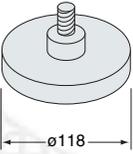
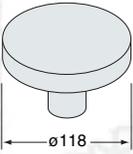
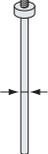
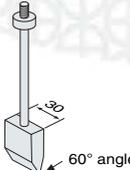
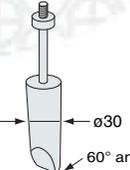
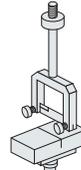
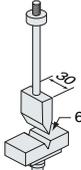
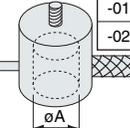
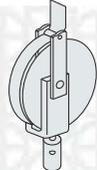
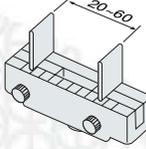
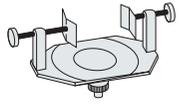
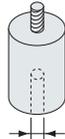
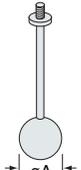


Adaptor for AGS jig

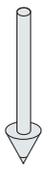
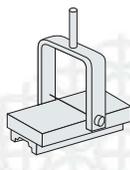
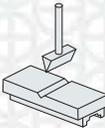
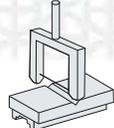
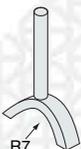
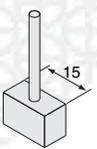
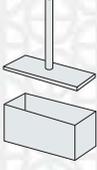
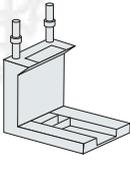
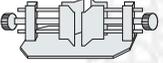
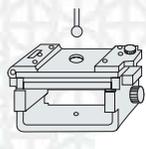
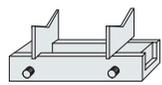


Jig Sets

Individual Jigs

 Upper compression plate 346-51687-11	 Lower compression plate 346-51687-12	 Compression elasticity test jig 346-51687-XX <table border="1" data-bbox="690 421 787 591"> <thead> <tr><th>-XX</th><th>øA</th></tr> </thead> <tbody> <tr><td>-03</td><td>ø8</td></tr> <tr><td>-04</td><td>ø10</td></tr> <tr><td>-05</td><td>ø11.3</td></tr> <tr><td>-06</td><td>ø15</td></tr> <tr><td>-07</td><td>ø16</td></tr> <tr><td>-08</td><td>ø20</td></tr> <tr><td>-09</td><td>ø25</td></tr> <tr><td>-10</td><td>ø30</td></tr> </tbody> </table>	-XX	øA	-03	ø8	-04	ø10	-05	ø11.3	-06	ø15	-07	ø16	-08	ø20	-09	ø25	-10	ø30	 Penetration test jig 346-51813-XX Opening angle: 60° <table border="1" data-bbox="941 421 1039 506"> <thead> <tr><th>-XX</th><th>øA</th></tr> </thead> <tbody> <tr><td>-01</td><td>ø3</td></tr> <tr><td>-02</td><td>ø5</td></tr> </tbody> </table>	-XX	øA	-01	ø3	-02	ø5	 Penetration elasticity test jig 346-51687-XX <table border="1" data-bbox="1169 421 1266 506"> <thead> <tr><th>-XX</th><th>øA</th></tr> </thead> <tbody> <tr><td>-01</td><td>ø3</td></tr> <tr><td>-02</td><td>ø5</td></tr> </tbody> </table>	-XX	øA	-01	ø3	-02	ø5	 Tooth-shape press A 346-52258-01
-XX	øA																																		
-03	ø8																																		
-04	ø10																																		
-05	ø11.3																																		
-06	ø15																																		
-07	ø16																																		
-08	ø20																																		
-09	ø25																																		
-10	ø30																																		
-XX	øA																																		
-01	ø3																																		
-02	ø5																																		
-XX	øA																																		
-01	ø3																																		
-02	ø5																																		
 Tooth-shape press B 346-51814-02 60° angle	 Tooth-shape press C 346-51815-02 ø30 60° angle	 Razor cutting force test jig 346-51816-01	 Cutting force and shear stress test jig 346-51817-01 60° angle	 Jig for injection needle attachment 346-51688-02	 AGS jig attachable adaptor 346-51692-XX <table border="1" data-bbox="1396 655 1494 740"> <thead> <tr><th>-XX</th><th>øA</th></tr> </thead> <tbody> <tr><td>-01</td><td>ø16</td></tr> <tr><td>-02</td><td>ø10</td></tr> </tbody> </table>	-XX	øA	-01	ø16	-02	ø10																								
-XX	øA																																		
-01	ø16																																		
-02	ø10																																		
 Rotary drum (peeling test jig) 343-07949-02	 Break test jig 346-51818-01 20-60	 Testpiece holder 346-51819-01	 Attachable conversion adaptors (Leotech Co.) 346-51820-01 M5	 Attachable conversion adaptors (Leotech Co.) 346-51820-02 M5 x 0.9	 Viscosity test jig 346-52252-XX <table border="1" data-bbox="1396 889 1494 1059"> <thead> <tr><th>-XX</th><th>øA</th></tr> </thead> <tbody> <tr><td>-01</td><td>ø3</td></tr> <tr><td>-02</td><td>ø5</td></tr> <tr><td>-03</td><td>ø7</td></tr> <tr><td>-04</td><td>ø8</td></tr> <tr><td>-05</td><td>ø10</td></tr> <tr><td>-06</td><td>ø15</td></tr> <tr><td>-07</td><td>ø20</td></tr> <tr><td>-08</td><td>ø25</td></tr> </tbody> </table>	-XX	øA	-01	ø3	-02	ø5	-03	ø7	-04	ø8	-05	ø10	-06	ø15	-07	ø20	-08	ø25												
-XX	øA																																		
-01	ø3																																		
-02	ø5																																		
-03	ø7																																		
-04	ø8																																		
-05	ø10																																		
-06	ø15																																		
-07	ø20																																		
-08	ø25																																		

The following jigs require separate adaptors. (Required adaptor varies according to the jig.)

 Stress relaxation test jig*1 346-52256-XX <table border="1" data-bbox="219 1181 316 1351"> <thead> <tr><th>-XX</th><th>øA</th></tr> </thead> <tbody> <tr><td>-01</td><td>ø10</td></tr> <tr><td>-02</td><td>ø15</td></tr> <tr><td>-03</td><td>ø20</td></tr> <tr><td>-04</td><td>ø25</td></tr> <tr><td>-05</td><td>ø30</td></tr> <tr><td>-06</td><td>ø50</td></tr> </tbody> </table>	-XX	øA	-01	ø10	-02	ø15	-03	ø20	-04	ø25	-05	ø30	-06	ø50	 Penetration test jig*1 346-51813-XX <table border="1" data-bbox="454 1181 552 1308"> <thead> <tr><th>-XX</th><th>øA</th></tr> </thead> <tbody> <tr><td>-03</td><td>ø1</td></tr> <tr><td>-04</td><td>ø2</td></tr> <tr><td>-05</td><td>ø4</td></tr> </tbody> </table>	-XX	øA	-03	ø1	-04	ø2	-05	ø4	 Penetration elasticity test jig*1 346-51687-XX <table border="1" data-bbox="690 1181 787 1308"> <thead> <tr><th>-XX</th><th>øA</th></tr> </thead> <tbody> <tr><td>-13</td><td>ø1</td></tr> <tr><td>-14</td><td>ø2</td></tr> <tr><td>-15</td><td>ø4</td></tr> </tbody> </table>	-XX	øA	-13	ø1	-14	ø2	-15	ø4	 Penetration shear test jig*1 346-52253-XX <table border="1" data-bbox="917 1181 1031 1308"> <thead> <tr><th>-XX</th><th>angle A</th></tr> </thead> <tbody> <tr><td>-01</td><td>30°</td></tr> <tr><td>-02</td><td>45°</td></tr> <tr><td>-03</td><td>60°</td></tr> </tbody> </table>	-XX	angle A	-01	30°	-02	45°	-03	60°	 Penetration test jig*1 346-52254-01	 Test jig for cutting stress*3 346-52268-01
-XX	øA																																										
-01	ø10																																										
-02	ø15																																										
-03	ø20																																										
-04	ø25																																										
-05	ø30																																										
-06	ø50																																										
-XX	øA																																										
-03	ø1																																										
-04	ø2																																										
-05	ø4																																										
-XX	øA																																										
-13	ø1																																										
-14	ø2																																										
-15	ø4																																										
-XX	angle A																																										
-01	30°																																										
-02	45°																																										
-03	60°																																										
 Cutting force and cutting stress test jig*3 346-51817-02	 Cutting force*3 346-51816-02	 Gelatin*1 346-52255-06	 Bread*1 346-52255-XX <table border="1" data-bbox="941 1415 1039 1564"> <thead> <tr><th>-XX</th><th>øA</th></tr> </thead> <tbody> <tr><td>-01</td><td>ø10</td></tr> <tr><td>-03</td><td>ø15</td></tr> <tr><td>-04</td><td>ø20</td></tr> <tr><td>-05</td><td>ø50</td></tr> </tbody> </table>	-XX	øA	-01	ø10	-03	ø15	-04	ø20	-05	ø50	 Presser*1 346-52257-01 R7	 Presser*1 346-52258-01 15																												
-XX	øA																																										
-01	ø10																																										
-03	ø15																																										
-04	ø20																																										
-05	ø50																																										
 Sample collector*3 346-52267-01	 Break stress*2 346-52274-01	 Lipstick horizontal holder*2 346-52022-01	 Beaker holder*2 346-51819-02	 Viscoelasticity table*2 346-52275-02	 Break test stand*2 346-51818-02																																						

*1. Requires separate adaptor (product number: 346-52280-01).

*2. Requires separate adaptor (product number: 346-52281-02).

*3. Requires separate adaptor (product number: 346-52295-01).

Refer to the previous page for the adaptor's shape.

Shimadzu also designs and produces items to suit the needs of customers.

Specifications

Values in this catalogue have been calculated according to separately designated inspection standards.

Name	EZTest	
	EZ-S	EZ-L
Load Capacity (Note 1)	Max. 500 N (Load cell can be selected from 9 types: 1 N, 2 N, 5 N, 10 N, 20 N, 50 N, 100 N, 200 N and 500 N)	Max. 5 kN (Load cell can be selected from 11 types: 1 N, 2 N, 5 N, 10 N, 20 N, 50 N, 100 N, 200 N, 500 N, 1 kN, 5 kN)
Load Method	High-precision, constant-speed strain control method, via no back-lash ball-screw drive	
Force Measurement:	Accuracy (Note 2)	Within + / -1% of indicated value (in the range 1/1 to 1/250 of load cell rated capacity) Conforms to JIS B7721 Grade 1, ISO 7500-1 Class 1, EN10002-2 Grade 1, and ASTM E4
	Magnification	x 1 to x 50 equivalent (range-less)
	Calibration	Automatic calibration method (calibration test force: tensile or compression)
Crosshead Speed Range	0.05 mm/min. to 1000 mm/min.	
Crosshead Speed Accuracy (Note 3)	+/- 0.5% of the test speed or 0.05 mm/min., whichever is greater	
Crosshead Speed and Maximum Force	Up to the maximum capacity of the load cell, at every speed	
Gap Between Crosshead and Jig Attachment Surface	Min. 159 mm to max. 659 mm (Travel Distance 500 mm)	Min. 166 mm to max. 1086 mm. (Travel Distance 920 mm)
Maximum Gap Between	Max. 500 N load cell + tensile jig: 435 mm	5 kN load cell + 5 kN screw type flat grip: 700 mm
		1 kN load cell + 1 kN screw type flat grip: 755 mm
		Max. 500 N load cell + tensile jig: 860 mm
Test Space Rear Clearance	100mm (table section)	
Crosshead Position Detection:	Measurement / Display	Optical encoder measurement / digital display (resolution: 0.01 mm)
	Accuracy	Within +/- 1% of indicated value, or +/- 0.01 mm, whichever is greater
Crosshead Control	Single test control (single-direction tensile or compression tests), cycle test control (repeated tensile or compression tests), test force constant hold (creep) control (Note 4)	
Standard Functions	Crosshead auto stop and return by automatic detection of specimen breakage (crosshead auto return to origin position) Test parameter filing and free setting of crosshead speed Display functions: force display or stress display (either can be selected) Crosshead displacement display in mm or %/GL (either can be selected) Force and displacement at peak and displacement at breaking point Load /displacement analogue output: DC 0-5 V full scale (for external recorder) RS-232C interface (for data processing software) Manual crosshead position fine adjustment	
Dimensions	W371 mm x D538 mm x H927 mm	W371 mm x D538 mm x H1333 mm
Weight	Approx. 38 kg	Approx. 60 kg
Input power voltage (Note 5)	Single phase 100/120/220-230/240 V (Selectable)	
Power capacity	300 VA	600VA
Installation Conditions	Temp. 5°C to 40°C, humidity: 20% to 80% (no condensation)	
	Power voltage fluctuations: +/- 10% max., Vibration: 5 Hz max., amplitude 5 µm max.	

(NB1) If the load cell capacity is less than load capacity, of the machine the load cell capacity will be the maximum force.

(NB2) As required by these standards, Shimadzu recommends certification at the installation location.

(NB3) Calculated from the time required for a certain crosshead displacement distance at a crosshead speed of 0.5 mm/min. to 500 mm/min., under constant conditions.

(NB4) Hold test force is within 70% of the load capacity, and the hold period is 12 hours max.

(NB5) Grounding should be 100Ω or your country's applicable standard.

Option

• Analogue Recorder

Product Name	P/N
X-T Recorder	346-51735
X-Y-T Recorder	346-51736

Specifications

Product Name	X-T type recorder	X-Y-T type recorder
Effective Recording Width	X-axis (test force): 250 mm	X-axis (test force) Y-axis (displacement): 250 mm each
Recording Paper Feed Speed	10, 15, 20, 30, 40, 60 mm/min., cm/min., mm/h, cm/h 24 stages, 23 speeds	10, 15, 20, 50, 100, 200 mm/min.
Pen Travel Time	X-axis 1/3 sec. max.	X-axis: 1 sec. max. Y-axis 2 sec. max.
Measurement range	X-axis: DC 0 V to 5 V	X-axis Y-axis each DC 0 V - 5 V

• Thermostatic Chamber

Allows testing within an ambient temperature range of -70°C to 250°C. Thermostatic chamber is available only for EZ-L type testers. Please make a separate enquiry for chambers.



• Others

Name	P/N	Remarks
Special-use Worktable	340-48580-02	Special table for EZTest
EZ-S/EZ-L Overturn-Prevention Plate*	346-55037-01	Consists of fixture for attaching EZ-S/EZ-L unit to the worktable, and fixtures for securing the worktable to a concrete floor using a dry pit process.

* included with unit kit



JQA-0376

Founded in 1875, Shimadzu Corporation, a leader in the development of advanced technologies, has a distinguished history of innovation built on the foundation of contributing to society through science and technology. We maintain a global network of sales, service, technical support and applications centers on six continents, and have established long-term relationships with a host of highly trained distributors located in over 100 countries. For information about Shimadzu, and to contact your local office, please visit our Web site at www.shimadzu.com



SHIMADZU CORPORATION. International Marketing Division
 3. Kanda-Nishikicho 1-chome, Chiyoda-ku, Tokyo 101-8448, Japan
 Phone: 81(3)3219-5641 Fax: 81(3)3219-5710
 URL <http://www.shimadzu.com>

The contents of this brochure are subject to change without notice.