

# Ultralow temperature freezer-DFU&DFUD /CUS Ultra Safe™(Twin Heart™) Freezer

## Product features and specifications

- Realization of -90°C freezing performance with application of patented Single Stage Auto Cascade Two compressor systems
- When one compressor is broken down, another compressor maintains -80°C (with amb. +25°C / +32°C)
- When exchanging or repairing the compressor, it does not need to cut off the power, and the samples do not have to be moved to another freezer, Also, welding is not necessary, so welding equipment is not needed. Vacuuming is not necessary, and the user can exchange the compressor within 30 minutes without trained engineers or special tools, so it can reduce the repair cost by 30~70% comparing to the previous product.
- The controller attached at the user's eye level
- Use of CFC-free special mixed refrigerants
- Application of aerodynamically designed pan wings equipped with huge capacity and high performance
- Hermetic compressor for LBP with excellent performance
- Use of 130mm high density urethane insulating materials to minimize cold air loss
- Non scaling stainless chamber and 2 stainless doors inside
- Strong structure frame and impact resistant powder coating finishing
- Round corner design for easy cleaning
- Prevention of condensation and the chill loss with three-layered wrinkle packing
- Filter cover for easy cleaning and washable filter
- Upright type canbinet structure
- Temperature for hard condition resistant test +32°C
- Temperature measuring sensor: platinum PT-100Ω(Class A 0.15 grade)
- Prevention of frost with Rim Heating system
- RS-232 Data port and Interface which is available for store, control and monitor temperature data via user's PC
- Equipped with the port for auto vacuum release



## Control system

- Micro processor control system /Digital temperature indicator which adjust the temperature by 0.1°C
- Functions for setting double passwords to prevent access or control except administrators
- Data locking function

## Alarm system and safety devices

- Alarm for filter cleaning period (Warm Condenser alarm)
- Alarm for high/low temperature of sight and auditory
- Equipped with pressure switch
- Equipped with overheating prevention switch
- Auto return system after blackout

## ULT freezer - CUS(Ultra Safe(Twin Heart)® freezer - (Standard model))

Model	DFU-446CUS(S)	DFU-558CUS(S)	DFU-657CUS(S)	DFU-740CUS(S)	DFU-800CUS(S)	DFU-868CUS(S)
Temperature	2 compressor : -90°C					
	1 compressor Run when event : -80°C~ -65°C		1 compressor Run when event : -80°C~ -65°C		1 compressor Run when event : -80°C~ -65°C	
Outer dimension (mm)	W860 x D900 x H1951	W1010 x D900 x H1901	W1010 x D990 x H1951	W1010 x D990 x H2001	W1010 x D1080 x H2001	W1010 x D1151 x H2001
Inner dimension (mm)	W600 x D620 x H1200	W750 x D620 x H1200	W750 x D730 x H1200	W750 x D750 x H1300	W750 x D820 x H1300	W750 x D891 x H1300
Volume	446L	558L	657L	740L	800L	868L
Electrical power	AC220V 1ph (50/60Hz)					
Weight	380Kg	400kg	420kg	450kg	470Kg	500kg

Model	DFC-200CUS(S)	DFC-300CUS(S)	DFC-400CUS(S)	DFC-500CUS(S)	DFC-600CUS(S)
Temperature	2 compressor : -90°C				
	1 compressor Run when event : -80°C~ -65°C				
Outer dimension (mm)	W1365 x D720 x H1101	W1665x D720 x H1101	W1965 x D720 x H1101	W2265 x D720 x H1101	W2565 x D720 x H1101
Inner dimension (mm)	W600 x D470 x H710	W900 x D470 x H710	W1200 x D470 x H710	W1500 x D470 x H710	W1800 x D470 x H710
Volume	200L	300L	400L	500L	600L
Electrical power	AC220V 1ph (50/60Hz)				
Weight	255kg	290kg	315Kg	340kg	365Kg

Model	DFUD-446CUS(S)	DFUD-558CUS(S)	DFUD-657CUS(S)	DFUD-740CUS(S)	DFUD-800CUS(S)	DFUD-868CUS(S)
Temperature	2 compressor : -90°C					
	1 compressor Run when event : -80°C~ -65°C		1 compressor Run when event : -80°C~ -65°C		1 compressor Run when event : -80°C~ -65°C	
Outer dimension (mm)	W860 x D900 x H1951	W1010 x D900 x H1901	W1010 x D990 x H1951	W1010 x D990 x H2001	W1010 x D1080 x H2001	W1010 x D1151 x H2001
Inner dimension (mm)	W600 x D620 x H1	W750 x D620 x H1200	W750 x D730 x H1200	W750 x D750 x H1300	W750 x D820 x H1300	W750 x D891 x H1300
Volume	446L	558L	657L	740L	800L	868L
Electrical power	AC220V 1ph (50/60Hz)					
Weight	380Kg	400kg	420kg	450kg	470Kg	500kg

## ULT freezer - CUS(Ultra Safe(Twin Heart)® freezer - (Premium model))

Model	DFUD-446CUS(P)	DFUD-558CUS(P)	DFUD-657CUS(P)	DFUD-740CUS(P)	DFUD-800CUS(P)	DFUD-868CUS(P)	
Major specification	Temperature						
	2 compressor Run when event : -90°C						
	1 compressor Run when event : -80°C~-65°C						
	Outer dimension (mm)	W860 x D900 x H1951	W1010 x D900 x H1901	W1010 x D990 x H1951	W1010 x D990 x H2001	W1010 x D1151 x H2001	W1010 x D1151 x H2001
	Inner dimension (mm)	W600 x D620 x H1200	W750 x D620 x H1200	W750 x D730 x H1200	W750 x D750 x H1300	W750 x D891 x H1300	W750 x D891 x H1300
	Volume	446L	558L	657L	740L	800L	868L
Electrical power	AC220V 1Ph (50Hz/60Hz)						
Weight	380kg	400kg	420kg	450kg	470kg	500kg	
Features	When compressor replacement (Maker's standard parts)						
	Equipped 2 x Valve and 4 x Union						
	2 x Compressor, 1 x Heat Exchanger, 1 x Copper tube (1 x Evaporation coil)						
	Oil separator is not required						
	No switch-off is required						
	No move the samples are required						
	No gas discharge is required						
	This does not require welding work						
	No pressure test is required						
	No Gas re-charging is required						
	No special tool is required						
	No Specially trained engineer is required						
	No freezer stop is required and User can be replace the compressor by theselves within 30-40min						
Shorten the Service lead time							
Cost saveing more than 30% ~ 70% of compressor replacement							
Energy saving	Eco mode operation can make 30% of Energy saving						

Model	DFU-446CUS(P)	DFU-558CUS(P)	DFU-657CUS(P)	DFU-740CUS(P)	DFU-800CUS(P)	DFU-868CUS(P)	DFU-800CUS(P)	DFU-868CUS(P)	DFC-200CUS(P)	DFC-300CUS(P)	DFC-400CUS(P)	DFC-500CUS(P)	DFC-600CUS(P)	
Major specification	Temperature													
	2 compressor Run when event : -90°C													
	1 compressor Run when event : -80°C~-65°C													
	Outer dimension (mm)	W860 x D900 x H1951	W1010 x D900 x H1901	W1010 x D990 x H1951	W1010 x D990 x H2001	W1010 x D1151 x H2001	W1010 x D1151 x H2001	W1010 x D1151 x H2001	W1010 x D1151 x H2001	W1365 x D720 x H1101	W1665 x D720 x H1101	W1965 x D720 x H1101	W2265 x D720 x H1101	W2565 x D720 x H1101
	Inner dimension (mm)	W600 x D620 x H1200	W750 x D620 x H1200	W750 x D730 x H1200	W750 x D750 x H1300	W750 x D891 x H1300	W750 x D891 x H1300	W750 x D891 x H1300	W750 x D891 x H1300	W600 x D470 x H710	W900 x D470 x H710	W1200 x D470 x H710	W1500 x D470 x H710	W1800 x D470 x H710
	Volume	446L	558L	657L	740L	800L	868L	800L	868L	200L	300L	400L	500L	600L
Electrical power	AC220V 1ph (50/60Hz)													
Weight	380kg	400kg	420kg	450kg	470kg	500kg	470kg	500kg	255kg	290Kg	315kg	340kg	365Kg	
Features	When compressor replacement (Maker's standard parts)													
	Equipped 2 x Valve and 4 x Union													
	2 x Compressor, 1 x Heat Exchanger, 1 x Copper tube (1 x Evaporation coil)													
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	No special tool is required													
	No Specially trained engineer is required													
	No freezer stop is required and User can be replace the compressor by theselves within 30-40min													
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Cost saveing more than 30% ~ 70% of compressor replacement														
Energy saving	Eco mode operation can make 30% of Energy saving													

**Options** Rack / Box / CO2 Backup system / LCD touch screen with SD card(or USB) - Basic -1channel (sensor 3channel, 6channel options) / U-system (remote alarm system and wireless control system – telecommunication subscription needed / Automatic voltage regulator / Cryogenic gloves / Battery backup (Control panel and alarm) / Recorder / VIP