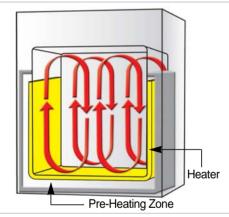
#### Description

DAIHAN<sup>®</sup> Ovens, Gravity Convection-type, "WON", 32-/50-/105-/155 Lit., with Certi. & Traceability WWW With  $2 \times$  Wire Shelves, Digital Fuzzy Control, Jog-Dial with Push Button, Digital LCD with Backlight, up to  $230^{\circ}$ C,  $\pm 0.5^{\circ}$ C



Oven, Gravity/Natural Flow-type, Standard Model, with Wire Shelves "WON-155"



The Best Temp. Uniformity & Accuracy by High Performance Heating Mechanism

- with Certificate & Traceability : Controlled by Serial Number, Certificate, Delivery-information, and Traceable Data Base System
- Digital Fuzzy Control System Implementing Superior Temperature Accuracy
- Optimized Air Flow by Gravity Convection Mechanism
- Jog-Dial Control System
- CE Certified UL/CUL Certified
- 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 \* Optimized Air Flow by Gravity Convection Mechanism
- \* Digital Fuzzy Control System Implementing Superior Temperature Accuracy
- \* 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  $\pm 0.5$  °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

Interior (mm)         290 × 310 × 360         350 × 370 × 420         480 × 485 × 535         475 × 550 × 600           (w × d × h)         Exterior (mm)         458 × 556 × 662         518 × 646 × 722         653 × 711 × 879         718 × 776 × 944           Heater Power         500 W         650 W         1.4 kW         1.6 kW           Temp.         Range         Ambient Temperature +5°C to 230°C         ± 0.8°C at 150°C         ± 0.8°C at 150°C           Fluctuation         ± 0.5°C at 100°C, ± 0.6°C at 150°C         ± 0.8°C at 150°C         ± 0.8°C at 150°C           Variation         ± 1.2°C at 100°C, ± 2.2°C at 150°C         ± 0.8°C at 150°C         ± 0.8°C at 150°C           Heat-up Time         30 min. to 100°C, 30 min. to 100°C, 45 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, 8 min. to 100°C, 10 min. to 150°C         10 min. to 150°C         10 min. to 150°C         10 min. to 150°C           RS232 Port         Available to connect with PC         Digital Fuzzy Control by Advanced Microprocessor Jog-Dial with Push Button         10 min. to 150°C         1			Standard Model, without Window				
"WON-32"         "WON-50"         Built-in Viewing Window Model           Capacity         32Lit         50Lit         Interior (mm)         290 × 310 × 360         350 × 370 × 420         480 × 485 × 535         475 × 550 × 600           Dimension (w × d × h)         Interior (mm)         290 × 310 × 360         350 × 370 × 420         480 × 485 × 535         475 × 550 × 600         600           Heater Power         500 W         650 W         1.4 kW         1.6 kW           Heater Power         500 W         650 W         1.4 kW         1.6 kW           Temp.         Range         Ambient Temperature +5° to 230°C         ± 0.8°C at 150°C         ± 0.8°C at 150°C           Fluctuation         ± 0.5°c at 100°C, ± 0.6°C at 150°C         ± 0.8°C at 150°C         ± 0.8°C at 150°C           Sensor         PT 100         Control Resolution         ± 0.1°C         30 min. to 100°C, 45 min. to 150°C         35 min. to 100°C, 50 min. to 100°C, 10 min. to 150°C         <	Мо	dol			"WON-105"	"WON-155"	
Capacity         32Lit         50Lit         105Lit         155Lit           Dimension (w × d × h)         Interior (mm)         290 × 310 × 360         350 × 370 × 420         480 × 485 × 535         475 × 550 × 600           Exterior (mm)         458 × 556 × 662         518 × 646 x 722         653 × 711 × 879         718 × 776 × 944           Heater Power         500 W         650 W         1.4 kW         1.6 kW           Temp.         Range         Ambient Temperature +5°C to 230°C         ± 0.8°C at 150°C         ± 0.8°C at 150°C           Variation         ± 0.5°C at 100°C, ± 0.6°C at 150°C         ± 0.8°C at 150°C         ± 0.8°C at 150°C           Variation         ± 0.5°C at 100°C, ± 0.6°C at 150°C         ± 0.8°C at 150°C           Sensor         PT 100         Control Resolution         ± 0.1°C           Heat-up Time         30 min. to 100°C, 45 min. to 100°C, 45 min. to 100°C, 45 min. to 100°C, 45 min. to 100°C, 10 min. to 150°C         10 min. to 150°C           Recovery Time (Door open 30sec)         8 min. to 100°C, 8 min. to 100°C, 10 min. to 150°C         10 min. to 150°C           Rs232 Port         8 min. to 100°C, 10 min. to 150°C         10 min. to 150°C         10 min. to 150°C           Stainless Steel (#304)         External         Stainless Steel (#304)         External           Insulation         Glass	MO	uei	"WON-32"	"WON-50"	Built-in Viewing Window Model		
Interior (mm)         290 × 310 × 360         350 × 370 × 420         480 × 485 × 535         475 × 550 × 600           (w × d × h)         Exterior (mm)         458 × 556 × 662         518 × 646 × 722         653 × 711 × 879         718 × 776 × 944           Heater Power         500 W         650 W         1.4 kW         1.6 kW           Temp.         Range         Ambient Temperature +5°C to 230°C         ± 0.8°C at 150°C         ± 0.8°C at 150°C           Fluctuation         ± 0.5°C at 100°C, ± 0.6°C at 150°C         ± 0.8°C at 150°C         ± 0.8°C at 150°C           Variation         ± 1.2°C at 100°C, ± 2.2°C at 150°C         ± 0.8°C at 150°C         ± 0.8°C at 150°C           Heat-up Time         30 min. to 100°C, 30 min. to 100°C, 45 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, 8 min. to 100°C, 10 min. to 150°C         10 min. to 150°C         10 min. to 150°C         10 min. to 150°C           RS232 Port         Available to connect with PC         Digital Fuzzy Control by Advanced Microprocessor Jog-Dial with Push Button         10 min. to 150°C         1					"WON-W105"	"WON-W155"	
(w × d × h)         Exterior (mm)         458 × 556 × 662         518 × 646 x 722         653 × 711 × 879         718 × 776 × 944           Heater Power         500 W         650 W         1.4 kW         1.6 kW           Temp.         Range         Ambient Temperature +5 °C to 230 °C         ± 0.8 °C at 150 °C         ± 0.8 °C at 150 °C         ± 0.8 °C at 150 °C           Variation         ± 0.5 °C at 100 °C, ± 0.6 °C at 150 °C         ± 0.8 °C at 150 °C         ± 0.8 °C at 150 °C           Sensor         PT 100         ± 0.1 °C         ± 0.8 °C at 150 °C         ± 0.8 °C at 150 °C           Heat-up Time         30 min. to 100 °C, 43 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         8 min. to 100 °C, 10 min. to 150 °C         10 min. to 150 °C<	Capacity		32Lit	50Lit	105Lit	155Lit	
Heater Power       500 W       600 V 000 V 12 V 000 V 0000 V 000 V	Dimension	Interior (mm)	290×310×360	350×370 x 420	480×485×535	475×550×600	
Range         Ambient Temperature +5 °C to 230 °C           Fluctuation         ± 0.5 °C at 100 °C, ± 0.6 °C at 150 °C         ± 0.8 °C at 150 °C           Variation         ± 1.2 °C at 100 °C, ± 2.2 °C at 150 °C         ± 0.8 °C at 150 °C           Sensor         PT 100           Control Resolution         ± 0.1 °C           Heat-up Time         30 min. to 100 °C, 43 min. to 100 °C, 43 min. to 150 °C         30 min. to 100 °C, 43 min. to 150 °C         30 min. to 100 °C, 43 min. to 150 °C         30 min. to 150 °C           Recovery Time (Door open 30sec)         8 min. to 100 °C, 10 min. to 150 °C         10 min. to 150	(w $ imes$ d $ imes$ h)	Exterior (mm)	458×556×662	$518{\times}646x722$	653  imes 711  imes 879	718×776×944	
Fluctuation         ± 0.5 °c at 100 °c, ± 0.6 °c at 150 °c         ± 0.8 °c at 150 °c           Variation         ± 1.2 °c at 100 °c, ± 2.2 °c at 150 °c         ± 0.8 °c at 150 °c           Sensor         PT 100           Control Resolution         ± 0.1 °c           Heat-up Time         30 min. to 100 °c, 45 min. to 100 °c, 45 min. to 100 °c, 43 min. to 150 °c         30 min. to 100 °c, 45 min. to 100 °c, 45 min. to 100 °c, 12 min. to 100 °c, 10 min. to 150 °c         30 min. to 100 °c, 12 min. to 100 °c, 10 min. to 150 °c         10 min. to 150 °c           Recovery Time (Door open 30sec)         8 min. to 100 °c, 10 min. to 150 °c         8 min. to 100 °c, 10 min. to 150 °c         11 min. to 150 °c         12 min. to 100 °c, 12 min. to 100 °c, 10 min. to 150 °c	Heater Power		500 W	650 W	1.4 kW	1.6 kW	
Temp.       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         A min. to 150°C       45 min. to 150°C         A min. to 150°C       45 min. to 100°C, 45 min. to 100°C, 50 min. to 150°C         Recovery Time (Door open 30sec)       8 min. to 100°C, 10 min. to 150°C         Digital Fuzzy 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         Insulation       Glass Wool         Shelves       2ea of Stainless Steel shelves included         Ventilation       Ventilation hole with Stainless Steel Cap, Hole Diameter 40mm         1ea       2ea		Range	Ambient Temperature +5 ℃ to 230 ℃				
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 100 °C, 43 min. to 150 °C         30 min. to 100 °C, 45 min. to 150 °C         30 min. to 100 °C, 45 min. to 150 °C         35 min. to 100 °C, 50 min. to 100 °C, 43 min. to 150 °C         45 min. to 150 °C         45 min. to 150 °C         50 min. to 150 °C         50 min. to 100 °C, 12 min. to 100 °C, 12 min. to 100 °C, 10 min. to 150 °C         <	Temn	Fluctuation				$\pm$ 0.8 °C at 150 °C	
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         30 min. to 100 °C, 45 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         8 min. to 100 °C, 10 min. to 150 °C         12 min. to 100 °C, 10 min. to 150 °C         12 min. to 100 °C, 10 min. to 150 °C         12 min. to 100 °C, 10 min. to 150 °C         12 min. to 100 °C, 10 min. to 150 °C         10 min. to 150 °C           Controller         Digital Fuzzy Control by Advanced Microprocessor Jog-Dial with Push Button         Natilable to connect with PC         10 min. to 150 °C         10 min. to 150 °C         10 min. to 150 °C           Display         Digital LCD with Back Light         Timer         99hr 59 min (delay/continuous function)           Material         Internal         Stainless Steel (#304)         External           Insulation         Glass Wool         Glass Wool         Ventilation hole with Stainless Steel Cap, Hole Diameter 40mm           1ea         2ea         2ea         2ea         2ea	remp.	Variation	± 1.2℃ at 100℃, ± 2.2℃ at 150℃				
Heat-up Time       30 min. to 100 ℃, 30 min. to 100 ℃, 43 min. to 100 ℃, 43 min. to 150 ℃       30 min. to 100 ℃, 45 min. to 150 ℃       30 min. to 100 ℃, 50 min. to 150 ℃         Recovery Time (Door open 30sec)         8 min. to 100 ℃, 10 min. to 150 ℃       10 min. to 150 ℃       10 min. to 150 ℃       12 min. to 100 ℃, 12 min. to 100 ℃, 10 min. to 150 ℃       10 min. to 150 ℃         Controller         Digital Fuzzy Control by Advanced Microprocessor Jog-Dial with Push Button         RS232 Port         Available to connect with PC         Digital LCD with Back Light         Timer         99hr 59 min (delay/continuous function)         Material         Internal         Internal         Toga of Stainless Steel (#304)         External         Insulation         Glass Wool         Stainless Steel Shelves included         Ventilation hole with Stainless Steel Cap, Hole Diameter 40mm         Itea         Internal         Control open convection Type		Sensor	PT 100				
Heat-up lime         43 min. to 150°C         45 min. to 150°C         45 min. to 150°C         50 min. to 150°C           Recovery Time (Door open 30sec)         8 min. to 100°C, 10 min. to 150°C         8 min. to 100°C, 10 min. to 150°C         8 min. to 100°C, 10 min. to 150°C         12 min. to 100°C, 10 min. to 150°C         10 min. to 150°C <td< th=""><th>Control Resolut</th><th>tion</th><th></th><th>±0</th><th>.1℃</th><th></th></td<>	Control Resolut	tion		±0	.1℃		
(Door open 30sec)       10 min. to 150°C       10 min. to 150°C       10 min. to 150°C       10 min. to 150°C         Controller       Digital Fuzzy 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         External       Powder Coated Steel         Insulation       Glass Wool         Shelves       2ea of Stainless steel shelves included         Ventilation       Ventilation hole with Stainless Steel Cap, Hole Diameter 40mm         1ea       2ea	Heat-up Time					35 min. to 100 ℃, 50 min. to 150℃	
Controller       Digital Fuzzy 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         External       Powder Coated Steel         Insulation       Glass Wool         Shelves       2ea of Stainless Steel shelves included         Ventilation       Net with Stainless Steel Cap, Hole Diameter 40mm         1ea       2ea         Circulation       Gravity Convection Type	<b>Recovery Time</b>		8 min. to 100 °C,	8 min. to 100 °C,	12 min. to 100 ℃,	12 min. to 100 ℃,	
Internal     Internal       Insulation     Glass Wool       Stainless steel (#304)       External     Powder Coated Steel       Insulation     Glass Wool       Shelves     2ea of Stainless Steel cap, Hole Diameter 40mm       Ventilation     Ventilation hole with Stainless Steel Cap, Hole Diameter 40mm       1ea     2ea	(Door open 30s	sec)	10 min. to 150°C	10 min. to 150 °C	10 min. to 150℃	10 min. to 150 ℃	
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 shelves included       Ventilation     Ventilation hole with Stainless Steel Cap, Hole Diameter 40mm       1ea     2ea       Circulation     Gravity Convection Type	Controller						
Timer         99hr 59 min (delay/continuous function)           Material         Internal         Stainless Steel (#304)           External         Powder Coated Steel           Insulation         Glass Wool           Shelves         2ea of Stainless steel shelves included           Ventilation         1ea         2ea           Circulation         Gravity Convection Type	RS232 Port		Available to connect with PC				
Internal         Stainless Steel (#304)           External         Powder Coated Steel           Insulation         Glass Wool           Shelves         2ea of Stainless steel shelves included           Ventilation         Ventilation hole with Stainless Steel Cap, Hole Diameter 40mm           1ea         2ea           Circulation         Gravity Convection Type	Display		Digital LCD with Back Light				
External         Powder Coated Steel           Insulation         Glass Wool           Shelves         2ea of Stainless steel shelves included           Ventilation         Ventilation hole with Stainless Steel Cap, Hole Diameter 40mm           1ea         2ea           Circulation         Gravity Convection Type	Timer		99hr 59 min (delay/continuous function)				
Insulation         Glass Wool           Shelves         2ea of Stainless steel shelves included           Ventilation         Ventilation hole with Stainless Steel Cap, Hole Diameter 40mm           1ea         2ea           Circulation         Gravity Convection Type		Internal		Stainless S	Steel (#304)		
Shelves     2ea of Stainless steel shelves included       Ventilation     Ventilation hole with Stainless Steel Cap, Hole Diameter 40mm       1ea     2ea       Circulation     Gravity Convection Type	Material	External					
Ventilation         Ventilation hole with Stainless Steel Cap, Hole Diameter 40mm           1ea         2ea           Circulation         Gravity Convection Type		Insulation		Glass	Wool		
Ventilation         1ea         2ea           Circulation         Gravity Convection Type	Shelves						
1ea     2ea       Circulation     Gravity Convection Type	Ventilation						
· · · · · · · · · · · · · · · · · · ·							
Safety device Over Temp and Over Current Protector, Sensor Error Detector	Circulation						
Over remp. and over ourent rotector, densor Endr Delector	Safety device		Over Temp. and Over Current Protector, Sensor Error Detector				
Others UL / CUL Certified, CE Certified Storage Function (Temp. and Time) Locking Mode (Jog-Dial Input Disabled) Alarm (Error Status and Timer-end)	Others		Storage Function (Temp. and Time) Locking Mode (Jog-Dial Input Disabled)				
Net Weight (kg) 36 44 69 78	Net Weight (kg)		36	44	69	78	
	• • •		562×664×747	622×754×807	743×819×1,068	808×884×1,133	
Shipping Weight (kg) 43 59 79 92			43	59	,	,	
	Power Consumption		502 W	674 W	1390 W	1566 W	
Energy Consumption, at 100°C 90 Wh 117 Wh 187 Wh 204 Wh	Energy Consum	nption, at 100°C	90 Wh	117 Wh	187 Wh	204 Wh	
, at 150°C 181 Wh 230 Wh 337 Wh 398 Wh	, at 150°C		181 Wh	230 Wh	337 Wh	398 Wh	
Power Supply 120V, 60Hz or 230V, 50/60Hz	Power Supply		120V, 60Hz or 230V, 50/60Hz				

\* Other Specifications are available upon Customer's Request.

#### <Continued on next page>

Cat. No

Description

Articles

# <Continued from... Ovens, Gravity Convection-type, "WON">

### Ordering Information

#### Standard Model, Gravity/Natural Flow, with Wire Shelves

DH.WON05032	Oven, Standard, 230V, 32 Lit., "WON-32", with Cord / Plug
DH.WON05050	, 50 Lit., "WON-50", with Cord / Plug
DH.WON05105	, 105 Lit., "WON-105", with Cord / Plug
DH.WON05155	, 155 Lit., "WON-155", with Cord / Plug
DH.WON06032	Oven, Standard, <b>120V</b> , <b>32 Lit.</b> , <b>"WON-32</b> ", with Cord / Plug
DH.WON06050	, <b>50 Lit.</b> , <b>"WON-50</b> ", with Cord / Plug
DH.WON06105	, <b>105 Lit.</b> , <b>"WON-105</b> ", with Cord / Plug
DH.WON06155	, <b>155 Lit.</b> , <b>"WON-155</b> ", with Cord / Plug

#### Built in Viewing Window Model, Gravity/Natural Flow, with Wire Shelves

DH.WON07105	Oven, Window, 230V, 105 Lit., "WON-W105", with Cord / Plug
DH.WON07155	, 155 Lit., "WON-W155", with Cord / Plug
DH.WON08105	Oven, Window, <b>120V</b> , <b>105</b> Lit., "WON-W105", with Cord / Plug
DH.WON08155	, <b>155</b> Lit., "WON-W155", with Cord / Plug

## Spare Wire Shelves, Stainless Steel

DH.WON11032	Wire Shelf, for 32 Lit., "ONS032", w280×d280mm
DH.WON11050	, <b>for 50 Lit., "ONS050",</b> w340×d310mm
DH.WON11105	, <b>for 105 Lit., "ONS105",</b> w455×d375mm
DH.WON11155	, for 155 Lit., "ONS155", <code>w520</code> $ imes$ d440mm

## Validation (IQ, OQ) Service

-50
-105 -155
-W105 -W155

# WiseRemote<sup>®</sup> Remote Control Software

Connection of *Wisd*.<sup>22</sup> Temperature Devices with Interface RS232C to a PC Export Recorded Data (Excel Spreadsheet)

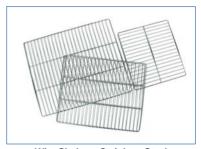




RS232C Cable & Software



Oven, Gravity/Natural Flow-type, Built in Viewing Window Model, with Wire Shelves "WON-W155"



Wire Shelves, Stainless Steel (Included)