

Ovens

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Ovens, Forced-air
“ThermoStable™ OF-105”



Ovens, Gravity-air
“ThermoStable™ SON-105”



Vacuum Oven
“ThermoStable™ OV-70”



Hi-clean Air Oven
“ThermoStable™ WOC-560”

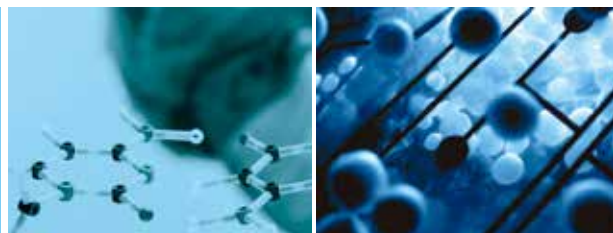


Industrial Oven
“ThermoStable™ WOF-L1000”



Innovative Technology to Improve the Quality of Human Life

Features of DAIHAN Ovens



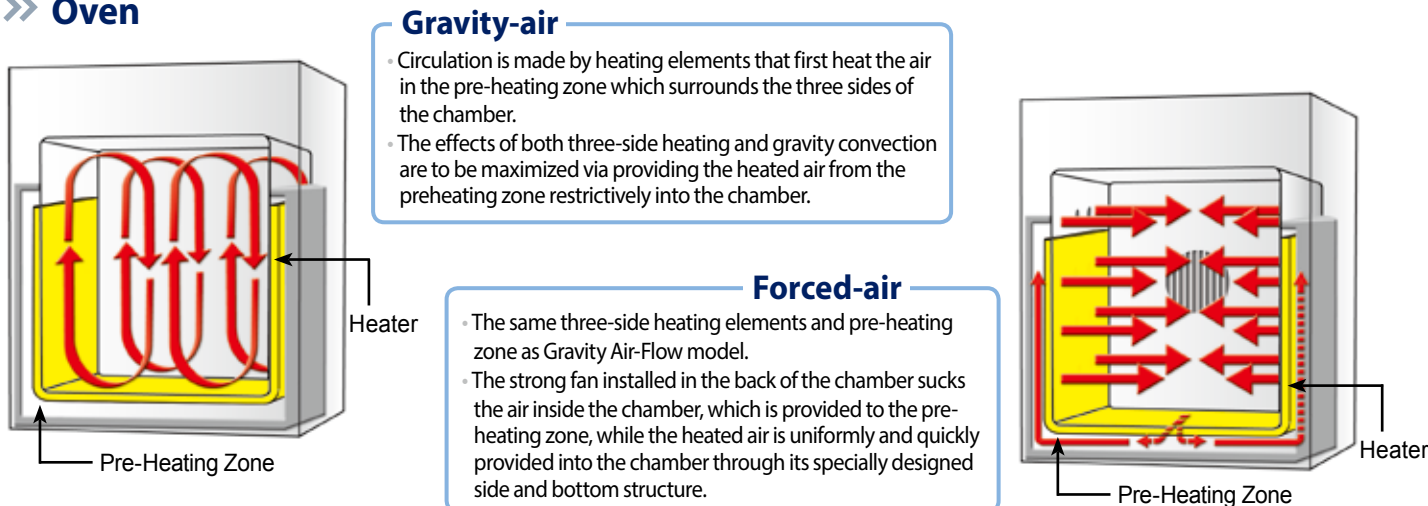
High Performance Heating Mechanism of DAIHAN accomplishing world's best temperature accuracy and uniformity

The new types of Oven of DAIHAN are outfitted with high performance heating mechanism that is optimized respectively for capacity of chamber, power of heating element and air circulation type (Gravity Convection or Forced Convection).

The temperature displayed on the controller is accurately consistent with the actual temperature in the very center of the chamber or the average temperature in the entire area of the chamber, which maintains precisely within fluctuation specification. In addition, the temperature in the entire area of the chamber shows a very high stability keeping within a very slight variation specification in terms of temperature uniformity. Simultaneously, through the optimization of Fuzzy-PID controller, the 'heat-up time' to reach the Set Temperature after operating and the 'recovery time' to get back to the set temperature after opening and closing of the door are very short.

The newly developed high performance heating mechanism has achieved high degree of temperature accuracy and uniformity in the chamber. This is achieved by the heating elements installed on three sides - that is, the left, right and bottom parts of a chamber - which directly heat the stainless-steel chamber. This either enhances its material thermal conductivity to maximum (in case of the Incubator) or the heated air from the pre-heating zone in air-jacket type that is built in the three sides outside a chamber circulates first (in case of the Oven).

» Oven



■ High Performance Heating Mechanism

The world's best performance and quality coming true via innovative heating mechanism !!

» Minimum

Fluctuation !

Minimization of Fluctuation in Temperature

Variation !

Minimization of spatial variation in temperature inside the chamber

Heat-up Time !

Minimization of reaching the set temperature

Overshoot !

Minimization of overshooting at the time of reaching the set temperature

» Perfect Door Lock by Double Latch

The up-and-down double latch structure pushes the door as closely to the chamber as possible, which leads to the minimization of temperature interference inside the chamber by the outside air.

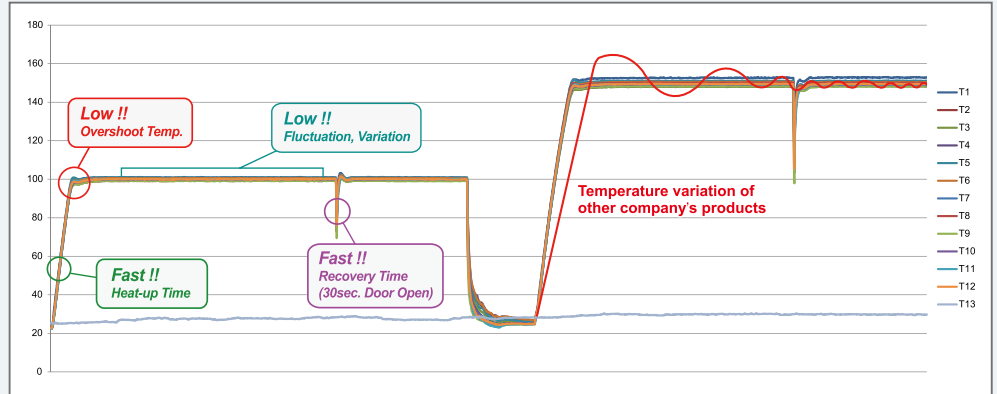
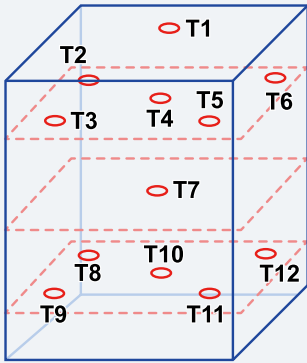


The structure allows the door to adhere firmly and closely to the chamber on both upper and lower sides in a balanced way

- High-performance thermal insulation
- Minimization of thermal losses from heat leak inside the chamber
- Enhancement of temperature accuracy and uniformity

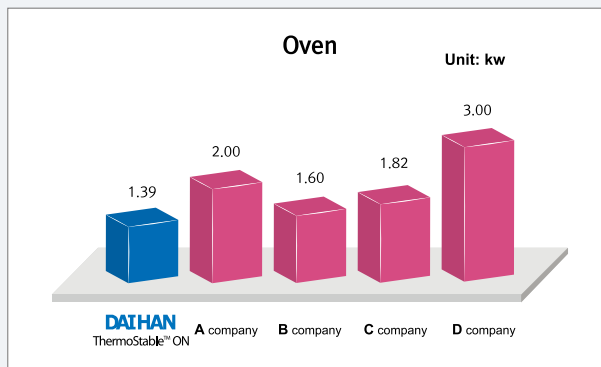
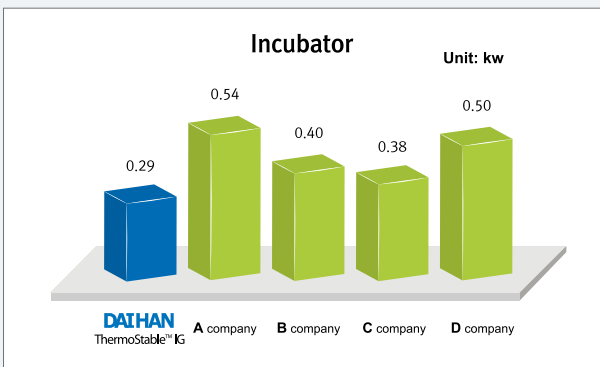
» Temperature Uniformity Completely Tested by ASTM Standards

All the units supplied by DAIHAN Scientific are thoroughly tested, using 12 temperature sensors and the latest instruments to obtain validation, which corresponds to international standards. That is, Fluctuation and Variation (Uniformity) standards described in catalogues are actually guaranteed as the same.



» Green Product

This is an environment-friendly product that achieves minimum power consumption by using heating element consuming minimum power for the capacity and temperature of the chamber, high-quality insulator and insulation structure, and complete door structure that guarantees shielding.



» New Jog-Dial Controller (OF, ON mo



- Provides the user interface with an ergonomic design for users to operate in an easy and convenient way.
- A new 2-way Jog-Dial Knob (Jog Dial + Push Button) and presents excellent durability and mobility.
- High-quality LCD with Back-light function.
- A durable Main Button and a Sub Button that features superb and user-friendly operation.

Learn more!
Watch the Video
<http://bit.ly/2XNupbj>

DAIHAN-brand® Forced-air Ovens “ThermoStable™ OF”, 3-Side Heating Zone, 50-/105-/155-/305-Lit, up to 250 °C, ±0.3 °C with Wire Shelves/Digital PID Control/Jog-Dial & Push Button/Digital LCD/Back-light LCD/Pre-Heating Zone/Certi. & Traceability



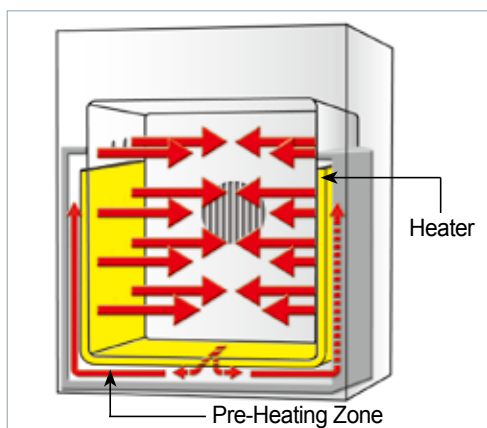
(1) Standard Model, “ThermoStable™ OF-105”

- Made in Korea
 - CE / UL / CUL Certified(Exclude 305 Lit.-model)
 - with Certificate & Traceability : Controlled by Serial Number, Certificate, Delivery-information, and Traceable Data Base System
 - 3-Side Heating Zone : The Best Temp. Uniformity & Accuracy by High Performance Heating Mechanism
 - Digital PID Control System Implementing Superior Temperature Accuracy
 - Optimized Air Flow by Forced-air Mechanism
 - Patented Jog-Dial Control System
 - GD(Good Design)-mark
 - PL(Product Liability) Insurance
- * Suitable for Drying, Baking, Conditioning, Curing, Pre-Heating and Aging
 - * The Best Temp. Uniformity & Accuracy by High Performance Heating Mechanism: 3-Side Heating
 - * New Jog-Dial with Push Button
 - * Compact New Body Design
 - * 2~3ea of Stainless-steel Wire Shelves Included
 - * Alarm Function : Error status and Timer-end
 - * RS232C Interface for Monitoring and Controlling with PC
 - * Ambient +5 °C to 250 °C Range with Fluctuation of ±0.3 °C at 100 °C
 - * Storage Function of Temperature and Timer setting values
 - * Locking Mode Supported for Experimental Safety (Input to Jog-Dial can be disabled)
 - * Corrosion Resistant 304 Stainless-steel Chamber
 - * Over Temperature & Over Current Protection, Sensor Error Detection

Specification

Spec.	Model	(1) Standard Model			
		ThermoStable OF-50	ThermoStable OF-105	ThermoStable OF-155	ThermoStable OF-305
			(2) Window Model		
		ThermoStable OF-W105	ThermoStable OF-W155	ThermoStable OF-W305	
Capacity	50Lit	105Lit	155Lit	305Lit	
Dimension (w × d × h)	Interior (mm)	370 × 345 × 420	485 × 415 × 535	550 × 480 × 600	550 × 470 × 1,180
	Exterior (mm)	518 × 647 × 724	653 × 712 × 882	718 × 777 × 947	721 × 777 × 1,619
Heater Power	650 W	1.4 kW	1.6 kW	3.4 kW	
Temp.	Range	Room Temp +5 °C to 250 °C			
	Fluctuation	±0.3 °C at 100 °C, ±0.5 °C at 150 °C			
	Variation	±1 °C at 100 °C, ±1.8 °C at 150 °C		±1 °C at 100 °C, ±2 °C at 150 °C	
	Sensor	PT 100			
Control Resolution	±0.1 °C				
Heat-up Time	25 min. to 100 °C, 45 min. to 150 °C		25 min. to 100 °C, 40 min. to 150 °C		
	Recovery Time (Door open 30sec)	8 min. to 100 °C, 8 min. to 150 °C	6 min. to 100 °C, 6 min. to 150 °C		
Controller	Digital PID Control by Advanced Microprocessor Jog-Dial with Push Button				
RS232 Port	Available to connect with PC				
Display	Digital LCD with Back Light				
Timer	99hr 59 min (delay/continuous function)				
Material	Internal	Stainless-steel (#304)			
	External	Powder Coated steel			
	Insulation	Glass Wool			
Shelves	2ea of Stainless-steel Wire Shelves included, Load per Shelf : 16 kg				
Ventilation	Ventilation hole with Stainless-steel Cap, Hole Diameter 40mm				
	1ea	2ea	3ea		
	Circulation Forced-air Type				
Safety device	Over Temp. and Over Current Protector, Sensor Error Detector				
Others	UL/CUL Certified, CE Certified, GD-mark, Storage Function (Temp. and Time) Locking Mode (Jog-Dial Input Disabled), Alarm (Error Status and Timer-end)				
Net Weight (kg)	44	69	78	159	
Packing Size (w × d × h)(mm)	622 × 754 × 807	743 × 819 × 1,068	808 × 884 × 1,133	1,000 × 1,000 × 1,870	
Shipping Weight (kg)	59	79	92	219	
Power Consumption	674 W	1390 W	1566 W	3200 W	
Energy Consumption, at 100 °C, at 150 °C	117 Wh	187 Wh	204 Wh	-	
	230 Wh	337 Wh	398 Wh	-	
Electric Reqt.	120V, 60Hz or 230V, 50/60Hz				

* Other Specifications are available upon Customer's Request.



3-Side Heating Zone Forced-air Mechanism : The Best Temp. Uniformity & Accuracy by High Performance Heating Mechanism (Exclude OF-305, OF-W305)



Perfect Door Lock by Double Latch

<Continued On Next Page>

<Continued From...DAIHAN-brand® Forced-air Ovens “ThermoStable™ OF”>

Ordering Information

(1) Standard Model, Forced-air, with Wire Shelves

- DH.WOF05050 Oven, Standard, 230V, 50 Lit, “ThermoStable OF-50”
- DH.WOF05105 , 105 Lit, “ThermoStable OF-105”
- DH.WOF05155 , 155 Lit, “ThermoStable OF-155”
- DH.WOF05305 , 305 Lit, “ThermoStable OF-305”

(2) Built in Viewing Window Model, Forced-air, with Wire Shelves

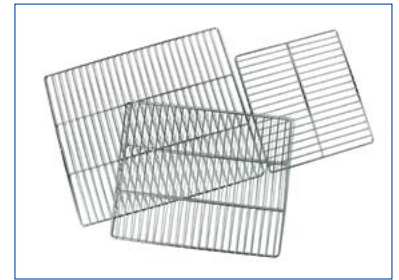
- DH.WOF07105 Oven, Window, 230V, 105 Lit, “ThermoStable OF-W105”
- DH.WOF07155 , 155 Lit, “ThermoStable OF-W155”
- DH.WOF07305 , 305 Lit, “ThermoStable OF-W305”



(2) Window Model, “ThermoStable OF-W105”

Spare Stainless-steel Wire Shelves

- DH.WOF11050 Wire Shelf, for 50 Lit, “OFS050”, w340 × d310mm
- DH.WOF11105 , for 105 Lit, “OFS105”, w455 × d375mm
- DH.WOF11155 , for 155-/305-Lit, “OFS155”, w520 × d440mm



Stainless-steel Wire Shelves (Included)

» New Jog-Dial Controller

5. Digital LCD with Back-Light Function

3. Main Button

1. Jog -Dial

2. Push-Button

4. Sub-Button



WiseRemote Control Software :
 Connection of Temperature Devices with Interface RS232C to a PC Export Recorded Data(Excel Spreadsheet)

* You can Download this Software at DAIHAN-Sci.com Shopping-mall

- Provides the user interface with an ergonomic design for users to operate in an easy and convenient way.
- A new 2-way Jog-Dial Knob (Jog Dial + Push Button) and presents excellent durability and mobility.
- High-quality LCD with Back-light function.
- A durable Main Button and a Sub Button that features superb and user-friendly operation.

Learn more! Watch the Video

<http://bit.ly/2XNupbj>

DAIHAN-brand® SMART Forced-air Ovens “ThermoStable™ SOF”, 3-Side Heating Zone, 50-/105-/155-/305-Lit with Smart-Lab™ Controller, 4” Full Touch Screen/Fuzzy-PID Control/WiRe™ Service/Certi. & Traceability, up to 250 °C, ±0.3 °C



(1) Standard Model, “ThermoStable™ SOF-105”

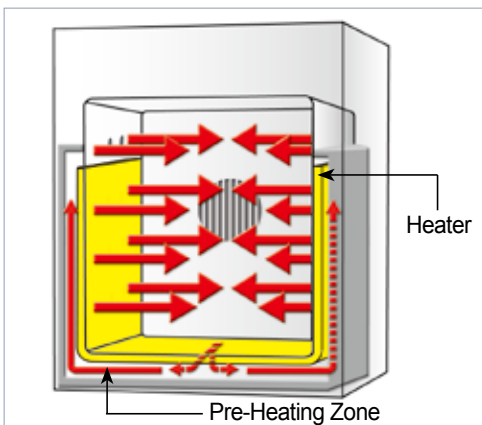
- Made in Korea
- CE / UL / CUL Certified (Exclude 305 Lit.-model)
- with Certificate & Traceability : Controlled by Serial Number, Certificate, Delivery-information, and Traceable Data Base System
- 3-Side Heating Zone : The Best Temp. Uniformity & Accuracy by High Performance Heating Mechanism
- Digital Fuzzy Control System Implementing Superior Temperature Accuracy
- Smart-Lab™ Controller
- GD (Good Design)-mark
- PL (Product Liability) Insurance

- * Suitable for Drying, Baking, Conditioning, Curing, Pre-Heating and Aging
- * The Best Temp. Uniformity & Accuracy by High Performance Heating Mechanism : 3 Side-Heating
- * Ergonomic Design 4” Full Touch Screen TFT LCD (Smart-Lab™ Controller)
- * WiRe™ App Service.
- * Self-Diagnostic Function
- * Variable Program Setting for Multiple Patterns with Multiple Segments
- * Internet Connectivity with WiFi
- * The Recorded Data could be transferred to PC by USB memory
- * 2~3ea of Stainless-steel Wire Shelves Included
- * RS232C Interface for Monitoring and Controlling with PC
- * Ambient to 250 °C of Temp. Range, Fluctuation of ±0.3 °C at 100 °C
- * Corrosion Resistant 304 Stainless-steel Chamber
- * Over Temperature & Over Current Protection, Sensor Error Detection

Specification

Spec.	Model	(1) Standard Model			
		ThermoStable SOF-50	ThermoStable SOF-105	ThermoStable SOF-155	ThermoStable SOF-305
			(2) Window Model		
		ThermoStable SOF-W105	ThermoStable SOF-W155	ThermoStable SOF-W305	
Capacity	50Lit	105Lit	155Lit	305Lit	
Dimension (w × d × h)	Interior (mm)	370 × 345 × 420	485 × 415 × 535	550 × 480 × 600	550 × 470 × 1,180
	Exterior (mm)	518 × 647 × 724	653 × 712 × 882	718 × 777 × 947	721 × 777 × 1,619
Heater Power	650 W	1.4 kW	1.6 kW	3.4 kW	
Temp.	Range	Room Temp +5 °C to 250 °C			
	Fluctuation	±0.3 °C at 100 °C, ±0.5 °C at 150 °C			
	Variation	±1 °C at 100 °C, ±1.8 °C at 150 °C, ±1 °C at 100 °C, ±2 °C at 150 °C			
	Sensor	PT 100			
Control Resolution	±0.1 °C				
Heat-up Time	25 min. to 100 °C, 45 min. to 150 °C	25 min. to 100 °C, 40 min. to 150 °C			
Recovery Time (Door open 30sec)	8 min. to 100 °C, 8 min. to 150 °C	6 min. to 100 °C, 6 min. to 150 °C			
Controller	Smart-Lab™ Controller				
RS232 Port	Available to connect with PC				
Display	4” Full Touch Screen TFT LCD				
Timer	99hr 59 min (delay/continuous function)				
Material	Internal	Stainless-steel (#304)			
	External	Powder Coated steel			
	Insulation	Glass Wool			
Shelves	2ea of Stainless-steel Wire Shelves included, Load per Shelf : 16 kg				
Ventilation	Ventilation hole with Stainless-steel Cap, Hole Diameter 40mm				
	1ea	2ea	3ea		
Circulation	Forced-air Type				
Safety device	Over Temp. and Over Current Protector, Sensor Error Detector				
Others	UL/CUL Certified, CE Certified, GD-mark Storage Function (Temp. and Time), Alarm (Error Status and Timer-end)				
Net Weight (kg)	44	69	78	159	
Packing Size (w × d × h)(mm)	622 × 754 × 807	743 × 819 × 1,068	808 × 884 × 1,133	1,000 × 1,000 × 1,870	
Shipping Weight (kg)	59	79	92	219	
Power Consumption	674 W	1390 W	1566 W	3200 W	
Energy Consumption, at 100 °C	117 Wh	187 Wh	204 Wh	-	
	230 Wh	337 Wh	398 Wh	-	
Electric Reqt.s.	120V, 60Hz or 230V, 50/60Hz				

* Other Specifications are available upon Customer's Request.



3-Side Heating Zone Forced-air Mechanism :
The Best Temp. Uniformity & Accuracy by High Performance Heating Mechanism (Exclude SOF-305, SOF-W305)



Perfect Door Lock by Double Latch

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<Continued From...DAIHAN-brand® SMART Forced-air Ovens “ThermoStable™ SOf”>

Ordering Information

(1) Standard Model, Forced-air, with Wire Shelves

- DH.SWOF05050 Oven, Standard, 230V, 50 Lit, “ThermoStable SOf-50”
- DH.SWOF05105 , 105 Lit, “ThermoStable SOf-105”
- DH.SWOF05155 , 155 Lit, “ThermoStable SOf-155”
- DH.SWOF05305 , 305 Lit, “ThermoStable SOf-305”

(2) Built in Viewing Window Model, Forced-air, with Wire Shelves

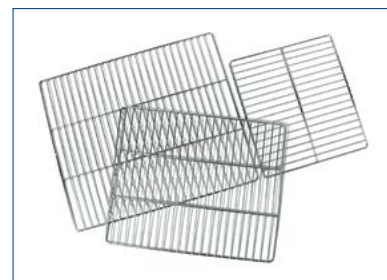
- DH.SWOF07105 Oven, Window, 230V, 105 Lit, “ThermoStable SOf-W105”
- DH.SWOF07155 , 155 Lit, “ThermoStable SOf-W155”
- DH.SWOF07305 , 305 Lit, “ThermoStable SOf-W305”



(2) Window Model, “ThermoStable SOf-W105”

Spare Stainless-steel Wire Shelves

- DH.WOF11050 Wire Shelf, for 50 Lit, “OFS050”, w340 × d310mm
- DH.WOF11105 , for 105 Lit, “OFS105”, w455 × d375mm
- DH.WOF11155 , for 155-/305-Lit, “OFS155”, w520 × d440mm



Stainless-steel Wire Shelves (Included)

» DAIHAN WiRe™ App Service



4" Full Touch Screen TFT LCD (Smart-Lab™ Controller)

It is possible to monitor and control the Smart-Lab™ equipment through all smart phone, tablet without restraint of time and place.



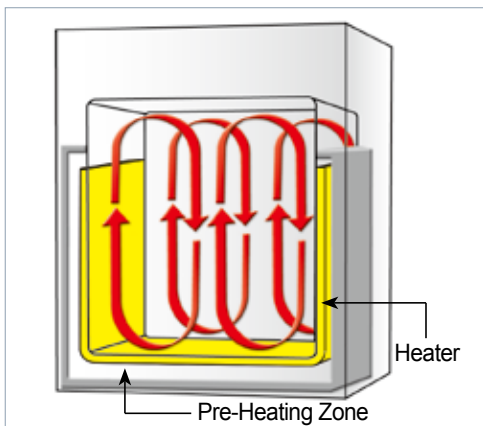
WiRe™ App Service

Controlled by Smart-Phone

DAIHAN-brand® Gravity-air Ovens “ThermoStable™ ON”, 3-Side Heating Zone, 32-/50-/105-/155 Lit with 2 × Wire Shelves/Digital PID Control/Jog-Dial & Push Button, Digital LCD/Back-light, up to 230°C, ±0.5°C with Certi. & Traceability



(1) Standard Model, “ThermoStable™ ON-105”



3-Side Heating Zone : The Best Temp. Uniformity & Accuracy by High Performance Heating Mechanism (Gravity-air Mechanism)



Perfect Door Lock by Double Latch

- Made in Korea
- UL / CUL Certified
- CE Certified
- with Certificate & Traceability : Controlled by Serial Number, Certificate, Delivery-information, and Traceable Data Base System
- 3-Side Heating Zone : The Best Temp. Uniformity & Accuracy by High Performance Heating Mechanism
- Digital PID Control System Implementing Superior Temperature Accuracy
- Optimized Air Flow by Gravity-air Mechanism
- Patented Jog-Dial Control System
- GD(Good Design)-mark
- PL(Product Liability) Insurance

- * Suitable for Drying, Baking, Conditioning, Curing, Pre-Heating and Aging
- * The Best Temp. Uniformity & Accuracy by High Performance Heating Mechanism : 3-Side Heating
- * New Jog-Dial with Push Button
- * Compact New Body Design
- * 2 ea of Stainless-steel Wire Shelves Included
- * Alarm Function : Error status and Timer-end
- * RS232C Interface for Monitoring and Controlling with PC
- * Ambient +5°C to 230°C Range with Fluctuation of ±0.5°C at 100°C
- * Storage Function of Temperature and Timer setting values
- * Locking Mode Supported for Experimental Safety (Input to Jog-Dial can be disabled)
- * Corrosion Resistant 304 Stainless-steel Chamber
- * Over Temperature & Over Current Protection, Sensor Error Detection

Specification

Spec.	Model	(1) Standard Model			
		ON-32	ON-50	ON-105	ON-155
				(2) Window Model	
		ON-W105	ON-W155		
Capacity		32Lit	50Lit	105Lit	155Lit
Dimension (w × d × h)	Interior (mm)	310 × 290 × 360	370 × 350 × 420	485 × 409 × 535	550 × 474 × 600
	Exterior (mm)	458 × 557 × 664	518 × 647 × 724	653 × 712 × 882	718 × 777 × 947
Heater Power		500 W	650 W	1.4 kW	1.6 kW
Temp.	Range	Room Temp +5°C to 230°C			
	Fluctuation	± 0.5°C at 100°C, ± 0.6°C at 150°C			± 0.5°C at 100°C, ± 0.8°C at 150°C
	Variation	± 1.2°C at 100°C, ± 2.2°C at 150°C			
	Sensor	PT 100			
Control Resolution		±0.1°C			
Heat-up Time		30 min. to 100°C, 43 min. to 150°C	30 min. to 100°C, 45 min. to 150°C	35 min. to 100°C, 50 min. to 150°C	
	Recovery Time (Door open 30sec)	8 min. to 100°C, 10 min. to 150°C		10 min. to 100°C, 12 min. to 150°C	
Controller		Digital PID Control by Advanced Microprocessor Jog-Dial with Push Button			
RS232 Port		Available to connect with PC			
Display		Digital LCD with Back Light			
Timer		99hr 59 min (delay/continuous function)			
Material	Internal	Stainless-steel (#304)			
	External	Powder Coated steel			
	Insulation	Glass Wool			
Shelves		2ea of Stainless-steel Wire Shelves included, Load per Shelf : 16 kg			
Ventilation		Ventilation hole with Stainless-steel Cap, Hole Diameter 40mm			
		1ea		2ea	
Circulation		Gravity-air Type			
Safety device		Over Temp. and Over Current Protector, Sensor Error Detector			
Others		UL/CUL Certified, CE Certified, GD-mark Storage Function (Temp. and Time) Locking Mode (Jog-Dial Input Disabled) Alarm (Error Status and Timer-end)			
Net Weight (kg)		36	44	69	78
Packing Size (w × d × h) (mm)		562 × 664 × 747	622 × 754 × 807	743 × 819 × 1,068	808 × 884 × 1,133
Shipping Weight (kg)		43	59	79	92
Power Consumption		502 W	674 W	1390 W	1566 W
Energy Consumption, at 100°C		90 Wh	117 Wh	187 Wh	204 Wh
	, at 150°C	181 Wh	230 Wh	337 Wh	398 Wh
Electric Reqts.		120V, 60Hz or 230V, 50/60Hz			

* Other Specifications are available upon Customer's Request.

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<Continued From...DAIHAN-brand® Gravity-air Ovens “ThermoStable™ ON”>

Ordering Information

(1) Standard Model, Gravity-air, with Wire Shelves

- DH.WON05032 Oven, Standard, 230V, 32 Lit, “ThermoStable ON-32”
- DH.WON05050 , 50 Lit, “ThermoStable ON-50”
- DH.WON05105 , 105 Lit, “ThermoStable ON-105”
- DH.WON05155 , 155 Lit, “ThermoStable ON-155”

(2) Built in Viewing Window Model, Gravity-air, with Wire Shelves

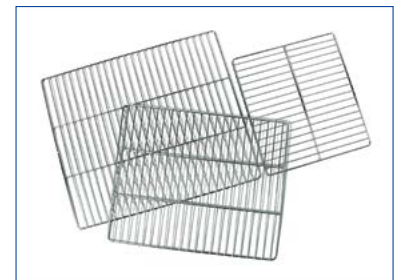
- DH.WON07105 Oven, Window, 230V, 105 Lit, “ThermoStable ON-W105”
- DH.WON07155 , 155 Lit, “ThermoStable ON-W155”

Spare Stainless-steel Wire Shelves

- DH.WON11032 Wire Shelf, for 32 Lit., “ONS032”, w280×d280mm
- DH.WON11050 , for 50 Lit., “ONS050”, w340×d310mm
- DH.WON11105 , for 105 Lit., “ONS105”, w455×d375mm
- DH.WON11155 , for 155 Lit., “ONS155”, w520×d440mm



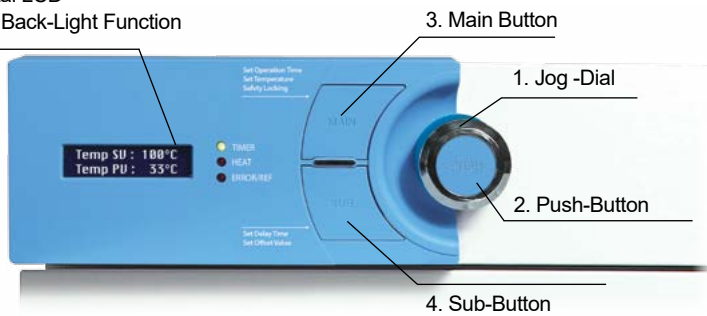
(2) Window Model, “ThermoStable ON-W105”



Stainless-steel Wire Shelves (Included)

>> New Jog-Dial Controller

5. Digital LCD with Back-Light Function



WiseRemote Control Software :
 Connection of Temperature Devices with Interface RS232C to a PC Export Recorded Data(Excel Spreadsheet)

* You can Download this Software at DAIHAN-Sci.com Shopping-mall

- Provides the user interface with an ergonomic design for users to operate in an easy and convenient way.
- A new 2-way Jog-Dial Knob (Jog Dial + Push Button) and presents excellent durability and mobility.
- High-quality LCD with Back-light function.
- A durable Main Button and a Sub Button that features superb and user-friendly operation.

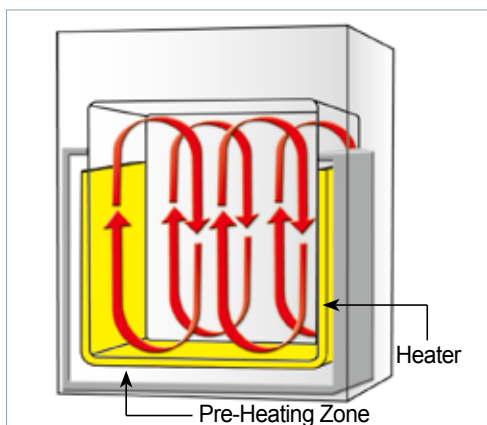
[Learn more!
Watch the Video](http://bit.ly/2XNupbJ)

<http://bit.ly/2XNupbJ>

DAIHAN-brand® SMART Gravity-air Ovens “ThermoStable™ SON”, 3-Side Heating Zone, 32-/50-/105-/155 Lit with Smart-Lab™ Controller, 4” Full Touch Screen, Fuzzy-PID Control, WiRe™ Service, with Certi. & Traceability, up to 230°C, ±0.5°C



(1) Standard Model, “ThermoStable™ SON-105”



3-Side Heating Zone : The Best Temp. Uniformity & Accuracy by High Performance Heating Mechanism (Gravity-air Mechanism)



Perfect Door Lock by Double Latch

- Made in Korea
 - UL / CUL Certified
 - CE Certified
 - with Certificate & Traceability : Controlled by Serial Number, Certificate, Delivery-information, and Traceable Data Base System
 - 3-Side Heating Zone : The Best Temp. Uniformity & Accuracy by High Performance Heating Mechanism
 - Digital Fuzzy Control System Implementing Superior Temperature Accuracy
 - Optimized Air Flow by Gravity-air Mechanism
 - Smart-Lab™ Controller
 - GD(Good Design)-mark
 - PL(Product Liability) Insurance
- * Suitable for Drying, Baking, Conditioning, Curing, Pre-Heating and Aging
 - * Ergonomic Design 4” Full Touch Screen TFT LCD(Smart-Lab™ Controller)
 - * WiRe™ App Service.
 - * Self-Diagnostic Function
 - * Variable Program Setting for Multiple Patterns with Multiple Segments
 - * The Recorded Data could be transferred to PC by USB memory
 - * Controller SW can be upgraded through USB port.
 - * Compact New Body Design
 - * RS232C Interface for Monitoring and Controlling with PC
 - * Ambient to 230°C of Temp. Range, Fluctuation of ±0.5°C at 100°C
 - * Corrosion Resistant 304 Stainless-steel Chamber
 - * Over Temperature & Over Current Protection, Sensor Error Detection
 - * Automatic Data Recording
 - * Internet Connectivity with WiFi
 - * 2ea of Stainless-steel Wire Shelves Included

Specification

Spec.	Model	(1) Standard Model			
		SON-32	SON-50	SON-105	SON-155
				(2) Window Model	
		SON-W105	SON-W155		
Capacity		32Lit	50Lit	105Lit	155Lit
Dimension (w×d×h)	Interior (mm)	310×290×360	370×350×420	485×409×535	550×474×600
	Exterior (mm)	458×557×664	518×647×724	653×712×882	718×777×947
Heater Power		500 W	650 W	1.4 kW	1.6 kW
Temp.	Range	Room Temp +5°C to 230°C			
	Fluctuation	± 0.5°C at 100°C, ± 0.6°C at 150°C			± 0.5°C at 100°C, ± 0.8°C at 150°C
	Variation	± 1.2°C at 100°C, ± 2.2°C at 150°C			
	Sensor	PT 100			
Control Resolution		±0.1°C			
Heat-up Time		30 min. to 100°C, 43 min. to 150°C	30 min. to 100°C, 45 min. to 150°C	35 min. to 100°C, 50 min. to 150°C	
	Recovery Time (Door open 30sec)	8 min. to 100°C, 10 min. to 150°C		10 min. to 100°C, 12 min. to 150°C	
Controller		Smart-Lab™ Controller			
RS232 Port		Available to connect with PC			
Display		4” Full Touch Screen TFT LCD			
Timer		99hr 59 min (delay/continuous function)			
Material	Internal	Stainless-steel (#304)			
	External	Powder Coated steel			
	Insulation	Glass Wool			
Shelves		2ea of Stainless-steel Wire Shelves included, Load per Shelf : 16 kg			
Ventilation		Ventilation hole with Stainless-steel Cap, Hole Diameter 40mm			
		1ea		2ea	
Circulation		Gravity-air Type			
Safety device		Over Temp. and Over Current Protector, Sensor Error Detector			
Others		UL/CUL Certified, CE Certified, GD-mark			
		Storage Function (Temp. and Time)			
		Locking Mode (Jog-Dial Input Disabled)			
		Alarm (Error Status and Timer-end)			
Net Weight (kg)		36	44	69	78
Packing Size (w×d×h) (mm)		562×664×747	622×754×807	743×819×1,068	808×884×1,133
Shipping Weight (kg)		43	59	79	92
Power Consumption		502 W	674 W	1390 W	1566 W
Energy Consumption, at 100°C		90 Wh	117 Wh	187 Wh	204 Wh
	, at 150°C	181 Wh	230 Wh	337 Wh	398 Wh
Electric Reqt.		120V, 60Hz or 230V, 50/60Hz			

* Other Specifications are available upon Customer's Request.

<Continued On Next Page>

<Continued From...DAIHAN-brand® SMART Gravity-air Ovens “ThermoStable™ SON”>

Ordering Information

(1) Standard Model, Gravity-air, with Wire Shelves

- DH.SWON05032 Oven, Standard, 230V, 32 Lit, “ThermoStable SON-32”
- DH.SWON05050 , 50 Lit, “ThermoStable SON-50”
- DH.SWON05105 , 105 Lit, “ThermoStable SON-105”
- DH.SWON05155 , 155 Lit, “ThermoStable SON-155”

(2) Built in Viewing Window Model, Gravity-air, with Wire Shelves

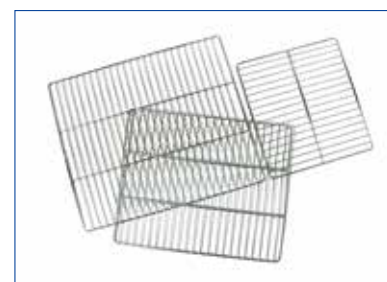
- DH.SWON07105 Oven, Window, 230V, 105 Lit, “ThermoStable SON-W105”
- DH.SWON07155 , 155 Lit, “ThermoStable SON-W155”

Spare Stainless-steel Wire Shelves

- DH.WON11032 Wire Shelf, for 32 Lit, “ONS032”, w280×d280mm
- DH.WON11050 , for 50 Lit, “ONS050”, w340×d310mm
- DH.WON11105 , for 105 Lit, “ONS105”, w455×d375mm
- DH.WON11155 , for 155 Lit, “ONS155”, w520×d440mm

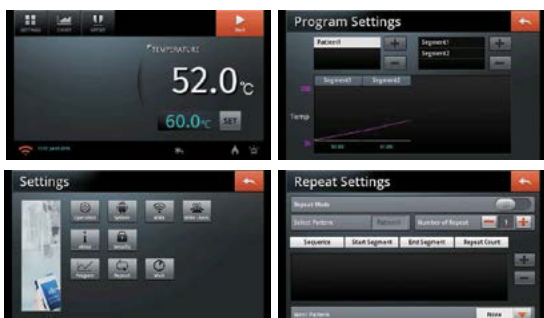


(2) Window Model, “ThermoStable SON-W105”



Stainless-steel Wire Shelves (Included)

» DAIHAN WiRe™ App Service



4” Full Touch Screen TFT LCD (Smart-Lab™ Controller)

It is possible to monitor and control the Smart-Lab™ equipment through all smart phone, tablet without restraint of time and place.



WiRe™ App Service

Controlled by Smart-Phone

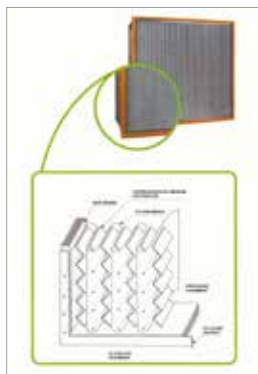
“ThermoStable™ WOC” High Clean Air Oven, with Class 100 HEPA Filter, 560-/800- Lit, with Certi. & Traceability with Chrome Coated steel Wire Shelves, Digital Fuzzy Control System, Clean Air Convection Mechanism, up to 250°C, ± 1.0°C



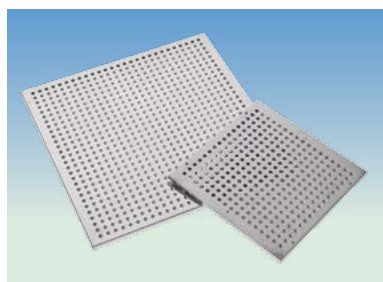
High Clean Air Oven, with HEPA Filter
“ThermoStable™ WOC-560”



High Efficiency and
High Clean Air Convection
Mechanism



High Temp. HEPA Filter



(1) Perforated shelves, Stainless-steel
(Included)

- Made in Korea ■ CE Certified ■ PL (Product Liability) Insurance
- with Certificate & Traceability : Controlled by Serial Number, Certificate, Delivery-information, and Traceable Data Base System
- Specially Designed Clean Air Convection Mechanism Provides Dynamic Air Flow for Exhaust of Contaminated Air from the Chamber and Supply of Filtered Clean Air into the Chamber
- Digital Fuzzy Control System Implementing Superior Temperature Accuracy.
- Patented Jog-Shuttle Control System
- * Suitable for Critical Clean Application such as Electronics, Semiconductor, Pharmaceutical and Clinical Applications - Class 100 HEPA Filter is used.
- * Specially Designed Clean Air Convection Mechanism Provides Dynamic Air Flow for Exhaust of Contaminated Air from the Chamber and Supply of Filtered Clean Air into the Chamber
- * Digital Fuzzy Control System Implementing Superior Temperature Accuracy
- * User's Self-Compensation Function to Control Difference between Real Temp. and Indicated Temp. (± 20.0°C)
- * Storage Function : Set Values of Temperature and Timer
- * Locking Mode Supported for Experimental Safety (Input to Jog-Shuttle can be Disabled)
- * Over Temperature & Over Current Protection, Sensor Error Detection

Specifications & Ordering information

Spec.		Model	“WOC-560”	“WOC-800”
Capacity			560 Lit.	800 Lit.
Air Flow-type			High Clean Air Convection Mechanism	
Filter for Clean Air			HEPA Filter Class 100 for High Temperature	
Temp.	Range & Sensor		Room Temp. +5°C to 250°C, PT100 Sensor	
	Accuracy & Uniformity		± 1.0°C, ± 2.0°C at 200°C	
Timer & Alarm			99hr 59min (with delay / Continuous run.), Error status & Timer-end	
Display			Digital LCD with Back Light	
Controller			Digital Fuzzy Controller with Jog-Shuttle Switch (Turn+Push)	
Verification			Timer Operated Verification System	
Resolution			Control : ± 1.0°C, Display : ± 1.0°C	
Shelves			3ea of Perforated Shelves of Adjustable Position	
Load per Rack			16 kg, Total : 48 kg (16kg × 3 Shelves)	
Safety Circuit			Over Temp. and Over Current Protector, Sensor Error Detector	
Material			Internal : Stainless-steel (# 304), External : Powder Coated steel, Insulation : Glass Wool	
Others			Storage Function, Locking Mode	
Dimension (w × d × h)	Interior (mm)		800 × 700 × 1,000	1,000 × 800 × 1,000
	Exterior (mm)		1,000 × 1,155 × 1,735	1,500 × 1,200 × 1,900
Packing Size (w × d × h) (mm)			1,200 × 1,400 × h2, 120mm,	1,700 × 1,400 × h2, 270mm,
& Gross Weight			386 kg	446 kg
Power Consumption			6.5 kW	9.4 kW
Electric Reqts.			60Hz or AC 230V, 380V 50/60Hz or 3 Phase	
Cat. No.	230V 3 Phase		DH.WOC00560	DH.WOC00800
	380V 3 Phase		DH.WOC03560	DH.WOC03800

* Other Specifications are available upon Customer's Request.

Spare Perforated Shelves, Stainless-steel

DH.WOC10560 (1) Perforated Shelf, “OCS560”, w780 × d680, for “WOC-560”
DH.WOC10800 , “OCS800”, w980 × d880, for “WOC-800”

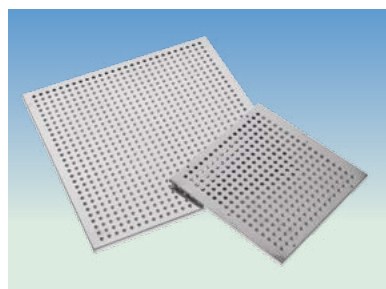
Optional N₂ Gas Inlet Device

DH.WOCN2GIN N₂ Gas Inlet Device, “WOC-N2GIN”

“ThermoStable™ WOF” Industrial Forced-air Oven, 486-/840-/1176-Lit, with Certi. & Traceability
 with Stainless steel Perforated Shelves, Digital PID Control System, Superior Temp. Accuracy, up to 250 °C, ± 1.0 °C



Industrial Forced-air Oven “ThermoStable™ WOF-L1000” with Stainless-steel Perforated Shelves



(1) Perforated Shelves, Stainless-steel (Included)

- **Made in Korea** ■ **CE Certified** ■ **PL (Product Liability) Insurance**
- **with Certificate & Traceability : Controlled by Serial Number, Certificate, Delivery-information, and Traceable Data Base System**
- **Heavy Forced Air-Circulation by Strong and Reliable Fan System : ideal for Semiconductor and Electronic Parts Baking Purpose**
- * Heavy Forced Air-Circulation by Strong and Reliable Fan System : Ideal for Semiconductor and Electronic Parts Baking Purpose
- * Voltage and Ampere Meter Equipped for Monitoring Safe Operation of the Machine
- * Digital PID Control System Enables Superior Temperature Accuracy
- * Digital Timer Function with Buzzer Alarm : up to 99 hrs 59 min
- * Locker is Available for Operational Safety Control by an Administrator
- * Over Temperature & Over Current Protection, Sensor Error Detection and Leakage Breaking
- * Multi-Channel Temperature Sensors with Digital Display for Monitoring Temperature Uniformity in the Chamber is available(Optional)
- * Default Damper to Enhance Thermal Efficiency
- * Automatic Gas Exhaust Available (Optional)

Specifications & Ordering information

Spec.	Model	“WOF-L400”	“WOF-L800”	“WOF-L1000”
Capacity		486 Lit.	840 Lit.	1,176 Lit.
Air Flow-type		Forced-air Type		
Air Circulation Fan Motor		1/3HP	1/3 HP × 2 ea	1/3HP × 3 ea
Temp.	Range	Room Temp. +5 °C to 250 °C		
	Accuracy	± 1.0 °C at 150 °C		
	Uniformity	± 2.0 °C at 150 °C		
	Sensor	PT100		
Heating Power/Consumption		3 kW	5 kW	7 kW
Timer & Alarm		99hr 59min (with Continuous run.), Timer-end Alarm		
Display		2 lines LED for Temperature and Timer		
Controller		Digital PID Control		
Resolution		Control : ± 1.0 °C, Display : ± 1.0 °C		
Door		Powder coated Steel Door with Silicon Packing		
		1 Door	2 Doors	
Shelves		Included Stainless-steel Perforated Shelves		
		3 ea	3 ea	6 ea
Load per Rack		16 kg		
Permitted Total Load		48 kg (16kg × 3 Shelves)		96 kg (16kg × 6 Shelves)
Material		Internal : Stainless steel (# 304), External : Powder Coated steel, Insulation : Ceramic and Glass Wool Board		
Dimension (w × d × h)	Interior (mm)	900 × 600 × 900	1,250 × 700 × 960	1,400 × 700 × 1,200
	Exterior (mm)	1,200 × 750 × 1,700	1,500 × 840 × 1,800	1,650 × 840 × 2,150
Net Weight		316 kg	408 kg	478 kg
Others		Over Temp. and Over Current Protector, Sensor Error Detector, Leakage Breaker Locking Mode by Mechanical Locker		
Packing Size (w × d × h) (mm) & Gross Weight		1,400 × 1,220 × 1,960	1,700 × 1,310 × 2,060	1,850 × 1,310 × 2,410
		376 kg	488 kg	568 kg
Power Consumption		3.6 kW	6.2 kW	8.8 kW
Electric Reqts.		1 Phase AC 120V, 60Hz or AC 230V, 50/60Hz	1Phase AC 230V, 50/60Hz	3Phase AC 380V, 50/60Hz
Cat. No.	230V	DH.WOFL0400	DH.WOFL0800	-
	3 Phase	-	-	DH.WOFL1002

* Other Specifications are available upon Customer's Request.

Spare Perforated Shelves, Stainless-steel

- DH.WOF10400 (1) Perforated Shelf, “OFLS400”, w880 × d580mm, for “WOF-400”
- DH.WOF10800 “OFLS800”, w1230 × d680mm, for “WOF-800”
- DH.WOF11000 “OFLS1000”, w660 × d680mm, for “WOF-1000”

Maximum Convenience by Advanced Digital Technology

DAIHAN NEW Generation Digital Precise Vacuum Oven

Excellent Thermal Conductivity! Gas Exchangeable! **ThermoStable™ Vacuum Oven**

In vacuum condition, the heat transfer is limited because the chamber has no air inside and heat transfer by air can't be done. That means, the most significant technology for Vacuum Ovens is how to achieve the High Thermal Conductivity in vacuum.

DAIHAN New Vacuum Ovens have the independent Vent and Vacuum lines. This structure is ideal for maintenance of vacuum condition and the gas exchange.

Also, the newly developed High Heat Conduction Mechanism maximizes the heat conductivity in vacuum.

The ergonomic designed Jog-Dial Controller and the World-first Smart-Lab™ Controller are also equipped to the new generation Vacuum Ovens.

Experiencing this High Thermal Conductivity, **ThermoStable™ OV**, nothing can be compared.



» Upgrade of Performance



• Available Gas Exchange

DAIHAN Vacuum Ovens have two independent tubing of Vent line and Vacuum line and each tubing is separately connected to the outer ports. This structure optimizes the gas exchange in the chamber.

Also, a new gas is inserted into the chamber through the Vent line located on the bottom and the inner air (gas) is simultaneously released through the Vacuum line located on the top. By doing that, the vacuum is maintained in the chamber while the gas is exchanged.

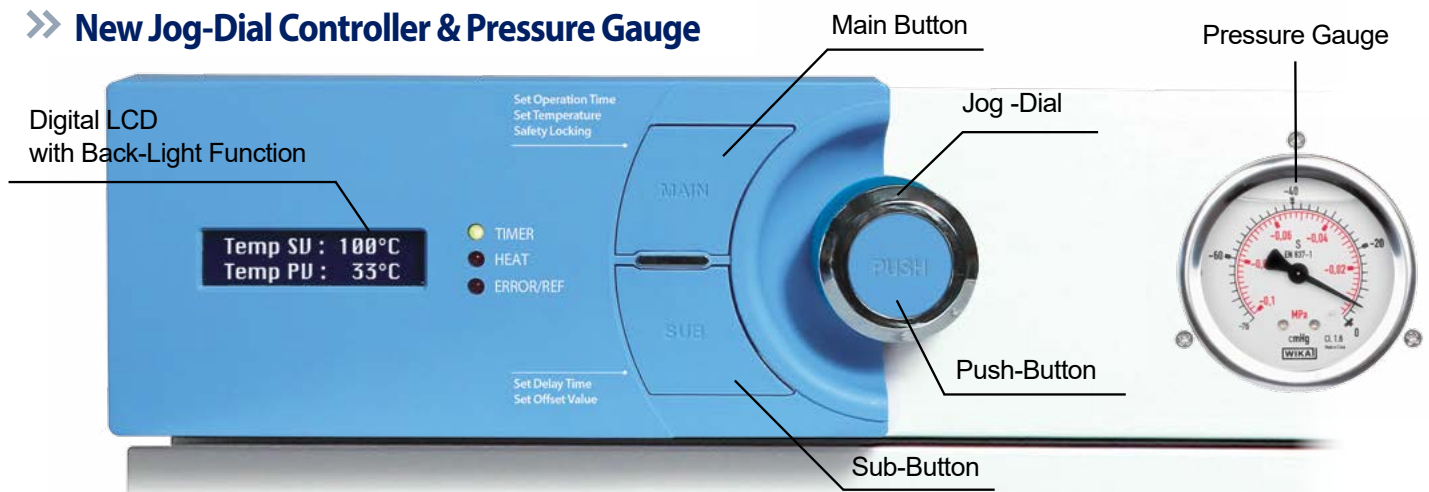


• High Heat Conduction

The unique High Heat Conduction Mechanism realizes the best performance of Heat Transfer in the vacuum environment that has no heat transfer by air.

The brackets attached on the sides of chamber, is directly assembled to the shelves. This structure enhances heat transfer to samples placed on shelves. The various sized flasks or beakers can be put in the chamber by simple disassembly of shelves.

» New Jog-Dial Controller & Pressure Gauge



DAIHAN-brand® Precise Vacuum Ovens “ThermoStable™ OV”, Highly Safety Viewing Window, 18.6-/30-/70-Lit with 2 × Al-Shelves, Digital PID Control, Superior Temp. & Vacuum Accuracy, 10~750 mmHg, 200°C



Precise Vacuum Oven “ThermoStable™ OV-30”

- Made in Korea ■ UL / CUL Certified ■ CE Certified
- with Certificate & Traceability : Controlled by Serial Number, Certificate, Delivery-information, and Traceable Data Base System
- Suitable for Drying, Baking, Conditioning, Curing, Out-Gassing Solids and Liquids, Vacuum Embedding, Moisture Testing, Plating and Aging Test
- Very Easy and Convenient for Vacuuming and Venting, Easy to read Vacuum Gauge
- Highly Safety Viewing Window (Tempered Safety Glass+ Polycarbonate Window)
- Heavy-duty Safety Front Door for User Safety
- Patented Jog-Dial Control System and Back-Light LCD
- PL(Product Liability) Insurance
- * Digital PID Control System Implementing Superior Temperature Accuracy
- * RS232C Interface for Remote Monitoring and Controlling with PC
- * Superior Uniformity and Stability * Storage Function : Alarm & Timer
- * High Quality Door Sealing : High Temperature Grade Silicone Molded Gasket
- * Over Temperature & Over Current Protection and Sensor Error Detection
- * Locking Mode Supported for Experimental Safety (Input to Jog-Dial can be disabled)

Specifications & Ordering information

Spec.	Model	ThermoStable™ OV-20	ThermoStable™ OV-30	ThermoStable™ OV-70
Capacity		20 Lit.	30 Lit.	70 Lit.
Vacuum Range & Level & Rate		10 ~ 750 mmHg, 0.63mbar, 0.39mbar/hr		
Temp.	Range / Sensor	R/T +10°C to 200°C, PT100		
	Accuracy	± 0.5°C at 100°C & 150°C		
	Uniformity	± 2.0°C at 100°C, ± 3.0°C at 150°C	± 2.5°C at 100°C, ± 3.5°C at 150°C	
Heating Power/Consumption		170W×2ea 130W×2ea	350W×2ea 450W×2ea	
Heat-up Time		60 min. to 100°C, 90 min. to 150°C	70 min. to 100°C, 100 min. to 150°C	80 min. to 100°C, 100 min. to 150°C
Timer & Alarm		99hr 59min (with delay / Continuous run.), Error status & Timer-end		
Display		Digital LCD with Back Light		
Controller		Digital PID Controller with Jog-Dial Switch (Turn & Push)		
Resolution		Control : ± 1.0°C, Display : ± 1.0°C		
Shelves		Included 2ea Aluminum Shelves		
Safety Circuit		Over Temp. & Over Current Protector, Sensor Error Detector, Leakage Breaker		
Material		Internal : Stainless-steel (# 304), External : Powder Coated steel, Window : Tempered Safety Glass 12T, Poly Carbonate 5T for Safety		
Others		Storage Function (Temp and Timer), Locking Mode (Jog-Dial Input Disabled)		
Dimension (w×d×h)	Interior (mm)	265×290×265	300×330×300	400×435×400
	Exterior (mm)	480×475×547	515×515×582	618×620×682
Vacuum Inlet Valve Size		od. 10 mm		
Net Weight		48 kg	55 kg	85 kg
Packing Size (w×d×h) (mm) & Gross Weight		570×570×775	605×605×815	710×710×910
		59 kg	67 kg	100 kg
Power Consumption		600 W	600 W	1.6 kW
Electric Reqts.		1 Phase, AC 120V, 60Hz or AC 230V, 50 / 60Hz		
Cat. No.	230V	DH.WOV03020	DH.WOV03030	DH.WOV03070

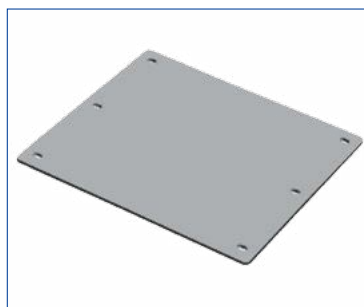
* Other Specifications are available upon Customer's Request.



WiseRemote Control Software :

Connection of Temperature Devices with Interface RS232C to a PC Export Recorded Data(Excel Spreadsheet)

* You can Download this Software at DAIHAN-Sci.com Shopping-mall



(1) Standard Shelf, Aluminum (Included)

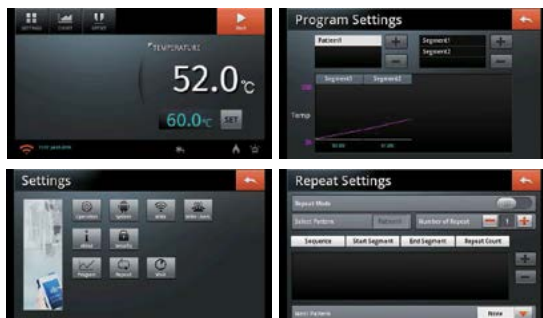
Spare Aluminum Shelves

- DH.WOV12020 (1) Standard Shelf, Aluminum, “OVSN020”, w260×d245×h3mm, for 18.6 Lit.
- DH.WOV12030 , “OVSN030”, w290×d285×h3mm, for 30 Lit.
- DH.WOV12070 , “OVSN070”, w390×d390×h3mm, for 70 Lit.

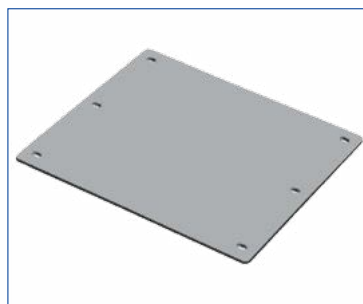
DAIHAN-brand® SMART Vacuum Ovens “ThermoStable™ SOV”, Highly Safety Viewing Window, 18.6-/30-/70-Lit, 200°C with Smart-Lab™ Controller, 4” Full Touch Screen, Fuzzy-PID Control, Superior Temp. & Vacuum Accuracy, 10~750 mmHg



SMART Vacuum Oven “ThermoStable™ SOV-30”



Display of Smart-Lab™ Controller



(1) Standard Shelf, Aluminum (Included)

- Made in Korea ■ UL / CUL Certified ■ CE Certified
- with Certificate & Traceability : Controlled by Serial Number, Certificate, Delivery-information, and Traceable Data Base System
- Suitable for Drying, Baking, Conditioning, Curing, Out-Gassing Solids and Liquids, Vacuum Embedding, Moisture Testing, Plating and Aging Test
- Very Easy and Convenient for Vacuuming and Venting, Easy to read Vacuum Gauge
- Highly Safety Viewing Window (Tempered Safety Glass+ Polycarbonate Window)
- Heavy-duty Safety Front Door for User Safety
- Smart-Lab™ Controller ■ PL (Product Liability) Insurance
- * Superior Uniformity and Stability * Compact New Body Design
- * High Quality Door Sealing : High Temperature Grade Silicone Molded Gasket
- * Over Temperature & Over Current Protection and Sensor Error Detection
- * Ergonomic Design (Smart-Lab™ Controller)
- * WiRe™ App Service. * Automatic Data Recording
- * Self-Diagnostic Function * Internet Connectivity with WiFi
- * Variable Program Setting for Multiple Patterns with Multiple Segments
- * The Recorded Data Could be transferred to PC by USB memory
- * Controller SW can be upgraded through USB port.

Specifications & Ordering information

Spec.	Model	ThermoStable™ SOV-20	ThermoStable™ SOV-30	ThermoStable™ SOV-70
Capacity		20 Lit.	30 Lit.	70 Lit.
Vacuum Range & Level & Rate		10 ~ 750 mmHg, 0.63mbar, 0.39mbar/hr		
Temp.	Range / Sensor	R/T +10 °C to 200 °C, PT100		
	Accuracy	± 0.5 °C at 100 °C & 150 °C		
	Uniformity	± 2.0 °C at 100 °C, ±3.0 °C at 150 °C	± 2.5 °C at 100 °C, ± 3.5 °C at 150 °C	
Heating Power/Consumption		170W×2ea 130W×2ea	350W×2ea 450W×2ea	
Heat-up Time		60 min. to 100 °C, 90 min. to 150 °C	70 min. to 100 °C, 100 min. to 150 °C	80 min. to 100 °C, 100 min. to 150 °C
Timer & Alarm		99hr 59min (with delay / Continuous run.), Error status & Timer-end		
Display		4" Full Touch Screen TFT LCD		
Controller		Smart-Lab™ Controller		
Resolution		Control : ± 1.0 °C, Display : ± 1.0 °C		
Shelves		Included 2ea Aluminum Shelves		
Safety Circuit		Over Temp. & Over Current Protector, Sensor Error Detector, Leakage Breaker		
Material		Internal : Stainless-steel (# 304), External : Powder Coated steel, Window : Tempered Safety Glass 12T, Poly Carbonate 5T for Safety		
Others		Program Function, WiRe™ App & Web Service.		
Dimension (w×d×h)	Interior (mm)	265×290×265	300×330×300	400×435×400
	Exterior (mm)	480×475×547	515×515×582	618×620×682
Vacuum Inlet Valve Size		od. 10 mm		
Net Weight		48 kg	55 kg	85 kg
Packing Size (w×d×h) (mm) & Gross Weight		570×570×775	605×605×815	710×710×910
		59 kg	67 kg	100 kg
Power Consumption		600 W	600 W	1.6 kW
Electric Reqt.s.		1 Phase, AC 120V, 60Hz or AC 230V, 50 / 60Hz		
Cat. No.	230V	DH.SWOV03020	DH.SWOV03030	DH.SWOV03070

* Other Specifications are available upon Customer's Request.

Spare Aluminum Shelves

- DH.WOV12020 (1) Standard Shelf, Aluminum, “OVSN020”, w260×d245×h3mm, for 18.6 Lit.
- DH.WOV12030 , “OVSN030”, w290×d285×h3mm, for 30 Lit.
- DH.WOV12070 , “OVSN070”, w390×d390×h3mm, for 70 Lit.

Notes

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