Incubators

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

- **General-type Incubators** ..... P. 90~93
  (Forced Convection, Gravity Convection)
- **Smart-type Incubators** ..... P. 94~97
  (Forced Convection, Gravity Convection)
- **Low Temperature (B.O.D) Incubators** ..... P. 100~101
- **Multi-Room Incubator** ..... P. 98~99
- **Shaking Incubator** ..... P. 102~109
  (Front Door- / Bench Top- / Top Door-type- / Multi-Stack)

Smart-type Incubator
(SWIG / SWIF models)

General-type Incubator
(WIG / WIF model)

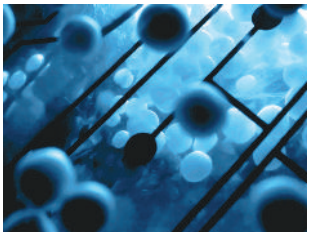
Multi-Room Incubator
- Forced Convection Type (WIM model)

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

Wisd
LABORATORY INSTRUMENTS

Innovative Technology to Improve the Quality of Human Life

Features of witeg Incubators



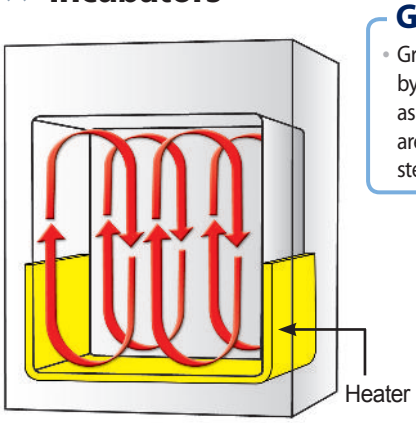
High Performance Heating Mechanism of witeg accomplishing world s best temperature accuracy and uniformity

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

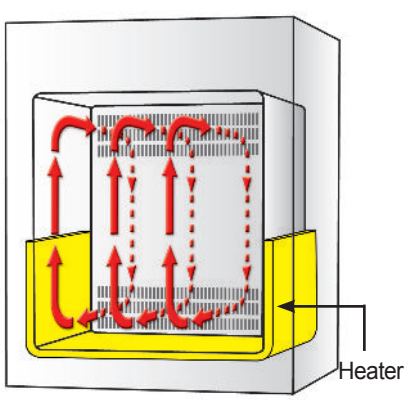


Gravity Convection

- 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.



High Performance Heating Mechanism

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

» Minimum

Fluctuation !
Minimization of Fluctuation in Temperature

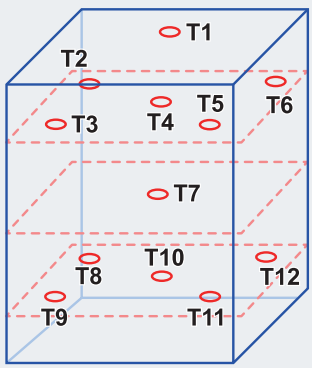
Variation !
Minimization of spatial variation in temperature inside the chamber

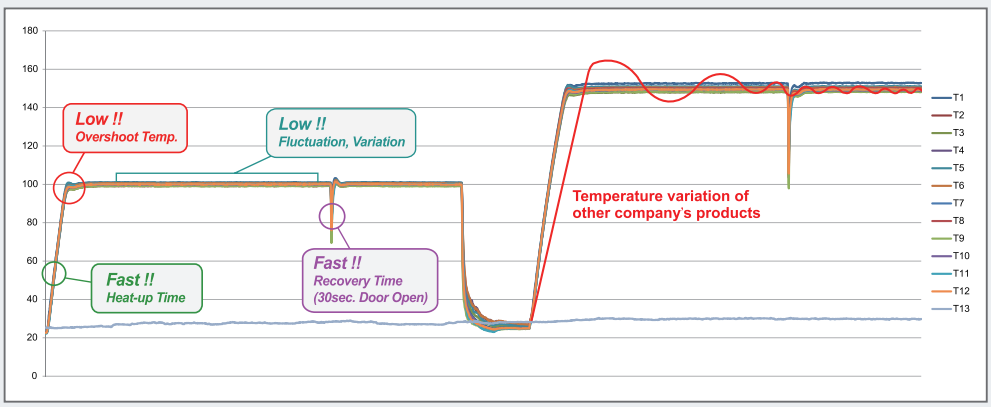
Heat-up Time !
Minimization of reaching the set temperature

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

Temperature Uniformity Completely Tested by ASTM Standards

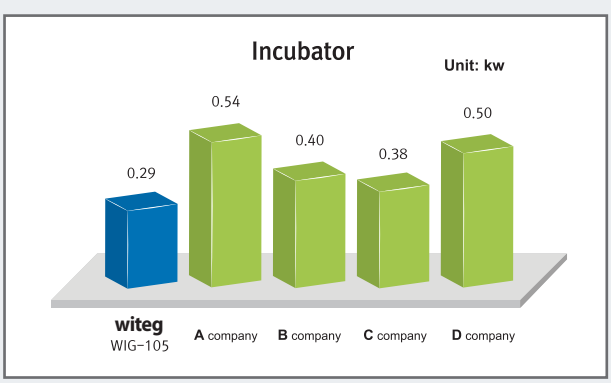
All the units supplied by witeg Scientific are thoroughly tested, using 12 temperature sensors and the latest instruments to obtain validation, which corresponds to international standards. That is, Fluctuation and Variation (Uniformity) standards described in catalogues are actually guaranteed as the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

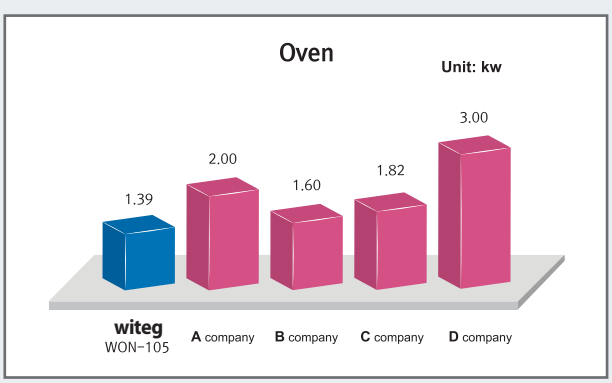




Green Product

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)

- 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.

Articles	Cat. No	Description

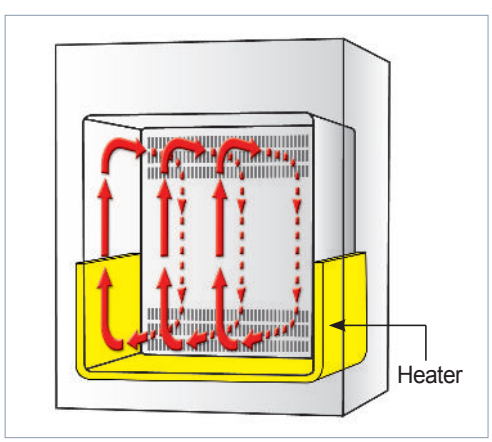
witeg® Incubators, Forced Convection-type, "WIF", 50-/105-/155 Lit., with Certi. & Traceability

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

Incubator, Forced Convection-type "WIF-105"

- **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**
- **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



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

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 on next page>

Cat. No	Description	Articles

<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

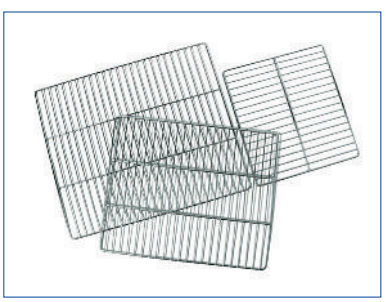
Optional Wire Shelves, Stainless Steel

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"**

Incubator, Forced Convection-type *"WIF-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

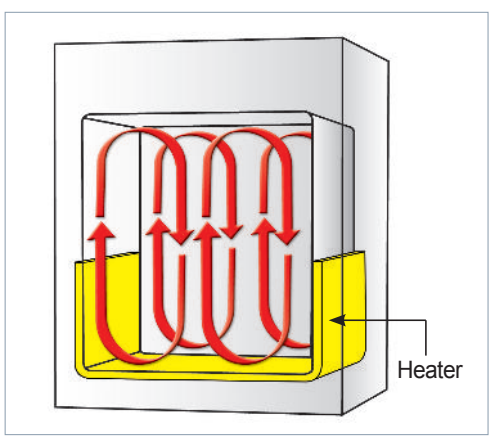
witeg® Incubators, Gravity Convection-type, "WIG", 32-/50-/105-/155 Lit., with Certi. & Traceability

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

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**
- **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

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.**

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<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

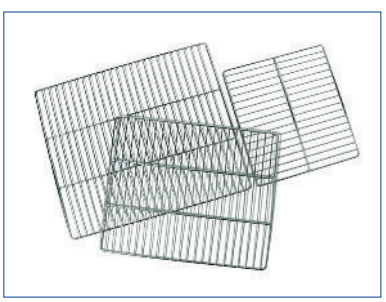
Optional Wire Shelves, Stainless Steel

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"**

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

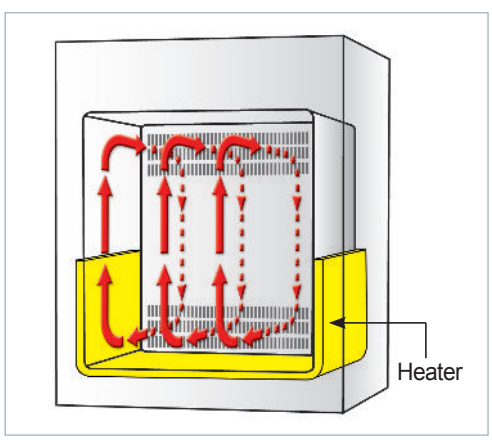
Articles	Cat. No	Description

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

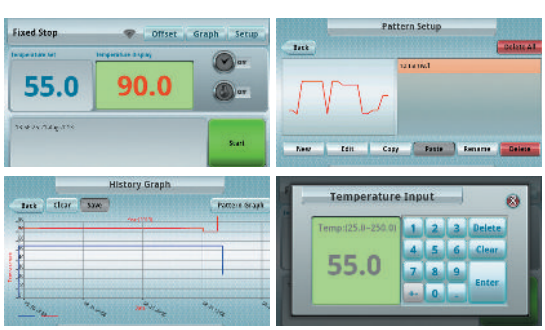
Incubator, Forced Convection-type "SWIF-105"

- **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**
- **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



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.**

<Continued on next page>

<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

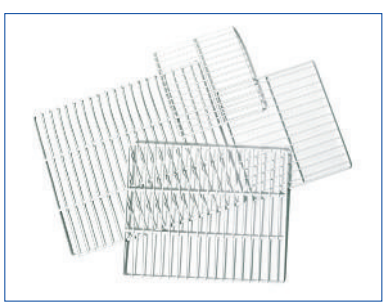
Optional Wire Shelves, Stainless Steel

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

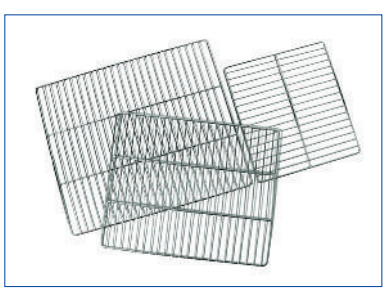
Validation (IQ, OQ) Service

DH.SWIF31050 Validation Service(IQ, OQ), **"SIFV050"**, for **SWIF-50**
DH.SWIF31105 **, "SIFV105",** for **SWIF-105**
DH.SWIF31155 **, "SIFV155",** for **SWIF-155**

Incubator, Forced Convection-type "SWIF-105"

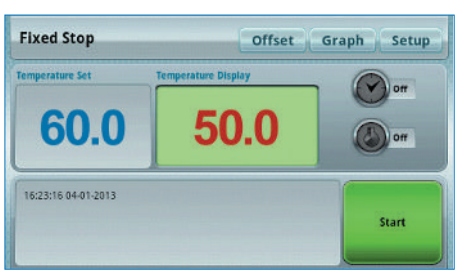


Wire Shelves, PTFE Coated Steel (Included)



(1) Wire Shelves, Stainless Steel (Optional)

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

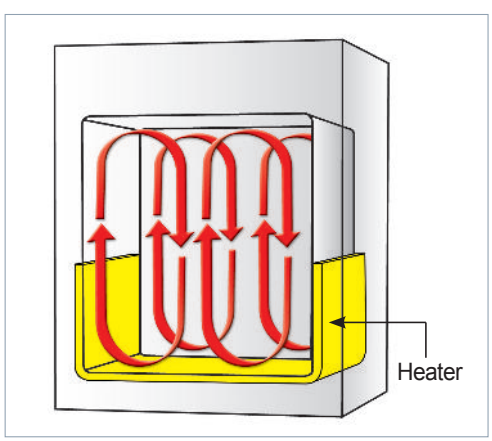
Articles	Cat. No	Description

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

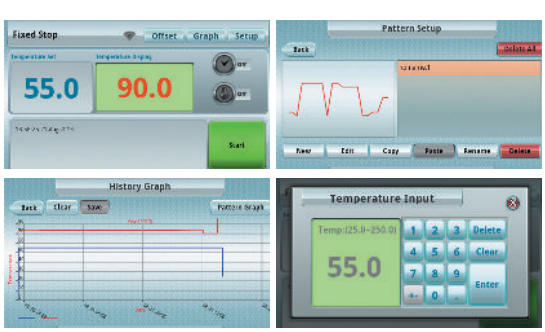
Incubator, Forced Convection-type "SWIG-105"

- **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**
- **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



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		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 Variation	± 0.2°C at 37°C, ±0.3°C at 50°C ± 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 on next page>

Cat. No	Description	Articles

<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

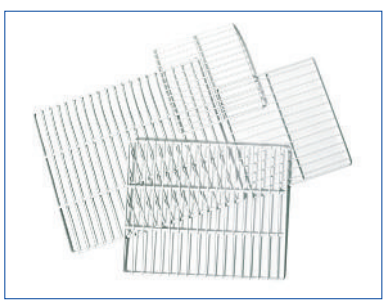
Optional Wire Shelves, Stainless Steel

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

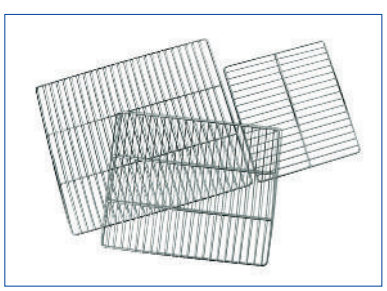
Validation (IQ, OQ) Service

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"

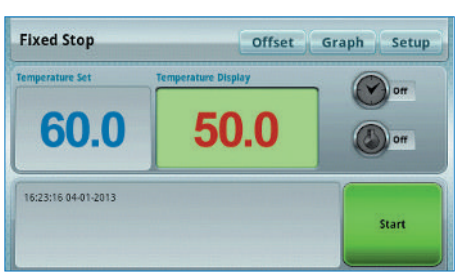


Wire Shelves, PTFE Coated Steel (Included)



(1) Wire Shelves, Stainless Steel (Optional)

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

Articles	Cat. No	Description

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

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**
- **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"**

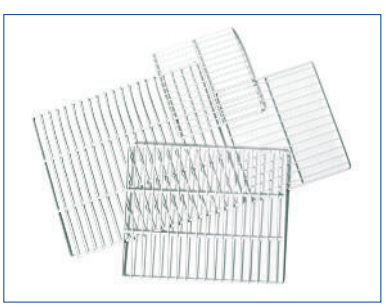
Multi-Room Incubator, Forced Convection Type "WIM-R4"

WiseRemote® Remote Control Software

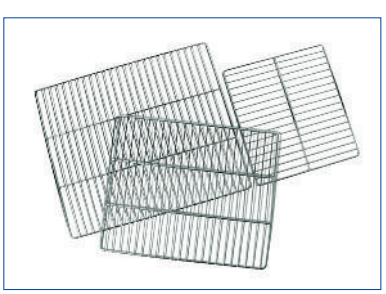
Connection of Wisd Temperature Devices with Interface RS232C to a PC Export Recorded Data (Excel Spreadsheet)

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

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**
- **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

DH.WIR03150 Low Temperature(B.O.D) Incubator, **230V,** 150 Lit., **"WIR-150"**
DH.WIR03250 , 250 Lit., **"WIR-250"**
DH.WIR03420 , 420 Lit., **"WIR-420"**
DH.WIR03700 , 700 Lit., **"WIR-700"**

<Continued on next page>

<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"**

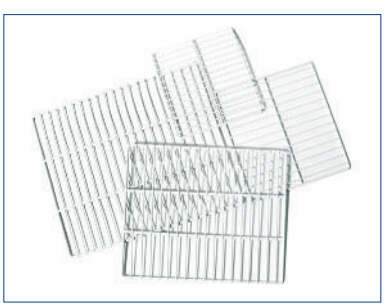
Low Temperature(B.O.D) Incubator "WIR-150"

WiseRemote® Remote Control Software

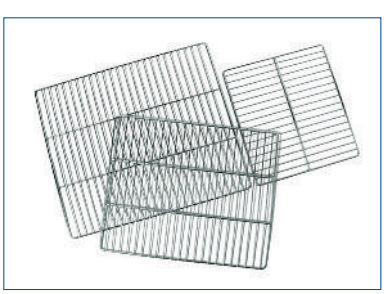
Connection of Wisd Temperature Devices with Interface RS232C to a PC Export Recorded Data (Excel Spreadsheet)

Main Screen

RS232C Cable & Software



Wire Shelves, PTFE Coated Steel (Included)



(1) Wire Shelves, Stainless Steel (Optional)

Articles	Cat. No	Description

witeg® 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

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.WIS00230 Front Door-type Shaking Incubator, **230V, "WIS-30"**

+10°C~ +60°C, with Universal Platform, "WIS-30R"

DH.WIS01230 Front Door-type Shaking Incubator, **230V, "WIS-30R"**

<Continued on next page>

Cat. No	Description	Articles

<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"**

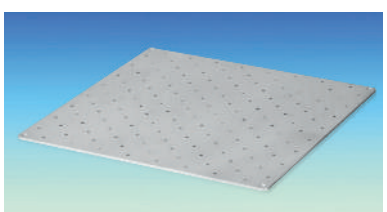
WiseRemote® Remote Control Software

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

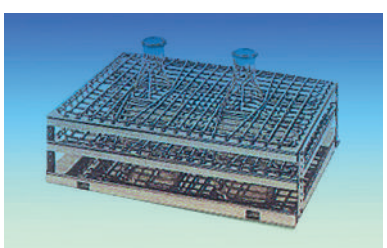
Main Screen

RS232C Cable & Software

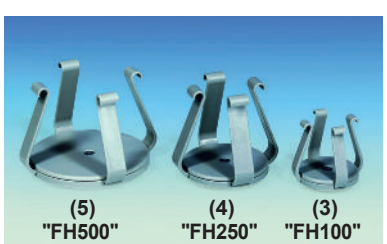
Precise Shaking Incubator, Front Door Type WIS-30 with Universal Platform



(1) Universal Platform "SP630" (Included)



(2) Universal Spring Rack "SR530" (Optional)



Flask Holders (Optional)

Articles	Cat. No	Description

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

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.WIS00220 Bench Top-type Shaking Incubator, **230V, "WIS-20"**

+10°C~+60°C, with Universal Platform, "WIS-20R"

DH.WIS01220 Bench Top-type Shaking Incubator, **230V, "WIS-20R"**

<Continued on next page>

Cat. No	Description	Articles

<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"**

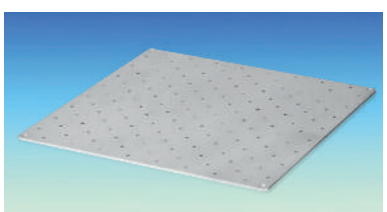
WiseRemote® Remote Control Software

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

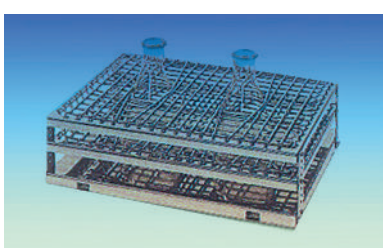
Main Screen

RS232C Cable & Software

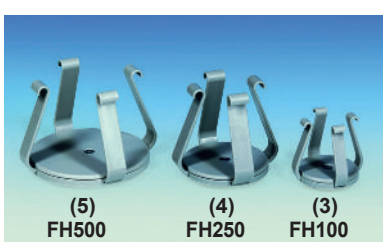
Precise Shaking Incubator, Bench Top-type
WIS-20R with Universal Platform



(1) Universal Platform SP600
(Included)



(2) Universal Spring Rack SR500
(Optional)



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

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) & Gross Weight		1,220 x 1,060 x h1,200mm		
		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.WIS00210 Shaking Incubator, Top Door-type, **230V, "WIS-10"**

10°C~ 60°C, With Universal Platform

DH.WIS04210 Shaking Incubator, Top Door-type, **230V, "WIS-10R"**

10°C~ 60°C, with Universal Platform & Illumination System

DH.WIS05210 Shaking Incubator, Top Door-type, **230V, "WIS-10RL"**

<Continued on next page>

<Continued from... Precise Shaking Incubator, "WIS-10">

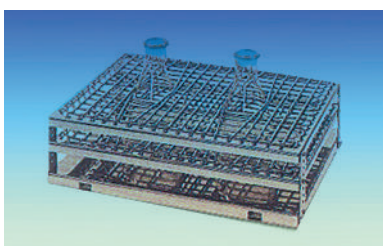
Optional Platform/Spring Rack/Flask Holders

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"**

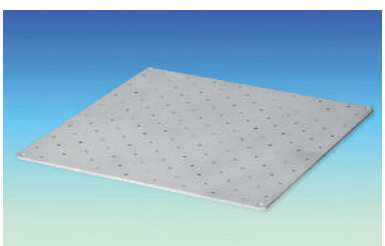
Validation (IQ, OQ) Service

DH.WIS31010	Validation Service(IQ, OQ), **"ISV1010"**, for **"WIS-10"**
DH.WIS31011	, **"ISV1011"**, for **"WIS-10R"**
DH.WIS31012	, **"ISV1012"**, for **"WIS-10RL"**

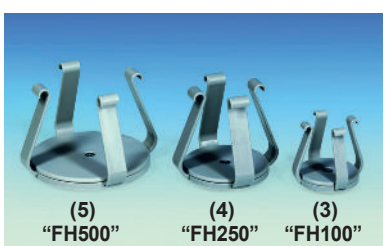
Precise Shaking Incubator, Top Door Type "WIS-10R" with Universal Platform



(1) Universal Spring Rack "SR510" (Optional)



(2) Universal Platform "SP610" (Included)



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

Articles	Cat. No	Description

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 on next page>

Cat. No	Description	Articles

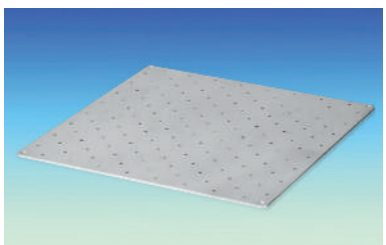
<Continued from... Multi-Stack Refrigerated Shaking Incubator, "WIS-ML">

Optional Platform/Spring Rack/Flask Holders

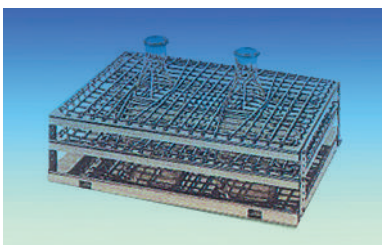
DH.WIS504620	(1) Universal Platform, w645 x h645mm, **"SP620"**, for **"WIS-ML02/04"**
DH.WIS504520	(2) Universal Spring Rack, w653 x d653 x h135mm, **"SR520"**, for **"WIS-ML02/04"**
DH.WIS504030	(3) Flask Holder, for 50~100ml Flask, **"FH100"**, for **"SHO"**, **"SHR"** and **"WIS"**
DH.WIS504035	(4) , 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

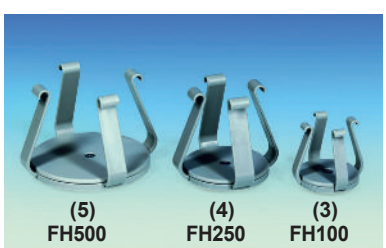
DH.WIS35002	Validation Service(IQ, OQ), **"ISV5002"**, for **WIS-ML02"**
DH.WIS35004	, **"ISV5004"**, for **WIS-ML04"**



(1) Universal Platform SP620 (Included)



(2) Universal Spring Rack SR520 (Optional)



Flask Holders (Optional)

Multi-Stack Refrigerated Shaking Incubator "WIS-ML04" with 4 x Universal Platform

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® 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"

6-Places Programmable Ball Mill "BML-6"

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) & Gross Weight		760 x 460 x 700	1,300 x 620 x 1,010
		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