No. 401 WATER VAPOUR PERMEABILITY CUP (FOR TEXTILE)

No.401

JIS-L1099

FEATURE

This tester is used to evaluate the permeability of textile products according to the Calcium Chloride Method or the Water Method. The permeability will be measured by the mass of vapour penetrating the specified area of membrane under prescript temperatures and humidities.

SPECIFICATION

Specimen	φ70 mm
Vapour Transmission Area	28 cm^2 (Inner Diameter of Cup φ60 mm)
Accessories	Cup: 5 pcs
Test Method	Temperature 40 ± 2 °C, Humidity 90 ± 5 % or 50 ± 5 % Air Velocity 0.8 m/s or Less
Dimensions/ Weight (Approx.)	W320 × D200 × H55 mm/ 5 kg (Case Included)

No. 402 SPRAY TESTER

No.402

JIS-K6404-8, L1092, ISO-4920

FEATURE

This tester is used for conducting water repellency tests on textile products, rubber, and plastic. The operator is to spray water from a spray nozzle when is attached 150 mm above the test specimen, which is attached at a 45° angle. The operator is to evaluate the water repellency by comparing the moisten test specimen with the standard reference sheet.

SPECIFICATION

Specimen	200 × 200 mm
Specimen Holder	φ150 mm, Inclination Angle 45°
Glass Funnel	Opening φ150 mm
Spray Nozzle	Mounting Height 150 mm, Spot φ0.9 mm: 19 pcs
Water	250 ml
Spray Time	20 to 30 sec
Accessories	Jug
Dimensions/ Weight (Approx.)	W250 × D260 × H580 mm/ 5 kg

*Power source, dimensions, weight may differ by specifications.

No. 404 MULLEN TYPE BURSTING STRENGTH TESTER FOR TEXTILE

No.404

No.404-YPO
Option: Pneumatic Clamp Spec

No.404
(Touch Panel Type)

JIS-(L1018), L1085, L1096, (JASO)

FEATURE

This tester is used to evaluate the bursting strength of textile according to the Mullen Method. The operator is to clamp the test specimen onto the tightening board and apply pressure through a rubber membrane mediator. The maximum pressure when the test specimen bursts subtracted by the strength of the rubber membrane is measured for calculating the bursting strength of the test specimen.

SPECIFICATION

Specimen	150 × 150 mm
Clamp	Upper φ30.48 ± 0.03 mm Lower φ31.5 + 0.25 mm Upper and Lower both with 60˚V Groove
Pressing Speed	98 ± 4 ml/min
Pressure Gauge	Choose 2 kinds (0.3, 0.6, 1.4, 2.0, 4.5 and 7.0 MPa)
Accessories	Rubber Membrane: 10 pcs, Membrane Height Gauge, Fixing Tool
Option	Digital Pressure Gauge, Pneumatic Clamp Spec (YPO), Touch Panel Type
Power Source	AC 100 V, 1-Phase, 10 A, 50/60 Hz
Dimensions/ Weight (Approx.)	W400 × D400 × H850 mm/ 80 kg W400 × D500 × H560 mm/ 85 kg (YPO)

No. 409 WATER PENETRATION RESISTANCE TESTER FOR TEXTILE

No.404

JIS-L1092, ISO-811

FEATURE

This tester is to conduct A Method (Low Water Pressure) water penetration tests (Hydrostatic Fluid Pressure Method). The test specimen is clamped and applied water which the amount is increased at a constant speed, and the operator is to measure the water level when the water flows out from 3 places of the back side of the test specimen. The tester can also conduct Constant Water Pressure Method test and Water Leakage Method tests.

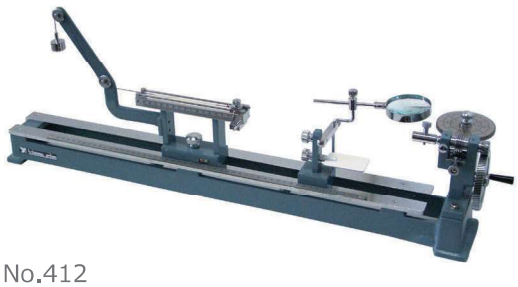
SPECIFICATION

Water Column	1 m or 1.5 m
Manometer	1,000 mmH_2O or 1,500 mmH_2O (Scale 1 mmH_2O)
Pressing Speed	10 ± 0.5 cm/min or 60 ± 3 cm/min
Specimen	150 × 150 mm
Clamp	Inner φ113 mm (Effective Area 100 cm^2)
Power Source	AC 100 V, 1-Phase, 3 A, 50/60 Hz
Dimensions/ Weight (Approx.)	W500 × D350 × H1,800 mm/ 70 kg

*Power source, dimensions, weight may differ by specifications.

No. 412 SCHOPPER TYPE TWIST COUNTER

OTHER



No.412

JIS-L1095

FEATURE

This tester is used for measuring the number of twists and the shrinkage rate of yarns.

SPECIFICATION

Specimen Length	0 to 500 mm
Elasticity scale	0 to 150 mm
Weight	5 g and 10 g: 2 pcs each
Twisting Scale	150 × 150 mm
Clamp	0 to 10,000 times
Accessories	Magnifying Glass
Dimensions/ Weight (Approx.)	W870 × D230 × H180 mm/ 15 kg

No. 416 CROCK METER

No.416

JIS-K6404-16, K6547, L0849, (L0862), ISO-105-X12

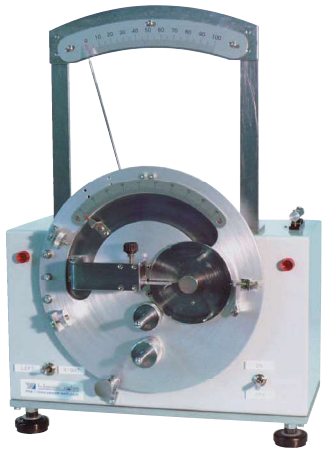
FEATURE

This tester is used to evaluate the color fastness against abrasion of textile products, leather, rubber, and plastic. The operator is to place the test specimen on the flat surface, and the test specimen is then abraded with an abrading head which is attached a white cloth. After the test has been completed, the operator is to judge the degree of color fastness according to the gray scale.

SPECIFICATION

Specimen	140 × 50 mm
White Cotton Cloth	50 × 50 mm
Test Load	8.83 N (900 gf)
Abrading Head	φ16 ± 1 mm
Abrading Distance	100 mm
Abrading Speed	60 times/min
Counter	6 Digits Preset Counter
Option	Light Load Spec, Safety Cover
Power Source	AC 100 V, 1-Phase, 3 A, 50/60 Hz
Dimensions/ Weight (Approx.)	W270 × D680 × H240 mm/ 15 kg

No. 429 OLSEN TYPE STIFFNESS TESTER (FOR LIGHT LOAD)



No.429

JIS-K7106, (L1018), L1096, ASTM-D747

FEATURE

This tester is used to evaluate the bending reaction strength of stiff textile according to the Bending Method. By fixing one end of the test specimen onto the Chuck and bending the test specimen to a prescript shift degree, the operator is to measure the bending momentum that is applied to the opposite.

SPECIFICATION

Load Scale	0 to 100 % (Scale 1 %)
Weight	1/4 oz, 1/2 oz, 1 oz, 2 oz, 4 oz, and 8 oz <1 oz = 28.3 g>
Load Position	1·1/2" and 3" from Pivot
Angle Scale	0 to 90° (Scale 1°)
Chuck Rotation Speed	60°/min
Specimen	25 × 50 mm
Support Length	1/4", 1/2" and 1"
Chuck Width	1"
Power Source	AC 100 V, 1-Phase, 3 A, 50/60 Hz
Dimensions/ Weight (Approx.)	W350 × D230 × H460 mm/ 20 kg

*Power source, dimensions, weight may differ by specifications.

No. 428 COLOR FASTNESS RUBBING TESTER

No.428

No.428 (4 Hangings)
Option: Flat Shape Specimen Base

JIS-K5701-1, K6404-16, K6547, K6772, L0849, (L0862), L1084, P8136, ISO-105-X12, (JASO)

FEATURE

This tester is used to evaluate the color fastness against abrasion of textile products, leather, rubber, and plastic. The operator is to place the test specimen on the round surface and the test specimen is to be abraded with an abrading head, which is attached a white cotton cloth. After the test has been completed, the operator is to judge the degree of color fastness according to the gray scale. The tester can also be used for conducting abrasion-resistance tests on paper board and ink coating.

SPECIFICATION

Hanging	6 Hangings
Specimen	220 × 30 mm
White Cotton Cloth	50 × 50 mm
Test Load	Initial 1.96 N
Abrading Head	R45 mm, 20 × 20 mm
Specimen Base	R200 mm, Hog-Backed Shape (Option: Flat Shape)
Abrading Distance	120 mm (100 mm for Flat shape)
Abrading Speed	30 times/min
Counter	9 Digits Preset Counter
Option	Additional Weight (4.9 N, 9.8 N) 6 pcs
Power Source	AC 100 V, 1-Phase, 10 A, 50/60 Hz
Dimensions/ Weight (Approx.)	W550 × D550 × H340 mm/ 55 kg

No. 433 SCOTT TYPE CREASE-FLEX ABRASION TESTER

No.433

JIS-K6404-6, L1096, JASO

FEATURE

This tester is used to conduct crease-flex abrasion tests on textile, rubber, and plastic according to the Scott Type Method. The operator is to evaluate the abrading strength of the test specimen by measuring the number of strokes required for the test specimen to form a 10 to 15 mm wide tear when a constant pressure force is applied. The loading method will be either a spring loaded type or a dead weight type according to the stretch of the test specimen.

SPECIFICATION

Specimen	25 × 120 mm
Chuck Distance	0 to 50 mm (Standard 20 mm)
Pressing Load	4.9 to 49 N (0.5 to 5 kgf) (Spring Loaded or Dead Weight) (Standard 9.81 N)
Abrading Distance	0 to 60 mm (Standard 40 mm)
Abrading Speed	120 ± 2 times/min
Counter	6 Digits Preset Counter
Option	Safety Cover
Power Source	AC 100 V, 1-Phase, 15 A, 50/60 Hz
Dimensions/ Weight (Approx.)	W400 × D500 × H550 mm/ 60 kg

*We also provide Liquid Immersion Types.

*Power source, dimensions, weight may differ by specifications.

No. 440 FLAMMABILITY TESTER FOR TEXTILE

No.440

JIS-L1091

FEATURE

This tester is used to test the flammability (flaming speed) of thin cloth (scarfs and clothes). The C Method can also be used to measure the speed of which the test specimen burns. The operator is to measure the length and the width of the burn and acquire the average to calculate the flammability of the test specimen.

SPECIFICATION

Specimen	50 × 150 mm
Burner	Propane Gas Burner, Flame Height 16 mm
Timer	Max. 999.9 sec (Preset type)
Flame Angle	45˚
Flaming Time	1 sec
Flame Height Adjustment	Needle Valve type, U-Shaped Manometer
Specimen Holder Angle	30˚, 45˚, 60˚
Power Source	AC 100 V, 1-Phase, 5 A, 50/60 Hz
Heat Source	Liquid Nitrogen Gas Type 2 No.4
Dimensions/ Weight (Approx.)	W400 × D320 × H530 mm/ 30 kg

No. 440-B VERTICAL FLAMMABILITY TESTER FOR TEXTILE

No.440-B

JIS-L1091, L1091(appendix 8)

FEATURE

This tester is used to test the flammability of particular textile products such as night clothes with A-4 Method (Vertical Method) testing. The alternative Vertical Burner Method can also be used to measure the degree of spread of the burn and the after-flame. The flame height is set to 38 mm, and is placed 17 mm under the specimen clamped jig. After the center of the specimen is applied heat for 3 seconds, the length between the lower end and the torn end is measured.

SPECIFICATION

Test Method	A-4 Method (Vertical Method)	Alternative Method (Vertical Burner Method)
Burning Box	Inner Diameter: W329 × D329 × H762 mm	Inner Diameter: W304.8 × D304.8 × H762 mm
Specimen	89 × 254 mm	70 × 300 mm
Burner	Busen Burner, Inner φ11 mm, Flame Height 38 mm Attaching: 25˚ to Vertical Direction	Busen Burner, Inner φ9.5 mm, Flame Height 38 mm Attaching: Vertical
Burner Movement	Automatic Sliding	
Timer	Ignition Timer: Max. 999.9 sec (Preset Method) Flaming Timer: Max. 99,999.9 sec (Preset Method) After-flame Timer: Max. 99,999.9 sec (Running Method) After-glow Timer: Max. 99,999.9 sec (Running Method)	
Igniter	Automatic Ignition (Plug Method)	
Test Load	0.54 N, 1.12 N, 2.23 N and 3.34 N (1 pc each)	1.11 N, 2.23 N, 3.33 N and 4.45 N (1 pc each)
Accessories	Specimen Holder, Flame Height Measuring Stand, Scale	
Power Source	AC 100 V, 1-Phase, 5 A, 50/60 Hz	
Heat Source	Methane Gas (Purity: 97 % Over)	Liquid Petroleum Gas or City Gas
Dimensions/ Weight (Approx.)	W590 × D330 × H930 mm/ 55 kg	

*Power source, dimensions, weight may differ by specifications.

No. 440-S MVSS FLAMMABILITY TESTER

No.440-S1

No.440-S1
Option: Timer

No.440-S2
Option: Timer

FMVSS-302, JIS-D1201, (JASO), ISO-3795, ASTM-D5132

FEATURE

This tester is used to evaluate the flammability of inner material for cars, tractors, and machines. The test specimen is set on a U-shaped specimen holder, and applied heat on the open end for 15 seconds. The operator is then to measure the flaming speed of the test specimen.

SPECIFICATION

Model	No.440-S1 (FMVSS, ASTM)		No.440-S2 (JIS, ISO, JASO)	
Standard	FMVSS	ASTM	JIS / ISO	JASO
Specimen (Standard)	W102 mm, L356 mm, T13 mm or Less	W100 mm, L300 mm or more, T13 mm or Less	When W3 to 60 mm L356 mm, T13 mm or Less When W60 to 100 mm L138 mm, T13 mm or Less	W100 mm, L356 mm
Bunsen Burner	Inner φ10 mm	Inner φ9.5 ± 0.3 mm	Inner φ9.5 ± 0.5 mm	Inner φ10 mm
Heat Source	Natural Gas	Methane Gas or Natural Gas (Calorific Value 37 ± 1 MJ/m³)	Natural Gas (Calorific Value 38 MJ/m³)	Natural Gas (Calorific Value 38 MJ/m³)
Specimen Holder	U-shape with Groove (Pitch 25 mm), Marked Line		U-shape with Groove (Pitch 25 mm), Pin Tray	
Heat-Resisting Wire	φ0.25 mm			
Accessories	Specimen Attachment Set, Gas Lighter, Thermometer, LPG Gas Hose, Hose Band, Flame Gauge, Heat-Resisting Wire, Specimen Holder (Only No.440-S1), Bobbin (Only No.440-S1), Saucer (Only No.440-S2)			
Option	Timer (Flaming Time Control), Spirit Level, Heat-Resisting Wire(Spare)			
Power Source	AC 100 V, 1-Phase, 5 A, 50/60 Hz (with Timer)			
Dimensions/ Weight (Approx.)	W480 × D250 × H580 mm/ 18 kg		W480 × D250 × H580 mm/ 20 kg	

No. 445 ELMENDORF TYPE TEARING RESISTANCE TESTER FOR TEXTILE

No.445

JIS-K6404-4, (L1018), L1085, L1096, ISO-9290

FEATURE

This tester is used to evaluate tearing resistance of textile, rubber, and plastic film, according to the pendulum method. Swinging the fan shaped pendulum from a prescript height to tear the test specimen that has been slit beforehand, the operator is to read the workload to calculate the tearing resistance.

SPECIFICATION

Capacity	0 to 8 N/ 0 to 16 N, 0 to 16 N/ 0 to 32 N, 0 to 32 N/ 0 to 64 N, 0 to 64 N/ 0 to 128 N (2 ranges)
Specimen	W63 ± 1 mm, L100 ± 2 mm
Slit Length	20 mm (Rest 43.0 ± 0.5 mm)
Chuck	W45 mm, D16.0 ± 0.5 mm, Spacing 2.8 ± 0.3 mm
Option	Digital Display Ver., Air Chuck
Dimensions/ Weight (Approx.)	W600 × D200 × H630 mm/ 30 kg

*Power source, dimensions, weight may differ by specifications.

No. 453 ICI TYPE PILLING TESTER

OTHER

No.453

JIS-(L1018), L1058, L1076, (JASO)

FEATURE

This tester is used to conduct piling tests on textile and fabric according to the ICI type piling test method. The operator is to wrap the test specimen onto a special rubber tube and put 4 specimen wrapped tubes into a rotating box with cork board linings. Rotating the box at a prescript rotating speed, the operator is to compare the degree of piling among the test specimens using standard piling determination references.

SPECIFICATION

Box Hangings	3 Hangings, 6 Hangings, 9 Hangings (3 kinds)
Specimen	100 × 120 mm
Specimen Box	Inner Dimensions 230 × 230 × 230 mm
Box Rotation Speed	60 ± 2 rpm
Rubber Tube	Outer Diameter φ31 mm (Rubber T3 mm), L150 mm, Mass 51 g
Timer	Max. 99 hr 59 min
Power Source	AC 100 V, 1-Phase, 10 A, 50/60 Hz
Dimensions/ Weight (Approx.)	3 Hangings: W1,410 × D550 × H820 mm/ 60 kg 6 Hangings: W1,410 × D550 × H1,200 mm/ 90 kg 9 Hangings: W1,410 × D550 × H1,600 mm/ 120 kg

No. 455 45° FLAMMABILITY TESTER FOR TEXTILE

No.455

JIS-A1322, L1091, L4404, Z2150

FEATURE

This tester is used for conducting A-1 Method (Flammability Test, 45° Micro Burner Method), A-2 Method (Flammability Test, 45° Meker Burner Method), B Method (Surface Flammability Test) and D Method (Flame Contact Method) test. Additional specifications are required for B Method testing.

For A-1 and A-2 Method testing, the flame height is adjusted according to standard, and the test specimen is heated for a prescript amount of time. The burnt area is measured after the after flame duration is timed.

For B Method Testing, the heat-source pressure is set to 3.92 kPa and the flame height is adjusted to 24 mm, and the test specimen is applied heat horizontally for 30 seconds.

For D Method testing, the flame height is set to 45 mm, and the coil-inserted specimen set at a 45° angle is heated on the lower and until the burning ends. The flame heat is then applied on the end of the burnt specimen until the 90 mm point has been reached. The test specimen is evaluated by the number of times required to reach the point.

SPECIFICATION

Test Method	Standard Spec	B Method Spec (Surface Flaming Test)
Specimen	A-1 and A-2 Method: 350 × 250 mm D Method: W100 mm, Mass 1 g Attaching Angle: 45°	220 × 400 mm
Burner	A-1 and D Method: Micro Burner, Flame Height 45 mm A-2 Method: Meker Burner, Flame Height 65 mm	Air Mix Burner: Flame Height 24 mm *Pressure of 3.92 kPa/hr
Timer	-	Heating Timer: Max. 999.9 sec Flaming: Max. 999.9 sec After-flame Timer: Max. 99999.9 sec After-glow Timer: Max. 99999.9 sec
Igniter	Automatic Ignition (Plug Method)	
Accessories	Specimen Holder (A-1 and A-2 Method), Specimen Holding Coil (D Method), Flame Height Measuring Stand, Remote Control Button	Pearlite Plate, Specimen Holder
Power Source	AC 100 V, 1-Phase, 3 A, 50/60 Hz	
Heat Source	Liquid Propane Gas Type 2 No.4	
Dimensions/ Weight (Approx.)	Main Body: W420 × D330 × H940 mm/ 22 kg	Main Body: W560 × D330 × H940 mm/ 25 kg
	Control Box: W370 × D300 × H220 mm/ 9 kg	

*Power source, dimensions, weight may differ by specifications.

No. 473 ICI TYPE MACE SNAG TESTER

OTHER

No.473

No.473
(Cabinet for Determination)

JIS-L1058, ASTM-D3939

FEATURE

This tester is used to conduct snag tests on textile and fabric according to the ICI type mace test method. Applying the spike ball (mace with needles) onto the test specimen which is attached to the rotating cylinder, the operator is to compare the degree of snag among the test specimens and by using the standard snag judgement reference after the test specimen has been rotated 100 times.

SPECIFICATION

Hangings	2 Hangings (Individual Motioning Type)
Specimen	200 × 330 mm
Mace	φ31.8 mm, Mass 160 g (Including Needles)
Needle	11 pcs, Top R0.127 mm, L9.5 mm
Rotating Drum	Outer Diameter φ82 mm (Rubber T3 mm), W210 mm
Drum Rotation Speed	60 rpm
Felt	T3.2 mm, W165 mm
Guide Rod	Outer Diameter φ10 mm, W122 mm
Counter	6 Digits Preset Counter
Drum-Guide Rod Distance	60 mm
Mace-Guide Rod Distance	46 mm
Accessories	Rubber Ring: 4 pcs, Setting Gauge: 1 pc, Specimen Setting Tool
Option	Safety Cover, Cabinet for Determination
Power Source	AC 100 V, 1-Phase, 5 A, 50/60 Hz
Dimensions/ Weight (Approx.)	Tester Body: W500 × D490 × H430 mm/ 40 kg Cabinet: W475 × D590 × H475 mm/ 30 kg

No. 476 CANTILEVER TYPE STIFFNESS TESTER

No. 476-M CANTILEVER TYPE STIFFNESS TESTER (ELECTRIC SYSTEM)

No.476

No.476-M

JIS-(L1018), L1096, (JASO)

FEATURE

■ No.476 CANTILEVER TYPE STIFFNESS TESTER

This tester is used to evaluate the stiffness of textile according to the 45° cantilever method. Placing one end of the test specimen on the top of the slide and sliding the test specimen towards the slide, the operator is to read the position where the other end of the test specimen touches the 45° slide.

■ No.476-M CANTILEVER TYPE STIFFNESS TESTER (ELECTRIC SYSTEM)

This tester is the electrically automated CANTILEVER TYPE STIFFNESS TESTER, for more stable data.

SPECIFICATION

Model	No.476	No.476-M
Specimen	20 × 150 mm	30 × 200 mm
Scale	0 to 150 mm (Scale 1 mm)	0 to 200 mm (Scale 1 mm)
Inclination Angle	45°	41.5°, 45° (Attachment)
Test Speed	-	60 to 300 mm/min
Accessories	Weight	Inclination Angle Attachment (41.5°, 45°), Weight, Single Ended Wrench, Spirit Level
Power Source	-	AC 100 V, 1-Phase, 3 A, 50/60 Hz
Dimensions/ Weight (Approx.)	W225 × D125 × H100 mm/ 2 kg	W500 × D250 × H270 mm/ 16 kg

*Power source, dimensions, weight may differ by specifications.