



Long Win Science & Technology Corporation

Thermal Solutions

Product Catalogue

Since 1985, consistently devoted to research, design, manufacture and service for scientific instruments about thermal management, fluid & material mechanics and educational fields, especially owns a leading position on research & measurement products for electronic cooling market.

More than 100 kinds of self-developed apparatus are in our lab with the area of 2,000 sq. meters in Taiwan.

Welcome to visit us and have a test. You may also browse our website for more information.

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Design & Manufacture of Research Apparatus for

- Fan Performance
- Thermal Interface Material
- Cooler Modules
- Heat Pipes
- Vapor Chambers
- IC Packages
- LED
- Natural Convection Simulation
- Flow Visualization
- Thermal Wind Tunnel
- Cloud Computing



LW-9015 Series AMCA 210 Wind Tunnel

- According to AMCA 210-07 Standard Fig. 12 & Fig. 15 Configuration
- Airflow rate:
Range: 0.2~30100 CFM ⁽¹⁾
Accuracy: <3.5% INFS
Repeatability error: <2%
- Pressure: 0~200 mmAq ⁽²⁾
- 3 Experimental Items:
PQ: Fan performance with pressure & airflow rate
SRC: System Resistance Curve
RQ: Thermal resistance & correlation between P & Q
- Operation Modes:
Constant voltage
Constant RPM ⁽³⁾
PWM ⁽³⁾
Operation point check
Cpk
- Standard Air Property Conversion (STP)
- PC-based control & data acquisition
- User-friendly interface

⁽¹⁾ Depend on models
⁽²⁾ Depend on models, optional devices and also customizable spec.
⁽³⁾ For DC powered specimen only



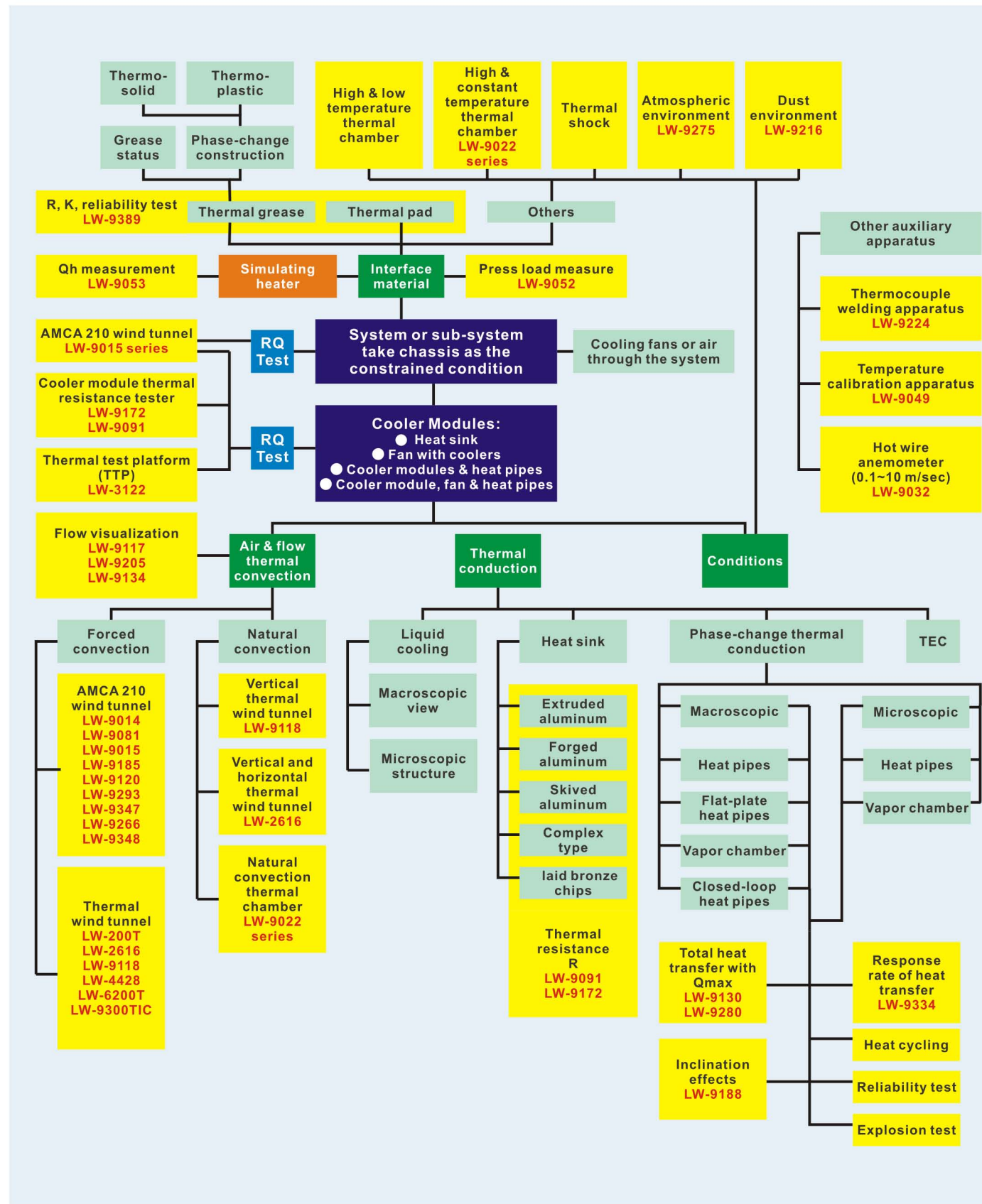
LW-3122 Thermal Test Platform (TTP)

- Optional device of AMCA 210 Wind Tunnel for RQ test
- Installed on the downstream of wind tunnel
- Test section dimension:
Max. 200(H) x 200(W) x 800(L) mm
Min. 25(H) x 50(W) x 800(L) mm
- Stepwise cushion 1~4U for height adjustment



LW-9389 TIM Thermal Resistance & Conductivity Measurement Apparatus

- According to Fourier's law & ASTM D 5470-06
- Applicable for thermal pad & grease
- Suitable for $R > 0.01 \text{ K} \cdot \text{cm}^2/\text{W}$ or $K < 20 \text{ W/m} \cdot \text{K}$
- Max. hot surface temp. 180°C
- In-situ thickness measurement: 3 sets of LVDT
Accuracy: 5 μm ; Reading: 1 μm
- Off-line measurement for hard material
- PC-based control & data acquisition





LW-2616 Vertical & Horizontal Thermal Wind Tunnel

- Inclination angle: 0~90°
- Speed range: 0.5~4 m/sec
- Temperature: Ambient~70°C or $\Delta T=45^\circ\text{C}$
- Max. heating power: 8 kW
- Test section: 100 x 250 x 600(L) mm
- Low turbulence intensity & high uniformity



LW-4428 Thermal Wind Tunnel

- Speed range: 0.5~5 m/sec
- Temperature: 25~90°C
- Specimen electrical loading: Max. 1000 Watt
- Specimen weight loading: Max. 30 kg
- Test section: 0.6(W) x 1(H) x 0.6(D) m
- Low turbulence intensity & high uniformity
- With TSI anemometer for wind speed measurement



LW-9560 Walk-In Chamber

- Overall dimension: 5(W)x9(D)x3(H) m (Ref.)
- Internal dimension: 3.6(W)x3(D)x2.3(H) m
- Airflow rate: 200~6,500 CFM
- 40 mmAq loading
- Temperature control: 10~60°C
- System power: 88 kW (max.)



LW-9561 Heat Load Dummy Server

- 2 sets of heat load for dummy 10U server
- Heat load capacity: 0.2 ~ 6 kW
- Independent heating control for each 2U as a unit
- Heating power display for each 2U and total 10U
- PWM control for 2 sets of cooling fans respectively
- Differential pressure for airflow rate calculation.
- PC-based data acquisition

LW-9091 Cooler Module Thermal Resistance Measurement Apparatus

- Press load range: 0~100 kgf
- Effective pressing area: 240 x 150 mm
- Meter bar dimension: 25.4 x 25.4 mm
- Max. heating power: 180 Watt or customized spec.
- TI temperature: <150°C
- PC-based control & data acquisition



LW-9172 Cooler Module Thermal Resistance Transient Inspection Apparatus

- 4 channels in a row
- Fast inspection: 40 sec for a specimen of 400 g in weight
- Thermal resistance deviation: <0.02
- Repeatability error: <0.03
- Automatic steady state calibration, transient test for GO/NG & data acquisition



LW-9070S Clip Force Measurement for CPU Cooler

- Applicable for fatigue test
- Pressure range : 0~50 kgf
- Customizable loading base seat, simulating chips & fixtures
- With RS-485 interface
- Capable of PC-based data acquisition



LW-9052 Press Load Apparatus

- Press load range: 0~100 kgf
- Press load accuracy: $\pm 0.1\%$
- With RS-485 interface

LW-9053 Heat Flux Model (Dummy Heater)

- Meter bar dimension: 25.4 x 25.4 mm
- Max. heating power: 300 Watt or customized spec.





LW-9334 Heat Pipe Thermal Resistance & Qmax Measurement Apparatus

- Max. heating power: 350 Watt
- Inclination angle: $\pm 90^\circ$
- Press load range: 1~20 kgf
- Chamber temperature: Ambient+3~40°C
- Water cooling temperature: Ambient+5~50°C
- PC-based control & data acquisition



LW-9280 Heat Pipe Thermal Resistance & Qmax On-Line Inspector

- 4 channels in a row
- Thermal resistance distinguish ability: $\pm 0.01^\circ\text{C}/\text{W}$
- Spontaneous Qmax test for GO/NG
- Max. heating power: 350 Watt
- Water cooling temperature: Ambient+5~50°C
- PC-based control & data acquisition



LW-9510 Vapor Chamber Thermal Performance Measurement

- Max. heating power: 350 Watt
- Case temp. of heat source: $< 120^\circ\text{C}$
- Heat source area: 25.4 x 25.4 mm
- Water cooling temperature: Ambient+5~50°C
- With RS-485 interface



LW-9150 Rjc Measurement of IC Package

- Tj measurement
- Constant current: 0~2 mA
Resolution: $\pm 1\ \mu\text{A}$
- Forward voltage: 0~1.999 V
Resolution: $\pm 25\ \mu\text{V}$
- Press load: 4~50 kgf
- Max. heating power: 180 W
- PC-based control & data acquisition

LW-9383 LED Tj & Thermal Resistance Measurement Apparatus

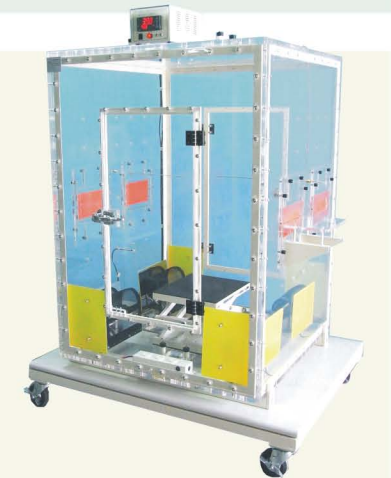
- Tj, Rja, Rjc measurement
- Constant current: 0~2 mA
Resolution: $\pm 1\ \mu\text{A}$
- Forward voltage: 0~4.999 V
- Data acquisition for Tj temperature: 200 kHz
- With RS-485 interface



LW-9022 Series Natural Convection Thermal Chamber

- True natural convection condition
- Temperature control: Ambient+3~90°C⁽¹⁾
Accuracy: $< \pm 0.5^\circ\text{C}$
- Temperature uniformity deviation: $< \pm 2^\circ\text{C}$
- Chamber dimension:
LW-9022S: 50 x 50 x 62(H) cm
LW-9022: 86 x 86 x 116(H) cm
LW-9022M: 146 x 116 x 176(H) cm
- LW-9022P is for programmable temp. control.
- LW-9022TH is for both temp. & RH% control.
- Various of choices for specimen placement
- IR image visualization with LW-9395 ZnSe window

⁽¹⁾ Depend on models



LW-9134 Flow Visualization Water tank

- Tank dimension: 0.9 x 0.7 x 0.9(H) m
- Water flow rate control: 5~77 lpm
Corresponding air flow rate: 2.5~40 CFM
- Seeding density: 0.99~1.01 g/cm³

LW-9117 Laser Sheet Generator

- Output power: 300 mW
- Wavelength: 532 nm

