

Description

WANCE offers PIT452G pendulum impact testing machine designed for determining the impact resistance of metallic materials under dynamic loading.

This series is engineered for maximum accuracy, simplicity of design, ease of operation and safety, and performs standard notched bar impact tests.

Equipped with force transducer, precise data sampling and measurement system, it fully satisfies instrumented impact tests complying with international standards.

Standards

ASTM E23, ASTM E1820, ASTM E2298,
ISO 148, EN10045,
GB/T 3808, GB/T 229, JIG145, JIG
609



Significance and use

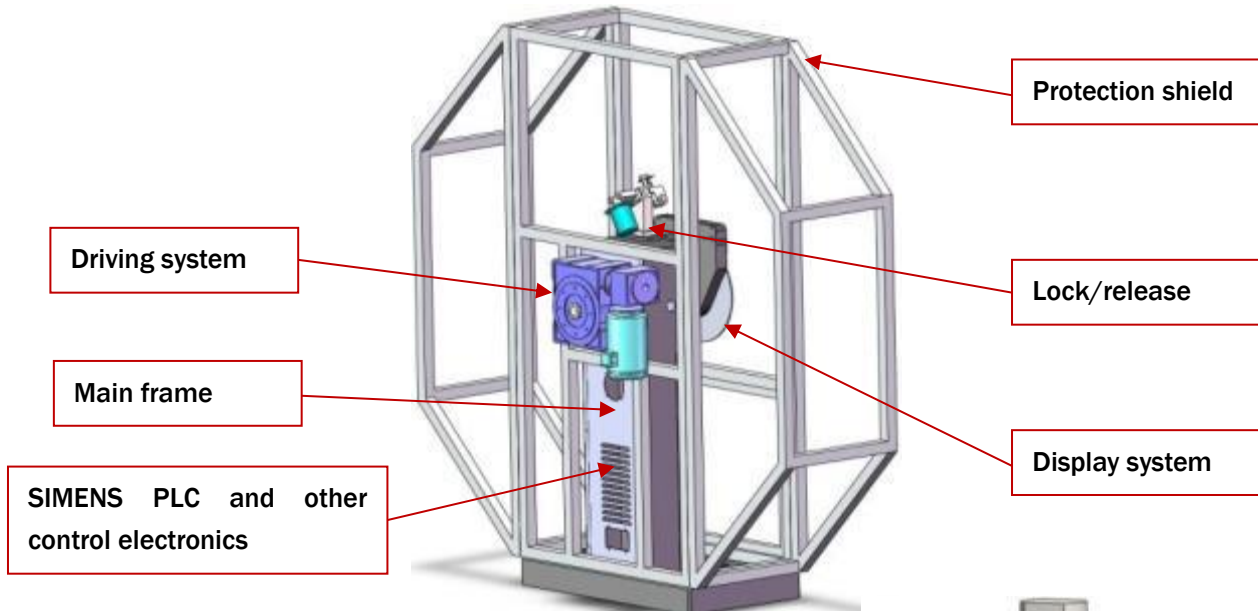
Compared with traditional pendulum impact testing machine, instrumented type is more useful for accurate analysis of material property during crack, facilitating the engineers to understand the most fragile part of materials when developing new materials.

In addition to providing an measure of total absorbed energy (W_t), instrumented testing enables the determination of characteristic force, energy, and displacement parameters, such as the pre-maximum force energy (W_m); the post maximum force energy; the general yield force (F_{gy}); the force at brittle fracture initiation (F_{bf}); the arrest force (F_a).

Wance is the leading R&D and manufacturing of instrumented impact testing system in China, and has experienced experts for force transducer design. Combined with our high speed data sampling system, Wance provides the full complement of solutions for laboratory, ranging from 0.1J for engineering plastic to 100,000J for steel DWTT test.

Machine structure

The basic model consists of a heavy steel base on which the specimen holder (anvil) and a heavy-duty cast steel upright are mounted.

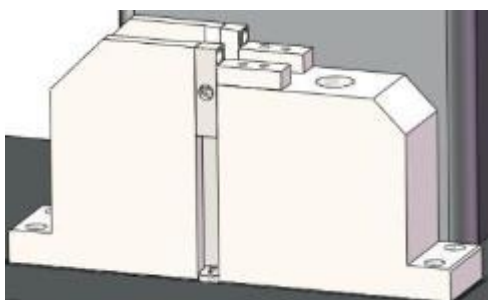
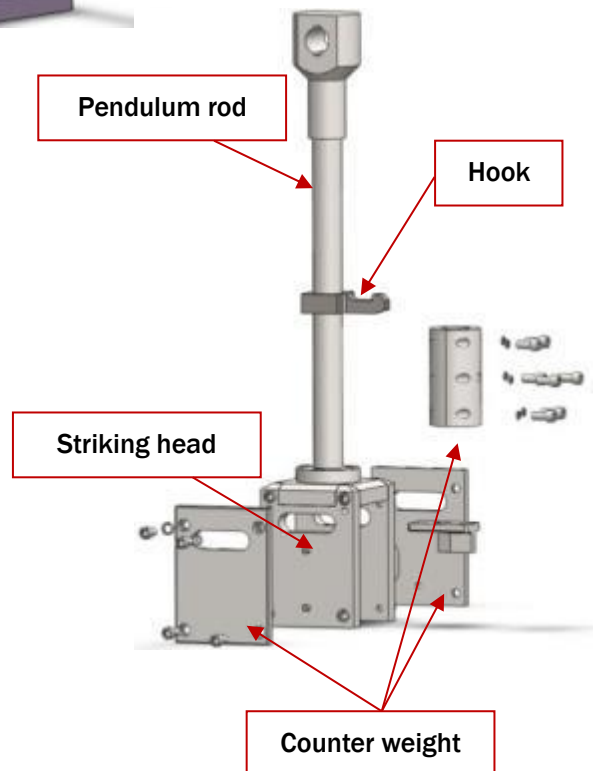


Pendulum & Anvil/Vice

High stiffness pendulum rod ensures no vibration after impact.

Changing counter weight is simple to change pendulum capacity, switching between 450J and 300J.

Customer can change striking knife according to test standard requirements, such as R2 for ISO/GB standard, R8 for ASTM, or R2/R8 instrumented knife, or Izod knife complying with ASTM E23.

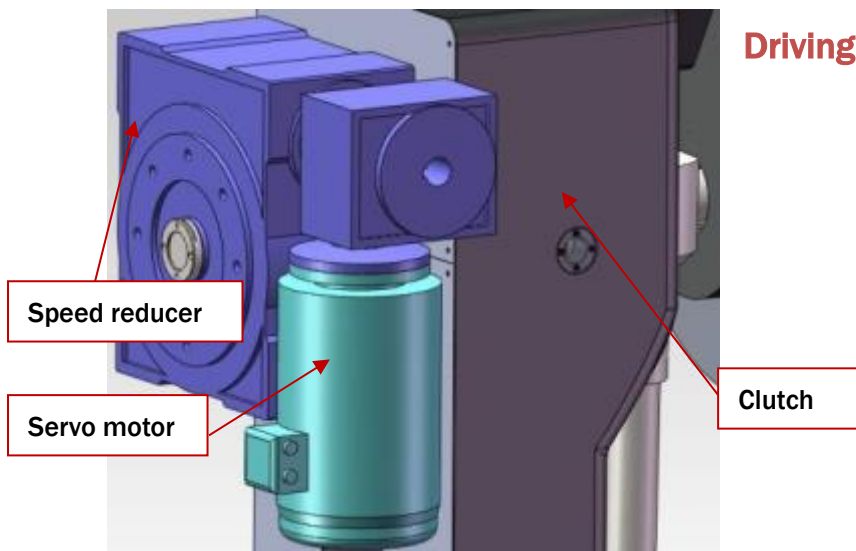
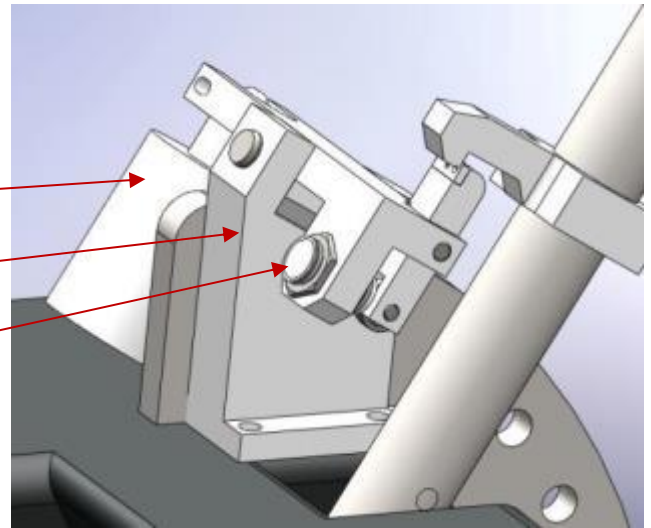


Specimen holders have a few options, such as Charpy anvil, Izod vice, Brugger test fixture and wedge test fixture.

Pendulum lock & release system

It features damping design during pendulum locking to prevent any damages, lower noises and improve durability and safety.

- Electromagnet
- Lock/release
- Damping cylinder

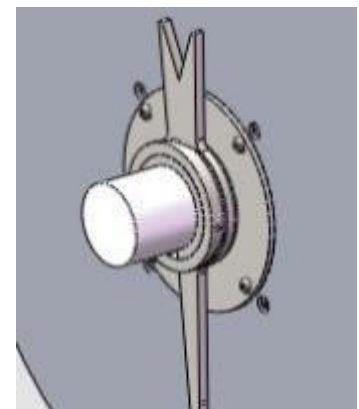


Driving system:

This series adapts standard double speed reducer instead of old complicated driving system, featuring simple structure, easy repair, and high durability and free of maintenance.

Angle measurement system

Japanese made NEMICON high precision optical encoder is used for angle measurement, angle resolution can reach 0.025° to ensure high accuracy of impact energy.



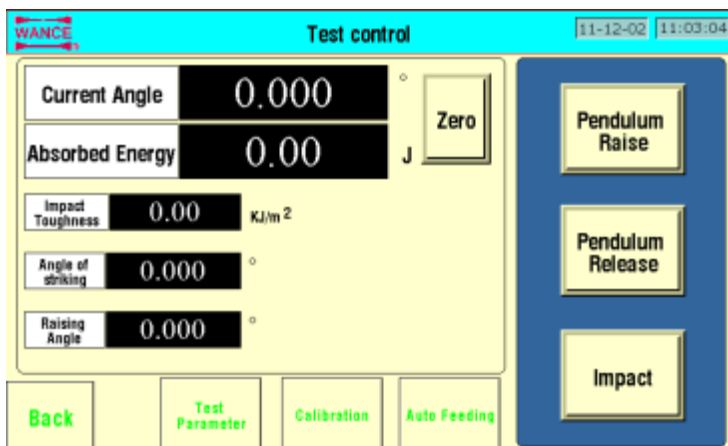
Safety system:

This series of machine has fully closed protection shield to protect operator against specimen splitting during test, and to deny any access to the inside during test. Built-in door interlock further ensures operator safety. The protection shield is constructed with aluminum alloy profile for frame and fiber glass for easy observation. Split-type door design is simple to repair and change pendulum.

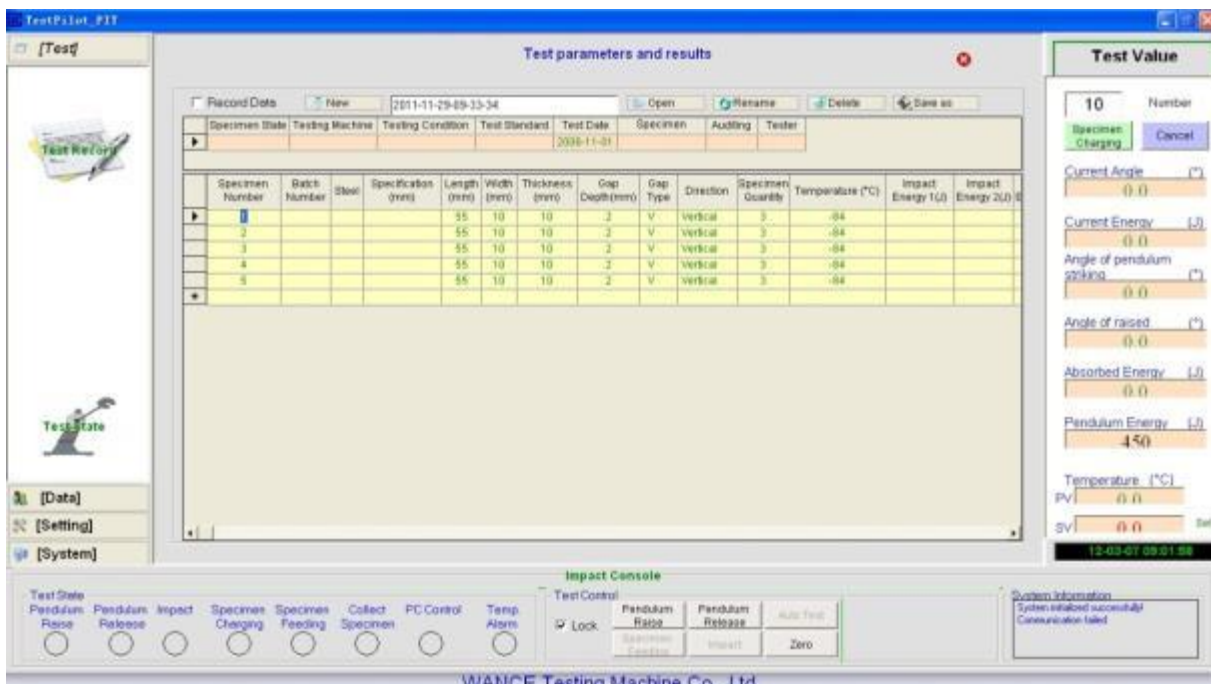
Energy display system

Three types of energy display are available:

- Dial gauge: simple and direct to read impact energy
- Wide view touch screen
- Computer with test software



Wide view touch screen display



Standard test software

Specifications:

Name		Description
Maximum impact energy		450J (300J, 150J)
Angle resolution		0.025°
Distance from the axis of support to the center of percussion		750mm
Velocity of striking		5.24m/s
Angle of striking		30°~150°, adjustable
Anvil	Span	40mm
	Radius of curvature of supports	1mm
	Angle of taper of supports	11°±1°
Striking knife	Radius of striking edge	2mm(R2) or 8mm(R8)
	Angle of striking tip	30°
	Thickness of striker	16mm
Dimension (with protection shield)		1960mm×680mm×2000mm
Weight		800kg
Power supply		220±15%VAC, 50Hz, single phase
Power consumption		1.5kW

Standard configurations:

Name	Description	Model		
		PIT452G-2	PIT452G-3	PIT452G-4
Framework	Frame	√	√	√
	Pendulum lock/release system	√	√	√
	Driving system	√	√	√
	Angle measurement system	√	√	√
	SIMENS PLC control	√	√	√
	Dial gauge display	√	√	√
	Touch screen	√	√	√
	Protection shield	√	√	√
	Other auxiliary parts	√	√	√
Servo motor		√	√	√
Instrumented impact system (model: IIS105)	Data sampling card Data Conditioner Instrumented test software			√
	Software		√	√
Accessories	Span adjusting device specimen center alignment device inside-hexagonal spanner foundation bolts wedge block	√	√	√

Optional pendulums

Name	Description	Compatible Model
Charpy pendulum & specimen support (striking knife: R2/R8)	150J	PIT452G-2, PIT452G-3
	300J	
	450J	
Please specify ISO striker or ASTM striker		

Optional instrumented pendulums

Name	Description	Compatible Model
Instrumented Charpy pendulum & specimen support (striking knife with 30kN force transducer: R2/R8)	150J	PIT452G-4
	300J	
	450J	
Please specify ISO striker or ASTM striker		

Optional notch broacher

Name	MODEL
Notch making machine	NSM201B