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.

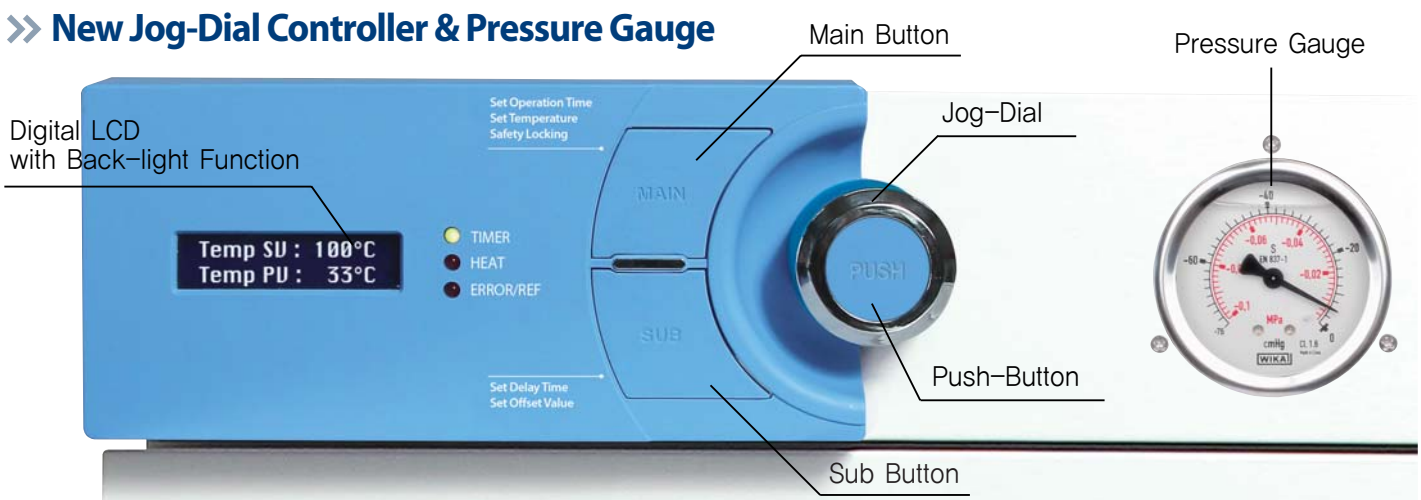
Also, a new gas is inserted into the chamber through the Vent line located on the bottom and the inner air (gas) is simultaneously released through the Vacuum line located on the top.
By doing that, the vacuum is maintained in the chamber while the gas is exchanged.

• 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 ThermoStable™ OV Precise Vacuum Ovens, Highly Safety Viewing Window, 18.6-/30-/69-Lit., up to 200℃ NEW
with 2 × Al-Shelves, Digital Fuzzy Control, Superior Temp. & Vacuum Accuracy, Highly Safety Viewing Window, 10~750 mmHg

- **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)**
- **Patented Jog-Dial Control System and Back-Light LCD**
- **UL/CUL Certified** ■ **CE Certified**
- **PL (Product Liability) Insurance**

✻ Digital Fuzzy 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)

Precise Vacuum Oven "ThermoStable OV-30"

※ See page 161
for the Optional Vacuum Pumps

Specification

Model		ThermoStable OV-20	ThermoStable OV-30	ThermoStable OV-70
Capacity		**18.6 Lit.**	**30 Lit.**	**70 Lit.**
Vacuum Range		10 ~ 750 mmHg		
Temp.	**Range / Sensor**	Ambient +5℃ to 200℃ / PT100		
	Accu./ Uniformity	± 0.5℃ at 100℃ / ±2.0℃ at 100℃		
Heating Power/Consumption		300W×2ea	300W×2ea	400W×4ea
Heat-up Time		50 min. to 100 ℃, 90 min. to 150 ℃		
Timer & Alarm		99hr 59min (with delay / Continuous run.), Error status & Timer-end		
Display		Digital LCD with Back Light		
Controller		Digital Fuzzy Controller with Jog-Dial Switch (Turn & Push)		
Resolution		Control : ±1.0℃, Display : ±1.0℃		
Shelves		Included 2ea Aluminum Shelves		
Safety Circuit		Over Temp. and 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)	472×443×542	507×483×577	570×588×677
Vacuum Inlet Valve Size		od. 10 mm		
Net Weight		48 kg	56 kg	82 kg
Packing Size (w×d×h) (mm) & Gross Weight		572×660×840	710×762×970	780×826×1,030
		67 kg	76 kg	114 kg
Power Consumption		600 W	600 W	1.7 kW
Power Supply & Cord Plug*		1 Phase, AC 120V, 60Hz or AC 230V, 50 / 60Hz		

* Other Specifications are available upon Customer's Request.

WiseRemote® Remote Control Software

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

Main Screen

RS232C Cable & Software

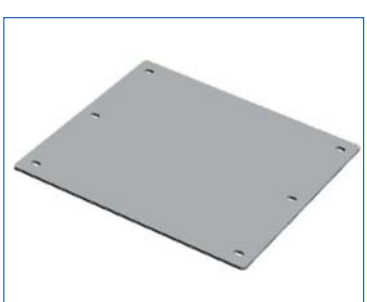
Ordering Information

DH.WOV03020 Vacuum Oven, **230V, 18.6 Lit., "ThermoStable OV-20"**
DH.WOV03030 , **30 Lit., "ThermoStable OV-30"**
DH.WOV03070 , **70 Lit., "ThermoStable OV-70"**

DH.WOV04020 Vacuum Oven, **120V, 18.6 Lit., "ThermoStable OV-20"**
DH.WOV04030 , **30 Lit., "ThermoStable OV-30"**
DH.WOV04070 , **70 Lit., "ThermoStable OV-70"**

Spare Aluminum Shelves

DH.WOV11020 (1) Standard Shelf, Aluminum, **"OVS020",** w295×d285×h98mm, for **18.6 Lit.**
DH.WOV11030 , **"OVS030",** w295×d285×h98mm, for **30 Lit.**
DH.WOV11070 , **"OVS070",** w395×d395×h130mm, for **70 Lit.**



(1) Standard Shelf, Aluminum (Included)

Validation (IQ, OQ) Service

DH.WOV31020 Validation Service(IQ, OQ), **"OVV020",** for **"ThermoStable OV-20"**
DH.WOV31030 , **"OVV030",** for **"ThermoStable OV-30"**
DH.WOV31070 , **"OVV070",** for **"ThermoStable OV-70"**

Vacuumer® Precision Vacuum Pumps, "VOP"-Series, 50 ~ 120Lit.
with Double-Stage, Direct Drive & Oil Sealed Rotary Type, Gas Ballast Valve Installed

(1) VOP-60

(2) VOP-100


(3)

(4) 1Lit.

(5) 4Lit.

■ *Gas Ballast Valve Installed*
- ✻ Double Stage Vacuum Pump
- ✻ Over Current Protection
- ✻ Physical and Chemical Apparatus Industries
- ✻ Industrial Machines
- ✻ Vacuum Pumping System

■ *Oil Back Flow Prevention Mechanism Installed*
- ✻ Easy-to-use Large Finger Grips
- ✻ Installed Filter Prevent Sludge Contamination
- ✻ Vacuum Evaporation Equipment
- ✻ Vacuum Dryer
- ✻ Vacuum Freeze Dryer. Etc

Specification

Model	"VOP-60"	"VOP-100"
Pumping Speed (50/60Hz)	50 / 60 Lit./min	100 / 120 Lit./min
Ultimate Pressure (Pa)	6.7×10^{-2} (6.7×10^{-1})	
Motor Power	Single Phase 220V, 200W, 4poles	Single Phase 220V, 400W, 4poles
Motor Speed(50/60Hz)	1430 / 1730 RPM	
Recommended Oil	COSMA-100	
Oil Capacity(mL)	800	900
Suction Pipe(o.d×i.d)	NW25(KF25)	
Temp. Range	7~40℃	
Weight	17kg	25kg
Dimensions(w×d×h)(mm)	165×411×234	171×464×238

✻ Per Customer's request various specifications are available.
✻ Using the Macleod gauge the ultimate pressure is measured. The measurements from the pirani gauge are show In( )

Ordering Information

V3.VOP060 (1) Vacuum Pump, **"VOP-60"**, 50 / 60 Lit./min, (50 / 60Hz), 220V
V3.VOP100 (2) , **"VOP-100"**, 100 / 120 Lit./min, (50 / 60Hz), 220V

Optional Accessories for VOP-series

V3.OMT150 (3) Oil Mist Trap for **"VOP-60" / "VOP100"**
V3.COS101 (4) Oil for Vacuum Pump VOP-series, 1Lit.
V3.COS104 (5) , 4Lit.

※ Selection Guide
We Recommend "VOP-60" Vacuum Pump for 18.6- / 30-Lit. Vacuum Oven(P.159~160)
We Recommend "VOP-100" Vacuum Pump for 70Lit. Vacuum Oven(P.159~160)