

Forced Convection Oven

Energy Saving Programmable Forced Convection Ovens



DNE401/411/601/611/811/911

Operating temp. range RT +20°C~210°C (DNE401/411/601/611)
RT +15°C~210°C (DNE811/911)

Temp. distribution accuracy ±2.0°C (at 210°C)

Operation Energy saving Environment friendly

High performance environment friendly eco-oven that reduces power consumption significantly

Operation and functions

- High precision controller allows high performance temperature control and display of CO₂ and power discharge
- Heat tightness and insulation design of the chamber achieves an energy saving rate of about 40% at constant temperature compared to previous models
- Maximum temperature reaching time reduced by 15 minutes (no-load) compared to previous models.
- Program operation with a maximum of 99 steps, 99 patterns repeatable
- Standard equipped with various support functions such as calibration offset, power failure recovery mode, save and access of user setting information, as well as other operation modes
- Data acquisition from internal test device possible because of cable holes
- Easy system upgrade with various option settings

Safety features

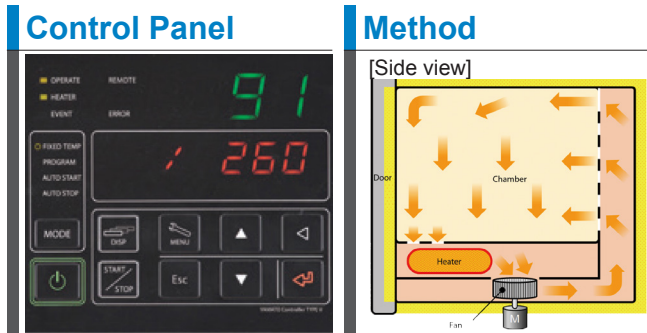
- Standard equipped with various self-diagnostic functions, independent overheat prevention device, overcurrent circuit breaker, and key lock function

Specifications



Model	DNE401	DNE411	DNE601	DNE611	DNE811	DNE911
Circulation method	Forced air circulation					
External temp. range	5~35°C					
Temperature control range	Room temperature +20~210°C			Room temperature +15~210°C		
Temp. control accuracy *1	±0.5°C (at 210°C)					
Temp. fluctuation *1	±0.6°C (at 210°C)					
Temp. distribution accuracy *1	±2.0°C (at 210°C)					
Temp. gradient*1	6°C (at 210°C)		8°C (at 210°C)		8°C (at 210°C)	10°C (at 210°C)
Temp. rise time *1	~60 min.		~70 min.		~45 min.	~60 min.
Chamber / Exterior / Insulation	Stainless steel / Chrome-free electro-galvanized steel plate, chemical-proof baked-on finish / Glass wool					
Door	Single swing (left side)					Double doors (from center)
Insulating material	Glass wool					
Heater (Stainless steel pipe)	1.1kW		1.2kW		1.2kW x 2	1.5kW x 2
Fan Type	Scirocco fan, capacitor motor					
Motor	10W				30W	30W x 2
Cable hole (lower right side)	33mm I.D. 1pc.					
Exhaust port	33mm I.D. 2pcs (top)				33mm I.D. 2pcs (rear)	
Observation window	Optional					
Caster wheels	--				Free swivel caster wheels (w/o stopper)	
Adjuster	--				Level adjusters (2 at the front)	
Controller	Model V type					
Temp. control / setting system	PID Z control / Digital setting with ▲/▼ keys					
Temp. display	Top screen (Chamber): Green 4 digit LED digital display (1°C resolution) / Bottom screen: Orange 5 digit LED digital display (1°C resolution)					
Other indications	LED indicates temperature patterns for heating/stable/cooling					
Timer	1 min. and 99 Hrs. 59 mins: duration operation, 24 hour setting: time operation					
Operation functions	Fixed temperature, Program operation (max.99 steps, up to 99 patterns repeat operationing function), Duration/time select timer operation function (fixed temperature operation, auto-start, auto-stop, quick auto stop, program operation auto start)					
Additional functions	Power on and Integration time function (up to 65,535 hours), Calibration offset, Time display, Display of power consumption, CO ₂ discharge and heater operation, Power failure return mode, User configuration information					
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 (temp. sensor failure detection, TRIAC short circuit, heater line disconnection, fan failure detection, main relay abnormal, automatic overheating prevention, key lock function)					
Earth leakage breaker	Leak Current/Short Circuit/Over-current Protection, Rated Current Sensitivity 30mA					
Independent overheat prevention	Set temperature range: 0~250°C					
Internal dimensions (W×D×H mm)*2	450×450×450		600×500×500		600×500×1000	1090×500×1000
External dimensions (W×D×H mm)*2	580×645×860		730×695×910		730×695×1660	1220 ×695×1660
Capacity	90L		150L		300L	540L
Weight	~63kg		~77kg		~92kg	~185kg
Shelf plate / bracket	2 pcs. / 4 pcs.				4 pcs. / 8 pcs.	8 pcs. / 16 pcs.
Shelf rest step number / Shelf rest pitch	11 steps / 30mm		13 steps / 30mm		29 steps / 30mm	29 steps / 30mm x 2
Withstand load of shelf	~15kg / shelf					
Power supply V±10% 50/60Hz single phase	AC115V 10A	AC220V 5.5A	AC115V 11A	AC220V 6A	AC220V 11.5A	AC220V 14A

*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.



Interior



DNE401



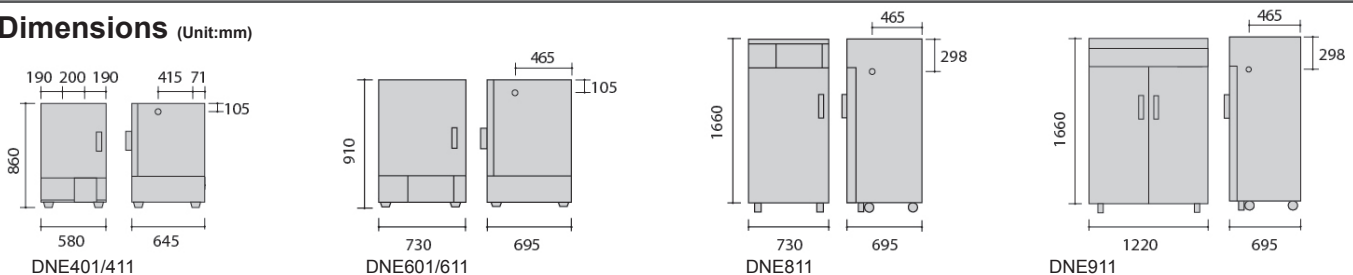
DNE911

Optional Items

Description	Product code	Model	Applicable units
Stand	211856	ON61	DNE401/411/601/611
	212348	OT42	DNE401/411
	212349	OT62	DNE601/611
Stacking support	212806	ODN26	DNE401/411
	212807	ODN28	DNE601/611
	212246	ODN20	DNE401/411
Shelf (with brackets 2 pcs.)	212266	ODN22	DNE601/611/811
	212490	--	DNE911
	Seath sensor (K type Thermocouple)	212946	ODT48
Silicon plug (with one hole)	212947	ODT52	All models
* Cable port, 25mm diameter	281454	ODM36	All models
50mm diameter	281455	ODM38	All models
*Observation window for DNE401/411	281456	ODM40	DNE401/411
*Observation window for DNE601/611	281457	ODM42	DNE601/611
*External communication adapter set	211880	OIN90	All models
*External communication terminal (RS485)	281442	ODM12	DNE401/411/601/611/811
	281443	ODM14	DNE911
*External communication adapter set	281444	ODM16	DNE401/411/601/611/811
	281445	ODM18	DNE911
*External alarm output terminal	281446	ODM20	DNE401/411/601/611/811
	281447	ODM22	DNE911
*Time-up output terminal / Operation signal output terminal	281448	ODM24	DNE401/411/601/611/811
	281449	ODM26	DNE911
*Event output terminal / Time-up output terminal	281450	ODM28	DNE401/411/601/611/811
	281451	ODM30	DNE911
*Operation signal output terminal	281452	ODM32	DNE401/411/601/611/811
	281453	ODM34	DNE911

* Please specify when ordering main unit.

Dimensions (Unit:mm)



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