

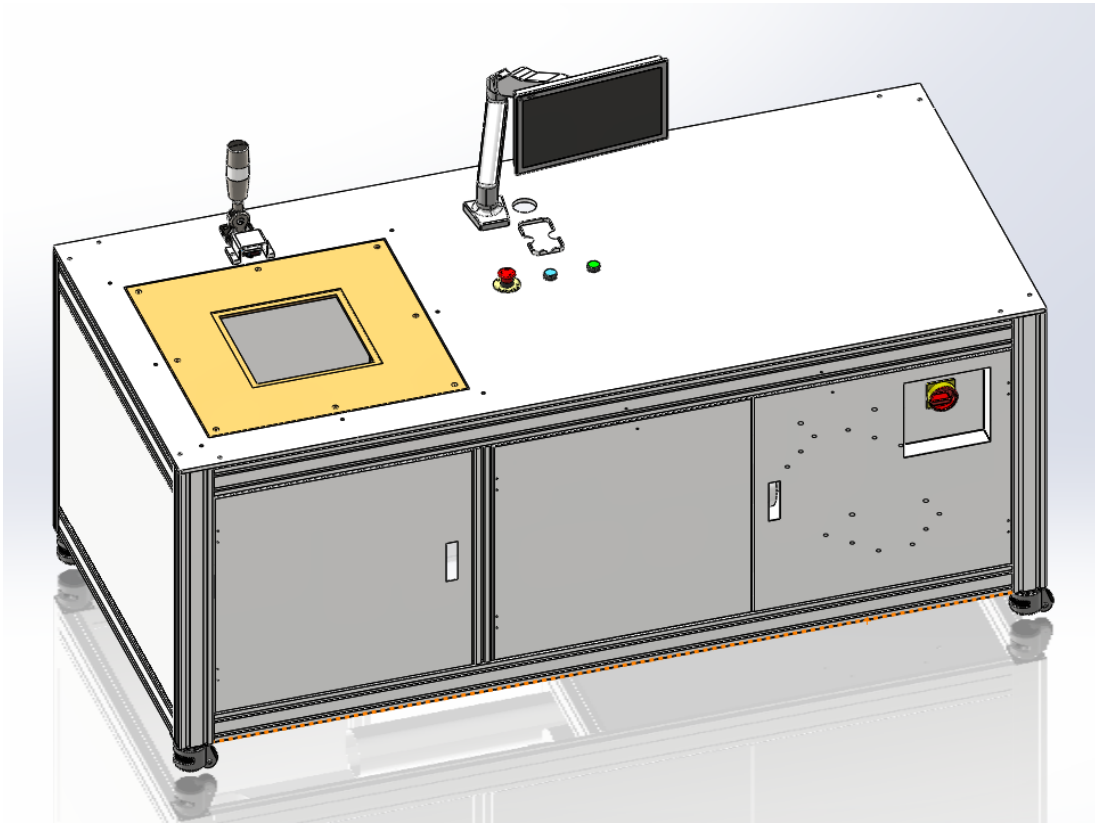
隆广机械 · LONGGUANG MACHINERY

# 阻力检测分析设备

## RESISTANCE TESTING AND ANALYSIS EQUIPMENT

使用说明书 / OPERATING MANUAL

中英双语版 / CHINESE-ENGLISH BILINGUAL EDITION



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## 使用前说明 / Before You Begin

感谢您购买使用隆广机械开发研制的设备。为确保正确使用本设备并充分发挥其性能，操作前请务必仔细阅读本说明书。

Thank you for purchasing equipment developed and manufactured by Longguang Machinery. To ensure proper operation and achieve maximum equipment performance, read this manual carefully before operating the equipment.

由于产品会进行换代更新，实物的部分细节可能与本说明书略有不符，具体请以实物为准。

As the product may be updated from time to time, some details of the actual equipment may differ slightly from this manual. The actual equipment shall prevail.

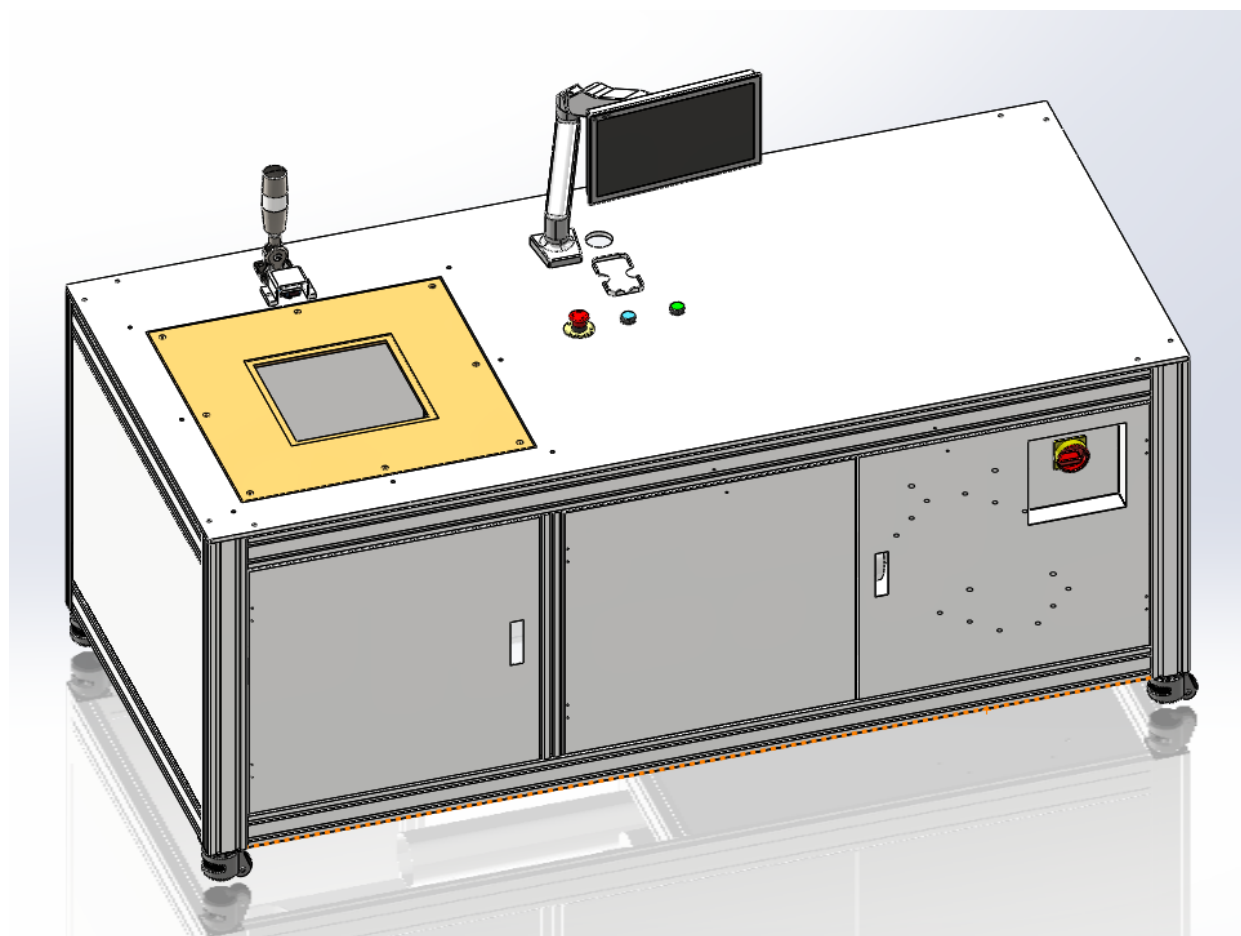


图 1 设备外观 / Figure 1 Equipment Exterior

## 一、设备介绍 / 1. Equipment Overview

### 1.1 用途与特点 / 1.1 Applications and Features

空气过滤器阻力检测分析系统用于解决人工检测效率低、检测结果不精确且无法进行统计分析等问题；同时改善传统卧式检测设备体积大、占地多的问题。本设备具有质量可靠、重量轻、外形美观等优点。

The Air-Filter Resistance Testing and Analysis System is designed to address the low efficiency, inaccurate results, and lack of statistical analysis associated with manual testing. It also reduces the size and floor-space requirements of conventional horizontal testing equipment. The equipment features reliable construction, low weight, and an attractive appearance.

### 1.2 主要性能及参数 / 1.2 Main Performance Specifications and Parameters

| 项目<br>Item                                   | 单位<br>Unit        | 参数<br>Specification |
|----------------------------------------------|-------------------|---------------------|
| 外形尺寸<br>Overall dimensions                   | mm                | 2000 × 1000 × 850   |
| 风阻板尺寸<br>Air-resistance plate dimensions     | mm                | 600 × 600           |
| 设备重量<br>Equipment weight                     | kg                | 200                 |
| 设备最大风量<br>Maximum equipment airflow rate     | m <sup>3</sup> /h | 500                 |
| 检测板最大开口尺寸<br>Maximum test-plate opening      | mm                | 500 × 500           |
| 压差计量程范围<br>Differential-pressure gauge range | Pa                | -1000 to +1000      |
| 精度<br>Accuracy                               | Pa                | ±2                  |
| 电机功率<br>Motor power                          | kW                | 4.3                 |
| 电源<br>Power supply                           | V AC              | 380                 |
| 频率<br>Frequency                              | Hz                | 50                  |
| 总功率<br>Total power                           | kW                | 5                   |

### 1.3 结构简介 / 1.3 Structure Overview

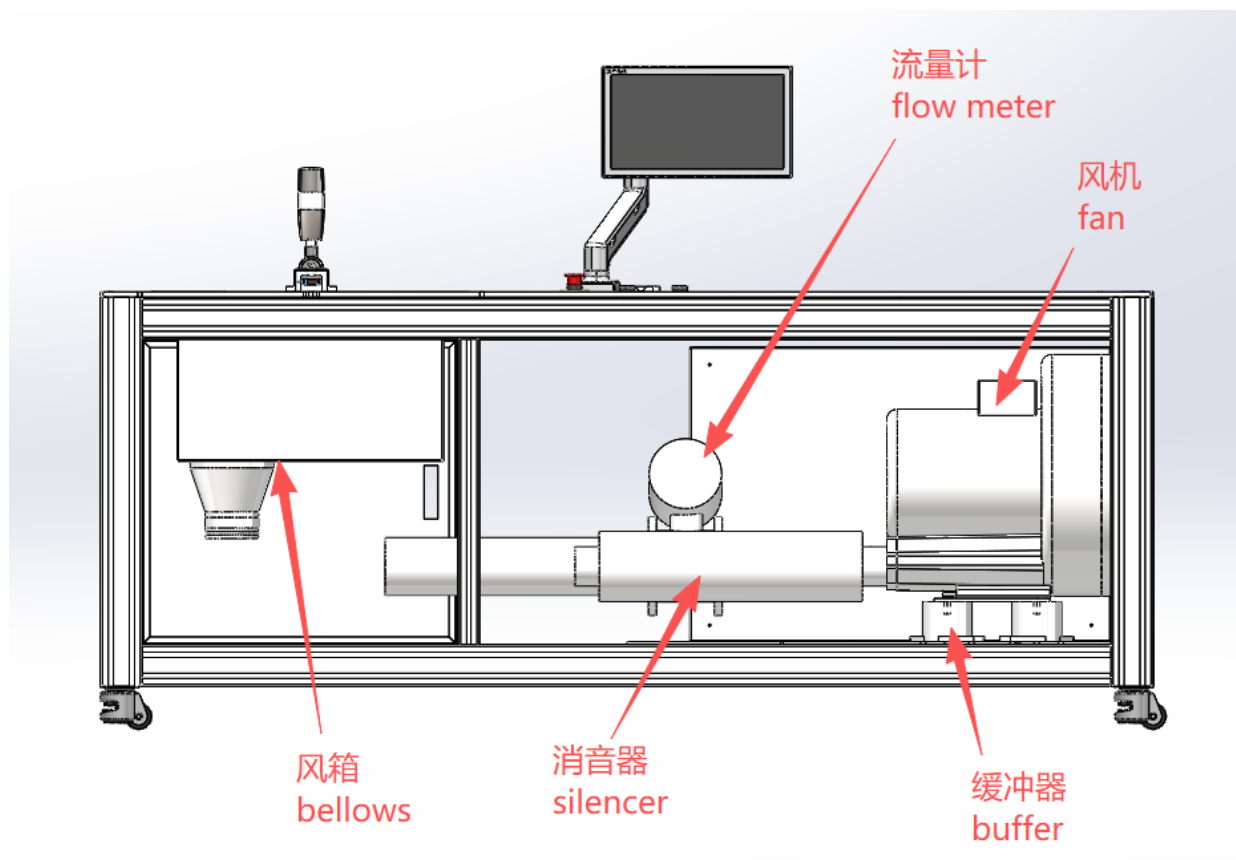


图 2 设备内部结构 / Figure 2 Internal Structure

注：图中英文标注沿用原图；下表列出规范译名。

Note: English labels embedded in the source image are retained; the table below provides standardized designations.

| 部件<br>Component | 英文名称<br>English designation |
|-----------------|-----------------------------|
| 风箱              | Air plenum                  |
| 流量计             | Flow meter                  |
| 消音器             | Silencer                    |
| 风机              | Blower                      |
| 缓冲器             | Buffer chamber              |

二、开始使用 / 2. Getting Started

2.1 启动设备 / 2.1 Powering On the Equipment

- 启动设备电源。  
Switch on the equipment power.
- 等待设备一体机启动（约 1 min）。  
Wait for the equipment's all-in-one PC to start (approximately 1 min).
- 连接 SVR，进入人机交互（HMI）页面。  
Connect to the SVR to open the human-machine interface (HMI) screen.



图 3 SVR 连接界面 / Figure 3 SVR Connection Interface

| 界面文字<br>UI label | 对应英文<br>English | 界面文字<br>UI label | 对应英文<br>English |
|------------------|-----------------|------------------|-----------------|
| 连接               | Connect         | 搜寻               | Search          |
| 历史               | History         | 名称/IP            | Name/IP         |
| 未知               | Unknown         |                  |                 |

## 2.2 启动风机 / 2.2 Starting the Blower



图 4 控制窗口 / Figure 4 Control Window

- 启动风机。  
Start the blower.
- 启动测试。  
Start the test.
- 设置风量（更改后的风量设定将在完成一次测试后生效）。  
Set the airflow rate (the revised setting takes effect after one test has been run).

### 2.2.1 注意事项 / 2.2.1 Precautions

使用前请检查风道和电机内有无异物，并及时清理；确认风量与标准件对标正常；确保进风口、风道和出风口均无遮挡、无异物。

Before use, inspect the air duct and motor for foreign objects and remove them promptly. Verify that the airflow reading agrees with the reference standard, and ensure that the air inlet, air duct, and outlet are unobstructed.

## 2.3 用户登录 / 2.3 User Login

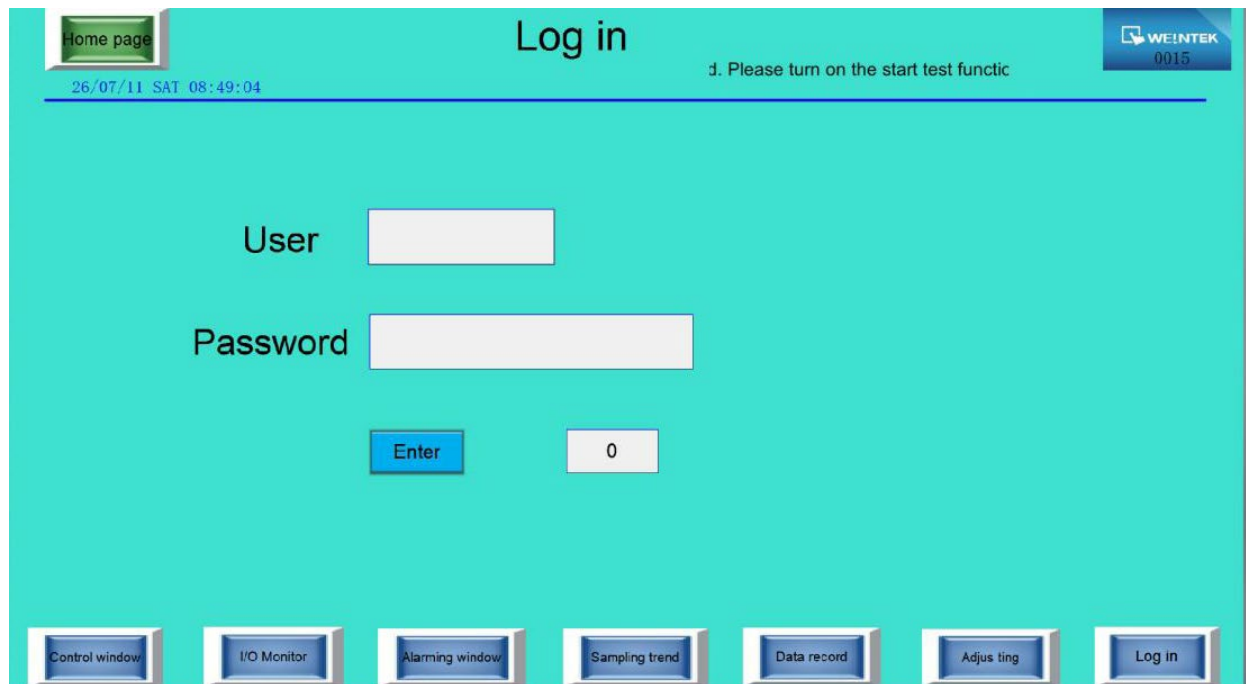


图 5 用户登录界面 / Figure 5 User Login Screen

系统提供以下两个账户：

The following two accounts are available:

| 权限<br>Access level              | 账户<br>User | 密码<br>Password |
|---------------------------------|------------|----------------|
| 低权限账户<br>Limited-access account | A          | 456852         |
| 高权限账户<br>High-privilege account | AB         | 456258         |

## 2.4 压力微调 / 2.4 Pressure Fine Adjustment

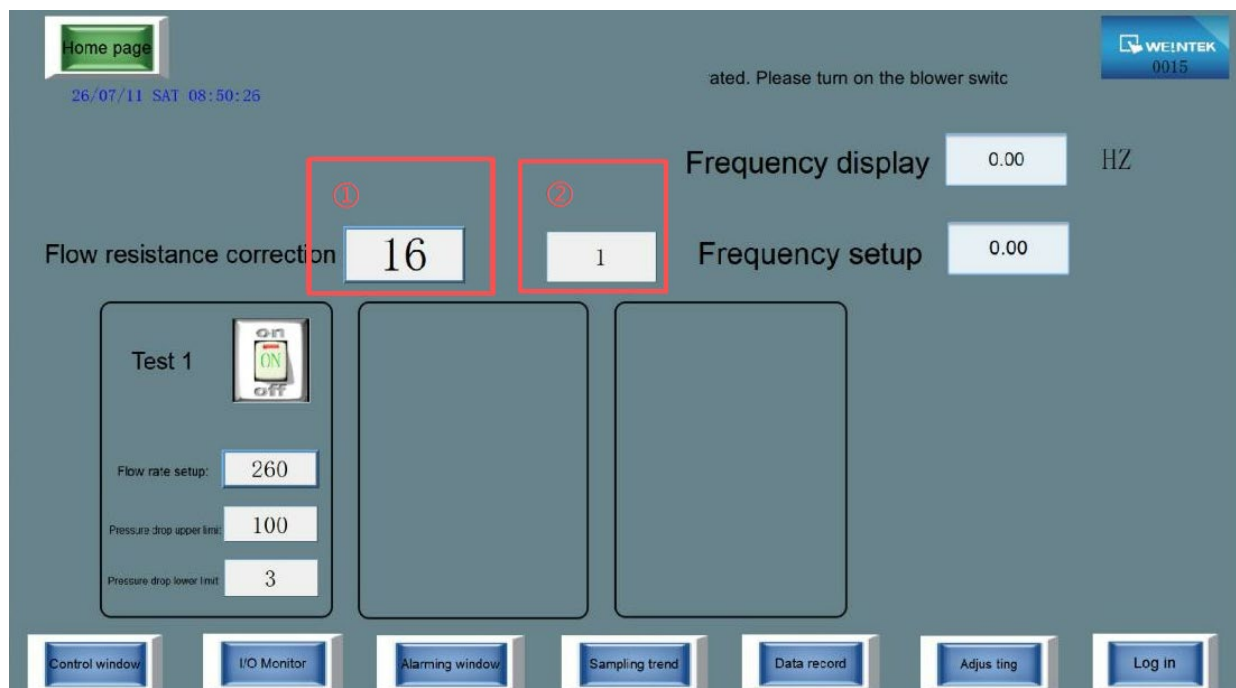


图 6 压力微调界面（输入框 1 与输入框 2） / Figure 6 Pressure Fine-Adjustment Screen (Input Fields 1 and 2)

压力可采用以下两种方式之一进行调整，请按说明选择一种。

Pressure can be adjusted by either of the following two methods. Use one method as instructed.

### 2.4.1 板阻清零 / 2.4.1 Plate-Resistance Zeroing

风机启动且风量稳定后，在此界面调整输入框 1 的数值，使输入框 2 的数值为零，即完成板阻清零。

After the blower has started and the airflow rate has stabilized, adjust the value in Input Field 1 until Input Field 2 reads zero. This zeros out the plate resistance.

### 2.4.2 与标准件对标 / 2.4.2 Calibration Against the Reference Standard

风机启动且风量稳定后，在此界面调整输入框 1 的数值，使输入框 2 的数值与标准件相符。

After the blower has started and the airflow rate has stabilized, adjust the value in Input Field 1 until the value in Input Field 2 matches the reference standard.

## 2.5 数据导出 / 2.5 Data Export

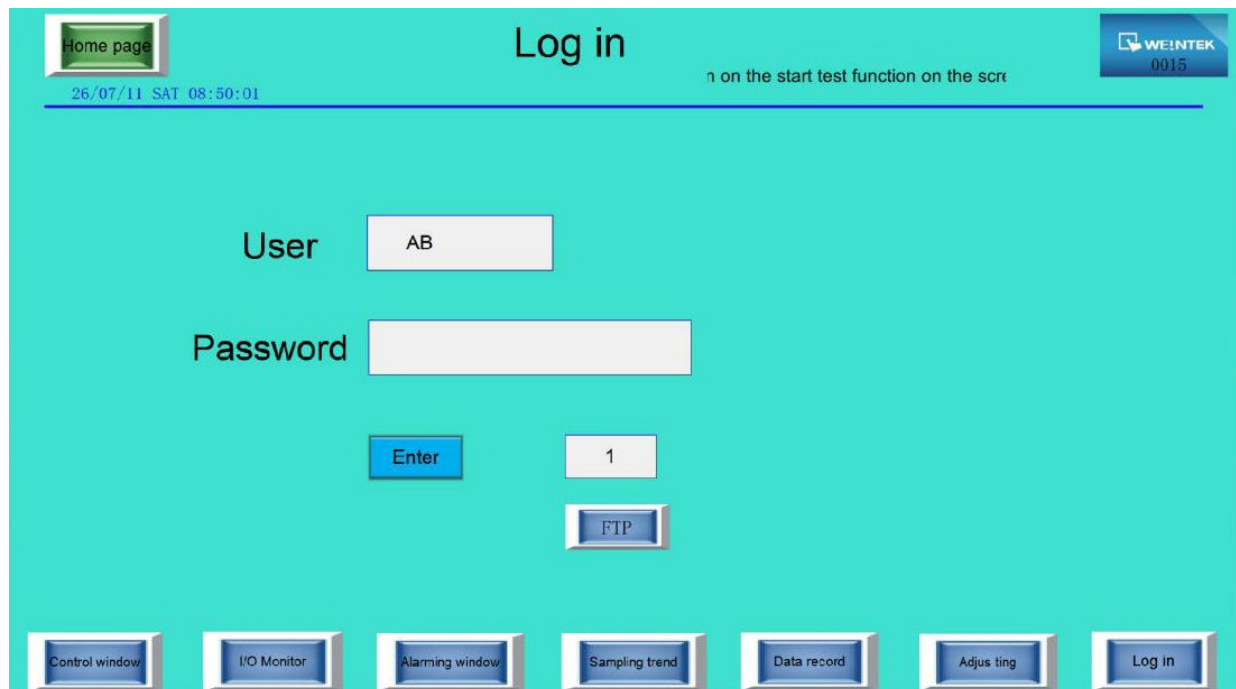


图 7 FTP 数据导出按钮 / Figure 7 FTP Data-Export Button

- 在用户登录界面使用高权限账户 AB 登录（密码：456258）。  
On the User Login screen, log in with the high-privilege account AB (password: 456258).
- FTP 导出按钮出现后，点击该按钮并等待数秒。  
When the FTP export button appears, click it and wait a few seconds.
- 显示导出成功后，可在一体机文件夹中查看导出的文件。  
After a message confirming a successful export appears, view the exported file in the folder on the all-in-one PC.

### 导出目录 / Export directory

D:\FTP

## 2.6 阻力标准件点检说明 / 2.6 Resistance Reference Standard Check

### 阻力标准件点检操作说明 / Operating Instructions

- 放上夹具并固定。  
Position the fixture and secure it in place.
- 调节风量；待风量稳定后将板阻调零，放上阻力标准件并测试阻力。  
Adjust the airflow rate. After it has stabilized, zero the plate resistance, position the resistance reference standard, and measure its resistance.
- 读取并记录相应风量下的阻力数据。  
Read and record the resistance data at the corresponding airflow rate.
- 将阻力数据与成品线测试阻力标准进行比较，偏差应在规定公差范围内。  
Compare the resistance data with the resistance test standard for the finished-product line. The deviation shall be within the specified tolerance.
- 将阻力点检数值填入点检质控图，对阻力波动趋势进行监控分析。  
Enter the resistance check value in the inspection quality-control chart, and monitor and analyze the resistance fluctuation trend.
- 定期将阻力标准件送至成品线进行对标。  
Periodically send the resistance reference standard to the finished-product line for cross-checking.
- 点检频次：每天。  
Check frequency: Daily.

## 三、电气工程图 / 3. Electrical Engineering Drawings

### 3.1 电路图 / 3.1 Circuit Diagram

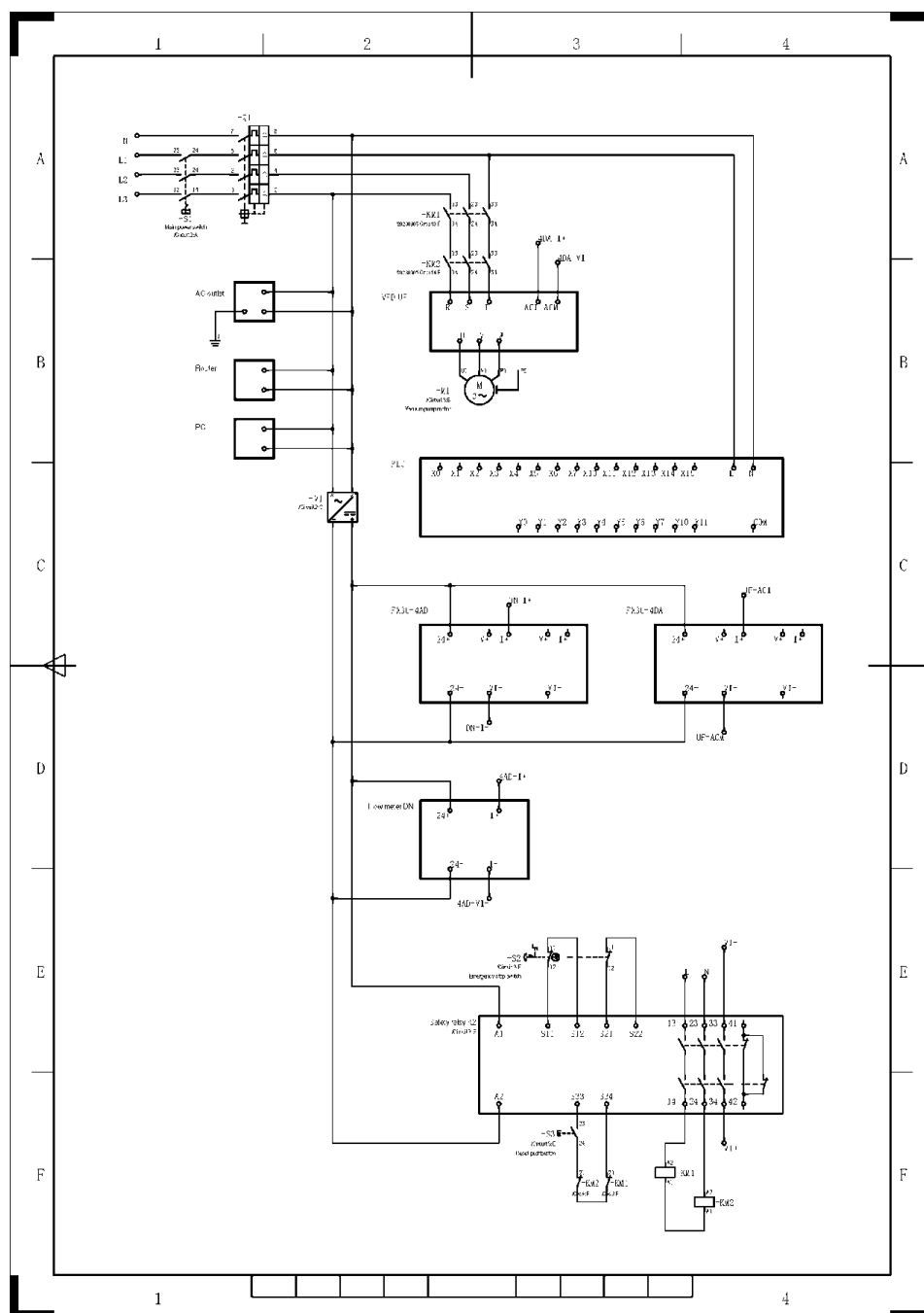


图 8 电气原理图 / Figure 8 Electrical Circuit Diagram

## 四、设备维修说明 / 4. Equipment Maintenance Instructions

- 设备使用前，请仔细阅读说明书并正确使用。因运输或保管不当、电压不符合规定，或未按本说明书要求使用而造成的损坏，不在保修范围内。

Before operating the equipment, read this manual carefully and use the equipment correctly. Damage caused by improper transportation or storage, a supply voltage that does not meet the specified requirements, or operation contrary to this manual is not covered by the warranty.

- 设备保修期满后，可联系我司安排在当地购买配件并获取维修服务。服务费按厂家标准核算。

After the equipment warranty expires, contact our company to arrange the local purchase of replacement parts and to obtain maintenance service. Service charges will be calculated in accordance with the manufacturer's standard rates.

- 国内保修期为一年；国外服务需另收服务费。有下列情况之一者，不予“三包”：

The domestic warranty period is one year. Additional service charges apply outside China. The Three Guarantees (repair, replacement, and return) do not apply under any of the following circumstances:

- 未按产品说明书进行运输、使用、装拆而造成的故障；

Failures caused by transportation, operation, assembly, or disassembly contrary to the product manual;

- 自行改装、加装或使用非本厂配件而造成的故障；

Failures caused by unauthorized modification, the addition of components, or the use of parts not supplied by our factory;

- 因用户使用、保管或维护不当造成的产品故障或零件丢失；

Product failures or missing parts caused by improper operation, storage, or maintenance by the user;

- 设备发生故障后仍继续使用而引起的继发性故障；

Secondary failures caused by continued operation after an equipment fault has occurred;

- 因自然灾害或不可抗力造成的损坏；

Damage caused by natural disasters or force majeure;

- “三包”期限内发生质量问题，未经本厂鉴定和同意而自行拆装。

Quality issues arising within the Three Guarantees period where the equipment has been dismantled or reassembled without prior inspection and approval by our factory.

## 附件：维修记录卡 / Appendix: Maintenance Record Card

|                             |  |                            |  |
|-----------------------------|--|----------------------------|--|
| 产品型号<br>Product Model       |  | 本机编号<br>Machine Serial No. |  |
| 出厂日期<br>Date of Manufacture |  | 购货日期<br>Purchase Date      |  |
| 销售单位<br>Sales Organization  |  | 地址<br>Address              |  |

| 用户单位<br>User Organization |  |
|---------------------------|--|
| 名称<br>Name                |  |
| 地址<br>Address             |  |
| 联系人<br>Contact Person     |  |
| 电话<br>Telephone           |  |

| 日期<br>Date | 故障内容<br>Fault Description | 维修情况<br>Maintenance Performed | 修理人员签名<br>Technician Signature | 用户单位签名<br>User Organization Signature |
|------------|---------------------------|-------------------------------|--------------------------------|---------------------------------------|
|            |                           |                               |                                |                                       |
|            |                           |                               |                                |                                       |
|            |                           |                               |                                |                                       |
|            |                           |                               |                                |                                       |
|            |                           |                               |                                |                                       |
|            |                           |                               |                                |                                       |