

## Industrial & Laboratory Constant Temperature Ovens DNF400/410/600/610/810/910

**DNF400/410/600/610/810/910 have been discontinued.**



DNF400/600

**High-performance, energy-saving, programmable constant temperature, forced convection ovens with air velocity control and exhaust dampers.** They achieve an energy-saving rate of 30 to 40% compared to previous models. Air velocity can be changed in 10 stages using the digital setting of the controller. Operability has been enhanced by locating a slider-type open/close adjustment knob on the front side of the main unit.

Model			
400	600	810	910
410	610		
Operating Temperature Range			
Room temp. +10deg.C to 260deg.C			
Temp. Distribution Accuracy			
±2.5deg.C (at260deg.C)			
Internal Capacity (L)			
90	150	300	540

- Special construction makes it difficult for dust from surrounding environment to enter the oven.
- Temperature settings, measurement temperatures, over-heating prevention temperature settings are displayed simultaneously with the digital setting and display system.
- Programmable operation enables a maximum of 32 steps repeat and graduated operation.
- Calibration offsetting, timer, integrated time calculation and other added functions.
- Comprehensive safety features.
- A recorder can be equipped as option.

## ■ Specifications

Model	DNF400	DNF410	DNF600	DNF610	DNF810	DNF910
<b>Performance</b>						
Circulation method	Air velocity control, Forced air circulation(with manual slide type exhaust damper)					
Operating temperature range	Room temp. +10 to 260deg.C					
Temp. adjustment accuracy	±0.5deg.C (at 260deg.C)					
Temp. distribution accuracy	±2.5deg.C (max. air velocity, at 260deg.C)					
Max. temp. reaching time	Approx. 75 min.			Approx. 60 min.		Approx. 75 min.
<b>Components</b>						
Interior/Exterior material	Stainless steel /Electro-galvanized steel sheet with epoxy and melamine resin baking finish					
Heat insulating material	Glass wool					
Heater	Stainless pipe heater, 1.25 kW		Stainless pipe heater, 1.5 kW		Stainless pipe heater, 1.35 kW×2	Stainless pipe heater, 1.65 kW×2
Fan Type	Scirocco fan					
Motor	DC24V, Brushless motor (800~1,500rpm) variable type (10 steps), 50W					50W×2
Cable hole/Air in-take hole	30mm I.D. (the right side) each 1pc.					
Exhaust port	50mm I.D.×1 pc. (the back)					50mm I.D.×2 pcs.(the back)
<b>Controller</b>						
Temp. controller	PID control by microprocessor					
Temp. setting method	Digital setting by UP/DOWN key					
Temp display method	Digital display by Orange LED (4 digit)					
Timer/Min.division	0 min. to 999 Hrs. 59 min. /1 min.					
Operation function Program mode	Fixed temperature operation, Program operation, Auto start, Auto-stop, Program operation; Maximum 32 steps, Repeat function					
Additional functions	Timer (Total operating hours : max. 49,999 Hrs.), Calibration offset function, Time display, Fan stop					
Heater circuit control	Triac zero-cross control					
Sensor	K-thermocouple					
<b>Safe Device</b>						
Safety countermeasures	Self diagnosis functions (temp. sensor abnormal, Heater disconnection, SSR- short, Main relay abnormal, Automatic overheating prevention), Key lock function, Independent overheat prevention, Electric leakage breaker with over current protection					
<b>Standard</b>						
Internal dimensions (W×D×Hmm)	450×450×450		600×500×500		600×500×1,000	
External dimensions (W×D×Hmm)	580×646×860		730×696×910		730×696×1,675	
Internal capacity	90 liters		150 liters		300 liters	
Shelf plate with standard load	Approx. 15kg/piece					
Shelf rest step number	11 steps		13 steps		29 steps	
Shelf rest pitch	30 mm					
Power source 50/60Hz	AC 100V single phase 13.5A	AC200V/220V single phase 7A/6.44A	AC 100V single phase 16A	AC200V/220V single phase 8A/7.3A	AC 200V/220V single phase 15A/13.6A	AC 200V/220V single phase 18A/16.4A
weight	Approx. 61 kg		Approx. 77 kg		Approx. 113 kg	
<b>Accessories</b>						
Shelf plate	Stainless steel, 2 pcs.				Stainless steel, 4 pcs.	Stainless steel, 8 pcs.
Shelf bracket	4 pcs. (1 pair - 2 pcs. is fixed)				8 pcs. (Same as left)	16 pcs. (2 pairs are fixed)

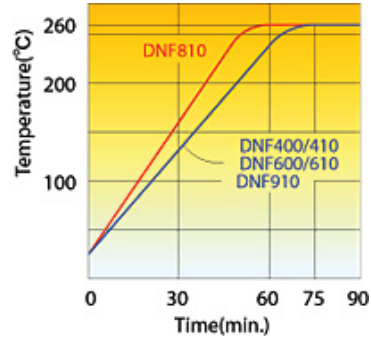
\* The performance shown here is the value under the condition of the ambient temperature of 23deg.C±5deg.C, humidity of 65%RH±20%.

\* The projection is not included for Internal dimensions and External dimensions.

■ Control Panel



■ Temp.Rising Curve



■ Interior

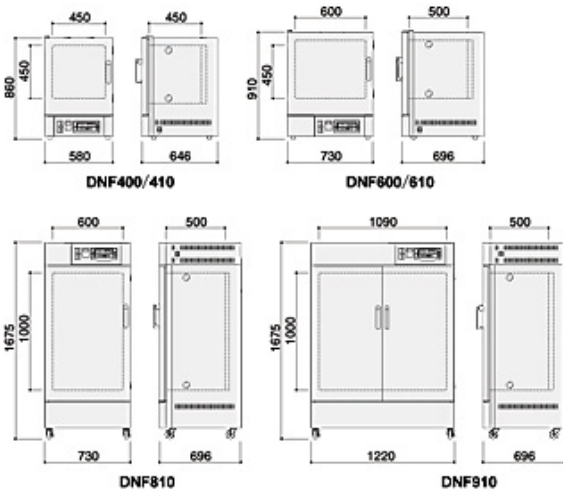


DNF600



DNF910

■ Dimensions (mm)



## ■ Optional items

Remark	Description	Model No.	Product Code
○	ON61 Stand for DNF400/410/600/610	DNF Series	211856
○	OT42 Stand for DNF400/410	DNF Series	212348
○	OT62 Stand for DNF600/610	DNF Series	212349
	Stacking support for ODN26 DNF400/410	DNF Series	212806
	Stacking support for ODN28 DNF600/610	DNF Series	212807
	Shelf (with support 2 pcs) for DNF400/410	DNF Series	212246
	Shelf (with support 2 pcs) for DNF600/610/810	DNF Series	212266
	Shelf (with support 2 pcs) for DNF910	DNF Series	212490
●	Cable port, 25mm dia	DNF Series	281037
●	Cable port, 50mm dia	DNF Series	281038
●	Door, right open type for DNF400/410	DNF Series	281039
●	Door, right open type for DNF600/610	DNF Series	281040
●	Door, right open type for DNF810	DNF Series	281041
●	External communication function (RS485)	DNF Series	281042
●	External communication adapter (changeable to RS232C)	DNF Series	281043
●	Temperature output terminal	DNF Series	281044
●	External alarm terminal	DNF Series	281045
●	Time-up output terminal	DNF Series	281046
●	Individual alarm output terminal (4 points output)	DNF Series	281047
●	Sample temperature monitoring terminal (max 3 terminals)	DNF Series	281048
●	Sheath sensor for sample monitoring (K-thermocouple)	DNF Series	281049
●	Flange for exhaust port (DNF910 requires 2 pcs.)	DNF Series	281050
●	Exhaust duct (50mm dia with exhaust flange) for DNF400/410	DNF Series	281051
●	Exhaust duct (50mm dia with exhaust flange) for DNF600/610	DNF Series	281052
●	Exhaust duct (50mm dia with exhaust flange) for DNF810	DNF Series	281053
●	Exhaust duct (50mm dia with exhaust flange) for DNF910 (50mm dia with exhaust flange x 2 points)	DNF Series	281054

### Note:

1. The item marked " ● " in the column of "Remark" shall be ordered together with the main unit.
  2. The transportation cost will not be required if the order is together with main unit except the item marked "○".
- In case you order the item marked "○" together with the main unit, please ask Yamato to obtain the correct transportation cost.

### Stand



ON Model



OT Model

### Mounting Parts



**Shelf (with 2 support)**



Stainless Punching Metal (Weight Tolerance 15kg/pc)