Forced Convection Ovens
## DKV400-Y/410-Y/600-Y/610-Y/810-Y/910-Y

The first convection oven equipped with a color LCD controller.

In operation
PV 150℃
SV 150℃
Fix
2024. 8. 1 0:00

3.5-inch color LCD controller

DKV400　DKV900　DKV810

＊The stands are optional

DKV400-Y
DKV410-Y

DKV600-Y
DKV610-Y

DKV810-Y

DKV910-Y

# Yamato Scientific Co., Ltd.

Easy-to-Use, Highly Visible Color LCD Controller - VSD-1 (3.5-inch)
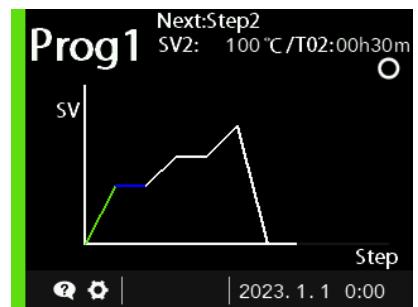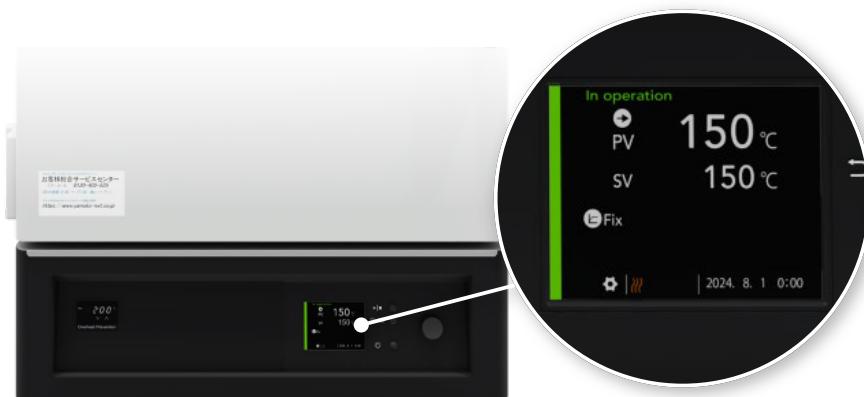
Programmed operation preview screen
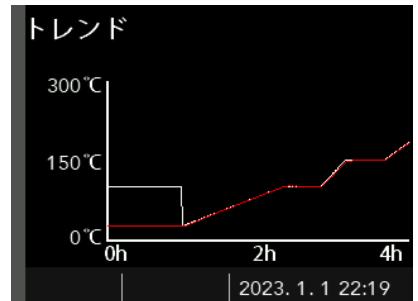
Temperature trend screen

Operational Functions

● Fixed temperature operation

● Quick auto-stop operation/Auto-stop operation/Auto-start operation/
Programmed auto-start operation (time setting)

● Programmed operation (time setting)

Door hinges with click function

Door hinges are equipped with a click function that allows the door to hold the angle at two positions
of 30° and 120° (The maximum opening range is 180°)
Samples can be safely loaded and unloaded without fear of burns.

Click at 30°!

Click at 120°!
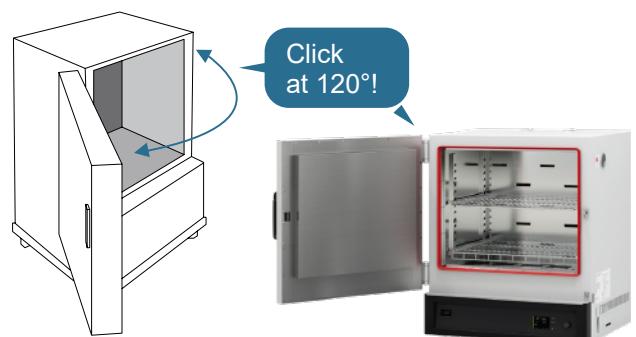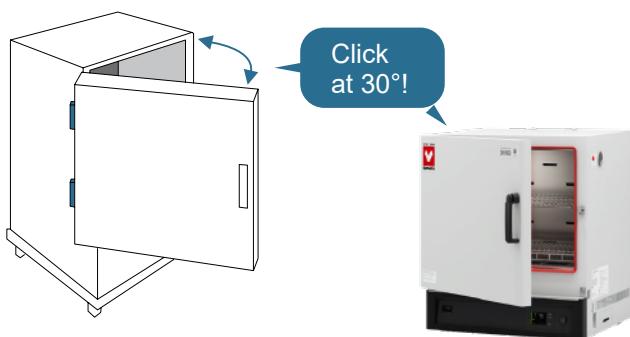
Prevent the doors from self-closing due to sloping, etc.

Specially designed door handle for ovens

Unlocking and opening the door can be easily performed with one hand.
The pushbutton is large and easy to press. These highly reliable handles have
been used for many years in manufacturing environments where doors are
opened and closed frequently.

Sales results: approx. 3,000 units/year (as of Nov. 2024)

Specifications

Model	DKV400-Y	DKV410-Y	DKV600-Y	DKV610-Y	DKV810-Y	DKV910-Y
Product code	213021	213022	213024	213025	213027	213029
Circulation method	Froced air circulation					
Ambient operating temp. range	5 to 35°C					
Setting temp. range	0 to 270°C					0 to 220°C

Performance[*1]

	DKV400-Y	DKV410-Y	DKV600-Y	DKV610-Y	DKV810-Y	DKV910-Y
Operating temp. range[*2]	Room temp. +10°C to 270°C					Room temp. +10°C to 220°C
Temperature fluctuation[*2]	±0.6°C (at 270°C)		±0.5°C (at 270°C)		±0.6°C (at 270°C)	±0.5°C (at 220°C)
Temperature gradient[*2]	9°C (at270°C)				11°C (at 270°C)	11°C (at 220°C)
Temperature rise speed[*2]	4.4°C/min		2.8°C/min		3.4°C/min	2.5°C/min
Max. temp. reaching time[*3]	Approx. 55 min		Approx. 85 min		Approx. 75 min	Approx. 80 min

Configuration

	DKV400-Y	DKV410-Y	DKV600-Y	DKV610-Y	DKV810-Y	DKV910-Y
Exterior	Chrome-free electrogalvanized steel plate with baked-on coating					
Interior	Stainless steel plate					
SUS pipe heater	1.5kW		1.5kW		2.5kW	3.0kW
Cable hole	I.D. 33mm (1 pc., right side)					
Exhaust port	I.D. 33 mm (2 pcs.,on top)				I.D. 33 mm (2 pcs., on rear)	

Safety functions[*3]	Self-diagnostic function (Automatic overheating prevention, Temperature sensor error, SSR short, heater disconnection, Fan error, Clock element error, Main relay abnormality, Memory abnormality, Internal communication abnormality) / Independent overheating protector / Door switch (door alarm) / Overcurrent leakage breaker / Safety bracket for fall prevention (Model 810-Y/910-Y)

Controller

Model	Type VSD-1
Temp. control method	PID control by microcomputer
Temp. display method	3.5-inch color LCD
Timer/Clock timer	1 minute to 99 hours and 59 minutes / Date: hour: minute (up to 31 days later)
Operation function	● Fixed temperature operation ● Quick auto-stop operation / Auto-stop operation / Auto-start operation / Programmed operation (time setting) ● Programmed operation (time setting)
Additional functions	Calibration offset function / Power failure return mode selection function / Timer wait function / Security management function / Temperature upper and lower limit alarm function / Fan OFF delay function / Power failure alarm / External communication terminal (RS-485) / Temperature output terminal (4-20mA) / Time-up output terminal / Error output terminal / Recorder terminal / Program preview function / Operation trend function
Sensors	Temperature controller / Independent overheating protection: K thermocouple

Standard

	DKV400-Y	DKV410-Y	DKV600-Y	DKV610-Y	DKV810-Y	DKV910-Y
Internal dimensions[*5]	W450×D450×H450mm		W600×D500×H500mm		W600×D500×H1000mm	W1090×D500×H1000mm
External dimensions[*5]	W580×D635×H830mm		W730×D685×H880mm		W730×D685×H1610mm	W1220×D685×H1610mm
Internal capacity	90L		150L		300L	545L
Number of shelves/pitch	11 steps / 30mm		13 steps / 30mm		29 steps / 30mm	29steps / 30mm×2
Shelf load capacity	15kg / pc					
Load capacity total in chamber	30kg				60kg	120kg
Power source (50/60Hz)	AC115V Single-phase	AC220V Single-phase	AC115V Single-phase	AC220V Single-phase	AC220V Single-phase	
Rated current (breaker capacity)	13.5A (15A)	7.5A (10A)	13.5A (15A)	7.5A (10A)	12A (15A)	14.5A (16A)
Weight	Approx. 65kg		Approx. 75kg		Approx. 120kg	Approx. 195kg

Accessories

	DKV400-Y	DKV410-Y	DKV600-Y	DKV610-Y	DKV810-Y	DKV910-Y
Shelf plate/shelf bracket	1 pc. / 2 pcs.				3 pcs. / 6 pcs.	6 pcs. /12 pcs.
Others	Instruction manual (1 set: 5 sections), Safety bracket for fall prevention (DKV810-Y / 910-Y only)					

*1 Performance is measured at 100V or 200V AC, 50Hz or 60Hz frequency, room temperature 23°C±5°C, humidity 65%RH±20%, and no load. Note that if the power supply voltage is below 100V or 200V or the outside temperature is low, the maximum temperature in the temperature control range may not be reached or the temperature rise time may be extended. *2 Test method is in accordance with JIS C 60068-3-5:2020. *3 Reference data

*4 Safety function may malfunction if used beyond the operating voltage range (±10% of rating). Pay attention to the power supply voltage when using this product.

*5 Protrusions are not included. *6 Specifications are subject to change without notice for product improvement.

Optional items

Product name	Model	Product code	400-Y 410-Y	600-Y 610-Y	810-Y	910-Y	Remarks
			DKV series compatible models				
Stand	OA194	281596	●	●	−	−	Possible to fix the main unit.
	OA117	281355	●	−	−	−	
	OA118	281356	−	●	−	−	
Stacking support	OA196	281598	●	−	−	−	Fixing bracket when two units are stacked on top of each other.
	OA197	281599	−	●	−	−	
Shelf plate and shelf bracket	−	212246	●	−	−	−	Stainless steel perforated metal shelf with 2 shelf bracket same shelf plate as standard accessory.
	−	212266	−	●	●	−	
	−	212490	−	−	−	●	
Anti-seismic mat "Labopita"	−	296902	●	●	−	−	Attached to the bottom of the equipment to prevent it from tipping over.
Sheath sensor (K thermocouple)	ODT48	212946	●	●	●	●	Temperature sensor for measuring chamber temperature, sample temperature, etc.
Silicon plug (with 1 hole of 2 mm dia.)	ODT52	212947	●	●	●	●	Silicon rubber plug for cable hole with 2mm dia. hole for sensor.
External communication adapter	OA017	281146	●	●	●	●	Conversion adapter for external communication RS485-USB conversion.
Recorder	OA199	281635	●	●	●	●	Paperless recorder with 6-channel input. Communication function allows recording of measured and set temperatures of products.
＊ Cable hole (I.D. 25mm)	ODM36	281454	●	●	●	●	Please contact us for installation position and quantity.
＊ Cable hole (I.D. 50mm)	ODM38	281455	●	●	●	●	
＊ Rubber feet	OA198	281634	●	●	−	−	Rubber feet attachable to the main unit legs.

＊ Please specify when ordering main unit.

Stand
OA194

Stand
OA118

Stacking support
OA197

Recorder
OA199

The standard DKV910-Y has a center pillar as shown in the photo, but we can also modify it without a center pillar by special order. Please contact us for details.
＊ There is a limitation on the maximum temperature.

Q & A

Q Is it possible to add an observation window to the door？

A It is possible, but the performance may not be as described in the specifications sheet depending on the operating temperature range due to a slight decrease in thermal insulation performance.

⚠ Caution
The specifications and performance figures of the products listed in this catalog are presented as a user guide under general operating conditions.
When using the product, please understand the contents of the instruction manual and use the product correctly
Please note that we cannot be held responsible for any damage to persons or property caused by using the product outside the conditions of use described in the instruction manual

This catalog contains information as of March 2025.