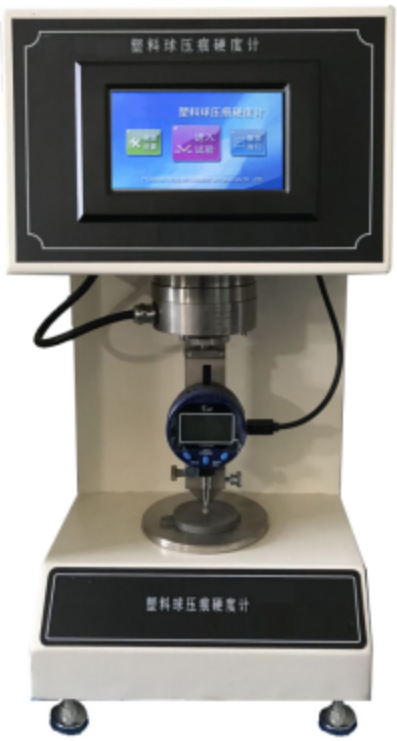
KASON-HT961 Plastic Ball Indentation Hardness Tester



Note: The picture is for reference only

Ⅰ、Scope of application：

1、This machine is suitable for meeting the "capillary" part of ISO 11443 "《Determination of the fluidity of plastics using capillary and slit-die rheometers》 and HG/T 4300-2012 《 Rubber.Measurement of rheological properties.Piston type capillary rheometer methods》 standard, and is used to determine the shear rate of plastics and polymer materials and the fluidity of melts under shear stress under certain temperature conditions, including the apparent viscosity of thermoplastics.

2、This rheometer is a computer-controlled intelligent capillary rheometer, which can work under constant pressure, constant speed, constant temperature, different heating rates, different temperatures, different shear rates, etc. The software automatically determines the pressure, temperature, speed and other test parameters of different plastics under different die diameters. The software automatically draws curves and saves and prints data.

3、Different specifications (low temperature type, high temperature type, different pressures, different rod diameters, etc.) can be customized according to user requirements.

Ⅱ、The dynamic measurement and control capillary rheometer developed by our company has the following characteristics：

1、High data collection frequency (greater than 100PPS), can more accurately record the transition points of materials in different states without missing the key material state transition points; accurately calculate the apparent viscosity at different shear rates.

2、Can achieve the superposition of multiple data curve and display coordinates in

various curve forms.

3、The load loading device of the instrument is designed reasonably, using high-precision pressure sensors for data acquisition, eliminating the traditional load sensor acquisition;Dual closed loop of software and hardware, achieving stepless adjustment of speed and loading force;Manual and automatic loading control can be used, which is convenient, fast, and accurate. Inductive manual displacement adjustment.

4、Regarding the coordinate axes of shear viscosity and shear rate curves: During the test, the coordinate axis is the normal coordinate axis. When the test is over, if you want to view the log coordinate axis image, you can directly adjust it with the mouse. So that you can observe the image in two ways, and the lowest point of the coordinate axis is set with the mouse after the test.

5、Scale display function, the displacement position of the material rod can be intuitively viewed.

6、The whole machine structure adopts a "mouth"-shaped frame streamlined design to ensure structural strength, more beautiful appearance, stronger stability, and easier transportation and installation.

Scalability： This instrument can be expanded to double pressure head test mode without replacing the host.

8、Electric auxiliary cleaning.

9、The furnace body can be rotated 90 degrees to facilitate auxiliary cleaning.

10、Adopts the upper body movement loading and pressurization mode with overall movement and dual kinetic energy; the pressurization is more stable；

11、Wireless remote control device loading

12、Streamlined design, strong sense of technology

13、The simple and clear decoration makes the overall feeling fresh and eye-catching.

14、Tungsten carbide die, high hardness, high temperature resistance, corrosion resistance, wear resistance.

Ⅲ、System composition:

The system structure design adopts a "mouth"-shaped frame design to ensure structural strength. The overall appearance adopts a streamlined design, which is beautiful and generous; it has a strong sense of technology; the transmission structure adopts a Taiwan brand precision ball screw to achieve double kinetic energy upper body movement loading transmission, so that the overall sense of no movement, while the actual test is in progress, the performance is more stable； The speed control system adopts AC servo system to achieve precise control of displacement and pressure.The heating unit adopts spiral heating wire for overall heating, the overall temperature of the barrel is uniform, and the furnace body can be moved out as a whole, which is more convenient for cleaning the remaining materials and the furnace after the experiment.The high-tech measurement and control system uses wireless remote control for mobile preloading. The software interface is simple and intuitive. It can set the test mode and related operating parameters, and display the relevant curves and calculation results in real time.

Ⅳ、Test items

1、Constant speed shear test: it can measure the curve of shear stress and shear rate, and the curve of shear viscosity and shear rate

2、Constant pressure shear test: it can measure the shear viscosity and shear rate curve

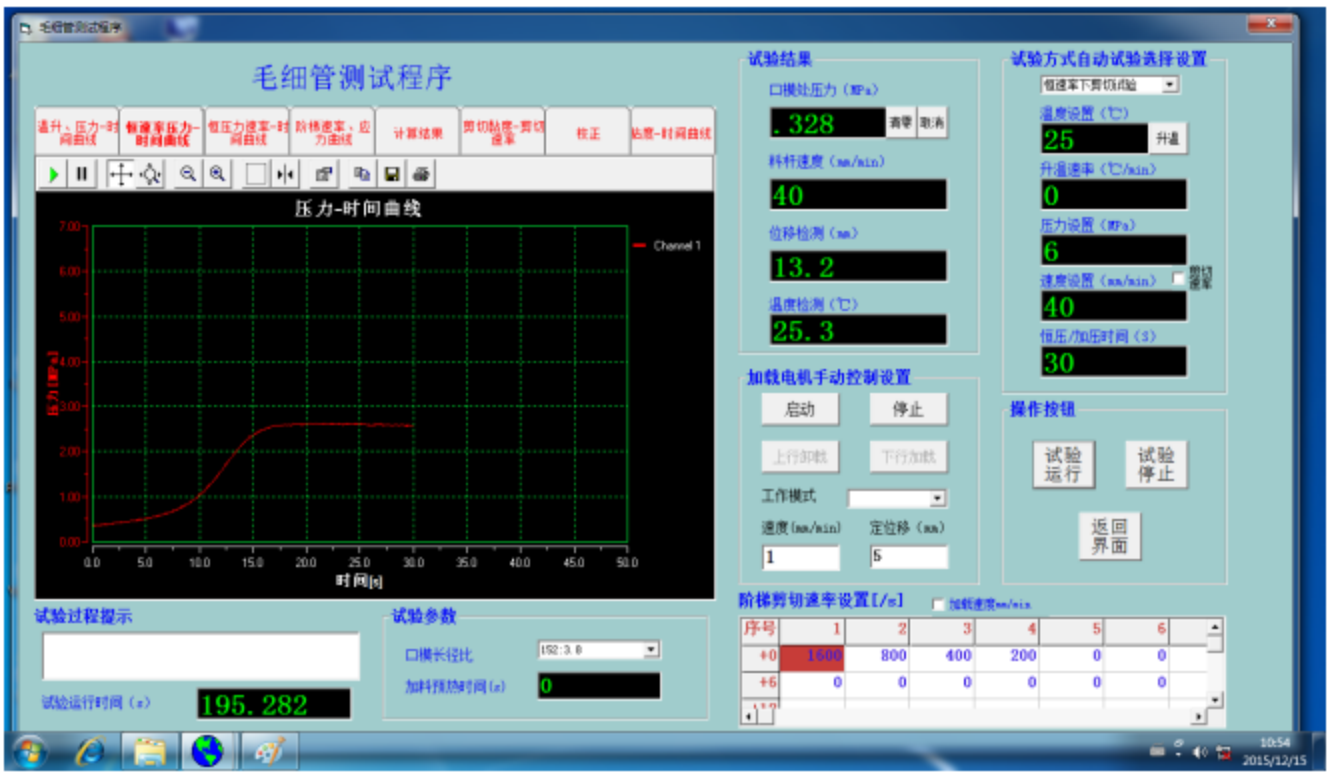
3、Step shear rate test: different shear rates can be set according to the user's requirements, the shear stress and shear rate curve, and the shear viscosity and shear rate curve can be measured, and the melt fracture and the minimum flow pressure and shear rate of the melt can be determined according to the changes of the curve during the test.

a)、Flow/non-flow test: measuring the relationship between viscosity and temperature, can accurately determine the minimum flow temperature.

b)、Melt fracture and flow instability, study the phenomenon of flow instability, including melt rupture and melt fracture

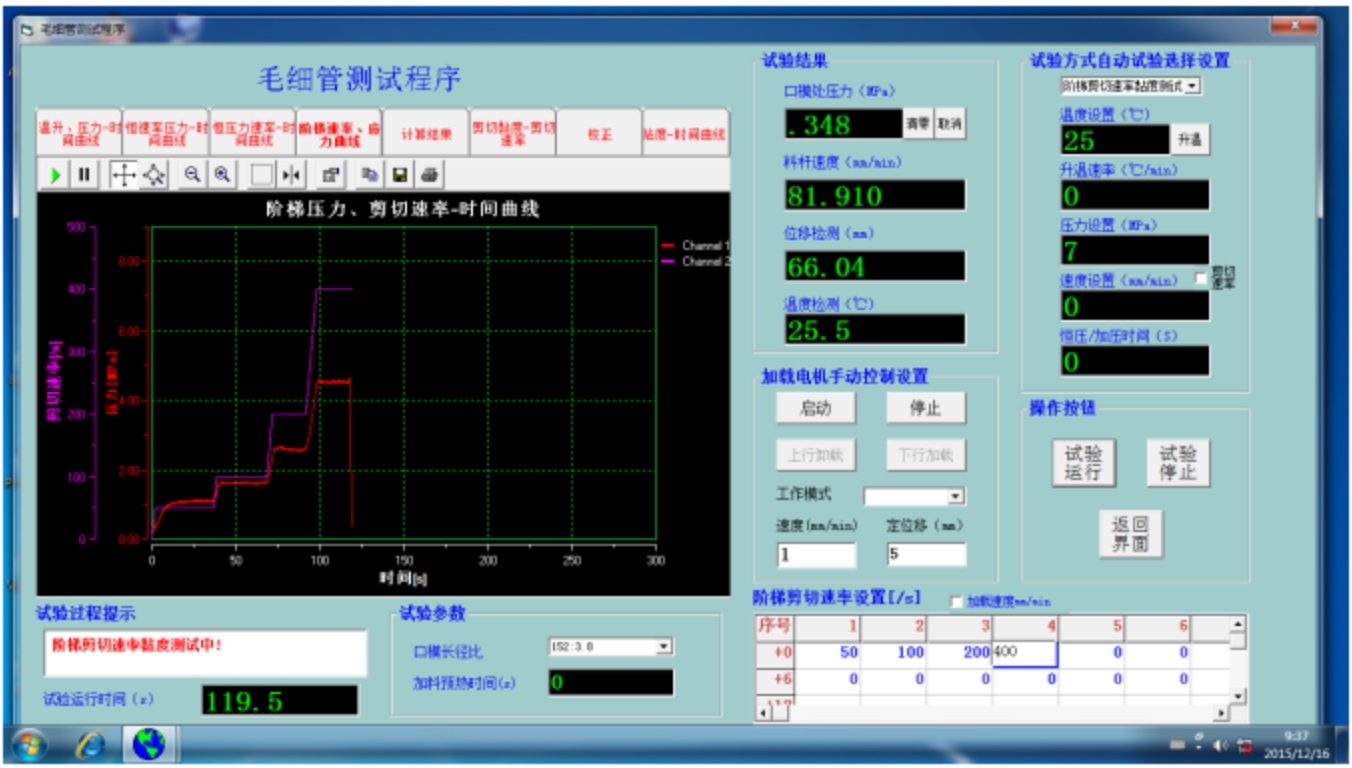
Ⅴ、Software control interface

Pressure、Shear rate-Time curve



Pressure-Time curve

Descending step pressure-shear rate-time curve



Ⅵ、Main technical parameters and accuracy

1、Temperature range：Room temperature~400℃

2、Heating rate：1-10℃/min，Continuously adjustable, and rapid heating

3、Temperature measurement display accuracy： 0.1℃
4、Pressure range：1-100MPa±0.5%（Can be customized according to customer requirements,price negotiable）
5、Maximum driving force：10KN 、20KN（Can be customized according to customer requirements,price negotiable）
6、Pressure measurement accuracy：±0.5%FS
7、Pressure resolution：0.1Mpa
8、Velocity range：0.01-500mm/min
9、Deformation measurement accuracy：±0.5%FS
10、Plug diameter：φ12 mm（Can be customized according to customer requirements,price negotiable）
11、Plug area：113.04mm²
12、Discharge die specification：Ø 1×5、Ø 1×10、Ø1×20、Ø1×40（mm×mm）
（Can be customized according to customer requirements,price negotiable）
13、Discharge die material：tungsten carbide
14、Power supply：AC220V，50Hz, power<1000W
15、Equipment dimensions:(L*W*H)810*460*1950mm Packed dimension:950*650*2020mm
16、Weight：165Kg Packed weight:230kg

Ⅶ、Main configuration of the equipment：

1、Mechanical host（Contains the following:）

a. High-precision temperature control and detection system	1
b. Japan Fuji servo controller	1
c. Japan Fuji electric motor	1
d. Load measurement system	1
e. Displacement detection system	1
f. High-precision pressure detection system	1
g. Auxiliary cleaning device	1

2、Brand computer （Contains software） 1
3、Manual cleaning tools 1
4、Die 1 (4 pics)

FOCUS IN MATERIAL TEST

KASONTEST®

JINAN KASON TESTING
EQUIPMENT Co, LTD.
DuandianIndustrial Park , Jingshi Road, Jinan City,China.
P: +86 159 1008 1986
E: admin@jnkason.com I W: www.syjlab.com