

PV Module Test Equipment



PRODUCT INTRODUCTION

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Profile

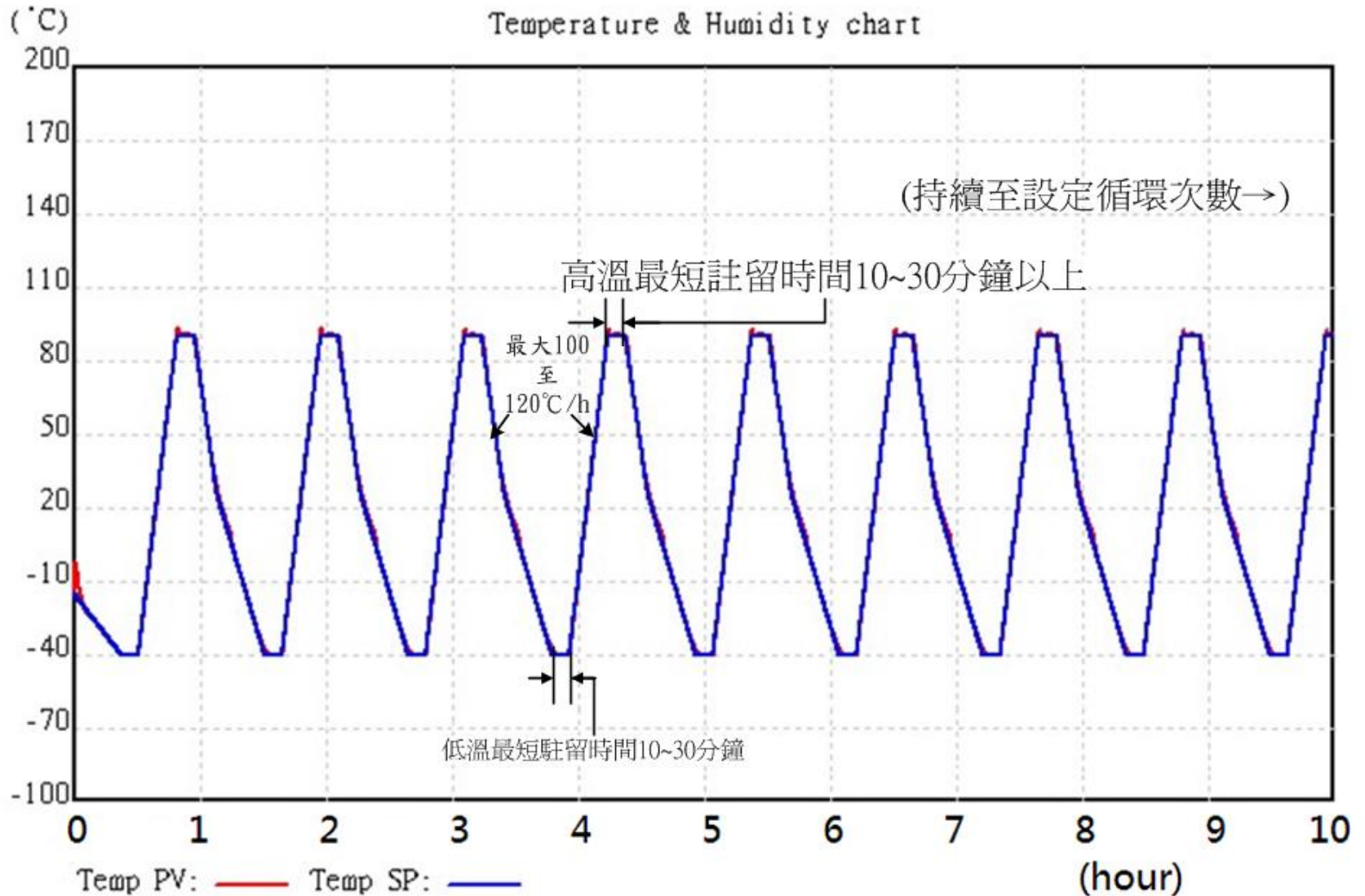
- This equipment is able to verify the PV module for the aging situation at the time of exposure to the outdoor. Reliability tests of PV modules based primarily on international test standards IEC61215、IEC61646、UL1703、IEC61208、IEEE1513、[IEC61730](#)、GB9535、GB18911、CNS15114、CNS15115、 『Thermal cycling』、 『Humidity-freeze test』、 『Damp heat test』。

Unique rhythm wind circulating air (patented) five advantages:

1. 『Tank topspace ensure no condensate』
2. 『The retention air of DUT surface to a minimum, the stresses of temperature and humidity test will be more uniformly.』
3. 『Tank circulating air, easy to produce vortex phenomenon.』
4. 『The air flow angle in the tank space will be dynamically changed and the distribution degree of temperature and humidity is optimal』
5. 『Avoiding uneven temperature to produce condensation』



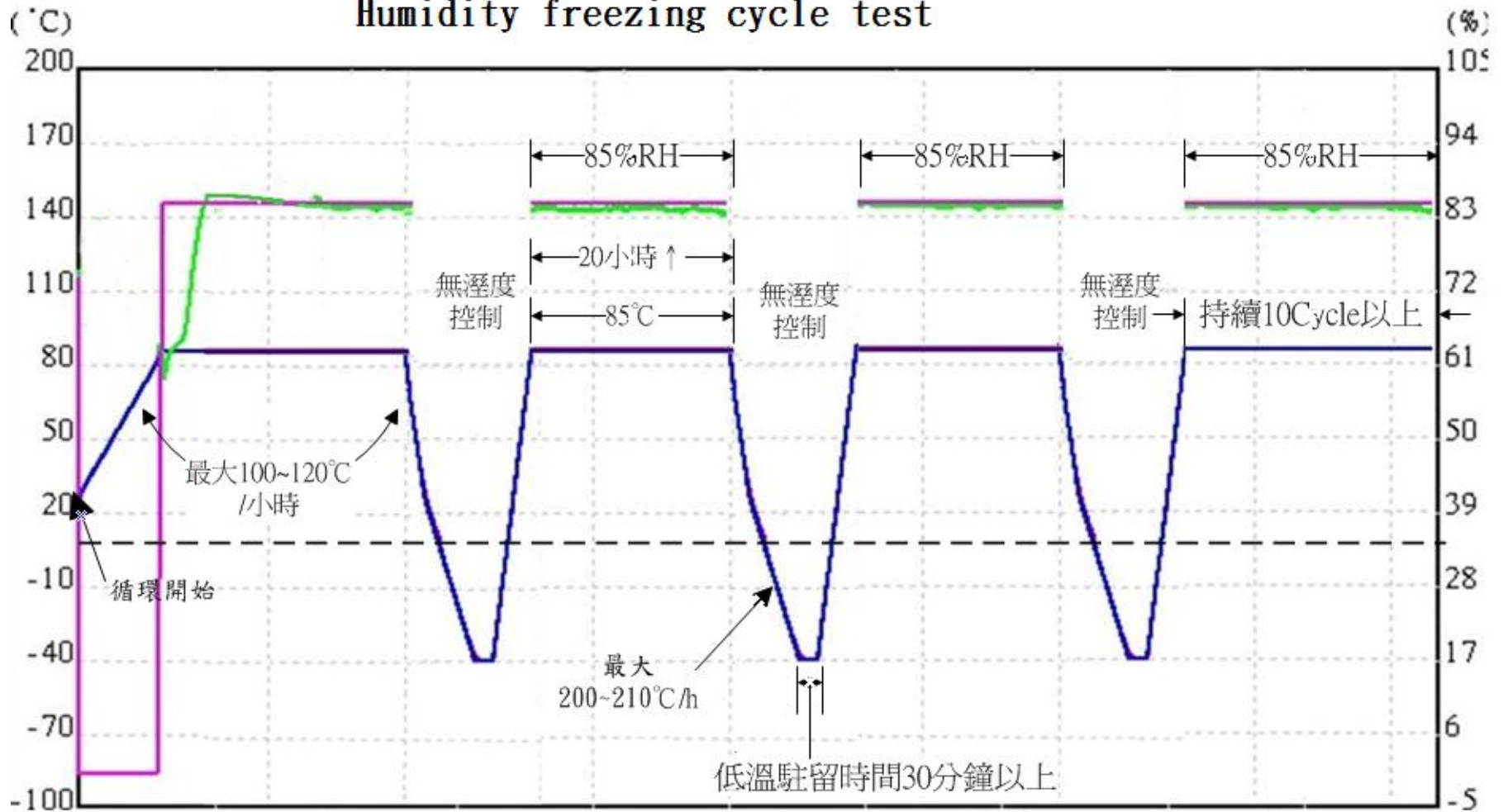
Thermal Cycling Test under IEC61215、IEC61646、 UL1703、GB18911、IEC62108、GB19064





Humidity freeze test under IEC61215、 IEC61646、UL1703、GB18911

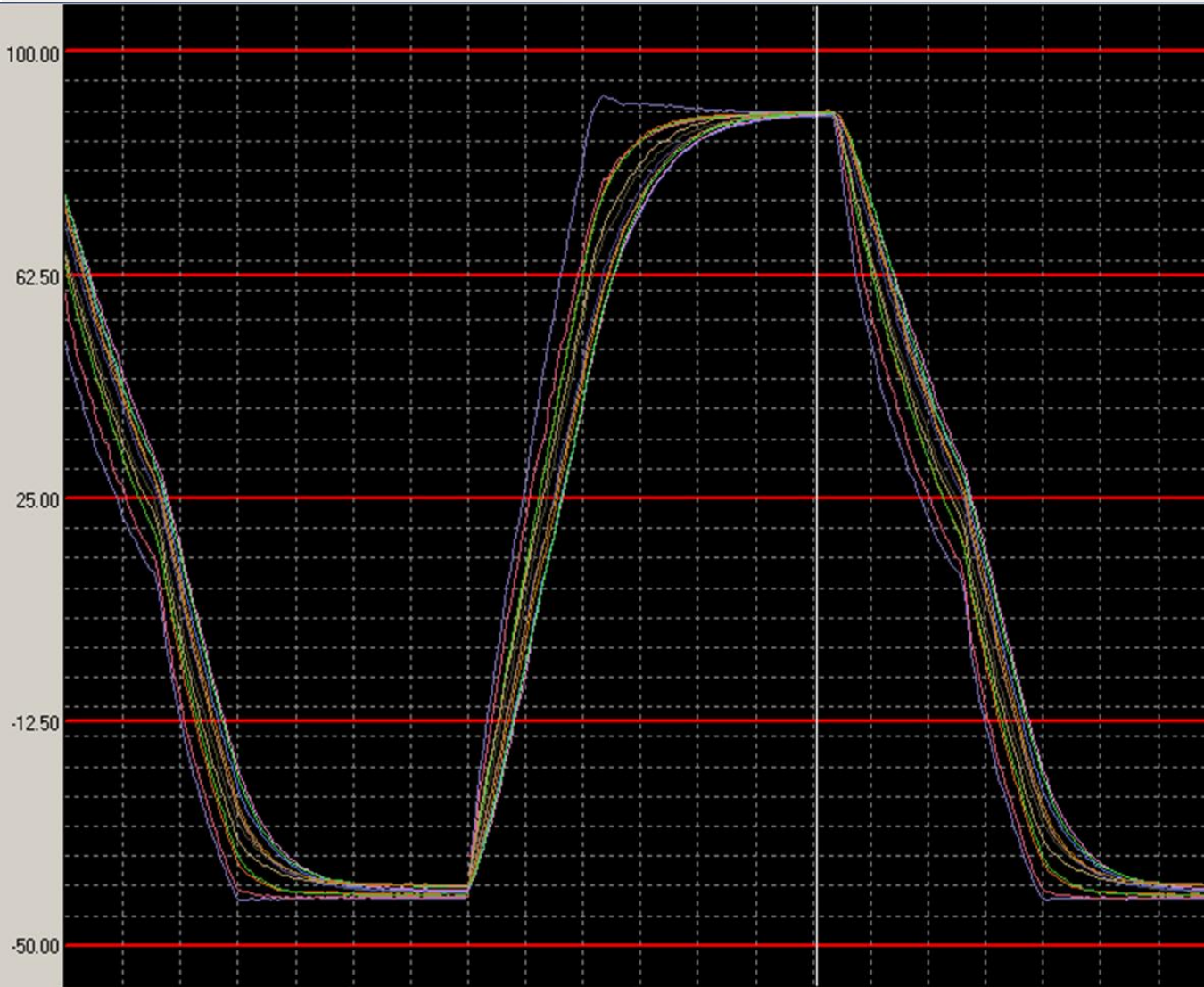
Humidity freezing cycle test



Temp PV: — Temp SP: — Humi PV: — Humi SP: —

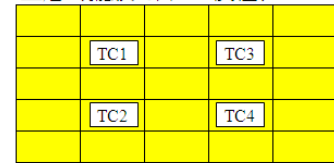


The Actual Measurement Curve (75 Cells) 90°C High Temperature

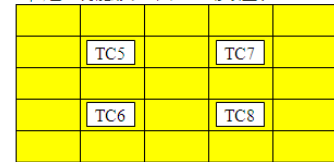


TC擺放示意圖

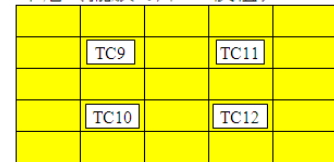
上層 (擺放25片1*1模組)



中層 (擺放25片1*1模組)



下層 (擺放25片1*1模組)



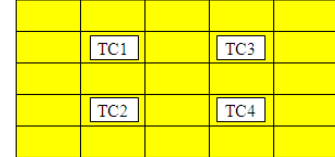
TC No.	Temp.	R	TC No.	Temp.	R
TC1	89.6	-0.4	TC9	89.7	-0.3
TC2	89.4	-0.6	TC10	89.8	-0.2
TC3	89.4	-0.6	TC11	90.0	0.0
TC4	89.4	-0.6	TC12	90.0	0.0
TC5	89.3	-0.7	Avg.	89.4	
TC6	89.2	-0.8	Stdev.	0.12	
TC7	89.3	-0.7	R	0.4	
TC8	89.4	-0.6	CV	0.13%	



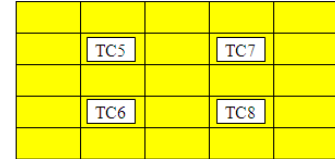
The Actual Measurement Curve (75 Cells) – 40°C Low Temperature

TC擺放示意圖

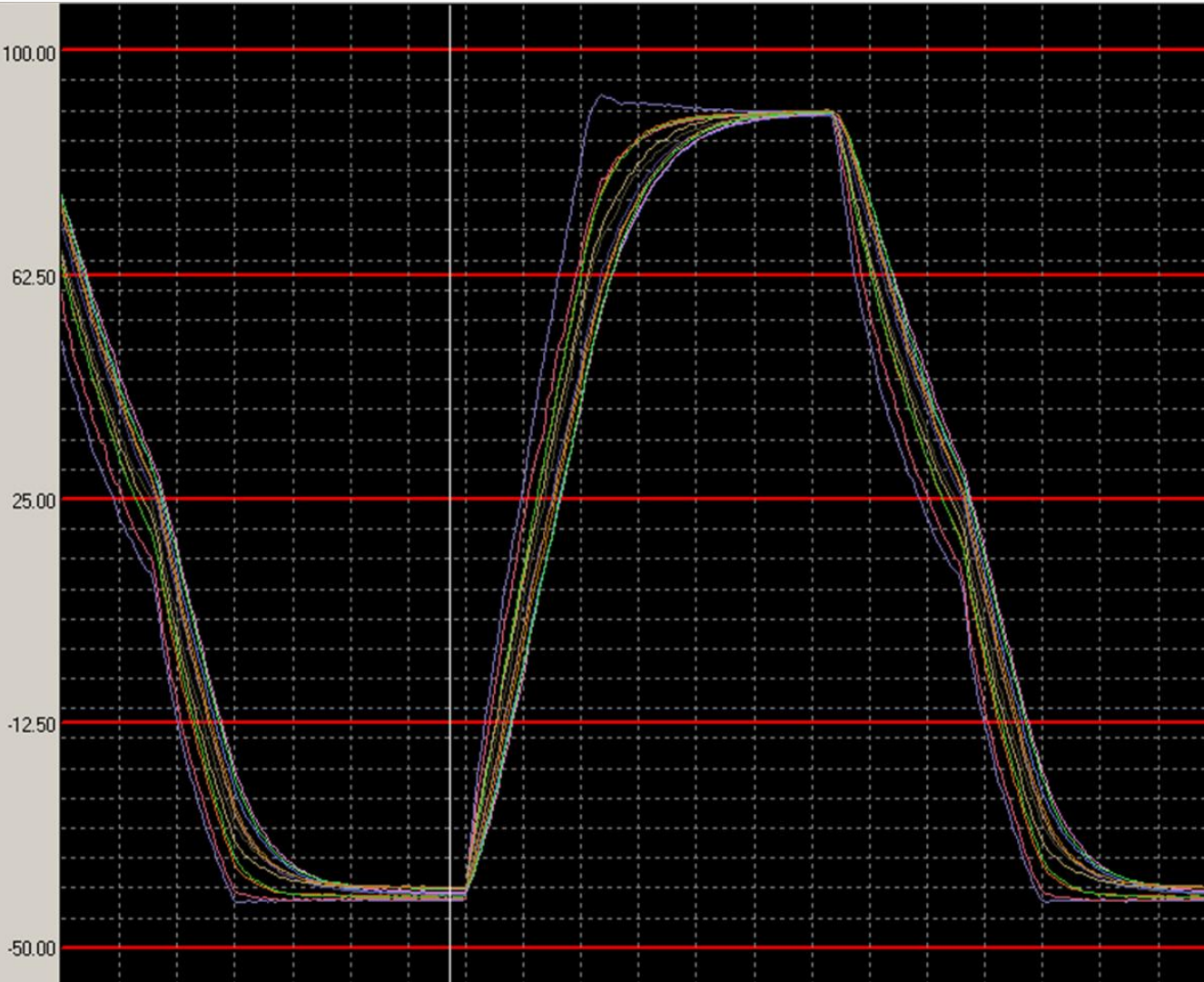
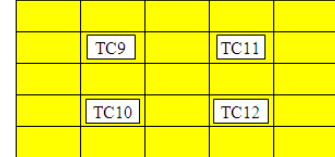
上層 (擺放25片1*1模組)



中層 (擺放25片1*1模組)



下層 (擺放25片1*1模組)



TC No.	Temp.	R	TC No.	Temp.	R
TC1	-42.0	-2.0	TC9	-40.2	-0.2
TC2	-41.4	-1.4	TC10	-40.1	-0.1
TC3	-41.8	-1.8	TC11	-40.0	0.0
TC4	-41.4	-1.4	TC12	-39.8	0.2
TC5	-41.2	-1.2	Avg.	-41.3	
TC6	-40.9	-0.9	Stdev.	0.45	
TC7	-40.9	-0.9	R	1.3	
TC8	-40.7	-0.7	CV	1.10%	

Specifications

Model	MHP-3162-R	MHP-3162-L	MHP-4370-R	MHP-4370-L
method	Temperature and humidity balance adjustment system			
Temperature Range(°C)	0~100°C	-40~100°C	0~100°C	-40~100°C
Warm-up Time(min)	0°C~90°C/40min(unload)	-40°C~90°C/65min (Including trolley and load)	0°C~90°C/40min (unlad)	-40°C~90°C/65min (Including trolley and load)
Cooling Time (min)	30°C~0°C/50min (unload)	90°C~-40°C/95min (includes trolley and load)	30°C~0°C/50min (unload)	90°C~-40°C/95min (includes trolley and load)
Features	Humidity Range(%RH)			
	20~98 %RH			
	Temperature Stability(°C)			
	± 0.2			
	Humidity Stability(%RH)			
	± 2.0			
	Uniformity of temp.distribution (°C)			
	± 1.0 °C(unload)			
	Uniformity of humidity distribution(%RH)			
	± 4.0 %RH(unload)			
	PV module size (cm)		200x110x5(7pcs)	
	140x110x5(7pcs)		1200*2350*1550	
	Inner size (W*D*H)mm		1200*1700*1550	
	1200*1700*1550		1750*3750*1990	
	Outer size(W*D*H)mm		1750*3000*1990	
	1750*2350*1990		1750*3000*1990	
Construction	Inner material			
	SUS#304 stainless steel			
	Outer material			
	SECC dip galvanized steel plate electrostatic powder coating			
	Heater			
	Nickel-chromium alloy heating system			
	Humidifier			
	316 stainless steel seamless pipe heater (surface evaporation)			
	Insulation material			
	Hard foam and glass insulation cotton			
	Water supply method			
	Pre-pump supply tank level balancing device			
	Air supply method of inner chamber			
	Rhythm air circulation mode			
Freezing System	Freezing system			
	Water-cooled one / binary refrigerating system			
	Compressor			
	Mechanical compressor (HFC) nature friendly refrigerant			
	Evaorator			
	Fin evaporator			
	Heat exchanger			
	Plate heat exchanger			