

# ULTRA LOW TEMPERATURE REDUNDANT -86°C FREEZERS

DUO SAFE



*ilShinBioBase*

**ilShinBioBase**  
e u r o p e

# Ultra Low Freezers

We at iShin Biobase Europe are proud to serve many laboratories and bio-banks all over Europe with our high quality Ultra Low Temperature storage solutions.

Our long history with development and production of Ultra Low Temperature Freezers started in 1988 and since then our highly skilled engineers, QC staff and our R&D department engineers ensure the newest technology and best possible quality in our products.

The production plant is state-of-the-art with fully automatic production lines and intensive quality control before leaving the production facility.

With the Duo-Safe Freezer technology we are market leader in offering the most reliable ULT freezers in the market today and in future. A full redundant  $-80^{\circ}\text{C}$  freezer gives peace of mind for everyone who is responsible for the valuable samples within their institute, bio-bank or pharmaceutical / biotech company.

If an error in one of the refrigeration systems occurs the other system maintains the temperature of your samples at  $-80^{\circ}\text{C}$  until service job has been done by service engineers from one of our local dealers. Which, ofcourse, have been trained to offer the best possible back-up for your iShin Biobase Duo-Safe freezers.

After the iShin Biobase freezers arrive in our European warehouse in The Netherlands, all freezers are tested in our climatic controlled Test Room by our well experienced QC department to double check if all parameters and temperature values are as they meant to be.

This way we ensure the best possible quality for our customers.

iShin Biobase Europe, Ultra Low Temperature is in our DNA

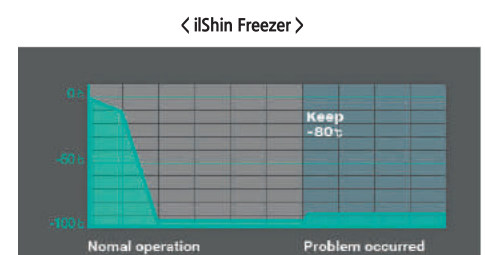
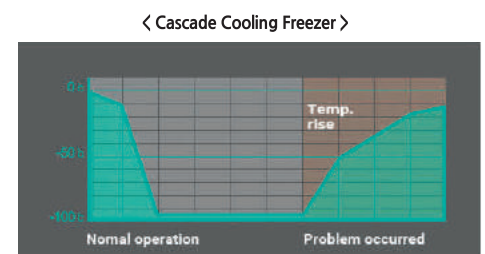
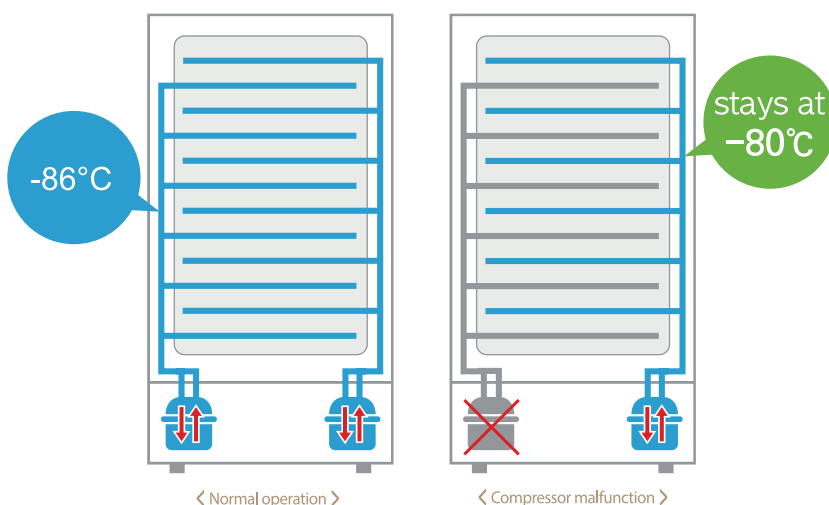


## How do we guarantee $-80^{\circ}\text{C}$ ?

No worries, No hassles in any emergency

### INDEPENDENT COOLING SYSTEM

Two independent cooling mechanisms. One cooling system maintains  $-80^{\circ}\text{C}$  in case of system failure. This unique refrigeration system is standard on both the Duo-Safe as the + series freezers



# Better protection and lower energy consumption! POWERFUL INSULATION

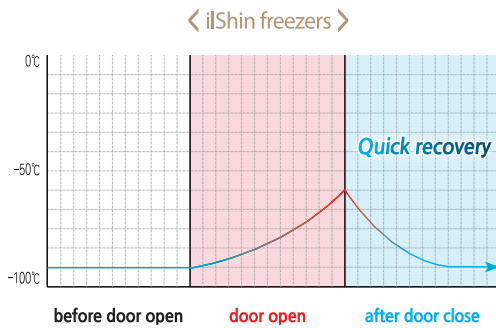
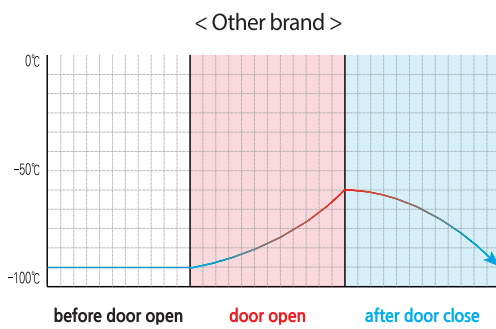


## \*Improved insulation

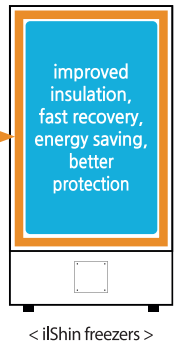
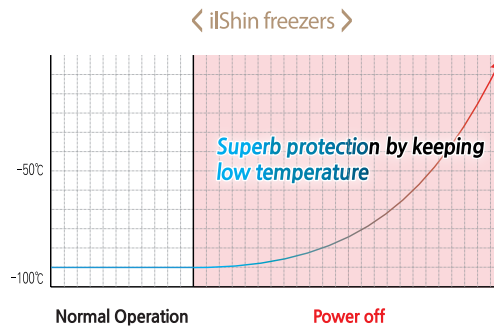
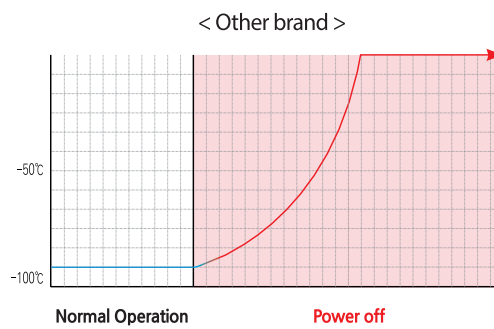
Combination of VIP and PU provides better insulation that enables fast recovery of chamber temperature.



Temperature change before and after door open/close



Temperature variation during power off



# Don't get bothered by loud noise anymore LOW NOISE LEVEL



## \*Designed for low noise

Comfortable work environment is provided.  
Noise level is as low as a commercial refrigerator. ( 49 dB(A) )



# Duo-Safe SERIES

24/7 monitoring by Black Box

GLOBAL REAL TIME CARE SERVICE



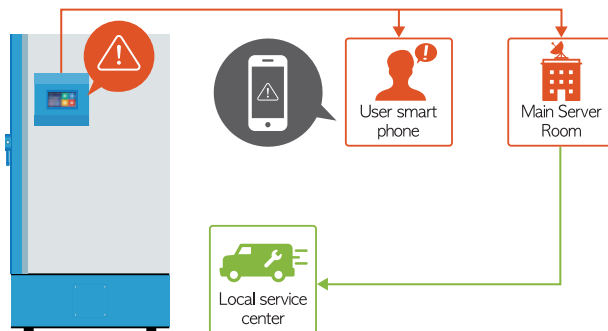
## Remote monitoring by IOT (internet of things) technology

Manufacturer's central monitoring server gives 24/7 real time monitoring by IOT technology. In case of any event, server gives notices to user and designated service team.



## Central server monitoring data

1. Temperature: chamber temperature of the freezer
2. Trend information: temperature variation for last 24 hours
3. Alarm event: compressor over temperature, compressor over current, system overheat, temperature sensor failure, power off, low voltage, cold alarm, warm alarm and door open alarm.



## Prompt and proactive action

User can find any events by application of smart phone. Diagnosis and corrective action are noticed.

\*App. OS: Android 2.3 (Gingerbread) or above, IOS 9.2 or above

Any event alarm goes to user's smart phone and to main server. Main server shall review history data of the unit and prompt diagnosis is executed. Service action is instructed proactively!

## < Conventional service protocol >

Step	Processing details
1	Checking symptoms
2	Service request
3	Engineer field visit and diagnosis
4	Service parts request
5	Engineer visit for repair
6	System reactivated

*Complication, time consumption*

## < New Duo-Safe service protocol >

Step	Processing details
1	Event happens, service instruction provided
2	
3	
4	
5	
6	Completion of service

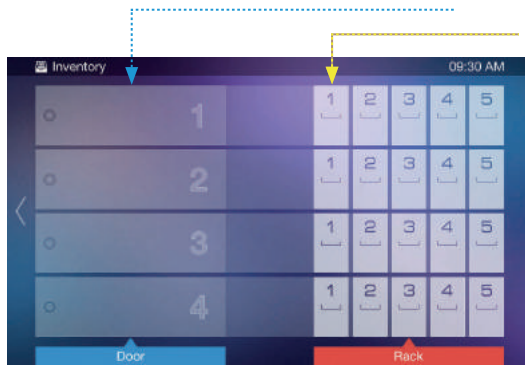
*No hassle, Non-Stop service!*

# No need for searching your samples anymore! INVENTORY MANAGING SYSTEM



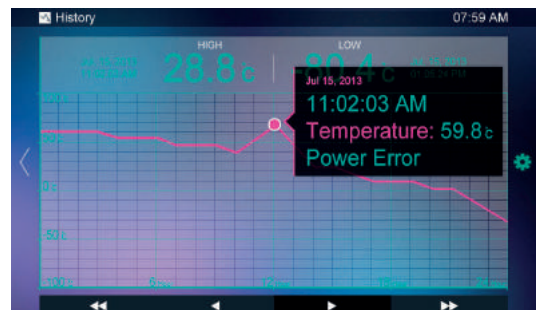
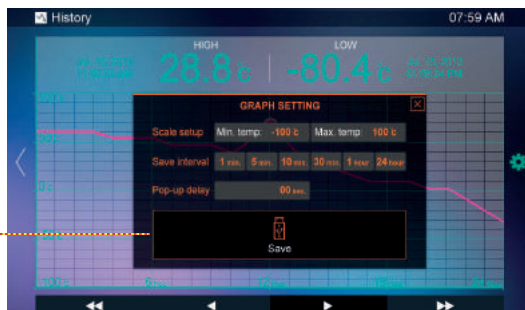
## Inventory system

- Digital memo function for sample storage location.
- Energy saving with minimized door open time.



## Data review by touch and scroll

- Review on the screen over 43,000 hours (5 years) past trend.
- USB download of data is available.





# Ultra Low Freezers + SERIES

Our new developed + Series are available for customers who don't need a full-color touch-screen, internet connection and smartphone application, but do want to take advantage of the Duo-Safe redundant refrigeration system to offer maximum sample safety and piece of mind when talking about storage their samples at Ultra Low Temperatures.

With the + Series (as it is with the Duo-Safe Series) we offer a fully redundant -86°C; If a compressor fails or in case of a leakage in a refrigeration system the other system maintains the temperature of the products at -80°C until service will be provided at customers convenience.



## ROBUST QUALITY

### \*Proven design

We only use the best components available in the market: easy to handle and locally available in your country.

## SIMPLIFIED CONTROL SYSTEM

### \*Micro process control system - easy control by 3 buttons

The + series freezer is optimal for long term bio-depository with easy user interface and simplified performance.

## REDUNDANT COOLING SYSTEM

### \*Designed for extra safety

If an error in one of the refrigeration systems occurs the other system maintain the temperature of your samples at -80°C

# Ultra Low Freezers

## PERSONAL SERIES

### Personal Series

The compact Personal series is suitable for your private sample storage at  $-75^{\circ}\text{C}$ . VIP and simple economic design allow you to enjoy comfortable and convenient storage with energy efficiency.

Easy stacking is possible with optional choice of moving wheels. Service port for back up device is available.



### Convenient access **COMPACT DESIGN**

Table top or under counter storage is possible even with small space. Fast and easy access is privilege of personal series.



### If you need more storage? **2<sup>nd</sup> STACKING**

Easy build up without need of more space.



# SPECIFICATIONS

## -86°C Duo-Safe Series

Series	DF8517DS	DF8520DS	DF8524DS	DF8530DS
Capacity	484 liters	605 liters	730 liters	860 liters
Ext. Dimensions (WxDxH mm)	880 x 957 x 1980	1030 x 957 x 1980	1170 x 957 x 1970	1170 x 985 x 1970
Int. Dimensions (WxDxH mm)	600 x 643 x 1288	750 x 643 x 1288	889 x 643 x 1288	889 x 725 x 1288
Temperature Range (°C)	-60°C ~ -90°C			
Insulation	130 mm Non CFC, foamed in place polyurethane with VIP			
Electrical	110V, 220V 60Hz, 230V 50Hz			
Certification	ISO9001 / ISO14001 / ISO13485 / CE / KGMP / ETL			
Weight (kg)	307	340	370	399
Refrigeration	2 x 1.25 HP			
2" Cryo Boxes	20 boxes x 16 racks	20 boxes x 20 racks	20 boxes x 24 racks	25 boxes x 24 racks
3" Cryo Boxes	12 boxes x 16 racks	12 boxes x 20 racks	12 boxes x 24 racks	15 boxes x 24 racks
Max. 2" Boxes per Freezer	320 boxes	400 boxes	552* boxes	690* boxes

\* Order our new type of racks (6-6-6-5 configuration) for maximum storage capacity

## + Series

Series	DF8517	DF8520	DF8524	DF8530
Capacity	484 liters	605 liters	730 liters	860 liters
Ext. Dimensions (WxDxH mm)	880 x 957 x 1980	1030 x 957 x 1980	1170 x 957 x 1970	1170 x 985 x 1970
Int. Dimensions (WxDxH mm)	600 x 643 x 1288	750 x 643 x 1288	889 x 643 x 1288	889 x 725 x 1288
Temperature Range (°C)	-60°C ~ -90°C			
Insulation	130 mm Non CFC, foamed in place polyurethane with VIP			
Electrical	110V, 220V 60Hz, 230V 50Hz			
Certification	ISO9001 / ISO14001 / ISO13485 / CE / KGMP / ETL			
Weight (kg)	289	320	370	399
Refrigeration	2 x 1.25HP (1 x 1.25HP)			
2" Cryo Boxes	20 boxes x 16 racks	20 boxes x 20 racks	20 boxes x 24 racks	25 boxes x 24 racks
3" Cryo Boxes	9 boxes x 12 racks	9 boxes x 16 racks	12 boxes x 16 racks	12 boxes x 20 racks
2" Boxes/Freezer	320 boxes	400 boxes	552* boxes	690* boxes

\* Order our new type of racks (6-6-6-5 configuration) for maximum storage capacity

## Personal Series

Series	DF8502	DF8503
Capacity	40 liters	80 liters
Ext. Dimensions (WxDxH mm)	470 x 620 x 780	770 x 620 x 780
Int. Dimensions (WxDxH mm)	300 x 440 x 300	600 x 440 x 300
Temperature Range (°C)	-80°C (+/- 5°C)	
Insulation	High Density polyurethane with VIP	
Electrical	110V, 220V 60Hz, 230V 50Hz	
Certification	ISO9001 / 14001 / 13485 / CE / ETL	
Weight (kg)	79	99
Refrigeration	3/8 HP	5/8 HP
2" Cryo Boxes	15 box x 2 racks	15 box x 4 racks
3" Cryo Boxes	9 box x 2 racks	9 box x 4 racks
2" Boxes/Freezer	30 boxes	60 boxes



# DETAIL & FEATURES



## Smart Monitoring Application

24/7 monitoring available on your smart phone. Proactive notice from command room in case of alarm event.



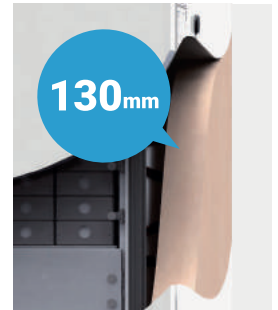
## Finger Print Door Lock

Enhanced security: by finger print registration or by card key.



## Inner door for each shelf

HDPE inner doors minimize cold air loss.



## Powerful insulation

A combination of High pressure injected polyurethane and VIP panels.



## Control panel

- 1) TFT LCD 7" Touch screen
- 2) Smart Microprocessor control

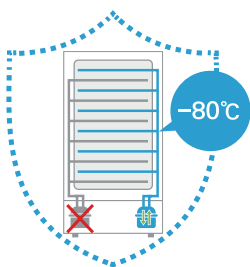


## Sliding Rack

Convenient storage by separated racks with sliding shelves.



Anti-explosion door lock Autorelief system (open & close) works in case of high pressure formed inside of chamber. Key set is provided for locking function.



## Duo-safe technology (Combination of single compressor operation mode)

Even with failure of one compressor, temperature is still maintained at -80°C. Fast pull down to -90°C and energy efficient ECO mode.



Standard two door configuration for model DF8524 & DF8530



Heated pressure relief valve this device enables the operator to open the door within 60 seconds after the last opening

# ACCESSORIES



## Storage Box & Divider

Series NO.	Boxes Supplied
FB0060	2" Fiberboard
FB0061	3" Fiberboard
PP0060	2" Plastic, 81 cell divider
PP0061	3" Plastic, 49 cell divider
DV0049	16mm 49 cell
DV0064	14mm 64 cell
DV0081	13mm 81 cell
DV0100	12mm 100 cell



## Rack Series

Item NO.	Boxes Size	Quantity	For model
UR1062	2"	15	8502, 8503
UR1063	3"	9	
UR1064	2"	20	8517, 8520, 8524
UR1065	3"	12	
UR1066	2"	25	8530
UR1067	3"	15	

## Security Finger Print & Card Access Control System

Series NO.	Description
SCA0002	Enhanced security by fingerprint and access card key to improve D.A.S function.



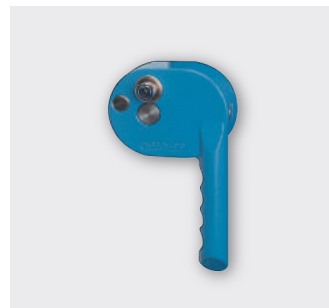
## CO<sub>2</sub> / LN<sub>2</sub> Back-up

Series NO.	Description
LC0070	CO <sub>2</sub> back-up system with battery and temperature display
LN0070	LN <sub>2</sub> back-up system for protection of samples from emergency situation (black out, temperature drop)



## Safety Door Lock Device

Series NO.	Description
SD4989	Auto relief system (open & close) works in case of high pressure (above 0.0008kg/cm <sup>2</sup> ) formed inside of chamber. Key set is provided for locking function.



## Black Box Terminal Unit

Series NO.	Description
BBD1000	Internet based real time monitoring (24/7). Proactive service for any emergency.



## Temperature monitoring System

Series NO.	Description
DS0119	Wireless sensor based emergency protection by giving alarms by email and sms



## Chart Recorder

Series NO.	Description
CH0067	Temperature recorder. 24/7 day circular chart recorder



## Safety Glove

Series NO.	Description
GL0005	Protection from frost bite



## Voltage Booster

Series NO.	Description
VB0081	Boosting voltage under low voltage environment (AC15V)



## AVR Device

Series NO.	Description
AVR0003 AVR0005	Regulating voltage supply under unstable voltage environment

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e u r o p e

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