

## Vacuum Drying System, for Rechargeable Battery's Manufacturing Process (Multi-step Volume)

**DPB530**

Vacuum drying is performed during a rechargeable battery manufacturing process to remove water content from work pieces. In this system, chambers are stacked in multiple stages and many kinds of work pieces can be processed under different conditions.

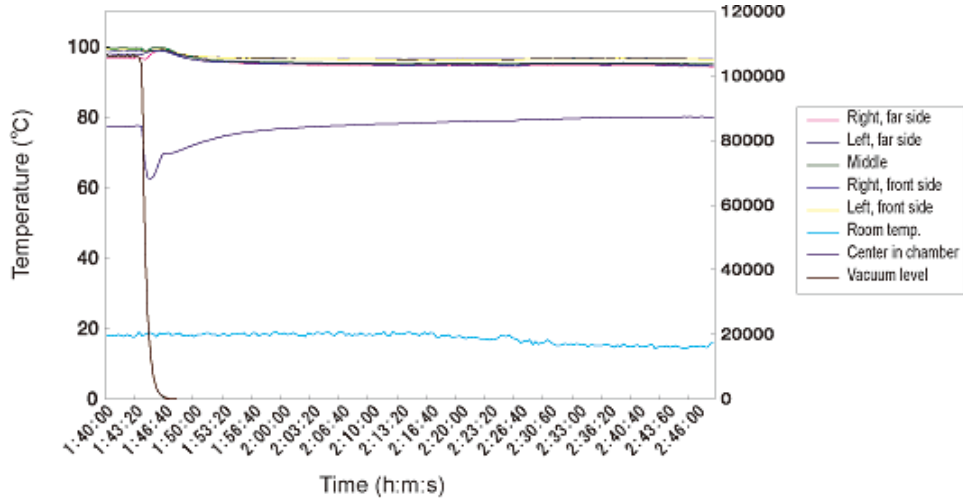


- Allows reduction of conductance in the vacuum exhaust route and installation of a high performance exhaust pump
- Designed to support a pressure of 1 Pa or less
- Hot plate system to enable high speed temperature increase
- Required number of units may be stacked in multiple stages and processed under different conditions.
- Hot plate ( $\pm 2$ deg.C) improves the temperature distribution accuracy in chamber.
- Thermocouples are equipped with in the chambers as standard to monitor work piece temperatures. (Thermocouples may be increased as necessary)
- Variable chamber sizes are available depending on the work piece sizes (upon request).

## ■ Specifications

Model		DPB530
System		Heat radiation and transfer system with vacuum and 4-side hot plates
Performance	Operating temp. range	Room temperature + 10 to 150deg.C
	Operating vacuum level range	101 kPa to 1 Pa or less (at no load), displayed on the vacuum indicator
	Attainable vacuum level	1 Pa or less (at no-load), depending on vacuum pump capacity
	Temp. adjustment accuracy	±1deg.C (at 100deg.C), both in atmosphere and vacuum, temperatures at five points in chamber
	Temp. distribution accuracy	±5deg.C (at 100deg.C), both in atmosphere and vacuum, temperatures at five points in chamber
	Temp. distribution accuracy of bottom hot plates	±2deg.C (at 100deg.C), both in atmosphere and vacuum
	Time to attain max. temp.	Approx. 90 min. up to 100deg.C, both in atmosphere and vacuum, shortest reach time of temperatures at five points in chamber
	Open-to-atmosphere time	One minute or less (at full opened manual valve), adjustable with the manual valve
Configuration/Functions	Exterior	Chrome free electro galvanized steel plate Chemical proof baking finish
	Interior	Stainless steel plate, 2 stages chamber (Vacuum level and temperature adjustable individually)
	Door	Material inside chamber: Aluminum, without heat insulator, one touch handle mechanism
	Door packing	Vacuum O-ring (Fluororubber)
	Heater	3.6 kW/chamber
	Temperature controller	PID control with a micro computer (separate control of chambers x 2-system heater control)
	Temp. control/overheat preventive device sensor	K-thermocouple
	Sample temperature sensor	K-thermocouple 5/chamber
	Vacuum valve	Air driven, NW50
	Vacuum meter	101 kPa to 10 <sup>-2</sup> Pa, vacuum indicator
Safety unit		Over current ELB, independent overheat preventive device, stop valve, emergency relief valve, vacuum valve filter regulator
Standards	Internal size	W512 x D315 x H155 mm/chamber
	External size	W1100 x D1100 x H1400 mm
	Bottom surface effective size	W380 x D300 x H155 mm
	Exhaust port	NW50 flange
	Air supply port	Rc1/2
	Power supply	3 phase AC200V 50/60 Hz 22A (excluding vacuum pump power supply)
	Compressed air	0.5 Mpa or more, φ6 mm tube coupler is used.

■ At the start of vacuum process



5 points on hot plate + one center in chamber + vacuum level

■ Internal chamber

