Device parameters

3.1 Sponge compression permanent deformation testing machine

1. Product model:DLHY-Y106
2. Product features:

It refers to the difference between the initial thickness of the specimen and the final thickness of the specimen after compression at a specified temperature and a specified recovery time.

3. Main usage:The machine is mainly designed according to ISO1856 method A(ASTM D3574 -DJISK6400-7), use jig to compress the sponge to the 50% of the original thickness and placed in a constant temperature chamber with the temperature adjusted 70. The compressor is taken out after 22 hours. The specimen is taken out from the compressor and placed for 30 minutes. The thickness is measured and the deformation is calculated.

4. Main parameters:

Test Sample requirements: 50mm*50mm*25mm

Compressor:It consists of two parallel plates with adjustable distance and clamping function whose size is larger than the sample.

In testing thin specimens, glass plates should be used, with thickness of 1-1.15 mm and edge length of 50*55 mm.

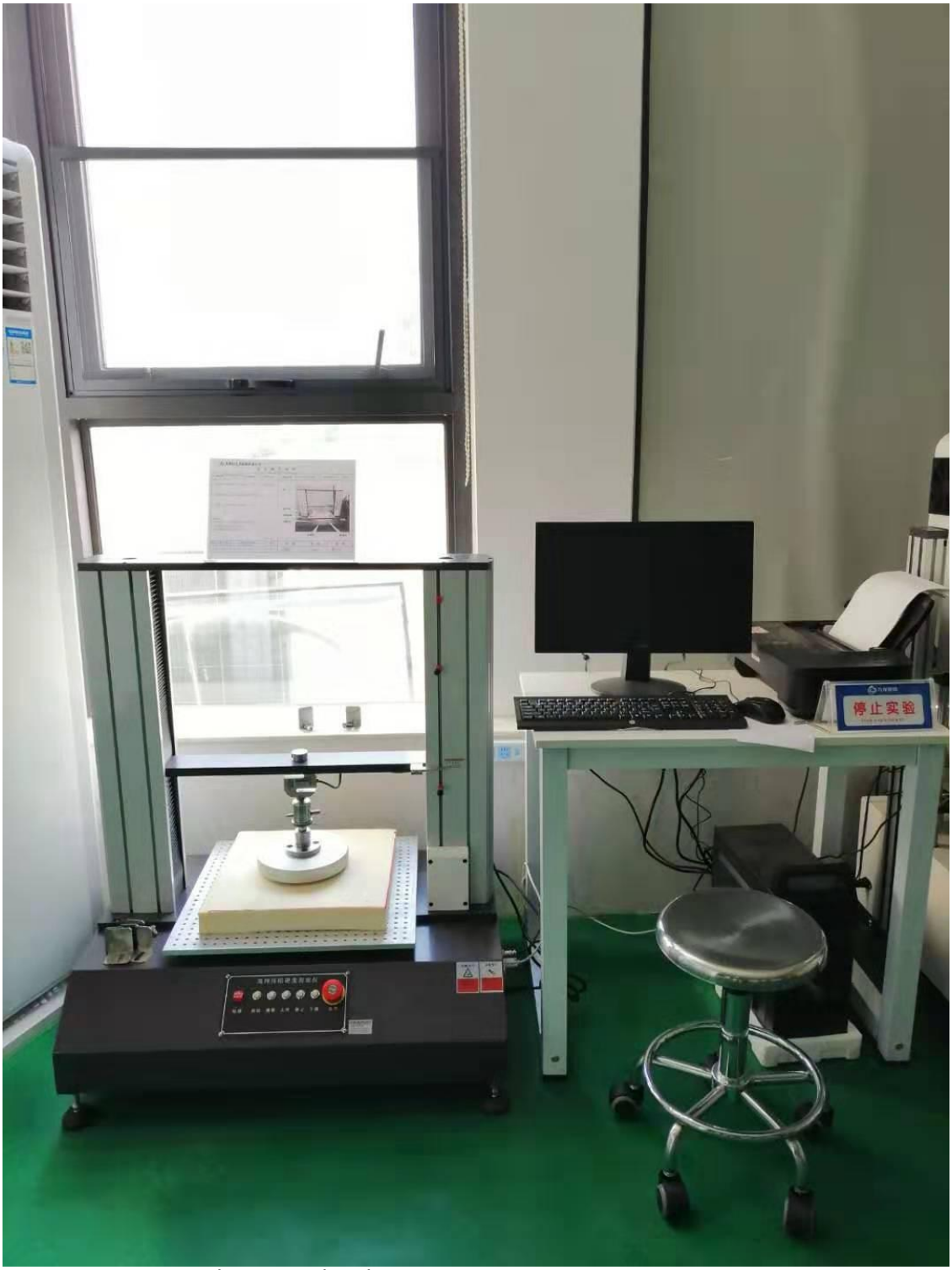
Constant Temperature Box Control Temperature:Accurate to positive and negative degrees

Constant Temperature Box Working voltage:220V

5. Test Volume:2 Litre

6. the whole weight of machine:about 7 KG

3.2 Sponge Pressure Limit Hardness Tester



Product name: Sponge indentation hardness tester
Product model: DLPMYX-2000 Display
mode: Microcomputer control

1.Compliance with standards：

GB/T 10802 Flexible foam polymer materials

GB/T 10807-2006 Polymer porous elastic materials, determination of elasticity
GB/T 12825-2003 Determination of hardness of polymer porous elastic materials by concave method
GB/T 18492.1-2003 Measurement of compressive stress-strain properties of polymer porous elastic materials Part 1 Low density materials
ASTM D3574 Test method for flexible porous Materials-Plate, Adhesion and Moulding Polyurethanes Foams

2.Main trial scope and function

It is mainly suitable for standard testing of soft foam and material such as sponge, foam and so on. The standard size sponge, foam and other samples are tested by standard A method, B method, C method and other test conditions under the national standard. Testing and testing of compressive stress.

3.product overview:

This equipment is composed of two parts: test host and control system. The instrument is controlled by computer. It can automatically test data in accordance with the standard requirements. All operations are operated in software. The test is convenient and the operation is simple. It can collect and process all kinds of data quickly and accurately, and it can access, display and print.

4.Software operation specification:

Preconcave degree: apply 5N force to measure the thickness of the sample, press 70% of the thickness of the sample at the rate of 100MM/MIN, and unload at the same rate.
Methods A-indentation hardness index was determined:
Methods B-Determination of indentation hardness characteristics:

After three times of preloading, the thickness of the concave specimen is 25% and keeps 30S. The force value is recorded.

Increase the indentation degree to 40% from 25% of the indentation specimen thickness and maintain 30S. Record the force value.

Increase the indentation to 65% from 40% of the indentation specimen thickness and maintain 30S, recording the force value.

Calculation of concavity coefficient:

Force required by 25% indentation/force required by 40%

indentation Force required by 65% concavity/force required by 40%

concavity

Method C - Concave Hardness Test:
After three pre - indentation tests, the instantaneous maximum of 40% of the specimen thickness was measured.
Method D - Free Setting Test Method:
According to their own requirements for testing, this test method is set according to foreign standards, such as requirements for the following tests: need to compress 5 times
1. For the first time, it is compressed to 30% of the original thickness at the speed of 150 mm/min and returns to the initial state.
2. After pausing for 5 seconds, it compresses to 40% of the original thickness at a speed of 90 mm/min and returns to the initial state.
3. After pausing for 3 seconds, it compresses to 75% of the original thickness at 300 mm/min speed and returns to the initial state.
4. After a pause of 1 second, it is compressed to 50% of the original thickness at a speed of

75 mm/min and returns to the initial state.
5. After 2 seconds of pause, the original thickness is reduced to 40% at the speed of 50 mm/min, and the initial state is returned.

5. Product characteristics:

1. Preset the amount of collapse, and precisely control the amount of collapse through the timing circuit.
2. Easy to use: high precision pressure sensor and large scale integrated circuit are used;
3. Test methods: In addition to the test methods prescribed by national standards, test methods can be set freely.
4. Press disc speed: the default speed is 100MM/MIN; the running speed can be set freely according to need;
5. Transmission mechanism: Precision ball screw, no noise measurement;
6. Thickness measurement: It can automatically calculate and display the tested sponge thickness.
7. Test process: real-time display of the test process;

6.Technical parameters:

1. Default speed: 100MM/MIN; freely set
2. Measurement range of indentation hardness: 0-1500 N
3. Minimum resolution of force measurement: 0.01N
4. Measurement error: <1%
5. Diameter of indenter: 200MM
6. Effective stroke of pressing plate: 150MM
7. Voltage: 220V/50HZ
8. Equipment Size: Length, Width and Height - 550MM * 400MM * 1200MM
9. Equipment weight: 100KG

3.3. Sponge Tensile Tear Strength Testing Machine

Product Name: sponge foam tensile tear strength
tester Display mode: liquid crystal display
Product model: DLPMLS-1000
Manufacturing standards:
(GB/T6344-2008) determination of tensile strength and elongation at break of soft foamed polymer materials
(GB/T10808-2006) Determination of tear strength of polymer porous elastic materials
(ISO 1798-1997) flexible foam polymerized materials, determination of tensile strength and elongation at break

1. Product performance characteristics:

It is suitable for testing the tensile strength, elongation at break and tear property of sponge foam plastics.
The design of sponge / foam tensile strength tester integrates the control technology and shape design of foreign advanced test equipment. This machine has beautiful appearance, convenient operation and stable and reliable performance. The machine adopts full digital speed regulating motor and full digital speed regulating system as driving device. After deceleration by arc synchronous belt and arc synchronous pulley deceleration system, the precision screw pair is driven to load.
This instrument is operated by LCD in Chinese. It has the advantages of wide adjustment range, easy operation, stable performance and high data precision

2.Main technical indicators:

01. Maximum test force: single column structure: 0-1000N
02. Display range of test force: 0-1000N
03. Test Force Classification: No Classification in the Whole Course

04. Measurement accuracy of test force: better than (+1%) of indication value.
05. Displacement resolution: 0.01mm
06. Accuracy of displacement measurement: 1% better than indication value
07. Transverse beam moving speed control range: 0.05 mm/min~300 mm/min
08. Accuracy of displacement and velocity control: better than (+1%)
09. Drawing stroke: 0-800mm (without fixture)
10. Shape size (length * width * height): 435mm * 275mm * 1700mm (single column)
11. Power supply: 220V, 50Hz

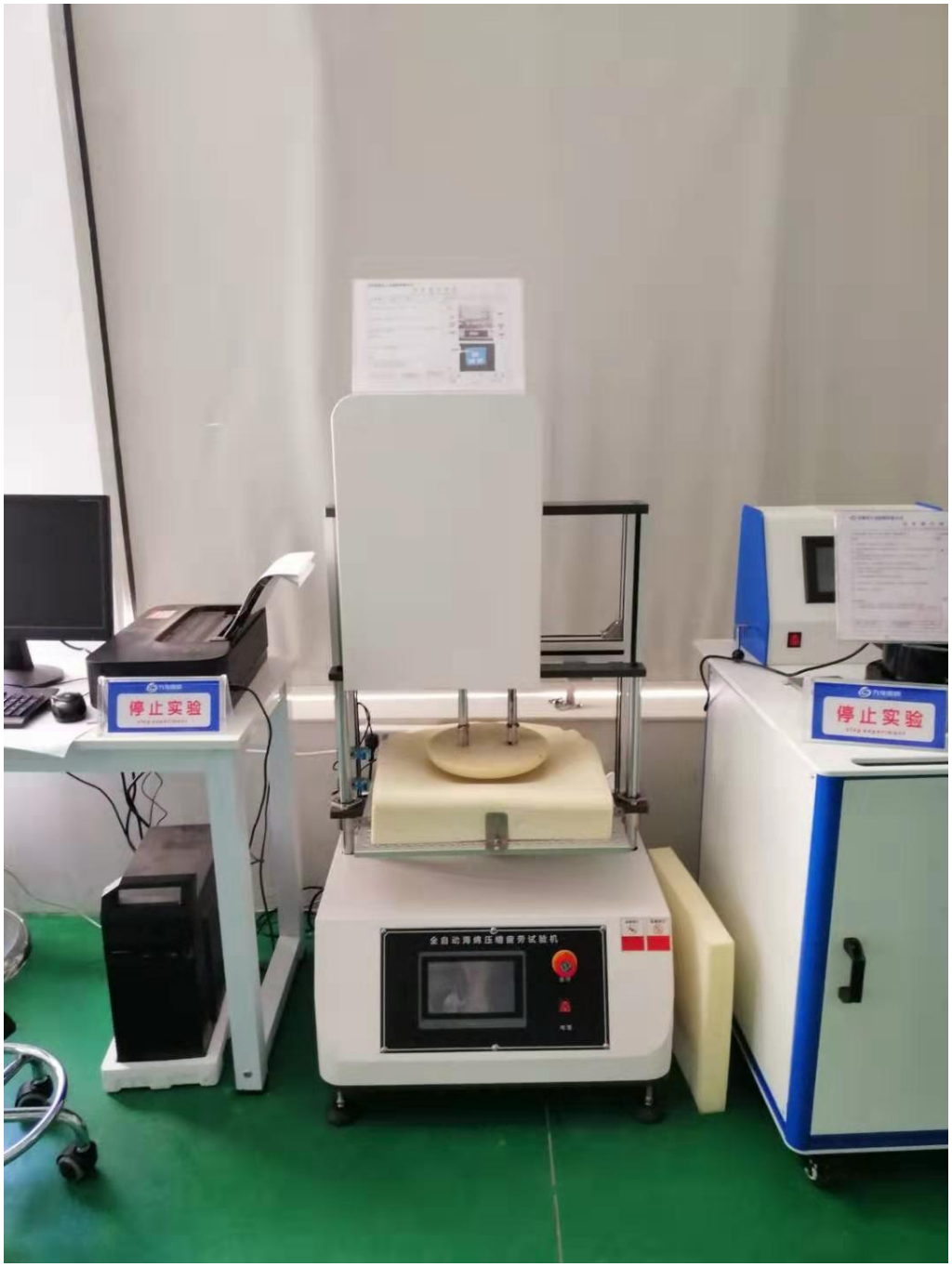
3. Equipment configuration:

01. One High Strength Host (Single Arm Structure)
02. A High Precision Photoelectric Encoder
03. Full Digital Speed Regulation System and Full Digital Speed Regulation Motor
04. Precision screw pair set
05. Precision arc synchronous deceleration system
06. A High Precision Sensor
07. A set of special stretching AIDS
08. Universal Testing Machine Control System and Large LCD Set

4.function introduction:

01. Speed instantaneous switching: In the course of the test, three preset speeds can be switched instantaneously to save the test time.
02. Automatic shutdown: After the sample is destroyed, the moving beam automatically stops moving.
03. Display mode: Dynamic real-time display of test force, displacement, test speed, peak value, test state, test curve and so on during the test process is displayed on the same LCD screen at the same time.
04. Auto-return: After the test is completed, the moving beam of the test machine automatically returns to the initial position of the test.
05. Limit protection: with program control and mechanical two-level limit protection function
06. Overload Protection: When the load exceeds 3-5% of the rated value, the equipment automatically stops working.
07. Automatic Printing: Making up a micro printer, which can print the test data.

3.4. Automatic Sponge Compression Fatigue Testing Machine:



Product model: DLPMPL-2000A
Manufacturing standards:
(GB/T 18941 ISO 3385) <soft foam polymeric materials. Determination of fatigue by fixed impact method>
(QB/T QBT 2819-2006)<determination of long term fatigue properties of soft foam Materials>
QCT56-93 <Test Method for Performance of Automobile Seat Cushion Material>
Japanese Automobile Industry Standard JASOB408-84

1. The main scope of application and functions:

It is mainly used for the reciprocating impact compression fatigue test of foam polymer materials. The thickness reduction value and the hardness reduction value (residual deformation rate) of the sample are measured, and the dynamic fatigue characteristics of the material can be understood.

The control system of this instrument adopts PLC, and the parameters are set and operated by 7 inch color touch screen. The impact load, the number of experiments and the impact thickness can be set according to the need of experiments. The biggest characteristic of this instrument is that with the increase of impact time and times, the impact load can be adjusted automatically when the impact load is less than the set impact load. The height of the sample pallet keeps the impact load within the set impact load range. When the test is completed, it has an alarm.

This instrument is the most advanced sponge fatigue impact testing machine in China with its convenient operation, reliable performance and high measurement accuracy.

2. Main technical parameters:

1. Maximum loading capacity: 0-1000N.
2. Reciprocating compression frequency: 10-100 times per minute (standard requirement: 70 + 5 times per minute)
3. Maximum Compression Number: Settable
4. Reciprocating compression stroke: maximum 100mm.
5. Diameter of pressure plate: _250 mm (+1 mm). Lower edge rounded corner: R25 mm (+1 mm)
6. Sample support platform: square edge length: 500 mm thickness: 10 mm, aperture: 6.35 mm spacing: 20 mm
7. Sample size: edge length - 500mm, thickness - 50mm + 2mm, shape - rectangle
8. Force Display: Real-time Dynamic Display of Peak Value
9. Number of experiments: Dynamic liquid crystal display, automatically stop after reaching the set value
10. Completion of experiment: buzz Report
11. Experiments: Constant Load Test and Constant Displacement Test
12. Sample positioning: It can be positioned according to different test specifications and sizes to ensure that it will not migrate with the increase of test time.
13. Host Size: Length, Width and Height = 800mm*500mm*1200mm
14. Equipment Weight: 100KG
15. Motor power: 180W
16. Power supply voltage: 220V/50HZ

3.5. Sponge air permeability tester

1.Scope of application:

Used to test the air permeability of various materials such as sponge, non-woven fabric, industrial filter cloth, paper and various filter materials.
2. Applicable standards: GB/T 5453; ASTM D737; ASTM D3574; ENISO 7231; ENISO 9237; BS 5636; DIN 53887; JIS L1096-A; AFNOR G07-111; EDANA140.1/2; TAPPI T251 and other

European and American standards.

3.Technical Indicators:

1. Pressure range: 0-300 pa; 0-4000pa;
2. Measurement units: mm/s; cfm; cm3/cm2/s; L/m2/s; L/dm2/min; m3/m2/min; m3/m2/h; dm3/S/25cm2;
3. Test range: 0.2-12826 mm/s;
4. Test accuracy: <2%;
5. Sample thickness: <12 mm;
6. Instrument calibration: standard orifice plate calibration;
7. Shape size: 450x710x1000mm;
8. Net weight: 115 kg;
9. Source: AC220V + 10%;
10. Power: 1100W;

4.Instrument features:

1. Fast test speed, conventional test about 20-30 seconds;

2. Color touch screen operation, Chinese and English menu display;
3. Different national standard parameters and units can be set arbitrarily. The test results need not be converted and can be printed out directly.
4. It fully meets the standards of all countries in the world, and its stability, repeatability and reliability have reached the advanced level of foreign countries.
5. Import pressure sensors of international brands are used to ensure the accuracy of test data.
6. The locking silent universal pulley is adopted for easy removal.
7. Adopt retractable workbench board, which is convenient for testing and does not occupy space.

3.6. Sponge falling ball rebound tester

1. Product model: DLPMLQ-500

2. Display mode: touch screen

3. Manufacturing standard: (GB/T6670-2008 ISO8307 ASTM D3574 ISO8307)determination of resilience of soft foam polymer materials falling ball method
Determination of elasticity of polymer porous elastic material GBT 10652 - 2001 ASTM D3574 soft porous material -- Test Method for plate, adhesive and molded polyurethane foam

4. Scope of application and functions:

It is suitable for measuring the resilience of soft polyurethane foam in drop ball

The instrument automatically calculates the percentage of the ratio of the maximum rebound height of steel balls to the drop height of steel balls (i.e. rebound rate) and expresses the rebound performance of foam plastics by rebound rate.
According to the requirement of standard test, each group of three samples is tested three times, each sample is tested three times, the maximum value is taken, and the average value of the three maximum values is taken to calculate the rebound height and rebound rate. This instrument fully meets the standard requirements, automatically records data and automatically judges the maximum value, automatically calculates the average rebound height and average rebound rate. It can set the number of samples for different batches and save the data for easy query and management. It can also print the current test data.
This instrument is controlled by German Siemens PLC and operated in Chinese with 7 Inch Touch screen. It has the advantages of convenient operation, reliable performance and high measurement accuracy. It is the most advanced sponge resilience testing instrument in China.

5.Technical parameters:

01. Ball drop height: 460mm (national standard) 500mm (US Standard)
02. Diameter of steel ball: 16mm
03. Height catheter: transparent plexiglass, inner diameter: 50MM
04. Precision of rebound rate of drop ball: <1%
05. Size of tested sample: length * width * height = 100 mm * 100 mm * 100 (50) mm
06. Number of samples: 3 groups
07. Intelligent judgment of maximum value for each group of samples and preservation
08. Automatically display rebound height and calculate rebound rate
09. Support two kinds of rebound height reading methods: automatic calculation and manual reading
10. Steel ball release mode: automatic release, manual release
11. Host Size: Length, Width and Height – Control Box Size: Length, Width and Height–
12. Power supply voltage: 220V/50HZ
13. Equipment weight:
14. Placement: desktop, suitable for desktop operation