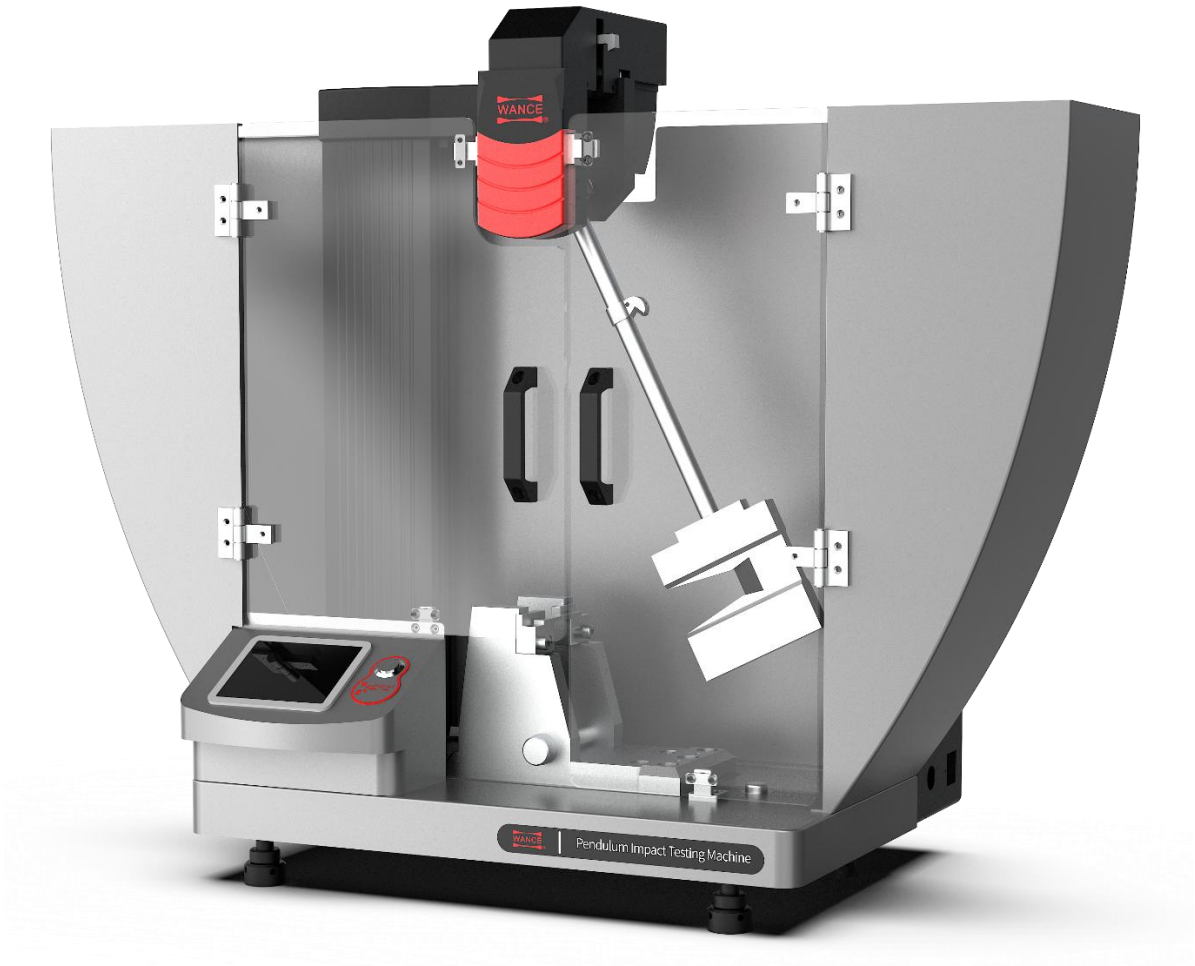
Pendulum Impact Testing Machine | PIT Series Type J



Functions

This series is widely used for Izod and Charpy impact test on plastics and plastic pipes. Equipped with tensile impact pendulum and fixtures, it can carry on tests on plastic film and sheet.

Newly designed model offers the most cost-effective configuration to address Charpy test from 1J to 50J, and Izod test from 1J to 22J.

Standards

ISO 179, ISO 180, ISO13802 ISO 8256, ISO 9854.1, ASTM D256, ASTM D1822, ASTM D6110

Features

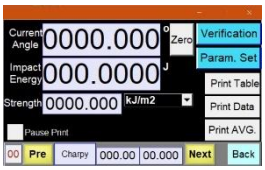
High resolution

Using a shaftless encoder allows angle resolution of 0.045 °

Energy losses

Shaftless encoder for angle measurement rotates without any friction; only support bearings friction and windage has the lowest energy losses

Touch screen display



Touch screen provides easy setup of specimen dimensions, pendulum energy, units and calibration data. Also it can intuitionally display test results: absorbed energy and impact toughness

Exchangeable pendulum

Simply change the pendulum to satisfy Charpy, Izod and tensile impact test

Center alignment

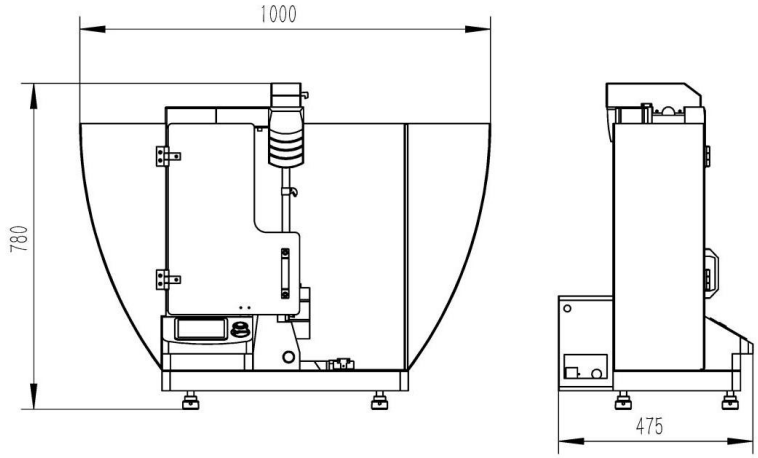
Rotating design is quick and accurate to align specimen center for Charpy test

Supports and anvils

Supports are tightened to seat by dovetail groove firmly; only need remove two bolts to change the supports

Broader test space

Single column structure offers broad test space, easy to install low temperature impact test accessories in the future



Machine dimension

Parameter

Model		PIT501J-2	PIT501J-3	PIT501J-4
Maximum impact energy		50J (depending on pendulums)		
GB, ISO	Charpy (J)	1, 2, 4, 5, 7.5, 15, 25, 50		
	Izod (J)	1, 2.75, 5.5, 11, 22		
	Instrumented Charpy (J)	7.5, 15, 25, 50		
	Instrumented Izod (J)	5.5, 11, 22		
	Tensile impact (J)	7.5, 15, 25		
ASTM	Charpy (J)	2.7, 5.4, 10.8, 21.6		
	Izod (J)	2.7, 5.4, 10.8, 21.6		
Charpy (GB, ISO)	Pendulum length (mm)	230 (≤4J), 395		
	Velocity of striking (m/s)	2.9 (≤4J), 3.8		
	Angle of striker tip (°)	30±1		
	Radius of striker edge (mm)	2±0.5		
	Radius of curvature of anvils (mm)	1±0.1		
	Angle of slope of anvils (°)	5±1		
	Angle of taper of anvils (°)	10±1		
	Angle of striking (°)	150		
	Chapry support span (mm)	40, 60, 62, 70		
Izod (GB, ISO)	Pendulum length (mm)	335		
	Velocity of striking (m/s)	3.5		
	Angle of striker tip (°)	75		
	Radius of striker edge (mm)	0.8±0.2		
	Angle of slope of striker (°)	5		
	Angle of taper of stricker (°)	10		
	Angle of striking (°)	150		
	Izod vise radius (mm)	0.2±0.1		
Tensile impact (GB, ISO)	Pendulum length (mm)	395		
	Velocity of striking (m/s)	3.8		
	Angle of striking (°)	150		
	Crosshead mass (g)	60, 120		
Charpy (ASTM 6110)	Pendulum length (mm)	327		
	Velocity of striking (m/s)	3.46		
	Angle of striker tip (°)	45		
	Radius of striker edge (mm)	3.17±0.12		
	Radius of anvil edge (mm)	3.17±0.12		
	Angle of striking (°)	150		
	Chapry support span (mm)	95.3		
Izod (ASTM D256)	Pendulum length (mm)	335		
	Velocity of striking (m/s)	3.46		
	Angle of striker tip (°)	80		
	Radius of striker edge (mm)	0.8		
	Angle of striking (°)	145.2		

	Izod vise radius (mm)	0.25	
Angle resolution (°)		0.045	
Energy resolution (FS)		Better than 1/2375FS	
Instrumented impact transducer capacity (KN)		/	2
Force transducer accuracy (FS)		/	≤1%
Response frequency (MHz)		/	800
AD resolution (bit)		/	16
Sampling frequency (MHz)		/	2
Machine weight (kg)		140	
Power supply		1-phase, 220V±10% 50Hz 300W	

Standard accessories

Model	PIT501J	
Type	J-2	J-3
Main machine	1 set	1 set
Angle encoder (shaftless)	1 set	1 set
Controller (WANCE) 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

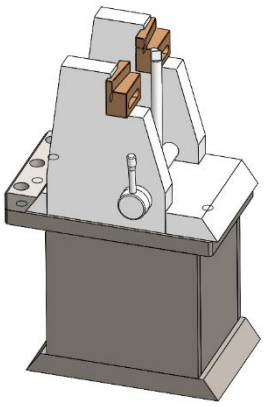
Optional accessories

Test	Name	Description
Charpy (Plastics)	Chapry pendulum (ISO 179)	1J, 2J, 4J, 5J, 7.5J, 15J, 25J, 50J
	Chapry pendulum (ASTM D6110)	2.7J, 5.4J, 10.8J, 21.6J
	Charpy support (ISO 179)	Including Charpy span block and Charpy notch centering block
	Additional seat for small pendulum	For 1J, 2J, 4J, 5J, mounted on standard support
	Charpy support (ASTM D6110)	
Izod	Izod pendulum (ISO180)	1J, 2.75J, 5.5J , 11J, 22J
	Izod pendulum (ASTM D256)	2.7J, 5.4J, 10.8J, 21.6J
	Izod vise jaw	
	Izod notch centering block	
Tensile impact	Tensile impact pendulum (ISO 8256)	7.5J, 15J, 25J
	Tensile impact pendulum (ASTM D1822)	7.5J, 15J, 25J
	Tensile impact anvil	
	Tensile impact crosshead	60g, 120g

Pendulum range selection

Group	No.	Standard	Test type	Energy	Specimen fixture
Low energy	1	GB/T 1043	Charpy	1, 2, 4, 5, 7.5	Charpy anvil
	2	GB/T 1843	Izod	1, 2.75, 5.5	Izod vise
	3	ISO 179	Charpy	1, 2, 4, 5, 7.5	Charpy anvil
	4	ISO180	Izod	2.75, 5.5	Izod vise
	5	ASTM D6110	Charpy	2.7, 5.4	**Charpy anvil ASTM**
	6	ASTM D256	Izod	2.7. 5.4	Izod vise
High energy	1	GB/T 1043	Charpy	7.5, 15, 25, 50	Charpy anvil
	2	GB/T 1843	Izod	11, 22	Izod vise
	3	ISO 179	Charpy	7.5, 15, 25, 50	Charpy anvil
	4	ISO180	Izod	11, 22	Izod vise
	5	GB/T 13525	Tensile impact	7.5, 15, 25	Tensile impact fixture
	6	ASTM D6110	Charpy	10.8, 21.6	**Charpy anvil ASTM**
	7	ASTM D256	Izod	10.8, 21.6	Izod vise
Remark: to ensure qualified calibration, please select the suitable pendulum energy from the same group. If you want to use pendulums from both low and high energy, please contact us.					

CHARPY



Additional seat for Charpy 1J, 2J, 4J, 5J

IZOD