



# ULT-86-29H (220V60Hz)

## -86°C Ultra-Low Temperature Freezer



**ENERGY STAR CERTIFIED**  
Ultra-Low Temperature Freezer Energy Consumption (kWh/day/cu-ft): 0.38



TECHNICAL DATA SHEET

### GENERAL SPECIFICATIONS

Storage Capacity	L/Cu.Ft	828/29.2
Temperature Range	°C	-40~-86
Noise	dB(A)	50
Net/Gross Weight	kg	380/410
Exterior Dimensions (W*D*H)	mm	1145*980*1980
	in	45.1*38.6*78.0
Interior Dimensions (W*D*H)	mm	870*716*1310
	in	34.3*28.2*51.6

### ENVIRONMENTAL & ELECTRICAL DATA

Electrical Power	V/HZ	220~240/50	208~230/60
Power	W	1000	1100
Power Consumption	kW-hr/day	12	12
Electrical Current	A	10	10
Building Supply Rating	A	16	16
Power Lead Length	m	2.5	2.5
Heat Rejection	btu/hr	39240	39240
Ambient Temperature	°C	10~32	10~32

### REFRIGERATION CONFIGURATION

Refrigeration System Type	Direct cooling
Compressor Type/Brand/Number	Hermetic Reciprocating Type/SECOP/2
Compressor Capacity (W)	950
Evaporator Type	Cold Wall With Enhanced Heat Transfer Treatment
Defrost Method	Manual
Refrigerant Charge/Flammable	R290 in 1st Stage / R290+R170 Mix in 2nd Stage / Flammable

### CONTROLLER/ELECTRICAL SYSTEM FEATURES

Controller Level	Top
Power Switch	On-Off with Circuit Breaker
Controller Type	Microprocessor Control, Bright LED Display, USB Data Export
Setpoint Security	Yes
Controller Sensor	PT100
Remote Alarm Terminals	Remote Alarm Port, RS232/RS485 (Optional)
Adjustable High/Low Temp Alarms	Adjustable
Auto Voltage Safeguard	/

CONSTRUCTION	
Insulation	One Seal On The Interior Door Seal Strip
Exterior Door Seal	Four Seal On The Outside Door Seal Strip
Interior Door Seal	VIP+CFC Free Foaming Agent
Shelves/Capacity/Dims/Material	3 stainless steel adjustable shelves with dimension 856*677 mm(W*D),
Casters	All-direction caster with fixing stand
Exterior Material	Color Coating Steel Plate
Interior Material	Color Coating Steel Plate
Door Thickness	90mm
Cabinet Thickness	90mm
Inner Door	Four Solid Door
Condenser Type	Enhanced Micro-Channel and Forced-Air Cooled
Fan Brand	EBM
Back Up Battery For Alarm Functions	Support high/low temperature, power failure, door open, sensor failure, high ambient temperature, hot condenser and low battery alarms

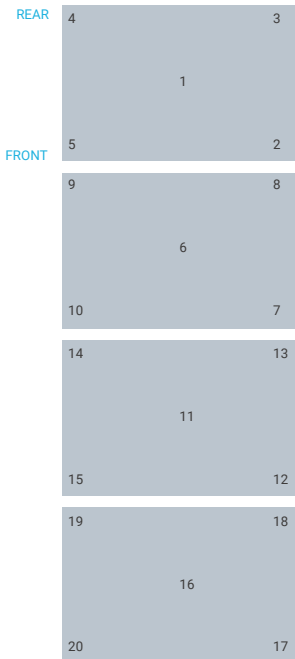
PERFORMANCE		
Temperature Uniformity(°C)	°C	6
Temperature Accuracy(°C)	°C	1
Cool Down Time	(25°C ambient to -80°C) mins	320
Warm Up Time	(25°C ambient -80°C to -50°C) mins	300
1 Min Door Open Recovery Time	(ambient 25°C running temp -75°C)mins	35

PRODUCT DIMENSION DRAWINGS														
<p>REMARK</p> <p>W0 --- TOTAL WIDTH                      W1 --- FREEZER WIDTH                      W2 --- INNER CABINET WIDTH                      W3 --- SHELF WIDTH                      D0 --- TOTAL DEPTH                      D1 --- INNER CABINET DEPTH                      D2 --- SHELF DEPTH</p> <p>H0 --- TOTAL HEIGHT                      H1 --- INNER CABINET HEIGHT                      H2 --- 1<sup>st</sup> COMPARTMENT HEIGHT                      H3 --- 2<sup>nd</sup> COMPARTMENT HEIGHT                      H4 --- 3<sup>rd</sup> COMPARTMENT HEIGHT                      H5 --- 4<sup>th</sup> COMPARTMENT HEIGHT</p>														
CODE MODEL	W0	W1	W2	W3	H0	H1	H2	H3	H4	H5	D0	D1	D2	
DW-86L828J	1145mm	1050mm	870mm	850mm	1980mm	1310mm	296mm	296mm	96mm	296mm	96mm	980mm	710mm	700mm

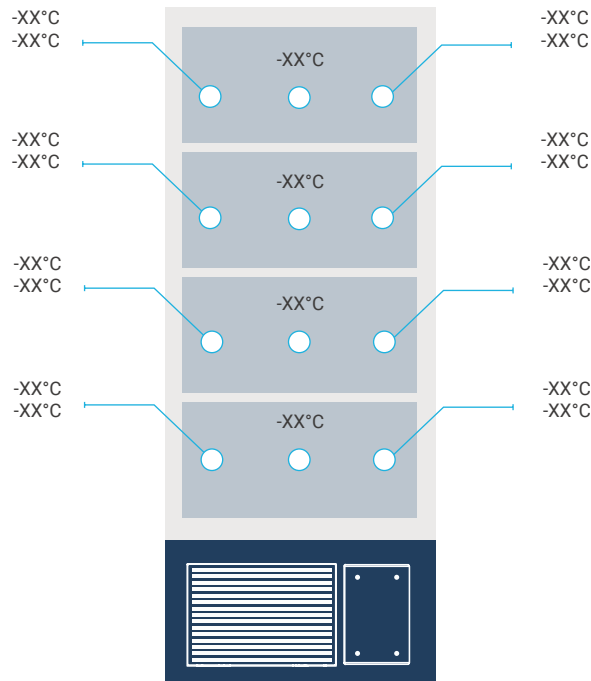


### TYPICAL CABINET TEMPERATURE MAP

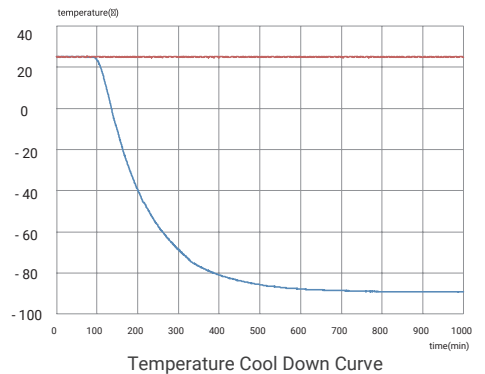
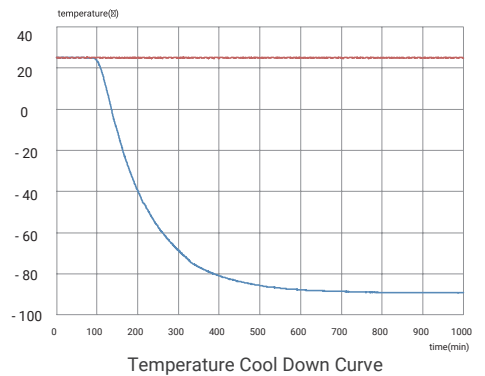
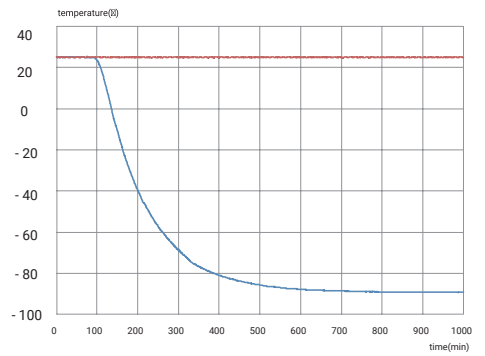
Top view of shelves



Front view of shelves



### TYPICAL PERFORMANCE CHARACTERISTICS IN 25 °C AMBIENT



°C	1	2	3	4	5	6	7	8	9	10
Max.	-79.5	-79.8	-79.9	-79.7	-79.5	-78.5	-78.2	-78.3	-78.5	-78.2
Min.	-83.4	-83.3	-83.5	-82.6	-82.5	-79.8	-79.5	-79.5	-79.7	-79.5
Avg.	-81.5	-81.6	-81.7	-81.2	-81	-79.2	-78.8	-78.9	-79.1	-78.9

°C	11	12	13	14	15	16	17	18	19	20
Max.	-80.6	-80.8	-80.4	-80.5	-80.6	-78.8	-79.5	-78.3	-79.3	-79.2
Min.	-81.9	-82.2	-83	-82.3	-82.5	-80	-80.9	-80.8	-80.4	-80.3
Avg.	-81.3	-81.5	-81.7	-81.4	-81.6	-79.4	-80.2	-80.1	-79.9	-79.8