

Forced Convection Oven (Airflow Control)

Programmable Forced Convection Ovens with Variable Flow Rate

DNF301/401/411/601/611/811/911

Operating temp. range RT +15°C~260°C (Forced convection)

Temp. distribution accuracy $\pm 2.5^{\circ}\text{C}$ (at 260°C) (Forced convection)

Internal capacity	27L DNF301	90L DNF401/411	150L DNF601/611	300L DNF811	540L DNF911
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Forced and natural convection “2 in 1” ovens

- Two types of circulation, forced and natural convection, in one unit (compatible with model DNF301/401/411/601/611)
- Eco-oven with digital variable wind velocity from 0, and 10 stages (1~10) (DNF301/401/411/601/611)
- Air velocity changeable in 10 stages (1~10) using digital setting of controller. (DNF811/911)

Control Panel



Specifications

Product code		212830	212831	212834	212835	212868	212869	212879
Model		DNF301	DNF401	DNF411	DNF601	DNF611	DNF811	DNF911
Circulation method		2 in 1 type: Forced and Natural convection, with manual exhaust damper					Forced convection with manual exhaust damper	
Forced convection (Wind velocity setting: 1~10)	Operating temp. range	Room temp. +15 to 260°C						
	Temp. control accuracy*1	±0.3°C (at 260°C)						
	Temp. fluctuation*1	1.0°C (at 260°C)						1.6°C (at 260°C)
	Temp. distribution accuracy*1	±2.5°C (at 260°C)						
	Temp. gradient *1	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 (Wind velocity setting: 0)	Max. temp. reaching time*2	Approx. 70 min.	Approx. 105 min.		Approx. 100 min.		Approx. 60 min.	Approx. 100 min.
	Operating temp. range	Room temp. +25 to 120°C						
	Temp. control accuracy*1	±0.5°C (at 120°C)	±0.3°C(at 120°C)					
	Temp. fluctuation*1	2.0°C (at 120°C)	1.6°C (at 120°C)		1.2°C (at 120°C)		Not applicable	
	Temp. distribution accuracy*1	±5°C (at 120°C)	±3°C(at 120°C)					
	Temp. gradient*1	15°C (at 120°C)	13°C(at 120°C)					
	Max. temp. reaching time*2	Approx. 20 min.	Approx. 25 min.					
	Interior / Exterior material		Stainless steel / Electro-galvanized steel sheet with epoxy and melamine resin baking finish					
Heat insulating material		Glass wool						
Heater		0.8 kW	0.6 kW×2		0.83 kW×2		1.35 kW×2	1.65 kW×2
Cable hole		33mm I.D. (Right)×1pc.						
Air in-take hole		33mm I.D. (Right)×1pc.						33mm I.D. (Right and Left) ×1pc. each
Exhaust port		50mm I.D. (Back)×1pc.						50mm I.D. (Back) x 2pc.
Damper		Circulation-ventilation manually selectable:Suction/emission operation (260°C is not reached in total emission/fully opened state)						
Temp. controller		V-type controller						
Operation function		Fixed temp., Auto-start, Auto-stop, Quick auto stop, Program (Max.99 steps, 99 patterns, repeat)						
Additional functions		Integration time (max. 65535Hrs.), Calibration off-set, Display the amount of Power consumption / CO ₂ discharge / Heater operation amount, Power failure recovery mode, User setting information save and recall, Wind velocity changeable function						
Sensor		K-thermocouple ×2pcs.						
Safety device		Self diagnosis functions (Sensor, Heater, Relay, Triac, Automatic overheat prevention), Independent overheat prevention, Key lock function, Electric leakage breaker, Door switch, Fan error						
Internal dimensions (W×D×Hmm)		300×300×300	450×450×450		600×500×500		600×500×1,000	1,090×500×1,000
External dimensions (W×D×Hmm)		430×495×740	580×645×890		730×695×940		730×695×1,685	1,220×695×1,685
Internal capacity		27 liters	90 liters		150 liters		300 liters	540 liters
Shelf plate with standard load		Approx. 15kg/piece						
Shelf rest step number		6 steps	11 steps		13 steps		29 steps	29 steps x2
Shelf rest pitch		30 mm						
Power source 50/60Hz		AC115V/AC220V single phase		AC220V single phase	AC115V single phase	AC220V single phase		
Weight		Approx. 50 kg	Approx. 75 kg		Approx. 90 kg		Approx. 135 kg	Approx. 210 kg
Accessories	Shelf (Stainless punching metal)	2 pcs.					4 pcs.	8 pcs.
	Shelf support	4 pcs.					8 pcs.	16 pcs.

*1 The performance values are measured with the damper fully closed, room temperature 23±5°C, rated voltage $\pm 5\%$, humidity 65±20%RH, and no load.

*2 The performance values are measured with the damper fully closed, room temperature 23°C, rated voltage, humidity 65%RH, and no load.

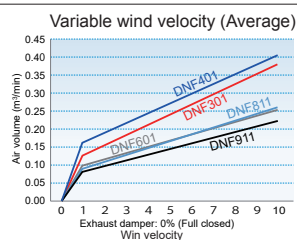
Power cord length is approx. 2 m (DNF301/401/411/411/601/611) outside the unit and approx. 3 m (DNF811/911) outside the unit.



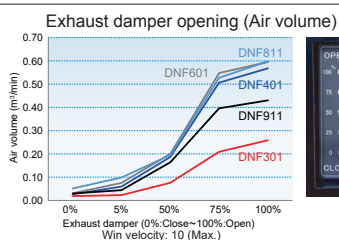
300L
DNF811

540L
DNF911

Wind velocity variable + Exhaust damper



Wind velocity setting
2in1 type 0~10
DNF811/911 : 1~10



Interior



DNF601



DNF911

Optional Items

No.	Description	Option Model No.	Main Unit Model No.	Product code
①	Stand (W550×D550×H600mm)	ON30	DNF301	211180
②	Stand (W740×D660×H600mm)	ON61	DNF401/411/601/611	211856
③	Stand with storage (W560×D610×H611mm)	OT42	DNF401/411	212348
④	Stand with storage (W710×D660×H611mm)	OT62	DNF601/611	212349
⑤	Stacking support	ODM44	DNF301	281458
⑥	Stacking support	ODN26	DNF401/411	212806
⑦	Stacking support	ODN28	DNF601/611	212807
⑧	Stainless punching metal shelf (with bracket 2pcs)	-	DNF301	212068
⑨	Stainless punching metal shelf (with bracket 2pcs)	-	DNF401/411	212246
⑩	Stainless punching metal shelf (with bracket 2pcs)	-	DNF601/611/811	212266
⑪	Stainless punching metal shelf (with bracket 2pcs)	-	DNF911	212490
⑫	*Cable port 25mm dia	ODM36	All models	281454
⑬	*Cable port 50mm dia	ODM38	All models	281455
⑭	*External communication terminal (RS485)	ODM56	DNF401/411/811	281464
⑮	*External communication terminal (RS485)	ODM58	DNF301/601/611/911	281465
⑯	*External communication adapter set	OIN90	DNF Series	211880
⑰	*External Alarm Output Terminal	ODM60	DNF401/411/811	281466
⑱	*External Alarm Output Terminal	ODM62	DNF301/601/611/911	281467
⑲	*Timeup Output Terminal	ODM64	DNF401/411/811	281468
⑳	*Timeup Output Terminal	ODM66	DNF301/601/611/911	281469
㉑	*Operation Signal Output Terminal	ODM68	DNF401/411/811	281470
㉒	*Operation Signal Output Terminal	ODM70	DNF301/601/611/911	281471
㉓	*Event Output Terminal	ODM72	DNF401/411/811	281472
㉔	*Event Output Terminal	ODM74	DNF301/601/611/911	281473
㉕	Additional sensor (sheath sensor)	ODT48	All models	212946
㉖	Silicon plug (with one hole)	ODT52	All models	212947
㉗	*Digital recorder, 6 points, sensors are not included	YHR150	All models	281571
㉘	*Digital recorder, 6 points, sensors are not included	YHR250	All models	281570
㉙	Cable for Recorder (YHR150/250) and External communication function	ODM76	All models	281474
㉚	*Exhaust duct (50mm dia with exhaust flange)	ODM46	DNF301	281459
㉛	*Exhaust duct (50mm dia with exhaust flange)	ODM48	DNF401/411	281460
㉜	*Exhaust duct (50mm dia with exhaust flange)	ODM50	DNF601/611	281461
㉝	*Exhaust duct (50mm dia with exhaust flange)	ODM52	DNF811	281462
㉞	*Exhaust duct (50mm dia with exhaust flange)	ODM54	DNF911	281463
㉟	Seismic mat		DNF401/411/601/611	296902

* Please specify when ordering main unit.

Dimensions (Unit:mm)

