

# No.170 CLASH-BERG TORSION FLEXIBILITY TESTER (MANUAL)



JIS-(K6734), (K6745), K6924-2, ASTM-D1043, ISO-458

- This tester is used to measure the softening temperature of plastic.
- The test specimen is to be attached to the upper and lower Chucks of the tester and then dipped into water which the temperature is raised at a constant speed.
- At every 5 °C the water temperature has rises, the operator is to leave the test specimen untouched for 3 minutes.
- After the 3 minutes have passed, twisting torque is to be added to the test specimen so that the rigidity coefficient can be calculated from the twisting angle.
- The softening temperature will be acquired from the temperature-rigidity coefficient curving line.

## Specification

Specifications are subject to change without notice.

<b>Model</b>	<b>No.170 CLASH-BERG TORSION FLEXIBILITY TESTER (MANUAL)</b>
<b>Specime</b>	W6.35 ± 0.03 mm, L64 mm, T0.8 to 1.5 mm
<b>Chuck Distance</b>	40 mm
<b>Angle Scale</b>	0 to 360° (Scale 1°) *Max. Angle 270°
<b>Temperature Range</b>	-60 to 100 °C (Dry Ice Cooling)
<b>Heat-Up Speed</b>	2 °C/min
<b>Torque Device</b>	Pulley Type
<b>Weight</b>	5 g, 10 g, 20 g, 50 g
<b>Software</b>	—
<b>Accessories</b>	Duwar Flask, Thermometer: 2 pcs, Specimen Cutter, Notching Tool, Specimen Setting Gauge
<b>Power Source</b>	AC 100 V, 1-Phase, 10 A, 50/60 Hz
<b>Dimensions/ Weight (Approx.)</b>	W300 × D400 × H780 mm, 40 kg

Inquiry Form

## **No.170-AUTO CLASH-BERG TORSION FLEXIBILITY TESTER (AUTOMATIC)**



JIS-(K6734), (K6745), K6924-2, ASTM-D1043, ISO-458

- This tester reads the twisting angle of the test specimen by encoder to calculate the rigidity coefficient.
- The temperature-rigidity coefficient curving line will be displayed on the PC to acquire the softening temperature.

## Specimen

Specifications are subject to change without notice.	
<b>Model</b>	<b>No.170-AUTO CLASH-BERG TORSION FLEXIBILITY TESTER (AUTOMATIC)</b>
<b>Specimen</b>	W6.35 ± 0.03 mm, L64 mm, T0.8 to 1.5 mm
<b>Chuck Distance</b>	40 mm
<b>Angle Scale</b>	0 to 270° (Scale 1°) Detection: Rotary Encoder
<b>Temperature Range</b>	-60 to 100 °C (Dry Ice Cooling)
<b>Heat-Up Speed</b>	2 °C/min

<b>Torque Device</b>	Pulley Type
<b>Weight</b>	5 g, 10 g, 20 g, 50 g
<b>Software</b>	Windows Compatible
<b>Accessories</b>	Duwar Flask, Thermometer: 2 pcs, Specimen Cutter, Notching Tool, Specimen Setting Gauge
<b>Power Source</b>	AC 100 V, 1-Phase, 10 A, 50/60 Hz
<b>Dimensions/ Weight (Approx.)</b>	Tester Body: W400 × D450 × H1,050 mm, 40 kg Control Box: W350 × D500 × H300 mm, 13 kg

Inquiry Form

## No.312 TABER TYPE STIFFNESS TESTER



JIS-P8125、TAPPI-T489、ISO-2493

- This tester is used to evaluate the stiffness of paper board according to the load bending method.
- Fixing one end of the test specimen and bending it 7.5° or 15° at a constant speed.
- The operator is to acquire the bending moment when the loading length reaches 50 mm.

## Specification

Specifications are subject to change without notice.	
<b>Model</b>	<b>No.312 TABER TYPE STIFFNESS TESTER</b>
<b>Moment</b>	Max. 490 mN·m (5,000 gf·cm)
<b>Load Scale</b>	Left-Right 0 to 100
<b>Weight Load</b>	100 gf, 200 gf, 500 gf
<b>Load Position</b>	100 mm from the Pivot
<b>Bending Angle</b>	Left-Right 15° or 7.5°
<b>Bending Speed</b>	180 ± 40°/min
<b>Specimen</b>	W30 to 40 mm (Standard: 38.0 ± 0.2 mm), L 70 mm, T3.2 mm or Less
<b>Roller</b>	φ8.60 ± 0.05 mm for Test φ8.93 ± 0.05 mm for Positioning
<b>Power Source</b>	AC 100 V, 1-Phase, 3 A, 50/60 Hz
<b>Dimensions/ Weight (Approx.)</b>	W300 × D350 × H500 mm, 25 kg

Inquiry Form

# No.312-D ABER TYPE STIFFNESS TESTER



JIS-P8125、 TAPPI-T489、 ISO-2493

- This is the digital model of the TABER STIFFNESS TESTER where the stiffness of paper board can be directly read.
- The stiffness level will be indicated in mN-m terms.
- The tester can also calculate the resistance to bending (mN).

## Specification

Specifications are subject to change without notice.	
<b>Model</b>	<b>No.312-D ABER TYPE STIFFNESS TESTER</b>
<b>Moment</b>	Max. 490 mN·m (5,000 gf·cm)
<b>Load Scale</b>	Left-Right 0 to 100
<b>Weight Load</b>	100 gf, 200 gf, 500 gf
<b>Load Position</b>	100 mm from the Pivot
<b>Bending Angle</b>	Left-Right 15° or 7.5°

<b>Bending Speed</b>	180 ± 40°/min
<b>Specimen</b>	W30 to 40 mm (Standard: 38.0 ± 0.2 mm), L 70 mm, T3.2 mm or Less
<b>Roller</b>	φ8.60 ± 0.05 mm for Test φ8.93 ± 0.05 mm for Positioning
<b>Power Source</b>	AC 100 V, 1-Phase, 3 A, 50/60 Hz
<b>Dimensions/ Weight (Approx.)</b>	W300 × D350 × H500 mm, 25 kg

## No.342 CLARK TYPE STIFFNESS TESTER



JIS-(L1018)、L1096、P8143、TAPPI-(T451)

- This tester is used to evaluate the stiffness of paper, plastic film, and textile according to the Clark's method.
- The operator is to clip the test specimen between the 2 rolls and rotate it left and right until the test specimen falls over 90°.
- When the test specimen falls over 90° the operator is to measure the brattish length to calculate the stiffness.

## Specification

Specifications are subject to change without notice.	
Specimen	Paper: W15 to 50 mm (Standard 30 mm), L75 mm or More Textile: W20 mm, L150 to 200 mm
Roller	$\phi 29.0 \pm 1.0$ mm
Angle Scale	Left-Right 0 to 90° (Scale 1°)
Chuck Rotation Speed	$1.0 \pm 0.1$ rpm (Manual)
Dimensions/ Weight (Approx.)	W250 × D200 × H260 mm, 3 kg

## No.118 OLSEN TYPE STIFFNESS TESTER (HEAVY LOAD TYPE)



JIS-K7106, ASTM-D747



This tester is used to measure the bending stiffness of plastic. The bending stiffness that can be tested with this tester is the apparent elastic modulus obtained from the cantilever test specimen and the bending angle.

## Specification

Specifications are subject to change without notice.	
<b>Model</b>	<b>No.118 OLSEN TYPE STIFFNESS TESTER (HEAVY LOAD TYPE)</b>
<b>Moment</b>	Max. 5 lb·in (1 lb = 453 g)
<b>Load Scale</b>	0 to 100 % (Scale 1 %)
<b>Weight</b>	0.5 lb: 1 pc, 1 lb: 2 pcs
<b>Load Position</b>	4" from Pivot
<b>Angle Scale</b>	0 to 90° (Scale 1°)
<b>Chuck Rotation Speed</b>	60°/min
<b>Specimen</b>	W5 ± 0.5 mm or 13 ± 0.5 mm, L60 mm or more, T1.0 ± 0.1 mm or T2.0 ± 0.2 mm
<b>Support Length</b>	7 to 50 mm
<b>Chuck Width</b>	30 mm
<b>Power Source</b>	AC 100 V, 1-Phase, 5 A, 50/60 Hz
<b>Dimensions/ Weight (Approx.)</b>	W340 × D300 × H460 mm, 10 kg

# No.118-D OLSEN TYPE STIFFNESS TESTER (HEAVY LOAD TYPE) (DIGITAL)



JIS-K7106、ASTM-D747

- This is the digital version of the OLSEN TYPE STIFFNESS TESTER.
- It is equipped with a calculating device that can calculate the average and standard deviation values of the test result.

## Specification

Specifications are subject to change without notice.	
<b>Model</b>	<b>No.118-D OLSEN TYPE STIFFNESS TESTER (HEAVY LOAD TYPE) (DIGITAL)</b>
<b>Moment</b>	Max. 5 lb·in (1 lb = 453 g)
<b>Load Scale</b>	0 to 100 % (Scale 1 %)
<b>Weight</b>	0.5 lb: 1 pc, 1 lb: 2 pcs
<b>Load Position</b>	4" from Pivot

<b>Angle Scale</b>	0 to 90° (Scale 1°)
<b>Chuck Rotation Speed</b>	60°/min
<b>Specimen</b>	W5 ± 0.5 mm or 13 ± 0.5 mm, L60 mm or more, T1.0 ± 0.1 mm or T2.0 ± 0.2 mm
<b>Support Length</b>	7 to 50 mm
<b>Chuck Width</b>	30 mm
<b>Power Source</b>	AC 200 V, 1-Phase, 3 A, 50/60 Hz
<b>Dimensions/ Weight (Approx.)</b>	W570 × D350 × H490 mm, 15 kg