

YASUDA SEIKI SEISAKUSHO
No.258-L LOW TEMPERATURE IMPACT TESTER



No.258-L

Low Temperature Impact Tester

This tester enables the operator to conduct the Charpy and Izod impact tests in a low temperature condition. The low temperature oven is double-doored and the inner door is equipped with working gloves so that the temperature inside the oven is kept constant while the operator is attaching the test specimen.

Reference Standard :

Charpy⇒ JIS-K7111、ISO-179、ASTM-D6110

Izod ⇒ JIS-K7110、ISO-180、ASTM-D256

<Charpy>

Hammer Capacity : 0.5J、1J、2J、4J、5J、7.5J、15J、25J、GB/T12621-2008

Lift-Up Angle : 150°

Impact Speed : **ISO** 0.5J、1J、2J、4J、5J…2.9m/s

ISO 7.5J、15J、25J …3.8m/s

ASTM …3.46m/s

Strike Edge Angle : **ISO** 30±1°、**ASTM** 45±2°

Strike Edge Radius : **ISO** R2±0.5mm、**ASTM** R3.17±0.12mm

Support Length : **ISO** 62+0.5mm **ASTM** 101.6±0.5mm

<Izod>

Hammer Capacity : 1J、2.75J、5.5J、11J、22J

Lift-Up Angle : 150°

Impact Speed : **ISO** 3.5m/s **ASTM** 3.46m/s

Striking Edge Angle : **ISO** 75° **ASTM** N/A

Striking Edge Radius : **ISO** R0.8mm **ASTM** R0.79±0.12mm

Anvil-Edge Distance : **ISO** 22±0.2mm **ASTM** 22±0.05mm



Additional Weight for Hammer

Attaching additional weight on Hammer, One hammer can be used for 2 capacities. There is no need to keep 2 hammers for 2 capacities. Weight reduces the cost.

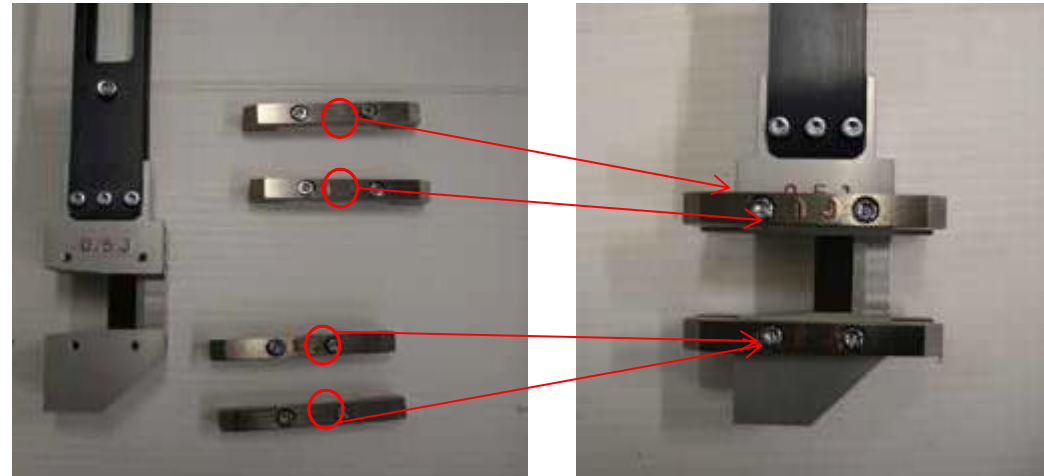
Charpy Hammer

Base Hammer 0.5J \Rightarrow + Additional Weight \Rightarrow 1J
Base Hammer 1J \Rightarrow + Additional Weight \Rightarrow 2J
Base Hammer 2J \Rightarrow + Additional Weight \Rightarrow 4J
Base Hammer 4J \Rightarrow + Additional Weight \Rightarrow 5J
Base Hammer 7.5J \Rightarrow + Additional Weight \Rightarrow 15J

Izod Hammer

Base Hammer 2.75J \Rightarrow + Additional Weight \Rightarrow 5.5J
Base Hammer 5.5J \Rightarrow + Additional Weight \Rightarrow 11J
Base Hammer 11J \Rightarrow + Additional Weight \Rightarrow 22J
Base Hammer 4J \Rightarrow + Additional Weight \Rightarrow 5J
Base Hammer 7.5J \Rightarrow + Additional Weight \Rightarrow 15J

Example 0.5J \Rightarrow 1J



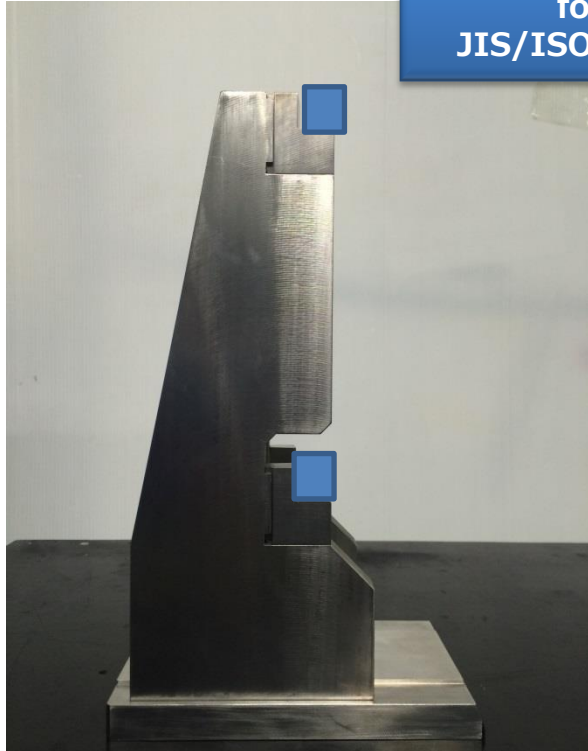
No need to keep 2
hammers for 2
Capacities.

Setting Specimen

2-stage Anvil which enables test by 2 different length of Hammer which JIS/ISO regulates. There is no need to change Anvil when the operator change the hammer to different length of hammer.

2-Stage Anvil

Anvil
for
JIS/ISO·ASTM



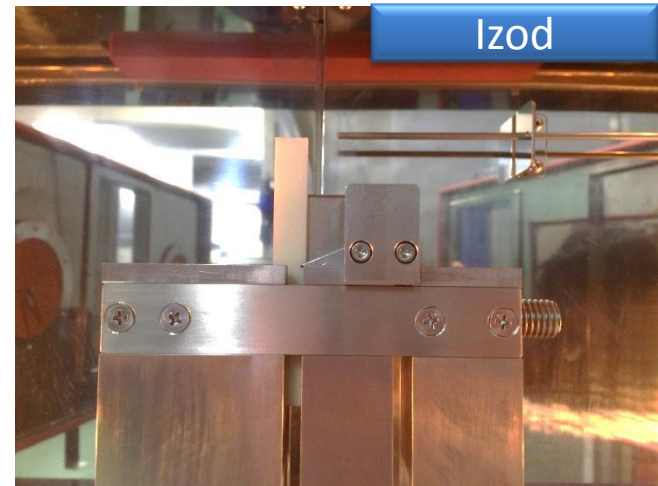
If the test requires long hammer, the sample needs to be set on lower stage. If short hammer is required, please set the sample on top stage.

Setting Gauge

Charpy



Izod



Touch Panel Operation

Touch panel which is attached on right side enables 9 items written below.

Due to this touch panel, the operator does not always need to use PC while testing.

The data will be saved in the touch panel as CSV file.

MAIN MENU

①Maintenance : Hammer Setting is done here.(Machine Check)

②Data Clear : Data saved in touch panel can be deleted here.

③Hammer Registration : The information of each hammer can be registered here.

④Calendar Timer Setting : In order to control the temperature before testing, Temperature control will be started at specified time.

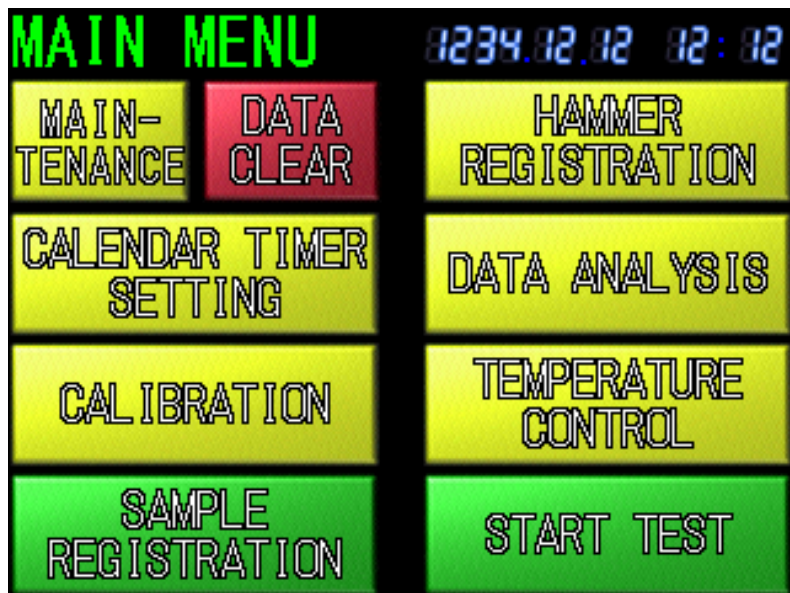
⑤Data Analysis : The data which is saved in touch panel can be Displayed here. Average of the data and Condition sort can be done here.

⑥Calibration : Air Resistance and Frictional Resistance of bearing can be measured and registered here.

⑦Temperature Control : Temperature can be set here. Heater and Cooling device can be turned ON/OFF here.

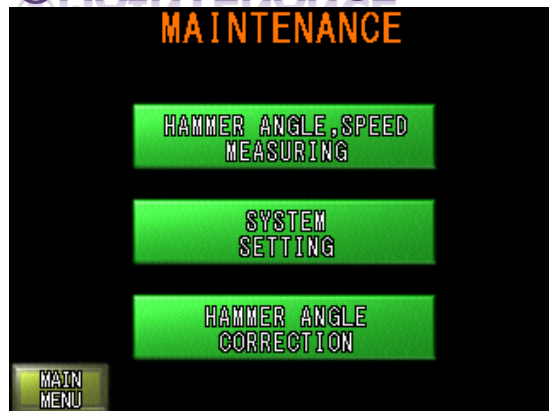
⑧Sample Registration : The size of samples can be input before testing.

⑨Start test : The test will be started from here after Sample registration.



Touch Panel Operation

① MAINTENANCE



This display is used for checking and inspection for this machine. The correction of hammer cycle and angle will be set here.

② DATA CLEAR



All the data inside touch panel can be deleted here.

③ HAMMER REGISTRATION



Moment information for every standard and method such as registered Weight and Length will be displayed here. The new information for new hammer can be added here.

④ CALENDAR TIMER SETTING



In order to control the temperature before testing, Temperature control will be started at specified time.

Touch Panel Operation

⑤ DATA ANALYSIS

DATA ANALYSIS			
CHARPY (ISO)			
HAMMER TYPE	No.	SIZE(J)	W(g) R(mm)
	12	123.45	1234.56 123.45
SAMPLE	ABCDEFGHIJ		Num. of Data 1234
TEST	ABCDEFGHIJ		Num. of Test 1234
LOTNo.	ABCDEFGHIJ		
OPERATOR	ABCDEFGHIJ		
DATE	ABCDEF	TEMP.	-----(°C)

MAIN MENU BACK SEARCH BY TEST No. NEXT

NUMBER OF TESTS 12			
RESULT(J/m)		ENERGY(J)	
AVR.	1234.56	AVR.	123.456
MAX.	1234.56	MAX.	123.456
MIN.	1234.56	MIN.	123.456
VAR.	123456.78	DEGREE(°)	
STDV.	1234.56	AVR.	123.4
		MAX.	123.4
		MIN.	123.4

RESULT LIST PRINT PRINT RESET MAIN MENU

The data saved in touch panel can be taken out by sorting conditions with AND search. AVR, MAX, min, VAR, and STDV will be displayed after searching. Energy consumption and Lift-Up degree are also displayed on result screen. The operator can print the searched data with pressing touch panel.

⑥ CALIBRATION

CALIBRATION START	
HOLD UP THE HAMMER SO THAT THE HAMMER ANGLE INDICATES WITHIN $-150 \pm 0.1^\circ$ TOGETHER WITH "SET COMPLETE" INDICATING BELOW. THEN RELEASE THE HAMMER.	
NOT COMPLETE	
HAMMER ANGLE (°)	
+123.4	

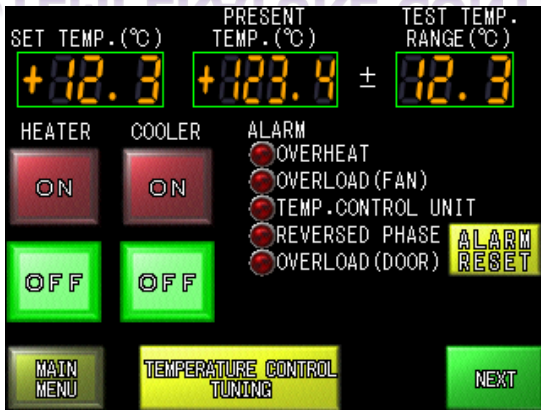
MAIN MENU

CALIBRATION RESULT AFTER 12 SWINGS	
RISING ANGLE	123.4 °
LOSS ENERGY	12.3456 J
IF THE RESULTS ARE WITHIN AN ACCEPTABLE RANGE TOUCH "NEXT". IF NOT DROP THE HAMMER VERTICALLY DOWN AND WHEN STOP, TOUCH "REDO"	
REDO	NEXT

The number of swings to calibrate the hammer power can be either 5 times or 10 times by pressing the numbers below SWING NUMBERS. As is explained in the screen, hold down the hammer at its 0° degree position still. Then press RESET to set that position 0° in the Touch Panel screen.

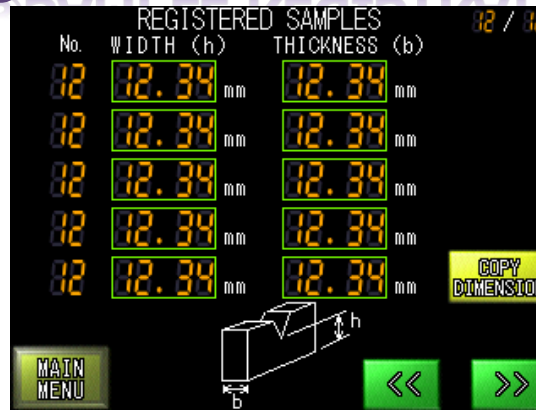
Touch Panel Operation

⑦ TEMPERATURE CONTROL



This screen is used for conditioning low temperature bath. Temperature can be set here. Heater and Cooling device can be turned ON/OFF here.

⑧ SAMPLE REGISTRATION

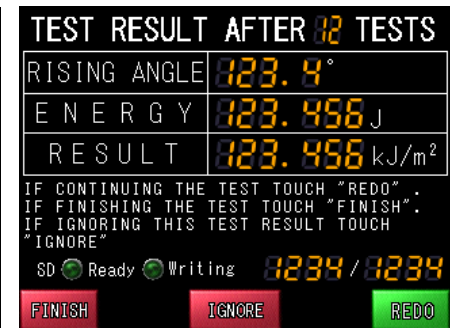
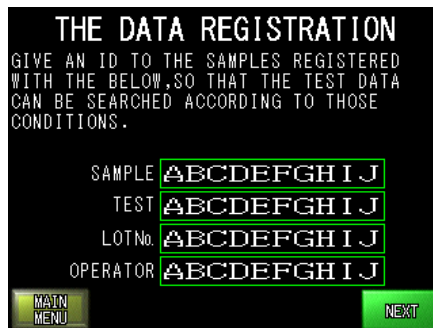
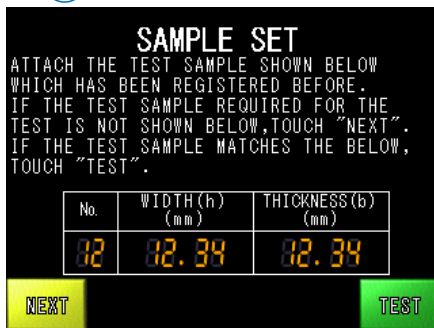


The size of samples can be input before testing. (Max.50pcs)



Easily input and copy the information.

⑨ Test



Before testing, Sample, Test, Lot No. ,and Operator name are registered in touch panel. This is because the information will be used for Data Analysis. After putting the information, the operator needs to wait until the temperature and Lift-Up angle are in tolerance. When these are in tolerance, the operator starts the testing. After testing, the operator can get the average of the test results. Pushing "Finish" the data will be saved in touch panel.

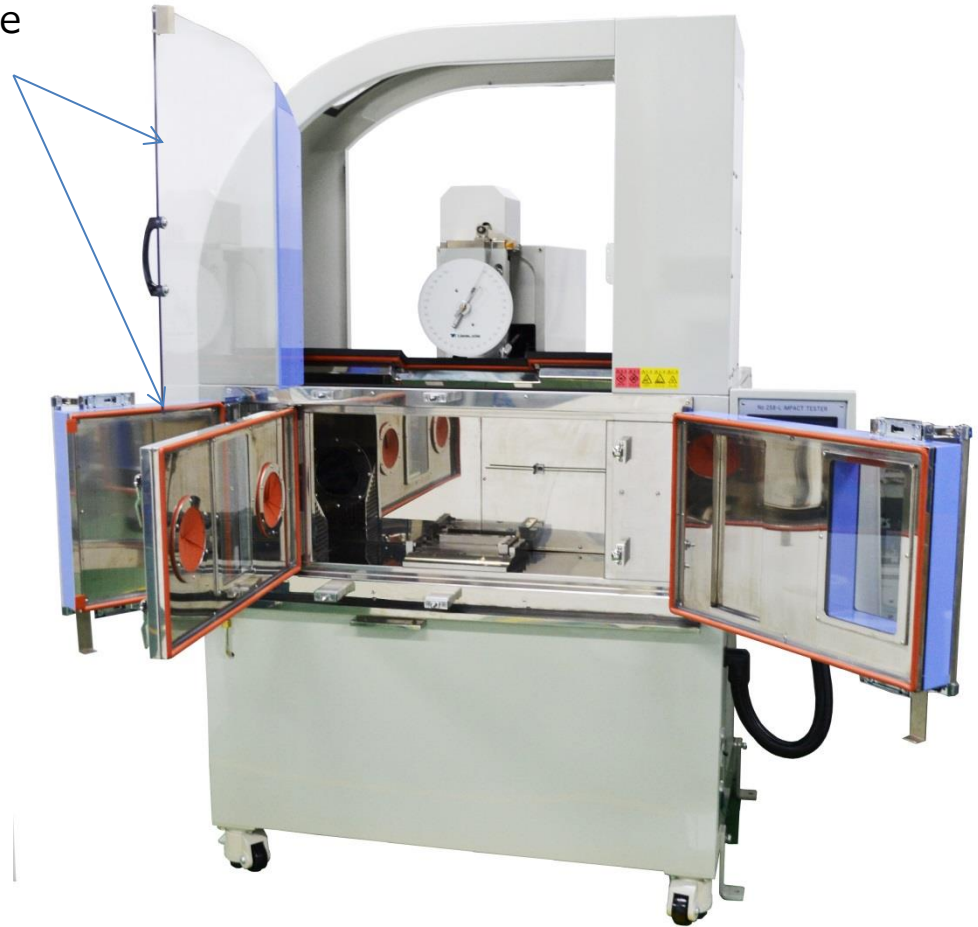
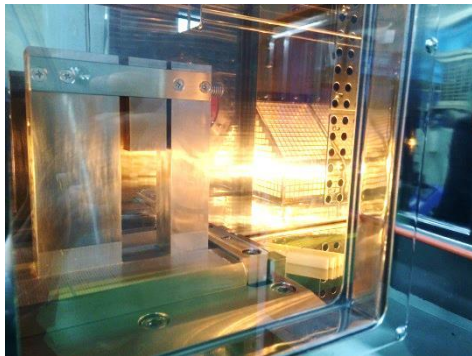
User Friendly ①

SAFETY DOOR

1 Door for Upper room and 2 doors for Low temperature Bath with Inter Lock are equipped. The test can be started when all the door has been closed. In other words, the test can not be started when the door is opened.

CLEARANCE

There is lamp inside low temperature bath. The operator can see inside clearly and easily set the sample on anvil. The sample can be put and keep inside for conditioning.



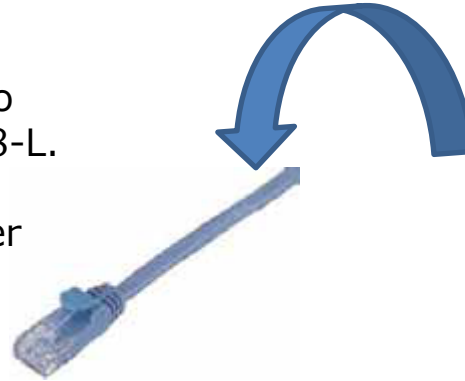
User Friendly ②

DATA SAVE AND TRANSFER

Ethernet cable enables transferring test data to PC which already installed Software for No.258-L.

Please turn PC on and connect to Impact Tester only when the data needs to be transferred to Software.

The data can be saved as CSV file.



GB/T12621-2008

ANALOG FACE

Analog face can be used incase Touch Panel is broken.
The data can be taken by calculating manually.

If the calibration required, the maker basically needs to use Analog Face if it does not have face.
So there is no need to pay for preparing another Analog Faces.

