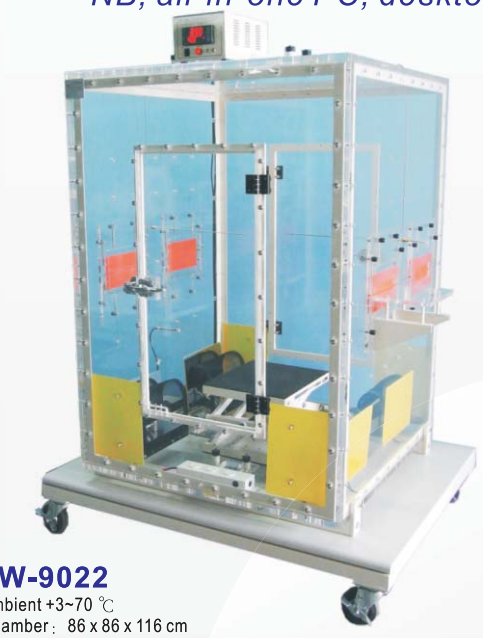
Long Win's Thermal Solutions

LongWin
Since 1985

LW-9022 Series - Natural Convection Chamber

Applicable for thermal design and quality test of heat sink, thermal module, LED, NB, all-in-one PC, desktop PC, server, LCD monitor, and other electronic devices



LW-9022
Ambient +3~70 ℃
Chamber：86 x 86 x 116 cm
Door: 90 x 90 & 30 x 60 cm

We guarantee

True natural convection condition

Temperature uniformity report

Features

1. **Temperature control, accuracy <±0.5℃**
2. **Temperature uniformity: Standard deviation <2°C**
3. **IR imaging visualization with LW-9395 ZnSe window**
4. **Flow visualization with LW-9117 laser sheet generator and LW-9205 smoke generator**

LW-9022S
Ambient +3~70 ℃
Chamber: 50 x 50 x 62 cm
Door: 50 x 40 cm

LW-9022M
Ambient +3~70 ℃
Chamber: 146 x 116 x 176 cm
Door: 60 x 100 cm x 2

LW-9022L
Ambient +3~70 ℃
Chamber: 200 x 110 x 180 cm
Door: 100 x 100 cm x 2

LW-9022H
Ambient +3~90 ℃
Chamber: 86 x 86 x 116 cm
Door: 90 x 90 & 30 x 60 cm

LW-9022P
Ambient +3~70 ℃
Chamber: 86 x 86 x 116 cm
Door: 90 x 90 & 30 x 60 cm
Programmable high and low temperature control

LW-9022B
Ambient +3~70 ℃
Chamber: 86 x 86 x 116 cm
Door: 90 x 90 & 30 x 60 cm
High base structure

Introduction

LW-9022 series generate **natural convection** condition with **accurate temperature control and good temperature uniformity**.

Different from ovens which offer forced convection condition, **LW-9022 series** can provide a windless phenomenon to convect air simply by temperature gradients, thus be able to **simulate authentic environments and know real heat transfer performance, or even with strict environmental factors.**

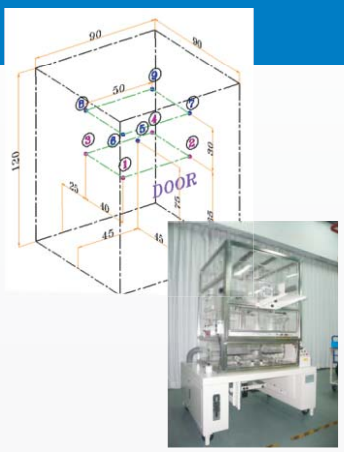
Chambers with different sizes can be applied to various kinds of **thermal management** and **cooling issues**.

Programmable temperature and **relative humidity (RH%)** control are also able to be chosen.

In our lab, there are all models for demonstration and test.
Also more than 100 kinds of instruments for thermal & flow, fluid mechanics, condition test and solid mechanics

Temperature Uniformity Report

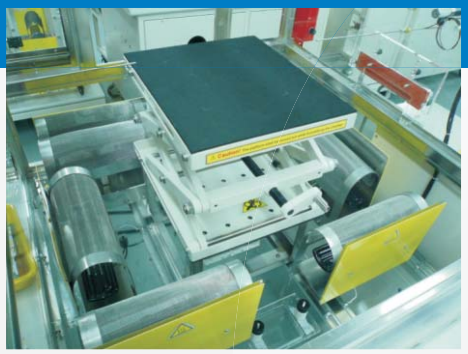
Model: LW-9022TH; RH Condition: 95%



Temp.	Measurement Points									Avg	SD	Non-uniformity
	1	2	3	4	5	6	7	8	9	℃	℃	
30 ℃	29.1	29.4	29.5	29.2	29.2	30.2	29.8	29.3	29.2	29.45	0.35	1.18%
Deviation	-0.3	0.0	0.1	-0.2	-0.2	0.8	0.4	-0.1	-0.2			
50 ℃	49.0	49.8	49.0	49.2	50.2	48.7	49.0	49.4	50.0	49.35	0.54	1.08%
Deviation	-0.4	0.5	-0.4	-0.2	0.9	-0.7	-0.4	0.1	0.7			
60 ℃	59.9	60.9	60.8	60.5	60.8	60.8	60.6	60.6	60.1	60.54	0.34	0.56%
Deviation	-0.6	0.4	0.2	-0.1	0.2	0.3	0.1	0.0	-0.4			
70 ℃	69.6	70.2	70.4	69.8	68.9	69.6	69.5	69.2	68.7	69.54	0.56	0.81%
Deviation	0.0	0.7	0.9	0.2	-0.7	0.1	0.0	-0.3	-0.8			

Placing Specimen

Lifting platform



Stepless height adjustment
Max. loading: 30 kg
Upper plate: 30 x 35 cm

Lattice platform

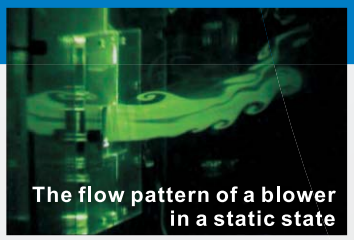
Stepwise height adjustment by moving independent grid rods
Height range: 30 cm

Suspension platform

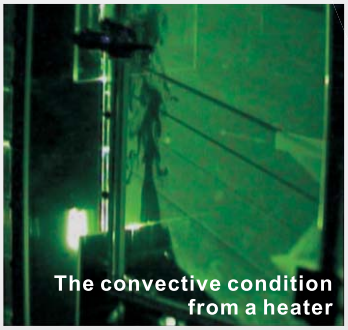
The platform is suspended by steel ropes on each corner.
Stepless height adjustment

Applications

Flow visualization



The flow pattern of a blower in a static state



The convective condition from a heater

Chambers of LW-9022 series can be cooperated with the following devices,

LW-9117 laser sheet generator for having a 2-D light source

LW-9205 smoke generator for having a non-toxic, not sticky, not stinky and not burnable seeding source

to observe flow patterns in natural convective conditions

IR imaging visualization

Chambers of LW-9022 series can be cooperated with the following devices,

LW-9395 ZnSe IR window which performs a good penetration capability of infrared.

After setting the window on the chamber wall, the thermal imaging from an IR imaging camera can be caught conveniently without influencing any test conditions inside the chamber.

LongGwin
Fundamental, Forward & First

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