

**Tempin**™  
*preserving life*

**Ultra Low Temperature Deep Freezer**

**TI-HL-398S**

## Cascade cooling system -86°C ULT freezer

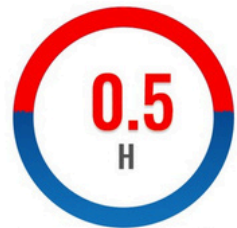
Targeted Refrigeration • Fast Refrigeration  
Energy-saving & Environmentally Friendly  
Awarded with the Second Prize under State Technological Invention Award



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 22°C.

-40~-86

TI-HL-398S

### Features

 **Temperature control system**  
Display temp. in 0.1°C increments

 **Touch screen**  
10" LCD touch screen

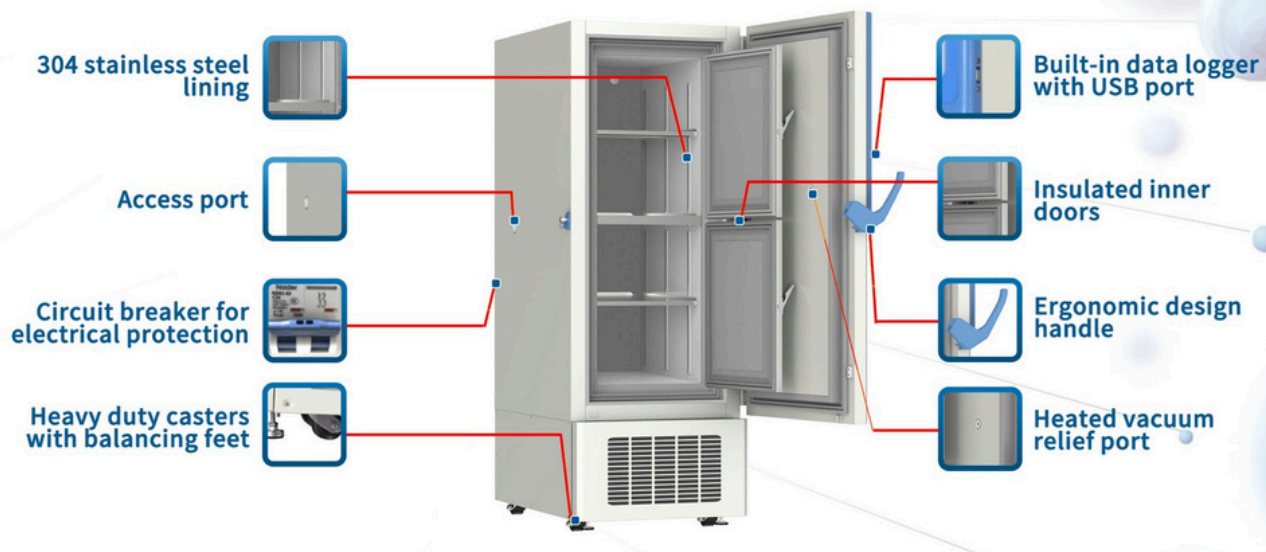
 **Industrial compressor**

 **CE certificate**

 **CO<sub>2</sub> back up system**  
Optional for extra security for sample

 **Alarms system**  
10 kinds of alarm functions

### Structure



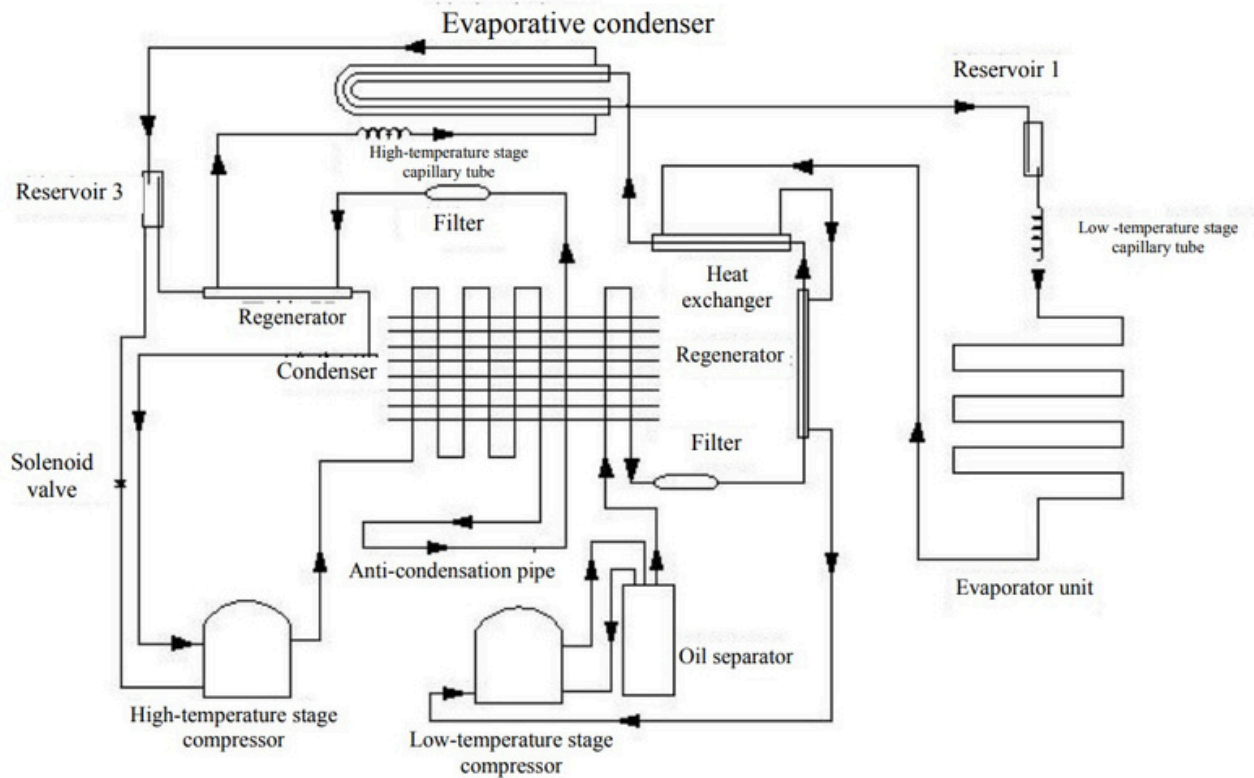
-40~-86

## Features :

- Two stages cascade cooling technology
- Foam inner doors
- Built-in vacuum insulation board and triple independent silicone sealing strip design
- Inverter technology, two inverter compressors
- Equipped with 4 heavy casters and 2 balancing feet for easy movement and fixation of the equipment
- Temperature uniformity of  $\pm 4$  °C
- Hydrocarbon refrigerant, which are R290 and R170 as natural gas
- Stainless steel (SUS304) as the internal material
- 5H pulling down to -80°C
- 8.7Kwh daily consumption
- High-definition and easy-handling control panel to set the temperature range from -40°C to -86°C with digital temperature display precision in 1°C
- Lockable door, keyboard lock and password access prevents any unauthorized access and operation
- Adjustable 3 stainless steel shelves with inner door and double silicon gasket seal

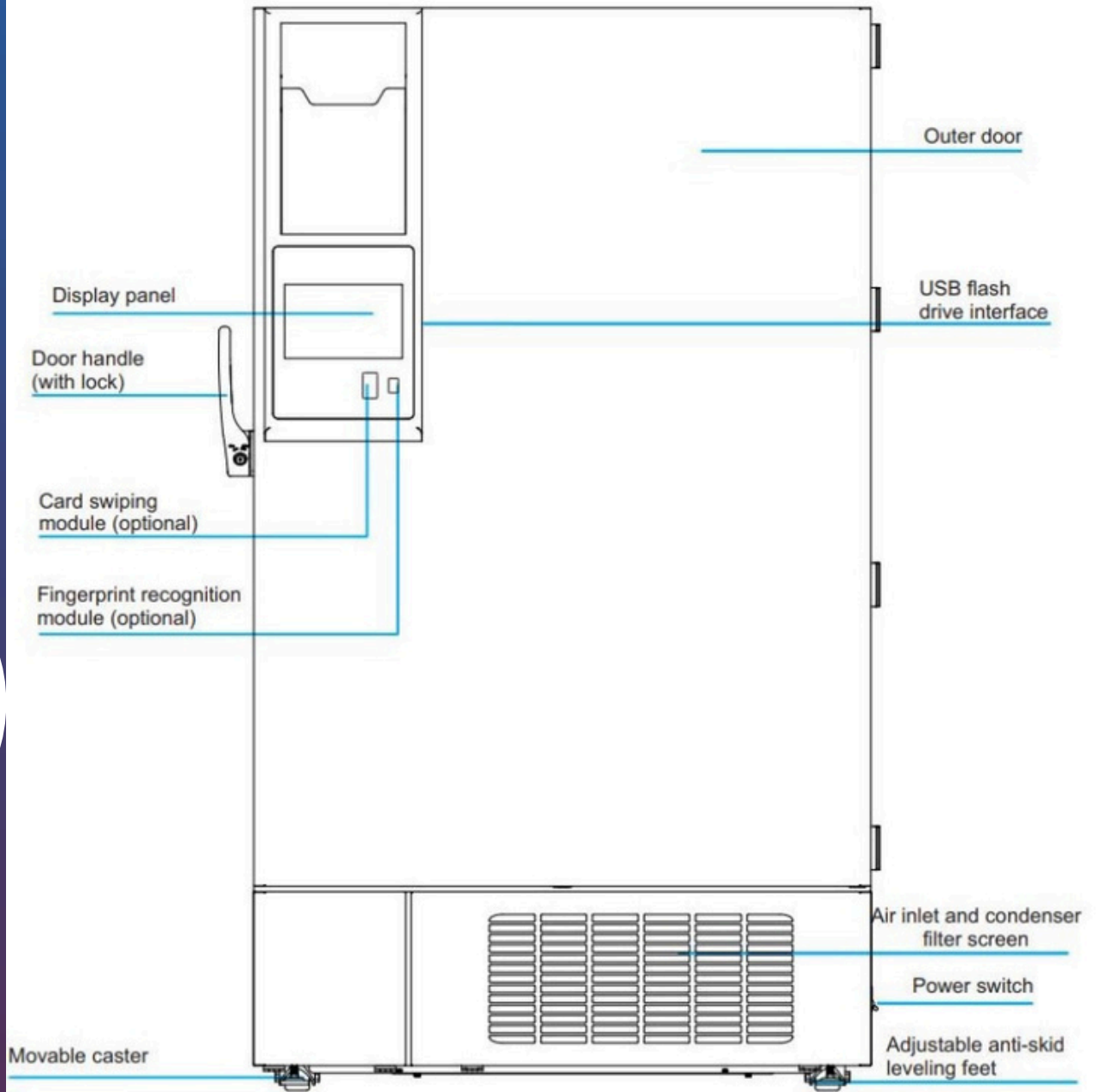
# Schematic Diagram of Refrigeration

Principle of Two-stage Cascade Refrigeration System



-40~-86

# Product Characteristics :



-40~-86

# Model : TI-HL-398S

Type	Vertical
Internal size(W*D*H)mm	440*696*1266 mm
External size(W*D*H)mm	785*1041*1947 mm
Storage Capacity ( L )	398 liters
Temperature range	-40 ~ -86°C
Operating Temperature Range	+16-32°C
Temperature display accuracy	0.1°C
Cooling Technology	Cascade
Net Weight	237 Kgs
Cooling Type	Static/Direct
Insulation thickness(mm)	Dual Polyurethane (130mm) +VIP Plus Vacuum Insulation Panels
Controller	Microprocessor

-40 ~ -86

## DISPLAY FEATURES

Display Size	10"HD
Compressor	Inverter Technology, 2 nos
Display Type	Touch Screen
Temperature Graph on Display	YES
Password Protection	YES

# ALARMS

High/Low temperature	YES
High Ambient temperature	YES
Power Failure	YES
Low Battery	YES
Power Failure	YES
Door Open	YES
Battery Back up	48 to 72 hours
Condenser overheating	YES
Sensor Failure	YES

-40 ~ -86

## Data logging and External Connection

Remote Contact	Yes
Data Logging	Yes
Memory Capacity	10 years
Compressor Make	SECOP
USB Interface	Yes
Battery Back up	YES
Temperature Chart Recorder	Optional
Data Recording	Every 5 minutes

# POWER

Power	230 Volts
Frequency (Hz)	50/60
Power consumption (kWh/24h)	8.7 KWH
AMP (A)	10 AMP

# OTHER FEATURES

Defrost Type	Manual
Heated Pressure Equalization Port	YES
Access Port	2 number of Ø 25 mm
Door Handle	Robust Door Handle with lock
Casters	4 nos with anti skid levelling feet
Shelves	3 nos made up of Adjustable Stainless Steel
Inner Door	2 nos
Refrigerant	Hight Stage R 290 and Low Stage 170 Natural Refrigerant
Interior cabinet material	Stainless steel 304
Colour (exterior cabinet)	Painted steel
Shipping Material ((W*D*H)mm	890*1165*2158 mm

-40~-86



## OPTIONAL :

- Chart Recorder
- Co2 Back up System
- Freezer Racks
- Card access or finger print access
- MODBUS Protocol for Data Transfer

-40~-86



Email us : [info@tempinstruments.com](mailto:info@tempinstruments.com)  
[sales@tempinstruments.com](mailto:sales@tempinstruments.com)  
[tempin1950@gmail.com](mailto:tempin1950@gmail.com)

**Address:**

**260 Salmon St, London NW9 8XY,  
United Kingdom**