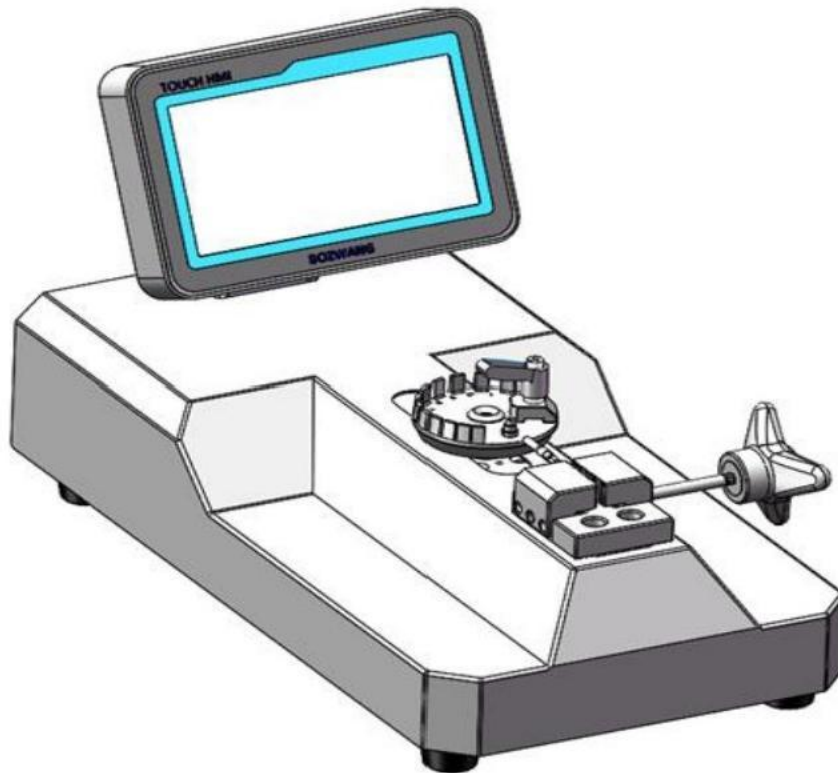


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# EW-2545 Tension force tester

## Instruction manual V1.0



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# catalogue

<b>I. Part description</b>	<b>4</b>
1. General diagram	4
2. Application field	5
3. Technical data	6
<b>2. Safety instructions</b>	<b>7</b>
1. General Provisions	7
2. Marks and symbols	7
3. Safety foundation	8
4. General safety regulations	8
5. Spare parts	8
6. Energy connection	8
7. Technical transformation	8
8. Safety instructions in each section	8
9. Responsibility	9
<b>3. Operating elements and operation modes</b>	<b>11</b>
1. General Provisions	11
2. Safety device	11
3. Operating table	12
4. Operating the components behind the operating table	13
5. User account login	14
6. Details of control panel functions (main interface)	15
7. Process window	16
8. Permission interface	17
<b>4. come into service</b>	<b>18</b>
1. General Provisions	18
2. Energy supply interface	18
3. Installation	18
4. Preparation work before the initial start-up	18
<b>5. operation manual</b>	<b>18</b>
1. General Provisions	18
2. Settings and adjustments	18
<b>Vi. Equipment maintenance</b>	<b>19</b>
1. General Provisions	19

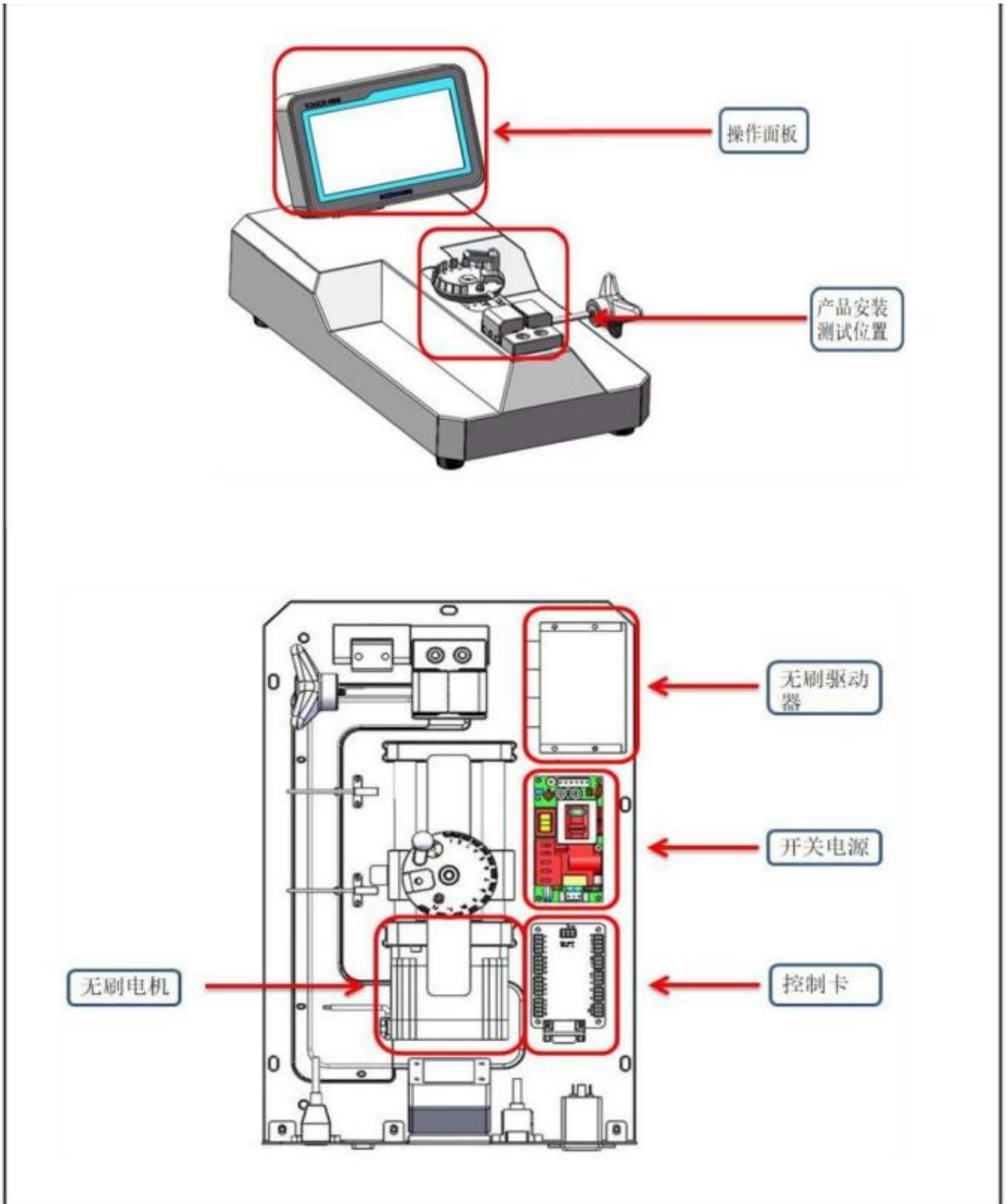
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2. Maintenance and maintenance	19
3. Maintenance plan	19
Vii. Fault maintenance	20
1. General Provisions	20
2. Spare parts	21
3. Overhaul for failure	21
8. Packaging, transportation, inventory and disposal	22
1. Packaging	22
2. Transportation	23
3. Storage	23
4. Disposal	23
9. List of vulnerable parts	23
X. Factory inspection standards	25
XI, packing list	26

# 1. Component instructions

## 1. General Fig

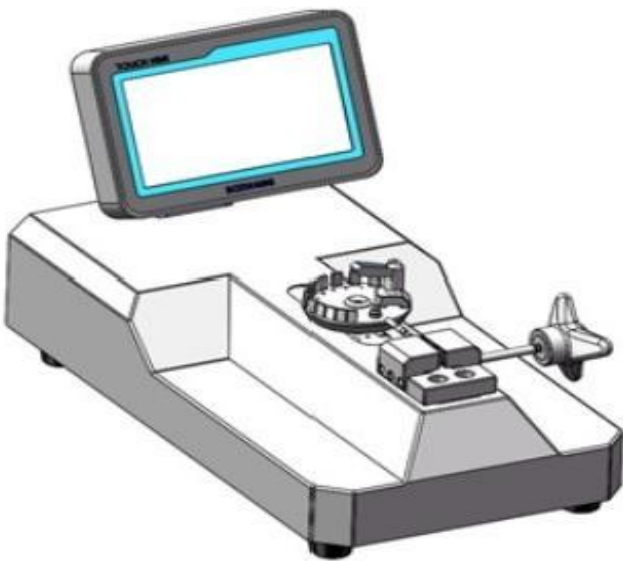


## 2. Application field

The company is a well-known supplier and manufacturer of wire harness processing equipment industry, facing the growing production demand of the processing industry. The company has developed and launched a new N1000E. Fast and effective transformation is one of the important features of this model, which greatly improves the speed, accuracy and operation convenience of wiring harness machining; modular flat design effectively saves space area. This equipment is suitable for most ordinary wire harness machining. It also has the following advantages:

### product presentation

N1000E is a digital tension test equipment, used for the wiring terminal pull force, welding terminal pull and waterproof bolt pull force test, can be connected to the PC terminal operating system to make the test data, reports and records.



### characteristic

- 12 kinds of terminal measurement card positions and special clamping heads to meet the requirements of various types of measurement clamping.
- Tension curve real-time display, simple and intuitive.
- Built-in international standard IEC60352, UL486A standard wire diameter force value library.
- Equipped with a 7-inch industrial touch screen, make the operation faster.
- Equipped with PC end software interface, can realize data record query, and report printing.

### 3. Technical data

#### 3.1 Technical parameters

##### **technical parameter**

measuring range	5-1000 N/0.5-100Kg
unit	Newton (N), kg (KG), pound (lb)
accuracy	±1%
Measurement speed	MAX 500 mm/min
route or distance of travel	60mm
joggle	Data transfer: RS 232
source	110-240VAC 50/60Hz
weight	10KG
outline dimension	L450x W235x300

#### 3.2 Environmental conditions

Indoor climate is recommended maximum relative humidity = 65%

Recommended temperature range is 18-35 ° C

## 2. Safety instructions

### 1. General Provisions

In terms of function and risk management, the N1000E tester is attached to the base wiring harness machining machine.

#### 1.1 Target group

Safety instructions described in this chapter shall be followed when using the N1000E tester.

All personnel operating the N1000E tester or who have the possibility of contacting this equipment must understand this instruction.

#### 1.2 Neglect of the safety instructions

Prior to shipment, each N1000E is inspected and final test run to ensure normal function. We shall not be liable for any damage caused by the failure to comply with the safety instructions. In particular, the damage caused by:

- ◆ **Incorrect use and operation**
- ◆ **Failure to follow the safety instructions given in the operation manual**
- ◆ **Improper or no regular maintenance**

### 2. Marks and symbols

In the operation manual, you will find three different symbols used to indicate the danger important safety information.



**STOP** mark in the operation manual

**warn:**



This sign is designed to alert you to the risk of immediate death, serious injury, permanent psychological impairment, or significant property damage!



**pay attention to!**

This sign is designed to alert you to information that may cause moderate or minor injury, psychological impairment, or property damage!

**pay attention to:**

This sign is designed to alert you to technical or financial security protection. Failure to comply with these instructions can lead to psychological barriers and losses

Production, serious, may also lead to production losses.

## 3. Safety foundation

### 3.1 Definition of the safety concept

The protection of personal safety is mainly through safety awareness and safety protection design, to prevent them from injury. The safety concept requires that the wiring

harness processing system be equipped with the necessary safety barriers and safety devices that are monitored by a safety circuit.

### 3.2 Safety protection devices

As an optional device, additional safety devices can be installed at the request of the user. These protective devices may be equipped with special safety switches. The standard machine configuration does not close the safety circuit of the entire system when the safety guard is turned on or removed.

### 3.3 Power supply

Press the main power switch to the rear button-raised position, unplug the power cord and power off the machine.

### 3.4 Remove the protective cover



The shield is allowed to be removed only when the machine is turned off and the power cord is removed from behind the console. Only authorized personnel are allowed to remove and replace the protective cover. Before resuming the N1000E, check that all shields and safety devices have been properly installed.

## 4. General safety regulations

### 4.1 Legal regulations

Must follow and comply with the general national and local safety regulations and accident prevention regulations, as well as the relevant production rules and regulations.



### Regular inspection and maintenance

User must run N 1000E only if the machine is in an uncorrupted state. It must strictly follow the time interval specified in Chapter 7 "Equipment Maintenance" of this specification.

### 5. Spare parts



Only original spare parts. If other brands of spare parts are used, the N1000E may be damaged, resulting in injuries and property damage. It shall not be liable for damage or physical injury caused by the use of non-N1000E original spare parts or materials. The use of non-original spare parts will leave all quality assurance clauses free effect.

### 6. Energy connection

The device can only be connected to one ground socket. Before removing any protective housing, turn off the machine and remove the power cord from behind the console.

## 7. Technical transformation



No extended or transforming technical modification shall be made to N1000E without written permission.

## 8. Safety instructions in each section

Additional safety instructions are included in the sections of this operation manual.

They indicate the particular potential hazards. Users must strictly follow these devices

All instructions for operation.

## 9. Responsibility

### 9.1 Authorized personnel

Only authorized personnel are allowed to operate or use the N1000E. The authorized person must have the necessary expertise, professional knowledge, the necessary training, and have formally assumed a defined responsibility.

### 9.2 Definition of authority (responsibility)

#### 9.2.1 Users (customers)

As a legal person with a level 1 responsibility, the customer has the responsibility to use the N1000E correctly. At the same time, the customer shall be responsible for proper training of operators and identifying authorized personnel. He has a clear scope of authority and the authority to lead the authorized personnel.

#### 9.2.2 Operators (trained by customer technical personnel)

- ◆ Operation of the N1000E
- ◆ Perform the operation as instructed by the technician
- ◆ Accept the supervision and training of technical personnel

#### 9.2.3 Technical personnel (trained by the service technician)

The technicians are responsible for the following work:

- ◆ N1000E Commissioning and installation,
- ◆ Independent supervised and performed the tests
- ◆ Finding finding and troubleshooting
- ◆ Perform regular repair and maintenance
- ◆ Ensure the normal operation of the security system

#### 9.2.5 Service Technician (trained)

A service technician is an employee, or a person specifically designated to be responsible for:

- ◆ Install the N1000E in the customer's location, and put it into use smoothly

- ◆ Repair and overhaul
- ◆ Provide remote technical diagnosis

### **9.3 Qualifications and training**

#### **user**

- ◆ Should have relevant experience in the management of staff and the judgment of hazards
- ◆ The operation manual must be read and understood, especially Chapter 2, the Safety Instructions

#### **operation staff**

- ◆ Training by technical personnel without professional experience
- ◆ The technical personnel can decide the task scope of the operator and train them accordingly

#### **artisan**

- ◆ Training in basic mechanical skills or professional experience
- ◆ Received basic instructions on how to operate the N1000E from the service technician
- ◆ The operation manual must be read and understood
- ◆ There should be an immediate operation manual available at any time

#### **Service technician**

- ◆ Professional vocational training in the mechanical or electrical fields
- ◆ Have received special training on the products

### 3. Operating elements and operation modes

#### 1. General Provisions

This chapter mainly describes the safety devices, operator control devices, display components, and their functions and locations.

#### 2. Safety device



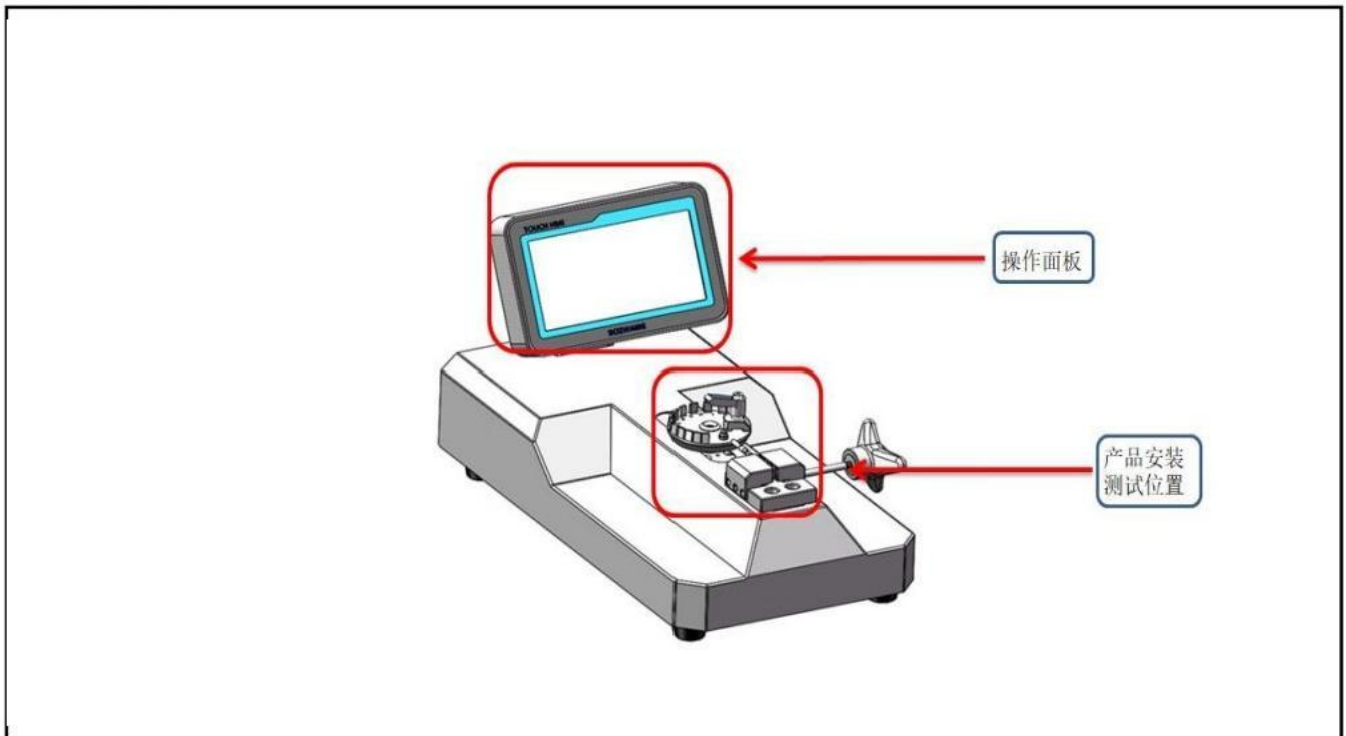
N1000E Equipped with safety cover in order to provide the operator must be equipped with the necessary safety devices, safety and safety circuits, etc.

#### 2.1 Power cord and power switch



Back of the power cord control console. Only when you pull the power cord out of the machine will the voltage be completely eliminated from the N1000E and all functional units are not charged.

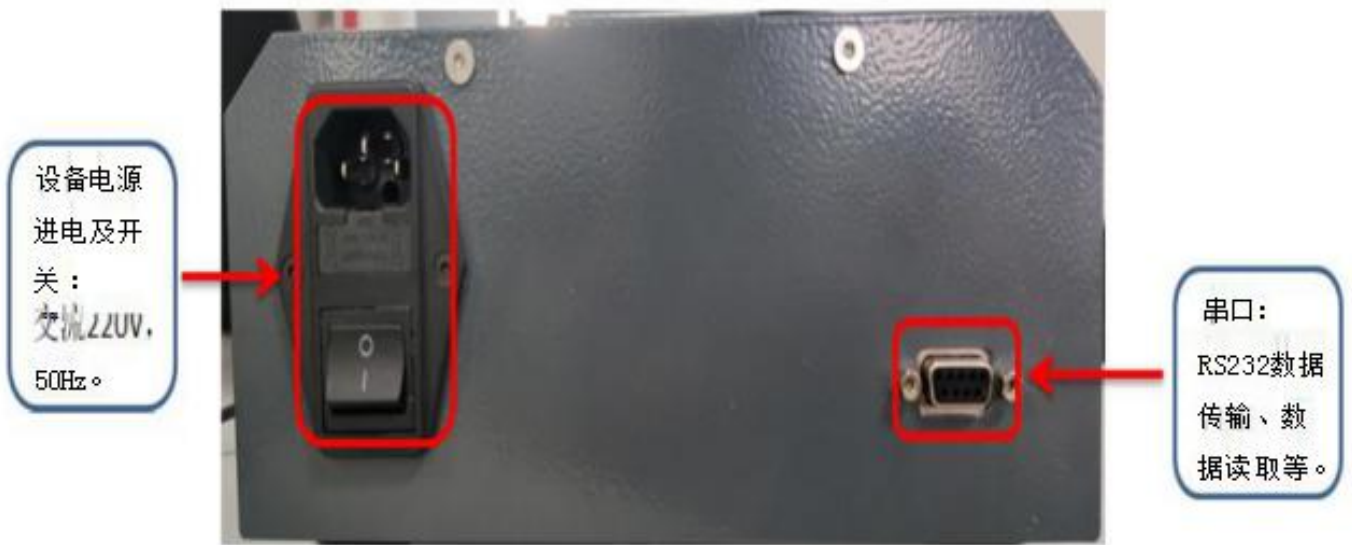
#### 3. Operating table



Operation panel: Industrial touch screen.

Product installation and test position: measure the fixed position of the product.

#### 4. Operate the components behind the console



Note: The specific key functions are shown in the figure above:

#### 5. User account login



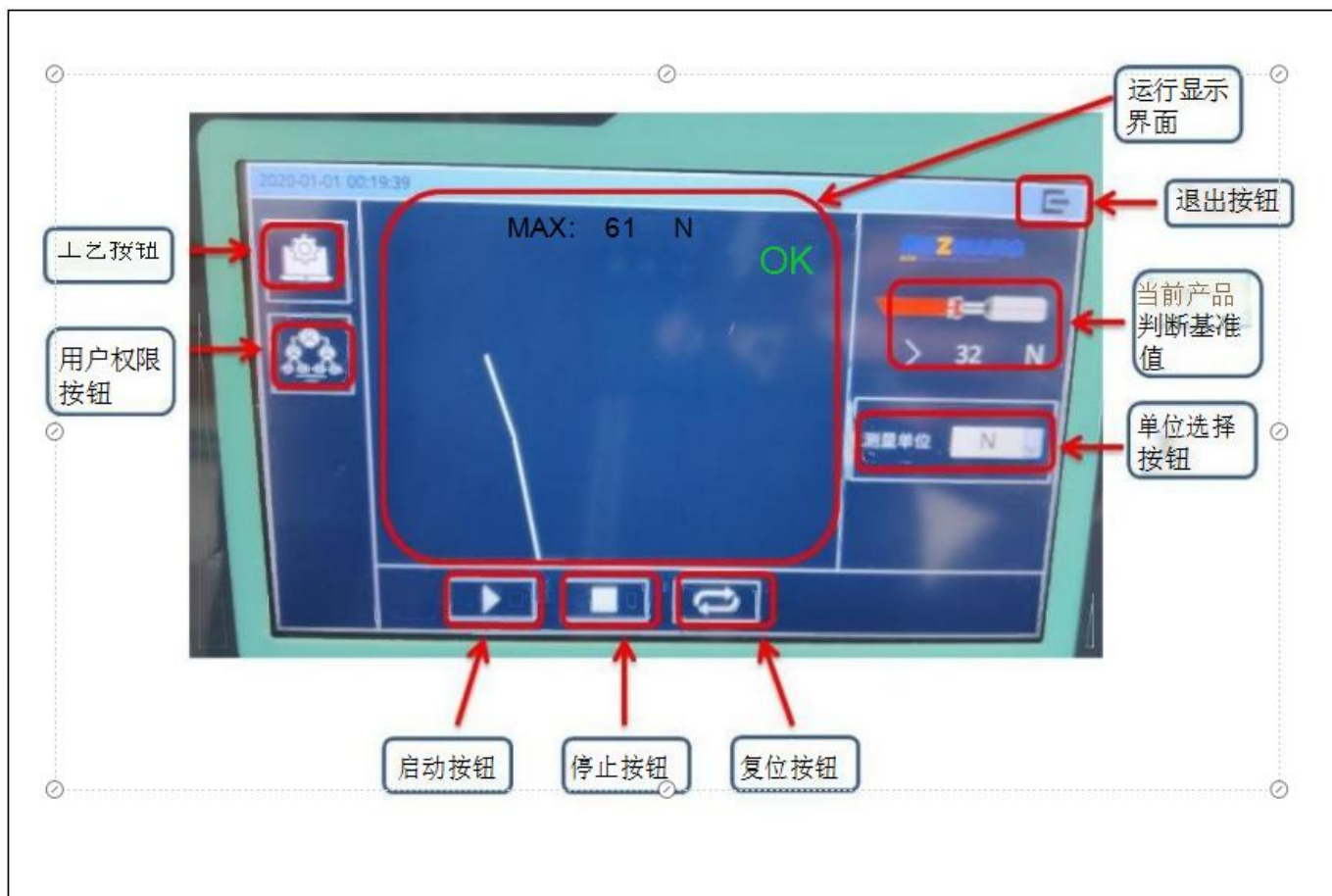
Account input box: click to select the login account name. 1000 N S supports three login accounts: operator, administrator and vendor.

Password input box: Click namely to enter the password of the current account. (Factory default value password. Operator: 111, Administrator: 222)

Language switch button: click to switch between Chinese and English.

Login button: After selecting the account logged in and entering the password, click the login button to enter the test screen.

## 6. Details of control panel functions (main interface)



Process button: Click immediately to open the process window.

User rights: Click immediately to open the user permission setting window.

Operation interface display: real-time display of pressure test curve, maximum pressure value and test product OK / NG status.

Exit button: click to exit the main interface and enter the login interface.

Current product judgment base value: the minimum standard value for the current test process.

Unit selection button: Click to select the test unit (N / Kg).

Start button: Click to start the test.

Stop button: Click to stop the test.

Reset button: Click the reset device.

## 7. Process window

The screenshot shows a software interface for process settings. It includes a speed setting section, a specification selection section with options for UL486A and custom settings, and a table of specifications. The table lists parameters such as diameter, AWG, and length for various specifications. There are also buttons for 'Exit', 'Process download button', and 'The Process'.

速度设置		mm/min				
规格选择		UL486A	自定义			
工艺选择 按钮	0.050	AWG 30	6	1.000	17	108
	0.080	28	11	1.300	16	135
	0.120	26	15	1.500	15	150
	0.140	26	18	2.100	14	200
	0.220	24	28	2.500	13	230
	0.250	24	32	3.300	13	275
	0.320	22	40	4.000	11	310
	0.500	20	60	5.300	10	355
	0.750	19	85	6.000	9	360
		18	90	8.400	8	370

退出按钮  
Exit  
工艺下载按钮  
The Process

Speed setting: the user can define the pull speed according to the product requirements in mm / min (maximum 500, minimum 10. ).

Specification selection: users can switch the test process according to product requirements, and be compatible with self-defined specification modification torque value (default save 2 The specific specifications are IEC 60352 and UL 486A).

Process selection button: the user only needs to check the process button box and click the process download button to complete the test process switch.

List Specification: Displays a list of the current specification parameters.

Process download button: the user can select the model in the current specification list (check the part) according to the product requirements, and click to switch.

Return button: Click it to return to the main interface.

## 8. Permission interface



Operator password: under the administrator permission, the user can modify the operator login password.

Administrator password: under the administrator permission, the user can change the administrator login password.

Close the window: Click it to return to the main interface.

## 4. come into service

### 1. General Provisions

#### 1.1 Personnel responsible for putting it into use

N1000E It must be installed and commissioned by a staff member, or a clearly authorized person, such as a regional representative or a national representative.

#### 1.2 Safety precautions

During the transport of the N1000E to the production site, follow the safety instructions regarding the transport. This specifically refers to:

- ◆ Only the original factory packaging can be used during transportation
- ◆ Please do not move any transport safety devices
- ◆ Make sure that the goods are in the correct position during transportation

### 2. Energy supply interface

The power interface is located behind the N1000E console. The user is responsible for the supply of electrical and pneumatic energy and must provide the energy output suitable for the following:

- ◆ 1 two-phase cable with protective grounding

### 3. Installation

#### 3.1 Install the electrical circuit

- ◆ Insert the power cord into the corresponding rear power interface end

### 4. Preparation work before the initial start-up

The service technician connects the power supply part of N1000E, completes the mechanical part debugging and completes the corresponding product parameters

#### 4.1 Check before startup

- ◆ Are all the power supplies installed complete and correct?
- ◆ Are all the functional components properly connected?
- ◆ Is the protective grounding wire properly connected?

## 5. operation manual

### 1. General Provisions



By following these operating instructions, the operator is able to operate the N1000E safely and efficiently.

### 2. Settings and adjustments

Always shut off the controller and cut off the air pressure supply before replacing any component, any mechanical adjustments or large replacement.

## Vi. Equipment maintenance

### 1. General Provisions

In order to avoid accidental faults and ensure the reliability of N1000E operation, regular maintenance and inspection is very important. To ensure the best performance of the N1000E, always follow the maintenance instructions.

#### 1.1 Training of maintenance personnel

Maintenance and inspection can be performed by an authorized personnel-trained operator. The authorized person shall be a professional or a trained client employee.

If a faulty component is found during maintenance or occurs during operation, the operator will not allow any repairs.

#### 1.2 Special safety instructions



indicate.

warn! For safety reasons, all maintenance and inspection work must be performed under the following conditions: off



For the N1000E, press the power start button to the OFF end, and disconnect the power cord.

### 3.2.1 Consequences of ignoring the safety instructions

Pay attention to! If the power cord is not disconnected, other items may cause an electrical failure, which will endanger the personal safety of the staff next to the machine or cause damage to the machine.

## 2. Maintenance and maintenance

### 2.1 Maintenance materials

Only company-recommended equipment and professional tools are allowed for maintenance work.

## 3. Maintenance plan

N1000E The low-maintenance design is adopted. Maintenance is basically limited to cleaning and lubrication of individual components, dust removal, removal of foreign bodies, etc. The time interval of maintenance can be determined according to the actual use frequency.

### 3.1 Maintenance time interval

To achieve optimal performance of the equipment, follow the maintenance instructions and the recommended intervals indicated in the table below. The time intervals in the table are the general guidelines. It may be necessary to adjust the cleaning time interval accordingly. In order to detect the pollution level, it is very important to regularly observe and check the machine and the processed parts.

operate	time interval	handle rs	The tools used
Clean residual copper wire and wire on the equipment	q. d	operation staff	Vacuum cleaner, brush
Maintenance of motor rod	weekly	operation staff	grease
Check whether the line is aging, copper wire bare leakage, and photoelectric switch function confirmation	Once every June	artisan	Multimeter, wiring tools

Regular and careful maintenance will ensure the durable and reliable operating performance of the N1000E. Maintenance documentation helps to ensure proper maintenance, especially at long time intervals.

## Vii. Fault maintenance

## 1. General Provisions

The LCD screen on the front panel of the console displays all the necessary information. It allows users to troubleshoot smaller faults quickly and efficiently, in compliance with

If the user himself cannot eliminate a fault, he can use the information in the help text displayed when he asks the service technician.

### 1.1 Training

Only service technicians or authorized personnel are allowed to perform repair tasks on the N1000E. The necessary qualifications and training are detailed in Section 2.10, "Responsibility".

#### 1. instructions

**warn! Close the N1000E and disconnect the power cord before removing any component of the machine for repair operation!**

### 2. Spare parts

Usually, spare parts do not arrive with the N1000E in the first shipment. By negotiating with the service technicians or by ordering specifically from the company.

### 3. Overhaul for failure

Most faults can be detected by the controller. Depending on the failure type, the N1000E will stop at the current operation step or complete the entire operation cycle.

If a failure occurs, the display displays the corresponding error message that tells the operator the type of error and the initial conditions that were not reached. After eliminating the cause of the error, click the reset button after clearing the alarm, and there is no alarm prompt after the normal reset. Then the N1000E can start working again.

**N1000E The tension tester does not operate normally or the poor product may fail as follows:**

Detected fault	Possible cause	resolvent
The computer cannot be turned on	The main fuse was burnt out.	Check the fuse and replace it if necessary
The motor is not running	<ol style="list-style-type: none"> <li>1. Check the drive for any abnormal alarm</li> <li>2. Whether the power supply part of the drive is abnormal</li> <li>3. Whether the motor is abnormal</li> </ol>	<ol style="list-style-type: none"> <li>1. Check whether the line is damaged or has poor contact</li> <li>2. If the line is not damaged, it still can not be handled and contact the supplier to replace the switch power supply or driver in time</li> </ol>
Motor collider	<ol style="list-style-type: none"> <li>1. Whether the position of the photoelectric switch is loose</li> <li>2. Whether the photoelectric switch is in bad contact</li> </ol>	<ol style="list-style-type: none"> <li>1. Check whether the position of the photoelectric switch is loose or has poor contact</li> <li>2. If the photoelectric switch is not loose or in bad contact, it still cannot be handled, and then contact the supplier for replacement treatment.</li> </ol>

<p>The tension value does not consistent with the actual situation</p>	<ol style="list-style-type: none"> <li>1. The friction value of the mechanical part changes</li> <li>2. The tension sensor is damaged</li> </ol>	<ol style="list-style-type: none"> <li>1. Calibrate the tensile value</li> <li>2. If the tensile value is still inconsistent with the actual situation after recalibration, the joint phenomenon should contact the supplier to replace the tension sensor in time.</li> </ol>
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## **8. Packaging, transportation, inventory and disposal**

N1000E Packaging as a fully assembled unit and being shipped to the customer.

### **1. Packaging**

#### **1.1 Packaging materials**

The packaging material consists of the following parts:

- ◆ wooden case
- ◆ Foam polystyrene filler material
- ◆ Protective plastic film

The packaging materials are the property of the customer. It is recommended that the packaging materials for special conditions that may occur in the future.

### **2. Transportation**

For information on the dimensions and weight of transportation, see Technical Parameters in Chapter 3.1.

#### **2.1 Outdoor transportation**

All parts must be packed in the original factory manner and shall avoid the danger of sliding.

### **3. Storage**


If it will be stored for a long time, all machine parts must be covered with cover, protected against dust and treated against corrosion.

### **4. Disposal**

The disposal of packaging materials or machine parts shall refer to the rules and regulations of the local authorities.

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9. List of vulnerable parts

order number	name	picture of real products
1	lead screw	
2	Fuse fuse	