

### Impact energy:

150J, 300J, 450J, 600J, 750J

### Functions:

This machine is used for measuring the Charpy impact resistance of metal and other materials

### Standards:

ISO 148, EN10045, ASTM E23, GB/T 229, GB/T 12778, GOST 9454

### Features:

- One-body cast frame design of seat and column provide high stability and rigidity
- Front and rear columns are symmetrical. Pendulum arm is designed of cantilever beam support, with simple structure and high machined precision
- Apply high precision bearing with small friction. Absorbing energy without loading is less than 0.3%
- Double reduction gear system replaces old style drive system with high efficiency and avoiding transmission failure
- Round pendulum head design reduces windage losses to the most
- High rigid pendulum arm prevents axial and transverse vibrations
- Exchangeable pendulum is simple to change to satisfy impact energy of 150J, 300J, 450J, 600J, 750J
- Electromagnetic release of pendulum hammer and electromagnetic clutch for locking the pendulum and raising it to its initial position. A damper is equipped to prevent strong bump when clutching
- Full-closed enclosure with high safety to prevent broken sample from splitting. Protective screening has interlock door. When the door opens, most operations can't work to avoid any



wrong operation

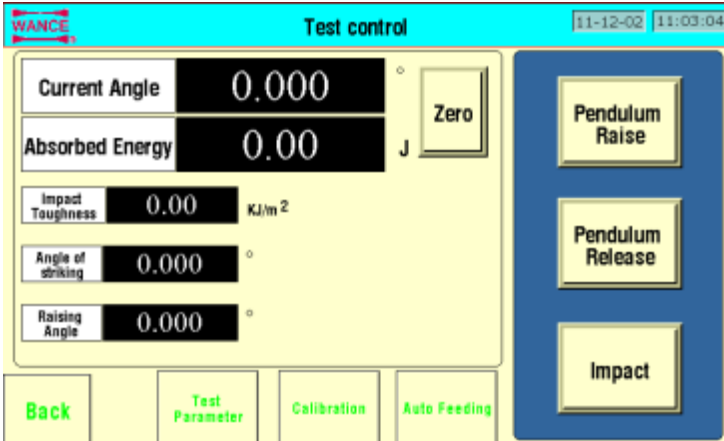
- Apply SIEMENS industrial PLC to control pendulum, and high precision Japanese made NEMICON rotary encoder to measure striker real time position. The whole system is stable, reliable and accurate
- A big touch screen monitor may real-time displays striker angle, impact energy, toughness, and other parameters. User can input specimen data and other information such as company information into this monitor. When connected to a printer, user input information and test results will be printed
- Optional computer with software control is available to realize semiautomatic operation. Operator only need charge specimens. Others can be controlled by software
- Optional specimen feeding system is available. Combined with computer and software, fully automatic operation can be realized
- Optional cooling system is available to satisfy cold specimen test down to -180°C

**Specimen collection and filtering device**

- Motorized device is used for collecting broken specimens after impact, instead of manual cleaning, which fully prevents striker from getting stuck
- Unique specimen filtering function: automatically judge and transport qualified and unqualified specimens to different collecting box



**Wide view touch screen display**

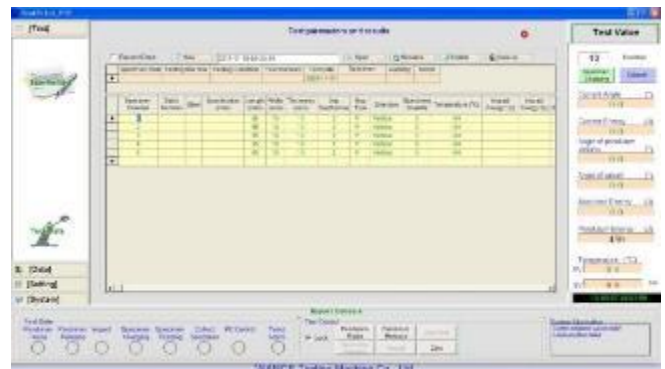


**Professional test software**

This software is designed specifically for testing metals to Charpy standards. Software provides an easy-to-use method for gathering, calculating and storing impact test results. The test result can be printed and exported to EXCEL for review.

**Display Features**

- Status of system limits
- Real-time display of hammer status
- Hammer set up and verification allows for hammer weight input
- Displays potential/impact energy
- Displays theoretical velocity
- Encoder resolution of 0.025°



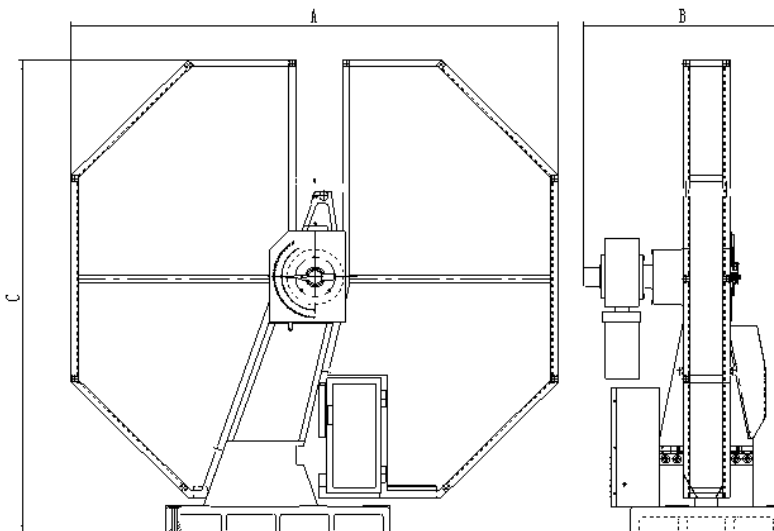
**Test report**

- Template can be customized according to requirements
- The report can be exported to EXCEL for review

Report of Impact Test																
EE																
Sample No.	Material			Test Piece				Dir Type	Dir Axis	Temperature (°C)	Absorbed Energy (J)			Average Energy	Absorbing Energy (%)	Result
	Len code	Cylinder type	Specimen	Length (mm)	Width (mm)	Thickness (mm)	Drop Height (mm)				1	2	3			
1				36	10	10	2	U	Vertical	-94	0.09	0.09	0.09	0.09	150	
2				36	10	10	2	V	Vertical	-94	0.09	0.09	0.09	0.09	0	
3	E6	F4	T5	35	10	10	2	None	Horizontal	-94	0.09	0.09	0.09	0.09	150	
4	E6	F4	T5	35	10	10	2	U	Horizontal	-94	0.09	0.09	0.09	0.09	150	
5	E6	F4	T5	35	10	10	2	V	Horizontal	-94	0.09	0.09	0.09	0.09	150	
6	E6	F4	T5	35	10	10	2	V	Horizontal	-94	0.09	0.09	0.09	0.09	150	
Test type										Source of piece						
Testing machine										Date						

**Specifications**

Model		PIT452	PIT752
Type		Type D	
Maximum energy		450J	750J
Optional pendulum		150J, 300J	300J, 450J, 600J
Angle of striking		150° ±1°	
Angle measurement resolution		0.025°	
Distance from the axis of support to the center of percussion		750mm	
Velocity of striking		5.24m/s	
Support	Support span	40mm	
	Radius of curvature of supports	1mm	
	Angle of taper of supports	11° ±1°	
Striking knife	Radius of striking edge	2mm	
	Angle of striking tip	30°	
	Thickness of striker	16mm	
Specimen dimension		55mm×10mm×10mm 55mm×10mm×7.5mm 55mm×10mm×5mm	
Weight		900kg	
Dimension(A x B x C) Including protection shield		2124mm×835mm×2100mm	
Power requirements		3-phase, 5-line, AC 380V±10% 50Hz 1.5kW	
Pendulum moment	150J	80.3848 Nm	
	300J	150.7695 Nm	
	450J	241.1543 Nm	
	600J	321.5390 Nm	
	750	401.9238 Nm	



### Standard configurations

Name	Description	Model		
		PIT452D-2 PIT752D-2	PIT452D-3 PIT752D-3	PIT452D-4 PIT752D-4
Framework	Frame	✓	✓	✓
	Pendulum lock/release system	✓	✓	✓
	Driving system	✓	✓	✓
	Angle measurement system	✓	✓	✓
	SIMENS PLC control	✓	✓	✓
	Dial gauge display	✓	✓	✓
	Touch screen	✓	✓	✓
Protection shield	✓	✓	✓	
Software			✓	✓
Communication cable to PC	RS232		✓	✓
Accessories	Span block			
	Specimen centering block			
	Centering tongs			
	inside-hexagonal spanner	✓	✓	✓
	Anchor bolts			
	wedge block			
Instrumented impact system (model: IIS105)	Data sampling card			
	Data Conditioner			✓
	Instrumented test software			

### Optional pendulums

Name	Description	Compatible Model
Charpy pendulum & specimen support (striking knife: R2/R8)	150J	PIT452D-2, PIT452D-3
	300J	PIT452D-2, PIT452D-3, PIT752D-2, PIT752D-3
	450J	PIT452D-2, PIT452D-3, PIT752D-2, PIT752D-3
	600J	PIT752D-2, PIT752D-3
	750J	PIT752D-2, PIT752D-3
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	PIT452D-4
	300J	PIT452D-4, PIT752D-4
	450J	PIT452D-4, PIT752D-4
	600J	PIT752D-4
	750J	PIT752D-4
Please specify ISO striker or ASTM striker		

### Optional cooling system

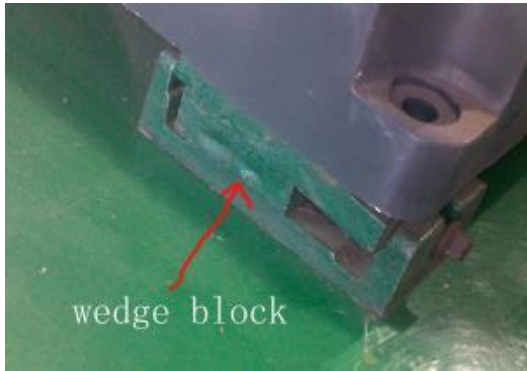
Name	Model	Description	Accessories
Low temperature specimen auto-feeding system	LTC601A-2	-60°C~ambient Cooling method: air compressor	Specimen auto-feeding system Low temperature chamber Air compressor
	LTC102B-2	-100°C~ambient Cooling method: liquid nitrogen	Specimen auto-feeding system Low temperature chamber Liquid nitrogen cylinder
	LTC182B-2	-180°C~ambient Cooling method: liquid nitrogen	
Manual cooling system	LTC601A-1	-60°C~ambient Cooling method: air compressor	Low temperature chamber Air compressor
	LTC801A-1	-80°C~ambient Cooling method: air compressor	
	LTC102B-1	-100°C~ambient Cooling method: liquid nitrogen	Low temperature chamber Liquid nitrogen cylinder
	LTC182B-1	-180°C~ambient Cooling method: liquid nitrogen	

### Optional notch broacher

Name	MODEL
Notch making machine	NSM201B

### Shipping information

Name	Crated dimension (mm)	Crated weight (kg)
Main machine	1220x1080x1860	850
Full-closed protection shield	2060x550x1250	150
Main machine with specimen feeding system	1700x1600x1860	900
Nitrogen cylinder	660x660x1790	100



Foundation bolt



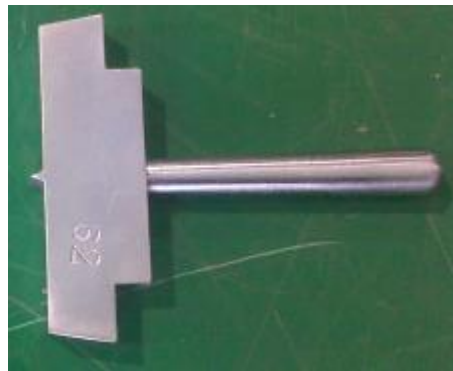
Pendulum



Anvil & support



Span block



Specimen centering block



Centering tongs



Inside-hexagonal spanner



Shenzhen Wance Testing Machine Co., Ltd.

No.9, Shuiku Road, Tangwei, Guangming District,  
Shenzhen 518132, China

Tel: +86-755-23057280 Fax: +86-755-23057995

Email: [sales@wance.net.cn](mailto:sales@wance.net.cn)

[www.wance.net](http://www.wance.net)