

Clean Inert Ovens | Class 100, Oxygen Concentration: 20ppm

DTN430C/630C/450C/650C

Forced Convection
Automatic Overheating Preventer
Overheating Preventer
Self-diagnostic Function
Overcurrent Leakage Circuit Breaker

Maximum operating temp. DTN430C/630C: 360°C DTN450C/650C: 500°C
Cleanliness Class 100
Oxygen concentration 20ppm
Internal capacity 91L

Atmosphere furnace with cleanliness level 100 and oxygen concentration below 20ppm, mainly used for curing semiconductor wafers.

Features

- Maximum operating temperatures of 360°C and 500°C, with cleanliness level 100 and oxygen concentration below 20ppm, primarily used for curing semiconductor wafers (photoresist PI, PBO curing), glass substrate baking, high-precision annealing, etc.
- Using a high-temperature resistant high-performance filter, maintaining cleanliness level 100 inside the chamber, allowing for high-temperature baking in a clean environment.
- High gas-tightness pressure chamber construction, with short oxygen concentration reaching time and extremely low N₂ consumption. Maintaining high gas-tightness through magnetic sealing and a water-cooling mechanism to protect sealing components from thermal effects.
- Quick heating and cooling, with adjustable heating and cooling rates. Standard equipped with waste liquid recovery devices to cool and recover gases.

Safety

- Equipped with door detection switch, overheating preventer, oxygen concentration abnormality, nitrogen pressure detection, nitrogen flow detection, cooling water flow detection, leakage sensor, overcurrent leakage protection and other devices.



Specifications

Model		DTN430C	DTN630C	DTN450C	DTN650C	
System		Nitrogen replacement + Forced convection				
Performance	Operating temp. range	Room temp. +50~360°C		Room temp. +50~500°C		
	GB standard	Temp. fluctuation	±0.3°C (360°C)		±0.5°C (500°C)	
		Average temp. deviation	±1.5°C (at 100°C), ±2°C (at 200°C), ±4°C (at 300°C), ±5°C (at 360°C)		±1.5°C (at 100°C), ±2°C (at 200°C), ±4°C (at 300°C), ±5°C (at 400°C), ±8°C (at 500°C)	
	JTM standard	Temp. adjusting accuracy	±0.3°C (360°C)		±0.5°C (500°C)	
		Temp. distribution accuracy	±4°C (360°C)		±6°C (500°C)	
	Max. temp. reaching time	Approx. 80 min		Approx. 110 min		
	Oxygen concentration	Below 20ppm				
Oxygen concentration reaching time	≤20 min (250L/min nitrogen)	≤25 min (250L/min nitrogen)	≤20 min (250L/min nitrogen)	≤25 min (250L/min nitrogen)		
Cleanliness	Constant temperature maintained at level 100					
Composition	Interior material	Stainless steel plate				
	Exterior material	Cold rolled steel plate with chemical proofing coating				
	Insulating material	Aluminosilicate cotton				
	Heating method	Stainless steel heating pipe		Alloy heating wire		
	Heating power	Main heater	6.0KW	9KW	10.8KW	14.2KW
		N ₂ preheating	1KW			
Cooling mechanism	Stainless steel cooling water heat exchanger					
HEPA filter	Dust collection efficiency: 99.97% for 0.3µm particles					
Controllers	Temp. control method	PID control				
	Temp. controller	Liquid crystal touchscreen + PLC				
	Operation functions	Manual fixed temp. operation, automatic program operation				
	Program mode	9 program operations, each program can set 9 segments (expandable)				
	Additional functions	Operator level certification				
	Heater circuit control	SSR drive				
Sensors	K-type thermocouple (temperature control and overheating prevention)					
Safety device		Door detection switch, overheating preventer, oxygen concentration anomaly, overheating of N ₂ preheating, low water pressure detection, low N ₂ pressure detection, cooling water flow detection, N ₂ flow detection, fan overload detection, overcurrent leakage protection, etc.				
Specifications	Internal dimensions	450×450×450	660×600×660	450×450×450	660×600×660	
	External dimensions (W×D×H mm)	1090×1170×1570	1300×1320×1780	1090×1170×1570	1300×1320×1780	
	Internal capacity	91L	261L	91L	261L	
	Shelf layer/interval	12 layers/30mm	19 layers/30mm	12 layers/30mm	19 layers/30mm	
	Exhaust vent	KF40				
	Nitrogen inlet	Rc1/2				
	Cooling water inlet	Rc3/4				
	Hot water outlet	Rc3/4, 2 pcs				
	Power supply (50/60Hz) rated current	3 phase AC380V 16A	3 phase AC380V 19A	3 phase AC380V 20A	3 phase AC380V 27A	
	Weight	Approx. 900kg	Approx. 1100kg	Approx. 900kg	Approx. 1100kg	
Options	Shelf plate, vacuum pump, temperature data logger, multicolor light tower, ethernet communication function, UPS backup power supply, scanner, PC components, temperature measurement components, etc.					

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