



东莞中力仪器科技有限公司

Dongguan Zhongli Instrument Technology Co., Ltd

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Add: No.62, Xinhe Management of Area, Wanjiang District, Dongguan, Guangdong, China

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## Name: ZL-3001 No Rotor Rheometer ; Rubber Rheometer



→Direct Manufacturer.

→ Excellent Quality.

→Technical Innovation.

→ Fast Shipping.

→Superior Service.



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## Use:

This machine is designed by GB/T16584<Rubber——use no-rotor rheometer to test vulcanization characteristic, can meet ISO6502 standard, and can test the data of Italy standards about T10, T30, T50, T60, T90. This machine can be used to test unvulcanized rubber characteristic, and test out the suitable vulcanizing time. Used imported intelligent digital temperature controller, easy adjustment, wide temperature controlling range, high accuracy, good stability and reproducibility. Use computer to control the machine and store the test data and print the data. Test curve can be compared and amplification in software.

## Software Introduction

A. Testing standardization: GB/T16584 ISO6502:1991 and ASTM D5289-95.

B. Specimen information: set the material no, like "RBS6". User can set the title freely.

C. High quality function: You can modify the testing time when in operation. For example: When you set 20min to finish vulcanization, when in testing to 11min, you find the rubber material can finish vulcanization in 9min, and no need to test longer. You can modify the test time in software to 9min, the test will stop in 9min, and will draw integrity vulcanization curve and calculate the test data. If you test 18min, 19min will finish, but it doesn't finish vulcanization, need to continue testing, or the testing data will be wrong. At this time, you can set the test time longer, modify 25min or more, until the vulcanization finishing. It can time a and rubber material.

D. Graph curve scale automatic optimization (Auto Scale), after testing, software can according to test data size to adjust Y scale, according to 0—5 Mv 0—10Mv 0—20Mv, making testing curve more beautiful, for different material, you can also compare the data in software.

## Main functions:

non-curing equipment used monolithic rotor control, which include: host, temperature measurement, temperature control, data acquisition and processing, sensors and electrical chains and other components. These measurements, temperature control circuit consists of a temperature control device, platinum resistance, heater composition, capable of automatic tracking power and ambient temperature changes, automatically correct PID parameters to achieve fast and accurate temperature control purposes. Data acquisition system and mechanical linkage to complete the rubber vulcanization process of force torch signal automatic detection, automatic real-time display of temperature and settings. After curing, automatic processing, automatic calculation, print vulcanization curve and process parameters. Show curing time, curing power  $J_u$ , also has a variety of audible alert.

non-rotor curing equipment controlled by computer, the computer setting the parameters of the direct control of test parameters rheometer. Display real-vulcanization curve and temperature curve, store test results, different adjustable comparison of test results and in a different color.

## Features:

1. This instrument is really confined mold cavity, and the United States Alpha (formerly Monsanto) has



done. Repeatability, and test data comparable with the Alpha. At the international leading position in the same industry.

2,.The instrument development platform based on large databases, temperature control devices using the software to directly control and collection and processing. Instrument to overcome the general curing temperature of the shortcomings of using temperature controller (accuracy poor). The technical leadership of international new trend.

3. This instrument has statistics, analysis, storage and comparison functions. Humanized design, easy to operate

4. Using imported high-precision sensors

## How it works:

The rubber sample into the mold cavity is almost entirely enclosed and maintained at test temperature, the mold cavity are of two parts, of which the lower part with a small linear reciprocating movement (swing oscillation), oscillatory shear specimen produced strain determination is the reaction torque of the mold cavity (force), this torque (force) depends on the shear modulus of rubber.

Curing test specimens after the start of the shear modulus increases, the computer machine real-time display and record the torque (force), when the torque (force) rose to a stable value or the maximum as well as return to the state, they get a torque ( force) and time curve, that is, curing curve (Figure 1), shape of the curve and test the temperature and plastic material characteristics.

## Applicable industry:

Widely used in rubber products industries.

## Technical parameters:

|                        |                                      |
|------------------------|--------------------------------------|
| Model                  | ZL-3001 No Rotor Rheometer           |
| Meet standard          | GB/T16584 IS06502                    |
| Temperature tester     | Room temperature to 200°C            |
| Heating speed          | room temperature—200°C ,about 10 min |
| Temperature accuracy   | ≤ ±0.1°C                             |
| Temperature resolution | 0.1°C                                |
| Torque range           | 0-5N.M、 0-10N.M、 0-20N.M (option)    |
| Torque resolution:     | 0.001NM                              |
| Motor rotating speed   | 100 times / min                      |
| Rotor type             | Rotor less                           |
| Die body pendulum      | 1.7Hz±0.1Hz(100r/min)                |



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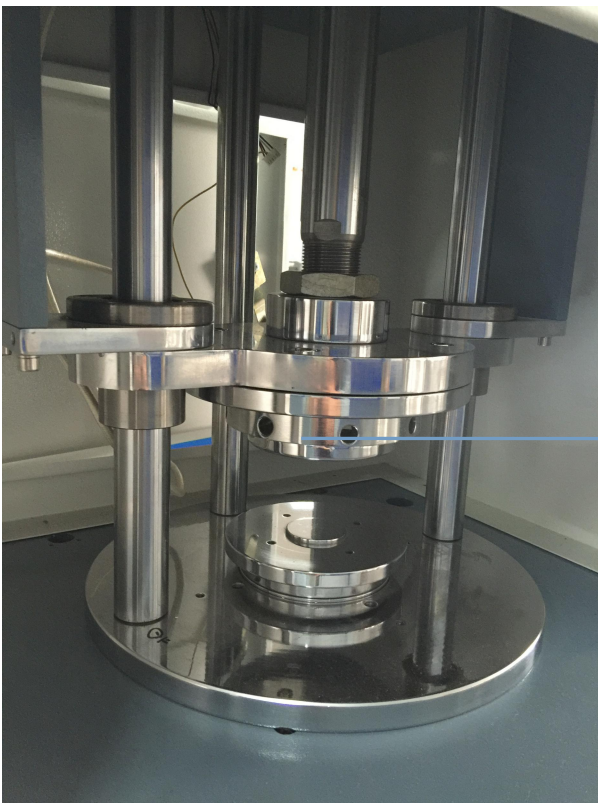
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|                      |   |
|----------------------|---|
| Rotor pendulum angle | $\pm 0.5^\circ$ , $\pm 1^\circ$ , $\pm 3^\circ$   |
| Testing time setting | 3min--120min, choose freely   |
| Air compression      | 0.5Mpa--0.65MPa   |
| Ambient temperature  | 0-35°C  |
| Test result          | Printing: date、 time、 temperature、 vulcanization curve、 temperature curve、<br>ML、 MH、 ts1、 ts2、 t10、 t50、 Vc1、 Vc2. |
| Consumption power    | 800 w   |
| Dimension            | 640mm×580mm×1300mm  |
| Power                | Single phase, 220V±10%, 50Hz  |
| Display              | Windows 7 + software  |
| Weight               | 260kg   |

### Machine Picture



This is the mold.



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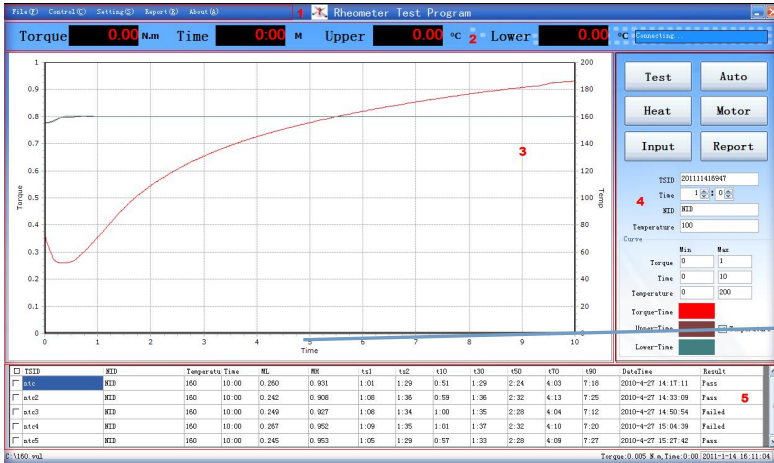
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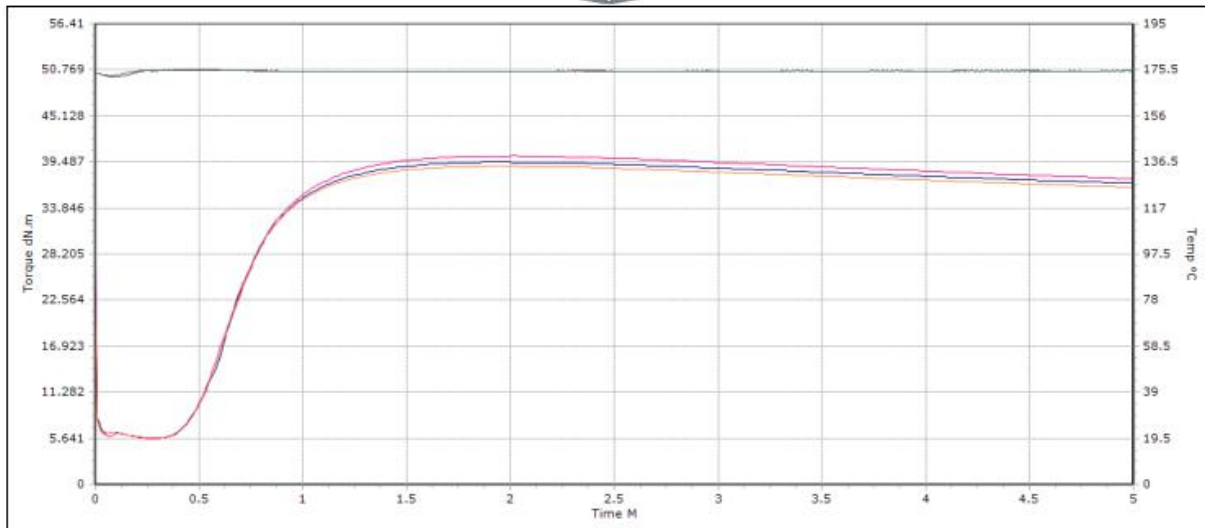
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Computer control with English software

### Test Report:

|     |     |      |      |   |             |     |     |
|-----|-----|------|------|---|-------------|-----|-----|
| NID | NID | Time | 5:00 | M | Temperature | 175 | ° C |
|-----|-----|------|------|---|-------------|-----|-----|



| TSID           | ML    | MH     | ts1  | ts2  | t10  | t30  | t50  | t90  | t95  | Vc1     | Vc2     |
|----------------|-------|--------|------|------|------|------|------|------|------|---------|---------|
| 20150113163434 | 5.618 | 40.229 | 0:25 | 0:27 | 0:30 | 0:36 | 0:42 | 1:06 | 1:16 | 117.647 | 122.449 |
| 20150113164002 | 5.665 | 39.474 | 0:26 | 0:28 | 0:30 | 0:37 | 0:42 | 1:05 | 1:15 | 122.449 | 127.660 |
| 20150113164547 | 5.680 | 38.967 | 0:25 | 0:28 | 0:30 | 0:36 | 0:42 | 1:04 | 1:14 | 122.449 | 130.435 |
| AVG            | 5.654 | 39.557 | 0:25 | 0:28 | 0:30 | 0:36 | 0:42 | 1:05 | 1:15 | 120.848 | 126.848 |
| STD            | 0.032 | 0.635  | 0:01 | 0:01 | 0:00 | 0:01 | 0:00 | 0:01 | 0:01 | 2.772   | 4.054   |





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### Machine certificate:

