



PIT452, type C-2  
Full-closed protection shield

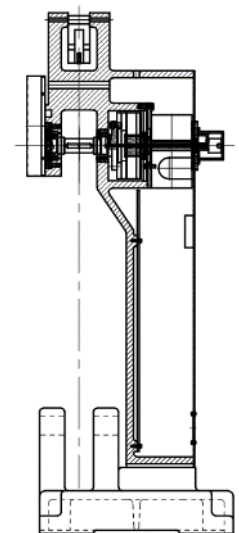
This series of pendulum impact testing machine addresses the needs of performing Charpy tests on metallic materials, fully complying with ISO, EN, ASTM and other international standards. PIT-C series provides the user high quality at the most affordable price, with impact energy ranging 150J, 300J and 450J

## Standards:

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

## Durability, usability, flexibility and safety

- The basic instrument is designed to be mechanically stiff and is made of vibration damping cast iron.
- Optional touch screen display type, computer display type and instrumented type are available
- Motor-driven raising of hammer with auto-return after test
- Electromagnet can lock the pendulum tightly
- The pendulum height and weight are precisely designed, ensuring high accuracy
- It is convenient to change striking knife to meet ISO and ASTM standard
- High precision bearing with small friction
- Round shape pendulum design effectively reduces wind resistance
- SIMENS PLC controls for pendulum action with high accuracy
- Full-closed protection shield with interlock ensures highest safety
- Emergency stop button is a must

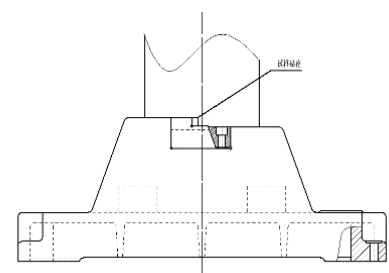
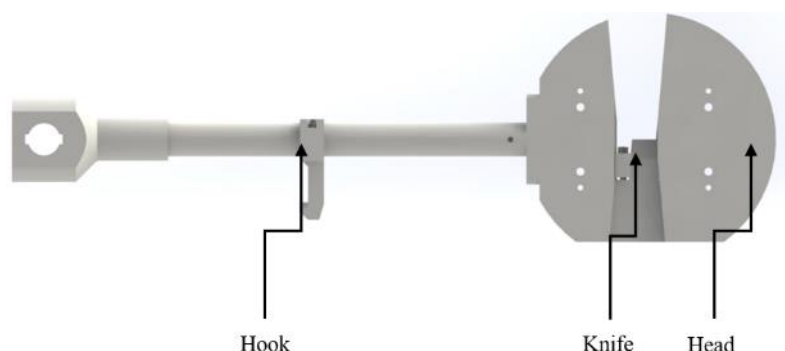


## Frame

The frame is single column structure with C shape striker. Frame is ductile cast iron with extra-high strength and stiffness, greatly absorbing shock caused by impact test.

## Pendulum

The pendulum is designed by 3D simulation software, which provides accurate calculation of center of percussion and moment. The test accuracy is greatly improved. Pendulum rod has high strength to improve stability. The pendulum and striker knife are easily changed to meet different test energy and different testing standards. The striker knife is made of high-speed tool steel with hardness more than HRC60, with high strength and high abrasion resistance.

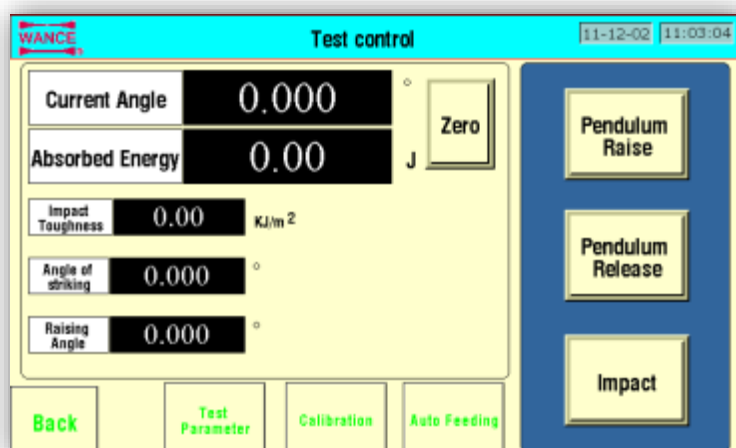


## Charpy anvil

The Charpy anvil is made of high-speed tool steel with hardness more than HRC60, with high strength and high abrasion resistance.

### Optional touch screen display

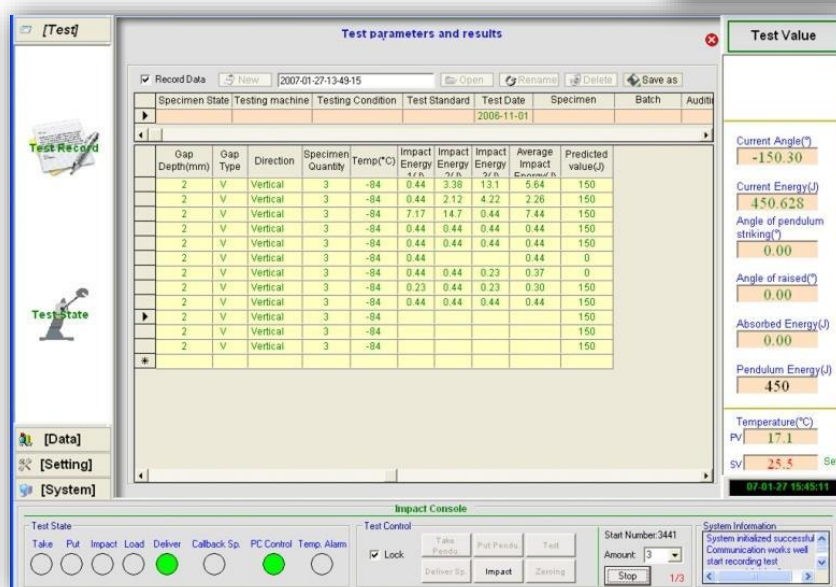
- Test control: operate the test, real-time display of current angle, angle of fall, angle of rise, absorbed energy, and impact strength.
- Test parameter setup: set up specimen size
- Calibration: energy losses compensation, and automatic pendulum length calculation



## Optional test software

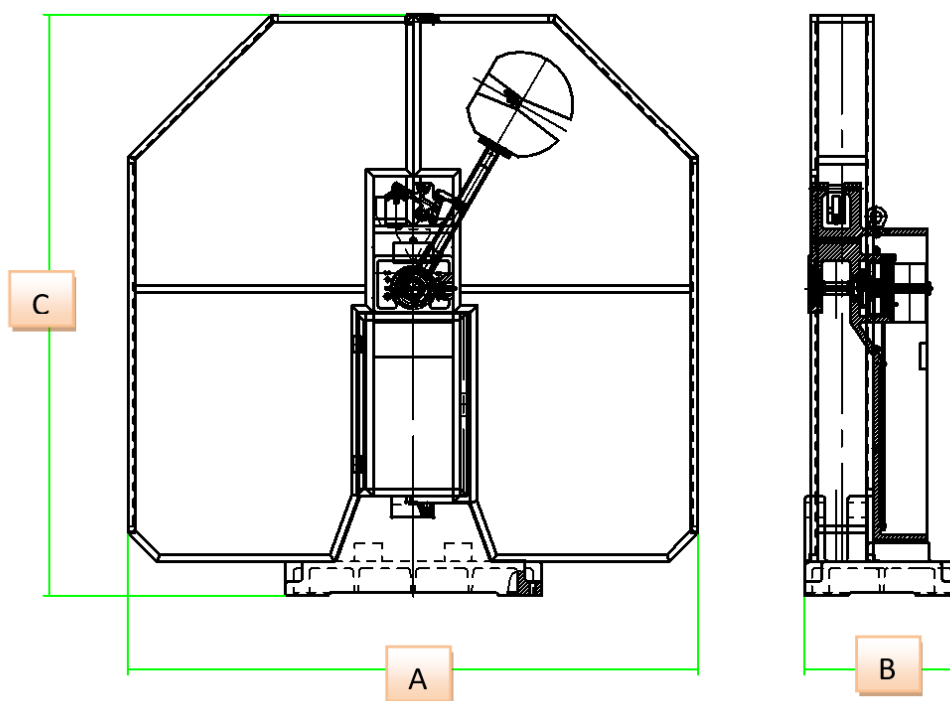
This software is designed specifically for testing metals to Charpy standards. Software provides an easy-to-use method for gathering, calculating and storing impact test results. The test result can be printed and exported to EXCEL for review.

Report of Impact Test															
RR															
Sample No.	Material		Test Piece					Gap Type	Direction	Temperature (°C)	Absorbed Energy (J)			pendulum energy (J)	Remarks
	Lot code	Cylinder type	apex (mm)	Length (mm)	Width (mm)	Thickness (mm)	Gap depth (mm)				1	2	3		
1				55	10	10	2	U	Vertical	-84	0.09	0.09	0.09	0.09	150
2				55	10	10	2	V	Vertical	-84	0.09	0.09	0.09	0.09	0
3	B4	F4	T5	55	10	10	2	None	Horizontal	-84	0.09	0.09	0.09	0.09	150
4	B4	F4	T5	55	10	10	2	U	Horizontal	-84	0.09	0.09	0.09	0.09	150
5	B4	F4	T5	55	10	10	2	V	Horizontal	-84	0.09	0.09	0.09	0.09	150
6	B4	F4	T5	55	10	10	2	V	Horizontal	-84					150
Force type										Source of force					
Testing machine										Date					
Testing condition										Tester					
Standard of test										Inspector					



## Parameters

Model		PIT452			
Type		C-1	C-2	C-3	C-4
Display		Analog (Scale, dial)	Touch screen	Touch screen with software	Touch screen with instrumented software
Maximum energy (J)		450			
Optional energy		150, 300			
Impact velocity (m/s)		5.24			
Angle of fall (°)		150			
Angle resolution (°)		0.025			
Distance to centre of test piece (centre of striker) from the axis of rotation (length of pendulum) (mm)		750			
Charpy anvil	Distance between anvils (mm)	40			
	Radius of anvils	1			
	Angle of taper of anvil (°)	11±1			
Striker	Striker tip (mm)	2 or 8			
	Angle of striker (°)	30			
	Width of striker (mm)	16			
Specimen size (mm)		55×10×10, 55×10×7.5, 55×10×5, 55×10×2.5			
Outside dimension (mm) (with protection shield, A×B×C)		2000×540×2053			
Power supply		3-phase, 5-line, AC380V, 50Hz, 800W (PIT452C-4, extra 1-phase AC220V, 50Hz)			
Weight (kg)		1150			



### Standard configurations

Name	Description	Model			
Main machine frame		PIT452 C-1	PIT452 C-2	PIT452 C-3	PIT452 C-4
Display	Analog	✓	N/A	N/A	N/A
	Touch screen	N/A	✓	✓	✓
Control electronics	SIMENS PLC	✓	✓	✓	✓
Full-closed protection shield	Metal mesh With interlock function	✓	✓	✓	✓
Tool kits	Span block Specimen centering block Centering tongs inside-hexagonal spanner Anchor bolts wedge block	✓	✓	✓	✓
Communication cable to PC	RS232	N/A	N/A	✓	✓
Software	TestPilot, English version	N/A	N/A	✓	✓
Instrumented impact system (model: IIS105)	Data sampling card Data Conditioner Instrumented test software	N/A	N/A	N/A	✓

### Optional accessories

Name	Description
Charpy pendulum & specimen support (striking knife: R2/R8) Please specify ISO striker or ASTM striker	150J
	300J
	450J

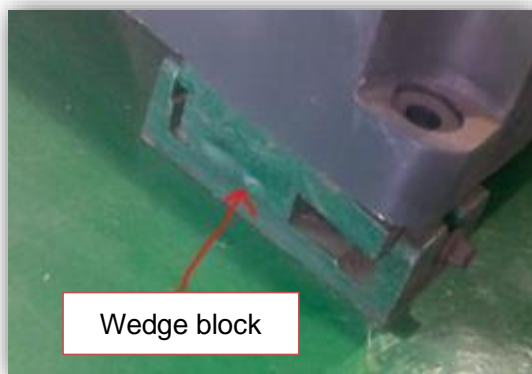
### Optional instrumented pendulums

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

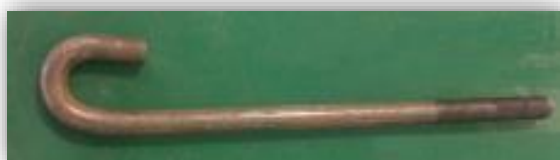
### Shipping information

Name	Crated dimension (mm)	Crated weight (kg)
Main machine	1180x1020x1660	650
Full-closed protection shield	2060x550x1250	130





Wedge block



Foundation bolt



Pendulum



Anvil & support



Span block



Specimen centering block



Centering tongs



Inside-hexagonal spanner



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