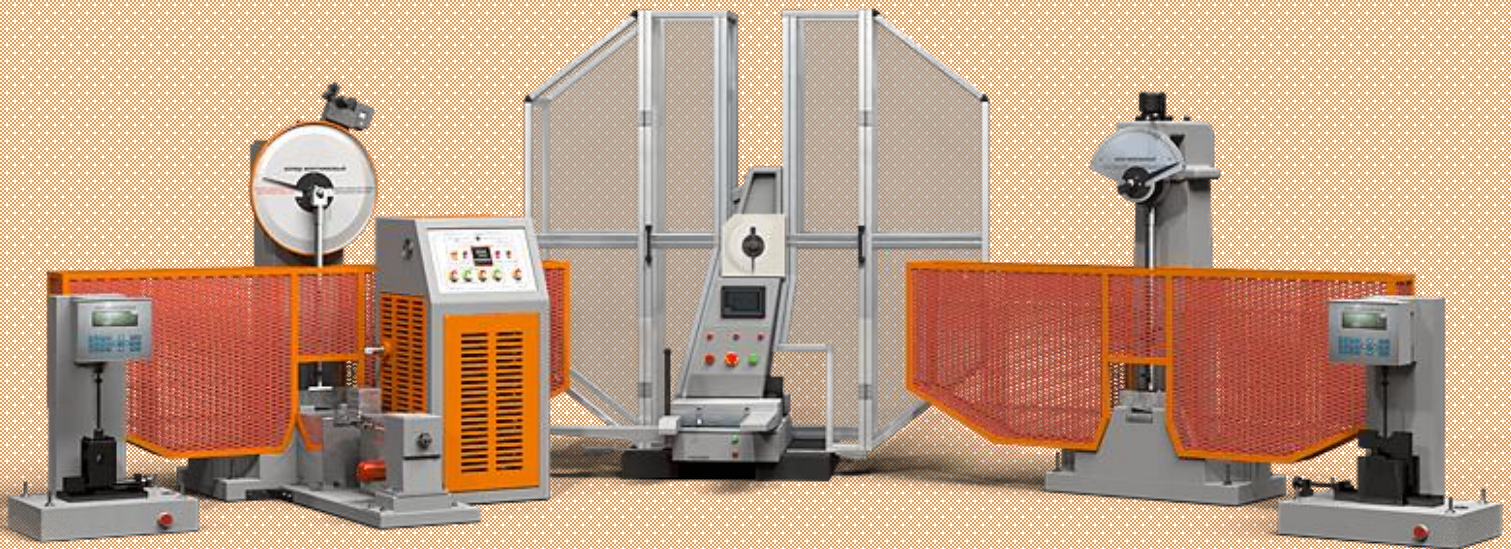




Pendulum Impact Testing Machine

Model: PIT-CW SERIES



Jinan Kason Testing Equipment Co., Ltd.

Introduction:

PIT-302CW Series Pendulum Impact Testing Machine meet the growing demand for accurate and repeatable impact testing of metallic materials in accordance with ASTM and ISO specifications. They are EN 10045-2 'CHARPY impact test on metallic materials' – Method for the verification of impact testing machines and ASTM E 23, 'Standard test methods for notched bar impact testing of metallic materials'. As a general guideline, in North America, most users prefer verifications to the ASTM E 23 method while Europe generally require EN 10045-2 verifications. The PIT-CW system provides a rigid, integrated assembly offering maximum mechanical performance in order to attain true pendulum impact test specimen energy for metallic materials. Incorporates a rigid, compound pendulum mounted on a reduced friction shaft assembly and a solid, vibration-free base. The pendulum is of one-piece construction, designed with a bifurcated support member and an accurate pendulum geometry. The rigidity of the system prevents excessive elastic energy losses and reduces excessive vibration mode bending effects.

Standards:

ISO 148-1 -Metallic materials - CHARPY pendulum impact test.

JIS Z 2242 -Method for CHARPY pendulum impact test of metallic materials.

EN 10045-1 -Metallic materials-CHARPY impact test.

ASTM E23 (CHARPY) -Standard test method for notched bar impact testing of metallic materials.

GOST 9454-78 -Impact bending test method at low, room and high temperatures.



Specifications:

Model		KASON-PIT-302CW
Display model		with computer, and touch screen display
Max. impact energy	J	300
Pendulum moment 150J	Nm	80.3848
Pendulum moment 300J		150.7695
Pendulum moment 450J		241.1543
Pendulum moment 600J		321.5390
Pendulum moment 750J		401.9238
Distance from support axis to percussion center	mm	750
Impact speed	m/s	5.24
Angle resolution	°	0.025
Striking angle	°	150±1
Round angle of the jaw	mm	R1-1.5
Support span	mm	40
Radius of support curvature	mm	1~1.5
Angle of support taper	°	11±1
Striking edge radius	mm	2 (R2) or 8 (R8)
Striking thickness	mm	16
Striking tip angle	mm	30
Specimen dimensions	mm	55×10×10, 55×10×7.5, 55×10×5, 55×10×2.5 according to customer sample size
9Round angle of impact edge	mm	R2-2.5, R8±0.05
Power supply	V-Hz-ph	3phs, 380V, 50Hz or specified by users
Dimensions	mm	2220×900×2220
Weight	kg	1000

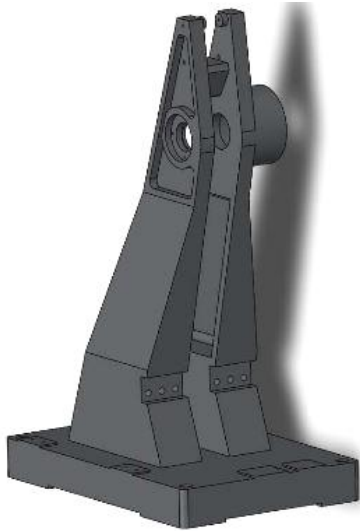
Accessories:

Name	Description	Model
		PIT-302CW
Framework (One-piece casting base providing superior axial and lateral stiffness)	Frame	√
	300J Pendulum 1PC	√ (150J optional)
	Pendulum lock/ release system	√
	Driving system	√
	Angle measurement system	√
	Dial gauge display	√
	Full-closed protection cover	√
Touch screen	PLC control	√ (Optional)
PLC control	Panasonic PLC control	√
Computer Control and Software	English language	√
Accessories	Wedge block	√
	Span block	√
	Specimen centering block	√
	Centering tongs	√

	Inside-hexagonal spanner	√
	Anchor bolts	√
Recycle system	Automatic recycle system	√
Optional accessories	Motorized notching machine	-optional
	Notch profile projector	-optional

Features:

1. One-body cast frame design of seat and column provide high stability and rigidity



2. Front and rear columns are symmetrical. Pendulum arm is designed of cantilever beam support, with simple structure and high machined precision

3. High rigid pendulum arm prevents axial and transverse vibrations



4. Double reduction gear system replaces old style drive system with high efficiency and avoiding transmission failure

5. Round pendulum head design reduces wind age losses to the most.

6. Exchangeable pendulum is simple to change to satisfy impact energy of 150J,300J,450J,600J,750J

7. 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

8. 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

9. Apply high precision bearing with small friction.

10. Apply Panasonic 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

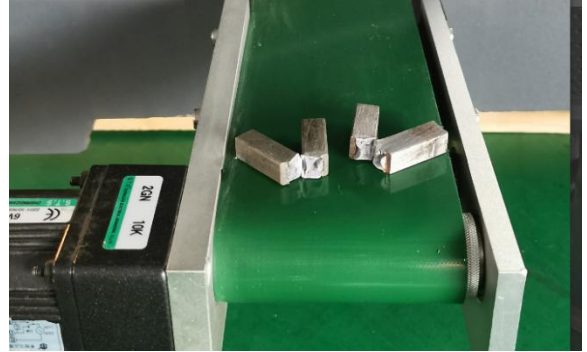
11. A big touch screen monitor may real-time displays striker angle, impact energy, toughness, and other parameters. User can input specimen data and other information such as company information into this monitor.

12. 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
- 13. Optional specimen feeding system is available. Combined with computer and software, fully automatic operation can be realized.
- 14. Optional cooling system is available to satisfy cold specimen test down to -180°C
- 15. Front and rear columns are symmetrical. Pendulum arm is designed of cantilever beam support, with simple structure and high machined precision

Specimen collection and filtering device

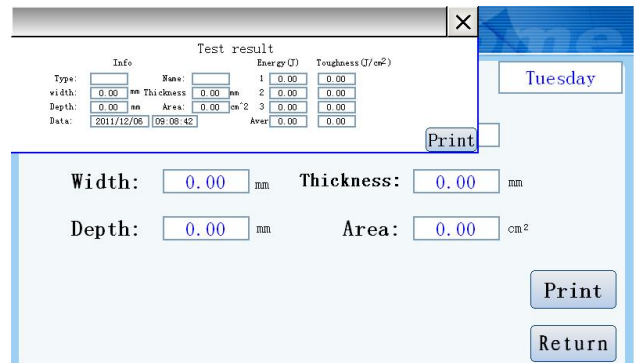
- Motorized device is used for collecting broken specimens after impact, instead of manual cleaning, which fully prevents striker from getting stuck
- Unique specimen filtering function: automatically judge and transport qualified and unqualified specimens to different collecting box



Touch Screen Feature (OPTIONAL):



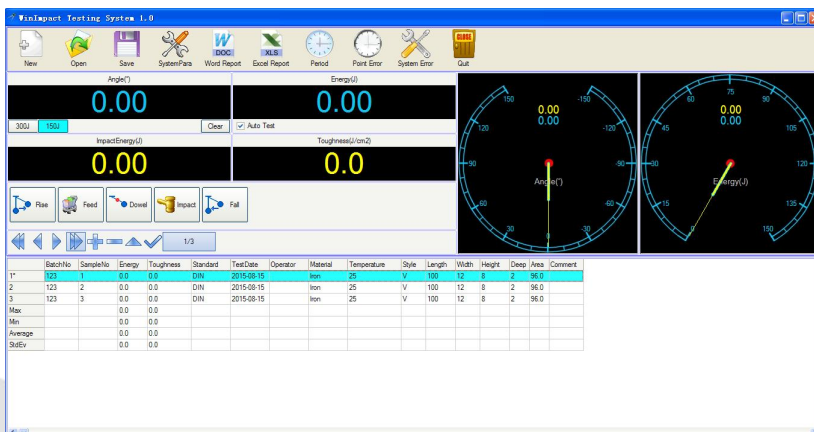
Test the machine opening interface



Sample information input interface

Software Interface:

- Pendulum rising, impact, sample feeding, position, free releasing is realized automatically by easy PC mouse click.
- Safety pin guaranties the impact action, standard protection shell to avoid any accident.
- Pendulum will automatically rising and ready for next impact action after specimen breakout.
- With two pendulums (big and small), PC software to display the energy loss, impact tenacity, rising angle, test average value etc. test data and result, also the curve display available, with calculation and report printing function. The dial scale can show test results too.



New

BatchNo : 123 Deep : 2

SampleNo : 2 Area : 96.0

Energy : 0.0 Comment :

Toughness : 0.0

Standard : DIN

TestDate : 2015-08-15

Operator :

Material : Iron

Temperature : 25

Style : V

Length : 100

Width : 12

Height : 8

8

OK

Default

Custom

Close

ConfigSysPara

Software

MaxEnergy 300.0

EncoderPulse 2500

Elevation(°) 150.0

BigBobCorrection(°) 0.0

SmallBobCorrection(°) 0.0

BigBobZeroCorrection(J) 0.0

SmallBobZeroCorrection(J) 0.0

BigBobElevation 0.0

SmallBobElevation 0.0

Hardware

MaxEnergy

EncoderPulse

Elevation

BigBobCorrection

SmallBobCorrection

BigBobZeroCorrection

SmallBobZeroCorrection

BigBobElevation

SmallBobElevation

Language

Language English

Soft Version Auto feed

EnergyPrecision 2

AnglePrecision 2

Machine

MeanPeriod(s)

l1(m)

ImpactSpeed(m/s)

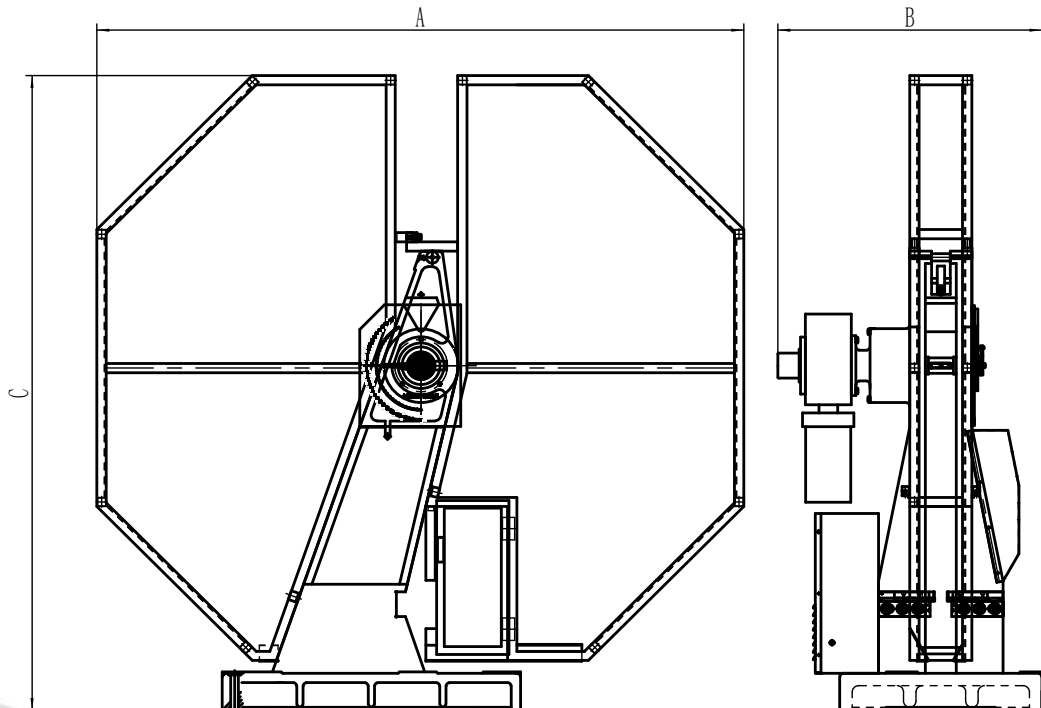
BigBobPointError

SmallBobPointError

Please don't modify important parameter!

Download Upload

OK Cancel



Application

This machine is specially designed for providing the specimens used in the impact testing tasks. Both manual type and hydraulic type are available to cutting the notch according to the “V” ASTM E23, ISO148 standards,U” DIN 50115 and ISO83 standards “Charpy Notch Impact Test Method for Metal Material” on the specimen for only one time. At the same time, it has advantages of high precision, long life, low noise and concise appearance etc.



Specifications

Model	KVU-1S	KVU-2Y
Shape of sample notch	V2 or U2mm	V2 mm,U2mm, (U3mm, U5mm alternative)
Sample size(mm)	10×10×5(or 10×10×7.5,10×10×2.5)	
Cutting mode	Manual	AUTO
Broach material	W18Cr4V	
Broaching Speed	-	2.5m/min
Max. Dimension(mm)	350×350×600	660x500x1240
Weight(kg)	100	200
Power supply	-	380V 50Hz 0.4Kw



▼ Notch profile projector

Application:

impact specimen U/V notch projector is a supplemental equipment for impact test, which is mainly used to check the accuracy of the impact specimen U/V notch. Users can put the notched specimen on projector working table and compare the projection image with the standard plate to identify the quality of the specimen notch.



Specifications:

Model		CST-50
Magnification	-	50x
Screen size BxH	mm	200x200
Notch type	-	V U in according to ISO 148, ASTM E23
Table displacement	mm	Vertical ±10
	mm	Horizontal ±10
	mm	Up ±12
	mm	Down ±12
Table rotation	°	360
Light	-	12V,100W
Power supply	V-Hz-ph	220-50/60-1
Dimensions	mm	515x224x603



Optional cooling system

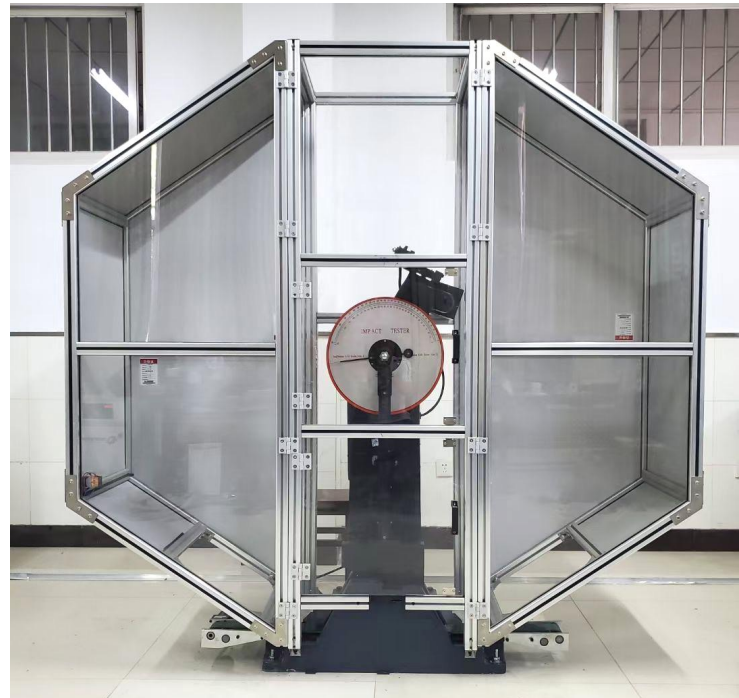
Application

KITC Series Temperature Chamber is designed according to the standard of 'Charpy Notch Impact Test Method for Metal Materials' and adopts compressor cooling technology, which is made up of two sections (Low temperature grade and high temperature grade). It utilizes the heat balance principle and cycle stirring method to realize the constant temperature cooling to impact specimen with the reliable performance.



Specifications

Model	KITC-40	KITC-60	KITC-80	KITC-100	KITC-196
Temperature range	+30~-40°	+30~-60°	+30~-80°	+30~-100°	+30~-196°
Temperature Control Accuracy	±0.5°				±2°C
Effective working space (mm)	120×120×80				240×150×150
Specimen dimension	10×10×55mm				
Specimen quantity	More than 60 pcs				
Temperature dropping speed (°C/min)	+30 ° C~0 ° 2°C/min	+30°C~0°C 2°C/min	+30°C~0°C 2°C/min	+30 ° C~0 ° C 2°C/min	2°C ~5°C / min
	0°C~-20°C 0.8°C/min	0°C~-20°C 1.5°C/min	0°C~-20°C 1.5°C/min	0°C~-20°C 1.5°C/min	
	-20°C~-40° C 0.5°C/min	-20°C~-4C 1.0°C/min	-20°C~-60° C 1.0°C/min	-20°C~-40°C 1.0°C/min	
		-40°C~-60 C 0.7°C/min	-60°C~-80° C 0.7°C/min	-60°C~-100° C 0.7°C/min	
Mode of refrigeration	Compressor refrigeration				Liquid nitrogen
Cooling Medium	Ethanol or other unfrozen liquid				



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