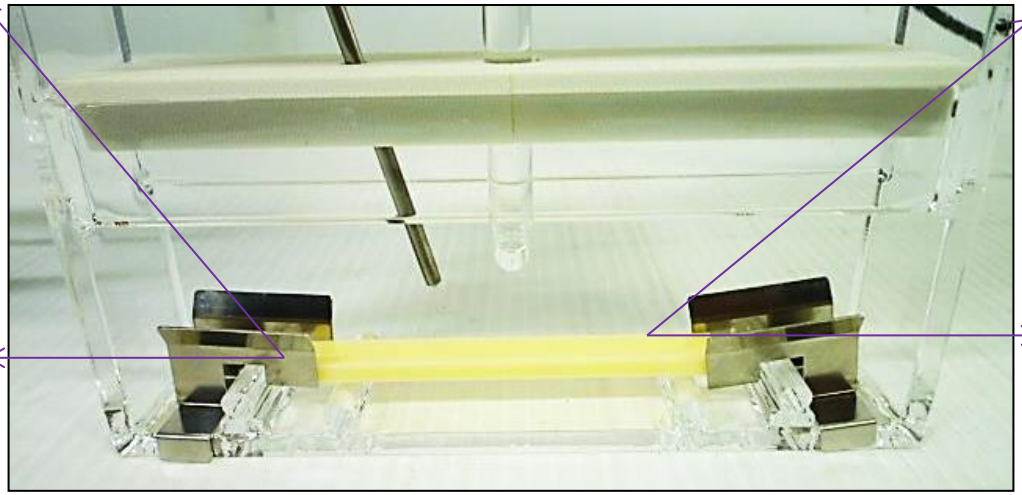
No.148-HD-500

HIGH TEMPERATURE DISTORTION TESTER

Yasuda Seiki Seisakusho

FOREIGN SALES DEPARTMENT

ABOUT No.148-HD-500



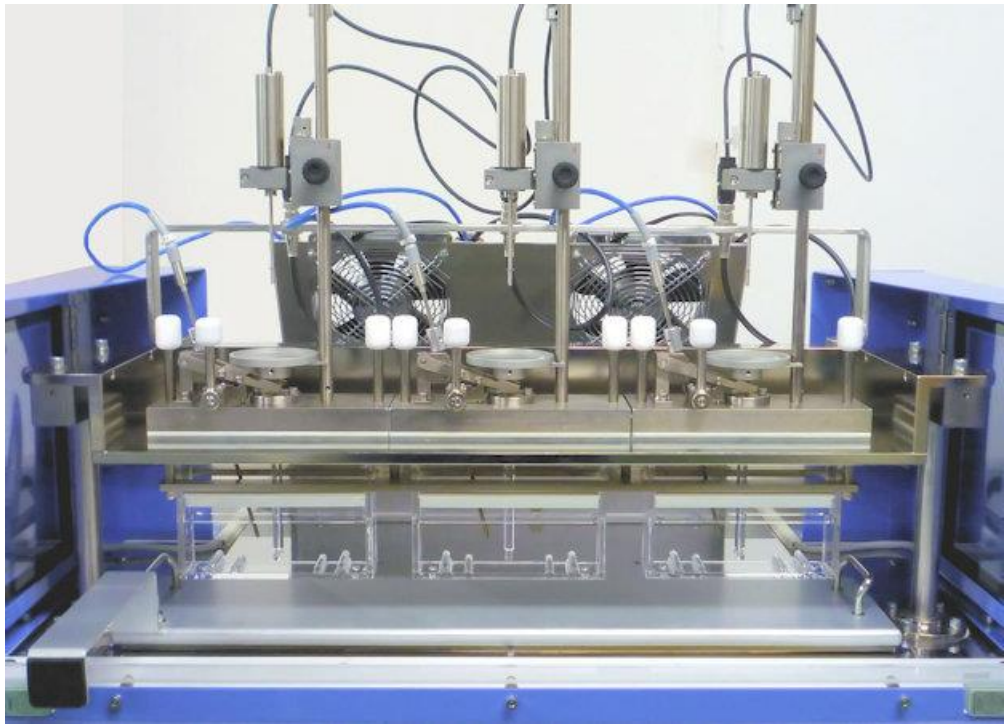
The main purpose that the No.148-HD-500 is used to the test the heat resistance of super engineering plastic which is applied in automobile and electronic industries. The trend in these industries is to replace steel to more lighter and thinner material which can stand the high heat. That is super engineering plastic.
The No.148-HD-500 is the testing machine which the industry needs in approaching the heat resistance tests above 300℃

ABOUT No.148-HD-500

≪Feature≫

HD-500 adapts the air circulating heating system to test the heat resistance of plastic such as super engineering plastic up to 500℃.

The specimen racks are made by glass quartz to prevent measuring disturbances to the deflections of the rack itself.



INSTALLATION HISTORY OF No.148-HD-500

SAMSUNG
SAMSUNG FINE CHEMICALS

Polyplastics

SUMITOMO CHEMICAL Co., Ltd.

SEKISUI

mc nac 株式会社 三井化学分析センター
MITSUI CHEMICAL ANALYSIS & CONSULTING SERVICE, INC.

DAIKIN

UNITIKA
We Realize It!

'TORAY'
Innovation by Chemistry

DUPONT

MITSUBISHI GAS CHEMICAL

RIKEN TECHNOS

RIKEN TECHNOS

No.148-HD-500　SPECIFICATION

≪Specification≫

Stations :3 / 6 stations

Temperature :Max.500℃ （Air Chamber, Nitrogen Gas Filling Device Attached）

Heat-Up Speed :120±10℃/hr and 50±5℃/hr

Bending Stress :1.80MPa and 0.45MPa

Test Load :DTUL…Initial 76.5gf – Max.3,210gf

Displacement Measuring :Differential Transducer – 1/1.000mm
Stroke 0 - ±2.5mm

Pressure Foot :DTUL…R3.0±0.2mm

Support Length :64±1mm, 100±2mm

Cooling Device :Fan Type, 2 / 4 Fan, Carbon Gas system

Churning Device :Propeller Type… 3/6 Propellers

Software :Suitable for Windows

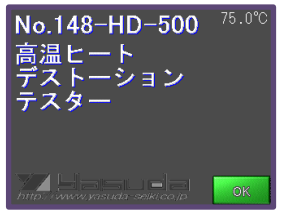
Accessories :Pressure Foot Adjustment,
Specimen Holder, Safety Half Cover

Power Source :AC220V, 1-Phase, 30A, 50/60A

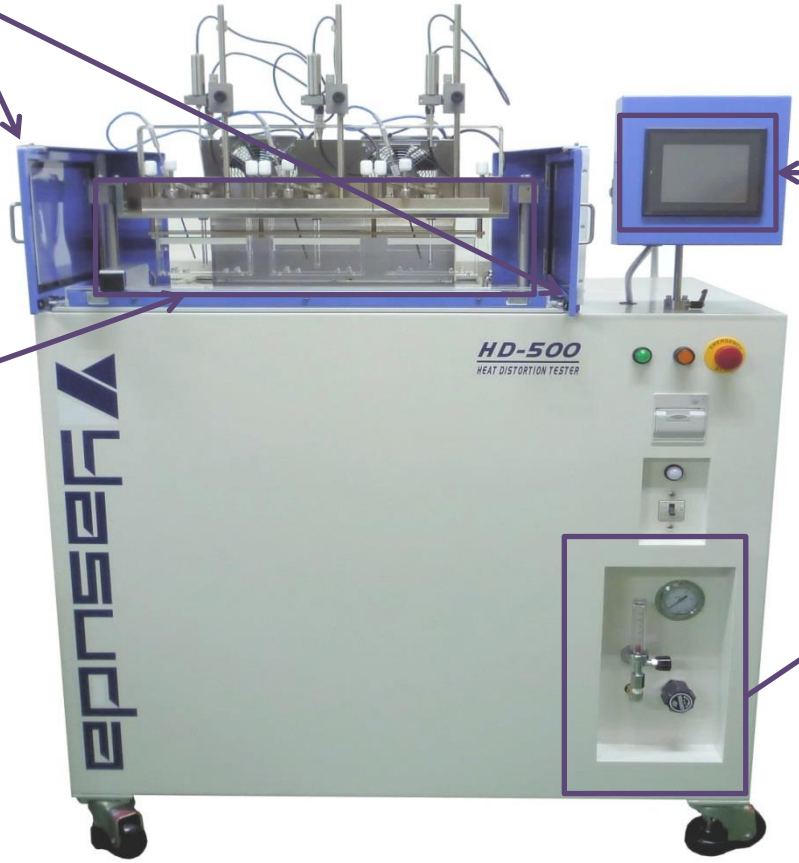
No.148-HD-500 EXTERIOR

Cooling Fans
The fans on the upper side of the specimen table flows cool air to prevent the heat deformation of the air leakage due to the deformation, the No.148-HD-500 meets the standard's required heating rate and temperature distribution inside the air bath

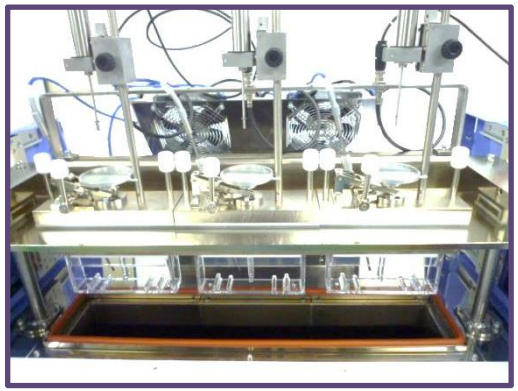
Safety Door with interlock
The safety door on the front side will avoid the operator's hands from reaching to the testing part



Touch Panel
The language can be selected from English, Chinese, Taiwanese, Korean.



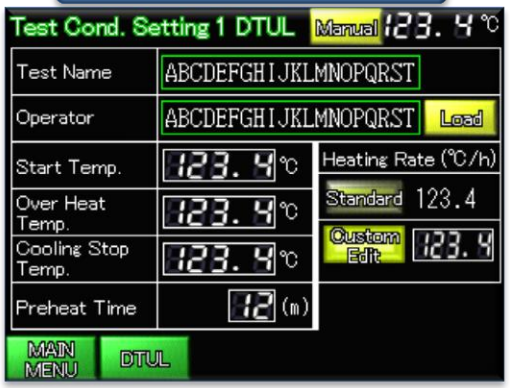
Glass Quartz Specimen Base
It does not require calibration and also will provide "pure" deflection of the test sample.



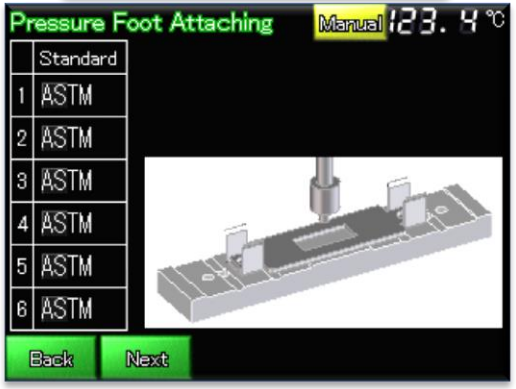
Nitrogen Gas Injector
The machine is able to inject N2 gas during the course of the test to prevent carbonization of the test samples

OPERATIONAL PERFORMANCE

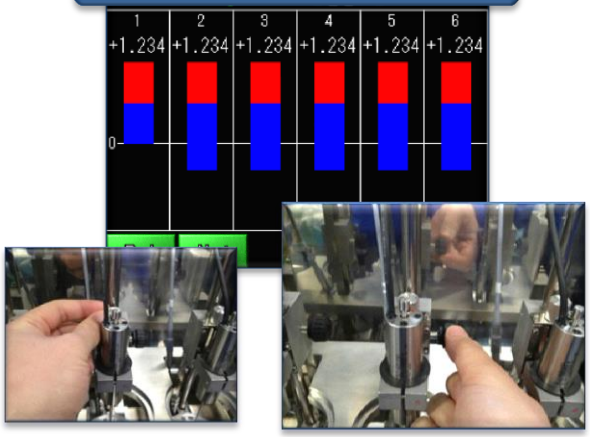
Step.1 Condition Setting



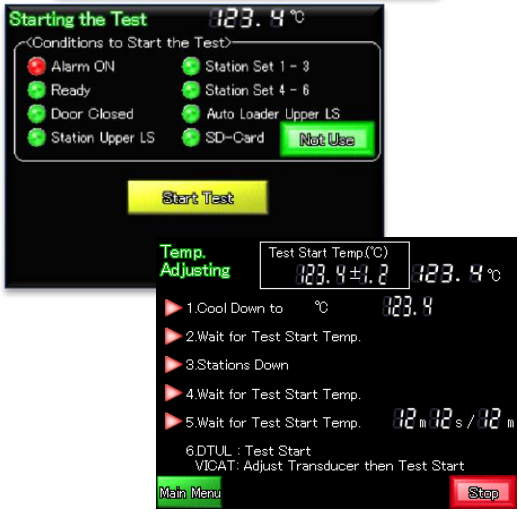
Step.2 Attaching Samples



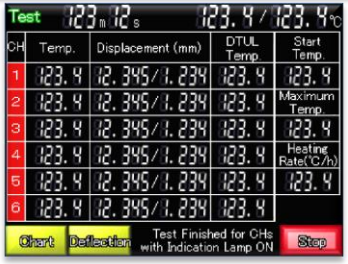
Step.3 Setting Vero Position

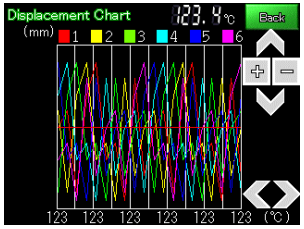


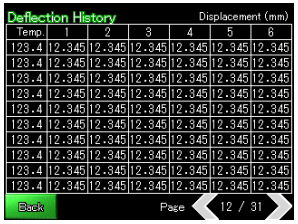
Step.4Starting the Test



Step.5 During the Test







Step.6 Test Result / Print out

There is **no need to use PC to do the test usually**. The Touch Panel which can **saves the test condition and test data** can support the test from first to last. **Connecting LAN cable to PC**, test condition set on the software can be **transferred from PC.** In the same way, the test results which has already done without PC can be **transferred to the software.** Also the language can be used form **Japanese, Korean, Chinese, Taiwanese, and English.**

GREAT SOFTWARE PERFORMANCE

HEAT DISTORTION TESTER - C:¥YSS¥YSS148HDTP

File(F) Settings Help(H)

Elapsed Time (s) 1 m 58 s

Testing | DTUL | VICAT | DTUL | VICAT | Alarm | Maintenance

Testing 21.8 ℃ / 2.2 ℃

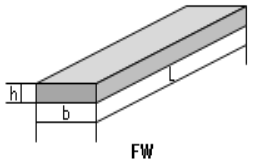
Condition (Common)

▲ ▼ Group 1 Upload

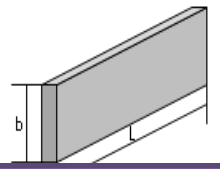
ID	Test Name	Start Temperature (℃)	Heating Rate (℃/h)	Maximum Test Temperature (℃)	Preheat Time (min)	Cooling Stop Temp. (℃)	Operator
1	A12345	40.0	120.0	250.0	5	38.0	YSS
2	A12345	40.0	120.0	250.0	5	38.0	YSS
3	A12345	40.0	120.0	250.0	5	38.0	YSS
4	A12345	40.0	120.0	250.0	5	38.0	YSS
5	A12345	40.0	120.0	250.0	5	38.0	YSS
6	A12345	40.0	120.0	250.0	5	38.0	YSS
7	A12345	40.0	120.0	250.0	5	38.0	YSS
8	A12345	40.0	120.0	250.0	5	38.0	YSS
9	A12345	40.0	120.0	250.0	5	38.0	YSS
10	A12345	40.0	120.0	250.0	5	38.0	YSS
11	A12345	40.0	120.0	250.0	5	38.0	YSS
12	A12345	40.0	120.0	250.0	5	38.0	YSS
13	A12345	40.0	120.0	250.0	5	38.0	YSS
14	A12345	40.0	120.0	250.0	5	38.0	YSS
15	A12345	40.0	120.0	250.0	5	38.0	YSS

Condition (CH)

CH	Sample Width (b) (mm)	Standard Name	Sample Thickness(h) (mm)	Sample Name	Memo	Load (g)	Standard Displacement (mm)
1	10.00	ISO FW 0.45MPa	4.00	ABS	TEST	0	0.340
2	10.00	ISO FW 0.45MPa	4.00	ABS	TEST	0	0.340
3	10.00	ISO FW 0.45MPa	4.00	ABS	TEST	0	0.340
4	10.00	ISO FW 0.45MPa	4.00	ABS	TEST	0	0.340
5	10.00	ISO FW 0.45MPa	4.00	ABS	TEST	0	0.340
6	10.00	ISO FW 0.45MPa	4.00	ABS	TEST	0	0.340



FW



To set the test conditions can be set for both DTUL and VICAT by clicking the DTUL and VICAT tabs with MEMO illustration.

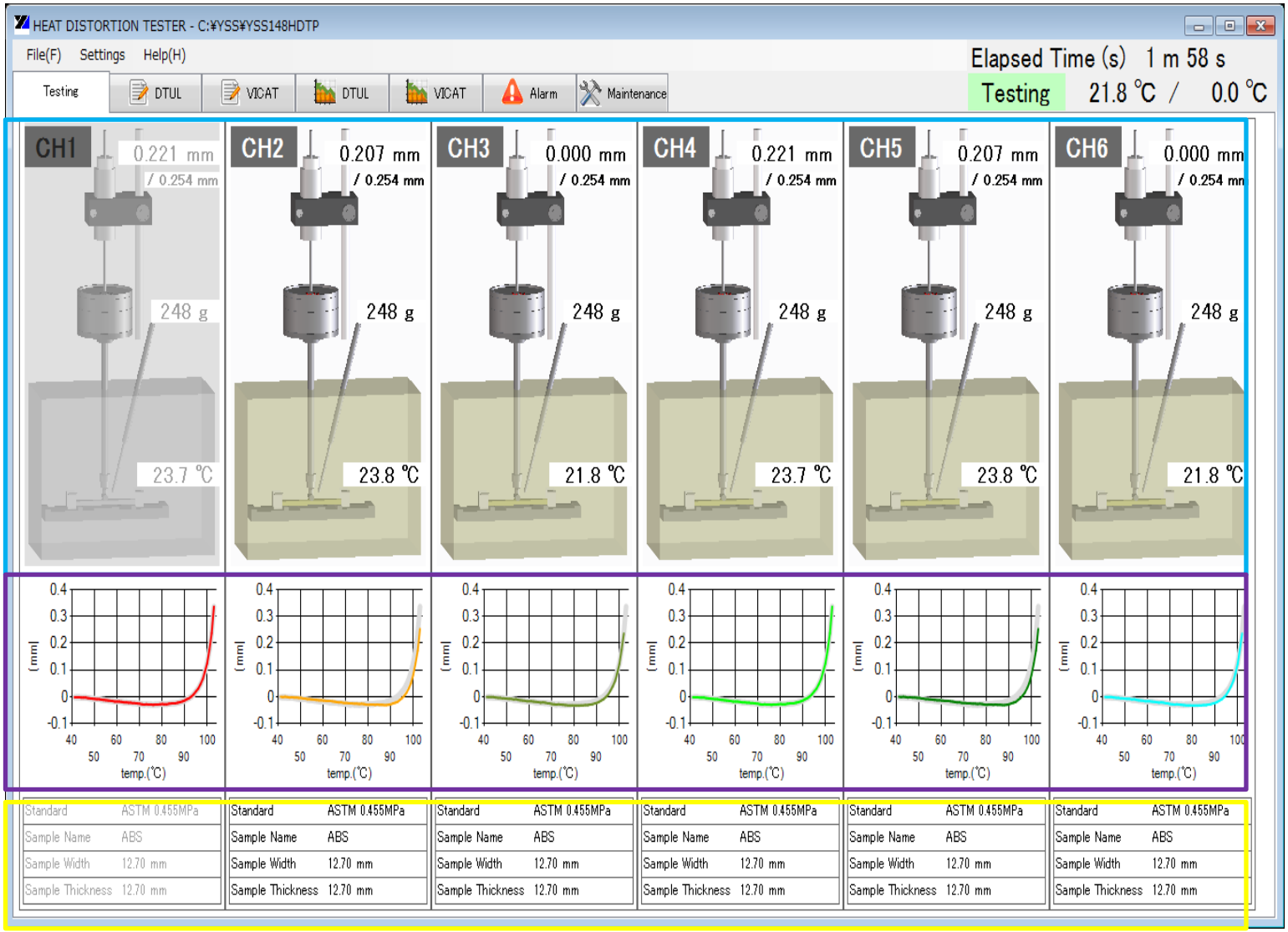
SOFTWARE - TEST

Appearance Method ①

Indicates, the current deformation, test load on the sample, and the temperature at the sample.

Indicates the test graph.

Indicates the Channel Conditions.

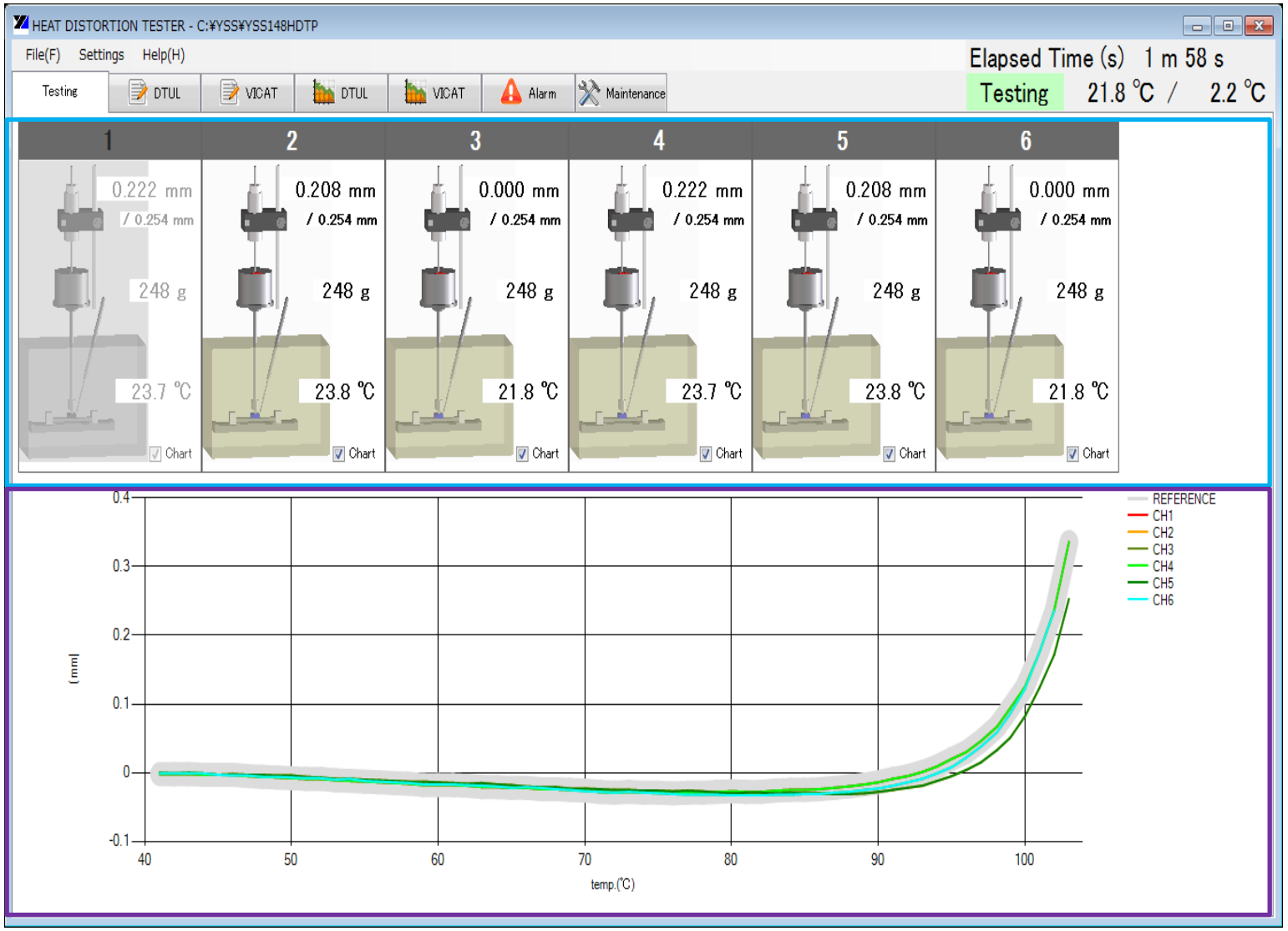


SOFTWARE - TEST

Appearance Method ②

Indicates, the current deformation, test load on the sample, and the temperature at the sample. The graph below will show for the test channels that have the check marks next to the chart box.

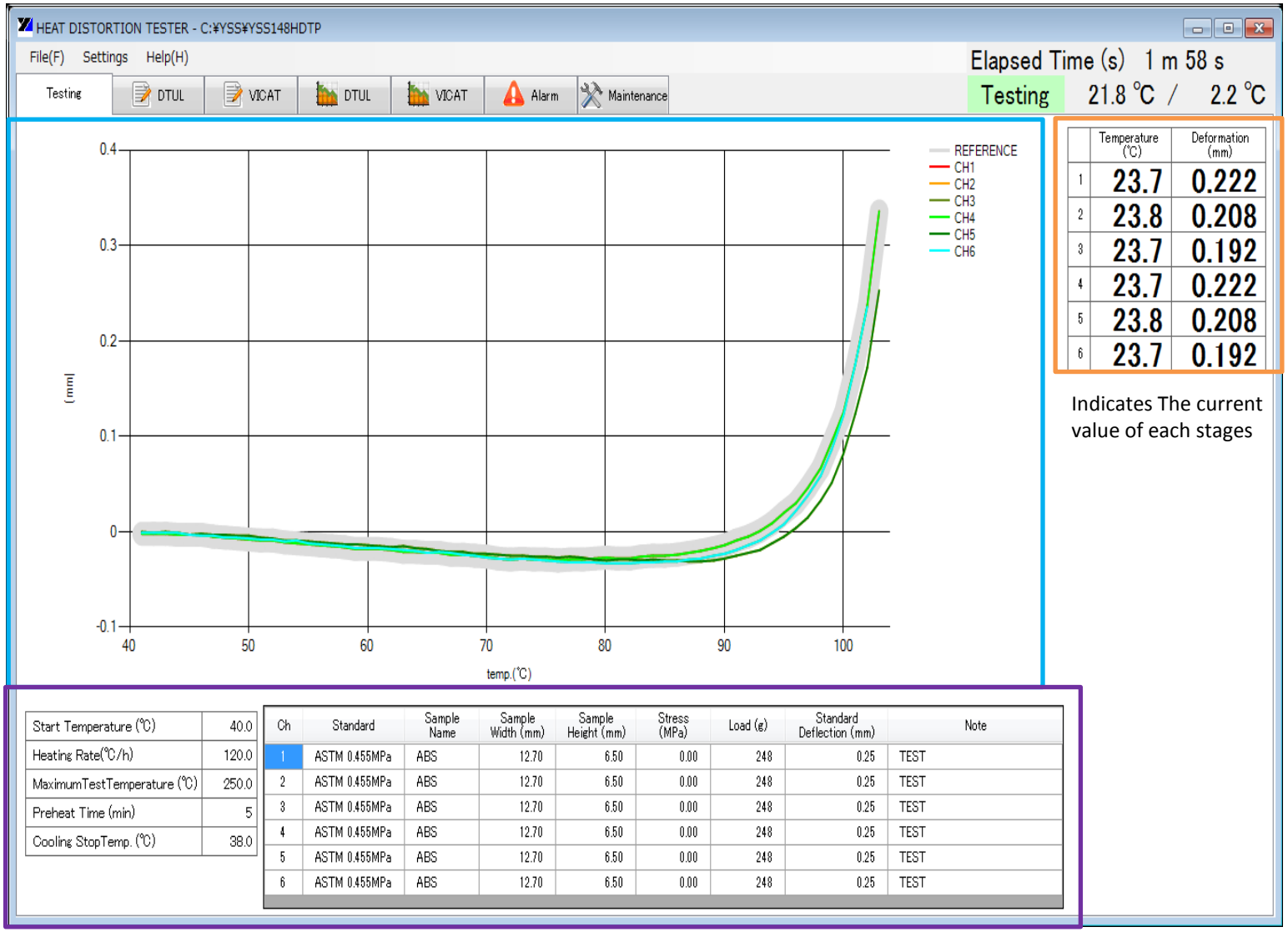
Indicates the test graph for the test channels that have the check marks next to the chart box.



SOFTWARE - TEST

Appearance Method ③

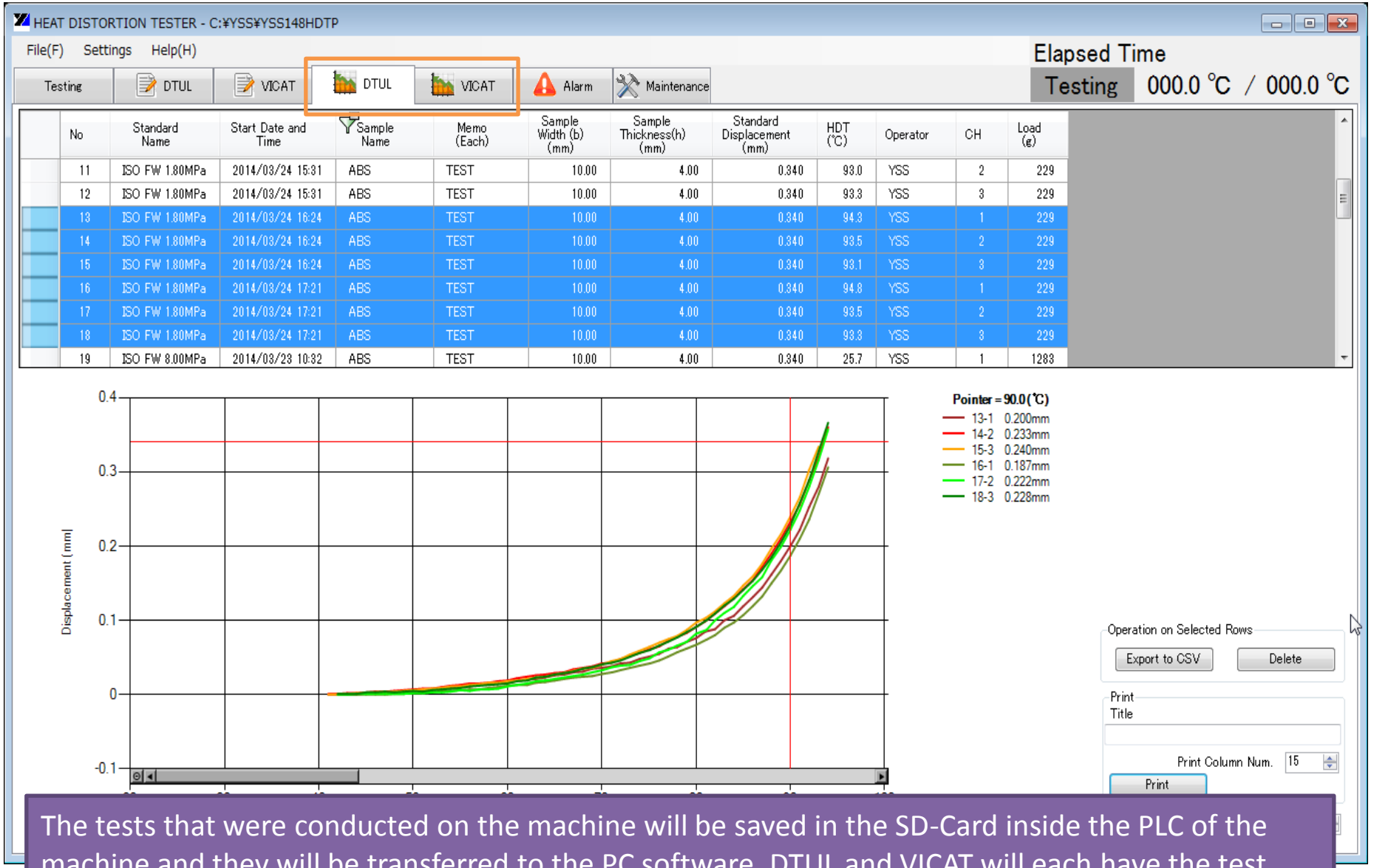
Indicates, the current deformation, test load on the sample, and the temperature at the sample. The graph below will show for the test channels that have the check marks next to the chart box.



Indicates The current value of each stages

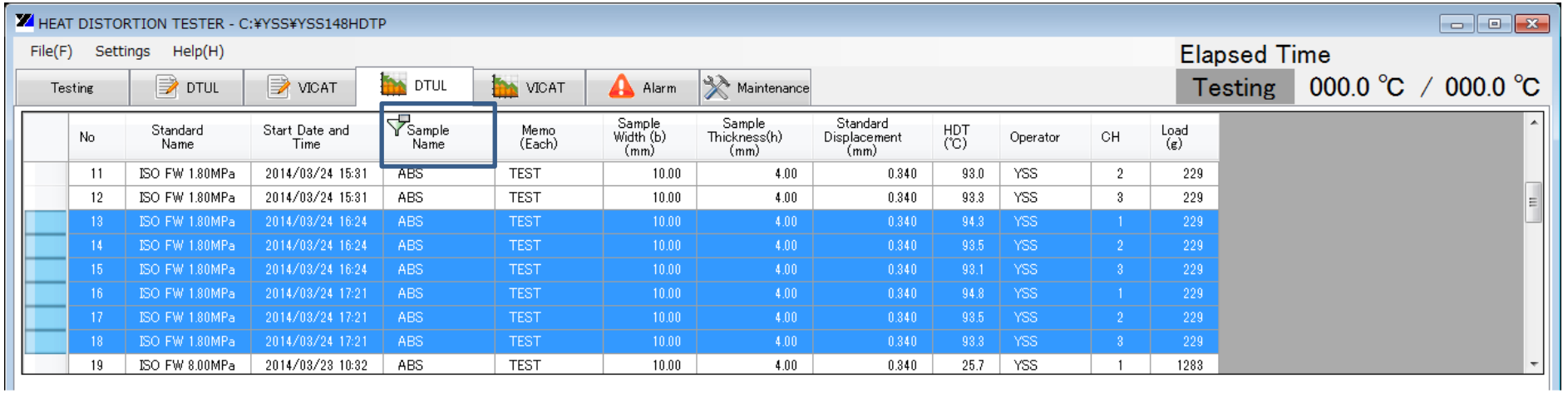
Indicates the Common and the Channel Conditions.

SOFTWARE - DATA



The tests that were conducted on the machine will be saved in the SD-Card inside the PLC of the machine and they will be transferred to the PC software. DTUL and VICAT will each have the test results saved in the tab with the GRAPH illustration in pink.

SOFTWARE - DATA



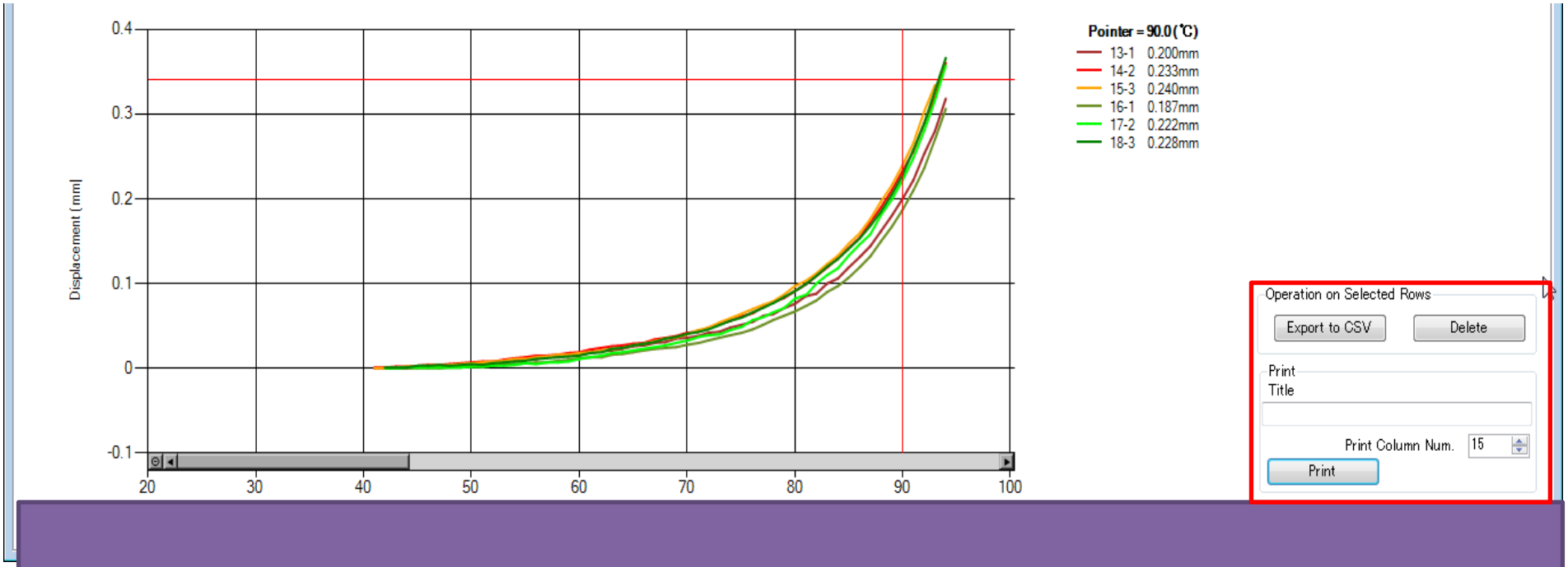
No	Standard Name	Start Date and Time	Sample Name	Memo (Each)	Sample Width (b) (mm)	Sample Thickness(h) (mm)	Standard Displacement (mm)	HDT (℃)	Operator	CH	Load (g)
11	ISO FW 1.80MPa	2014/03/24 15:31	ABS	TEST	10.00	4.00	0.340	93.0	YSS	2	229
12	ISO FW 1.80MPa	2014/03/24 15:31	ABS	TEST	10.00	4.00	0.340	93.3	YSS	3	229
13	ISO FW 1.80MPa	2014/03/24 16:24	ABS	TEST	10.00	4.00	0.340	94.3	YSS	1	229
14	ISO FW 1.80MPa	2014/03/24 16:24	ABS	TEST	10.00	4.00	0.340	93.5	YSS	2	229
15	ISO FW 1.80MPa	2014/03/24 16:24	ABS	TEST	10.00	4.00	0.340	93.1	YSS	3	229
16	ISO FW 1.80MPa	2014/03/24 17:21	ABS	TEST	10.00	4.00	0.340	94.8	YSS	1	229
17	ISO FW 1.80MPa	2014/03/24 17:21	ABS	TEST	10.00	4.00	0.340	93.5	YSS	2	229
18	ISO FW 1.80MPa	2014/03/24 17:21	ABS	TEST	10.00	4.00	0.340	93.3	YSS	3	229
19	ISO FW 8.00MPa	2014/03/23 10:32	ABS	TEST	10.00	4.00	0.340	25.7	YSS	1	1283

The test data will be saved according to time series of when the test was conducted. But that can be changed by double clicking the Start Date and Time tab. Other tabs can also be shifted or have only the desired data to be shown.

For example, to see only test results that were conducted for Sample Name ABS, right click the Sample Name tab so that a top up will appear with all the names that were conducted on the machine. Check the box for ABS and data for only ABS will show. This can be done for other tabs such as Operator and CH.

Also, the tabs can have the positions switched. To do so, for example switching the position of Sample Name and CH, select either of the tab and drag them to the desired position.

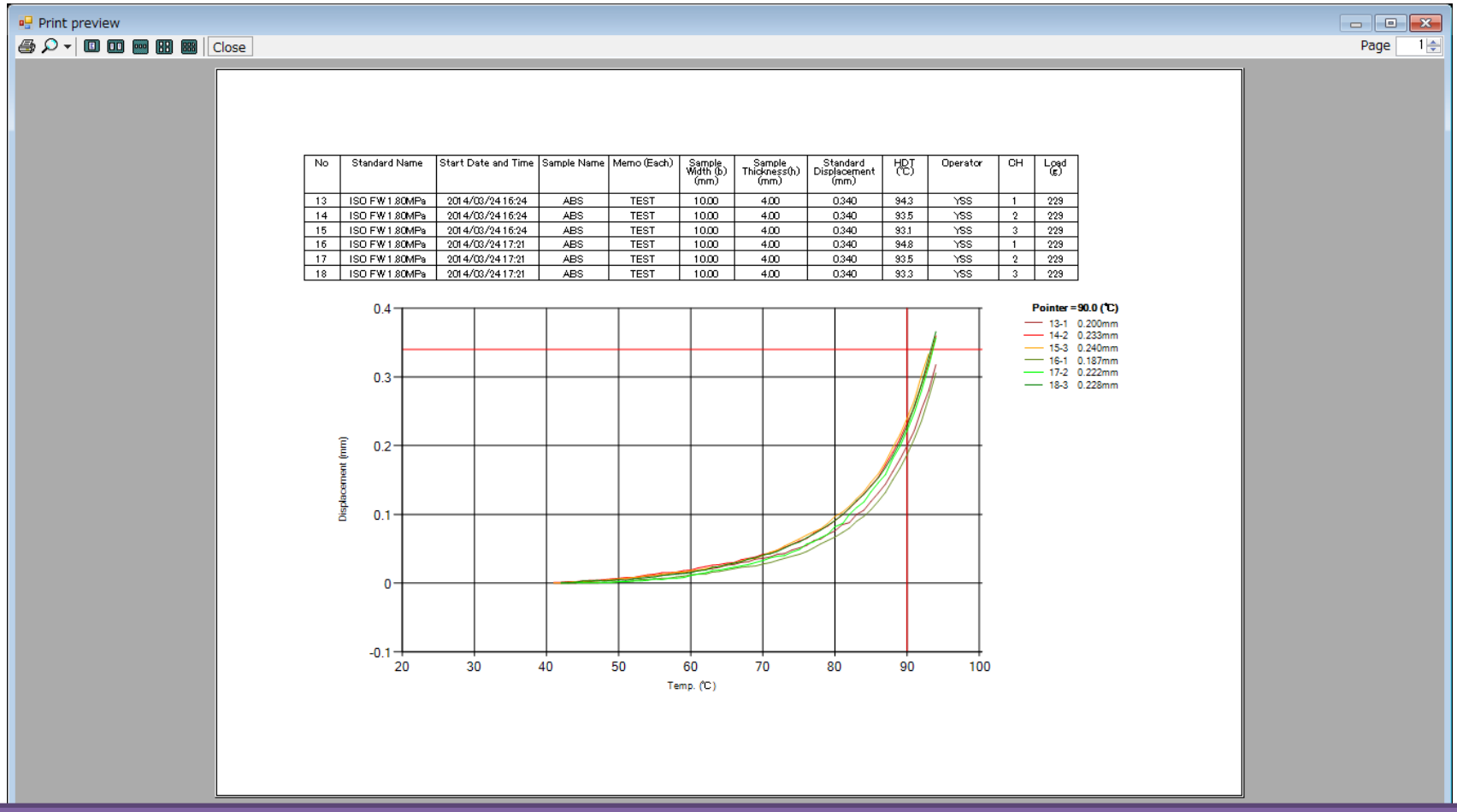
SOFTWARE - DATA



Selecting the rows of data by dragging or using the select button on the key board, the desired test row will light up and in the lower screen the graph for those selected rows will appear.
The desired zone of the test graph can be zoomed as in the testing screen and can also be rest through the Reset Zoom button.

The graph and its conditions together with the test result can
be printed out as in the next page by entering the title of the printout and clicking Print. Also, the selected data can be exported to csv from clicking Export to CSV.

SOFTWARE - DATA



No	Standard Name	Start Date and Time	Sample Name	Memo (Each)	Sample Width (b) (mm)	Sample Thickness(h) (mm)	Standard Displacement (mm)	HDT (℃)	Operator	CH	Load (g)
13	ISO FW 1.80MPa	2014/03/24 16:24	ABS	TEST	10.00	4.00	0.340	94.3	YSS	1	229
14	ISO FW 1.80MPa	2014/03/24 16:24	ABS	TEST	10.00	4.00	0.340	93.5	YSS	2	229
15	ISO FW 1.80MPa	2014/03/24 16:24	ABS	TEST	10.00	4.00	0.340	93.1	YSS	3	229
16	ISO FW 1.80MPa	2014/03/24 17:21	ABS	TEST	10.00	4.00	0.340	94.8	YSS	1	229
17	ISO FW 1.80MPa	2014/03/24 17:21	ABS	TEST	10.00	4.00	0.340	93.5	YSS	2	229
18	ISO FW 1.80MPa	2014/03/24 17:21	ABS	TEST	10.00	4.00	0.340	93.3	YSS	3	229

As explained in the previous page, the selected rows of data will be shown in a print screen as the above. To have close up graph in this printout screen, the operator is zoom the graph to make the size optimal size.