



HAIYOUUDA

Plastic and Rubber Testing Machine

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1. Plastic Chary & Izod Impact Tester

Application:

This instrument is a new type of multi-functional Chary and Izod integrated impact testing machine. It does not need to disassemble the fixture and sample holder. Two test methods are automatically switched. It is easy to use, simple to operate and high in test accuracy. It is mainly used for the determination of the impact toughness of non-metallic materials such as rigid thermoplastic molding and extrusion materials, hard thermosetting molding materials and fiber-reinforced thermosetting and thermoplastic composites

Equipment photo:



Test standards:

ISO 180: Plastics -- Determination of Izod impact strength

ISO 179: Plastics -- Determination of Charpy impact

ASTM D256: Determining the Izod Pendulum Impact Resistance of Plastics

Specification:

Izod Impact Test	Capacity	2.75J,5.5J
	Pre-elevation angle	150°
	Impact velocity	3.5m/s
	Pendulum center distance	335mm
	Blade filleted radius	R=0.8±0.2mm
	Impact blade to upper surface distance of the jaw	22mm±0.05mm
	Center sample block	One piece
Chary Impact Test	Pre-elevation angle	150°
	Capacity	1J, 2J,4J,5J
	Impact velocity	2.9m/s
	Pendulum center distance	230mm
	Support distance	40mm、60m、70mm、95mm
	Blade filleted radius	R=2mm±0.5mm
	Impact blade angle	30°±1°
	Center sample block	One piece
Power	AC220V±10% 50/60HZ	

2. Rubber Low Temperature Brittleness Tester

Application:

The rubber low-temperature brittleness tester is used to check the highest temperature when the sample is damaged by the impact of the vulcanized rubber under the specified conditions, that is, the brittleness temperature. Also the performance of the non-hard plastic and other elastic materials under low temperature conditions can be comparatively identified. The brittle temperature and low temperature properties of vulcanized rubbers of different rubber materials or different formulations can be determined. Therefore, it is indispensable in the quality inspection of scientific research materials and their products, and the control of production processes.

Equipment photo:



Test standard:

ISO 812: Rubber, vulcanized or thermoplastic-Determination of low-temperature brittleness, IDT

Specification:

Temperature control range	0 ~ 70 ° C
Cooling speed	about 2 hours(under room temperature 23~25° C)
Temperature fluctuation	<±0.5°C within 3 minutes
Cooling medium	ethanol or other antifreeze
Mixing motor power	15W
Power	1 phase, AC 220V~240V, 50Hz, 2KW
Dimension	L*W*H: 200 × 140 × 100mm

Structural principle:

1. The sample holder should be rigid and designed to clamp the sample in a cantilever beam. Each sample should be clamped stably and securely without deforming the holder. The impact head moves in a direction perpendicular to the upper surface of the specimen and impacts the specimen at a test linear velocity of 2.0 ± 0.2 m/s, and the moving speed after impact is maintained at least within 6 mm. In order to achieve the specified impact velocity during and after the impact, care should be taken to ensure sufficient impact energy, requiring at least 3.0 J of impact energy per sample. Therefore, it is necessary to limit the number of impact samples per test.
2. The sample holder: A sample can be clamped 5 times at a time, and B sample can be clamped 10 times at a time.
3. Impact device: The impact device consists of an impact hammer and a self-locking mechanism.
4. Impactor:
 - a) Punch radius: 1.6 ± 0.1 mm;
 - b) Punch center line and fixture clearance: 6.4 ± 0.3 mm;
 - c) Punch outer side and clamp clearance: 8.0 ± 0.3 mm

3. Rubber Compress Set

Application:

Compression set tests are intended to measure the ability of rubber compounds to retain elastic properties after pro-longed action of compressive stresses.

Equipment photo:



Test standard:

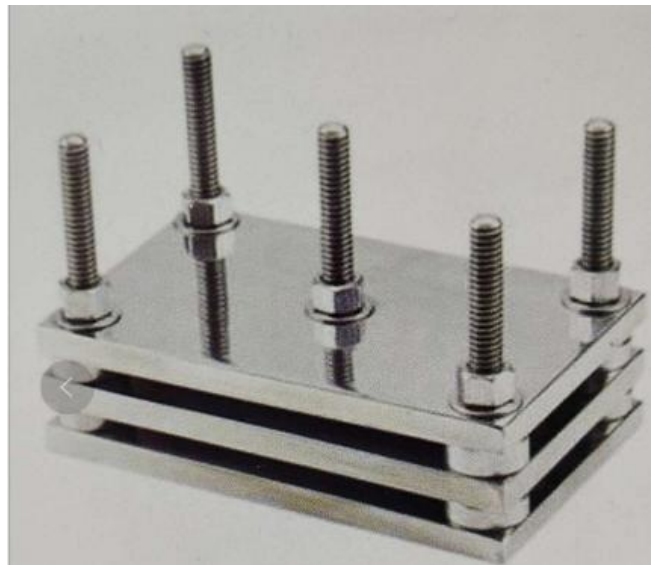
ASTM D395: Rubber property-Compression set method A

4. Rubber Compress Set

Application:

Compression set tests are intended to measure the ability of rubber compounds to retain elastic properties after pro-longed action of compressive stresses.

Equipment photo:



Test standard:

ASTM D395: Rubber property-Compression set method B

ISO 815: Rubber, vulcanized or thermoplastic –Determination of compression set-
part 1

5. Rubber Rebound Resilience Tester

Application:

The rubber rebound resilience tester shall be measured by means of an apparatus consisting of a pendulum-like one degree of freedom mechanical oscillatory device and heavy and secure test piece holder.

Equipment photo:



Test standard:

ISO 4662: Rubber, vulcanized or thermoplastic-Determination of rebound resilience - pendulum method

Specification:

Indentor diameter	$\Phi 12.45 \text{ mm} \sim 15.05 \text{ mm}$
Sample thickness	$12.5 \pm 0.5 \text{ mm}$
Impacting mass	$0.34 \text{ kg} \sim 0.35 \text{ kg}$
Impact velocity	$1.4 \text{ m/s to } 2.0 \text{ m/s}$
Apparent strain energy density	$324 \text{ kJ/m}^3 \sim 463 \text{ kJ/m}^3$
Indication error	$\pm 0.5\%$
Dimensions	$L*W*H: 320 \times 200 \times 360 \text{ mm}$
Machine weight	20 kg

6. Ross Flexing Tester

Application:

This machine is designed for determining the resistance of rubber products, soles, PU, PVC, TPR, etc. to vertical flex. The deterioration, damage and crack are checked after repeatedly flexing the specimen. It has the memory function.

Equipment Photo:



Test standard:

ASTM-D1052、SATRA TM60、ISO 20344、ISO 5423-1992

Specification:

Grips	6 sets , it can test 12 pieces
Counter	LCD, 0~999,999
Speed	100±5 r/min
Flexing angle	90±2°
Dimension (W×D×H)	62×54×45 cm
Machine weight	56kg
Power	1 φ ,AC220V±10%,50Hz (Specified by user)

7. DIN Abrasion Tester

Application:

This machine is designed for determining the resistance of polyester soles, outsoles and polymer sheet materials. The abrasive resistance is assessed by measuring the abrasion loss after the specimen is rubbed against sandpaper.

Equipment Photo:



Test standard:

BS-903、ISO-4649、JIS-K6264、SATRA TM174、ASTM-D5963、ISO 20871:2001、BS EN 12770:2000

Specification:

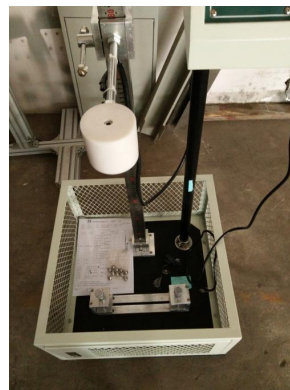
Load	2.5±0.1N, 5±0.1N, 10.0±0.2N
Abrasion distance	40±0.2m (corresponding to 84 drum rotations)
Lateral displacement of clamp	4.20±0.04mm (per rotation of drum)
Sandpaper	#60 grit, 1±0.2 mm average thickness, 400 × 473 mm (W×L)
Abrasion path	40m / 20m
Drum rotating speed	40±1 rpm
Dimension (W×D×H)	75×40×40cm
Weight (approx.)	50kg
Power	1 ϕ AC 220V \pm 10%, 50Hz (or specify)

8. Falling Ball Impact Tester

Application:

This machine is designed to check the collision of finished products or components such as plastics during the installation process, so as to evaluate whether the product structure is defective. The steel ball with a certain weight can freely fall at a certain height and hit the sample. , components, to observe the degree of product damage.

Equipment photo:



Specification:

Drop height	0~2000mm
Drop height accuracy	1mm
Control mode	Electrical solenoid control, lifting height adjusted manually
Test sample size	≤280x100x40mm
Weights	112g、198g、225g、357g、533g、1041g、2280g
Protection cabinet	Cabinet to avoid test sample and weights fall out
External Dimension	W*D*H: 500mm×500mm×2100mm
Package Dimension	W*D*H: 221mm×610mm×630mm
Power	Single phase, 220V, 50Hz

9. Dupont Impact Tester

Application:

It is suitable for plastics, ceramics, acrylic, fiberglass and other materials. Place the test piece under the head of the machine, and check the damage and deformation after falling under a certain height.

Equipment photo:



Test standard:

JIS K5600-5-3、ASTM D2794、JIS K5400

Specification:

Sample	Coating specimens	Plastic specimens
Max height	50~500mm	50~1000mm
Impact head radius	1/2,1/4,3/16,1/8,1/16in, 5mm	7.9mmR(5/16"R)
Impact platform radius	Plane 1/4,3/16,1/8,1/16in	8.1mmR, 15mmR
Weight	300,500,1000g each one	1000g,2000g each one
Balls control method	Manual setting	
Machine dimension(L×W×H)	500×500×1500mm	

10. Moving Die Rheometer

Application:

The tester is rotorless die oscillation rheometer, which is used to determine viscosity and elasticity of rubber. It adopts temperature control system with digital microprocessor to improve the temperature feedback, highly sensitive torque measurement system, and LCD touchscreen, which allow user to operate the Tester independently or with computer connected.

Equipment photo:



Test standard:

ASTM-D5289、ISO-6502

Specification:

Temperature Range	Room temperature to 200° C
Temperature Resolution	0.01°C
Rate of temperature increase	30°C ~ 180°C within 10 minutes
Torque Range	0-20N.M
Torque Resolution	0.001N.M
Swing Angle	±1° (standard) ±0.5° , , ±2° , ±3° (optional)
Swing speed	100r/min(1.66HZ)
Air pressure	4 kg/cm ²
Power	1 phase, AC 220V ± 10%, 50Hz

11. Mooney Viscometer

Application:

Mooney viscometer is used for testing reclaimed rubber or gross rubber viscosity, etc. Adopting a new microprocessor and LCD touch screen with built-in automatic balance and calibration device, it can automatically calibrate by pressing the button. With an accurate specimen temperature control system and high torque measuring precision, this machine is highly sensitive to changes in rubber materials, and has a better repeatability and reproducibility.

Equipment photo:



Test standard:

ASTM D1646、ISO 289、JIS K6300

Specification:

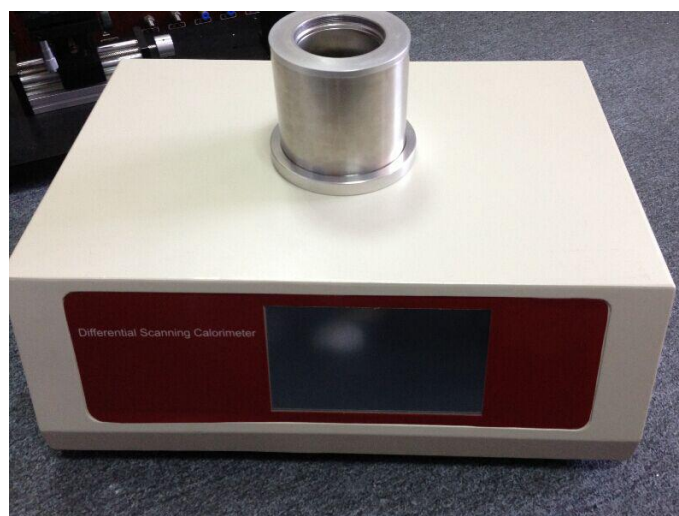
Temperature Range	Room temperature to 200° C
Temperature Resolution	0.01°C
Temperature Control Accuracy	±0.3° C
Rotor Speed	2±0.02 R/M
Torque Range	0-200MV
Torque Resolution	0. 1MV
Test Report	Date, Temperature, Mooney scorch curve, MV, T5, T35, T3, T18, @15, @30

12. Plastic Calorimeter (OIT Tester)

Application:

This machine has an intelligent, miniaturization, unit combination takes three major characteristics of the new type of thermal analysis instrument. It is widely used in material melting and solidification, decomposition, combination, reduction oxidation, crystallization, phase diagram production, the catalyst development, is organic, inorganic and polymer, mineral, oil chemical industry, textile, medicine, etc, the main analysis method with convenient computer data processing system.

Equipment photo:



Specification:

Temperature range	Room temperature ~500°C
Temperature resolution	0.1 °C
Heating rate	0.1 ~ 80 °C / min
DSC range	0 ~ + 500 mW
DSC resolution	0.01 mW
DSC sensitivity	0.1 mW
Gas flow rate	0-200mL/min
Gas pressure	0.2MPa
Gas flow accuracy	0.2mL/min
Power	Single phase, AC 220V, 50Hz
Accessory	One set computer& software

13.Melt Flow Tester

Application:

Melt Flow Index Tester is used to test the flowability of thermoplastic polymer under high temperature, such as polyethylene, polypropylene, pom, ABS resin, polycarbonate, nylon fluorine and other plastic polymers. The automatic temperature control methods of the machine three kinds of blanking ways, manual, timing and automatic control according to operation method, which can realize melt-mass flow rate (MFR) and melt-volume flow rate (MVR) two test methods.

Equipment photo:



Test standard:

ASTM-D1238, ISO 1133

Specification:

Temperature range	Room temperature~450°C
Testing range	0.1-300.00g/10min (MFR); 0.1-800.00 cm ³ /10min(MVR)
Temperature fluctuation	±0.2°C
Time resolution	0.1s
Displacement accuracy	0.01mm
Load	325g, 1200g, 2160g, 3800g, 5000g, 7160g, 10000g, 21600g
Material cutting method	Manual, timing and automatic cutting (optional)
Time setting	0.1~999.9min
Cylinder	Diameter 9.5504±0.0076mm
Land of piston	Diameter 9.4742±0.0076mm, length: 6.35±0.13mm
Thin hole pattern	External diameter: 9.5±0.02mm; bore diameter 2.0955±0.0051mm; length 8.00±0.025mm
Weight	42kg (not including the weights)
Output result	Micro printer
Power	1 phase, AC220V, 50Hz

14. HDT/VICAT Tester

Application:

It is designed to measure heat deflection temperature and VICAT softening temperature for evaluation of thermal property of plastic materials. This tester features high precision temperature ramp rate control. LVDT sensor is used on each station to ensure high accuracy of deflection measurement. The operator can easily monitor real-time graph, start cooling, modify test condition and edit test report in a few simple steps.

Equipment Photo:



Test standards:

ASTM-D1525、ASTM-D648、DIN53460、DIN53461、ISO-306、ISO-75

Specification:

Temperature range	Room temperature - 300°C
Heating rate	(120±10)°C/h (12±1°C/6min); (50±5)°C/h(5±0.5°C/6min)
Temperature error	0.1°C
Temperature accuracy	±0.5°C
Max. deflection error	±0.001mm
Deflection measuring range	0-1.5mm
Test position	3
Load pole and pallet weight	68g
Heating power	4KW
Cooling method	Natural cooling
Power	Single phase, 220V, 50Hz
Dimension	540mm×520mm×970mm

15. UL 94 Flammability Tester

Application:

This tester is suitable for the inspection and evaluation of the burning characteristics of plastic materials. It is equipped with a gas flow meter to adjust the size of the flame, using motor drive, simple and safe operation.

Equipment photo:



Test standard:

UL94、IEC60695

Specification:

Inner chamber size	$\geq 0.5^3$, with glass window observation door
Flame time	0~99min99s, can be set
After flame time	0~99min99s, can be set
Residual time	0~99min99s, can be set
Angle	20 °, 45 °, 90 ° (adjustable)
Four counter	preset spark timing, flame retardant timing, burnout timing, residual timing
Burner size	The inner diameter of the nozzle is $\varnothing 9.5$ mm, and the effective length of the nozzle is 100mm. With air conditioning hole
Flame height	can be adjusted from 20mm to 175mm
Power	1 phase, AC 220V / 50Hz

16. Gloss Wire Tester

Application:

Glow Wire Tester is heating the specified material Ni80/Cr20 and shape wire to testing temperature (550 °C ~ 1000 °C) by large current in 1min, use specified pressure (1.0N) vertical iron the specimen 30s. Observe if the specimen is light-off or light time to determine the fire risk of electric and electronic product, test the ease of ignition, GWIT, flammability and GWFI of solid insulation material and other solid combustible material.

Equipment photo:



Test standard:

IEC 60695-2-10 & IEC 60695-2-11

Specification:

Controller	PLC Touch screen interface
Glow wire	4mm ± 0.04mm Ni/Cr(80/20)
Thermocouple	0.5mm K type, Imported insulation type thermocouple
Glow wire electric heating temperature	500℃~1000℃ (digital display) Fluctuation < 3℃
Pressure of Specimen to glow wire	1.0N±0.1N, adjustable
Max. ironing depth	7mm ± 0.5mm, adjustable
Specimen moving speed	10mm /s~25mm /s
Testing time	30s±0.1s (1s~999.9s, digital display)
Standard silver foil	Thickness 0.06mm, purity ≥99.8%
Ignition floor plate thickness	Adopt 10mm white pine wood covered with standard silk paper
Test area	≥ 0.5m ³ , black background ≤ 20Lx
Machine dimension(W*D*H)	1160×550×1050mm, Air outlet hole Ø100mm
Weight	80kg
Power	AC220V, 50-60Hz, single phase
Test standard	IEC 60695-2-10 & IEC 60695-2-11
Accessory	10mm white pine wood plate x 1pc Silk paper x 20pc Calibration silver foil x 5pcs

17. Density Meter

Application:

It is used to measure plastic, rubber or other materials density.

Equipment photo:



Specification:

Measuring range	0.05g-300g
Density analysis	0.001g/cm ³
Minimum weighing range	0.05g
Power	1 phase, AC 220V, 50Hz

18. Digital SHORE A Durometer

Application:

It is used to measure rubber hardness by shore A method.

Equipment photo:



Specification:

Measuring range	0-100HA
Stroke	2.5mm
Method	Digital
Needle head diameter	$\phi 0.79\text{mm}$
Resolution	0.5
Needle end pressure	0.55N-8.05N

19. Digital SHORE D Durometer

Application:

It is used to measure rubber hardness by Shore D method.

Equipment photo:



Specification:

Measuring range	0-100HA
Stroke	2.5mm
Method	Shore D
Needle head diameter	ϕ 0.79mm
Resolution	0.5
Needle end pressure	0-44.5N

20. Muffle Furnace

Application:

The muffle furnace is mainly used to test the ash content of plastics, rubber, paper products, sponges and other products after high temperature combustion, so as to judge the quality of the product materials.

Equipment photo:



Specification:

Internal dimension (W*D*H)	120*80*200mm
External dimension (W*D*H)	580*850*590mm
Temperature range	Room temperature ~ Max. 1000°C
Temperature precision	±5°C
Controller	Digital temperature controller
Voltage	Three-phase, 380V, 50Hz
Power	2.5KW