



Forced Convection Ovens

Energy Saving

Programmable Forced Convection Ovens with Variable Flow Rate



Yamato

Yamato Oven Models: DNF301 DNF401/411 DNF601/611 DNF811 DNF 911

Operating temp. range	Room temp. +15°C~260°C	Method	DNF301/401/411/601/611 Forced convection+Natural convection	DNF811/911 Forced convection	Capacity	1 CuFt DNF301	3 CuFt DNF401/411	5 CuFt DNF601/611	10.6 CuFt DNF811	19 CuFt DNF911
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The First 2 in 1 System in The Industry

- Two types of circulation, forced and natural convection, in one unit (compatible with model 300/400/600)
- Eco-oven with improved air velocity control system and adjustable damper
- Program featured to reduce power consumption significantly
- Superior heat tightness and insulation of chamber
- Excellent dust tightness, dust can hardly enter the chamber
- Air velocity changeable in 10 stages using digital setting of controller
- Standard with 99 step program operation with repeat operation, auto start, auto stop and quick auto stop functions
- Adjustable damper position at chamber front to optimize operation
- Fluorescent display, interactive input method, calibration off-set function



Yamato Oven Specifications:

[Contact Us For Discounted Prices](#)

Yamato Oven Models	Yamato DNF301	Yamato DNF401/411	Yamato DNF601/611	Yamato DNF811	Yamato DNF911	
Circulation method	Forced convection + Natural convection			Forced convection		
External temp. range	5~35°C					
Temperature set range	0~130°C (Wind velocity: 0), 0~270°C (Wind velocity: 1~10)			0~270°C (Wind velocity: 1~10)		
Temperature control range	RT +25~120°C (Wind velocity: 0), RT +15~260°C (Wind velocity: 1~10)			RT +15~260°C (Wind velocity: 1~10)		
Temp. control accuracy *1	Forced convection	±0.3°C (at 260°C)		Not applicable		
	Natural convection	±0.5°C (at 120°C)		Not applicable		
Temp. fluctuation *1	Forced convection	±0.5°C (at 260°C)		Not applicable		
	Natural convection	±1.0°C (at 120°C)	±0.8°C (at 120°C)	±0.6°C (at 120°C)	Not applicable	
Temp. distribution precision *1	Forced convection	±2.5°C (at 260°C)		Not applicable		
	Natural convection	±5°C (at 120°C)	±3°C (at 120°C)	Not applicable		
Temp. gradient *1	Forced convection	5°C (at 260°C)	7°C (at 260°C)	8°C (at 260°C)	12°C (at 260°C)	6°C (at 260°C)
	Natural convection	15°C (at 120°C)	13°C (at 120°C)	Not applicable		
Temp. rise time *1	Forced convection	~70min.	~105min.	~100min.	~60min.	~100min.
	Natural convection	~20min.	~25min.	Not applicable		
Chamber / Exterior / Insulation	Stainless steel / Cold rolled steel paneling, chemical-proof baked-on finish / Glass wool					
Door	Single swing (left side)				Double doors (opening from center)	
Heater (stainless steel tube)	0.8kW	0.6kWx2	0.83kWx2	1.35kWx2	1.65kWx2	
Wind velocity adjusting system	10 steps (600~1500rpm) + Wind velocity (0)			10 steps (600~1500rpm)		
Damper	Circulation-Ventilation Manual switching: Interlocked intake and exhaust system (Complete exhaust applicable / Unable to reach 260°C with damper fully open)					
Cable port	Inner diameter: 1.29" X1 (right side)					
Exhaust port	Outer diameter: 1.9" X1 (back side)				Outer dia.: 1.9" X2 (back)	
Inlet port	Inner diameter: 1.29" X1 (right side)				Inner dia.: 1.3" X2 (both)	
Controller	Model V type					
Temperature control / setting system	PID Z control / Digital setting with ▲/▼ keys					
Temperature display system	Temperature reading display: green 4-digit digital LED / Temperature setting display: orange 5-digit digital LED					
Other indications	LED indicates temperature patterns for heating/stabilizing/cooling					
Timer	1 minute and 99 hours 59 minutes: duration operation, 24 hour setting: time operation					
Operation functions	Fixed temperature operation, Program operation (maximum 99 steps or 99 patterns, with repeat operation function), Timer or clock operation function (Fixed temperature operation w/ auto start/auto stop/quick auto stop, program operation auto start)					
Additional functions	Variable Air Flow Function, Power-on Time and Operation Time Accumulation Monitor (up to 65,535 hours); Calibration Offset; Monitoring Display for Accumulated Power Consumption, Total CO ₂ Emissions, and Heater Operation Output; Power Recovery Mode; Setting Data Backup and Recovery					
Temperature sensor	K type Thermocouple double sensor (for temperature control and independent overheat prevention device)					
Heater control	Triac with Zero-cross Control					
Control board	Self-diagnostic Functions (Detection for Temp. Sensor Failure, TRIAC Short Circuit, Automatic overheating prevention, Heater Line Disconnect, Main Relay Contact Damage), Earth leakage breaker, Fan Motor Failure, Key Lock Function, Independent overheating prevention device					
Earth leakage breaker	Leak Current/Short Circuit/Over-current Protection, Rated Current Sensitivity 30mA					
Door switch	Door open: fan motor and heater circuit OFF, Door close: fan motor and heater circuit ON					
Internal dimensions (W X D X H)*2	11.8" X 11.8" X 11.8"	17.7" X 17.7" X 17.7"	23.6" X 19.7" X 19.7"	23.6" X 19.7" X 39.4"	42.9" X 19.7" X 39.4"	
External dimensions (W X D X H)*2	16.9" X 19.5" X 29.1"	22.8" X 25.4" X 35"	28.7" X 27.4" X 37"	28.7" X 27.4" X 66.3"	48" X 27.4" X 66.3"	
Capacity	1 Cubic Ft.	3.2 Cubic Ft.	5.3 Cubic Ft.	10.6 Cubic Ft.	19 Cubic Ft.	
Weight	110 Lbs	165 Lbs	198 Lbs	298 Lbs	463 Lbs	
Number of shelf bracket step / pitch	6 steps/1.18"	11 steps/1.18"	13 steps/1.18"	29 steps/1.18"		
Shelf plate / bracket	2 pcs. / 4 pcs.		4 pcs. / 8 pcs.		8 pcs. / 16 pcs.	
Withstand load of shelf	33 Lbs/shelf					
Power supply V±10% 50/60Hz Single phase	AC115V, 7.5A with plug	AC115 11A with plug AC220V 6A no plug, round terminal	AC115/220V 15A/8A no plug, round terminal	AC220V 15.5A no plug, round terminal	AC220V 18.5A no plug, round terminal	

*1. Temperature Accuracy / Rise time Standard: Testing Machinery Association of Japan. Temperature Fluctuation/Gradient Standard: Japanese Industrial Standard
Performance data above based on 115V or 220V AC supplied power, 23°C±5°C (room temperature), 65%RH ±20% humidity, maximum air speed (FAN setting 10), damper closed, and no process load.

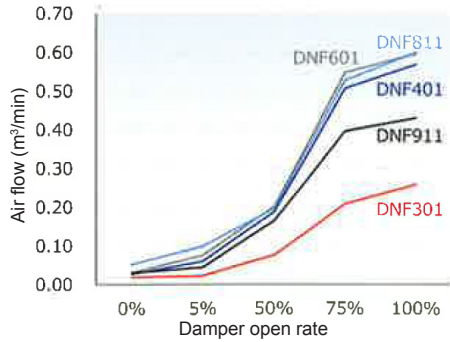
*2. Protrusions excluded.



Control Panel & Fan Setting



Damper Switch



Method

[Side view]

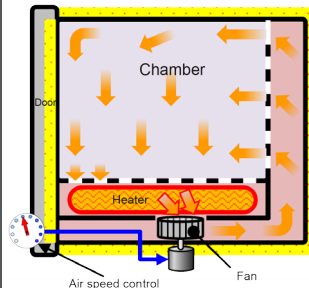


Diagram A: Forced convection

[Side view]

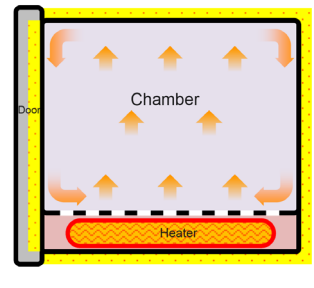
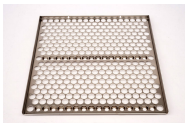


Diagram B: Natural convection

Model	Method
DNF301/401/411/601/611	Diagram A + B
DNF811/911	Diagram A

Options We Can Provide:

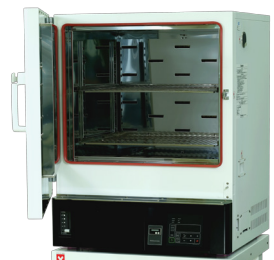
- Additional Shelves
- Custom Stands
- Ports
- Recording Devices
- Please Inquire...



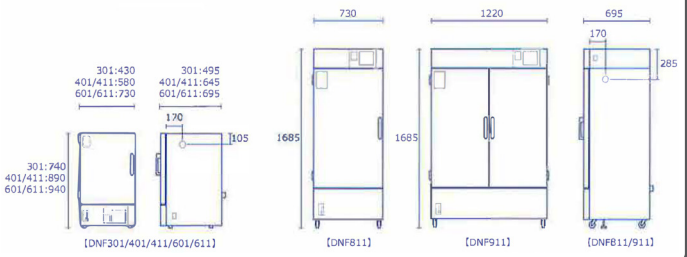
Exhaust Duct (optional)



Interior



Dimensions (Unit:mm)



⚠ Attention

- Never use in flammable or explosive gas atmosphere.
- Never use explosive or flammable material.
- Caution: High temperature components.