Class J – Charpy and Izod Automatic Impact Testing System – 1J – 50J

Standards: ISO 179, ISO 180, ASTM D6110, ISO 13802, ISO 8256, ISO 9854.1, ASTM D256, ASTM D1822, ASTM E74 (Class AA), ISO 376

- ULTIMATE USER-FRIENDLINESS
- LEADING DEPENDABILITY AND RELIABILITY
- STRICT COMPLIANCE WITH INDUSTRY STANDARDS
- STOCKED CONSUMABLES AND SPARES
- TRUSTED AFTER SALES TECHNICAL SUPPORT
- LIFETIME PRODUCT SUPPORT ADVANTAGE

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Function

Class J Impact Testing System is widely used for Izod and Charpy impact test on plastics and rubber specimens. Equipped with tensile impact pendulum and fixtures, it can carry on tests on plastic film and sheet. The newly enhanced design offers the most cost-effective configuration to address Charpy test from 1J to 50J (0.7 - 37 ft/lbs), and Izod test from 1J to 22J (0.7 - 16 ft/lbs). Learn more about the full scope of plastic impact testing procedure.

Features

High Resolution
Using a shaftless encoder allows angle resolution of 0.045 °

Energy Losses
Shaftless encoder for angle measurement rotates without friction, thereby offering the lowest energy loss.

Touch Screen Display
Touch screen provides easy setup of specimen dimensions, pendulum energy, units and calibration data. The unit can also intuitively display test results such as absorbed energy and impact toughness

Interchangeable Pendulum
Simply change the pendulum to satisfy Charpy, Izod and tensile impact tests

Supports and Anvils
Supports are firmly tightened and only require the remove of two bolts to change the supports

Broader Test Space
Single column structure offers broad test space. The machine allows for easy installation of low temperature impact test accessories in the future

Watch Video

Watch the Class J – Charpy and Izod Automatic Impact Testing System – 1J – 50J product video.

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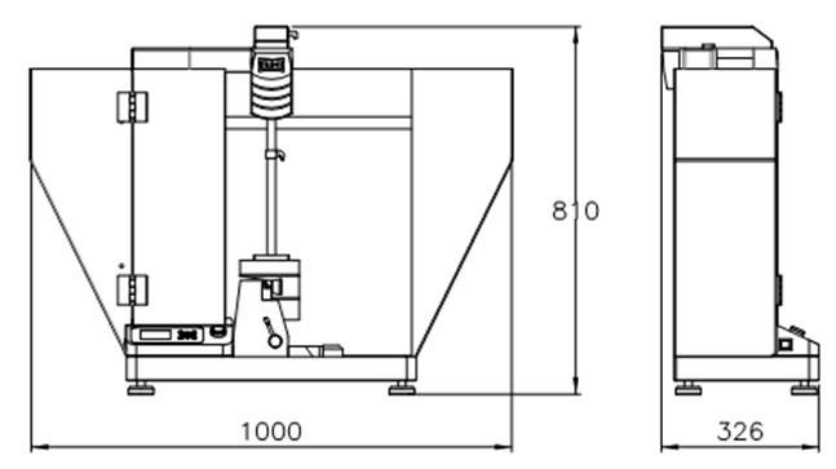
Machine Dimensions and Specifications



1. Capacity

Test type	Standard	Pendulum
Charpy for plastics	ISO179, GB/T 1043	1J (0.7 ft/lbs), 2J (1.5 ft/lbs), 4J (2.95 ft/lbs), 7.5J (5.5 ft/lbs), 15J (11 ft/lbs), 25J (18 ft/lbs), 50J (37 ft/lbs)
	ASTM D6110	2.7J (2 ft/lbs), 5.4J (4 ft/lbs), 10.8J (8 ft/lbs), 21.6J (16 ft/lbs)
Charpy for plastic pipe	ISO 9854.1	15J (11 ft/lbs), 50J (37 ft/lbs)
Izod	ISO 179, GB/T1843, GB/T1844	2.75J (2 ft/lbs), 5.5J (4 ft/lbs), 11J (8 ft/lbs), 22J (16 ft/lbs)
	ASTM D256	2.7J (2 ft/lbs), 5.4J (4 ft/lbs), 10.8J (8 ft/lbs), 21.6J (16 ft/lbs)

Test type	Standard	Pendulum
Tensile impact	ISO 8256, GB/T 13525	7.5J (5.5 ft/lbs), 15J (11 ft/lbs), 25J (18 ft/lbs)
	ASTM D1822	7.5J (5.5 ft/lbs), 15J (11 ft/lbs), 25J (18 ft/lbs)

2. Pendulum Movement

Charpy	1J (0.7)	0.5358983 Nm	Izod	1J (0.7)	0.5358983 Nm
2J (1.4)	1.0717967 Nm	2.75J (2)	1.4737205 Nm		
4J (3)	2.1435935 Nm	5.5J (4)	2.94744 Nm		
7.5J (5.5)	4.0192 Nm	11J (8)	5.8949 Nm		
15J (11)	8.0385 Nm	22J (16)	11.7898 Nm		
25J (18.5)	13.397 Nm				
50J (37)	26.795 Nm				
Tensile impact	7.5J (5.5)	4.01923 Nm			
	15J (11)	8.03847 Nm			
	25J (18.5)	13.39745 Nm			

3. Angle of striking: 150°

4. Angle resolution: 0.045°
Reading resolution of digital display: 0.01J

5. Power supply: AC220V, 50Hz, 0.3kW

6. Machine dimension (LxWxH): 40" x 12" x 30" / 1000x300x760mm

7. Weight: 310lbs. / 140kg

8. Charpy Test for Plastics

Items	ISO 179, GB/T 1043	ASTM D6110
Angle of striking	150°	150°
Velocity of striking	2.9m/s (≤5J - 3.7 ft/lbs), 3.8m/s (>5J - 3.7 ft/lbs)	3.46m/s
Distance from the axis of support to the center of percussion	230mm(≤5J - 3.7 ft/lbs), 395mm(>5J - 3.7 ft/lbs)	327mm
Span	40mm, 60mm, 70mm (can be adjusted by span block)	95.3mm
Radius of striker edge	2±0.5mm	3.17±0.12mm
Specimen dimension (LxWxH)	80x10x4mm	127x12.7x(3~12.7)mm

9. Charpy Test for plastic pipe

Standard	ISO 9854.1
Angle of striking	150°
Velocity of striking	3.8m /s
Distance from the axis of support to the center of percussion	395mm
Span	40mm, 60mm, 62mm, 70mm
Radius of striker edge	3.17±0.12mm

Specimen dimension Length x width x thickness (mm)	Type	Length	Width	Thickness	Support span
1	100±2	Whole pipe		70±0.5	
2	50±1	6±0.2	e	40±0.5	
3	120±2	15±0.5	e	70±0.5	
Note: e is the machining pipe thickness					

10. Izod Test

Standard	ISO 180	ASTM D256
Angle of striking	150°	145.2°
Velocity of striking	3.5m/s	3.46m/s
Distance from the axis of support to the center of percussion	335	
Striking knife center to vice upper surface	22±0.2mm	
Radius of striker edge	0.8±0.2mm	
Specimen dimension (LxWxH)	80×10×4mm, 63.5×12.7×12.7mm 63.5×12.7×6.4mm, 3.5×12.7×3.3mm	

11. Tensile Impact Test

Standard	ASTM D1822	ISO 8256
Angle of striking	150°	150°
Velocity of striking	3.46m/s	3.8m/s

Standard	ASTM D1822	ISO 8256
Distance from the axis of support to the center of percussion	327mm	395mm
Crosshead mass	60±1g, 120±1g	
Maximum specimen thickness	4mm	

Standard Accessories

Model	NGI-501J	
Type	J-2	J-3
Main machine	1 set	1 set
Angle encoder (shaftless)	1 set	1 set
Controller with digital display	1 set	1 set
Electromagnetic hook	1 set	1 set
Maintenance tools	1 set	1 set
Half protection shield	1 set	1 set
Software	N/A	1 set
Micro-printer	1 set	N/A

Optional Accessories

Test	Type	Description
NGI-501J		
Charpy (Plastics)	Chapry pendulum (ISO 179)	1J (0.7 ft/lbs), 2J (1.5 ft/lbs), 4J (2.95 ft/lbs), 7.5J (5.5 ft/lbs), 15J (11 ft/lbs), 25J (18 ft/lbs), 50J (37 ft/lbs)
	Chapry pendulum (ASTM D6110)	2.7J (2 ft/lbs), 5.4J (4 ft/lbs), 10.8J (8 ft/lbs), 21.6J (16 ft/lbs)
	Charpy support	
	Charpy span block	
	Charpy notch centering block	
Charpy (Plastic pipes)	Chapry pendulum (ISO179)	15J (11 ft/lbs), 50J (37 ft/lbs)
	Supports for convex test piece	
	Supports for bar specimen	
	Charpy span block (40mm, 70mm)	
Izod	Izod pendulum (ISO180)	2.75J (2 ft/lbs), 5.5J (4 ft/lbs), 11J (8 ft/lbs), 22J (16 ft/lbs)
	Izod pendulum (ASTM D256)	2.7J (2 ft/lbs), 5.4J (4 ft/lbs), 10.8J (8 ft/lbs), 21.6J (16 ft/lbs)
	Izod vise jaw	
	Izod notch centering block	

Test	Type	Description
Tensile impact	Tensile impact pendulum (ISO 8256)	7.5J (5.5 ft/lbs), 15J (11 ft/lbs), 25J (18 ft/lbs)
	Tensile impact pendulum (ASTM D1822)	7.5J (5.5 ft/lbs), 15J (11 ft/lbs), 25J (18 ft/lbs)
	Tensile impact anvil	
	Tensile impact crosshead	60g, 120g

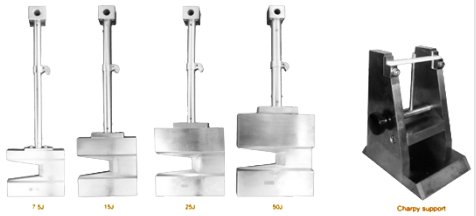
Test Method vs. Pendulum Energy

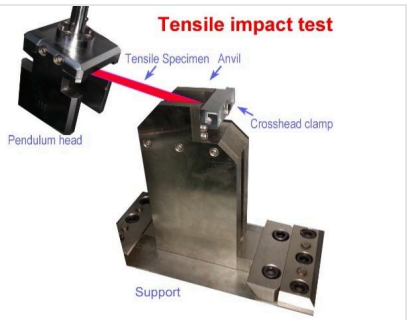
No.	Standard	Type	Velocity(m/s)	Energy - J (ft/lbs)
1	GB/T 1043	Charpy	2.9	1 (0.7), 2 (1.5), 4 (3)
2	GB/T 1043	Charpy	3.8	7.5 (5.5), 15 (11), 25 (18.4), 50 (37)
3	ISO 179	Charpy	2.9	1 (0.7), 2 (1.5), 4 (3)
4	ISO 179	Charpy	3.8	7.5 (5.5), 15 (11), 25 (18.4), 50 (37
5	GB/T 1843	Izod	3.5	2.75 (2), 5.5 (4)
6	GB/T 1844	Izod	3.5	5.5 (4), 11 (8), 22 (16)
7	ISO180	Izod	3.5	2.75 (2), 5.5 (4)
8	ISO180	Izod	3.5	5.5 (4), 11 (8), 22 (16)
9	GB/T 13525	Tensile	3.8	7.5 (5.5), 15 (11), 25 (18.4)
10	ISO8256	Tensile	3.8	7.5 (5.5), 15 (11), 25 (18.4)
11	ASTM D6110	Charpy	3.46	2.7 (2), 5.4 (4), 10.8 (8), 21.6 (16)
12	ASTM D256	Izod	3.46	2.7 (2), 5.4 (4), 10.8 (8), 21.6 (16)
13	ASTM D1822	Tensile	3.46	7.5 (5.5), 15 (11), 25 (18.4)

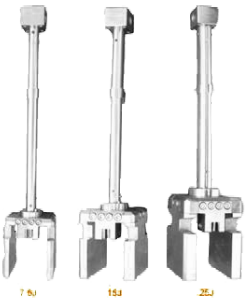
Pendulum Range Selection

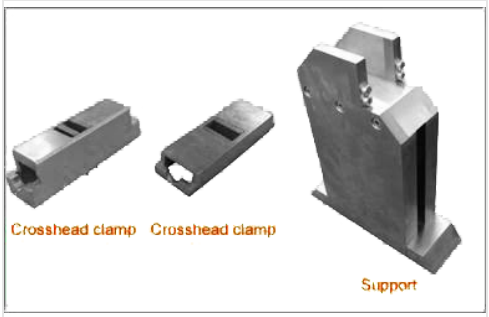
One machine is recommended to be equipped with less than 5 pendulums. More than 5 pendulums result in a more complicated calibration procedure.

1J	2J	2.7 J	2.75J	4J	5.4 J	5.5 J	7.5 J	10.8J	11J	15J	22J	25J	50J









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