witeg
GERMANY

Laboratory Instruments

Wisd

ISO 9001:2008 Certified
ISO 13485 Certified Products
CE-Marked Products
CE-MDD Marked Products
Validation (IQ & OQ) Service

GERMAN ENGINEERING
with German Quality Test Certificate

DIN ISO 9001

Together with witeg into the future

It is our aim to keep on translating our company's philosophy into reality, preliminarily quality to the benefit of our customers. We permanently perform investment of qualified and engaged collaboration in order to reach the optimum level of quality.

Furthermore, we stress to make use of the latest computer-aided equipment and technique which is neccessary to obtain best performance and utmost quality.

witeg quality
certified according to DIN ISO 9001 at a very early stage

Already in May 1994 we obtained the Certification „ISO 9001" ensuring officially that witeg complies with the highest international standards of requirement.

To our business partners this means confidence and reliability for a common safety handling of our products in the future. In order to offer high value instruments, in a period of tough international competition, it is important to rely on rational quality-ensuring economical processes. Eventually, we wish to remain powerful pricewise.
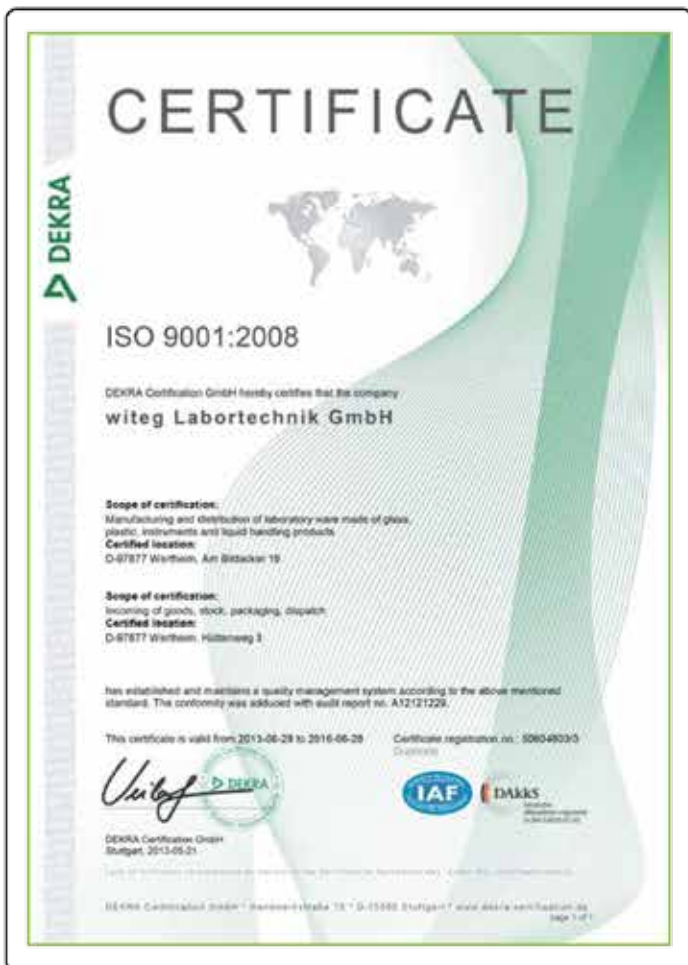
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BEST BUY

Our strategy and our philosophy :

- To realize the best quality in a very competitive price level.

Wisd - instruments :

- German engineering, Assembled in South Korea.
- Tested improved and certified at witeg in Germany finally.

Certificate inside :

- Every instrument comes with an individual quality control/test certificate.

Certificate inside :

- 24 months.

Wisd⨏ Laboratory Instruments
Digital Intelligence, Maximum Efficiency

Advanced Control Technology
- Digital Feedback Control by High-performance Microprocessor
- PID and/or Fuzzy controller implemented considering the specific machine and application
- Precision working with superior control accuracy
- User's self-correction function for compensation

Patented Control System (No. 10-0554098)
- Specially designed operation mode mechanism for intuitive setting & control
- Simple mode transition
  (eg. Set Temp Mode — Set RPM Mode — Set Timer Mode — Locking Mode)

Digital Back-Light LCD
- High-quality LCD with Back-Light
- Displays Set Value, Present Valueand Operation Status

TIMER
HEAT
ERROR/BEEP

Automatic Protection Functions
- Over Load Protection by microprocessor (Digital models)
- Over Temperature Protection by special sensor and circuitry (all products)

- ☑ CE Certified
- ☑ CE/MDD(CE0470) Certified for Medical Instruments
- ☑ GMP Certified for Medical Instruments
- ☑ RoHS Certified
- ☑ UL Certified
- ☑ ISO 9001 Certified
- ☑ ISO 13485 Certified for Medical Instruments
- ☑ PL Insurance
- ☑ Validation(IQ & OQ) Service
- ☑ Patented(No. 10-0554098) Jog Shuttle Control System

- **Autoclaves (Steam Sterilizers)**
- **Balance**
- **Centrifuges**
- **Circulation Water Baths, High-temp Bath Circulators, Refrigerated Bath Circulators and Cold Trap Baths**
- **Evaporators**
- **Freezers & Ultra Low Temperature Freezers**
- **Furnaces, Heating Mantles, Hotplates and Thermo Blocks**
- **Gel Documentation System**
- **Homogenizers**
- **Incubators, Cold Lab Chambers, Growth Chambers and Temp./Humidity Chambers**
- **Laminar Flow Clean Bench**
- **Magnetic Stirrers, Overhead Stirrers and Jar Testers**
- **Mills, Mixers, Rockers, Rotators and Stomacher, Vortex Mixer**
- **Ovens**
- **Shakers**
- **Transilluminators**
- **Ultrasonic Cleaners**
- **Water Baths, Extraction Baths, High-temp Baths, Shaking Water Baths and Viscosity Baths**

Registered Trademarks for Intelligent Laboratory Instruments made by witeg.

Growth Chamber - Smart-Lab™
--- Page. 42~44

Digital Muffle Furnance
--- Page. 52, 54

Shaking Water Bath
--- Page. 33

Autoclaves
--- Page. 14~17

Analytical Balance
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Digital Rotary Evaporator
--- Page. 45~50

Clean Bench
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ULT(Deep) Freezers - Smart-Lab™
--- Page. 132~147

Incubators
--- Page. 90~97

Ovens
--- Page. 114~121

Contents

Now, it's

"SMART is the right way to do something in the Lab as well."

Some tens of equipment are required in the lab for any kind of chemical or biological experiment.
A fact is that a scientist has to walk around in the lab periodically and monitor every equipment to watch if the experimental procedure is going well without any problem.
In spite of the limited manpower, time and space, scientists have a common mission to get the best result in their experiments, and it's not a simple issue to incorporate a certain innovative way to improve laboratory productivity.

Now, witeg Scientific is going to take an initiative to change existing situation in the labs. So called, **Smart-Lab™ Equipment** is being introduced now here for the first time in the world, which will definitely *change the way to work in the labs.*
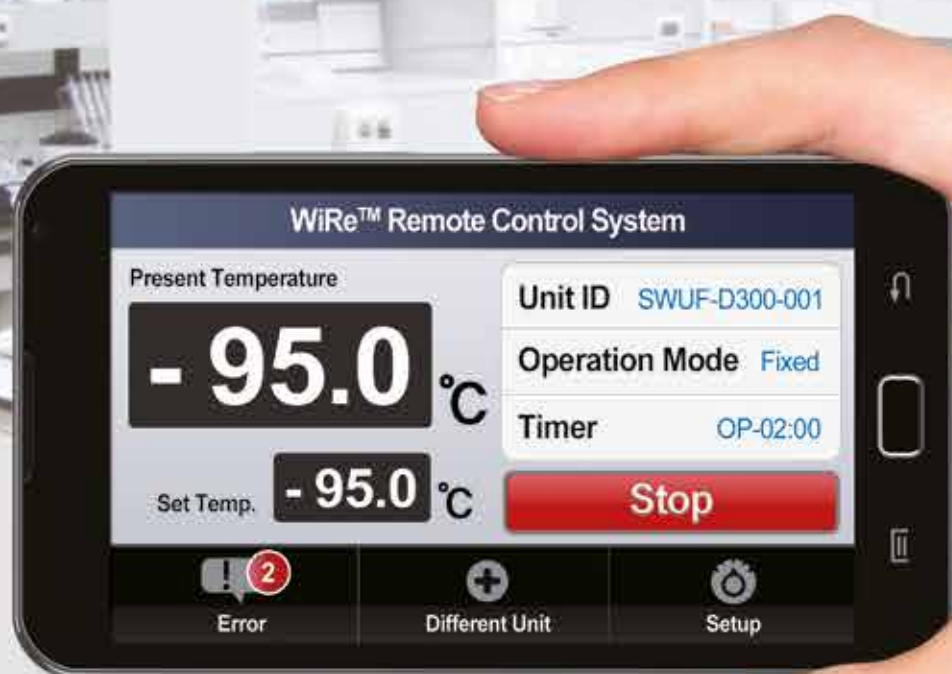
"Remote Laboratory" - No limitation on Time and Place

- It's possible to monitor and control **Wisd** Smart-LabTM Equipments through App or Web at any time and anywhere you are.

"Intuitive Use" - Easiest way to monitor and control

- You would have Innovative User Experience on the full touch-screen LCD controller
- All the equipments in a lab, or, even in multiple labs, can be controlled at your fingertips using Smart phone or Laptop.

"Secure Laboratory" - Self-diagnostics & Real-time notification

- Based on Self-Diagnostic System, any operational error of the equipment is noticed to the user and to the Service Center, automatically.

Wisd.23
LABORATORY INSTRUMENTS

Smart-Lab™ Equipments
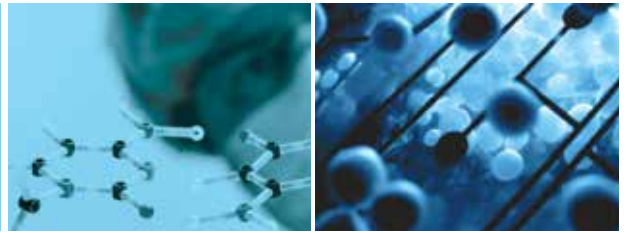
Like your Smart Phone in hand, and Smart TV at Home,
Now, the Various Kinds of Equipment in Your Lab can be SMART!!

**Make your Works and Laboratories SMART
with witeg Smart-Lab™ Equipments & WiRe™ App & Web Service.**

witeg Smart-Lab™ Equipments

The Smart-Lab™ System is an innovation of laboratory equipments.
witeg Smart-Lab™ equipments include two types controller, 4-inch or 7-inch, full-touch screen controller, integrating the most extensively applied Android System and Internet Connectivity. At anytime, anywhere you are, and anyhow, you can check and control all the equipments in your lab using your smart phone, tablet on the web.

No Button. No Knob. Simply Touch!!
witeg SMART line of Lab Equipments with
Full Touch Screen Controller** and **Internet Connectivity!!

» Features

- 4" or 7" Full Touch Screen TFT LCD
- Ergonomic Design for Intuitive User Interface
- Program Control : Multiple Pattern with Multiple Segments
- Data Recording : On-Screen Temperature Chart
- USB storage for Recorded Data
- Internet Connectivity with WiFi
- Remote Monitoring and Control by WiRe™ Service
- **Storage Management function :**
  Record the location of samples in the chamber and find easily afterwards, on screen (for ULT Freezers)
- **Self-Diagnostic Function :**
  Automatic Check & Alarm for the Failures in Key Parts
- Real-time Notification of any Failure in the Equipment to the User(s), to the Service Man and to Supplier, through WiRe™ Service

WUF ULT Freezer

WGC Growth Chamber

WIG Incubator

WIG Incubator Temperature Chart

witeg Smart-Lab™ Controller

The witeg Smart-Lab™ Controller is embedded in all of Wisd Smart-Lab™ equipments, which has a lot of useful functions like data recording, Storage managment, and self-diagnostic function and so on.

These functions are unique and innovative in the laboratory equipments. And the controller is connected with researcher s Smart phone, tablet or labtop computer through internet, by WiFi, so scientists are able to check all the equipments in the laboratory at any time, and at any place.

›› Ergonomic Screen Design

- 4" or 7" Full Touch Screen TFT LCD
- Intuitive User Interface
- No-extra Button, Knob or Switch
- All the main Functions and Parameters are displayed on the Main Screen.
- Simple Touch to set the Temperature, Time, and other parameters

›› Automatic Data Recording

- High Resolution Graphic Display
- On-Screen Temperature Chart : Check the Temperature Record Graph on the Screen and could see the Details by Zoom-in & Zoom-out enabled at your finger tips.
- The Recorded Data could be transferred to PC by USB Memory.

›› Program Control

- Variable Program Setting for Multiple Patterns with Multiple Segments
- Preview window offered to check simply the input patterns
- Very easy to input and edit patterns

›› Self Diagnostic Function

- Automatic Check & Alarm for the Failures in Key Parts of the equiprment
- Real-time Notification of any Failure in the Equipment to the User(s), to the Service Man and to Supplier, through WiRe™ Service.
- Implemented by LIN and empowered by WiRe™ Service

›› Internet Connectivity with WiFi

- Remote Control is available for all the Equipments in the laboratory using Smart Phone, tablet or on the Web.
- Available WiRe™ App & Web Service

Wisd

LABORATORY INSTRUMENTS
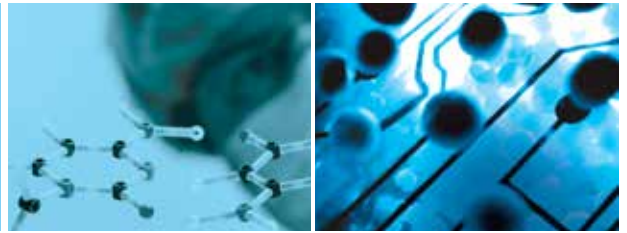
WiRe™ App & Web Service

WiRe™ App & Web service enables gathering, analyzing, and sharing of experimental data, and direct control of the unit is possible as well, anywhere and at any time.

When a defect of the unit occurs, it is processed by self-diagnostic system automatically. If you want to get safe and reliable data comfortably, it's a Smart choice to be Supported by WiRe™ service.

*At anytime, Anywhere you are, and Anyhow, you can check and Control All the Equipment in your Lab **Using Your Smart Phone or on the Web.***

» Features

- Developed by Advanced Web Technology
- Available in all the PCs, Laptops and MACs
- Almost same UI as the Touch Screen Controller on the Equipment is available
- Support all different kinds of Web browser based on HTML Standards
- Offering Android App and Apple iOS App

WiRe™ App & Web Service

Smart Phone

Pad

Laptop

witeg Service Cloud

Lab

SWUF-D500, Running...

Present Temperature

- 95.0 ℃

Unit ID SWUF-D500-001
Operation Mode Fixed
Timer OP-02:00

Set Temp. **- 95.0** ℃

Stop

Error   Different Unit   Setup

◆ **App Remote Control System**
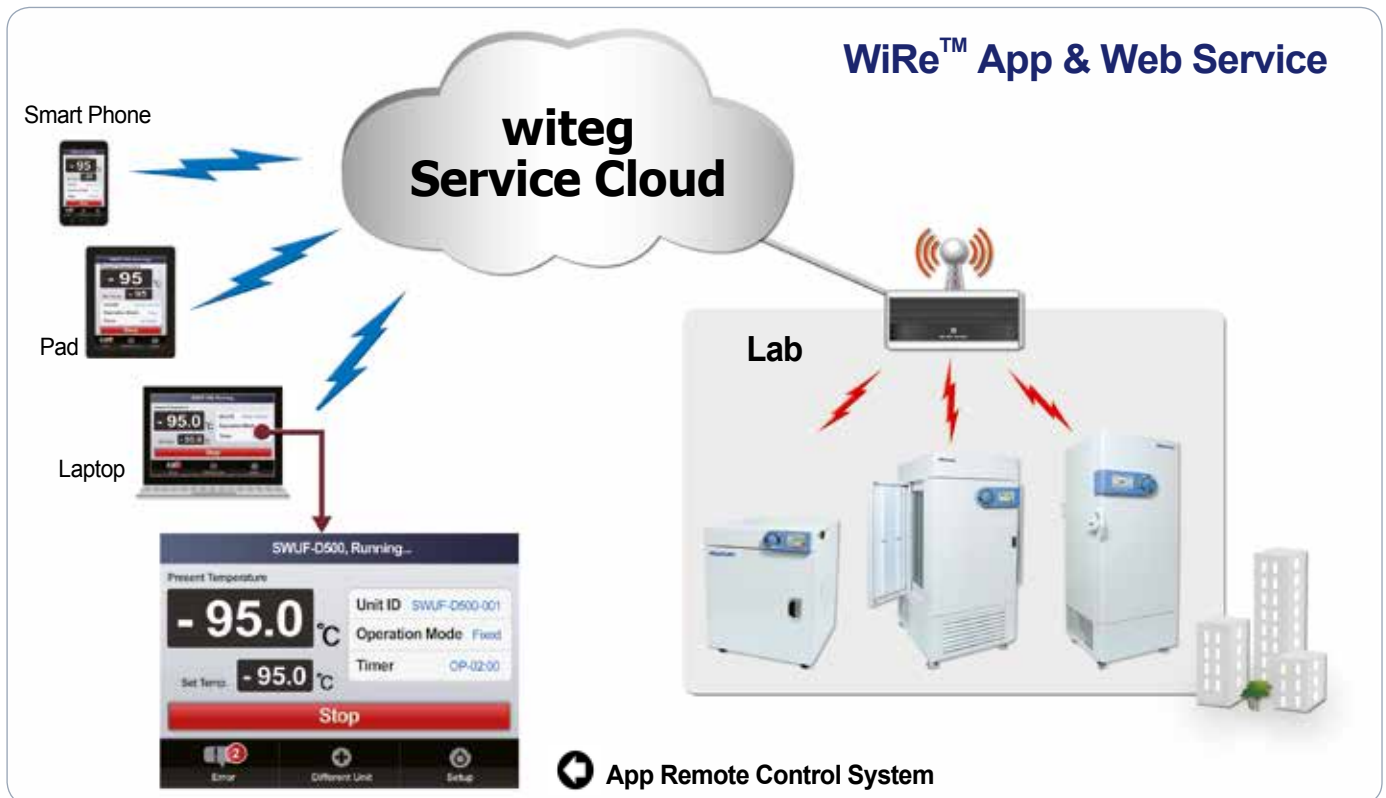
➤➤ WiRe™ Remote Control System

- Anytime, anywhere you are, and anyhow, you can check and control the Freezer in your Lab using your smart phone or web.

- It is possible to monitor and control the Smart-Lab™ equipment through all smart phone, tablet and web without restraint of time and place.

➤➤ Device Settings and User Registration

- A single unit can be remote controlled by multiple users
- A single user can remote control multiple units in the Lab
- Smart-Lab™ equipments offer registration of multiple users with simple count information

➤➤ Self Diagnostic Function

The Self-Diagnosis System senses a certain defect within the unit, and reports it to the service center through the servers operated by witeg. The Service Center verifies the defects of the unit received, and could offer prompt service.

Error Status Reporting **witeg Service Cloud** Error Status Reporting

witeg Service Center

Freezer

Service for Advanced Prevention

Display Error Status Reporting

➤➤ Smart-Lab™ Equipment lines

SWIG- / SWIF-Series of General Purpose Incubators
SWON- / SWOF-Series of General Purpose Ovens
SWGC-Series of Growth Chambers
SWUF-Series of Ultra Low Temperature Freezers

SWCR- / SWCL-Series of Refrigerated Bath Circulators (coming soon)
SWIR-Series of Low Temperature Incubators (coming soon)
SWIS-Series of Shaking Incubators (coming soon)
SWOV-Series of Vacuum Ovens (coming soon)
SWTH-Series of Temp. & Humidity Chambers (coming soon)
SWCC-Series of Cold Lab Chambers (coming soon)

Innovative Technology to Improve the Quality of Human Life

Features of
Steam Sterilizers, Digital Fuzzy Controlled Autoclaves

witeg Steam Sterilizers ---------------- P. 16~17

witeg's Autoclaves are upgraded with a simpler and more ergonomic design. Unique and innovative 'Electronic Safety Door Locking System' and 'Steam Condensing Mechanism' maximize the user safety, which is the most critical feature of autoclave product. New Lever-type Door Handle makes anybody open and close the door very easily and safely. Both of Solid and Liquid cycles are offered up to the samples to be sterilized, which ensures optimum sterilizing performance.

⟩⟩ Safety Upgrade

- Special '**Steam Condensing Mechanism**' protects the user from hot steam after sterilizing cycle, by condensing the hot steam into small amount of water : patent registered.
- '**Safety Door Locking System**' ensures the door firmly locked by electronic-controlled switch and solenoid latch while sterilizing cycle is ongoing. The door can be opened only when there is no hot-steam and high-pressure inside the pressure vessel: patent registered.
- **CE-MDD (0470)** certified as a medical device, by which witeg's autoclaves can be supplied to the hospitals in Europe.
- Stainless Steel Cover is implemented to prevent the user from burn by high temperature in the pressure vessel.
- Very high quality **Over Pressure Valve** is used to automatically release abnormal high pressure inside the vessel.

New Steam Sterilizers,
Digital Fuzzy Controlled Autoclaves

⟩⟩ Function/Convenience Upgrade

- **One-Touch Lever-type Door Handle** is invented and implemented for the user to open & close the door very easily and safely: patent registered.
- Two different operation mode of **Solid and Liquid Cycle** are offered, which can be chosen up to the kind of sample to be sterilized.
- New Jog-Dial Controller with simples user interface: patent registered
- Digital Timer functions for Delay time and Operation time are available.
- Innovative Easy-to-Use Digital Fuzzy Controller.
- Digital LCD with Back-Light

⟩⟩ Jog-Dial Controller

Digital LCD with Back-light Function

Main Button

Open Button

Jog-Dial

Pressure Gauge

WiseClave® Digital Fuzzy Control System

Temp SV : 121℃
Temp PV : 33℃

Set Operation Time
Set Temperature
Safety Locking

MAIN

OPEN

SUB

PUSH

Set Delay Time
Set Offset Value
Set Runner Type

SET / START / STOP

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LABORATORY INSTRUMENTS
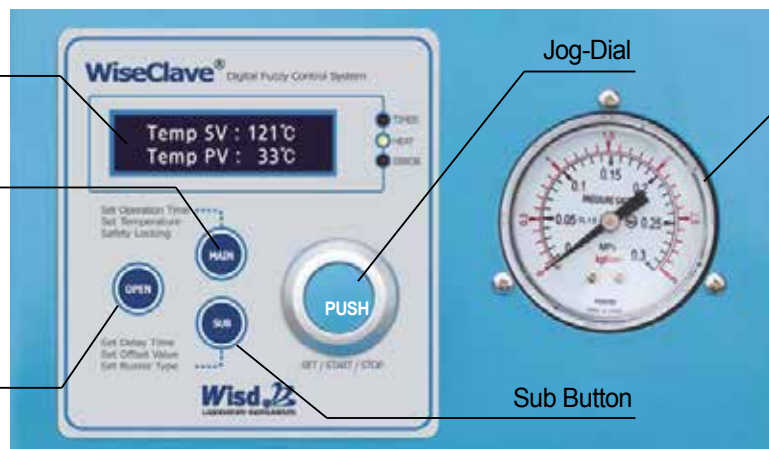
Sub Button

- Simplest and easiest User Interface by ergonomic design
- Design of Jog-Dial is more sturdy and convenient
- High quality Digital LCD with Back-Light
- One-touch 'Open button' to open the door only when sterilizing cycle is not on going
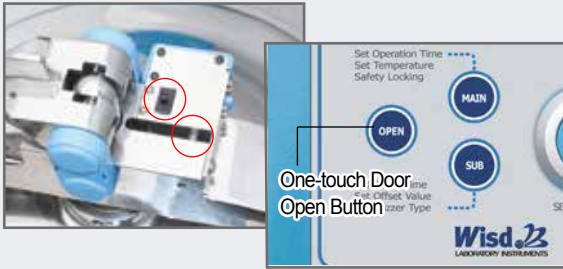
Safety Electronic Door Locking System

Sterilizing cycle can be stated only when the door is completely closed.
Eclectro-mechanical sensor, solenoid latch, and one-touch Open button work
together to implement the perfect safety door, which can be opened only
when the temperature and pressure is low enough inside the pressure vessel.

Special Steam Condensing Mechanism

Hot steam generated by sterilizing cycle is not released out directly.
It is condensed into a small amount of water just after the sterilizing cycle by
special condensing mechanism, which protects the user from dangerous high
temperature steam.

Lever-type Sliding Door

This real innovation of door closing mechanism makes any user easily close the
door with consistent degree of closing by a single hand, regardless of the level
of strength in his/her arms. Opening is also very easy and can be done with
single hand as well.

Liquid & Solid Cycle Mode

Operation mode is optional between Solid Cycle mode and Liquid Cycle mode.
In Solid Cycle mode, heating is immediately off and steam is released quickly
just after sterilizing period. But in Liquid mode, temperature is decreased very
slowly and steam is released out little by little for much longer time.

Using International Standard Components

Maintenance and Service is very convenient because most of the components
and parts are internationally standard ones and available in the market.

CE-MDD(CE 0470-Medical Device Directive) Certified

witeg's new autoclaves are designed and produced strictly following
European standard for electric and mechanical safety. So, it can be supplied to,
and used safely in, world-wide hospitals and institutes requiring CE-MDD
Certification.

witeg® Steam Sterilizers, Digital Fuzzy-controlled Autoclaves, "WAC", 47-/60-/80-Lit., up to 132°C, Max. 2 kgf/cm²
Electronic Door Lock, Steam Condensing Mechanism, Lever-type Sliding Door, Solid-/Liquid-Modes, CE-MDD Certified

NEW
CE 0470
2-Year Warranty

Jog-Dial with Push Button

Digital Fuzzy Controller

Lever-type Sliding Door

Wisd.23

Steam Condensing Mechanism & Complete Safety Pressure Mechanism

(1) Steam Sterilizers, Digital Fuzzy-Controlled Autoclave, With 2 x Wire Baskets Standard-type

NEW
CE 0470
2-Year Warranty

Jog-Dial with Push Button

Digital Fuzzy Controller

Lever-type Sliding Door

Wisd.23

Recorder

Sterilization Cycle Data Print

Wisd.23

(2) Steam Sterilizers, Digital Fuzzy-Controlled Autoclave, With 2 x Wire Baskets Recorder-type

- **with Certificate & Traceability :**
  Controlled by Serial Number, Certificate, Delivery-information, and Traceable Data Base System
- **Patented Special Steam Condensing Mechanism**
- **Electronic Door Lock Sensing System for User Safety.**
- **Safety and Easy to Use Lever-type Sliding Door**
- **Patented Jog-Dial Control System**
- **Water Low Level Detection for Safe Operation of the Heaters**
- **Built-in Recorder model (only WAC-R models):**
  Print Sterilization Cycle Data for Validation and Analyze Sterilization (Temperature, Pressure, Time, Error Status, etc.)
- **"CE-MDD (CE 0470 - Medical Device Directive) Certified"**
- **PL (Product Liability) Insurance**

✳ Ideal for Biotechnology, Clinical, Environmental, Medical and Food Industry.
✳ Innovative Easy-to-Use Digital Fuzzy Controller.
✳ Top-loading type Sterilizer for Easy Loading of Large Working Volume.
✳ Casters equipped for Excellent Mobility.
✳ Digital LCD with Back-Light Function.
✳ Digital Timer Function - 'Delay Time'and 'Operation Time'can be Controlled.
✳ **Solid / Liquid Mode** can be chosen by a customer considering a Sample Phase.
✳ Safety and Easy to Use Lever-type Sliding Door.
✳ Complete Safety Pressure Mechanism.
✳ Automatic Over Pressure Release Valve ensure User Safety.
✳ **Electronic Door Lock Sensing** System for User Safety.
✳ Heat-Protective Lid Cover for User Safety.
✳ Included 2x Wire Basket

Specification

(1) Standard-model		WAC-47	WAC-60	WAC-80
		Standard-type		
(2) Recorder-model		WAC-R47	WAC-R60	WAC-R80
		Recorder-type: Built-in Recording Printer, Sterilization Cycle Data (Date, Temperature, Pressure, Time, Error Status, etc.)		
Capacity		47 Lit.	60 Lit.	80 Lit.
Temp. Range & Accuracy		Ambient 5°C to 132°C, ±0.5°C at 121°C		
Pressure & Gauge		1.2 kgf/cm² at 121°C/2.0 kgf/cm² at 132°C, 0 ~ 3 kgf/cm²		
Sterilization mode		Solid- or Liquid-mode		
Heating Power / Consumption		2 kW	3 kW	2 kW x 3
Timer & Alarm		99 hr 59 min 59 sec, Error status & Timer-end		
Display		Digital LCD with Back-Light Function		
Controller		Digital Fuzzy-Control System (Fully Automatic)		
Door & Closing System		Lever-type Sliding Door / Safety Electronic Door Closing System		
Safety Circuit		Over-Temp./-Pressure/-Current protection, Sensor Error Detection		
Printer		Thermal type printer, Record Paper Roll: w58 x Ø40mm		
Material		Stainless Steel (#304)-Pressure Vessel, Powder Coated Steel-External		
Basket		2ea of Stainless Steel Wire Baskets are Included		
Basket Dimension (mm)		Ø270 x h240	Ø320 x h240	Ø370 x h240
Dimension (w x d x h)	Inner (mm)	Ø300 x h670	Ø350 x h650	Ø400 x h650
	Outer (mm)	680 x 470 x 880	680 x 470 x 900	780 x 580 x 900
Packing Size (mm)		800 x 700 x h1,280 mm		940 x 800 x h1,350 mm
Gross weight (kg)		116 kg	120 kg	173 kg
Power Supply		AC 230V, 1N~, 50/60Hz		AC 400V, 3N~, 50/60Hz

* Other Specifications are available upon Customer s Request.

<Continued on next page>

<Continued from... Steam Sterilizers, Digital Fuzzy-controlled Autoclaves , "WAC">

Ordering Information

✳ 2ea of Wire Baskets are included in the All Autoclaves

(1) Autoclaves, Digital Fuzzy Controlled Standard-type

DH.WAC05047　　Autoclave Standard, **230V,　47 Lit., "WAC-47"**

DH.WAC05060　　　　　　　　　　　, **60 Lit., "WAC-60"**

DH.WAC07080　　Autoclave Standard, **400V, 3N~, 80 Lit., "WAC-80"**

(2) Autoclaves, Digital Fuzzy Controlled Recorder-type

DH.WACR2047　　Autoclave Built-In Recorder, **230V,　47 Lit., "WAC-R47"**

DH.WACR2060　　　　　　　　　　　　, **60 Lit., "WAC-R60"**

DH.WACR7080　　Autoclave Built-In Recorder, **400V, 3N~, 80 Lit., "WAC-R80"**

(3) Spare Wire Baskets, Stainless Steel

DH.Ba7011　　Wire Basket, Ø270 x h240mm, **"Ba7011"**, for　**47 Lit. "WAC-47" & "WAC-R47"**

DH.Ba7012　　　　, Ø320 x h240mm, **"Ba7012"**, for　**60 Lit. "WAC-60" & "WAC-R60"**

DH.Ba7013　　　　, Ø370 x h240mm, **"Ba7013"**, for　**80 Lit. "WAC-80" & "WAC-R80"**

(4) Optional Perforated Bottom Baskets, Stainless Steel

DH.WAC20047　　Perforated Basket, Ø270 x h250mm, **"WAC20047"**, for **47 Lit. "WAC-47" & "WAC-R47"**

DH.WAC20060　　　　　　　　, Ø320 x h250mm, **"WAC20060"**, for **60 Lit. "WAC-60" & "WAC-R60"**

DH.WAC20080　　　　　　　　, Ø370 x h250mm, **"WAC20080"**, for **80 Lit. "WAC-80" & "WAC-R80"**

Validation (IQ, OQ) Service

DH.WAC30047　　Validation Service(IQ, OQ), **"ACV47",** for **"WAC-47"**

DH.WAC30060　　　　　　　　　　　, **"ACV60",** for **"WAC-60"**

DH.WAC30080　　　　　　　　　　　, **"ACV80",** for **"WAC-80"**

DH.WACR0047　　Validation Service(IQ, OQ), **"ACRV47",** for **"WAC-R47"**

DH.WACR0060　　　　　　　　　　　, **"ACRV60",** for **"WAC-R60"**

DH.WACR0080　　　　　　　　　　　, **"ACRV80",** for **"WAC-R80"**

(1) Steam Sterilizers, Digital Fuzzy-Controlled Autoclave Standard-type

(3) Wire Basket Stainless Steel (Included)
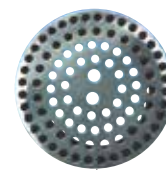
Side　　　　　　　Bottom

(4) Perforated Bottom Basket, Stainless Steel (Optional)

Balance

- Available Counting & Weighing Mode
- Various Weight Mode
- Numberic Linearity Calibration
- Weighing Response Time Adjustable
- CE Certified

≫ **Analytical Digital Balance**
   0.1mg ~ 220g

≫ **High-performance**
   Digital Moisture Analyzer
   1mg ~ 110g / 0.00~100.00%

≫ **High-precision Digital Balance**
   0.001 ~ 320-/ 620-g, 3200-/ 6200-g

Cat. No	Description	Articles

witeg® 0.1mg~220g Standard Analytical Balance, "WBA-220", with Glass Draft Shield
with Back Light LCD, Counting Function, Ext-CAL, 200g Cali. Weight, g/ct Various Weight Mode, with Certi. & Traceability

NEW

Wisd*B*

CE

Included 200g Calibration Weight

2-Year Warranty

0.1mg ~ 220g Standard Analytical Balance WBA-220

(1) RS-232C Thermal Printer, Paper "WBA-083"

(2) RS-232C Thermal Printer, Label "WBA-770"

■ with Certificate & Traceability :
   Controlled by Serial Number, Certificate, Delivery-information, and Traceable Data Base System
■ Available Counting & Weighing Mode
■ Various Weight Mode(g/ct)   ■ Numberic Linearity Calibration
■ External Calibration Weight Free with Scale 200g
■ Weighing Response Time Adjustable
■ Blue Back Light LCD   ■ CE Certified
■ with AC 220 Adapter for DC Power 9V / 2A
■ with Ø80mm Weighing Plate and Glass Draft Shield

✳ Operating Temperature 5.0~35°C ✳ Stabilization Time(Typical at Fast) ≤ 8 Seconds
✳ Included Glass Draft Shield ✳ Available Counting & Weighing Mode
✳ Included 200g Calibration Weight ✳ Various Weight Mode(g/ct/oz)
✳ Built in RS232C for Printer ✳ Built in Under Hook
✳ Electro Magnetic Base ✳ Appreance Parameters
✳ Numberic Linearity Calibration ✳ Weighing Response Time Adjustable
✳ Back Light LCD ✳ CE Certified

Specification

Spec. Model	"WBA-220"
Weighing Range. mg	**0.1 mg ~ 220 g**
Weighing Plate. mm	Ø 80 mm
Read-Out [d]. mg	0.1 mg
Reproducibility. mg	0.1 mg
Linearity. mg	0.1 mg
Permissible Temperature	5.0~35°C
Weight Mode	g / ct
Counting Mode	Available Counting & Weighing Mode
Calibration	External Calibration, Included 200g Calibration Weight
Display	Digital LCD with Back-Light Function
Dimension & Net Weight	190 x 240 x h265mm / 6.3 kg
Packing Size & Gross Weight	290 x 420 x h490mm / 8.3 kg
DC Power & AC Adapter	DC 9V, with AC 220V Adapter, 60Hz

Ordering Information

DH.WBA0220 Standard Analytical Balance, 0.1mg~220g, **"WBA-220"**
                         DC 9V, with AC 220V Adapter
Optional Thermal Printer
DH.WBA0083 (1)Thermal Printer, Paper Roll, **"WBA-083",** Included Cable Module,
                          1 x Paper Roll
DH.WBA0084 Thermal Paper Package, 5 x Paper Roll, for **"WBA-083"**
DH.WBA0770 (2)Thermal Printer, Label Paper Roll, WBA-770 **,** Included Cable Module,
                          1 x Label Paper Roll
DH.WBA0771 Thermal Label Paper Package, 5 x Label Paper Roll, for **"WBA-770"**

Articles	Cat. No	Description

witeg® 1mg~320/620g Hi-Precision Lab Balance, "WBA-320" & "WBA-620", with Glass Draft Shield
with Super Size Back Light LCD, Counting Function, Ext-CAL, 200g or 500g Cali. Weight, Various Weight Mode

NEW **Wisd.** CE

Included 200g Calibration Weight

2-Year Warranty

0.001~320g Hi-precision Lab Balance "WBA-320"

NEW **Wisd.** CE

Included 500g Calibration Weight

2-Year Warranty

0.001~620g Hi-precision Lab Balance "WBA-620"

■ **with Certificate & Traceability :**
  Controlled by Serial Number, Certificate, Delivery-information, and Traceable Data Base System
■ **Available Counting & Weighing(g / %) Mode**
■ **Various Weight Mode (Available g-/ct-/GN-/dwt-/etc...)**
■ **Included 200g or 500g Calibration Weight(WBA-320 : 200g, WBA-620 : 500g)**
■ **Numberic Linearity Calibration**   ■ **Time & Date Setting for Recording Data**
■ **Available Rechargeable Battery(6V/1.2A, Excluded)**
■ **with AC 220V Adapter for DC Power 12V/500mA**
■ **Four Level Anti-shock Adjustable Function**
■ **Weighing Response Time Adjustable**   ■ **For Both AC and DC**
■ **Super Size Back Light LCD**   ■ **CE Certified**

✽ Operating Temperature 5.0~35°C
✽ Stabilization Time(Typical at Fast) ≤ 8 Seconds
✽ Default and Auto Lock Present Working Mode   ✽ Included Glass Draft Shield
✽ Built in RS232C & USB port for Printer   ✽ Built in Under Hook
✽ Electro Magnetic Base   ✽ Display Present Temperature
✽ Available Counting & Weighing Mode   ✽ Percent(%) Weighing Mode

Specification

Spec. Model	"WBA-320"	"WBA-620"
Weighing Range. g	**0.001 ~ 320 g**	**0.001 ~ 620 g**
Weighing Plate. mm	Ø 90 mm	Ø 128 mm
Read-Out [d]. g	0.001 g	
Reproducibility. g	0.001 g	
Linearity. g	0.001 g	
Permissible Temperature	5.0~35°C	
Weight Mode	% Mode and Available g-/ct-/GN-/dwt-/etc...	
Counting Mode	Available Counting & Weighing Mode	
Calibration	External Calibration	
	Included 200g Calibration Weight	Included 500g Calibration Weight
Display	Digital Super Size LCD with Back-Light Function	
Dimension & Net Weight	223 x 345 x h331mm / 3.6 kg	223 x 345 x h331mm / 5.7 kg
Packing Size & Gross Weight	290 x 385 x h365mm / 5.1 kg	390 x 510 x h520mm / 10.1 kg
DC Power & AC Adapter	DC 12V, with AC 220V Adapter, 60Hz	

Ordering Information

DH.WBA0320   Hi-precision Lab Balance, 0.001~320g, **"WBA-320"**
              DC 12V, with AC 220V Adapter
DH.WBA0620   Hi-precision Lab Balance, 0.001~620g, **"WBA-620"**
              DC 12V, with AC 220V Adapter

Optional Thermal Printer

DH.WBA0083   (1)Thermal Printer, Paper Roll, **"WBA-083"**
              Included Cable Module, 1 x Paper Roll
DH.WBA0084   Thermal Paper Package, 5 x Paper Roll, for **"WBA-083"**
DH.WBA0770   (2)Thermal Printer, Label Paper Roll, **"WBA-770"**
              Included Cable Module, 1 x Label Paper Roll
DH.WBA0771   Thermal Label Paper Package, 5 x Label Paper Roll, for **"WBA-770"**

(1) RS-232C Thermal Printer, Paper "WBA-083"

(2) RS-232C Thermal Printer, Label "WBA-770"

witeg® 0.01~3200/6200g Hi-Standard Lab Balance, "WBA-3200", "WBA-6200", 168x168mm Weighing Plate
with Super Size Back Light LCD, Counting Function, Ext-CAL, 2kg Cali. Weight, Various Weight Mode, with Certi. & Traceability

NEW

Wisd.ℬ

CE

2-Year Warranty

Included 2kg
Calibration Weight
(Only "WBA-3200" model)

*0.01~3200g or 6200g,
Hi-Standard Lab Balances, ex. "WBA-3200"*

(1) Glass Draft Shield (Optional)

*(2) RS-232C Thermal Printer, Paper
"WBA-083"*

*(3) RS-232C Thermal Printer, Label
"WBA-770"*

■ **with Certificate & Traceability :**
  Controlled by Serial Number, Certificate, Delivery-information, and Traceable Data Base System
■ **Available Counting & Weighing(g / %) Mode**
■ **Various Weight Mode (Available g-/ct-/GN-/dwt-/etc...)**
■ **External Calibration**   ■ **Numberic Linearity Calibration**
■ **Available Rechargeable Battery(6V/1.2A, Excluded)**
■ **with AC 220V Adapter for DC Power 12V/500mA**
■ **Four Level Anti-shock Adjustable Function**
■ **Time & Date Setting for Recording Data**   ■ **For Both AC and DC**
■ **Weighing Response Time Adjustable**
■ **Super Size Back Light LCD**   ■ **CE Certified**

✽ Operating Temperature 5.0~35°C
✽ Stabilization Time(Typical at Fast) ≤ 8 Seconds
✽ Default and Auto Lock Present Working Mode   ✽ Glass Draft Shield(Optional)
✽ Included 2kg Calibration Weight(only WBA-3200)
✽ Built in RS232C & USB port for Printer   ✽ Built in Under Hook
✽ Electro Magnetic Base   ✽ Display Present Temperature
✽ Available Counting & Weighing Mode   ✽ Percent(%) Weighing Mode
✽ Various Weight Mode (Available g-/ct-/GN-/dwt-/etc.)
✽ Numberic Linearity Calibration   ✽ Weighing Response Time Adjustable
✽ Super Size Back Light LCD   ✽ CE Certified

Specification

Spec. Model	"WBA-3200"	"WBA-6200"
Weighing Range. g	**0.01 ~ 3200 g**	**0.01 ~ 6200 g**
Weighing Plate. mm	168x168 mm	
Read-Out [d]. g	0.01 g	
Reproducibility. g	0.01 g	
Linearity. g	0.01 g	
Permissible Temperature	5.0~35°C	
Weight Mode	% Mode and Available g-/ct-/GN-/dwt-/etc...	
Counting Mode	Available Counting & Weighing Mode	
Calibration	External Calibration	
	Included 2kg Calibration Weight	none
Display	Digital Super Size LCD with Back-Light Function	
Dimension & Net Weight	195 x 295 x h90mm / 2.6 kg	
Packing Size & Gross Weight	243 x 377 x h163mm / 3.2 kg	
Power Supply & Cord Plug	DC 12V, with AC 220V Adapter, 60Hz	

Ordering Information

DH.WBA3200   Hi-Standard Lab Balance, 0.01~3200g, **"WBA-3200"**
       DC 12V, with AC 220V Adapter
DH.WBA6200   Hi-Standard Lab Balance, 0.01~6200g, **"WBA-6200"**
       DC 12V, with AC 220V Adapter

Optional Glass Draft Shield

DH.WBA0003   (1) Glass Draft Shield, 3 Slide Doors(Left, Right, Top)**,** 175 x 195 x h230 mm

Optional Thermal Printer

DH.WBA0083   (2)Thermal Printer, Paper Roll, **"WBA-083"**
         Included Cable Module, 1 x Paper Roll
DH.WBA0084   Thermal Paper Package, 5 x Paper Roll, for **"WBA-083"**
DH.WBA0770   (3)Thermal Printer, Label Paper Roll, **"WBA-770"**
         Included Cable Module, 1 x Label Paper Roll
DH.WBA0771   Thermal Label Paper Package, 5 x Label Paper Roll, for **"WBA-770"**

witeg® 1mg~110g High-performance Moisture Analyzer, "WBA-110M", 0.00 ~ 100.00 %, 40~199°C
with 100g Cali. Weight, Back Light LCD, Counting Function, 3xdisplays of %(g) / °C / Time, & Ext-CAL program

Included 100g Calibration Weight

2-Year Warranty

1mg~110g High-performance Moisture Analyzer "WBA-110M"

(1) 10ea Sample Plates(Included)

(2) RS-232C Thermal Printer, Paper "WBA-083"

(3) RS-232C Thermal Printer, Label "WBA-770"

■ **with Certificate & Traceability :**
   Controlled by Serial Number, Certificate, Delivery-information, and Traceable Data Base System
■ **Included 100g Calibration Weight**
■ **Halogen Light Heating**   ■ **Stainless Steel Chamber**
■ **Temperature and Time can be Set**   ■ **External Calibration**
■ **The Percentage of Dry Residual**   ■ **Back Light LCD**
■ **Store Historical Setting**   ■ **CE Certified**
■ **The Percentage of moisture Content**
■ **3xDisplay after Drying :** Humidity(%) - Reduce Weight of Liquid
                              Dry Mass(%) - Weight of Solid
                              ATRO(%) - 100 ~ 999%

✳ Digital Function, and AC 220V, 50/60Hz Operated
✳ Operating Temperature 5.0~35°C   ✳ Loadcell Sensor
✳ Default and Auto Lock Present Working Mode
✳ Built in RS232C & USB port for Printer   ✳ Included 10ea Sample Plates

Specification

Spec. Model	"WBA-110M"
Weighing Range. g	**0.001 ~ 110 g**
Weighing Plate. mm	Ø 90 mm
Read-Out [d]. g	0.01 mg
Reproducibility. g	0.1 mg
Permissible Temperature	5.0~35°C
Heat Source / Temp. Sensor	Halogen Lamp / PT100 Sensor
Temp. Range / Resolution	40 ~ 199 °C/1 °C
Moisture Range / Read ability	0.00 ~ 100% / 0.01%
Dry Residual	Range : 0.00 ~ 100.00%, Read ability : 0.01%
ATRO	100 ~ 999%, 0 ~ 999%
Timer / Auto-stop	1 ~ 99min(Resolution : 1Sec.) / Auto-stop 0.1~9.9% within 1min.
Number of Storage	15
Calibration	External Calibration, Included 100g Calibration Weight
Display	Digital LCD with Back-Light Function
Power Consumption	400 W
Dimension & Net Weight	180 x 200 x h380 mm / 5.8 kg
Packing Size & Gross Weight	290 x 305 x h440 mm / 6.4 kg
Power Supply & Cord Plug	AC 220V, 50 / 60Hz

Ordering Information

DH.WBA110M   Digital Moisture Analyzer, 1mg~110g, **"WBA-110M"**
                  40 ~ 199 °C, 0.00 ~ 100%, AC 220V, 50/60Hz

Optional Sample Plates

DH.WBA0005   (1) Sample Plates, Ø 90 mm, 10ea

Optional Thermal Printer

DH.WBA0083   (2) Thermal Printer, Paper Roll, **"WBA-083"**
                  Included Cable Module, 1 x Paper Roll
DH.WBA0084   Thermal Paper Package, 5 x Paper Roll, for **"WBA-083"**
DH.WBA0770   (3)Thermal Printer, Label Paper Roll, **"WBA-770"**
                  Included Cable Module, 1 x Label Paper Roll
DH.WBA0771   Thermal Label Paper Package, 5 x Label Paper Roll, for **"WBA-770"**

Baths

- Digital Fuzzy Control System Implemented Superior Temperature Accuracy.
- Unified Jog-Shuttle(Turn + Push) Control System and Patented User-interface
- PL (Product Liability) Insurance

Water Baths

Bath Circulators

General Purpose Water Bath
(WB-model)

High Temperature Bath Circulators
(WCH-model)

Refrigerated Bath Circulators
(WCR-model)

Shaking Water Bath (WSB-model)

witeg® Digital Precise Water Bath, "WB", 6-/11-/22- Lit., up to 100°C, ±0.1°C, CE-Certi.
with Digital Fuzzy Control System, 1 x Stainless Steel Flat Lid, and Back Light LCD, with Certi. & Traceability

CE **2-Year Warranty**

Back Light LCD

Patented Jog-Shuttle Control System

Digital Precise Water Bath, 11Lit. "WB-11"

(1) Flat Lid, Stainless Steel (Included)

(2) Dome Lid, Stainless Steel

(3) "BFC106" Lid with Concentric Ring Cover Sets for 6Lit.

(4) "BFC111" Lid with Concentric Ring Cover Sets for 11Lit.

(5) "BFC122" Lid with Concentric Ring Cover Sets for 22Lit. Bath

(6) Test Tube Rack, Stainless Steel

■ **with Certificate & Traceability :**
   Controlled by Serial Number, Certificate, Delivery-information, and Traceable Data Base System
■ **Digital Fuzzy Control System Implementing Superior Temperature Accuracy**
■ **Patented Jog-Shuttle Control System** and Digital LCD
   with Back-Light Function   ■ **PL(Product Liability) Insurance**

❋ User's Self-Compensation Function to Control Difference between Real Temperature and Indicated Temperature (±10.0°C).
❋ 304 Stainless Steel Bath & Lid for Superior Durability & High Thermal Efficiency/Constant.
❋ Digital Timer Function(99hr 59min) : 'Delay Time' and 'Operation Time' can be Controlled.
❋ Storage Function for the Set Values of Temperature and Timer.
❋ Locking Mode Supported for Experimental Safety (Input to Jog-Shuttle can be Disabled).

Specification

Capacity & Models		6 Lit. "WB-6"	11 Lit. "WB-11"	22 Lit. "WB-22"
Temp. Range & Accuracy		Ambient + 5°C ~ 100°C, ±0,1°C		
Temp. Resolution		0,1 - Display, 0,1°C - Control		
Temp. Uniformity & Probe		±1,0°C, PT100		
Heating Power		800 W	1 kW	2 kW
Timer & Alarm		99hr 59min (Delay & Continuous run), Error status & Timer-end		
Display		Digital LCD Display with Back-Light Function		
Controller		Digital Fuzzy Controller with Jog-Shuttle Switch (Turn+Push)		
Safety Circuit		Over-Temp. / -Current protection, Sensor Error Detection		
Material		Stainless Steel (#304)-Internal, Powder Coated Steel-External		
Lid		included Stainless Steel Flat Lid, Optional Dome Lid		
Drain Valve		None		Mounted(Ø9,5~11mm)
Dimension (wxdxh)	Effective Space	300x155xh110mm	302x240xh110mm	500x295xh110mm
	Internal	300x155xh150mm	302x240xh150mm	500x295xh150mm
	External	325x180xh260mm	325x265xh260mm	535x330xh260mm
Packing Size (mm) and Gross Weight (kg)		350x210xh310mm, 8 kg	350x300xh310mm, 10 kg	570x360xh310mm, 14 kg
Power plug type		Hybrid E+F		
Power Supply*		AC 230V, 1N~, 50/60Hz		

* Other Specifications are available upon Customer's Request.

Ordering Information

DH.WB000106 Water Bath, **230V, 6 Lit., "WB-6"**
DH.WB000111   **, 11 Lit., "WB-11"**
DH.WB000122   **, 22 Lit., "WB-22"**

Spare Flat Lids, Stainless Steel

DH.WB010106 (1) Flat Lid, for **6 Lit.,** w325 x d176mm, **"BF106"**
DH.WB010111   , for **11 Lit.,** w325 x d265mm, **"BF111"**
DH.WB010122   , for **22 Lit.,** w530 x d325mm, **"BF122"**

Optional Lids and Tube Rack, Stainless Steel

DH.WB010206 (2) Dome Lid, for **6 Lit.,** 324 x 176 x h100mm, **"BD206"**
DH.WB010211   , for **11 Lit.,** 324 x 263 x h100mm, **"BD211"**
DH.WB010222   , for **22 Lit.,** 533 x 328 x h100mm, **"BD222"**
DH.WB030106 (3) Lid with 2 x Concentric Ring Cover Sets, for **6 Lit.,** Stainless Steel, 330 x 182 x h20mm, **"BFC106"**
DH.WB030111 (4) Lid with 2 x Concentric Ring Cover Sets, for **11 Lit.,** Stainless Steel, 329 x 269 x h20mm, **"BFC111"**
DH.WB030122 (5) Lid with 6 x Concentric Ring Cover Sets, for **22 Lit.,** Stainless Steel, 539 x 334 x h20mm, **"BFC122"**
DH.WB020106 (6) Tube Rack, for **6 Lit.,** 36Hole x Ø17mm, **"BTH106"**, Stainless Steel, 220 x 125 x h78.5mm
DH.WB020206 (6) Tube Rack, for **6 Lit.,** 15Hole x Ø32mm, **"BTH206"**, Stainless Steel, 220 x 125 x h78.5mm
DH.WB020111 (6) Tube Rack, for **11 Lit.,** 63Hole x Ø17mm, **"BTH111"**, Stainless Steel, 220 x 125 x h78.5mm
DH.WB020211 (6) Tube Rack, for **11 Lit.,** 25Hole x Ø32mm, **"BTH211"**, Stainless Steel, 220 x 125 x h78.5mm

Validation (IQ, OQ) Service

DH.WB040106 Validation Service(IQ, OQ), **"BV106", for "WB-6"**
DH.WB040111   , **"BV111", for "WB-11"**
DH.WB040122   , **"BV122", for "WB-22"**

witeg® Digital Precise Circulation Water Bath, "WCB", 6-/11-/22- Lit., with Certi. & Traceability
with 1 x Stainless Steel Flat Lid, Digital Fuzzy Control System, Powerful Circulation Pump, up to 100°C, ±0.1°C, 5 Lit./min

- **with Certificate & Traceability :**
  Controlled by Serial Number, Certificate, Delivery-information, and Traceable Data Base System
- **Digital Fuzzy Control System Implementing Superior Temperature Accuracy**
- **Patented Jog-Shuttle Control System and Digital LCD**
  with Back-Light Function
- **CE Certified**   ■ **PL (Product Liability) Insurance**

✽ Ideal for Biotechnology, Clinical, Environmental, Medical, Petroleum, Food Industry, Pharmaceutical and Industrial Applications.
✽ Warning and Automatic Stop Function in case of Liquid Shortage.
✽ User's Self-Compensation Function to Control Difference between Real Temp. and Indicated Temp. (±10.0°C).
✽ Powerful Circulation Pump Assures Temp. Uniformity.:Internal and External Circulation.
✽ 304 Stainless Steel Bath & Lid for Superior Durability & High Thermal Efficiency/Constant.
✽ Connection with Evaporators and Viscometers is applicable.
✽ Storage Function for the Set Values of Temperature and Timer.
✽ Alarm function : Error Status and Timer-end.
✽ Locking Mode Supported for Experimental Safety (Input to Jog-Shuttle can be Disabled).

2-Year Warranty   CE

Digital Fuzzy Controller
Flat Lid
WiseCircu
Patented Jog-Shuttle Control System

Wisd.

Powerful Circulation Pump assures Temp. Uniformity for both Internal and External Circulation

Digital Precise Circulation Water Bath "WCB-22"

Flat Lid, Stainless Steel (Included)

Specification

Capacity & Models		6 Lit. "WCB-6"	11 Lit. "WCB-11"	22 Lit. "WCB-22"
Temp. Range & Accuracy		Ambient+5°C ~ 100°C, ±0.1°C		
Temp. Resolution		0.1°C - Display, 0.1°C - Control		
Temp. Uniformity & Probe		±0.2°C, PT100		
Heating Power		800 W	1 kW	2 kW
Pump		5 Lit. / min (Internal / External)		
Circulation Nozzle		i.d. 7 x o.d. 11 mm (i.d. 9 / o.d. 12mm silicon tube connected for inner circulation)		
Timer & Alarm		99hr 59min (Delay & Continuous run), Error status & Timer-end		
Display		Digital LCD with Back-Light Function		
Controller		Digital Fuzzy Controller with Jog-Shuttle Switch (Turn+Push)		
Safety Circuit		Over-Temp./-Current protection, Sensor Error & Low Level Detection		
Material		Stainless Steel (#304)-Internal, Powder Coated Steel-External		
Lid		included Stainless Steel Flat Lid, Optional Dome Lid		
Drain Valve		None		Mounted(Ø9.5~11mm)
Dimension (wxdxh)	Effective Space	120 x 155 x h150 mm	170 x 240 x h150 mm	372 x 295 x h150 mm
	Internal	300 x 155 x h150 mm	302 x 240 x h150 mm	500 x 295 x h150 mm
	External	330 x 185 x h385 mm	335 x 275 x h385 mm	540 x 335xh410 mm
Packing Size (mm) and Gross Weight (kg)		350 x 210 x h410mm, 11 kg	360 x 300 x h420mm, 13 kg	580 x 380 x h470mm, 18 kg
Power plug type		Hybrid E+F		
Power Supply*		AC 230V, 1N~, 50/60Hz		

* Other Specifications are available upon Customer's Request.

Ordering Information
DH.WCB00106   Circulation Water Bath, **230V,   6 Lit., "WCB-6"**
DH.WCB00111   **, 11 Lit., "WCB-11"**
DH.WCB00122   **, 22 Lit., "WCB-22"**

Validation (IQ, OQ) Service
DH.WCB30106   Validation Service(IQ, OQ), **"CBV106",** for **"WCB-6"**
DH.WCB30111   **, "CBV111",** for **"WCB-11"**
DH.WCB30122   **, "CBV122",** for **"WCB-22"**

Articles	Cat. No	Description
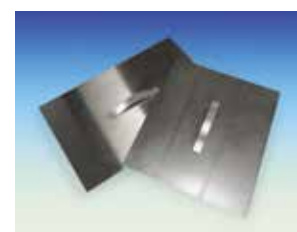
witeg® Digital Precise Immersion Circulator Head, "WCB-H", 11-/22- Lit., up to 100°C

with Digital Fuzzy Control System, Power Circulation Pump, Back Light LCD, 5 Lit./min, with Certi. & Traceability

CE **2-Year Warranty**

Digital Fuzzy Controller

Patented Jog-Shuttle Control System

320mm

130mm

115mm

Wisd

Digital Precise Immersion Circulator Head "WCB-11H"
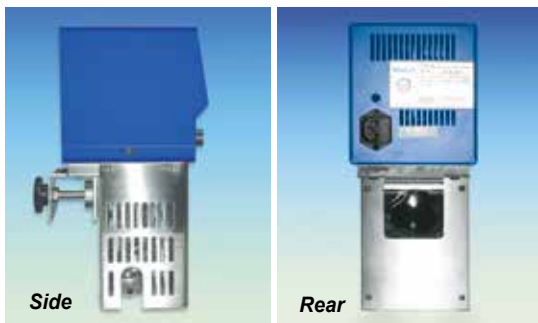
Side

Rear

Digital Precise Immersion Circulator Head "WCB-11H" Side & Rear

■ **with Certificate & Traceability :**
  Controlled by Serial Number, Certificate, Delivery-information, and Traceable Data Base System
■ **Digital Fuzzy Control System Implementing Superior Temperature Accuracy**
■ **Warning and Automatic Stop Function in case of Liquid Shortage**
■ **Patented Jog-Shuttle Control System and Digital LCD with Back-Light Function**
■ **CE Certified**　　　■ **PL(Product Liability) Insurance**

✽ Multi-Full Use Digital Precise Immersion Circulator Head.
✽ Digital Timer Function: 'Delay Time' and 'Operation Time' can be Controlled.
✽ Powerful Circulation Pump Assures Temp. Uniformity.
✽ User s Self-Compensation Function to Control Difference between Real Temperature and Indicated Temperature (±10.0°C).
✽ Storage Function for the Set Values of Temperature and Timer.
✽ Alarm Function: Error Status and Timer-end.
✽ Locking Mode Supported for Experimental Safety (Input to Jog-Shuttle can be Disabled).

Specification

Capacity & Models	11 Lit. "WCB-11H"	22 Lit. "WCB-22H"
Temp. Range & Sensor	Ambient +5°C ~ 100°C, ±0.1°C, PT100	
Heating Power	1 kW	2 kW
Pump	5 Lit. / min	
Timer & Alarm	99hr 59min (Delay & Continuous run), Error status & Timer-end	
Display	Digital LCD with Back-Light Function	
Controller	Digital Fuzzy Controller with Jog-Shuttle Switch (Turn+Push)	
Safety Circuit	Over-Temp./-Current protector, Sensor Error & Low Level Detection	
Dimension	w130 x d165 x h320 mm	
Packing Size (mm) and Gross Weight (kg)	400 x 280 x h200 mm, 8 kg	400 x 280 x h200 mm, 10 kg
Power plug type	Hybrid E+F	
Power Supply*	AC 230V, 1N~, 50/60Hz	

* Other Specifications are available upon Customer's Request.

Ordering Information

DH.WCB10011　　Immersion Circulator Head, **230V, 11 Lit., "WCB-11H"**

DH.WCB10022　　　　　　　　　　　　**, 230V, 22 Lit., "WCB-22H"**

witeg® Multi-purpose Extraction Water Bath, "WEB", 4-/6-/8-Place, with Certi. & Traceability
with Concentric Ring Cover Sets & Holding Frame, Digital Fuzzy Control, Back Light LCD, up to 100°C, ±0.2°C

- **with Certificate & Traceability :**
  Controlled by Serial Number, Certificate, Delivery-information, and Traceable Data Base System
- **Ideal for Gentle Extraction, Soxhlet Extraction and Determination of COD**
- **Digital Fuzzy Control System Implementing Superior Temperature Accuracy**
- **Concentric Ring Cover Sets make Effective Steaming Work**
- **Patented Jog-Shuttle Control System and Digital LCD with Back-Light Function**
- **CE Certified**   ■ **PL (Product Liability) Insurance**

✽ 4, 6, 8 Extraction Places are available.

✽ User's Self-compensation Function to Control Difference between Real Temperature and Indicated Temperature (±10.0°C).
✽ High Quality 304 Stainless Steel Bath and Holding Frame for Superior Durability.
✽ Storage Function for the Set Values of Temperature and Timer.
✽ Alarm Function: Error Status and Timer-end.
✽ Locking Mode Supported for Experimental Safety (Input to Jog-Shuttle can be Disabled).

Specification

No. of Extraction Holes & Model	4 Places "WEB - 4"	6 Places "WEB - 6"	8(4x2) Places "WEB - 8"
Temp. Range & Accuracy	Ambient + 5°C to 100°C, ±0.2°C		
Temp. Uniformity & Sensor	±1.0°C, PT100		
Heating Power	1.4 kW	1.8 kW	1.4 kWx2
Timer & Alarm	99hr 59min (Delay & Continuous run), Error status & Timer-end		
Display	Digital LCD with Back-Light Function		
Controller	Digital Fuzzy Controller with Jog-Shuttle Switch (Turn+Push)		
Safety Circuit	Over-Temp./-Current protection, Sensor Error Detection, Leakage Breaker		
Material	Stainless Steel (#304)-Internal, Powder Coated Steel-External, Stainless Steel-Holding Frame		
Lid & Top Opening Dia.	Concentric Ring Cover Sets included, Ø110 mm		
Drain Valve	Mounted		
Dimension (w x d x h) Internal	610 x 160 x h160 mm	910 x 140 x h160 mm	610 x 290 x h160 mm
External	720 x 245 x h275 mm	975 x 245 x h275 mm	720 x 375 x h275 mm
Packing Size (mm) and Gross Weight (kg)	710 x 310 x h300, 18 kg	1,030 x 320 x h370, 25 kg	880 x 420 x h300, 34 kg
Power plug type	Hybrid E+F		
Power Supply*	AC 230V, 1N~, 50/60Hz		

* Other Specifications are available upon Customer's Request.

Ordering Information
DH.WEB01004 Extraction Water Bath, **230V,** 4 Places x Ø110 mm, **"WEB-4"**
DH.WEB01006 , 6 Places x Ø110 mm, **"WEB-6"**
DH.WEB01008 , 8(4 2) Places x Ø110 mm, **"WEB-8"**

Spare Lid with Concentric Ring Cover Set and Holding Frame Set
DH.WEB11000 Lid with Concentric Ring Cover Sets, **"EBC100", f**or all **"WEB" models**
DH.WEB21004 Holding Frame Set, **"EBF100", for "WEB-4",** 2ea x 800mm Pole & 2ea x 700mm Pole
DH.WEB21006 Holding Frame Set, **"EBF200", for "WEB-6",** 2ea x 800mm Pole & 2ea x 1,020mm Pole
DH.WEB21008 Holding Frame Set, **"EBF300", for "WEB-8",** 4ea x 800mm Pole & 4ea x 740mm Pole

Validation (IQ, OQ) Service
DH.WEB30004 Validation Service(IQ, OQ), **"EBV004",** for **"WEB-4"**
DH.WEB30006 , **"EBV006",** for **"WEB-6"**
DH.WEB30008 , **"EBV008",** for **"WEB-8"**
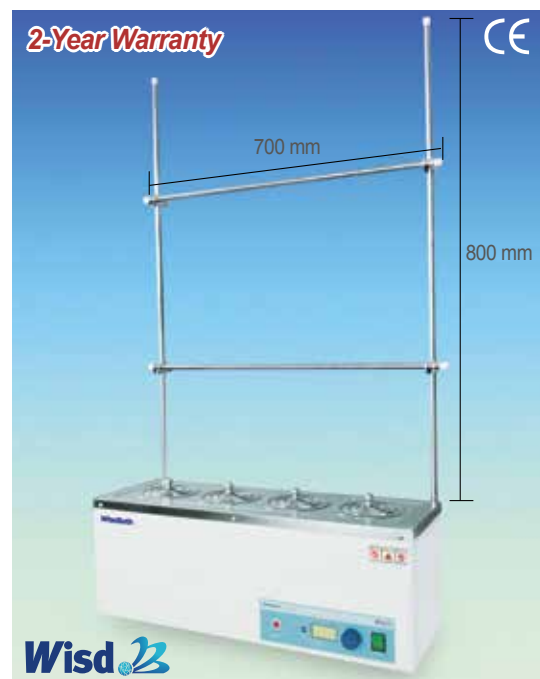
Multi-purpose Extraction Water Bath "WEB-4", Included Concentric Ring Cover Set & Holding Frame
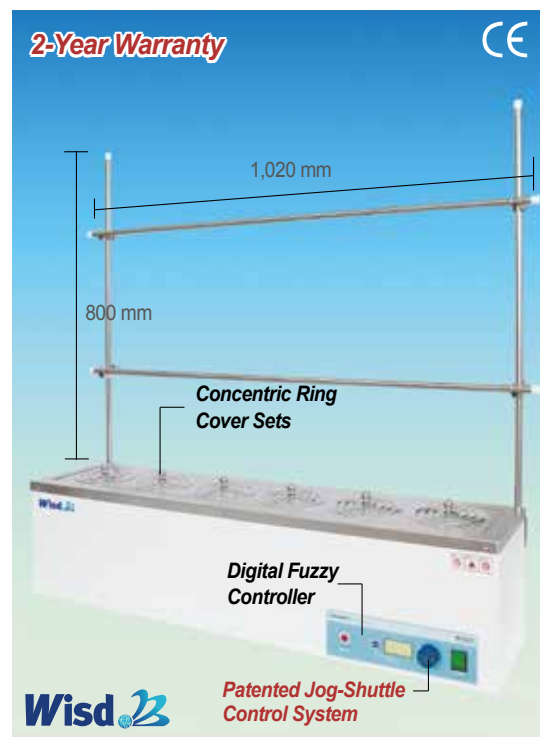
Multi-purpose Extraction Water Bath "WEB-6", Included Concentric Ring Cover Set & Holding Frame

Articles	Cat. No	Description

witeg® Digital High Temperature Oil Bath, "WHB", 6-/11-/22-Lit., with Certi. & Traceability
with 1 x Stainless Steel Flat Lid, Digital Fuzzy Control System, Back Light LCD, up to 250°C, ±1.5°C

2-Year Warranty

Digital Fuzzy Controller

Back Light LCD

Patented Jog-Shuttle Control System

Digital High Temperature Oil Bath, 11Lit., "WHB-11", with Stainless Steel Flat Lid

Flat Lid, Stainless Steel (Included)

- **with Certificate & Traceability :**
  Controlled by Serial Number, Certificate, Delivery-information, and Traceable Data Base System
- **Digital Fuzzy Control System Implementing Superior Temperature Accuracy**
- **Patented Jog-Shuttle Control System and Digital LCD with Back-Light Function**
- **CE Certified**   ■ **PL (Product Liability) Insurance**

✲ Corrosion Resistant 304 Stainless steel Bath having 1.2mm Thickness and Ceramic Fiber
✲ Insulator of 50mm Thickness are used for an application at High Temperature
✲ User's Self-Compensation Function to Control Difference between Real Temperature and Indicated Temperature
✲ Storage Function for the Set Values of Temperature and Timer
✲ Locking Mode Supported for Experimental Safety (Input to Jog-Shuttle can be Disabled)

Specification

Capacity & Model		6 Lit. "WHB-6"	11 Lit. "WHB-11"	22 Lit. "WHB-22"
Temp. Range & Accuracy		Ambient +5°C to 250°C, ±0.1°C		
Temp. Uniformity & Probe		±3.0°C, PT100		
Heating Power		1.5 kW	2.0 kW	2.5 kW
Timer & Alarm		99hr 59min (Delay & Continuous run), Error status & Timer-end		
Display		Digital LCD with Back-Light Function		
Controller		Digital Fuzzy Controller with Jog-Shuttle Switch (Turn+Push)		
Safety Circuit		Over-Temp./-Current protection, Sensor Error Detection		
Material		Stainless Steel (#304)-Internal, Powder Coated Steel-External, 50 mm Thickness Ceramic Fiber-Insulation		
Lid		Stainless Steel Flat Lid Included		
Drain Valve		Mounted		
Dimension (w x d x h)	Effective Space	270 x 180 x h110 mm	300 x 250 x h110 mm	400 x 300 x h140 mm
	Internal	270 x 180 x h150 mm	300 x 250 x h150 mm	400 x 300 x h180 mm
	External	425 x 305 x h340 mm	425 x 375 x h340 mm	525 x 425 x h370 mm
Packing Size (mm) & Gross Weight		470 x 400 x h500 mm, 23 kg	600 x 490 x h500 mm, 25 kg	600 x 490 x h500 mm, 39 kg
Power plug type		Hybrid E+F		
Power Supply*		AC 230V, 1N~, 50/60Hz		

* Other Specifications are available upon Customer's Request.

Ordering Information
DH.WHB00106   High Temp. Oil Bath, **230V,   6 Lit.**, **"WHB-6"**
DH.WHB00111   **, 11 Lit.**, **"WHB-11"**
DH.WHB00122   **, 22 Lit.**, **"WHB-22"**

Validation (IQ, OQ) Service
DH.WHB40106   Validation Service(IQ, OQ), **"HBV106",** for **"WHB-6"**
DH.WHB40111   , **"HBV111",** for **"WHB-11"**
DH.WHB40122   , **"HBV122",** for **"WHB-22"**

witeg® High Temp. Bath Circulator, "WCH", 8-/12-/22-/30- Lit., up to 250°C, ±0.1°C

with 1 x Stainless Steel Flat Lid, Digital Fuzzy Control System, Back Light LCD, 15 Lit./min., with Certi. & Traceability

■ **with Certificate & Traceability : Controlled by Serial Number, Certificate, Delivery-information, and Traceable Data Base System**

■ **Digital Fuzzy Control System Implementing Superior Temperature Accuracy**

■ **Powerful Circulation Pump ensures Temp. Uniformity: Internal and External Circulation**

■ **Patented Jog-Shuttle Control System**

■ **CE Certified**　　　■ **PL (Product Liability) Insurance**

✳ High temperature applications needs up to 250°C such as dipping and melting experiment
✳ 304 Stainless Steel Bath and Lid for Superior Durability and High Thermal Efficiency
✳ Powerful Circulation Pump Assures Temp. Uniformity. : Internal and External Circulation
✳ Compensation Function to Control Difference between Real Temp. and Indicated Temp.
✳ Available to Control Circulation speed (1,000~3,000rpm)
✳ Locking Mode Supported for Experimental Safety (Input to Jog-Shuttle can be Disabled)

2-Year Warranty　　　**Patented Jog-Shuttle Control System**　　CE

Flat Lid

"WCH-12"

"WCH-8"

Wisd.23

High Temperature Bath Circulators, with Stainless Steel Flat Lid

Flat Lid, Stainless Steel (Included)

Specification

Capacity & Models		8 Lit. "WCH-8"	12 Lit. "WCH-12"	22 Lit. "WCH-22"	30 Lit. "WCH-30"
Temp. Range & Accuracy		Ambient + 5°C ~ 250°C, ±0.1°C			
Temp. Resolution		0.1°C - Display, 0.5°C - Control			
Temp. Uniformity & Probe		±0.2°C, PT100			
Heating Power		1.0 kW	1.5 kW	2.2 kW	2.5 kW
Pump Capacity & RPM		5 Lit. / min (Internal / External), 1,000~3,000rpm(100rpm-Control Resolution)			
Circulation Nozzle		i.d.6xo.d.10 mm (i.d. 7 / o.d.11mm Silicon tube Connected for inner Circulation)			
Timer & Alarm		99hr 59min (Delay & Continuous run), Error status & Timer-end			
Display		Digital LCD with Back-Light Function			
Controller		Digital Fuzzy Controller with Jog-Shuttle Switch (Turn+Push)			
Safety Circuit		Over-Temp./-Current protection, Sensor Error & Low Level Detection			
Material		Stainless Steel (#304)-Internal, Powder Coated Steel-External, 50mm Thickness Ceramic Fiber-Insulation			
Lid		included Stainless Steel Flat Lid, Optional Dome Lid			
Drain Valve		Mounted			
Dimension (w x d x h)	Effective Space	180 x 130 x h155	250 x 130 x h155	340 x 250 x h155	340 x 250 x h200
	Internal (mm)	180 x 320 x h155	250 x 320 x h155	340 x 440 x h155	340 x 440 x h200
	External (mm)	440 x 300 x h450	440 x 370 x h450	560 x 460 x h450	560 x 460 x h495
Packing Size (mm) & Gross Weight (kg)		470 x 400 x h500 19 kg	470 x 400 x h500 21 kg	600 x 490 x h500 23 kg	600 x 490 x h500 37 kg
Power plug type		Hybrid E+F			
Power Supply*		AC 230V, 1N~, 50/60Hz			

* Other Specifications are available upon Customer's Request.

Ordering Information

DH.WCH00108	High Temp. Circulator, **230V,　8 Lit., "WCH-8"**
DH.WCH00112	**, 12 Lit., "WCH-12"**
DH.WCH00122	**, 22 Lit., "WCH-22"**
DH.WCH00130	**, 30 Lit., "WCH-30"**

Validation (IQ, OQ) Service

DH.WCH30108	Validation Service(IQ, OQ), **"CHBV108",** for　8 Lit.
DH.WCH30112	, **"CHBV112",** for 12 Lit.
DH.WCH30122	, **"CHBV122",** for 22 Lit.
DH.WCH30130	, **"CHBV130",** for 30 Lit.

Articles	Cat. No	Description
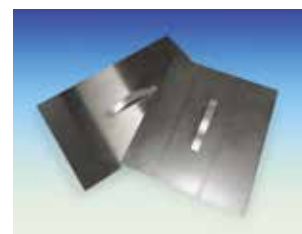
witeg® Digital Precise Refrigerated Bath Circulator, "WCR", -25°C~150°C, ±0.1°C, with Certi. & Traceability
with 1 x Stainless Steel Flat Lid, Digital Fuzzy Control, Back Light LCD, CFC-free Refrigeration, 8-/12-/22-/30- Lit

CE — **Patented Jog-Shuttle Control System**

Wisd.🜨

2-Year Warranty

Digital Precision Refrigerated Bath Circulators, with Flat Lid
"WCR-P8" & "WCR-P12"
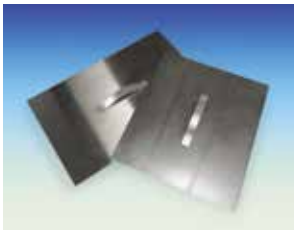
Flat Lid, Stainless Steel
(Included)

WiseRemote® Remote Control Software

Connection of Wisd.🜨 **Temperature Devices with Interface RS232C to a PC Export Recorded Data (Excel Spreadsheet)**

Main Screen | **RS232C Cable & Software**

■ **with Certificate & Traceability :**
  Controlled by Serial Number, Certificate, Delivery-information, and Traceable Data Base System
■ **Digital Fuzzy Control System Implementing Superior Temperature Accuracy**
■ **CFC-free (404A) Refrigeration System**
■ **Patented Jog-Shuttle Control System and Digital LCD with Back-Light Function**
■ **CE Certified**   ■ **PL (Product Liability) Insurance**

✳ RS232C Interface for Remote Monitoring and Controlling with PC
✳ Stainless Steel Bath(#304) for Superior Durability & High Thermal Efficiency.
✳ Powerful Circulation Pump ensures Temp. Uniformity : Internal and External Circulation.
✳ Connection with Evaporator or Viscometer is applicable.
✳ User's Self-compensation Function to Control Difference between Real Temperature and Indicated Temperature (±10.0°C).
✳ Warning and Auto-Stop Function in case of Liquid Shortage.
✳ Auto-controlled Refrigeration System for Compressor Protection and Power Saving.

Specification

Capacity & Models		8 Lit. "WCR-P8"	12 Lit. "WCR-P12"	22 Lit. "WCR-P22"	30 Lit. "WCR-P30"
Temp. Range & Accuracy		-25°C ~ +150°C, ±0.1°C
Temp. Resolution		0.1°C-Display, 0.1°C-Control			
Temp. Uniformity & Probe		±0.2°C at -10°C, PT100			
Heating Power		1 kW	1.5 kW	2 kW	2.2 kW
Refrigerator		1/3 HP	1/3 HP	3/4 HP	7/8 HP
Cooling Capacity	at +20°C	225 W	338 W	582 W	631 W
	at 0°C	129 W	243 W	424 W	429 W
	at -20°C	45 W	180 W	274 W	284 W
Refrigerant		CFC-Free(404A) Refrigeration System			
Total Power Consumption		1.6 kW	2.1 kW	3.4 kW	3.8 kW
Compressor Control		Intelligent Control of Refrigerator for preventing Compressor Overload			
Pump		Max Flow Rate : 17.6 Lit./min, Max Pressure : 4.8 psi			
Circulation Nozzle		i.d.10xo.d.12 mm (i.d. 10 / o.d.18 mm Silicon tube Connected for inner Circulation)			
Timer & Alarm		99hr 59min (Delay & Continuous run), Error status & Timer-end			
Display		Digital LCD Display with Back-Light Function			
Controller		Digital Fuzzy Controller with Jog-Shuttle Switch (Turn+Push)			
Safety Circuit		Over-Temp./-Current protection, Sensor Error Detection, Leakage Breaker			
Material		Stainless Steel (#304)-Internal, Powder Coated Steel-External, 20 mm Thickness Polystyrene -Insulation			
Lid & Drain Valve		included Stainless Steel Flat lid, Optional Dome Lid, Mounted drain Valve			
Dimension (w x d x h)	Effective Space (mm)	180 x 143 x 150	250 x 150 x 150	350 x 250 x 150	350 x 250 x 205
	Internal (mm)	180 x 310 x 150	250 x 320 x 150	350 x 420 x 150	350 x 420 x 205
	External (mm)	262 x 468 x 630	372 x 460 x 750	455 x 545 x 770	455 x 545 x 845
Packing Size (mm) & Gross Weight (kg)		530 x 370 x 700	600 x 500 x 950	620 x 580 x 960	640 x 600 x 1040
		54 kg	65 kg	76 kg	83 kg
Power plug type		Hybrid E+F			
Power Supply*		AC 230V, 1N~, 50/60Hz			AC 400V, 3N~

* Other Specifications are available upon Customer's Request.

Ordering Information

DH.WCR00208	Refrigerated Circulator, **230V,** 8 Lit., **"WCR-P8"**
DH.WCR00212	, 12 Lit., **"WCR-P12"**
DH.WCR00222	, 22 Lit., **"WCR-P22"**
DH.WCR03230	**400V,** 30 Lit., **"WCR-P30",**

Validation (IQ, OQ) Service

DH.WCR30208	Validation Service(IQ, OQ), **"CRBV108",** for **"WCR-P8"**
DH.WCR30212	, **"CRBV112",** for **"WCR-P12"**
DH.WCR30222	, **"CRBV122",** for **"WCR-P22"**
DH.WCR30230	, **"CRBV130",** for **"WCR-P30"**

Cat. No	Description	Articles

witeg® Ultra Low-Temperature Refrigerated Bath Circulator, "WCL", -35°C~150°C, ±0.1°C
with 1 x Stainless Steel Flat Lid, Digital Fuzzy Control, Back Light LCD, CFC-free Refrigeration System, 6~30 Lit.,

- **with Certificate & Traceability :**
  Controlled by Serial Number, Certificate, Delivery-information, and Traceable Data Base System
- **Digital Fuzzy Control System Implementing Superior Temperature Accuracy**
- **CFC-free (404A) Refrigeration System.**
- **Patented Jog-Shuttle Control System** **and Digital LCD with Back-Light Function**
- **CE Certified** ■ **PL(Product Liability) Insurance**.

✳ RS232C Interface for Remote Monitoring and Controlling with PC
✳ Stainless Steel Bath & Lid(#304) for Superior Durability & High Thermal Efficiency/Constant
✳ Powerful Circulation Pump ensures Temp. Uniformity. : Internal and External Circulation
✳ Connection with Evaporator or Viscometer is applicable
✳ User's Self-compensation Function to Control Difference between Real Temperature and Indicated Temperature (±10.0°C)
✳ Warning and Auto-Stop function in case of Liquid Shortage
✳ Auto-controlled Refrigeration System for Compressor Protection and Power Saving.

Patented Jog-Shuttle Control System

CE

2-Year Warranty **Wisd.23**

Ultra Low-Temperature Bath Circulators, with Flat Lid "WCL-P12" & "WCL-P30"

Specification

Capacity & Models		8 Lit. "WCL-P8"	12 Lit. "WCL-P12"	22 Lit. "WCL-P22"	30 Lit. "WCL-P30"
Temp. Range & Accuracy		-35°C ~ +150°C, ±0.1°C			
Temp. Resolution		0.1°C-Display, 0.1°C-Control			
Temp. Uniformity & Probe		±0.2°C at -20°C, PT100			
Heating Power		1 kW	1.5 kW	2 kW	2.2 kW
Refrigerator		3/8 HP	1/2 HP	3/4 HP	7/8 HP
Cooling Capacity	at +20°C	212 W	243 W	332 W	352 W
	at 0°C	119 W	144 W	222 W	246 W
	at -20°C	58 W	75 W	160 W	165 W
	at -40°C	3 W	5 W	13 W	13 W
Refrigerant		CFC-Free(404A) Refrigeration System			
Total Power Consumption		1.7 kW	2.4 kW	3.4 kW	3.8 kW
Compressor Control		Intelligent Control of Refrigerator for preventing Compressor Overload			
Pump		15Lit. / min			
Circulation Nozzle		i.d.10xo.d.12 mm (i.d. 10 / o.d.18mm Silicon tube Connected for inner Circulation)			
Timer & Alarm		99hr 59min (Delay & Continuous run), Error status & Timer-end			
Display		Digital LCD with Back-Light Function			
Controller		Digital Fuzzy Controller with Jog-Shuttle Switch (Turn+Push)			
Safety Circuit		Over-Temp./-Current protection, Sensor Error Detection, Leakage Breaker			
Material		Stainless Steel (#304)-Internal, Powder Coated Steel-External, 40 mm Thickness Polystyrene -Insulation			
Lid & Drain Valve		included Stainless Steel Flat Lid, Optional Dome Lid, Mounted Drain Valve			
Dimension (w x d x h)	Effective Space (mm)	180 x 143 x 150	250 x 150 x 150	350 x 250 x 150	350 x 250 x 205
	Internal (mm)	180 x 310 x 150	250 x 320 x 150	350 x 420 x 150	350 x 420 x 205
	External (mm)	372 x 468 x 750	372 x 460 x 750	455 x 545 x 770	455 x 545 x 845
Packing Size (mm)		530 x 370 x 700	600 x 500 x 950	620 x 580 x 960	640 x 600 x 1,040
& Gross Weight (kg)		54 kg	65 kg	76 kg	83 kg
Power plug type		Hybrid E+F			
Power Supply*		AC 230V, 1N~, 50/60Hz			AC 400V, 3N~

* Other Specifications are available upon Customer's Request.

Flat Lid, Stainless Steel (Included)

WiseRemote® Remote Control Software

Connection of Wisd.23 Temperature Devices with Interface RS232C to a PC Export Recorded Data (Excel Spreadsheet)

Main Screen

RS232C Cable & Software

Ordering Information

DH.WCL00208   Refrigerated Circulator, **230V,**   8 Lit., **"WCL-P8"**
DH.WCL00212   , 12 Lit., **"WCL-P12"**
DH.WCL00222   , 22 Lit., **"WCL-P22"**
DH.WCL03230   **400V,** 30 Lit., **"WCL-P30"**

Validation (IQ, OQ) Service
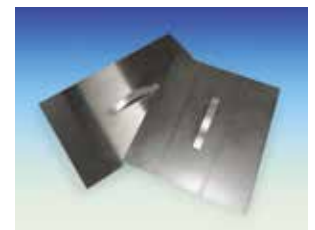DH.WCL30208   Validation Service(IQ, OQ), **"CLBV108"**, for **"WCL-P8"**
DH.WCL30212   , **"CLBV112"**, for **"WCL-P12"**
DH.WCL30222   , **"CLBV122"**, for **"WCL-P22"**
DH.WCL30230   , **"CLBV130"**, for **"WCL-P30"**

witeg® Digital Precision Cold Trap Bath, "WCT", -40°C/-80°C, 10 Lit., with Certi. & Traceability
with 2 x Glass Cold Trap, Digital PID Control System, Back-Light LCD, CFC-free Refrigeration System

Glass Cold Trap

CE

PID Control System

WiseCircu

Patented Jog-Shuttle Control System

Wisd.⅔   *2-Year Warranty*

Digital Precision Cold Trap Bath "WCT-40"

(1) Glass Cold Trap CTG1000

- ■ **with Certificate & Traceability : Controlled by Serial Number, Certificate, Delivery-information, and Traceable Data Base System**
- ■ **Digital PID Controller**
- ■ **CFC-free (404A) Refrigeration System**
- ■ **Patented Jog-Shuttle Control System and Digital LCD with Back-Light Function**
- ■ **CE Certified**
- ■ **PL(Product Liability) Insurance**

✽ Ideal for exceptional Cooling System like Collecting Evaporation Vapor or Hazardous Vapor from Vacuum Line
✽ Durable Stainless Steel Bath and Powder Coated Steel

Specification

Temp. Range & Model	Down to -40°C "WCT-40"	Down to -80°C "WCT-80"
Capacity	10 Lit.	
Cold Trap Type	2 x Glass Trap	
Refrigerator	1/2 HP	1 HP
Power Consumption	900 W	1.8 kW
Refrigerant	404A	
Display	Digital LCD with Back-Light Function	
Controller	PID Controller with Jog-Shuttle Switch (Turn+Push)	
Drain Valve	Mounted	
Safety Circuit	Over Current protection, Sensor Error Detection, Leakage Breaker	
Material (w x d x h)	Stainless Steel (#304)-Internal, Powder Coated Steel, 1.2t, Doublepaint & Baked-External, 20 mm Thickness Polyurethane-Insulation	
Dimension (mm)	220 x 220 x h210 mm-Internal, 377 x 453 x h705 mm-External	
Packing Dimension (mm) and Gross Weight (kg)	560 x 500 x h1,010, 67 kg	680 x 640 x h1,130, 90 kg
Power plug type	Hybrid E+F	
Power Supply*	AC 230V, 1N~, 50/60Hz	

* Other Specifications are available upon Customer's Request.

Ordering Information

DH.WCT00140   Cold Trap Bath, **230V, 10 Lit., -40°C**, **"WCT-40"**
DH.WCT00180   **, -80°C**, **"WCT-80"**

Spare Glass Cold Trap
DH.WCT11000   (1) 1xGlass Cold Trap, Ø106xh249mmm, **"CTG1000"**
                    1ea of DURAN® Borosilicate Glass, α 3.3 Safety-Pressure
                    Resistant 1.5bar at 250°C, for **"WCT"**

Validation (IQ, OQ) Service
DH.WCT20140   Validation Service(IQ, OQ), **"CTBV106",** for **"WCT-40"**
DH.WCT20180   **, "CTBV108",** for **"WCT-80"**

witeg® Digital Precise Shaking Water Bath, Reciprocating Motion, "WSB", 18-/30-/45-Lit., with Certi. & Traceability
with Universal Spring Rack, Digital Fuzzy Control System Available, up to 2 Lit. Flask, 20 ~ 250 rpm, up to 100°C, ±0.1°C 🆕

- **with Certificate & Traceability :**
  Controlled by Serial Number, Certificate, Delivery-information, and Traceable Data Base System
- **Electronically Controlled Shaking Mechanism Provides Quiet Reciprocating Motion and Precise Speed Control**
- **Digital Fuzzy Controller Provides Precise Temperature Control**
- **Digital Feedback Controller Provides Precise Speed Control**
- **Hi-Performance Shaking Engine ensures Best Smoothly Shaking Motion and Minimum Noise and Vibration**
- **Patented Shaking Mechanism : Minimum Noise and Vibration**
- **Patented Jog-Dial Control System and Digital LCD with Back-Light Function**
- **CE Certified**　　**PL (Product Liability) Insurance**

✽ Ideal for Direct Immersion of Samples or Shaking in the Field of Biotechnology and Laboratories.
✽ Hybridization Applications, Cell Cultures, Cell Aeration, Increasing Solubility Rates, Molecular
✽ Biology Assays, Bacterial Cultures
✽ Stainless Steel Bath for Superior Durability & High Thermal Efficiency
✽ Digital Fuzzy Control System Implementing Superior Temperature Accuracy
✽ Universal Stainless Steel Spring Rack Included : for various kind of Flasks and Tubes (up to 2)
✽ User's Self-Compensation Function to Control Difference between Real Temperature and Indicated Temperature (±10.0°C)

2-Year Warranty　CE　🆕

Jog-Dial with Push Button

Stainless Steel Spring Rack

Reciprocating Shaking Motion

Wisd⍟

Digital Precise Shaking Water Bath "WSB-18" with Universal Spring Rack

(1) Universal Spring Rack (Included)

(2) Dome Lid, Stainless Steel (Optional)

Specification

Model		18 Lit. "WSB-18"	30 Lit. "WSB-30"	45 Lit. "WSB-45"
Max.Q ty of Erlenmeyer Flask		250 ml x 4 ea	250 ml x 8 ea	250 ml x 15 ea
Temp. Range & Accuracy		Ambient +5°C to 100°C, ±0.1°C		
Temp. Resolution		0.1°C-Display, 0.1°C-Control		
Temp. Uniformity & Probe		±0.5°C, PT100		
Heating Power		1.4 kW	1.8 kW	2.4 kW
Shaking Speed & Resolution		20 ~ 250 rpm, 1rpm-Display / 1rpm-Control		
Shaking Stroke (mm)		15, 20, 30 Available (20 as factory Default)		
Timer & Alarm		99hr 59min (Delay & Continuous run), Error status & Timer-end		
Display		Digital LCD with Back-Light Function		
Controller		Digital Fuzzy Controller with Jog-Shuttle Switch (Turn+Push)		
Safety Circuit		Over-Temp./-Current protection, Sensor Error Detection		
Rack		Included Stainless Steel Spring Rack: Universal-type		
Drain Valve		Mounted		
Material		Stainless Steel (#304)-Internal, Powder Coated Steel-External		
Dimension (w x d x h)	Internal (mm)	300 x 300 x h200	500 x 300 x h200	600 x 380 x h200
	External (mm)	563 x 353 x h340	763 x 353 x h340	863 x 433 x h340
Packing Size (mm) & Gross Weight (kg)		620 x 420 x h450, 24 kg	820 x 420 x h450, 26 kg	920 x 500 x h450, 32 kg
Power plug type		Hybrid E+F		
Power Supply*		AC 230V, 1N~, 50/60Hz		

* Other Specifications are available upon Customer's Request.

Ordering Information
DH.WSB03018　Shaking Water Bath, **230V, 18 Lit.**, **"WSB-18"**
DH.WSB03030　　　　　　　　　　**, 30 Lit.**, **"WSB-30"**
DH.WSB03045　　　　　　　　　　**, 45 Lit.**, **"WSB-45"**

Spare Universal Spring Rack
DH.WSB51018　(1) Spring Rack, for **18 Lit.**, 245 x 270 x h110mm, **"SBR018"**
DH.WSB51030　　　　　　　　, for **30 Lit.**, 445 x 270 x h110mm, **"SBR030**
DH.WSB51045　　　　　　　　, for **45 Lit.**, 545 x 350 x h110mm, **"SBR045"**

Optional Dome Lid, Stainless Steel
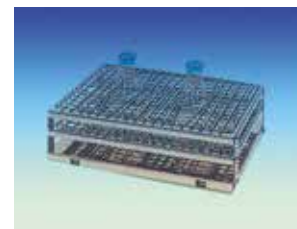DH.WSB02018　(2) Dome Lid, for **18 Lit.**, 363 x 353 x h69mm, **"SBD018"**
DH.WSB02030　　　　　　　　, for **30 Lit.**, 563 x 353 x h69mm, **"SBD030"**
DH.WSB02045　　　　　　　　, for **45 Lit.**, 663 x 433 x h69mm, **"SBD045"**

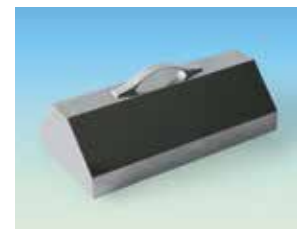## Validation (IQ, OQ) Service
DH.WSB31018　Validation Service(IQ, OQ), **"SBV018",** for 18Lit.
DH.WSB31030　　　　　　　　, **"SBV030",** for 30Lit.
DH.WSB31045　　　　　　　　, **"SBV045",** for 45Lit.

witeg® Digital Precise Viscosity Bath, "WVB", Available 5 x Viscometer, up to 100°C, ±0.1°C
with 5-/9-Holes Stainless Steel Lid for Viscometer Holder, Available Reverse & Routine-type Viscometer, Transparent Window, 30 Lit.

Viscometer Holder
Patented Jog-Shuttle Control System
Flat Lid for Viscometer Holder
Transparent Window

Wisd *B* **2-Year Warranty**

Digital Precise Viscosity Bath "WVB-30",
included Flat Lid for Viscometer Holder
(without Viscometer Holder)

Viscometer
Viscometer Holder

Flat Lid with Viscometer Holder
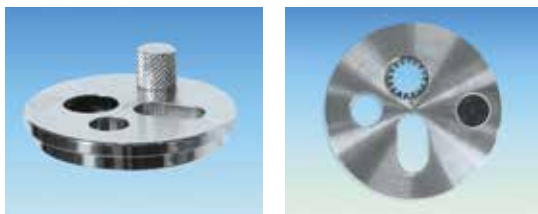
(1) Viscometer Holder "WVB02010" (Optional)

■ **with Certificate & Traceability :**
  Controlled by Serial Number, Certificate, Delivery-information, and Traceable Data Base System
■ **Used for Precise Measurement with Capillary Viscometers**
■ **Digital Fuzzy Control System Implementing Superior Temperature Accuracy**
■ **Powerful Circulation Pump ensures Highest Uniformity of Temperature**
■ **Viscometer Holder : Available Reverse & Routine-type Viscometer**
■ **Patented Jog-Shuttle Control System and Digital LCD with Back-Light Function.**
■ **CE Certified**   ■ **PL(Product Liability) Insurance**

✴ Stainless Steel(#304) made inner bath
✴ Stainless Steel Lid Contains Five Holes for Insertion of Viscometer Holders
✴ User s Self-compensation Function to Control Difference between Real Temperature and Indicated Temperature
✴ Storage Function for the Set Values of Temperature and Time
✴ Locking Mode Supported for Experimental Safety (Input to Jog-Shuttle can be Disabled)

Specification

Model		Available 5 x Viscometer, 30Lit. WVB-30
Temp. Range & Accuracy		Ambient +5°C to 100°C, ±0.1°C
Temp. Resolution		0.1°C-Display, 0.1°C-Control
Temp. Uniformity & Probe		±0.2°C, PT100
Heating Power		2 kW
Pump		Magnetic Drive, Max. Flow 30 Lit./min
Timer & Alarm		99hr 59min (Delay & Continuous run), Error status & Timer-end
Display		Digital LCD with Back-Light Function
Controller		Digital Fuzzy Controller with Jog-Shuttle Switch (Turn+Push)
Safety Circuit		Over-Temp./-Current protection, Sensor Error Detection
Lid		Included 5- or 9-Holes Stainless Steel Lid for Viscometer Holder
Drain Valve		Mounted
Viewing Window Size(mm)		230 x 180
Material		Stainless Steel (#304)-Internal, Powder Coated Steel-External, Vacuum Sealed and Tempered Safety Pair Glasses-Window
Dimension (w x d x h)	Effective Space (mm)	330 x 300 x h260 mm
	Internal (mm)	350 x 300 x h300 mm
	External (mm)	585 x 375 x h420 mm
Packing Size (mm) & Gross Weight (kg)		640 x 450 x h500 mm, 24 kg
Power plug type		Hybrid E+F
Power Supply*		AC 230V, 1N~, 50/60Hz

* Other Specifications are available upon Customer's Request.

Ordering Information
DH.WVB01030 Viscosity Bath, **230V, 30 Lit.**, **"WVB-30"**

Spare Flat Lid for Viscometer Holder, Stainless Steel
DH.WVB11030 Flat Lid, for **30 Lit.**, w380 x d330, 5 x Ø50mm Holes, **"VBF030"**

Optional Viscometer Holder
DH.WVB02010 (1) Viscometer Holder, **"WVB02010"**

Validation (IQ, OQ) Service
DH.WVB31030 Validation Service(IQ, OQ), **"VBV030",** for **"WVB-30"**

Centrifuge

- Compact, Small Footprint, Durable and High Performance
- Provides a Complete Set Including Rotor and Tube Adapters.
- Unbelievably Quiet Operation
- Patented Jog-Shuttle Control system and Digital LCD with Back-light (CF-10 model)
- PL (Product Liability) Insurance

Mini Personal Centrifuge
5,000rpm

CF-5 with 6 x 1.5/2.0ml Tubes Rotor

High Performance Microcentrifuge
13,500rpm

CF-10 with 12 x 1.5/2.0ml Tubes Angle Rotor

witeg® High performance Mini-microcentrifuge Set, "CF-5", Max. 5,500 rpm, GMP Certi., with Certi. & Traceability
with Circular Fixed-Angle Rotor for 6 x 0.2/0.5/1.5/2.0 ml Tubes and Strip Rotor for 2 x 0.2ml PCR 8-tubes Strips/ 16 x 0.2ml PCR Tubes

CE

2-Year Warranty

Circular Fixed-Angle Rotor
for 6 x 0.2~2.0ml Tubes

Wisd.ß   **Main Power Switch**

**Mini-microcentrifuge Set "CF-5"
with Circular Fixed Angle Rotor**

**Operation Display LED
Lamp**

■ **with Certificate & Traceability :**
  Controlled by Serial Number, Certificate, Delivery-information, and Traceable Data Base System
■ **For Quick Spindown from Walls or Caps of Centrifuge Tubes**
■ **Complete Set with Circular Fixed-Angle Rotor and Fixed Strip Rotor**
■ **CE/GMP Certified**
■ **PL(Product Liability) Insurance**

✽ Plasmid, DNA and RNA work, and miniprep kit, and many other applications
✽ Supplied with two Rotors :
   - **Circular Fixed-Angle Rotor** for 6 x 0.5-/1.5-/2.0-ml Tubes (6 x 0.2-/0.5-ml tube Adapters included)
   - **Strip Rotor** for 2 x 0.2ml PCR 8-tubes Strips or 16ea of individual 0.2ml PCR Tubes
✽ Smooth Opening of the Lid by Simply Pressing
✽ ABS Material of Body and Rotor
✽ Clear and Transparent PC(Polycarbonate) Lid
✽ Operation Display LED Lamp
✽ Lid-Activated On/Off Safety Switch : Close the Clear Lid to Start and Open to Stop

Specification

Model		Mini-microcentrifuge Set, "CF-5"
RPM & Max. RCF		Max. 5,500 rpm, 1,775 x g
Max. Capacity		6 x 0.5-/1.5-/2.0-ml tubes, 2 x 0.2ml PCR 8-tube Strip or 16 x 0.2ml PCR 8 Tubes
Rotor	Angle Rotor	6 Holes Circular Fixed-Angle Rotor for 0.5-/1.5-/2.0-ml Tubes
	Strip Rotor	16 Holes Strip Rotor for 0.2ml PCR 8-tube Strip or individual Tubes
Adapter		Included 6 x 0.2-/ 0.5-ml Tube Adapter
Material		Lid - PC, Body-ABS, Rotor-ABS
Dimension (w x d x h)		178 x 150 x h109 mm
Packing Size & Gross Weight		200 x 180 x h175 mm, 2 kg
Power Consumption		8 W
Power plug type		Hybrid E+F
Power Supply*		AC 230V, 1N~, 50/60Hz

* Other Specifications are available upon Customer's Request.

Ordering Information
✽ Mini-microcentrifuge Set : Included Circular Fixed Angle Rotor for 6 x 0.2-/0.5-/1.5-/2.0-ml Tubes and Strip Rotor for 2 x 0.2ml PCR 8-tube Strips or 16 x 0.2ml PCR Tubes and 6 x 0.2-/0.5-ml Tube Adapters

DH.WCF00005   Mini-microcentrifuge Set, **230V**, **"CF-5"**

Spare Rotor & Adapter Set
DH.WCF00105   (1) Circular Fixed Angle Rotor, **"CFAR1512M"**, for **"CF-5"**
                 for 6 x 0.2-/0.5-/1.5-/2.0-ml Tubes
DH.WCF00205   (2) Fixed Strip Rotor, **"CFPR8"**, for CF-5
                 for 2 x 0.2ml PCR8-tube Strips or 16 x 0.2ml PCR Tubes
DH.WCF00201   (3) 0.2ml Tube Adapter-sets, 6ea Adapter/1set,
                 for Circular Fixed Angle Rotor, **"CFTA3"**
DH.WCF00301   (3) 0.5ml Tube Adapter-sets, 6ea Adapter/1set,
                 for Circular Fixed Angle Rotor, **"CFTA4"**

(1) Circular Fixed Angle Rotor
  For 6 x 0.2-/0.5-/1.5-/2.0-ml
  Tubes

(2) Fixed Strip Rotor
  For 2 x 0.2ml PCR 8-tube
  Strips or 16 x 0.2ml PCR
  Tubes

(3) Tube Adapter
6 x 0.2 -/ 0.5-ml Tube Adapter

witeg® High-Performance Pro-microcentrifuge Set, "CF-10", Max. 13,500rpm, with Certi. & Traceability
with Fixed Angle Rotor for 12 x 0.2-/0.5-/1.5-/2.0-ml Tubes, Compact, Quiet, Safety Electronic Lid Lock System, GMP Certi.

■ **with Certificate & Traceability :**
   Controlled by Serial Number, Certificate, Delivery-information, and Traceable Data Base System
■ **Unbelievably Quiet Operation - Brushless DC motor**
■ **High Performance - Digital Feedback Speed Control, Max. 13,500rpm, 12,225 x g**
■ **Useful Exclusive Spin Down Function**
■ **Included Fixed Angle Rotor for 1.5-/2.0-ml x 12 Tubes and 12 x 0.2-/0.5-ml PCR Tube Adapters**
■ **Patented Jog-Shuttle Control System** and **Digital LCD with Back-Light Function**
■ **CE/GMP Certified**   ■ **PL (Product Liability) Insurance**

✽ Plasmid, DNA and RNA work, protein work, and miniprep kit, Cell Culture, cell harvesting, subcellular separations, and many other applications.
✽ Unnecessary Rotor Lid for Running and Reducing Noise (≤ 57dB at Max. RPM).
✽ Realize Extremely Compact Design with Exceptionally Small Footprint.
✽ Acceleration and Braking Times are Lower than 15 sec (at Max. Speed).
✽ Storage Function for the Set Values : RPM & Time.
✽ Locking Mode Supported for Experimental Safety (Input to Jog-Shuttle can be disabled).
✽ Safety System for Motor Error.
✽ Safety Electronic Lid Lock System: Opening Lid is not applicable during running.
✽ Simple Operation for Repetitive use of Spin Down Function.

2-Year Warranty   CE

Digital Back Light LCD

Patented Jog-Shuttle Control System

Wisd.

High Performance Pro-microcentrifuge Set "CF-10"

Specification

Model	Pro-microcentrifuge Set, CF-10
RPM & Max. RCF	1,000~13,500 RPM, 12,225 x g
Max. Capacity	0.2-/0.5-/1.5-/2.0-ml x 12 Tubes
Rotor	Included Fixed Angle Rotor for 0.2-/0.5-/1.5-/2.0-ml x 12 Tubes
Drive System	Brushless DC motor, Direct drive
Noise Level	≤ 57 dB
Acceleration & Braking Time	≤ 15 sec (at Max. speed)
Cooling Device	Air Cooling System
Timer & Alarm	99hr 59min (Continuous run), Error status & Timer-end
Display	Digital LCD with Back-Light Function
Controller	Digital Feedback Control with Jog-Shuttle Switch (Turn+Push)
Safety Circuit	Motor Error Detector, Electronic Safety Lid Lock System
Material	Lid-PC, Body-ABS, Rotor-PE
Dimension & Weight	170 x 226 x h183 mm, 2.3 kg
Packing Size & Gross Weight	290 x 240 x h220 mm, 5 kg
Power Consumption	90W
Power plug type	Hybrid E+F
Power Supply*	AC 230V, 1N~, 50/60Hz

* Other Specifications are available upon Customer's Request.

(1) Fixed Angle Rotor
   for 12 x 0.2-/0.5-/1.5-/2.0-ml

(2) Tube Adapter
   12 x 0.2 / 0.5ml Tube Adapter

Ordering Information

✽ Pro-microcentrifuge Set : Included Fixed Angle Rotor for 12 x 0.2-/0.5-/1.5-/2.0-ml Tubes and 12 x 0.2-/0.5-ml Tube Adapters

DH.WCF00010   Pro-microcentrifuge Set, **230V, "CF-10"**

Spare Rotor & Adapter Set
DH.WCF00100   Fixed Angle Rotor, **"CFAR1512",** for **"CF-10",** 12 x 0.2-/0.5-/1.5-/2.0-ml Tubes
DH.WCF00200   0.2ml Tube Adapter-sets, 12ea Adapter/1set, for Fixed Angle Rotor, **"CFTA1"**
DH.WCF00300   0.5ml Tube Adapter-sets, 12ea Adapter/1set, for Fixed Angle Rotor, **"CFTA2"**

Gel Documentation Systems

- For DNA or RNA Electrophoresis Gel Imaging Capture and Analysis
- WiseDoc® range is Best Choice based on its Cost-effective, Flexible Configuration.
- The Compact 1.5M Pixel Camera, Safe Darkroom (all models) and Built-in Transilluminator (WGD30 model)
- High Precise and Large Caliber Optical Lens with Zoom, Focus and Iris Control are Used.
- Easy and Fast Capture of Gel Image : WisdCapture II™ Software

›› **Portable Gel Documentation System**
   (WGD-20 model)

›› **Unified Gel Documentation System**
   (WGD-30 model)

›› **UV Transilluminator**
   (WUV model)

Cat. No	Description	Articles

witeg® UV Transilluminators, "WUV", Standard- & Compact Case-type, 48W/90W
with Hinged UV-Blocking Safety Cover, Economical, Robust, Versatile, 312-/365-/312+365-nm, with Certi. & Traceability

- **with Certificate & Traceability :**
  Controlled by Serial Number, Certificate, Delivery-information, and
  Traceable Data Base System
- **Low Cost, Robust, Versatile, Affordable & Gentle Excitation**
- **Hinged UV-Blocking Safety Cover Protects User from UV Radiation**
- **Stainless-Steel Frame and Robust Steel Housing**
- **Increased UV Intensity and Homogeneity**
- **CE Certified**   ■ **PL (Product Liability) Insurance**

✳ Ideal for Standard Gel Documentation and Preparative Work, especially for Detection of very
   small amount of DNA & RNA Stained by EtBr
✳ Long-Life Electronic (Low Heat, no Flickering)
✳ High (100%) / Low (75%) Intensity Switch

UV Filter

2-Year Warranty   **Wisd.**

Transilluminator, Standard Case-type "WUV-L50"

Specification

Wave Length & Model	Single 365 nm "WUV-L10"	Single 312 nm "WUV-L20"	Dual 365+312 nm "WUV-L50"	Single 365 nm "WUV-M10"	Single 312 nm "WUV-M20"
Features	Standard Case-type			Compact Case-type	
UV Lamps	15W x 6ea (90W)			8W x 6ea (48W)	
Power Consumption	95 W			52 W	
Filter Size (mm)	200 x 200 mm				
Dimension	495 x 330 x h95 mm			350 x 275 x h95 mm	
Weight				8 kg	
Packing Size (mm) & Gross Weight (kg)	520 x 380 x h220 mm, 12 kg			380 x 320 x h220 mm, 10 kg	
Power plug type	Hybrid E+F				
Power Supply*	AC 230V, 1N~, 50/60Hz				

* Other Specifications are available upon Customer's Request.

UV Filter

2-Year Warranty   **Wisd.**

Transilluminator, Compact Case-type "WUV-M20"

Ordering Information
Standard Case-type, 15W, UV Lamp x 6ea

DH.WUV00010	Transilluminator, **230V,** 365nm, **"WUV-L10"**
DH.WUV00020	, 312nm, **"WUV-L20"**
DH.WUV00050	, 365+312nm, **"WUV-L50"**

Compact Case-type, 8W, UV Lamp x 6ea

DH.WUV00110	Transilluminator, **230V,** 365nm, **"WUV-M10"**
DH.WUV00120	, 312nm, **"WUV-M20"**

Spare UV Lamps

DH.WUV01010	UV Lamp, 365nm, 15W, for **"WUV-L10/-L50"**, **"UVL365"**
DH.WUV01020	, 312nm, 15W, for **"WUV-L20/-L50"**, **"UVL312"**
DH.WUV01110	, 365nm, 8W, for **"WUV-M10"**, **"UVM365"**
DH.WUV02110	, 312nm, 8W, for **"WUV-M20"**, **"UVM312"**

Articles	Cat. No	Description

witeg® Portable Gel Documentation System, "WGD-20", 1.5M Pixel CCD Camera, with Certi. & Traceability
with Digital CCD Camera & Optical Lens, Portable Darkroom Hood, WiseCapture II™ Capture Software, USB Interface

Digital CCD Camera
Optical Lens
Darkroom Hood

Wisd **2-Year Warranty**

Portable Gel Documentation System "WGD-20"

※ Computer System Requirements
- Intel Chipset, USB 2.0 Support Mainboard
- Over Pentium 4 Processor
- Over 256MB Main Memory
- Over 60MB Space of HDD for Installation and Running
- Window XP, Vista & 7 OS(32bit)

WiseCapture II™
: Included S/W, Real-Time Image Viewing/Capture, Manipulate and Save Images

■ **with Certificate & Traceability :**
  Controlled by Serial Number, Certificate, Delivery-information, and Traceable Data Base System
■ **The Most Cost-Effective System**
■ **High Precise and Large Caliber Optical Lens with Zoom, Focus and Iris Control are Used**
■ **CE Certified**   ■ **PL(Product Liability) Insurance**

✳ DNA, RNA gel Imaging Capture and Analysis
✳ Digital CCD Camera (Resolution 1.5 Million pixel) with Portable Darkroom is Offered
✳ 1360 x 1024, 10-bit CCD, Available for 8-bit Gray Level Image Capturing
✳ Power Consumption : N/A
✳ Very Compact Portable Darkroom System Enables the Existing Transilluminators in the Lab to
✳ be used together with this system . High Flexibility in use is Offered
✳ USB 2.0 Interface is available, through which Real-Time Images are transferred directly to PC
✳ WiseCapture II ™ Software : Easy and Fast Capture of Gel Image
✳ TotalLab™ Software : Fully Automatic, Single Button Press Complete Image Analysis in
✳ Interesting Area(Optional)

Specification

Model		Gel Documentation System WGD-20
CCD Module	CCD & Pixel Size	1/2" CCD, 4.65 x 4.65 um
	Max. Resolution	1360 x 1024
	Lens Mount & Optical Size	C mount, 7.6 x 6.2 mm
	Connect to PC & Power	USB 2.0, Supplied USB
Zoom Lens	Iris & Focal Length	F1.0 - Close, 8~48mm
	Operation Temp.	-10°C to +50°C
Overall	Dimension & Weight	260 x 260 x h430 mm, 9 kg
	Software Capability	Windows XP, Vista & 7
Packing Size (mm) & Gross Weight (kg)		400 x 350 x h510 mm, 18 kg
Power Supply*		USB Only

* Other Specifications are available upon Customer's Request.

Ordering Information

DH.WGD00020   Gel Doc. System, **"WGD-20",** with a Camera, Portable Darkroom Hood and WiseCapture II ™

DH.WGD00024   Gel Doc. System, **"WGD-20S",** with a Camera, Portable Darkroom Hood, and WiseCapture II ™, **TotalLab™ Quant** DNA Analysis S/W

Optional Transilluminator & S/W

DH.WUV00020   (1) Transilluminator, **"WUV-L20",** 20 x 20cm Filter 312nm, 15W UV Lamp x 6ea
DH.WUV00050   (1) Transilluminator, **"WUV-L50",** 20 x 20cm Filter 365nm + 312nm, 15W UV Lamp x 6ea
DH.WUV00120   (1) Transilluminator, **"WUV-M20",** 20 x 20cm Filter 312nm, 8W UV Lamp x 6ea
DH.WGD00100   (2) **TotalLab™ Quant,** DNA Analysis S/W
DH.WGD00120   (3) **Phoretix 1D,** DNA Analysis S/W
DH.WGD00121   (4) **Phoretix 1D Pro,** DNA Analysis S/W
DH.WGD00200   LapTop Computer, **WGD-Laptop,** for WGD Gel Doc.System

UV Filter
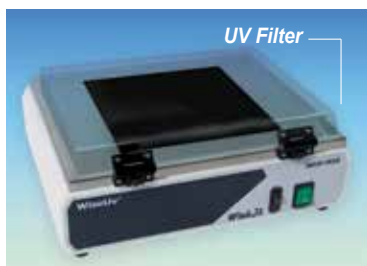
(1) UV Transilluminator(Optional)

DNA Analysis S/W

(2) TotalLab™ Quant
■ Automatic and Manual Lane Detection, Background Subtraction Fully Automatic Band Detection, Molecular Size / pI Calibration Quantity Calibration, Normalization

(3) Phoretix 1D (additional function)
■ Band Matching, Band Picking, Dendrograms, Intensity Calibration

(4) Phoretix 1D Pro (additional function)
■ Match Band Data Patterns across Large Groups of Lanes Choice of Algorithms to Generate Dendrograms : NeighborJoining, UPGMA, Complete Linkage, Single Linkage, Ward Library, Queries Function
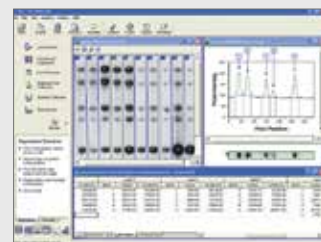
One Stop Analysis

witeg® Unified Gel Documentation System, "WGD-30", 1.5M Pixel CCD Camera, with Certi. & Traceability

Complete System, USB Interface, Unified Darkroom System, Built in Sliding Transilluminator with Digital CCD Camera & Optical Lens

- **with Certificate & Traceability :**
  Controlled by Serial Number, Certificate, Delivery-information, and Traceable Data Base System
- **Complete System with Digital CCD Camera, Safety Darkroom Hood and in-built Transilluminator is Offered.**
- **High-Quality Optical Lens with Zoom, Focus and Iris Control is Used**
- **CE Certified**   ■ **PL(Product Liability) Insurance**

✳ DNA, RNA gel Imaging Capture and Analysis
✳ Unified Darkroom System with in-built Sliding Transilluminator offers very High Safety in use.
✳ Built in Transilluminator : 312nm, 8W x 6 UV lamps (WUV-M20)
✳ White Light : 2 x Fluorescent lamp   ✳ Digital CCD Camera (Resolution 1.5 Million pixel)
✳ 1360 x 1024, 10-bit CCD, Available for 8-bit Gray Level Image Capturing
✳ USB 2.0 Interface is available through which Real-time Images are transferred directly to PC.
✳ WiseCapture II ™ Software : Easy and Fast Capture of Gel Image (Included)

2-Year Warranty   CE

Digital CCD Camera

Optical Lens

Transilluminator 312nm, 8W x 6 UV lamps

Unified Gel Documentation System "WGD-30"

Specification

Model		Unified Gel Documentation System "WGD-30"
CCD Module	CCD & Pixel Size	1 / 2" CCD, 4.65 x 4.65 um
	Max. Resolution	1360 x 1024
	Lens Mount & Optical Size	C mount, 7.6 x 6.2 mm
	Connect to PC & Power	USB 2.0, Supplied USB
Zoom Lens	Iris & Focal Length	F1.0 - Close, 8~48mm
	Operation Temp.	-10°C to +50°C
Transilluminater	UV Lamps & Filter Size	8W x 6ea, 200 x 200 mm
	Wave Length	Single 312 um
Overall	Daylight Fluorescent Lamps	7W x 2ea
	Dimension (mm) & Weight (kg)	External : 395 x 393 x h677 mm Internal : 350 x 275 x h400 mm Door : 343 x 257mm, Weight : 19 kg
	Power plug type	Hybrid E+F
	Power Supply*	AC 230V, 1N~, 50/60Hz
	Power Consumption	62 W
	Software Capability	Windows XP, Vista & 7
Packing Size (mm) & Gross Weight (kg)		440 x 440 x h750 mm, 23 kg

* Other Specifications are available upon Customer's Request.

※ Computer System Requirements

- Intel Chipset, USB 2.0 Support Mainboard
- Over Pentium 4 Processor
- Over 256MB Main Memory
- Over 60MB Space of HDD for Installation and Running
- Window XP, Vista & 7 OS(32bit)

WiseCapture II ™
: Included S/W, Real-Time Image Viewing/Capture, Manipulate and Save Images

Ordering Information

DH.WGD00030*   Gel Doc. System, **230V, "WGD-30"**
DH.WGD00034*   , **"WGD-30S", TotalLab™ Quant** DNA Analysis S/W

* Marks : with a Camera, Darkroom Hood, Transilluminator **WUV-M20** , WiseCapture II ™

Optional S/W & Spare UV Lamp

DH.WGD00100	**TotalLab™ Quant,** DNA Analysis S/W
DH.WGD00120	**Phoretix 1D,** DNA Analysis S/W
DH.WGD00121	**Phoretix 1D Pro,** DNA Analysis S/W
DH.WGD00200	LapTop Computer, **WGD-Laptop** for WGD Gel Doc.System
DH.WUV01110	UV Lamp, 365nm, 8W, for **"WUV-M10", "UVM365"**
DH.WUV02110	, 312nm, 8W, for **"WUV-M20", "UVM312"**

WGD-20 / 30 Lens System

Iris Control

Zoom Control

Focus Control
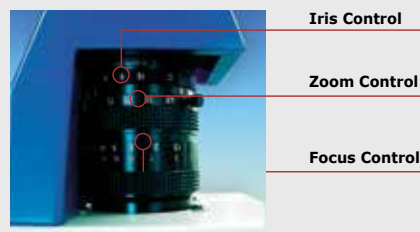
WGD-20/-30 Lens

DNA Analysis S/W

(2) TotalLab™ Quant
- Automatic and Manual Lane Detection, Background Subtraction Fully Automatic Band Detection, Molecular Size / pI Calibration Quantity Calibration, Normalization

(3) Phoretix 1D (additional function)
- Band Matching, Band Picking, Dendrograms, Intensity Calibration

(4) Phoretix 1D Pro (additional function)
- Match Band Data Patterns across Large Groups of Lanes Choice of Algorithms to Generate Dendrograms : NeighborJoining, UPGMA, Complete Linkage, Single Linkage, Ward Library, Queries Function
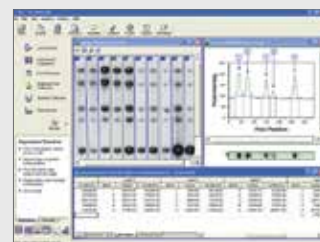
One Stop Analysis

Environmental Chamber

- Suitable for Plant Growth, Stability, Product Self-life QC Testing
- Ergonomic Screen Design 7"Full Touch Screen TFT LCD (Smart-Lab™ Controller)
- WiRe™ App & Web Service.   - Automatic Data Recording
- Self-Diagnostic Function
- Variable Program Setting for Multiple Patterns with Multiple Segments

witeg® Plant Growth Chamber, "SWGC", Smart-Lab™ System, 432-/864- Lit.
with Smart-Lab™ Controller, CFC-Free, 0~12,000- or 15,000-Lux, 30~95% RH, 10~60°C, with Certi. & Traceability

- **with Certificate & Traceability :**
  Controlled by Serial Number, Certificate, Delivery-information, and Traceable Data Base System
- **Suitable for Plant Growth, Stability, Product Self-life QC Testing**
- **Ergonomic Screen Design 7" Full Touch Screen TFT LCD (Smart-Lab™ Controller)**
- **WiRe™ App & Web Service.**   **Automatic Data Recording**
- **Self-Diagnostic Function**
- **Variable Program Setting for Multiple Patterns with Multiple Segments**
- **The Recorded Data could be transferred to PC by USB memory**
- **Controller SW can be upgraded through USB port.**
- **CE Certified**   **PL (Product Liability) Insurance**

✽ Inner Tempered Glass Door with Silicone Packing offers easy Observation without Door Opening
✽ Humidity Control by Capacitive Humidity Sensor provides Accurate Control from 30 to 95%RH
✽ Smart-Lab™ Controller Provides Precise Temperature, Relative Humidity and Illumination Control
  - Maintain Uniformity and Accuracy of Growth Circumstance
✽ 3-/4- Side Light Bank System : Intensity of Light is controlled by 8-levels and Displayed on LCD
✽ Over Temperature & Over Current Protection, Sensor Error Detection, Leakage Breaking

7-inch Smart-Lab™ Controller

Illumination Lamp

2-Year Warranty Wisd.*23*

Programmable Plant Growth Chamber "SWGC-1000"

Specification

Capacity & Models		432 Lit. "SWGC-450"	864 Lit. "SWGC-1000"
Temp.	Range & Variation	10°C ~ 60°C, ±1°C at 20°C	
	Fluctuation	±0.5°C at 10°C, ±0.5°C at 25°C (0% light intensity) ±1°C at 10°C, ±1°C at 25°C (100% light intensity)	
Humidity	Range & Variation	30% ~ 95% RH, ±3% at 60°C	
	Fluctuation	±1%	
	Humidifier	Evaporation by Fan with Heater	
Illumination	Range	0 to 12,000 Lux	0 to 15,000 Lux
	Lamp	FPL 55W x 14	FPL 55W x 28
	Bank	3 Side Walls	3 Side Walls & Ceiling
Temp. & Humidity Sensor		Temp. : PT100, Humidity : Capacitive Sensor	
Heat-up Time (up to 37°C)		11 min. (0 % illumination) / 9 min. (100 % illumination)	
Cool-down Time (down to 10°C)		13 min. (0 % illumination) / 15 min. (100 % illumination)	
Temp. Recovery (After Door was opened for 30sec)		3 min. at 10°C, 1 min. at 37°C (0 % illumination) 5 min. at 10°C, 1min. at 37°C (100 % illumination)	
Heating Power /Consumption	for Temp.	1.5 kW	3.0 kW
	for Humi.	1.5 kW	3.0 kW
Compressor		1/2 HP	1 HP
Refrigerant		CFC-Free(R404a) Refrigeration System	
Display		7" Full Touch Screen TFT LCD (Smart-LabT™ Controller)	
Controller		Smart-Lab™ Controller	
Program Function		Temperature and Humidity : 120 Patterns, 1,200 Segments Light Bank : 7 steps	
Door	Internal	Tempered Safety Glass with Silicon Packing	
	External	3-Side Magnetic Packing Door with Light Bank	
Shelves		4 PTFE Coated Steel Shelves	8 PTFE Coated Steel Shelves
Permitted Total Load		64 kg (16kg x 4 Shelves)	128 kg (16kg x 8 Shelves)
Safety Circuit		Over Temp Protector, Over Current & Leakage Breaker	
Material		Internal : Stainless Steel (#304), External : Power Coated Steel	
Dimension (w x d x h)	Interior (mm)	650 x 700 x 1,050	1,200 x 790 x 1,050
	Exterior (mm)	850 x 1,090 x 1,965	1,400 x 1,150 x 1,965
Packing Size & Gross Weight		1,400 x 1,220 x h2,210mm, 435 kg	1,600 x 1,500 x h2,200mm, 585 kg
Power Consumption		4.8 kW	6.5 kW
Power plug type		5 pole 16A CEE	
Power Supply*		AC 400V, 3N~, 50/60Hz	

* Other Specifications are available upon Customer's Request.

Main Display of Smart-Lab™ Controller

Graph Display of Smart-Lab™ Controller

Program Set Display of Smart-Lab™ Controller

Articles	Cat. No	Description

<Continued from... Programmable Plant Growth Chamber, "WGC">

2-Year Warranty

Programmable Plant Growth Chamber "WGC-450"

Ordering Information

432 Lit. Plant Growth Chamber "SWGC-450", 0~12,000 Lux

DH.SWGC60450*   Plant Growth Chamber, **400V, 3N~, SWGC-450**

864 Lit. Plant Growth Chamber SWGC-1000 , 0~15,000 Lux

DH.SWGC61000*   Plant Growth Chamber, **400V, 3N~, "SWGC-1000"**
  *-marks : Included Water Tank(with Silicon Tube) and Lux Meter

Spare Wire Shelves, PTFE Coated Steel

DH.WGC10450   (1) Wire Shelf, PTFE Coated, w640 x d620mm, **"GCS450",** for **"SWGC-450"**
DH.WGC11000   , w580 x d620mm, **"GCS1000",** for **"SWGC-1000"**

Validation (IQ, OQ) Service

DH.SWGC30450   Validation Service(IQ, OQ), **"SGCV450",** for **"SWGC-450"**
DH.SWGC31000   , **"SGCV1000",** for **"SWGC-1000"**

(1) Wire Shelves, PTFE Coated Steel (Included)

Water Tank/Silicon Tube/Lux Meter (Included)

» witeg WiRe™ App & Web Service

7" Full Touch Screen TFT LCD
(Smart-Lab™ Controller)

It is possible to monitor and control the Smart-Lab™ equipment through all smart phone, tablet and web without restraint of time and place.

WiRe™ App & Web Service

※ Smart-Lab™ System Refer to Page. P. 8 ~ P. 13

Evaporator

- Ideal for Distill of (Mixed) Solvent, Condensation Solution and Suspension, Concentrate Liquid, Re-crystallization, Dry Powder and Granulate, Synthesize Chemical, Soxhlet Extraction, Recycle Solvent.
- Water Bath Electric Lift, Easy to Use.
- PTFE and Fluorine Rubber Dual Rotating Seal, Patented Technology to Ensure High Vacuum.
- A Vacuum Switching Valve, without Affecting the System Vacuum Distillation of the Situation and the Solution can be Continuously Collected.

Rotary Evaporator

Rotary Shaft Seal

Operation Pannel

Flange Seal

PTFE Seals (Deputy)

PTFE Seals (Main)

Patent No. 2010205147495

Cat. No	Description	Articles

witeg® 0.5~3Lit. Digital Rotary Evaporator, "WEV-1001V", "WEV-1001L" Vertical & Diagonal Type

7.4 Lit. Digital Bath, 100°C, with PID Control & Lifting Table, 10~180rpm, 20ml/min, Cooling Surface 1.300cm²

- ■ **Ideal for Distill of (Mixed) Solvent, Condensation Solution and Suspension, Concentrate Liquid, Re-crystallization, Dry Powder and Granulate, Synthesize Chemical, Soxhlet Extraction, Recycle Solve**
- ■ **Cooling Surface 1.300cm²**
- ■ **Included 2xRotary Bottles: 1x0.5 Lit. & 1x1Lit.**
- ■ **The Temperature adopts PID Control, which ensures accurate Temperature Control.**
- ■ **Speed Display ,Operate Visually and easily**

✻ Digital Speed Display, Digital Temp. Display on Water Bath.
✻ Double Sealing with PTFE and Fluorous Rubber to ensure High Vacuum Degree.
✻ The Air Extraction Nozzle of Condenser is set down, and it is Safer after Connection with Vacuum Pipe
✻ Building Block Design is Easily to be Extended.
✻ Easy Operation of Lifting, Move up and Down Smoothly and Easy to Lock.
✻ Dedicated Electric Machinery, Worm and Gear Drive Steadily.
✻ The Separation of Bath and the Mainframe makes Configure Flexible.
✻ These Rotary Evaporators could Set with Circulation Aspirator Pump(P.51) and Refrigerated Bath Circulators(P.30 ~ P.31).

Specification

Spec.　　　　　Model	"WEV-1001V"	"WEV-1001L"
Condenser Type	Vertical-type	Diagonal-type
Bottle Capacity	Rotary Bottle : 0.5/1/2 Lit., Receiving Bottle : 1 Lit.	
Rotary Speed	10 ~ 180 rpm	
Evaporating Capability	20 ml/min	
Achievable Vacuum	399.9Pa(below 3mmHg)	
Bath Capacity	7.4 Lit. / Ø260 x 140 mm	
Temp. Range	0°C ~ 99°C	
Functional of Lifting Table	Weight Balancing Gliding Elevating & Manual Lifting	
Elevating Stroke	100 ~ 250 mm	
Vacuum Sealing	Double Sealing Rings made of PTFE+Viton Materials	
Power Consumption	Motor : 25 W, Heater : 1.5KW	
Controller & Display	PID Controller, Digital display	
Dimension & Net Weight	560 x 320 x h660mm / 9.5 kg	750 x 320 x h540mm / 9.5 kg
Power Supply & Cord Plug	220V, 60Hz	

Ordering Information

DH.WEV01001V　　(1) Digital Rotary Evaporator, Vertical-type, **"WEV-1001V", 220V**
DH.WEV01001L　　(2)　　　　　　　　　　　　, Diagonal-type, **"WEV-1001L", 220V**

(1) Digital Rotary Evaporator, Vertical-type "WEV-1001V", 0.5 ~ 3 Lit.

2-Year Warranty

(2) Digital Rotary Evaporator, Diagonal-type "WEV-1001L", 0.5 ~ 3 Lit.

2-Year Warranty

Spare Parts details for "WEV-10001V" and "WEV-1001L" models

No.	Order Number	Description
1	SL.Ev1001.A01	Glass Feeding Valve
2	SL.Ev1001V.A02	Glass Condenser, Ø85x390mm
2-1	SL.Ev1001L.A02	Glass Condenser, Ø85x385mm
3	SL.Ev1001.A03	Clamp for Receiving Bottle, SUS304, 90x33x50mm
4	SL.Ev1001.A04	Glass Receiving Bottle, 1Lit.
5	SL.Ev1001.A05	Condenser Locknut, PP, Ø75x23mm
6	SL.Ev1001.A06	Circlip, SUS304, Ø38mm
7	SL.Ev1001.A07	Deputy Vacuum Seal, PTFE, Ø51x5mm
8	SL.Ev1001.A08	Main Vacuum Seal, PTFE, Ø51x5mm
9	SL.Ev1001.A09	Bearing end Cap, PA, Ø83x28mm
10	SL.Ev1001.A10	Rotary Axis, SUS304, Ø38x67mm
11	SL.Ev1001.A11	O-ring, Silicon, Ø20x3mm
12	SL.Ev1001.A12	Glass Rotation Axis, Ø22x190mm
13	SL.Ev1001.A13	Auxiliary Bottle Opener, PC, Ø41x53mm
14	SL.Ev1001.A14	Main Bottle Opener, PC, Ø41x53mm
15	SL.Ev1001.A15.1	Glass Rotary Bottle, 500ml
15	SL.Ev1001.A15.2	Glass Rotary Bottle, 1000ml
15	SL.Ev1001.A15.3	Glass Rotary Bottle, 2000ml
16	SL.Ev1001.A16	Motor Shroud, ABS, 145x100x180mm
17	SL.Ev1001.A17	Lifting Column, Aluminum, 38x30x230mm
18	SL.Ev1001.A18	Lifting Handle, PP, Ø24x115mm
19	SL.Ev1001.A19	Base Plate, Aluminum, 320x460x20mm
20	SL.Ev1001V.A20	Glass Condenser Bracket, SUS304, Ø10x280mm

Diagonal-type "WEV-1001L

Vertical-type "WEV-1001V

Articles	Cat. No	Description

witeg® 10 & 20 Lit. Digital Rotary Evaporator, "WEV-1010", "WEV-1020" Large Capacity, Vertical Type

Digital Controlled Stainless Steel Bath 99°C, 10~130 rpm, 6.5/11 Lit/h, Cooling Surface 6.500/11.500cm² with Certificate & Tracebility

NEW

Wisd
2-Year Warranty

■ Ideal for Distill of (Mixed) Solvent, Condensation Solution and Suspension, Concentrate Liquid, Re-crystallization, Dry Powder and Granulate, Synthesize Chemical, Soxhlet Extraction, Recycle Solve

■ Cooling Surface: WEV-1010 total 6.500cm² | WEV-1020 total 11.500cm²

■ PTFE and Fluorine Rubber Dual Rotating Seal, Patented Technology to ensure High Vacuum.

■ A Vacuum Switching Valve, without Affecting the System Vacuum Distillation of the Situation and the Solution can be Continuously Collected.

■ Stainless Steel Water Bath Electric Lift, Easy to Use.

✻ Water Bath Electric Lift, Easy to Use.
✻ The Introduction of Advanced Frequency Control System, Temperature Control System, Accurate   and Reliable.
✻ a Vacuum Switching Valve, without Affecting the System Vacuum Distillation of the Situation and the Solution can be Continuously Collected.
✻ PTEE Discharge Valve, Corrosion Resistance, Pollution-free.
✻ These Rotary Evaporators could Set with Circulation Aspirator Pump(P.51) and Refrigerated Bath Circulators(P.30 ~ P.31).

Digital Rotary Evaporator, Large Capa.
"WEV-1010" 5 Lit., "WEV-1020" 10 Lit.

Spec. / Model	WEV-1010	WEV-1020
Rotary Bottle	19 Litre, Flange Opening Ø95mm	20 Litre, Flange Opening Ø95mm
Receiving Bottle	5 Litre	10 Litre
Condenser	Standing, Main & Auxiliary Cooling and Highly Efficient 3 Circulating Cold Trap	
Temp. Range	0°C - 99°C	
Rotary Speed	10 - 130rpm	
Evaporating Capability	Water: 3.2Lit./h Alcohol: 6.5Lit./h	Water: 5Lit./h Alcohol: 11Lit./h
Cooling Surface	Main Condenser 4.500cm² Auxiliary Condenser 2.000cm²	Main Condenser 8.000cm² Auxiliary Condenser 3.500cm²
Achievable Vacuum	399.9Pa (below 3mmHg)	
Functional of Lifting Table	Electric	
Elevating Stroke	0 - 160mm	0 - 190mm
Vacuum Sealing	PTFE and Fluorine Rubber Dual Rotating Seal	
Motor	Phase AD Induction Motor	
	90 W	180 W
Heating Boilder	Stainless Steel Water Bath	
Display	Digital Display	
Power Consumption	4.8 kW	6.3 kW
Dimension (mm)	920 x 550 x h1700	1250 x 600 x h2100
Power Supplay & Cord Plug	220V, 50Hz	380V, 50 Hz

Ordering Information

DH.WEV01010 Digital Rotary Evaporator, Large Capa., **"WEV-1010",** 10Lit., **220V**
DH.WEV01020 , **"WEV-1020",** 20Lit., **380V**
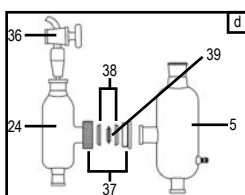
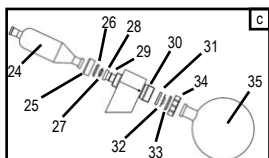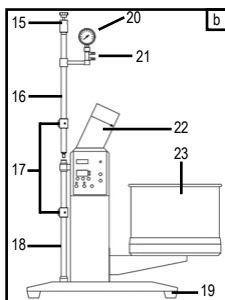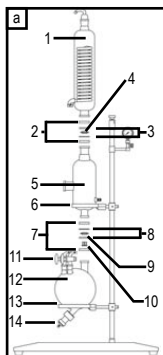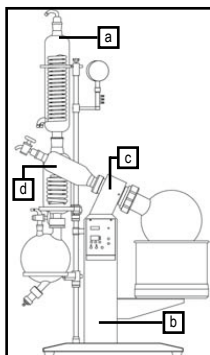| No.	Order Number	Description	No.	Order Number	Description
1	SL.Ev1010.A01	Glass Condenser(Main), Ø120x575mm. for "WEV-1010"	19	SL.Ev1010.A19	Stand Base, Carbon Steel, 680x337mm. for "WEV-1010"
1	SL.Ev1020.A01	Glass Condenser(Main), Ø135x738mm. for "WEV-1020"	19	SL.Ev1020.A19	Stand Base, Carbon Steel, 451x850mm. for "WEV-1020"
2	SL.Ev1010.A02	Connection Flange Set, Aluminum, Ø82x10mm. for "WEV-1010"	20	SL.Ev1010.A20	Vacuum Gauge, Ø100mm. for "WEV-1010" & "WEV-1020" & "WEV-1050"
2	SL.Ev1020.A02	Connection Flange Set, Aluminum, Ø110x15mm. for "WEV-1020"	21	SL.Ev1010.A21	Vacuum Gauge Holder, Copper, 137x120x35mm. for "WEV-1010", "WEV-1020"
3	SL.Ev1010.A01	Flange Retaining Ring, EPDM, Ø60x6mm. for "WEV-1010"	22	SL.Ev1010.A22	Machine Head Capsule, Aluminum, 130x214x100mm. for "WEV-1010"
3	SL.Ev1020.A03	Flange Retaining Ring, EPDM, Ø86.5x10mm. for "WEV-1020"	22	SL.Ev1020.A22	Machine Head Capsule, Aluminum, 290x137x50mm. for "WEV-1020"
4	SL.Ev1010.A04	Flange Gasket, PTFE, Ø45x12mm. for "WEV-1010"	23	SL.Ev1010.A23	Water Bath, SUS304, Ø345x215mm. for "WEV-1010"
4	SL.Ev1020.A04	Flange Gasket, PTFE, Ø75x12.5mm. for "WEV-1020"	23	SL.Ev1020.A23	Water Bath, SUS304, Ø450x255mm. for "WEV-1020"
5	SL.Ev1010.A05	Auxiliary Glass Condenser, Ø134x400mm. for "WEV-1010"	24	SL.Ev1010.A24	3-way Glass Bottles, Ø100x338mm. for "WEV-1010" & "WEV-1020"
5	SL.Ev1020.A05	Auxiliary Glass Condenser, Ø165x575mm. for "WEV-1020"	25	SL.Ev1010.A25	Fixed Nut, for 3-way Glass Bottles, Aluminum, Ø90x29mm. for "WEV-1010", "WEV-1020"
6	SL.Ev1010.A06	Auxiliary Glass Condenser Tray, EPDM, Ø116mm. for "WEV-1010"	26	SL.Ev1010.A26	Fixed Nut Retainer Ring, 3-way Glass Bottles, PA , Ø65x10mm. for "WEV-1010", "WEV-1020"
6	SL.Ev1020.A06	Auxiliary Glass Condenser Tray, EPDM, Ø150mm. for "WEV-1020"	27	SL.Ev1010.A27	Flange Seals, PTFE, Ø55x12.5mm. for "WEV-1010", "WEV-1020"
7	SL.Ev1010.A07	Connection Flange Set, Aluminum, Ø82x10mm. for "WEV-1010", "WEV-1020"	28	SL.Ev1010.A28	Rotation Glass Axis, Ø60x185mm. for "WEV-1010"
8	SL.Ev1010.A08	Flange Retaining Ring, EPDM, Ø60x6mm. for "WEV-1010", "WEV-1020"	28	SL.Ev1020.A28	Rotation Glass Axis, Ø60x195mm. for "WEV-1020"
9	SL.Ev1010.A09	Flange Gasket, PTFE, Ø45x12mm. for "WEV-1010", "WEV-1020"	29	SL.Ev1010.A29	O-ring, EPDM, Ø38x3.1mm. for "WEV-1010", "WEV-1020"
10	SL.Ev1010.A10	Automatic Switching Valve, Ø31x23mm. for "WEV-1010", "WEV-1020"	30	SL.Ev1010.A30	Couplings, SUS304, Ø116x45mm. for "WEV-1010", "WEV-1020"
11	SL.Ev1010.A11	Glass Bleed Valve. for "WEV-1010", "WEV-1020"	31	SL.Ev1010.A31	Main Vacuum Seal, PTFE, Ø96x10mm. for "WEV-1010", "WEV-1020"
11	SL.Ev1020.A11	Glass Bleed Valve. for "WEV-1010", "WEV-1020"	32	SL.Ev1010.A32	Deputy Vacuum Seal, PTFE, Ø96x10mm. for "WEV-1010", "WEV-1020"
12	SL.Ev1010.A12	Glass Receiving Bottle, 5Lit.. for "WEV-1010"	33	SL.Ev1010.A33	Retaining Ring, PA, Ø107x15mm. for "WEV-1010", "WEV-1020"
12	SL.Ev1020.A12	Glass Receiving Bottle, 10Lit. for "WEV-1020"	34	SL.Ev1010.A34	Rotating Shaft Nut, PA, Ø78x29mm. for "WEV-1010", "WEV-1020"
13	SL.Ev1010.A13	Glass Receiving Bottle Tray, Ø227mm. for "WEV-1010", "WEV-1020"	35	SL.Ev1010.A35	Glass Rotary Bottle, 10Lit.. for "WEV-1010"
14	SL.Ev1010.A14	Discharge Valve, PTFE, Ø56x120mm. for "WEV-1010"	35	SL.Ev1020.A35	Glass Rotary Bottle, 20Lit.. for "WEV-1020"
14	SL.Ev1020.A14	Discharge Valve, PTFE, Ø56x120mm. for "WEV-1020"	36	SL.Ev1005.A36	Glass Feeding Valve. for "WEV-1010", "WEV-1020"
15	SL.Ev1010.A15	Condenser Clamp, SUS304, 113-140. for "WEV-1010", "WEV-1020"	37	SL.Ev1010.A37	Connection Flange Set, Ø90x12mm. for "WEV-1010", "WEV-1020"
16	SL.Ev1010.A16	Stand Pole, SUS304, Ø25x697mm. for "WEV-1010", "WEV-1020"	38	SL.Ev1010.A38	Flange Retaining Ring, EPDM, Ø70x10mm. for "WEV-1010", "WEV-1020"
17	SL.Ev1010.A17	Stand Folder, SUS304, Ø25x12mm. for "WEV-1010", "WEV-1020"	39	SL.Ev1010.A39	Flange Gasket, PTFE, Ø55x12.5mm. for "WEV-1010", "WEV-1020"
18	SL.Ev1010.A18	Under Stand Pole, SUS304, Ø25x704mm. for "WEV-1010", "WEV-1020"			

Cat. No	Description	Articles

witeg® 50 Lit. Digital Rotary Evaporator, "WEV-1050" Large Capacity, Vertical Type, with Electric & Manual Lift Bath

Digital Controlled Stainless Steel Bath 99°C, 10~110 rpm, 19 Lit/h, Cooling Surface 14.500cm² with Certificate & Tracebility

- **Cooling Surface 14.500cm²**
- **Large Capacity & Diameter Rotary Evaporator Flask - 50Lit.**
- **PTFE and Fluorine Rubber Dual Rotating Seal, Patented Technology to Ensure High Vacuum.**
- **Stainless Steel Water Bath - Electric & Manual Lift, Easy to Use**

✻ Ideal for Distill of (Mixed) Solvent, Condensation Solution and Suspension, Concentrate Liquid, Re-crystallization, Dry Powder and Granulate, Synthesize Chemical, Soxhlet Extraction, Recycle Solve

✻ The Introduction of Advanced Frequency Control System, Temperature Control System, Accurate and Reliable.

✻ A Vacuum Switching Valve, without Affecting the System Vacuum Distillation of the Situation and the Solution can be Continuously Collected.

✻ Water Bath Electric Lift and Manual Lift Support, Easy to Use.

✻ PTEE Discharge Valve, Corrosion Resistance, Pollution-free.

✻ This Rotary Evaporator could Set with Circulation Aspirator Pump(P.51) and Refrigerated Bath Circulator(P.30 ~ P.31).


NEW

Wisd.℥
2-Year Warranty

Spec. / Model	WEV-1050
Rotary Bottle	50 Lit., Flange Opening Ø125mm
Receiving Bottle	20 Lit.
Condenser	Standing, Main & Auxiliary Cooling and Highly Efficient 3 Circulating Cold Trap
Temp. Range	0°C - 99°C
Rotary Speed	10 - 110rpm
Evaporating Capability	Water: 9Lit./h | Alcohol: 19Lit./h
Cooling Surface	Main Condenser: 9.500cm² | Auxilliary Condenser: 5.000cm²
Achievable Vacuum	399.9Pa (below 3mmHg)
Functional of Lifting Table	Electric
Elevating Stroke	0 - 230mm
Vacuum Sealing	PTFE and Fluorine Rubber Dual Rotating Seal
Motor	Phase AD Induction Motor
	90 W
Heating Boiler	Stainless Steel Water Bath
Display	Digital Display
Power Consumption	8.3 kW
Dimension (mm)	1320 x 770 x h2340
Power Supply & Cord Plug	380V, 50Hz

Digital Rotary Evaporator, Large Capa. "WEV-1050", 50 Lit.

Ordering Information

DH.WEV01050   Digital Rotary Evaporator, Large Capa., 50Lit., **"WEV-1050", 380V**
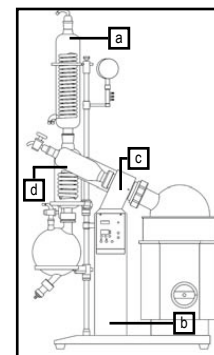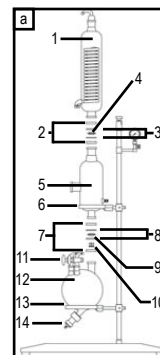
No.	Order Number	Description	No.	Order Number	Description
1	SL.Ev1050.A01	Glass Condenser(Main), Ø165x575mm	21	SL.Ev1050.A21	Vacuum Gauge Holder, Copper, Ø25xØ12mm
2	SL.Ev1050.A02	Connection Flange Set, Aluminum, Ø110x15mm	22	SL.Ev1050.A22	Machine Head Capsule, Aluminum, 300x100x230mm
3	SL.Ev1050.A03	Flange Retaining Ring, EPDM, Ø86.5x10mm	23	SL.Ev1050.A23	Water Bath, SUS304
4	SL.Ev1050.A04	Flange Gasket, PTFE, Ø75x12.5mm	24	SL.Ev1050.A24	3-way Glass Bottles, Ø100x358mm
5	SL.Ev1050.A05	Auxiliary Glass Condenser, Ø165x575mm	25	SL.Ev1050.A25	Fixed Nut, for 3-way Glass Bottles, Aluminum, Ø105x31mm
6	SL.Ev1050.A06	Auxiliary Glass Condenser Tray, EPDM, Ø167mm	26	SL.Ev1050.A26	Fixed Nut Retainer Ring, 3-way Glass Bottles, PA , Ø90x11mm
7	SL.Ev1050.A02	Connection Flange Set, Aluminum, Ø110x15mm	27	SL.Ev1050.A27	Flange Seals, PTFE, Ø65x12.5mm
8	SL.Ev1050.A03	Flange Retaining Ring, EPDM, Ø86.5x10mm	28	SL.Ev1050.A28	Rotation Glass Axis, Ø69x210mm
9	SL.Ev1050.A04	Flange Gasket, PTFE, Ø75x12.5mm	29	SL.Ev1050.A29	O-ring, EPDM, Ø55x3mm
10	SL.Ev1050.A10	Automatic Switching Valve, Ø40x24mm	30	SL.Ev1050.A30	Couplings, SUS304, Ø144x42mm
11	SL.Ev1050.A11	Glass Bleed Valve	31	SL.Ev1050.A31	Main Vacuum Seal, PTFE, Ø125x10mm
12	SL.Ev1050.A12	Glass Receiving Bottle, 2Lit.	32	SL.Ev1050.A32	Deputy Vacuum Seal, PTFE, Ø125x10mm
13	SL.Ev1050.A13	Glass Receiving Bottle Tray, Ø332mm	33	SL.Ev1050.A33	Retaining Ring, PA, Ø134x16mm
14	SL.Ev1050.A14	Discharge Valve, PTFE, Ø68x100mm	34	SL.Ev1050.A34	Rotating Shaft Nut, PA, Ø175x45mm
15	SL.Ev1050.A15	Condenser Clamp, SUS304, 150-220	35	SL.Ev1050.A35	Glass Revolving Bottle, 50Lit.
16	SL.Ev1050.A16	Stand Pole, SUS304, Ø25x1017mm	36	SL.Ev1050.A36	Glass Feeding Valve
17	SL.Ev1050.A17	Stand Folder, SUS304, Ø25x12mm	37	SL.Ev1010.A32	Connection Flange Set, Ø90x12mm
18	SL.Ev1050.A18	Under Stand Pole, SUS304, Ø25x1024mm	38	SL.Ev1010.A33	Flange Retaining Ring, EPDM, Ø70x10mm
19	SL.Ev1050.A19	Stand Base, Carbon Steel, 1022x486mm	39	SL.Ev1010.A34	Flange Gasket, PTFE, Ø55x12.5mm
20	SL.Ev1010.A20	Vacuum Gauge, Ø100mm			
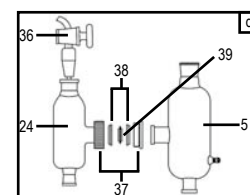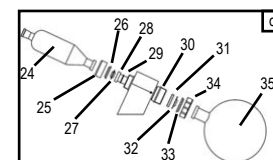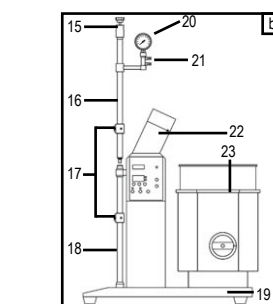
witeg® Digital Rotary Evaporator Full System

The Wisd Digital Rotary Evaporator could set with Circulation Aspirator Pump and Refrigerated Bath Circulator.

This system gives you unlimited posibilities in distilations, evaporations, separations, concentrations and purifications.

The witeg could gives you more comfortable selection guides for Evaporation.

Evaporator Full System : Digital Rotary Evaporator + Circulation Aspirator Pump + Refrigerated Bath Circulator
Each Iteams Details See Page P. 30~P. 31, P. 51

witeg® Electric Circulation Aspirator Pump, "WEV-003S" 15 Lit. PP Water Tank, Safety Check Valve

80 Lit./min, 0.098 MPa

2-Year Warranty

■ **witeg® Designed China-made**
■ **Cyclically use Water, Save the Precious Water Resources.**
■ **Save more than 35% of Electricity than other type of Vacuum Pump.**
■ **Double-tap, Double-display, can be used alone or in Parallel.**
■ **Resist Corrosion by Acid, Alkali and Solvents.**

✽ The Fluid Muffler Purposemade can Reduce the Gas in Water and make the Vacuum Degree Higher and more Stable Reduce the Friction between Gas and Fluid, Reduce the Noise.
✽ luorine Rubber Sealing, the inner of which can t be Intruded by Corrosive Gas.
✽ Need to Replace the Water in the Flume Regularly to ensure the Purity of Water Quality, the Vacuum Degree and to Avoid Dirt Stains.
✽ -Can be used to Extract Corrosive Gas, need to Shorten the Period of Water Changing.

Electric Circulation Aspirator Pump "WEV-003S"
15 Lit., 0.098MPa, 80Lit./min

Specification

Spec. Model	"WEV-003S"
Capacity(Water Tank)	15 Lit.
Max. Vacuum Degree	0.098 MPa
Flow	80 Lit./min
Lift	10 m
Single Tap Air Sucking Amount	10 Lit./min, 2A
Safety Function	Check Valve
Material of Water Tank	PP
Dimension & Net Weight	385 x 280 x h420 mm / 11 kg
Power Consumption	180 W
Power Supply	220V, 50Hz

Ordering Information

DH.WEV0003S   Circulation Aspirator Pump, 15Lit., **"WEV-003S", 220V**

Furnaces

- Digital PID Control System
- Max. Temperatures are 1,000°C (F-/FP-model) or 1,200°C (FH-/FHP-model)
- 4-Side Heating Mechanism ensure the Short Heat-up Time and High Temperature Uniformity
- Users Self-Compensation function for Temperature
- Patented Jog-Shuttle Control system and Digital LCD with Back-light Function
- PL (Product Liability) Insurance

⫶⫶ **Digital Muffle Furnace**
   1,000°C ∕ **1,200°C (F/FH-model)**

⫶⫶ **Programmable Muffle Furnace**
   1,000°C ∕ **1,200°C (FP/FHP-model)**
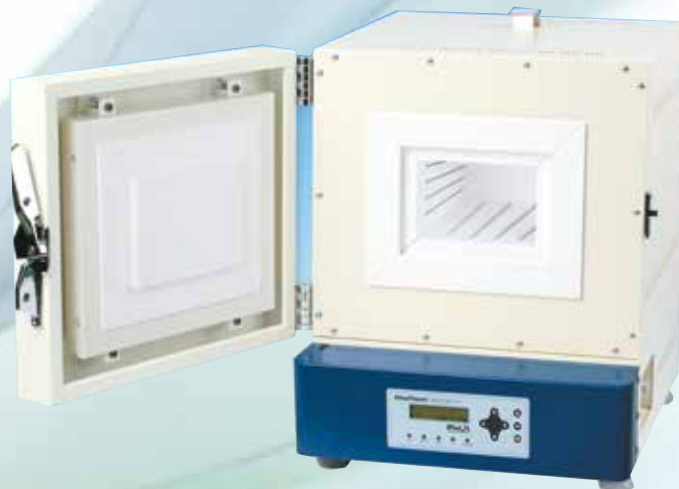
witeg® 1,000°C Digital Muffle Furnaces, "F", Exposed Heating Elements-type, with Certi. & Traceability
with Digital PID Control, Short Heat-up Time, Ceramic Fiber, 4-Side Heating, with Ceramic Fiber Plate, 3~63 Lit.

CE

Up-grade

2-Year Warranty   Jog-Dial with Push Button   *Wisd*

**1000°C *Digital Muffle Furnace,
Embeded Heating Elements-type "F-14"***

**Inner Chamber of
Exposed Heating Elements-type**
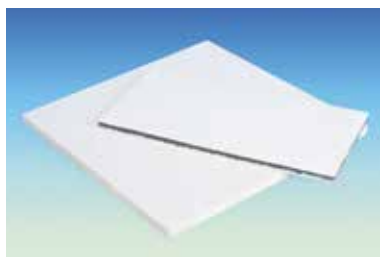
**(1) Ceramic Fiber Plate
(Included)**

(2) Heat-resistant Gloves

■ **with Certificate & Traceability :**
  **Controlled by Serial Number, Certificate, Delivery-information, and
  Traceable Data Base System**

■ **Patented Jog-Dial Control System** and Digital LCD with Back-Light Function

■ **CE Certified**   ■ **PL (Product Liability) Insurance**

✳ Designed for Ash-Determinations, Enameling, Fusions, Precipitate Drying
✳ User's Self-Compensation Function for Temperature (±50°C)
✳ Resolution : 1°C, 1min
✳ Safety Switch for Door Opening
✳ Ceramic Fiber exposed Heating Wire, 4-Side Heating

Specification

Capacity & Model and Temp. Range		3 Lit. "F-03"	4.5 Lit. "F-05"	12 Lit. "F-12"	14 Lit. "F-14"	27 Lit. "F-27"	63 Lit. "F-63"
		300°C ~ 1000°C					
Heater		Kanthal A1, expose Wire Heating Elements, 4-Side Heating					
Thermocouple		K-type Thermocouple					
Heating Power		1.4 kW	1.8 kW	3.6 kW	4.0 kW	4.6 kW	9 kW
Required time to be reached 800°C		16 min		20 min			23 min
Timer & Alarm		99hr 59min (Delay & Continuous run), Error status & Timer-end					
Display		Digital LCD with Back-Light Function					
Controller		Digital PID Controller with Jog-Shuttle Switch (Turn+Push)					
Safety Circuit		Over-Temp./-Current protection, Sensor Error Detection Safety Switch for Door Opening					
Material		Ceramic Fiber with Heating Wire-Internal, Powder Coated Steel-External Ceramic Fiber-Insulation					
Dimension (w x d x h)	Internal (cm)	13 x 25 x 9	15 x 30 x 10	20 x 30 x 20	25 x 35 x 16	30 x 30 x 30	40 x 40 x 40
	External (cm)	39 x 48 x 53	42 x 53 x 55	48 x 55 x 66	53 x 58 x 62	58 x 59 x 76	63 x 71 x 79
Packing Size (w x d x h) (cm)		62 x 53 x 74	68 x 58 x 76	67 x 62 x 90	72 x 68 x 84	74 x 74 x 105	116 x 90 x 110
Gross Weight		54 kg	62 kg	82 kg	88 kg	104 kg	225 kg
Power plug type		Hybrid E+F		5 pole 16A CEE			
Power Supply*		AC 230V, 1N~, 50/60Hz		AC 400V, 3N~, 50 / 60Hz			

* Other Specifications are available upon Customer's Request.

Ordering Information

DH.WF21.03	Furnace, **230V, 3 Lit.**, **"F-03"**	
DH.WF21.05	**, 4.5 Lit.**, **"F-05"**	
DH.WF23.12	Furnace, **400V, 3N~, 12 Lit.**, **"F-12"**	
DH.WF23.14	**, 14 Lit.**, **"F-14"**	
DH.WF23.27	**, 27 Lit.**, **"F-27"**	
DH.WF23.63	**, 63 Lit.**, **"F-63"**	

Spare Ceramic Fiber Plates

DH.WF211.03	(1) Ceramic Fiber Plate, **"FS1103"** for **"F/FH-03"** and **"FP/FHP-03"**
DH.WF211.05	, **"FS1105"** for **"F/FH-05"** and **"FP/FHP-05"**
DH.WF211.12	, **"FS1112"** for **"F/FH-12"** and **"FP/FHP-12"**
DH.WF211.14	, **"FS1114"** for **"F/FH-14"** and **"FP/FHP-14"**
DH.WF211.27	, **"FS1127"** for **"F/FH-27"** and **"FP/FHP-27"**
DH.WF211.63	, **"FS1163"** for **"F/FH-63"** and **"FP/FHP-63"**

Optional Gloves & Power Cable

NA.491041101	(2) Gloves, Heat-resistant, 900°C, Flexible & Long Sleeve, 1Pair

Validation (IQ, OQ) Service

DH.WF311.03	Validation Service(IQ, OQ), **"FV1103"**, for **"F-03"**
DH.WF311.05	, **"FV1105"**, for **"F-05"**
DH.WF311.12	, **"FV1112"**, for **"F-12"**
DH.WF311.14	, **"FV1114"**, for **"F-14"**
DH.WF311.27	, **"FV1127"**, for **"F-27"**
DH.WF311.63	, **"FV1163"**, for **"F-63"**

witeg® 1,000°C Programmable Digital Muffle Furnaces, "FP", Exposed Heating Elements-type
with Digital PID Programmable Control, Short Heat-up Time, Ceramic Fiber, 4-Side Heating, with Ceramic Fiber Plate, 3~63 Lit.

■ **with Certificate & Traceability :**
**Controlled by Serial Number, Certificate, Delivery-information, and
Traceable Data Base System**

■ **Digital PID Programmable Controller : 3 Patterns with 16 Segments**

■ **CE Certified** ■ **PL (Product Liability) Insurance**

✲ User's Self-Compensation Function for Temperature (±50°C)
✲ Programmable Timer : 99 hr 59 min
✲ Resolution : 1°C, 1min
✲ Safety Switch for Door Opening
✲ Ceramic Fiber exposed Heating Wire, 4-Side Heating

2-Year Warranty CE

Digital PID Controller
: 3 Patterns with 16 Segments **Wisd.23**

1000°C *Digital Muffle Furnace,*
Embedded Heating Elements-type "FP-14"

Specification

Capacity & Model and Temp. Range		3 Lit. "FP-03"	4.5 Lit. "FP-05"	12 Lit. "FP-12"	14 Lit. "FP-14"	27 Lit. "FP-27"	63 Lit. "FP-63"
		300°C ~ 1000°C					
Heater		Kanthal A1, exposed Wire Heating Elements, 4-Side Heating					
Thermocouple		K-type Thermocouple					
Heating Power		1.4 kW	1.8 kW	3.6 kW	4.0 kW	4.6 kW	9 kW
Required time to be reached 800°C		16 min		20 min			23 min
Display		LED					
Controller		Programmable PID Controller : 3 Patterns 16 Segments					
Safety Circuit		Over-Temp./-Current protection, Sensor Error Detection Safety Switch for Door Opening					
Material		Ceramic Fiber with Heating Wire-Internal, Powder Coated Steel-External Ceramic Fiber-Insulation					
Dimension (w x d x h)	Internal (cm)	13 x 25 x 9	15 x 30 x 10	20 x 30 x 20	25 x 35 x 16	30 x 30 x 30	40 x 40 x 40
	External (cm)	39 x 48 x 53	42 x 53 x 55	48 x 55 x 66	53 x 58 x 62	58 x 59 x 76	63 x 71 x 79
Packing Size (w x d x h) (cm)		62 x 53 x 74	68 x 58 x 76	67 x 62 x 90	72 x 68 x 84	74 x 74 x 105	116 x 90 x 110
Gross Weight		54 kg	62 kg	82 kg	88 kg	104 kg	225 kg
Power plug type		Hybrid E+F		5 pole 16A CEE			
Power Supply*		AC 230V, 1N~, 50/60Hz		AC 400V, 3N~,50 / 60Hz			

* Other Specifications are available upon Customer's Request.

**Inner Chamber of
Exposed Heating Elements-type**

Ordering Information

DH.WF11.P03	Furnace, **230V, 3 Lit., "FP-03"**
DH.WF11.P05	**, 4.5 Lit., "FP-05"**
DH.WF13.P12	Furnace, **400V, 3N~, 12 Lit., "FP-12"**
DH.WF13.P14	**, 14 Lit., "FP-14"**
DH.WF13.P27	**, 27 Lit., "FP-27"**
DH.WF13.P63	**, 63 Lit., "FP-63"**

Spare Ceramic Fiber Plates

DH.WF211.03	(1) Ceramic Fiber Plate, **"FS1103"** for **"F/FH-03** and **"FP/FHP-03"**
DH.WF211.05	, **"FS1105"** for **"F/FH-05** and **"FP/FHP-05"**
DH.WF211.12	, **"FS1112"** for **"F/FH-12** and **"FP/FHP-12"**
DH.WF211.14	, **"FS1114"** for **"F/FH-14** and **"FP/FHP-14"**
DH.WF211.27	, **"FS1127"** for **"F/FH-27** and **"FP/FHP-27"**
DH.WF211.63	, **"FS1163"** for **"F/FH-63** and **"FP/FHP-63"**

**(1) Ceramic Fiber Plate
(Included)**

Optional Gloves & Power Cable

NA.491041101	(2) Gloves , Heat-resistant, 900°C, Flexible & Long Sleeve, 1Pair

Validation (IQ, OQ) Service

| DH.WF311.P03	Validation Service(IQ, OQ), **"FPV1103",** for **"FP-03"**
DH.WF311.P05	, **"FPV1105",** for **"FP-05"**
DH.WF311.P12	, **"FPV1112",** for **"FP-12"**
DH.WF311.P14	, **"FPV1114",** for **"FP-14"**
DH.WF311.P27	, **"FPV1127",** for **"FP-27"**
DH.WF311.P63	, **"FPV1163",** for **"FP-63"**
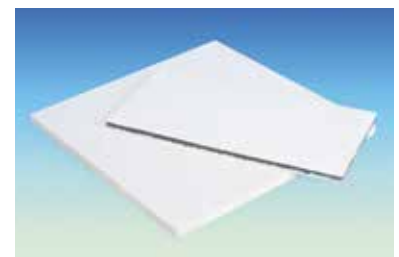
(2) Heat-resistant Gloves

witeg® 1,200°C Digital Muffle Furnaces, "FH", Exposed Heating Elements-type, with Certi. & Traceability
with Digital PID Control, Short Heat-up Time, Ceramic Fiber, 4-Side Heating, with Ceramic Fiber Plate, 3~63 Lit.

CE

2-Year Warranty

Jog-Dial with Push Button

Wisd

**1200°C Digital Muffle Furnace,
Exposed Heating Elements-type "FH-14"**

**Inner Chamber of
Exposed Heating Elements-type**
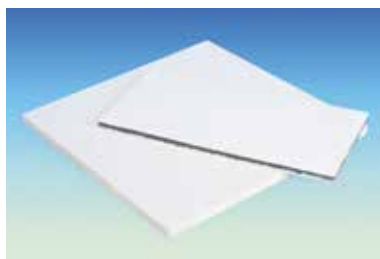
**(1) Ceramic Fiber Plate
(Included)**

(2) Heat-resistant Gloves

■ **with Certificate & Traceability :**
  Controlled by Serial Number, Certificate, Delivery-information, and Traceable Data Base System
■ **Patented Jog-Dial Control System** and Digital LCD with Back-Light Function
■ **CE Certified**   ■ **PL (Product Liability) Insurance**

✽ Digital Jog-Dial Control System
✽ Included Ceramic Fiber Plate
✽ User's Self-Compensation Function for Temperature (±50°C)
✽ Resolution : 1°C, 1min
✽ Safety Switch for Door Opening
✽ Ceramic Fiber Exposed Heating Wire, 4-Side Heating

Specification

Capacity & Model and Temp. Range		3 Lit. "FH-03"	4.5 Lit. "FH-05"	12 Lit. "FH-12"	14 Lit. "FH-14"	27 Lit. "FH-27"	63 Lit. "FH-63"
		300°C ~ 1200°C					
Heater		Kanthal A1, Embedded Wire Heating Elements, 4-Side Heating					
Thermocouple		K-type Thermocouple					
Heating Power		1.4 kW	1.8 kW	3.6 kW	4.0 kW	4.6 kW	9 kW
Required time to be reached 800°C		16 min		20 min			23 min
Timer & Alarm		99hr 59min (Delay & Continuous run), Error status & Timer-end					
Display		Digital LCD with Back-Light Function					
Controller		Digital PID Controller with Jog-Shuttle Switch (Turn+Push)					
Safety Circuit		Over-Temp./-Current protection, Sensor Error Detection Safety Switch for Door Opening					
Material		Ceramic Fiber with Heating Wire-Internal, Powder Coated Steel-External Ceramic Fiber-Insulation					
Dimension (w x d x h)	Internal (cm)	13 x 25 x 9	15 x 30 x 10	20 x 30 x 20	25 x 35 x 16	30 x 30 x 30	40 x 40 x 40
	External (cm)	39 x 48 x 53	42 x 53 x 55	48 x 55 x 66	53 x 58 x 62	58 x 59 x 76	63 x 71 x 79
Packing Size (w x d x h) (cm)		62 x 53 x 74	68 x 58 x 76	67 x 62 x 90	72 x 68 x 84	74 x 74 x 105	116 x 90 x 110
Gross Weight		54 kg	62 kg	82 kg	88 kg	104 kg	225 kg
Power plug type		Hybrid E+F		5 pole 16A CEE			
Power Supply*		AC 230V, 1N~, 50/60Hz		AC 400V, 3N~,50 / 60Hz			

* Other Specifications are available upon Customer's Request.

Ordering Information

DH.WFH22.03	Furnace, **230V**, **3 Lit.**, "FH-03"
DH.WFH22.05	, **4.5 Lit.**, "FH-05"
DH.WFH23.12	Furnace, **400V, 3N~**, **12 Lit.**, "FH-12"
DH.WFH23.14	, **14 Lit.**, "FH-14"
DH.WFH23.27	, **27 Lit.**, "FH-27"
DH.WFH23.63	, **63 Lit.**, "FH-63"

Spare Ceramic Fiber Plates

DH.WF211.03	(1) Ceramic Fiber Plate, **"FS1103"** for **"F/FH-03"** and **"FP/FHP-03"**
DH.WF211.05	, **"FS1105"** for **"F/FH-05"** and **"FP/FHP-05"**
DH.WF211.12	, **"FS1112"** for **"F/FH-12"** and **"FP/FHP-12"**
DH.WF211.14	, **"FS1114"** for **"F/FH-14"** and **"FP/FHP-14"**
DH.WF211.27	, **"FS1127"** for **"F/FH-27"** and **"FP/FHP-27"**
DH.WF211.63	, **"FS1163"** for **"F/FH-63"** and **"FP/FHP-63"**

Optional Gloves & Power Cable

|	
NA.491041101	(2) Gloves, Heat-resistant, 900°C, Flexible & Long Sleeve, 1Pair

Validation (IQ, OQ) Service

DH.WFH312.03	Validation Service(IQ, OQ), **"FHV1203"**, for **"FH-03"**
DH.WFH312.05	, **"FHV1205"**, for **"FH-05"**
DH.WFH312.12	, **"FHV1212"**, for **"FH-12"**
DH.WFH312.14	, **"FHV1214"**, for **"FH-14"**
DH.WFH312.27	, **"FHV1227"**, for **"FH-27"**
DH.WFH312.63	, **"FHV1263"**, for **"FH-63"**

witeg® 1,200°C Programmable Digital Muffle Furnaces, "FHP", Exposed Heating Elements-type
with Digital PID Programmable Control, Short Heat-up Time, Ceramic Fiber, 4-Side Heating, with Ceramic Fiber Plate, 3~63 Lit.

■ **with Certificate & Traceability :**
   **Controlled by Serial Number, Certificate, Delivery-information, and
   Traceable Data Base System**
■ **Digital PID Programmable Controller : 3 Patterns with 16 Segments**
■ **CE Certified**   ■ **PL (Product Liability) Insurance**

❋ User's Self-Compensation Function for Temperature (±50°C)
❋ Programmable Timer : 99 hr 59 min
❋ Resolution : 1°C, 1min
❋ Included Ceramic Fiber Plate
❋ Safety Switch for Door Opening
❋ Ceramic Fiber embedded Heating Wire, 4-Side Heating

2-Year Warranty CE

*Digital PID Controller
: 3 Patterns with 16 Segments* **Wisd℗**

**1200°C Digital Muffle Furnace,
Embedded Heating Elements-type "FHP-14"**

Specification

Capacity & Model and Temp. Range		3 Lit. "FHP-03"	4.5 Lit. "FHP-05"	12 Lit. "FHP-12"	14 Lit. "FHP-14"	27 Lit. "FHP-27"	63 Lit. "FHP-63"
		300°C ~ 1200°C					
Heater		Kanthal A1, Embedded Wire Heating Elements, 4-Side Heating					
Thermocouple		K-type Thermocouple					
Heating Power		1.4 kW	1.8 kW	3.6 kW	4.0 kW	4.6 kW	9 kW
Required time to be reached 800°C		16 min		20 min			23 min
Display		LED					
Controller		Programmable PID Controller : 3 Patterns 16 Segments					
Safety Circuit		Over-Temp./-Current protection, Sensor Error Detection Safety Switch for Door Opening					
Material		Ceramic Fiber with Heating Wire-Internal, Powder Coated Steel-External Ceramic Fiber-Insulation					
Dimension (w x d x h)	Internal (cm)	13 x 25 x 9	15 x 30 x 10	20 x 30 x 20	25 x 35 x 16	30 x 30 x 30	40 x 40 x 40
	External (cm)	39 x 48 x 53	42 x 53 x 55	48 x 55 x 66	53 x 58 x 62	58 x 59 x 76	63 x 71 x 79
Packing Size (w x d x h) (cm)		62 x 53 x 74	68 x 58 x 76	67 x 62 x 90	72 x 68 x 84	74 x 74 x 105	116 x 90 x 110
Gross Weight		54 kg	62 kg	82 kg	88 kg	104 kg	225 kg
Power plug type		Hybrid E+F		5 pole 16A CEE			
Power Supply*		AC 230V, 1N~, 50/60Hz		AC 400V, 3N~,50 / 60Hz			

* Other Specifications are available upon Customer's Request.

Ordering Information

DH.WFH12.P03	Furnace, **230V, 3 Lit.**, **"FHP-03"**
DH.WFH12.P05	, **4.5 Lit.**, **"FHP-05"**
DH.WFH13.P12	Furnace, **400V, 3N~, 12 Lit.**, **"FHP-12"**
DH.WFH13.P14	, **14 Lit.**, **"FHP-14"**
DH.WFH13.P27	, **27 Lit.**, **"FHP-27"**
DH.WFH13.P63	, **63 Lit.**, **"FHP-63"**

Spare Ceramic Fiber Plates
DH.WF211.03	(1) Ceramic Fiber Plate, **"FS1103"** for **"F/FH-03"** and **"FP/FHP-03"**
DH.WF211.05	, **"FS1105"** for **"F/FH-05"** and **"FP/FHP-05"**
DH.WF211.12	, **"FS1112"** for **"F/FH-12"** and **"FP/FHP-12"**
DH.WF211.14	, **"FS1114"** for **"F/FH-14"** and **"FP/FHP-14"**
DH.WF211.27	, **"FS1127"** for **"F/FH-27"** and **"FP/FHP-27"**
DH.WF211.63	, **"FS1163"** for **"F/FH-63"** and **"FP/FHP-63"**

Optional Gloves & Power Cable
NA.491041101	(2) Gloves, Heat-resistant, 900°C, Flexible & Long Sleeve, 1Pair

Validation (IQ, OQ) Service
DH.WFH312.P03	Validation Service(IQ, OQ), **"FHPV1203"**, for **"FHP-03"**
DH.WFH312.P05	, **"FHPV1205"**, for **"FHP-05"**
DH.WFH312.P12	, **"FHPV1212"**, for **"FHP-12"**
DH.WFH312.P14	, **"FHPV1214"**, for **"FHP-14"**
DH.WFH312.P27	, **"FHPV1227"**, for **"FHP-27"**
DH.WFH312.P63	, **"FHPV1263"**, for **"FHP-63"**

**Inner Chamber of
Exposed Heating Elements-type**
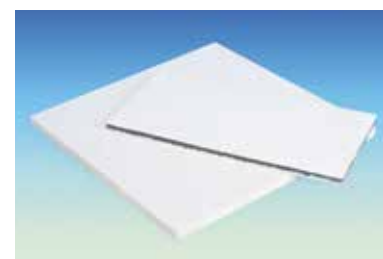
**(1) Ceramic Fiber Plate
(Included)**

(2) Heat-resistant Gloves

Dry Bath

- Designed for Multi-functional Dry Block Heater
- User Self-Compensation Function to Control Difference between Real Temperature and Indicated Temperature (±10.0°C)
- Various kind of Blocks are offered (Optional)
- Over Temperature & Over Current Protection and Sensor Error Detection
- Patented Jog-Shuttle Control System and Digital LCD with Back-Light Function
- PL(Product Liability) Insurance

≫ **Dry Bath - Heating & Cooling**

≫ **Dry Bath - Heating**

HB-48-Set

HB-96D-Set
-Dual type

HB-R48-Set

witeg® High-performance Dry Bath, Heating, "HB", up to 150°C, ±0.1°C, with Certi. & Traceability

with Digital Fuzzy Control, Touch-button Controller, Modular Blocks Acrylic Lid, Anodized Aluminium Block

- **with Certificate & Traceability :**
  Controlled by Serial Number, Certificate, Delivery-information, and Traceable Data Base System
- **Designed for Multi-functional Dry Block Heater**
- **Patented Jog-Dial Control System and digital LCD with Back-light**
- **Jog-Dial and Main Touch Button - Best Durability, Best Mobility, Best Convenient to Operate (HB-48 model)**
- **High-performance Molding Heater ensures Best Temperature Accuracy.**
- **Internal Bath Materials (PPS) ensures complete Insulation (HB-48 model)**
- **CE Certified**   ■ **PL (Product Liability) Insurance**

✲ Ideal for Enzyme Reactions, Inactivation of Sera, Incubation and Other Laboratory Procedures
✲ Precise Temperature Control : ±0.1°C at 37°C, ±0.2°C at 90°C, ±0.4°C at 135°C
✲ User Self-Compensation Function to Control Difference between Real Temperature and Indicated Temperature (±10.0°C)
✲ Over Temperature & Over Current Protection and Sensor Error Detection
✲ Digital Timer Included : up to 99hr 59min (Operation Time + Delay Time)
✲ Storage Function of Temperature and Timer setting values
✲ Alarm Function : Error Status and Timer-end
✲ Various kind of Blocks are offered (Optional),   ✲ Modular Block
✲ Locking Mode Supported for Experimental Safety (Input to Jog-Shuttle can be Disabled)
✲ The Block Extraction Tongs and Included for Easy Handing

(a) Single Control System, Dry Bath, Heating Package-Set "HB-48-Set" with Block "BLC548" for 1.5/2ml Centrifuge Tube x 48 holes

Specification

Models		Single Control System	Dual Control System
		"HB-48-Set"	**"HB-96D-Set"**
Controller		Single Digital Fuzzy Controller	Dual Digital Fuzzy Controller
Capacity (1.5/2ml Tube)		48 Holes x 1.5/2ml Tube	96 Holes x 1.5/2ml Tube
Heater		300W(Molding Heater)	
Dimension	**Block (mm)**	90 x 120 x h60	(90 x 120 x h60) x 2ea
	Unit (mm)	180 x 220 x h155	285 x 250 x h155
Temp. Range, & Accuracy		Ambient +5°C to 150°C, ±0.1°C at 37°C, ±0.2°C at 90°C, ±0.4°C at 135°C	
Heat-Up Speed & Sensor		Approx. 5°C/min, PT100	
Safety Circuit		Over Temp. and Over Current Protector, Sensor Error Detector	
Timer with Alarm		99hr 59min, Alarm (Error Status and Timer-end)	
Display		Digital LCD with Back-Light Function	
Material	**Internal & External**	Stainless Steel (#304), and Powder Coated Steel	
	Block	Anodized Aluminum	
Included Standard Acce.		Block "BLC548" for 1.5/2ml Tubes, and Block Tong "BLE101"	
Packing Size		400 x 270 x h200 mm	
Gross Weight		4 kg	6 kg
Power Consumption		300 W	600 W
Power plug type		Hybrid E+F	
Power Supply*		AC 230V, 1N~, 50/60Hz	

* Other Specifications are available upon Customer's Request.

Patented Jog-Dial Control System with Touch Button

Ordering Information

(a) Single Control System, available 1 Block
DH.WHB00349   Dry Bath, Heating, **230V**, **"HB-48-Set"**
DH.WHB00348   , **"HB-48 Unit"**

(b) Dual Control System, available 2 Blocks
DH.WHB00199   Dry Bath, Heating, **230V**, **"HB-96D-Set"**
DH.WHB00198   , **"HB-96D Unit"**

(b) Dual Control System, Dry Bath, Heating Package-Set "HB-96D-Set" with 2 x Block "BLC548" for 1.5/2ml Centrifuge Tube x 48 holes

<Continued on next page>

<Continued from... High-performance Dry Bath-Heating, "HB">

CE up to 150°C   *2-Year Warranty*

Block "BLC548",
48 holes

Patented Jog-Shuttle Control System

Wisd

Tong "BLE101"

(a) Single Control System, Dry Bath, Heating Package-Set
"HB-48-Set" with Block "BLC548"
for 1.5/2ml Centrifuge Tube x 48 holes

Optional Interchangeable Blocks

DH.WHB510596	(1) Block, **"BLC596",** for 0.2ml PCR Tube, 96 holes
DH.WHB510570	(2) Block, **"BLC570",** for 0.5ml Centrifuge Tube x 63 holes
DH.WHB511548	(3) , **"BLC548",** for 1.5/2ml Centrifuge Tube x 48 holes
DH.WHB521248	(4) Block, **"BLT248",** for Ø12mm Test Tube, 48 holes
DH.WHB521335	(5) , **"BLT335",** for Ø13mm Test Tube, 30 holes
DH.WHB521535	(6) , **"BLT535",** for Ø15mm Test Tube, 30 holes
DH.WHB521628	(7) , **"BLT628",** for Ø16.5mm Test Tube, 24 holes
DH.WHB521828	(8) , **"BLT828",** for Ø18mm Test Tube, 24 holes
DH.WHB531515	(9) Block, **"BLC515",** for 15ml Conical Tube, 15 holes
DH.WHB535008	(10) , **"BLC008",** for 50ml Conical Tube, 8 holes

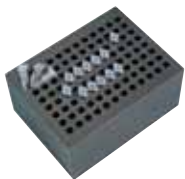DH.WHB500101   Spare Block Extraction Tong, **"BLE101"**

BLE101

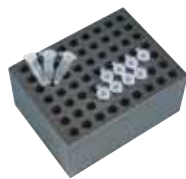### Validation (IQ, OQ) Service

DH.WHB30148   Validation Service(IQ, OQ), **"DBV148",** for **"HB-48"**
DH.WHB30198   , **"DBV198",** for **"HB-96D"**

The Details of 10 Optional Blocks

(1) "BLC596"
0.2ml PCR Tube x 96 holes

(2) "BLC570"
0.5ml Centrifuge Tube x 63 holes

(3) "BLC548"
1.5/2ml Centrifuge Tube x 48 holes

Included in the Package-Set

(4) "BLT248"
Ø12mm Tube x 48 holes

(5) "BLT335"
Ø13mm Tube x 30 holes

(6) "BLT535"
Ø15mm Tube x 30 holes

(7) "BLT628"
Ø16.5mm Tube x 24 holes

(8) "BLT828"
Ø18mm Tube x 24 holes

(9) "BLC515"
15ml Conical Tube x 15 holes

(10) "BLC008"
50ml Conical Tube x 8 holes

witeg® High-performance Dry Bath – Heating & Cooling, "HB-R", -5°C~95°C, ±0.15°C

with Digital PID Control, Acrylic Lid, Precise Temperature Control, Modular Blocks, Anodized Aluminum Block

■ **with Certificate & Traceability :**
  Controlled by Serial Number, Certificate, Delivery-information, and Traceable Data Base System

■ **Designed for Multi-Function : Enzyme Reactions, Inactivation of Sera, Incubation and Other Laboratory Procedures.**

■ **Patented Jog-Shuttle Control System** and Digital LCD with Back-Light Function

■ **CE Certified**   ■ **PL(Product Liability) Insurance**

❊ User Self-Compensation Function to Control Difference between Real Temperature and Indicated Temperature

❊ Storage Function of Temperature and Timer setting values

❊ Locking Mode Supported for Experimental Safety (Input to Jog-Shuttle can be Disabled)

Specification

Model		Heat/Cool Package-Set "HB-R48-Set"
Capacity (1.5/2ml Tube)		48 holes x 1.5/2ml Centri. Tubes
Dimension : Unit & Block		185 x 230 x h220mm, and 90 x 120 x h60mm
Cooling		Two Peltier Modules
Cool-Down Speed		2.3°C/min. between 95°C to 25°C, 0.5°C/min. between 25°C to -5°C
Heater and Sensor		300W (Molding Heater), PT100
Temp. Range, & Accuracy		-5°C to 95°C, and ±0.1°C at 37°C, ±0.2°C at 90°C
Heat-Up Speed		Approx. 5°C/min
Safety Device		Over Temp. and Over Current Protector, Sensor Error Detector
Timer with Alarm		99hr 59min, Alarm (Error Status and Timer-end)
Display		Digital LCD with Back-Light Function
Controller		Digital PID Controller
Material	**Internal & External**	Stainless Steel (#304), and Powder Coated Steel
	Block	Anodized Aluminum
Included Standard Acce.		Block BLC548 for 1.5/2ml Tubes, and Block Tong BLE101
Packing Size, Gross Weight		350 x 220 x h310mm, 9 kg
Power Consumption		450 W
Power plug type		Hybrid E+F
Power Supply*		AC 230V, 1N~, 50/60Hz

* **Other Specifications are available upon Customer's Request.**

Heat/Cool Package-Set "HB-R48-Set" with Block "BLC548" for 1.5/2ml Centrifuge Tube x 48 holes

Included Block in the Package-Set

(3) "BLC548"
1.5/2ml Centrifuge Tube x 48 holes

Ordering Information

Dry Bath-Heating & Cooling Package-Set, with 1.5/2ml Block

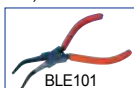**DH.WHB00249**   Dry Bath, Heat/Cool, **"HB-R48-Set", 230V**, with 1.5/2ml Block

Dry Bath-Heating & Cooling Unit Only, without Block

DH.WHB00248   Dry Bath, Heat/Cool, **"HB-R48-Unit", 230V**, without Block

Optional Interchangeable Blocks

DH.WHB510596	(1) Block, **"BLC596",** for 0.2ml PCR Tube, 96 holes
DH.WHB510570	(2) Block, **"BLC570",** for 0.5ml Centrifuge Tube x 63 holes
DH.WHB511548	(3) , **"BLC548",** for 1.5/2ml Centrifuge Tube x 48 holes
DH.WHB521248	(4) Block, **"BLT248",** for Ø12mm Test Tube, 48 holes
DH.WHB521335	(5) , **"BLT335",** for Ø13mm Test Tube, 30 holes
DH.WHB521535	(6) , **"BLT535",** for Ø15mm Test Tube, 30 holes
DH.WHB521628	(7) , **"BLT628",** for Ø16.5mm Test Tube, 24 holes
DH.WHB521828	(8) , **"BLT828",** for Ø18mm Test Tube, 24 holes
DH.WHB531515	(9) Block, **"BLC515",** for 15ml Conical Tube, 15 holes
DH.WHB535008	(10) , **"BLC008",** for 50ml Conical Tube, 8 holes

DH.WHB500101   Spare Block Extraction Tong, **"BLE101"**

Validation (IQ, OQ) Service

DH.WHB30248   Validation Service(IQ, OQ), **"DBVR248",** for **"HB-R48"**
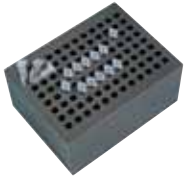
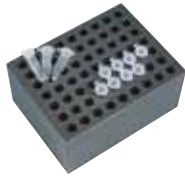**<Continued from...** High-performance Dry Bath-Heating & Cooling, "HB-R" **>**

The Details of 10 Optional Blocks

(1) "BLC596"
0.2ml PCR Tube x 96 holes

(2) "BLC570"
0.5ml Centrifuge Tube x 63 holes

(3) "BLC548"
1.5/2ml Centrifuge Tube x 48 holes

Included in the Package-Set

(4) "BLT248"
Ø12mm Tube x 48 holes

(5) "BLT335"
Ø13mm Tube x 30 holes

(6) "BLT535"
Ø15mm Tube x 30 holes

(7) "BLT628"
Ø16.5mm Tube x 24 holes

(8) "BLT828"
Ø18mm Tube x 24 holes

(9) "BLC515"
15ml Conical Tube x 15 holes

(10) "BLC008"
50ml Conical Tube x 8 holes

Wisd
LABORATORY INSTRUMENTS

Heating Mantles

For Spherical flask

For Beaker

For Reaction Vessel

For All Heating Instruments Control

Stirrer Heating Mantle

WHM12034

Large Capacity
Heating Mantle

WHM12073

High-Temp. Heating Mantle

WHM12094

Stirrer Beaker
Heating Mantle

WHM121606

Reaction Vessel
Heating Mantle

WHM12217

Reaction Vessel Heating
Mantle with Controller

WHM722101

Analog Compact Controller

WHM-C10A

Digital Feedback Controller

WHM-C10D

Analog 6 places Heating Mantle

WHM12293

Articles	Cat. No	Description

witeg® Aluminum-case Heating Mantles, "WHM", with Controller, 50~20,000ml, 450°C

For Spherical Flask, with Nickel Chrome Heating Element, Built-in Temperature Controller, with Certi. & Traceability

- with Certificate & Traceability : Controlled by Serial Number, Certificate, Delivery-information, and Traceable Data Base System
- Full Choices of Vessel, Capacity, Housing and Control are Offered!
- **Nickel Chrome Heating Element - Coil Type**
  : Acid-Resistant, Long Life Time
- Built-in Temperature Controller
- All Kinds of Round Flasks can be used - DURAN/Kimax/Pyrex/Iwaki
- CE Certified

Catalog No. with 230V	Catalog No. with 120V	Flask Capacity (ml)	Flask Dia. Φ(mm)	Watts (W)	Inside Depth (mm)	Mantle Outside Φ x H (mm)	Support Rod Φ x H (mm)	Application (Flask-brand)
DH.WHM12010	DH.WHM12020	50	49 ~ 52	80	40	Φ 145 x H140	Φ 13 x H440	Common-Use
DH.WHM12011	DH.WHM12021	100	63 ~ 66	80	40	Φ 145 x H140	Φ 13 x H440	Common-Use
DH.WHM12012	DH.WHM12022	250	83 ~ 86	140	50	Φ 145 x H140	Φ 13 x H440	Common-Use
DH.WHM12013	DH.WHM12023	500	102 ~ 105	240	65	Φ 190 x H165	Φ 13 x H440	Common-Use
DH.WHM12014	DH.WHM12024	1,000	130 ~ 133	350	75	Φ 190 x H165	Φ 13 x H440	Common-Use
DH.WHM12015	DH.WHM12025	2,000	165 ~ 169	450	100	Φ 270 x H200	Φ 13 x H660	for DU./Iw.
DH.WHM120151	DH.WHM120251	2,000	161 ~ 164	450	100	Φ 270 x H200	Φ 13 x H660	for Ki./Py.
DH.WHM12016	DH.WHM12026	3,000	184 ~ 187	550	105	Φ 270 x H200	Φ 13 x H660	for DU./Ki.
DH.WHM12017	DH.WHM12027	5,000	221 ~ 224	800	131	Φ 325 x H226	Φ 13 x H800	Common-Use
DH.WHM12018	DH.WHM12028	6,000	234 ~ 237	800	131	Φ 325 x H226	Φ 13 x H800	for DU./Ki.
DH.WHM12019	DH.WHM12029	10,000 ☆	278 ~ 282	1400	150	Φ 390 x H240	Φ 13 x H800	for DU.
DH.WHM12070	DH.WHM12071★	20,000 ☆	344 ~ 348	2000	200	Φ 470 x H260	Φ 13 x H800	for DU.

☆-Marks 10.000ml & 20.000ml Mantle Steel-case / Magnetic Stirring is not Available   ★Remarks : DU. : DURAN Ki. : Kimax Iw. : Iwaki Py. : Pyrex

CE **2-Year Warranty** 450°C

Heating Mantle with Controller

Heating Mantle with Controller for Round Flasks (WHM12014)

CE **2-Year Warranty** 50~750rpm 450°C

Stirrer Heating Mantle with Controller

with 2 x Oval-type Stirrer Bar

Stirrer Heating Mantle with Controller for Round Flasks (WHM12034)

witeg® Aluminum-case Stirrer Heating Mantles, "WHM", 50~6,000ml, 450 °C, with Certi. & Traceability

For Spherical Flask, with Controller, Nickel Chrome Heating Element, Stirring & Temperature Controller, 50~750rpm

- with Certificate & Traceability : Controlled by Serial Number, Certificate, Delivery-information, and Traceable Data Base System
- Full Choices of Vessel, Capacity, Housing and Control are Offered!
- **Nickel Chrome Heating Element - Coil Type**
  : Acid-Resistant, Long Life Time
- Built-in Temperature Controller
- All Kinds of Round Flasks can be used - DURAN/Kimax/Pyrex/Iwaki
- CE Certified

Catalog No. with 230V	Catalog No. with 120V	Flask Capacity (ml)	Flask Dia. Φ(mm)	Watts (W)	Inside Depth (mm)	Mantle Outside Φ x H (mm)	Support Rod Φ x H (mm)	Application (Flask-brand)
DH.WHM12030	DH.WHM12040	50	49 ~ 52	80	40	Φ 145 x H140	Φ 13 x H440	Common-use
DH.WHM12031	DH.WHM12041	100	63 ~ 66	80	40	Φ 145 x H140	Φ 13 x H440	Common-use
DH.WHM12032	DH.WHM12042	250	83 ~ 86	140	50	Φ 145 x H140	Φ 13 x H440	Common-use
DH.WHM12033	DH.WHM12043	500	102 ~ 105	240	65	Φ 190 x H165	Φ 13 x H440	Common-use
DH.WHM12034	DH.WHM12044	1,000	130 ~ 133	350	75	Φ 190 x H165	Φ 13 x H440	Common-use
DH.WHM12035	DH.WHM12045	2,000	165 ~ 169	450	100	Φ 270 x H200	Φ 13 x H660	for DU/Iw.
DH.WHM120351	DH.WHM120451	2,000	161 ~ 164	450	100	Φ 270 x H200	Φ 13 x H660	for Ki./Py.
DH.WHM12036	DH.WHM12046	3,000	184 ~ 187	550	105	Φ 270 x H200	Φ 13 x H660	for DU./Ki.
DH.WHM12037	DH.WHM12047	5,000	221 ~ 224	800	131	Φ 325 x H226	Φ 13 x H800	Common-use
DH.WHM12038	DH.WHM12048	6,000	234 ~ 237	800	131	Φ 325 x H226	Φ 13 x H800	for DU./Ki.

★2pcs of PTFE Magnetic Stirrer Bars Offered : Oval-Type, Φ6.0 x L15mm (CW.001.615) and Φ10 L25 (CW.001.625.10) one each

★Remarks : DU. : DURAN Ki. : Kimax Iw. : Iwaki Py. : Pyrex

★Available for Iwaki Flask 3000ml
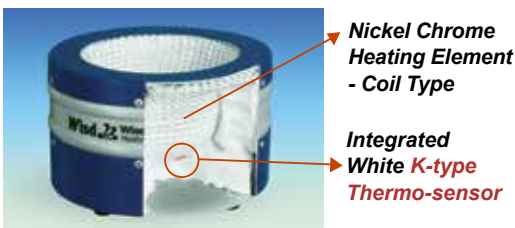
| Cat. No | Description | Articles |

witeg® Aluminum-Case Heating Mantles, WHM , 50 ~ 6,000ml , 450°C
For Spherical Flask, with Nickel Chrome Heating Element, K-type Thermo-Sensor Integrated, Option-Controller, with Certi. & Traceability

■ with Certificate & Traceability : Controlled by Serial Number, Certificate, Delivery-information, and Traceable Data Base System
■ Full Choices of Vessel, Capacity, Housing and control are offered !
■ Highly-processed Aluminum Case Offers Robust Standing, Easy Handling and **Usability on the Magnetic Stirrer**
■ Optional Remote Thermo Controllers are Available (Analog : **WHM-C10A**, Digital : **WHM-C10D**)

■ **Nickel Chrome Heating Element - Coil Type : Acid-Resistant, Long Life Time.**
■ **K-type Thermo Sensor** is basically embedded
■ CE Certified

with 230V	with 120V	Flask Capacity (ml)	Flask Dia. Φ (mm)	Watts (W)	Inside Depth (mm)	Mantle Outside Φ x H (mm)	Support Rod Φ x H (mm)	Application (Flask-brand)
DH.WHM12050	DH.WHM12060	50	49 ~ 52	80	48	Φ 145 x H75	Φ 13 x H440	Common-use
DH.WHM12051	DH.WHM12061	100	63 ~ 66	80	50	Φ 145 x H75	Φ 13 x H440	Common-use
DH.WHM12052	DH.WHM12062	250	83 ~ 86	140	50	Φ 145 x H75	Φ 13 x H440	Common-use
DH.WHM12053	DH.WHM12063	500	102 ~ 105	240	85	Φ 190 x H110	Φ 13 x H440	Common-use
DH.WHM12054	DH.WHM12064	1,000	130 ~ 133	350	85	Φ 190 x H110	Φ 13 x H440	Common-use
DH.WHM12055	DH.WHM12065	2,000	165 ~ 169	450	110	Φ 270 x H135	Φ 13 x H660	for DU/Iw.
DH.WHM120551	DH.WHM120651	2,000	161 ~ 164	450	110	Φ 270 x H135	Φ 13 x H660	for Ki/Py.
DH.WHM12056	DH.WHM12066	3,000	184 ~ 187	550	110	Φ 270 x H135	Φ 13 x H660	for DU/Ki.
DH.WHM12057	DH.WHM12067	5,000	221 ~ 224	800	140	Φ 325 x H165	Φ 13 x H800	Common-use
DH.WHM12058	DH.WHM12068	6,000	234 ~ 237	800	140	Φ 325 x H165	Φ 13 x H800	for DU/Ki.

*Remarks : DU. : DURAN   Ki. : Kimax   Iw. : Iwaki   Py. : Pyrex

2-Year Warranty 450°C
Al-Case Heating Mantle
Heating Mantle for Round Flasks (WHM12054)

Nickel Chrome Heating Element - Coil Type
Integrated White K-type Thermo-sensor
Realize Precise Temperature Control by integrated K-type Thermo-sensor

(1) WHM - C10A   **(2) WHM-C10D**
(1) Analog Compact Controller & (2) Digital Feedback Controller **(Optional, See P.70)**

2-Year Warranty 450°C
Steel-Case Heating Mantle
Large Capacity Heating Mantle for Round Flasks (WHM12073)

witeg® Large Capacity Steel Case Heating Mantles, WHM , 10~20Lit., 450°C
For Spherical Flask, with Nickel Chrome Heating Element, K-type Thermo-sensor Integrated, Option-Controller, with Certi. & Traceability

■ with Certificate & Traceability : Controlled by Serial Number, Certificate, Delivery-information, and Traceable Data Base System
■ Full Choices of Vessel, Capacity, Housing and Control are offered!
■ **Nickel Chrome Heating Element - Coil Type : Acid-resistant, Long Life Time**
■ Steel Case : Magnetic Stirring is not available
■ Optional Remote Thermo Controllers are available (Analog : **WHM-C10A**, Digital : **WHM-C10D**)
■ **K-type Thermo Sensor** is basically embedded
■ CE Certified

with 230V	with 120V	Flask Capacity (Lit.)	Flask Dia. Φ(mm)	Watts (W)	Inside Depth (mm)	Mantle Outside Φ x H (mm)	Support Rod Φ x H (mm)	Application (Flask-brand)
DH.WHM12073	DH.WHM12083	10	278 ~ 282	1400	160	Φ 390 x H240	Φ 13 x H800	for DU.
DH.WHM12074	DH.WHM12084*	20	344 ~ 348	2000	200	Φ 470 x H260	Φ 13 x H800	for DU.

*Remarks : DU. : DURAN   Ki. : Kimax   Iw. : Iwaki   Py. : Pyrex

| Articles | Cat. No | Description |

witeg® High-Temp. Aluminum-case Heating Mantles, WHM, 100~10,000ml, 650°C
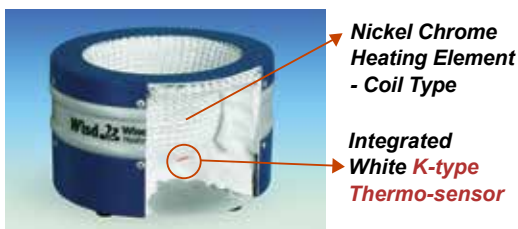## For Spherical Flask, with Nickel Chrome Heating Element, K-type Thermo-sensor Integrated, Option-Controller, with Certi. & Traceability

■ with Certificate & Traceability : Controlled by Serial Number, Certificate, Delivery-information, and Traceable Data Base System
■ Full Choices of Vessel, Capacity, Housing and Control are offered! ■ Optional Remote Thermo Controllers are available
■ Highly-processed Aluminum Case offers Robust Standing, (Analog : **WHM-C10A**, Digital : **WHM-C10D**)
  Easy Handling and **Usability on the Magnetic Stirrer** ■ **K-type Thermo Sensor** is basically embedded ■ CE Certified

Catalog No. with 230V	Catalog No. with 120V	Flask Capacity (ml)	Flask Dia. Φ(mm)	Watts (W)	Inside Depth (mm)	Mantle Outside Φ x H (mm)	Support Rod Φ x H (mm)	Application (Flask-brand)
DH.WHM12091	DH.WHM12101	100	63 ~ 66	120	50	Φ 145 x H75	Φ 13 x H440	Common-use
DH.WHM12092	DH.WHM12102	250	83 ~ 86	200	50	Φ 145 x H75	Φ 13 x H440	Common-use
DH.WHM12093	DH.WHM12103	500	102 ~ 105	350	85	Φ 190 x H110	Φ 13 x H440	Common-use
DH.WHM12094	DH.WHM12104	1,000	130 ~ 133	450	85	Φ 190 x H110	Φ 13 x H440	Common-use
DH.WHM12095	DH.WHM12105	2,000	165 ~ 169	600	110	Φ 270 x H135	Φ 13 x H660	for DU/Iw.
DH.WHM120951	DH.WHM121051	2,000	161 ~ 164	600	110	Φ 270 x H135	Φ 13 x H660	for Ki/Py.
DH.WHM12096	DH.WHM12106	3,000	184 ~ 187	700	110	Φ 270 x H135	Φ 13 x H660	for DU/Ki.
DH.WHM12097	DH.WHM12107	5,000	221 ~ 224	1200	140	Φ 325 x H165	Φ 13 x H800	Common-use
DH.WHM12098	DH.WHM12108	6,000	234 ~ 237	1200	140	Φ 325 x H165	Φ 13 x H800	for DU/Ki.
DH.WHM12099	DH.WHM12109★	10,000 ☆	278 ~ 282	1800★	160	Φ 390 x H240	Φ 13 x H800	for DU.

☆-Marks 10,000ml Mantle Steel-case / Magnetic Stirring is not Available ● Option 1 : Digital Feedback Controller or Analog Controller (See Page 70)

CE 650°C
High-Temp. Heating Mantle
2-Year Warranty

High-temp. Heating Mantle for Round Flasks (WHM12094)

Nickel Chrome Heating Element - Coil Type

Integrated White **K-type Thermo-sensor**

Realize Precise Temperature Control by integrated K-type Thermo-sensor

(1) WHM - C10A *(2) WHM-C10D*
(1) Analog Compact Controller &
(2) Digital Feedback Controller **(Optional, See P.70)**

Cat. No	Description	Articles

witeg® Aluminum-case Beaker Heating Mantles, WHM , 100 ~ 5,000ml, 450°C
For Beaker, with Nickel Chrome Heating Element, Built-in Temperature Controller, with Certi. & Traceability

- with Certificate & Traceability : Controlled by Serial Number, Certificate, Delivery-information, and Traceable Data Base System
- Full Choices of Vessel, Capacity, Housing and Control are Offered!
- **Nickel Chrome Heating Element - Coil Type**
  : Acid-Resistant, Long Life Time
- Built-in Temperature Controller
- All Kinds of Round Flasks can be used - DURAN/Kimax/Pyrex/Iwaki
- CE Certified

Catalog No.		Flask Capacity (ml)	Flask Dia. Φ(mm)	Watts (W)	Inside Depth (mm)	Mantle Outside Φ x H (mm)	Support Rod Φ x H (mm)	Application (Flask-brand)
with 230V	with 120V							
DH.WHM12141	DH.WHM12151	100	50 ~ 52	80	40	Φ 145 x H105	Φ 13 x H440	Common-use
DH.WHM12142	DH.WHM12152	250	68 ~ 70	140	65	Φ 145 x H140	Φ 13 x H440	Common-use
DH.WHM12143	DH.WHM12153	400	79 ~ 81	240	70	Φ 145 x H140	Φ 13 x H440	for DU.
DH.WHM121431	DH.WHM121531	400	76 ~ 78	240	75	Φ 145 x H140	Φ 13 x H440	for Iw/Ki/Py.
DH.WHM12144	DH.WHM12154	600	88 ~ 90	240	75	Φ 145 x H140	Φ 13 x H440	Common-use
DH.WHM12145	DH.WHM12155	800	98 ~ 100	300	90	Φ 190 x H165	Φ 13 x H440	Common-use
DH.WHM12146	DH.WHM12156	1,000	105 ~ 108	350	90	Φ 190 x H165	Φ 13 x H440	Common-use
DH.WHM12147	DH.WHM12157	2,000	130 ~ 132	450	125	Φ 270 x H200	Φ 13 x H660	Common-use
DH.WHM12148	DH.WHM12158	3,000	151 ~ 153	550	160	Φ 270 x H235	Φ 13 x H660	for DU/Iw.
DH.WHM121481	DH.WHM121581	4,000	160 ~ 162	700	160	Φ 270 x H235	Φ 13 x H660	for Ki/Py.
DH.WHM12149	DH.WHM12159	5,000	169 ~ 171	800	160	Φ 270 x H235	Φ 13 x H660	for DU.

* Remarks : DU. : DURAN Ki. : Kimax Iw. : Iwaki Py. : Pyrex

2-Year Warranty CE 450°C

Beaker Heating Mantle with Controller

Beaker Heating Mantles with Controller (WHM12146)

2-Year Warranty CE 50~750rpm 450°C

Stirrer Beaker Heating Mantle with Controller

with 2ea Oval-type Stirrer Bar

Stirrer Beaker Heating Mantles with Controller (WHM121606)

witeg® Aluminum-case Stirrer Beaker Heating Mantles, WHM , 100 ~ 5,000ml, 450°C
For Beaker, with Nickel Chrome Heating Element, Stirring & Temperature Controller, 50~750 rpm, with Certi. & Traceability

- with Certificate & Traceability : Controlled by Serial Number, Certificate, Delivery-information, and Traceable Data Base System
- Full Choices of Vessel, Capacity, Housing and Control are Offered !
- **Nickel Chrome Heating Element - Coil Type**
  : Acid-Resistant, Long Life Time
- Built-in Stirring & Temperature Controller
- All Kinds of Round Flasks can be used - DURAN/Kimax/Pyrex/Iwaki
- CE Certified

Catalog No.		Flask Capacity (ml)	Flask Dia. Φ(mm)	Watts (W)	Inside Depth (mm)	Mantle Outside Φ x H (mm)	Support Rod Φ x H (mm)	Application (Flask-brand)
with 230V	with 120V							
DH.WHM121601	DH.WHM121611	100	50 ~ 52	80	45	Φ 145 x H140	Φ 13 x H440	Common-use
DH.WHM121602	DH.WHM121612	250	68 ~ 70	140	70	Φ 190 x H165	Φ 13 x H440	Common-use
DH.WHM121603	DH.WHM121613	400	79 ~ 81	240	70	Φ 190 x H165	Φ 13 x H440	for DU.
DH.WHM121604	DH.WHM121614	400	76 ~ 78	240	70	Φ 190 x H165	Φ 13 x H440	for Iw/Ki/Py.
DH.WHM121605	DH.WHM121615	600	88 ~ 90	240	72	Φ 190 x H165	Φ 13 x H440	Common-use
DH.WHM121606	DH.WHM121616	1,000	105 ~ 108	350	105	Φ 270 x H200	Φ 13 x H440	Common-use
DH.WHM121607	DH.WHM121617	2,000	130 ~ 132	450	140	Φ 270 x H235	Φ 13 x H660	Common-use
DH.WHM121608	DH.WHM121618	3,000	151 ~ 153	550	140	Φ 270 x H235	Φ 13 x H660	for DU/Iw.
DH.WHM121609	DH.WHM121619	4,000	160 ~ 162	700	170	Φ 325 x H270	Φ 13 x H660	for Ki/Py.
DH.WHM121610	DH.WHM121620	5,000	169 ~ 171	800	170	Φ 325 x H270	Φ 13 x H660	for DU.

* 2pcs of PTFE Magnetic Stirrer Bar Offered : Oval-type, 6.0 L15mm and 10 L25mm one each

* Remarks : DU. : DURAN   Ki. : Kimax   Iw. : Iwaki   Py. : Pyrex

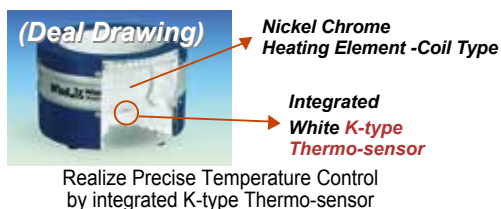# witeg® Aluminum-case Beaker Heating Mantles, WHM , 100 ~ 10,000ml, 450°C
For Beaker, with Nickel Chrome Heating Element, K-type Thermo-sensor Integrated, Option-Controller, with Certi. & Traceability

- with Certificate & Traceability : Controlled by Serial Number, Certificate, Delivery-information, and Traceable Data Base System
- Ideal for Use with Magnetic Stirrer
- Highly-processed Aluminum Case Offers Robust Standing, Easy Handling and **Usability on the Magnetic Stirrer.**
- Optional Remote Thermo Controllers are available (Analog : **WHM-C10A**, Digital : **WHM-C10D**)
- **Nickel Chrome Heating Element - Coil Type : Acid-Resistant, Long Life Time**
- **K-type Thermo Sensor** is Basically Embedded
- CE Certified

with 230V	with 120V	Flask Capacity (ml)	Flask Dia. Φ(mm)	Watts (W)	Inside Depth (mm)	Mantle Outside Φ x H (mm)	Support Rod Φ x H (mm)	Application (Flask-brand)
DH.WHM12170	DH.WHM12180	100	50 ~ 52	80	50	Φ 145 x H75	Φ 13 x H440	Common-use
DH.WHM12171	DH.WHM12181	250	68 ~ 70	140	50	Φ 145 x H75	Φ 13 x H440	Common-use
DH.WHM12172	DH.WHM12182	400	79 ~ 81	240	85	Φ 145 x H110	Φ 13 x H440	for DU.
DH.WHM121721	DH.WHM121821	400	76 ~ 78	240	85	Φ 145 x H110	Φ 13 x H440	for Iw/Ki/Py.
DH.WHM12173	DH.WHM12183	600	88 ~ 90	240	85	Φ 145 x H110	Φ 13 x H440	Common-use
DH.WHM12174	DH.WHM12184	800	98 ~ 100	300	90	Φ 145 x H110	Φ 13 x H440	Common-use
DH.WHM12175	DH.WHM12185	1,000	105 ~ 108	350	115	Φ 145 x H140	Φ 13 x H440	Common-use
DH.WHM12176	DH.WHM12186	2,000	130 ~ 132	450	140	Φ 190 x H165	Φ 13 x H660	Common-use
DH.WHM12177	DH.WHM12187	3,000	151 ~ 153	550	175	Φ 270 x H200	Φ 13 x H660	for DU/Iw.
DH.WHM12178	DH.WHM12188	4,000	160 ~ 162	700	175	Φ 270 x H200	Φ 13 x H660	for Ki/Py.
DH.WHM12179	DH.WHM12189	5,000	169 ~ 171	800	175	Φ 270 x H200	Φ 13 x H660	for DU.
DH.WHM121791	DH.WHM121891	10,000☆	216 ~ 219	1400	245	Φ 325 x H270	Φ 13 x H660	for DU.

☆-Marks : 10,000ml Mantle Steel-case / Magnetic Stirring is not available

●Option : Digital Feedback Controller or Analog Controller (Analog : **WHM-C10A**, Digital : **WHM-C10D**/ See P.70)

2-Year Warranty 450°C CE
Al-Case Beaker Heating Mantle
Beaker Heating Mantles (WHM12173)

(Deal Drawing) Nickel Chrome Heating Element -Coil Type / Integrated White K-type Thermo-sensor
Realize Precise Temperature Control by integrated K-type Thermo-sensor

(1) WHM - C10A | **(2) WHM-C10D**
(1) Analog Compact Controller & (2) Digital Feedback Controller **(Optional, See P.58)**

2-Year Warranty CE
Al-Case Stirrer Reaction Vessel Heating Mantle with Controller 450°C
Stirrer Reaction Vessel Mantles with Controller (WHM722101)

witeg® Aluminum-case Stirrer Reaction Vessel Heating Mantles, "WHM", 450°C, with Certi. & Traceability
For Reaction Vessel, Cylindrical-type, with Stirring & Temp. Controller, and Nickel Chrome Heating Element, 500 ~ 7,000ml

- with Certificate & Traceability : Controlled by Serial Number, Certificate, Delivery-information, and Traceable Data Base System
- Full Choices of Vessel, Capacity, Housing and Control are Offered!
- **Nickel Chrome Heating Element - Coil Type : Acid-Resistant, Long Life Time**
- CE Certified
- **External Thermo Sensor is (K-type) available,** which Enables Precise Control of the Temperature of Liquid Sample in the Vessel when used together with Remote Digital Controller

with 230V	with 120V	Flask Capacity (ml)	Flask Dia. Φ(cm)	Watts (W)	Inside Depth (mm)	Mantle Outside Φ x H (mm)	Support Rod Φ x H (mm)
DH.WHM722100	DH.WHM12210A	500	Φ 11 x H10	240	72	Φ 190 x H165	Φ 13 x H660
DH.WHM722101	DH.WHM12210B	1,000	Φ 11 x H15	350	107	Φ 270 x H200	Φ 13 x H660
DH.WHM722102	DH.WHM12210C	2,000	Φ 13 x H19	450	142	Φ 270 x H235	Φ 13 x H660
DH.WHM722103	DH.WHM12210D	3,000	Φ 13 x H28	550	177	Φ 325 x H270	Φ 13 x H800
DH.WHM722104	DH.WHM12210E	5,000	Φ 16 x H29	800	177	Φ 325 x H270	Φ 13 x H800
DH.WHM722105	DH.WHM12210F	6,000	Φ 21.5 x H24	800	177	Φ 325 x H270	Φ 13 x H800
DH.WHM722106	DH.WHM12210G	7,000	Φ 21.5 x H25	850	177	Φ 325 x H270	Φ 13 x H800

Cat. No	Description	Articles

witeg® Reaction Vessel Heating Mantles, WHM, Cylindrical-type, 0.5~100Lit., 450℃
For Reaction Vessel, with Nickel Chrome Heating Element, K-type Thermo-sensor Integrated, Option-Controller, with Certi. & Traceability

- with Certificate & Traceability : Controlled by Serial Number, Certificate, Delivery-information, and Traceable Data Base System
- Full Choices of Vessel, Capacity, Housing and Control are Offered !
- Highly-processed Aluminum Case Offers Robust Standing, Easy Handling and **Usability on the Magnetic Stirrer**
- **Nickel Chrome Heating Element - Coil Type : Acid-Resistant, Long Life Time**
- Optional Remote Thermo Controllers are available (Analog : **WHM-C10A**, Digital : **WHM-C10D**)

- **K-type Thermo Sensor** is Basically Embedded which Enables Precise Control of the Mantles when used together with Remote Digital Controller
- **External Thermo Sensor is Available,** which Enables Precise Control of the Temperature of Liquid Sample in the Vessel when used together with Remote Digital Controller
- CE Certified

Realize Precise Temperature Control by Integrated K-type Thermo-sensor

Nickel Chrome Heating Element - Coil Type

Integrated White K-type Thermo-sensor

(1) Analog Compact Controller &
(2) Digital Feedback Controller
(Optional, See P.70)

(1) WHM - C10A   **(2) WHM-C10D**

2-Year Warranty   450℃ CE

Reaction Vessel Heating Mantle

Reaction Vessel Heating Mantles (WHM12217)

With Aluminum Case, 0.5~10 Lit., Can be used with Magnetic Stirrers

Catalog No. with 230V	with 120V	Flask Capacity (ml)	Flask Dia. Φ(cm)	Watts (W)	Inside Depth (mm)	Mantle Outside Φ x H (mm)	Support Rod Φ x H (mm)
DH.WHM12211	DH.WHM12221	500	Φ 11 x H10	240	80	Φ 145 x H105	Φ 13 x H660
DH.WHM12212	DH.WHM12222	1,000	Φ 11 x H15	350	115	Φ 145 x H140	Φ 13 x H660
DH.WHM12213	DH.WHM12223	2,000	Φ 13 x H19	450	140	Φ 190 x H165	Φ 13 x H660
DH.WHM12214	DH.WHM12224	3,000	Φ 13 x H28	550	210	Φ 270 x H235	Φ 13 x H800
DH.WHM12215	DH.WHM12225	5,000	Φ 16 x H29	800	210	Φ 270 x H235	Φ 13 x H800
DH.WHM12216	DH.WHM12226	6,000	Φ 21.5 x H24	800	210	Φ 270 x H235	Φ 13 x H800
DH.WHM122161	DH.WHM122261	7,000	Φ 21.5 x H25	850	210	Φ 270 x H235	Φ 13 x H800
DH.WHM12217	DH.WHM12227	10,000	Φ 21.5 x H33	1400	245	Φ 325 x H270	Φ 13 x H800
DH.WHM122171	DH.WHM122271	10,000	Φ 24 x H31	1400	245	Φ 325 x H270	Φ 13 x H800

● Option : Digital Feedback Controller or Analog Controller (Analog : **WHM-C10A**, Digital : **WHM-C10D**/ See P.70)

With Steel Case, 20-/50-/100 Lit., Not available to use with Magnetic Stirrers

Catalog No. with 230V	with 120V	Flask Capacity (Lit.)	Flask Dia. Φ(cm)	Watts (kW)	Inside Depth (mm)	Mantle Outside Φ x H (mm)	Support Rod Φ x H (mm)
DH.WHM12218	DH.WHM12228*	20	Φ 27 x H45	2	360	Φ 390 x H410	Φ 13 x H800
DH.WHM122181	DH.WHM122281*	20	Φ 29 x H42	2	360	Φ 390 x H410	Φ 13 x H800
DH.WHM12219*	DH.WHM12229*	50	Φ 31.5 x H81	4	720	Φ 470 x H800	Φ 13 x H800
DH.WHM12220*	DH.WHM12230*	100	Φ 41.5 x H91	6	800	Φ 570 x H900	Φ 13 x H800

● Option 1 : Digital Feedback Controller or Analog Controller (Analog : **WHM-C10A**, Digital : **WHM-C10D**/ See P.70)

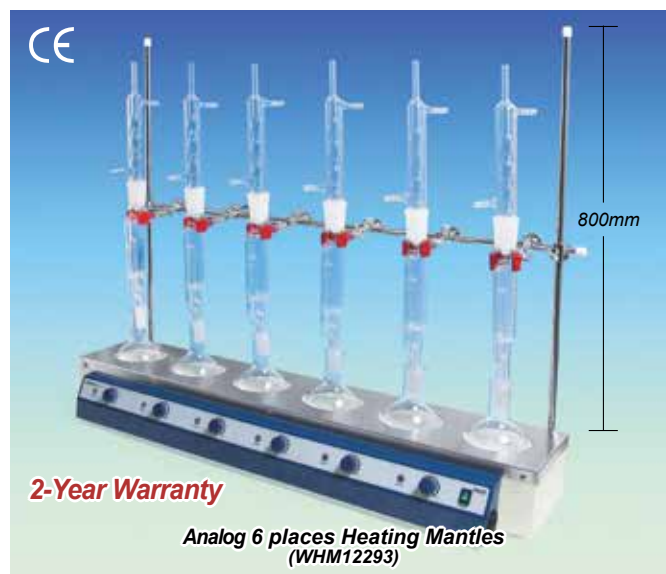## Welcome! Custom-Made Heating Mantles!!

| Articles | Cat. No | Description |

witeg® Reaction Vessel Heating Mantle, WHM , Cylindrical-type, with Bottom-Outlet, 450°C
For Reaction Vessel, with Nickel Chrome Heating Element, K-type Thermo-sensor Integrated, 0.5 ~ 100Lit., with Certi. & Traceability

- with Certificate & Traceability : Controlled by Serial Number, Certificate, Delivery-information, and Traceable Data Base System
- Full Choices of Vessel, Capacity, Housing and Control are Offered!
- **Nickel Chrome Heating Element - Coil Type**
  : Acid-Resistant, Long Life Time
- Optional Remote Thermo Controllers are available
  (Analog : **WHM-C10A**, Digital : **WHM-C10D**)
- CE Certified

- **K-type Thermo Sensor** is Basically Embedded which Enables Precise Control of the Mantles when used together with Remote Digital Controller
- **External Thermo Sensor is Available,** which Enables Precise Control of the Temperature of Liquid Sample in the Vessel when used together with Remote Digital Controller

2-Year Warranty
450°C

Reaction Vessel Heating Mantle with Bottom Outlet

Reaction Vessel Heating Mantle with Bottom-Outlet (WHM12233)

Nickel Chrome Heating Element - Coil Type

Integrated White K-type Thermo-sensor (Deal Drawing)

Realize Precise Temperature Control by Integrated K-type Thermo-sensor

(1) Analog Compact Controller &
(2) Digital Feedback Controller
(Optional, See P.70)

(1) WHM - C10A   **(2) WHM-C10D**

With Aluminum Case, 0.5~10 Lit.

Catalog No.		Flask Capacity (ml)	Flask Dia. Φ(cm)	Watts (W)	Inside Depth (mm)	Mantle Outside Φ x H (mm)	Bottom Outlet ⬭(Hole) L x w (mm)	Support Rod Φ x H (mm)
with 230V	with 120V							
DH.WHM12231	DH.WHM12241	500	Φ 11 x H10	240	80	Φ 145 x H105	L72 x w40	Φ 13 x H660
DH.WHM12232	DH.WHM12242	1,000	Φ 11 x H15	350	115	Φ 145 x H140	L72 x w40	Φ 13 x H660
DH.WHM12233	DH.WHM12243	2,000	Φ 13 x H19	450	140	Φ 190 x H165	L72 x w40	Φ 13 x H800
DH.WHM12234	DH.WHM12244	3,000	Φ 13 x H28	550	210	Φ 270 x H235	L120 x w70	Φ 13 x H800
DH.WHM12235	DH.WHM12245	5,000	Φ 16 x H29	800	210	Φ 270 x H235	L120 x w70	Φ 13 x H800
DH.WHM12236	DH.WHM12246	6,000	Φ 21.5 x H24	800	210	Φ 270 x H235	L120 x w70	Φ 13 x H800
DH.WHM122361	DH.WHM122461	7,000	Φ 21.5 x H25	850	210	Φ 270 x H235	L120 x w70	Φ 13 x H800
DH.WHM12237	DH.WHM12247	10,000	Φ 21.5 x H33	1400	250	Φ 325 x H270	L120 x w70	Φ 13 x H800
DH.WHM122371	DH.WHM122471	10,000	Φ 24 x H31	1400	250	Φ 325 x H270	L120 x w70	Φ 13 x H800

● Option : Digital Feedback Controller or Analog Controller (Analog : **WHM-C10A**, Digital : **WHM-C10D**/ See P.70)

With Steel Case, 20-/50-/100- Lit.

Catalog No.		Flask Capacity (Lit.)	Flask Dia. Φ(cm)	Watts (kW)	Inside Depth (mm)	Mantle Outside Φ x H (mm)	Bottom Outlet ⬭(Hole) L x w (mm)	Support Rod Φ x H (mm)
with 230V	with 120V							
DH.WHM12238	DH.WHM12248*	20	Φ 27 x H45	2	360	Φ 390 x H410	L120 x w70	Φ 13 x H800
DH.WHM122381	DH.WHM122481*	20	Φ 29 x H42	2	360	Φ 390 x H410	L120 x w70	Φ 13 x H800
DH.WHM12239*	DH.WHM12249*	50	Φ 31.5 x H81	4	720	Φ 470 x H800	L120 x w70	Φ 13 x H800
DH.WHM12240*	DH.WHM12250*	100	Φ 41.5 x H91	6	800	Φ 570 x H850	L120 x w70	Φ 13 x H800

● Option 1 : Digital Feedback Controller or Analog Controller (Analog : **WHM-C10A**, Digital : **WHM-C10D**/ See P.70)

Welcome! Custom-Made Heating Mantles!!

Cat. No	Description	Articles

witeg® Analog Aluminum-case Multi Heating Mantles, "WHM", with 3 & 6 Places, 450°C, with Certi. & Traceability
With Glassware Supporting Rod & Clamp, Ideal for Extraction • Reflux • Distillation Applications, Lower Profile, 250~1,000ml

- with Certificate & Traceability : Controlled by Serial Number, Certificate, Delivery-information, and Traceable Data Base System
- Lower Profile for Space-saving Convenience
- Ideal for Repetitive Extraction (Kjeldahl, Soxhlet and other Extraction Procedure), Reflux and Distillation Laboratory Applications
- Analog Controller Built-in System
- Rods and Clamps are Offered as Standard
- deal for DURAN / Kimax / Pyrex & Iwaki-brand Round Flasks
- Highly-processed Aluminum Case Offers Robust Standing, Easy Handling
- **Nickel Chrome Heating Element - Coil Type : Acid-Resistant, Long Life Time**
- CE Certified
- with Glassware Supporting Rod & Clamp

Premium Analog Multi Heating Mantles

Highly-processed **A**luminum **C**ase
Nickel **C**hrome **H**eating **E**lement

800mm

2-Year Warranty

Analog 3 places Heating Mantles
(WHM12391)

2-Year Warranty

Analog 6 places Heating Mantles
(WHM12293)

6 places Analog Multi Heating Mantle, 250ml, 300ml & 500ml, 450°C

Catalog No.		Flask Capacity (ml)	Flask		Watts(W)	Inside Depth (mm)	Dimension W x D x H (mm)
with 230V	with 120V		Max. Dia. Φ(mm)	Bottom			
DH.WHM12291	DH.WHM12292	250/300	83 ~ 86	Flat	840	50	800 x 240 x 110
DH.WHM12293	DH.WHM12294	250/300	83 ~ 86	Round	840	50	800 x 240 x 110
DH.WHM12295	DH.WHM12296	500	102 ~ 105	Round	1440	65	950 x 270 x 130

3 places Analog Multi Heating Mantle, 500ml & 1,000ml, 450°C

Catalog No.		Flask Capacity (ml)	Flask		Watts(W)	Inside Depth (mm)	Dimension W x D x H (mm)
with 230V	with 120V		Max. Dia. Φ(mm)	Bottom			
DH.WHM12391	DH.WHM12392	500	102 ~ 105	Round	720	65	550 x 270 x 130
DH.WHM12393	DH.WHM12394	1,000	130 ~ 133	Round	1050	75	690 x 340 x 170

★Remarks : DU. : DURAN Ki. : Kimax Iw. : Iwaki Py. : Pyrex

witeg® Heating Tapes, WHM , Standard-type, 250°C, 13 &25mm Width

✱ For Glass Tubes Metal Pipet

Heating Tape

Catalog No.	13mm Width X Length(m)	Watts & Volt
DH.WHM12311	13 X 0.6m	200W, 230V
DH.WHM12312	X 1.0m	200W, 230V
DH.WHM12313	X 1.5m	250W, 230V
DH.WHM12314	X 2.0m	300W, 230V
DH.WHM12315	X 2.5m	350W, 230V
DH.WHM12316	X 3.0m	400W, 230V

Catalog No.	13mm Width X Length(m)	Watts & Volt
DH.WHM12321	25 X 0.6m	200W, 230V
DH.WHM12322	X1.0m	200W, 230V
DH.WHM12323	X1.5m	250W, 230V
DH.WHM12324	X2.0m	300W, 230V
DH.WHM12325	X2.5m	350W, 230V
DH.WHM12326	X3.0m	400W, 230V
DH.WHM12327	X4.0m	550W, 230V
DH.WHM12328	X6.0m	700W, 230V

Heating Tapes

Articles	Cat. No	Description

witeg® Analog Compact Temp. Controller, WHM-C10A , up to 1.2kW, with Certi. & Traceability
With Solid State, Proportional Voltage Power Control (5~100%), Economic Controller for All-Purpose Heating Instruments

■ with Certificate & Traceability : Controlled by Serial Number, Certificate, Delivery-information, and Traceable Data Base System

2-Year Warranty

Analog Compact Temp. Controller WHM - C10A

<Ex.>
Heating Mantle Set with the Analog Compact Temp. Controller "WHM - C10A"

■ **Small Footprint, Compact Analog Temperature Controller**
■ **Precise Manual Control of Heating Mantles, Tapes, Cords and Other Resistive Loads up to 1.2 kW**
■ **CE Certified** ■ **PL (Product Liability) Insurance**
✱ Safe and Durable Design
✱ Solid state, Proportional Voltage Power Control (5~100% or Rated Voltage)

Specification

Model	Analog Compact Temp. Controller, WHM-C10A
Control Range & Capacity	5~100% of Rated Voltage, Up to 1.2 kW
Dimension & Weight	160 X 128 X h145mm, 1 kg
Packing Size & Gross Weight	190 X 160 X h130mm, 2 kg
Power plug type	Hybrid E+F
Power Supply*	AC 230V, 1N~, 50/60Hz

* Other Specifications are available upon Customer s Request.

Ordering Information
DH.WHM13500 Analog Temp. Controller, **230V, "WHM-C10A"**

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witeg® Digital Feedback Temp. Controller, "WHM-C10D", up to 700°C, ±0.1°C, with Certi. & Traceability
with Back-Light LCD, for All-purpose Heating Instruments, Available External Direct Contact Temp. Probe (Optional)

■ with Certificate & Traceability : Controlled by Serial Number, Certificate, Delivery-information, and Traceable Data Base System

2-Year Warranty

Mode Button

Back Light LCD

Turn+Push Jog-Shuttle

Digital Feedback Temp. Controller WHM-C10D

<Ex.>
Heating Mantle Set with Temp. Probe and the Digital Feedback Temp. Controller WHM - C10D

Temp. Probe SS300/SS400
(1) External/Direct Contact Temp. Probe

Temp. Probe SS310/SS410
(2) External/Direct Contact Temp. Probe, PTFE Coated

(3) Stand Rod, RD300 , Φ12.7 X L520mm

(4) Holder / Clamp / Clip for Temp. Probe

■ **User s Self-compensation Function to Control Difference between Real Temp. and Indicated Temp. (±50°C)**
■ **Patented Jog-Shuttle Control System**
■ **CE Certified** ■ **PL (Product Liability) Insurance**
✱ Digital Feedback Control by High-Performance Microprocessor
✱ Digital LCD with Back-Light Function
✱ Storage function, Timer, Alarm & Locking Mode
✱ Small Footprint and User-Friendly Design.
✱ Heating Instruments can be controlled up to 2kW.
✱ Accurate Temp.Control of the Liquid in the Vessel using Optional Direct K-type Sensor

Specification

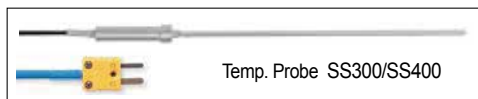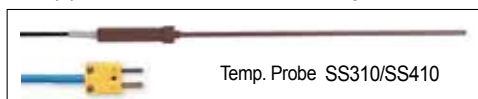| Model	Digital Feedback Temp. Controller, WHM-C10D
Temp. Range & Accuracy	Ambient +5 ~ 700°C, ±1°C at Set Temperature
Temp. Resolution	1°C-Display, 1°C-Control
Timer & Alarm	99hr 59min (Continuous run), Error status & Timer-end
Display	Digital LCD with Back Light Function (Temp., Timer)
Controller	Digital Feedback Controller with Jog Shuttle Switch (Turn+Push)
Control Capacity	up to 2 kW for 230V, 1.5kw for 120V
Dimension & Weight	206 X 307 X h99mm, 2.8 kg
Packing Size & Gross Weight	280 X 250 X h110mm, 4 kg
Power plug type	Hybrid E+F
Power Supply*	AC 230V, 1N~, 50/60Hz

* Other Specifications are available upon Customer s Request.

Ordering Information
DH.WHM12500 Digital Temp. Controller, **230V, WHM-C10D**

Optional Temp. Probe & Stand Rod, Holder, Clamp
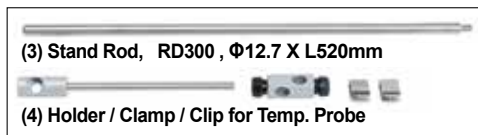
DH.WHP503040	(1) Direct Contact Temp. Probe, K-type, **"SS300"**, L250 X Φ 4.8 mm
DH.WHP503050	(1) Direct Contact Temp. Probe, K-type, **"SS400"**, L380 X Φ 4.8 mm
DH.WHP503041	(2) Direct Contact Temp. Probe, K-type, **"SS310"**, PTFE Coated, L250 X Φ 5mm
DH.WHP503051	(2) Direct Contact Temp. Probe, K-type, **"SS410"**, PTFE Coated, L380 X Φ 5 mm
DH.WHP503037	(3) Stand Rod, 12.7 L520mm, **"RD300"**, for Heating Mantles
DH.WHP503012	(4) Holder & Clamp, **"CL220"**, for Temp. Sensor

Homogenizers

- Useful for All Dispersing and Homogenizing Applications
- High Speed / High Quality / Low Noise : Max. 27,000 RPM (without load)
- Speed & Power Control Optimized for a Sample
- High Efficiency Dispersing Tools made of Stainless Steel and PTFE
- Compact Unit with Solid State Speed Control (HS-30 model)
- PL(Product Liability) Insurance

≫ **Digital Homogenizer
with Remote Controller**
(HG-15D model)

≫ **Homogenizer
with Direct Controller**
(HG-15A model)

≫ **Homogenizing Stirrer,
for use with Tissue Grinders**
(HS-30E model)

Articles	**Cat. No**	**Description**

witeg® Homogenizer with Direct Controller, "HG-15A", up to 27,000 rpm, 1~2,500ml
with Analog Stepless Control System, High Efficiency Dispersing Tools, High-Speed • High-Quality • Low Noise

CE **2-Year Warranty**

Homogenizer
(HG-15A-Unit)

Analog Stepless
Control System

Clamp (CL200)

Tool (HT1018)

Stand & Rod Set
(ST110)

Wisd
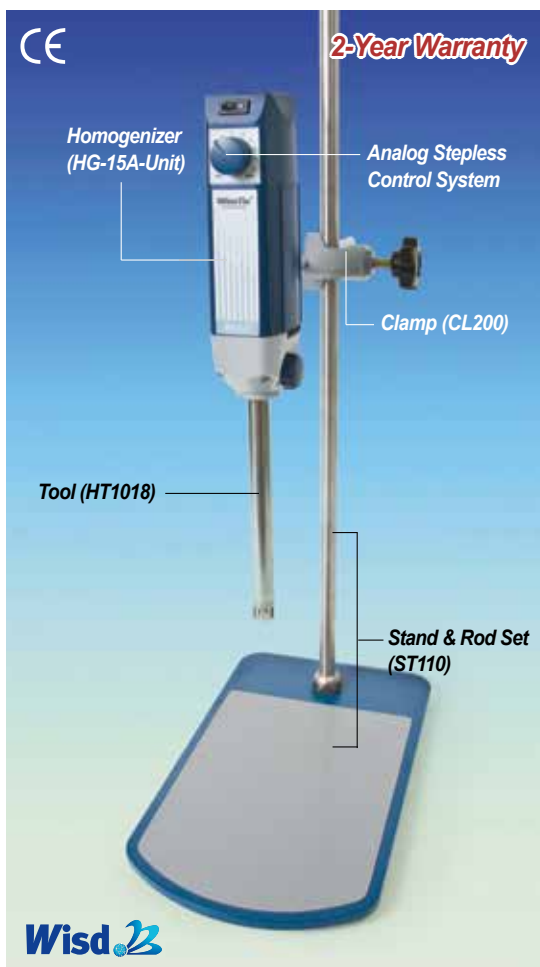
Homogenizer Package-set "HG-15A-Set-A"

- ■ **with Certificate & Traceability:**
  Controlled by Serial Number, Certificate, Delivery-information, and Traceable Data Base System
- ■ **Useful for All Dispersing and Homogenizing Applications**
- ■ **Over Heat Protection**
- ■ **PL(Product Liability) Insurance** ■ **CE Certified**
- ✱ Designed for Liquid and Tissue Samples
- ✱ Useful for All Dispersing and Homogenizing Applications
- ✱ High Speed / High Quality / Low Noise : Max. 27,000 RPM (without load)
- ✱ Speed & Power Control Optimized for a Sample
- ✱ High Efficiency Dispersing Tool made of Stainless Steel and PTFE

Specification

Model	Homogenizer Package-Set HG-15A-Set
Speed Range & Adjustment	Max. 27,000 rpm (without load), Stepless
Working Range	1 ~ 2,500ml
Motor Rating (Input / Output)	Input : 300W, Output : 160 W
Controller	Analog Phase Controller
Safety Device	Over Heat Protector
Usable Dispersing Tool	Φ8mm Stator **"HT1008"**, Φ10mm Stator **"HT1010"**, Φ10mm Stator **"HT1018"**, Φ25mm Stator **"HT1025"**
Material	Aluminum Die-casting and ABS-Unit, Stainless Steel (#304)-Tool
Permissible Temp. & Moisture	Ambient +5 ~ 50°C, 85%
Extension Arm Size	Φ12.7 X L250mm
Dimension & Weight	60 X 75 X h215mm, 2.5kg
Packing Size & Gross Weight	320 X 300 X h190mm, 5 kg
Power Consumption	160W
Power plug type	Hybrid E+F
Power Supply*	AC 230V, 1N~, 50/60Hz

* Other Specifications are available upon Customer s Request.

Ordering Information

✱ Package-Set : **"HG-15A-Set-A"** –with (3) **"HT1018"** Dispersing Tool(Rotor Φ12.5, Stator Φ18),
 "CL200" Clamp, **"ST110"** Standard Plate Stand

 "HG-15A-Set-B" –with (4) HT1025 Dispersing Tool(Rotor Φ20, Stator Φ25),
 "CL200" Clamp, **"ST110"** Standard Plate Stand

 –Package Dimension and Weight exclude ST110 Standard Plate Stand

with "HT1018" Dispersing Tool, HG-15A-Set-A Package-set
DH.WHG02016 Homogenizer Package, **230V, "HG-15A-Set-A"**

with "HT1025" Dispersing Tool, HG-15A-Set-B Package-set
DH.WHG02017 Homogenizer Package, **230V, "HG-15A-Set-B"**

without Dispersing Tool, Homogenizer Unit Only
DH.WHG02015 Homogenizer Unit, **230V, HG-15A-Unit**

Spare Dispersing Tool & Clamp & Plate Stand
DH.WHG02108 (1) Dispersing Tool, **"HT1008",** Rotor Φ6.1, Stator Φ8mm, 1~50ml
DH.WHG02110 (2) , **"HT1010",** Rotor Φ7.5, Stator Φ10mm, 1~100ml
DH.WHG02118 (3) , **"HT1018",** Rotor Φ12.5, Stator Φ18mm, 10~1000ml
DH.WHG02125 (4) , **"HT1025",** Rotor Φ20, Stator Φ25mm, 50~2500ml
DH.WOS502020 Clamp, **"CL200"**, for Stirrer or Homogenizer,
 Cast Aluminum, Grip Capacity Φ23mm for Stand/Rod
DH.WOS501510 Standard Plate Stand, **"ST110"**, for Stirrer or Homogenizer,
 Φ16 X h800 mm Rod, w20 X d35 cm Plate, with Silicone Pad
DH.WOS501515 Wide Plate Stand, **"ST120"**, for Stirrer or Homogenizer,
 Φ23 X h1000 mm Rod, w30 X d40 cm Plate, with Silicone Pad
✱ See page 74 for the Specifications of Dispersing Tools and Accessories.

1~50ml

(1) Dispersing Tool "HT1008"

1~100ml

(2) Dispersing Tool "HT1010"

10~1,000ml

(3) Dispersing Tool "HT1018"

10~2,500ml

(4) Dispersing Tool "HT1025"

witeg® Homogenizer with Remote Digital Controller, "HG-15D", 2,000~2,7000rpm
with Microprocessor Digital-Control, High-Efficiency Dispersing Tools, Back Light LCD, 1~2,500ml

- ■ **with Certificate & Traceability :**
  Controlled by Serial Number, Certificate, Delivery-information, and Traceable Data Base System
- ■ **Patented Jog-Shuttle Control System**
- ■ **PL(Product Liability) Insurance**   ■ **CE Certified**

✶ Useful for All Dispersing and Homogenizing Applications
✶ Designed for Liquid and Tissue Samples
✶ High Speed / High Quality / Low Noise : Max. 27,000 RPM (without load)
✶ Remote Digital Controller : Fully Digital Controlled by Using Microprocessor
✶ Speed & Power Control Optimized for a Sample
✶ LCD Display of Speed(RPM) and Power Bar Graph
✶ High Efficiency Dispersing Tool made of Stainless Steel and PTFE

Specification

Model	Homogenizer Package-Set HG-15D-Set
Speed Range & Resolution	2,000 ~ 27,000rpm (without load), 10 rpm-Control
Working Range	1 ~ 2,500ml
Motor Rating (Input / Output)	Input : 300W , Output : 160 W
Timer & Alarm	10sec ~ 15min, Timer-end Alarm
Display	Digital LCD Display with Back-Light Function
Controller	Digital Feedback Controller (Remote Type)
Safety Device	Over Load & Over Heat Protector
Usable Dispersing Tool	Φ8mm Stator "HT1008", Φ10mm Stator "HT1010", Φ10mm Stator "HT1018", Φ25mm Stator "HT1025"
Material	Aluminum Die-casting and ABS-Unit, Stainless Steel (#304)-Tool
Permissible Temp. & Moisture	Ambient +5 ~ 50°C, 85%
Extension Arm Size	Φ12.7 X L250mm
Dimension & Weight	60 X 75 X h215mm, 2.5kg
Packing Size & Gross Weight	580 X 340 X h230mm, 6 kg
Power Consumption	160W
Power plug type	Hybrid E+F
Power Supply*	AC 230V, 1N~, 50/60Hz

* Other Specifications are available upon Customer s Request.

Ordering Information

✶ Package-Set : **"HG-15D-Set-A"** – with (3) **"HT1018"** Dispersing Tool(Rotor Φ12.5, Stator Φ18),
         "CL200" Clamp, **"ST110"** Standard Plate Stand

     "HG-15D-Set-B" – with (4) HT1025 Dispersing Tool(Rotor Φ20, Stator Φ25),
         "CL200" Clamp, **"ST110"** Standard Plate Stand

     – Package Dimension and Weight exclude **"ST110"** Standard Plate Stand

with "HT1018" Dispersing Tool, "HG-15D-Set-A" Package-set

DH.WHG02019   Homogenizer Package, **230V, "HG-15D-Set-A"**

with "HT1025" Dispersing Tool, "HG-15D-Set-B" Package-set

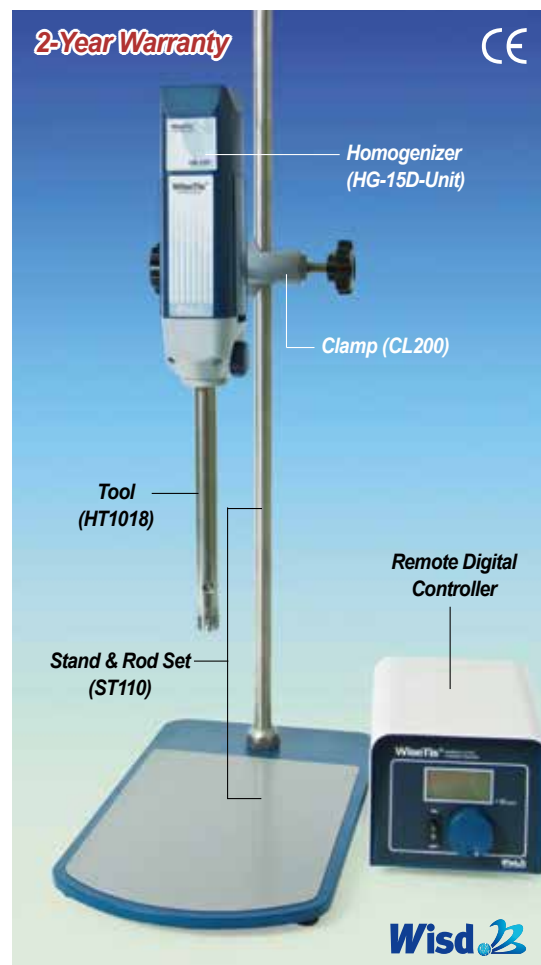**DH.WHG02020**   Homogenizer Package, **230V, "HG-15D-Set-B"**

without Dispersing Tool, Homogenizer Unit Only

DH.WHG02018   Homogenizer Unit, **230V, "HG-15D-Unit"**

Spare Dispersing Tool & Clamp & Plate Stand

DH.WHG02108   (1) Dispersing Tool, **"HT1008",** Rotor Φ6.1, Stator Φ8mm , 1~50ml
DH.WHG02110   (2)   , **"HT1010",** Rotor Φ7.5, Stator Φ10mm, 1~100ml
DH.WHG02118   (3)   , **"HT1018",** Rotor Φ12.5, Stator Φ18mm, 10~1000ml
DH.WHG02125   (4)   , **"HT1025",** Rotor Φ20,   Stator Φ25mm, 50~2500ml
DH.WOS502020   Clamp, **"CL200"**, for Stirrer or Homogenizer,
        Cast Aluminum, Grip Capacity Φ23mm for Stand/Rod
DH.WOS501510   Standard Plate Stand, **"ST110"**, for Stirrer or Homogenizer,
        Φ16 X h800 mm Rod, w20 X d35 cm Plate, with Silicone Pad
DH.WOS501515   Wide Plate Stand, **"ST120"**, for Stirrer or Homogenizer,
        Φ23 X h1000 mm Rod, w30 X d40 cm Plate, with Silicone Pad
✶ See page 74 for the Specifications of Dispersing Tools and Accessories.

2-Year Warranty CE

Homogenizer (HG-15D-Unit)

Clamp (CL200)

Tool (HT1018)

Remote Digital Controller

Stand & Rod Set (ST110)

Wisd.

Homogenizer with Remote Digital Controller "HG-15D-Set-A"

1~50ml
(1) Dispersing Tool "HT1008"
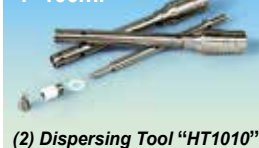
1~100ml
(2) Dispersing Tool "HT1010"

10~1,000ml
(3) Dispersing Tool "HT1018"

10~2,500ml
(4) Dispersing Tool "HT1025"

1~50ml

(1) Dispersing Tool "HT1008"

1~100ml

(2) Dispersing Tool "HT1010"

10~1,000ml

(3) Dispersing Tool "HT1018"

10~2,500ml

(4) Dispersing Tool "HT1025"

(5) High Quality Clamp (CL200)

Homogenizer Accessories, Dispersing Tools & Plate Stand for Homogenizer

- ■ Accurate Stator & Rotor made of Stainless Steel
- ■ High Efficiency Dispersing Tool made of Stainless Steel and PTFE
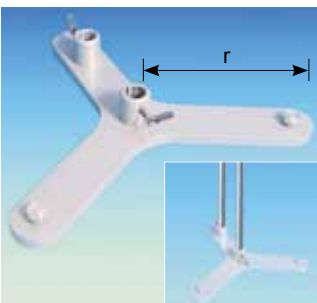- ■ Low Cost & High Efficiency

Model	(1) HT1008	(2) HT1010	(3) HT1018	(4) HT1025
Working Range	1 ~ 50ml	1 ~ 100ml	10 ~ 1,000ml	50 ~ 2,500ml
Stator Diameter	Φ8 mm	Φ10 mm	Φ10 mm	Φ25 mm
Rotor Diameter	Φ6.1 mm	Φ7.5 mm	Φ8.3mm	Φ20 mm
Gap between Rotor & Stator	0.25 mm	0.2 mm	0.25 mm	0.35 mm
Allowable Max. Speed	27,000 rpm		20,000 rpm	15,000 rpm
Immersion Depth Min.	35 mm		60 mm	
Immersion Depth Max	70 mm		130 mm	
Shaft Length	138 mm		225 mm	
Bearing Material	PTFE			
Suitable for Solvent	Yes			
Max. Temperature	180°C			
Sterilization Method	All Methods			
Suspensions & Emulsions	Suspension : 10 ~ 50μm, Emulsion : 1 ~ 10μm			

* Test Condition : 1.8 liters of water in the 2 liters capacity beaker.

(6) Standard Plate Stand (ST110)

(7) Wide Plate Stand (ST120)

Spare Dispersing Tool & Clamp & Plate Stand

DH.WHG02108   (1) Dispersing Tool, **"HT1008"**, Rotor Φ6.1, Stator Φ8mm , 1~50ml
DH.WHG02110   (2)   , **"HT1010"**, Rotor Φ7.5, Stator Φ10mm, 1~100ml
DH.WHG02118   (3)   , **"HT1018"**, Rotor Φ12.5, Stator Φ18mm, 10~1000ml
DH.WHG02125   (4)   , **"HT1025"**, Rotor Φ20, Stator Φ25mm, 50~2500ml
DH.WOS502020   (5) Clamp, **"CL200"**, for Stirrer or Homogenizer,
   Cast Aluminum, Grip Capacity Φ23mm for Stand/Rod
DH.WOS501510   (6) Standard Plate Stand, **ST110** , for Stirrer or Homogenizer,
   Φ16 X h800 mm Rod, w20 X d35 cm Plate, with Silicone Pad
DH.WOS501515   (7) Wide Plate Stand, **ST120** , for Stirrer or Homogenizer,
   Φ23 X h1000 mm Rod, w30 X d40 cm Plate, with Silicone Pad

Steel Retort Base Duo Stand

Steel Retort Base Duo Stand, up to Φ16mm Rods, for 2 Rods

Nonskid Feet equipped, with Hinged Screw M6, Rod Excluded

✱ Can Fix Rods up to 2ea (Below Φ16mm)   ✱   Stand Thickness : 8mm

Retort Stand, Only Stand Base
US.2040   Stand, **"US2040"**, r =150mm
US.2041   , **"US2041"**, r =185mm

Optional Stainless Steel Rod
DH.WOS502001   Stainless steel Rod, **"RD501",** Φ16 X h800mm, non-screw
DH.WOS502002   , **"RD502",** Φ16 X h1000mm, non-screw
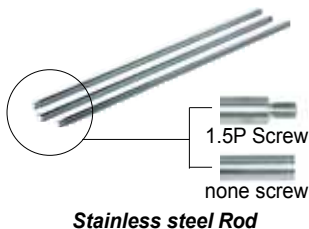**DH.WOS502003**   , **"RD503** , Φ16 X h1200mm, non-screw

witeg® High-Quality Stainless Steel (#304) Rod. for Plate Stand, Φ16/23 mm

1.5P Screw

none screw

Stainless steel Rod

Plain-type Φ16mm Rod, without Screw
DH.WOS502001   Stainless steel Rod, **"RD501",** Φ16 X h800mm, non-screw
DH.WOS502002   , **"RD502",** Φ16 X h1000mm, non-screw
DH.WOS502003   , **"RD503",** Φ16 X h1200mm, non-screw
DH.WOS502031   , **"RD531",** Φ23 X h800mm, non-screw
DH.WOS502033   , **"RD533",** Φ23 X h1200mm, non-screw

1.5P Screw-type Φ16 & 23mm Rod
DH.WOS502011   Stainless steel Rod, **"RD511",** Φ16 X h800mm, 1.5P Screw
DH.WOS502012   , **"RD512",** Φ16 X h1000mm, 1.5P Screw
DH.WOS502013   , **"RD513",** Φ16 X h1200mm, 1.5P Screw
DH.WOS502021   , **"RD521",** Φ23 X h800mm, 1.5P Screw
DH.WOS502022   , **"RD522",** Φ23 X h1000mm, 1.5P Screw
DH.WOS502023   , **"RD523",** Φ23 X h1200mm, 1.5P Screw

witeg® Homogenizing Stirrer, "HS-30E", for Tissue Grinder, 200~5,000rpm
For Tissue Grinders, Analog Phase Control, without Tissue Grinder, with Certi. & Traceability

- **with Certificate & Traceability :**
  Controlled by Serial Number, Certificate, Delivery-information, and Traceable Data Base System
- **Ideal for usage with Tissue Grinders**
- **CE Certified**   ■ **PL (Product Liability) Insurance**

✴ Designed for most Laboratory Applications such as Homogenizing or Mixing
✴ Compact Unit with Solid State Speed Control

Specification

Model	Homogenizing Stirrer "HS-30E"
Speed Range & Max. Torque	200 ~ 5,000 rpm, 85 Ncm
Stirring Capacity	Max. 10 Lit.
Motor Rating	Input : 83 W, Output : 75 W, 1/10 HP
Safety Device	Over Heat Protector
Controller	Analog Phase Controller
Dimension & Weight	90 X 145 X h180mm, 3.5 kg
Packing Size & Gross Weight	320 X 300 X h190mm, 5 kg
Power Consumption	75W
Power plug type	Hybrid E+F
Power Supply*	AC 230V, 1N~, 50/60Hz

* Other Specifications are available upon Customer s Request.

Ordering Information

✴ Package-Set : **"HS-30E-Set" -** with **"CL200"** Clamp, **"ST110"** Standard Plate Stand

   - Package Dimension and Weight exclude **ST110**
     Standard Plate Stand

DH.WOS01011   Homogenizing Stirrer Package-Set, **230V**, **"HS-30E-Set"**
DH.WOS01010   Homogenizing Stirrer, **230V**, **HS-30E-Unit**

※ *NOTE!*
   The Package does not Include a Tissue Grinder

2-Year Warranty   CE

Homogenizing Stirrer HS-30E

Clamp CL200

Analog Phase Control

For Use with Tissue Grinders (Tissue Grinder is not Included)

Stand & Rod Set ST110

Wisd.

Homogenizing Stirrer Package-Set "HS-30E-Set"

![Wisd LABORATORY INSTRUMENTS]

Laminar Flow Clean Bench

- Protection to the Product, the Operator and Environment
- HEPA Filter removes 99.97% of 0.3μm Particles
- Silent Vibration-Free Blower ensure Noiseless Operation and Anti-Vibration
- Tempered Safety Glass Sliding Door for Protection from UV Exposure
- Optimized Air Flow System for Uniform Air Flow / Velocity
- Corrosion Resistant 304 Stainless Steel Working Table

● **Laminar Flow Clean Bench** .... **P. 77**

≫ **Laminar Flow Clean Bench**
   (WLC - V model)

Vertical Air Flow-type(WLC-V models)

witeg® Laminar Flow Clean Bench, "WLC-V", Class 100 HEPA filter, Vertical Air Flow, with Certi. & Traceability
with 8 Step Air Velocity Control, Touch-Type Controller, Dual UV Lamp and Florescent Lamp, Air and Gas Cock, Power Consent

- **with Certificate & Traceability :**
  Controlled by Serial Number, Certificate, Delivery-information, and Traceable Data Base System
- **HEPA Filter removes 99.97% of 0.3μm Particles**
- **Easy to exchange HEPA Filter**
- **Mesh Guard for HEPA Filter Protection**
- **Safety UV Protection System: UV Lamp is deactivated when the Safety Glass Sliding Door is not closed completely**
- **8 Step Air Velocity Control**
- **High-performance Digital Touch-type Controller**
- **Microprocessor Digital Controller and Back Light LCD**
- **UV and Fluorescent Lamp, Air and Gas Cock, Power Consent**
- ∗ Filter Replacement Warming Function ∗ Easy to Replace Filter from the Panel
- ∗ High-Quality Back-Light LCD ∗ 99hr 59min Timer
- ∗ Silent Vibration-Free Blower ensure noiseless operation and Anti-Vibration Construction provides efficient working environment.
- ∗ Tempered Safety Glass Sliding Door for Protection from UV exposure
- ∗ Safety UV Protection System :
  UV Lamp is Deactivated when the Safety Glass Sliding Door is not fully Closed
- ∗ Optimized Air Flow System for Uniform Air Flow/Velocity
- ∗ Corrosion Resistant 304 Stainless Steel Working table
- ∗ Air Flow-type : Vertical Air Flow-type

Laminar Flow Clean Bench "WLC-V1200"

Specification

Models & Air Flow-type		WLC-V1200	WLC-V1500	WLC-V1800
		Vertical Air Flow-type		
Dimension (w x d x h)	Interior	1,200 X 630 X 610	1,500 X 787 X 762	1,800 X 945 X 915
	Exterior	1,280 X 735 X 1,890	1,582 X 937 X 2,190	1,882 X 1,095 X 2,485
Air Volume		1,350 m²/h	1,700 m²/h	2,020 m²/h
Air Flow Velocity		0.3 ~ 0.6 m/s		
HEPA Filter		Class 100, 0.3μm Particle Removal 99.97%		
Prefilter		3~30μmParticle Removal		
Display		Back Light LCD		
Controller		Microprocessor Digital Controller		
Lamp		1 X UV 20W, 1 X FL 36W	1 X UV 30W, 1 X FL 56W	
Noise Level		56~60 dBA		
Door Type		Tempered Safety Glass Sliding Door		
Utility Device		1 X Air Cock, 1 X Gas Cock, 2 X 220V Consent,		
Material		Internal : Stainless Steel(# 304), External : Powder Coated Steel		
Power plug type		Hybrid E+F		
Power Supply*		AC 230V, 1N~, 50/60Hz		

* Other Specifications are available upon Customer s Request.

Vertical Air Flow-type(WLC-V models)

Ordering Information
Vertical Air Flow-type

DH.WLCV1200	Clean Bench, **230V,** 1,280 X 735 X 1,890mm, **"WLC-V1200"**	
DH.WLCV1500	, 1,582 X 937 X 2,190mm, **"WLC-V1500"**	
DH.WLCV1800	, 1,882 X 1,095 X 2,485mm, **"WLC-V1800"**	

Validation (IQ, OQ) Service

DH.WLCV1203	Validation Service(IQ, OQ), **"LCV1200",** for **"WLC-V1200"**
DH.WLCV1503	, **"LCV1500",** for **"WLC-V1500"**
DH.WLCV1803	, **"LCV1800",** for **"WLC-V1800"**

High-performance Digital Touch-type Controller

Hotplates & Stirrers

- Smart Design of Body made by Aluminum Die-Casting
- Ceramic Coated Plate-Chemical/Acid Resistance
- Superior Temperature Uniformity : Less than 10% on the Plate at Ambient Temperature
- User's Self -Compensation Function : to Control Difference between Real Temp. and
  Indicated Temp. (±20,0°C) (Digital Model)
- Patented Jog-Shuttle Control system and Digital LCD with Back-light (Digital Model)

⠗ **Digital Hotplate Stirrers**

⠗ **Compact & Round Plate Type Hotplate Stirrers**

⠗ **Analog Hotplate Stirrer**

MSH-20D-Set

MSH-20A

⠗ **Digital Hotplate**

MSH-55A
- Anodized plate

MSH-50D-Set
- Ceramic-coated plate

HP-20D

witeg
GERMANY

witeg® Premium Hotplate, "HP-20A" & "HP-30A", Ceramic-Coated Plate, up to 380°C, with Certi. & Traceability
Built-in Linearity PWM Controller, High Temp. Uniformity, 180 X 180- or 260 X 260-mm Plate, CE Certified

- **with Certificate & Traceability :**
  Controlled by Serial Number, Certificate, Delivery-information,
  and Traceable Data Base System
- **Excellent for Sample Drying and Most General Lab Heating Applications**
- **Superior Temperature Uniformity : Less than 10% on the Plate at Ambient Temperature**
- **CE Certified** ■ **PL (Product Liability) Insurance**

✳ Excellent for Sample Drying and most General lab Heating Applications
✳ Smart Design of Body made by Aluminum Die-Casting (HP-20A)
✳ Superior Temperature Uniformity : Less than 10% on the Plate at Ambient Temperature
✳ Superior Linearity for Temperature Control by Specially Designed Control Circuitry (PWM control)
✳ Ceramic Coated Plate - Chemical / Acid Resistance

~380°C 180mm 180mm *Ceramic Coated Plate* **PWM Control System** **Wisd**.ℬ **2-Year Warranty**

180 X 180mm Plate-type Hotplate "HP-20A"

Specification

Plate Size(mm) & Models		180 X 180mm Plate-type HP-20A	260 X 260mm Plate-type HP-30A
Material	Body	Powder Coated Aluminum	Powder Coated Steel
	Plate	Ceramic Coated Aluminum (Chemical / Acid Resistance, Easy to Clean)	
Temp. Range & Uniformity		Max. 380°C Temp., High Uniformity : Difference 10% less	
Heating Power / Consumption		600 W	1.2 kW
Controller		Superior Linearity PWM Controller	
Permissible Temp. & RH %		Ambient +5 ~ 50°C, 85% RH	
Dimension & Weight		206 X 307 X h99mm, 2.8kg	286 X 387 X h99mm, 3.3kg
Packing Size & Gross Weight		400 X 280 X h200mm, 5 kg	430 X 320 X 200hmm, 5 kg
Power plug type		Hybrid E+F	
Power Supply*		AC 230V, 1N~, 50/60Hz	

* Other Specifications are available upon Customer s Request.

~380°C 260mm 260mm **2-Year Warranty** **Wisd**.ℬ

260 X 260mm Plate-type Hotplate "HP-30A"

Ordering Information

With 180 X 180mm Plate-type, HP-20A Hotplates

DH.WHP03120   Hotplate, **230V, HP-20A**

With 260 X 260mm Plate-type, HP-30A Hotplates

DH.WHP03121   Hotplate, **230V, HP-30A**

Optional Stand Rod & Holder / Clamp

DH.WHP503011   (1) Stand Rod, **"RD100"**, Stainless Steel, non-screw
Φ12.7 X L390mm, for **"HP-30A/30D", "MSH-30A/30D"**

DH.WHP503036   (2) Stand Rod, **"RD200"**, Stainless Steel, 1.5p screw
Φ12 X L450mm, for **"HP-20A/20D", "MSH-20A/20D",**
"MSH-50A/55A", "MSH-50D/55D" and **"SMHS"**

DH.WHP503012   (3) Holder / Clamp / Clip, **CL220 ,** for Temp. Probe

(1) Stand Rod, RD100 , Φ12.7 x L390mm

(2) Stand Rod, RD200 , Φ12 x L450mm

(3) Holder / Clamp / Clip for Temp. Probe

Specialized Features

High Stability in Very Low & High-Temperature

speed

General Phase Control Use with AC !! (Very sensitive Point)

General analog control

speed

PWM Control Use with DC !! (Super linearity)

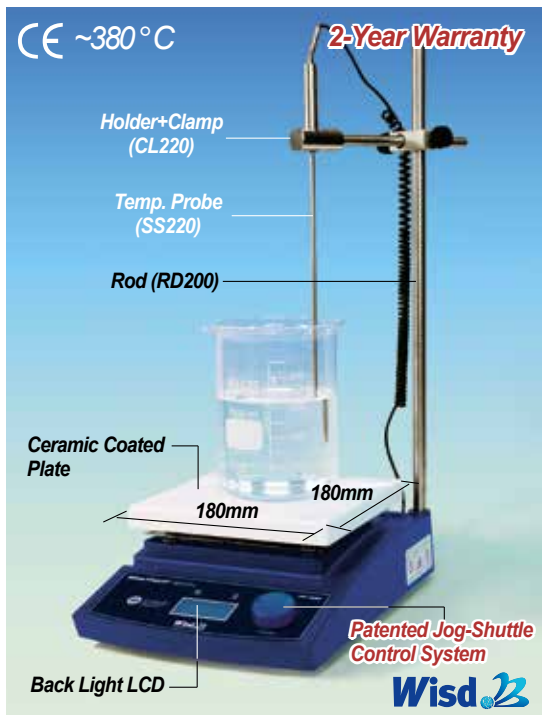witeg

Realize **Stable & Easy to Use!**

Long Life Power & Mechanism!

SMPS (Switching Mode Power Supply) Use with Safety & Regular DC *!!*

AC → *Stable DC !!*

SSR (Solid State Relay)-Non Contact
No Electronic Harm!

Realize **Long Life Cycle!**

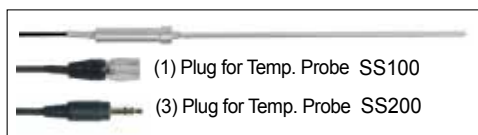| Articles	Cat. No	Description

witeg® Digital Precise Hotplate, HP-D Ceramic-Coated Plate, up to 380°C, ±0.3°C, with Certi. & Traceability
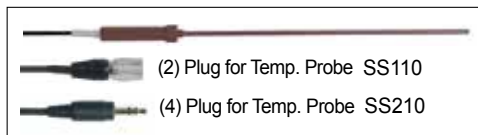### with Digital Feedback Control System, Back Light LCD, 180 X 180mm– or 260 X 260mm–Plate

CE ~380°C   **2-Year Warranty**

Holder+Clamp (CL220)

Temp. Probe (SS220)

Rod (RD200)

Ceramic Coated Plate

180mm   180mm

Back Light LCD

Patented Jog-Shuttle Control System

Wisd.23

180 X 180mm Plate-type Digital Precise Hotplate "HP-20D" Package-set

CE   ~380°C

260mm   260mm

2-Year Warranty   *Wisd.23*

180 X 180mm Plate-type Digital Precise Hotplate "HP-30D" Unit only

(1) Plug for Temp. Probe SS100
(3) Plug for Temp. Probe SS200

External/Direct Contact Temp. Probe

(2) Plug for Temp. Probe SS110
(4) Plug for Temp. Probe SS210

External/Direct Contact Temp. Probe, PTFE Coated

(5) Stand Rod, "RD100", Φ12.7 X L390mm

(6) Stand Rod, "RD200", Φ12 X L450mm

(7) Holder / Clamp / Clip for Temp. Probe
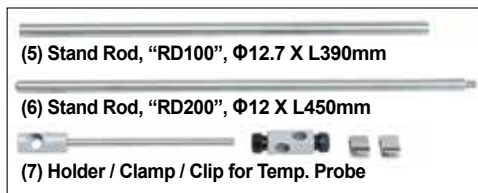
■ **with Certificate & Traceability :**
   Controlled by Serial Number, Certificate, Delivery-information, and Traceable Data Base System
■ **Patented Jog-Shuttle Control System**
■ **CE Certified**   ■ **PL (Product Liability) Insurance**

✱ Digital Feedback Control by High-Performance Microprocessor
✱ Smart Design of Body made by Aluminum Die-Casting (HP-20D)
✱ Ceramic Coated Plate-Chemical/Acid Resistance
✱ Superior Temperature Uniformity : less than 10% on the Plate at Ambient Temperature
✱ Accurate Temp. Control of the Sample in the Vessel using PT100 Sensor (optional)
✱ Digital LCD with Back-Light Function
✱ Locking Mode for Experimental Safety Supported (Input to Jog Shuttle can be disabled)
✱ User s Self-Compensation Function : to Control Difference between Real Temp.
                        and Indicated Temp. (±20.0°C)

Specification

Plate Size(mm) & Models		180 X 180mm Plate-type "HP-20D"	260 X 260mm Plate-type "HP-30D"
Material	Body	Powder Coated Aluminum	Powder Coated Steel
	Plate	Ceramic Coated Aluminum (Chemical / Acid Resistance, Easy to Clean)	
Temp. Range & Accuracy		Max. 380°C, ±0.3°C at Set Temperature	
Temp. Resolution		0.1 °C-Display, 0.5 °C-Control	
Temp. Uniformity		Specially Designed Heating Module : Temp. Difference 10% less	
Heating Power/Consumption		600 W	1.2 kW
Timer & Alarm		99hr 59min (with Continuous run.), Error status & Timer-end	
Display		Digital LCD Display with Back-Light Function	
Controller		Digital Feedback Controller with Jog Shuttle Switch (Turn + Push)	
Safety Circuit		Over Temp. Protection	
Permissible Temp. & RH %		Ambient +5 ~ 50°C, 85% RH	
Dimension & Weight		206 X 307 X h99mm, 2.8kg	286 X 387 X h99mm, 3.2kg
Packing Size & Gross Weight		400 X 280 X h200mm, 5 kg	430 X 320 X h200hmm, 5 kg
Power plug type		Hybrid E+F	
Power Supply*		AC 230V, 1N~, 50/60Hz	

*** Other Specifications are available upon Customer s Request.**

Ordering Information

✱ **"HP-20D"** Package-set : Complete with ① Hotplate Unit ② : **"SS200"** PT100 External / Direct Contact Temp. Probe, ③ **"RD200"** Stainless steel Support Rod Φ12 X L450mm ④ **"CL220"** Holder+Clamp for External Temp. Probe
✱ **"HP-30D"** Package-set : Complete with ① Hotplate Unit ② : **"SS100"** PT100 External / Direct Contact Temp. Probe, ③ **RD100** Stainless steel Support Rod Φ12 X L450mm ④ **"CL220"** Holder+Clamp for External Temp. Probe

With 180 X 180mm Plate-type, "HP-20D" Package-set & Unit

DH.WHP03021	180 X 180mm Plate-type, **Package-set, 230V**	
DH.WHP03020	, **Unit** only, **230V**	

With 260 X 260mm Plate-type, HP-30D Package-set & Unit

DH.WHP03023	260 X 260mm Plate-type, **Package-set, 230V**	
DH.WHP03022	, **Unit** only, **230V**	

Additional Function Accessories

DH.WHP503020 (1) External / Direct Contact Temp. Probe, **"SS100"**, PT100, for **"HP-30D", "MSH-30D"** and **"SMHS"** Probe Φ4 X L250mm, Cable L190mm

DH.WHP503021 (2) External / Direct Contact Temp. Probe, **"SS110"**, PT100, **"PTFE Coated"**, for **"HP-30D", "MSH-30D", "SMHS"** Probe Φ4 X 250mm, Cable L190mm

DH.WHP503030 (3) External / Direct Contact Temp. Probe, **"SS200"**, PT100, for **"HP-20D", "MSH-20D"** Probe Φ4 X L250mm, Cable L190mm

DH.WHP503031 (4) External / Direct Contact Temp. Probe, **"SS210"**, PT100, **PTFE Coated**, for **"HP-20D", "MSH-20D"** Probe Φ4 X L250mm, Cable L190mm

DH.WHP503011 (5) Stand Rod, RD100 , Stainless Steel, Φ12.7 X L390mm for **"HP-30A/30D", "MSH-30A/30D",** none Screw

DH.WHP503036 (6) Stand Rod, RD200 , Stainless Steel, Φ12 X L450mm for **"HP-20A/20D", "MSH-20A/20D", "MSH-50A/55A", "MSH-50D/55D"** and **"SMHS",** Screw

DH.WHP503012 (7) Holder/ Clamp / Clip, **"CL220",** for Temp. Probe

witeg® Large Digital Hotplate, "HP-LP", Ceramic-Coated Plate, up to 350°C, with Certi. & Traceability
Built-in Digital PID Controller or Digital Remote Controller, Superior Temp. Uniformity, Back Light LCD, 310 X 620mm Plate

- **with Certificate & Traceability :**
  Controlled by Serial Number, Certificate, Delivery-information, and Traceable Data Base System
- **Superior Temperature Uniformity :**
  Less than 10% on the Plate at Ambient Temperature
- **Patented Jog-Shuttle Control System and Back-Light LCD**
- **CE Certified** ■ **Digital PID Controller**
- **PL (Product Liability) Insurance**

✱ Excellent for Sample Drying and most General lab Heating Applications
✱ Large Heating Area : Ideal for TLC Plate Heating and Surface Heating in Electronic Industries
✱ Superior Temperature Uniformity : Less than 10% on the Plate at Ambient Temperature
✱ Ceramic Coated Plate -Chemical /Acid Prevention
✱ The Remote Controller Cable helps to place the Controller away from the Hotplate up to 1.5m distance
✱ Maximum Temperature of 350°C

Large Digital Hotplate, with Built-in Digital PID Controller, Ceramic-Coated Plate-type "HPLP-C-P"

Specification

Models	"HPLP-C-P"	"HPLP-C-R"
Controller	Built-in Digital PID Controller	Digital Remote Controller
Plate Surface	Ceramic	Ceramic
Plate Size	310 X 620mm	
Temp. Range & Accuracy	Max. 350°C, ±0.3°C at Set Temperature	
Temp. Resolution	0.1 °C-Display, 0.5 °C-Control	
Temp. Uniformity	Specially Designed Heating Module : Temp. Difference 10% less	
Heating Power/Consumption	2 kW	
Timer & Alarm	99hr 59min (with Continuous run.), Error status & Timer-end	
Display	Digital LCD with Back-Light Function	
Permissible Temp. & RH %	Ambient +5 ~ 50°C, 85% RH	
Dimension & Weight	670 X 360 X h150mm, 16kg	
Packing Size & Gross Weight	750 X 430 X h220mm, 18 kg	
Power plug type	Hybrid E+F	
Power Supply*	AC 230V, 1N~, 50/60Hz	

* Other Specifications are available upon Customer s Request.

Large Digital Hotplate, Digital Remote Controller, Ceramic-Coated Plate-type "HPLP-C-R"

Ordering Information
Large Digital Hotplate, with Built-in Digital PID Controller
DH.WHP03024   Ceramic-Coated Plate-type, **230V, "HPLP-C-P"**

Large Digital Hotplate, with Digital Remote Controller
DH.WHP03025   Ceramic-Coated Plate-type, **230V, "HPLP-C-R"**

witeg® Premium Hotplate Stirrer, "MSH-A", Ceramic-Coated Plate, up to 380°C, 1,500 rpm, with Certi. & Traceability
Built-in Linearity PWM Controller, Superior Temperature Uniformity, Precise Control of Temp. & RPM, 180 X 180mm or 260 X 260mm

CE **~380°C/1,500rpm**
2-Year Warranty

Ceramic Coated Plate
180mm
180mm
Stir Bar

Wisd.23
PWM Control System

180 X 180mm Plate-type Hotplate Stirrer "MSH-20A"

CE **~380°C/1,500rpm**
260mm
260mm

Wisd.23
Stir Bar

260 X 260mm Plate-type Hotplate Stirrer "MSH-30A"

(1) Stand Rod, "RD100", Φ12.7 X L390mm

(2) Stand Rod, "RD200", Φ12 X L450mm

(3) Holder / Clamp / Clip for Temp. Probe

■ **with Certificate & Traceability :**
  Controlled by Serial Number, Certificate, Delivery-information, and Traceable Data Base System
■ **Superior Temperature Uniformity : Less than 10% on the Plate at Ambient Temperature**
■ **Superior Linearity for Temperature Control & Stirring Speed**
■ **Ceramic Coated Plate-Chemical / Acid Resistance**
■ **CE Certified**   ■ **PL(Product Liability) Insurance**

✱ Excellent for Sample Drying and most General Lab Heating Applications
✱ Superior Temperature Uniformity : Less than 10% on the Plate at Ambient Temperature
✱ Superior Linearity for Temperature Control & Stirring Speed by Specially Designed Control Circuitry.(PWM Control)
✱ Smart Design of Body made by Aluminum Die-Casting (MSH-20A)
✱ Ceramic Coated Plate-Chemical/Acid Resistance
✱ Maximum Temperature of 380°C

Specification

Model		180 X 180mm Plate-type "MSH-20A"	260 X 260mm Plate-type "MSH-30A"
Material	**Body**	Powder Coated Aluminum	Powder Coated Steel
	Plate	Ceramic Coated Aluminum (Chemical / Acid Resistance, Easy to Clean)	
Stirring Capa. & Motor Rating		Max. 20 Lit., 9 / 4 W	
Speed Range		Max. 1,500 rpm	
Temp. Range		Max. 380°C	
Temp. Uniformity		Specially Designed Heating Module : Temp. Difference 10% less	
Heating Power/Consumption		600W	1.2 kW
Controller		Superior Linearity PWM Controller	
Stirring Bar		3cm bar-included, Usable : up to 5cm bar	
Permissible Temp. & RH %		Ambient +5 ~ 50°C, 85% RH	
Dimension & Weight		206 X 307 X h99mm, 2.8kg	286 X 387 X h99mm, 3.3kg
Packing Size & Gross Weight		400 X 280 X h200mm, 5 kg	430 X 320 X h200mm, 5 kg
Power plug type		Hybrid E+F	
Power Supply*		AC 230V, 1N~, 50/60Hz	

* Other Specifications are available upon Customer s Request.

Ordering Information

With 180 X 180mm Plate-type Hotplate Stirrer, "MSH-20A"
DH.WMH03120   180 X 180mm Plate-type, **230V,** with stir bar

With 260 X 260mm Plate-type Hotplate Stirrer, MSH-30A
DH.WMH03121   260 X 260mm Plate-type, **230V,** with stir bar

Optional Stand Rod & Holder/Clamp

DH.WHP503011   (1) Stand Rod, **"RD100",** Stainless Steel, none screw
            Φ12.7 X L390mm, for **"HP-30A / 30D", "MSH-30A/30D"**
DH.WHP503036   (2) Stand Rod,   RD200 , Stainless Steel, 1.5p screw,
            Φ12 X L450mm, for **"HP-20A / 20D", "MSH-20A/20D",**
            "MSH-50A/55A", "MSH-50D / 55D" and **"SMHS"**
DH.WHP503012   (3) Holder / Clamp / Clip, **"CL220",** for Temp. Probe

Specialized Features

High Stability in Very Low & High-Temperature

speed
General Phase Control Use with AC !!
(Very sensitive Point)

General analog control

speed
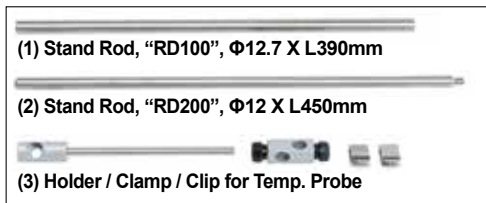**PWM Control**
Use with DC !!
(Super linearity)

witeg

Realize **Stable & Easy to Use!**

Long Life Power & Mechanism!

SMPS (Switching Mode Power Supply)
Use with Safety & Regular DC !!

AC → *Stable DC !!*

SSR (Solid State Relay)-Non Contact
No Electronic Harm!
Realize **Long Life Cycle!**

witeg® Premium Compact Hotplate Stirrer, MSH-50A, Round-Type Plate, Φ135mm, with Certi. & Traceability
Ceramic Coated or Anodized Plate, Superior Temperature Uniformity, Precise Control of Temp. & RPM, up to 380 °C, 1.500 rpm

- **with Certificate & Traceability :**
  Controlled by Serial Number, Certificate, Delivery-information, and Traceable Data Base System
- **Superior Temperature Uniformity : Less than 10 % on the Plate at Ambient Temperature**
- **Superior Linearity for the Control of Temperature & Stirring Speed**
- **Ceramic Coated Plate (MSH-50A) for Chemical/Acid Resistance or Anodized Plate (MSH-55A) for Scratch Prevention**
- **CE Certified**

✱ Excellent for Sample Drying and most General Lab Heating Applications.
✱ Superior Temperature Uniformity : Less than 10 % on the Plate at Ambient Temperature.
✱ Superior Linearity for Temperature Control & Stirring Speed by Specially Designed Control Circuitry. (PWM Control)
✱ Smart Design of Body made by Aluminum Die-Casting.
✱ Ceramic Coated Plate (MSH-50A) for Chemical/Acid Resistance or Anodized Plate (MSH-55A) for Scratch Prevention.
✱ Maximum Temperature of 400°C

Specification

Models	Ceramic Coated Aluminum Plate "MSH-50A"	Black Anodized Aluminum Plate "MSH-55A"
Features	Good Resistance of Chemicals & Acid, Easy to Clean	Prevention of Crack or Chip, and More Even Heating Surface
Plate Size(mm)	Φ135	
Stirring Capa. & Motor Rating	Max. 20 Lit.(H₂O), 9/4W	
Speed Range	Max. 1.500 rpm	
Temp. Range	Max. 400 ℃ (Over 70℃)	
Temp. Uniformity	Specially Designed Heating Module : Temp. Difference 10% less	
Heating Power/Consumption	400 W	
Controller	Digital Feedback Controller with Jog Shuttle Switch (Turn+Push)	
Stirring Bar	3cm bar-included, Usable : up to 5cm bar	
Permissible Temp. & RH %	Ambient +5 ~ 50℃, 85% RH	
Dimension & Weight	w160 X d280 X h95mm, 2,3kg	
Packing Size & Gross Weight	w400 X d280 X h200mm, 4 kg	
Power plug type	Hybrid E+F	
Power Supply*	AC 230V, 1N~, 50/60Hz	

* Other Specifications are available upon Customer s Request.

Ordering Information

With Ceramic Coated Plate, "MSH-50A" Package-set & Unit

DH.WMH03150 Hotplate Stirrer, **MSH-50A,** Φ135 mm, Ceramic Coated Plate, 0~1.500 rpm, to 380 °C

With Black Al-anodized Plate, "MSH-55A" Package-set & Unit

DH.WMH03155 Hotplate Stirrer, **MSH-55A,** Φ135 mm, Anodized Plate, 0~1.500 rpm, to 380 °C

Additional Function Accessories

DH.WHP503036 Stand Rod, **RD200,** Stainless Steel, Φ12 X L 450 mm, for **HP-20A / 20D, MSH-20A / 20D MSH-50A/55A, MSH-50D / 55D** and **SMHS**
DH.WHP503012 Holder +Clamp, **CL220,** for Temperature Sensor

~400°C / 1.500rpm CE

Anodized Plate Φ135 mm

Stir Bar

PWM Control System

Premium Compact Hotplate Stirrer, Round Type & Anodized Plate "MSH-55A"

~400°C / 1.500rpm CE

Ceramic Coated Plate

Stir Bar

Premium Compact Hotplate Stirrer, Round Type & Ceramic-Coated Plate "MSH-50A"

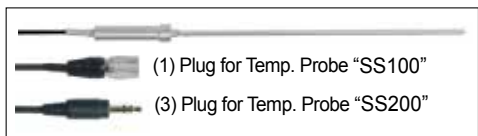| Articles	Cat. No	Description

witeg® Digital Hotplate Stirrer, "MSH-D", Ceramic-Coated Plate, up to 380°C, ±0.3°C, with Certi. & Traceability
with Digital Feedback Control, Accurate Temp. Control, 180 X 180mm – or 260 X 260mm – Plate, 80 ~ 1,500 rpm
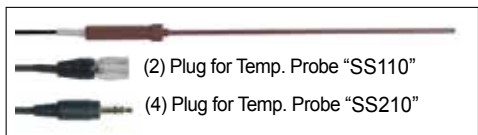
CE ~380°C **2-Year Warranty**

Holder+Clamp (CL220)

Temp. Probe (SS220)

Rod (RD200)

Stir Bar

Ceramic Coated Plate

180mm 180mm

Back Light LCD

Patented Jog-Shuttle Control System

Wisd

180 X 180mm Plate-type Digital Precise Hotplate "MSH-20D" Package-set

CE ~380°C

260mm 260mm

Stir Bar

Wisd

180 X 180mm Plate-type Digital Precise Hotplate "MSH-30D" Unit only

(1) Plug for Temp. Probe "SS100"
(3) Plug for Temp. Probe "SS200"
External/Direct Contact Temp. Probe

(2) Plug for Temp. Probe "SS110"
(4) Plug for Temp. Probe "SS210"
External/Direct Contact Temp. Probe, PTFE Coated

(5) Stand Rod, "RD100", Φ12.7 x L390mm
(6) Stand Rod, "RD200", Φ12 x L450mm
(7) Holder / Clamp / Clip for Temp. Probe

- **with Certificate & Traceability : Controlled by Serial Number, Certificate, Delivery-information, and Traceable Data Base System**
- **Digital Feedback Control by High-Performance Microprocessor**
- **Patented Jog-Shuttle Control System**
- **CE Certified**   ■ **PL(Product Liability) Insurance**

✱ User s Self-Compensation Function : to Control Difference between Real Temp. and Indicated Temp. (±20.0°C)
✱ Accurate Temp. Control of the Sample in the Vessel using PT100 Sensor (optional)
✱ Storage Function for the set Values : Temp. and Timer
✱ Locking Mode Supported for Experimental Safety (Input to Jog-Shuttle can be Disabled)
✱ Superior Temperature Uniformity : less than 10% on the Plate at Ambient Temperature

Specification

Model		180 X 180mm Plate-type "MSH-20D"	260 X 260mm Plate-type "MSH-30D"
Material	Body	Powder Coated Aluminum	Powder Coated Steel
	Plate	Ceramic Coated Aluminum (Chemical / Acid Resistance, Easy to Clean)	
Stirring Capa. & Motor Rating		Max. 20 Lit., 9 / 4 W	
Speed & Control Resolution		80 ~ 1,500 rpm, 5 rpm	
Temp. Range & Accuracy		Max. 380°C, ±0.3°C at Set Temperature	
Temp. Resolution		0.1 °C-Display, 0.5 °C-Control	
Temp. Uniformity		Specially Designed Heating Module : Temp. Difference 10% less	
Heating Power/Consumption		600W	1.2 kW
Timer & Alarm		99hr 59min (with Continuous run.), Error status & Timer-end	
Display		Digital LCD with Back-Light Function	
Controller		Digital Feedback Controller with Jog Shuttle Switch (Turn+Push)	
Stirring Bar		3cm bar-included, Usable : up to 5cm bar	
Safety Circuit		Over Temp. Protection	
Permissible Temp. & RH %		Ambient +5 ~ 50°C, 85% RH	
Dimension & Weight		206 X 307 X h99mm, 3.3kg	286 X 387 X h99mm, 3.5kg
Packing Size & Gross Weight		400 X 280 X h200mm, 5 kg	430 X 320 X h200mm, 5 kg
Power plug type		Hybrid E+F	
Power Supply*		AC 230V, 1N~, 50/60Hz	

* Other Specifications are available upon Customer s Request.

Ordering Information

✱ **"MSH-20D"** Package-set : Complete with ① Hotplate Stirrer Unit, ② : **"SS200"** PT100 External / Direct Contact Temp. Probe, ③ **"RD200"** Stainless steel Support Rod Φ12 X L450mm ④ **"CL220"** Holder+Clamp for External Temp. Probe

✱ **"MSH-30D"** Package-set : Complete with ① Hotplate Stirrer Unit, ② : **"SS100"** PT100 External / Direct Contact Temp. Probe, ③ **"RD100"** Stainless steel Support Rod Φ12 x L450mm ④ **CL220** Holder+Clamp for External Temp. Probe

With 180 X 180mm Plate-type, "MSH-20D" Package-set & Unit
DH.WMH03021 180 X 180mm Plate-type, **Package-set, 230V**
DH.WMH03020 , **Unit** only, **230V,** with stir bar

With 260 X 260mm Plate-type, "MSH-30D" Package-set & Unit
DH.WMH03023 260 X 260mm Plate-type, **Package-set, 230V**
DH.WMH03022 260 X 260mm Plate-type, **Unit only, 230V,** with stir bar

Additional Function Accessories
DH.WHP503020 (1) External / Direct Contact Temp. Probe, **"SS100",** PT100, for **"HP-30D", "MSH-30D"** and **"SMHS"** Probe Φ4 x L250mm, Cable L190mm
DH.WHP503021 (2) External / Direct Contact Temp. Probe, **"SS110",** PT100, **PTFE Coated,** for **HP-30D , MSH-30D , SMHS** Probe Φ4 x L250mm, Cable L190mm
DH.WHP503030 (3) External / Direct Contact Temp. Probe, **"SS200",** PT100, for **HP-20D , MSH-20D ,** Probe Φ4 x L250mm, Cable L190mm
DH.WHP503031 (4) External / Direct Contact Temp. Probe, **SS210 ,** PT100, **PTFE Coated,** for **HP-20D , MSH-20D** Probe Φ4 x L250mm, Cable L190mm
DH.WHP503011 (5) Stand Rod, **"RD100",** Stainless Steel, Φ12.7 x L390mm for **"HP-30A/30D", "MSH-30A / 30D",** none Screw
DH.WHP503036 (6) Stand Rod, **RD200 ,** Stainless Steel, Φ12 x L450mm for **"HP-20A / 20D", "MSH-20A / 20D", "MSH-50A / 55A", "MSH-50D / 55D"** and **"SMHS",** 1.5p Screw
DH.WHP503012 (7) Holder/Clamp/Clip, **"CL220",** for Temp. Probe

witeg® Digital Compact Hotplate Stirrer, "MSH-50D", Round-type Plate, Φ135mm, with Certi. & Traceability
with Ceramic Coated or Al-anodized Plate, Digital Feedback Control, Back Light LCD, up to 400°C, ±0,3°C, 80 ~ 1.500 rpm

- **with Certificate & Traceability : Controlled by Serial Number, Certificate, Delivery-information, and Traceable Data Base System**
- **Digital Feedback Control by High-Performance Microprocessor**
- **Choice of Models with Ceramic Coated Aluminum Plate (MSH-50D) for Chemical/Acid Resistance and Easy to Clean, or Anodized Aluminum Plate (MSH-55D) for Prevention of Crack/Chip and More Even Heating Surface**
- **Patented Jog-Shuttle Control System**   ■ **CE Certified**

✱ Excellent for Mixing and most General Lab Heating Applications.
✱ Accurate Temp. Control of the Sample in the Vessel using PT100 Sensor (optional).
✱ User s Self-Compensation Function :
   To Control Difference between Real Temp. and Indicated Temp. (±20,0°C).
✱ Smart Design of Body made by Aluminum Die-Casting, Powder Coated.
✱ Storage Function for the set Values : RPM, Temp. and Timer.
✱ Locking Mode Supported for Experimental Safety (Input to Jog-Shuttle can be Disabled).

Specification

Models	Ceramic Coated Aluminum Plate "MSH-50D"	Black Anodized Aluminum Plate "MSH-55D"
Features	Good Resistance of Chemicals & Acid, Easy to Clean	Prevention of Crack or Chip, and More Even Heating Surface
Plate Size(mm)	Φ135	
Stirring Capa. & Motor Rating	Max. 20 Lit.(H₂O), 9/4W	
Speed & Control Resolution	80 ~ 1.500 rpm, 5 rpm	
Temp. Range & Accuracy	Max. 400°C, ±0,3°C at Set Temp.(Over 70°C)	
Temp. Resolution	0,1 °C-Display, 0,5 °C-Control	
Temp. Uniformity	Specially Designed Heating Module : Temp. Difference 10% less	
Heating Power/Consumption	400 W	
Timer & Alarm	99hr 59min (with Continuous run.), Error status & Timer-end	
Display	Digital LCD Display with Back-Light Function	
Controller	Digital Feedback Controller with Jog Shuttle Switch (Turn+Push)	
Stirring Bar	3cm bar-included, Usable : up to 5cm bar	
Safety Circuit	Over Temp. Protection, Auto-off : 420°C Over	
Permissible Temp. & RH %	Ambient +5 ~ 50°C, 85% RH	
Dimension & Weight	w160 X d280 X h95mm, 2,3kg	
Packing Size & Gross Weight	w400 X d280 X h200mm, 4 kg	
Power plug type	Hybrid E+F	
Power Supply*	AC 230V, 1N~, 50/60Hz	

* Other Specifications are available upon Customer s Request.

Ordering Information

✱ Package-Set : Complete with (1) Hotplate Stirrer Unit with 3cm Stirrer Bar, (2) **SS500** PT100 External / Direct Contact Temp. Probe, (3) **"RD200"** Stainless steel Support Rod Φ12 x L450mm, and (4) **"CL220"** Holder+Clamp for External Temp. Probe

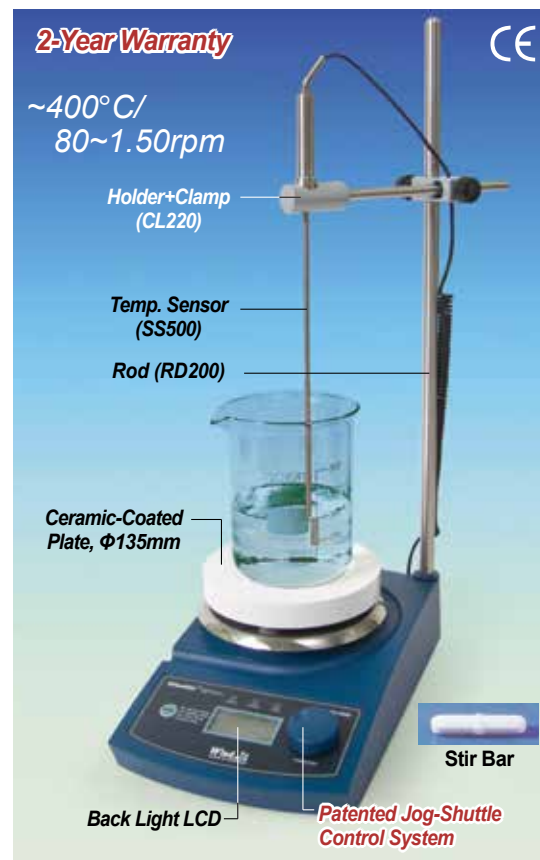### With Ceramic Coated Plate, "MSH-50D" Package-set & Unit

DH.WMH03051	Ceramic Plate-type, **Package-set**, **230V**	
DH.WMH03050	, **Unit** only, **230V,** with stir bar	

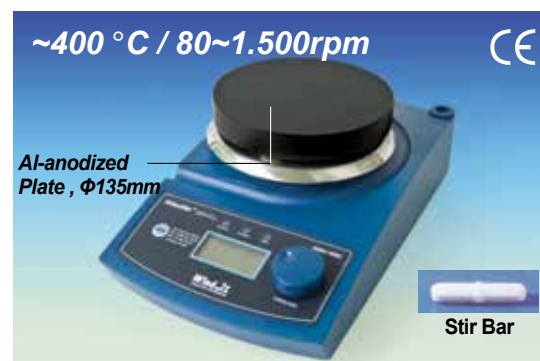### With Black Al-anodized Plate, "MSH-55D" Package-set & Unit

DH.WMH03056   Al-anodized Plate-type, **Package-set**, **230V**
DH.WMH03055   , **Unit** only, **230V,** with stir bar

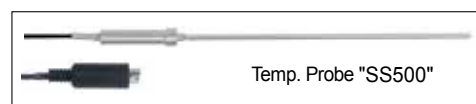#### Additional Function Accessories

DH.WHP503060   (1) Direct Contact Temp. Probe, **SS500, PT100,** for **MSH50D/55D** Probe Φ4 x L250mm, Cable L190mm
DH.WHP503061   (2) Direct Contact **PTFE Coated** Temp. Probe, **SS510 PT100,** for **MSH50D/55D,** Probe Φ4 x L250mm, Cable L190mm
DH.WHP503036   (3) Stand Rod,   **RD200 ,** Stainless Steel, Φ12 x L450mm for **HP-20A / 20D, MSH-20A / 20D, MSH-50A / 55A, MSH-50D / 55D** and **SMHS,** Screw
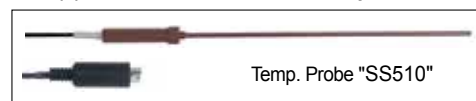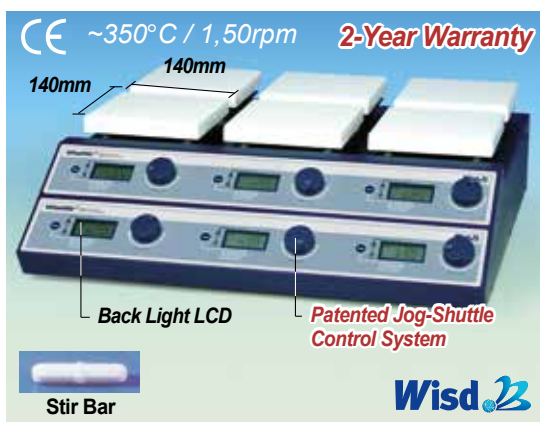DH.WHP503012   (4) Holder/Clamp/Clip, **"CL220",** for Temp. Probe

2-Year Warranty
~400°C/ 80~1.50rpm
Holder+Clamp (CL220)
Temp. Sensor (SS500)
Rod (RD200)
Ceramic-Coated Plate, Φ135mm
Stir Bar
Back Light LCD
Patented Jog-Shuttle Control System

Ceramic Coated Plate-type : Package-set "MSH-50D"

~400 °C / 80~1.500rpm
Al-anodized Plate , Φ135mm
Stir Bar

Black Al-anodized Plate-type : Unit only "MSH-55D"

Temp. Probe "SS500"
(1) External/Direct Contact Temp. Probe

Temp. Probe "SS510"
(2) External/Direct Contact Temp. Probe, PTFE Coated

(3) Stand Rod, "RD200", Φ12 x L450mm

(4) Holder / Clamp / Clip for Temp. Probe

witeg® Systematic Multi-Hotplate Stirrers, 3- or 6- Places, "SMHS", Ceramic-Coated Plates
with Digital Feedback Control, Independent Heating & Stirring Control, Back Light LCD, up to 350°C, 80~1,500 rpm

CE **2-Year Warranty**
~350 °C / 1,50rpm
140mm 140mm

Back Light LCD **Patented Jog-Shuttle Control System**

Stir Bar Wisd

3 X 1 Plates-type Multi-Hotplate Stirrer "SMHS-3"

CE ~350°C / 1,50rpm **2-Year Warranty**
140mm 140mm

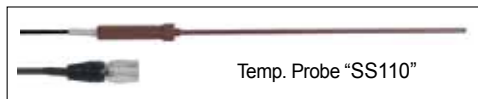**Back Light LCD** **Patented Jog-Shuttle Control System**

Stir Bar Wisd

3 X 2 Plates-type Multi-Hotplate Stirrer "SMHS-6"

※ 3 Rear Hotplate Stirrer SMHS-6 have 3 Ports available to connect External Temp. Probe.

Temp. Probe "SS100"

(1) External/Direct Contact Temp. Probe

Temp. Probe "SS110"

(2) External/Direct Contact Temp. Probe, PTFE Coated

(3) Stand Rod, "RD200", Φ12 x L450mm

(4) Holder / Clamp / Clip for Temp. Probe

- **with Certificate & Traceability :**
  Controlled by Serial Number, Certificate, Delivery-information, and Traceable Data Base System
- **Excellent for Multi-use and wide range Sample Testing**
- **Patented Jog-Shuttle Control System**
- **CE Certified**   ■ **PL (Product Liability) Insurance**

✻ Systemized 3- and 6-Hotplate Stirrer   ✻ Independent Heating and Stirring Control
✻ Digital Feedback Control by High-Performance Microprocessor
✻ Ceramic Coated Plate-Chemical/Acid Resistance
✻ Maximum Temperature of 350°C with ±0.3°C Control Accuracy
✻ Accurate Temp. Control of the Sample in the Vessel using PT100 Sensor (Optional)
✻ Digital LCD with Back-Light Function   ✻ Digital Timer Function Included : 99 hr 59 min
✻ Storage Function for the Set Values : Temperature, RPM and Timer
✻ Locking Mode for Experimental Safety Supported

Specification

Number of Plates, Models	3 X 1 Plates-type "SMHS-3"	3 X 2 Plates-type "SMHS-6"
Material	Plate : Ceramic Coated Aluminum, Body : Powder Coated Steel	
Plate Size(mm)	140 X 140	
Stirring Capa. & Motor Rating	Max. 20 Lit.(H$_2$O), 9/4W X 3	Max. 20 Lit.(H$_2$O), 9/4W X 6
Speed & Control Resolution	80 ~ 1,500 rpm, 5 rpm	
Temp. Range & Accuracy	Max. 350 °C, ±0.3°C at Set Temp.	
Temp. Resolution	0.1 °C-Display, 0.5 °C-Control	
Temp. Uniformity	Specially Designed Heating Module : Temp. Difference 10% less	
Heating Power/Consumption	400 W X 3 Plates	400 W X 6 Plates
Timer & Alarm	99hr 59min (with Continuous run.), Error status & Timer-end	
Display	Digital LCD with Back-Light Function	
Controller	Digital Feedback Controller with Jog Shuttle Switch (Turn+Push)	
Stirring Bar	3cm bar-included, Usable : up to 5cm bar	
Permissible Temp. & RH %	Ambient +5 ~ 50°C, 85% RH	
Dimension & Weight	510 X 240 X h100mm, 10kg	510 X 410 X h180mm, 18kg
Packing Size & Gross Weight	540 X 330 X h170mm, 10kg	570 X 540 X h230mm, 18kg
Power plug type	Hybrid E+F	
Power Supply*	AC 230V, 1N~, 50/60Hz	

* Other Specifications are available upon Customer s Request.

Ordering Information

3 X 1 Plates-type Multi-Hotplate Stirrers "SMHS-3", with Cord /Plug

DH.WMH03503   3 X 1 Plate-type, **230V, SMHS-3 ,** with stir bar

3 X 2 Plates-type Multi-Hotplate Stirrers "SMHS-6", with Cable

DH.WMH03506   3 x 2 Plate-type, **230V, SMHS-6 ,** with stir bar
※ 3 Rear Hotplate Stirrer SMHS-6 have 3 Ports available to connect External Temp. Probe.

Additional Function Accessories

DH.WHP503020   (1) External / Di ect Contact Temperature Sensor, **"SS100"**, **PT100,** for **"HP-30D", "MSH-30D"** and **"SMHS"** Probe Φ4 X L250mm, Cable L190mm

DH.WHP503021   (2) External / Di ect Contact Temperature Sensor, **"SS110"**, **PT100, PTFE Coated,** for **"HP-30D", "MSH-30D", "SMHS"** Probe Φ4 X L250mm, Cable L190mm

DH.WHP503036   (3) Stand Rod, **"RD200",** Stainless Steel, Φ12 X L450mm for **"HP-20A/20D", "MSH-20A/20D", "MSH-50A/55A", "MSH-50D/55D"** and **"SMHS",** 1.5p Screw

DH.WHP503012   (4) Holder / Clamp / Clip, **"CL220",** for Temp. Probe

Incubators

- High Performance Heating Mechanism
- Digital Fuzzy Control System Implementing Superior Temperature Accuracy
- Over Temperature & Over Current Protection, Sensor Error Detection
- UL / CUL Certified - WIF, WIG, SWIF, SWIG, WIM and WIR models

⋙ **Smart-type Incubator**
  (SWIG / SWIF models)

Smart-Lab™

⋙ **General-type Incubator**
  (WIG / WIF model)

⋙ **Multi-Room Incubator**
  - Forced Convection Type (WIM model)

⋙ **Precise Shaking Incubator**
  - Front Door Type (WIS-30 model)

Innovative Technology to Improve the Quality of Human Life

Features of
witeg Incubators

High Performance Heating Mechanism of witeg accomplishing world s best temperature accuracy and uniformity

The new types of Incubator of witeg are outfitted with high performance heating mechanism that is optimized respectively for capacity of chamber, power of heating element and air circulation type (Gravity Convection or Forced Convection).

The temperature displayed on the controller is accurately consistent with the actual temperature in the very center of the chamber or the average temperature in the entire area of the chamber, which maintains precisely within fluctuation specification. In addition, the temperature in the entire area of the chamber shows a very high stability keeping within a very slight variation specification in terms of temperature uniformity. Simultaneously, through the optimization of Fuzzy-PID controller, the heat-up time to reach the Set Temperature after operating and the recovery time to get back to the set temperature after opening and closing of the door are very short.

The newly developed high performance heating mechanism has achieved high degree of temperature accuracy and uniformity in the chamber. This is achieved by the heating elements installed on three sides - that is, the left, right and bottom parts of a chamber - which directly heat the stainless-steel chamber. This either enhances its material thermal conductivity to maximum (in case of the Incubator) or the heated air from the pre-heating zone in air-jacket type that is built in the three sides outside a chamber circulates first (in case of the Oven).

» Incubators
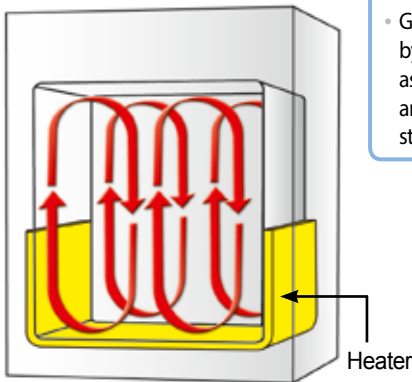
Gravity Convection
• Gravity convection is to be supplemented and maximized by way of forming radiant and conductive heat on the bottom as well as both sides of the chamber, while heating elements are fitted closely to the three sides outside the chamber by the steel structure of 1.5mm in thickness.

Forced Convection
• The same heating structure as Gravity Air-Flow model.
• Installs an air-flow room with a fan built in the back side of the chamber to achieve effective forced convection.
• Achieves high temperature uniformity and minimizes mutual contamination between samples by maintaining air flow in forced convection to top.
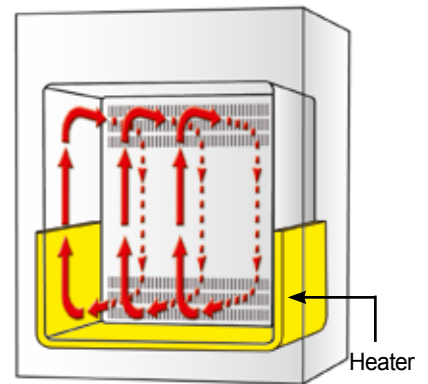
Heater

Heater

# ■High Performance Heating Mechanism

The world's best performance and quality coming true via innovative heating mechanism !!

» Minimum

Fluctuation !
Minimization of Fluctuation in Temperature

Variation !
Minimization of spatial variation in temperature inside the chamber

Heat-up Time !
Minimization of reaching the set temperature

Overshoot !
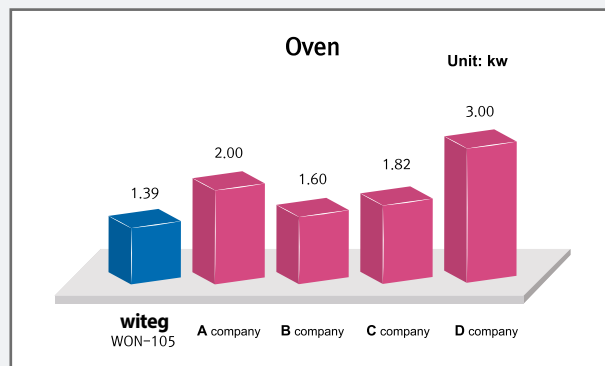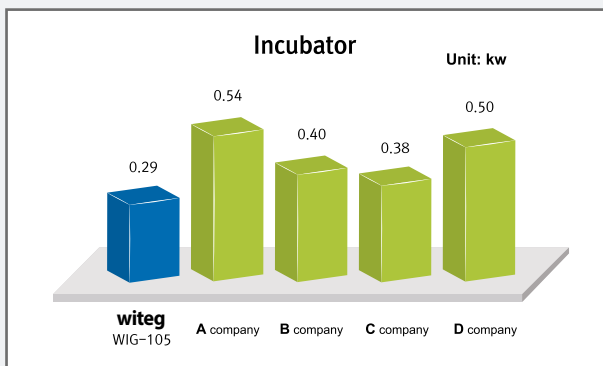Minimization of overshooting at the time of reaching the set temperature

>> Temperature Uniformity Completely Tested by ASTM Standards

All the units supplied by witeg Scientific are thoroughly tested, using 12 temperature sensors and the latest instruments to obtain validation, which corresponds to international standards. That is, Fluctuation and Variation (Uniformity) standards described in catalogues are actually guaranteed as the same.
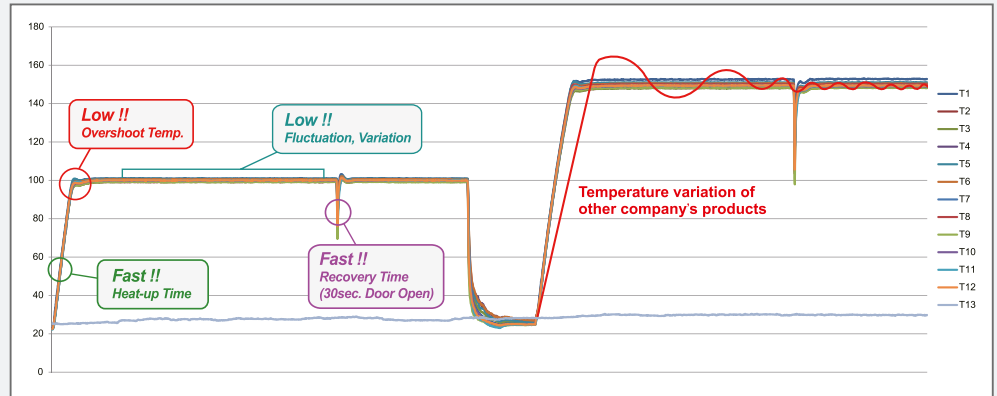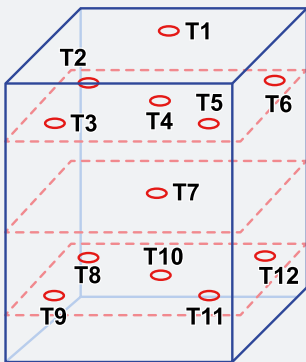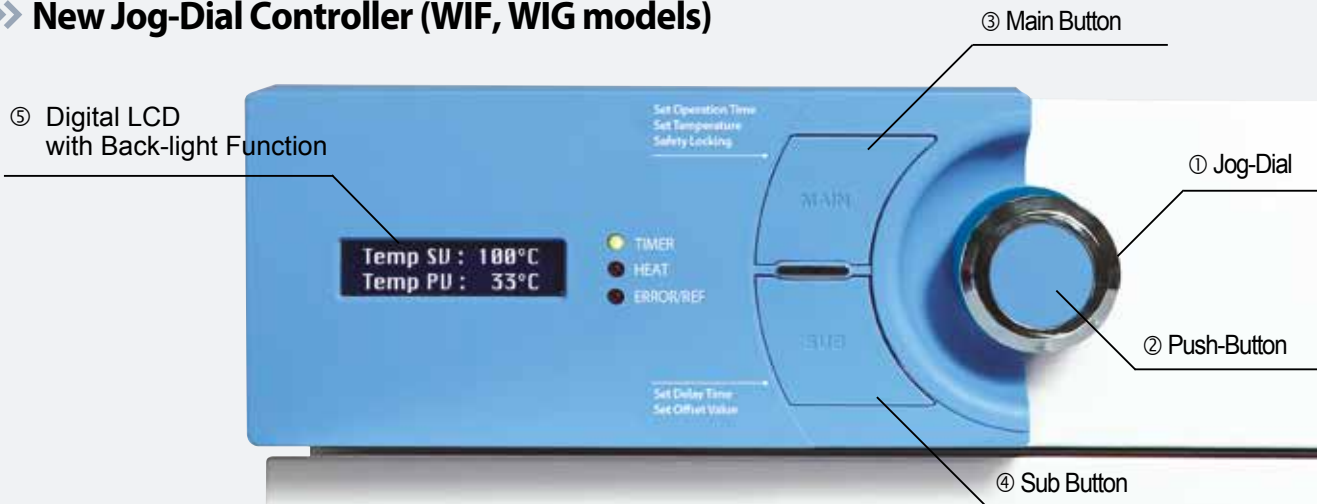

>> Green Product

This is an environment-friendly product that achieves minimum power consumption by using heating element consuming minimum power for the capacity and temperature of the chamber, high-quality insulator and insulation structure, and complete door structure that guarantees shielding.

>> New Jog-Dial Controller (WIF, WIG models)

③ Main Button
⑤ Digital LCD with Back-light Function
① Jog-Dial
② Push-Button
④ Sub Button

Temp SU : 100°C
Temp PU : 33°C

TIMER
HEAT
ERROR/REF

- Provides the user interface with an ergonomic design for users to operate in an easy and convenient way.
- A new 2-way Jog-Dial Knob (Jog Dial + Push Button) and presents excellent durability and mobility.
- High-quality LCD with Back-light function.
- A durable Main Button and a Sub Button that features superb and user-friendly operation.

witeg® Incubators, Forced Convection-type, "WIF", 50-/105-/155 Lit., with Certi. & Traceability
With 2 X Wire Shelves, Digital Fuzzy Control, Jog-Dial with Push Button, Digital LCD with Backlight, up to 70°C, ±0.2°C

NEW

Jog-Dial with Push Button

Digital LCD with Back-light Function

Wisd🐝

2-Year Warranty

Incubator, Forced Convection-type "WIF-105"

Heater
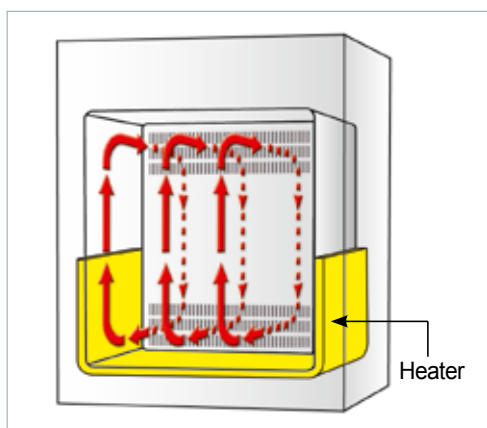
The Best Temp. Uniformity & Accuracy by High Performance Heating Mechanism

■ **with Certificate & Traceability : Controlled by Serial Number, Certificate, Delivery-information, and Traceable Data Base System**
■ **Optimized Air Flow by Forced Convection Mechanism**
■ **Patented Jog-Dial Control System**
■ **UL / CUL Certified**   ■ **CE Certified**
■ **PL (Product Liability) Insurance**

✱ Various Application : Microorganism Culture, Animal & Plant Cell Culture, Constant Temp., Germination, and so on
✱ The Best Temp. Uniformity & Accuracy by High Performance Heating Mechanism : 3-Side Heating
✱ Optimized Air Flow by Forced Convection Mechanism
✱ Digital Fuzzy Control System Implementing Superior Temperature Accuracy
✱ New Jog-Dial with Push Button   ✱ Compact New Body Design
✱ 2 ea of PTFE-coated Steel Wire Shelves Included
✱ Alarm Function : Error status and Timer-end
✱ RS232C Interface for Monitoring and Controlling with PC
✱ Ambient to 70°C of Temp. Range, Fluctuation of ±0.2°C at 37°C, 50°C
✱ Storage Function of Temperature and Timer setting values
✱ Locking Mode Supported for Experimental Safety (Input to Jog-Dial can be disabled)
✱ Corrosion Resistant 304 Stainless Steel Chamber
✱ Incubator Temperature & Incubator Current Protection, Sensor Error Detection

Specification

Capacity & Models		50 Lit. "WIF-50"	105 Lit. "WIF-105"	155 Lit. "WIF-155"
Dimension (w x d x h)	Interior (mm)	350 X 370 X 535	410 X 485 X 535	475 X 500 X 600
	Exterior (mm)	518 X 637 X 699	635 X 695 X 841	700 X 760 X 903
Heater Power		200W	300W	400W
Temp.	Range	Ambient Temperature +5°C to 70°C		
	Fluctuation	± 0.2°C at 37°C, ± 0.3°C at 50°C		
	Variation	± 0.5°C at 37°C, ± 0.9°C at 50°C	± 0.4°C at 37°C, ± 0.7°C at 50°C	
	Sensor	PT 100		
Control Resolution		±0.1°C		
Heat-up Time		17 min. to 37 °C, 28 min. to 50°C	17 min. to 37°C, 30 min. to 50°C	
Recovery Time (Door open 30sec)		3 min. to 37°C, 4 min. to 50°C		
Controller		Digital Fuzzy Control by Advanced Microprocessor Jog-Dial with Push Button		
RS232 Port		Available to connect with PC		
Display		Digital LCD with Back Light		
Timer		99hr 59 min (delay/continuous function)		
Material	Internal	Stainless Steel (#304)		
	External	Powder Coated Steel		
	Inner Door	Inner Tempered Glass Door		
Shelves		2ea of PTFE-coated Steel Wire Shelves included		
Ventilation		1ea of Ventilation hole with Stainless Steel Cap, Hole Diameter 40mm		
Circulation		Forced Air Type		
Safety device		Over Temp. and Over Current Protector, Sensor Error Detector		
Others		UL/CUL Certified, CE Certified Storage Function (Temp. and Time) Locking Mode (Jog-Dial Input Disabled) Alarm (Error Status and Timer-end)		
Net Weight (kg)		46	66	81
Packing Size (w x d x h) (mm)		628 X 752 X 775	710 X 731 X 1,018	731 X 810 X 1,018
Shipping Weight (kg)		58	74	92
Power Consumption		216.3 W	302.9 W	438.1 W
Energy Consumption, at 37 C		28 Wh	43 Wh	58 Wh
, at 50 C		84 Wh	129 Wh	145 Wh
Power plug type		Hybrid E+F		
Power Supply*		AC 230V, 1N~, 50/60Hz		

* Other Specifications are available upon Customer s Request.

<Continued from...Incubators, Forced Convection-type, "WIF">

Ordering Information

DH.WIF03050   Incubator, Forced Convection, **230V, 50 Lit., "WIF-50"**

DH.WIF03105   **, 105 Lit., "WIF-105"**
DH.WIF03155   **, 155 Lit., "WIF-155"**

Spare Wire Shelves, PTFE Coated Steel

DH.WIG11050   Wire Shelf, PTFE Coated Steel, with 2 Brackets, **for 50 Lit.,**
           "IGS050", w340 x d310mm
DH.WIG11105   Wire Shelf, PTFE Coated Steel, with 2 Brackets, **for 105 Lit.,**
           "IGS105", w455 x d375mm
DH.WIG11155   Wire Shelf, PTFE Coated Steel, with 2 Brackets, **for 155 Lit.,**
           "IGS155", w520 x d440mm

Optional Wire Shelves, Stainless Steel

DH.WON11050   Wire Shelf, Stainless Steel, with 2 Brackets, **for 50 Lit.,**
           "ONS050", w340 x d310mm
DH.WON11105   Wire Shelf, Stainless Steel, with 2 Brackets, **for 105 Lit.,**
           "ONS105", w455 x d375mm
DH.WON11155   Wire Shelf, Stainless Steel, with 2 Brackets, **for 155 Lit. / 305Lit.,**
           "ONS155", w520 x d440mm
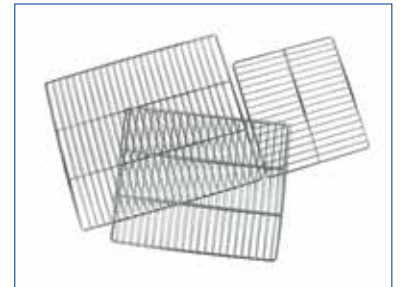
Validation (IQ, OQ) Service

DH.WIF31050   Validation Service(IQ, OQ), **"IFV050",** for **"WIF-50"**
DH.WIF31105   **, "IFV105",** for **"WIF-105"**
DH.WIF31155   **, "IFV155",** for **"WIF-155"**

NEW

2-Year Warranty   **Wisd.₂**

Incubator, Forced Convection-type *"WIF-105"*

**Wire Shelves, Stainless Steel
(Optional)**

WiseRemote® Remote Control Software

Connection of Wisd.₂ Temperature Devices with Interface RS232C

to a PC Export Recorded Data (Excel Spreadsheet)

Main Screen

RS232C Cable & Software

witeg® Incubators, Gravity Convection-type, "WIG", 32-/50-/105-/155 Lit., with Certi. & Traceability

With 2 X Wire Shelves, Digital Fuzzy Control, Jog-Dial with Push Button, Digital LCD with Backlight, up to 70°C, ±0.2°C

NEW

Jog-Dial with Push Button

Digital LCD with Back-light Function

2-Year Warranty **Wisd.월**

Incubator, Gravity Convection-type "WIG-105"

■ **with Certificate & Traceability : Controlled by Serial Number, Certificate, Delivery-information, and Traceable Data Base System**
■ **Optimized Air Circulation by Natural Flow preventing Cross Contamination of Samples**
■ **Patented Jog-Dial Control System**
■ **UL / CUL Certified** ■ **CE Certified**
■ **PL (Product Liability) Insurance**

✱ Various Application : Microorganism Culture, Animal & Plant Cell Culture, Constant Temp., Germination, and so on
✱ The Best Temp. Uniformity & Accuracy by High Performance Heating Mechanism : 3-Side Heating
✱ Optimized Air Circulation by Natural Flow preventing Cross Contamination of Samples
✱ Digital Fuzzy Control System Implementing Superior Temperature Accuracy
✱ New Jog-Dial with Push Button ✱ Compact New Body Design
✱ 2 ea of PTFE-coated Steel Wire Shelves included
✱ RS232C Interface for Monitoring and Controlling with PC
✱ Ambient to 70°C of Temp. Range, Fluctuation of ±0.2°C at 37°C, 50°C
✱ Alarm Function : Error status and Timer-end
✱ Storage Function of Temperature and Timer setting values
✱ Locking Mode Supported for Experimental Safety (Input to Jog-Dial can be disabled)
✱ Corrosion Resistant 304 Stainless Steel Chamber
✱ Incubator Temperature & Incubator Current Protection, Sensor Error Detection

The Best Temp. Uniformity & Accuracy by High Performance Heating Mechanism

Heater

Specification

Capacity & Models		32 Lit. "WIG-32"	50 Lit. "WIG-50"	105 Lit. "WIG-105"	155 Lit. "WIG-155"
Dimension (w x d x h)	Interior (mm)	310 x 290 x 360	370 x 350 x 420	485 x 410 x 535	550 x 475 x 600
	Exterior (mm)	458 x 477 x 662	518 x 545 x 722	633 x 595 x 879	700 x 660 x 903
Heater Power		150W	200W	300W	400W
Temp.	Range	Ambient Temperature +5°C to 70°C			
	Fluctuation	± 0.2°C at 37°C, ±0.3°C at 50°C			
	Variation	± 0.6°C at 37°C, ±1.0°C at 50°C			
	Sensor	PT 100			
Control Resolution		±0.1°C			
Heat-up Time		25 min. to 37 °C , 40 min. to 50 °C		30 min. to 37 °C , 40 min. to 50 °C	
Recovery Time (Door open 30sec)		8 min. to 37 °C 12 min. to 50 °C		10 min. to 37 °C 15 min. to 50 °C	
Controller		Digital Fuzzy Control by Advanced Microprocessor Jog-Dial with Push Button			
RS232 Port		Available to connect with PC			
Display		Digital LCD with Back Light			
Timer		99hr 59 min (delay/continuous function)			
Material	Internal	Stainless Steel (#304)			
	External	Powder Coated Steel			
	Inner Door	Inner Tempered Glass Door			
Shelves		2ea of PTFE-coated Steel Wire Shelves included			
Ventilation		1ea of Ventilation hole with Stainless Steel Cap, Hole Diameter 40mm			
Circulation		Gravity Convection Type			
Safety device		Over Temp. and Over Current Protector, Sensor Error Detector			
Others		UL / CUL Certified, CE Certified Storage Function (Temp. and Time) Locking Mode (Jog-Dial Input Disabled) Alarm (Error Status and Timer-end)			
Net Weight (kg)		32	40	59	71
Packing Size (w x d x h) (mm)		568 x 592 698	628 x 652 x 775	731 x 710 x 1,018	796 x 775 x 1,083
Shipping Weight (kg)		39	53	67	78
Power Consumption		159 W	169.9 W	292.9 W	420.5 kW
Energy Consumption, at 37 C		34 Wh	41 Wh	63 Wh	99 Wh
, at 50 C		81 Wh	103 Wh	152 Wh	212 Wh
Power plug type		Hybrid E+F			
Power Supply*		AC 230V, 1N~, 50/60Hz			

* Other Specifications are available upon Customer s Request.

In

<Continued from... Incubators, Gravity Convection-type, "WIG" **>**

Ordering Information

DH.WIG03032	Incubator, Gravity / Natural Flow-type, **230V, 32 Lit., "WIG-32"**
DH.WIG03050	, 50 Lit., **"WIG-50"**
DH.WIG03105	, 105 Lit., **"WIG-105"**
DH.WIG03155	, 155 Lit., **"WIG-155"**

Spare Wire Shelves, PTFE Coated Steel

DH.WIG11032	Wire Shelf, PTFE Coated Steel, with 2 Brackets, **for 32 Lit.,** **"IGS032"**, w280 x d260mm
DH.WIG11050	Wire Shelf, PTFE Coated Steel, with 2 Brackets, **for 50 Lit.,** **"IGS050"**, w340 x d310mm
DH.WIG11105	Wire Shelf, PTFE Coated Steel, with 2 Brackets, **for 105 Lit.,** **"IGS105"**, w455 x d375mm
DH.WIG11155	Wire Shelf, PTFE Coated Steel, with 2 Brackets, **for 155 Lit.,** **"IGS155"**, w520 x d440mm

Optional Wire Shelves, Stainless Steel

|	
DH.WIG12032	Wire Shelf, Stainless Steel, with 2 Brackets, **for 32 Lit.,** **"IGSN032"**, w280 x d260mm
DH.WON11050	Wire Shelf, Stainless Steel, with 2 Brackets, **for 50 Lit.,** **"ONS050** , w340 x d310mm
DH.WON11105	Wire Shelf, Stainless Steel, with 2 Brackets, **for 105 Lit.,** **"ONS105"**, w455 x d375mm
DH.WON11155	Wire Shelf, Stainless Steel, with 2 Brackets, **for 155 Lit./305Lit.,** **"ONS155"**, w520 x d440mm

Validation (IQ, OQ) Service

DH.WIG31032	Validation Service(IQ, OQ), **"IGV032",** for **"WIG-32"**
DH.WIG31050	, **"IGV050",** for **"WIG-50"**
DH.WIG31105	, **"IGV105",** for **"WIG-105"**
DH.WIG31155	, **"IGV155",** for **"WIG-155"**

2-Year Warranty
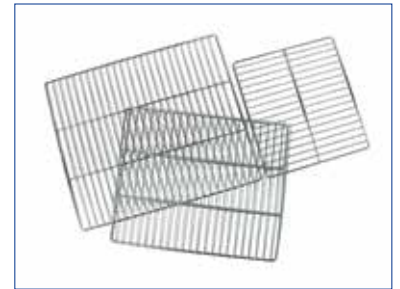
Incubator, Gravity Convection-type "WIG-105"

**Wire Shelves, Stainless Steel
(Optional)**

WiseRemote® Remote Control Software

Connection of Wisd Temperature Devices with Interface RS232C to a PC Export Recorded Data (Excel Spreadsheet)

Main Screen

RS232C Cable & Software

witeg® Incubators, Forced Convection-type, SWIF, 50-/105-/155 Lit., with Certi. & Traceability
with Smart-Lab™ Controller, 4" Full Touch Screen, Fuzzy-PID Control, up to 70°C, ±0.2°C

NEW

4-inch Smart-Lab™ Controller

2-Year Warranty

Wisd.23
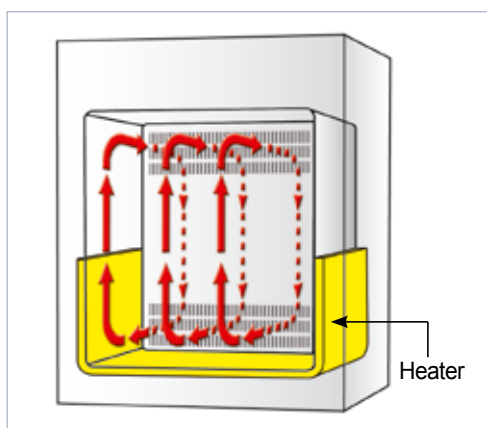
Incubator, Forced Convection-type "SWIF-105"

- ■ **with Certificate & Traceability : Controlled by Serial Number, Certificate, Delivery-information, and Traceable Data Base System**
- ■ **Optimized Air Flow by Forced Convection Mechanism**
- ■ **Smart-Lab™ Controller**
- ■ **UL / CUL Certified**   ■ **CE Certified**
- ■ **PL (Product Liability) Insurance**

∗ Various Application : Microorganism Culture, Animal & Plant Cell Culture, Constant Temp., Germination, and so on
∗ The Best Temp. Uniformity & Accuracy by High Performance Heating Mechanism: 3-Side Heating
∗ Optimized Air Flow by Forced Convection Mechanism
∗ Ergonomic Design 4" Full Touch Screen TFT LCD(Smart-Lab™ Controller)
∗ WiRe™ App & Web Service.   ∗ Automatic Data Recording
∗ Self-Diagnostic Function   ∗ Internet Connectivity with WiFi
∗ Variable Program Setting for Multiple Patterns with Multiple Segments
∗ The Recorded Data Could be transferred to PC by USB memory
∗ Compact New Body Design   ∗ Controller SW can be upgraded through USB port.
∗ 2ea of PTFE-coated Steel Wire Shelves Included
∗ RS232C Interface for Monitoring and Controlling with PC
∗ Ambient to 70°C of Temp. Range, Fluctuation of ±0.2°C at 37°C, 50°C
∗ Corrosion Resistant 304 Stainless Steel Chamber
∗ Incubator Temperature & Incubator Current Protection, Sensor Error Detection

Heater

The Best Temp. Uniformity & Accuracy by High Performance Heating Mechanism

Display of Smart-Lab™ Controller

※ See page 8~13 for the Feature of Smart-Lab™ System

Specification

Capacity & Models		50 Lit. "SWIF-50"	105 Lit. "SWIF-105"	155 Lit. "SWIF-155"
Dimension (w x d x h)	Interior (mm)	350 x 370 x 535	410 x 485 x 535	475 x 500 x 600
	Exterior (mm)	518 x 637 x 699	635 x 695 x 841	700 x 760 x 903
Heater Power		200W	300W	400W
Temp.	Range	Ambient Temperature +5°C to 70°C		
	Fluctuation	± 0.2°C at 37°C, ±0.3°C at 50°C		
	Variation	±0.5°C at 37°C, ± 0.9°C at 50°C	± 0.4°C at 37°C, ± 0.7°C at 50°C	
	Sensor	PT 100		
Control Resolution		±0.1°C		
Heat-up Time		17 min. to 37°C, 28 min. to 50°C	17 min. to 37°C, 30 min. to 50°C	
Recovery Time(Door open 30sec)		3 min. to 37°C, 4 min. to 50°C		
Controller		Smart-Lab™ Controller		
RS232 Port		Available to connect with PC		
Display		4" Full Touch Screen TFT LCD		
Timer		99hr 59 min (delay/continuous function)		
Material	Internal	Stainless Steel (#304)		
	External	Powder Coated Steel		
	Inner Door	Inner Tempered Glass Door		
Shelves		2ea of PTFE-coated Steel Wire Shelves included		
Ventilation		1ea of Ventilation hole with Stainless Steel Cap, Hole Diameter 40mm		
Circulation		Forced Air Type		
Safety device		Over Temp. and Over Current Protector, Sensor Error Detector		
Others		UL/CUL Certified, CE Certified Storage Function (Temp. and Time) Locking Mode (Jog-Dial Input Disabled) Alarm (Error Status and Timer-end)		
Net Weight (kg)		46	66	81
Packing Size (w x d x h) (mm)		628 x 752 x 775	710 x 731 x 1,018	731 x 810 x 1,018
Shipping Weight (kg)		58	74	92
Power Consumption		216.3 W	302.9 W	438.1 W
Energy Consumption, at 37 C		28 Wh	43 Wh	58 Wh
, at 50 C		84 Wh	129 Wh	145 Wh
Power plug type		Hybrid E+F		
Power Supply*		AC 230V, 1N~, 50/60Hz		

* Other Specifications are available upon Customer s Request.

Cat. No	Description	Articles

<Continued from... Incubators, Forced Convection-type, "SWIF"**>**

Ordering Information

DH.SWIF03050   Incubator, Forced Convection, **230V, 50 Lit., "SWIF-50"**

DH.SWIF03105   **, 105 Lit., "SWIF-105"**

DH.SWIF03155   **, 155 Lit., "SWIF-155"**

Spare Wire Shelves, PTFE Coated Steel

DH.WIG11050   Wire Shelf, PTFE Coated Steel, with 2 Brackets, **for 50 Lit.,**
                 "IGS050", w340 x d310mm

DH.WIG11105   Wire Shelf, PTFE Coated Steel, with 2 Brackets, **for 105 Lit.,**
                 "IGS105", w455 x d375mm

DH.WIG11155   Wire Shelf, PTFE Coated Steel, with 2 Brackets, **for 155 Lit.,**
                 "IGS155", w520 x d440mm

Optional Wire Shelves, Stainless Steel

DH.WON11050   Wire Shelf, Stainless Steel, with 2 Brackets, **for 50 Lit.,**
                 "ONS050", w340 x d310mm

DH.WON11105   Wire Shelf, Stainless Steel, with 2 Brackets, **for 105 Lit.,**
                 "ONS105", w455 x d375mm

DH.WON11155   Wire Shelf, Stainless Steel, with 2 Brackets, **for 155 Lit. / 305Lit.,**
                 "ONS155", w520 x d440mm

Validation (IQ, OQ) Service

DH.SWIF31050   Validation Service(IQ, OQ), **"SIFV050",** for **SWIF-50**

DH.SWIF31105   **, "SIFV105",** for **SWIF-105**

DH.SWIF31155   **, "SIFV155",** for **SWIF-155**

2-Year Warranty   **Wisd**🅱

Incubator, Forced Convection-type "SWIF-105"
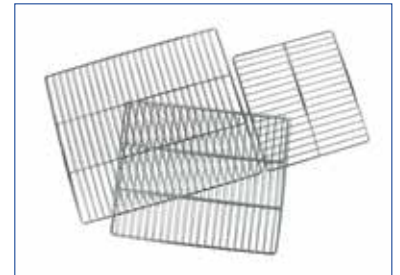
》 **witeg WiRe™ App & Web Service**

It is possible to monitor and control the Smart-Lab™ equipment through all smart phone, tablet and web without restraint of time and place.

4" Full Touch Screen TFT LCD
(Smart-Lab™ Controller)

WiRe™ App & Web Service

**Wire Shelves, PTFE Coated Steel
(Included)**

**(1) Wire Shelves, Stainless Steel
(Optional)**

| Articles | Cat. No | Description |

witeg® Incubators, Gravity Convection-type, SWIG , 32-/50-/105-/155 Lit., with Certi. & Traceability
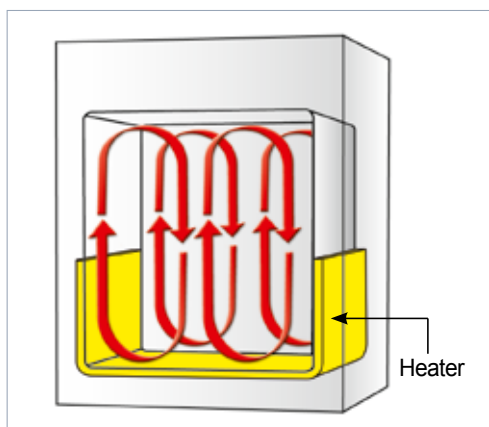## with Smart-Lab™ Controller, 4" Full Touch Screen, Fuzzy-PID Control, up to 70°C, ±0.2°C

4-inch Smart-Lab™ Controller

2-Year Warranty

Wisd

Incubator, Forced Convection-type "SWIG-105"

■ **with Certificate & Traceability : Controlled by Serial Number, Certificate, Delivery-information, and Traceable Data Base System**
■ **Optimized Air Circulation by Natural Flow preventing Cross Contamination of Samples**
■ **Smart-Lab™ Controller**
■ **UL / CUL Certified**　　　　■ **CE Certified**
■ **PL(Product Liability) Insurance**

✻ Various Application : Microorganism Culture, Animal & Plant Cell Culture, Constant Temp., Germination, and so on
✻ The Best Temp. Uniformity & Accuracy by High Performance Heating Mechanism: 3-Side Heating
✻ Optimized Air Circulation by Natural Flow preventing Cross Contamination of Samples
✻ Ergonomic Design 4" Full Touch Screen TFT LCD(Smart-Lab™ Controller)
✻ WiRe™ App & Web Service.　　　✻ Automatic Data Recording
✻ Self-Diagnostic Function　　　✻ 2ea of PTFE-coated Steel Wire Shelves Included
✻ Variable Program Setting for Multiple Patterns with Multiple Segments
✻ The Recorded Data could be transferred to PC by USB memory
✻ Controller SW can be upgraded through USB port.
✻ Internet Connectivity with WiFi　　✻ Compact New Body Design
✻ RS232C Interface for Monitoring and Controlling with PC
✻ Ambient to 70°C of Temp. Range, Fluctuation of ±0.2°C at 37°C, 50°C
✻ Corrosion Resistant 304 Stainless Steel Chamber
✻ Over Temperature & Over Current Protection, Sensor Error Detection

Heater

The Best Temp. Uniformity & Accuracy by High Performance Heating Mechanism

Display of Smart-Lab™ Controller

Specification

Capacity & Models		32 Lit. SWIG-32	50 Lit. SWIG-50	105 Lit. SWIG-105	155 Lit. SWIG-155
Dimension (w x d x h)	Interior (mm)	310 x 290 x 360	370 x 350 x 420	485 x 410 x 535	550 x 475 x 600
	Exterior (mm)	458 x 477 x 662	518 x 545 x 722	633 x 595 x 879	700 x 660 x 903
Heater Power		150W	200W	300W	400W
Temp.	Range	Ambient Temperature +5°C to 70°C			
	Fluctuation	± 0.2°C at 37°C, ±0.3°C at 50°C			
	Variation	± 0.6°C at 37°C, ± 1.0°C at 50°C			
	Sensor	PT 100			
Control Resolution		±0.1°C			
Heat-up Time		25 min. to 37°C , 40 min. to 50°C		30 min. to 37°C , 40 min. to 50 °C	
Recovery Time (Door open 30sec)		8 min. to 37°C 12 min. to 50°C		10 min. to 37°C 15 min. to 50°C	
Controller		Smart-Lab™ Controller			
RS232 Port		Available to connect with PC			
Display		4" Full Touch Screen TFT LCD			
Timer		99hr 59 min (delay/continuous function)			
Material	Internal	Stainless Steel (#304)			
	External	Powder Coated Steel			
	Inner Door	Inner Tempered Glass Door			
Shelves		2ea of PTFE-coated Steel Wire Shelves included			
Ventilation		1ea of Ventilation hole with Stainless Steel Cap, Hole Diameter 40mm			
Circulation		Gravity Convection Type			
Safety device		Over Temp. and Over Current Protector, Sensor Error Detector			
Others		UL / CUL Certified, CE Certified Storage Function (Temp. and Time) Locking Mode (Jog-Dial Input Disabled) Alarm (Error Status and Timer-end)			
Net Weight (kg)		32	40	59	71
Packing Size (w x d x h) (mm)		568 x 592 x 698	628 x 652 x 775	731 x 710 x 1,018	796 x 775 x 1,083
Shipping Weight (kg)		39	53	67	78
Power Consumption		159 W	169.9 W	292.9 W	420.5 kW
Energy Consumption, at 37 C		34 Wh	41 Wh	63 Wh	99 Wh
, at 50 C		81 Wh	103 Wh	152 Wh	212 Wh
Power plug type		Hybrid E+F			
Power Supply*		AC 230V, 1N~, 50/60Hz			

* Other Specifications are available upon Customer s Request.

<Continued from... Incubators, Gravity Convection-type, "SWIG">*

Ordering Information

DH.SWIG03032 Incubator, Gravity / Natural Flow-type, **230V, 32 Lit., "SWIG-32"**

DH.SWIG03050 , **50 Lit., "SWIG-50"**
DH.SWIG03105 , **105 Lit., "SWIG-105"**
DH.SWIG03155 , **155 Lit., "SWIG-155"**

Spare Wire Shelves, PTFE Coated Steel

DH.WIG11032 Wire Shelf, PTFE Coated Steel, with 2 Brackets, **for 32 Lit.,**
  "IGS032", w280 x d260mm
DH.WIG11050 Wire Shelf, PTFE Coated Steel, with 2 Brackets, **for 50 Lit.,**
  "IGS050", w340 x d310mm
DH.WIG11105 Wire Shelf, PTFE Coated Steel, with 2 Brackets, **for 105 Lit.,**
  "IGS105", w455 x d375mm
DH.WIG11155 Wire Shelf, PTFE Coated Steel, with 2 Brackets, **for 155 Lit.,**
  "IGS155", w520 x d440mm

Optional Wire Shelves, Stainless Steel

DH.WIG12032 Wire Shelf, Stainless Steel, with 2 Brackets, **for 32 Lit.,**
  "IGSN032", w280 x d260mm
DH.WON11050 Wire Shelf, Stainless Steel, with 2 Brackets, **for 50 Lit.,**
  "ONS050", w340 x d310mm
DH.WON11105 Wire Shelf, Stainless Steel, with 2 Brackets, **for 105 Lit.,**
  "ONS105", w455 x d375mm
DH.WON11155 Wire Shelf, Stainless Steel, with 2 Brackets, **for 155 Lit./305Lit.,**
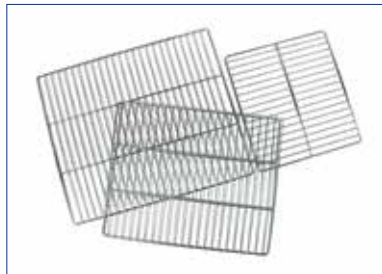 **"ONS155",** w520 x d440mm

Validation (IQ, OQ) Service

DH.SWIG31032 Validation Service(IQ, OQ), **"SIGV032",** for **"SWIG-32"**
DH.SWIG31050 , **"SIGV050",** for **"SWIG-50"**
DH.SWIG31105 , **"SIGV105",** for **"SWIG-105"**
DH.SWIG31155 , **"SIGV155",** for **"SWIG-155"**

Incubator, Gravity Convection-type "SWIG-105"

2-Year Warranty *Wisd.ß*

**Wire Shelves, PTFE Coated Steel
(Included)**

**(1) Wire Shelves, Stainless Steel
(Optional)**

⟫ **witeg WiReᵀᴹ App & Web Service**

4" Full Touch Screen TFT LCD
(Smart-Labᵀᴹ Controller)

It is possible to monitor and control
the Smart-Labᵀᴹ equipment through
all smart phone, tablet and web
without restraint of time and place.

WiReᵀᴹ App & Web Service

witeg® Multi-Room Incubator, WIM , Forced Convection-type, 125 Lit. x 4 Rooms, with Certi. & Traceability
with 8 X Wire Shelves, Digital Fuzzy Control, Independent Chamber Control, Max. Temp. Uniformity & Accuracy, up to 60-/70-°C

2-Year Warranty

Back Light LCD

Patented Jog-Shuttle Control System

Digital Fuzzy Controller

Wisd.

4 x 125Lit. Rooms Independent Fuzzy Control System in each Chamber

Multi-Room Incubator, Forced Convection Type "WIM-R4"

- with Certificate & Traceability : Controlled by Serial Number, Certificate, Delivery-information, and Traceable Data Base System
- 4 x 125Lit Rooms : Each Chamber has an Independent Fuzzy Controller for Different Temperature and Time Control
- **Patented Jog-Shuttle Control System**
- UL/CUL Certified   ■ CE Certified
- **PL(Product Liability) Insurance**

✻ Variable Application : Microorganism Culture, Animal & Plant Cell Culture, Constant Temperature and Germination
✻ Digital Fuzzy Control System Implementing Superior Temperature Accuracy.
✻ High-Quality LCD with Back-Light Function
✻ Forced Convection Air Flow by Silent Fan Motor Implements the Highest Uniformity of Temperature in Each Chamber
✻ Stainless Steel Chamber and PTFE-Coated Shelves (2ea for Each Chamber) - Corrosion Resistance
✻ Inner Tempered Glass Door Enables an User to Observe the Samples without Interruption of Incubation
✻ Over Temperature & Over Current Protection, Sensor Error Detection and Leakage Breaking.
✻ Storage Function for Set Values of Temperature and Time
✻ Locking Mode Supported for Experimental Safety (Input to Jog-Shuttle can be Disabled)

Specification

Model		Ambient +5°C ~ 70°C "WIM-4"	0°C to 60°C "WIM-R4"	0°C to 60°C with illumination "WIM-RL4"
Circulation		Forced Convection-Blower FAN		
Capacity		125 Lit. x 4 Rooms		
Illumination		None		FRL 55W x 2 (x 4 Rooms)
Temp.	Range	Ambient +5°C ~ 70°C	0°C to 60°C	
	Accuracy	±0.2°C at 37°C		
	Uniformity	±0,3°C at 37°C, ±0,7°C at 50°C	± 0.5°C at 37°C	
	Sensor	PT100		
Heat-up Time		15 min. to 37°C 30 min. to 50°C	20 min. to 37°C 30 min. to 50°C	
Recovery Time (Door open 30sec)		8 min. to 37°C 10 min. to 50°C	10 min. to 50°C 12 min. to 50°C	
Heating Power/Consumption		500 W x 4ea	650 W x 4ea	
Compressor		none	1/4 HP (x 4 Rooms)	
Timer & Alarm		99hr 59min (with delay / Continuous run.), Error status & Timer-end		
Display		Digital LCD with Back-Light Function		
Controller		Digital Fuzzy Controller with Jog-Shuttle Switch (Turn & Push)		
Inner Door		with 4ea of Inner Tempered Glass Door		
Shelves		Included 8ea of PTFE Coated Steel Shelves (2ea x 4 Chambers)		
Permitted Total Load		Total Load 128 kg (16kg x 8 Shelves)		
Safety Circuit		Over Temp. and Over Current Protector, Sensor Error Detector		
Material		Internal : Stainless Steel (#304), External : Powder Coated Steel		
Dimension (w x d x h)	Interior (mm)	500 x 500 x h500 mm (x 4 Rooms)		
	Exterior (mm)	1,655 x 845 x h1,710 mm		
Net Weight		343kg	350kg	
Packing Size (w x d x h) (mm)		1,900 x 1,050 x 1,950		
Gross Weight		441 kg	450 kg	
Power Consumption		2.6 kW	4.5 kW	4.8 kW
Power plug type		Hybrid E+F	5 pole 16A CEE	
Power Supply*		AC 230V, 1N~, 50/60Hz	AC 400V, 3N~,50 / 60Hz	

* Other Specifications are available upon Customer s Request.

<Continued on next page>

<Continued from... Multi-Room Incubator, "WIM">

Ordering Information

"WIM-4" with 125 Lit. x 4 Rooms, Ambient +5°C~70°C
DH.WIM04125   Multi-Room Incubator, **230V**, **"WIM-4"**

"WIM-R4" with 125 Lit. x 4 Rooms, 0~60°C
DH.WIM16125   Multi-Room Incubator, **400V, 3N~**, **"WIM-R4"**

"WIM-RL4" with 125 Lit. x 4 Rooms & Illumination, 0~60°C
DH.WIM26125   Multi-Room Incubator, **400V, 3N~**, **"WIM-RL4"**

Spare Wire Shelves
DH.WIM34125   Wire Shelf, PTFE Coated Steel, with 2 Brackets, **IMS125**
       w470 x d480mm, for **"WIM" 4-Room Incubators**

Optional Wire Shelves
DH.WIM34126   (1) Wire Shelf, Stainless Steel, with 2 Brackets, **IMS126** ,
       w470 x d480mm, for **"WIM" 4-Room Incubators**

Validation (IQ, OQ) Service
DH.WIM54125   Validation Service(IQ, OQ), **"IMV525"**, for **"WIM-4"**
DH.WIM64125   , **"IMV625",** for **"WIM-R4"**
DH.WIM74125   , **"IMV725",** for **"WIM-RL4"**

2-Year Warranty   **Wisd**

**Multi-Room Incubator, Forced Convection Type
"WIM-R4"**

WiseRemote® Remote Control Software

**Connection of Wisd Temperature Devices with Interface RS232C to a PC Export Recorded Data (Excel Spreadsheet)**

Main Screen   **RS232C Cable & Software**

**Wire Shelves, PTFE Coated Steel
(Included)**

**(1) Wire Shelves, Stainless Steel
(Optional)**

Articles	Cat. No	Description
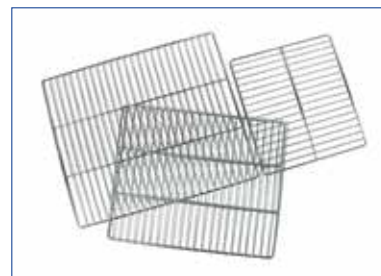
witeg® Low Temperature (B.O.D) Incubators, "WIR", 150-/250-/420-/700- Lit., with Certi. & Traceability
with 3 X Wire Shelves, Digital Fuzzy Control, CFC-free Refrigeration(404A) System, Forced Convection, 0~60°C, ±0.2°C

Patented Jog-Shuttle Control System

Digital Fuzzy Control System

WiseCube

Back Light LCD

Wisd ℬ

2-Year Warranty

Low Temperature(B.O.D) Incubator "WIR-150"

- ■ **with Certificate & Traceability : Controlled by Serial Number, Certificate, Delivery-information, and Traceable Data Base System**
- ■ **Intelligent Control of Refrigerator for Preventing Overload of Compressor**
- ■ **CFC-free (404A) Refrigeration System**
- ■ **Digital Fuzzy Control System Implementing Superior Temperature Accuracy**
- ■ **Patented Jog-Shuttle Control System**
- ■ **UL/CUL Certified**   ■ **CE Certified**
- ■ **PL (Product Liability) Insurance**

✱ Variable Application : Animal & Plant Cell Culture, Constant Temperature, Germination Test, BOD Test, and so on
✱ RS232C Interface for Monitoring and Controlling with PC
✱ Superior Temperature Uniformity by Forced Convection
✱ Stainless Steel Chamber and PTFE-Coated Shelves - Corrosion Resistance
✱ Over Temperature & Over Current Protection, Sensor Error Detection and Leakage Breaking.
✱ Storage Function : Alarm & Timer   ✱ Back-Light LCD
✱ Locking Mode Supported for Experimental Safety (Input to Jog-Shuttle can be Disabled)
✱ CFC-free (404A) Refrigeration System.

Specification

Capacity & Models		150 Lit. "WIR-150"	250 Lit. "WIR-250"	420 Lit. "WIR-420"	700 Lit. "WIR-700"
Circulation-type		Forced Air-type			
Temp. Range & Accuracy		0 °C ~ 60 °C, ±0.2°C at 37°C			
Temp. Uniformity & Sensor		±0.5°C at 37°C, ±1.4°C at 50°C, PT100 Sensor			
Heat-up Time		20 min. to 37°C / 20 min. to 50°C		35 min. to 37°C / 35 min. to 50°C	
Recovery Time (Door open 30sec)		10 min. to 37°C / 12 min. to 50°C		12 min. to 37°C / 15 min. to 50°C	
Heating Power/Consumption		700 W	1 kW	1.2 kW	2 kW
Compressor		1/4 HP	1/3 HP	5/8 HP	3/4HP
Compressor Control		Intelligent Control of Refrigerator for preventing Overload of Compressor			
Refrigerant		CFC-Free(404A) Refrigeration System			
Timer & Alarm		99hr 59min (with delay / Continuous run.), Error status & Timer-end			
Display		Digital LCD with Back Light			
Controller		Digital Fuzzy Controller with Jog-Shuttle Switch (Turn & Push)			
Inner Door		with 1ea of Inner Tempered Glass Door			
Shelves		Included 3ea of PTFE-coated Steel Shelves			
Permitted Total Load		Total Load : 48 kg (16kg x 3 Shelves)			
Safety Circuit		Over Temp. and Over Current Protector, Sensor Error Detector			
Material		Internal : Stainless Steel (#304), External : Powder Coated Steel			
Dimension (w x d x h)	Interior (mm)	505 x 505 x 610	505 x 505 x 1,000	705 x 605 x 1,000	800 x 700 x 1,250
	Exterior (mm)	640 x 832 x 1,313	640 x 832 x 1,703	840 x 932 x 1,753	935 x 1,027 x 2,000
Net Weight		118 kg	157 kg	202 kg	234 kg
Packing Size (w x d x h) (mm) & Gross Weight		900 x 1,000 x 1,650 / 191 kg	900 x 1,000 x 2,040 / 217 kg	1,100 x 1,100 x 2,140 / 277 kg	1,220 x 1,220 x 2,260 / 313 kg
Power Consumption		1.6 kW	1.8 kW	2.3 kW	2.4 kW
Power plug type		Hybrid E+F			
Power Supply*		AC 230V, 1N~, 50/60Hz			

* Other Specifications are available upon Customer s Request.

Ordering Information

<Continued from... Low Temperature (B.O.D) Incubators, "WIR"**>**

Spare Wire Shelves, PTFE Coated Steel

DH.WIR11150	Wire Shelf, PTFE Coated Steel, **"IRS150",** w470 x d480mm, for **"WIR-150", "WIR-250"**
DH.WIR11420	, **"IRS420",** w675 x d585mm, for **"WIR-420"**
DH.WIR11700	, **"IRS700",** w770 x d680mm, for **"WIR-700"**

Optional Wire Shelves, Stainless Steel

DH.WIR21150	(1) Wire Shelf, Stainless Steel, **"IRU150",** w470 x d480mm, for **"WIR-150", "WIR-250"**
DH.WIR21420	**"IRU420",** w675 x d585mm, for **"WIR-420"**
DH.WIR21700	**"IRU700",** w770 x d680mm, for **"WIR-700"**

Validation (IQ, OQ) Service

|	
DH.WIR31150	Validation Service(IQ, OQ), **"IRV150",** for **"WIR-150"**
DH.WIR31250	, **"IRV250",** for **"WIR-250"**
DH.WIR31420	, **"IRV420",** for **"WIR-420"**
DH.WIR31700	, **"IRV700",** for **"WIR-700"**

WiseRemote® Remote Control Software

Connection of Wisd **Temperature Devices with Interface RS232C to a PC Export Recorded Data (Excel Spreadsheet)**

**Main Screen**   **RS232C Cable & Software**

2-Year Warranty   **Wisd**

Low Temperature(B.O.D) Incubator "WIR-150"

**Wire Shelves, PTFE Coated Steel
(Included)**
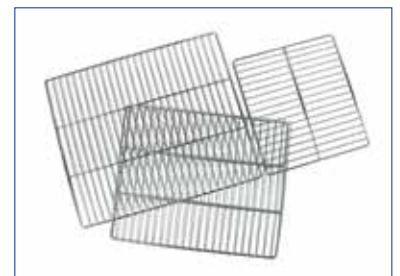
**(1) Wire Shelves, Stainless Steel
(Optional)**

witeg® Precise Shaking Incubator, "WIS-30", Front Door-type, Orbital Motion, up to 60°C
with Universal Platform, Digital Fuzzy Control, Advanced Shaking Mechanism, Precise Speed Control, 30~250 rpm

Patented Jog-Shuttle Control System

Front Door   Back Light LCD

Viewing Window

Wisd.🌀   **2-Year Warranty**

Precise Shaking Incubator, Front Door Type "WIS-30"
with Universal Platform

■ **with Certificate & Traceability : Controlled by Serial Number, Certificate, Delivery-information, and Traceable Data Base System**
■ **Useful for Biological Cultures under various Temperature**
■ **Patented Jog-Shuttle Control System**
■ **CE Certified**   ■ **PL(Product Liability) Insurance**

✶ Useful for Biological Cultures under various Temperature
✶ Precise Temperature Control by Digital Fuzzy Controller, up to 60°C
✶ Digital Timer Function : 99 hours 59 minutes
✶ Front Door and Sliding Platform Provides Easy Loading and Handling of Samples
✶ Digital LCD with Back-Light Function
✶ Stabilized Orbital Motion
✶ RS232C Interface for Monitoring and Controlling with PC.
✶ Advanced Shaking Mechanism Provides Quiet Shaking and Precise Speed Control
✶ Minimum Noise and No Vibration.
✶ Accommodate Flasks up to 1,000ml
✶ Universal Spring Rack for Various Shapes/Size of Flasks (Optional)
✶ Automatic Stop of Shaking, Heating and Refrigeration when a Door opens
✶ Over Temperature & Over Current Protection and Leakage Breaking.

Specification

Temp. Range & Model		Ambient +5°C ~ 60°C "WIS-30"	10°C ~ 60°C "WIS-30R"
Temp. Accuracy & Uniformity		Accuracy : ±0.2°C at 37°C, Uniformity : ±0.5°C at 37°C	
Temp. Sensor		PT100 Sensor	
Heater		600 W	800 W
Compressor		None	1/4 HP
Compressor Control		None	Intelligent Control of Refrigerator for preventing Overload of Compressor
Refrigerant		None	CFC-Free(134A) Refrigeration System
Shaking Speed & Stroke		30 ~ 250 rpm, 25mm Orbital Motion	
Timer & Alarm		99hr 59min (with Continuous run.), Error status & Timer-end	
Display		Digital LCD with Back-Light Function	
Controller		Digital Fuzzy Controller with Jog-Shuttle Switch (Turn+Push)	
Platform		Included Universal Platform for Various Shapes & Sizes of Flasks	
Optional Flask Holder		Durable & Flexible Plastic Flask Holder (up to 1000ml)	
Available Max. Capacity of Flask Holder	for 50~100ml	Available 35 ea Flask Holder "FH100", for 50~100ml Flask	
	for 200~300ml	Available 16 ea Flask Holder "FH250", for 200~300ml Flask	
	for 500~1,000ml	Available 12 ea Flask Holder "FH500", for 500~1,000ml Flask	
Safety Circuit		Over Temp./ Current Protector, Leakage Breaker	
Material		Internal : Stainless Steel (#304), External : Powder Coated Steel	
Dimension		Internal : 570 x 465 x h470mm, External : 916 x 730 x h683mm	
Packing Size (w x d x h) (mm) & Gross Weight		1,050 x 900 x h900mm	
		146 kg	156 kg
Power Consumption		600 W	1.3 kW
Power plug type		Hybrid E+F	
Power Supply*		AC 230V, 1N~, 50/60Hz	

* Other Specifications are available upon Customer s Request.

Ordering Information

Ambient +5°C~ +60°C, with Universal Platform, "WIS-30"

DH.WIS03010   Front Door-type Shaking Incubator, **230V, "WIS-30"**

+10°C~ +60°C, with Universal Platform, "WIS-30R"

DH.WIS03011   Front Door-type Shaking Incubator, **230V, "WIS-30R"**

<Continued from... Precise Shaking Incubator, "WIS-30"**>**

Optional Platform/Spring Rack/Flask Holders

DH.WIS504630	(1) Universal Platform, w485 x h405mm, **"SP630"**, for WIS-30(R)
DH.WIS504530	(2) Universal Spring Rack w498 x d408 x h135mm, **"SR530"**, for WIS-30(R)
DH.WIS504030	(3) Flask Holder, for 50~100ml Flask, **"FH100"**, for **"SHO"**, **"SHR"** and **"WIS"**
DH.WIS504035	(4) , for 200~300ml Flask, **"FH250"**, for **"SHO"**, **"SHR"** and **"WIS"**
DH.WIS504040	(5) , for 500~1000ml Flask, **"FH500"**, for **"SHO"**, **"SHR"** and **"WIS"**

Validation (IQ, OQ) Service

DH.WIS33010	Validation Service(IQ, OQ), **"ISV3010"**, for **"WIS-30"**
DH.WIS33011	, **"ISV3011"**, for **"WIS-30R"**

WiseRemote® Remote Control Software
Connection of Wisd **Temperature Devices with Interface RS232C to a PC Export Recorded Data (Excel Spreadsheet)**

Main Screen

RS232C Cable & Software

2-Year Warranty

CE

Wisd

Precise Shaking Incubator, Front Door Type WIS-30 with Universal Platform
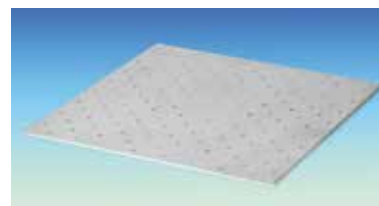
(1) Universal Platform "SP630" (Included)
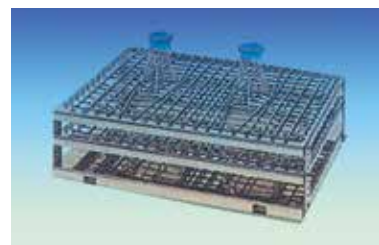
(2) Universal Spring Rack "SR530" (Optional)

(5)	(4)	(3)
"FH500"	**"FH250"**	**"FH100"**
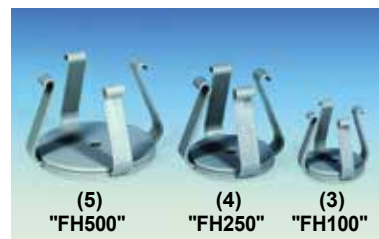
Flask Holders (Optional)

witeg® Precise Shaking Incubator, WIS-20 , BenchTop-type, Orbital Motion, up to 60°C
with Universal Platform, Digital Fuzzy Control, Advanced Shaking Mechanism, Precise Speed Control, 30~250 rpm

CE **Patented Jog-Shuttle Control System**
Viewing Window
Digital Fuzzy Control
Back light LCD
WiseCube

Wisd.23   **2-Year Warranty**

Precise Shaking Incubator, Bench Top-type "WIS-20R" with Universal Platform

- ■ **with Certificate & Traceability : Controlled by Serial Number, Certificate, Delivery-information, and Traceable Data Base System**
- ■ **Useful for Biological Cultures under various Temperature**
- ■ **Patented Jog-Shuttle Control System**
- ■ **CE Certified**   ■ **PL(Product Liability) Insurance**

∗ Useful for Biological Cultures under various Temperature
∗ Precise Temperature Control by Digital Fuzzy Controller, up to 60°C
∗ Digital Timer Function : 99 hours 59 minutes
∗ Minimum Noise and No Vibration
∗ Digital LCD with Back-Light Function
∗ Advanced Shaking Mechanism Provides Quiet Shaking and Precise Speed Control
∗ Automatic Stop of Shaking, Heating and Refrigeration when a Door opens
∗ Over Temperature & Over Current Protection, Sensor Error Detection and Leakage Breaking
∗ Accommodate Flasks up to 1,000ml
∗ Stabilized Orbital Motion
∗ RS232C Interface for Monitoring and Controlling with PC
∗ Universal Spring Rack for Various Shapes/Sizes of Flasks (Optional)

Specification

Temp. Range & Model		Ambient +5°C ~ 60°C "WIS-20"	10°C ~ 60°C "WIS-20R"
Temp. Accuracy & Uniformity		Accuracy : ±0.2°C at 37°C, Uniformity : ±0.5°C at 37°C	
Temp. Sensor		PT100 Sensor	
Heater		500 W	700 W
Compressor		None	1/4 HP
Compressor Control		None	Intelligent Control of Refrigerator for preventing Overload of Compressor
Refrigerant		None	CFC-Free(134A) Refrigeration System
Shaking Speed & Stroke		30 ~ 250 rpm, 25mm Orbital Motion	
Timer & Alarm		99hr 59min (with Continuous run.), Error status & Timer-end	
Display		Digital LCD with Back-Light Function	
Controller		Digital Fuzzy Controller with Jog-Shuttle Switch (Turn+Push)	
Room Lamp		60W Krypton Lamp	
Platform		Included Universal Platform for Various Shapes & Sizes of Flasks	
Optional Flask Holder		Durable & Flexible Plastic Flask Holder (up to 1000ml)	
Available Max. Capacity of Flask Holder	for 50~100ml	Available 32 ea Flask Holder **FH100 ,** for 50~100ml Flask	
	for 200~300ml	Available 20 ea Flask Holder **FH250 ,** for 200~300ml Flask	
	for 500~1,000ml	Available 16 ea Flask Holder **FH500 ,** for 500~1,000ml Flask	
Safety Circuit		Over Temp./ Current Protector, Leakage Breaker, Sensor Error Detector	
Material		Internal : Stainless Steel (#304), External : Powder Coated Steel	
Dimension		Internal : 530 x 530 x h350mm, External : 575 x 855 x h850mm	
Packing Size (w x d x h) (mm) & Gross Weight		1,000 x 800 x h1,100mm	
		147 kg	150 kg
Power Consumption		500 W	1.2 kW
Power plug type		Hybrid E+F	
Power Supply*		AC 230V, 1N~, 50/60Hz	

* Other Specifications are available upon Customer s Request.

Ordering Information
Ambient +5°C~ +60°C, with Universal Platform, "WIS-20"

DH.WIS02010   Bench Top-type Shaking Incubator, **230V, "WIS-20"**

+10°C~ +60°C, with Universal Platform, "WIS-20R"

DH.WIS02011   Bench Top-type Shaking Incubator, **230V, "WIS-20R"**

<Continued on next page>

<Continued from... Precise Shaking Incubator, "WIS-20"**>**

Optional Platform/Spring Rack/Flask Holders

DH.WIS504600	(1) Universal Platform, w478 x h478mm, **"SP600"**, for **"WIS-20(R)"**
DH.WIS504500	(2) Universal Spring Rack w483 x d483 x h135mm, **"SR500",** for **"WIS-20(R)"**
DH.WIS504030	(3) Flask Holder, for 50~100ml Flask, **"FH100",** for **"SHO", "SHR"** and **"WIS"**
DH.WIS504035	(4) , for 200~300ml Flask, **"FH250",** for **"SHO", "SHR"** and **"WIS"**
DH.WIS504040	(5) , for 500~1000ml Flask, **"FH500",** for **"SHO", "SHR"** and **"WIS"**

Validation (IQ, OQ) Service

DH.WIS32010	Validation Service(IQ, OQ), **"ISV2010",** for **"WIS-20"**
DH.WIS32011	, **"ISV2011",** for **"WIS-20R"**

WiseRemote® Remote Control Software

Connection of Wisd Temperature Devices with Interface RS232C to a PC Export Recorded Data (Excel Spreadsheet)

Main Screen

RS232C Cable & Software

2-Year Warranty   **Wisd**

Precise Shaking Incubator, Bench Top-type
WIS-20R with Universal Platform
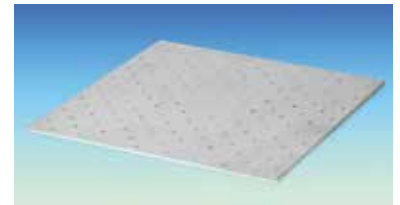
**(1) Universal Platform SP600
(Included)**
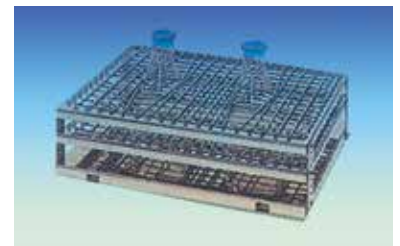
**(2) Universal Spring Rack SR500
(Optional)**

(5)	**(4)**	**(3)**
FH500	**FH250**	**FH100**

Flask Holders (Optional)

Articles	Cat. No	Description

witeg® Precise Shaking Incubator, "WIS-10", Top Door-type, Orbital Motion, with Certi. & Traceability
with Universal Platform, Digital Fuzzy Control, with or without illuminators & Recorder, up to 60°C, 30~250 rpm

CE
2-Year Warranty

Top Door System

Patented Jog-Shuttle Control System

WiseCube

Optional Recorder

Wisd.⅔

Precise Shaking Incubator, Top Door Type "WIS-10R" with Universal Platform

■ **with Certificate & Traceability : Controlled by Serial Number, Certificate, Delivery-information, and Traceable Data Base System**
■ **Useful for Biological Cultures under various Temperature**
■ **Patented Jog-Shuttle Control System**
■ **CE Certified** ■ **PL (Product Liability) Insurance**

✱ Precise Temperature Control by Digital Fuzzy Controller, up to 60°C
✱ Digital LCD with Back-Light Function
✱ Minimum Noise and No Vibration
✱ Advanced Shaking Mechanism Provides Quiet Shaking and Precise Speed Control
✱ Automatic Stop of Shaking, Heating and Refrigeration when a Door opens
✱ Universal Spring Rack for Various Shapes/Sizes of Flasks (Optional)
✱ RS232C Interface for Monitoring and Controlling with PC

Specification

Model	"WIS-10	"WIS-10R"	"WIS-10RL"
Illumination System	None		FPL 55W x 4ea
Temp. Range	Ambient +5°C ~ 60°C	10°C ~ 60°C	
Temp. Accuracy & Uniformity	Accuracy : ±0.2°C at 37°C, Uniformity : ±0.5°C at 37°C		
Temp. Sensor	PT100 Sensor		
Heater	800 W	1 kW	1.2 kW
Compressor	None	1/3 HP	
Compressor Control	None	Intelligent Control of Refrigerator for preventing Overload of Compressor	
Refrigerant	CFC-Free (R134A) Refrigeration System		
Shaking Speed & Stroke	30 ~ 250 rpm, 25mm Orbital Motion		
Timer & Alarm	99hr 59min (with Continuous run.), Error status & Timer-end		
Display	Digital LCD with Back-Light Function		
Controller	Digital Fuzzy Controller with Jog-Shuttle Switch (Turn+Push)		
Room Lamp	Krypton Lamp, 60W		None
Platform	Included Universal Platform for Various Shapes & Sizes of Flasks		
Optional Flask Holder	Durable & Flexible Plastic Flask Holder (up to 1000ml)		
Available Max. Capacity of Flask Holder	for 50~100ml	Available 68 ea Flask Holder **FH100 ,** for 50~100ml Flask	
	for 200~300ml	Available 36 ea Flask Holder **FH250 ,** for 200~300ml Flask	
	for 500~1,000ml	Available 21 ea Flask Holder **FH500 ,** for 500~1,000ml Flask	
Safety Circuit	Over Temp./ Current Protector, Leakage Breaker, Sensor Error Detector		
Material	Internal : Stainless Steel (#304), External : Powder Coated Steel		
Dimension	Internal : 750 x 720 x h400mm, External : 1,065 x 900 x h980mm		
Packing Size (w x d x h) (mm)	1,220 x 1,060 x h1,200mm		
& Gross Weight	231 kg	238 kg	238 kg
Power Consumption	800 W	1.8 kW	2.1 kW
Power plug type	Hybrid E+F		
Power Supply*	AC 230V, 1N~, 50/60Hz		

* Other Specifications are available upon Customer s Request.

Ordering Information
Ambient +5°C~60°C, With Universal Platform

DH.WIS01010   Shaking Incubator, Top Door-type, **230V, "WIS-10"**

10°C~ 60°C, With Universal Platform

DH.WIS01011   Shaking Incubator, Top Door-type, **230V, "WIS-10R"**

10°C~ 60°C, with Universal Platform & Illumination System

DH.WIS01012   Shaking Incubator, Top Door-type, **230V, "WIS-10RL"**

<Continued from... Precise Shaking Incubator, "WIS-10">**

Optional Platform/Spring Rack/Flask Holders

DH.WIS504510   (1) Universal Spring Rack, w693 x d653 x h135mm, **"SR510"**, for **"WIS-10(R/RL)"**
DH.WIS504610   (2) Universal Platform, w688 x h648mm, **"SP610"**, for **"WIS-10(R/RL)"**
DH.WIS504030   (3) Flask Holder, for   50~100ml Flask, **"FH100",** for **"SHO", "SHR"** and **"WIS"**
DH.WIS504035   (4)   , for   200~300ml Flask, **"FH250",** for **"SHO", "SHR"** and **"WIS"**
DH.WIS504040   (5)   , for 500~1000ml Flask, **"FH500",** for **"SHO", "SHR"** and **"WIS"**
DH.WTH05100   (6) Temperature Recorder, with 6ea Ribbon Cassette & Chart Paper
             LED, 6ch/10sec, 144 x 144 x h233mm, **"WTH5105"**
DH.WTH05108   Ribbon Cassette, 6 Colors, **"WTH5108"**
DH.WTH05105   Chart Paper, w100mm x L10m, **"WTH5105"**

Validation (IQ, OQ) Service

DH.WIS31010   Validation Service(IQ, OQ), **"ISV1010",** for **"WIS-10"**
DH.WIS31011   , **"ISV1011",** for **"WIS-10R"**
DH.WIS31012   , **"ISV1012",** for **"WIS-10RL"**

2-Year Warranty   **Wisd**

Precise Shaking Incubator, Top Door Type "WIS-10R"
with Universal Platform
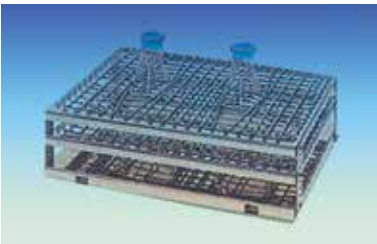
(1) Universal Spring Rack "SR510"
(Optional)
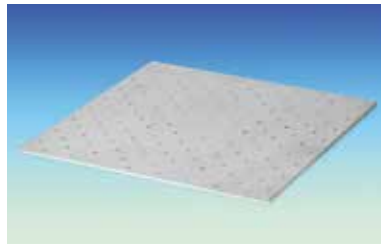
(2) Universal Platform "SP610"
(Included)

(5)	(4)	(3)
"FH500"	**"FH250"**	**"FH100"**
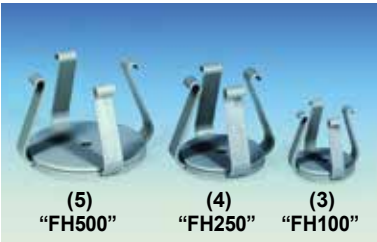
Flask Holders (Optional)

(6) Temperature Recorder
: with 6ea Ribbon Cassette
and Chart Paper

WiseRemote® Remote Control Software

Connection of Wisd Temperature Devices with Interface RS232C
to a PC Export Recorded Data (Excel Spreadsheet)

Main Screen   **RS232C Cable & Software**

witeg® Multi-Stack Refrigerated Shaking Incubator, "WIS-ML", Orbital Motion, with Certi. & Traceability
with Universal Platform, Digital Fuzzy Control, 2 or 4 Independent Shaking Speed Control, 10~60°C, 30~250 rpm, 2-/4- Stacks

Multi-Stack Refrigerated Shaking Incubator "WIS-ML04" with 4 X Universal Platform

■ **with Certificate & Traceability : Controlled by Serial Number, Certificate, Delivery-information, and Traceable Data Base System**
■ **Excellent for Multi-use and wide range of Sample Testing under various Temperature**
■ **Patented Jog-Shuttle Control System**
■ **CE Certified**   ■ **PL (Product Liability) Insurance**

✱ Digital Fuzzy Control System Implementing Superior Temperature Accuracy
✱ Intelligent Control of Refrigerator for Preventing Overload of Compressor
✱ High-Quality LCD with Back-Light Function Used
✱ 10 ~ 60°C Range, Accuracy of ±0.1°C
✱ Advanced Shaking Mechanism provides Quiet Shaking and Precise Speed Control
✱ Space Saving Design for Large Quantity Samples with 2 or 4 Independent Shaking Speed Controller
✱ Automatic Stop of Shaking, Heating and Refrigeration when the Door is Opened
✱ RS232C Interface for Monitoring and Controlling with PC
✱ Over Temperature & Over Current Protection and Sensor Error Detection
✱ Including Universal Platform for Various Shapes and Sizes of Flasks
✱ Universal Spring Rack for Various Shapes/Sizes of Flasks (Optional)

Specification

Stack & Model		2 Stacks "WIS-ML02"	4 Stacks "WIS-ML04"
Temp. Range & Accuracy		10°C~ 60°C, ±0.2°C at 37°C	
Temp. Uniformity & Sensor		±1.0°C at 37, PT100 Sensor	
Heater		1.5 kW	1.8 kW
Compressor		1/2 HP	3/4 HP
Compressor Control		Intelligent Control of Refrigerator for Preventing Overload of Compressor	
Refrigerant		CFC-Free(134A) Refrigeration System	
Shaking Speed & Stroke		30 ~ 250 rpm, 25mm Orbital Motion	
Timer & Alarm		99hr 59min (with Continuous run.), Error status & Timer-end	
Display		Digital LCD with Back-Light Function	
Controller		Digital Fuzzy Controller with Jog-Shuttle Switch (Turn+Push)	
Door		Magnetic Packing Door with Pair Glass	
Plate Size		w700 x d600mm	
Platform		Included Universal Platform for Various Shapes & Sizes of Flasks	
Optional Flask Holder		Durable & Flexible Plastic Flask Holder (up to 1000ml)	
Available Max. Capacity of Flask Holder	for 50~100ml	Available 68 ea Flask Holder "FH100", for 50~100ml Flask	
	for 200~300ml	Available 36 ea Flask Holder "FH250", for 200~300ml Flask	
	for 500~1000ml	Available 21 ea Flask Holder "FH500", for 500~1,000ml Flask	
Safety Circuit		Over Temp./ Current Protector, Sensor Error Detector	
Material		Internal : Stainless Steel (#304), External : Powder Coated Steel	
Dimension (w x d x h)	Internal (mm)	700 x 700 x 1,100	700 x 700 x 1,790
	External (mm)	1,290 x 850 x 1,445	1,290 x 850 x 2,125
Packing Size (w x d x h) (mm) & Gross Weight		1,500 x 1,200 x 1,750	1,500 x 1,200 x 2,350
		397 kg	555 kg
Power Consumption		2.4 kW	3.2 kW
Power plug type		Hybrid E+F	5 pole 16A CEE
Power Supply*		AC 230V, 1N~, 50/60Hz	AC 400V, 3N~, 50/60Hz

* Other Specifications are available upon Customer s Request.

Ordering Information
2-Stackers Refrigerated Shaking Incubator, with 2 x Universal Platform
DH.WIS05002   Multi-Stack Shaking Incubator, **230V, "WIS-ML02"**
4-Stackers Refrigerated Shaking Incubator, with 4 x Universal Platform
DH.WIS03004   Multi-Stack Shaking Incubator, **3Phase, "WIS-ML04"**

<Continued from... Multi-Stack Refrigerated Shaking Incubator, "WIS-ML">

Optional Platform/Spring Rack/Flask Holders

DH.WIS504620 (1) Universal Platform, w645 x h645mm, **"SP620"**, for **"WIS-ML02/04"**
DH.WIS504520 (2) Universal Spring Rack, w653 x d653 x h135mm, **"SR520"**, for **"WIS-ML02/04"**
DH.WIS504030 (3) Flask Holder, for 50~100ml Flask, **"FH100"**, for **"SHO"**, **"SHR"** and **"WIS"**
DH.WIS504035 (4)   , for 200~300ml Flask, **"FH250"**, for **"SHO"**, **"SHR"** and **"WIS"**
DH.WIS504040 (5)   , for 500~1000ml Flask, **"FH500"**, for **"SHO"**, **"SHR"** and **"WIS"**

Validation (IQ, OQ) Service
DH.WIS35002 Validation Service(IQ, OQ), **"ISV5002"**, for **WIS-ML02"**
DH.WIS35004   , **"ISV5004"**, for **WIS-ML04"**
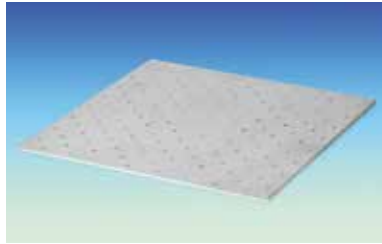
**(1) Universal Platform SP620
(Included)**
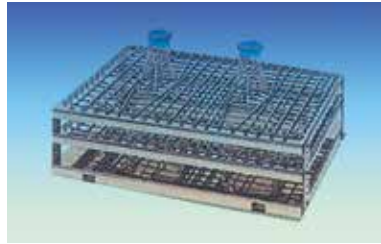
**(2) Universal Spring Rack SR520
(Optional)**
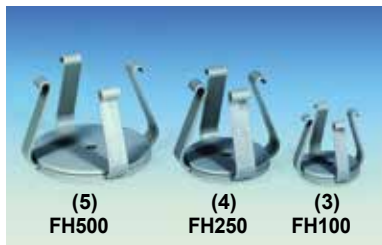
**(5)   (4)   (3)
FH500   FH250   FH100**

Flask Holders (Optional)

**Multi-Stack Refrigerated Shaking Incubator
"WIS-ML04" with 4 x Universal Platform**

2-Year Warranty

WiseRemote® Remote Control Software

**Connection of Wisd Temperature Devices with Interface RS232C
to a PC Export Recorded Data (Excel Spreadsheet)**

Main Screen

RS232C Cable & Software

Articles	**Cat. No**	**Description**

witeg® Programmable Ball Mill, "BML", 2-/6- Pots, with Certi. & Traceability
with Digital Feedback Control System, Digital LCD, 50~600 rpm, ±5 rpm, 10 Steps 6 Programs

2-Places Programmable Ball Mill "BML-2"

2-Year Warranty

6-Places Programmable Ball Mill "BML-6"

2-Year Warranty

Minimum Noise and Safety

Optional Soundproof Cabinet "BMC-6"
for 6-Places Programmable Ball Mill "BML-6"

■ **with Certificate & Traceability : Controlled by Serial Number, Certificate, Delivery-information, and Traceable Data Base System**
■ **Ideal for Grinding/Mixing : Crystalline Chemicals, Inks, Paints, Pigments, Plants, Racks and Soils**
■ **Microprocessor, Programmable, Variable Speed : 50~600 rpm**
■ **Digital Feedback Control and LCD :**
  Speed (RPM), Power Bar-Graph and Timer Status
■ **CE Certified** ■ **PL (Product Liability) Insurance**

✱ Antistatic Rubber Roller : Keeps Jars / Pots Centered
✱ Digital LCD with Back-Light Function
✱ Over Load Protection
✱ Ergonomic and Compact Design
✱ NBR Roller with Pot Guide Ring
✱ Programmable Operation : 10 Steps 6 Programs
✱ Storage Function (RPM, Timer)
✱ Soundproof Cabinet for Safety and Minimum Noise (Optional)

Specification

Model		2-places "BML-2"	6-places "BML-6"
Capacity		up to 2 pots	up to 6 pots
Motor		DC 40W Geared Motor (5 : 1 ratio)	DC 100W Geared Motor (5 : 1 ratio)
Maximum Load		40kg	120kg
Speed Range		50 ~ 600 rpm	
Speed Accuracy		±5 rpm	
Timer		99 hr 59 min (Programmable)	
Display		Digital LCD with Back-Light Function	
Controller		Programmable Digital Feedback Controller with Jog-Shuttle Switch (Turn+Push)	
Program Function		10 Steps, 6 Programs	
Safety Device		Over Load Protector for Motor	
Dimension (w x d x h)	**Roller (mm)**	50 x 300	70 x 800
	External (mm)	620 x 300 x 515	1,200 x 500 x 795
Packing Size (w x d x h) (mm)		760 x 460 x 700	1,300 x 620 x 1,010
& Gross Weight		52 kg	115 kg
Power Consumption		40 W	100 W
Power plug type		Hybrid E+F	
Power Supply*		AC 230V, 1N~, 50/60Hz	

* Other Specifications are available upon Customer s Request.

Ordering Information

For 2 Pots
DH.WBM05002   Ball Mill, **2-places "BML-2", 230V**, with Cord/Plug
For 6 Pots

DH.WBM05006   Ball Mill, **6-places "BML-6", 230V**, with Cord/Plug
Optional Soundproof Cabinets

✱ **Designed for Minimizing Noise, and Safety Work**
DH.WBM505102   Soundproof Cabinet, **"BMC2"**, for **2-places "BML-2"**,
                 w1,020 x d570 x h1,120mm
DH.WBM505106   Soundproof Cabinet, **"BMC6"**, for **6-places "BML-6"**,
                 w1,600 x d770 x h1,400mm

Ovens

- Smart-Lab™ system (SWOF, SWON models)
- Digital Fuzzy Control System Implementing Superior Temperature Accuracy
- New Jog-Dial Controller for Users to operate in an easy and Converient way
- Over Temperature & Over Current Protector and Sensor Error Detector
- UL / CUL Certified - WOF, WON, WOV, SWOF, SWON models
- PL(Product Liability) Insurance

Smart Oven
(SWOF / SWON model)

Smart-Lab™

Oven
(WOF / WON model)

Precise Vacuum Oven
(WOV model)

Features of
witeg Ovens

High Performance Heating Mechanism of witeg accomplishing world s best temperature accuracy and uniformity

The new types of Oven of witeg are outfitted with high performance heating mechanism that is optimized respectively for capacity of chamber, power of heating element and air circulation type (Gravity Convection or Forced Convection).

The temperature displayed on the controller is accurately consistent with the actual temperature in the very center of the chamber or the average temperature in the entire area of the chamber, which maintains precisely within fluctuation specification. In addition, the temperature in the entire area of the chamber shows a very high stability keeping within a very slight variation specification in terms of temperature uniformity. Simultaneously, through the optimization of Fuzzy-PID controller, the 'heat-up time' to reach the Set Temperature after operating and the 'recovery time' to get back to the set temperature after opening and closing of the door are very short.

The newly developed high performance heating mechanism has achieved high degree of temperature accuracy and uniformity in the chamber. This is achieved by the heating elements installed on three sides - that is, the left, right and bottom parts of a chamber - which directly heat the stainless-steel chamber. This either enhances its material thermal conductivity to maximum (in case of the Incubator) or the heated air from the pre-heating zone in air-jacket type that is built in the three sides outside a chamber circulates first (in case of the Oven).

» Oven

Heater

Pre-Heating Zone

Gravity Convection

- Circulation is made by heating elements that first heat the air in the pre-heating zone which surrounds the three sides of the chamber.
- The effects of both three-side heating and gravity convection are to be maximized via providing the heated air from the pre-heating zone restrictively into the chamber.

Forced Convection

- The same three-side heating elements and pre-heating zone as Gravity Air-Flow model.
- The strong fan installed in the back of the chamber sucks the air inside the chamber, which is provided to the pre-heating zone, while the heated air is uniformly and quickly provided into the chamber through its specially designed side and bottom structure.

Heater

Pre-Heating Zone

■ High Performance Heating Mechanism

The world's best performance and quality coming true via innovative heating mechanism !!

» Minimum

Fluctuation !
Minimization of Fluctuation in Temperature

Variation !
Minimization of spatial variation in temperature inside the chamber

Heat-up Time !
Minimization of reaching the set temperature

Overshoot !
Minimization of overshooting at the time of reaching the set temperature

» Perfect Door Lock by Double Latch

The up-and-down double latch structure pushes the door as closely to the chamber as possible, which leads to the minimization of temperature interference inside the chamber by the outside air.


The structure allows the door to adhere firmly and closely to the chamber on both upper and lower sides in a balanced way

- High-performance thermal insulation
- Minimization of thermal losses from heat leak inside the chamber
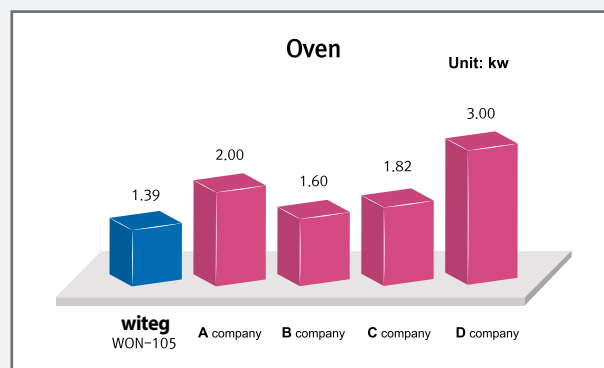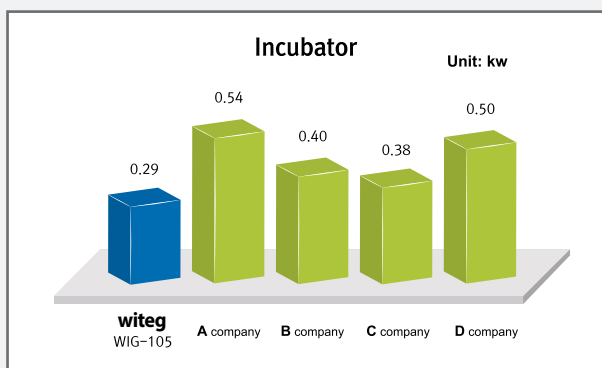- Enhancement of temperature accuracy and uniformity

>> Temperature Uniformity Completely Tested by ASTM Standards

All the units supplied by witeg Scientific are thoroughly tested, using 12 temperature sensors and the latest instruments to obtain validation, which corresponds to international standards. That is, Fluctuation and Variation (Uniformity) standards described in catalogues are actually guaranteed as the same.
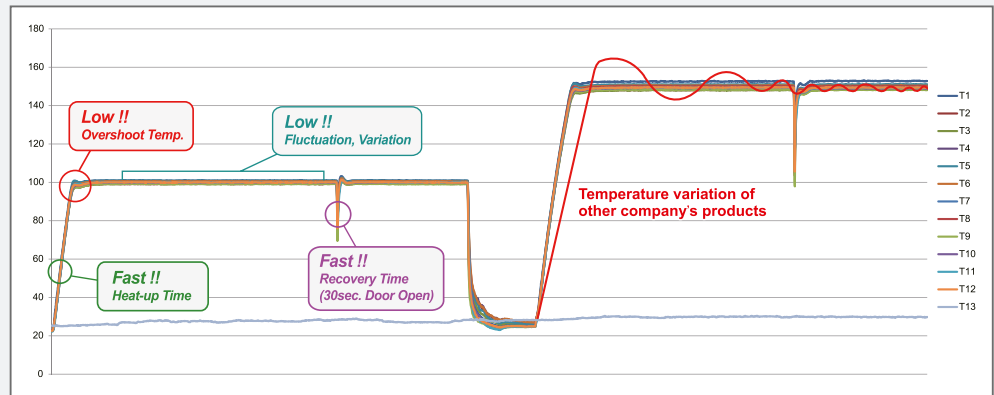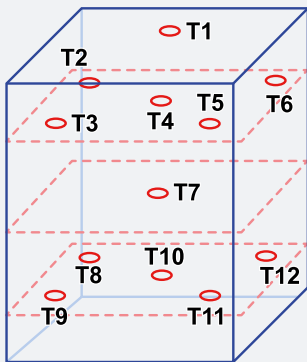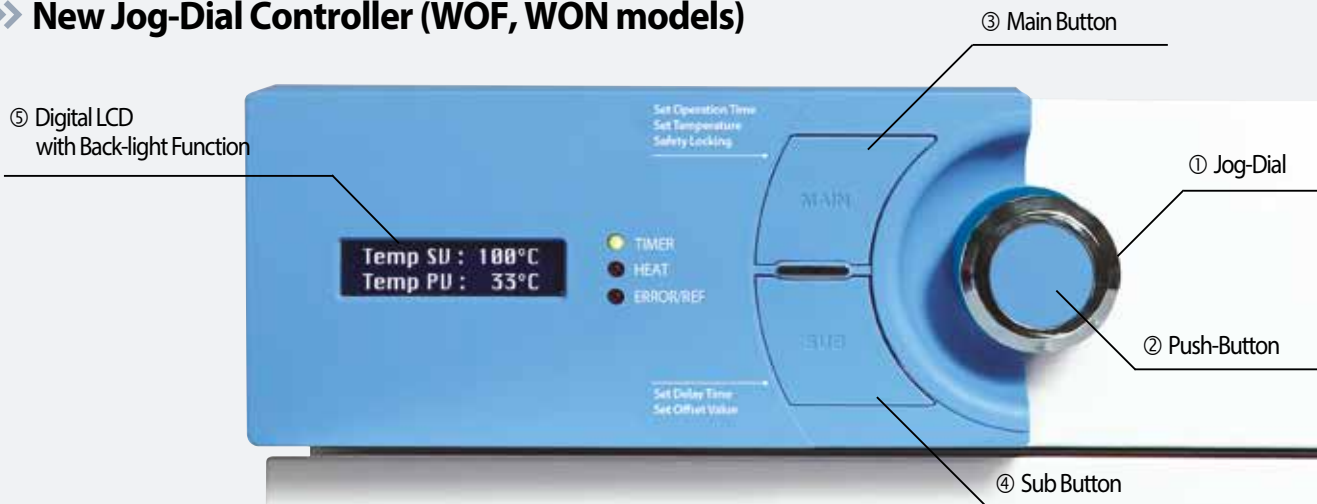

>> Green Product

This is an environment-friendly product that achieves minimum power consumption by using heating element consuming minimum power for the capacity and temperature of the chamber, high-quality insulator and insulation structure, and complete door structure that guarantees shielding.

>> New Jog-Dial Controller (WOF, WON models)

③ Main Button

⑤ Digital LCD
    with Back-light Function

① Jog-Dial

Temp SU : 100°C
Temp PU :   33°C

TIMER
HEAT
ERROR/REF

② Push-Button

④ Sub Button

- Provides the user interface with an ergonomic design for users to operate in an easy and convenient way.
- A new 2-way Jog-Dial Knob (Jog Dial + Push Button) and presents excellent durability and mobility.
- High-quality LCD with Back-light function.
- A durable Main Button and a Sub Button that features superb and user-friendly operation.

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witeg® Ovens, Forced Convection-type, "WOF", 50-/105-/155-/305 Lit., with Certi. & Traceability
with Wire Shelves, Digital Fuzzy Control, Jog-Dial with Push Button, Digital LCD with Backlight, up to 250°C ±0.3°C

NEW

Jog-Dial with Push Button

Digital LCD with Back-light Function

Wisd.23

2-Year Warranty

Oven, Forced Convection-type, Standard Model, with Wire Shelves "WOF-155"

The Best Temp. Uniformity & Accuracy by High Performance Heating Mechanism (Forced Convection-type)

■ **with Certificate & Traceability : Controlled by Serial Number, Certificate, Delivery-information, and Traceable Data Base System**
■ **Digital Fuzzy Control System Implementing Superior Temperature Accuracy**
■ **Optimized Air Flow by Forced Convection Mechanism**
■ **Patented Jog-Dial Control System**
■ **CE Certified**　　　　　■ **UL/CUL Certified**
■ **PL (Product Liability) Insurance**

✶ Suitable for Drying, Baking, Conditioning, Curing, Pre-Heating and Aging
✶ The Best Temp. Uniformity & Accuracy by High Performance Heating Mechanism: 3-Side Heating
✶ Optimized Air Flow by Forced Convection Mechanism
✶ Digital Fuzzy Control System Implementing Superior Temperature Accuracy
✶ New Jog-Dial with Push Button　　　　✶ Compact New Body Design
✶ 2~3ea of Stainless Steel Wire Shelves Included　✶ Alarm Function : Error status and Timer-end
✶ RS232C Interface for Monitoring and Controlling with PC
✶ Ambient +5°C to 250°C Range with Fluctuation of ±0.3°C at 100°C
✶ Storage Function of Temperature and Timer setting values
✶ Locking Mode Supported for Experimental Safety (Input to Jog-Dial can be disabled)
✶ Corrosion Resistant 304 Stainless Steel Chamber
✶ Over Temperature & Over Current Protection, Sensor Error Detection

Specification

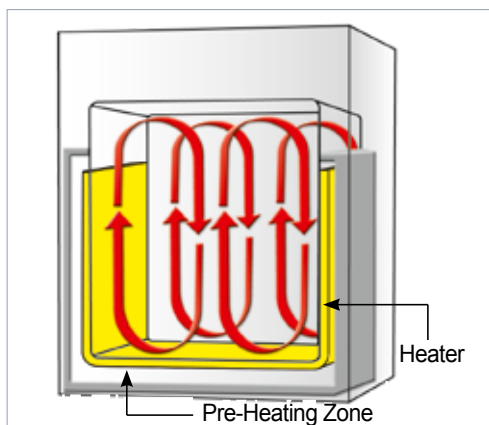| Model		Standard Model, without Window		
		"WOF-50"	**"WOF-105"**	**"WOF-155"**
			Built-in Viewing Window Model	
			"WOF-W105"	**"WOF-W155"**
Capacity		50Lit	105Lit	155Lit
Dimension (w x d x h)	Interior (mm)	350x370x420	480x485x535	475x550x600
	Exterior (mm)	518x646x722	653x711x879	718x776x944
Heater Power		650 W	1.4 kW	1.6 kW
Temp.	Range	Ambient Temperature +5°C to 250°C		
	Fluctuation	±0.3°C at 100°C, ±0.5°C at 150°C		
	Variation	±1°C at 100°C, ±1.8°C at 150°C		±1°C at 100°C, ±2°C at 150°C
	Sensor	PT 100		
Control Resolution		±0.1°C		
Heat-up Time		25 min. to 100°C, 45 min. to 150°C		25 min. to 100°C, 40 min. to 150°C
Recovery Time (Door open 30sec)		8 min. to 100°C, 8 min. to 150°C	6 min. to 100°C, 6 min. to 150°C	
Controller		Digital Fuzzy Control by Advanced Microprocessor Jog-Dial with Push Button		
RS232 Port		Available to connect with PC		
Display		Digital LCD with Back Light		
Timer		99hr 59 min (delay/continuous function)		
Material	Internal	Stainless Steel (#304)		
	External	Powder Coated Steel		
	Insulation	Glass Wool		
Shelves		Stainless steel shelves included		
		2ea		
Ventilation		Ventilation hole with Stainless Steel Cap, Hole Diameter 40mm		
		1ea	2ea	
Circulation		Forced Air Convection Type		
Safety device		Over Temp. and Over Current Protector, Sensor Error Detector		
Others		UL / CUL Certified, CE Certified Storage Function (Temp. and Time) Locking Mode (Jog-Dial Input Disabled) Alarm (Error Status and Timer-end)		
Net Weight (kg)		44	69	78
Packing Size (w x d x h) (mm)		622x754x807	743x819x1,068	808x884x1,133
Shipping Weight (kg)		59	79	92
Power Consumption		674 W	1390 W	1566 W
Energy Consumption, at 100°C		117 Wh	187 Wh	204 Wh
, at 150°C		230 Wh	337 Wh	398 Wh
Power plug type		Hybrid E+F		
Power Supply		AC 230V, 1N~, 50/60Hz		

* Other Specifications are available upon Customer s Request.

<Continued from... Ovens, Forced Convection-type, "WOF">

Ordering Information
Standard Model, Forced Convection, with Wire Shelves

DH.WOF05050	Oven, Standard, **230V, 50 Lit., "WOF-50"**
DH.WOF05105	, **105 Lit., "WOF-105"**
DH.WOF05155	, **155 Lit., "WOF-155"**

Built in Viewing Window Model, Forced Convection, with Wire Shelves

| DH.WOF07105 | Oven, Window, **230V, 105 Lit., "WOF-W105"** |
| DH.WOF07155 | , **155 Lit., "WOF-W155"** |

Spare Wire Shelves, Stainless Steel

DH.WON11050	Wire Shelf, for **50 Lit., "ONS050"**, w340 x d310mm
DH.WON11105	, for **105 Lit., "ONS105"**, w455 x d375mm
DH.WON11155	, for **155 Lit., "ONS155"**, w520 x d440mm

Validation (IQ, OQ) Service

DH.WOF31050	Validation Service(IQ, OQ), **"OFV1050"**, for **"WOF-50"**
DH.WOF31105	, **"OFV1105"**, for **"WOF-105"**
DH.WOF31155	, **"OFV1155"**, for **"WOF-155"**
DH.WOF32105	Validation Service(IQ, OQ), **"OFV2105"**, for **"WOF-W105"**
DH.WOF32155	, **"OFV2155"**, for **"WOF-W155"**

Viewing Window

2-Year Warranty **Wisd.B**

Oven, Forced Convection-type, Built in Viewing Window Model, with Wire Shelves "WOF-W155"

WiseRemote® Remote Control Software
Connection of Wisd.B Temperature Devices with Interface RS232C to a PC Export Recorded Data (Excel Spreadsheet)

Main Screen   **RS232C Cable & Software**
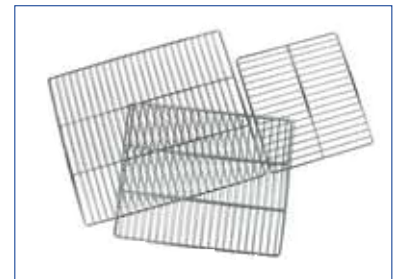
Wire Shelves, Stainless Steel (Included)

witeg® Ovens, Gravity Convection-type, "WON", 32-/50-/105-/155 Lit., with Certi. & Traceability
With 2 x Wire Shelves, Digital Fuzzy Control, Jog-Dial with Push Button, Digital LCD with Backlight, up to 230°C, ±0.5°C

NEW

Jog-Dial with Push Button

Digital LCD with Back-light Function

Wisd. **2-Year Warranty**

Oven, Gravity/Natural Flow-type, Standard Model, with Wire Shelves "WON-155"

Heater
Pre-Heating Zone

The Best Temp. Uniformity & Accuracy by High Performance Heating Mechanism (Gravity Convection-type)

■ **with Certificate & Traceability : Controlled by Serial Number, Certificate, Delivery-information, and Traceable Data Base System**
■ **Digital Fuzzy Control System Implementing Superior Temperature Accuracy**
■ **Optimized Air Flow by Gravity Convection Mechanism**
■ **Patented Jog-Dial Control System**
■ **CE Certified**   ■ **UL/CUL Certified**
■ **PL (Product Liability) Insurance**

∗ Suitable for Drying, Baking, Conditioning, Curing, Pre-Heating and Aging

∗ The Best Temp. Uniformity & Accuracy by High Performance Heating Mechanism : 3-Side Heating
∗ Optimized Air Flow by Gravity Convection Mechanism
∗ Digital Fuzzy Control System Implementing Superior Temperature Accuracy
∗ New Jog-Dial with Push Button   ∗ Compact New Body Design
∗ 2 ea of Stainless Steel Wire Shelves Included   ∗ Alarm Function : Error status and Timer-end
∗ RS232C Interface for Monitoring and Controlling with PC
∗ Ambient +5°C to 230°C Range with Fluctuation of ±0.5°C at 100°C
∗ Storage Function of Temperature and Timer setting values
∗ Locking Mode Supported for Experimental Safety (Input to Jog-Dial can be disabled)
∗ Corrosion Resistant 304 Stainless Steel Chamber
∗ Over Temperature & Over Current Protection, Sensor Error Detection

Specification

Model		Standard Model, without Window			
		"WON-32"	"WON-50"	"WON-105"	"WON-155"
				Built-in Viewing Window Model	
				"WON-W105"	"WON-W155"
Capacity		32Lit	50Lit	105Lit	155Lit
Dimension (w x d x h)	Interior (mm)	290x310x360	350x370x420	480x485x535	475x550x600
	Exterior (mm)	458x556x662	518x646x722	653x711x879	718x776x944
Heater Power		500 W	650 W	1.4 kW	1.6 kW
Temp.	Range	Ambient Temperature +5°C to 230°C			
	Fluctuation	± 0.5°C at 100°C, ± 0.6°C at 150°C			± 0.5°C at 10°C, ± 0.8°C at 150°C
	Variation	± 1.2°C at 100°C, ± 2.2°C at 150°C			
	Sensor	PT 100			
Control Resolution		±0.1°C			
Heat-up Time		30 min. to 100°C, 43 min. to 150°C	30 min. to 100°C, 45 min. to 150°C		35 min. to 100°C, 50 min. to 150°C
Recovery Time (Door open 30sec)		8 min. to 100°C, 10 min. to 150°C		12 min. to 100°C, 10 min. to 150°C	
Controller		Digital Fuzzy Control by Advanced Microprocessor Jog-Dial with Push Button			
RS232 Port		Available to connect with PC			
Display		Digital LCD with Back Light			
Timer		99hr 59 min (delay/continuous function)			
Material	Internal	Stainless Steel (#304)			
	External	Powder Coated Steel			
	Insulation	Glass Wool			
Shelves		2ea of Stainless steel shelves included			
Ventilation		Ventilation hole with Stainless Steel Cap, Hole Diameter 40mm			
		1ea		2ea	
Circulation		Gravity Convection Type			
Safety device		Over Temp. and Over Current Protector, Sensor Error Detector			
Others		UL / CUL Certified, CE Certified Storage Function (Temp. and Time) Locking Mode (Jog-Dial Input Disabled) Alarm (Error Status and Timer-end)			
Net Weight (kg)		36	44	69	78
Packing Size (w x d x h) (mm)		562x664x747	622x754x807	743x819x1,068	808x884x1,133
Shipping Weight (kg)		43	59	79	92
Power Consumption		502 W	674 W	1390 W	1566 W
Energy Consumption, at 100°C		90 Wh	117 Wh	187 Wh	204 Wh
, at 150°C		181 Wh	230 Wh	337 Wh	398 Wh
Power plug type		Hybrid E+F			
Power Supply*		AC 230V, 1N~, 50/60Hz			

* Other Specifications are available upon Customer s Request.

Cat. No	Description	Articles

<Continued from... Ovens, Gravity Convection-type, "WON"**>**

Ordering Information
Standard Model, Gravity/Natural Flow, with Wire Shelves

DH.WON05032 Oven, Standard, **230V, 32 Lit., "WON-32"**
DH.WON05050   ,   **50 Lit., "WON-50"**
DH.WON05105   , **105 Lit., "WON-105"**
DH.WON05155   , **155 Lit., "WON-155"**

Built in Viewing Window Model, Gravity/Natural Flow, with Wire Shelves

DH.WON07105 Oven, Window, **230V, 105 Lit., "WON-W105"**
DH.WON07155   , **155 Lit., "WON-W155"**

Spare Wire Shelves, Stainless Steel

DH.WON11032 Wire Shelf, **for 32 Lit., "ONS032",** w280 x d280mm
DH.WON11050   , **for 50 Lit., "ONS050",** w340 x d310mm
DH.WON11105   , **for 105 Lit., "ONS105",** w455 x d375mm
DH.WON11155   , **for 155 Lit., "ONS155",** w520 x d440mm

Validation (IQ, OQ) Service

DH.WON31032 Validation Service(IQ, OQ), **"ONV1032",** for **"WON-32"**
DH.WON31050   , **"ONV1050",** for **"WON-50"**
DH.WON31105   , **"ONV1105",** for **"WON-105"**
DH.WON31155   , **"ONV1155",** for **"WON-155"**
DH.WON32105 Validation Service(IQ, OQ), **"ONV2105",** for **"WON-W105"**
DH.WON32155   , **"ONV2155",** for **"WON-W155"**

Viewing Window

2-Year Warranty **Wisd**

Oven, Gravity/Natural Flow-type, Built in Viewing Window Model, with Wire Shelves "WON-W155"
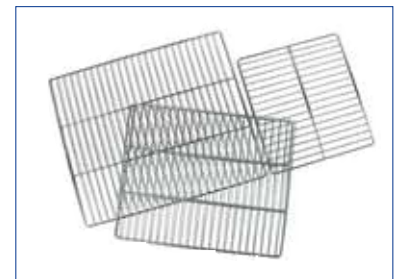
Wire Shelves, Stainless Steel (Included)

WiseRemote® Remote Control Software
Connection of Wisd Temperature Devices with Interface RS232C to a PC Export Recorded Data (Excel Spreadsheet)

Main Screen

RS232C Cable & Software

witeg® Ovens, Forced Convection-type, "SWOF", 50-/105-/155-/305 Lit., with Certi. & Traceability
with Smart-Lab™ Controller, 4" Full Touch Screen, Fuzzy-PID Control, up to 250°C, ±0.3°C

NEW

4-inch Smart-Lab™ Controller

Wisd. **2-Year Warranty**

Oven, Forced Convection-type, Standard Model, with Wire Shelves "SWOF-155"

Heater

Pre-Heating Zone

The Best Temp. Uniformity & Accuracy by High Performance Heating Mechanism (Forced Convection-type)

Display of Smart-Lab™ Controller

■ **with Certificate & Traceability** : Controlled by Serial Number, Certificate, Delivery-information, and Traceable Data Base System
■ **Digital Fuzzy Control System Implementing Superior Temperature Accuracy**
■ **Optimized Air Flow by Forced Convection Mechanism**
■ **Smart-Lab™ Controller** ■ **CE Certified** ■ **UL/CUL Certified**
■ **PL (Product Liability) Insurance**
✱ Suitable for Drying, Baking, Conditioning, Curing, Pre-Heating and Aging

✱ The Best Temp. Uniformity & Accuracy by High Performance Heating Mechanism : 3 Side-Heating
✱ Optimized Air Flow by Forced Convection Mechanism
✱ Ergonomic Design 4" Full Touch Screen TFT LCD(Smart-Lab™ Controller)
✱ WiRe™ App & Web Service.   ✱ Automatic Data Recording
✱ Self-Diagnostic Function   ✱ Compact New Body Design
✱ Variable Program Setting for Multiple Patterns with Multiple Segments
✱ Internet Connectivity with WiFi   ✱ Controller SW can be upgraded through USB port.
✱ The Recorded Data could be transferred to PC by USB memory
✱ 2~3ea of Stainless Steel Wire Shelves Included
✱ RS232C Interface for Monitoring and Controlling with PC
✱ Ambient to 250°C of Temp. Range, Fluctuation of 0.3°C at 100°C
✱ Corrosion Resistant 304 Stainless Steel Chamber
✱ Over Temperature & Over Current Protection, Sensor Error Detection

Specification

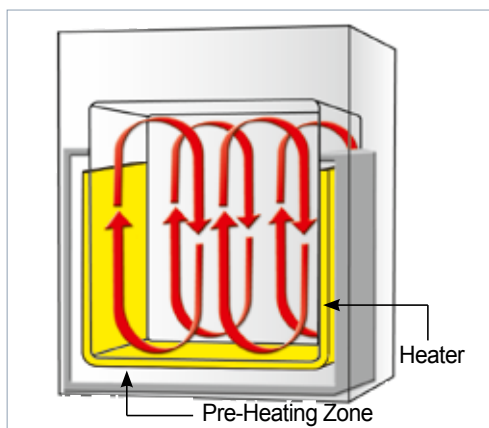| Model		Standard Model, without Window		
		"SWOF-50"	**"SWOF-105"**	**"SWOF-155"**
			Built-in Viewing Window Model	
			"SWOF-W105"	**"SWOF-W155"**
Capacity		50Lit	105Lit	155Lit
Dimension (w x d x h)	Interior (mm)	350x370x420	480x485x535	475x550x600
	Exterior (mm)	518x646x722	653x711x879	718x776x944
Heater Power		650 W	1.4 kW	1.6 kW
Temp.	Range	Ambient Temperature +5°C to 250°C		
	Fluctuation	±0.3°C at 100°C, ±0.5°C at 150°C		
	Variation	±1°C at 100°C, ±1.8°C at 150°C	±1°C at 100°C,±2°C at 150°C	
	Sensor	PT 100		
Control Resolution		±0.1°C		
Heat-up Time		25 min. to 100°C, 45 min. to 150°C		25 min. to 100°C, 40 min. to 150°C
Recovery Time (Door open 30sec)		8 min. to 100°C, 8 min. to 150°C	6 min. to 100°C, 6 min. to 150°C	
Controller		Smart-Lab™ Controller		
RS232 Port		Available to connect with PC		
Display		4" Full Touch Screen TFT LCD		
Timer		99hr 59 min (delay/continuous function)		
Material	Internal	Stainless Steel (#304)		
	External	Powder Coated Steel		
	Insulation	Glass Wool		
Shelves		Stainless steel shelves included		
		2ea		
Ventilation		Ventilation hole with Stainless Steel Cap, Hole Diameter 40mm		
		1ea	2ea	
Circulation		Forced Air Convection Type		
Safety device		Over Temp. and Over Current Protector, Sensor Error Detector		
Others		UL / CUL Certified, CE Certified Storage Function (by Program mode) Locking Mode (Jog-Dial Input Disabled) Alarm (Error Status and Timer-end)		
Net Weight (kg)		44	69	78
Packing Size (w x d x h) (mm)		622x754x807	743x819x1,068	808x884x1,133
Shipping Weight (kg)		59	79	92
Power Consumption		674 W	1390 W	1566 W
Energy Consumption, at 100°C		117 Wh	187 Wh	204 Wh
, at 150°C		230 Wh	337 Wh	398 Wh
Power plug type		Hybrid E+F		
Power Supply*		AC 230V, 1N~, 50/60Hz		

* Other Specifications are available upon Customer s Request.

<Continued on next page>

<Continued from... Ovens, Forced Convection-type, "SWOF">

Ordering Information

Standard Model, Forced Convection, with Wire Shelves

DH.SWOF05050	Oven, Standard, **230V, 50 Lit., "SWOF-50"**
DH.SWOF05105	, **105 Lit., "SWOF-105"**
DH.SWOF05155	, **155 Lit., "SWOF-155"**

Built in Viewing Window Model, Forced Convection, with Wire Shelves

DH.SWOF07105	Oven, Window, **230V, 105 Lit., "SWOF-W105"**
DH.SWOF07155	, **155 Lit., "SWOF-W155"**

Spare Wire Shelves, Stainless Steel

DH.WON11050	Wire Shelf, for **50 Lit., "ONS050",** w340 x d310mm
DH.WON11105	, for **105 Lit., "ONS105",** w455 x d375mm
DH.WON11155	, for **155 Lit., "ONS155",** w520 x d440mm

Validation (IQ, OQ) Service

DH.SWOF31050	Validation Service(IQ, OQ), **"SOFV1050",** for **"SWOF-50"**
DH.SWOF31105	, **"SOFV1105",** for **"SWOF-105"**
DH.SWOF31155	, **"SOFV1155",** for **"SWOF-155"**
DH.SWOF32105	Validation Service(IQ, OQ), **"SOFV2105",** for **"SWOF-W105"**
DH.SWOF32155	, **"SOFV2155",** for **"SWOF-W155"**

Viewing Window

2-Year Warranty　*Wisd.23*

*Oven, Forced Convection-type, Built in Viewing
Window Model, with Wire Shelves "SWOF-W155"*

4" Full Touch Screen TFT LCD
(Smart-Lab™ Controller)

It is possible to monitor and control
the Smart-Lab™ equipment through
all smart phone, tablet and web
without restraint of time and place.

WiRe™ App & Web Service
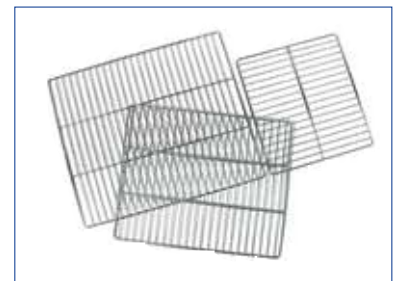
**Wire Shelves, Stainless Steel
(Included)**

witeg® Ovens, Gravity Convection-type, SWON , 32-/50-/105-/155 Lit., with Certi. & Traceability
with Smart-Lab™ Controller, 4" Full Touch Screen, Fuzzy-PID Control, up to 230°C, ±0.5°C

4-inch Smart-Lab™ Controller

Wisd.🅑

2-Year Warranty

Oven, Gravity/Natural Flow-type, Standard Model, with Wire Shelves "SWON-155"

The Best Temp. Uniformity & Accuracy by High Performance Heating Mechanism (Gravity Convection-type)

Display of Smart-Lab™ Controller

■ **with Certificate & Traceability** : Controlled by Serial Number, Certificate, Delivery-information, and Traceable Data Base System
■ **Digital Fuzzy Control System Implementing Superior Temperature Accuracy**
■ **Optimized Air Flow by Gravity Convection Mechanism**
■ **Smart-Lab™ Controller**　■ **CE Certified**　■ **UL/CUL Certified**
■ **PL(Product Liability) Insurance**

✲ Suitable for Drying, Baking, Conditioning, Curing, Pre-Heating and Aging

✲ The Best Temp. Uniformity & Accuracy by High Performance Heating Mechanism: 3-Side Heating
✲ Optimized Air Flow by Gravity Convection
✲ Ergonomic Design 4" Full Touch Screen TFT LCD(Smart-Lab™ Controller)
✲ WiRe™ App & Web Service.　　✲ Automatic Data Recording
✲ Self-Diagnostic Function　　✲ Internet Connectivity with WiFi
✲ Variable Program Setting for Multiple Patterns with Multiple Segments
✲ The Recorded Data could be transferred to PC by USB memory
✲ Controller SW can be upgraded through USB port.
✲ Compact New Body Design　　✲ 2ea of Stainless Steel Wire Shelves Included
✲ RS232C Interface for Monitoring and Controlling with PC
✲ Ambient to 230℃ of Temp. Range, Fluctuation of 0.5℃ at 100℃
✲ Corrosion Resistant 304 Stainless Steel Chamber
✲ Over Temperature & Over Current Protection, Sensor Error Detection

Specification

Model		Standard Model, without Window			
		"SWON-32"	"SWON-50"	"SWON-105"	"SWON-155"
				Built-in Viewing Window Model	
				"SWON-W105"	"SWON-W155"
Capacity		32Lit	50Lit	105Lit	155Lit
Dimension (w x d x h)	Interior (mm)	290x310x360	350x370x420	480x485x535	475x550x600
	Exterior (mm)	458x556x662	518x646x722	653x711x879	718x776x944
Heater Power		500 W	650 W	1.4 kW	1.6 kW
Temp.	Range	Ambient Temperature +5°C to 230°C			
	Fluctuation	± 0.5°C at 100°C, ± 0.6°C at 150°C			± 0.5°C at 100°C, ± 0.8°C at 150°C
	Variation	± 1.2°C at 100°C, ± 2.2°C at 150°C			
	Sensor	PT 100			
Control Resolution		±0.1°C			
Heat-up Time		30 min. to 100°C, 43 min. to 150°C	30 min. to 100°C, 45 min. to 150°C		35 min. to 100°C, 50 min. to 150°C
Recovery Time (Door open 30sec)		8 min. to 100°C, 10 min. to 150°C		12 min. to 100°C, 10 min. to 150°C	
Controller		Smart-Lab™ Controller			
RS232 Port		Available to connect with PC			
Display		4" Full Touch Screen TFT LCD			
Timer		99hr 59 min (delay/continuous function)			
Material	Internal	Stainless Steel (#304)			
	External	Powder Coated Steel			
	Insulation	Glass Wool			
Shelves		2ea of Stainless steel shelves included			
Ventilation		Ventilation hole with Stainless Steel Cap, Hole Diameter 40mm			
		1ea		2ea	
Circulation		Gravity Convection Type			
Safety device		Over Temp. and Over Current Protector, Sensor Error Detector			
Others		UL / CUL Certified, CE Certified Storage Function (Temp. and Time) Locking Mode (Jog-Dial Input Disabled) Alarm (Error Status and Timer-end)			
Net Weight (kg)		36	44	69	78
Packing Size (w x d x h) (mm)		562x664x747	622x754x807	743x819x1,068	808x884x1,133
Shipping Weight (kg)		43	59	79	92
Power Consumption		502 W	674 W	1390 W	1566 W
Energy Consumption, at 100°C		90 Wh	117 Wh	187 Wh	204 Wh
, at 150°C		181 Wh	230 Wh	337 Wh	398 Wh
Power plug type		Hybrid E+F			
Power Supply*		AC 230V, 1N~, 50/60Hz			

* Other Specifications are available upon Customer s Request.

(Figure labels: Heater, Pre-Heating Zone)

<Continued from... Ovens, Gravity Convection-type, "SWON"**>**

Ordering Information
Standard Model, Gravity/Natural Flow, with Wire Shelves

DH.SWON05032   Oven, Standard, **230V,   32 Lit., "SWON-32"**
DH.SWON05050   ,   **50 Lit., "SWON-50"**
DH.SWON05105   , **105 Lit., "SWON-105"**
DH.SWON05155   , **155 Lit., "SWON-155"**

Built in Viewing Window Model, Gravity/Natural Flow, with Wire Shelves

DH.SWON07105   Oven, Window, **230V, 105 Lit., "SWON-W105"**

DH.SWON07155   , **155 Lit., "SWON-W155"**

Spare Wire Shelves, Stainless Steel

DH.WON11032   Wire Shelf, **for 32 Lit., "ONS032",** w280 x d280mm
DH.WON11050   , **for 50 Lit., "ONS050",** w340 x d310mm
DH.WON11105   , **for 105 Lit., "ONS105",** w455 x d375mm
DH.WON11155   , **for 155 Lit., "ONS155",** w520 x d440mm

Validation (IQ, OQ) Service

DH.SWON31032   Validation Service(IQ, OQ), **"SONV1032",** for **"SWON-32"**
DH.SWON31050   , **"SONV1050",** for **"SWON-50"**
DH.SWON31105   , **"SONV1105",** for **"SWON-105"**
DH.SWON31155   , **"SONV1155",** for **"SWON-155"**
DH.SWON32105   Validation Service(IQ, OQ), **"SONV2105",** for **"SWON-W105"**
DH.SWON32155   , **"SONV2155",** for **"SWON-W155"**

Viewing Window

2-Year Warranty   **Wisd.**

Oven, Gravity/Natural Flow-type, Built in Viewing Window Model, with Wire Shelves **"SWON-W155"**

≫ **witeg WiRe™ App & Web Service**

4" Full Touch Screen TFT LCD
(Smart-Lab™ Controller)

It is possible to monitor and control the Smart-Lab™ equipment through all smart phone, tablet and web without restraint of time and place.

WiRe™ App & Web Service

witeg® High Clean Air Oven, "WOC", with Class 100 HEPA Filter, 560-/800- Lit., with Certi. & Traceability
with Chrome Coated Steel Wire Shelves, Digital Fuzzy Control System, Clean Air Convection Mechanism, up to 250℃, ±1.0℃

Patented Jog-Shuttle Control System

Digital Fuzzy Controller

Wisd.

2-Year Warranty

High Clean Air Oven, with HEPA Filter "WOC-560"

High Efficiency and High Clean Air Convection Mechanism

High Temp. HEPA Filter

■ **with Certificate & Traceability : Controlled by Serial Number, Certificate, Delivery-information, and Traceable Data Base System**
■ **Specially Designed Clean Air Convection Mechanism Provides Dynamic Air Flow for Exhaust of Contaminated Air from the Chamber and Supply of Filtered Clean Air into the Chamber**
■ **Digital Fuzzy Control System Implementing Superior Temperature Accuracy.**
■ **Patented Jog-Shuttle Control System**　■ **CE Certified**
■ **PL (Product Liability) Insurance**

✱ Suitable for Critical Clean Application such as Electronics, Semiconductor, Pharmaceutical and Clinical Applications - Class 100 HEPA Filter is used.
✱ Specially Designed Clean Air Convection Mechanism Provides Dynamic Air Flow for Exhaust of Contaminated Air from the Chamber and Supply of Filtered Clean Air into the Chamber
✱ Digital Fuzzy Control System Implementing Superior Temperature Accuracy
✱ User s Self-Compensation Function to Control Difference between Real Temp. and Indicated Temp. (±20.0℃)
✱ RS232C Interface for Remote Controlling with PC
✱ Storage Function : Set Values of Temperature and Timer
✱ Locking Mode Supported for Experimental Safety(Input to Jog-Shuttle can be Disabled)
✱ Over Temperature & Over Current Protection, Sensor Error Detection

Specification

Model		560 Lit. "WOC-560"	800 Lit. "WOC-800"
Air Flow-type		High Clean Air Convection Mechanism	
Filter for Clean Air		HEPA Filter Class 100 for High Temperature	
Temp.	Range	Ambient +5℃ to 250℃	
	Accuracy	±1.0℃	
	Uniformity	±2.0℃ at 200℃	
	Sensor	PT100 Sensor	
Heating Power/Consumption		6.5 kW	9.4 kW
Timer & Alarm		99hr 59min (with delay / Continuous run.),　Error status & Timer-end	
Display		Digital LCD with Back Light	
Controller		Digital Fuzzy Controller with Jog-Shuttle Switch(Turn+Push)	
Verification		Timer Operated Verification System	
Resolution		Control: ±1.0℃, Display: ±1.0℃	
Shelves		3ea of Chrome Coated Steel Shelves of Adjustable Position	
Load per Rack		16 kg	
Permitted Total Load		48 kg (16kg x 3 Shelves)	
Safety Circuit		Over Temp. and Over Current Protector, Sensor Error Detector	
Material		Internal : Stainless Steel (#304), External : Powder Coated Steel, Insulation : Glass Wool	
Others		Storage Function (Temp., Timer) Locking Mode (Jog-Shuttle Input Disabled)	
Dimension (w x d x h)	Interior (mm)	800x700x1,000	1,000x800x1,000
	Exterior (mm)	1,000x1,155x1,735	1,500x1,200x1,900
Packing Size (w x d x h) (mm) & Gross Weight		1,200x1,400xh2,120mm, 386 kg	1,700x1,400xh2,270mm, 446 kg
Power Consumption		6.5 kW	9.4 kW
Power plug type		5 pole 16A CEE	
Power Supply*		AC 400V, 3N~, 50/60Hz	

* Other Specifications are available upon Customer s Request.

<Continued from... High Clean Air Oven, "WOC"**>**

Ordering Information
High Clean Air Oven, with Hepa Filter/Wire Shelves

DH.WOC03560   High Clean Air Oven, **400V, 3N~, 560 Lit., "WOC-560"**

DH.WOC03800   **, 800 Lit., "WOC-800"**

Spare Wire Shelves, Chrome Coated Steel

DH.WOC10560   (1) Wire Shelf, **"OCS560",** w780 x d680, for **"WOC-560"**

DH.WOC10800   , **"OCS800",** w980 x d880, for **"WOC-800"**

Optional Device & Cable/Plug

DH.WOCN2GIN   N2 Gas Inlet Device, **WOC-N2GIN**

Validation (IQ, OQ) Service

DH.WOC30560   Validation Service(IQ, OQ), **"OCV560",** for **"WOC-560"**

DH.WOC30800   , **"OCV800",** for **"WOC-800"**

WiseRemote® Remote Control Software
Connection of Wisd Temperature Devices with Interface RS232C to a PC Export Recorded Data (Excel Spreadsheet)

Main Screen   **RS232C Cable & Software**

2-Year Warranty

High Clean Air Oven, with HEPA Filter
"WOC-560"
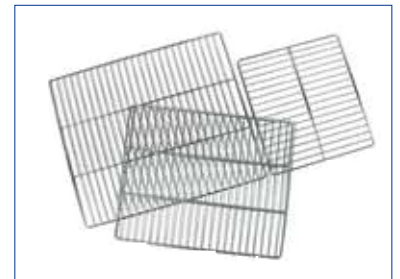
(1) Chrome Coated Steel Wire Shelves
(Included)

witeg® Industrial Forced Convection Oven, WOF-L , 486-/840-/1176- Lit., with Certi. & Traceability
with Stainless Steel Perforated Shelves, Digital PID Control System, Superior Temp. Accuracy, up to 250°C, ±1.0°C

2-Year Warranty

PID Control System

Wisd

Industrial Forced Convection Oven "WOF-L800" with Stainless Steel Perforated Shelves

■ **with Certificate & Traceability : Controlled by Serial Number, Certificate, Delivery-information, and Traceable Data Base System**
■ **Heavy Forced Air-Circulation by Strong and Reliable Fan System : ideal for Semiconductor and Electronic Parts Baking Purpose**
■ **CE Certified**
■ **PL(Product Liability) Insurance**
∗ Heavy Forced Air-Circulation by Strong and Reliable Fan System : Ideal for Semiconductor and Electronic Parts Baking Purpose
∗ Voltage and Ampere Meter Equipped for Monitoring Safe Operation of the Machine
∗ Digital PID Control System Enables Superior Temperature Accuracy
∗ Digital Timer Function with Buzzer Alarm : up to 99 hrs 59 min
∗ Locker is Available for Operational Safety Control by an Administrator
∗ Over Temperature & Over Current Protection, Sensor Error Detection and Leakage Breaking
∗ Multi-Channel Temperature Sensors with Digital Display for Monitoring Temperature Uniformity in the Chamber is available(Optional)
∗ Default Damper to Enhance Thermal Efficiency
∗ Automatic Gas Exhaust Available (Optional)

Specification

Model		486 Lit. "WOF-L400"	840 Lit. "WOF-L800"	1,176 Lit. "WOF-L1000"
Air Flow-type		Forced Convection-type by FAN		
Air Circulation Fan Motor		1/3 HP	1/3 HP x 2 ea	1/3 HP x 3 ea
Temp.	Range	Ambient +5°C to 250°C		
	Accuracy	± 1.0°C at 150°C		
	Uniformity	± 2.0°C at 150°C		
	Sensor	PT100		
Heating Power/Consumption		3 kW	5 kW	7 kW
Timer & Alarm		99hr 59min (with Continuous run.), Timer-end Alarm		
Display		2 lines LED for Temperature and Timer		
Controller		Digital PID Control		
Resolution		Control : ±1.0°C, Display : ±1.0°C		
Door		Powder coated Steel Door with Silicon Packing		
		1 Door	2 Doors	
Shelves		Included Stainless Steel Perforated Shelves		
		4 ea	5 ea	8 ea
Load per Rack		16 kg		
Permitted Total Load		64 kg (16kg x 4 Shelves)	80 kg (16kg x 5 Shelves)	96 kg (16kg x 6 Shelves)
Material		Internal : Stainless Steel (#304), External : Powder Coated Steel, Insulation : Ceramic and Glass Wool Board		
Dimension (w x d x h)	Interior (mm)	900x600x900	1,250x700x960	1,400x700x1,200
	Exterior (mm)	1,200x750x1,700	1,500x840x1,800	1,650x840x2,150
Net Weight		316 kg	408 kg	478 kg
Others		Over Temp. and Over Current Protector,Sensor Error Detector, Leakage Breaker Locking Mode by Mechanical Locker		
Packing Size (w x d x h) (mm) & Gross Weight		1,400x1,220x1,960	1,700x1,310x2,060	1,850x1,310x2,410
		376 kg	488 kg	568 kg
Power Consumption		3.6 kW	6.2 kW	8.8 kW
Power plug type		5 pole 16A CEE		
Power Supply*		AC 400V, 3N~, 50/60Hz		

* Other Specifications are available upon Customer s Request.

<Continued on next page>

<Continued from... Industrial Forced Convection Oven , "WOF-L"**>**

Ordering Information
Industrial Forced Convection Oven, with Perforated Shelves/Terminal Block

DH.WOFL0402   Industrial Forced Convection Oven, **400V, 3N~,   486 Lit., "WOF-L400"**

DH.WOFL0802   **,   840 Lit., "WOF-L800"**

DH.WOFL1002   **, 1176 Lit., "WOF-L1000"**

Spare Perforated Shelves, Stainless Steel

DH.WOF10400   (1) Perforated Shelf, **"OFLS400",**   w880 x d580mm,   for **"WOF-L400"**

DH.WOF10800   , **"OFLS800",**   w1230 x d680mm, for **"WOF-L800"**

DH.WOF11000   , **"OFLS1000",** w1380 x d680mm, for **"WOF-L1000"**

Validation (IQ, OQ) Service

DH.WOF30400   Validation Service(IQ, OQ), **"OFLV400",**   for **"WOF-L400"**

DH.WOF30800   , **"OFLV800",**   for **"WOF-L800"**

DH.WOF31000   , **"OFLV1000",** for **"WOF-L1000"**

Industrial Forced Convection Oven "WOF-L800"
with Stainless Steel Perforated Shelves

(1) Perforated Shelves, Stainless Steel
(Included)

Articles	Cat. No	Description
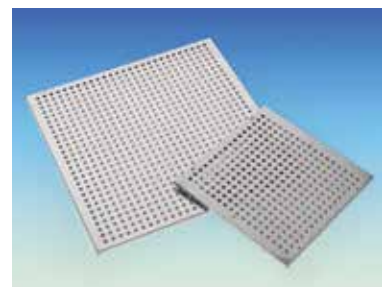
witeg® Precise Vacuum Oven, WOV, Highly Safety Viewing Window, 30-/69-Lit., up to 200°C
with 3 x Al-Shelves, Digital Fuzzy Control, Superior Temp. & Vacuum Accuracy, Highly Safety Viewing Window, 10~750 mmHg,

Patented Jog-Shuttle Control System

Easy to Read Vacuum Gauge

Highly Safety Viewing Window

Wisd **2-Year Warranty**

Precise Vacuum Oven "WOV-30" Included Aluminum Shelves

- **with Certificate & Traceability : Controlled by Serial Number, Certificate, Delivery-information, and Traceable Data Base System**
- **Suitable for Drying, Baking, Conditioning, Curing, Out-Gassing Solids and Liquids, Vacuum Embedding, Moisture Testing, Plating and Aging Test**
- **Very Easy and Convenient for Vacuuming and Venting, Easy to read Vacuum Gauge**
- **Highly Safety Viewing Window (Tempered Safety Glass+ Polycarbonate Window)**
- **Patented Jog-Shuttle Control System and Back-Light LCD**
- **UL/CUL Certified** ■ **CE Certified**
- **PL (Product Liability) Insurance**
- ✱ Suitable for Drying, Baking, Conditioning, Curing, Out-Gassing Solids and Liquids, Vacuum Embedding, Moisture Testing, Plating and Aging Test
- ✱ Digital Fuzzy Control System Implementing Superior Temperature Accuracy
- ✱ RS232C Interface for Remote Monitoring and Controlling with PC
- ✱ Superior Uniformity and Stability
- ✱ Very Easy and Convenient for Vacuuming and Venting, Easy to read Vacuum Gauge
- ✱ High Quality Door Sealing : High Temperature Grade Silicone Molded Gasket
- ✱ Highly Safety Viewing Window (Tempered Safety Glass+ Polycarbonate Window)
- ✱ Over Temperature & Over Current Protection and Sensor Error Detection
- ✱ Storage Function : Alarm & Timer
- ✱ Locking Mode Supported for Experimental Safety (Input to Jog-Shuttle can be disabled)

WiseRemote® Remote Control Software

Connection of Wisd Temperature Devices with Interface RS232C to a PC Export Recorded Data (Excel Spreadsheet)

Main Screen **RS232C Cable & Software**

Specification

Model		18.6 Lit. "WOV-20"	30 Lit. "WOV-30"	70 Lit. "WOV-70"
Vacuum Range		10 ~ 750 mmHg		
Temp.	Range	Ambient +5°C to 200°C		
	Accuracy	± 0.5°C at 100°C		
	Uniformity	±2.0°C at 100°C		
	Sensor	PT100		
Heating Power/Consumption		300W x 2ea	300W x 2ea	400W x 4ea
Heat-up Time		50 min. to 100°C, 90 min. to 150°C		
Timer & Alarm		99hr 59min (with delay / Continuous run.), Error status & Timer-end		
Display		Digital LCD with Back Light		
Controller		Digital Fuzzy Controller with Jog-Shuttle Switch (Turn & Push)		
Resolution		Control : ±1.0°C, Display : ±1.0°C		
Shelves		Included 3ea Aluminum Shelves		
Safety Circuit		Over Temp. and Over Current Protector, Sensor Error Detector, Leakage Breaker		
Material		Internal : Stainless Steel (#304), External : Powder Coated Steel, Window : Tempered Safety Glass 12T, Poly Carbonate 5T for Safety		
Others		Storage Function (Temp and Timer) Locking Mode (Jog-Shuttle Input Disabled)		
Dimension (w x d x h)	Interior (mm)	265x290x265	300x330x300	400x435x400
	Exterior (mm)	472x443x542	507x483x577	570x588x677
Vacuum Inlet Size		OD : 10mm		
Net Weight		48 kg	56 kg	82 kg
Packing Size (w x d x h) (mm)		572x660x840	710x762x970	780x826x1,030
& Gross Weight		67 kg	76 kg	114 kg
Power Consumption		600 W	600 W	1.7 kW
Power plug type		Hybrid E+F		
Power Supply*		AC 230V, 1N~, 50/60Hz		

* Other Specifications are available upon Customer s Request.

<Continued on next page>

<Continued from... Precise Vacuum Oven, "WOV"**>**

Ordering Information
Precise Vacuum Oven, with Aluminum Shelves & Cord/Plug

DH.WOV01020	Vacuum Oven, **230V, 18.6 Lit., "WOV-20"**
DH.WOV01030	, **30 Lit., "WOV-30"**
DH.WOV01070	, **70 Lit., "WOV-70"**

Spare Aluminum Shelves

DH.WOV11120 (1) Upper Shelf, Aluminum, without Sensor Guard, **"OVS120"**, w295 x d285 x h98mm, for **WOV-20**

DH.WOV11130 (1) Upper Shelf, Aluminum, without Sensor Guard, **"OVS130"**, w295 x d285 x h98mm, for **WOV-30**

DH.WOV11170 (1) Upper Shelf, Aluminum, without Sensor Guard, **"OVS170"**, w395 x d395 x h130mm, for **WOV-70**

DH.WOV11020 (2) Standard Shelf, Aluminum, **"OVS020"**, w295 x d285 x h98mm, for **"WOV-20"**

DH.WOV11030 , **"OVS030"**, w295 x d285 x h98mm, for **"WOV-30"**

DH.WOV11070 , **"OVS070"**, w395 x d395 x h130mm, for **"WOV-70"**

DH.WOV20001 (3) Sensor Guard, for Upper Shelf **"SG001"**

Validation (IQ, OQ) Service

DH.WOV31020 Validation Service(IQ, OQ), **"OVV020",** for **"WOV-20"**

DH.WOV31030 , **"OVV030",** for **"WOV-30"**

DH.WOV31070 , **"OVV070",** for **"WOV-70"**
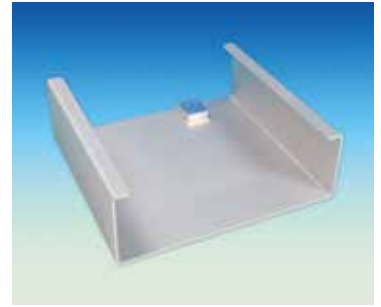
(1) Upper Shelf, Aluminum(Included) without Sensor Guard
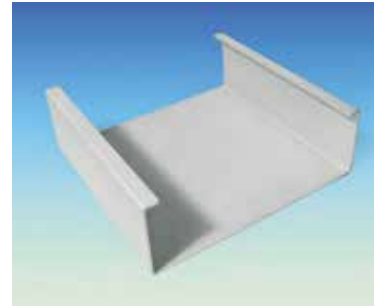
(2) Standard Shelf, Aluminum (Included)

(3) Sensor Guard

Refrigerators

- Digital Fuzzy Control System Implementing Superior Temperature Accuracy
- CFC-free Refrigerants are used
- CE Certified, GMP Certified(WCC-1000)

≫ Digital Cold Lab Chamber / Refrigerator (WCC-model)

Cat. No	Description	Articles

witeg® Digital Cold Lab Chamber/Refrigerator, "WCC", 0°C~10°C, 255- & 1176- Lit.

with Wire Shelves, Digital Fuzzy Control, Highest Temp.Uniformity, CFC-Free(134A) Refrigeration, Automatic Defrost System

- **with Certificate & Traceability : Controlled by Serial Number, Certificate, Delivery-information, and Traceable Data Base System**
- **Highest Temperature Uniformity by Forced Air Circulation**
- **CFC-Free (134A) Refrigeration System**
- **Patented Jog-Shuttle Control System**
- **CE Certified   ■ GMP Certified (Only "WCC-1000" model)**
- **PL(Product Liability) Insurance**

✶ Digital Fuzzy Control System Implementing Superior Temperature Accuracy
✶ RS232C Interface for Monitoring and Controlling with PC
✶ Storage Function : Set Values of Temperature and Timer
✶ Digital LCD with Back-Light Function   ✶ Automatic Defrost System
✶ Locking Mode Supported for Experimental Safety (Input to Jog-Shuttle can be Disabled)
✶ Intelligent Control of Refrigerator for Preventing Overload of Compressor
✶ Corrosion Resistant 304 Stainless Steel Chamber and PTFE-coated Shelves
✶ Double Fold Tempered Glass Window   ✶ CFC-Free (134A) Refrigeration System
✶ Over & Under Temperature Protection, Over Current Protection and Sensor Error Detection

0.0℃ ~10.0℃

Patented Jog-Shuttle Control System

Viewing Window

2-Year Warranty   Wisd.**Ⱬ**

Digital Cold Lab Chamber / Refrigerator with 2 × Outer Door, 1176 Lit. "WCC-1000"

Specification

Outer Door, Capacity & Models		1×Outer Door, 255 Lit. "WCC-250"	2×Outer Door, 1176 Lit. "WCC-1000"
Temp. Range & Accuracy		0°C to 10°C, ±0.5°C at 4°C	
Temp. Uniformity & Sensor		±2.0°C at 4°C, PT100	
Temp. Resolution		1°C-Display, 1°C-Control	
Refrigerant		CFC-Free(134A) Refrigeration System	
Compressor		1/3 HP	3/8 HP
Evaporator		Auto Exchange Dual Evaporator	
Defrost & Circulation		Automatic Defrost System, Dual Turbo Fan	
Display		Digital LCD with Back-Light Function	
Controller		Digital Fuzzy Controller with Jog-Shuttle Switch (Turn+Push)	
Door		Outer Door with Glass Window & Inner Glass Door	
Included Shelf & Load per Shelf		PTFE Coated 3 Shelves, 16 kg	PTFE Coated 6 Shelves, 16 kg
Utility Device		with Access Hole, AC inlet 120V / 230V, Lamp	
Safety Device		Over Current- & Temp- Over Current Protection, Sensor Error Detection	
Material		Stainless Steel (#304)-Internal, Powder Coated Steel-External	
Dimension	Interior	505×505×h1,000 mm	1,200×700×h1,400 mm
	Exterior	660×790×h1,800 mm	1,350×850×h2,000 mm
Net Weight		217 kg	398 kg
Packing Size & Gross Weight		960×960×h2,050mm, 277 kg	1,580×1,220×h2,180mm, 478 kg
Power Consumption		600 W	700 W
Power plug type		Hybrid E+F	
Power Supply*		AC 230V, 1N~, 50/60Hz	

* Other Specifications are available upon Customer s Request.

Ordering Information

with 1×Outer Door, 3×Shelves, 255 Lit., "WCC-250"

DH.WCC00250   Cold Lab Chamber/Refrigerator, **230V, WCC-250**

with 2×Outer Door, 6×Shelves, 1176 Lit., "WCC-1000"

DH.WCC01000   Cold Lab Chamber/Refrigerator, **230V, "WCC-1000"**

Spare Wire Shelf, PTFE Coated Steel

DH.WCC10250   (1) Wire Shelf, w470 × d480mm, **"CCS250",** for **WCC-250**
DH.WCC11000   , w580 × d620mm, **"CCS1000",** for **WCC-1000**

Validation (IQ, OQ) Service

DH.WCC30250   Validation Service(IQ, OQ), **"CCV250",**   for **WCC-250**
DH.WCC31000   , **"CCV1000",** for **WCC-1000**

(1)Wire Shelves, PTFE Coated Steel (Included)

WiseRemote® Remote Control Software

Connection of Wisd.**Ⱬ** **Temperature Devices with Interface RS232C to a PC Export Recorded Data (Excel Spreadsheet)**

Main Screen   **RS232C Cable & Software**

Lab Freezer & ULT Freezer

- Patented Jog-Shuttle Control System(Only Laboratory Freezer)
- Smart-Lab™ Controller & Wire™ App & Web Service(Only ULT Freezers)
- Simplified Hi-Efficiency Freezing System can Freezes down to -86°C
  : realize robust and long life time (Only ULT Freezers)
- CFC-free Refrigerants are used
- CE Certified, PL(Product Liability) Insurance
- RoHS Certified(Only ULT Freezers)

⁑ Ultra-Low Temperature Freezer

⁑ Digital Laboratory Freezer

Upright Type

Chest Type

Laboratory Freezer

witeg® Digital Laboratory Freezer, "WLF", −35℃ to +10℃, 420 Lit., with Certi. & Traceability

with 3×Shelves, Digital Fuzzy Control System, Fast Freezing Function, RS232C Interface, CFC-Free Refrigeration

- **with Certificate & Traceability : Controlled by Serial Number, Certificate, Delivery-information, and Traceable Data Base System**
- **Digital Fuzzy Control System Implementing Superior Temperature Accuracy**
- **Fast Freezing Function**
- **Patented Jog-Shuttle Control System**
- **CFC-Free (134A) Refrigeration System**
- **CE Certified**   ■ **PL (Product Liability) Insurance**

∗ Suitable for Storage of Bio Reagent, Seed, Enzyme and Various Samples
∗ Digital Fuzzy Control System Implementing Superior Temperature Accuracy
∗ Storage Function : Set Values of Temperature and Timer
∗ Digital LCD with Back-Light Function
∗ Locking Mode supported for Experimental Safety (Input to Jog-Shuttle can be Disabled)
∗ Intelligent Control of Refrigerator for Preventing Overload of Compressor
∗ Corrosion Resistant 304 Stainless Steel Chamber and Shelves
∗ Over Current Protection, Sensor Error Detection, Leakage Breaking

−35℃ to +10℃   CE

Patented Jog-Shuttle Control System

2-Year Warranty   **Wisd**

Digital Laboratory Freezer "WLF-420"

Specification

Capacity & Model	420 Lit. Digital Laboratory Freezer "WLF-420"
Type	Upright Type
Temp. Range & Sensor	−35℃~+10℃, PT100
Temp. Resolution	1℃-Display, 1℃-Control
Refrigerant & Compressor	CFC-Free(134A) Refrigeration System, 1 HP
Display	Digital LCD with Back-Light Function
Controller	Digital Controller with Jog-Shuttle Switch (Turn+Push)
Included Shelf & Load per Shelf	3ea Stainless Steel Shelves(#304), 16 kg
Safety Device	Over Current Protector, Sensor Error Detector, Leakage Breaker
Material	Stainless Steel (#304)-Internal, Powder Coated Steel-External
Dimension : Interior & Exterior	600×700×h1,000mm, 800×800×h1,700mm
Packing Size & Gross Weight	1,160×1,060×h2,160mm, 314 kg
Power Consumption	1.8 kW
Power plug type	Hybrid E+F
Power Supply*	AC 230V, 1N~, 50/60Hz

* Other Specifications are available upon Customer s Request.

Ordering Information

DH.WLF00420   Lab Freezer, **230V, "WLF-420"**

Spare Flat Shelf, Stainless Steel

DH.WLF10420   Flat Shelf, w580×d680mm, **"LFS420"**, for **"WLF-420"**

Validation (IQ, OQ) Service

DH.WLF30420   Validation Service(IQ, OQ), **"LFV420"**, for **"WLF-420"**

Inner Doors

with Inner Doors "WLF-420"

Wisd

LABORATORY INSTRUMENTS

Innovative Technology to Improve the Quality of Human Life

SmartCryo™ Ultra Low Temp. Freezer with Smart-Lab™ Controller
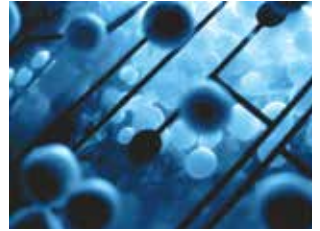
ULT Freezer is evolving like your Smart Phone in hand, and Smart TV at home.

The SmartCryo™ ULT Freezer is the innovation of the freezers. It has been equipped with 7-inch full-touch screen controller and integrated the most extensively applied Android System and Internet Connectivity.

No Button. No Knob. Simply Touch!!
Full Touch Screen Controller and Internet Connectivity!!

The witeg Smart-Lab™ Controller is embedded in SmartCryo™ ULT Freezer, which has a lot of useful functions like self-diagnostic function, data recording function, and storage management function and so on.
These functions are unique and innovative in the laboratory equipments.
Also this controller is connected with researcher s smart phone, tablet or labtop computer through Internet, by WiFi, so scientists are able to check all the equipments in the laboratory at any time, and at any place.

Smart-Lab™ Controller

7 inch full touch screen TFT LCD Controller of "Intuitive Use"

Data Recording : On-Screen Temperature Chart and USB Storage for Recorded Data
Internet Connectivity with WiFi
Remote Monitoring and Control by WiRe™ Service
Storage Management function: Record the location of samples in the chamber and find easily afterwards, on screen
Self - Diagnostic Function : Automatic Check & Alarm for the Failures in Key parts

WiRe™ App & Web Service

Innovative Service by witeg Scientific based on Mobile and Web technology
Support all different kinds of Web browser by HTML5 Standards
Available in all the PCs, Laptops and MACs
Offering Android App and Apple iOS App for Smart phone and Tablet
Almost same UI as the Touch Screen Controller on the Equipment is available

Smart-Lab™ Controller of SmartCryo™ Ultra Low Temp. Freezer

① USB port:
   Data backup and program update of the controller
② Display of Present Temperature
③ Graph of Recorded Temperature
④ Configuration Setting with other functionss
⑤ Display of Set Temperature
⑥ LED Lamps indicating the operation status
⑦ Offset Setting
⑧ Storage Function to note the sample information in the chamber
⑨ Start / Stop
⑩ LCO2 Injection

Features of Smart-Lab™ Controller

Main Display of Controller

» Ergonomic Screen Design

· 7" Full Touch Screen TFT LCD
· Intuitive User Interface
· No-extra Button, knob or Switch
· All the main Functions and Parameters are displayed on the Main Screen.
· Simple Touch to set the Temperature, Time and other Parameters.

Temperature Chart Display

» Automatic Data Recording

· High Resolution Graphic Display.
· On-Screen Temperature Chart : Check the Temperature Record Graph on the Screen and could see the Details by Zoom-in & Zoom-out enabled at your finger tips.
· The Recorded Data could be transferred to PC by USB Memory.

Error Status Display

» Self Diagnostic Function

· Automatic Check & Alarm for Failures in Key Parts of the equipment.
· Real-time Notification of any Failure in the Equipment to the User(s), to the Service Man and to Supplier, through WiRe™ Service.
· Implemented by LIN and empowered by WiRe™ Service.

Storage Management Function

» Storage Management Function

· Record the location of samples in the chamber and find easily afterwards, on screen.
· Possible to easily and safely manage the location of sample in the chamber.
· Anyone could notice sample's history due to it is possible to take memo of sample location.

» Internet Connectivity with WiFi

· Internet Connectivity with WiFi
· WiRe™ App & Web Service : It is possible to monitor and control the SmartCryo™ ULT Freezer. through all smart phone, tablet on Web without restraint in time and place.

» Eco-Friendly Green Freezer

· Dual SHFS™ models offer "Eco-mode", in which the freezer activates the two compressors by turns based on the preset period (8 to 99 days), after reaching down to the set temperature. This specially programmed operation results in dramatically lower energy consumption and much longer lifespan of the compressor.

![Wisd Laboratory Instruments logo]

SmartCryo^{TM} Ultra Low Temp. Freezer with SHFS^{TM} System
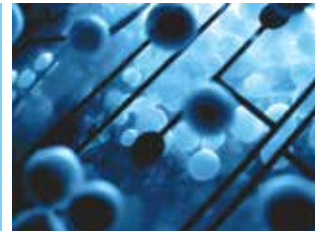
Innovation of Freezing System
witeg SHFS^{TM} System (Simplified Hi-Efficiency Freezing System)

Most of the Ultra-Low Temperature Freezers has two compressors cooperating with each other to drop the internal temperature down to -86°C as shown in the following figure and its overall freezing mechanism is very complicated.

However, our new **SHFS**^{TM} uses only single compressor. Even though, single set of a compressor, a capillary tube, a condenser and an evaporator is incorporated, it ensures the temperature down to -86°C by an advanced control technology of the compressor and the process of specially mixed refrigerants. **SHFS**^{TM} overcomes technical complexity of the typical cascaded double compressor system. Simplification of the freezing mechanism and electricity minimizes the noise, power consumption and failure of operation.

*High-Efficiency! User Safety! Energy Conservation! Long Life time of "**The New Generation SHFS**^{TM}"*

Simplified Hi-Efficiency Freezing System Mechanism : Easy Maintenance
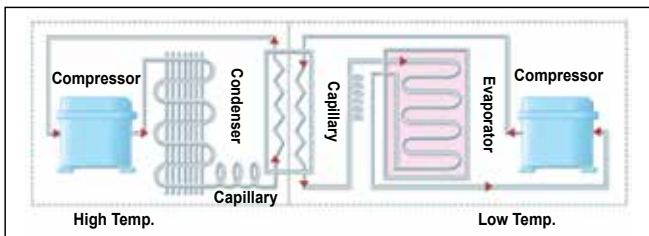
Typical Cascaded Compressor System
Two Freezing cycles contribute Complicated mechanism
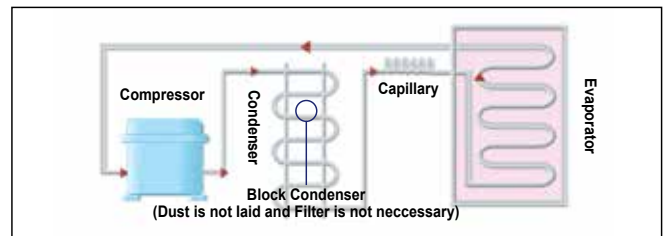
New **Simplified Hi-Efficiency Freezing System**
Single freezing cycle works only!!

Doubled Stability and Robustness! Dual SHFS^{TM} (SWUF-D models)

We offer an extraordinary high-stability system powered by two **Simplified Hi-Efficiency Freezing System (SHFS**^{TM}**)** operating independently. Normally, both of the two compressors are running, and it drops the temperature inside the storage chamber down to –95°C. Even if one SHFS^{TM} fails in operation by a certain unexpected problem, the other SHFS^{TM} still works and maintains ultra-low temperature down to –80°C. It means one SHFS^{TM} works as a 'backup' of the other SHFS^{TM}. This innovative mechanism realizes doubled stability, robustness and fault tolerance, which are the most important feature of the ULT freezer needed by all the customers.
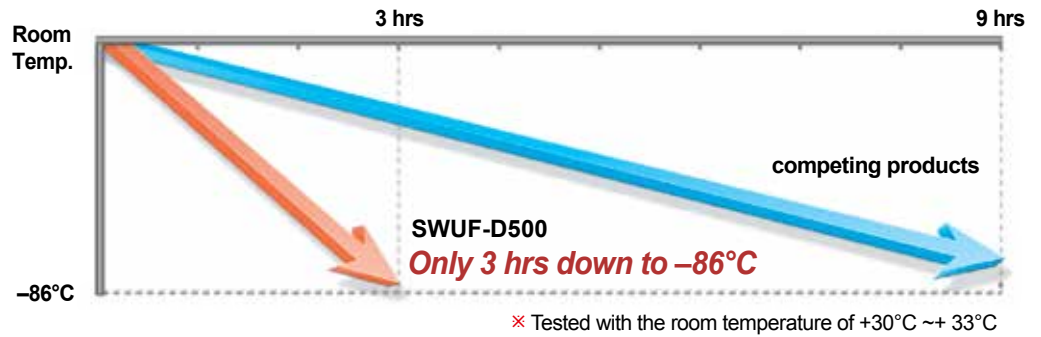
▶ **The lowest temperature of –95°C is ensured by Dual SHFS**^{TM}**system running independently and simultaneously**

▶ **Fault Tolerance System**
 - **Realization of doubled stability and robustness**

▶ **Incomparable Fast and Powerful Freezing**
 - **Fast Recovery of Target Temperature**

(1)Typical Cascaded Compressor

(2) Dual SHFS^{TM}
⇒SWUF-D series
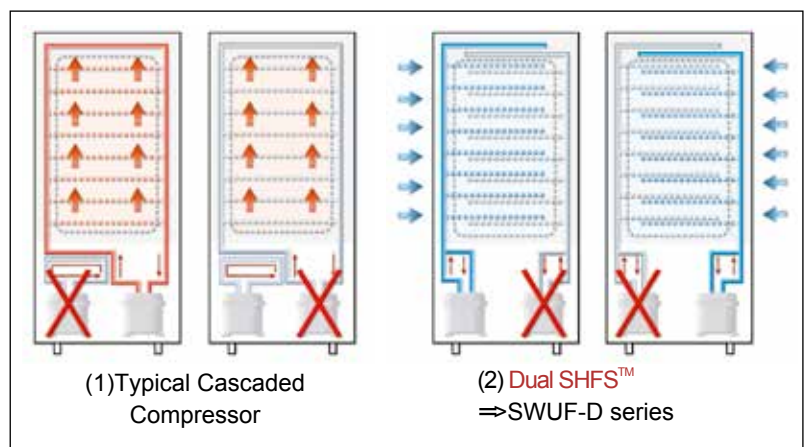
(1) Complicated mechanism
 ⇒**If one of compressor fails, temperature would go up**

(2) Even if one of the two SHFS^{TM} **fails to run, the other one is still running properly**
 ⇒**Minimum – 80°C**

≫ Fastest Freezing by SHFS™

▷ Comparison Data of Freezing Speed between competing products

3 hrs **9 hrs**

Room Temp.

competing products

SWUF-D500
Only 3 hrs down to −86°C

−86°C

※ Tested with the room temperature of +30°C ~+ 33°C

▷ Time Taken to Reach Down to Ultra Low Temperature

Model Temp.	Dual SHFS™			SHFS™ *Simplified Hi-Efficiency Freezing System*				
	SWUF-D300	SWUF-D500	SWUF-D700	SWUF-300	SWUF-500	SWUF-80	WUF-41	WUF-51
	308Lit.	503Lit.	683Lit.	308Lit.	503Lit.	82Lit.	375Lit.	438Lit.
	Upright Type						Chest Type	
−80°C				240min.	330min.	150min.	120min.	150min.
−86°C	160min.	180min.		270min.	420min.		210min.	270min.
−90°C			240min.			270min.		
−95°C	270min.	300min.						

※ Tested with the room temperature of 30 ~ 33°C

≫ Eco-Friendly Green Freezer

· Dual SHFS™ models offer "Eco-mode", in which the freezer activates the two compressors by turns based on the preset period (8 to 99 days), after reaching down to the set temperature. This specially programmed operation results in dramatically lower energy consumption and much longer lifespan of the compressor.

	Start	X day	24hr	X day	24hr	
COMP.1	ON	ON	ON	OFF	ON	ON
COMP.2	ON	OFF	ON	ON	ON	OFF
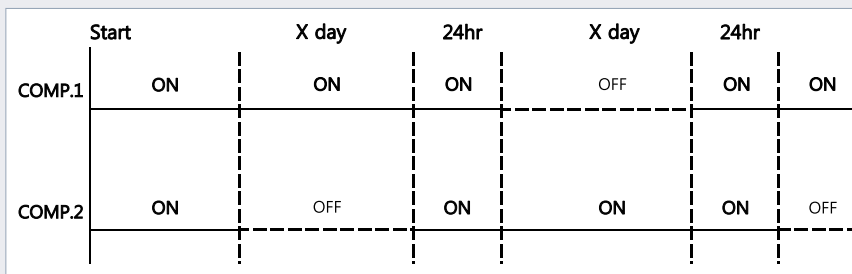
< Compressor Cycle for Eco Mode >

≫ Simple Mechanism for high-efficiency and safety.

· It is not requested to have oil separator which separates oil from the compressor, Although oil separator is equipped, it is not possible to completely separate oil from the compressor, which possibly cause oil frozen problem in capillary.
· Not necessary to have expansion tank as temporary storage of high-pressure gas
· Using Block condenser without typical pins : Dust Free, Filter Free, more users friendly from maintenance and safety perspective, no need for filter cleaning

≫ Configuration for user's convenience

· With the adoption of thermal temperature sensor through cable port, it is possible to monitor and check the temperature using seperate instruments
· Equipped signal terminal to enable user to easily connect external temperature alarm system
· Automatic Vacuum Breaker to easily open the door against pressure difference between the chamber inside and outside

Wisd 🌐 Ultra Low

• **Robust & Flexible Design of Power Door Handle with Locking function.**

• **Cable Port for external Temp. sensor**

High density & High uniformity

Steel

Steel
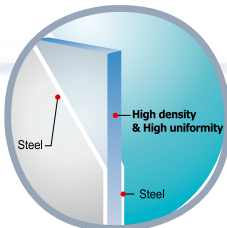
• **Insulation Panel packed in housing and door ensures defrosting around outer surface**

NC COM NO

• **Signal Terminal for External Temp. Alarm System**

• **Filter-Free Mechanism**
Significantly Lowers Heat Generated by the Compressor.
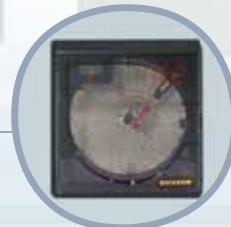Block Condenser (without pins) Realizes Filter Free Structures.

−95

• **Automatic Vacuum Dissolver making door opening easy**

• Triple
Perfe

SWUF - D300

• **Temperature Recorder (Optional) Large and vivid LED**

SWUF

※ Design of prod

Comparison of Inside formation : SHFS™ New technology *vs* competing products.

Expersion Tank

Compressor

Compressor

Oil Separator

Fan

Fan

Back UP

Evaporator

Evaporator
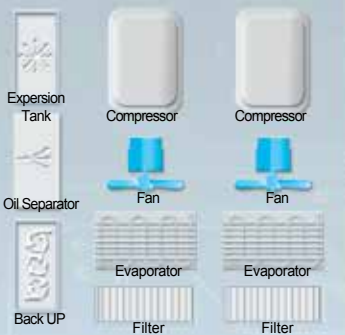
Filter

Filter

▶ **Complicated Cascaded System**

Compressor

Block Condenser
(Dust is not laid and Filter is not neccessary)

Fan

Back UP

Evaporator
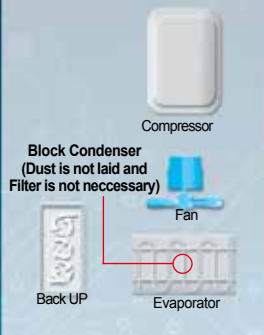
▶ **Innovative SHFS™**
• **Simplified Hi-Efficiency Freezing System**
• **Much Simpler**
• **Oil separator free, Expansion tank free**
• **Block condenser against typical pin-type condenser - Dust free, Filter free**

Temp. Freezer

• **Inner door insulation material**

• **e-layer Gasket for ct Insulation.**

• **Inner Door Handle**
  - easily opened against frosting.

-95.

• **Smart-Lab™ Controller**
  - Easy setting, Temperature Graph, Storage function (USB interface), etc.

• **CFC-Free**
  HFC refrigerants are used.

• **Maintenance-free cooling device with fully Hermetic High-Capacity compressor.**

• **Alarm**
  Built in standard warning and alarm functions.

- **D350C**

uct will be changed

• **Standard Back up Battery System for Data logger and Alarm System.**

• **Remote Wire/Wireless Alarm System (Optional)**
  - Set to be activated when the temperature inside the chamber goes up to -65°C.
  - Main controller signals to RWAS, if connected, at the alarm status, and then RWAS makes phone calls or send messages.
  - User could set and store multiple phone numbers and alarm statements.

• **LCO2 back up system (Optional)**
  - without LCO2 Gas Tank

▶ Rack System

RFC11

RFU50SA

RFC8SA   RFC7

RFU3040SD
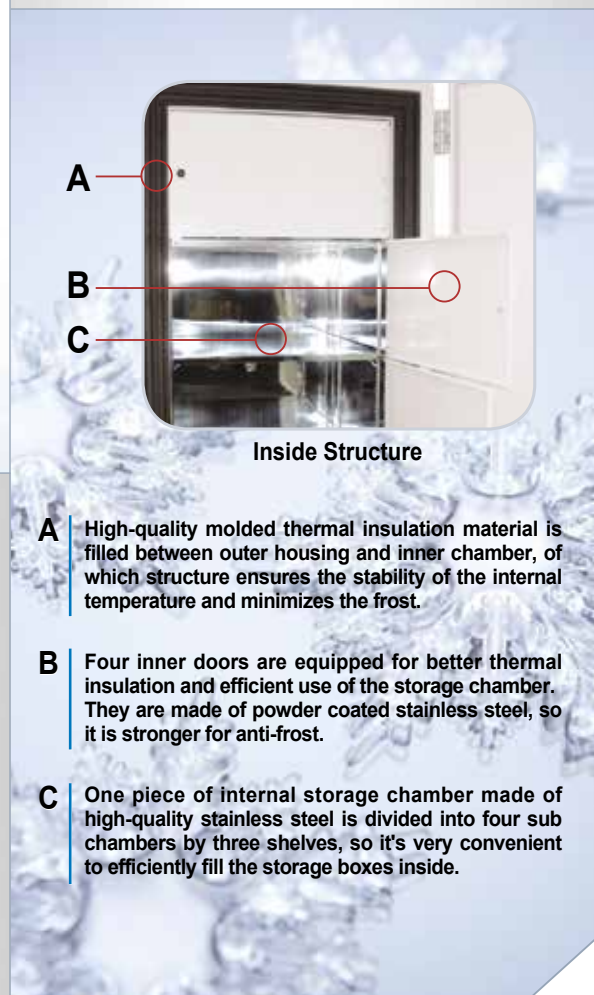
Inside Structure

A | High-quality molded thermal insulation material is filled between outer housing and inner chamber, of which structure ensures the stability of the internal temperature and minimizes the frost.

B | Four inner doors are equipped for better thermal insulation and efficient use of the storage chamber. They are made of powder coated stainless steel, so it is stronger for anti-frost.

C | One piece of internal storage chamber made of high-quality stainless steel is divided into four sub chambers by three shelves, so it's very convenient to efficiently fill the storage boxes inside.

Articles	Cat. No	Description

The New Generation SHFS™ Simplified Hi-Efficiency Freezing System !

witeg® Digital Ultra-Low Temp. Freezer, Upright-type, "SWUF-D", Dual SHFS™, Eco Mode, −95°C~−65°C

with Smart-Lab™ System, Dual SHFS™, Non-Freon Refrigerants, Automatic Vacuum Releasing System, 308 -/393-/503-/714-Lit.

NEW **CE** **RoHS** Compliance −95°C ~ −65°C

7-inch Smart-Lab™ Controller

Wisd.🅑

SHFS™

2-Year Warranty

Dual SHFS™ Digital Ultra-Low Temperature Freezer, Upright Type "SWUF-D300"

■ **with Certificate & Traceability :** Controlled by Serial Number, Certificate, Delivery-information, and Traceable Data Base System
■ **Dual SHFS™(Simplified Hi-Efficiency Freezing System)** can down to −95°C and High-stability system can be offered. : If one SHFS fails in operation, the other SHFS still works and maintains down to −80°C
■ **Eco Mode Function for Low Power-consumption.**
■ **GMP Certified(Only "SWUF-D500" Model)**
■ **CE & RoHS Certified** ■ **PL(Product Liability) Insurance**
⁎ Ergonomic 7" Full Touch Screen TFT LCD(Smart-Lab™ Controller)
⁎ WiRe™ App & Web Service. ⁎ Storage Management Function
⁎ Self-Diagnostic Function ⁎ Automatic Data Recording
⁎ Internet Connectivity with WiFi
⁎ Automatic Vacuum Breaker - Easy to re-open the Door.
⁎ Robust & Flexible design of Door Handle
⁎ Easy Monitoring and Control - Eye level Controller
⁎ CFC-free Refrigerants are used ⁎ External Temp. Sensor Hole
⁎ Use of Block Condenser removes filter and causes of related failure.
⁎ Filter-free Mechanism lowers heat generated by the compressor
⁎ Easy Maintenance and Improved Performance
⁎ High-quality Insulation Panel and Inner Doors ensure defrosting around outer surface.
⁎ Built in Standard Warning and Alarm Functions
⁎ RS232 Communication Link and a Remote Control Software are supported
⁎ GMP Certified(Only SWUF-D500 model)

≫ witeg WiRe™ App & Web Service

PRESENT TEMPERATURE

CHART | OFFSET
SETUP | −95 ℃ | STORAGE
SET TEMP −95 ℃ STOP

7" Full Touch Screen TFT LCD
(Smart-Lab™ Controller)

SWUF-D300 Running...
Present Temperature
-95.0 ℃
Unit ID SWUF-D300-001
Operation Mode Fixed
Timer
Set Temp. -95.0 ℃
Stop

WiRe™ App & Web Service

It is possible to monitor and control the Smart-Lab™ equipment through all smart phone, tablet and web without restraint of time and place.

Specification

Capacity & Model		308 Lit. "SWUF-D300"	393 Lit. "SWUF-D400"	503 Lit. "SWUF-D500"	714 Lit. "SWUF-D700"
Freezing System		Dual Simplified Hi-Effiency Freezing System(Dual SHFS™)			
Temp.	Range	−95°C~−65°C			−90°C~−65°C
		at room temperature of 30°C and humidity of 70%			
	Sensor	PT100 Sensor			
Compressor		Hermetic Type			
Condenser Type		Block Condenser, No Pin, Filter Free Mechanism			
Refrigerant		HFC (CFC Free Refrigerant System)			
Controller & Display		7" Full Touch Screen TFT LCD (Smart-Lab™ Controller)			
Shelves		Included 3 Stainless Steel Shelves			
Max. Q'ty of Racks		12pcs of 15(3×5)-Placed Rack (RFU3040)	16pcs of 15(3×5)-Placed Rack (RFU3040)	16pcs of 20(4×5)-Placed Rack (RFU50)	24pcs of 20(4×5)-Placed Rack (RFU50)
Material	Internal	Stainless Steel (#304)			
	External	Powder Coated Steel Plate			
	Inner Door	Powder Coated Stainless Steel (#304)			
Others		KGMP Certified, CE & RoHS Certified PL(Product Liability) Insurance, CFC-Free Refrigerants Touch-Screen TFT LCD Smart-Lab™ Controller Built in Standard Warning and Alarm Functions RS232 Communication Link, Remote Control Software			
Chamber Dimension (w×d×h)	Internal(mm)	470×500×1,310	600×500×1,310	600×640×1,310	880×620×1,310
	External(mm)	710×750×1,900	840×750×1,900	840×890×1,900	1,120×870×1,900
Net Weight		220 kg	260 kg	300 kg	320 kg
Packing Size (w×d×h) (mm) & Gross Weight		110×110×222	116×116×222	116×124×222	140×140×221
		300 kg	352 kg	352 kg	442 kg
Power Consumption		720 W	1.6 kW	1.6 kW	1.6 kW
Power plug type		Hybrid E+F			
Power Supply*		AC 230V, 1N~, 50/60Hz			

* Other Specifications are available upon Customer s Request.
** 50Hz condition may cause 5% of temperature increase at -95°C (SWUF-D700)

DuoFreez™   **Refrigerator,** *Ultra-Low Temp. Freezer*   Wisd.22   **Re**

| Cat. No | Description | Articles |

<Continued from... Digital Ultra-Low Temperature Freezer , "SWUF-D"**>**

Ordering Information

DH.SWUF01300	Upright Type −95°C Freezer, "SWUF-D300", −95°C ~−65°C, 308 Lit., 230V
DH.SWUF01400	, **"SWUF-D400",** −95°C ~−65°C, 393 Lit., **230V**
DH.SWUF01500	, **"SWUF-D500",** −95°C ~−65°C, 503 Lit., **230V**
DH.SWUF01700	, **"SWUF-D700",** −95°C ~−65°C, 714 Lit., **230V**

Optional Accessories

DH.RFU3040SD   (1) Rack, Sliding Drawer-type, Aluminum, 15 places, **"RFU3040SD"**,
       w140×d430×h290 mm, for **"SWUF-(D)300/400",** without boxes

DH.RFU50SD   (1) Rack, Sliding Drawer-type, Aluminum, 20 places, **"RFU50SD"**,
       w140×d570×h290 mm, for **"SWUF-(D)500/700",** without boxes

DH.RFU3040SA   (2) Rack, Side Access-type, Stainless Steel, 15 places, **"RFU3040SA"**,
       w140×d430×h290 mm, for **"SWUF-(D)300/400",** without boxes

DH.RFU50SA   (2) Rack, Side Access-type, Stainless Steel, 20 places, **"RFU50SA"**,
       w140×d570×h290 mm, for **"SWUF-(D)500/700",** without boxes

C11.001   (3) Hard Board Box, with Hard Board Divider, 81 Hole, 127×127×h52 mm

C11.002   (3) Hard Board Box, with PolyPropylene Divider, 81 Hole,
       127×127×h52 mm

DH.KT622   (4) Temp. Chart Recorder, **"KT622",** with **"C657"** Chart Paper

DH.C657   (5) Chart Paper, **"C657",** 60 Charts, for 420 days recording

DH.P222   (6) Replacement Pens, **"P222",** 6ea Red color, for **"KT622"** Chart Recorder

DH.LCO2B   (7) LCO$_2$ Back up System,   **LCO2B**

DH.RWAS   (8) Remote Wire/Wireless Alarm System, **"RWAS"**

DH.WRCK1100   (9) Refrigerant Charging Kit, for all WUF Series, **"RCK1100"** (without Charging Tank)

DH.WRCK1300*   (10) Refrigerant Charging Tank, **"RCK1300",** for **"SWUF-(D)300"**

DH.WRCK1400*   , **"RCK1400",** for **"SWUF-(D)400"**

DH.WRCK1500*   , **"RCK1500",** for **"SWUF-(D)500"**

**DH.WRCK1700***   , **"RCK1700",** for **"SWUF-(D)700"**

*-marks : The ordering no. of Charging Tank is for one freezing system only.
       If you'd like to refill both freezing systems, you are requested to purchase
       2pcs of Charging Tank.

Validation (IQ, OQ) Service

DH.SWUF31300	Validation Service(IQ, OQ), **"SUFDV300",** for **"SWUF-D300"**
DH.SWUF31400	, **"SUFDV400",** for **"SWUF-D400"**
DH.SWUF31500	, **"SUFDV500",** for **"SWUF-D500"**
DH.SWUF31700	, **"SUFDV700",** for **"SWUF-D700"**
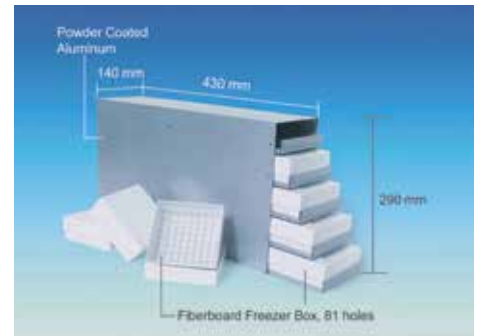
(1) Sliding Drawer-type Rack, 15Places **"RFU3040SD"**
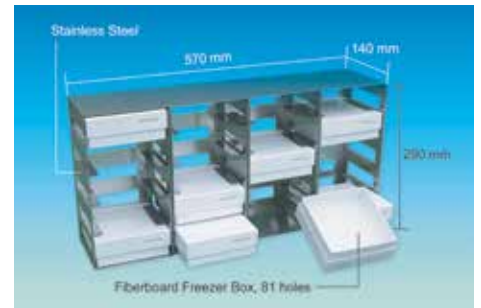
(2) Side Access-type Rack, 20Places **"RFU50SA"**

(3) Hard Board Box 81 holes, w/cover

(4) Temp. Chart Recorder, **"KT622"**

(5) Chart Paper, **"C657"**, 60 charts for 420 days

(6) Replacement Pens 6ea, Red color, **"P222",** for Cart Recorder

(7) LCO2 back up system **"LCO2B"**

(8) Remote Alarm System **RWAS**

(9) Refrigerant Charging Kit

(10) Refrigerant Charging Tank

Articles	**Cat. No**	**Description**

The New Generation SHFS™ Simplified Hi-Efficiency Freezing System !

witeg® Digital Ultra-Low Temp. Freezer, Upright-type, "SWUF", −86°C~−65°C, with Certi. & Traceability

with Smart-Lab™ System, SHFS™, Non-Freon Refrigerants, Automatic Vacuum Releasing System, 308-/393-/503-/714-Lit.

NEW **CE** **RoHS** Compliance **−86°C ~ −65°C**

7-inch Smart-Lab™ Controller

Wisd.⅋

SHFS™

2-Year Warranty

SHFS™ Digital Ultra-Low Temperature Freezer, Upright Type "SWUF-300"

■ **with Certificate & Traceability :** Controlled by Serial Number, Certificate, Delivery-information, and Traceable Data Base System
■ **Simplified Hi-Efficiency Freezing System** can freezes down to −86°C: realize robust and long life time.
■ **CE & RoHS Certified**
■ **PL (Product Liability) Insurance**
∗ Ergonomic 7"Full Touch Screen TFT LCD(Smart-Lab™ Controller)
∗ WiRe™ App & Web Service.   ∗ Storage Management Function
∗ Self-Diagnostic Function   ∗ Automatic Data Recording
∗ Internet Connectivity with WiFi
∗ **Simplified Hi-Efficiency Freezing System** can freeze down to −86°C
∗ Robust and long life time.
∗ Automatic Vacuum Breaker - Easy to re-open the Door.
∗ Robust & Flexible design of Door Handle
∗ Easy Monitoring and Control - Eye level Controller
∗ CFC-free Refrigerants are used   ∗ External Temp. Sensor Hole
∗ Use of Block Condenser removes filter and causes of related failure.
∗ Filter-free Mechanism lowers heat generated by the compressor
∗ Easy Maintenance and Improved Performance
∗ High-quality Insulation Panel and Inner Doors ensure defrosting around outer surface.
∗ Built in Standard Warning and Alarm Functions
∗ RS232 Communication Link and a Remote Control Software are supported

≫ witeg WiRe™ App & Web Service

PRESENT TEMPERATURE
CHART   OFFSET
SETUP   **−86** ℃   STORAGE
SET TEMP **−86** ℃   STOP

7" Full Touch Screen TFT LCD
(Smart-LabT™ Controller)

WiRe™ App & Web Service

It is possible to monitor and control the Smart-Lab™ equipment through all smart phone, tablet and web without restraint of time and place.

Specification

Capacity & Model		**308 Lit. "SWUF-300"**	**393 Lit. "SWUF-400"**	**503 Lit. "SWUF-500"**	**714 Lit. "SWUF-700"**
Freezing System		Simplified Hi-Effiency Freezing System(SHFS™)			
Temp.	**Range**	−86°C~−65°C			
		at room temperature of 30°C and humidity of 70%			
	Sensor	PT100 Sensor			
Compressor		Hermetic Type			
Condenser Type		Block Condenser, No Pin, Filter Free Mechanism			
Refrigerant		HFC (CFC Free Refrigerant System)			
Controller & Display		7" Full Touch Screen TFT LCD (Smart-Lab™ Controller)			
Shelves		Included 3 Stainless Steel Shelves			
Max. Q'ty of Racks		12pcs of 15(3×5)-Placed Rack (RFU3040)	16pcs of 15(3×5)-Placed Rack (RFU3040)	16pcs of 20(4×5)-Placed Rack (RFU50)	24pcs of 20(4×5)-Placed Rack (RFU50)
Material	**Internal**	Stainless Steel (#304)			
	External	Powder Coated Steel Plate			
	Inner Door	Powder Coated Stainless Steel (#304)			
Others		CE & RoHS Certified, PL(Product Liability) Insurance Touch-Screen TFT LCD Smart-Lab™ Controller CFC-Free Refrigerants Built in Standard Warning and Alarm Functions RS232 Communication Link, Remote Control Software			
Chamber Dimension (w×d×h)	**Internal(mm)**	470×500×1,310	600×500×1,310	600×640×1,310	880×620×1,310
	External(mm)	710×750×1,900	840×750×1,900	840×890×1,900	1,120×870×1,900
Net Weight		180 kg	210 kg	240 kg	320 kg
Packing Size (w×d×h) (mm) & Gross Weight		110×110×222	116×116×222	116×124×222	140×140×221
		275 kg	296 kg	327 kg	442 kg
Power Consumption		360 W	780 W	780 W	1.6 kW
Power plug type		Hybrid E+F			
Power Supply*		AC 230V, 1N~, 50/60Hz			

* Other Specifications are available upon Customer s Request.
** 50Hz condition may cause 5% of temperature increase at -95°C (SWUF-700)

<Continued from... Digital Ultra-Low Temperature Freezer, "SWUF"**>**

Ordering Information

DH.SWUF00300	Upright Type −86°C Freezer, **"SWUF-300"**, −86°C~−65°C, 308 Lit., **230V**
DH.SWUF00400	, **"SWUF-400"**, −86°C~−65°C, 393 Lit., **230V**
DH.SWUF00500	, **"SWUF-500"**, −86°C~−65°C, 503 Lit., **230V**
DH.SWUF00700	, **"SWUF-700"**, −86°C~−65°C, 714 Lit., **230V**

Optional Accessories

DH.RFU3040SD	(1) Rack, Sliding Drawer-type, Aluminum, 15 places, **"RFU3040SD"**, w140×d430×h290 mm, for **"SWUF-(D)300/400"**, without boxes
DH.RFU50SD	(1) Rack, Sliding Drawer-type, Aluminum, 20 places, **"RFU50SD"**, w140×d570×h290 mm, for **"SWUF-(D)500/700"**, without boxes
DH.RFU3040SA	(2) Rack, Side Access-type, Stainless Steel, 15 places, **"RFU3040SA"**, w140×d430×h290 mm, for **"SWUF-(D)300/400"**, without boxes
DH.RFU50SA	(2) Rack, Side Access-type, Stainless Steel, 20 places, **"RFU50SA"**, w140×d570×h290 mm, for **"SWUF-(D)500/700"**, without boxes
C11.001	(3) Hard Board Box, with Hard Board Divider, 81 Hole, 127×127×h52 mm
C11.002	(3) Hard Board Box, with PolyPropylene Divider, 81 Hole, 127×127×h52 mm
DH.KT622	(4) Temp. Chart Recorder, **"KT622"**, with **"C657"** Chart Paper
DH.C657	(5) Chart Paper, **"C657"**, 60 Charts, for 420 days recording
DH.P222	(6) Replacement Pens, **"P222"**, 6ea Red color, for **"KT622"** Chart Recorder
DH.LCO2B	(7) LCO$_2$ Back up System, **"LCO2B"**
DH.RWAS	(8) Remote Wire/Wireless Alarm System, **"RWAS"**
DH.WRCK1100	(9) Refrigerant Charging Kit, for all WUF Series, **"RCK1100"** (without Charging Tank)
DH.WRCK1300*	(10) Refrigerant Charging Tank, **"RCK1300"**, for **"SWUF-(D)300"**
DH.WRCK1400*	, **"RCK1400"**, for **"SWUF-(D)400"**
DH.WRCK1500*	, **"RCK1500"**, for **"SWUF-(D)500"**
DH.WRCK1700*	, **"RCK1700"**, for **"SWUF-(D)700"**

*-marks : The ordering no. of Charging Tank is for one freezing system only.
If you'd like to refill both freezing systems, you are requested to purchase 2pcs of Charging Tank.

Validation (IQ, OQ) Service

DH.SWUF30300	Validation Service(IQ, OQ), **"SUFV300"**, for **"SWUF-300"**
DH.SWUF30400	, **"SUFV400"**, for **"SWUF-400"**
DH.SWUF30500	, **"SUFV500"**, for **"SWUF-500"**
DH.SWUF30700	, **"SUFV700"**, for **"SWUF-700"**
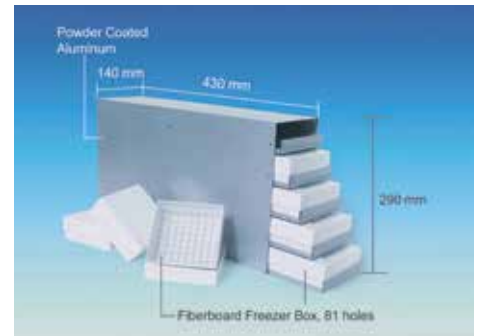
(1) Sliding Drawer-type Rack, 15Places **"RFU3040SD"**
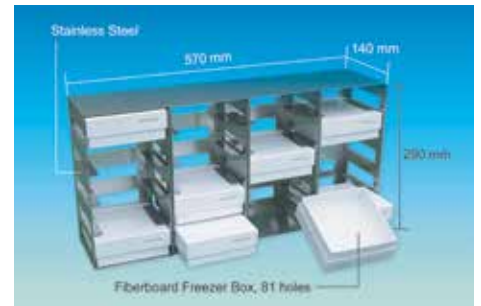
(2) Side Access-type Rack, 20Places **"RFU50SA"**

(3) Hard Board Box 81 holes, w/cover

(4) Temp. Chart Recorder, **"KT622"**

(5) Chart Paper, **"C657"**, 60 charts for 420 days

(6) Replacement Pens 6ea, Red color, **"P222"**, for Cart Recorder

(7) LCO2 back up system **"LCO2B"**

(8) Remote Alarm System **"RWAS"**

(9) Refrigerant Charging Kit

(10) Refrigerant Charging Tank

Re **Refrigerator,** *Ultra-Low Temp. Freezer* **Wisd.℈3** **SimpleFreez™**

| Articles | Cat. No | Description |

The New Generation SHFS™ Simplified Hi-Efficiency Freezing System !

witeg® Personal Digital Ultra-Low Temp. Freezer, "SWUF", Upright Type, −86°C~−65°C, 25-/82-Lit.

with Smart-Lab™ System(SWUF-80), SHFS™(SWUF-80), Non-Freon Refrigerants, with Certi. & Traceability

NEW CE **RoHS** Compliance −86°C ~ −65°C 82Lit.
7-inch Smart-Lab™ Controller
SHFS™
Wisd.℈3
2-Year Warranty

SHFS™ Personal Digital Ultra-Low Temperature Freezer, Upright Type "SWUF-80"

NEW CE **RoHS** Compliance −86°C ~ −65°C 25Lit.
WiseCryo
SHFS™
2-Year Warranty

SHFS™ Personal Digital Ultra-Low Temperature Freezer, Upright Type "WUF-25"

≫ witeg WiRe™ App & Web Service

7" Full Touch Screen TFT LCD (Smart-Lab™ Controller)

It is possible to monitor and control the Smart-Lab™ equipment through all smart phone, tablet and web without restraint of time and place.

WiRe™ App & Web Service

■ **with Certificate & Traceability : Controlled by Serial Number, Certificate, Delivery-information, and Traceable Data Base System**
■ **Personal type Compact Ultra Low Temperature Freezer**
■ **Simplified Hi-Efficiency Freezing System can down to −86°C**
■ **Robust and long life time**
■ **CE & RoHS Certified**
■ **PL(Product Liability) Insurance**

∗ Personal type Compact Ultra Low Temperature Freezer
∗ Ergonomic 7" Full Touch Screen TFT LCD (Smart-Lab™ Controller) (only SWUF-80 model)
∗ WiRe™ App & Web Service (only SWUF-80 model)
∗ Storage Management Function (only SWUF-80 model)
∗ Self-Diagnostic Function (only SWUF-80 model)
∗ Automatic Data Recording (only SWUF-80 model)
∗ Internet Connectivity with WiFi (only SWUF-80 model)
∗ **Simplified Hi-Efficiency Freezing System** can freeze down to −86°C
∗ Robust and long life time.
∗ Robust & Flexible design of Door Handle
∗ CFC-free Refrigerants are used   ∗ External Temp. Sensor Hole
∗ Use of Block Condenser removes filter and causes of related failure.
∗ Filter-free Mechanism lowers heat generated by the compressor
∗ Easy Maintenance and Improved Performance
∗ High-quality Insulation Panel and Inner Doors ensure defrosting around outer surface.
∗ Built in Standard Warning and Alarm Functions
∗ RS232 Communication Link and a Remote Control Software are supported

Specification

Capacity & Model		25 Lit. "WUF-25"	82 Lit. "SWUF-80"
Freezing System		Simplified Hi-Effiency Freezing System(SHFS™)	
Temp.	Range	−86°C~−65°C	
		at room temperature of 30°C and humidity of 70%	
	Sensor	PT100 Sensor	
Compressor		Hermetic Type	
Condenser Type		Block Condenser, No Pin, Filter Free Mechanism	
Refrigerant		HFC (CFC Free Refrigerant System)	
Controller		Digital Feedback Controller	7" Full Touch Screen TFT LCD
Shelves		None	Included 1 Stainless Steel Shelf
Max. Q'ty of Racks		None, Only 10~15 boxes are applicable	4pcs of 12(3x4)-Placed Rack (RFU8)
Material	Internal	Stainless Steel (#304)	
	External	Powder Coated Steel Plate	
	Inner Door	Powder Coated Stainless Steel (#304)	
Others		CE & RoHS Certified PL(Product Liability) Insurance Touch-Screen TFT LCD Smart-Lab™ Controller (SWUF-80) CFC-Free Refrigerants Built in Standard Warning and Alarm Functions RS232 Communication Link, Remote Control Software (SWUF-80)	
Dimension (w×d×h)	Internal (mm)	200×420×300	340×485×520
	External (mm)	390×627×785	530×687×1,060
Weight		69 kg	102 kg
Packing Size (w×d×h) (mm) & Gross Weight		880×860×1,300	960×760×1,350
		52 kg	60 kg
Power Consumption		250 W	
Power plug type		Hybrid E+F	
Power Supply*		AC 230V, 1N~, 50/60Hz	

* Other Specifications are available upon Customer s Request.

<Continued from... Personal Digital Ultra-Low Temperature Freezer, "SWUF"**>**

Ordering Information

DH.WUF0032	Upright, Personal Type −86°C Freezer, **"WUF-25"**, −86°C~−65°C, 25 Lit., **230V**
DH.SWUF0075	, **"SWUF-80"**, −86°C~−65°C, 82 Lit., **230V**

Optional Accessories

DH.RFU8SD	Rack, Sliding Drawer-type, Aluminum, 12 places, **"RFU8SD"**, w140×d430×h220 mm, for **"SWUF-80"**, without boxes
DH.RFU8SA	(1) Rack, Side Access-type, Stainless Steel, 12 places, **"RFU8SA"**, w140×d430×h220 mm, for **"SWUF-80"**
C11.001	(2) Hard Board Box, with Hard Board Divider, 81 Hole, 127×127×h52 mm
C11.002	, with PolyPropylene Divider, 81 Hole, 127×127×h52 mm
DH.KT622	(3) Temp. Chart Recorder, **"KT622"**, with **"C657"** Chart Paper
DH.C657	(4) Chart Paper, **"C657"**, 60 Charts, for 420 days recording
DH.P222	(5) Replacement Pens, **"P222"**, 6ea Red color, for **"KT622"** Chart Recorder
DH.LCO2B	(6) LCO$_2$ Back up System, **"LCO2B"**
DH.RWAS	(7) Remote Wire/Wireless Alarm System, **"RWAS"**
DH.WRCK1100	(8) Refrigerant Charging Kit, for all WUF Series, **"RCK1100"** (without Charging Tank)
DH.WRCK0025	(9) Refrigerant Charging Tank, **"RCK0025"**, for **"WUF-25"**
DH.WRCK0080	, **"RCK0080"**, for **"SWUF-80"**

Validation (IQ, OQ) Service

DH.WUF30032	Validation Service(IQ, OQ), **"UFV32"**, for **"WUF-25"**
DH.SWUF30075	, **"SUFV75"**, for **"SWUF-80"**
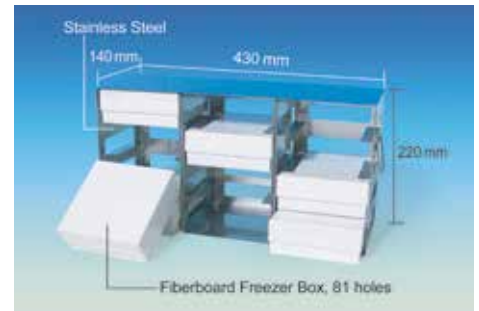
(1) Side Access-type Rack, 20Places **"RFU50SA"**

(2) Hard Board Box
81 holes, w/cover

(3) Temp. Chart
Recorder, **"KT622"**

(4) Chart Paper, **"C657"**,
60 charts for 420 days

(5) Replacement Pens
6ea, Red color,
"P222", for Cart Recorder

(6) LCO2 back up system
"LCO2B"

(7) Remote Alarm
System **"RWAS"**

(8) Refrigerant
Charging Kit

(9) Refrigerant
Charging Tank

Re | **Refrigerator,** *Ultra-Low Temp. Freezer* **Wisd.23** | **DuoFreez™**

| **Articles** | **Cat. No** | **Description** |

The New Generation SHFS™ Simplified Hi-Efficiency Freezing System !
witeg® Digital Ultra-Low Temp. Freezer, Chest Type, "SWUF-D-C", −95°C~−65°C, with Certi. & Traceability
with Smart-Lab™ System, Dual SHFS™, Non-Freon Refrigerants, 350-/500-/600-Lit.

−95°C ~ −65°C

Touch Screen TFT LCD Controller

SHFS™
2-Year Warranty

Wisd.23

Digital Ultra-Low Temperature Freezer, Dual SHFS™ Chest Type "SWUF-D350C"

※ **Designed of Product will Be Changed**

Stainless Steel

Powder Coated Steel Plate

Digital Ultra-Low Temperature Freezer, Dual SHFS™ Chest Type SWUF-D350C

≫ witeg WiRe™ App & Web Service

7" Full Touch Screen TFT LCD
(Smart-Lab™ Controller)

It is possible to monitor and control the Smart-Lab™ equipment through all smart phone, tablet and web without restraint of time and place.

WiRe™ App & Web Service

- **with Certificate & Traceability :** Controlled by Serial Number, Certificate, Delivery-information, and Traceable Data Base System
- **Simplified Hi-Efficiency Freezing System can freezes down to −86°C**
- **Robust and long life time.**
- **Dual SHFS™(Simplified Hi-Efficiency Freezing System) can down to −95°C and High-stability system can be offered. :** If one SHFS fails in operation, the other SHFS still works and maintains down to −80°C
- **GMP Certified(Only "SWUF-D500" Model)**
- **CE & RoHS Certified** ■ **PL(Product Liability) Insurance**
* Ergonomic 7" Full Touch Screen TFT LCD(Smart-Lab™ Controller)
* WiRe™ App & Web Service.   * Storage Management Function
* Self-Diagnostic Function   * Automatic Data Recording
* Internet Connectivity with WiFi
* Automatic Vacuum Breaker - Easy to re-open the Door.
* Robust & Flexible design of Door Handle
* Easy Monitoring and Control - Eye level Controller
* CFC-free Refrigerants are used   * External Temp. Sensor Hole
* Use of Block Condenser removes filter and causes of related failure.
* Filter-free Mechanism lowers heat generated by the compressor
* Easy Maintenance and Improved Performance
* High-quality Insulation Panel and Inner Doors ensure defrosting around outer surface.
* Built in Standard Warning and Alarm Functions
* RS232 Communication Link and a Remote Control Software are supported

Specification

Capacity & Model		350 Lit. "SWUF-D350C"	500 Lit. "SWUF-D500C"	600 Lit. "SWUF-D600C"
Freezing System		Dual Simplified Hi-Effiency Freezing System(Dual SHFS™)		
Temp.	Range	−95°C~−65°C		
		at room temperature of 30°C and humidity of 70%		
	Sensor	PT100		
Compressor		Hermetic Type		
Condenser Type		Block Condenser, No Pin, Filter Free Mechanism		
Refrigerant		HFC (CFC Free Refrigerant System)		
Controller & Display		7" Full Touch Screen TFT LCD (Smart-Lab™ Controller)		
Max. Q'ty of Racks		21pcs of 11(1×11)-Placed Rack & 3pcs of 7(1×7)-Placed Rack	30pcs of 11(1×11)-Placed Rack & 3pcs of 7(1×7)-Placed Rack	36pcs of 11(1×11)-Placed Rack & 3pcs of 7(1×7)-Placed Rack
Material	Internal	Stainless Steel (#304)		
	External	Powder Coated Steel Plate		
Others		CE & RoHS Certified, PL(Product Liability) Insurance Touch-Screen TFT LCD Controller CFC-Free Refrigerants Built in Standard Warning and Alarm Functions RS232 Communication Link, Remote Control Software		
Chamber Dimension (w×d×h)	Internal (mm)	1,050×470×665	1,500×470×665	1,800×470×665
	External (mm)	1,690×895×1,155	2,140×895×1,155	2,440×895×1,155
Net Weight		230 kg	270 kg	310 kg
Packing Size (w×d×h) (mm) & Gross Weight		1,900×1,100×1,400	2,300×1,100×1,400	2,600×1,100×1,400
		310 kg	362 kg	402 kg
Power Consumption		720 W	1.6 kW	1.6 kW
Power plug type		Hybrid E+F		
Power Supply*		AC 230V, 1N~, 50/60Hz		

* Other Specifications are available upon Customer s Request.

<Continued from... Digital Ultra-Low Temp. Freezer, Chest Type, "SWUF-D-C"**>**

Ordering Information

DH.SWUF04350	Chest Type −95°C Freezer, **"SWUF-D350C"**, −95°C~−65°C, 350 Lit., **230V**
DH.SWUF04500	, **"SWUF-D500C"**, −95°C~−65°C, 500 Lit., **230V**
DH.SWUF04600	, **"SWUF-D600C"**, −95°C~−65°C, 600 Lit., **230V**

Optional Accessories

DH.RFC11	(1) Rack, 11 Places, **"RFC11"**, Stainless Steel, 140×140×h655mm
DH.RFC7	(2) Rack, 7 Places, **"RFC7"**, Stainless Steel, 140×140×h385mm
C11.001	(3) Hard Board Box, with Hard Board Divider, 81 Hole, 127×127×h52 mm
C11.002	, with PolyPropylene Divider, 81 Hole, 127×127×h52 mm
DH.KT622	(4) Temp. Chart Recorder, **"KT622"**, with **"C657"** Chart Paper
DH.C657	(5) Chart Paper, **"C657"**, 60 Charts, for 420 days recording
DH.P222	(6) Replacement Pens, **"P222"**, 6ea Red color, for **"KT622"** Chart Recorder
DH.LCO2B	(7) LCO$_2$ Back up System, **"LCO2B"**
DH.RWAS	(8) Remote Wire/Wireless Alarm System, **"RWAS"**
DH.WRCK1100	(9) Refrigerant Charging Kit, for all WUF Series, **"RCK1100"** (without Charging Tank)
DH.WRCK2350*	(10) Refrigerant Charging Tank, **"RCK2350"**, for **"SWUF-(D)350C"**
DH.WRCK2500*	, **"RCK2500"**, for **"SWUF-(D)500C"**
DH.WRCK2600*	, **"RCK2600"**, for **"SWUF-(D)600C"**

*-marks : The ordering no. of Charging Tank is for one freezing system only.
If you'd like to refill both freezing systems, you are requested to purchase
2pcs of Charging Tank.

Validation (IQ, OQ) Service

DH.SWUF32350	Validation Service(IQ, OQ), **"SUFDV350C"**, for **"SWUF-D350C"**
DH.SWUF32500	, **"SUFDV500C"**, for **"SWUF-D500C"**
DH.SWUF32600	, **"SUFDV600C"**, for **"SWUF-D600C"**
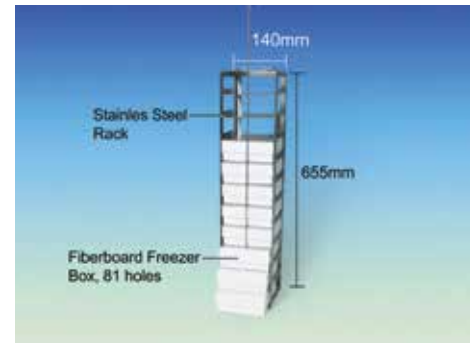
(1) 11(1x11) -Placed Rack, Stainless Steel **"RFC11"**

(2) 7(1x7) -Placed Rack, Stainless Steel **"RFC7"**

(3) Hard Board Box
81 holes, w/cover

(4) Temp. Chart
Recorder, **"KT622"**

(5) Chart Paper, **"C657"**,
60 charts for 420 days

(6) Replacement Pens
6ea, Red color,
"P222", for Cart Recorder

(7) LCO2 back up system
"LCO2B"

(8) Remote Alarm
System **"RWAS"**

(9) Refrigerant
Charging Kit

(10) Refrigerant
Charging Tank

Articles	Cat. No	Description

The New Generation SHFS™ Simplified Hi-Efficiency Freezing System !
witeg® Digital Ultra-Low Temp. Freezer, Chest Type, "SWUF-C", −86°C~−65°C, with Certi. & Traceability
with Smart-Lab™ System, SHFS™, Non-Freon Refrigerants, 350-/ 500-/ 600-Lit.

NEW CE RoHS Compliance −86°C ~ −65°C

Touch Screen
TFT LCD Controller

SHFS™

2-Year Warranty Wisd.B

Digital Ultra-Low Temperature Freezer, SHFS™
Chest Type "SWUF-350C"

※ Designed of Product will Be Changed

Stainless Steel

Powder Coated Steel Plate

Digital Ultra-Low Temperature Freezer, SHFS™
Chest Type "WUF-350C"

» witeg WiRe™ App & Web Service

PRESENT TEMPERATURE
CHART / OFFSET
SETUP / STORAGE
−86 ℃
SET TEMP −86 ℃ STOP

7" Full Touch Screen TFT LCD
(Smart-Lab™ Controller)

WiRe™ App & Web Service

It is possible to monitor and control the Smart-Lab™ equipment through all smart phone, tablet and web without restraint of time and place.

■ **with Certificate & Traceability : Controlled by Serial Number, Certificate, Delivery-information, and Traceable Data Base System**

■ **Simplified Hi-Efficiency Freezing System can freezes down to −86°C: realize robust and long life time.**

■ **CE & RoHS Certified**

■ **PL(Product Liability) Insurance**

∗ Ergonomic 7"Full Touch Screen TFT LCD(Smart-Lab™ Controller)
∗ WiRe™ App & Web Service.　　　∗ Storage Management Function
∗ Self-Diagnostic Function　　　∗ Automatic Data Recording
∗ Internet Connectivity with WiFi
∗ **Simplified Hi-Efficiency Freezing System** can freeze down to −86°C
∗ Robust and long life time.
∗ Automatic Vacuum Breaker - Easy to re-open the Door.
∗ Robust & Flexible design of Door Handle
∗ Easy Monitoring and Control - Eye level Controller
∗ CFC-free Refrigerants are used　　　∗ External Temp. Sensor Hole
∗ Use of Block Condenser removes filter and causes of related failure.
∗ Filter-free Mechanism lowers heat generated by the compressor
∗ Easy Maintenance and Improved Performance
∗ High-quality Insulation Panel and Inner Doors ensure defrosting around outer surface.
∗ Built in Standard Warning and Alarm Functions
∗ RS232 Communication Link and a Remote Control Software are supported

Specification

Capacity & Model		350 Lit. "SWUF-350C"	500 Lit. "SWUF-500C"	600 Lit. "SWUF-600C"
Freezing System		Simplified Hi-Effiency Freezing System(SHFS™)		
Temp.	Range	−86°C~−65°C		
		at room temperature of 30°C and humidity of 70%		
	Sensor	PT100		
Compressor		Hermetic Type		
Condenser Type		Block Condenser, No Pin, Filter Free Mechanism		
Refrigerant		HFC (CFC Free Refrigerant System)		
Controller & Display		7" Full Touch Screen TFT LCD (Smart-Lab™ Controller)		
Max. Q'ty of Racks		21pcs of 11(1×11)-Placed Rack & 3pcs of 7(1×7)-Placed Rack	30pcs of 11(1×11)-Placed Rack & 3pcs of 7(1×7)-Placed Rack	36pcs of 11(1×11)-Placed Rack & 3pcs of 7(1×7)-Placed Rack
Material	Internal			
	External	Powder Coated Steel Plate		
Others		CE & RoHS Certified, PL(Product Liability) Insurance Touch-Screen TFT LCD Controller CFC-Free Refrigerants Built in Standard Warning and Alarm Functions RS232 Communication Link, Remote Control Software		
Chamber Dimension (w×d×h)	Internal (mm)	1,050×470×665	1,500×470×665	1,800×470×665
	External (mm)	1,690×895×1,155	2,140×895×1,155	2,440×895×1,155
Net Weight		190 kg	220 kg	250 kg
Packing Size (w×d×h) (mm) & Gross Weight		1,900×1,100×1,400	2,300×1,100×1,400	2,600×1,100×1,400
		285 kg	306 kg	337 kg
Power Consumption		360 W	780 W	780 W
Power plug type		Hybrid E+F		
Power Supply*		AC 230V, 1N~, 50/60Hz		

* Other Specifications are available upon Customer s Request.

SimpleFreez™　　**Refrigerator,** *Ultra-Low Temp. Freezer*　　Wisd 23　　**Re**

| Cat. No | Description | Articles |

<Continued from... Digital Ultra-Low Temp. Freezer, Chest Type, "SWUF-C"**>**

Ordering Information

DH.SWUF06350	Chest Type −86°C Freezer, **"SWUF-350C",** −86°C~−65°C, 350 Lit., **230V**
DH.SWUF06500	, **"SWUF-500C",** −86°C~−65°C, 500 Lit., **230V**
DH.SWUF06600	, **"SWUF-600C",** −86°C~−65°C, 600 Lit., **230V**

Optional Accessories

DH.RFC11	(1) Rack, 11 Places, **"RFC11",** Stainless Steel, 140×140×h655mm
DH.RFC7	(2) Rack, 7 Places, **"RFC7",** Stainless Steel, 140×140×h385mm
C11.001	(3) Hard Board Box, with Hard Board Divider, 81 Hole, 127×127×h52 mm
C11.002	, with PolyPropylene Divider, 81 Hole, 127×127×h52 mm
DH.KT622	(4) Temp. Chart Recorder, **"KT622",** with **"C657"** Chart Paper
DH.C657	(5) Chart Paper, **"C657",** 60 Charts, for 420 days recording
DH.P222	(6) Replacement Pens, **"P222",** 6ea Red color, for **"KT622"** Chart Recorder
DH.LCO2B	(7) LCO$_2$ Back up System, **"LCO2B"**
DH.RWAS	(8) Remote Wire/Wireless Alarm System, **"RWAS"**
DH.WRCK1100	(9) Refrigerant Charging Kit, for all WUF Series, **"RCK1100"** (without Charging Tank)
DH.WRCK2350*	(10) Refrigerant Charging Tank, **"RCK2350",** for **"SWUF-(D)350C"**
DH.WRCK2500*	, **"RCK2500",** for **"SWUF-(D)500C"**
DH.WRCK2600*	, **"RCK2600",** for **"SWUF-(D)600C"**

*-marks : The ordering no. of Charging Tank is for one freezing system only.
　　　　　If you'd like to refill both freezing systems, you are requested to purchase
　　　　　2pcs of Charging Tank.

Validation (IQ, OQ) Service

DH.SWUF33350	Validation Service(IQ, OQ), **"SFV350C",** for **"SWUF-350C"**
DH.SWUF33500	, **"SFV500C",** for **"SWUF-500C"**
DH.SWUF33600	, **"SFV600C",** for **"SWUF-600C"**

(1) 11(1x11) -Placed Rack, Stainless Steel **"RFC11"**

(2) 7(1x7) -Placed Rack, Stainless Steel **"RFC7"**

(3) Hard Board Box
81 holes, w/cover

(4) Temp. Chart
Recorder, **"KT622"**

(5) Chart Paper, **"C657",**
60 charts for 420 days

(6) Replacement Pens
6ea, Red color,
"P222", for Cart Recorder

(7) LCO2 back up system
"LCO2B"

(8) Remote Alarm
System **"RWAS"**

(9) Refrigerant
Charging Kit

(10) Refrigerant
Charging Tank

Rockers, Rotators, Shakers & Vortex Mixers

Wisd
LABORATORY INSTRUMENTS

- Patented Jog-Shuttle Control System
- Digital LCD with Back-Light Function for Timer, RPM and Power Bar-Graph
- Smooth Start and Change of Stirring Speed
- Locking Mode supported for Experimental Safety (Input to Jog-Shuttle can be Disabled)
- PL(Product Liability) Insurance

⠙ **Digital Rocker** (RK-model)   ⠙ **Digital Rotator** (RT-10 model)

⠙ **Multifunctional Vortex Mixer**
(VM-10 model)

⠙ **Digital Orbital
/ Reciprocating Shaker**
(SHO-model)

witeg® Programmable Digital Rockers, "RK", Digital Feedback Control, 5~50 rpm, with Certi. & Traceability
with 290 x 200mm or 300 x 300mm Platform, Smooth Start & Wave Motion, Tilt Angle ±6°/±9°

- **with Certificate & Traceability : Controlled by Serial Number, Certificate, Delivery-information, and Traceable Data Base System**
- **High Precision Digital Speed Control : 1rpm**
- **Patented Jog-Shuttle Control System**
- **CE Certified** ■ **PL (Product Liability) Insurance**

✴ Gel Staining, Destaining, Blotting
✴ Cell Culture, Hybridization, Washing
✴ High Precision Digital Speed Control : 1rpm
✴ Programmable Operation Mode Supported : 10 Steps and 6 Programs
✴ Digital Timer : Max. 99hr 59min
✴ Digital LCD with Back-Light Function for Timer, RPM and Power Bar-Graph
✴ Smooth Start and Change of Rocking Speed
✴ Overload Protection Function for Motor
✴ Storage Function for Set Values : RPM and Timer
✴ Alarm Function : Error Status and Timer-end
✴ Stainless Steel Platform Comes with Gray Nonslip Rubber Pad
✴ Stackable Platform with Pad to Double Mixing Area (Optional)
✴ Locking Mode supported for Experimental Safety (Input to Jog-Shuttle can be Disabled)

2-Year Warranty CE

Back-light LCD

Patented Jog-Shuttle Control System

Programmable Digital Rocker with Platform "RK-1D"

Specification

Model		Platform Size : 290 x 200 mm "RK-1D"	Platform Size : 300 x 300 mm "RK-2D"
Dimensions (w x d x h)	Platform (mm)	290 x 200	300 x 300
	Overall (mm)	290 x 240 x 150	300 x 330 x 150
Speed Range (rpm)		5 ~ 50	
Angle (degree)		±6 or ±9 (±9 as Factory Default)	
Motor		35W Geared DC Motor	
Program Function		10 Steps, 6 Programs	
Timer & Alarm		99hr 59min (with Continuous run.), Error status & Timer-end	
Display		Digital LCD with Back-Light Function	
Controller		Programmable Digital Feedback Controller with Jog-Shuttle Switch(Turn+Push)	
Safety Circuit		Overload Protector for motor	
Platform		Included Platform(290 x 200mm)	Included Platform(300 x 300mm)
Others		CE Certified, PL (Product Liability) Insurance Smooth Start and Change of the Stirring Speed for Stable Running Storage Function (RPM, Timer) Locking Mode (Jog-Shuttle Input Disabled) Alarm (Error Status and Timer-end)	
Packing Dimension (w x d x h) (mm)		450 x 350 x 250	
Gross Weight		7 kg	8 kg
Power Consumption		35 W	
Power plug type		Hybrid E+F	
Power Supply*		AC 230V, 1N~, 50/60Hz	

* Other Specifications are available upon Customer's Request.

CE

Second Platform "RK5011" (Optional)

Pillars

Wisd.B

Programmable Digital Rocker, with Second Platform (Optional), "RK-1D"

Ordering Information

with 290 x 200 Platform/Rubber Pad, Programmable Digital Rocker
DH.WRK01010 Digital Rocker, **230V, "RK-1D"**

with 300 x 300 Platform/Rubber Pad, Programmable Digital Rocker
DH.WRK01020 Digital Rocker, **230V, "RK-2D"**

Optional Second Platform
DH.WRK05011 Second Platform, **"RK5011"**, for **"RK-1D"**, w290 x d200, with 4 Pillars(L120mm)
DH.WRK05021 , **"RK5021"**, for **"RK-2D"**, w300 x d300, with 4 Pillars(L120mm)

Example of Program

witeg® Programmable Digital Rotator, "RT-10", 0~90° Mixing Angle, 5~60rpm, with Certi. & Traceability
with Digital Feedback Control, Adjustable Speed & Angle of Rotation, Continuous or Timed Operation

Disk 1.5ml x 32ea

Adjustable Angle of Rotation

Patented Jog-Shuttle Control System

Wisd ⅅ

2-Year Warranty

Programmable Digital Rotator (RT-10) with 1.5ml x 32ea Disk (WRT120)

50ml Conical Tube : 8ea

(1) Disk, "WRT100"

15ml Conical Tube : 16ea

(2) Disk, "WRT110"

1.5ml Conical Tube : 32ea

(3) Disk, "WRT120"

1.5ml Conical Tube : 60ea

(4) Disk, "WRT130"

250ml Flask : 4ea

(5) Disk, "WRT140"

Knob   Post

(6) Knob & Post "WRT300"

■ **with Certificate & Traceability : Controlled by Serial Number, Certificate, Delivery-information, and Traceable Data Base System**
■ **Adjustable Speed and Angle of Rotation : 0 to 90°**
■ **Patented Jog-Shuttle Control System**
■ **CE Certified**   ■ **PL (Product Liability) Insurance**

✽ General Mixing, Diffusing, Dialyzing and Hybridization, Aerating Culture
✽ Keeping Biological Samples in Suspension
✽ Adjustable Speed and Angle of Rotation : 0 to 90°
✽ Digital Feedback Control: Steady and Constant Rotating
✽ Continuous or Timed Operation
✽ Digital LCD with Back-Light Function
✽ Programmable Operation Mode Supported : 10 Steps and 6 Programs
✽ Overload Protection for motor
✽ Smooth Start and Change of Stirring Speed
✽ Storage Function for Set values of RPM and Time
✽ Locking Mode Supported for Experimental Safety (Input to Jog-Shuttle can be Disabled)
✽ Durable Construction for Long-Term Operation
✽ 5 Different Disks and 3 Roller Drums(Optional)
✽ Disk for 250ml Flask is available

Specification

Model	"RT-10"
Speed range	5~60 rpm
Angle range	0°~ 90°
Motor	35W
Program Function	10 Steps, 6 Programs
Timer & Alarm	99hr 59min (with Continuous run.), Error status & Timer-end
Display	Digital LCD with Back-Light Function
Controller	Programmable Digital Feedback Controller with Jog-Shuttle
Temp. Resistance	Lower than 65°C (Dry Air)
Safety Circuit	Overload Protector for motor
Dimensions (w x d x h) (mm)	200 x 250 x h260 mm
Weight	6 kg
Others	CE Certified, PL (Product Liability) Insurance Storage Function (RPM, Timer) Locking Mode (Jog-Shuttle Input Disabled) User Self-compensation Function, Alarm (Error Status and Timer-end)
Packing Size (w x d x h) (mm) & Gross Weight	370 x 240 x h430 mm
	8.5 kg
Power Consumption	40 W
Power plug type	Hybrid E+F
Power Supply*	AC 230V, 1N~, 50/60Hz

* Other Specifications are available upon Customer's Request.

Ordering Information

DH.WRT00010   Digital Rotator, **230V**, **"RT-10" Only Unit,** 5~60 rpm,
            with 4 x knobs & 4 x Post

Optional Disk & Roller Drum
DH.WRT00100   (1) Disk, **"WRT100",** for 50ml conical tube x 8ea
DH.WRT00110   (2)   , **"WRT110",** for 15ml conical tube x 16ea
DH.WRT00120   (3)   , **"WRT120",** for 1.5ml conical/centrifuge Tube x 32ea
DH.WRT00130   (4)   , **"WRT130",** for 1.5ml conical/centrifuge Tube x 60ea
DH.WRT00140   (5)   , **"WRT140",** 250ml Flask-capacity x 4ea

Spare Knob & Post
DH.WRT00300   (6) 4 x knobs & 4 x Post, **"WRT300",** for Installing Disk

rpm

40
30
20
10

Step 1   *2*   *3*   *4*

1 2 3 4 5 6 7 8 time (hr.)

Example of Program

Cat. No	Description	Articles

witeg® Multifunction Vortex Mixer Set, "VM-10", Up to 3,300rpm, with Certi. & Traceability
with Ø76mm (3 inch) Platform Head & Pop-off Cup Head, Variable Speed Control, Continuous or Touch-on Mixing

- ■ **with Certificate & Traceability : Controlled by Serial Number, Certificate, Delivery-information, and Traceable Data Base System**
- ■ **Ideal for Mixing Solutions in Test Tubes or Small Flasks with Circular, Oscillating Movement**
- ■ **Variable Speed Control Allows Slow Speed Shaking Action up to High Speed Vortexing**
- ■ **CE Certified**
- ■ **PL (Product Liability) Insurance**

❊ Gentle Mixing to re-suspending Pellet
❊ Ideal for Mixing Solutions in Test Tubes or Small Flasks with Circular, Oscillating Movement
❊ Supplied with Ø76 mm Platform and Pop-Off Cup
❊ Realize High Power, Stable Motion with Low Noise
❊ Tough Metal Housing Provides a Stable Platform for all types of Mixing
❊ 3-position Power Switch Operates with Continuous Action or "Touch On" Control
❊ Variable Speed Control Allows Slow Speed Shaking Action up to High Speed Vortex
❊ Aluminum Die-casting with Powder Coating
❊ Various Shapes, Sizes and Materials of the Head allows for mixing of almost all Common Tubes or Containers

Specification

Model	"VM-10"
Speed Range	0 ~ 3,300 rpm
Shaking Motion	Orbital
Control	Analog Phase Controller
Head	included Pop-off Cup Head and Ø76mm Platform
Material	Aluminum Die-casting with Powder Coating
Dimensions (w x d x h) (mm)	160 x 128 x h145 mm
Weight	3 kg
Others	CE Certified 3-position Power Switch Operates Aluminum Die-casting with Powder Coating included Pop-off Cup Head and Ø76mm Platform
Packing Dimension (w x d x h) (mm)	260 x 200 x h220 mm
Gross Weight	4 kg
Power Consumption	30 W
Power plug type	Hybrid E+F
Power Supply*	AC 230V, 1N~, 50/60Hz

* Other Specifications are available upon Customer's Request.

Ordering Information

※ Included Acc. : **"PM110"** Ø76mm(3inch) Platform Head and **"PM210"** Pop-off Cup Head, Remove Applicator

DH.WVM00010 Vortex Mixer Set, **230V,** 60 Hz, **"VM-10",** 3,300 rpm
DH.WVM00015 50 Hz, **"VM-10",** 3,300 rpm

Spare Heads
DH.WVM00110 (1) Platform Head, **"PM110",** Ø76mm(3inch)
DH.WVM00210 (2) Pop-off Cup Head, **"PM210"**

Optional Heads
DH.WVM00310 (3) Microtube Platform Head(0.5~2.0ml), **"PM310"**

3-position Power Switch Operation (Continuous Action or "Touch on" Control)
Ø76mm(3 inch) Platform Head
Adjustable Speed

Wisd.ℬ
2-Year Warranty
Pop-off Cup Head Included

Multifunction Vortex Mixer Set "VM-10" with Ø76mm (3") Platform (PM110)

(1) Platform Head, Ø76mm(3 inch) "PM110"

(2) Pop-off Cup Head "PM210"

Remove Applicator (Included)

(3) Microtube Platform Head, 0.5~2.0ml Tube "PM310"
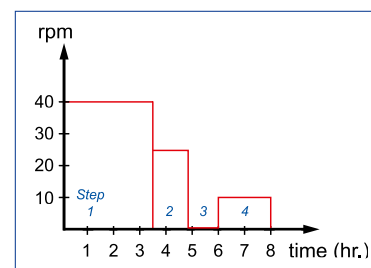
Example of Program

witeg® Digital Orbital Shaker, "SHO", 10~300 rpm, Low Noise & Long Life Cycle, with Certi. & Traceability
with Programmable Digital Feedback Control, Available Rubber Mat-/Universal-Platform, without Platform

Digital Orbital Shaker (SHO-1D)
with Rubber Mat Platform (SP110)

2-Year Warranty

Digital Orbital Shaker (SHO-2D)
with Universal Platform (SP200)

2-Year Warranty

■ **with Certificate & Traceability : Controlled by Serial Number, Certificate, Delivery-information, and Traceable Data Base System**
■ **Ideal for Culturing Cells to Hybridization, Staining and Destaining Gels, and Combinatorial Chemistry**
■ **Patented Jog-Shuttle Control System**
■ **CE Certified**
■ **PL(Product Liability) Insurance**

✱ Hybridization, Washing Blots, Culturing Microbes
✱ Ideal for Culturing Cells to Hybridization, Staining and Destaining Gels, and Combination Chemistry
✱ Optimal Platform Rotation for Intensive Mixing
✱ Brushless DC Motor (Low Noise & Long Life Cycle)
✱ High Precision Digital Rotation Speed Control
✱ Programmable Operation Mode Supported
✱ Digital LCD with Back-Light Function
✱ Smooth Start and Change of Shaking Speed
✱ Universal Platform for Easy and Fast Fixation of Any Kind of Flasks and Bottles (Optional)
✱ Storage Function, Alarm & Overload Protection
✱ Locking Mode Supported for Experimental Safety (Input to Jog-Shuttle can be Disabled)
✱ Variable accessories are available (Optional)

Specification

Model		Base Platform : 230 x 230 mm SHO-1D "Only Unit"	Base Platform : 350 x 350 mm SHO-2D "Only Unit"
Shaking Motion		Orbital Motion	
Speed Range		10 ~ 300 rpm	
Max. Load		8 kg	10 kg
Amplitude of Rotation (mm)		10, 15, 20 Available (15 as Factory Default)	20, 30, 40 Available (30 as Factory Default)
Motor		Brushless DC Motor	
Permissible Ambient Temperature		Ambient +5 ~ 50°C	
Permissible Relative Moisture		85%	
Timer & Alarm		99hr 59min (with Continuous run.), Error status & Timer-end	
Display		Digital LCD with Back-Light Function	
Controller		Programmable Digital Feedback Controller with Jog-Shuttle Switch (Turn+Pus)	
Program Function		10 Steps, 6 Programs	
Platform		Universal Platform for various Shapes & Size of Flask	
Max. Capacity of Flask Holder	FH100	9 ea	20 ea
	FH250	7 ea	16 ea
	FH500	4 ea	9 ea
Holder		Durable & Flexible Plastic Flask holder	
Dimension (w x d x h) (mm)		250 x 330 x 150	400 x 480 x 160
Base Platform Size (mm)		230 x 230	350 x 350
Safety Circuit		Overload Protector for Motor	
Net Weight		14 kg	20 kg
Others		CE Certified, PL (Product Liability) Insurance Smooth Start and Change of the Stirring Speed for Stable Running Storage Function (Program, RPM, Timer) Locking Mode (Jog-Shuttle Input Disabled) Alarm (Error Status and Timer-end)	
Packing Size (w x d x h) (mm) & Gross Weight		450 x 350 x 250	580 x 500 x 250
		18 kg	23 kg
Power Consumption		40 W	
Power plug type		Hybrid E+F	
Power Supply*		AC 230V, 1N~, 50/60Hz	

* Other Specifications are available upon Customer's Request.

Example of Program

<Continued on next page>

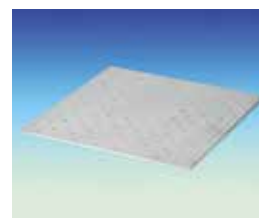**<Continued from...** Digital Orbital Shaker, "SHO">

Ordering Information

230 x 230 Base Platform, "SHO-1D" Unit Only

DH.WSO04010   Digital Orbital Shaker, **"SHO-1D" Unit only,** without Platform, **230V**
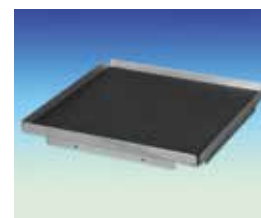
350 x 350 Base Platform, "SHO-2D" Unit Only

DH.WSO04012   Digital Orbital Shaker, **"SHO-2D" Unit only,** without Platform, **230V**
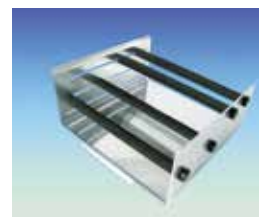
Optional Accessories

DH.WSO504100   (1) Universal Platform, **"SP100",** for **"SHO/SHR-1D",**
                              w230 x d230mm

DH.WSO504200   (1) Universal Platform, **"SP200",** for **"SHO/SHR-2D",**
                              w350 x d350mm

DH.WSO504110   (2) Rubber Mat Platform, **"SP110",** for **"SHO/SHR-1D",**
                              w270 x d270mm

DH.WSO504210   (2) Rubber Mat Platform, **"SP210",** for **"SHO/SHR-2D",**
                              w370 x d370mm

DH.WSO504120   (3) Platform for Flasks, **"SP120",** for **"SHO/SHR-1D",**
                              w350 x d230 x h153mm

DH.WSO504220   (3) Platform for Flasks, **"SP220",** for **"SHO/SHR-2D",**
                              w350 x d350 x h153mm

DH.WSO504130   (4) Platform for Separatory Funnels, **"SP130"**
                              for **"SHO/SHR-1D",** w350 x d235 x h174mm

DH.WSO504230   (4) Platform for Separatory Funnels, **"SP230"**
                              for **"SHO/SHR-2D",** w351 x d355 x h174mm

DH.WIS504030   (5) Flask Holder, **"FH100",**   50~ 100ml, for **"SHO", "SHR"** and **"WIS"**
DH.WIS504035   (6)   , **"FH250",** 200~ 300ml, for **"SHO", "SHR"** and **"WIS"**
DH.WIS504040   (7)   , **"FH500",** 500~1000ml, for **"SHO", "SHR"** and **"WIS"**
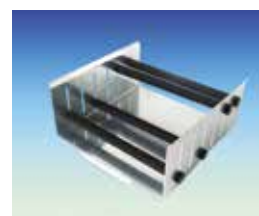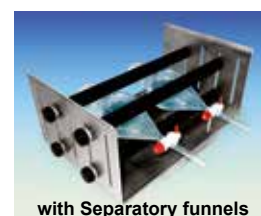
※ **witeg general catalogue pages : 33, 34, 36, 148~152, 294~296, 308**

(1) Universal Platform "SP100" / "SP200"   **(2) Rubber Mat Platform "SP110" / "SP210"**

with Flasks

(3) Platform for Flasks "SP120" / "SP220"

with Separatory funnels

(4) Platform for Separatory Funnels "SP130" / "SP230"

(7)   (6)   (5)

Flask Holders "FH500"/"FH250"/"FH100"

Platform Selection Guide

| APPLICATION	PLATFORM	HOLDER
Culturing Microbes Mixed with Erlenmeyer Flask	**Universal Platform** SP100 for SHO/SHR-1D SP200 for SHO/SHR-2D	**Flask Holder** FH100 (50~100ml) FH250 (200~300ml) FH500 (500~1000ml)
Staining/Destaining Gel, Washing Blots Gentle Mixing(Shaking)	**Rubber Mat Platform** SP110 for SHO/SHR-1D SP320 for SHO/SHR-2D	
Mixed Sample, Combination Chemistry Combinatorial Chemistry, with Round Flask	**Platform for Flask** SP120 for SHO/SHR-1D SP220 for SHO/SHR-2D	
Combinatorial Chemistry with Separatory Funnel	**Platform for Separatory Funnels** SP130 for SHO/SHR-1D SP230 for SHO/SHR-2D	
with Variety of Size Flask & Bottle	**Universal Spring Rack** SP140 for SHO/SHR-1D SP240 for SHO/SHR-2D	

witeg® Digital Reciprocating Shaker, "SHR", 10~300 rpm, Low Noise & Long Life Cycle
with Programmable Digital Feedback Control, Available Rubber Mat-/Universal-Platform, without Platform

Digital Reciprocating Shaker (SHR-1D)
with Rubber Mat Platform (SP110)

Digital Reciprocating Shaker (SHR-2D)
with Universal Platform (SP200)
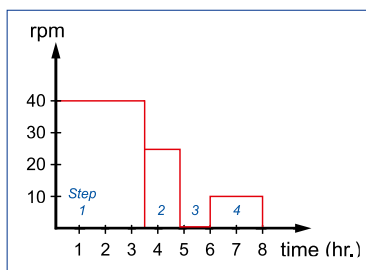
Example of Program

- ■ **with Certificate & Traceability : Controlled by Serial Number, Certificate, Delivery-information, and Traceable Data Base System**
- ■ **Ideal for Culturing Cells to Hybridization, Staining and Destaining Gels, and Combinatorial Chemistry**
- ■ **Patented Jog-Shuttle Control System**
- ■ **CE Certified**
- ■ **PL(Product Liability) Insurance**

❋ Hybridization, Washing Blots, Culturing Microbes
❋ Ideal for Culturing Cells to Hybridization, Staining and Destaining Gels, and Combination Chemistry
❋ Optimal Platform Rotation for Intensive Mixing
❋ Brushless DC Motor (Low Noise & Long Life Cycle)
❋ High Precision Digital Rotation Speed Control
❋ Programmable Operation Mode Supported
❋ Digital LCD with Back-Light Function
❋ Smooth Start and Change of Shaking Speed
❋ Universal Platform for Easy and Fast Fixation of Any Kind of Flasks and Bottles (Optional)
❋ Storage Function, Alarm & Overload Protection
❋ Locking Mode Supported for Experimental Safety (Input to Jog-Shuttle can be Disabled)
❋ Variable accessories are available (Optional)

Specification

Model		Base Platform : 230 x 230 mm "SHR-1D" Only Unit	Base Platform : 350 x 350 mm "SHR-2D" Only Unit
Shaking Motion		Reciprocating	
Speed Range		10 ~ 300 rpm	
Max. Load		8 kg	10 kg
Amplitude of Rotation (mm)		10, 15, 20 Available (15 as Factory Default)	20, 30, 40 Available (30 as Factory Default)
Motor		Brushless DC Motor	
Permissible Ambient Temperature		Ambient +5 ~ 50°C	
Permissible Relative Moisture		85%	
Timer & Alarm		99hr 59min (with Continuous run.), Error status & Timer-end	
Display		Digital LCD with Back-Light Function	
Controller		Programmable Digital Feedback Controller with Jog-Shuttle Switch(Turn+Pus)	
Program Function		10 Steps, 6 Programs	
Platform		Universal Platform for various Shapes & Size of Flask	
Max. Capacity of Flask Holder	FH100	9 ea	20 ea
	FH250	7 ea	16 ea
	FH500	4 ea	9 ea
Holder		Durable & Flexible Plastic Flask holder	
Dimension (w x d x h) (mm)		250 x 330 x 150	400 x 480 x 160
Base Platform Size (mm)		230 x 230	350 x 350
Safety Circuit		Overload Protector for Motor	
Net Weight		14 kg	20 kg
Others		CE Certified, PL(Product Liability) Insurance Smooth Start and Change of the Stirring Speed for Stable Running Storage Function (Program, RPM, Timer) Locking Mode (Jog-Shuttle Input Disabled) Alarm (Error Status and Timer-end)	
Packing Size (w x d x h) (mm) & Gross Weight		450 x 350 x 250	580 x 500 x 250
		18 kg	23 kg
Power Consumption		40 W	
Power plug type		Hybrid E+F	
Power Supply*		AC 230V, 1N~, 50/60Hz	

* Other Specifications are available upon Customer's Request.

<Continued from... Digital Reciprocating Shaker, "SHR">

Ordering Information

230 x 230 Base Platform, "SHR-1D" Unit Only

DH.WSR04020   Digital Orbital Shaker, **"SHO-1D" Unit only,** without Platform, **230V**

350 x 350 Base Platform, "SHR-2D" Unit Only

DH.WSR04022   Digital Orbital Shaker, **"SHO-2D" Unit only,** without Platform, **230V**

Optional Accessories

DH.WSO504100   (1) Universal Platform, **"SP100",** for **"SHO/SHR-1D",** w230 x d230mm

DH.WSO504200   (1) Universal Platform, **"SP200",** for **"SHO/SHR-2D",** w350 x d350mm

DH.WSO504110   (2) Rubber Mat Platform, **"SP110",** for **"SHO/SHR-1D",** w270 x d270mm

DH.WSO504210   (2) Rubber Mat Platform, **"SP210",** for **"SHO/SHR-2D",** w370 x d370mm

DH.WSO504120   (3) Platform for Flasks, **"SP120",** for **"SHO/SHR-1D"**, w366 x d355 x h175mm

DH.WSO504220   (3) Platform for Flasks, **"SP220",** for **"SHO/SHR-2D"**, w366 x d355 x h175mm

DH.WSO504130   (4) Platform for Separatory Funnels, **"SP130"** for **"SHO/SHR-1D"**, w350 x d230 x h153mm

DH.WSO504230   (4) Platform for Separatory Funnels, **"SP230"** for **"SHO/SHR-2D"**, w350 x d350 x h153mm

DH.WIS504030   (5) Flask Holder, **"FH100",**   50~ 100ml, for **"SHO"**, **"SHR"** and **"WIS"**

DH.WIS504035   (6)   , **"FH250",** 200~ 300ml, for **"SHO"**, **"SHR"** and **"WIS"**

DH.WIS504040   (7)   , **"FH500",** 500~1000ml, for **"SHO"**, **"SHR"** and **"WIS"**
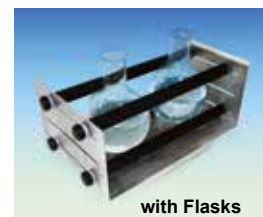
※ witeg general catalogue pages dito.
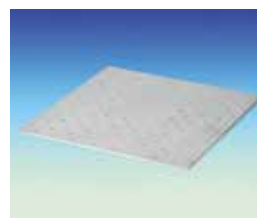
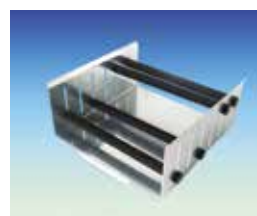**(1) Universal Platform "SP100" / "SP200"**
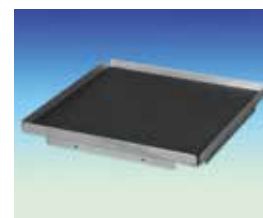
(2) Rubber Mat Platform "SP110" / "SP210"
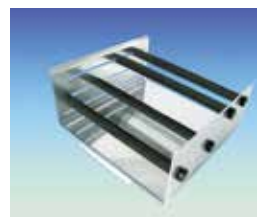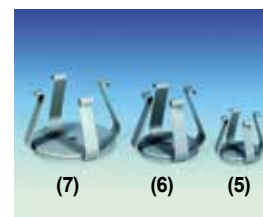
(3) Platform for Flasks "SP120" / "SP220"

with Flasks

(4) Platform for Separatory Funnels "SP130" / "SP230"

with Separatory funnels

Flask Holders "FH500" / "FH250" / "FH100"

(7)   (6)   (5)

Platform Selection Guide

APPLICATION	PLATFORM	HOLDER
Culturing Microbes Mixed with Erlenmeyer Flask	**Universal Platform** SP100 for SHO/SHR-1D SP200 for SHO/SHR-2D	**Flask Holder** FH100 (50~100ml) FH250 (200~300ml) FH500 (500~1000ml)
Staining/Destaining Gel, Washing Blots Gentle Mixing (Shaking)	**Rubber Mat Platform** SP110 for SHO/SHR-1D SP320 for SHO/SHR-2D	
Mixed Sample, Combination Chemistry Combinatorial Chemistry, with Round Flask	**Platform for Flask** SP120 for SHO/SHR-1D SP220 for SHO/SHR-2D	
Combinatorial Chemistry with Separatory Funnel	**Platform for Separatory Funnels** SP130 for SHO/SHR-1D SP230 for SHO/SHR-2D	
with Variety of Size Flask & Bottle	**Universal Spring Rack** SP140 for SHO/SHR-1D SP240 for SHO/SHR-2D	

Stirrers

- Smart Design of Body made by Aluminum Die-Casting (MS, MSH models)
- Digital LCD for RPM, Power Bar Graph and Status
- User's Self -Compensation Function : to Control Difference between Real Temp.
  and Indicated Temp. (±20.0°C) (MSH model)
- Patented Jog-Shuttle Control system and Digital LCD with Back-light (Digital Model)
- Chrome-Plated & Stainless Steel Chuck - Prevention from Corrosion (HS, HT models)
- High-Speed and High-Torque Overhead Stirrer with Powerful DC Motor

Digital / Analog Magnetic Stirrer

MS-20D

MS-20A

Multi-point Magnetic Stirrers

MS-MP8 :
8-Point Stirrer

High Torque Overhead Stirrer

HT-50DX

High Speed Overhead Stirrer

HS-30D-Set

witeg® Premium Magnetic Stirrer, "MS-A", 180 x 180mm Ceramic-Coated Plate, with Certi. & Traceability
with PWM Control System, Precise Speed Control, Ceramic Coated Al-Plate, up to 1,500 rpm, Max. 20 Lit.

- **with Certificate & Traceability : Controlled by Serial Number, Certificate, Delivery-information, and Traceable Data Base System**
- **Ceramic Coated Plate - Chemical / Acid Resistance**
- **CE Certified**
- **PL (Product Liability) Insurance**

✽ Ideal for Heat-sensitive Procedures such as Microbiology and Biochemistry Applications

✽ Mixing for Chemical, Laboratory, Pharmaceutical Materials

✽ Superior Linearity for the Control of Stirring Speed by Specially Designed Control Circuitry (PWM Control)

✽ Smart Design of Body : Made by Aluminum Die-Casting

✽ Powerful Motor for Stirring Quantities of up to 20Lit. (Water)

✽ Ceramic Coated Plate-Chemical/Acid Resistance

✽ Free Voltage (AC 80V ~ 240V, 50 / 60Hz) by SMPS

✽ Included 1ea 3cm Magnetic Stirrer Bar

2-Year Warranty CE

Ceramic Coated Plate

180mm

180mm

Stir Bar

Wisd.23

Premium Magnetic Stirrer with Stir Bar "MS-20A"

(1) Stand Rod, "RD200", Ø12 x L450mm

(2) Holder / Clamp / Clip for Temp. Probe

Specification

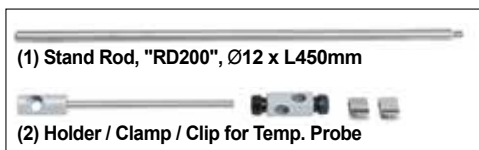| Model	180 x 180mm Plate-type MS-20A	
Plate Size (mm)	180 x 180	
Stirring Capacity (H₂O)	Max. 20Lit.	
Speed Range	Max. 1,500 rpm	
Motor Rating	9 / 4 W	
Controller	Superior Linearity PWM Controller	
Stirring Bar	3cm bar-included, Usable : up to 5cm bar	
Permissible Ambient Temperature	Ambient +5 ~ 50°C	
Permissible Relative Moisture	85%	
Material	Plate	Ceramic Coated Aluminum (Chemical / Acid Resistance)
	Body	Powder Coated Aluminum
Dimension (w x d x h) (mm)	206 x 307 x 99	
Weight (kg)	3.1 kg	
Others	CE Certified PL (Product Liability) Insurance	
Packing Size (w x d x h) (mm) & Gross Weight	400 x 280 x 200	
	5 kg	
Power Consumption	10 W	
Power plug type	Hybrid E+F	
Power Supply*	AC 230V, 1N~, 50/60Hz	

* Other Specifications are available upon Customer's Request.

Ordering Information

DH.WMS03122   Magnetic Stirrer, 180 x 180mm, **230V, "MS-20A"**, with stir bar

Optional Accessories

DH.WHP503036   (1) Stand Rod, **"RD200",** Stainless Steel, screw, Ø12 x L450mm, for **"HP-20A/20D", "MSH-20A/20D", "MSH-50A/55A", "MSH-50D/55D"** and **"SMHS"**

DH.WHP503012   (2) Holder/Clamp/Clip **"CL220",** for Temp. Probe

Specialized Features

Long Life Power & Mechanism!

SMPS (Switching Mode Power Supply)
Use with Safety & Regular DC !!

AC *Stable DC !!*

SSR (Solid State Relay)-Non Contact
No Electronic Harm!

Realize **Long Life Cycle!**

High Stability in Very Low & High-speed

speed

General Phase Control Use with AC !! (Very sensitive Point)

General analog control

speed

PWM Control Use with DC !! (Super linearity)

witeg

Realize **Stable & Easy to Use!**

witeg® Digital Magnetic Stirrer, "MS-D", 180 x 180mm Ceramic-Coated Plate, with Certi. & Traceability
with Digital Feedback Control System, Precise Speed Control, Back Light LCD, 80~1,500 rpm, Max. 20 Lit.

Premium Magnetic Stirrer (MS-20D)

(1) Stand Rod, "RD200", Ø12 x L450mm

(2) Holder / Clamp / Clip for Temp. Probe

■ **with Certificate & Traceability : Controlled by Serial Number, Certificate, Delivery-information, and Traceable Data Base System**
■ **Digital Feedback Control by High-Performance Microprocessor**
■ **Ceramic Coated Plate -Chemical /Acid Resistance**
■ **Patented Jog-Shuttle Control System**
■ **CE Certified**   ■ **PL (Product Liability) Insurance**

✽ Ideal for Heat-sensitive Procedures such as Microbiology and Biochemistry Applications
✽ Mixing for Chemical, Laboratory, Pharmaceutical Materials
✽ Digital Feedback Control by High-Performance Microprocessor
✽ Digital LCD with Back-Light Function   ✽ Digital Timer Function (99hr 59min)
✽ Smart Design of Body made by Aluminum Die-Casting (MS-20D)
✽ Ceramic Coated Plate-Chemical/Acid Resistance
✽ Storage function for the set values : RPM and Time
✽ Alarm Function : Error Status and Timer-End
✽ Locking Mode Supported for Experimental Safety (Input to Jog-Shuttle can be Disabled)
✽ Free Voltage (AC 80V ~ 240V, 50 / 60Hz) by SMPS

Specification

| Model		180 x 180mm Plate-type "MS-20D"
Plate Size (mm)		180 x 180
Stirring Capacity (H₂O)		Max. 20Lit.
Speed Range		80 ~ 1,500 rpm
Motor Rating		9 / 4 W
Speed Accuracy (%)		± 5
Speed Control Resolution		5 rpm
Timer & Alarm		99hr 59min (with Continuous run.), Error status & Timer-end
Display		Digital LCD with Back-Light Function
Controller		Digital Feedback Controller with Jog Shuttle Switch(Turn+Push)
Stirring Bar		3cm bar-included, Usable : up to 5cm bar
Permissible Ambient Temperature		Ambient +5 ~ 50°C
Permissible Relative Moisture		85%
Material	Plate	Ceramic Coated Aluminum (Chemical / Acid Resistance)
	Body	Powder Coated Aluminum
Dimension (w x d x h) (mm)		206 x 307 x 99
Weight (kg)		3.1 kg
Others		CE Certified, PL (Product Liability) Insurance Storage Function (RPM, Timer) Locking Mode (Jog-Shuttle Input Disabled) Alarm (Error Status and Timer-end)
Packing Size (w x d x h) (mm) & Gross Weight		400 x 280 x 200
		5 kg
Power Consumption		10 W
Power plug type		Hybrid E+F
Power Supply*		AC 230V, 1N~, 50/60Hz

* Other Specifications are available upon Customer's Request.

Ordering Information

DH.WMS03022   Magnetic Stirrer, 180 x 180mm, **230V, "MS-20D"**, with stir bar

Optional Accessories
DH.WHP503036   (1) Stand Rod, **"RD200",** Stainless Steel, screw, Ø12 x L450mm, for **"HP-20A/20D", "MSH-20A/20D", "MSH-50A/55A", "MSH-50D/55D"** and **"SMHS"**
DH.WHP503012   (2) Holder/Clamp/Clip, **"CL220",** for Temp. Probe
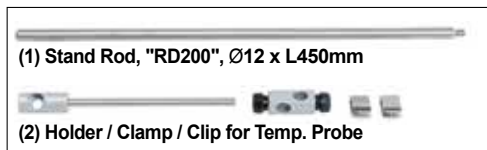
witeg® Digital Multi-point Magnetic Stirrers, "MS-MP", 4-/8- Points, Max. 500ml per Point
with Digital Feedback Control System, Digital LCD, Synchronous Operation, 80~1,200 rpm, with Certi. & Traceability

- **with Certificate & Traceability : Controlled by Serial Number, Certificate, Delivery-information, and Traceable Data Base System**
- **Ideally Suitable for Use in Incubators and Climatic Chambers**
- **Excellent for Multi-use and wide range of Sample Testing**
- **Patented Jog-Shuttle Control System**
- **CE Certified**   ■   **PL (Product Liability) Insurance**

✽ Ideally Suitable for Use in Incubators and Climatic Chambers
✽ Excellent for Multi-use and wide range for Sample Testing
✽ Ideal for Heat-sensitive Procedures such as Microbiology and Biochemistry Applications
✽ Synchronous Operation of 4 / 8 Stirring Points
✽ Increased Effectiveness by Microprocessor Control
✽ Digital LCD with Back-Light Function   ✽ Up to 0.5 Lit. Stirring Capacity per Point
✽ Smooth Start and Change of Stirring Speed   ✽ Digital Timer Function (99 hr 59 min)
✽ Storage Function for the Set Values : RPM and Timer
✽ Extraordinary Mechanical, Physical and Chemical Resistance
✽ Locking Mode supported for Experimental Safety (Input to Jog-Shuttle can be Disabled)
✽ Free Voltage (AC 80V ~ 240V, 50 / 60Hz) by SMPS

4-Point Stirrer, Digital Multi-Point Magnetic Stirrer "MS-MP4"

Specification

Number of Stirring Points & Models	4 (2 x 2) Stirring Points "MS-MP4"	8 (4 x 2) Stirring Points "MS-MP8"
Plate Size (mm)	210 x 300	210 x 500
Stirring Capacity (H$_2$O)	Max. 0.5 Lit. per Point	
Distance between Stirring Points	100 mm	
Speed Range	80 ~ 1,200 rpm	
Motor Rating	16/9 W	
Speed Control Resolution	5 rpm	
Timer & Alarm	99hr 59min (with Continuous run.), Error status & Timer-end	
Display	Digital LCD with Back-Light Function	
Controller	Digital Feedback Controller with Jog Shuttle Switch (Turn+Push)	
Stirring Bar	3cm bar-included, Usable : up to 3cm bar	
Permissible Ambient Temperature	Ambient +5 ~ 50°C	
Permissible Relative Moisture	85%	
Material	Plate	Stainless Steel (#304)	
	Body	Power Coated Steel	
Dimension (w x d x h) (mm)	210 x 300 x 65	210 x 500 x 65
Weight	2.5 kg	3.5 kg
Others	CE Certified, PL (Product Liability) Insurance Storage Function (RPM, Timer) Locking Mode (Jog-Shuttle Input Disabled) Alarm (Error Status and Timer-end)	
Packing Size (w x d x h) (mm) & Gross Weight	330 x 300 x 180	540 x 330 x 180
	6 kg	
Power Consumption	20 W	
Power plug type	Hybrid E+F	
Power Supply*	AC 230V, 1N~, 50/60Hz	

* Other Specifications are available upon Customer's Request.

8-Point Stirrer, Digital Multi-Point Magnetic Stirrer "MS-MP8"

Ordering Information

4 Points Magnetic Stirrer, "MS-MP4", with Cord/Plug
DH.WMS03036   Multipoint Magnetic Stirrer, **230V, "MS-MP4"**

8 Points Magnetic Stirrer, "MS-MP8", with Cord/Plug
DH.WMS03038   Multipoint Magnetic Stirrer, **230V, "MS-MP8"**

Articles	Cat. No	Description

witeg® Premium Hotplate Stirrer, "MSH-A", Ceramic-Coated Plate, up to 380°C, 1,500 rpm, with Certi. & Traceability

Built-in Linearity PWM Controller, Superior Temperature Uniformity, Precise Control of Temp. & RPM, 180 x 180mm or 260 x 260mm

CE ~380°C / 1,500rpm

2-Year Warranty

Ceramic Coated Plate

180mm
180mm

Stir Bar

PWM Control System

Wisd.

180 x 180mm Plate-type Hotplate Stirrer "MSH-20A"

CE ~380°C / 1,500rpm

260mm
260mm

Wisd.

Stir Bar

260 x 260mm Plate-type Hotplate Stirrer "MSH-30A"

(1) Stand Rod, "RD100", Ø12.7 x L390mm

(2) Stand Rod, "RD200", Ø12 x L450mm

(3) Holder / Clamp / Clip for Temp. Probe

■ **with Certificate & Traceability :**
  Controlled by Serial Number, Certificate, Delivery-information, and Traceable Data Base System
■ **Superior Temperature Uniformity : Less than 10% on the Plate at Ambient Temperature**
■ **Superior Linearity for Temperature Control & Stirring Speed**
■ **Ceramic Coated Plate-Chemical / Acid Resistance**
■ **CE Certified**   ■ **PL(Product Liability) Insurance**
✽ Excellent for Sample Drying and most General Lab Heating Applications
✽ Superior Temperature Uniformity : Less than 10% on the Plate at Ambient Temperature
✽ Superior Linearity for Temperature Control & Stirring Speed by Specially Designed Control Circuitry.(PWM Control)
✽ Smart Design of Body made by Aluminum Die-Casting (MSH-20A)
✽ Ceramic Coated Plate-Chemical/Acid Resistance
✽ Maximum Temperature of 380°C

Specification

Model		180 x 180mm Plate-type "MSH-20A"	260 x 260mm Plate-type "MSH-30A"
Material	Body	Powder Coated Aluminum	Powder Coated Steel
	Plate	Ceramic Coated Aluminum (Chemical / Acid Resistance, Easy to Clean)	
Stirring Capa. & Motor Rating		Max. 20 Lit., 9 / 4 W	
Speed Range		Max. 1,500 rpm	
Temp. Range		Max. 380°C	
Temp. Uniformity		Specially Designed Heating Module : Temp. Difference 10% less	
Heating Power/Consumption		600W	1.2 kW
Controller		Superior Linearity PWM Controller	
Stirring Bar		3cm bar-included, Usable : up to 5cm bar	
Permissible Temp. & RH %		Ambient +5 ~ 50°C, 85% RH	
Dimension & Weight		206 x 307 x h99mm, 2.8kg	286 x 387 x h99mm, 3.3kg
Packing Size & Gross Weight		400 x 280 x h200mm, 5 kg	430 x 320 x h200mm, 5 kg
Power plug type		Hybrid E+F	
Power Supply*		AC 230V, 1N~, 50/60Hz	

* Other Specifications are available upon Customer's Request.

Ordering Information

With 180 x 180mm Plate-type Hotplate Stirrer, "MSH-20A"
DH.WMH03120   180 x 180mm Plate-type, **230V,** with stir bar

With 260 x 260mm Plate-type Hotplate Stirrer, "MSH-30A"
DH.WMH03121   260 x 260mm Plate-type, **230V,** with stir bar

Optional Stand Rod & Holder/Clamp

DH.WHP503011   (1) Stand Rod, **"RD100",** Stainless Steel, none screw
              Ø12.7 x L390mm, for **"HP-30A / 30D", "MSH-30A/30D"**
DH.WHP503036   (2) Stand Rod, **"RD200",** Stainless Steel, 1.5p screw,
              Ø12 x L450mm, for **"HP-20A / 20D", "MSH-20A/20D",**
              "MSH-50A/55A", "MSH-50D / 55D" and **"SMHS"**
DH.WHP503012   (3) Holder / Clamp / Clip, **"CL220",** for Temp. Probe

Specialized Features

High Stability in Very Low & High-Temperature

speed

General Phase Control Use with AC !! (Very sensitive Point)

General analog control

PWM Control
Use with DC !!
(Super linearity)

speed

witeg

Realize **Stable & Easy to Use!**

Long Life Power & Mechanism!

SMPS (Switching Mode Power Supply)
Use with Safety & Regular DC !!

AC → *Stable DC !!*

SSR (Solid State Relay)-Non Contact
No Electronic Harm!
Realize **Long Life Cycle!**

witeg® Premium Compact Hotplate Stirrer, "MSH-50A", Round-Type Plate, Ø135mm, with Certi. & Traceability

Ceramic Coated or Anodized Plate, Superior Temperature Uniformity, Precise Control of Temp. & RPM, up to 380 °C, 1.500 rpm

- **with Certificate & Traceability :**
  Controlled by Serial Number, Certificate, Delivery-information, and Traceable Data Base System
- **Superior Temperature Uniformity : Less than 10 % on the Plate at Ambient Temperature**
- **Superior Linearity for the Control of Temperature & Stirring Speed**
- **Ceramic Coated Plate (MSH-50A) for Chemical/Acid Resistance or Anodized Plate (MSH-55A) for Scratch Prevention**
- **CE Certified**

✳ Excellent for Sample Drying and most General Lab Heating Applications.
✳ Superior Temperature Uniformity : Less than 10 % on the Plate at Ambient Temperature.
✳ Superior Linearity for Temperature Control & Stirring Speed by Specially Designed Control Circuitry. (PWM Control)
✳ Smart Design of Body made by Aluminum Die-Casting.
✳ Ceramic Coated Plate (MSH-50A) for Chemical/Acid Resistance or Anodized Plate (MSH-55A) for Scratch Prevention.
✳ Maximum Temperature of 400 °C

~400 °C / 1.500 rpm   CE

Stir Bar

Anodized Plate Ø135 mm

PWM Control System

Premium Compact Hotplate Stirrer, Round Type & Anodized Plate "MSH-55A"

Specification

Models	Ceramic Coated Aluminum Plate "MSH-50A"	Black Anodized Aluminum Plate "MSH-55A"
Features	Good Resistance of Chemicals & Acid, Easy to Clean	Prevention of Crack or Chip, and More Even Heating Surface
Plate Size(mm)	Ø135	
Stirring Capa. & Motor Rating	Max. 20 Lit.(H_2O), 9/4W	
Speed Range	Max. 1.500 rpm	
Temp. Range	Max. 400 °C (Over 70 °C)	
Temp. Uniformity	Specially Designed Heating Module : Temp. Difference 10% less	
Heating Power/Consumption	400 W	
Controller	Digital Feedback Controller with Jog Shuttle Switch (Turn+Push)	
Stirring Bar	3cm bar-included, Usable : up to 5cm bar	
Permissible Temp. & RH %	Ambient +5 ~ 50°C, 85% RH	
Dimension & Weight	w160 x d280 x h95mm, 2,3kg	
Packing Size & Gross Weight	w400 x d280 x h200mm, 4 kg	
Power plug type	Hybrid E+F	
Power Supply*	AC 230V, 1N~, 50/60Hz	

* Other Specifications are available upon Customer's Request.

~400 °C / 1.500 rpm   CE

Ceramic Coated Plate

Stir Bar

Premium Compact Hotplate Stirrer, Round Type & Ceramic-Coated Plate "MSH-50A"

Ordering Information

With Ceramic Coated Plate, "MSH-50A" Package-set & Unit
DH.WMH03150   Hotplate Stirrer, **MSH-50A,** Ø135 mm, Ceramic Coated Plate, 0~1.500 rpm, to 380 °C

With Black Al-anodized Plate, "MSH-55A" Package-set & Unit
DH.WMH03155   Hotplate Stirrer, **MSH-55A,** Ø135 mm, Anodized Plate, 0~1.500 rpm, to 380 °C

Additional Function Accessories
DH.WHP503036   Stand Rod, **RD200,** Stainless Steel, Ø12 x L 450 mm, for **HP-20A / 20D, MSH-20A / 20D MSH-50A/55A, MSH-50D / 55D** and **SMHS**
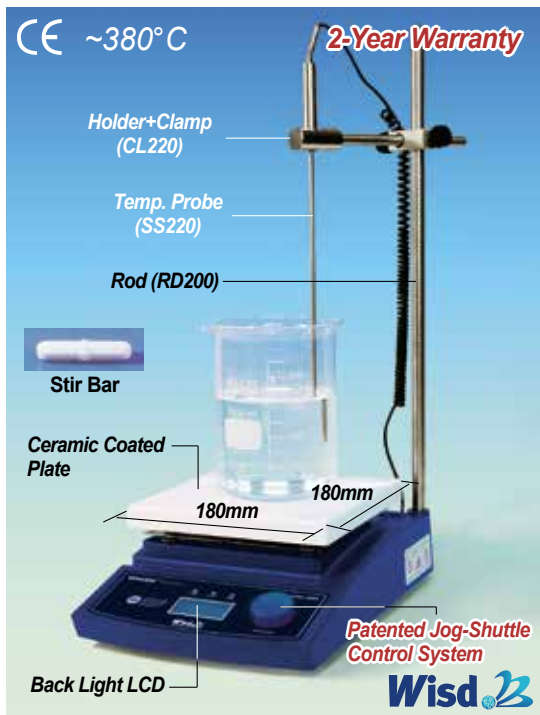**DH.WHP503012**   Holder + Clamp, **CL220,** for Temperature Sensor
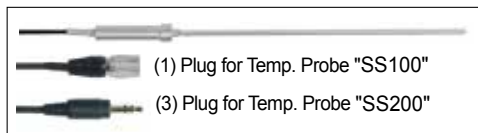
Articles	Cat. No	Description

witeg® Digital Hotplate Stirrer, "MSH-D", Ceramic-Coated Plate, up to 380°C, ±0.3°C, with Certi. & Traceability

with Digital Feedback Control, Accurate Temp. Control, 180 x 180mm– or 260 x 260mm– Plate, 80 ~ 1,500 rpm
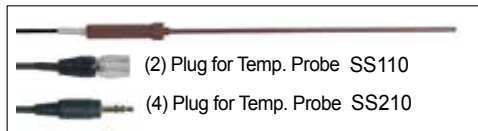
CE ~380°C **2-Year Warranty**

Holder+Clamp (CL220)

Temp. Probe (SS220)

Rod (RD200)

Stir Bar

Ceramic Coated Plate

180mm 180mm

Patented Jog-Shuttle Control System

Back Light LCD

Wisd

180 x 180mm Plate-type Digital Precise Hotplate "MSH-20D" Package-set

CE ~380°C

260mm 260mm

Stir Bar

Wisd

180 x 180mm Plate-type Digital Precise Hotplate "MSH-30D" Unit only

(1) Plug for Temp. Probe "SS100"

(3) Plug for Temp. Probe "SS200"

External/Direct Contact Temp. Probe

(2) Plug for Temp. Probe SS110

(4) Plug for Temp. Probe SS210

External/Direct Contact Temp. Probe, PTFE Coated

(5) Stand Rod, "RD100", Ø12.7 x L390mm

(6) Stand Rod, "RD200", Ø12 x L450mm

(7) Holder / Clamp / Clip for Temp. Probe

■ **with Certificate & Traceability :** Controlled by Serial Number, Certificate, Delivery-information, and Traceable Data Base System
■ **Digital Feedback Control** by High-Performance Microprocessor
■ **Patented Jog-Shuttle Control System**
■ **CE Certified**   ■ **PL(Product Liability) Insurance**

❋ User s Self-Compensation Function : to Control Difference between Real Temp. and Indicated Temp. (±20.0°C)
❋ Accurate Temp. Control of the Sample in the Vessel using PT100 Sensor (optional)
❋ Storage Function for the set Values : Temp. and Timer
❋ Locking Mode Supported for Experimental Safety (Input to Jog-Shuttle can be Disabled)
❋ Superior Temperature Uniformity : less than10% on the Plate at Ambient Temperature

Specification

Model		180 x 180mm Plate-type "MSH-20D"	260 x 260mm Plate-type "MSH-30D"
Material	Body	Powder Coated Aluminum	Powder Coated Steel
	Plate	Ceramic Coated Aluminum (Chemical / Acid Resistance, Easy to Clean)	
Stirring Capa. & Motor Rating		Max. 20 Lit., 9 / 4 W	
Speed & Control Resolution		80 ~ 1,500 rpm, 5 rpm	
Temp. Range & Accuracy		Max. 380°C, ±0.3°C at Set Temperature	
Temp. Resolution		0.1 °C-Display, 0.5 °C-Control	
Temp. Uniformity		Specially Designed Heating Module : Temp. Difference 10% less	
Heating Power/Consumption		600 W	1.2 kW
Timer & Alarm		99hr 59min (with Continuous run.), Error status & Timer-end	
Display		Digital LCD with Back-Light Function	
Controller		Digital Feedback Controller with Jog Shuttle Switch (Turn+Push)	
Stirring Bar		3cm bar-included, Usable : up to 5cm bar	
Safety Circuit		Over Temp. Protection	
Permissible Temp. & RH %		Ambient +5 ~ 50°C, 85% RH	
Dimension & Weight		206 x 307 x h99mm, 3.3kg	286 x 387 x h99mm, 3.5kg
Packing Size & Gross Weight		400 x 280 x h200mm, 5 kg	430 x 320 x h200mm, 5 kg
Power plug type		Hybrid E+F	
Power Supply*		AC 230V, 1N~, 50/60Hz	

* Other Specifications are available upon Customer's Request.

Ordering Information

❋ **"MSH-20D"** Package-set : Complete with ① Hotplate Stirrer Unit, ② : **"SS200"** PT100 External / Direct Contact Temp. Probe, ③ **"RD200"** Stainless steel Support Rod Ø12 x L450mm ④ **"CL220"** Holder+Clamp for External Temp. Probe

❋ **"MSH-30D"** Package-set : Complete with ① Hotplate Stirrer Unit, ② : **"SS100"** PT100 External / Direct Contact Temp. Probe, ③ **"RD100"** Stainless steel Support Rod Ø12 x L450mm ④ **"CL220"** Holder+Clamp for External Temp. Probe

With 180 x 180mm Plate-type, "MSH-20D" Package-set & Unit

DH.WMH03021	180 x 180mm Plate-type, **Package-set, 230V**
DH.WMH03020	, **Unit** only, 230V, with stir bar

With 260 x 260mm Plate-type, "MSH-30D" Package-set & Unit

DH.WMH03023	260 x 260mm Plate-type, **Package-set, 230V**
DH.WMH03022	260 x 260mm Plate-type, **Unit** only, 230V, with stir bar

Additional Function Accessories

DH.WHP503020	(1) External / Direct Contact Temp. Probe, **"SS100"**, PT100, for **"HP-30D"**, **"MSH-30D"** and **"SMHS"** Probe Ø4 x L250mm, Cable L190mm
DH.WHP503021	(2) External / Direct Contact Temp. Probe, **"SS110"**, PT100, **PTFE Coated**, for **"HP-30D"**, **"MSH-30D"**, **"SMHS"** Probe Ø4 x L250mm, Cable L190mm
DH.WHP503030	(3) External / Direct Contact Temp. Probe, **"SS200"**, PT100, for **"HP-20D"**, **"MSH-20D"**, Probe Ø4 x L250mm, Cable L190mm
DH.WHP503031	(4) External / Direct Contact Temp. Probe, **"SS210"**, PT100, **PTFE Coated**, for **"HP-20D"**, **"MSH-20D"** Probe Ø4 x L250mm, Cable L190mm
DH.WHP503011	(5) Stand Rod, **"RD100"**, Stainless Steel, Ø12.7 x L390mm for **"HP-30A/30D"**, **"MSH-30A / 30D"**, none Screw
DH.WHP503036	(6) Stand Rod, **"RD200"**, Stainless Steel, Ø12 x L450mm for **"HP-20A / 20D"**, **"MSH-20A / 20D"**, **"MSH-50A / 55A"**, **"MSH-50D / 55D"** and **"SMHS"**, 1.5p Screw
DH.WHP503012	(7) Holder/Clamp/Clip, **"CL220"**, for Temp. Probe

witeg® Digital Compact Hotplate Stirrer, "MSH-50D", Round-type Plate, Ø135mm, with Certi. & Traceability

with Ceramic Coated or Al-anodized Plate, Digital Feedback Control, Back Light LCD, up to 400°C, ±0,3°C, 80 ~ 1.500 rpm

- **with Certificate & Traceability : Controlled by Serial Number, Certificate, Delivery-information, and Traceable Data Base System**
- **Digital Feedback Control by High-Performance Microprocessor**
- **Choice of Models with Ceramic Coated Aluminum Plate (MSH-50D) for Chemical/Acid Resistance and Easy to Clean, or Anodized Aluminum Plate (MSH-55D) for Prevention of Crack/Chip and More Even Heating Surface**
- **Patented Jog-Shuttle Control System** ■ **CE Certified**

✻ Excellent for Mixing and most General Lab Heating Applications.
✻ Accurate Temp. Control of the Sample in the Vessel using PT100 Sensor (optional).
✻ User's Self-Compensation Function : To Control Difference between Real Temp. and Indicated Temp. (±20,0°C).
✻ Smart Design of Body made by Aluminum Die-Casting, Powder Coated.
✻ Storage Function for the set Values : RPM, Temp. and Timer.
✻ Locking Mode Supported for Experimental Safety (Input to Jog-Shuttle can be Disabled).

Specification

Models	Ceramic Coated Aluminum Plate "MSH-50D"	Black Anodized Aluminum Plate "MSH-55D"
Features	Good Resistance of Chemicals & Acid, Easy to Clean	Prevention of Crack or Chip, and More Even Heating Surface
Plate Size(mm)	Ø135	
Stirring Capa. & Motor Rating	Max. 20 Lit.(H$_2$O), 9/4W	
Speed & Control Resolution	80 ~ 1.500 rpm, 5 rpm	
Temp. Range & Accuracy	Max. 400°C, ±0,3°C at Set Temp. (Over 70°C)	
Temp. Resolution	0,1°C - Display, 0,5°C - Control	
Temp. Uniformity	Specially Designed Heating Module : Temp. Difference 10% less	
Heating Power/Consumption	400 W	
Timer & Alarm	99hr 59min (with Continuous run.), Error status & Timer-end	
Display	Digital LCD Display with Back-Light Function	
Controller	Digital Feedback Controller with Jog Shuttle Switch (Turn+Push)	
Stirring Bar	3cm bar-included, Usable : up to 5cm bar	
Safety Circuit	Over Temp. Protection, Auto-off : 420°C Over	
Permissible Temp. & RH %	Ambient +5 ~ 50°C, 85% RH	
Dimension & Weight	w160 x d280 x h95mm, 2,3kg	
Packing Size & Gross Weight	w400 x d280 x h200mm, 4 kg	
Power plug type	Hybrid E+F	
Power Supply*	AC 230V, 1N~, 50/60Hz	

* Other Specifications are available upon Customer's Request.

Ordering Information

✻ Package-Set : Complete with (1) Hotplate Stirrer Unit with 3cm Stirrer Bar, (2) **"SS500"** PT100 External / Direct Contact Temp. Probe, (3) **"RD200"** Stainless steel Support Rod Ø12 x L450mm, and (4) **"CL220"** Holder + Clamp for External Temp. Probe
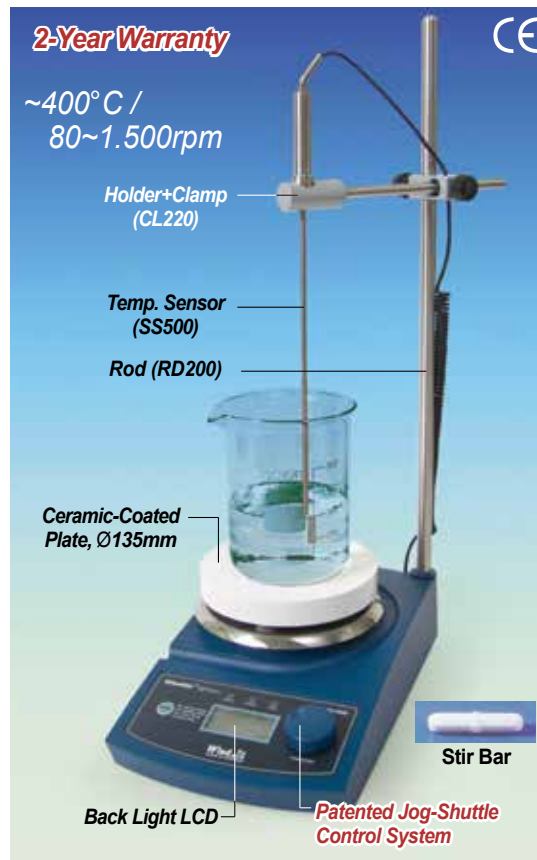
With Ceramic Coated Plate, "MSH-50D" Package-set & Unit

DH.WMH03051	Ceramic Plate-type, **Package-set**, **230V**
DH.WMH03050	, **Unit** only, **230V,** with stir bar

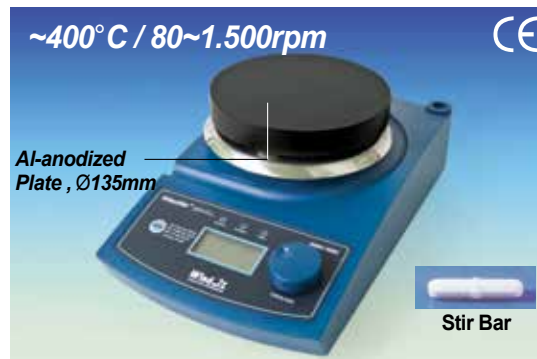### With Black Al-anodized Plate, "MSH-55D" Package-set & Unit

DH.WMH03056	Al-anodized Plate-type, **Package-set**, **230V**
DH.WMH03055	, **Unit** only, **230V,** with stir bar

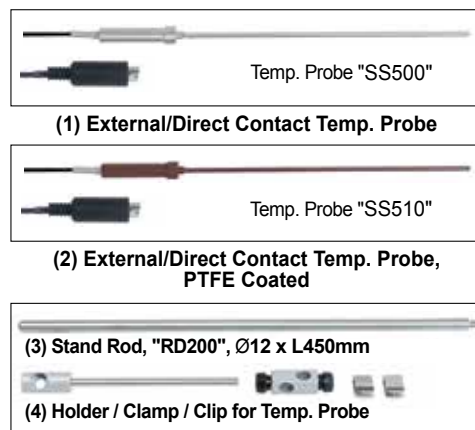### Additional Function Accessories

DH.WHP503060	(1) Direct Contact Temp. Probe, **SS500, PT100**, for **MSH50D/55D** Probe Ø4 x L250mm, Cable L190mm
DH.WHP503061	(2) Direct Contact **PTFE Coated** Temp. Probe, **SS510 PT100**, for **MSH50D/55D**, Probe Ø4 x L250mm, Cable L190mm
DH.WHP503036	(3) Stand Rod, **"RD200",** Stainless Steel, Ø12 x L450mm for **HP-20A / 20D, MSH-20A / 20D, MSH-50A / 55A, MSH-50D / 55D** and **SMHS,** Screw
DH.WHP503012	(4) Holder/Clamp/Clip, **"CL220",** for Temp. Probe

2-Year Warranty CE

~400°C / 80~1.500rpm

Holder+Clamp (CL220)

Temp. Sensor (SS500)

Rod (RD200)

Ceramic-Coated Plate, Ø135mm

Stir Bar

Back Light LCD

Patented Jog-Shuttle Control System

Ceramic Coated Plate-type : Package-set "MSH-50D"

~400°C / 80~1.500rpm CE

Al-anodized Plate , Ø135mm

Stir Bar

Black Al-anodized Plate-type : Unit only "MSH-55D"

Temp. Probe "SS500"

(1) External/Direct Contact Temp. Probe

Temp. Probe "SS510"

(2) External/Direct Contact Temp. Probe, PTFE Coated

(3) Stand Rod, "RD200", Ø12 x **L450mm**

(4) Holder / Clamp / Clip for Temp. Probe

Articles	Cat. No	Description

witeg® Systematic Multi-Hotplate Stirrers, 3- or 6- Places, "SMHS", Ceramic-Coated Plates
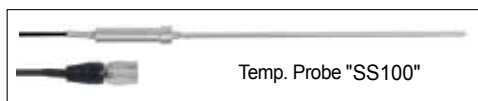## with Digital Feedback Control, Independent Heating & Stirring Control, Back Light LCD, up to 350°C, 80~1,500 rpm

CE
140mm
140mm
140mm
2-Year Warranty
~350°C / 1,500rpm
Back Light LCD
Patented Jog-Shuttle Control System
Stir Bar
Wisd.ß

3 x 1 Plates-type Multi-Hotplate Stirrer "SMHS-3"

CE ~350°C / 1,500rpm **2-Year Warranty**
140mm
140mm
Back Light LCD
Patented Jog-Shuttle Control System
Stir Bar
Wisd.ß

3 x 2 Plates-type Multi-Hotplate Stirrer "SMHS-6"

※ 3 Rear Hotplate Stirrer SMHS-6 have 3 Ports available to connect External Temp. Probe

Temp. Probe "SS100"
(1) External/Direct Contact Temp. Probe

Temp. Probe "SS110"
(2) External/Direct Contact Temp. Probe, PTFE Coated

(3) Stand Rod, "RD200", Ø12 x L450mm

(4) Holder / Clamp / Clip for Temp. Probe

■ **with Certificate & Traceability :**
   Controlled by Serial Number, Certificate, Delivery-information, and Traceable Data Base System
■ **Excellent for Multi-use and wide range Sample Testing**
■ **Patented Jog-Shuttle Control System**
■ **CE Certified**   ■ **PL(Product Liability) Insurance**
❋ Systemized 3- and 6-Hotplate Stirrer   ❋ Independent Heating and Stirring Control
❋ Digital Feedback Control by High-Performance Microprocessor
❋ Ceramic Coated Plate-Chemical/Acid Resistance
❋ Maximum Temperature of 350°C with ±0.3°C Control Accuracy
❋ Accurate Temp. Control of the Sample in the Vessel using PT100 Sensor (Optional)
❋ Digital LCD with Back-Light Function   ❋ Digital Timer Function Included : 99 hr 59 min
❋ Storage Function for the Set Values : Temperature, RPM and Timer
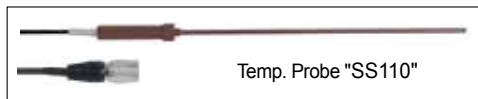❋ Locking Mode for Experimental Safety Supported

Specification

Number of Plates, Models	3 x 1 Plates-type "SMHS-3"	3 x 2 Plates-type "SMHS-6"
Material	Plate : Ceramic Coated Aluminum, Body : Powder Coated Steel	
Plate Size(mm)	140 x 140	
Stirring Capa. & Motor Rating	Max. 20 Lit.(H$_2$O), 9/4W x 3	Max. 20 Lit.(H$_2$O), 9/4W x 6
Speed & Control Resolution	80 ~ 1,500 rpm, 5 rpm	
Temp. Range & Accuracy	Max. 350°C, ±0.3°C at Set Temp.	
Temp. Resolution	0.1 °C-Display, 0.5 °C-Control	
Temp. Uniformity	Specially Designed Heating Module : Temp. Difference 10% less	
Heating Power/Consumption	400 W x 3 Plates	400 W x 6 Plates
Timer & Alarm	99hr 59min (with Continuous run.), Error status & Timer-end	
Display	Digital LCD with Back-Light Function	
Controller	Digital Feedback Controller with Jog Shuttle Switch (Turn+Push)	
Stirring Bar	3cm bar-included, Usable : up to 5cm bar	
Permissible Temp. & RH %	Ambient +5 ~ 50°C, 85% RH	
Dimension & Weight	510 x 240 x h100mm, 10kg	510 x 410 x h180mm, 18kg
Packing Size & Gross Weight	540 x 330 x h170mm, 10kg	570 x 540 x h230mm, 18kg
Power plug type	Hybrid E+F	
Power Supply*	AC 230V, 1N~, 50/60Hz	

* Other Specifications are available upon Customer's Request.

Ordering Information

3 x 1 Plates-type Multi-Hotplate Stirrers "SMHS-3", with Cord /Plug
DH.WMH03503   3 x 1 Plate-type, 230V, **"SMHS-3"**, with stir bar

3 x 2 Plates-type Multi-Hotplate Stirrers "SMHS-6", with Cable
DH.WMH03506   3 x 2 Plate-type, 230V, **"SMHS-6"**, with stir bar
※ 3 Rear Hotplate Stirrer SMHS-6 have 3 Ports available to connect External Temp. Probe.

Additional Function Accessories
DH.WHP503020   (1) External / Direct Contact Temperature Sensor, **"SS100"**, PT100, for **"HP-30D"**, **"MSH-30D"** and **"SMHS"** Probe Ø4 x L250mm, Cable L190mm
DH.WHP503021   (2) External / Direct Contact Temperature Sensor, **"SS110"**, PT100, PTFE Coated, for **"HP-30D"**, **"MSH-30D"**, **"SMHS"** Probe Ø4 x L250mm, Cable L190mm
DH.WHP503036   (3) Stand Rod, **"RD200"**, Stainless Steel, Ø12 x L450mm for **"HP-20A/20D"**, **"MSH-20A/20D"**, **"MSH-50A/55A"**, **"MSH-50D/55D"** and **"SMHS"**, 1.5p Screw
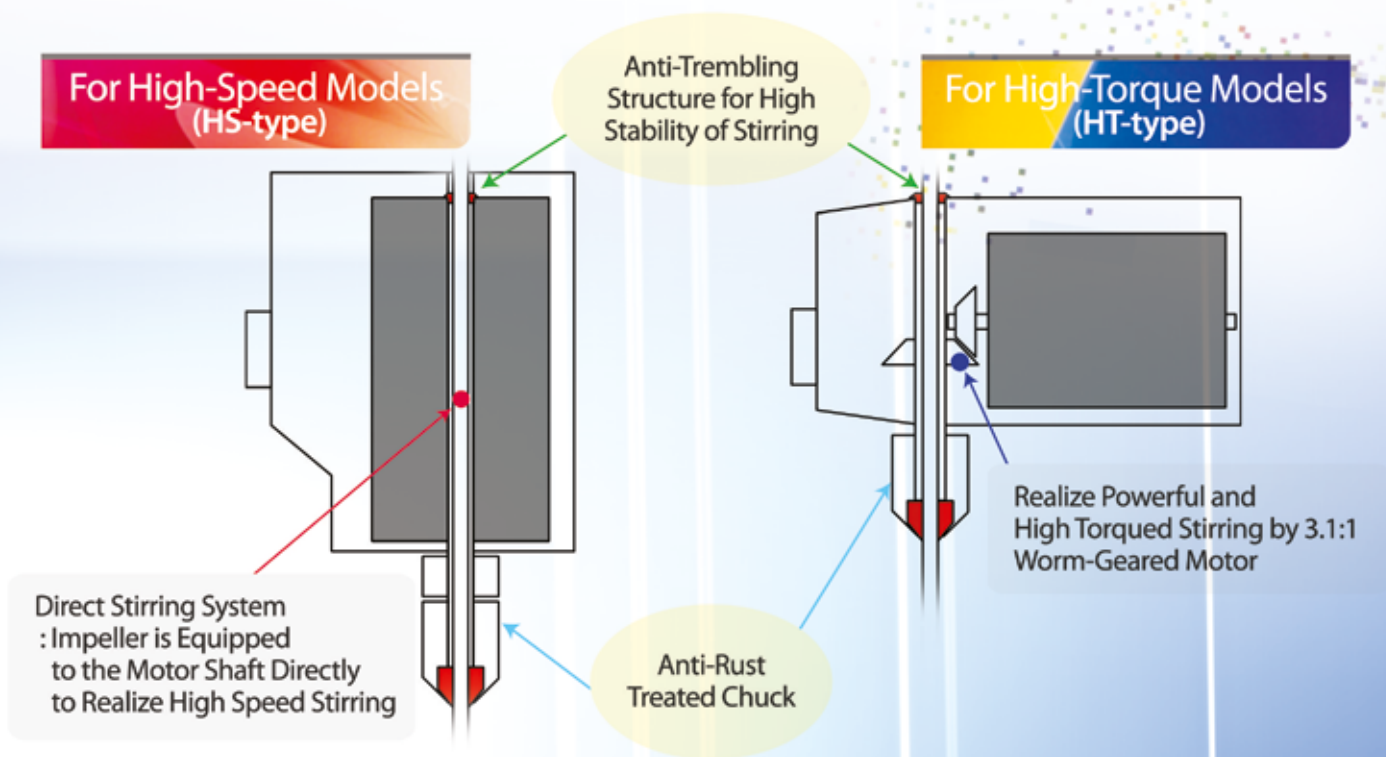**DH.WHP503012**   (4) Holder / Clamp / Clip, **"CL220"**, for Temp. Probe

WiseStir® HS-/HT-type Overhead Stirrers
The World Best Selling Overhead Stirrer!!
Anti-Trembling System!!

☒ Powerful DC Motor Designed by **witeg** **Wisd.23** Technology which is Ideal for Various Stirring Applications in Laboratories

☒ Two Main Categories for High-Speed(HS-type) and High-Torque(HT-type) (Refer Selection Guide on **Page. 166**)

☒ Digital Feedback Control System : Offered the Steady and Constant Stirring Speed Accurately Against the Viscosity Change of Sample (for all Digital Models)

☒ Chrome-plated Stainless Steel Chuck : Prevented from Corrosion During Operation in Fume Generated Solution

☒ The Position(Height) of Impeller is Adjustable

☒ Anti-Trembling System : Impeller is Fixed at Two Points of Both the Chuck and the Shaft

☒ Over-Load Protection and Over-Heat Protection Functions For Motor

☒ Various Kinds of Impellers and Stands are Available (Refer to Standard Accessories on **Page. 174~175**)

For High-Speed Models
(HS-type)

Anti-Trembling
Structure for High
Stability of Stirring

For High-Torque Models
(HT-type)

Direct Stirring System
: Impeller is Equipped
to the Motor Shaft Directly
to Realize High Speed Stirring

Anti-Rust
Treated Chuck

Realize Powerful and
High Torqued Stirring by 3.1:1
Worm-Geared Motor

Superior Anti-rusted Chuck for All Overhead Stirrer Models

Impeller Holding Part which is Requires Precision
and Anti-Oxidization Stainless Steel

Handle to Tighten and Loosen the Chuck
Chrome-plated : Prevent from Corrosion During
Operation in Fume Generated Solution
for Long Time

Articles	Cat. No	Description

Digital Overhead Stirrer

Product Line / Selection Guide

	High Speed						High Torque					
	Analog Model		Digital Model				Analog Model		Digital Model			
	Integrated Controller		Integrated Controller		Remote Controller		Integrated Controller		Integrated Controller		Remote Controller	
	HS-50A	HS-120A	HS-30D	HS-100D	HS-30T	HS-100T	HT-50AX	HT-120AX	HT-50DX	HT-120DX	HT-50T	HT-120T
Max. Stirring Capacity (H$_2$O)	10 Lit.	20 Lit.	10 Lit.	20 Lit.	10 Lit.	20 Lit.	40 Lit.	60 Lit.	40 Lit.	60 Lit.	40 Lit.	60 Lit.
Max. Viscosity (mPas)	10,000	50,000	10,000	50,000	10,000	50,000	100,000	150,000	100,000	150,000	100,000	150,000
Motor Rating (Input / Output)	83/75W (1/10 hp)	130/120W (1/6 hp)	83/75W (1/10 hp)	130/120W (1/6 hp)	83/75W (1/10 hp)	130/120W (1/6 hp)	83/75W (1/10 hp)	130/120W (1/6 hp)	83/75W (1/10 hp)	130/120W (1/6 hp)	83/75W (1/10 hp)	130/120W (1/6 hp)
Max. Torque (Ncm) at Chuck	85	145	85	145	85	145	300	500	300	500	300	500
Max. Impeller Diameter (mm)	8						10					
Speed Range (rpm)	200 ~ 3,000						50 ~ 1,000					
Motor Rating (Input / Output)	Direct Driven Motor						3.5:1 Ratio Worm-Geared Motor					
Controller	Analog Phase Controller		Digital Feedback Controller with Jog Shuttle Switch (Turn+Push)		Digital Feedback Controller with Jog Shuttle Switch (Turn+Push), Remote type		Analog Phase Controller		Digital Feedback Controller with Jog Shuttle Switch (Turn+Push)		Digital Feedback Controller with Jog Shuttle Switch (Turn+Push), Remote type	
Display	None		Digital LCD (Timer, RPM & Power Bar-graph)				None		Digital LCD (Timer, RPM & Power Bar-graph)			
Operating Environment — Ambient Temp. Range (°C)	0 ~ 40											
Operating Environment — Max. Permissible Humidity (%)	80											
Safety Device	Over Heat Protector for motor		Over Load & Heat Protector for motor				Over Heat Protector for motor		Over Load & Heat Protector for motor			
Body Dimension (w x d x h mm)	90 x 145 x 180				90 x 100 x 180		90 x 180 x 130	90 x 210 x 130	90 x 180 x 130	90 x 210 x 130	155 x 180 x 110	155 x 230 x 110
Body Weight (kg)	4.5	5.3	4.5	5.3	3 *	3.8*	3.5	4	3.5	4	3.5	4
Others	- Smooth Start and Change of the Stirring Speed for stable running - Storage Function (RPM & Timer) : Only Digital Models						- Smooth Start and Change of the Stirring Speed for stable running - Storage Function (RPM & Timer) : Only Digital Models - Locking Mode (Jog-Shuttle Input disabled) : Only Digital Models - Alarm (Error Status and Timer-end) : Only Digital Models					
Power Supply **	AC 230V, 50/60Hz											

* Weight of Remote Controller = 2.5kg

** Other Specifications are Available Upon Customer's Request.

Standard Viscosity

(Unit: mPas)

Material	Viscosity	Recommended Models			
Water	1	HS-30D HS-50A HS-30T			
Milk	3				
Soybean oil	160				
Varnish	500				
Lacquer	1,000		HS-100D HS-120A HS-100T		
Honey	3,000				
Standard Viscosity	10,000				
Standard Viscosity	15,000				
Ketchup	30,000			HT-50DX HT-50AX HT-50T	
Standard Viscosity	50,000				
Mustard	70,000				
Corn Syrup	100,000				HT-120DX HT-120AX HT-120T
Standard Viscosity	150,000				
Peanut Butter	250,000				

witeg® High-Speed Analog Overhead Stirrers, "HS-A", Max. 10/20 Lit., Max. 3,000 rpm
With Easy-to-Use Dial for Speed Setting, for Low- to Medium-Viscous Samples, up to 50,000 mPas, with Certi. & Traceability

- **with Certificate & Traceability : Controlled by Serial Number, Certificate, Delivery-information, and Traceable Data Base System**
- **High Speed Stirring by Direct Driven Motor**
- **Over-Heat Protection Function for motor**
- **CE Certified**   ■ **PL (Product Liability) Insurance**

✽ General Purpose Basic Laboratory Mixing
✽ Ideal for Stirring Low-to Medium-Viscous Material
✽ Ideal for Schools, Universities and Inspection Laboratories
✽ Smooth Start and Change of the Stirring Speed
✽ Easy-to-use Dial for Speed Setting
✽ The Position (Height) of Impeller is Adjustable
✽ Over-Heat Protection Function for Motor
✽ Chrome-Plated & Stainless Steel Chuck - Prevention from Corrosion

Specification

Stirring Capacity & Models	Max. 10 Lit. (H_2O) "HS-50A"	Max. 20 Lit. (H_2O) "HS-120A"
Maximum Viscosity	10,000 mPas	50,000 mPas
Maximum Torque	85 Ncm	145 Ncm
Speed Range & Motor	0 ~ 3.000 rpm, Worm-Geared DC Motor	
Motor Rating (Input / Output)	83 / 75 W, 1 / 10 HP	130 / 120 W, 1 / 6 HP
Controller	Analog Phase Controller	
Max. Impeller Shaft Diameter	8 mm	
Permissible Temp. & Humidity	0 ~ 40°C, 80%	
Safety Device	Over Heat Protector for motor	
Material	ABS and Aluminum	
Dimension & Weight	90 x 145 x h180mm, 4,5 kg	90 x 145 x h180mm, 5,3 kg
Packing Size & Gross Weight	320 x 300 x h180mm, 5 kg	320 x 300 x h180mm, 8 kg
Power Consumption	85 W	130 W
Power plug type	Hybrid E+F	
Power Supply*	AC 230V, 1N~, 50/60Hz	

* Other Specifications are available upon Customer's Request.

Ordering Information

✽ **"HS-50A"** Package-set : Complete with ① Overhead Stirrer Unit ② **"PL010"** Stainless Steel Impeller (Rod Ø8 x L500mm, Blade Ø50mm) ③ **"CL200"** Clamp ④ **"KA1177"** Safety Stand (Rod Ø23 x L800mm, Stand Base w34 x d29cm)

✽ **"HS-120A"** Package-set : Complete with ① Overhead Stirrer Unit ② **"PL015"** Stainless Steel Impeller (Rod Ø8 x L500mm, Blade Ø70mm) ③ **"CL200"** Clamp ④ **"KA1177"** Safety Stand Rod Ø23 x L800mm, Stand Base w34 x d29cm)

With 10 Lit. Stirring Capa., 10,000 mPas, "HS-50A" Package-set & Unit
DH.WOS01211   High Speed-type Overhead Stirrer, **Package-set, 230V**
DH.WOS01210   **Unit** only, **230V**

With 20 Lit. Stirring Capa., 50,000 mPas, "HS-120A" Package-set & Unit
DH.WOS01216   High Speed-type Overhead Stirrer, **Package-set, 230V**
DH.WOS01215   , **Unit** only, **230V**

※ **Refer to page 174, 175 for Accessory Specifications.**

※ **Refer to page 166 for Product Line & Selection Guide**

High-Speed Analog Overhead Stirrer "HS-50A -Set"

High-Speed Analog Overhead Stirrer "HS-120A -unit"

witeg® High-Speed Digital Overhead Stirrer, "HS-D", Max.10/20Lit., 200 ~ 3,000 rpm
with Digital Feedback Control, Steady & Constant Stirring Speed Against Viscosity, up to 50,000 mPas

CE

- Back light LCD
- Clamp (CL200)
- Patented Jog-Shuttle Control System
- Stirrer Unit (HS-30D)
- Chrome-plated Chuck
- Stainless Steel Impeller (PL010)
- Stand (ST110)

Wisd — **2-Year Warranty**

High-Speed Digital Overhead Stirrer "HS-30D -Set"

■ **with Certificate & Traceability : Controlled by Serial Number, Certificate, Delivery-information, and Traceable Data Base System**
■ **Digital Feedback Control: Steady and Constant Stirring Speed against Viscosity Change of a Sample during Reaction**
■ **Patented Jog-Shuttle Control System**   ■ **CE Certified**
■ **PL(Product Liability) Insurance**

✱ General Purpose Basic Laboratory Mixing
✱ Ideal for Stirring Low-to Medium-Viscous Material
✱ Digital Feedback Control: Steady and Constant Stirring Speed against Viscosity Change of a sample during Reaction
✱ Digital LCD with Back-Light Function   ✱ Smooth Start and Change of the Stirring Speed
✱ Overload Protection and Over-Heat Protection Functions for Motor
✱ High Speed Stirring by Direct Driven Motor   ✱ Digital Timer Function (99hr 59min)
✱ Alarm Function : Error status and Timer-end
✱ The Position(Height) of Impeller is Adjustable.   ✱ Storage Function for Set Value : RPM & Timer
✱ Chrome-Plated & Stainless Steel Chuck-Prevention from Corrosion

Specification

Stirring Capacity & Models	Max. 10 Lit. (H_2O) "HS-30D"	Max. 20 Lit. (H_2O) "HS-100D"
Maximum Viscosity	**10.000 mPas**	**50.000 mPas**
Maximum Torque	85 Ncm	145 Ncm
Speed Range & Resolution	200 ~ 3.000 rpm, 1 rpm-Display / 1 rpm-Control	
Motor	Worm-Geared DC Motor	
Motor Rating (Input / Output)	83 / 75 W, 1 / 10 HP	130 / 120 W, 1 / 6 HP
Timer & Alarm	99hr 59min (with Continuous run.), Error status & Timer-end	
Display	Digital LCD with Back-Light Function	
Controller	Digital Feedback Controller with Jog Shuttle Switch (Turn + Push)	
Max. Impeller Shaft Diameter	8 mm	
Permissible Temp. & Humidity	0 ~ 40°C, 80%	
Safety Device	Overload & Heat Protector for Motor	
Material	ABS and Aluminum	
Dimension & Weight	90 x 145 x h180mm, 4,5 kg	90 x 145 x h180mm, 5,3 kg
Packing Size & Gross Weight	320 x 300 x h180mm, 5 kg	320 x 300 x h180mm, 8 kg
Power Consumption	85 W	130 W
Power plug type	Hybrid E+F	
Power Supply*	AC 230V, 1N~, 50/60Hz	

* Other Specifications are available upon Customer's Request.

CE

- Back light LCD
- Patented Jog-Shuttle Control System
- Digital Feedback Control
- Chrome-plated Chuck

Wisd

High-Speed Digital Overhead Stirrer "HS-100D -Unit"

Ordering Information

✱ **"HS-30D"** Package-set : Complete with ① Overhead Stirrer Unit ② **"PL010"** Stainless Steel Impeller (Rod Ø8 x L500mm, Blade Ø50mm) ③ **"CL200"** Clamp ④ **"ST110"** Standard Plate Stand (Rod Ø16 x L800mm, Plate w20 x d35cm)
✱ **"HS-100D"** Package-set : Complete with ① Overhead Stirrer Unit ② **"PL015"** Stainless Steel Impeller (Rod Ø8 x L500mm, Blade Ø70mm) ③ **"CL200"** Clamp ④ **"ST120"** Wide Plate Stand (Rod Ø23 x L1,000mm, Plate w30 x d40cm)

With 10 Lit. Stirring Capa., 10,000 mPas, "HS-30D" Package-set & Unit
DH.WOS01016   High Speed-type Overhead Stirrer, **Package-set, 230V**
DH.WOS01015   High Speed-type Overhead Stirrer, **Unit** only, **230V**

With 20 Lit. Stirring Capa., 50,000 mPas, "HS-100D" Package-set & Unit
DH.WOS01026   High Speed-type Overhead Stirrer, **Package-set, 230V**
DH.WOS01025   High Speed-type Overhead Stirrer, **Unit** only, **230V**

Cat. No	Description	Articles

witeg® High-Speed Digital Overhead Stirrer, "HS-T", with Remote Controller, 200 ~ 3,000 rpm
with Remote Digital Feedback Control System, Steady & Constant Stirring Speed Against Viscosity, up to 50,000 mPas

- **with Certificate & Traceability : Controlled by Serial Number, Certificate, Delivery-information, and Traceable Data Base System**
- **Remote Digital Feedback Controller : Steady and Constant Stirring Speed against Viscosity Change of a Sample during Reaction**
- **Patented Jog-Shuttle Control System**
- **CE Certified**   **PL(Product Liability) Insurance**

✽ Ideal for Stirring Low-to Medium-Viscous Material, General Purpose Basic Laboratory Mixing
✽ Digital LCD for RPM, Power Bar Graph and Status
✽ Overload Protection and Over-Heat Protection Functions for Motor
✽ Smooth Start and Change of the Stirring Speed
✽ High Speed Stirring by Direct Driven Motor   ✽ The Position(height) of Impeller is Adjustable
✽ Storage Function for Set Value : RPM and Timer
✽ Chrome-Plated & Stainless Steel Chuck - Prevention from Corrosion

High-Speed Digital Overhead Stirrer, with Remote Controller, "HS-30T" Package-set

Specification

Stirring Capacity & Models	Max. 10 Lit. (H₂O) "HS-30T"	Max. 20 Lit. (H₂O) "HS-100T"
Maximum Viscosity	**10.000 mPas**	**50.000 mPas**
Maximum Torque	85 Ncm	145 Ncm
Speed Range & Motor	200 ~ 3.000 rpm, Direct Driven DC Motor	
Motor Rating (Input / Output)	83 / 75 W, 1/10 HP	130 / 120 W, 1/6 HP
Timer & Alarm	99hr 59min (with Continuous run.), Timer-end Alarm	
Display	Digital LCD with Back - Light Function	
Controller	Remote type Digital Feedback Controller with Jog Shuttle Switch	
Max. Impeller Shaft Diameter	Ø8 mm	
Permissible Temp. & Humidity	0 ~ 40°C, 80%	
Safety Device	Overload & Heat Protector for motor	
Material	ABS and Aluminum	
Dimension & Weight*	90 x 100 x h180mm, 3 kg	90 x 100 x h180mm, 3.8 kg
Packing Size & Gross Weight	580 x 340 x h230mm, 5 kg	580 x 340 x h230mm, 8 kg
Power Consumption	75 W	120 W
Power plug type	Hybrid E+F	
Power Supply*	AC 230V, 1N~, 50/60Hz	

* Weight of Remote Controller = 2.5kg   ** Other Specifications are available upon Customer's Request.

Ordering Information

✽ **"HS-30T"** Package-set : Complete with ① Overhead Stirrer Unit with Remote Controller ② **"PL010"** Stainless Steel Impeller(Rod Ø8 x L500mm, Blade Ø50mm) ③ **"CL200"** Clamp ④ **"ST110"** Standard Plate Stand (Rod Ø16 x L800mm, Plate w20 x d35cm)

✽ **"HS-100T"** Package-set : Complete with ① Overhead Stirrer Unit with Remote Controller ② **"PL015"** Stainless Steel Impeller(Rod Ø8 x L500mm, Blade Ø70mm) ③ **"CL200"** Clamp ④ **"ST120"** Wide Plate Stand (Rod Ø23 x L1,000mm, Plate w30 x d40cm)

With Remote Controller, 10 Lit. Stirring Capa., 10,000 mPas, "HS-30T" Package-set & Unit
DH.WOS01036   High Speed-type Overhead Stirrer, **Package-set, 230V**
DH.WOS01035   High Speed-type Overhead Stirrer, **Unit** only, **230V**

With Remote Controller, 20 Lit. Stirring Capa., 50,000 mPas, "HS-100T" Package-set & Unit
DH.WOS01046   High Speed-type Overhead Stirrer, **Package-set, 230V**
DH.WOS01045   High Speed-type Overhead Stirrer, **Unit** only, **230V**
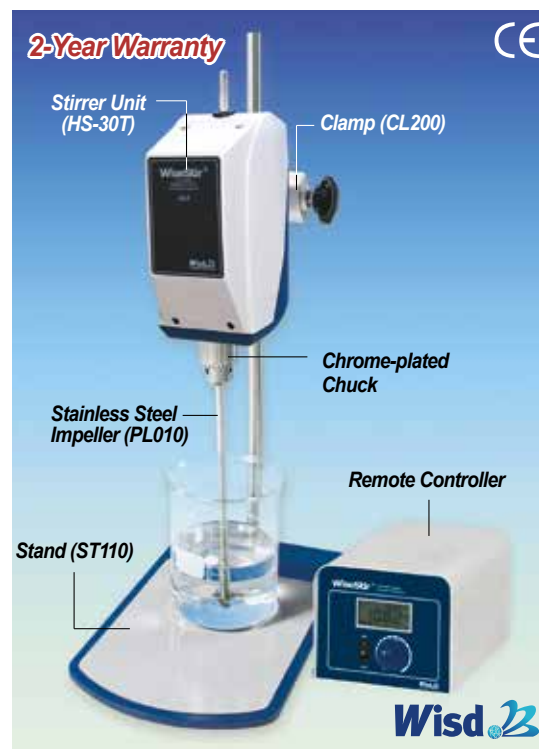
High-Speed Digital Overhead Stirrer, with Remote Controller, "HS-100T" Unit only

witeg® High-Torque Analog Overhead Stirrer, "HT-AX", Max.40-/60-Lit., Max.1,000rpm
with Chrome-Plated & Stainless Steel Chuck , Easy-to-Use Dial for Speed Setting, for High-Viscosity Fluids, 150,000 mPas

CE

Clamp (CL200)

Stirrer Unit (HT-50AX)

Chrome-plated Chuck

Stainless Steel Impeller (PL020)

Stand (KT1177)

Wisd.23   *2-Year Warranty*

High-Torque Analog Overhead Stirrer, "HT-50AX" Package-set

CE

HT-50AX-Unit

Chrome-plated Chuck

Wisd.23

Analog High-Torque Overhead Stirrer, "HT-120AX" Unit only

■ **with Certificate & Traceability : Controlled by Serial Number, Certificate, Delivery-information, and Traceable Data Base System**
■ **High Torque Stirring by 3.5:1 Ratio Worm-geared Motor**
■ **Smooth Start and Change of the Stirring Speed**
■ **CE Certified   ■ PL (Product Liability) Insurance**

❋ Ideal for Stirring Material of Viscosities Ranging from Light Watery Solutions to High-Viscosity Fluids
❋ Ideal for Schools, Universities and Inspection Laboratories
❋ Food, Beverage, Dairy, Sugar & Candy Production
❋ Smooth Start and Change of the Stirring Speed   ❋ Easy-to-use Dial for Speed Setting
❋ The Position(height) of Impeller is Adjustable   ❋ Over-Heat Protection Function for Motor
❋ Chrome-Plated & Stainless Steel Chuck-Prevention from Corrosion

Specification

Stirring Capacity & Models	Max. 40 Lit. (H_2O) "HT-50AX"	Max. 60 Lit. (H_2O) "HT-120AX"
Maximum Viscosity	**100.000 mPas**	**150.000 mPas**
Maximum Torque	300 Ncm	500 Ncm
Speed Range & Motor	0 ~ 1.000 rpm, Worm-Geared DC Motor (3,5:1 Ratio)	
Motor Rating (Input / Output)	83 / 75 W, 1 / 10 HP	130 / 120 W, 1 / 6 HP
Controller	Analog Phase Controller	
Max. Impeller Shaft Diameter	10 mm	
Permissible Temp. & Humidity	0 ~ 40°C, 80%	
Safety Device	Over Heat Protector for motor	
Material	ABS and Aluminum	
Dimension & Weight	90 x 180 x h130mm, 3,5 kg	90 x 210 x h130mm, 4 kg
Packing Size & Gross Weight	320 x 300 x h180mm, 5 kg	320 x 300 x h180mm, 8 kg
Power Consumption	85 W	130 W
Power plug type	Hybrid E+F	
Power Supply*	AC 230V, 1N~, 50/60Hz	

* Other Specifications are available upon Customer's Request.

Ordering Information

❋ **"HT-50AX"** Package-set : Complete with ① Overhead Stirrer Unit ② **"PL020"** Stainless Steel Impeller (Rod Ø8 x L500mm, Blade Ø90mm) ③ **"CL200"** Clamp ④ **"KA1177"** Safety Stand (Rod Ø23 x L800mm, Stand Base w34 x d29cm)
❋ **"HT-120AX"** Package-set : Complete with ① Overhead Stirrer Unit ② **"PL020"** Stainless Steel Impeller (Rod Ø8 x L500mm, Blade Ø90mm) ③ **"CL200"** Clamp ④ **"KA1177"** Safety Stand (Rod Ø23 x L800mm, Stand Base w34 x d29cm)

With 40 Lit. Stirring Capa., 100,000 mPas, "HT-50AX" Package-set & Unit
DH.WOS01252   High Torque-type Overhead Stirrer, **Package-set, 230V**
DH.WOS01251   , **Unit** only, **230V**

With 60 Lit. Stirring Capa., 150,000 mPas, "HT-120AX" Package-set & Unit
DH.WOS01272   High Torque-type Overhead Stirrer, **Package-set, 230V**
DH.WOS01271   , **Unit** only, **230V**

witeg® High-Torque Digital Overhead Stirrer, "HT-DX", Max. 40-/60-Lit., 50 ~ 1,000 rpm

with Digital Feedback Control, Steady & Constant Stirring Speed Against Viscosity, for High-Viscosity Fluids, up to 150,000 mPas

- ■ **with Certificate & Traceability : Controlled by Serial Number, Certificate, Delivery-information, and Traceable Data Base System**
- ■ **Patented Jog-Shuttle Control System**
- ■ **CE Certified**　　　　■ **PL(Product Liability) Insurance**

✽ Ideal for Stirring Material of Viscosities Ranging from Light Watery Solutions to High-Viscosity Fluids
✽ Food, Beverage, Dairy, Sugar & Candy Production
✽ Digital Feedback Control: Steady and Constant Stirring Speed Against Viscosity Change of a Sample during Reaction.
✽ High Torque Stirring by 3.5:1 Ratio Worm-Geared Motor
✽ Digital LCD with Back-Light Function　　✽ Smooth Start and Change of the Stirring Speed
✽ The Position (Height) of Impeller is Adjustable
✽ Storage Function for the set values : RPM and Timer
✽ Locking Mode Supported for Experimental Safety (Input to Jog-Shuttle can be Disabled)
✽ Chrome-Plated & Stainless Steel Chuck - Prevention from Corrosion

Specification

Stirring Capacity & Models	Max. 40 Lit. (H$_2$O) "HT-50DX"	Max. 60 Lit. (H$_2$O) "HT=120DX"
Maximum Viscosity	**100.000 mPas**	**150.000 mPas**
Maximum Torque	300 Ncm	500 Ncm
Speed Range & Resolution	50 ~ 1.000 rpm, 1 rpm-Display / 1 rpm-Control	
Motor	Worm-Geared DC Motor (3,5:1 Ratio)	
Motor Rating (Input / Output)	83 / 75 W, 1 / 10 HP	130 / 120 W, 1 / 6 HP
Timer & Alarm	99hr 59min (with Continuous run.), Error status & Timer-end	
Display	Digital LCD with Back-Light Function	
Controller	Digital Feedback Controller with Jog Shuttle Switch (Turn + Push)	
Max. Impeller Shaft Diameter	10 mm	
Permissible Temp. & Humidity	0 ~ 40°C, 80%	
Safety Device	Overload & Heat Protector for Motor	
Material	ABS and Aluminum	
Dimension & Weight	90 x 180 x h130mm, 3,5 kg	90 x 210 x h130mm, 4 kg
Packing Size & Gross Weight	320 x 300 x h180mm, 5 kg	320 x 300 x h180mm, 8 kg
Power Consumption	85 W	130 W
Power plug type	Hybrid E+F	
Power Supply*	AC 230V, 1N~, 50/60Hz	

* Other Specifications are available upon Customer's Request.

Ordering Information

✽ **"HT-50DX"** Package-set : Complete with ① Overhead Stirrer Unit ② **"PL020"** Stainless Steel Impeller (Rod Ø8 x L500mm, Blade Ø90mm) ③ **"CL200"** Clamp ④ **"ST120"** Wide Plate Stand (Rod Ø23 x L1000mm, Plate w30 x d40cm)

✽ **"HT-120DX"** Package-set : Complete with ① Overhead Stirrer Unit ② **"PL020"** Stainless Steel Impeller (Rod Ø8 x L500mm, Blade Ø90mm) ③ **"CL200"** Clamp ④ **"ST200"** Deluxe Safety Stand (Rod Ø23 x L1200mm, Stand Base w39 x up to 75cm)

With 40 Lit. Stirring Capa., 100,000 mPas, "HT-50DX" Package-set & Unit

DH.WOS01052　High Torque-type Overhead Stirrer, **Package-set, 230V**
DH.WOS01051　　　　　　　　　　　　　, **Unit** only, **230V**

With 60 Lit. Stirring Capa., 150,000 mPas, "HT-120DX" Package-set & Unit

DH.WOS01072　High Torque-type Overhead Stirrer, **Package-set, 230V**
DH.WOS01071　　　　　　　　　　　　　, **Unit** only, **230V**

2-Year Warranty

Stirrer Unit (HT-50DX)
Clamp (CL200)
Back light LCD
Digital Feedback Control
Patented Jog-Shuttle Control System
Chrome-plated Chuck
Stainless Steel Impeller (PL020)
Stand (ST120)
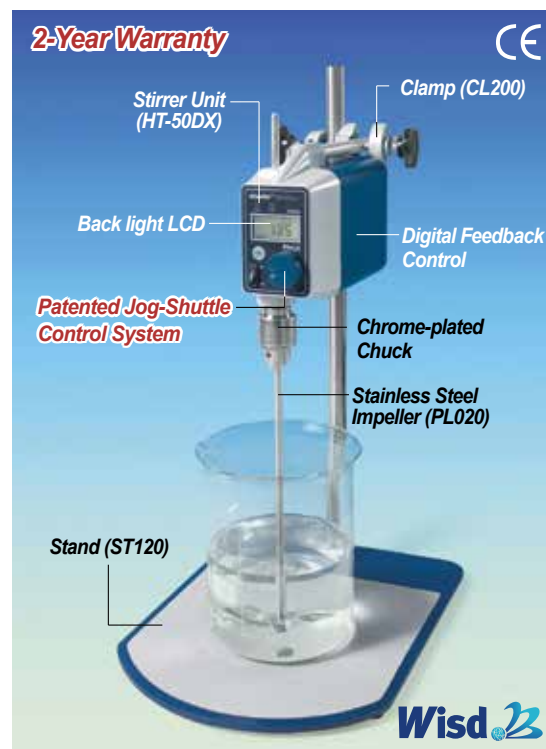
High-Torque Digital Overhead Stirrer, "HT-50DX" Package-set

Back light LCD
Digital Feedback Control
Chrome-plated Chuck
Patented Jog-Shuttle Control System

High-Torque Digital Overhead Stirrer, "HT-120DX" Unit only

witeg® High-Torque Digital Overhead Stirrer, "HT-T", with Remote Controller, with Certi. & Traceability
with Remote Digital Feedback Controller, Steady & Constant Stirring Speed Against Viscosity, 50 ~ 1,000 rpm, to 150,000 mPas

2-Year Warranty

- Clamp (CL200)
- Stirrer Unit (HT-50T)
- Digital Feed Back Control
- Chrome-plated Chuck
- Stainless Steel Impeller (PL020)
- Stand (ST200)
- Remote Controller

Wisd.ß

Digital High-Torque Overhead Stirrer with Remote Controller "HT-120T-Set"

- HT-50T / HT-120T Unit
- Chrome-plated Chuck
- Digital Feed Back Control

Wisd.ß

Digital High-Torque Overhead Stirrer "HT-120T-Unit"

■ **with Certificate & Traceability :** Controlled by Serial Number, Certificate, Delivery-information, and Traceable Data Base System
■ **Remote Digital Feedback Controller :** Steady and Constant Stirring Speed against Viscosity Change of a Sample during Reaction
■ **Patented Jog-Shuttle Control System**
■ **CE Certified**   ■ **PL (Product Liability) Insurance**

✻ Food, Beverage, Dairy, Sugar & Candy Production
✻ Ideal for Stirring Material of Viscosities Ranging from Light Watery Solutions to High-Viscosity Fluids
✻ Digital LCD with Back-Light Function
✻ Overload Protection and Over-Heat Protection Functions for Motor
✻ High Torque Stirring by 3.5:1 Ratio Worm-geared Motor
✻ Smooth Start and Change of the Stirring Speed
✻ Storage Function for the set Values : RPM and Timer
✻ The Position (Height) of Impeller is Adjustable
✻ Locking Mode supported for Experimental Safety (Input to Jog-Shuttle can be Disabled)
✻ Chrome-plated & Stainless Steel Chuck-Prevention from Corrosion

Specification

Stirring Capacity & Models	Max. 40 Lit. (H$_2$O) "HT-50T"	Max. 60 Lit. (H$_2$O) "HT-120T"
Maximum Viscosity	100.000 mPas	150.000 mPas
Maximum Torque	300 Ncm	500 Ncm
Speed Range & Motor	50 ~ 1.000 rpm, Worm-Geared Motor (3,5:1 Ratio)	
Motor Rating (Input / Output)	83 / 75 W, 1/10 HP	130 / 120 W, 1/6 HP
Timer & Alarm	99hr 59min (with Continuous run.), Timer-end Alarm	
Display	Digital LCD Display with Back - Light Function	
Controller	Remote type Digital Feedback Controller with Jog Shuttle Switch	
Max. Impeller Shaft Diameter	Ø10 mm	
Permissible Temp. & Humidity	0 ~ 40°C, 80%	
Safety Device	Overload & Heat Protector for motor	
Material	ABS and Aluminum	
Dimension & Weight*	155 x 180 x h110mm, 3,5 kg	155 x 230 x h110mm, 4 kg
Packing Size & Gross Weight	580 x 340 x h230mm, 5 kg	580 x 340 x h230mm, 8 kg
Power Consumption	75 W	120 W
Power plug type	Hybrid E+F	
Power Supply*	AC 230V, 1N~, 50/60Hz	

* Weight of Remote Controller = 2.5kg   ** Other Specifications are available upon Customer's Request.

Ordering Information

✻ **HT-50T** Package-set : Complete with ① Overhead Stirrer Unit with Remote Controller ② **"PL020"** Stainless Steel Impeller (Rod Ø8 x L500mm, Blade Ø90mm) ③ **"CL200"** Clamp ④ **"ST120"** Wide Plate Stand (Rod Ø23 x L1000mm, Plate w30 x d40cm)

✻ **HT-120T** Package-set : Complete with ① Overhead Stirrer Unit with Remote Controller ② **"PL020"** Stainless Steel Impeller(Rod Ø8 x L500mm, Blade Ø90mm) ③ **"CL200"** Clamp ④ **"ST200"** Deluxe Safety Stand (Rod Ø23 x L1,200mm, Stand Base 39 x up to 75cm)

With Remote Controller, 40 Lit. Stirring Capa., 100,000 mPas, "HT-50T" Package-set & Unit

DH.WOS01066	High Torque-type Overhead Stirrer, **Package-set, 230V**
DH.WOS01065	, **Unit** only, **230V**

With Remote Controller, 60 Lit. Stirring Capa., 150,000 mPas, "HT-120T" Package-set & Unit

DH.WOS01076	High Torque-type Overhead Stirrer, **Package-set, 230V**
DH.WOS01075	, **Unit** only, **230V**

Stirrer, *Jar Tester* **Wisd** **St**

witeg® Digital Jar Tester, "JT-M6C", 6-Paddle Stirrer for Flocculation Test, 300 rpm, with Certi. & Traceability

with Programmable Digital Feedback Control, 6 Impellers, 6 Independent Light Source, up to 6 x 1 Lit. Beakers

- **with Certificate & Traceability : Controlled by Serial Number, Certificate, Delivery-information, and Traceable Data Base System**
- **Ideal for Flocculation Testing in Water Treatment Laboratories**
- **6 Independent Light Source for Each Stirring Point**
- **Geared DC Motor and Specially Designed Timing Belt Used**
- **CE Certified**
- **PL (Product Liability) Insurance**

✱ Deciding on Coagulant Chemistries
✱ Ideal for Flocculation Testing in Water Treatment Laboratories
✱ 6 Independent Light Source for each Stirring Point
✱ Digital Feedback Control using Microprocessor
✱ Geared DC Motor and Specially Designed Timing Belt used
✱ Stable and Accurate Stirring Speed by Feedback Control
✱ Digital Display for RPM, Power Bar-Graph and Status
✱ Digital LCD with Back-Light Function
✱ Programmable Operation : 10 Step, 6 Programs
✱ Overload Protection and Over-Heat Protection Functions for Motor
✱ Storage Function for Set Values : RPM and Timer

2-Year Warranty

Digital Feedback Control System

Impellers(Φ8 x L400mm)

Wisd

Jar Tester, Φ6 x L400mm Shaft "JT-M6C"

Timing Belt

Specification

Model	Shaft : Φ8 x L400mm "JT-M6C"
6 x Paddler (Stainless steel Shaft)	Φ8 x L400mm
	Straight Blade w75 x h25mm
Stirring Capacity	6 x 1 Liter Beaker
Motor	Geared DC Motor (10:1 ratio), 40W
Speed	20~300 rpm
Speed Accuracy	±5 rpm
Timer	99hr 59min 59sec (Programmable)
Display	Digital LCD with Back-Light Function
Controller	Programmable Digital Feedback Controller with Jog-Shuttle Switch (Turn + Push)
Program Function	10 Steps, 6 Programs
Florescent Lamp	20W x 6 (Independent Light Source for Each Sample)
Dimension (w x d x h) (mm)	1,000 x 310 x 535
Safety Device	Overload & Over Heat Protector for motor
Others	CE Certified PL (Product Liability) Insurance Storage Function (RPM, Timer)
Packing Dimension (w x d x h) (mm)	1,120 x 430 x 740
Gross Weight	69 kg
Power Consumption	40 W
Power plug type	Hybrid E+F
Power Supply*	AC 230V, 1N~, 50/60Hz

* Other Specifications are available upon Customer s Request.

Ordering Information
with Φ8mm x L400mm Shaft, 6 Impellers, "JT-M6C"

DH.WJT06020 Jar Tester, **230V, "JT-M6C",** 300 rpm

Standard Accessories for Overhead Stirrers

witeg® Stirring Impeller for Overhead Stirrer, Stainless Steel #304

(1) Propeller-type 3 x Bladed

(2) Propeller-type 4 x Bladed

(3) Diamond-type 4 x Bladed

(4) Centrifugal-type 2 x Bladed

(5) PTFE Coated Centrifugal-type

(6) Anchor-type 2 x Bladed

- ■ *Specially designed Stainless Steel #304 (High-grade) used*
- ■ *Excellent Resistance of Acids, Chemicals, Corrosion and High Temperature.*
- ■ *Universal-Types and Wide-Ranges*

For Both High Speed-type & High Torque-type Overhead Stirrers

(1) Propeller-types, 3 x Bladed, Rod Φ8 x L500/650 mm, Blade Φ50/60/80/100 mm

DH.WOS501010　Impeller, "**PL010**", #304, Φ8 x L500mm Rod, Φ50mm Blade
DH.WOS501011　　　　, "**PL011**", #304, Φ8 x L500mm Rod, Φ60mm Blade
DH.WOS501012　　　　, "**PL012**", #304, Φ8 x L650mm Rod, Φ80mm Blade
DH.WOS501013　　　　, "**PL013**", #304, Φ8 x L650mm Rod, Φ100mm Blade

(2) Propeller-types, 4 x Bladed, Rod Φ8 x L500/650 mm, Blade Φ70/90/100 mm
DH.WOS501015　Impeller, "**PL015**", #304, Φ8 x L500mm Rod, Φ70mm Blade
DH.WOS501016　　　　, "**PL016**", #304, Φ8 x L650mm Rod, Φ90mm Blade
DH.WOS501017　　　　, "**PL017**", #304, Φ8 x L650mm Rod, Φ100mm Blade

(3) Diamond-types, 4 x Bladed, Rod Φ8 x L500/650 mm, Blade Φ90/100 mm
DH.WOS501020　Impeller, "**PL020**", #304, Φ8 x L500mm Rod, Φ90mm Blade
DH.WOS501021　　　　, "**PL021**", #304, Φ8 x L650mm Rod, Φ100mm Blade

(4) Centrifugal-type, 2 x Bladed, Rod Φ8 x L500mm, Blade Φ100mm
DH.WOS501025　Impeller, "**PL025**", #304, Φ8 x L500mm Rod, Φ100mm Blade

(5) PTFE Coated Centrifugal-type, 2 x Bladed, Rod Φ8 x L500/650mm,
　　Blade Φ90/120mm
DH.WOS501030　Impeller, "**PL030**", #304, Φ8 x L500mm Rod, Φ90mm Blade
DH.WOS501031　　　　, "**PL031**", #304, Φ8 x L650mm Rod, Φ120mm Blade

(6) Anchor-types, 2 x Bladed, Rod Φ8 x L500/650 mm, Blade Φ70/90 mm
DH.WOS501035　Impeller, "**PL035**", #304, Φ8 x L500 mm Rod, Φ70mm Blade
DH.WOS501036　　　　, "**PL036**", #304, Φ8 x L650 mm Rod, Φ90mm Blade

For High Torque-type Overhead Stirrers (HT-AX, HT-DX, HT-T)

(1) Propeller-types, 3 x Bladed, Rod Φ10 x L500/650/800 mm, Blade Φ60/80/100 mm
DH.WOS501111　Impeller, "**PL111**", #304, Φ10 x L500mm Rod, Φ60mm Blade
DH.WOS501112　　　　, "**PL112**", #304, Φ10 x L650mm Rod, Φ80mm Blade
DH.WOS501113　　　　, "**PL113**", #304, Φ10 x L650mm Rod, Φ100mm Blade

(2) Propeller-types, 4 x Bladed, Rod Φ10 x L650 mm, Blade Φ90/100 mm
DH.WOS501116　Impeller, "**PL116**", #304, Φ10 x L650mm Rod, Φ90mm Blade
DH.WOS501117　　　　, "**PL117**", #304, Φ10 x L650mm Rod, Φ100mm Blade

(3) Diamond-types, 4 x Bladed, Rod Φ10 x L650 mm, Blade Φ100 mm
DH.WOS501121　Impeller, "**PL121**", #304, Φ10 x L650mm Rod, Φ100mm Blade

(6) Anchor-types, 2 x Bladed, Rod Φ10 x L650/800 mm, Blade Φ90/140 mm
DH.WOS501135　Impeller, "**PL135**", #304, Φ10 x L650 mm Rod, Φ90mm Blade
DH.WOS501136　　　　, "**PL136**", #304, Φ10 x L800 mm Rod, Φ140mm Blade

※ **Please Note!**
　 Other Specification of a Rod or Blade is available upon Customers Request.

Cat. No	Description	Articles

witeg® Premium Plate Stand, High Quality, with Stainless Steel Rod Φ16/23 mm

- **High-Quality Plate-type Stand with Support Rod**
- **Wide and Thick Steel Plate for Safety Mechanism**
- **Support Rod made of Stainless Steel specially designed**
- **Silicon Rubber Pad adhered**

DH.WOS501510   (1) Standard Plate Stand, **"ST110"**,
for Stirrer and Homogenizer
Φ16 x h800 mm/1.5P Screw Rod, **"RD 511"**,
20 x 35 cm Plate, with Silicone Pad

DH.WOS501515   (2) Wide Plate Stand, **"ST120"**,
for Stirrer and Homogenizer
Φ23 x h1000 mm/1.5P Screw Rod, Rod, **"RD 522"**,
30 x 40 cm Plate, with Silicone Pad

(1) "ST110"   *(2) "ST120"*

witeg® Heavy Duty Safety Stand, High Safety, with Stainless Steel Rod Φ23 mm

- **Never Fall Down by Safety Mechanism.**
- **Provides Sturdy Support for Stirrers during Mixing Procedure**
- **Support Rod made of Stainless Steel specially designed**
- **Adjustable Foot Distance (ST200)**
- **High-Safety H-/U-type Stand with Support Rod**

DH.WOS501520   (3) Deluxe Safety Stand, **"ST200"**, H-type
Φ23 x h1200 mm Rod, 39 x up to 75cm Stand Base

DH.WOS1177   (4) Safety Stand, **"KA1177"**, U-type
Φ23 x h800 mm Rod, 34 x 29 cm Stand Base

(3) "ST200"   *(4) "KA1177"*

witeg® Universal Jumbo Clamp Holder, for Stand/Rod

DH.WOS502020   (5) Clamp Holder, **"CL200"**

Cast Aluminum, Grip Capacity, Φ23mm for Stand/Rod

(5) Clamp CL200

Steel Retort Base Duo Stand, up to Φ16mm Rods, for 2 Rods
Nonskid Feet equipped, with Hinged Screw M6, Rod Excluded

✱ Can Fix Rods up to 2ea (Below Φ16mm)   ✱ Stand Thickness : 8mm

Retort Stand, Only Stand Base
US.2040   Stand, **"US2040"**, r =150mm
US.2041   , **"US2041"**, r =185mm

Optional Stainless Steel Rod
DH.WOS502001   Stainless steel Rod, **"RD501"**, Φ16 x h800mm, non-screw
DH.WOS502002   , **"RD502"**, Φ16 x h1000mm, non-screw
DH.WOS502003   , **"RD503"**, Φ16 x h1200mm, non-screw
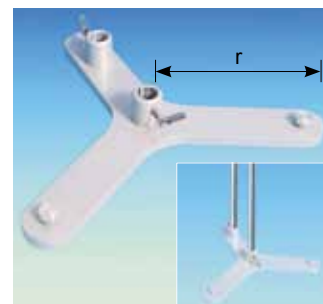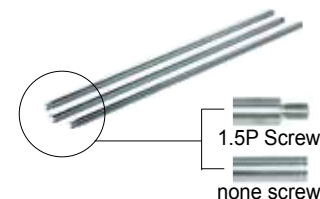

Steel Retort Base Duo Stand

witeg® High-Quality Stainless Steel (#304) Rod. for Plate Stand, Φ16/23 mm

Plain-type Φ16mm Rod, without Screw
DH.WOS502001   Stainless steel Rod, **"RD501"**, Φ16 x h800mm, non-screw
DH.WOS502002   , **"RD502"**, Φ16 x h1000mm, non-screw
DH.WOS502003   , **"RD503"**, Φ16 x h1200mm, non-screw
DH.WOS502031   , **"RD531"**, Φ23 x h800mm, non-screw
DH.WOS502033   , **"RD533"**, Φ23 x h1200mm, non-screw

1.5P Screw-type Φ16 & 23mm Rod
DH.WOS502011   Stainless steel Rod, **"RD511"**, Φ16 x h800mm,   1.5P Screw
DH.WOS502012   , **"RD512"**, Φ16 x h1000mm, 1.5P Screw
DH.WOS502013   , **"RD513"**, Φ16 x h1200mm, 1.5P Screw
DH.WOS502021   , **"RD521"**, Φ23 x h800mm,   1.5P Screw
DH.WOS502022   , **"RD522"**, Φ23 x h1000mm, 1.5P Screw
DH.WOS502023   , **"RD523"**, Φ23 x h1200mm, 1.5P Screw

1.5P Screw

none screw

Stainless steel Rod

witeg® Flexible Coupling for Safety Stirring, Up to Φ14mm Shafts

(6) "Witeg" Basic Rubber / Metal Coupling, for Φ6~10mm Shafts
WI.1445000   Coupling, **"W1-COR-6"**, for Φ6~8mm Shafts
WI.1445010   , **"W1-COR-8"**, for Φ8~10mm Shafts

(7) "KGW" Heavy-duty Metal Coupling, for Φ6~Φ14mm Shafts
KG.40477   Coupling, Metal, **"PKK-10"**, for Φ6~8mm Shafts
KG.40478   , **"PKK-16"**, for Φ12~14mm Shafts

(6) Basic-type Coupling

(7) Heavy-duty Metal Coupling

Ultrasonic Cleaners

- Useful for Cleaning to Remove Dirt, Grease, Waxes and Oil from all Lab Instruments by Ultrasonic Frequency
- HF-Frequency : 40kHz
- Drain is mounted in the bottom (Over 10Lit. Capacity models)
- Degassing Function (only WUC-D03H model) : Very Strong Cleansing
- CE Certified, PL(Product Liability) Insurance

⋙ Analog Ultrasonic Cleaners
(WUC-A model)

⋙ Digital Ultrasonic Cleaner
(WUC-D model)

⋙ Large Capacity Ultrasonic Cleaner-set
(WUC-N model)

witeg® Analog Ultrasonic Cleaners, WUC-A, Timer/Temp. Output Controller, with Certi. & Traceability
with Stainless Steel Flat Lid, Highly Effective Cleaning, up to 85°C, 0~30min, 28/40kHz Frequency, without Basket

- **with Certificate & Traceability : Controlled by Serial Number, Certificate, Delivery-information, and Traceable Data Base System**
- **Made of Stainless Steel, Finished Surface**
- **Analog Controller, Timer, Temperature and Output Control**
- **CE Certified**   ■ **PL(Product Liability) Insurance**

✱ Useful for Cleaning to Remove Dirt, Grease, Waxes and Oil from all Lab Instruments by Ultrasonic Frequency
✱ Made of Stainless Steel, Finished Surface
✱ Analog Controller, Timer, Temperature and Output Control
✱ Temperature Range from Ambient to 85 . (1.2 & 1.8 Lit. : 65 Fixed)
✱ Convenient Preset Function : Heating and Timer
✱ HF-Frequency : 40kHz
✱ Bottom-Mounted Drain (WUC-A10H and WUC-A22H)
✱ Maximum 30 minutes of Cleaning Time (Except WUC-A10H)

Analog Ultrasonic Cleaner WUC-A10H *"with Flat Lid"*

Analog Ultrasonic Cleaner WUC-A06H *"with Flat Lid"*

Specification

Capacity & Models	1.2 Lit. "WUC-A01H"	1.8 Lit. "WUC-A02H"	3.3 Lit. "WUC-A03H"	6 Lit. "WUC-A06H"	10 Lit. "WUC-A10H"	22 Lit. "WUC-A22H"
Frequency	40KHz					
HF-Peak Out	72W	75W	124W	168W	265W	379W
Heating Temp.	65°C Fixed	65°C Fixed	ambient to 85°C	ambient to 85°C	ambient to 85°C	ambient to 85°C
Heating Power	86W	86W	172W	172W	258W	275W
Timer	None	0~30 min.	0~30 min.	0~30 min.	0~30 min.	0~30 min.
Drain-Valve	None	None	None	None	1/2" NPT	1/2" NPT
Tank Size inner (w x d x h) (mm)	150 x 135 x 60	150 x 135 x 100	240 x 140 x 100	290 x 150 x 150	290 x 240 x 150	500 x 300 x 150
Weight	1.8kg	2.5kg	4kg	5.3kg	7kg	11kg
Packing Dimension (w x d x h) (cm)	20 x 20 x 19	20 x 20 x 24	32 x 20 x 29	37 x 22 x 35	43 x 32 x 36	64 x 38 x 37
Gross Weight	3 kg	4 kg	5 kg	6 kg	7 kg	11 kg
Power Consumption	158W	161W	296W	340W	523W	654W
Power plug type	Hybrid E+F					
Power Supply*	AC 230V, 1N~, 50/60Hz					

* Other Specifications are available upon Customer s Request.

Ordering Information
Analog Ultrasonic Cleaner, with Flat Lid, without Wire Basket

DH.WUC.A01H	Ultrasonic Cleaner, **230V, "WUC-A01H"**, 1.2 Lit,
DH.WUC.A02H	, **"WUC-A02H"**, 1.8 Lit.
DH.WUC.A03H	, **"WUC-A03H"**, 3.3 Lit.
DH.WUC.A06H	, **"WUC-A06H"**, 6 Lit.
DH.WUC.A10H	, **"WUC-A10H"**, 10 Lit.
DH.WUC.A22H	, **"WUC-A22H"**, 22 Lit.

Optional Wire Baskets, Stainless Steel

DH.WUC.B02	(1) Basket, Wire, **"B02"**, for 1.8 Lit., 120 x 105 x h65mm
DH.WUC.B03	(2) , **"B03"**, for 3.3 Lit., 215 x 115 x h65mm
DH.WUC.B06	(3) , **"B06"**, for 6 Lit., 247 x 123 x h96mm
DH.WUC.B10	(4) , **"B10"**, for 10 Lit., 262 x 206 x h93mm
DH.WUC.B22	(5) , **"B22"**, for 22 Lit., 452 x 263 x h93mm

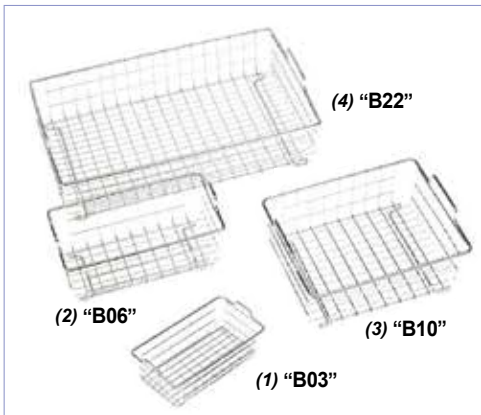*Stainless Steel Wire Baskets (Optional)*

witeg® Digital Ultrasonic Cleaner-set, WUC-D, Microprocessor Control, 3-/6-/10-/22- Lit.
with Stainless Steel Wire Basket & Flat Lid, Highly Effective Cleaning, up to 80°C, 0~60min, 40kHz Frequency

CE   **2-Year Warranty**

- Stainless Steel Surface
- Drain Valve
- Digital Control
- Flat Lid
- Stainless Steel Wire Basket

Digital Ultrasonic Cleaner Set, "WUC - D10H" with Flat Lid and Wire Basket

CE
- Flat Lid
- Digital Control
- Stainless Steel Wire Basket

Digital Ultrasonic Cleaner Set , "WUC - D03H" with Degassing Function, Flat Lid and Wire Basket

- (4) "B22"
- (2) "B06"
- (3) "B10"
- (1) "B03"

Stainless Steel Wire Baskets (included)

- ■ **with Certificate & Traceability : Controlled by Serial Number, Certificate, Delivery-information, and Traceable Data Base System**
- ■ **Useful for Cleaning to Remove Dirt, Grease, Waxes and Oil from all Lab Instruments by Ultrasonic Frequency**
- ■ **Microprocessor Control : Timer, Temperature and Output Control**
- ■ **CE Certified**   ■ **PL (Product Liability) Insurance**

∗ Useful for Cleaning to Remove Dirt, Grease, Waxes and Oil from all Lab instruments by Ultrasonic Frequency
∗ Microprocessor Control : Timer, Temperature and Output Control
∗ Multi-Frequency Sonication Body
∗ HF - Frequency : 40kHz
∗ Temperature Range from Ambient to 80°C
∗ Convenient Preset Function : Heating and Timer
∗ Drain is mounted in the bottom (WUC-D10H, WUC-D22H)
∗ Maximum 60 minutes of Cleaning Time
∗ **Degassing Function (only WUC-D03H model) : Very Strong Cleansing**

Specification

Capacity & Models	3.3 Lit. "WUC - D03H"	6 Lit. "WUC - D06H"	10 Lit. "WUC - D10H"	22 Lit. "WUC - D22H"
Frequency	40kHz	40kHz	40kHz	40kHz
HF-peak out	100W	253W	407W	528W
Heat temp.	ambient to 80°C	ambient to 80°C	ambient to 80°C	ambient to 80°C
Heating Power	172W	172W	258W	344W
Timer	0~30 min.	0~60 min.	0~60 min.	0~60 min.
Display	FND Display			
Drain-valve	None	None	1/2" NPT	1/2" NPT
Tank Size inner (w x d x h) (mm)	240 x 140 x 100	290 x 150 x 150	290 x 240 x 150	500 x 300 x 150
Weight net	3.4 kg	5.8 kg	8 kg	12.9 kg
Packing Dimension (w x d x h) (mm)	320 x 200 x 290	360 x 220 x 350	440 x 320 x 360	640 x 380 x 370
Gross Weight	3.7 kg	6.3 kg	8.5 kg	13.4 kg
Power Consumption	290W	425W	665W	872W
Power plug type	Hybrid E+F			
Power Supply*	AC 230V, 1N~, 50/60Hz			

* Other Specifications are available upon Customer s Request.

Ordering Information
Digital Ultrasonic Cleaner, with Flat Lid & Wire Basket

DH.WUC.D03H	Ultrasonic Cleaner, Digital, **230V, "WUC-D03H",** 3.3 Lit.
DH.WUC.D06H	, **"WUC-D06H",** 6 Lit.
DH.WUC.D10H	, **"WUC-D10H",** 10 Lit.
DH.WUC.D22H	, **"WUC-D22H",** 22 Lit.

Spare Wire Baskets, Stainless Steel

DH.WUC.B03	(1) Basket, Wire, **"B03",** for 3.3 Lit., 215 x 115 x h65mm
DH.WUC.B06	(2) , **"B06",** for 6 Lit., 247 x 123 x h96mm
DH.WUC.B10	(3) , **"B10",** for 10 Lit., 262 x 206 x h93mm
DH.WUC.B22	(4) , **"B22",** for 22 Lit., 452 x 263 x h93mm

Cat. No	Description	Articles

witeg® Large Capacity Ultrasonic Cleaner-set, "WUC-N", Remote Control System, 30~74 Lit.

with Digital Remote Generator/Stainless Steel Flat Lid/Drain Valve, Highly Effective Cleaning, without Basket, up to 105°C, 40kHz

- ■ **with Certificate & Traceability : Controlled by Serial Number, Certificate, Delivery-information, and Traceable Data Base System**
- ■ **Useful for Cleaning to Remove Dirt, Grease, Waxes and Oil from all Lab Instruments by Ultrasonic Frequency**
- ■ **Remote Generator : Power Control and Timer Function with LCD**
- ■ **CE Certified** ■ **PL(Product Liability) Insurance**

✱ Useful for Cleaning to Remove Dirt, Grease, Waxes and Oil from all Lab Instruments by Ultrasonic Frequency.
✱ Remote Generator : Power Control and Timer Function with LCD
✱ BTL Sonicator Installed : Robust and Stable Running
✱ Sweep Function can Realize Complete Cleaning by the Dispersion of Ultrasound
✱ Auto Optimization of Frequency as various Water Level and Temperature.
✱ Foot Switch Control
✱ HF-Frequency : 40kHz
✱ Temperature Range from Ambient to 105°C
✱ Supply Full Set with Lid, Foot Switch and Generator (Basket excluded)
✱ Drain is mounted in the bottom
✱ Maximum 99minutes of Cleaning Time

2-Year Warranty CE

Wire Basket (Optional) *Remote Generator*

Wisd

Large Capacity Ultrasonic Cleaner-set Without Basket "WUC-N47H"

Stainless Steel Wire Basket (Optional)

Specification

Model	30 Lit. "WUC-N30H"	47 Lit. "WUC-N47H"	60 Lit. "WUC-N60H"	74 Lit. "WUC-N74H"
HF-frequency	40kHz	40kHz	40kHz	40kHz
HF-peak out	704W	990W	1,210W	1,430W
Heat temp.	ambient to 105°C	ambient to 105°C	ambient to 105°C	ambient to 105°C
Heating Power		990W		
Timer (min)	0~99 min.	0~99 min.	0~99 min.	0~99 min.
Tank Size inner (w x d x h) (mm)	400 x 300 x 250	450 x 350 x 300	500 x 400 x 300	550 x 450 x 300
Tank Size external (w x d x h) (mm)	480 x 380 x 400	530 x 430 x 450	530 x 430 x 450	580 x 480 x 450
Power Consumption	1,694W	1,980W	2,200W	2,420W
Weight net	26kg	31kg	36kg	41kg
Packing Dimension (w x d x h) (mm)	620 x 520 x 640	670 x 570 x 710	720 x 620 x 710	770 x 670 x 710
Gross Weight	32 kg	37 kg	42 kg	47 kg

Remote Generator				
Display		LCD		
Power Consumption	600W	900W	1,200W	1,500W
Power plug type		Hybrid E+F		
Power Supply*		AC 230V, 1N~, 50/60Hz		
Weight net	9kg	10kg	10kg	10kg

* Other Specifications are available upon Customer s Request.

Ordering Information

with Remote Generator & Flat Lid, without Basket

DH.WUC.N30H	Ultrasonic Cleaner, **230V, "WUC-N30H"**, 30Lit.
DH.WUC.N47H	, **"WUC-N47H"**, 47Lit.
DH.WUC.N60H	, **"WUC-N60H"**, 60Lit.
DH.WUC.N74H	, **"WUC-N74H"**, 74Lit.

Optional Wire Baskets, Stainless Steel

DH.Ba7021	Basket, Wire, **"Ba7021"**, for 30Lit., 340 x 240 x h150mm
DH.Ba7022	, **"Ba7022"**, for 47Lit., 390 x 290 x h200mm
DH.Ba7023	, **"Ba7023"**, for 60Lit., 440 x 340 x h200mm
DH.Ba7024	, **"Ba7024"**, for 74Lit., 490 x 390 x h200mm

Autoclaves *Up-grade*

WAC-60

Digital Fuzzy-Controlled Autoclaves-Steam Sterilizer
CE-MDD Certificed

CE 0470

47-/60-/80- Lit.
Electronic Door Lock Sensing System
2 x Wire Basket
Up to 132°C, 2 kgf/cm²

Baths

WB-11

Digital Precise Water Bath
6-/11-/22- Lit.

Fuzzy Control System
Digital LCD- *Back Light System*
Up to 100°C, ±0.1°C

Up-grade

WSB-18

Digital Precise Shaking Water Bath
18-/30-/45-Lit.

Digital Fuzzy Control
Quiet Reciprocating Motion
and Precise Shaking Mechanism
20~250rpm, up to 100°C

WHB-11

Digital High Temperature Oil Bath
6-/11-/22- Lit.

Digital Fuzzy Control System
1.2mm Thickness Stainless
Steel Bath
Up to 250°C, ±1.0°C

WEB-4

Multi-Purpose Extraction Water Bath
4-/6-/8- Places

Digital Fuzzy Control System
Concentric Ring Cover Set
Up to 100°C, ±0.2°C

Balance *Up-grade*

WBA-220

Analytical Digital Balance 0.1mg ~ 220g
6-/11-/22- Lit.
Fuzzy Control System
Digital LCD- *Back Light System*
Up to 100°C, ±0.1°C

WBA-110M

Digital Moisture Anslyzer
6-/11-/22- Lit.
Fuzzy Control System
Digital LCD- *Back Light System*
Up to 100°C, ±0.1°C

Bath Circulators

WCD-22

WCB-11H

Digital Precise Circulation Water Bath
Precise Circulation Head
6-/11-/22- Lit.
Fuzzy Control System
Digital LCD- *Back Light System*
Up to 100°C, ±0.1°C, 5 Lit./min

Centrifuges

WCR-P6   **WCR-P12**

Digital Precision Refrigerated Bath Circulator
6-/8-/12-/22-/30- Lit.
Digital Fuzzy Control System
CFC-free Refrigeration System
−40/−20°C~100°C, ±0.1°C

WCH-8   **WCH-12**

High Temperature Bath Circulators
8-/ 12-/ 22-/ 30-Lit.
Digital Fuzzy Control System
Powerful Circulation Pump
up to 250°C, ±0.1°C

CF-5

Mini Personal Centrifuge
6 x 0.5/1.5/2.0ml Tube Rotor
& 2 x 0.2ml PCR 8-Tube Strips/
16 x 0.2ml PCR Tubes
5,500rpm
Lid-Activated ON/OFF Safety Switch

CF-10

High-Performance Microcentrifuges
12 x 0.2/0.5/1.5/2.0ml Tubes

Digital Feedback Speed Control
Quiet Operation
Digital Timer Function
13,500rpm (rcf:12,225 x g)

Furnaces, Muffle

F-05

Digital Muffle Furnaces
1,000 / 1,200°C with 4-side Heating
Digital PID Control System
Ceramic Fiber with Heating Wire
3~63 Lit. , For Lab & Industry

FP-05

Programmable Digital Muffle Furnaces
1,000 / 1,200°C with 4-side Heating
PID Programmable Controller:
3 Patterns with 16 Segments
Ceramic Fiber with Heating Wire
3~63 Lit. For Lab & Industry

Growth Chambers

SWGC-450

Programmable Plant Growth Chamber
432-/864- Lit.
Smart-Lab™ Controller, 7" Full Touch Screen
WiRe™ App & Web Service
Multi-Functional Program Control System
3-Side Magnetic Packing Doors
with Light Bank, Touch-Screen LCD
0~12,000/ 0~15,000 Lux, 30~95% RH, 10~60°C

Gel Doc. Systems & Transilluminator

WGD-20S -Portable System

WGD-30S -Complete System with Transilluminator

Gel Documentation System
USB Interface - WiseCapture II™
1.5M Pixel CCD High Precision
Large Caliber Zoom Lens

WUV-L50

WUV-M20

UV Transilluminators
Hinged UV-Blocking Safety Cover
Standard/Compact Case Models
20 x 20cm Filter, 48W / 90W

Heating /Cooling Block

HB-48-Set

HB-96D-Set -Dual type

HB-96-Set -Double Size

High-Performance Dry Bath-Heating
Digital PID Control System
Precise Temperature Control
Various Modular Blocks
up to 150°C
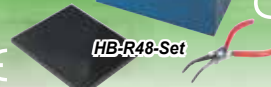
HB-R48-Set

High-Performance Dry Bath - Heating & Cooling
Digital PID Control System
Precise Temperature Control
Peltier Colling System
-5~+95°C, ±0.15°C

Heating Mantles

Full choices of Vessel, Capacity, Housing and Control are offered !!
Powered by Wisd Digital Control Technology

Nickel Chrome Heating Element - Coil Type

Integrated White K-type Thermo-sensor (Deal Drawing)

- Highly-processed Aluminum Case offers Robust Standing, Easy Handling and **Usability on the Magnetic Stirrer**
- **Nickel Chrome Heating Element - Coil Type : Acid-resistant, Long Life Time.**
- **K-type thermo sensor** is basically embedded (except Fabric Mantles)
- **External Thermo Sensor is available**, which enables precise control of the temperature of liquid sample in the vessel when used together with remote digital controller.

WHM-12034

WHM-121606

WHM-12054

WHM-12173

WHM-12293

WHM-C10D

WHM-C10A

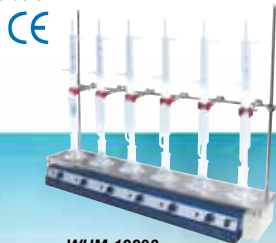## Aluminum-case Stirrer Heating Mantles with Controller
450°C/650°C
Aluminum Case(Up to 6Lit.)
Usability on the Magnetic Stirrer
(Al-Case Models Only)
With or Without Stirring

Aluminum-case Heating Mantles
450°C/650°C
Aluminum Case(Up to 6Lit.)
Usability on the Magnetic Stirrer
(Al-Case Models Only)
Remote Thermo Controllers are
available (Analog or Digital)

Aluminum-case Multi Heating Mantles
450°C, 3-/6- Places
Analog Control, 250~1,000ml
Round Bottom Flasks

Digital Feedback Controller
Ambient +5~700°C
Accuracy ±1°C
Control Capacity Up to 2kW

Analog Controller
5 ~ 100% of Rated Voltage
Control Capacity-up to 1.2kW

Wisd Product Overview

Homogenizing

Digital Homogenizer with Remote Controller

1~2,500ml
Micrprocessor
Digital Control
LCD of Speed & Power
2,000~27,000rpm

HG-15D -Set

Homogenizer with Direct Controller

1~2,500ml
Analog Stepless
Control System
Max 27,000rpm

HG-15A -Set

Homogenizing Stirrer

Use with Tissue Grinders
Analog phase Control
200~ 5,000rpm

HS-30E -Set

■ Dispersing Tools

(1) Dispersing Tool, HT1008 **(2) Dispersing Tool, HT1010** **(3) Dispersing Tool, HT1018** **(4) Dispersing Tool, HT1025**

Hood *Up-grade*

Laminar Flow Clean Bench

HEPA Filter removes 99.97%
of 0.3μm Particles

WLC-V1200

Hotplates

Premium Hotplate

Ceramic-Coated Plate

180 x 180mm/
260 x 260mm, Max 380°C

HP-20A

HP-LP1

Digital Hotplate

HP-20D-SET

Ceramic-Coated Plate,
180 x 180mm/ 260 x 260mm
/ 310 x 620mm
Digital Feedback Control
Digital LCD with Back Light Function,
99.59hr Timer
Up to 350°C/ 380°C, ±0.3°C

Hotplate Stirrers & Magnetic Stirrers

Premium Hotplate Stirrer & Magnetic Stirrer

Ceramic-Coated Plate,
180 x 180mm/ 260 x 260mm
Max. 380°C (MSH-A)
0~1,500 rpm

MS-20A -Stirring Only

MSH-20A

MSH-30A

Digital Hotplate Stirrer & Magnetic Stirrer

Ceramic-Coated Plate,
180 x 180mm/ 260 x 260mm
Digital Feedback Control
by High-Performance Microprocessor
80~1,500 rpm
Max. 380°C, ±0.3°C(MSH-D)

MS-20D -Stirring Only

MSH-20D

MSH-30D

Systematic Multi-Hotplate Stirrers

3-/6- Places, Ceramic-Coated Plates
Digital Feedback Control
Independent Heating & Stirring Control
Max. 350°C, ±0.3°C, 80~1,500 rpm

SMHS-3

SMHS-6

Digital Multi-point Magnetic Stirrers

4-/8- Points
Digital Feedback Control
Digital LCD- *Back Light System* & Timer
Max. 500ml per Point
80~1,200 rpm

MS-MP8 -8 Points

MS-MP4 -4 Points

Incubators

New General-type Incubator, Gravity-/Forced- Convection High Performance Heating Mechanism

WIG-155

32-/50-/105-/155- Lit.
Digital Fuzzy Control System
Jog-Dial Controller
Digital LCD-Back Light
up to 70°C, ±0.2°C

Smart-type *Up-grade* Incubator, Gravity-/Forced- Convection High Performance Heating Mechanism

SWIF-155

32-/50-/105-/155- Lit.
Smart-Lab™ Controller
4" Full Touch Screen
WiRe™ App & Web Service
Fuzzy-PID Control, up to 70°C, ±0.2°C

Wisd Product Overview

witeg

Incubators

Low Temperature B.O.D Incubators

WIM-R4

WIR-150

Multi-Room Incubator
125-Lit. x 4 Rooms, Digital Fuzzy Control System

Independent Chamber Control
Forced Convection, Up to 60°C/70°C, ±0.2°C
4 Individual Rooms, 2 x 4 PTFE Coated Steel
Shelves with or without Illuminators

150-/250-/420-/700-Lit.
Digital Fuzzy Control System
CFC-free Refrigeration System
Forced Convection
0~60°C, ±0.2°C
3 PTFE Coated Steel Shelves

Incubators, Shaking

Precise Shaking Incubator

Precise Shaking Incubator

WIS-30R

WIS-20R

Front Door Type, Orbital Motion
Digital Fuzzy Control System
Sliding Platform
10 to 60°C (WIS-30R), 30~250 rpm,
50~1,000 ml

Top Door Type, Orbital Motion
Digital Fuzzy Control System
10 to 60°C (WIS-20R), 30~250 rpm
With Room Lamp

WIS-ML04

**Multi-Stack Refrigerated
Shaking Incubator**
10~60°C, 30~250 rpm
Digital Fuzzy Control System
Individual Speed & Time Control
2-/4- Stacks

Jar Tester & Mill

Digital Jar Tester

JT-M6C

6-Paddle Stirrer for Flocculation Test
Programmable Operation
Digital Feedback Control System
20~300 rpm, 6 Impellers
10 Steps 6 Programs

Programmable Ball Mill

BML-2

2-/6- Pots
LCD Display
Digital Feedback Controller
Up to 600 rpm, ±5 rpm
10 Steps 6 Programs

Ovens

Precise Vacuum Oven

WOV-30

20-/30-/70-Lit. , 10~750 mmHg
Max. 200°C, ±0.5°C
Digital Fuzzy Control System
Highly Safety Viewing Window
3 fold Glass + PC Window
Aluminum Shelves

New General-type
Ovens, Gravity-/Forced- Convection
High Performance Heating Mechanism

Viewing Window
WON-W105/W155, SWON-W105/W155
WOF-W105/W155, SWOF-W105/W155

Smart-type
Ovens, Gravity-/Forced- Convection
High Performance Heating Mechanism

WON-155

32-/50-/105-/155- Lit.
Digital Fuzzy Control System
Jog-Dial Controller
Digital LCD-Back Light
up to 250°C, ±0.3°C

SWOF-155

32-/50-/105-/155- Lit.
Smart-Lab™ Controller
4" Full Touch Screen
WiRe™ App & Web Service
Fuzzy-PID Control
up to 70°C, ±0.2°C

Refrigerator

WCC-1000

Digital Cold Lab Chamber
255-/1176-Lit., 0~10°C, ±0.5°C

Digital Fuzzy Control System
Digital LCD-*Back Light System*
Forced Convection-Dual Turbo FAN
3 or 6 PTFE Coated Steel Shelves

WLF-420

Digital Laboratory Freezer
420 Lit., Upright type

Down to -35°C
Digital Fuzzy Control System
Digital LCD-*Back Light System*
4 Stainless Steel Shelves

Wisd Product Overview

Product-Overview

Overhead Stirrers - High Speed

Analog High-Speed Overhead Stirrers
Easy-to-Use Dial for Speed Setting
Max. 10-/20- Lit.,
Max. 3000 rpm
To 50,000 mPas

HS-50A (or HS-120A)

Digital High-Speed Overhead Stirrers
Digital Feedback Control
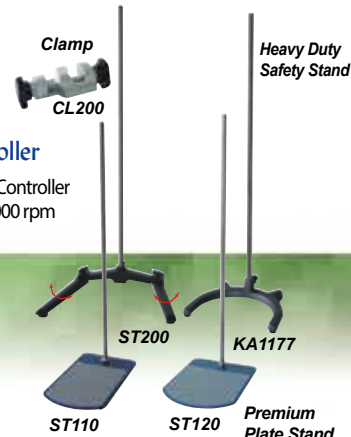Max. 10-/20- Lit.,
200 ~ 3,000 rpm
To 50,000 mPas

HS-30D (or HS-100D)

Digital High-Speed Overhead Stirrers with Remote Controller
Remote Digital Feedback Controller
Max. 10-/20- Lit., 200 ~ 3,000 rpm
To 50,000 mPas

HS-30T (or HS-100T)

Clamp
CL200

Heavy Duty Safety Stand

Remote Controller

ST200
ST110
ST120
KA1177
Premium Plate Stand

- **Stirring Shafts with Exchangeable Impellers, Stainless steel #304**
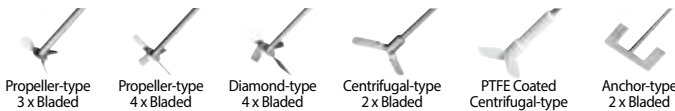
Propeller-type 3 x Bladed
Propeller-type 4 x Bladed
Diamond-type 4 x Bladed
Centrifugal-type 2 x Bladed
PTFE Coated Centrifugal-type
Anchor-type 2 x Bladed

Overhead Stirrers - High Torque

HT-50AX (HT-120AX)

HT-50DX (HT-120DX)

Digital High-Torque Stirrer with Remote Controller
Remote Digital Feedback Controller
Max.40-/ 60- Lit.,
50 ~ 1,000 rpm
To 150,000 mPas

HT-50T (HT-120T)

Remote Controller

Analog High-Torque Overhead Stirrer
Easy-to-Use Dial for Speed Setting
Max.40-/ 60- Lit., Max. 1,000 rpm
to 150,000 mPas

Digital High-Torque Overhead Stirrer
Digital Feedback Control
Max.40-/ 60- Lit., 50 ~ 1,000 rpm
to 150,000 mPas, Timer & Alarm

Rocker & Rotator
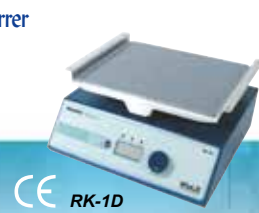
WRT 120 Disk

RK-1D

RT-10

Digital Rockers
29 X 20/ 30 X 30cm Platform
Programmable Operation :
10 Steps 6 Programs
5~50 rpm, Tilt Angle ±6/ ±9

Digital Rotator
0° ~90°, 5~60 rpm
Digital Feedback Control
Optional 5 Disks
and 3 Roller Drums

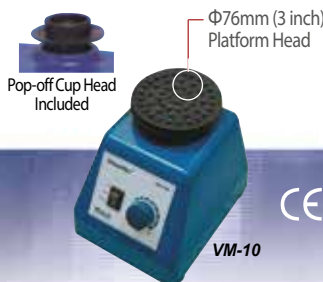## Shakers & Vortex Mixer

Digital Orbital /Reciprocating Shaker

Pop-off Cup Head Included

Φ76mm (3 inch) Platform Head

SHO-1D with Rubber Mat Platform (SP110)

SHO-2D with Universal Platform (SP200)

Digital Feedback Control
Programmable Operation :
10 Steps 6 Programs
Various Optional Platforms
10~300 rpm

VM-10

Multifunction Vortex Mixer
Shaking Motion : Orbital
0~3,300rpm
Φ76mm (3 inch) Platform Head and Pop-off Cup included
High Power & Stable Motion with Low Noise

Ultrasonic Cleaners

Ultrasonic Cleaners
Analog Control, Stainless Steel
1.2-/1.8Lit. : 65°C Fixed, 28kHz
3.3-/6-/10-/22Lit. : Ambient to 85°C, 40kHz

WUC-A10H

WUC-D22H

WUC-D03H

Digital Control, Stainless Steel
3.3-/6-/10-/22- Lit. Ambient to 80°C
Up to 40kHz

Ultra-Low Temp. Freezers

Upgrade

Digital Ultra-Low Temperature Freezer
308-/393-/-503/-704 Lit.

-86°C (WUF-D700)/-95°C~-65°C
Upright type
Dual Simplified Hi-Efficiency
Freezing System
Smart-Lab™ Controller
7" Full Touch Screen
WiRe™ App & Web Service
Non-CFC Refrigerant used
Filter-free Mechanism
& Block Condenser
Auto Vacuum Releasing
System

SWUF-D500

Digital Ultra-Low Temperature Freezer
308-/393-/-503 Lit.

-86°C~65°C Upright type
Simplified Hi-Efficiency
Freezing System
Smart-Lab™ Controller
7" Full Touch Screen
WiRe™ App & Web Service
Non-CFC Refrigerant used
Filter-free Mechanism
& Block Condenser
Auto Vacuum Releasing
System

SWUF-500

Digital Ultra-Low Temperature Freezer

SWUF-D350C

350-/500-/600 Lit., -95°C-65°C
Chest type
Simplified Hi-Efficiency Freezing System
Smart-Lab™ Controller
7" Full Touch Screen
WiRe™ App & Web Service
Non-CFC Refrigerant used
Filter-free Mechanism
& Block Condenser

**Personal Digital Ultra-Low Temperature Freezer**

SWUF-80

25-/-82Lit., -90°C -65°C
Upright type
Simplified Hi-Efficiency
Freezing System
Smart-Lab™ Controller
7" Full Touch Screen
WiRe™ App & Web Service
Filter-free Mechanism
& Block Condenser

Wisd Product Overview

witeg

IQ/OQ Service.

Installation Qualification, Operational Qualification

For validation of equipment

Our IQ OQ qualification and validation service help your company assess, develop and implement regulatory compliance at the level you need.
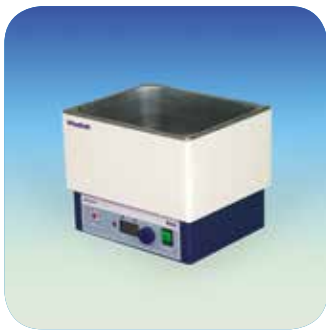
Available models of Wisd®

WiseBath®	Water Baths, Extraction Baths, High-temp Baths, Multi-Chamber Bath, Shaking Water Baths and Viscosity Baths
WiseCircu®	Circulation Water Baths, High-temp Bath Circulators, Refrigerated Bath Circulators and Cold Trap Baths
WiseCryo®	Laboratory Freezers and Ultra Low Temperature Freezers
WiseCube®	Incubators, Multi-Room Incubators, Cold Lab Chambers, Growth Chambers, Temp./ Humidity Chambers, Low Temp. Incubators and Shaking Incubators
WiseTherm®	Furnaces, Dry Bath-Heating, Dry Bath-Heating & Cooling
WiseVen®	High Clean Air Ovens, Ovens, Industrial Ovens, Vacuum Ovens

CERTIFICATES

☑ **Quality**
☑ **Safety**
☑ **Environment Management**

● **CE-marks** EMC & LVD Compliance.

The certified **Wisd** Laboratory Instruments are

specified in this catalog

● **ISO 9001:200**8 System Certification

Design, Development, Manufacture & Servicing

for All **Wisd** Laboratory Instruments.

ISO 9001:2008 Certified
ISO 13485 Certified Products
CE-Marked Products
CE-MDD Marked Products
Validation (IQ & OQ) Service

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