Quality is more than a word

ESPEC

15°C/min

AR Series Rapid-Rate Temperature Cycle Type

High-Power Temperature and Humidity Chamber

A full lineup of large-capacity types!

ESPEC offers testing for large modules including assembly condition testing for in-vehicle displays, bumpers, dashboards, and ECU components.

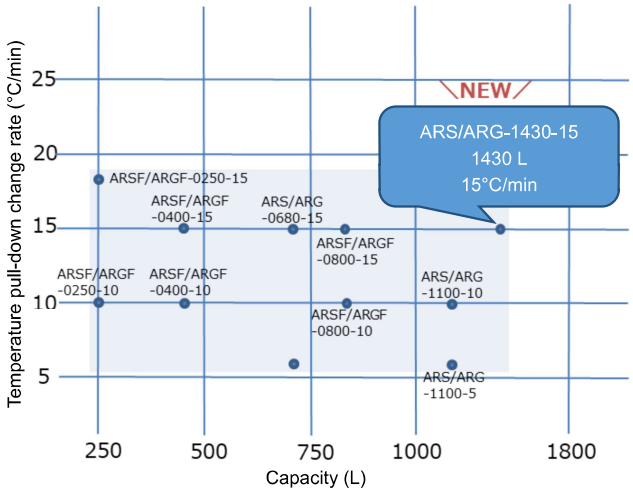
ESPEC also offers support for global test standards in rapid-rate temperature cycle testing.
Testing can be performed at a temperature change rate of 15°C/min, as required by IEC international standards and various automobile-related standards.

- **Compliance with LV124 and IEC-60068-2-14 (Nb) standards**
- **Support for CE standards**
- **Built-in global instrumentation (multilingualization and communication)**

<Conforming Test Standards>

International standard	LV 124		
—	Environmental testing methods	K-01	High-temperature/low-temperature storage test
—		K-02	Gradual temperature test
IEC 60068-2-1		K-03	Low-temperature test
—		K-04	Component repair reproducibility test (+130℃ to +110℃)
IEC 60068-2-30		K-08	Temperature/humidity cycle test (Dew condensation test)
IEC 60068-2-38		K-09	Temperature/humidity cycle test (Breathing effect test)
IEC 60068-2-78		K-14	Humidity test (Constant operation)
—	Life testing methods	L-01	Mechanical/hydraulic endurance test
IEC 60068-2-2		L-02	High-temperature endurance test (Heat resistance test)
IEC 60068-2-14Nb		L-03	Thermal cycle test
ISO 16750-4 (5.3)			

<Product Lineup>



Example of Application

Thermal shock testing of e-Axles, inverters, in-car driver's seat modules, and secondary battery packs

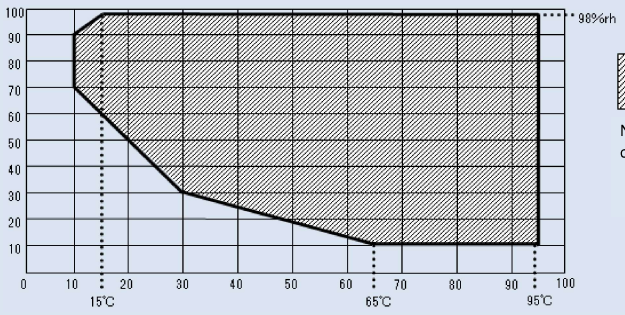
Main Specifications

Model			ARS - 1430-15	ARG - 1430-15
Temperature and humidity performance*1	Temperature/humidity range		-70°C to +180°C / 10%RH to 98%RH	-70°C to +180°C / —
	Temperature fluctuation		±0.5°C (-70°C to +100°C)	±0.5°C (-70°C to +100°C)
	Humidity fluctuation		±5%RH	—
	Temperature/humidity gradient		3.0°C / 10%RH	3.0°C / —
	Spatial temperature deviation		2.0°C (-70°C to +150°C)	2.0°C (-70°C to +150°C)
	Spatial humidity deviation		10%RH	—
	Temperature change rate	Temperature range	-45°C to +155°C	
		Heat up	15°C/min	
		Pull down	15°C/min	
	Time to reach extreme temperature	Heat up	15 min	
		Pull down	15 min	
	Maximum permissible heat generation load		12,000 W (with an internal chamber temperature of 20°C)	600 W (with an internal chamber temperature of 85°C and humidity at 85%RH)
Noise level (max.)*2			70 dB (A) or less	
Capacity			1430 L	
Inside dimensions (W × H × D mm)			1100 × 1000 × 1300	
External dimensions (W × H × D mm)			1300 × 1980 × 3395	
Weight			Approx. 1800 kg	
Voltage (maximum current)			200 V (175 A) 220 V (159 A) 380 V (93 A) 400 V (88 A)	
Maximum load capacity			61 kVA	
Cooling water	Water supply rate (Reference water temperature)		4900 L/hr (25°C) / 9200 L/hr (32°C)	
	Water supply pressure		0.2 to 0.5 MPa (gauge)	
	Connection piping diameter (carbon steel piping)		50 A (Rc^2)	

*1 Temperature performance values are based on JIS C 60068-3-5:2006 and JTM K07:2007, and humidity performance values are based on JIS C 60068-3-6:2008 and JTM K09:2009. Performance figures are for an ambient temperature of +23°C, an ambient relative humidity of 65 ±20%RH, and refrigerator cooling water temperature of +25°C at the rated voltage with no specimen inside the test area.

*2 Measurements taken in an anechoic room or similar setting from 1 m in front of the chamber at a height of 1.2 m (JIS Z8731:1999 A characteristics).

Temperature and humidity control range



ESPEC CORP. http://www.espec.co.jp/english

Head Office
3-5-6, Tenjinbashi, Kita-ku, Osaka 530-8550, Japan
Tel: +81-6-6358-4741 Fax: +81-6-6358-5500

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