

# Compact Rapid Temperature Change(humidity) Chamber

## Suitable for the reliability test of semiconductor electronic components

In response to the testing and R&D needs of electronic components such as semiconductors and automotive electronics, ESPEC(Guangdong) has developed a smaller capacity -Compact Rapid Temperature Change(humidity) Chamber -GMS/G series, which can meet the needs of customers with space size requirements While possessing superior rapid temperature change performance, with single-phase 220VAC/380VAC voltage specifications, and can meet the equipment use needs of customers in civil office areas such as research institutions and universities.

### Features:

#### Strong Temperature performance

- ▶Heat Up rate:15°C/min、20°C/min.
- ▶Pull Down rate: 15°C/min、20°C/min.  
(Temp range-45°C↔+155°C)
- ▶Temp range:-70°C~+180°C
- ▶Hum range:10%rh ~98%rh(GMS only)

#### GMS/G-100-15 models: Single-phase 220VAC

▶Suitable for industrial and residential power supply specifications, can meet the equipment power requirements of customers in research institutions, universities and other residential office areas.

\*Note:380 voltage modification is available.

#### Small and exquisite body, compact structure, easy to move

- ▶Miniaturization of the chamber structure design, can effectively save configuration space;
- ▶Inner tank volume of 100L, size width 600mm, depth less than 1400mm, volume less than 1.1m<sup>3</sup>, suitable for most residential and commercial elevators in China (GB/T7025.1);

#### Air-cooled specifications as standard for ease of movement and installation

▶It also eliminates the cost and space for customers to configure cooling water towers.

#### More ergonomic operation touch screen design

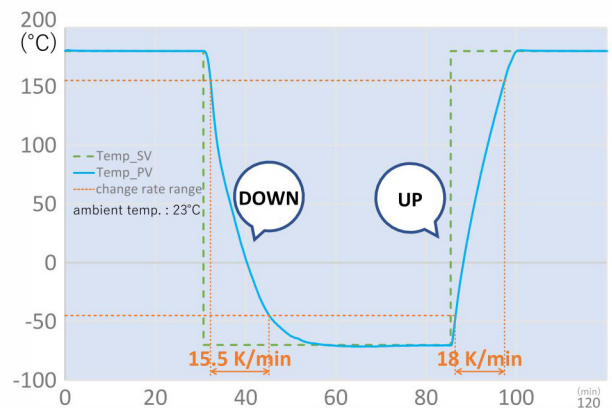
▶Through the multi-angle adjustment of the touch screen, it can meet the operation needs of users of different heights and the best view, more convenient and comfortable.



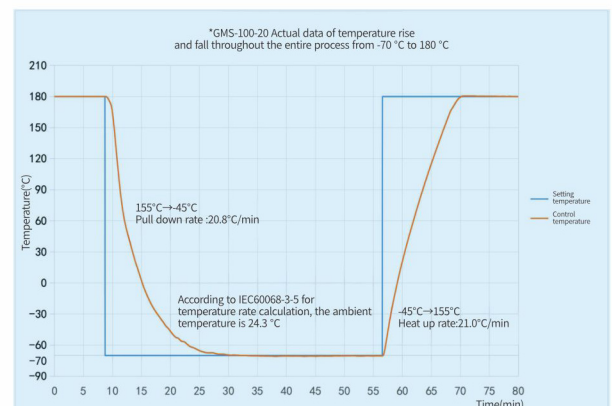
\*Touch screen can be adjusted from multiple angles(0°~90°)



\*Viewing window as option



\*GMS-100-15 Actual data



\*GMS-100-20 Actual data of temperature rise and fall throughout the entire process from -70 °C to 180 °C

## Features:

### Can achieve high-precision temperature and humidity control

►Balanced Temperature (&Humidity)Control system(BTHC system)and PID control function.

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

Cable ports on both sides (Ø50mm) as standard to allow easy wiring access.  
Color LCD touch screen controller, easy to operate

►The controller can choose between continuous operation and program operation to adapt to different applications.

►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.

### Compact structure, free access to elevators



Outside dimensions comparison for GMSG and GF-200/400/800 models

Model	GMG-100-15	GMG-100-20	GMS-100-15	GMS-100-20		
System	Balanced Temperature Control (BTC) System		Balanced Temperature Humidity Control (BTHC) System			
Power Supply & Max.Load Current(A)	AC220V 1Ø2W 50Hz (40A)	AC380V 3Ø4W 50Hz (28A)	AC220V 1Ø2W 50Hz (40A)	AC380V 3Ø4W 50Hz (28A)		
Allowable ambient conditions	Ambient Temperature:0~+40°C;Relative Humidity:Up to 75%rh					
Performance ※	Temp&Hum Range※1	-70~+180°C	-70~+180°C	-70~+180°C/10%RH ~98%RH	-70~+180°C/10%RH ~98%RH	
	Temp.fluctuation※1	±0.5°C				
	Temp.variation※1	±2.0°C (-45°C↔+155°C)				
	Humid.fluctuation※1	—	—	±2.5%RH	±2.5%RH	
	Temp.rate of Change※2 (IEC60068-3-6) (Temp range-45°C↔+155°C)	Heat Up:15°C/min Pull Down:15°C/min	Heat Up:20°C/min Pull Down:20°C/min	Heat Up:15°C/min Pull Down:15°C/min	Heat Up:20°C/min Pull Down:20°C/min	
	Temperature Extremes Achievement Time (IEC60068-3-5)	Heat Up:+20°C to +180°C<15 min Pull Down:+20°Cto-70°C<15 min	Heat Up:+20°C to +180°C<10 min Pull Down:+20°Cto-70°C<15 min	Heat Up:+20°C to +180°C<15 min Pull Down:+20°Cto-70°C<15 min	Heat Up:+20°C to +180°C<10 min Pull Down:+20°Cto-70°C<15 min	
	Allowable Heat Load (Temp inside chamber:+20°C.)	3200W	4000W	3200W	4000W	
	Noise Level (JIS-Z-8731:1999 A)	Less than 70dB.				
	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 (SUS316L, surface evaporation type)			
Cooler	Plate-fin cooler					
Construction	Air Circulator	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	Reciprocating Compressors	Scroll Compressors	Reciprocating Compressors	Scroll Compressors
		Capacity (kW)	2.2kW(3HP)2sets	3kW(4.5HP)2sets	2.2kW(3HP) 2sets	3kW(4.5HP)2sets
Expansion System		Electronic expansion valve	Electronic expansion valve	Electronic expansion valve	Electronic expansion valve	
Refrigerant	R404A/R508B	R404A/R508B	R404A/R508B	R404A/R508B		
Standard Accessories	Shelve 1pcs;Racks 2pcs;Cable Port Plug Ø50mm 2pcs;Breaker Handle Stopper 1pcs;Door Keys 2pcs; Wet-bulb wick 1box (24PCS-only for GMS) ;Cartridge Fuse 4pcs;Operation manual 1set (Power cable is 2.5M included).					
Inside Dimensions (W×H×Dmm)	400 x 500 x 500	400 x 500 x 500	400 x 500 x 500	400 x 500 x 500		
Outside Dimensions (W×H×Dmm)	600[705]×1380[1400]×1382[1400]	600[705]×1380[1400]×1442[1460]	600[705]×1380[1400]×1382[1400]	600[705]×1380[1400]×1442[1460]		
Volume (L)	100	100	100	100		
Weight (Kg)	400	420	400	420		

※1 The temperature chamber's performance values are based on GB/T5170.1, 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.

※2 Values are based on IEC60068-3-5. Average rate within the highest to lowest temperatures excluding the top and bottom 10%.



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