

Refrigerators & ULT Freezers

- High Performance Touch-Screen TFT LCD Controller for Ease-of-use (WUF, WUF-D models)
- Simplified Hi-Efficiency Freezing System can Freezes down to -86°C
: realize robust and long life time (WUF, WUF-D models)
- Digital Fuzzy Control System Implementing Superior Temperature Accuracy (WCC, WLF models)
- CFC-free Refrigerants are used
- CE & RoHS Certified

❁ Cold Lab Chamber/Refrigerator	P. 113
❁ Laboratory Freezer	P. 114
❁ Ultra-Low Temp. Freezer, Chest Type 	P. 124~127
❁ Ultra-Low Temp. Freezer, Personal	P. 128
❁ Ultra-Low Temp. Freezer, Upright Type	P. 118~121

❁ Digital Ultra-Low Temperature Freezer



Dual SHFS™,
Upright Type

SHFS™, Personal Type



❁ Digital Ultra-Low Temperature
Freezer, Dual SHFS™, Chest Type



Cat. No	Description	Articles
---------	-------------	----------

“witeg” WiseCube® WCC Digital Cold Lab Chamber/Refrigerator, 0°C~10°C, 255- & 1176- Lit.
with Wire Shelves, Digital Fuzzy Control, Highest Temp.Uniformity, CFC-Free(134A) Refrigeration, Automatic Defrost 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)

* 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 Display 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 Teflon-coated Shelves
* Double Fold Tempered Glass Window * CFC-Free (134A) Refrigeration System
* Over & Under Temperature Protection, Over Current Protection and Sensor Error Detection

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 Display 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		Teflon Coated 3 Shelves, 16 kg	Teflon 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-255”

with 2×Outer Door, 6×Shelves, 1176 Lit., “WCC-1000”

DH.WCC01000 Cold Lab Chamber/Refrigerator, 230V, “WCC-1000”

Spare Wire Shelf, Teflon Coated Steel

DH.WCC10250 (1) Wire Shelf, with 2 Brackets, 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

DH.WCC40250 Calibration Certificate Service, 1 & 3 points, CCC0250, for WCC-250
DH.WCC41000 , 1 & 3 points, CCC01000, for WCC-1000

DH.WCC50250 Calibration Certificate Service, 9 points, CCC1250, for WCC-250
DH.WCC51000 , 9 points, CCC11000, for WCC-1000



Digital Cold Lab Chamber / Refrigerator
with 2×Outer Door, 1.176 Lit. “WCC-1000”



(1)Wire Shelves, Teflon Coated 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” WiseCryo™ WLF Digital Laboratory Freezer, -35°C to $+10^{\circ}\text{C}$, 420 Lit.
with 4 × Shelves, Digital Fuzzy Control System, Fast Freezing Function, RS232C Interface, CFC-Free Refrigeration



Digital Laboratory Freezer “WLF-420”

- Digital Fuzzy Control System Implementing Superior Temperature Accuracy
- Fast Freezing Function
- **Patented Jog-Shuttle Control System**
- CFC-Free (134A) Refrigeration System
- CE Certified

- * Suitable for Storage of Bio Reagent, Seed, Enzyme and Various Samples
- * 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 Display 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

Specification

Capacity & Model	420 Lit. Digital Laboratory Freezer “WLF-420”
Type	Upright Type
Temp. Range & Sensor	-35°C ~ $+10^{\circ}\text{C}$, PT100
Temp. Resolution	1 $^{\circ}\text{C}$ -Display, 1 $^{\circ}\text{C}$ -Control
Refrigerant & Compressor	CFC-Free(134A) Refrigeration System, 1 HP
Display	Digital LCD Display with Back-Light Function
Controller	Digital Controller with Jog-Shuttle Switch (Turn+Push)
Included Shelf & Load per Shelf	4ea 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), LFW420, for WLF-420

DH.WLF40420 Calibration Certificate Service, 1 & 3 points, LFC0420, for WLF-420

DH.WLF50420 , 9 points, LFC1420, for WLF-420



with Inner Doors “WLF-420”

WiseRemote® Remote Control Software

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



Main Screen



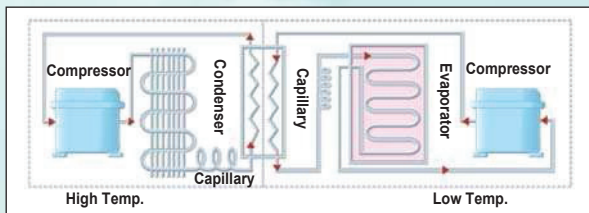
RS232C Cable & Software

The New Generation SHFS™ (Simplified Hi-Efficiency Freezing System)

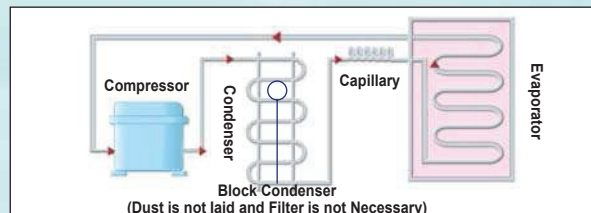
Most of the Ultra-Low Temperature Freezers have two compressors cooperating with each other to drop the internal temperature down to -86°C as shown in the following figure, and its overall freezing mechanism is very complicated. But, our **New SHFS™** uses only single compressor. Even though single set 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™** overcomes technical complexity of the typical cascaded double compressor system. Simplification of the freezing mechanism and electricity minimizes the noise, power consumption and failure.

- ▶ Only single freezing cycle works to reach down to -86°C
- ▶ Much simpler mechanism
- ▶ Advanced Compressor Control Technology + Specially Mixed Refrigerants
- ▶ Dramatically lowered noise, power consumption and fail rate
- ▶ Oil separator free, Expansion tank free
- ▶ Block condenser against typical pin-type condenser : Dust free, Filter free

Simplified Hi-Efficiency Freezing System Mechanism : Easy Maintenance



Typical Cascaded Compressor System
Two Freezing cycles contribute Complicated mechanism

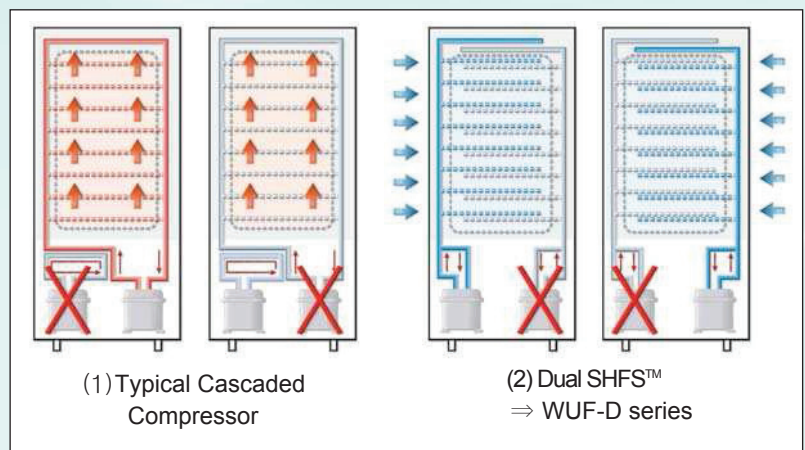


New **Simplified Hi-Efficiency Freezing System**
Single freezing cycle works only!!

Doubled Stability and Robustness!! Dual SHFS™

We offer an extraordinary high-stability system powered by two **Simplified Hi-Efficiency Freezing System** 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™ fails in operation by a certain unexpected problem, the other SHFS™ still works and maintains ultra-low temperature down to -80°C . It means one SHFS™ works as a 'backup' of the other SHFS™. 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™** system running independently and simultaneously
- ▶ **Fault Tolerance System**
 - Realization of doubled stability and robustness
- ▶ **Incomparable Fast and Powerful Freezing**
 - Fast Recovery of Target Temperature



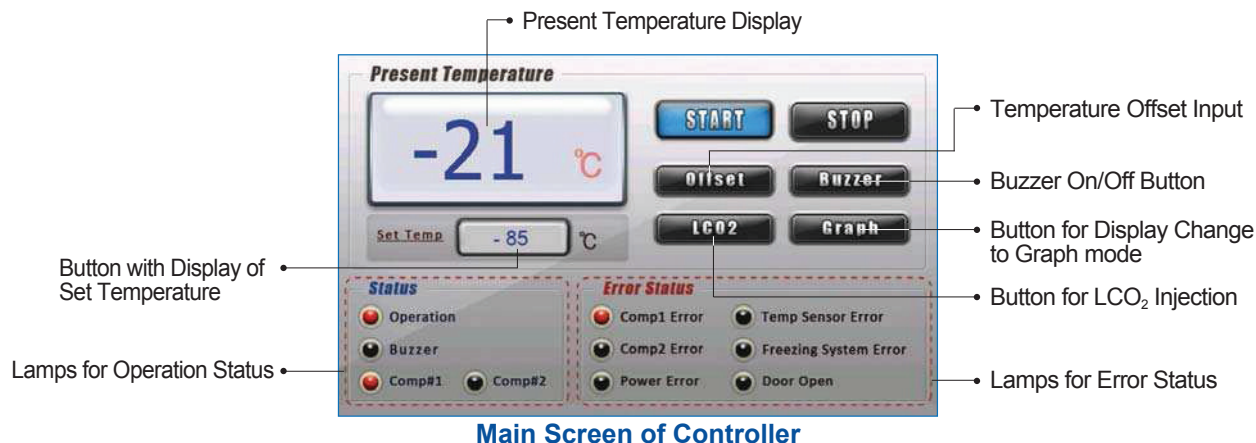
(1) Complicated mechanism

⇒ If one of compressor fails, temperature would go up

(2) Even if one the two SHFS™ fails to run, the other is still running properly

⇒ Minimum -80°C

Powerful High Performance Touch-Screen TFT LCD Controller !



Main Screen of Controller

● Touch-Screen TFT LCD

- Ease-of-use the Touch-Screen TFT LCD Controller as well as easy Monitoring
- All Operating Status and Errors could be checked and managed on LCD Display easily

● DATA Storage Function and USB Port Support

- Temperature data for some years could be stored and maintained in the controller. An External Temperature Recorder is not necessary for storage of data.
- The controller offers a USB connector, by which you could back-up the Temperature data into a USB memory stick. The stored data could be checked on a PC.

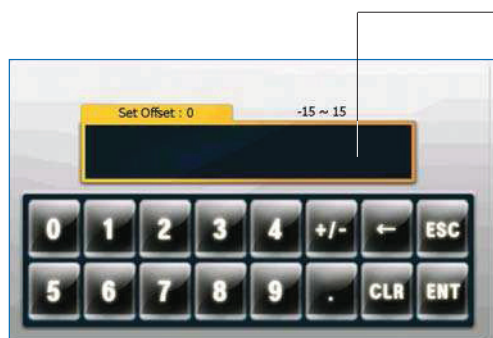
● Safe and Smart Operation

- Even in the case of unexpected power failure, the controller is still alive to operate by Embedded Battery, record the Temperature Change and generate Error Alarm. Also, if you equip optional LCO₂ back-up system, LCO₂ will be injected to the device automatically.
- We offer the Password Set Function for Secure Operation like Starting & Stopping operation, Setting Temperature and so on required password input before setting.



● Graph Display Function

- This Powerful Data Management Function is for monitoring Present and Previous Temperature Status by Graph
- Zoom-In & -Out Function helps to check Temperature Variation easily and accurately.



● Offset Value Input Display

Adjustable Temperature Range : -15°C ~ +15°C
(NOTE) Factory Default Value is stored by production-stage tuning.

● Easy Offset Setting

- You could use your own thermometer as a reference covering the whole experiment procedure and to equalize the temperature shown at the Present Temperature of unit to the thermometer.
In that case, you can input an "Offset" value which is added to Present Temperature of the unit for equalization.
This Function is applied to the Digital Controller of all Wisd products which has the Thermostatic Control System. And, it offers Reliability of your experimental data by Normalization of all Temperature Control Condition.

Innovative SHFS™ & Dual SHFS™ (Simplified Hi-Efficiency Freezing System)



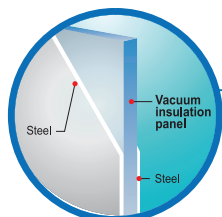
- Triple-layer Gasket for Perfect Insulation



- Automatic Vacuum Dissolver making Door Opening Easy



- Robust & Flexible Design of Power Door Handle with Locking Function



- Insulation Panel packed in Housing and Door Ensures Defrosting around outer surface



- Filter-Free Mechanism
Significantly Lowers Heat Generated by the Compressor.
Block Condenser (without pins)
Realizes Filter Free Structures



- Inner Door Handle
- easily opened against frosting



- Powerful Touch-Screen TFT LCD 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



- Standard Back up Battery System for Data logger and Alarm System



WUF - D500



- Temperature Recorder (Optional)
Large and vivid LED display

The New Generation SHFS™ Simplified Hi-Efficiency Freezing System !

“witeg” **WiseCryo™ WUF-D** Digital Ultra-Low Temp. Freezer, Upright-type, Dual SHFS™, $-95^{\circ}\text{C} \sim -65^{\circ}\text{C}$ with Automatic Vacuum Releasing System, Non-Freon Refrigerants, Touch-Screen TFT LCD Controller, 308-/ 393-/ 503-/714-Lit.



Dual SHFS™ Digital Ultra-Low Temperature Freezer, Upright Type “WUF-D500”

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

- **Simplified Hi-Efficiency Freezing System** can freeze down to -86°C : realize 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 “WUF-D500” Model)
- **CE & RoHS Certified**

- * **Simplified Hi-Efficiency Freezing System** can freeze down to -86°C : realize 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
- * Automatic Vacuum Releasing System - Easy to re-open the Door.
- * Ease-of-use and High Performance Touch-Screen TFT LCD Controller
- * Robust & Flexible design of Door Handle
- * Easy Monitoring and Control - Eye level Controller
- * CFC-free Refrigerants are used
- * 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 is supported

Specification

Capacity & Model		308 Lit. “WUF-D300”	393 Lit. “WUF-D400”	503 Lit. “WUF-D500”	714 Lit. “WUF-D700”
Freezing System		Dual Simplified Hi-Efficiency Freezing System(Dual SHFS™)			
Temp.	Range	$-95^{\circ}\text{C} \sim -65^{\circ}\text{C}$			
	Sensor	at room temperature of 30°C and humidity of 70% PT100 Sensor			
Compressor		Hermetic Type			
Condenser Type		Block Condenser, No Pin, Filter Free Mechanism			
Refrigerant		HFC (CFC Free Refrigerant System)			
Controller & Display		Full Touch-Screen TFT LCD 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, GMP Certified(Only WUF-D500) 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)	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 -86°C (WUF-D700)

<Continued on next page>

Cat. No	Description	Articles
---------	-------------	----------

<Continued from... "witeg" WiseCryo™ WUF-D Digital Ultra-Low Temperature Freezer>

Ordering Information

Ultra Low Temp. Freezer, Upright-type, -95°C ~ -65°C, with Cord/Plug

DH.WUF01300	Ultra Low Temp. Freezer, 230V, 308 Lit., "WUF-D300"
DH.WUF01400	, 393 Lit., "WUF-D400"
DH.WUF01500	, 503 Lit., "WUF-D500"
DH.WUF01700	, 714 Lit., "WUF-D700"

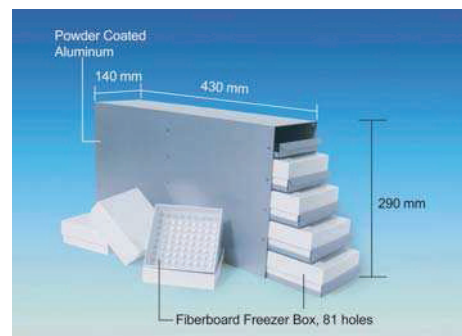
Optional Accessories

DH.RFU3040SD	(1) Rack, Sliding Drawer-type, Aluminum, 15 places, "RFU3040SD", w140 × d430 × h290 mm, for WUF-(D)300/400, without boxes
DH.RFU50SD	(1) Rack, Sliding Drawer-type, Aluminum, 20 places, "RFU50SD", w140 × d570 × h290 mm, for WUF-(D)500/700, without boxes
DH.RFU3040SA	(2) Rack, Side Access-type, Stainless Steel, 15 places, "RFU3040SA", w140 × d430 × h290 mm, for WUF-(D)300/400, without boxes
DH.RFU50SA	(2) Rack, Side Access-type, Stainless Steel, 20 places, "RFU50SA", w140 × d570 × h290 mm, for WUF-(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 (without Charging Tank)
DH.WRCK1300 *	(10) Refrigerant Charging Tank, "RCK1300", for WUF-D300
DH.WRCK1400 *	, "RCK1400", for WUF-D400
DH.WRCK1500 *	, "RCK1500", for WUF-D500
DH.WRCK1700 *	, "RCK1700", for WUF-D700

* -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

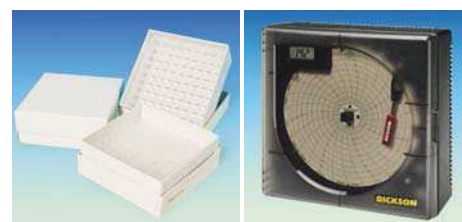
DH.WUF31300	Validation Service(IQ, OQ), UFDV300, for WUF-D300
DH.WUF31400	, UFDV400, for WUF-D400
DH.WUF31500	, UFDV500, for WUF-D500
DH.WUF31700	, UFDV700, for WUF-D700
DH.WUF41300	Calibration Certificate Service, 1 & 3 points, UFDC0300, for WUF-D300
DH.WUF41400	, 1 & 3 points, UFDC0400, for WUF-D400
DH.WUF41500	, 1 & 3 points, UFDC0500, for WUF-D500
DH.WUF41700	, 1 & 3 points, UFDC0700, for WUF-D700
DH.WUF51300	Calibration Certificate Service, 9 points, UFDC1300, for WUF-D300
DH.WUF51400	, UFDC1400, for WUF-D400
DH.WUF51500	, UFDC1500, for WUF-D500
DH.WUF51700	, UFDC1700, for WUF-D700



(1) Sliding Drawer-type Rack, 15Places "RFU3040SD"

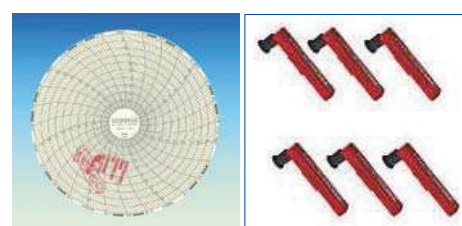


(2) Side Access-type Rack, 20Places "RFU50SA"



(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

The New Generation SHFS™ Simplified Hi-Efficiency Freezing System !

“witeg” **WiseCryo™ WUF** Digital Ultra-Low Temp. Freezer, Upright Type, SHFS™, $-86^{\circ}\text{C} \sim -65^{\circ}\text{C}$
with Automatic Vacuum Releasing System, Non-Freon Refrigerants, Touch-Screen TFT LCD Controller, 308-/ 393-/ 503-/ 714-Lit.



SHFS™ Digital Ultra-Low Temperature Freezer,
Upright Type “WUF-500”

- **Simplified Hi-Efficiency Freezing System** can freeze down to -86°C : realize robust and long life time.
- **Automatic Vacuum Releasing System** - Easy to re-open The Door.
- **CE & RoHS Certified**

- * **Simplified Hi-Efficiency Freezing System** can freeze down to -86°C : realize robust and long life time.
- * Automatic Vacuum Releasing System - Easy to re-open the Door.
- * Ease-of-use and High Performance Touch-Screen TFT LCD Controller
- * Robust & Flexible design of Door Handle
- * Easy Monitoring and Control - Eye level Controller
- * CFC-free Refrigerants are used
- * 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 is supported

Specification

Capacity & Model		308 Lit. “WUF-300”	393 Lit. “WUF-400”	503 Lit. “WUF-500”	714 Lit. “WUF-700”
Freezing System		Simplified Hi-Efficiency Freezing System (SHFS™)			
Temp.	Range	$-86^{\circ}\text{C} \sim -65^{\circ}\text{C}$			
	Sensor	at room temperature of 30°C and humidity of 70% PT100 Sensor			
Compressor		Hermetic Type			
Condenser Type		Block Condenser, No Pin, Filter Free Mechanism			
Refrigerant		HFC (CFC Free Refrigerant System)			
Controller & Display		Full Touch-Screen TFT LCD 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 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) (mm)	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		110×110×222 275 kg	116×116×222 296 kg	116×124×222 327 kg	140×140×221 442 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 -86°C (WUF-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

<Continued on next page>

<Continued from... "witeg" WiseCryo™ WUF Digital Ultra-Low Temperature Freezer>

Ordering Information

Ultra Low Temp. Freezer, Upright-type, $-86^{\circ}\text{C} \sim -65^{\circ}\text{C}$, with Cord/Plug

DH.WUF00300	Ultra Low Temp. Freezer, 230V, 308 Lit., "WUF-300"
DH.WUF00400	, 393 Lit., "WUF-400"
DH.WUF00500	, 503 Lit., "WUF-500"
DH.WUF00700	, 714 Lit., "WUF-700"

Optional Accessories

DH.RFU3040SD	(1) Rack, Sliding Drawer-type, Aluminum, 15 places, "RFU3040SD", w140×d430×h290 mm, for WUF-(D)300/400, without boxes
DH.RFU50SD	(1) Rack, Sliding Drawer-type, Aluminum, 20 places, "RFU50SD", w140×d570×h290 mm, for WUF-(D)500/700, without boxes
DH.RFU3040SA	(2) Rack, Side Access-type, Stainless Steel, 15 places, "RFU3040SA", w140×d430×h290 mm, for WUF-(D)300/400, without boxes
DH.RFU50SA	(2) Rack, Side Access-type, Stainless Steel, 20 places, "RFU50SA", w140×d570×h290 mm, for WUF-(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 (without Charging Tank)
DH.WRCK0300	(10) Refrigerant Charging Tank, "RCK0300", for WUF-300
DH.WRCK0400	, "RCK0400", for WUF-400
DH.WRCK0500	, "RCK0500", for WUF-500
DH.WRCK0700	, "RCK0700", for WUF-700

Validation (IQ, OQ) Service

DH.WUF30300	Validation Service(IQ, OQ), UFV300, for WUF-300
DH.WUF30400	, UFV400, for WUF-400
DH.WUF30500	, UFV500, for WUF-500
DH.WUF40300	Calibration Certificate Service, 1 & 3 points, UFC0300, for WUF-300
DH.WUF40400	, UFC0400, for WUF-400
DH.WUF40500	, UFC0500, for WUF-500
DH.WUF50300	Calibration Certificate Service, 9 points, UFC1300, for WUF-300
DH.WUF50400	, UFC1400, for WUF-400
DH.WUF50500	, UFC1500, for WUF-500



(7) LCO₂ back up system "LCO2B"



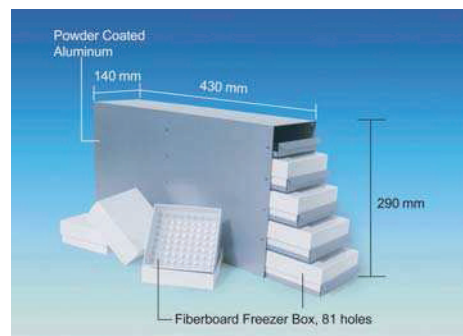
(8) Remote Alarm System "RWAS"



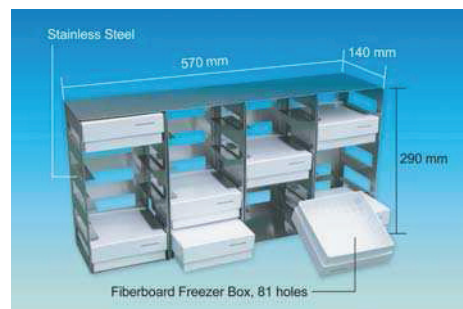
(9) Refrigerant Charging Kit



(10) Refrigerant Charging Tank



(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

The New Generation SHFS™ Simplified Hi-Efficiency Freezing System !

“witeg” **WiseCryo™ WUF** Personal Digital Ultra-Low Temp. Freezer, Upright Type, $-90^{\circ}\text{C} \sim -65^{\circ}\text{C}$ with SHFS™, Compact-type, Non-Freon Refrigerants, Touch-Screen TFT LCD Controller, 25-/82-Lit.



SHFS™ Personal Digital Ultra-Low Temperature Freezer, Upright Type “WUF-80”



SHFS™ Personal Digital Ultra-Low Temperature Freezer, Upright Type “WUF-25”

WiseRemote® Remote Control Software

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



Main Screen



RS232C Cable & Software

- Personal type Compact Ultra Low Temperature Freezer
- Simplified Hi-Efficiency Freezing System can down to -90°C
: realize robust and long life time
- CE & RoHS Certified
- GMP Certified(Only “WUF-D500” model)

- * Suitable for Storage of Bio Reagent, Seed, Enzyme and Various Samples
- * Personal type Compact Ultra Low Temperature Freezer
- * **Simplified Hi-Efficiency Freezing System** can freezes down to -90°C
: realize robust and long life time.
- * Ease-of-use and High Performance Touch-Screen TFT LCD Controller (WUF-80)
- * CFC-free Refrigerants are used
- * 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 is supported

Specification

Capacity & Model		25 Lit. “WUF-25”	80 Lit. “WUF-80”
Freezing System		Simplified Hi-Efficiency Freezing System(SHFS™)	
Temp.	Range	$-90^{\circ}\text{C} \sim -65^{\circ}\text{C}$	
	Sensor	at room temperature of 30°C and humidity of 70% PT100 Sensor	
Compressor		Hermetic Type	
Condenser Type		Block Condenser, No Pin, Filter Free Mechanism	
Refrigerant		HFC (CFC Free Refrigerant System)	
Controller		Digital Feedback Controller	Full Touch-Screen TFT LCD Controller
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 Touch-Screen TFT LCD Controller (WUF-80) CFC-Free Refrigerants Built in Standard Warning and Alarm Functions RS232 Communication Link, Remote Control Software	
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 52 kg	960×760×1.350 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.

Ordering Information

Personal Ultra Low Temp. Freezer, Upright-type, $-90^{\circ}\text{C} \sim -65^{\circ}\text{C}$, with Cord/Plug

DH.WUF0032 Ultra Low Temp. Freezer, 230V, 25 Lit., “WUF-25”

DH.WUF0075 , 80 Lit., “WUF-80”

<Continued on next page>

Cat. No	Description	Articles
---------	-------------	----------

<Continued from... "witeg" WiseCryo™ WUF Personal Digital Ultra-Low Temperature Freezer>

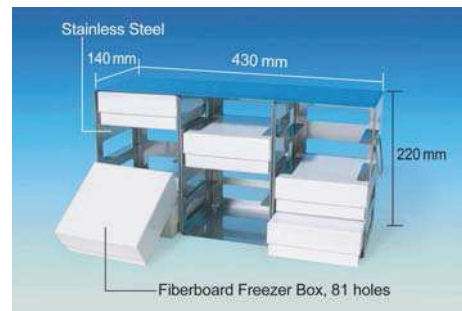
Ordering Information

Optional Accessories

DH.RFU8SD	(1) Rack, Sliding Drawer-type, Aluminum, 12 places, "RFU8SD", w140×d430×h220 mm, for WUF-80, without boxes
DH.RFU8SA	Rack, Side Access-type, Stainless Steel, 12 places, "RFU8SA", w140×d430×h220 mm, for WUF-80
C11.001	(2) Hard Board Box, with Hard Board Divider, 81 Hole, 127×127×h52 mm
C11.002	(2) , 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 (without Charging Tank)
DH.WRCK0025	(9) Refrigerant Charging Tank, "RCK0025", for WUF-25
DH.WRCK0080	, "RCK0080", for WUF-80

Validation (IQ, OQ) Service

DH.WUF30032	Validation Service(IQ, OQ), UFV32, for WUF-25
DH.WUF30075	, UFV75, for WUF-80
DH.WUF40032	Calibration Certificate Service, 1 & 3 points, UFC032, for WUF-25
DH.WUF40075	, 1 & 3 points, UFC075, for WUF-80
DH.WUF50032	Calibration Certificate Service, 9 points, UFC132, for WUF-25
DH.WUF50075	, 9 points, UFC175, for WUF-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

The New Generation SHFS™ Simplified Hi-Efficiency Freezing System !

“witeg” **WiseCryo™ WUF-D** Digital Ultra-Low Temp. Freezer, Chest Type, Dual SHFS™, $-95^{\circ}\text{C} \sim -65^{\circ}\text{C}$ with Touch-Screen TFT LCD Controller, Non-Freon Refrigerants, 350-/ 500-/ 600-Lit.



Digital Ultra-Low Temperature Freezer, Dual SHFS™ Chest Type “WUF-D350C”

- **Simplified Hi-Efficiency Freezing System** can freeze down to -86°C : realize 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
- **CE & RoHS Certified**

- * **Simplified Hi-Efficiency Freezing System** can freeze down to -86°C : realize 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
- * Ease-of-use and High Performance Touch-Screen TFT LCD Controller
- * CFC-free Refrigerants are used
- * 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
- * Built in Standard Warning and Alarm Functions
- * RS232 Communication Link and a Remote Control Software is supported

Specification

Capacity & Model		350 Lit. “WUF-D350C”	500 Lit. “WUF-D500C”	600 Lit. “WUF-D600C”
Freezing System		Dual Simplified Hi-Efficiency Freezing System(Dual SHFS™)		
Temp.	Range	$-95^{\circ}\text{C} \sim -65^{\circ}\text{C}$		
	Sensor	at room temperature of 30°C and humidity of 70%		
Compressor		Hermetic Type		
Condenser Type		Block Condenser, No Pin, Filter Free Mechanism		
Refrigerant		HFC (CFC Free Refrigerant System)		
Controller & Display		Full Touch-Screen TFT LCD Controller		
Max. Q'ty of Racks		18pcs of 11(1×11)-Placed Rack & 3pcs of 7(1×7)-Placed Rack	27pcs of 11(1×11)-Placed Rack & 3pcs of 7(1×7)-Placed Rack	33pcs 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 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		1.900×1.100×1.400 310 kg	2.300×1.100×1.400 362 kg	2.600×1.100×1.400 402 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.



Digital Ultra-Low Temperature Freezer, Dual SHFS™ Chest Type “WUF-D350C”

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

<Continued on next page>

<Continued from... "witeg" WiseCryo™ WUF-D Digital Ultra-Low Temp. Freezer, Chest Type>

Ordering Information

Ultra Low Temp. Freezer, Chest-type, -95 °C ~ -65 °C, with Cord / Plug

DH.WUF04350 Ultra Low Temp. Freezer, 230V, 350 Lit., "WUF-D350C"

DH.WUF04500 , 500 Lit., "WUF-D500C"

DH.WUF04600 , 600 Lit., "WUF-D600C"

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 (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) LCO₂ Back up System, "LCO2B"

DH.RWAS (8) Remote Wire/Wireless Alarm System, "RWAS"

DH.WRCK1100 (9) Refrigerant Charging Kit, for all WUF Series (without Charging Tank)

DH.WRCK2350* (10) Refrigerant Charging Tank, "RCK2350", for WUF-D350C

DH.WRCK2500* , "RCK2500", for WUF-D500C

DH.WRCK2600* , "RCK2600", for WUF-D600C

* -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.WUF32350 Validation Service(IQ, OQ), UFDV350C, for WUF-D350C

DH.WUF32500 , UFDV500C, for WUF-D500C

DH.WUF32600 , UFDV600C, for WUF-D600C

DH.WUF42350 Calibration Certificate Service, 1 & 3 points, UFDC0350, for WUF-D350C

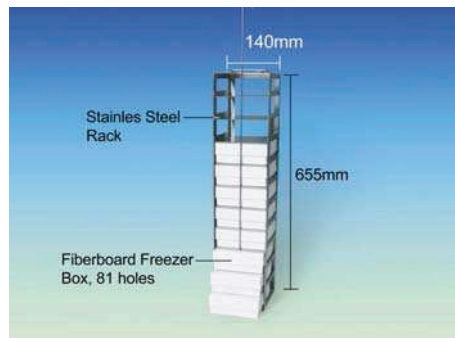
DH.WUF42500 , 1 & 3 points, UFDC0500, for WUF-D500C

DH.WUF42600 , 1 & 3 points, UFDC0600, for WUF-D600C

DH.WUF42350 Calibration Certificate Service, 9 points, UFDC1350, for WUF-D350C

DH.WUF42500 , 9 points, UFDC1500, for WUF-D500C

DH.WUF42600 , 9 points, UFDC1600, for WUF-D600C



(1) 11(1x11)-Placed Rack, Stainless Steel "RFC11"



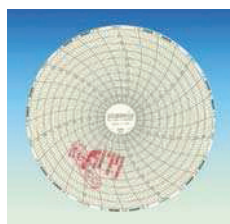
(2) 7(1x7)-Placed Rack, Stainless Steel "RFC7"



(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

The New Generation SHFS™ Simplified Hi-Efficiency Freezing System !

“witeg” **WiseCryo™ WUF** Digital Ultra-Low Temp. Freezer, Chest Type, SHFS™, $-86^{\circ}\text{C} \sim -65^{\circ}\text{C}$ with Touch-Screen TFT LCD Controller, Non-Freon Refrigerants, 350-/ 500-/ 600-Lit.



Digital Ultra-Low Temperature Freezer, SHFS™ Chest Type “WUF-350C”



Digital Ultra-Low Temperature Freezer, SHFS™ Chest Type “WUF-350C”

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

- **Simplified Hi-Efficiency Freezing System** can freeze down to -86°C : realize robust and long life time.
- **Automatic Vacuum Releasing System** - Easy to re-open The Door.
- **CE & RoHS Certified**

- * **Simplified Hi-Efficiency Freezing System** can freeze down to -86°C : realize robust and long life time.
- * Ease-of-use and High Performance Touch-Screen TFT LCD Controller
- * CFC-free Refrigerants are used
- * 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
- * Built in Standard Warning and Alarm Functions
- * RS232 Communication Link and a Remote Control Software is supported

Specification

Capacity & Model		350 Lit. “WUF-350C”	500 Lit. “WUF-500C”	600 Lit. “WUF-600C”
Freezing System		Simplified Hi-Efficiency Freezing System (SHFS™)		
Temp.	Range	$-86^{\circ}\text{C} \sim -65^{\circ}\text{C}$		
	Sensor	at room temperature of 30°C and humidity of 70%		
Compressor		Hermetic Type		
Condenser Type		Block Condenser, No Pin, Filter Free Mechanism		
Refrigerant		HFC (CFC Free Refrigerant System)		
Controller & Display		Full Touch-Screen TFT LCD Controller		
Max. Q'ty of Racks		18pcs of 11(1×11)-Placed Rack & 3pcs of 7(1×7)-Placed Rack	27pcs of 11(1×11)-Placed Rack & 3pcs of 7(1×7)-Placed Rack	33pcs 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 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.

Ordering Information

Ultra Low Temp. Freezer, Chest-type, $-95^{\circ}\text{C} \sim -65^{\circ}\text{C}$, with Cord/Plug

DH.WUF06350 Ultra Low Temp. Freezer, 230V, 350 Lit., “WUF-350C”
 DH.WUF06500 , 500 Lit., “WUF-500C”
 DH.WUF06600 , 600 Lit., “WUF-600C”

<Continued on next page>

Cat. No	Description	Articles
---------	-------------	----------

<Continued from... "witeg" WiseCryo™ WUF Digital Ultra-Low Temp. Freezer, Chest Type>

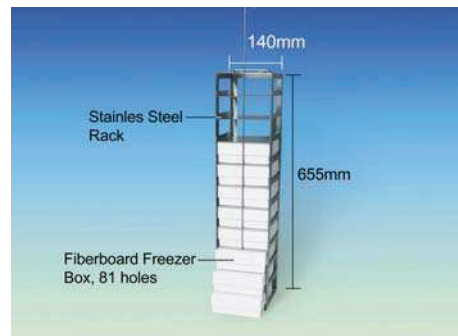
Ordering Information

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	(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 (without Charging Tank)
DH.WRCK3350 *	(10) Refrigerant Charging Tank, "RCK3350", for WUF-350C
DH.WRCK3500 *	, "RCK3500", for WUF-500C
DH.WRCK3600 *	, "RCK3600", for WUF-600C

Validation (IQ, OQ) Service

DH.WUF33350	Validation Service(IQ, OQ), UFV350C, for WUF-350C
DH.WUF33500	, UFV500C, for WUF-500C
DH.WUF33600	, UFV600C, for WUF-600C
DH.WUF43350	Calibration Certificate Service, 1 & 3 points, UFC0350, for WUF-350C
DH.WUF43500	, 1 & 3 points, UFC0500, for WUF-500C
DH.WUF43600	, 1 & 3 points, UFC0600, for WUF-600C
DH.WUF53350	Calibration Certificate Service, 9 points, UFC1350, for WUF-350C
DH.WUF53500	, 9 points, UFC1500, for WUF-500C
DH.WUF53600	, 9 points, UFC1600, for WUF-600C



(1) 11(1x11)-Placed Rack, Stainless Steel "RFC11"



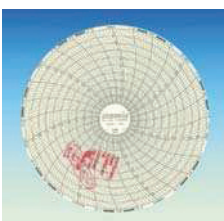
(2) 7(1x7)-Placed Rack, Stainless Steel "RFC7"



(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"



(8) Refrigerant Charging Kit



(9) Refrigerant
Charging Tank