

# Cascade cooling system

## -86°C ULT freezer



**DW-HL778S**

M-Cascade system ULT freezer that consists of two stages cascade cooling technology with absolute hydrocarbon refrigerant, which are R290 and R170 as natural gas. The inverter compressors programmed to help energy savings under long period preservation or provide fast temperature recovery while frequently door open to maintain specimens liveness.



Temp. fluctuation



Pulling down to -80°C



Temp. recovery after door opened for 1 min

*\*Typical freezer data based on internal testing with freezer set point at -80°C and ambient temperature at 25°C.*

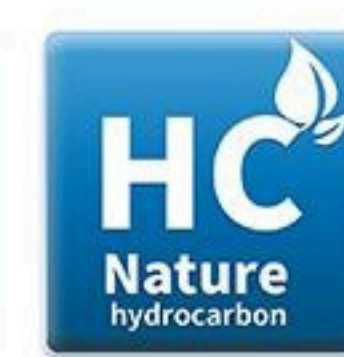
## Features



**Cascade system**  
Two stages cascade system



**Touch screen**  
10" LCD touch screen



**Hydrocarbon refrigerant**  
Environment-friendly natural gas



**Inverter technology**  
Two inverter compressors

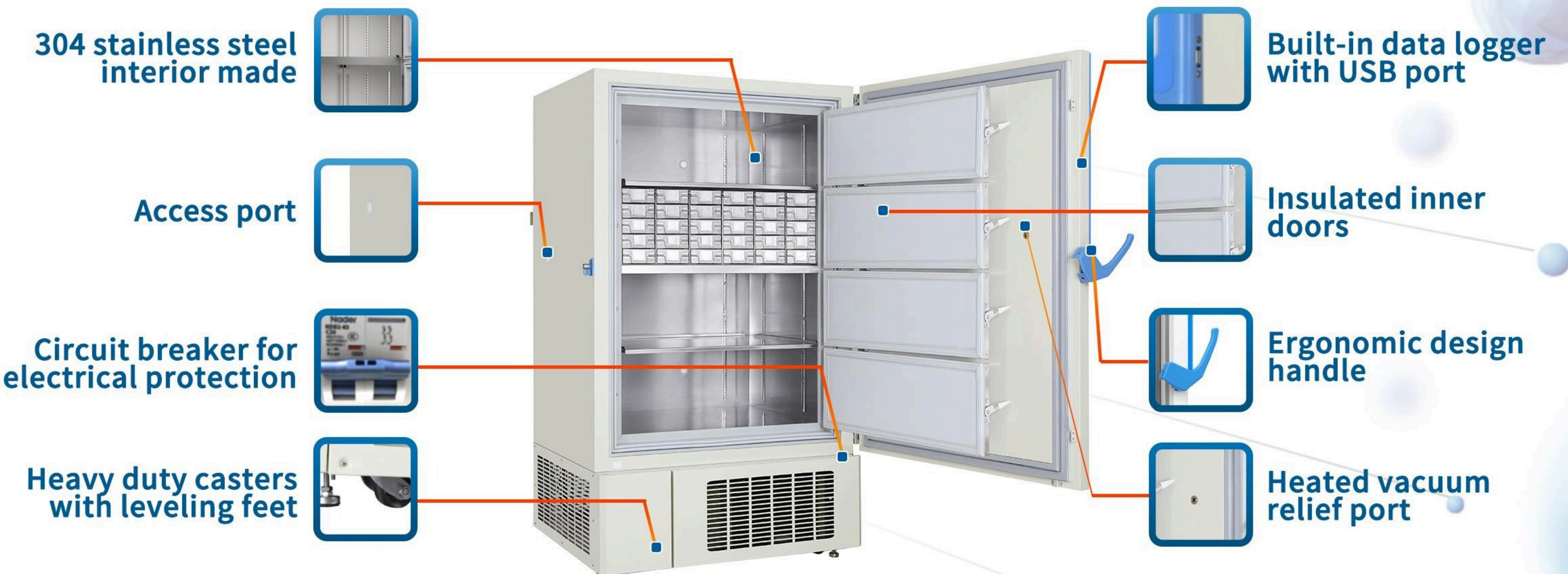


**Vacuum insulation**  
VIP insulation foaming

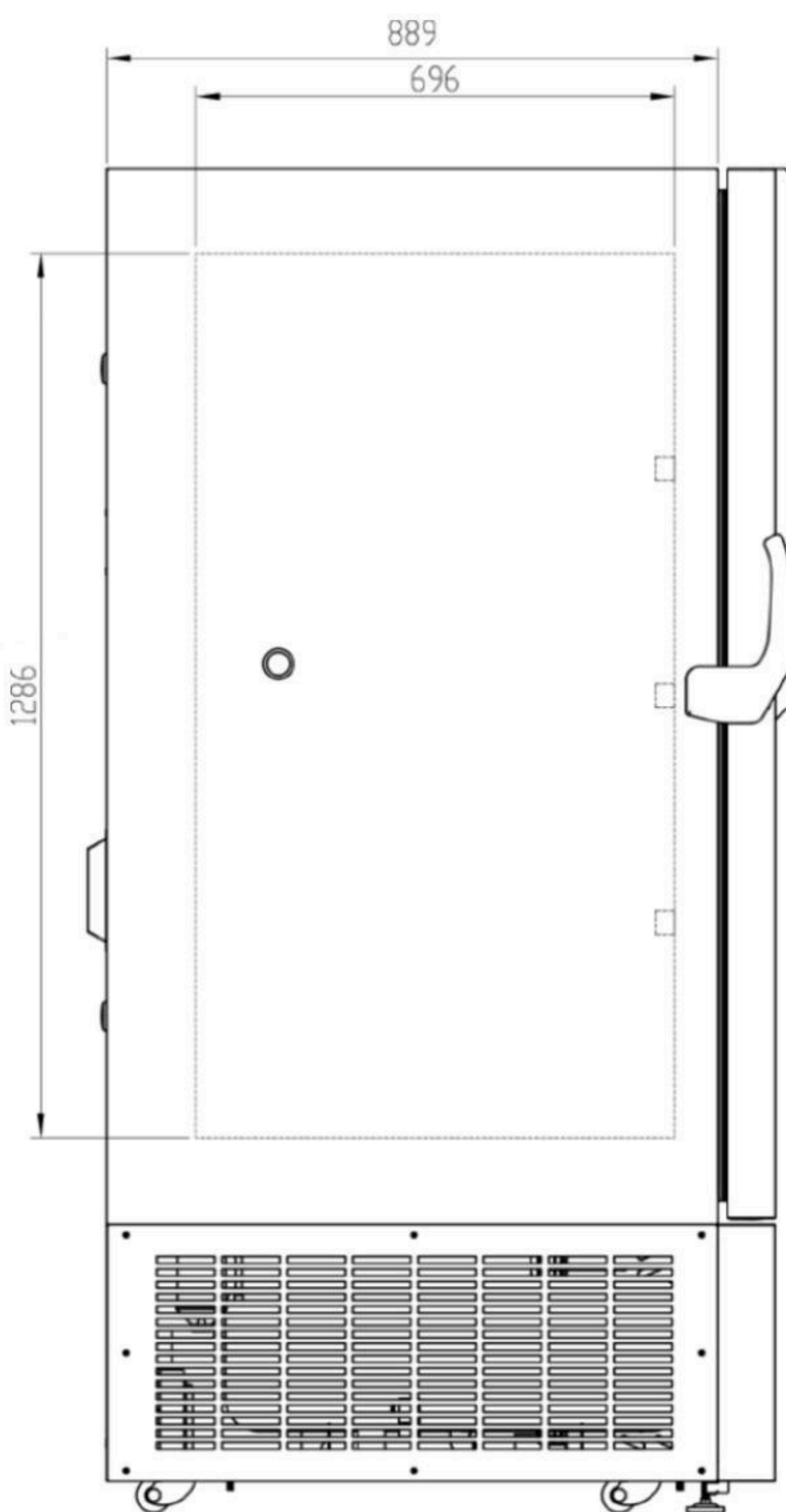
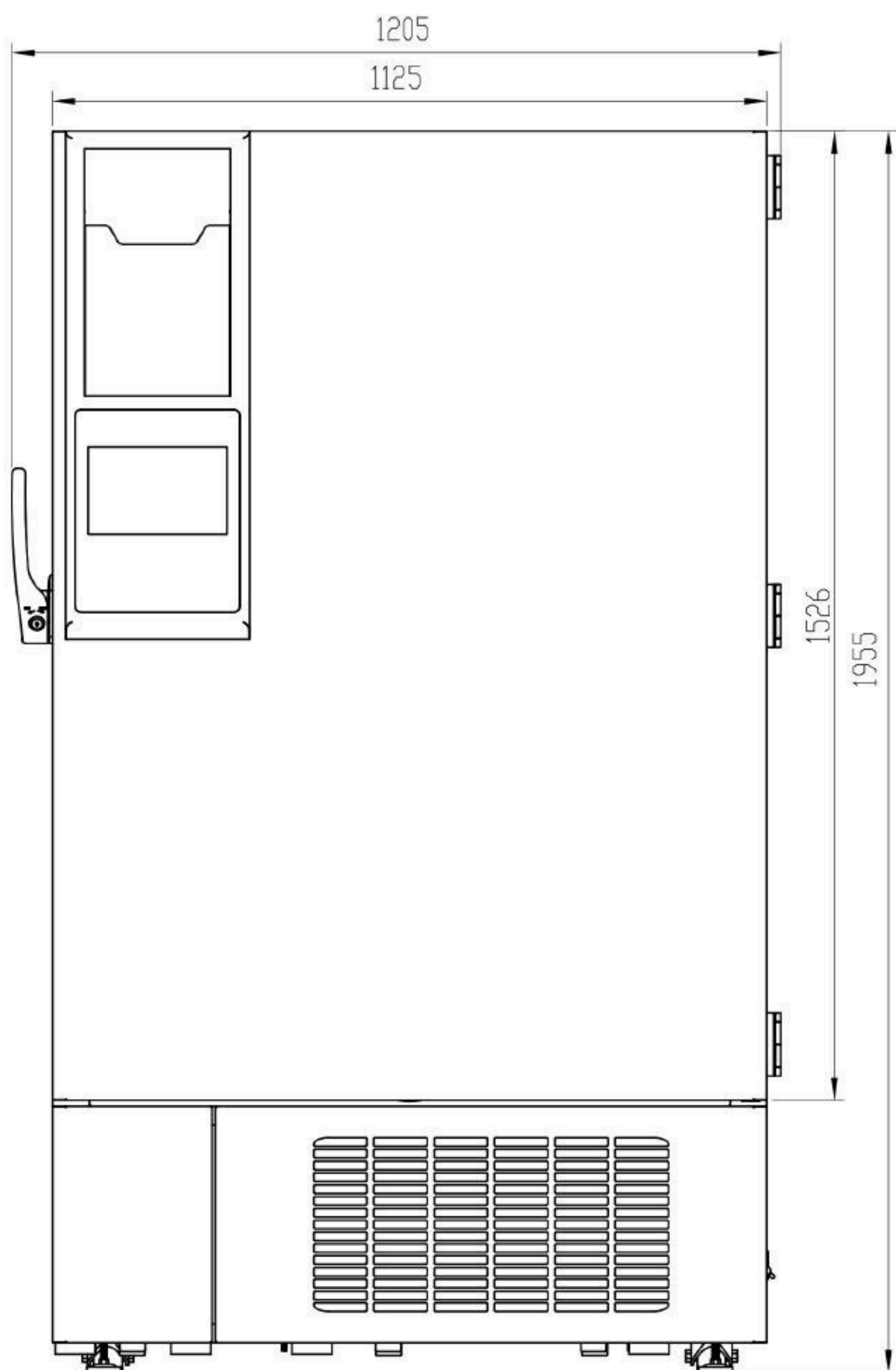


**Alarms system**  
10 kinds of alarm functions

## Structure







<b>-86°C Ultra-low Temperature Freezer</b>	
Model	DW-HL778S
Capacity	778L/27.5Cu.Ft.
Internal Size (W*D*H) mm/Inch	865*696*1286/34.0*27.4*50.6
External Size (W*D*H) mm/Inch	1205*1025*1955/47.4*40.4*77.0
Package Size (W*D*H) mm/Inch	1320*1155*2171/52.0*45.5*85.5
NW/GW (kgs)	330/420
<b>Performance</b>	
Temperature Range	-40~-86°C
Ambient Temperature	16-32°C
Cooling Performance	-86°C
Climate Class	N
Controller	Microprocessor
Display	10" HD Intelligent Touch Screen
<b>Refrigeration</b>	
Compressors	2pcs
Cooling Method	Direct Cooling
Defrost Mode	Manual
Refrigerants	High stage: R290, Low stage: R170
Insulation Thickness(mm)	130
<b>Construction</b>	
External Material	Cold rolled steel sheet
Inner Material	Stainless steel
Shelves	3(stainless steel)
Access Test Port	3pcs. Ø 25 mm
Casters	4+(2 leveling feet)
Data Logging/ Interval /Recording Time	USB/Record every 5 minutes / 10 years
Interface	Remote alarm contact, RS485
Backup Battery	Yes
<b>Alarms</b>	
Temperature	High/Low temperature, High ambient temperature
Electrical	Power failure, Low battery, Battery power detection failure
System	Sensor failure, Main board communication error, Condenser overheating alarm, Door ajar
<b>Accessories</b>	
Freezer Rack Model	ZKL304-552B-CT
Freezer Rack/Box (Quantity)	24/600

## Options

M-Cascade models support following optional features:

- Modbus protocol for data transfer
- Card access or finger print access
- Comform to 21 CFR 11 regulation
- CO2 back up system
- Inkless temperature chart recorder
- Racks & Boxes & Tubes