

# K1160/K1160+K1124

## Automatic Kjeldahl Analyzer

Intelligence, efficiency and digitization are the development target of Hinotekn.K1160 automatic kjeldahl analyzer continues to the future,On the basis of K1100F's accuracy, stability, convenience and rapidity, it features more intelligence, high efficiency, energy saving and data sharing, bringing more new experience to users.The product can be more widely used in food processing, feed production, tobacco, animal husbandry, soil fertilizer, environmental monitoring, medicine, agriculture, scientific research, teaching, quality supervision and other fields nitrogen or protein determination.

### Feature

- Automatic distillation, titration, calculation, printing, waste discharge, fault self-check and other functions make the whole experimental process simple and efficient.
- Optional 24 position auto sampler
- Distillation and titration can be same time, reduce time and improving accuracy
- Android operating system with 10 inch touch screen
- Meet GMP and FDA 21CFR part11
- Titration steps curve displayed on the screen in real time, for find the end point of the titration.



### Efficient intelligent experience

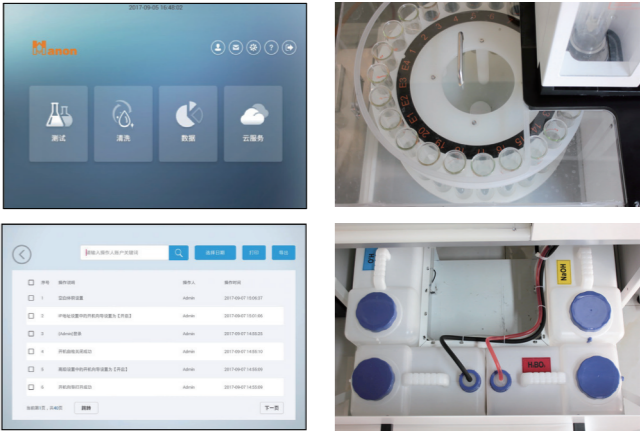
The 10-inch color touch screen is compatible with the humanized UI design and Based on Android. It is user-friendly, easy to operate and easy to learn. 24 position automatic sampler let unattended operating easier, along with the batch input function, let K1160 system bring efficiency to your laboratory.

### Compliance with Standard

Software using 3 level ID classify design with password function, data is trace-ability. Safety and reliability.

### Accuracy

Patented condensing system, 0.2 to 1μL/step will be a big help to some low nitrogen samples, to meet different content of nitrogen samples.



specification	Range	0.1-240mgN
	Repeatability (RSD)	0.5%RSD
	Cooling water consumption	15°C0.5L/min
	Data Storage Capacity	1 million pcs
	steam delay function	yes
	titration accuracy	0.2,0.4,1.0μL/step
	alkaline adding sequence	yes
	digestion tube	300ml
	titration device	5, 10, 25ml
	stam flow adjustable	0-100%
testing	fucntion	2GB memery
	result alram	yes
	Titration EDP	colormetric
	colormetric	3 color available
	distillation and titration at same time	yes
	power on sefl tested	yes
Software	ID classify	3 levels
	connecting PC	yes, wifi or internet port
	printer	yes, by UBS
	Connecting analysis	YES
	data export	USB
	connecting balance available	yes
	data export format	PDF,XML
	Auditing and Tracing	yes
hardware	Screen	10inch touch
	autosampler	K1124
	autosampler	24position (300mL)
	sampler desglin	rotor
	sampling method	tube insert directly
	condensor material	metal
	Splash head material	polymer plastic
Sampler K1124	tube	300mL
	Position capacity	24position
	Port	CAN
	Inbuilt solvent bottles volume	4*15L
	Dimension	920mmX625mmX908mm



# K1100F

## Automatic Kjeldahl Analyzer

K1100F Automatic Kjeldahl Analyzer is an auto - matic device integrating distillation and titration func- tions designed based on classic Kjeldahl nitrogen determination method. It' s equipped with the latest core control system, powerful automation and high-quality components, can easily achieve automatic waste discharge and cleaning of digestion tubes and titration cups, control steam supply and real-time detection of condensation temperature. High-accuracy charging pump and titration system ensure test results accuracy, and multiple fluid level detection gives smooth test process.



### Characteristics

- Automatic distillation, titration, calculation, printing, drain and cleaning function, safety and saving-time.
- Visibletitration cup design gives operatorreal-time control of the whole test process.
- Steam flow is controllable, satisfying differenttest require- ments.
- Regent barrel enjoys fluid absence warning function, ensuring smooth test going.
- High-precision charging pump and titration system ensure test results accuracy.
- Large LCD touch screen gives visual operationand abundant information,enabling user to have a good com- mandof it.
- USB or RS485 interface is optional for PC connection.
- Distilled liquid temperature is detected real time. Emer- gency stop against temp anomaly.
- Double distillation modelmeets different experiments, to retard the speed of acid-base reaction.
- Digestion tube fast drain function is used to avoid operator touch distilled hot reagents, protecting opera- tors.
- Printer is built in.

### Complete microcomputer control

Automatic completion of distillation, titration,calcula- tion, printing, waste discharge and multiple protec- tions, i.e.failure self-detection,hints of condensed water shortage, displacement of safety door and digestion tube and so on.

### Large LCD Touch Screen Panel

Large LCD touch screen gives visual operation and abundant information,enabling user to have a good command of it.



# K1100F

Complete compatible design  
Compatible with congeneric products perfectly

### Performance advantage

- Compatible with  $\phi 42$ mm digestion tube
- Titration while distillation, enhance the efficiency rapidly.
- User friendly design, color touch screen, easy for operating
- Faster ARM system, faster operating rate
- Digester model SH220F and SH420F is matching K1100F, with  $\phi 42$  digestion tube



### Technical data

Measuring range	0.1mg ~ 240mg N
Analysis time	5 ~ 10min/sample
Reproducibility	Average value relative error $\leq \pm 0.5\%$
Recovery	$\geq 99.5\%$
Burette volume	1.0 $\mu$ L/step
Sample capacity	solid $\leq 5$ g/sample, liquid $\leq 20$ mL/sample
Water consumption in the distillation process	1.5L/min
Data storage capacity	1800 groups
Power supply	220VAC $\pm 10\%$ , 50Hz
Power	2Kw
Net weight	38Kg
Dimensions	455mm $\times$ 391mm $\times$ 730mm



## K9860

### Automatic Kjeldahl Analyzer

K9860 Automatic Kjeldahl Analyzer is an automatic device integrating distillation and titration functions designed based on classic Kjeldahl nitrogen determination method. It' s equipped with the latest core control system, powerful automatic degree and high-quality components, can easily achieve automatic cleaning of digestion tubes and titration cups, control steam supply and have real-time detection of condensation temperature. High-accuracy charging pump and titration system ensure test results accuracy, and multiple fluid level detection gives smooth test process.



#### Characteristics

- Automatic cleaning ensure operator safety and save time.
- External titration cup design gives operator real-time control of the whole test process.
- High-precision charging pump and titration ensure test results accuracy.
- The temperature of distilled liquid is detected real time. If the temperature of distilled liquid is abnormal, to ensure the accuracy of experiment's result, instrument will stop working.

#### Features

- High accuracy dosing and working: adopt 4 KNF pumps work for dosing, measurement liquid volume.
- Easy Maintenance: Pre-install functions of cleaning, include receiving cup cleaning, alkali pipeline cleaning, boric acid pipeline cleaning, acid washing, steam bottle evacuation. support customer make the routine maintenance easily.
- High titration accuracy, up to 2.0μL/step.
- Integrated printer on the instruments



#### Technical data

Measuring range	0.1mg ~ 240mg N
Analysis time	5 ~ 10min/sample
Reproducibility	Average value relative error ≤±0.5%
Recovery	≧ 99.5%
Burette volume	2.0μL/step
Sample capacity	solid ≧ 5g/sample, liquid ≧ 20mL/sample
Water consumption in the distillation process	1.5L/min
Data storage capacity	1000 groups
Power supply	220VAC±10%, 50Hz
Power	2Kw
Net weight	38Kg
Dimensions	455mm×391mm×730mm



## K9840 Auto Kjeldahl Distiller

K9840 Auto Kjeldahl Distiller is designed to determine nitrogen content of samples based on the Kjeldahl nitrogen determination method. Fully intelligent software is able to complete sample distillation within minutes, boasts automatic reagent quantification and filling, automatic test. The distillation and condensation automatic cleaning system further enhances measurement precision; explicit interface is easy for operation. It is widely used in food processing, feed production, tobacco, livestock, soil fertility, environmental monitoring, medicine, agriculture, scientific research, teaching, quality control and other fields for the test of nitrogen or protein content, can also be used for the test of ammonium, volatile fatty acid / alkali, and so on.

### Characteristics

- Display: 4.3 inch color screen.
- Manual/Automatic mode changeover free.
- Automatic Alkali pipeline washing function.
- Automatic or manual filling mode is optional according to test need.
- Distillation time can be edited freely, and automatic alarming upon completion.
- Automatic cleaning of control system and distiller, ensuring high measurement accuracy.
- Intelligent design of nitrogen tube peripheral facilities including safety designs and displacement hint.
- Intelligent cooling water control system achieves cooling water control and test.
- Emergency stop operation is able to deal with unexpected accidents.
- Automatic fault detection and intelligent audible and visual alarm system are available.
- Calibration Function: Dilution water calibration, Alkali solution calibration, Boric acid solution calibration, washing flow calibration.
- Safety door, digestion tube and cooling water condition is displayed at real time when running.
- Testing model is built in, for detect most functions condition.



### Features

- Automatic accurate distribute alkali and boric acid solution.
- Perfect safety protection system gives distiller and tubes measurement and protection against over temperature and over pressure.
- Calibration Function: Dilution water calibration, Alkali solution calibration, Boric acid solution calibration, Washing flow calibration.
- Safety door, Digestion tube and cooling water condition is displayed at real time when running.



Technical data	
Measuring range	0.1mg ~ 240mg N
Recovery	≧ 99.5%
Sample capacity	solid ≧ 6g/sample, liquid ≧ 16mL/sample
Distillation speed	3-6min/sample
Cooling water consumption	1.5L/min
Operating mode	Manual/automatic mode
Display modes	4.3" LCD screen
Power supply	220VAC±10%, 50Hz
Power	1.3KW
Net weight	30Kg
Dimensions	400mm×385mm×735mm



## SH420F Kjeldahl Digestion System

SH420F Graphite Digester adopts globally advancedhigh-tem - perature infrared radiation heating technology and microprocessor control platform,accurate temperature control and quick temperature rise. It has two kinds of temperature rise mode: linear and curve tem- perature rise mode, and offers 20 digestion programs for control of tem- perature rise curves.

Neutralization system is including ternary filtration functions, condensa- tion, neutralization and filtration. The product adopts high-quality anticor- rosive Pumps, low noise, strong suction, reduce exhaust emissions, eco-friendly.

### Characteristic

- 20positions enhance working efficiency rapidly.
- Graphite block have longer life after special anti-oxidation processing and heating more uniform.
- Corrosion-resistant design.
- It adopts advanced PID temperature control technology,high accuracy heating up to 400℃ only 25minutes.
- Multi-protection, Over-current protection, high temperature warning, overload protection.
- It adopts 5.7" color screen, easy for use.
- Standard configuration with waste gas collection hood WD03.
- Temperature control model , program control, curve and linear tempera- ture rise.

### S402 Exhausting System

- Mould design, compact appearance.
- Absorption device area is translucence design, easy for inspection and changing.
- Suction pressure is adjustable when become negative, to avoid acid gas spilling oremptying.
- Anticorrosion vacuum pump, low noise, large suction, reduce wasted gas exhausting and environmental friendly.
- Ternary filtration system (water condensation, alkali neutralization and active carbon filtration) ensure perfect neutralization and absorption performance. PTFE anticorrosion pipe design, improve using life.



S402



## SH220F Kjeldahl Digestion System

SH220F Graphite Digester includes globally advanced technology, features quick digestion, high efficiency and easy for use, etc., It' s widely used in such fields as food, medicine, agriculture, forestry, environmental protection, chemical engineering, biochemistry, as well as universi- ties, research departments and so on, for sample diges- tion prior to the chemical analysis of soil, feed, plants, seeds, minerals etc., suitable for matching K9840 analyzer.

### Characteristic

- 20 positions, enhance working efficiency rapidly.
- Corrosion-resistant design.
- It adopt advanced insulation technology, eco-friendly, reduce energy intensity maximum limitedly.
- Multi-protection, Over-current protection, high temperature warning, overload protection.
- LCD display.
- It's used with microwave reaction system, pretreat for microwave digestion or removing acid after digestion.
- Linear and curve temperature rise mode, up to 5 stages temperature setting.
- Curve temperature rise and linear temperature rise two temperature control modes.

The SH220F has two temperature control modes: curve heating and linear temperature heating. It can edit and store 10 groups of diges- tion programs. Each group can set up a segment temperature and time gradient of up to 5 to meet different experimental needs of users.



### SH220F

Graphite block have longer life after special anti-oxidation processing.

It adopt advanced PID tempera- ture control technology, high accuracy heating up to 400℃ only cost 20minutes.

### WD03 Gas Collection Hood

Using PFA sealed cap, longer life, dealing effect well.

Clip-on sealing cap, easy for changing.

Specialized water jet vacuum pump is adopted, don' t need electric power.

Drip tray design, reduce corro- sion damage from acid solu- tions.

Note:“●”with the same technical index;“—”without

Technical data		
	SH420F	SH220F
Temperature range	Room temperature +5 - 450 C	●
Temperature accuracy	±1℃	●
Heating method	Infrared heating and high-purity graphite conduction	●
Heating insulation method	unique air duct insulation technology	●
Digestion tube capacity	300mL	●
Capacity per batch	20pcs/batch	●
Power supply	220 VAC±10% 50HZ	●
Power	3600W	●
Dimensions	515mmX458mmX730mm	515mmX421mmX211mm
Net weight	40Kg	25Kg



## SOX606

### Auto Fat Analyzer

SOX606 Automatic Soxhlet Extractor, designed based on the Soxhlet extraction principle with weight method to determine the fat content. It has five extraction methods to meet different demands from customer. The whole metal heating module, heating up fast, good effect, low power consumption; access to all-round water temperature, flow control, environmental protection more economical; built-in ether leak detection device to ensure experimental safety. It is widely used in agricultural, food, chemical, environment and other areas, especially for the drug, soil, sludge, cleaner and other substances in the extraction of soluble organic compounds.

#### Features & Advantages

- Apply to all organic solvents to satisfy all demands.
- Automatic Soxhlet standard method, it customized by glass and PTFE, which can block all impurities and possess high rate of accuracy.
- One click manipulation for start and pause, that makes operation with high proficiency.
- Analyzer allows its controller to adsorb on any surface that made by iron.
- Vertical screen, more humanization.
- In-built 5 methods of extraction, handy operation.
- Preset common reagent options, one-click manipulation for repeated trials.
- The overall heating module, that possesses features of warming faster, favorable effect and low power consumption.
- Full temperature and flow control for environmental and economy.
- In-built ether leak detection device to ensure experiment safety.
- Efficient solvents recovering system for reduce experimentation cost.



#### Automatic extraction

One touch to start extraction, lifting, pre-heating, extraction, dilution, solvent recovery automatically.

#### In-built 5 unique methods of extraction, handy operation.

Include Soxhlet Extraction, Soxhlet Hot Extraction, Continue Flow Extractioin, Hot Extraction, CH Standard methods.

#### Apply to all organic solvents

Customized by glass and PTFE, which can block all impurities and possess high rate of accuracy, apply to all organic solvents, satisfying the requirements of users.

#### ECO- friendly and conservation

Full temperature and flow control for reduce consumption of condensed water.

Technical data	
Temperature range	Room temperature +5℃ ~ 300℃
Measuring range	0.1 ~ 100%
Temperature accuracy	±1℃
Reproducibility	Relative error 1%
Sample weight	0.5 ~ 15g
Capacity per batch	6pcs/batch
Solvent cup volume	150mL
Solvent recovery	≥85%
Power supply	220VAC±10%, 50Hz
Power	2.6KW
Dimensions	650mm×380mm×720mm
Net Weight	50Kg



## SOX406

### Semi-auto Fat Analyzer

SOX406 Fat Analyzer is based on the Soxhlet extraction principle and integrates such functions as soaking, extraction, leaching, heating, condensation and solvent recovery. It features sealed metal bath heating with automatic temperature control, ensuring uniform heating and safe operation; six samples can be tested at the same time, and optimal temperature can be selected according to the difference between reagent boiling point and ambient temperature so as to achieve quick analysis; reagents can also be recycled to reduce test cost; and soaking, extraction and solvent recovery can be done in one step. Therefore, this device is characterized by reasonable design, stable performance, good reproducibility, high accuracy, easy operation, saving time and effort, and so on.

Scope of application:

SOX406 Fat Analyzer can quickly separate one substance from solid or semi-solid mixtures, can determine the soluble organic compounds contained in foods, feeds, medicines, soil, sludge, polymers, fiber products, petrochemical products, detergents, rubber, plastics and other materials.

#### Characteristics

- Integral metal heating, wide scope and high precision of temperature control.
- Electric circuit is isolated from the extraction space, ensuring device security.
- Timer and timing functions are available.
- Over-temperature alarming and timer reminding functions are available.



- Triple alarms i.e. sound, light, LCD screen word prompts are available.
- Abundant interface contents give simultaneous display of given temperature, actual temperature, given time and heating time.
- The lifting connection of linear bearing conduction technique gives smooth and comfortable lifting operation.
- Intelligent man-machine dialogue control system.
- Exclusive air insulation technique leaves the case in room temperature, has thermal insulation and temperature maintenance two functions.
- 4.3” LCD screen and microcomputer control system are adopted.

#### Technical data

Temperature range	Room temperature+5 ℃ ~ 280 ℃
Measuring range	0 ~ 100%
Temperature accuracy	±1 ℃
Sample weight	0.5 ~ 15g(generally 2 ~ 5g,depending on sample)
Capacity per batch	6pcs/batch
Solvent cup volume	80mL
Solvent recovery	≥80%
Shortened extraction time	20 ~ 80%
Power supply	220VAC±10%, 50Hz
Power	1KW
Dimensions	650mm×320mm×715mm
Net Weight	35Kg



# F800 Fiber Analyzer

F800 Fiber Analyzer is with advanced design, easy operation and flexible application. It can be used in conventional Weende method to analyze crude fiber and Van Soest analysis to wash the fiber. Applies to plant, feed, food and other agricultural products as well as the determination crude fiber, neutral detergent fiber (NDF), acid detergent fiber (ADF), hemicellulose and acid detergent lignin (ADL).

## Features and Advantages

- Hidden solution barrel pull structure designed to facilitate dosing operation, provide the safest fiber analysis.
- Corrosive liquid is not in contact with any pump body, to avoid waste discharge pump susceptible to corrosion phenomena.
- The crucible recoil function designed to prevent sample in the crucible can not caking filtration.
- With dosing overflow protection function , to prevent dosing corrosive liquid overflow due to operator error, protect the safety of the operator.
- Adjust the crucible heating power in time, enabling customers to control the heating rate easily and low down the energy consumption, ECO-friendly.
- Having a built-in pre-heating function, greatly reducing the whole experiment time.
- Provide five various specifications crucible specifications to meet the needs of different samples for standard configuration.
- Can detect crude fiber, neutral detergent fiber (NDF), acid detergent fiber (ADF), hemicellulose and acid detergent lignin (ADL).



## Precise control experiment

Test time can be set free, clockwise and countdown timing functions are available, real-time reminder end of the experiment, the experimenter to facilitate precise control experiment, save test time, improve efficiency.

## Integrated infrared heating technology

Advanced integrated infrared heating, more uniform heating of the crucible fast, more consistent sample extraction, higher extraction recovery, thereby improving the accuracy of test results.

Optional peripheral accessories: cool extractor. Experiments can go fat, washed with acetone extraction after detection of acid lignin and other steps.

Technical data	
Measurement range	0.1% ~ 100%
Sample weight	0.5g ~ 3g
Repeatability error	Crude Fiber Content below 10%, ≤0.4% Crude Fiber Content above 10%, ≤1%
Capacity	6 pcs/batch
Pre-heating time	10-12min
Heating to boiling	13-15min
Rated power	2.2KW
Power supply	220 VAC ±10% 50Hz
Dimension	776mm×476mm×644mm



# Auto Digital Polarimeter

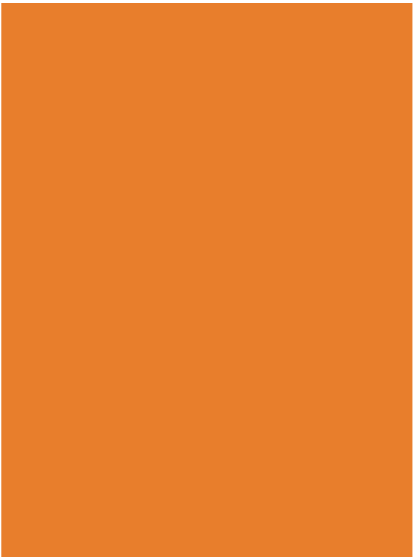
## P810/P850/P810 Pro/P850 Pro

P Series Polarimeter with automatic photoelectric inspection technology, boasts accurate and reliable measurement, convenient operation. By detecting the optical rotation, the density, content and purity of substances can be analyzed and determined. It' s widely used in pharmaceutical, petroleum, food, chemicals, flavors, spices, sugar marking and other industries , and universities and research institutes.

New upgraded models: P810 Pro/ P850 Pro adopt brilliant Android system and communication ports, let new models meet FDA CFR21 part 11.

### New P810 Pro/ P850 Pro New Characteristics

- Adopt a 8 inch TFT touch screen, with the Android system, let the operating easier.
- Meet FDA 21CFR part11.
- User ID management function. Users ID are available for adding, deleting and jurisdiction setting.
- Timing measuring and graphic display function, displaying the samples optical rotation changing dynamic process.
- 8GB room for data storage.
- Classify and synchronous result searching function is convenience for user's result searching.
- 3 USB port for U-Disk, keyboard mouse connecting. And WiFi for connecting printer. Let operating much easier.



### Features

#### Peltier Temperature Control

The Peltier system automatically controls the sample temperature in the max range from 10 °C to 50 °C.

#### User Calibration System

Additional Standard polarization tubes with software for calibration by user.

#### Large Color Touch Screen

Large color touch screen display and innovative software interface give extremely convenient device operation and data acquisition. P810/P850 adopt a 5.6inch touch screen, P810 Pro/ P850 Pro adopt 8inch touch screen.

#### LED Light Source

High brightness LED lights with service life exceeding 100000 hours. To void the light source exchanging.

Technical data				
	P810	P850	P810 Pro	P850 Pro
Measuring range	±89.99°Arc; ±259°Z			
Measuring Model	Optical Rotation; Specific Rotation; Concentration; Sugar Degree			
Min.reading	0.001°(optical rotation)			
Accuracy	±0.01° (-45°≤ optical rotation ≤ +45°); ±0.02° ( optical rotation< - 45° or optical rotation > + 45°)			
Repeatability (standard deviation)	0.002°(optical rotation)			
Min. Transmittance	1%			
Light Source	LED			
Wavelength	589.3nm LED			
Temperature Control	No	Peltier	No	Peltier
Temperature Control Range		15℃～30℃		10℃～50℃
Temperature Control Accuracy		0.3℃		0.3℃
Communication Port	USB; RS232	USB; RS232	USB×3,RS232, Wi-Fi	USB×3,RS232, Wi-Fi
Data Storable	1000	1000	8GB	8GB
21CFR Part 11	No	No	Yes	Yes
Display	5.6inch	5.6inch	8inch	8inch
Sample Cell	Upto 200mm	Upto 200mm	Upto 200mm	Upto 200mm
Graphic	No	No	4hours	4hours
Power	220V AC (±10%) 50Hz	220V AC (±10%) 50Hz	220V AC (±10%) 50Hz	220V AC (±10%) 50Hz
Calibration System	Option	Option	Option	Option



# A670 / A630

## Auto Digital Refractometer

A670/A630 Automatic Refractometer adopts high-performance CCD light-sensitive part, it can automatically measure the refractive index(nD) of transparent, translucent, dark, viscous and other types liquid sample, also can measure sugar degree(Brix) of sugar solution. It' s accurate, reliable, fast, easy operation. Full compliance with FDA 21CFR part.11. A670 innovative use of cloud service systems, all the data from instrument can update to cloud server, especially for group company or government customer, automatic refractometer has a wid range of use, within the field of factories, university and related scientific research institute, petroleum, oil, pharmaceutical, paints, food, daily chemical, sugar and geological prospecting industries.



A670

### Characteristics

- Completely meet the requirements of user ID classification & tracking, E-signature, and Data tamper-proof, which listed in FDA 21CFR part.11.
- High measuring resolution up to 0.00001(nD)/0.01%(Brix) (A670 only).
- Peltier accurate temperature control system is built-in, accuracy up to 0.02°C.
- Measuring prism is made of high hardness sapphire glass, of excellent properties against corrosion and scratches, free for clean and durable.
- High-resolution CCD detector offers automatic measurement, avoiding personal errors, having higher accuracy; transparent, translucent liquids or ropiness liquids samples are all available.
- High brightness LED light source with service life more than 100000 hours.
- 7-inch colour touch screen with Android system and 4GB RAM let methods and data expanding excellent.
- 2 x USB, 1 x RS232, 1 x Ethernet, can be easily connected, printer and network to facilitate users to export data or backup.

### Multiple Samples Suitability

Automatic Refractometer is widely used on kinds of industries, it is one of the most common instruments in the oil industry, pharmaceutical industry, paint industry, food industry, daily chemical industry, sugar industry, geological exploration or institutions.

### Perfect Measuring Prism

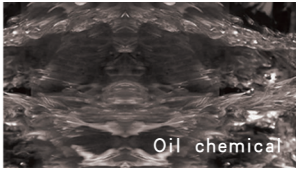
Measuring prism is made of high hardness sapphire glass, of excellent properties against corrosion and scratches, free for clean and durable.

### High Performance CCD Sensor

High-resolution CCD detector offers automatic measurement, avoiding personal errors, having higher accuracy; transparent, translucent liquids or ropiness liquids samples are all available.

### Ultra Long Life Light Source

LED cold light source with the long working life more than 100000 hours



### Technical data

	A670	A630
Refractive index measuring range (nD)	1.30000-1.70000	1.3000-1.7000
Measured value error (nD)	±0.0001	±0.0002
Measurement resolution (nD)	0.0001/0.00001	0.0001
Scope of sugar solution mass fraction (Brix)	0-100%	0-100%
Measured value error (Brix)	±0.1%	±0.1%
Measurement resolution (Brix)	0.1%/0.01%	0.1%
Temperature control mode	Peltier	Peltier
Scope of temperature measuring	0-100 ℃	0-100 ℃
Temperature control range	5-80 ℃	10-50 ℃
Temperature control accuracy	±0.02 ℃	±0.1 ℃
Interface	RS232/USB/SD card/U disk/Internet/wi-fi	RS232/USB/SD card/U disk/Internet
Data storage capacity	4GB	4GB
Display modes	7 inches, TFT touch screen	7 inches, TFT touch screen
Power supply(Power adapter)	110V~240V(12V,10A)	110V~240V(12V,10A)
Power	45W	45W
Net weight	12kg	12kg
Dimensions	365mmX300mmX150mm	365mmX300mmX150mm



# MP420/MP430 Melting Point Apparatus

# MP450/MP470/MP490 Auto Melting Point Apparatus

MP420/MP430 Video Melting Point Apparatus, and MP450/MP470/MP490 Auto-matic Video Melting Point Apparatus, perfectly integrate video technology into melting point measuring. It not only provides users with reliable melting point test result, but also intuitively displays temperature curve and real-time video image, and achieves the function of save, replay the video,stamp video and so on. It also provides better help for users to observe melting process of sample.

## Features

### Visual and Automatic Determination

It includes a color display to observe the phase transition, is equipped with a video camera and a video replay function which allows reviewing the melting point determination. It also suit for color samples, which tradition automatic melting point apparatus not available.

### Available Testing 4 Samples Concurrently

Max concurrent sessions 4 samples each batch, record and track each result independently, meet FDA 21CFR part 11 requirements.

### Multi-user ID Classify Function

Adopt User ID management function. Users ID are available for adding, deleting and jurisdiction setting.



### All Screen Design

Adopt a 8 inch capacitive touch screen, with the brilliant Android system, let the operating easier.

### Amazing Data Processing & Exporting

The methods, atlas and detailed result are available for storage. Connecting printer or all data export are both available.

Compliant with GLP, GMP(EU,UPS&CN) and FDA 21CFR part 11

Technical data					
	MP420	MP430	MP450	MP470	MP490
Position Capacity	4				
Magnification of lens	8				
Display	8 inch capacitive touch screen				
Temp Range	300 ℃	350 ℃	350 ℃	400 ℃	400 ℃
Temperature resolution	0.1 ℃				
Temp Accuracy	±0.4 ℃ (<200 ℃) ±0.7 ℃ (<300 ℃)				
Temp Gradients	Step-less setting at 0.1 ℃--20 ℃				
ID classify	No	20	20	30	100
Camera&Video	Camera	Camera&Video			
Video Replay	Manual	Manual	Automatic	Automatic	Automatic
Model	No	Yes			
Graphic	0	0	100	200	500
Methods Storage Capacity	0	30	30	80	200
Rom Capacity	8GB	16GB	16GB	32GB	128GB
FDA CFR21 part 11	No	Yes	No	Yes	Yes
Communication Ports	USB×3,RS232, Wi-Fi, RJ45				



# Guide Line Automatic Titrator

## 1. Which industry field does titrator mainly used in?

Automatic Titrator belongs to general laboratory infrastructure, usage range is very wide. It can be used in food, medicine testing, disease control, inspection, water treatment, petroleum, chemical, marine, power, environment protection, new energy, teaching, scientific research and other related fields.

## 2.How to identify the accuracy of Titrator?

Identify the accuracy of Titrator by testing a standard sample of known concentration.

HINOTE Titrators, adopt the top-level solenoid valve, ensure solenoid valve switching on or off with no residual liquid, make the instrument obtain more accurate titration precision.

## 4.How ong should we replace the electrode?

According to the use frequency of customer and service life of the electrode, we should consider replacing electrode first when the result occur large deviation or parallelism is not good.

## 5.What's the consumable of Titrator during normal usage?

The consumable of instrument mainly measure electrode and reagent required in the daily experimental process.

## 6.What's the requirements of the laboratory environment for Titrator?

Ensure normal power of work and smoothness of experimental platform, no interference of strong magnetic field.



## T860 Auto Titrator

T860 Automatic Titrator is a lab titration device with high analysis accuracy under the principle of potentiometric titration. It with modular design and consist of three parts: volume titration device, control device and measuring device. The titration methods include macro titration, micro titration, volume setting titration, EP, etc.

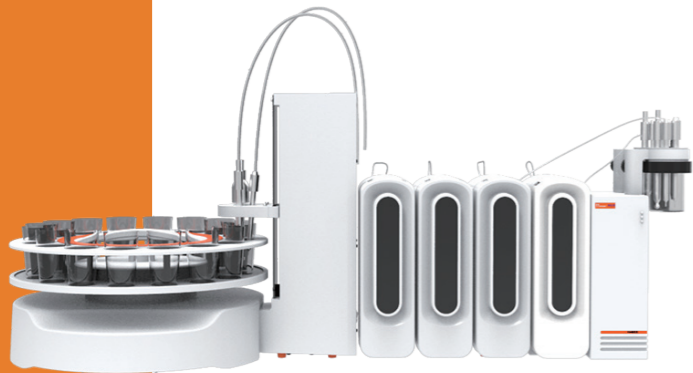
### Characteristics

- Zero-dead volume solenoid valve, changing easily for PTFE burette.
- Ultrathin stirring device, adopt coil realize magnetic Stir.
- Accuracy closed-loop control for volume.
- High-accuracy burette accurate to 0.005mm.
- Simple design, discrete stirring unit, detachable easily.
- LCD touch screen.
- Wide operating voltage range 110~240V, apply to global client.

Specification		
Measurement mode	MEAS	pH/mV
	CAL	pH calibration
	SET	End point setting
	MET	monotonic titration
Burette	Volume	15mL/25mL
Stirring	Mode	magnetic
	Titration cup volume	100mL
Electrode	mv/pH	1 x BNC
	Reference	1
	PT1000	1 x NTC
Communication	USB	1
	Stirrer	1
	Power	1
	Printer	1

Technical		
mV/pH	Measurement range	±1,999 mV 0.00~14.00 pH
	Resolution:	0.1 mV / 0.01 pH
	Error	0.2 mV / 0.02pH
PT1000	Measurement range	0-100 °C
	Resolution:	0.1 °C
	Error	0.2 °C
Burette	15 mL tolerance	±0.025mL
	25 mL tolerance	±0.035mL
	Dosing Repeatability	0.20%
	mV Repeatability	≤0.2mV
Controller	Display	7" inch touch screen
Information	Weight	10 Kg
	Power	110-240V,50/60 Hz





T960  
Auto Titrator

T960 Automatic Titrator meet the demand of mult complex liquid inlet automatically. There is no need to add solution manually. With the most secure built-in burette, to avoid contact with harmful chemicals which protect user security; Cloud services , connect via the Ethernet port ,to achieve the sharing between the instrument and OUR huge database.Lead the laboratory instruments to Cloud generation.

Characteristics

- Multi-Channel modular combination, combine up to 4 dosing units & 6 channels work at same time.
- 3 standard burettes (5ml/10ml/25ml) available for options according to different application.
- Unique built-in dosing unit to avoid the harmless chemical leak.
- Multiple self-checking function to avoid mis-operating.
- Flexible application edit functions, users can storage your own titration mode according to your testing and use the storage mode next time with one click.
- RS232/USB port,with networked CAN bus communication functions.
- Can work with external 16-samples auto-sampler, making the multitasking operation much easier.

Mixed synchronous inlet system

The world's leading Mixed synchronous inlet system with 4-channel sample inlet simultaneously, supports expand up to 6 channels. Totally automatic in add titrant, any combination of additives or auxiliary agents.

Built-in burette

The most secure built-in burette, burette built in the instrument and can be observed though the window during the test to avoid the harmless chemical leak. Burette volume is optional:5ml/15ml/25ml

Cloud Service

With ethernet interface,it can storage the database to the cloud server.Lead the laboratory instruments to Cloud generation.

Titration platform diversification

Flexible to work with independence titration stand or 16 auto-sampler, multi-tasking operating through 16 auto-sampler can be fully automated, the whole process without staff to monitor, improve the work much more efficiency.

Note:“●”with the same technical index;“○”optional

Technical data			
	T960 BASIC	T960 PRO	T960 PLUS
MV measurement range	-2000.0MV～+2000.0MV	●	●
MV measurement	Resolution 0.1MV , Accuracy0.1MV	●	●
pH measurement range	-20.000PH～+20.000PH	●	●
pH measurement	Resolution 0.001PH , Accuracy 0.003PH	●	●
Temperature measurement range	-5～120℃	●	●
Temperature measurement accuracy	±0.1℃	●	●
Communication mode	2*USB、RS232、Ethernet	●	●
Maximum quantity of extended titration module	2	4	6
Maximum quantity of charging module	2	4	4
Burette volume	5ml 10ml 25ml	●	●
Burette resolution	1/48,000	●	●
Time of the burette charging	16 seconds (100% charging speed)	●	●
PC control	●	●	●
Electrode connector type	mv/pHmeasurement electrode connetor、reference electrode connector 、PT1000 temperature electrode connector	●	●
Auto-Sampler	16 positions (Optional)	○	○



## HN200

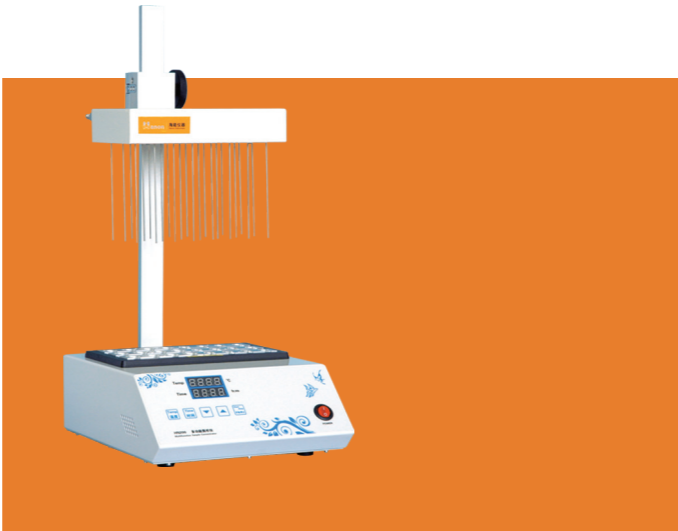
### Sample Concentrator

HN200 Sample Concentrator is mainly used in the concentration of samples in batches, such as drug screening, hormone analysis, liquid/gas phase, as well as mass spectrum analysis.

The use of sample concentration instead of the commonly used rotary evaporimeter for concentration, can have simultaneous concentration of dozens of samples, which can short the sample preparation time greatly, and has the advantages of time-saving, easy operation and fast.

#### Characteristics

- Sample visualization.
- Module optional, with 5ml /12 hole, 5ml /24 hole, 20ml /12 hole, 20ml / 24 hole.
- Automatic fault detection and alarming.
- Built-in over-temperature protection device.
- Flow-meter pressure reducing valve is optional.



Each blowing needle can be controlled independently,the height of gas cavity is adjustable

#### Technical data

Temperature range	Room temperature +5℃~180℃
Heating time	≤30min (from 40℃ to 180℃)
Temperature accuracy	±0.5℃ (40-100℃) ±1℃ (100~180℃)
Display accuracy	0.1
Display mode	LED display
Nitrogen flow	0-10L/min
Nitrogen pressure	≤0.1MPa
Dimensions	280mmX240mmX500mm

## i Series UV-VIS Spectrophotometer

### i2/i3/i5/i8/i9



- 1.Standard scanning software can directly complete functions of Quantitative;Kinetics;Wavelength Scan; Multi Wavelength; DNA/Protein and Data processing.
2. Can establish calibration curves and implement associated tests. The instrument internal can be stored with 200 groups of data and 200 standard curves.
3. Suspended posture optical system design, strengthen and thicken the bottom plate to eliminate the vibration or transformation's impact on the optical system.
4. Automatic wavelength calibration and automatic deviation repair.
5. Tungsten and Deuterium lamp can be changed easily, without adjustment.
6. Standard with PC software.

### i3 UV-VIS Spectrophotometer



- 1.Standard quantitative software can directly complete photometric analysis, quantitative test and processing of analytical data.
- 2.Can establish calibration curves and implement associated tests. The instrument internal can be stored with 200 groups of data and 200 standard curves.
- 3.With calibration curve method, we can establish multiple-point standard curve directly, on basis of which we can measure the concentration of the unknown sample.
- 4.With coefficient method, we can implement sample measurement directly after inputting coefficient of the curvilinear equation.
- 5.Automatic wavelength calibration and automatic deviation repair.
- 6.Deuterium and tungsten lamp can be changed easily, without adjustment.
- 7.Standard with PC software



i5 UV-VIS Spectrophotometer



- 1.The main unit and PC software can independently implement functions of Quantitative;Kinetics;Wavelength Scan; Multi Wavelength; DNA/Protein and Data Printing,PC software can complete the function of data processing.
- 2.Strong function of data processing makes user editing can be easier and more convenient.
- 3.Suspended posture optical system design, strengthen and thicken the bottom plate to eliminate the vibration or transformation's impact on the optical system.
- 4.Adopt synchronous sine institutions, high accuracy of the wavelength, repeatability.
- 5.Standard with PC software

i8 Double-Beam UV-VIS Spectrophotometer



- 1.Double beam optical system.
- 2.The Main unit and PC software can independently implement functions of Quantitative;Kinetics;Wavelength Scan; Multi Wavelength; DNA/Protein and Data Printing,PC software can complete the function of data processing.
- 3.Suspended posture optical system design, strengthen and thicken the bottom plate to eliminate the vibration or transformation's impact on the optical system.
- 4.24-bit high speed and high precision A/D conversion, and improve the sensitivity of the instrument.
- 5.The core components are imported from Germany and Japan.
- 6.The best optical system, based on top structure design, top technological requirements and top raw materials.
- 7.Standard with PC software

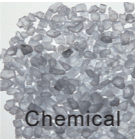
Industries



Food



Pharmaceuticals



Chemical



Rubber



Steel

i9 Double-Beam UV-VIS Spectrophotometer



- 1.Double- beam optical system.
- 2.The Main unit and PC software can independently implement functions of Quantitative;Kinetics;Wavelength Scan; Multi Wavelength; DNA/Protein and Data Printing,PC software can complete the function of data processing.
- 3. Suspended posture optical system design, strengthen and thicken the bottom plate to eliminate the vibration or transformation's impact on the optical system.
- 4.24-bit high speed and high precision A/D conversion, and improve the sensitivity of the instrument.
- 5.0.5/1.0/2.0/4.0/5.0 bandwidth can be adjusted automatically
- 6. The core components are imported with original packaging.
- 7. The best optical system, based on top structure design, top technological requirements and top raw materials.
- 8. Standard with PC software

Note:“—”without

Technical data

	i2	i3	i5	i8	i9
Wavelength Range	320-1100nm	190-1000nm	190-1100nm		
Bandwidth	2nm	2nm	1.8nm	1.8nm	0.5/1/2/4/5nm
Wavelength Accuracy	±0.5nm	±1nm	±0.5nm	±0.1nm(D2 656.1NM),±0.3nm	
Wavelength Reproducibility	≤0.2nm	≤0.3nm	≤0.2nm	≤0.1nm	
Photometric Accuracy	±0.3%T	±0.5%T	±0.3%T	±0.2%T	
Photometric Repeatability	≤0.15%T	≤0.2%T	≤0.15%T		
Straylight	≤0.05%T			≤0.03%T	
Stability	±0.0001A/h(500nm)			±0.0004A/h(500nm)	
Baseline Flatness	±0.0001A/h	—	±0.0001A		
Noise	±0.0005A	—	±0.0005A		
Photometric Range	0-200%T, -0.3--3A, 0-9999C				
Wavelength setting mode	Automatic				
Scanning speed	—	—	High,Middle,Low,Optional		
Output	USB Port				
Printer port	Parallel Port				
Display	Graphic LCD(128*64)		LCD(320*240)		
Light Source	Tungsten Halogen Lamp	Deuterium&Tungsten Halogen Lamp			
Detector	Silicon Photodiode				
Power	AC 220V/50Hz or 110V/60Hz				
Dimension	460x380x180mm	460x380x160mm	460*380*180mm	625*430*210mm	
Weight	15Kg	13Kg	20Kg	28Kg	



## Refrigerated and Heating Circulator

pharmaceutical, environmental protection and other fields of science, precision temperature control equipment.

Application:Experiment that need heating and cooling,Fermentation Tank,Polarimeter,Refractometer,Spectrophotometer,Electrophoresis System,Chromatographic Column,Viscometer,Rotation Evaporation Instrument,Rheometer.

### Characteristics

- Convenience function: Parameters memory function, temperature correction.
- ECO-refrigerant R134a and high quality compressor guarantee the cooling system eco-friendly and powerful.
- Low Noise design: use high quality compressor and mute pump.
- Robust water tank: ultra-slushing and rust-proof.
- Bright LCD temperature display.
- Compact design, removable venting grid for convenient cleaning to maintain cooling performance and drain off water.



Note:“●”with the same technical index

Technical data				
	FCL6-05	FCH6-05	FCL6-20	FCH6-20
Working temperature range	-5 °C ~ 100 °C	-5 °C ~ 200 °C	-20 °C ~ 100 °C	-20 °C ~ 200 °C
Temperature control	Fuzzy PID	●	●	●
Temperature stability	±0.03 °C	●	●	●
Temperature sensor	PT100	●	●	●
Display resolution	0.1 °C	●	●	●
Heater capacity	2000 W	●	●	●
Cooling capacity	250W	●	●	●
Refrigerant	R134a	●	●	●
Pump capacity Pressure	0.35 bar	●	●	●
Pump Flow rate	10L/min	●	●	●
Ambient temperature	-20 ~ 70 °C	●	●	●
Output	RS232/RS485(optional)	●	●	●
volume	6L	●	●	●
Bath opening L x W (cm)	16x 16	●	●	●
Bath dimensions L x W x H (cm)	32 x 18 x 15	●	●	●
Dimensions L x W x H (cm)	40 x 25 x 65	●	●	●
Power supply	220VAC±10% 50Hz	●	●	●
Weight (kg)	25	●	●	●

## Recirculating Chiller FC1200

### Corollary Equipment

Kjeldahl Apparatus, Soxhlet Extractor, Crude Fiber Analyzer, AAS, ICP-MS, Electrophoresis System, Rheometer, Automatic Synthesizer, Fermentation Apparatus, Rotary Evaporator, Extraction and Condensation Device, SPE Apparatus.

### Characteristics

- Cooling system adopt TECUMSEH compressor in order to ensure cooling efficiency, and reduce noise.
- PID temperature controlling technology is adopted. Cooling method is not the traditional stat-stop type, EEV technology improve the stability.
- Over-temperature protection and auto-alarm function is used in refrigeration control system to avoid damage temperature medium caused by abnormal liquid temperature value.
- Water level observation window and automatic water level detection device, automatic alarm when low liquid level.
- Water current detection device is adopted. When external cycle closed or blocked, internal cycle will be switched automatically.
- High performance circulating water pump guarantee the long time continuous running, and good sealing avoid leakage. The pressure of pump is 0-1.5 par, adjustment is available by rotary knob. Pressure value is displayed.
- Color LCD screen display more running data and dynamic identifier. Easy to monitor.



Technical data	
Temperature control range	5 °C ~ 40 °C
Temperature control	HOT gas by-gas and PID combined
Temperature stability	±0.3 °C
Temperature sensor	PT100
Display resolution	0.1 °C
Pump flow rate	20L/min
Cooling capacity	1.2Kw
Refrigerant	R134a
Pump Pressure	0-1.5 bar,adjustable
Pumping head	15m
volume	8L
Dimensions L x W x H (cm)	55 x 40 x 65
Power supply	220VAC±10% 50Hz