

12

Oven

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Convection Oven NDO-420·420W·520·520W

Natural convection oven with max. 300°C temperature control.



NDO-420W

NDO-520

NDO-520W

Features

- Convection oven 420·520 series are easy to use natural convection drying oven providing max. 300°C temperature control.
- Independent variable overheat protector is provided.
- Alarm display and buzzer are provided to indicate abnormal operating condition like temp. over limit, sensor malfunction.
- Timer (Auto start/Auto stop) function is equipped.
- Temperature compensation function is provided .
- Open side of the door can be changed (option).

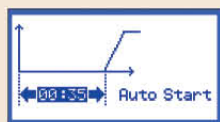
Specifications

Product Name	Convection Oven			
Model	NDO-420	NDO-420W	NDO-520	NDO-520W
Cat. No.	252240/252248	252250/252258	252260	252270
Air circulation	Natural convection			
Temp. control range	RT+10~300°C	RT+10~270°C	RT+10~300°C	RT+10~270°C
Temp. distribution (at 270°C)	10°C deviation	10°C deviation	9°C deviation	9°C deviation
Max. temp. reaching time	100 min (→300°C)	90 min (→270°C)	130 min (→300°C)	90 min (→270°C)
Timer function	Auto start, Auto stop, Auto start/stop, 1 step • 2 step mode			
Safety functions	Door open alarm, Sensor alarm, Upper/lower temp. limit alarm, Leak/overcurrent braker, Independent variable overheat protector, SSR malfunction			
Chamber capacity	91L		150L	
Shelf	2 pcs		3 pcs	
Shelf pitch & step	30mm 11 steps		30mm 13 steps	
Observation window	—	250W x 280H	—	250W x 280H
Dimensions(mm) & weight	550W x 590D x 811H 53/56kg		700W x 641D x 861H 58/60kg	
Power source	1.23kVA AC100V/2.83kVA AC230V		1.3kVA AC100V	

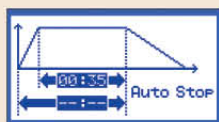
Point! Bright and clear liquid crystal display



Display during operation

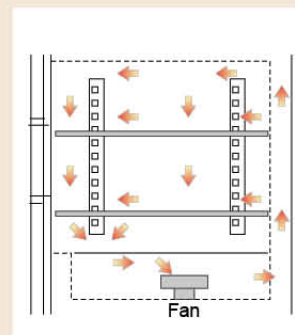


Auto start



Auto stop

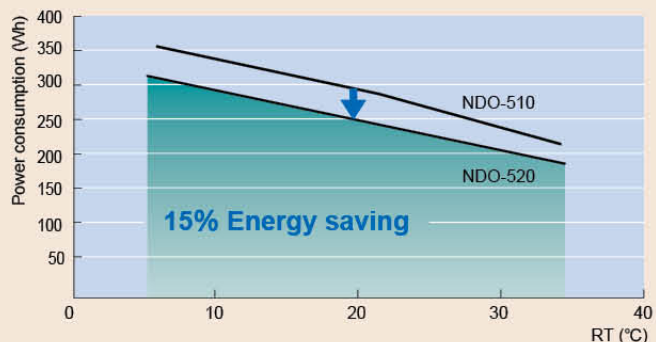
Point! Uniform temperature distribution



Uniform temperature distribution is realized by two way air flows.
Shelf metal is with punching hole and holds slim bar like test tube holder firmly.

Point!

Energy saving design
(Comparison with former model NDO-510)



Point!

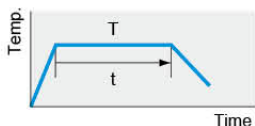
Punching metal shelf



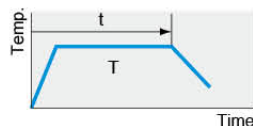
Punching metal shelf enables use of test tube holder with small shelf contact part.

Operation patterns

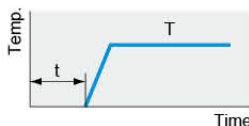
■ Auto stop 1



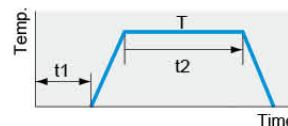
■ Auto stop 2



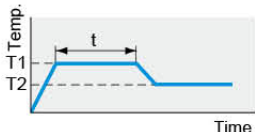
■ Auto start



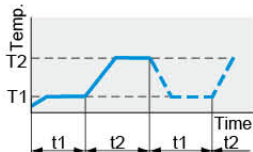
■ Auto start • stop



■ 1 step mode



■ 2 step mode



T: Set temperature
t: Set time

Convection Oven NDO-451SD•601SD

Natural convection oven equipped with micro processor for programming and self diagnosis function.



NDO-451SD

NDO-601SD

Features

- Microprocessor P.I.D control with auto tuning function controls emperature setting and time precisely.
- Built-in program of 7patterns and max. 8 step program.
- Timer (Auto start/Auto stop) function is provided.
- Temperature compensation function is provided.
- Independent overheat protector is equipped.

Specifications

Product Name	Convection Oven	
Model	NDO-451SD	NDO-601SD
Cat. No.	181629/181628	181639/181638
Air circulation	Natural convection	
Temp. control range	40~250°C	
Max. temp. reaching time	60~70 min	80~90 min
Program	Timer(Auto-start/Auto-stop), Repeated operation, Step program (max 8 steps), Gradient control (10 segments)	
Chamber dimensions & capacity	450W x 450D x 400H 81L	600W x 500D x 500H 150L
Observation window	180W x 300H mm	
Dimensions(mm) & weight	550W x 560D x 820H 58kg	700W x 610D x 920H 82kg
Power source	1.43kVA AC115V/2.75kVA AC220V	1.61kVA AC115V/3.08kVA AC220V

Rotary Evaporator 1

Vacuum Pump & Aspirator 2

Organic Synthesizer 3

Freeze Dryer / Spray Dryer 4

Shaker 5

Stirrer 6

Tube Pump 7

Low Temperature Cooler 8

Cold Trap 9

Constant Temperature Bath 10

Incubator 11

Oven 12

Fermentor 13

Forced Air Flow Oven WFO-420·420W·520·520W·1020·1020W

Standard model of forced air flow convection system.



Features

- Streamlined design and user friendly right or left swing door.
- Big chamber capacity: 91~300L
- Wide operation temperature range (RT+10°C~270°C).
- Timer (Auto start/Auto stop) function is provided. Auto-start/stop mode enhances the work efficiency by operating the ovens unattended.
- Visible and audible alarm.
- Short cooling time by use of cooling timer.

Specifications

Product Name	Forced Air Flow Oven					
Model	WFO-420	WFO-420W	WFO-520	WFO-520W	WFO-1020	WFO-1020W
Cat. No.	252280	252290	252300/252308	252310	252320	252330
Air circulation	Forced Air Flow					
Temp. control range	RT+10~270°C					
Max. temp. reaching time	60 min	65 min	110 min	115 min	115 min	125 min
Heater	1.2kW		1.3kW		1.8kW	
Chamber dimensions & capacity	450W x 450D x 450H 91L		600W x 500D x 500H 150L		600W x 500D x 1000H 300L	
Observation window	—	250W x 280H	—	250W x 280H	—	250W x 280H
Dimensions(mm) & weight	550 x 590D x 811H 56/59kg		700W x 641D x 861H 61/63kg		700W x 641D x 1545H 101/104kg	
Power source	1.3kVA AC100V		1.4kVA AC100V/3.2kVA AC230V		1.9kVA AC200V	

Forced Air Flow Oven WFO-451SD·601SD·1001SD

Forced air flow convection system with programming and self-diagnosis function.



Features

- 7 patterns of program function are incorporated and maximum 8 steps can be set. Repeat operation, step operation, timer operation and gradient temperature control are possible.
- Set data are memorized even after long time power off.
- Independent overheat protector is provided.
- Temperature compensation function is provided.
- Output terminal to temperature recorder is available (option).

Specifications

Product Name	Forced Air Flow Oven		
Model	WFO-451SD	WFO-601SD	WFO-1001SD
Cat. No.	181499/181498	181509/181508	181510/181518
Air circulation	Forced Air Flow		
Temp. control range / accuracy	40~200°C ±1°C		
Max. temp. reaching time	60 min	70 min	80 min
Program	Auto start/Auto stop, Repeat, Step (max. 8 steps), Gradient (10 segments)		
Chamber dimensions & capacity	450W x 450D x 400H 81L	600W x 500D x 500H 150L	600W x 500D x 1000H 300L
Shelf	2 pcs	3 pcs	5 pcs
Observation window	180W x 300H		180W x 300H (2pcs)
Dimensions(mm) & weight	550W x 560D x 820H 58kg	700Wx610Dx920H 82kg	700W x 660D x 1616H 105kg
Power source	1.5kVA AC115V/2.86kVA AC220V	1.66kVA AC115V/3.2kVA AC220V	2.3kVA AC200V/2.53kVA 220V

Shelf type Vacuum Oven PVO-450

Shelf type vacuum oven with accurate temperature distribution ($\pm 1^{\circ}\text{C}$).

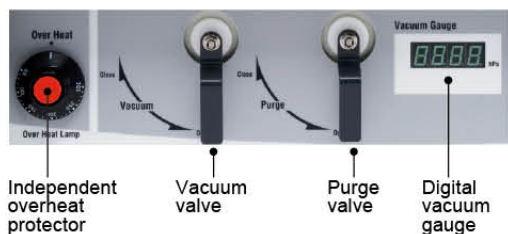
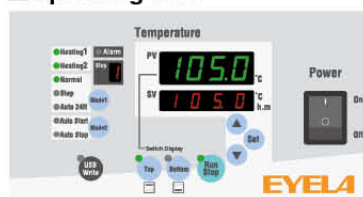


PVO-450

Features

- Accurate temperature distribution control is realized by dual heating system: bath heating and blowing temperature controlled hot air inside oven.
- Shelf is heated by forced air circulation which does not require heater, oil or water; realizing easy dismantling, preventing overheat or liquid leaking.

Operating unit



Independent overheat protector

Vacuum valve

Purge valve

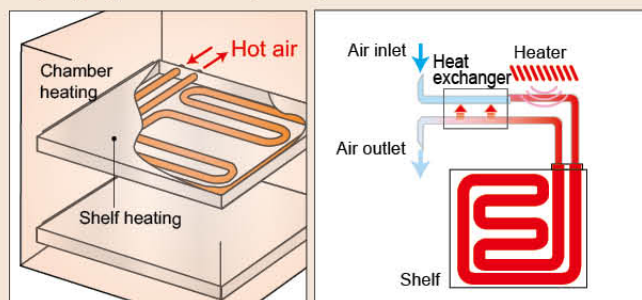
Digital vacuum gauge

Specifications

Product Name	Shelf type Vacuum Oven
Model	PVO-450
Cat. No.	248070
Heating method	Shelf heating by hot air+Chamber heating
Temp. control range	RT + 5 ~ 200°C
Temp. control accuracy	$\pm 0.4^{\circ}\text{C}$
Ultimate vacuum	133Pa (1 Torr)
Temperature setting & display	Sheet key input & digital display
Timer	Auto start, Auto stop
Program	24 hour cycle, Step (Max. 8 steps), Repeat
Safety functions	Self diagnosis, Leak/overcurrent braker, Independent overheating protector
Shelf	2 shelves, Max. load 15kg/shelf, Aluminum
Chamber dimensions & capacity	450W x 450D x 450H 91L
Overall Dimensions (mm) & weight	655W x 675D x 900H 141kg
Power source	1.5kVA AC100V

Point!

Drying by heated air (PAT.P)



Shelf is heated by temperature controlled hot air to realize highly accurate temperature distribution.

Detachable shelf without using heater, oil or water



Shelf can be dismantled easily thanks to hot air circulation. Shelf cleaning is also easy.

Meets validation requirement



Used as sensor hole

Used as exhaust hole

Max.10 validation sensors can be placed inside chamber.

Temperature measurement during vacuuming is possible.

Rotary Evaporator

1

Rotary Pump & Aspirator

2

Organic Synthesizer

3

Freeze Drier / Spray Drier

4

Shaker

5

Stirrer

6

Tube Pump

7

Low Temperature Cooler

8

Cold Trap

9

Control Temperature Bath

10

Incubator

11

Oven

12

Fermentor

13

Vacuum Oven VOS-201SD·301SD·451SD·601SD

Vacuum oven equipped with microprocessor for programming and self-diagnosis functions.



VOS-201SD

VOS-601SD

Features

- Microprocessor-controlled program enables digital timer, auto-start/stop and 2 step repeat operation.
- Overheat protector, which is independent from temperature controller, is equipped.
- Temperature compensation function is incorporated.

Specifications

Product Name	Vacuum Oven			
Model	VOS-201SD	VOS-301SD	VOS-451SD	VOS-601SD
Cat. No.	181689/181688	181699/181698	181700/181708	181710/181718
Heating method	Chamber heating			
Temp. control range	40~240°C			40~200°C
Max. temp. reaching time	70 min		80 min	100 min
Ultimate vacuum	133Pa (1 Torr)			
Program	Timer (Auto start · stop), Repeat (2 steps), Step program (max. 8 steps), 24 hour cycling operation			
Chamber capacity	192W x 270D x 192H 10L	300W x 300D x 300H 27L	450W x 450D x 450H 91L	600W x 600D x 600H 216L
Shelf	2 pcs	2 pcs	3 pcs	4 pcs
Observation window	160W x 160H	250W x 250H		430W x 430H
Dimensions (mm) & weight	355W x 400D x 580H 40kg	505W x 540D x 760H 60kg	655W x 597D x 905H 110kg	860W x 780D x 1720H 280kg
Power source	0.8kVA AC115V/1.7kVA AC220V	1.4kVA AC115V/2.8kVA AC220V	2.1kVA AC200V/2.4kVA AC220V	2.55kVA AC200V/2.8kVA AC220V

Vacuum Dry Oven VOM-1000A·1000B

For optimum dryness of micro samples, moisture degassing and solvent removal.



VOM-1000A

VOM-1000B

Features

- Suitable for small sample drying, moisture degassing and solvents removal.
- Evacuating port and leak port are arranged under heating plate to avoid air blowing directly to sample.
- Slow leak function is incorporated to prevent powder sample dispersion by leak.
- Nitrogen gas inlet port is provided. It is suitable in handling samples sensitive to oxygen.
- By attaching drying cartridge (Option), dried air can be introduced into chamber. It is suitable for samples weak to humidity or deliquescent samples.
- Bell jar glass container makes it possible to confirm sample status under evacuation.

Specifications

Product Name	Vacuum Dry Oven	
Model	VOM-1000A	VOM-1000B
Cat. No.	247020	247030
Heating method	Plate heating system	
Temp. control range & accuracy	RT + 10 ~ 200°C ± 1%	
Ultimate vacuum	66.5 Pa	
Plate size	Φ150mm x 250H	Φ150mm x 190H
Dimensions (mm) & weight	200W x 245D x 150H 6.2kg	200W x 245D x 150H 6.9kg
Power source	300VA AC100V	