

PSL

-70 to +100°C (+150°C / +180°C) • 20 to 98%rh ULTRA LOW TEMPERATURE & HUMIDITY CHAMBER

Model	PSL-2J	PSL-4J	
System	Balanced Temperature and Humidity Control system (BTHC system)		
Performance ¹	Temp. & humidity range* ² -70 to +100°C/20 to 98%rh Refer to diagram of temperature & humidity controllable range on this page.		
	Temp. & humidity fluctuation ± 0.3°C/± 2.5%rh		
	Temperature variation in space 1.5°C		
	Temperature rate of change	Heat up rate: 5.0°C/min. Pull down rate: 2.0°C/min.	Heat up rate: 5.0°C/min. Pull down rate: 1.0°C/min.
	Temperature extremes achievement time	Heat up time: from +20 to +100°C 30 min. Pull down time: from +20 to -70°C 65 min.	
	Allowable heat load* ³	700 W	2200 W
Allowable ambient conditions	0 to +40°C/up to 75%rh		
Construction	Exterior material Stainless steel plate: 18 Cr stainless steel plate, hairline finish		
	Test area material Stainless steel plate: 18-8 Cr-Ni stainless steel plate, 2B polish		
	Heater Nichrome strip wire heater		
	Humidifier 18-12-2.5 Cr-Ni-Mo stainless steel sheathed heater (surface evaporating system)		
	Cooler (dehumidifier) Plate fin cooler (Doubles as dehumidifier), stainless steel tube cooler		
	Air circulator	Cross flow fan	Sirocco fan
	System	Mechanical cascade refrigerator system	
	Refrigerant	R404A [R-449A is available on request], R508A	
Capacity	306 L	800 L	
Chamber total load resistance	100 kg		
Dimensions* ⁴	Inside dimensions (W x H x D mm)	600 x 850 x 600	1000 x 1000 x 800
	Outside dimensions (W x H x D mm)	1010 x 1690 x 1273	1410 x 1853 (1983) x 1593
Weight	470 kg	705 kg	

*1 The performance values are based on IEC60068-3-5:2001 and IEC60068-3-6:2001;

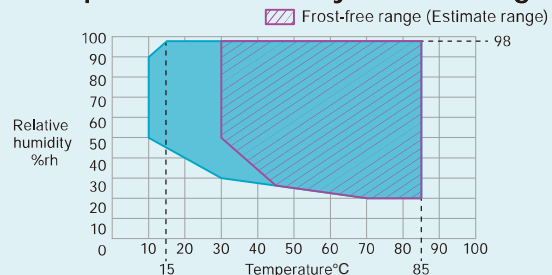
Performance figures are given for a +23°C ambient temperature, relative humidity of 65±20%rh, rated voltage, and no specimen inside the test area.

*2 Lowest attainable temperature in an ambient temperature of 0 to +30°C

*3 When temperature in chamber is +20°C

*4 Excluding protrusions. Dimension indicated in () includes protrusion.

● Temperature & Humidity Control Range



* With no specimen and under ambient temperature at +23°C.

* Restrictions on continuous humidity operation at +40°C or lower because of frost on the cooler.

Low GWP Refrigerant



R-449A is available on request.
(PR/PL/PSL/PU/PG only)

Model	PHP-2J	PHP-3J	PHP-4J	
System	Balanced Temperature and Humidity Control system (BTHC system)			
Performance ^{*1}	Temp. & humidity range	Ambient temperature +10 to +100°C/40 to 98%rh Refer to diagram of temperature & humidity controllable range on this page.		
	Temp. & humidity fluctuation	± 0.3°C/±2.5%rh		
	Temperature variation in space	1.5°C		
	Allowable heat load ^{*3}	300 W	600 W	
Allowable ambient conditions	0 to +40°C/up to 75%rh			
Construction	Exterior material	Stainless steel plate: 18 Cr stainless steel plate, hairline finish		
	Test area material	Stainless steel plate: 18-8 Cr-Ni stainless steel plate, 2B polish		
	Heater	Nichrome strip wire heater		
	Humidifier	18-12-2.5 Cr-Ni-Mo stainless steel sheathed heater (surface evaporating system)		
	Cooler (dehumidifier)	Plate fin cooler (heat pipe system)		
	Air circulator	Cross flow fan	Sirocco fan	
Capacity	219 L	398 L	784 L	
Chamber total load resistance	100 kg			
Dimensions ^{*4}	Inside dimensions (W x H x D mm)	500 x 730 x 600	600 x 830 x 800	1000 x 980 x 800
	Outside dimensions (W x H x D mm)	910 x 1590 x 1073	1010 x 1690 x 1273	1410 x 1840 (1970) x 1273
Weight	275 kg	335 kg	490 kg	

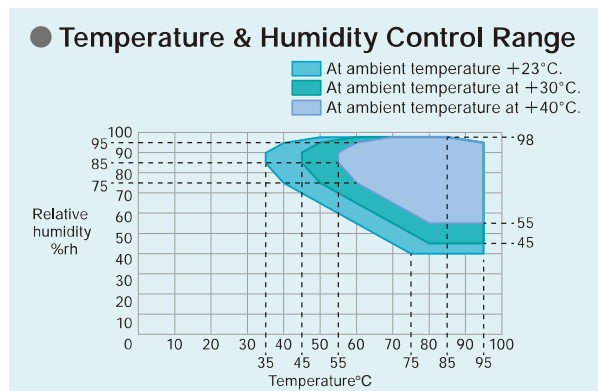
*1 The performance values are based on IEC60068-3-5:2001 and IEC60068-3-6:2001;

Performance figures are given for a +23°C ambient temperature, relative humidity of 65±20%rh, rated voltage, and no specimen inside the test area.

*2 Lowest attainable temperature in an ambient temperature of 0 to +30°C

*3 When temperature in chamber is +20°C

*4 Excluding protrusions. Dimension indicated in () includes protrusion.



* With no specimen.

PDR·PDL

5 to 98%rh • -20 to +100°C / -40 to +100°C

LOW HUMIDITY TYPE (LOW) TEMPERATURE & HUMIDITY CHAMBER

Model	PDR-3J	PDR-4J	PDL-3J	PDL-4J	
System	Balanced Temperature and Humidity Control system (BTHC system)				
Performance*1	Temp. & humidity range *2	-20 to +100°C/5 to 98%rh Refer to diagram of temperature & humidity controllable range on this page.		-40 to +100°C/5 to 98%rh Refer to diagram of temperature & humidity controllable range on this page.	
	Temp. & humidity fluctuation	±0.3°C/±2.5%rh			
	Temperature variation in space	1.5°C			
	Temperature rate of change	Heat up rate: 3.0°C/min. Pull down rate: 2.0°C/min.	Heat up rate: 3.0°C/min. Pull down rate: 1.0°C/min.	Heat up rate: 3.0°C/min. Pull down rate: 2.0°C/min.	
	Temperature extremes achievement time	Heat up time: from +20 to +100°C 30 min. Pull down time: from +20 to -20°C 40 min.		Heat up time: from +20 to +100°C 30 min. Pull down time: from +20 to -40°C 50 min.	
	Allowable heat load *3	1100 W	1250 W	1500 W	2850 W
Allowable ambient conditions	Standard temperature and humidity region running: 0 to +40°C/up to 75% Low temperature and humidity region running: +5 to +32°C Absolute humidity no greater than 23g/kg				
Construction	Exterior material	Stainless steel plate: 18 Cr stainless steel plate, hairline finish			
	Test area material	Stainless steel plate: 18-8 Cr-Ni stainless steel plate, 2B polish			
	Heater	Nichrome strip wire heater			
	Humidifier	18-12-2.5 Cr-Ni-Mo stainless steel sheathed heater (surface evaporating system)			
	Cooler	Plate fin cooler (Doubles as dehumidifier)	Plate fin cooler (Doubles as dehumidifier), stainless steel tube cooler		
	Air circulator	Sirocco fan			
	System	Mechanical type single-stage compression cooling			
	Refrigerant	R404A			
	Dehumidifier	System	Rotary recovery (adsorption) dehumidification		
		Refrigerator system	Mechanical single-stage refrigeration system		
Compressor		Rotary compressor (R404A), Reciprocating compressor (R134a)			
Expansion mechanism		Temperature regulated automatic expansion valve			
Capacity	408 L	800 L	408 L	800 L	
Chamber total load resistance	100 kg				
Dimensions *4	Inside dimensions (W x H x D mm)	600 x 850 x 800	1000 x 1000 x 800	600 x 850 x 800	1000 x 1000 x 800
	Outside dimensions (W x H x D mm)	1885 x 1690 (1820) x 1273	2285 x 1840(1970) x 1273	1885 x 1690 (1820) x 1273	2285 x 1840 (1970) x 1273
Weight *5	680 kg	800 kg	735 kg	930 kg	

*1 The performance values are based on IEC60068-3-5:2001 and IEC60068-3-6:2001;

Performance figures are given for a +23°C ambient temperature, relative humidity of 65±20%rh, rated voltage, and no specimen inside the test area.

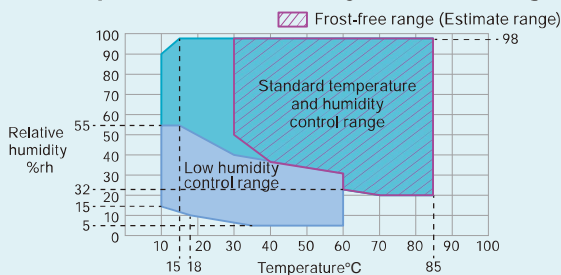
*2 Lowest attainable temperature in an ambient temperature of 0 to +30°C

*3 When temperature in chamber is +20°C

*4 Excluding protrusions. Dimension indicated in () includes protrusion.

*5 Total weight (temperature & humidity chamber and dehumidifier)

● Temperature & Humidity Control Range



* With no specimen and under ambient temperature at +23°C.

* Restrictions on continuous humidity operation at +40°C or lower because of frost on the cooler.

Low Humidity Region Operation Precautions

- Operation in the low humidity region is not possible from a high temperature above +60°C. Perform transition from temperatures below +60°C.
- Gradient programs cannot be used in the low humidity region.
- Programs that require humidifier switching cannot be used.
- Programs that transition from outside the low humidity region to the low humidity region cannot be used. However, transitioning from the low humidity region to another region is allowed.