

Applications in the PPC (paper machine) market

Energy-saving / space saving Walk-In Temperature (& Humidity) chamber

Significant achievement in energy saving and space optimization

It is essential to assess the operation under office environment of copy machines or printers. With the development of products tending towards speed-up, evaluation of paper feed under low temp. / low humidity, or high temp. / high humidity environments is a necessity, but requires long-time testing.

This chamber can perform stable tests during extended period of times, in each of the low temp. / low humidity and high temp. / high humidity chambers, with a power consumption significantly low in spite of the duration of test.

The required installation space has also been reduced to a minimum to fit customers' facilities.



Features

● Energy-saving points

Use of energy-saving chiller

Stable temperature control achieved by minimizing required refrigeration capacities. Using a chiller allows controlling the flux of cold water.

(Reduction of the power required for re-heating)

Especially under high temp. / high humidity operation, the chiller regulates the water temperature flux, and also optimally controls the cooler – dehumidifier capacity.

(Significant reduction of the power required by humidifier / heater)

Temperature control of the dehumidifier recycled air

The chamber's temperature and humidity controller manages the recycled air temperature

(from the dehumidifier) in the chamber (recycling heater output).

(Significant reduction of humidifier and recycling heater power consumption)

Use of recycled heat

Heat from the air coming out of the dehumidifier (recycled hot air) is sent again to the dehumidifier (recycling)

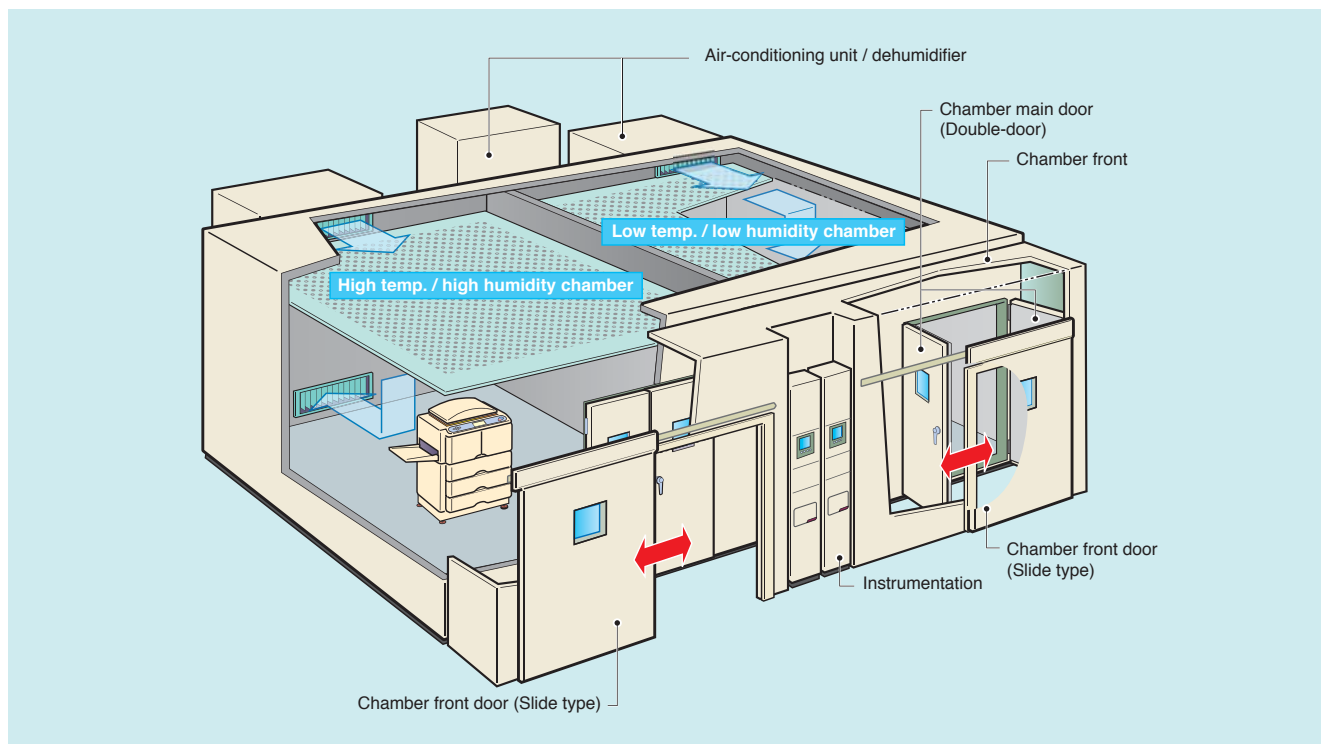
(Reduction of power consumption by re-heating)

● Space optimization point

Reduction of the cold water tank capacity by using an ice thermal storage system.

The tank, stored in the electric compartment, and the dead space required for door opening disappear. The door has been changed for a sliding model that dramatically reduces chamber footprint.

Configuration



Specifications

	Low temp. / low humidity chamber	High temp. / high humidity chamber
Temp. & humidity range	+15°C/ 10%rh	+30°C/ 80%rh
Temp. & humidity fluctuation	±0.5°C/ 3.0%rh	±0.5°C/ 3.0%rh
Temp. & humidity uniformity	±1.0°C/ 5.0%rh	±1.0°C/ 5.0%rh

*Please contact us for details on price, options and specifications.

Electric power consumption (in case of EBR-10 type – 2 connected chambers)

Yearly power consumption reduction	144,432kW (340 days x 24hrs x 17.7kW)	
Yearly saved money	China	-70,777 RMB (@ 1kWh = 0.5 RMB)
	U.S.A.	-12,421 US\$ (@ 1kWh = 0.09 US\$)
	Germany	-19,065 € (@ 1kWh = 0.13 €)
	Korea	-9.18 Mi ₩ (@ 1kWh = 63.6 ₩)

Power consumption during operation	Current product		Eco-type product	
	Low temp. / low humidity (15°C / 10%rh)	High temp. / high humidity (30°C / 80%rh)	Low temp. / low humidity (15°C / 10%rh)	High temp. / high humidity (30°C / 80%rh)
Calculated value	23.8kW/h	15.4kW/h	15.6kW/h	6.9kW/h
2 chambers total	39.2kW/h		22.5kW/h	
Difference with eco model	17.7kW/h			

* Load conditions: Heat load 4kw – moisture: 500g/h – airflow: 60m³/h

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