KOSDAQ

ULTRA LOW
TEMPERATURE FREEZERS
-90℃

Cryo-Pride

DEEP FREEZER
QUICK FREEZER
BLOOD BANK REFRIGERATOR
PHARMACEUTICAL REFRIGERATOR
ICE MAKER
SHAKER

ilShinBioBase

Smart-Blackbox

Monday, March 17, 2014

**0001

PRE.TEMP   -91.5 ℃
SET.TEMP   -96.7 ℃

SETTINGS   MYPAGE

HISTORY   EVENT

KRX

WORLD CLASS PRODUCT OF KOREA 1

IIGIC
ISO 13485

GMP

CE

ETL VERIFIED

KFDA

ilShinBioBase
Since 1988

DEEP FREEZER

JABA SERIES

[JABA] Series

New JABA series of Cryo-Pride is equipped with cutting edge COSCOM (Combination Of Single Compressor Operation Mode) technology by two independent compressor mechanisms.

Combination of VIP(Vacuum Insulation Panel) and insulation by high pressure injection enable maximum insulation as well as lowest energy consumption for keeping your valuable samples with maximum safety. Auto Cascade system with COSCOM technology protects your samples from any risk other than blackout. With low noise and all time monitoring "Blackbox" service, our JABA series shall be successful companion of your comfortable research.
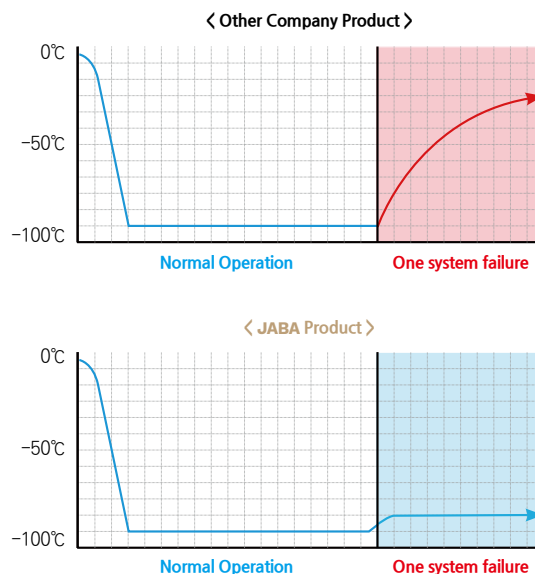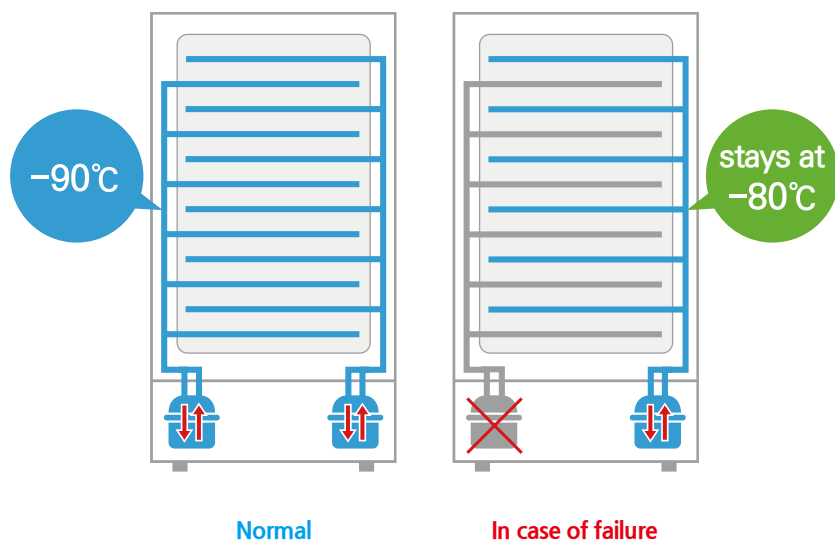
Main Features

JABA SERIES

No worries, No hassles in any emergency–

1. INDEPENDENT COOLING SYSTEM

◈ **COSCOM System**

Two independent cooling mechanisms. One cooling systems maintains -80℃ in case of system failure.

−90℃

Normal

In case of failure

stays at −80℃

⟨ Other Company Product ⟩

0℃
−50℃
−100℃

Normal Operation | One system failure

⟨ JABA Product ⟩

0℃
−50℃
−100℃

Normal Operation | One system failure

2. 24/7 real time monitoring **BLACK BOX** service

GLOBAL REAL TIME CARE SERVICE

◈ **Remote monitoring by 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.
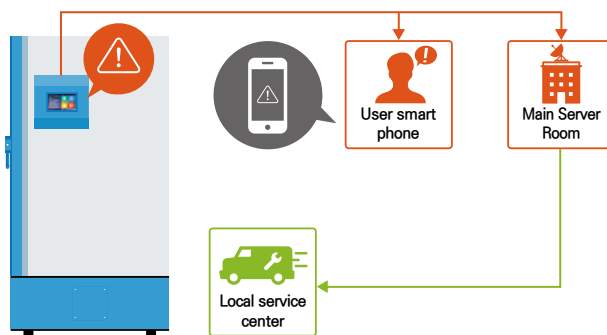
◈ **Prompt and proactive action**

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' 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 JABA service protocol >

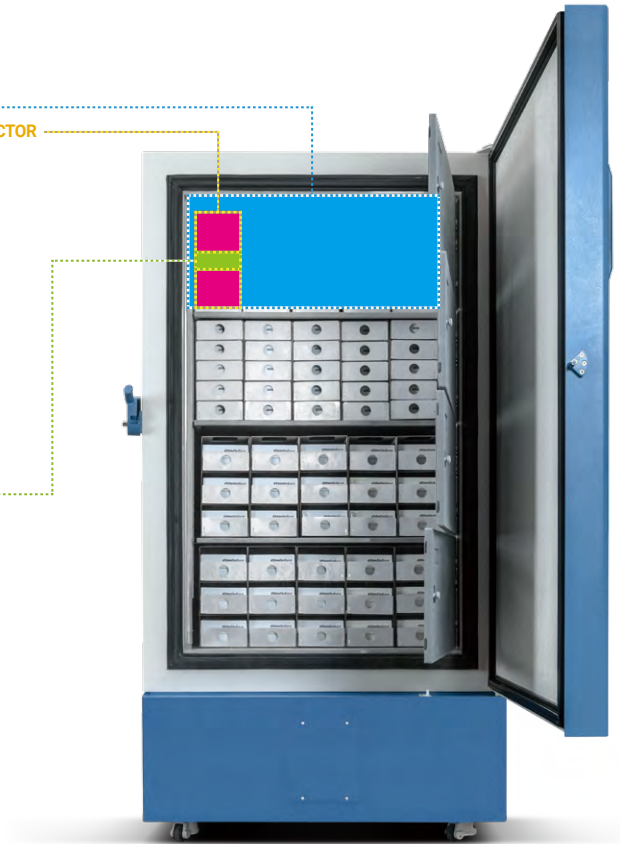| Step	Processing details
1	Event happens, service instruction provided
2	
3	
4	
5	
6	Completion of service

No hassle, Non-Stop service!

No need for searching your samples!

1. INVENTORY MANAGING SYSTEM

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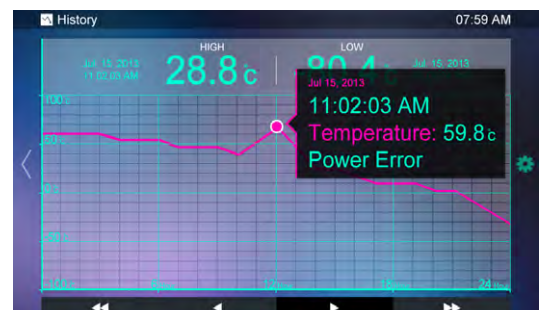

4. data review by touch and scroll- TREND DATA

◈ **Graph**
- Review on the screen over 43,000 hours past trend.
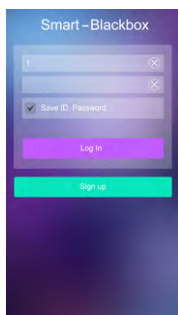- USB download of data is available.

5. monitoring in your hand— **MOBILE CONTROL**

◈ **Mobile remote control**

Monitoring and control by mobile application is available with your computer, Lap top, smart phone or tablet PC.
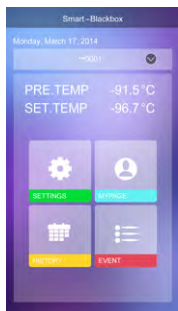
SMART PHONE

TABLET PC

LAPTOP

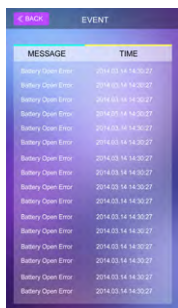DESKTOP

MOBILE APPLICATION

CONTROL SYSTEM MOBILE APPLICATION

* Log in

Mobile App account open and log in.

* My page

Registration of user unit. Service authorization.

* Main

Setup, My page, Temperature graph, Event menu. Real time monitoring page.
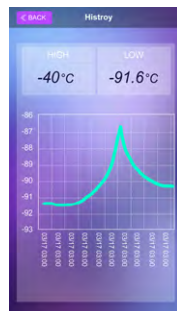
* History

Present data and trend data for last 43,000 hours on screen.

* Event

Alarm events display and review.
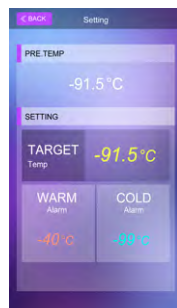
* Setting

Parameter setup, password setup and authorization control.

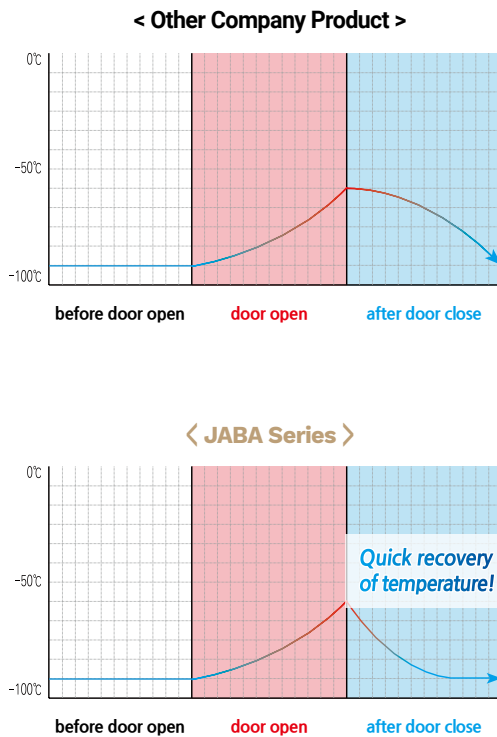Better protection and lower energy consumption!

1. POWERFUL INSULATION

◈ **Improved insulation**

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

130mm

Temperature change before and after door open/close

< Other Company Product >

0℃
-50℃
-100℃

before door open | door open | after door close

⟨ JABA Series ⟩

0℃
-50℃
-100℃

Quick recovery of temperature!

before door open | door open | after door close

Temperature variation during power off

< Other Company Product >

20℃
-50℃
-100℃

Normal Operation | Power off

⟨ JABA Series ⟩

20℃
-50℃
-100℃

Superb protection by keeping low temperature (about 11 hrs)

Normal Operation | Power off

slow recovery, high energy consumption, risk on samples

< Other Company Product >

improved insulation, fast recovery, energy saving, better protection

< JABA >
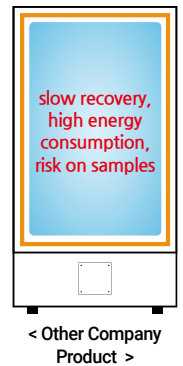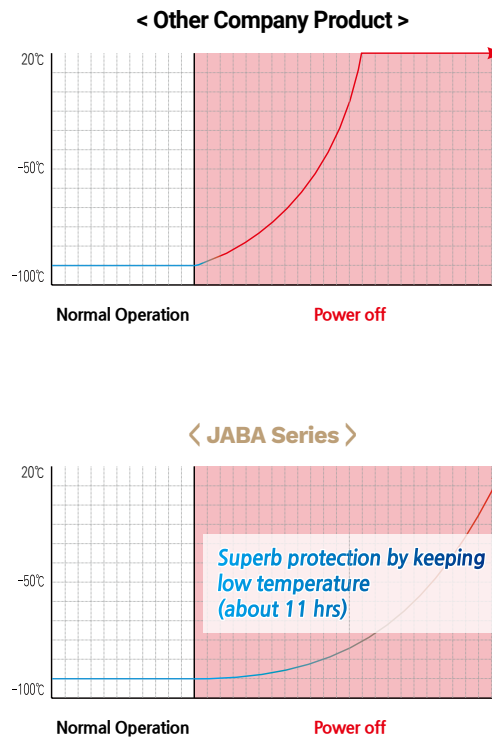
Don't get bothered by loud noise anymore

1. LOW NOISE STRUCTURE

◈ **Designed for low noise**

Comfortable work environment is provided. Noise level is as low as home refrigerator.

Low noise below 55.1dB(A)

< TUV NORD Performance Certificate >

DEEP FREEZER

GUDERO PLUS SERIES

[GUDERO PLUS] Series

Gudero Series was introduced in 1988 and has been upgraded since then. New Gudero Plus Series is equipped with COSCOM technology for double safety and robust quality. Easy user interface is beneficial for long term depository by simplified control parameters with only 3 buttons.

Main Features

GUDERO PLUS SERIES

GUDERO PLUS - UPRIGHT

Independent cooling mechanisms

1. DOUBLE SAFETY

*COSCOM system
Even with failure of one compressor, temperature is still maintained at -80℃.

Easy Control by 3 Buttons

2. SIMPLIFIED CONTROL SYSTEM

*Micro process control system
Gudero Plus is optimal for long term bio-depository with easy user interface and simplified performance.

No worries about overheat or dust accumulation!

3. PIN-LESS CONDENSATION SYSTEM

*Pin-less
No need for cleaning, no need for filter replacement. Compressor overheat is prevented.

DEEP FREEZER

GUDERO CHEST SERIES

[GUDERO CHEST] Series

Gudero Chest Series is optimal for long term storage of large size samples at the range of -90℃~-120℃.

-10℃~-120℃ Gudero Chest lineup is with reliable cascade refrigeration technology. With accumulated know-how, micro process control system provides easy and hassle free long term bio-depository solution.

Main Features

GUDERO CHEST SERIES

Light and handy

1. POLYETHYLENE INNER DOOR

Light and handy inner doors make your research more comfortable.

Self-diagnosis function, smart & easy maintenance

2. SELF-DIAGNOSIS FUNCTION

Temperature and voltage parameters are monitored and alarm is generated at any emergency situation.

Temperature check by one glance

3. MONITORING SYSTEM

RS-232 and 485 communication port allows real time monitoring by personal computer.

GUDERO - CHEST

DEEP FREEZER

POCKET SERIES

[POCKET] Series

New compact Pocket series is suitable for your private sample storage. 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.

Main Features

POCKET SERIES

POCKET TYPE

Convenient access

1. COMPACT DESIGN

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

If you need more storage?

2. 2nd STACKING

Easy build up without need of more space.

QUICK FREEZER

QDF SERIES

[QUICK FREEZER]

General use of deep freezer is long term storage of samples but special samples such as blood and specific reagents need prompt freezing for keeping their properties.

QDF Series is optimal solution for fast and reliable freezing without chance of any damage on your samples.

Main Features

QUICK FREEZER

Powerful & fast freezing system

1. FAST FREEZING SYSTEM

Specially designed refrigeration system and powerful ventilation pull down from 20℃ to -40℃ within 1hour.

Rail type air hole drawer with enough space

2. REMOVABLE RAIL DRAWER

Rail type drawer with air hole enables good circulation of cold air. Convenient way of categorized sample storage.

Perfect insulation

3. 4 LAYER GASKET

3 layers on chamber side and 1 on door side, minimizing loss of cold air.

DETAIL & FEATURES

DEEP FREEZER

Smart Monitoring Application

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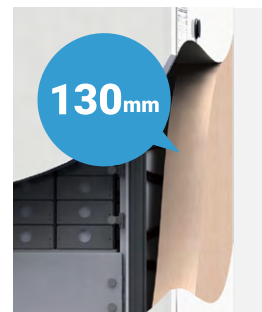

Finger Print Door Lock

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

Inner door for each shelf

HDPE inner doors minimize cold air loss.

130mm

Powerful insulation

High pressure injected POLY URETHANE with 130mm thickness keeps temperature less than 3℃ between chamber inside and outer wall.

Control panel

1) TFT LCD 7" Touch Screen
2) Smart Microprocessor control

Sliding Rack

Convenient storage by separated racks with sliding mode.


Anti-explosion door lock

Auto relief system(open & close) works in case of high pressure formed inside of chamber. Key set is provided for locking function.

Black Box

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.
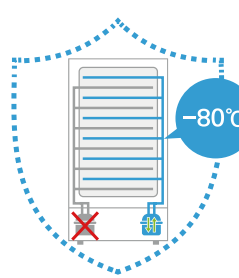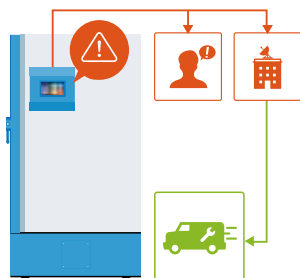
**Coscom system
(Combination of single compressor operation mode)**

−80℃

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

SPECIFICATIONS DEEP FREEZER SERIES

JABA Series

Series	DF8510	DF8514	DF8517	DF8520	DF8524	DF8530
Capacity	276 liters	369 liters	484 liters	605 liters	730 liters	832 liters
Ext. Dimensions (WxDxH mm)	920 x 805 x 1660	920 x 805 x 1980	920 x 955 x 1980	1070 x 955 x 1980	1227 x 957 x 1980	1227 x 985 x 1980
Int. Dimensions (WxDxH mm)	600 x 480 x 970	600 x 480 x 1290	600 x 630 x 1290	750 x 630 x 1290	890 x 635 x 1290	890 x 725 x 1290
Temperature Range (℃)	−60℃ ~ −90℃					
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)	256	279	307	340	378	410
Refrigeration	2 x 1.25 HP					
2" Cryo Boxes	15 boxes x 12 racks	15 boxes x 16 racks	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	12 boxes x 24 racks	15 boxes x 24 racks
2" Boxes/Freezer	180 boxes	240 boxes	320 boxes	400 boxes	480 boxes	600 boxes

*Voltage range:** 110V(100~120), 220V(208~230), 230V(220~240)

GUDERO PLUS-UPRIGHT Series

Series	DF3510	DF3514	DF3517	DF3520	DF3524	DF3530
Capacity	276 liters	369 liters	484 liters	605 liters	730 liters	832 liters
Ext. Dimensions (WxDxH mm)	920 x 805 x 1660	920 x 805 x 1980	920 x 955 x 1980	1070 x 955 x 1980	1070 x 1065 x 1980	1350 x 955 x 1980
Int. Dimensions (WxDxH mm)	600 x 480 x 970	600 x 480 x 1290	600 x 630 x 1290	750 x 630 x 1290	750 x 755 x 1290	1030 x 630 x 1290
Temperature Range (℃)	−10℃ ~ −35℃					
Insulation	130 mm Non CFC, foamed in place polyurethane with VIP					
Electrical	110V, 220V 60Hz, 230V 50Hz					
Certification	ISO9001 / ISO14001 / ISO13485 / CE / KGMP					
Weight (kg)	212	233	260	291	326	360
Refrigeration	1 x 1.25HP					
2" Cryo Boxes	15 boxes x 12 racks	15 boxes x 16 racks	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	12 boxes x 24 racks	15 boxes x 24 racks
2" Boxes/Freezer	180 boxes	240 boxes	320 boxes	400 boxes	480 boxes	600 boxes

GUDERO PLUS-UPRIGHT Series

Series	DF8510	DF8514	DF8517	DF8520	DF8524	DF8530
Capacity	276 liters	369 liters	484 liters	605 liters	730 liters	832 liters
Ext. Dimensions (WxDxH mm)	920 x 805 x 1660	920 x 805 x 1980	920 x 955 x 1980	1070 x 955 x 1980	1227 x 957 x 1980	1227 x 985 x 1980
Int. Dimensions (WxDxH mm)	600 x 480 x 970	600 x 480 x 1290	600 x 630 x 1290	750 x 630 x 1290	890 x 635 x 1290	890 x 725 x 1290
Temperature Range (℃)	−60℃ ~ −90℃					
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)	240	262	289	320	355	390
Refrigeration	2 x 1.25HP (1 x 1.25HP)					
2" Cryo Boxes	15 boxes x 12 racks	15 boxes x 16 racks	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	12 boxes x 24 racks	15 boxes x 24 racks
2" Boxes/Freezer	180 boxes	240 boxes	320 boxes	400 boxes	480 boxes	600 boxes

GUDERO-CHEST Series

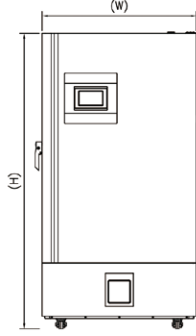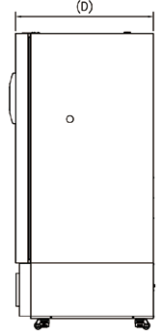| Series	DF4510	DF4517	DF9010	DF9017	DF12010
Capacity	295 liters	295 liters	295 liters	492 liters	295 liters
Ext. Dimensions (WxDxH mm)	1590 x 790 x 1030	2180 x 790 x 1030	1590 x 790 x 1030	2180 x 790 x 1030	1590 x 790 x 1030
Int. Dimensions (WxDxH mm)	870 x 500 x 670	1470 x 500 x 670	870 x 500 x 670	1470 x 500 x 670	870 x 500 x 670
Temperature Range (℃)	−10℃ ~ −45℃		−40℃ ~ −90℃		−80℃ ~ −120℃
Insulation	130 mm Non CFC, foamed in place polyurethane with VIP				
Electrical	110V , 220V 60Hz, 230V 50Hz				
Certification	ISO9001 / ISO 14001 / ISO 13485 / CE		ISO9001 / ISO14001 / ISO13485 / CE / KGMP		
Weight (kg)	207	257	236	286	280
Refrigeration	1 x 1.25HP		2 x 1.25HP		2 x 1.5HP
2" Cryo Boxes	12 boxes x 18 racks	12 boxes x 30 racks	12 boxes x 18 racks	12 boxes x 30 racks	12 boxes x 18 racks
3" Cryo Boxes	8 boxes x 18 racks	8 boxes x 30 racks	8 boxes x 18 racks	8 boxes x 30 racks	8 boxes x 18 racks
2" Boxes/Freezer	216 boxes	360 boxes	216 boxes	360 boxes	216 boxes

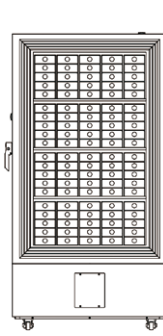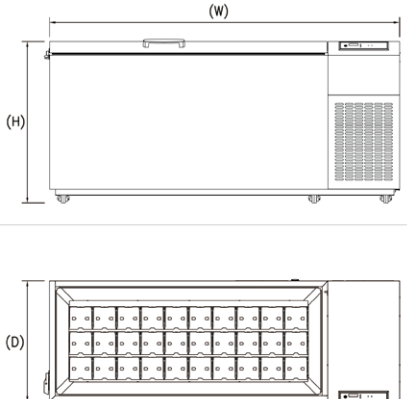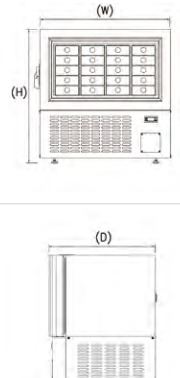## POCKET Series

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 (℃)	−60℃ ~ −86℃	
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

QUICK FREEZER

Series	QDF4517
Capacity	484 liters
Ext. Dimensions (WxDxH mm)	920 x 955 x 1980
Int. Dimensions (WxDxH mm)	600 x 630 x 1290
Temperature Range (℃)	−10℃ ~ −40℃
Insulation	130 mm Non CFC, foamed in place polyurethane with VIP
Electrical	380V, 3Ph, 60Hz
Certification	ISO9001 / 14001 / 13485 / KGMP
Weight (kg)	307
Refrigeration	5 HP
Drawers/Freezer	total 11 Drawers

＊**Voltage range:** 220/380V, 3Ph, 50/60Hz

DIMENSIONS & STORAGE CAPACITY Preview

UPRIGHT – FRONT	UPRIGHT – SIDE	UPRIGHT – CAPACITY	CHEST	POCKET

＊**Stainless steel option:** All models have the option for a stainless steel interior. Please add "S" behind the model number to order stainless steel interior, (for example DF 8524S)

CONFIGURATION

for FREEZER SYSTEM

1

Sliding Rack

3

Storage Box & Divider

2

Chest Tower Rack

4

Fingerprint & Card key
Security System

5

CO$_2$ Backup system

6

Anti-explosion
Safety Door Lock

7

Blackbox Terminal

8

Dialing System

9

Chart Recorder

10

Safety Glove

11

Voltage Booster

ACCESSORIES
for FREEZER SYSTEM

Rack Series

Item NO.	Boxes Size	Quantity	Purpose
CR0060	2"	12	for Chest Freezer
CR0061	3"	8	
SR0062	2"	15	Upright Freezer xx02, xx03, xx10, xx14
SR0063	3"	9	
SR0064	2"	20	Upright Freezer xx17, xx20. xx24
SR0065	3"	12	
SR0066	2"	25	Upright Freezer xx30
SR0067	3"	15	

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

Security Finger Print & Card Access Control System

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

CO₂ / LN₂ Back-up & CO₂ Bombe

Series NO.	Description
LC0070	CO_2 back-up system with battery and temperature display
LN0070	LN_2 back-up system for protection of samples from emergency situation (black out, temperature drop)
CO2000	Carbonic Acid gas tank 20KG/CAN: Siphon included, Unit: 20KG/CAN

Safety Door Lock Device

Series NO.	Description
SD4989	Auto relief system(open & close) works in case of high pressure (above 0.0008kg/cm²) 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.

Dialing System

Series NO.	Description
DS0119	Wireless sensor based emergency protection by giving alarms up to 5 points telephone numbers or messages.

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