



Rapid-Rate Temperature(& Humidity) Cycle Chamber

Balanced Temperature Humidity Control (BTHC) System and PID control makes highly accurate temperature/humidity control possible



Suitable for the reliability test of semiconductor and vehicle electronic components

- ▶ Suitable for condensation test and durability to automobile parts .
- ▶ Covers various applications for automobile related specification test to screening
- ▶ GFG-200-20 can meet JEDEC, IEC standard for accurate life evaluation testing.

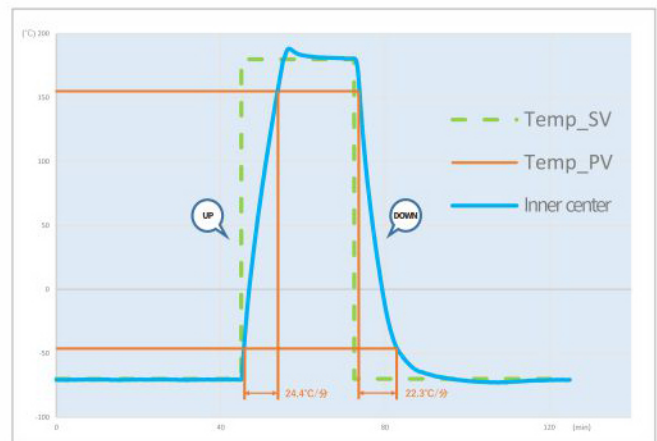
JESD22-A104F(*Please consult the sales company first)
 IEC60749-25(*Please consult the sales company first)
 IEC60068-2-14 Nb((JIS C 60068-2-14 Nb))
 EIAJ ED-2531B Nb
 JESD22-A105C
 IPC-9701
 IPC-TM-650 2.6.6 B
 LV 124 L-03V
 SAE J1211
 (Note: Load: 5kg epoxy plate, 4kg stainless steel, no heat)

Compact structure with High performance

Temp change rate: 18~20 K/min.
 Temp range: -70°C ~ +180°C
 Volume: 200L, 300L

Energy efficiency and Environmental

When operating below 0°C, it is basically possible to operate temperature control (PID control) with the refrigerator only, when the heater output is OFF.



Note: GFG-200-20 actual test data(with no specimens)



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Rapid-Rate Temperature (& Humidity) Cycle Chamber

Interface (option) for device communication can be selected between RS-485, GPIB, Web Lan and RS-232C.

Cable ports on both sides (φ50) as standard to allow easy wiring access.

Color LCD touch screen controller, easy to operate

- ▶ Programmed operation allows storing 40 program operation patterns, each up to 99 steps. temperature ramp settings and a maximum of 999 repeat cycles.
- ▶ Multilingual display: Can change the display language at any time from the language icon.
- ▶ USB output of trend graph data.

A wide range of options can be added to meet the diverse needs of customers.

▶ Additional safety options such as pressure relief valves, smoke sensors, emergency push stop button, alarm output terminals and three color status indicator warning lights are available.

* More detail please see HP: <http://www.gd-espec.com/en/>

Model		GFG-200-20	GFG-300-20	GFS-200-20	GFS-300-20	
System		Balanced Temperature Control (BTC) System		Balanced Temperature Humidity Control (BTHC) System		
Allowable ambient conditions		Ambient Temperature: 0~+40°C; Relative Humidity: Up to 75%/rh; Cooling water temperature: +5~+32°C				
Performance ※	Temp Range※1	-70~+180°C		-70°C~+180°C/10%~98%/rh		
	Temp.fluctuation※1	±0.3°C		±0.3°C		
	Temp.variation※1	±2°C		±2°C		
	Humid.fluctuation※1	—		±2.5%/rh		
	Temp.rate of Change (IEC60068-3-5) (Temp range: 45°C↔+155°C)	Heat Up: 20°C/min Pull Down: 20°C/min	Heat Up: 20°C/min Pull Down: 18°C/min	Heat Up: 20°C/min Pull Down: 18°C/min	Heat Up: 18°C/min Pull Down: 18°C/min	
	Temperature Extremes Achievement Time (IEC60068-3-5)	Heat Up: +20°C to +180°C < 10 min Pull Down: +20°C to -70°C < 15 min		Heat Up: +20°C to +180°C < 10 min Pull Down: +20°C to -70°C < 15 min		
	Allowable Heat Load (Temp inside chamber: +20°C.)	8000W	8000W	8000W	8000W	
Noise Level (JIS-Z-8731:1999 A)		Less than 65dB.		Less than 65dB.		
Construction	Exterior	Galvanized cold-rolled steel sheet, hot-rolled steel sheet				
	Test Area	Stainless steel plate: 18-8 Cr-Ni stainless steel plate, 2B polish				
	Heater	Nichrome strip wire heater				
	Humidifier	Sheathed heater (18-12-2.5 Cr-Ni-Mo-LC stainless steel, surface evaporation type)				
	Cooler	Plate-fin cooler				
	Air Circulator	Propeller fan		Propeller fan		
	Water supply	Water supply	—		Pump water supply system	
		Water Tank	—		16L	
	Cooling System	System	Mechanical double-stage refrigeration system		Mechanical double-stage refrigeration system	
		Refrigerator	Scroll Compressor			
Capacity (kW)		5.59kW (7.5HP) 2sets				
Expansion System		Electronic expansion valve				
Refrigerant	R404A/R508B					
Utilities	Cooling water	Water supply (L/h) (Reference temperature 23°C)	4740			
		Water supply pressure (MPa)	0.2~0.5			
		Connection piping diameter	20A 3/4 inch (NPT)			
Inside Dimensions (W×H×Dmm)		600×830×400	600×830×600	600×830×400	600×830×600	
Outside Dimensions (W×H×Dmm)		800×1703×1800	800×1703×2000	800×1703×1800	800×1703×2000	
Volume (L)		200	300	200	300	
Weight (Kg)		640	700	640	700	

※1 The temperature chamber's performance values are based on GB/T5170.2 and IEC60068-3-5. And humidity chamber's performance values are based on GB/T5170.5 and IEC60068-3-6. Performance figures are given for a +23°C ambient temperature, relative humidity 65±20% RH, rated voltage, with no specimens inside the test area.

Compact structure with High performance



Model	Inside Dimensions (W×H×Dmm)	Outside Dimensions (W×H×Dmm)
GF-200	600×830×400	800×1703×1800
GF-300	600×830×600	800×1703×2000
GF-400	600×830×800	800×1703×2200
GF-800	1000×980×800	1200×1853×2200
GF-1000	1000×980×1000	1200×1853×2400

Note: GF-800-20 Outside Dimensions (W×H×Dmm) : 1200×1910×2930

Outside dimensions comparison for 200/400/800 models