

# CATALOGUE

01-07 **Agrometeorological Instrument**

08-12 **Soil Testing Instrument**

13-21 **Plant Physiology Instrument**

22-23 **Fruit Testing Instrument**

24-32 **Crop Quality Instrument**

33-36 **Incubator**

37-44 **Seed Testing Instrument**

45-45 **Food Safety Instrument**

46-52 **Flour and Oil Testing Instrument**

53-54 **Agent Product**



# AGROMETEOROLOGICAL INSTRUMENT

## Hand-held Agricultural Weather Monitor

Model: TNHY series



### ● Brief introduction

Hand-held Agricultural Weather Monitor can real-time acquire air temperature, humidity, light intensity, PAR, wind direction and speed, Rainfall, CO<sub>2</sub> concentration, soil temperature, soil moisture, soil pH and Soil salinity etc. It is widely used in facilities agriculture, forestry, horticulture, animal husbandry and other fields, and fulfills to carry out conduct of automatically monitor, automatic control and intelligent management to the facilities for comprehensive agricultural ecological information.

### ● Characteristics

- ▲ Small and exquisite, easy to carry and LCD display;
- ▲ Collect settings: working unattended can be set to timing or manual collect data, recording and save data automatically;
- ▲ Both AC and DC available, 8.4v 1500mAh Li-ion battery, with charging protection, Low voltage protection. Suitable for field detecting as well.
- ▲ With GPS, data recording automatically, real-time display and save longitude and latitude
- ▲ Storage capacity: up to 30,000 groups in Data logger, and equipped with 4G Micro SD.
- ▲ Data can be read on Data logger and transmitted to PC.
- ▲ Power-off memory function: the data already saved in SD card won't lose when out of power.
- ▲ Probes with uniformity: different probes can be connected to data logger through hubs with no barriers.
- ▲ Auto detection: After connects to data logger, we can search different sensors manually without accuracy errors.
- ▲ With 32 channels, test at the same time, probes are unlimited in the range of capacity.
- ▲ RS485 wire communication, sensor communication cables could reach about 100 meters.
- ▲ Low-power design, equipped with system monitor and protection function to avoid short circuit or interference from external.
- ▲ Two colors for optional: blue and orange

# AGROMETEOROLOGICAL INSTRUMENT

## Software:

- ▲ Showing the curve trends of each parameter, Max, Min, and Avg. Zoom in and out function.
- ▲ A visual display of Coloring the overrun area function ▲ Store the data in EXCEL format as a copy.
- ▲ Be able to view period of parameter or graph, with printing function.
- ▲ All curvilinear coordinates can be set and moved, which make analysis easier.

## Data logger technical parameters:

- ▲ Record capacity: up to 30,000 groups in Data logger, and equipped with 4G Micro SD.
- ▲ Record time interval: 5min~99hour. ▲ Sensor communication: RS485
- ▲ Working power supply: 8.4v 1500mAh Li-ion battery
- ▲ Working current: stand-by power consumption 10mA, working power consumption according to the configuration.

## ● Technical parameters (OPTIONAL)

Testing index	Parameter	Testing index	Parameter
Temperature	range:-40°C-120°C accuracy:±0.4°C resolution:0.1°C	Rainfall	range:0-4mm/min accuracy:±0.1mm resolution:0.1mm
Humidity	range:0-100%RH accuracy:±3%RH resolution: 0.1%RH	CO <sub>2</sub>	range:0-2000PPM or 0-5000PPM Volatility:±(50PPM+ Measurements×3%) resolution:1PPM
Dew Point	range:-40°C-120°C accuracy:±0.4°C resolution:0.1°C	Illuminance	range: 0-200000LUX resolution: 1LUX accuracy:±2% (0-20000lux)
Soil salinity	range: 0-19.99ms/cm accuracy: ±2%	Soil Temperature	range:-40°C-100°C accuracy:±0.3°C resolution:0.1°C
Soil compaction	range:0-100kg accuracy:±0.5‰ F.S	Soil Moisture	range:0-100% accuracy: ±3% resolution:0.1%
PAR	range:0-2,700μmolm-2s-1 accuracy:±1μmolm-2s-1 resolution:1μmolm-2s-1	Soil pH	pH range: 1-14pH pH accuracy: ±0.5
Wind Direction	range:0-359° accuracy: ±3°	Wind Speed	range:0-45m/s accuracy:±(0.3+0.03v)m/s
Air pressure	range: 300.0hPa~1100.0hPa Accuracy: ±1hPa	Global solar radiation	range: 0-2000W/m <sup>2</sup> Accuracy: ±5%
Water vaporization	range: 0~100mm Accuracy: 0.1mm	UV radiation	range: 0~6mW/cm <sup>2</sup> Accuracy: ±5% (0~3mW/cm <sup>2</sup> )

## ● Model difference

Model	Function differences
TNHY-4	temperature, humidity, Illuminance, CO <sub>2</sub> concentration
TNHY-5	temperature, humidity, Illuminance, CO <sub>2</sub> concentration, PAR
TNHY-6	soil temperature, soil moisture,temperature, humidity, Illuminance, CO <sub>2</sub> concentration
TNHY-7	soil temperature, soil moisture,temperature, humidity, Illuminance, CO <sub>2</sub> concentration, PAR
TNHY-8	soil temperature, soil moisture, soil salinity,temperature, humidity, Illuminance, CO <sub>2</sub> concentration, PAR
TNHY-9	soil temperature, soil moisture, soil salinity temperature, humidity, Illuminance, CO <sub>2</sub> concentration, PAR, soil compaction
TNHY-10	soil temperature, soil moisture,temperature, humidity, Illuminance, CO <sub>2</sub> concentration, PAR, wind speed and wind direction, rain gauge
TNHY-11	soil temperature, soil moisture, soil salinity temperature, humidity, Illuminance, CO <sub>2</sub> concentration, PAR, wind speed and wind direction, rain gauge
TNHY-12	soil temperature, soil moisture, soil salinity temperature, humidity, Illuminance, CO <sub>2</sub> concentration, PAR, wind speed and wind direction, rain gauge, soil pH
TNHY-13	soil temperature, soil moisture, soil salinity temperature, humidity, Illuminance, CO <sub>2</sub> concentration, PAR, wind speed and wind direction, rain gauge, soil pH, global solar radiation



# AGROMETEOROLOGICAL INSTRUMENT

## Temperature and Humidity Recorder

Model: TPJ-20/TPJ-20-L

### ● Technical parameters

Record capacity: up to 30,000 groups in Data logger, and equipped with 4G Micro SD.

Record time interval: 5min~99hour.

Sensor communication: RS485

Working power supply: 8.4v 1500mAh Li-ion battery

Temperature	Range:-40°C-120°C Accuracy:±0.4°C Resolution:0.1°C
Humidity	Range:0-100%RH Accuracy:±3%RH Resolution:0.1%RH
Dew Point	Range:-40°C-120°C Accuracy:±0.4°C Resolution:0.1°C



### ● Model difference

Model	Function difference
TPJ-20	Test and record humidity and temperature
TPJ-20-L	Test and record humidity, temperature and dew point

## Temperature and Illumination Recorder

Model: TPJ-22

### ● Technical parameters

Record capacity: up to 30,000 groups in Data logger, and equipped with 4G Micro SD.

Record time interval: 5min~99hour.

Sensor communication: RS485

Working power supply: 8.4v 1500mAh Li-ion battery

Temperature	Range:-40°C-120°C Accuracy:±0.4°C Resolution:0.1°C
Light intensity	Range:0-200000Lux Accuracy:±2% (0-20000Lux) Resolution:1Lux





# AGROMETEOROLOGICAL INSTRUMENT

## Photon Meter

Model: GLZ-A/ GLZ-B/ GLZ-C

### ● Technical parameters

Measuring range: 0-2700 $\mu$ mol m<sup>-2</sup>s<sup>-1</sup>  
 Spectral wave range: 400-700 nm  
 Linearity: whole measuring length  $\pm 1\%$   
 Stability: Change is less than  $\pm 2\%$  / yr.  
 Resolution: 1  $\mu$  mol m<sup>-2</sup> s<sup>-1</sup>  
 Power: 8.4v 1500mAh Li-ion battery  
 Record time interval: 5min - 99hour continuously adjustable  
 Communication interface: RS485  
 Ultraviolet and infrared response: 0.5%  
 Illuminance range (GLZ-C): 0-200000Lux  
 Accuracy:  $\pm 2\%$  (0-20000Lux) Illuminance resolution: 1Lux



### ● Model difference

Model	Difference
GLZ-A	Without computer interface, can only store the data on the data logger
GLZ-B	Communication: RS485 Dual channel record
GLZ-C	Communication: RS485 Dual channel record, it is able to record PAR and illumination



## Temperature-Humidity and Illumination Meter

Model: DJL-18

### ● Technical parameters

Record capacity: up to 30,000 groups in Data logger, and equipped with 4G Micro SD.  
 Record time interval: 5min~99hour.  
 Sensor communication: RS485  
 Working power supply: 8.4v 1500mAh Li-ion battery

Temperature	Range:-40°C-120°C Accuracy: $\pm 0.4$ °C Resolution:0.1°C
Humidity	Range:0-100%RH Accuracy: $\pm 3$ %RH Resolution:0.1%RH
Light Intensity	Range:0-200000LUX Accuracy: $\pm 2$ % (0-20000Lux) Resolution:1LUX



# AGROMETEOROLOGICAL INSTRUMENT

## Soil Temperature Recorder

Model: TPJ-21

### ● Technical parameters

Soil temperature range: -40°C-100°C  
Accuracy:  $\pm 0.5^{\circ}\text{C}$   
Resolution:  $0.1^{\circ}\text{C}$   
Record capacity: up to 30,000 groups in Data logger, and equipped with 4G Micro SD.  
Record time interval: 5min~99hour.  
Sensor communication: RS485  
Working power supply: 8.4v 1500mAh Li-ion battery



## Carbon Dioxide Recorder

Model: TPJ-26, TPJ-26-I

### ● Model difference

Model	Function difference
TPJ-26	Max test range: 2000PPM
TPJ-26-I	Max test range: 5000PPM

### ● Technical parameters

Resolution: 1ppm  
Measuring range: 0-2000ppm (TPJ-26), 0-5000ppm (TPJ-26-I)  
Accuracy:  $\pm (50\text{ppm} + \text{testing value} \times 3\%)$   
Stability:  $<30\text{ppm/yr}$   
Record capacity: up to 30,000 groups in Data logger, and equipped with 4G Micro SD.  
Record time interval: 5min~99hour.  
Sensor communication: RS485  
Working power supply: 8.4v 1500mAh Li-ion battery





# AGROMETEOROLOGICAL INSTRUMENT

## Rain Gauge

Model: TPJ-32

### ● Technical parameters

Rainfall Range: 0-4 mm/min  
Rainfall Accuracy:  $\pm 0.1$  mm  
Resolution: 0.1mm  
Record capacity: up to 30,000 groups in Data logger, and equipped with 4G Micro SD.  
Record time interval: 5min~99hour.  
Sensor communication: RS485  
Working power supply: 8.4v 1500mAh Li-ion battery



## Wind Direction and Speed Recorder

Model: TPJ-30

### ● Technical parameters

Testing items: wind speed and direction.

Wind Speed	Measuring range: 0-45m/s Accuracy : $\pm(0.13-0.015)$ m/s Resolution: 0.1m/s Start-up wind speed: $\leq 0.5$ m/s Stability: $< 0.2$ m/s/yr
Wind Direction	Wind DirectionMeasuring range: 0-359° Accuracy: $\pm 3^\circ$ Resolution: 0.1°

Record capacity: up to 30,000 groups in Data logger, and equipped with 4G Micro SD.  
Record time interval: 5min~99hour.  
Sensor communication: RS485  
Working power supply: 8.4v 1500mAh Li-ion battery





# AGROMETEOROLOGICAL INSTRUMENT

## Universal Automatic Agrometeorological Weather Station

Model: NL-5

### ● Brief introduction

Universal Automatic Agrometeorological Weather Station is able to acquire the information includes: air temperature, humidity, illumination, Wind direction and speed, rainfall, etc. Widely used in facilities agriculture, forestry, horticulture, animal husbandry, and other fields. To achieve our automatically monitor to agricultural comprehensive ecological, and automatically control and intelligent management to environment.

### ● Characteristics

#### Data logger:

- ▲ Stainless steel and waterproof material.
- ▲ Big LCD screen, adopts full English menu operation
- ▲ Data-collection interval can be set, record and store data automatically
- ▲ With internal SD card (up to 40millions groups data), data can be read both on the Data logger and PC.
- ▲ Power-off memory function: data already stored in SD card won't lose when machine out of power
- ▲ Probes with uniformity: different probes can be connected to data logger through hubs with no barriers.
- ▲ Low-power design, the minimum power consumption during the run-time is only 300uA

#### Software:

- ▲ Showing the curve trends of each parameter, Max, Min, and AVG. zoom in and out function.
- ▲ A visual display of Coloring the overrun area function
- ▲ Store the data in EXCEL format as a copy.
- ▲ Be able to view period of parameter or graph, with printing function.
- ▲ Completely compatible with 32bit Windows system



### ● Technical parameters

Item	Parameter	Item	Parameter
Wind Speed	Range: 0-45m/s Accuracy : $\pm(0.13-0.015)m/s$	Wind Direction	Range: 0-359° Accuracy: $\pm 3^\circ$
Temperature	Range: -40°C-120°C Accuracy: $\pm 0.4^\circ C$ Resolution: 0.1°C	Humidity	Range : 0-100% RH Accuracy: $\pm 3\% RH$ Resolution: 0.1%RH
Illuminance	Range: 0-200000 LUX Accuracy: $\pm 2\%(0-20000LUX)$ Resolution: 1Lux	Rainfall	Range: 0-4mm/min Accuracy: $\pm 0.1mm$ Resolution: 0.1mm

## Soil Nutrient Analyzer

Model: TPY series

### ● Characteristics

- ▲ Quickly test the N, P, K, organic matter, salinity, and pH, soil moisture in soil.
- ▲ With the function of time display, can automatically record and store testing time
- ▲ Store about 1000 groups' data. Data can be checked at any time.
- ▲ Be able to print the data like test date, sample No, items, sample content, variety etc.
- ▲ Be able to set crop variety, crop yield, fertilizer variety, and automatically count the fertilizing amount.
- ▲ Big LCD display, easy to operate.
- ▲ With playback function during the test
- ▲ Armor plate shell, firm, beautiful and durable.
- ▲ According to the local situation, to set the crop variety, productivity, fertilizer variety. And then calculate the fertilizing amount automatically.
- ▲ Built-in large capacity rechargeable battery.



### ● Technical parameters

#### 1. Nutrient technical parameters:

Stability: Absorbency of light drift < 0.003

Repeatability: A (absorbency of light) < 0.005

Linearity errors: red light for Copper sulfate, and blue light for potassium bichromate < 3.0%

Sensitivity: Red light  $\geq 4.5 \times 10^{-5}$ , Blue light  $\geq 3.17 \times 10^{-3}$

Wave length range: Red light  $620 \pm 4 \text{nm}$ ;

Blue light  $440 \pm 4 \text{nm}$

Anti-knocking performance: qualified (Attention: above technical parameters all exceed national standards)

#### 2. PH technical parameters:

Testing range: 1-14 Error:  $\pm 0.5$

#### 3. Salinity technical parameters:

Testing range: 0.01% -1.00% Relative error:  $\pm 0.5$

#### 4. Soil moisture technical parameters:

Moisture unit: % ( $\text{m}^3/\text{m}^3$ )

Moisture content rate testing range: 0-100%

Accuracy:  $\pm 2\%$  Measurement range: 0.01%~1.00%

Relative error:  $\pm 5\%$

#### 5. Power:

AC: 220V- 240V, 50Hz

DC: 18V, 5W (built-in)

### ● Model difference

Model	Function difference
TPY-IV	Test N, P, K, organic matter, with formula function; Fertilizer amount for the growth of 73 kinds of crops in memory. Without printing function.
TPY-6	Test N, P, K, PH, organic matter salt. Fertilizer amount for the growth of 73 kinds of crops in memory. With the printing function
TPY-6A	Based on all the functions of TYP-6. can offer a guidance for fertilize according to use's needs, with printing function
TPY-6PC	Based on all the function of TYP-6A, a software CD is provided as well. Be able to store, print, and send the data remotely by computer
TPY-7PC	Based on all the function of TYP-6PC, it also can test soil moisture

# SOIL TESTING INSTRUMENT

## Soil Acidometer /pH Tester Model: SDT-60



### ● Introduction

Soil pH is an important factor to limits the crops production and the quality .This tester is simple and convenient, Test the value through insert the soil directly.

### ● Technical parameters

pH range: 3-8 pH                      pH accuracy: ±0.2pH  
 Moisture range: 1-8%                Moisture accuracy: ±1%

## Soil moisture, temperature, and salinity recorder Model: TZS-EC-I TZS-ECW-I/TZS-ECW

### ● Technical parameters

<b>Soil Temperature</b>	Unit: °C Accuracy: ±0.5°C Resolution: 0.1°C	Range: -40°C~100°C Sensor length: ≥25cm
<b>Soil Moisture content</b>	Unit: %(m³ ) Response time: ≤ 2s Standard cable length: 1.5m (customerized: up to 1000m) Optional accessories: for measuring the moisture content of Deep soil, soil auger is recommend .	Range: 0~100% Relative error: ≤3%
<b>Soil Salinity</b>	Range: 0~19.99ms/cm Sensors can be buried into soil.	



## Soil Tensiometer Model: TEN series

Testing range: 1 Bar (1 Bar = 100kpa)

Length can be made as customers' required (length means the transparent polycarbonate tube in the middle of meter):

- Ten-15 (15cm)    Ten-45(45cm)    Ten-60(60cm)
- Ten-30 (30cm)    Ten-50(50cm)





# SOIL TESTING INSTRUMENT

## Multi-parameter Soil Moisture Temperature Meter

Model: TZS-1K /TZS-2X  
TZS-3X /TZS-5X

### ● Model difference

Model	Function
TZS-1K	Direct measure soil moisture content, and save in handset
TZS-2X	Measure soil moisture content, soil temperature, and save in handset
TZS-3X	Adding measure atmospheric temperature function based on TZS-2X
TZS-5X	Adding measure atmospheric moisture, dew point based on TZS-3X



### ● Sensors technical parameters

#### Soil temperature:

Unit: °C

Range: -40°C~120 °C

Accuracy: ±0.5°C

#### Atmospheric temperature:

Range:-40°C~100 °C

Accuracy: ±0.4 °C

Resolution: 0.1°C

#### Atmospheric moisture:

Range: 0~100%RH

Accuracy: ±3%RH

Resolution: 0.1%RH

#### Dew point:

Range: -40°C~120°C

Accuracy: ±0.4°

Resolution: ±0.1°C

#### Soil moisture content:

Unit: % (m<sup>3</sup>)

Range: 0~100%

Response time: ≤ 2s

Relative error: ≤3%

Standard cable length: 1.5 (customized: up to 1000m)

Optional: Measuring the moisture content of Deep soil,

Soil auger is recommended.



# SOIL TESTING INSTRUMENT

## Digital Soil Water Potential Meter

Model: TRS-I / TRS-II

### ● Characteristics

- ▲ High accuracy and high resolution
- ▲ Easy to operate, portable, flexible, be able to purchase one set with multi-probes.
- ▲ Automatically get the peak data of water potential
- ▲ Time, peak data, automatic record function.
- ▲ Record temperature, water potential, time and stored No at the same time.
- ▲ Automatically turns off function



### ● Technical parameters

Max pressure: 100kpa  
 Resolution: 0.01kpa  
 Accuracy:  $\pm 1\%$  F.S  
 Temperature testing range:  $-55$ - $+150^{\circ}\text{C}$   
 Temperature accuracy:  $\pm 0.5^{\circ}\text{C}$   
 Quantities of standard probe: 3

### ● Model difference

Model	Function difference
TRS-I	Test Soil water potential
TRS-II	Test both soil water potential index and soil temperature index

## Soil Hardness Meter

Model: TYD-2

### ● Characteristics

- ▲ High accuracy and high resolution with large screen LCD display, with back-light function
- ▲ Battery capacity display: divide into 3, 2 and 1 grids. If battery capacity is too low, the meter will shut down automatically
- ▲ Gravity acceleration setting function
- ▲ Peak value maintaining function
- ▲ Large memory storage
- ▲ Auto-off time setting: with automatic off-time setting, 10min-90 min automatic shutdown can be set.
- ▲ High quality charging power supply

### ● Technical parameters

Maximum load: 100Kg (Kg and N can be switched automatically).  
 Resolution: 0.1kg. Accuracy:  $\pm 0.5\%$ .  
 Measuring depth: 0~400mm  
 Stability: temperature drift:  $0.2\mu\text{V}/^{\circ}\text{C}$  ( $0$ - $60^{\circ}\text{C}$ ); Null drift:  $\leq 0.1\%/8\text{ h /FS}$   
 Calibration range: full-scale calibration. Ambient temperature:  $0$ ~ $+60^{\circ}\text{C}$ .  
 Ambient humidity:  $\leq 80\%$ . Allowable overload: 150%.  
 Power supply mode: 5 nickel cyanogens batteries /220V AC charge 4~6hours.





# SOIL TESTING INSTRUMENT

## Soil Hardness Meter

Model: TYD-1

### ● Product description

Soil Hardness Meter adopts theoretical value of pressure gauge  $\text{Kg}/\text{cm}^2$ , to measure soil hardness directly. For soil permeability, aeration and soil properties survey research.

Hardness indication range: 0-40mm, 0-500 $\text{kg}/\text{cm}^2$

### ● Test method

- ▲ Level the measured soil's surface, and insert the pin point of the meter into the soil until (opening) part.
- ▲ Vertically pull out the soil hardness meter and read the hardness indicating value
- ▲ After finished reading measured value, drive rotary-knob, make the indicating meter to zero.
- ▲ Soil attached to the inside of measured head will make the measurements incorrect. Please clockwise rotate (opening) part, take down round sleeve, rotate to the fixed position after cleaning up, and then can measure again.



## Soil Compaction Meter

Model: TJSD-750

### ● Handset parameters

- ▲ Storage capacity: almost up to 30,000 groups in handset, and equipped with 4G Micro SD.
- ▲ Data-collection interval: 5min~99hour
- ▲ Working power supply: 8.4V lithium battery
- ▲ Working current: stand-by power consumption 10mA, working power consumption according to the configuration.

### ● Model difference



Model	Function
TJSD-750	General type, display soil compaction( $\text{KPa}$ , $\text{kg}/\text{cm}^2$ , $\text{N}/\text{cm}^2$ )
Range	0~10,000 $\text{KPa}$ ; 0~100 $\text{kg}/\text{cm}^2$ ; 0~1,000 $\text{N}/\text{cm}^2$ (switchable)
Depth	0~375mm(measuring rod is 400mm)
Accuracy	$\pm 0.5\%$ FS
Position accuracy	Three decimal $\pm 0.05(\leq 50\text{m})$



# PLANT PROTECTING INSTRUMENT

## Soil Sampler Device

1m

### ● Characteristics

- ▲ Stainless steel, no pollution to soil and reduce the labor intensity
- ▲ Spiral bottom, and it can be detachable to use as extension rod for Soil Moisture meter.
- ▲ Pointed bottom, labor- saving.
- ▲ One scale for each 10m, the diameter of bottom is 6cm.
- ▲ Total length: 1m



## Soil Sampler Kits

Model: TPLQ-2



Accessories: 1 brush, 1 spanner,  
1 tape 3meters, 1 scraper, 1 handle,  
1 head, and 4tubes

Length: 1m, 1.5m, 2m

## Wind Suction Pest-killer for Tea Garden AC & DC

Model: TPCZ5

### ● Characteristics

- ▲ Both AC and solar power supply available.
- ▲ LCD display, Stainless steel rack.
- ▲ Light control: auto-shut up and down according to day and night
- ▲ Rain control: Auto-protection in rainy days, when humidity above 95% RH, the frequent vibration lamp will be in the state of auto-protection, or it will work normally
- ▲ Time control: working time can be setting according the pests' life routine.
- ▲ Optics, electricity, CNC technology in automatic control system.
- ▲ Control area per lamp: 10-20Mu
- ▲ Energy saving: when working on light or time control method, the fans is working in the low speed condition.

### ● Technical parameters

Power: AC220V / 50Hz, DC12V, ≤30W. Solar cell: ≤40W

Insulation resistance: ≥2.5MΩ

Trap tube: wavelength 385+395+420nm, ≤12W. Life span: ≥5000hours



## Frequency Oscillation Pest-Killing Lamp

Model: TPSC1 & TPSC2

### ● Characteristics

- ▲ Frequent vibrated induced control technology
- ▲ Light source: frequent vibration tube (wavelength: 365nm)
- ▲ Impact area:  $\geq 0.15\text{m}^2$
- ▲ Protect for network flow short circuit
- ▲ Make the cross network spiral winded to avoid short circuit; the distance between networks is alternative. (Generally  $\leq 10\text{mm}$ )
- ▲ Light control: auto-shut up and down according to day and night
- ▲ Auto-protection in rainy days: when humidity above 95% RH, the frequent vibration lamp will be in the state of auto-protection, or it will work normally. (TPSC1-2)
- ▲ Insulation column: high-temperature:  $1000^\circ\text{C}$  ; corrosion resisting and high pressure resisting; in rainy days, pull arc in high pressure network 30min continuously; the insulation column no carbonization.
- ▲ Control area: 30~60 mu

### ● Technical parameters

Power: AC185-265V, 50HZ  
 Network voltage:  $2300\text{V} \pm 115\text{V}$   
 Insulation resistance:  $\geq 2.5\text{M}$   
 Rate:  $\leq 35\text{W}$   
 Life span: 5 years  
 Light source: 15 W wavelength trapped tube; Electronic ballast can be started instantly.



### ● Model Difference

Model	Function difference
TPSC1-1	Light control
TPSC1-2	Light and rain control
TPSC2-1	Storage battery power supply, light control
TPSC2-2	Storage battery power supply, light control and rain control



# PLANT PROTECTING INSTRUMENT

## Automatic Pest Forecast Light Trap AC & DC / TPCB-IV-C

### ● Characteristics

- ▲ Both AC and solar power supply available.
- ▲ Optics, electricity, CNC technology in automatic control system.
- ▲ LCD, time-based control, switch cabin automatically and manually.
- ▲ Pest collector switch automatically, 8 auto-control systems to ensure pest collected in 8 hours not mixed together.
- ▲ Far infrared pest processing ensure the lethality not less than 98%, integrity not less than 95%.
- ▲ Bilevel far infrared pest cabin make the pest killing and drying more efficiency.
- ▲ Light, rain and far infrared control are available. Pest can be stored daily.
- ▲ Period control: 0-24hours period can be set
- ▲ Time control: working time can be setting according the pests' life routine.
- ▲ With lightning protection apparatus.
- ▲ Add with stabilized voltage supply system. Network voltage on 160-280V can be used in 220V power.
- ▲ With memory function in case of power-down.

### ● Technical Parameters

Power: AC220V  $\pm$  60V; DC 24V solar battery (12V/ 100AH \*2pcs);

Solar cell: 135-150W

Power:  $\leq$  450W. Standby watt:  $\leq$ 5W.

Life span:  $\geq$ 5 years

Light source: 25W trapped tube; Electronic ballast can be started instantly.

Domi wavelength: 365nm

Start time of the tube:  $\leq$  5s

Far infrared cabin's temperature: 80-90°C after 15min working.

Insulation resistance:  $\geq$ 2.5M $\Omega$



## Chlorophyll Meter

Model: TYS-A

### ● Product description

Chlorophyll Meter is able to measure chlorophyll content of plants and leaf temperature. Chlorophyll content and leaf nitrogen content have a very close relationship. Thus, chlorophyll content can reflect plants demand for nitro. Using the instrument can do go to put nitrogen fertilizer reasonably, improve utilization of nitrogen and protect environment.

### ● Technical Parameters

Measuring area: 2mm\*2mm

Measuring mode: 2-wavelength concentration difference of optical methods

Sensors: Silicon semiconductor photodiode

Display mode: measuring value: 3 digits liquid crystal display

measuring times: 2 digits liquid crystal display

Min measuring interval : < 3s      Measuring Range: 0.0-99.9 SPAD, -10~99.9°C

Accuracy:  $\pm 1.0$  SPAD;  $\pm 0.5^\circ\text{C}$       Repeat:  $\pm 0.3$ SPAD,  $\pm 0.2^\circ\text{C}$

Operating temperature: -10-50°C

Power: 4.2V -2000Mah rechargeable Li battery.

Memory capacity: 30 KB, automatically calculate and show the average.

Weight: 200 grams



## Portable Plant Nutrition Analyzer

Model: TYS-3N /4N

### ● Characteristics

- ▲ Be able to save chlorophyll, nitrogen, leaf temperature, and leaf Humidity (4N) at the same time, easy to draw graph of plant nutrient, leaf temperature etc. Provide for plant precision irrigation and fertilization
- ▲ Nondestructive test plant quickly, not to effect plant growth.
- ▲ Manual measurement pattern.
- ▲ View past stored data, show three parameters at the same time.
- ▲ The computer can transfer wired or wireless data so as to manage and analysis.
- ▲ Easy to store data, directly show stored data. Show low power consumption.

### ● Testing range:

Chlorophyll range: 0.0-99.9SPAD

Nitrogen range: 0.0-99.9mg/g

Leaf humidity: 0.0-99.9RH%

Leaf temperature:-10-99.9°C

Testing area: 2mm\*2mm

Testing interval: less than 3sec

### ● Testing accuracy:

Chlorophyll accuracy:  $\pm 1$ SPAD

Nitrogen accuracy:  $\pm 5\%$

Leaf humidity accuracy:  $\pm 0.5\%$

Leaf temperature accuracy:  $\pm 0.5^\circ\text{C}$

Stored data capacity: 32KB

Power supply: 4.2V 2000mah Recharge Li-ion battery



# PLANT PHYSIOLOGY INSTRUMENT

## Plant Photosynthesis Meter

Model: 3051C

### ● Characteristics

- ▲ Use laptop to connect with CO<sub>2</sub> Meter and leaf chamber, and receive data from sensors.
- ▲ Can test photosynthesis rate, steaming rate, Stomata Conductance, and CO<sub>2</sub> density of Plans.
- ▲ The software will show the data in curve type, easy to operate.
- ▲ Power: Both AC and DC are available.
- ▲ Light weight, small volume, very portable.

### ● Components

Main controller, handle and leaf chamber



### ● Technical parameters

Testing parameter	Resolution	Measure range	Accuracy
Co <sub>2</sub>	0.1ppm	0-1000ppm	1%F.S
Relative humidity	0.1%	0-100%	2% F.S
Temperature	0.1°C	0-50°C	0.2°C
Illumination	1 uE	0-3000 uE	±10 uE
Power supply	Recharging source: voltage: 220V; recharging time: 12h, service time: at least 2h		
Working voltage of the instrument	6V, 4AH NI-MH battery		
Gas pipe length	1.2m		
Weight	2.5kg		

## Plant Thickness Gauge

Model: YH-1

### ● Specifications

Thickness Gauge is used for testing leaf blade thickness  
Measuring range: 0-6 mm  
Resolution: 0.01 mm  
Accuracy: 0.015 mm  
Contact area: Φ10 mm  
Reader: Pointer



## Portable Leaf Area Meter

Model: YMJ-A/YMJ-B

### ● Characteristics

- ▲ Can test the leaves area without damage.
- ▲ Easy to operate. Be able to test leaf area, average area, length, width, perimeter and ratio of length and width.
- ▲ With Micro-computer technology, LCD display



measuring result display



### ● Technical parameters

- Test unit: millimeter, square centimeter
- Precision:  $\pm 2\%$
- Resolution:  $0.01\text{cm}^2$
- Measuring Length:  $\leq 1000\text{mm}$
- Measuring Width:  $\leq 160\text{mm}$
- Thickness:  $\leq 8\text{mm}$
- Data capacity:  $\geq 1000$  Groups

### ● Model Difference

Model	Function
YMJ-A	Without computer interface, only can save and check data on the living leaf area meter
YMJ-B	RS-232 link with computer by software, you can put the datum into computer, and convert datum to excel format and print.

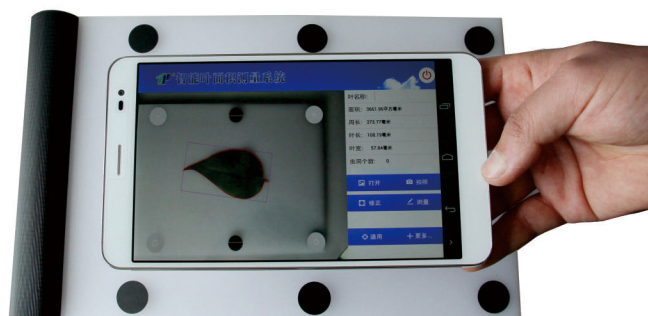


# PLANT PHYSIOLOGY INSTRUMENT

## Digital Leaf Area Meter

Model: YMJ-C

The system of intelligent leaf area meter consists of a backlight apparatus and a tablet computer embedded application software (android). The APP is synthesis software; it adopts advanced image processing technology, and through the principles of leaves shapes drawing, space transformation and edge detection, and morphology as well. The instrument is used for measuring leaf area and other values.



### ● App Features

- ▲ Android system, easy and quick to handle with intelligent, humanized and can be upgraded applied functions
- ▲ 7inchs full-color touch-screen, 8 million pixels. After taking photo, the software will count and display the value automatically.
- ▲ Powerful storage functions with 16G SD Card.
- ▲ View the data with report and Excel format.
- ▲ Manual fixed the leaf shape to ensure a high accuracy counting.
- ▲ Three algorithms optional: general, dark color and light color. After taking photo, choose the suitable algorithm according the leaf's color.
- ▲ After taking photo, the software could count and display leaf area, perimeter, length, width, quantity of worm holes automatically.

### ● Tablet Computer Parameters

System: Android4.2.2 above

Size: 7inch full-color touch-screen

Rear camera: 800million

Resolution: 1920\*1200

Storage: 16G

Network interface: Wi-Fi / 4G

Power supply: DC5V2A

Supply scope: DC5~12V

Backlight device area: 30000mm<sup>2</sup>

## Portable Plant Culm-Strength Meter

Model: YYD-1A/YYD-1B



two different fixtures for measuring the strength of different crops

# PLANT PHYSIOLOGY INSTRUMENT

## ● Characteristics

- ▲ High accuracy and resolution, easy to operate, portable.
- ▲ Auto save testing pressure, time and testing sequence number.
- ▲ Kpa and N 2 testing unit can be selectable and transformed.
- ▲ Testing units can be selectable and transformed.
- ▲ The probe ,drag hook,pressing,plate apply to different experimental study
- ▲ With backlight function.
- ▲ Auto switch off.

## ● Technical parameters

Model	YYD-1A	YYD-1B
Max load	50N	500N
Resolution	0.01N	0.1N
Culm width range	0-100mm	
Accuracy	±0.5%	
Unit	N, Kpa	
Output Interface	Rs232	
Power	9V battery, Charger(charge voltage: 100V-240V)	
Meter size	295*130*36mm	
Net weight	600g	

## Plant Culm–Strength Meter

Model: YYD-1

## ● Technical Parameters

- Stem bending performance measurement area: 0.5cm<sup>2</sup>
- Stem compressive strength measurement area: 1cm<sup>2</sup>
- Stem structure intensity measurement: 1mm<sup>2</sup>
- Max load: 500N (N, kg, it can be transformed automatically)
- Resolution: 0.1N
- Precision: ±0.5%FS
- Power: Charger: 220V/AC; Battery working time: 6-8 hours
- Stability: drift: 0.2uV°C (0-60°C); zero drift: ≤0.1%/8 hours/FS
- Calibration range: full-scale calibration
- Working temperature: 0~+60°C
- Working Humidity: ≤80%
- Allowed overload: 150%
- Time setting up: 10-90 minutes
- Power: AA nickel cyanide battery groups / 220V/ AC
- Battery working time: 4-6 hours





# PLANT PHYSIOLOGY INSTRUMENT

## Plant Disease Tester

Model: TPH-II

### ● Functions and features

- ▲ Sampling parts: various types of plant stalk, stem, leaf and fruit can be sampled
- ▲ Scope: a variety of crops, plants, fruits, vegetables and tea etc.
- ▲ Quickly diagnose a variety of viruses and bacteria:
  - 1) Fungus: botrytis, downy mildew, damping off, yellows, morning and late Pestilence, stem wilt, gummy stem blight, scab, black spot, rust disease, ring spot, powdery mildew, alternaria leaf spot, shot hole, full rot.
  - 2) Bacterial diseases: ulcers disease, bacterial spot, soft rot, bacterial wilt
  - 3) Viral diseases: stubby disease, plexus dwarf, mosaic virus disease
- ▲ English large-screen liquid crystal display and prompts, easy to use automatic control, automatic calculation, automatic calibration, automatic printing, and has high precision
- ▲ Automatic printer integrated design
- ▲ It can be connected to the computer and the printer, store test data for the user profile to provide guidance of dispense
- ▲ Continuous testing of multiple samples, low-cost test
- ▲ Test speed: Single test 60 parts / hour, continuous test 120 parts / hour
- ▲ Print method: thermal printer
- ▲ Working power: AC220V  $\pm$  10%, 50Hz  $\pm$  2Hz
- ▲ Power:  $\leq$ 30W
- ▲ Net weight:  $\leq$ 3kg



## Plant Water Potential Analyzer

Model: TP-PW-I

### ● Product description

Plant Water Potential Analyzer is a device which be used for testing the plant water regime, its composition and get the plant conduit juice and doing component analysis. And it applies for research the relationship between plant water relations, plants and environment. This device is suitable for the study in Plant physiology, Ecology, Agricultural, Forestry and pasture. It instructs how to use the water and how to fight a drought. Plant Water Potential Analyzer is easy to operate, fast test, both indoor and outdoor test are available.



### ● Technical parameter

Measure range: 0-3.5Mpa      Dimensions: 630\*400\*310mm /560\*400\*280mm  
Display: Point type      Weight: 15\*2=30kgs approx.  
Read accuracy: 0.01Mpa

# FRUIT TESTING INSTRUMENT

## Digital Refractometer

Model: TD series

### ● Model difference

Model	TD-45	TD-92
Range	Brix Refractive index	Brix Refractive index
Measuring range	0~65% 1.3330~1.4535	40~95% 1.3990~1.5320
minimum	0.1% 0.0001	0.1% 0.0001
Precision	+0.2% +0.0003	+0.2% +0.0003



## Fruit Sclerometer

Model: GY-1/GY-2/GY-3

### ● Brief description

Fruit Sclerometer (fruit hardness tester), this series GY-1, GY-2 and GY-3 three models.

Be used for testing fruit hardness such as apple, pear, strawberry, grape and so on. It's portable, small on volume and light on weight, display visualized values.

It is can be used to fruit tree scientific research department, fruit company, fruit tree farm, colleges and universities, etc.



### ● Model difference

Model	GY-1	GY-2	GY-3	
Scale value	2-15kg/cm <sup>2</sup> (x105pa)	0.5-4kg/cm <sup>2</sup> ( x105pa)	1-24kg/cm <sup>2</sup> (x105pa)	0.5-12kg/cm <sup>2</sup> (x105pa)
Probe size	φ 3.5mm	φ 3.5mm	φ 8mm	φ 8mm
Precision	±0.1	±0.02	±0.1	
Insertion Depth	10mm			



# FRUIT TESTING INSTRUMENT

## Portable Fruit Sclerometer

Model: GY-4

### ● Brief description

- ▲ Can store 896 peaks of data .
- ▲ The LED show the peaks of data, and get rid of the data.
- ▲ Data output function; analyze the data by connected with computer.
- ▲ Peak automatic discharge function, and maintain peak 2 seconds display then discharged automatically
- ▲ Green environmental: If you do not operate the machine after 10 seconds, the machine will be shut down automatically.
- ▲ High-quality Charging power supply.
- ▲ 6 digits large screen display.



### ● Technical parameters

Range	0.2 - 15 Kg/cm <sup>2</sup> (×105 Pa )	0.4 - 30 Kg/cm <sup>2</sup> (×105 Pa )
Division value	0.01 Kg/cm <sup>2</sup>	0.01 Kg/cm <sup>2</sup>
Pressure head diameter	1# ϕ 11.1mm	2# ϕ 7.9mm
Precision	±1%	
Display mode	Digital	
Indication error:	±0.5%	
Unit	Kg/cm <sup>2</sup> (×105 Pa )	
Output interface	RS 232 nine-hole socket.	
Sensor structur	S-type high-precision sensors (inside)	
Working temperature:	5°C-35°C	
Transport Temperature	-10°C-60°C	
Humidity	15%-80 %RH	
Working environment	No Vibroseis and corrosive medium around	
Net Weight	450g	
Size	230×66×36 (mm)	
Insertion Depth of pressure head	10mm	

## Automatic Kjeldahl Nitrogen Analyzer

Model: ZDDN-II

### ● Characteristics

- ▲ Adopt microcomputer controlling process; include manual mode and automatic mode. Can be set and switched according to user's need.
- ▲ Large array LCD display, touch key, easy to operate.
- ▲ Automatically control distill, add water, control water level are cut off water supply.
- ▲ Various security protections: digestive system security device, steam generator water shortage alarm, water level detection fault alarm.
- ▲ Stored operation procedure quantity: 250
- ▲ Instrument shell adopts specially made plastic spray steel. Working area adopts ABS anticorrosive board, Avoid chemical reagent corrosion and mechanical surface damage, acid proof and alkali proof.
- ▲ Once detected fault, controlling system will power off automatically.
- ▲ Don't contain digestive furnace



### ● Technical parameters

Measuring varieties: grain, feed, food, dairy products, drink, animal food, soil, medicine, settling, chemical etc.

Working mode: Automatic and manual (without titration)

Water feeding pattern: tap water and distilled water

Sample Amount: Solid 0.20g~2.00g, Semi-solid 2.00g~5.00g, Liquid 10.00ml~25.00ml

Number of testing sample: solid <5 pieces, liquid <15ml

Measurement Range: 0.1mgN-200mgN (0.02%-95%)

Operation Mode: automatic

Recycle Rate:  $\geq 99\%$  (relative error, including digest process)

Repetition rate: relative standard error  $\leq \pm 1\%$

Water-in Mode: tap water and distilled water

Water supply: water pressure  $> 1.5\text{MPa}$ ; water temperature  $< 20^\circ\text{C}$

Distilled speed: 5-15min/sample (according to sample amount)

Time for cooling water: 3L/Min

Power adapter: AC220V / 50HZ

Power: 1000W

Dimensions: 430\*360\*670mm

Weight: 25kg

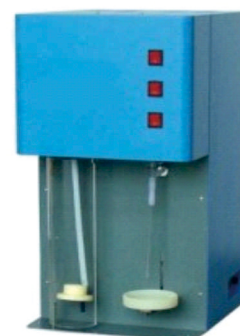
# CROP QUALITY INSTRUMENT

## Semi-automatic Kjeldahl Distillation System

Model: KDN

### ● Characteristics

- ▲ Auto microcomputer controlling process
- ▲ Automatically control distill, self-adding and self-stopping water, control waterline
- ▲ Various safety devices: digestive tube safety door, steam generator water shortage alarm, waterline detection fault alarm
- ▲ The outer plate adopts special plastic spray steel; working area adopts ABS anticorrosive board to prevent chemical reagent corrosion and mechanical surface from damage. Acidproof and alkaliproof.
- ▲ Standard configuration is not including digestion furnace.



Distiller(KDN series)

### ● Technical parameters

Measuring varieties: grain, food, dairy products, drink, animal food, soil, medicine, settling, chemical and so on.

Working mode: semi-automatic

Water feeding pattern: tap water and distilled water, in area widely used

Sample quantity: solid: 0.20g-2.00g, semisolid: 2.00g-5.00g, liquid: 10.00ml-25.00ml

Measurement Range: 0.1mgN-200mgN (mg nitrogen)

Operation Mode: semi automatic

Water Inlet Mode: tap water and distilled water

Recycle Rate:  $\geq 99\%$  (relative error, including digest process)

Repeat Rate: relative standard error  $\leq \pm 1\%$

Distilled speed: 5-15min/sample (according to sample amount)

Time for cooling water: 3L/Min

Power adapter: AC220V / 50HZ

Power: 1000W

Water supply: water pressure  $> 1.5\text{MPa}$ ; water temperature  $< 20^\circ\text{C}$

Dimensions: 380\*320\*670mm

Weight: 20kg



## Digital Infrared Digestive Furnace

Model: KDN-04 /08 /20C

### ● Characteristics

- ▲ Type C digestive furnace adopts quartz infrared heating pipe, the radiation is primary and the conduction is auxiliary; short heating time, high efficiency
- ▲ Machine box adopts specially made plastic spray steel; working area adopts stainless steel materials, has good corrosion resistance.
- ▲ Double-shell design, double thermal insulation effect with air thermal insulation layer and aluminum silicate thermal insulation layer
- ▲ Has multiple protection: over pressure, over current, overheating
- ▲ Small and beautiful, easy to operate, user-friendly.
- ▲ Holes with 4, 8, 20



### ● Specifications

Name of Item	Model	Model	Model
	KDN-04C	KDN-08C	KDN-20C
Sample holes	4	8	20
Heating Module Material	Infrared		
Temperature control mode	Digital		
Temperature control ranges	room temperature-600°C		
Temperature control accuracy	±1°C		
Measurement range	0.1mgN-200mgN (mg nitrogen)		
Digest time	60-90 min/batch (according to sample quantity)		
Digestive pipe capacity	300ml		
Power	1KW	1.5KW	2.5KW
Operating Voltage	AC220V/50Hz		

# CROP QUALITY INSTRUMENT

## Semi-Auto Kjeldahl Distillation Analyzer

Model: ZDDN-II-A

This Kjeldahl Distillation analyzer is an auto analyzer which with characters including auto reagent addition, auto distillation and separation of sample, auto collection of samples and auto termination of distillation; the separation methods which it adopt is 100% corresponds to the National and International standards.

### ● Characteristics

- ▲ Adopt microcomputer controlling process; include manual mode and automatic mode. Can be set and switched according to user's need.
- ▲ Large array LCD display, Human-machine Conversation System, touch key, easy to operate.
- ▲ 10groups experiment procedure can be saved to meet user's multiple demands.
- ▲ With time setting freely, auto-alarm after distillation completed
- ▲ With perfect security protection system, also has the over-temperature, over pressure function to the equipment and pipeline.
- ▲ Fault automatic diagnosis and sound-light alarm functions are all available.
- ▲ Adopts ABS, stainless steel material, to prolong the equipment's lifetime.
- ▲ Accord with the distillation methods AOAC, EPA, DIN, ISO, GB etc.



### ● Specification

Analysis range	0.1-200mg N
Recovery rate	99.5±0.5%
Distillation Time	0—999s(set freely)
Distillation rate	4-6min/sample
Added volume of boric acid	0—99mL
Added volume of diluents	0—99mL
Added volume of alkali	0—99mL
Weight of Sample	Solid Sample ≤6g; Liquid Sample ≤16ml
Operating mode	Automatic analysis/manual analysis
Over-temperature alarm system	Provided:123°C
Display	6inch LCD
Formula management	Provided (10 groups of users conduct self-programming)
Operating voltage	AC220V/50Hz
Heating power	2000W
Appearance and size	420*430*700mm

## Full automatic Kjeldahl Distillation Analyzer

Model: ZDDN-III-A

This Kjeldahl Distillation analyzer is based on the classical methods "color method". It is an auto analyzer which with characters including auto reagent addition, auto distillation and separation of sample, auto titration and result printing, and consistent with national and international standards and methods of Kjeldahl nitrogen.

### ● Characteristics

- ▲ Reagent addition, distillation, sample separation, titration analysis and calculation, record (data) storage, waste discharge, all above-mentioned programs can be accomplished by simply click with one button.
- ▲ 7-inch color touch screen, English Human-machine operating system, interactive mode of operation.
- ▲ Germany anti-corrosion measuring pump for liquid feeding.
- ▲ High accuracy titration system, 1.0UI / step.
- ▲ Intelligent cooling water control system to real-time monitor the temperature, press and flow of cooling water
- ▲ Adopts solid state relay (SSR) as the heater's switching component
- ▲ Self-cleaning titration cup system.
- ▲ With Comprehensive security protection system: leakage protection, indirect alkali addition, over temperature and pressure protection of steam system, water supply subsystem of steam cylinder, pre-watering etc.



### ● Specifications

Name of Item	ZDDN-III-A
Range of Analysis	0.1—200 mg N
Repeatability (RSD)	≤1% (30mgN,0.1mol/L H+)
Titration accuracy	1.0μL / Step
Ratio of Recovery	≥99.5%
The sample analysis time (cooling water temp. 18 °C)	4-6min
Mode of Operation	Auto
Calibration Mode of Titrate Concentration	Manual Input
Display of Titration Curves	Yes
Temperature Sensor	Yes
Working Voltage	AC220V/50Hz
Heating Power	1600W
Weight of Sample	Solid Sample ≤6g; Liquid Sample ≤20ml



# CROP QUALITY INSTRUMENT

## Thermostatic Heating Digestion Furnace

Model: KDN-D /S series

Digestion furnace is the equipment which is based on principles developed by classical wet digestion with different sample digestion. Mainly used for agriculture, forestry, environmental protection, geology petroleum, chemical, food and other departments as well as universities, research departments of plants, seed, feed, soil, ore samples for chemical analysis. It is used with Kjeldahl distillation Analyzer.

### ● Characteristics

- ▲ Aluminum heating module using zinc-aluminum alloy finish is made with a uniform temperature distribution
- ▲ Furnace holes' temperature is continuously adjustable aperture, small temperature difference between the holes, sample digestion consistency, high thermal efficiency
- ▲ With the new generation of PLC Intelligent LCD temperature control device.
- ▲ LCD temperature control device adopted: time off, alarm system, PID intelligent control, high precision of temperature control, small temperature conflict and temperature-programmed



### ● Specification

Name of Section	Model	Model	Model	Model	Model
	KDN-10D	KDN-15D	KDN-20D	KDN-15S	KDN-20S
Sample Holes	10	15	20	15	20
Aperture	Φ43.5 (applicable to Φ42, Φ40 tube)				
Heating module material	Aluminum alloy			graphite	
Design Temperature	450°C			650°C	
Temperature control instrumentation	PLC				
Temperature accuracy	±1°C				
Heating rate	≈3--15°C/min				
Operating Voltage	AC220V/50Hz				
heating power	2KW	2.6KW	3.6KW	2.6KW	4KW
Options	Cooling Stent			Cooling Rack	

## Automatic Soxhlet Fat Extractor

Model: SZF-06A/ SZF-06C

### ● Product Description

Fat Analyzer tests fat content according to Soxhlet Extraction principle, use weight determination method to determine the fat content. It features extraction, reagent recovery, cooling system and temperature controlling

### ● Characteristic

- ▲ Small volume, fast heating speed, even heating.
- ▲ Accurate digital temperature controlling, easy to operate.
- ▲ Extraction bottle and apparatus are made of glass to avoid other spills

### ● Technical parameters

- ▲ Measuring range: oil content within the scope of 0.5%-60% of good, feed, oil and various kinds of fat products
- ▲ Measuring sample quantity: 6 simultaneously
- ▲ Heating time: within 10 min
- ▲ Recovery system: automatic
- ▲ Recovery rate: ≥80%
- ▲ Temperature controlling range: room temperature -100°C
- ▲ Power: AC220V/50Hz, 1000W
- ▲ Shape size: 760\*230\*680mm
- ▲ Weight: 25kgs



### ● Model difference

Model	SZF-06A	SZF-06C
Shape size	760×230×680	670×250×600
Weight	25kg	23kg
Difference	Even heating and automatic recycling	Even heating and automatic recycling, automatic soaking and extraction, save working time.

# CROP QUALITY INSTRUMENT

## Raw Fiber Extractor

Model: CXC-06

### ● Product Description

Raw Fiber Analyzer tests raw fiber content according to acid and alkali boiling method. It adopts accurate concentration acid and alkali to boil samples in particula then remove soluble substances by ether, deduct the amount of minerals b temperature burning.

### ● Technical parameter

Measuring object: raw fiber content in various kinds of grain, feed, food and other agriculture and sideline products

Measuring sample quantity: 6/times

Reproducibility error:

Raw fiber level < 10%      absolute value erroe≤0.4%

Raw fiber level >10%      absolute value error≤4%

Measuring time: about 100min (including acid 40min, alkali 40min, filter and wash 20 min)

Power: AC220V/501HZ, 2800W

Water supply: water pressure >1.5MPa water temperature <20°C

Size: 670×450×670mm      Weight: 30kg



## Grain Hardness Meter

Model: GWJ-1 / GWJ-2

### ● Product description

GWJ series Grain Hardness Meter measures hardness of granular good such as rice, wheat etc.

### ● Characteristic

- ▲ Easy to operate; direct reading, high accuracy, elegant appearance.
- ▲ Pressure head is made of stainless steel, which increases the service life.
- ▲ Two types: Pointer and Digital LED.





## ● Technical Parameter

Model	GWJ-1	GWJ-2
Test range	20kg	20kg
Display	Digital LED	Digital LED
Stress	Manual	Manual
Maximum Diameter	18mm	18mm
Accuracy	± 2%	±0.5kg
Resolution	0.01kg	0.1kg



digital type

## NMR Oil Content Analyzer

Model: HCY-20

### ● Introduction

NMR Oil Content Analyzer is specially used for testing oil content in oil crops.

### ● Characteristic

- ▲ High efficiency, sample can be tested within 30s.
- ▲ Safe, nondestructive, no pollution, low carbon, environmentally friendly,
- ▲ Expenses saving, Can save lots of water, electricity, either, labor, extracti equipment expenses.
- ▲ High accuracy and good stability.



### ● Model Difference

Model	HCY-20	
Test variety	Test oil content in bean, rapeseed, sesame, corn, cottonseed, sunflower seed, Peanut seed, wheat, bancoul nut, volatile matter and so on	
Feature	Color LCD, mouse + keyboard, computer operation software carries on adjusting the frequency automatically, The data can be copied by USB flash disk to the computer and printed, software upgrades through USB flash disk	
Technical parameter	Sample volume: 40ml Oil measuring range: 0.1%-100% Precision: +0.2%	Stability: +0.1% Power source: 220V, 50HZ Power consumption: ≤40W

# INCUBATOR

## Intelligent Artificial Climate Incubator

Model: RTOP-B/D series



RTOP-268 /310



RTOP-500



RTOP-1000

### ● Introduction

RTOP Intelligent Artificial Climate Incubator is a biological incubation experimentation instrument, which adopts microcomputer automatic control system, programmable control mode, and intermitting cooling. Through setting the multiple parameters, it is able to mimic a natural environment. It has illumination, temperature –constant, day and night shift automatically functioning. It is able to meet various biological incubation tests. Our incubator is able to apply to various areas such as seed germinate & breeding, plant group foster and planting, animalcule incubation, breeding of insects and small animals, anti-oxidation experiment of medicines and environmental experiments of articles; and it is especially applicable for the study of Bioengineering, Medical study, agricultural, Aquatic, Animal husbandry etc.

### ● Characteristic

- ▲ Micro-computer control, integrated control panel. Time, temperature, light, humidity, period etc. can be set.
- ▲ Over-temperature and sensor abnormality protection to ensure the equipment and sample safety.
- ▲ Full spectrum plant growth lamp, beneficial to plant growth, disease resistance
- ▲ A power-down protection, boot display after the state power of money, there are storage memory.
- ▲ Aluminum alloy frame, silver color and be able to the aging and deformation. With lock-door
- ▲ The device with wheel, move easily.
- ▲ Inside the incubator is grid structure, which can be adjusted as the sample's length, convenient and practical.
- ▲ the material of tank: stainless steel
- ▲ Anti-irradiation tempered- glass with coating to ensure a good insulation performance.
- ▲ About the light: Customized available, standard light is 5500lux. The max light available is: 15000lux.
- ▲ Optional capacity: 268L, 310L, 500L, 1000L

## Intelligent Artificial Climate Incubator

Model: RTOP-B/D series

### ● Technical parameters

Temperature range: 0-50°C

Temperature fluctuation:  $\pm 0.5$

Temperature uniformity:  $\pm 1^\circ\text{C}$

Humidity range: 50-95%

Humidity fluctuation:  $\pm 5\%RH$

Deviation:  $\pm 5\%RH$

Light grade: 0-3 grade (strong light: 0-8 grade)

Luminance: 0~15000LUX (5500lux default)

Heating power: 500W (RTOP-1000: 1000W)

Compressor power: 190W-320W

Compressor delay guard time: 3min

Noise: <70Db

Humidifier water tank capacity: 5L

Working mode: continuous operation (compressor intermittent working)

Working environment: temperature 0-40°C, humidity<80%RH; Non-corrosiveness gas

Power: 220 $\pm$ 22V, 50 $\pm$ 0.5HZ

**Temperature, humidity, light can be programmed to periods:**

Type B can be divided into day (period 01) and night (period 02)

Type D can be divided into 1-30 periods (include all functions of type B)

For seed germinating, you can choose 3500LUX:

For seedling germinating, 5500LUX is enough. More lux needed can be customized.

### ● Model Difference

Model	Volume	External Size(L*W*H)	Inner Size(L*W*H)	Temp range	Light degree
RTOP-268B RTOP-268D	268L	655*610*1760 mm	480*480*1040 mm	0~50°C	0~5500LUX
RTOP-310B RTOP-310D	310L	720*590*1900 mm	480*480*1290 mm	0~50°C	0~5500LUX
RTOP-500B RTOP-500D	500L	692*692*2000 mm	580*600*1310 mm	0~50°C	0~5500LUX
RTOP-1000B RTOP-1000D	1000L	1250*655*1895 mm	1230*600*1270 mm	0~50°C	0~5500LUX



# INCUBATOR

## Intelligent Illumination Incubator

Model: GTOPI-B/D series



GTOP-158



GTOP-268 /310



GTOP-500



GTOP-1000

### ● Introduction

GTOP Intelligent Illumination Incubator is a biological incubation experimentation instrument, which adopts microcomputer automatic control system, programmable control mode, and intermitting cooling. Through setting the multiple parameters, it is able to mimic a natural environment. It has illumination, temperature –constant, day and night shift automatically functioning. It is able to meet various biological incubation tests. Our incubator is able to apply to various areas such as seed germinate & breeding, plant group foster and planting, animalcule incubation, breeding of insects and small animals, anti-oxidation experiment of medicines and environmental experiments of articles; and it is especially applicable for the study of Bioengineering, Medical study, agricultural, Aquatic, Animal husbandry etc.

### ● Characteristic

- ▲ Micro-computer control, integrated control panel. Time, temperature, light, humidity, period etc. can be set.
- ▲ Over-temperature and sensor abnormality protection to ensure the equipment and sample safety.
- ▲ Full spectrum plant growth lamp, beneficial to plant growth, disease resistance
- ▲ A power-down protection, boot display after the state power of money, there are storage memory.
- ▲ Aluminum alloy frame, silver color and be able to the aging and deformation. With lock-door
- ▲ The device with wheel, move easily.
- ▲ Inside the incubator is grid structure, which can be adjusted as the sample's length, convenient and practical.
- ▲ the material of tank: stainless steel
- ▲ Anti-irradiation tempered- glass with coating to ensure a good insulation performance.
- ▲ About the light: Customized available, standard light is 5500lux. The max light available is: 15000lux.
- ▲ Optional capacity: 158L, 268L, 310L, 500L, 1000L

## Intelligent Illumination Incubator

Model: GTOP-B/D series

### ● Technical parameters

Temperature range: 0-50°C

Temperature fluctuation: ±0.5

Temperature uniformity: ±1°C

Illuminance: 0~15000LUX (5500lux default)

Can increase the light intensity according to customer requirements

Heating power: 300W (GTOP-1000: 700W)

Compressor power: 190W-320W

Compressor delay guard time: about 3min

Noise: <70Db

Working mode: continuous operation (compressor intermittent working)

Working environment:

Temperature: 0-38°C, humidity<80%RH, Non-corrosiveness gas

Power: 220±22V, 50±0.5HZ

**Temperature, humidity, light can be programmed to periods:**

Type B can be divided into day (period 01) and night (period 02)

Type D can be divided into 1-30 periods (include all functions of type B)

### ● Model Difference

Model	Volume	External Size(L*W*H)	Inner Size(L*W*H)	Temp range	Light degree
GTOP-158B	158L	655*610*1760 mm	425*405*965 mm	0~50°C	0~3300LUX
GTOP-268B GTOP-268D	268L	720*590*1900 mm	480*480*1040 mm	0~50°C	0~5500LUX
GTOP-310B GTOP-310D	310L	692*692*2000 mm	480*480*1290 mm	0~50°C	0~5500LUX
GTOP-500B GTOP-500D	500L	1250*655*1895 mm	58*60*1310 mm	0~50°C	0~5500LUX
GTOP-1000B GTOP-1000D	1000L	1250*655*1895 mm	123*60*1270 mm	0~50°C	0~5500LUX

# SEED TESTING INSTRUMENT

## Automatic Seed Counter

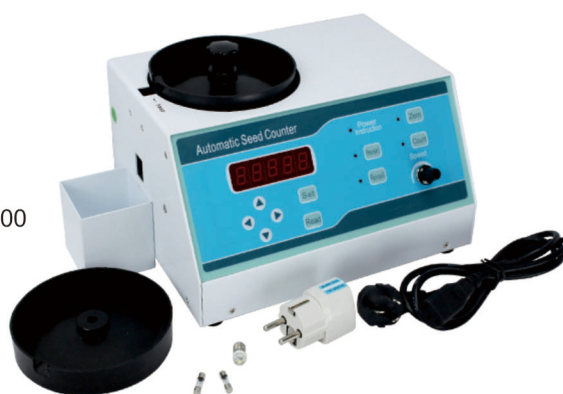
Model: SLY-C

### ●Characteristic

- ▲ Microcomputer automatic control, have touch-key, complete automated operation.
- ▲ Count speed is adjustable, high accuracy, No noise metal shell, and elegant appearance.
- ▲ Both round and long seeds are suitable
- ▲ Automatically adjust the grain of clearance

### ●Technical specification

Count Range: Small and middle sample: 0.7~4 mm×0.7~12mm  
Big sample: 3~10mm×3~12 mm  
Count Accuracy: Big and middle sample: 2/1000 small sample: 4/1000  
Count Speed: ≥1000 /3min (it's based on level 2, if you want fast you can turn to level 3-7)  
Count Capacity: 1~99999  
Power: 220V 50HZ  
Continuous working time: ≥ 5Hr



## Grain Moisture Meter

Model: LDS-1H/LDS-1S

### ●Characteristic

- ▲ Automatic weighing; Automatic temperature compensation; Automatic moisture test; Automatic power off
- ▲ Empty machine revises moisture; the newest compensation model; AC/DC
- ▲ Users can calibrate and correct error.

### ●Model difference

LDS-1H mainly used for testing the field seeds: rice, bean, wheat, rapeseed, corn, barley, etc.  
LDS-1S mainly used for testing the vegetable seeds: tomato, eggplant, Chinese chives, turnip, cowpea, green vegetables, etc.

### ●Characteristic

Test error:  $\leq \pm 0.5\%$  (main moisture range)    Repetition error:  $\leq 0.2\%$   
Test range: 3-35%    Test time:  $\leq 10s$   
Sampling mode: Quantify: 150g (except special samples)  
Working compensation: automatic  
Working environment: 0-40°C    Net weight: 860g  
Working power: 4 AA dry batteries  
Calibration: floating 3 points calibration, unlimited sample (common varieties have been calibrated in advance, can be tested directly)





## High Accuracy Automatic Seed Counter

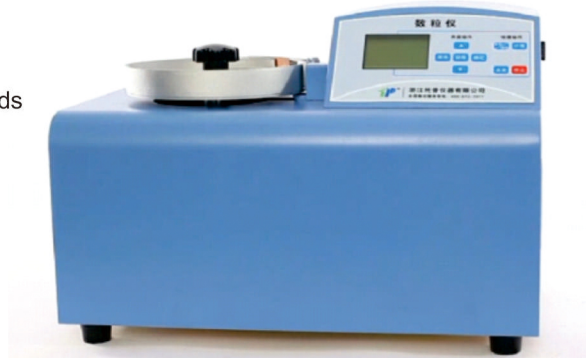
Model: SLY-D / SLY-E

### ● Characteristic

- ▲ Microcomputer automatic control system. LCD display; light touch key.
- ▲ It is suitable for measuring round and long, small and big seeds
- ▲ Direct read data on screen, such as current seeds counter number, counting mode, sensitivity, weight and counting time etc.
- ▲ Adjustable counting speed
- ▲ Sensitivity adjustable, make the results more accuracy
- ▲ Two modes for choosing: unlimited counting, and counting stop.
- ▲ Auto save your previous counting
- ▲ Shortcut menu operation "500", "1000", "1500", "2000" options.
- ▲ 4G SD card including.
- ▲ Direct read data on screen, such as count grain number, date, time, time consuming, weight
- ▲ The weighing function. SLY-E type can automatic weighing.
- ▲ Can display and save the results

### ● Technical specification

Counting range: L\*W less than 12\*4mm (small seeds)  
 L\*W less than 12\*10mm (big seeds)  
 Counting accuracy: 5/1000 for small seeds; 3/1000 for big seeds  
 Counting speed: 1000pcs/ 3m  
 Counting capacity: 1-99999 (read through LCD)  
 Preset self stop: any value within 1-99999  
 Weighing range: 0-1000g  
 Size: 450\*300\*320mm  
 Power supply: AC220±20V~ 50Hz  
 Watt: <60W  
 Continuous working time: ≥ 5h



### ● Model Difference

Model	Function
SLY-D	with SD card, data can be stored and export. without the weighing function.
SLY-E	with SD card, data can be stored and export. with the weighing function.

# SEED TESTING INSTRUMENT

## Grain Moisture Meter

Model: LDS-1G

### ● Technical parameter

Test object: nonmetallic granulated materials such as cereal, wheat, rapeseed, soybean, vegetable seeds, corn, feed etc.  
Test error:  $\leq \pm 0.5\%$  (main moisture range)  
Repeatability error:  $\leq 0.2\%$   
Test range: 3-35%  
Working environment: 0-40%  
Temperature compensation: automatic  
Net weight: 830g  
Display mode: highlight & back-light LCD  
Attached function: volume-weight conversion display, sample weight display, temperature display, and moisture average calculation  
Calibration: 4 points calibration, unlimited sample (20 common varieties have been calibrated in advance, can be tested directly)  
Working power: AC/DC, DC6V (4 AA dry batteries)/special external power adapter



## Seed Neatness Workbench

Model: TJD-1300

### ● Characteristics

- ▲ Steel and wood material, laminate surface.
- ▲ Super-thin light panel, soft and even white light
- ▲ The polarized light against dazzling transmission observation platform, can electrically adjust dark field.
- ▲ Transmission illumination function (The polarized light equipment can filter the disturbance of background light source completely, observe and examine the seed, seedling, plant leaf blade, colony etc carefully, and it applies to photographing high quality pictures).
- ▲ Large diameter live arm type illumination magnifying glass.

### ● Technical parameters

Magnification: 0-7 times  
Surface size: 130cm \* 65cm  
Luminous panel size: 65cm \* 45cm  
Polarized light platform:  $\Phi 16\text{cm}$   
Accessories: Manual counter, grain-counting board



# SEED TESTING INSTRUMENT

## Seed Neatness Workbench

Model: TJD-800

### ● Product description

TJD-800 is used come with magnifier. There are lighting devices on both the top and bottom of its observation platform, convenient for observing and cleaning seeds.

Observation platform with soft white light and even reflection can magnify testing objects, used for seeds purity testing.

### ● Technical parameters

Magnification: 0-7 times

Illumination power: 20-30W

Power: 220V, 50HZ

Net weight: 8KG



## Seed Neatness Workbench

Model: TJD-900

### ● Characteristics

- ▲ Both sides of the work table adopt slope design according to the human body engineering principle; the operation is comfortable and labor-saving.
- ▲ Removable drawer is under the instrument, it is used for hold well-chosen seeds.
- ▲ Extended edge is designed on the left, right and back side of workbench to avoid seeds' lateral leakage.
- ▲ Glass surface can be drawn out to replace tube easily.
- ▲ The original seeds-fall holes are convenience for taking out the chosen seeds.
- ▲ Wooden structure, ultra thin observation platform, provided with desktop illumination magnifying glass.
- ▲ Standard configuration contains 2 different chromaticity glasses, widely use.

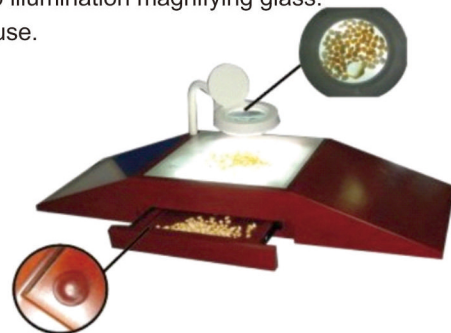
### ● Technical parameters

Magnification: 0-7 times

Surface size: 360 \* 330cm

Table base size: 940 \* 330cm

Luminous panel size: 300 \* 270cm





# SEED TESTING INSTRUMENT

## Vacuum seed counter & placing apparatus

Model: ZLC-2000

### ● Characteristics

- ▲ Used for seed counting, suction and placing in the course of seed germination.
- ▲ Made up of main machine, suction tube and suction head.
- ▲ With control button to control the suction power according to seed size.
- ▲ With 5 different seed suction heads, its size and specification match with Petri dish, meet needs of different seed germination.

### ● Technical parameters

Temperature: $\leq 40\text{ }^{\circ}\text{C}$	Suction plate: 5pcs
Power: 1200W	Suction size: 13*19 (100 Holes, 50 holes/pc)
Voltage: 220V/50HZ	11.5*11.5 (100 holes, 2pcs), $\Phi 8$ (100 holes/pc)
Machine size: 300*250*400(mm)	



## Seed Blower

Model: CFY-II

### ● Working principle

Classify samples according to aerodynamic behavior (floating speed) of particulates in

### ● Characteristics

- ▲ Metal shell, strong vibration resistance
- ▲ Beautiful shape, small noise, reliable operation, good safety.
- ▲ Wind speed is adjustable according to granule size
- ▲ Can achieve the best effect, and can be timed.

### ● Technical parameters

Max air volume: $3.8\text{ m}^3/\text{min}$	Power: 180W
Max wind pressure: 1300 pa	Voltage: 220V/50HZ
Noise: $\leq 50\text{db}$	Weight: 25KG
Timing: 0-10min	Size: 60*40*35CM



# SEED TESTING INSTRUMENT

## Electric Centrifugal Divider

Model: LXFY-2

### ●Function

The Precision Divider has repeatedly demonstrated its ability to precisely divide larger samples into working size samples in a matter of seconds. It is ideal for smaller seeded crops. Dividing and mixing are accomplished by the centrifugal action of a motor driven revolving neoprene disc positioned under the hopper. A smooth inside chrome plated finish virtually eliminates any of the samples sticking to the inner surfaces. Both the hopper and cylinder top lift off to provide easy access to the interior of the dividing chamber.



### ●Specification

Delivery sample volume: 200-1500g  
Work error:  $< \pm 0.5\%$  per kg  
Packing Size: 300\*300\*550mm

Net weight: 18.6kg  
Power: 220V 50HZ  
Packing list: one unit of machine and 3 units of sample holder

## Electric Sieving Apparatus

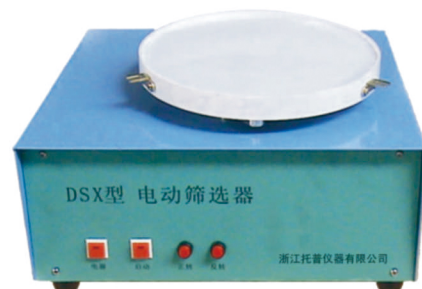
Model: DSX

### ●Characteristics

Electrically screening instrument uses the table model structure, the body sieves by three planes struts, makes the plane rotation through the eccentric link motion gear the automatic device to sieve, has the structure compact reasonable, the revolution steady, the performance is stable, merit and so on ease of operation, widely adapts the grain, the fuel oils screening test.

### ●Technical parameters

Max sieving quantity range: 500g  
Sieving frame level: 3 layers  
Sieving range: 100mm  
Rotation speed:  $115 \pm 5$  r/min  
Grain sieve diameter: 200mm~220mm  
Power: 60W  
Working power: AC220V 50Hz  
Weight: 12kgs



# SEED TESTING INSTRUMENT

## Small size Rice Husker Tester

Model: TP-JLG-2018

### ● Characteristics

- ▲ Brown rice rate meets the standard GB5495-2008
- ▲ Engineering plastic material with well-formed, handle well and running stable
- ▲ Rice sample size can be set as demand. Easy to operate
- ▲ Be able to continuous feed, husk automatically.
- ▲ PU roller, husking without damage, the rate of broken rice is lower
- ▲ The distance of roller, wind force is adjustable.

### ● Technical parameters

- ▲ Husking percentage: 97%-100%
- ▲ 50g sample husking time: 40s
- ▲ Rice broken rate: <3%
- ▲ Rotate speed: 2800r/min
- ▲ Adjustable spacing of roller: 0~3mm
- ▲ Collection case capacity for brown rice:120g
- ▲ Collection case capacity for brown husk: 60g
- ▲ Motor power: 120W (AC 220V)
- ▲ Voltage: 220V
- ▲ Out shape: 32x280X16.5cm
- ▲ Weight: 7.5kg



## Riffle Divider

Model: HGT-I/ HGT-II/ HGG-I/ HGG-II



HGG series



HGT series



# SEED TESTING INSTRUMENT

## ● Model Difference

Model	HGT-I	HGG-I	HGT-II	HGG-II
Material	Iron plate coating	Stainless steel	Iron plate coating	Stainless steel
Groove quantity	16		12	
Groove width	12.7mm		25.4mm	
Max sample	150-1200g		300-2000g	
Shape size	315*240*260mm		420*240*280mm	
Application range	Rice, wheat and so on middle and small seeds		Bean, corn and so no big seeds	
Specification	Middle and small		Big	

## Seed Divider

Model: JFYZ

### ● JFYZ

- ▲ The Grain divider is gravity operated. Sample is placed in the hopper and released by moving a slide gate located in the hopper throat.
- ▲ The grain, after initial separation, is rejoined into two chutes which empty out of the bottom hopper. A divider is supplied complete with two brass pans with handles for easy transport of divided samples.
- ▲ The divider can be converted to a larger capacity divider with a top hopper and leg extension kit. Hopper is spun copper and the leg extensions are painted steel.

### ● JFYZ-A-II

Biggest divide number: 2000g  
 High of the instrument: 76.5cm  
 Weight of the instrument: 4.5kg  
 Divide varieties: corn, bean, vegetable seeds, rice, wheat

### ● JFYZ-B-II

Biggest divide number: 500g  
 High of the instrument: 56cm  
 Weight of the instrument: 1.5kg  
 Divide varieties: vegetable seeds, rice, and wheat

### ● JFYZ-C-II

Biggest divide number: 500g  
 High of the instrument: 56cm  
 Weight of the instrument: 1.5kg  
 Divide varieties: vegetable seeds



# FOOD SAFETY INSTRUMENT

## Pesticide Residue Meter

Model: NY-1D

### ● Characteristics

- ▲ Without any calculating, showing the inspection result automatically.
- ▲ Semi-permanent light, long lifetime, LCD with back-light
- ▲ Built-in 3.7V rechargeable Li-ion, 5V power adapter.
- ▲ Self-calibration, self-clocking, self power-off.
- ▲ Supporting storage of 500 records
- ▲ With USB and software for data management on PC
- ▲ Including software. be able to read, edit, manage, review and print the results

### ● Technical parameter

Transmittance accuracy rate:  $\pm 3\%$

Transmittance Repeatability:  $\pm 2\%$

Linear error:  $\pm 5\%$

Working environment: 0-40°C

Button: Panasonic soft key

Working humidity: 35-85%RH



## Pesticide Residue Meter

Model: NY-8DA/NY-16DA



NY-8DA



NY-16DA

### ● Characteristics

- ▲ Testing pesticide residue in onion, garlic, ginger, fragrant-flowered garlic, carrot tomato, etc.
- ▲ Color reaction under room temperature condition, fast testing speed
- ▲ Plastic shell, streamline appearance, 7inch color LCD displayer, easy to operate.
- ▲ High sensitivity to methamidophos, dichlorvos etc.
- ▲ Adopt ARM9 inserting controlling system, with the function of saving, collecting, processing, analyzing
- ▲ RS-232 connector, it can be used alone and connect with computer to deal with data
- ▲ Enzyme reagent has excellent thermal, stability, convenient for transportation and storage in hot seasons

# FLOUR AND OIL TESTING INSTRUMENT

## ● Technical parameter

test items	detection limit	detection range
pesticide residue	0.1-20mg/kg	0-100%(value rate)

Transmittance accuracy:  $\leq \pm 1.5\%$ ;

Sensitivity: potassium dichromate solution  $\geq 3.17 \times 10$  (A/ug.ml), copper sulphate solution  $\geq 4.50 \times 10$  (A/ug.ml)

Stability: after 20m pre-heating, transmittance (T) value occurred by light current excursion within 3m  $\leq 1.0\%$  (or absorbance (A) value 0.005)

Interface: network

Power adaptor: 220V $\pm$  10%

## Single-head Gluten Tester

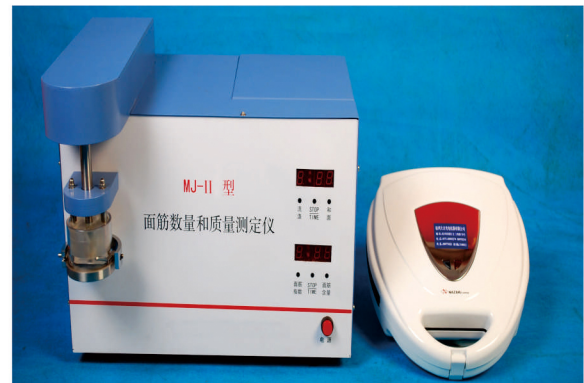
Model: MJ-IIA

## ● Description

The MJ-IIA Gluten tester is a professional instrument for testing gluten content, gluten index and gluten water retention rate in the flour. It's suitable for wheat flour and entire wheat flour testing. And it's widely used in food and flour processing department, grain and oil scientific research institution, grain storage department etc.

## ● Technical parameters

- ▲ Agitator rotation speed: 120 $\pm$ 2r/min
- ▲ Thin wash net code: GFIW0.080 (plain weave: 200mesh)
- ▲ Thick wash net code: GFIW0.080(plain weave: 26mesh)
- ▲ Washing sample weight: 10g(ingle head), 10g\*2(double-head)
- ▲ Washing inner diameter: 54mm
- ▲ Wash liquid flow capacity: 50-56ml/min(adjustable)
- ▲ Dough making time: 1-99s (Set per second)
- ▲ Wash time: 1-59s (Set per minute)
- ▲ Centrifugal rotation speed: 3000r/min, 6000r/min $\pm$ 2r/min
- ▲ Centrifugal time: 1s~59s, 1min~9min
- ▲ Dryer temperature: 150 $\pm$ 2°C
- ▲ Repetition
  - 10.1 Gluten content: The difference between two testing results should less than 1.0%
  - 10.2 Gluten index: Admissible error of two testing results should less than 11 units in index 70-100. Admissible error of two testing results should less than 15 units under index 70.
- ▲ Power: AC220V $\pm$ 5% 50Hz
- ▲ Work environment: temperature 150-200°C; Relative humidity:  $\leq$ 90%
- ▲ Sizes: 420x330x240 mm<sup>3</sup>
- ▲ Weights: 20kg
- ▲ Rated power: 650W





# FLOUR AND OIL TESTING INSTRUMENT

## Double-head Gluten Tester

Model: MJ-III A

### ● Description

The MJ-III A Gluten tester is a professional instrument for testing gluten content, gluten index and gluten water retention rate in the flour. It's suitable for wheat flour and entire wheat flour testing. And it's widely used in food and flour processing department, grain and oil scientific research institution, grain storage department etc.

### ● Technical parameters

- ▲ Agitator rotation speed:  $120 \pm 2$  r/min
- ▲ Thin wash mesh size:  $80 \mu\text{m}$  (200mesh) metal sieve
- ▲ Thick wash mesh size:  $800 \mu\text{m}$  (26mesh) metal sieve
- ▲ Washing liquid flow capacity: 50mL/min~56mL/min
- ▲ Dough mixing time: 1s~59s (digital, adjustable, adjust start from each second)
- ▲ Washing time: 1s~59s; 1min~99mins (digital, adjustable)
- ▲ Centrifugation time: 1s~59s; 1min~99mins (digital, adjustable)
- ▲ Centrifugation speed: 3000 r/min ,  $6000 \text{ r/min} \pm 5 \text{ r/min}$  (adjustable)
- ▲ Centrifugation mesh box: Aperture is  $500 \mu\text{m}$
- ▲ Centrifugation acceleration speed: 2000g
- ▲ Dryer temperature:  $150^\circ\text{C} \sim 200^\circ\text{C}$
- ▲ Working voltage: AC220V $\pm 5\%$ , 50Hz
- ▲ Working environment: temperature:  $0^\circ\text{C} \sim 40^\circ\text{C}$  RH<80%
- ▲ Shape size and weight: (LxWxH) / kg
  - 1) The machine: 400x300x240 mm 13kg
  - 2) Index Apparatus: 240x240x200 mm 4kg
  - 3) Dryer: 220x220x65 mm 1.5kg



# FLOUR AND OIL TESTING INSTRUMENT

## Intelligent Whiteness Meter

Model: WSB-V

### ● Introduction

Whiteness Analyzer is used to test whiteness of objects. It applies to the department of flour, starch, ground rice, salt, tactile, printing and dyeing, chemical fiber, plastic, porcelain, clay, talcum powder, white cement, paint, ceramic, enamel, paper, pulp and so on. It has two types, one is with printing function and the other is without printing function.

### ● Characteristic

- ▲ Microcomputer control, LCD display, touch key, delicate appearance
- ▲ Energy-saving and environment-protecting
- ▲ Automatic calibration, stable and reliable

### ● Technical parameters

Diffuse illumination and vertical sounding method (d/o), simulation D65 illuminant use d/o illuminating viewing and geometrical condition. Globe of diffusion diameter is 120. Measuring hole diameter is 20mm. Have light absorber, can eliminate reflected ray of sample mirror face.

Repeatability:  $\leq 0.1$

Indicating value drift:  $\leq 0.1$

Zero point drift:  $\leq 0.1$

Indicating value error:  $\leq 0.5$

Indicating: 0.1

Output mode: three and a half digital display, built-in printer  
(according to customers' needs can be with printing function or not)

Working environment: temperature 0-40°C; Relative humidity <80%RH

Power: AC 220V+10%/ 50HZ

Shape size/weight: 32\*40\*48CM/9.3KG



# FLOUR AND OIL TESTING INSTRUMENT

## Falling Number Tester

Model: FN-II

### ● Characteristics

Falling Number Meter is the special instrument which is testing the amylase activity in grains and can accurately judge grain's germination damage degree. It is suitable for testing grain, wheat etc. and it is the necessary instrument in the areas of grain storage, flour processing and food processing.

This instrument is testing  $\alpha$ -amylase activity index in grains based on Berhagger's sedimentation value method.

### ● Technical parameters

- ▲ Water bath apparatus: consists of heating unit, cooling system and water level indicator.
- ▲ Electric timer: digital and precision time control
- ▲ Test results: automatically calculated by SCM, printed out by printer, and data saved in PC by connecting a PC via RS232.
- ▲ Mix stick's weight:  $25\pm 0.05\text{g}$
- ▲ Water bath barrel preheated pipe: 600W
- ▲ Viscosity tube: made by special glass.
  - a) Inside diameter  $21\pm 0.02\text{mm}$
  - b) Outer diameter  $23.8\pm 0.25\text{mm}$
  - c) inside high  $220\pm 0.3\text{mm}$
- ▲ Repeat: Difference of the two test results does not over 10%
- ▲ Size:  $420\times 340\times 350\text{mm}$
- ▲ Weight: 25kg
- ▲ Power resource: AC  $220\text{V}\pm 10\%$  50Hz



## Lab Whirlwind Mill

Model: FS-II

### ● Working Principle

Lab Whirlwind Mill adopts high-speed whirlwind grinding principle. Samples slowly added in feed inlet are thrown to mill ring by the high-speed cyclonic flow produced by impeller; they will be impacted into powder and sent to sample collection bottles by wind path. Finally get the required samples.

### ● Characteristics

- ▲ Suitable for making grinding samples, efficiently and rapidly grind wheat, corn, rice, mung, soybean and so on.
- ▲ Provide biochemical index such as falling number, gluten parameter, and viscosity and so on with standard power samples.
- ▲ Creative return air wind path, reduce sample loss, improve flour yield.
- ▲ Touch key, prevent dust pollution, and improve reliability.
- ▲ Grinding process without losing protein and fat content.





# FLOUR AND OIL TESTING INSTRUMENT

## ● Technical parameters

Motor power: 370 W  
Impeller rotation speed: 10,000 turn / min  
Average sample flow: 150 g / min  
Grinding fineness: 60-100, mesh  
Grinding out rate: > 98%

## Digital Flour Quality Analyzer

Model: HZF-150

## ● Characteristics

- ▲ Flour-rubbing bowl can be interchangeable, programs can identify bowl type and automatic adjust.
- ▲ Overload protection function: alarm and shutdown when stirring torque is too large.
- ▲ One-button automatic water system, instead of hand-press rubber ball, control adding water to burette, labor-saving and high-efficiency.
- ▲ Results saved in Access database, convenient for viewing.
- ▲ Simultaneously display up to 10 flour quality graphs, convenient for comparing differences.
- ▲ Multiple-security protection measures: double-button start, stop automatically when open the cover.
- ▲ Intelligent programs respond to instrument movement, start drawing graph automatically.
- ▲ The USB interface, real support hot plug, plug and play
- ▲ Data is stored as an Access format, can use Microsoft Access, convenient for viewing.

## ● Technical parameters

Motor power: 0.2kw  
Power: AC220V, 50Hz / AC380V, 50Hz  
Computer connector mode: USB  
Torque testing mode: electronic torque sensor  
Weight: 75Kg (with 300g bowl) /70Kg (with 50g bowl)  
Accuracy: no more than 5% of measuring range  
Main doughing cutter rotation speed: 63r/min±1 r/min  
Sub-doughing cutter rotation speed: 94.5r/min±1 r/min  
Coordinate scale ranges: horizontal axis: 0—20min,  
Vertical axis: 0—1000FU  
Horizontal axis speed: 1.00mm/min  
Sample weight: 300g (300g bowl) or 50g (50g bowl)  
Shape size: 95(L) x 53(W) x62(H) cm



# FLOUR AND OIL TESTING INSTRUMENT

## Digital Dough Tensile Analyzer

Model: HZL-350

### ● Characteristics

- ▲ Drawer-type box, with coil spring and the oil damping guide rail, easy to start.
- ▲ Enclosed circular arc contour, with dustproof and heat preserving function, delicate appearance
- ▲ Simultaneously display up to 5 groups of tensile curves, convenient for comparing differences.
- ▲ Results saved in Access database, convenient for viewing.
- ▲ Electronic sensor tests stretching resistance, accurate and reliable.
- ▲ Procedure automatic zero calibration, start drawing graphs automatically.
- ▲ Computer collecting, analyzing data, simple and highly-efficient.

### ● Technical parameters

Sample weight: flour 300g+6g salt+ distilled water

Kneading-ball machine rotating speed:  $83\pm 2$ r/min, automatically stop after 20r

Rubbing machine rotation speed:  $15\pm 1$  r/min

Hook-toothed tape speed:  $1.45\pm 0.05$  cm/s

Unit resistance:  $12.3\pm 0.3$ mN/EU

Tension testing mode: electronic pressure sensor

Computer connector: USB

Power: AC220V, 50Hz

Size: 92(L) x 64(W) x 95(H) cm

Weight: about 115kg



## Amylose Tester

Model: DPCZ-II

### ● Product description

The whole system is made up of Amylase Tester and computer system connected by RS232, which can collect and transmit datum. The whole system is controlled by the system software of Amylase Tester.

### ● Characteristics

- ▲ Adopts a laser light and software system of CCD rice exterior quality image analyzing and identifying.
- ▲ High-accuracy, easy to operate.

### ● Technical Parameter

Testing objects: rice, corn, wheat etc

Testing parameters: amylase content

Unit: %

Operating system: Windows 98/2000/ME/XP

Testing time: about 1 min

Power:  $220\pm 1$ V

Temperature:  $20^{\circ}\text{C} - 30^{\circ}\text{C}$



# FLOUR AND OIL TESTING INSTRUMENT

## Round Flour Checking Sieve

Model: JYSY30\*8

### ● Product description

Round Flour Checking Sieve is a specialized instrument for testing flour thin and thick degree. Separate sample in different sieves automatically and calculate flour thin and thick degree according to residue on sieve. It has characteristics of electronic time controlling, high-accuracy, compact structure, stable performance and easy operation.



### ● Technical parameters

Mesh size:  $\Phi 300\text{mm} \times 30\text{mm}$   
 Mesh specification: 25mesh, 41mesh, 51mesh, 69mesh, 76mesh, 91mesh, 107mesh  
 Power: AC220 $\pm$ 10V 50Hz, 60W  
 Gyration diameter: 50mm  
 Sample weight: 50.0g  
 Weight: 22.5kg  
 Gyration speed: 260r/min  
 Timing range: 0-999s  
 Size: 360mm $\times$ 392mm $\times$ 425mm

## Electronic Volume-weight Apparatus

Model: GHCS-1000 series

### ● Product description

Electronic Volume-weight Apparatus is widely used in volume-weight testing of grain such as wheat, rice, sorghum, corn etc. It is able to work out the levels according to standard requirements at the same time. Therefore, it plays a key role in grain purchasing, storage, processing.

### ● Technical parameters

Max weighting: 1000 $\pm$ 2g  
 Min weighting: 100g  
 Resolution: 1g  
 Volume-weight bucket volume: 1000 $\pm$ 1.5ml  
 Blanking mouth diameter: particles 30mm large particles 50mm  
 Measuring mode: combined measurement  
 Overall dimension: 530\*230\*405mm  
 Power: 220V, 10W, Chargeable.  
 Environment temperature: 5-40°C  
 Relative humidity: <90%RH  
 Weight: 12g



### ● Model difference

GHCS-1000	Small grain electronic volume-weight apparatus
GHCS-1000(P)	Small grain electronic volume-weight apparatus (with printing function)
GHCS-1000B	Large grain electronic volume-weight apparatus
GHCS-1000B(P)	Large grain electronic volume-weight apparatus (with printing function)
GHCS-1000A	Dual purpose grain electronic volume-weight apparatus
GHCS-1000A(P)	Dual purpose grain electronic volume-weight apparatus(with printing function)



# AGENT PRODUCTS

## High-Accuracy Moisture Meter (with volume weight) Model: GAC-2100AGRI

### ● Characteristics

- ▲ Appointed by USDA-FGIS for testing grain moisture.
- ▲ Not influenced by dry or wet condition, can test moisture and volume accurately.
- ▲ Testing parameter: moisture, volume weight, sample temperature.
- ▲ Get the result in 15 seconds. This result is as same as the oven method measured.
- ▲ LCD displayer, high accuracy, fast testing speed.
- ▲ With printing function (optional), RS232 connector can connect with computer.
- ▲ Automatically sample inlet, automatic weighing, automatic sample temperature compensation, automatic surface water compensation

### ● Technical parameters

Moisture range	5-45%
Repeatability	±0.1%
Error	±0.2%
Resolution	±0.1%
Sample weight	About 250g



## Portable High-Accuracy Moisture Meter Model: MINI GAC PLUS

### ● Brief description

- ▲ 20 types of grain standardizing.
- ▲ Can test grain with high temperature, max temperature: 70°C
- ▲ LCD displayer, easy to read.
- ▲ Download the grain standardizing or change the menu language via USB connector.

### ● Technical parameters

Powerful function: curve global download, can test 450 products, automatic temperature compensation, scrolling menu operation system  
 Moisture test accuracy: ±0.2% (mainly according to grain type)  
 Volume weight accuracy: ±0.5kg/h (mainly according to grain size)  
 Moisture test range: 5-45% (mainly according to grain type)  
 Grain measuring temperature: 0-50°C automatic temperature compensation  
 Display mode: LCD display moisture, temperature, volume weight  
 Measuring time: 10-15s      Accuracy: 0.5°C  
 Result accuracy: ±0.2%      Resolution: 0.1°C  
 Repeatability: ±0.2%      Power: 9V alkaline battery



## Chlorophyll Meter

Model: SPAD-502PLUS

### ● Product description

SPAD-502PLUS Chlorophyll is used for measuring relative content of chlorophyll, non-destructive to leaves. Measured datum will be displayed in trend graph. It can be used to enhance the utilization rate of nitrogen fertilizer.

### ● Technical parameters

Measuring mode: 2 wavelengths optical density difference  
 Measuring area: 2 mm×3 mm      Sensor: Silicon semiconductor photodiode  
 Display mode: LCD, 4 decimal places, trend graph  
 Measuring range: -9.9 to 199.9 SPAD units  
 Memory capacity: 30data, automatically calculate and display average value  
 Power: 2 AA batteries (1.5V)      Battery life: More than 20,000 times  
 Test interval: 2s  
 Accuracy: Within  $\pm 1.0$  SPAD units (under normal temperature, SPAD value: 0 - 50)  
 Repeatability: Within  $\pm 0.3$  SPAD units (SPAD value: 0 - 50)  
 Reproducibility: Within  $\pm 0.5$  SPAD units (SPAD value: 0 - 50)  
 Volume: 164\*78\*49mm (length\*width\*height)  
 Weight: 225g      Working environment: 0-50Accuracy: 0.5°C  
 Resolution: 0.1°C      Power: 9V alkaline battery  
 Other functions: alarm; calibration



## Pocket Refractometer

Model: PAL-1

### ● Characteristics

- ▲ LCD digital display, automatic temperature compensation, battery operation, light and portable.
- ▲ High-performance spectralite prisma, durable and scratch-resistant.
- ▲ Innovative design of metal sample sink, can quickly keep sample temperature the same as prisma
- ▲ Easy to get sample and difficult to leak.
- ▲ Easy to maintain, comply with IP65 standard, can wash by water directly.

### ● Technical parameters

Measuring range: Brix0.0—53.0%  
 Min scale: Brix0.1%  
 Measuring accuracy: Brix  $\pm 0.2\%$   
 Temperature compensation: 10-60°C

