



# LARGE FORMAT

RESEARCH QUALITY, CLOSED LOOP WIND TUNNELS

The CLWT-100, -150, and -200™ are precision research wind tunnels designed for testing components, heat sinks, PCBs, and racks or chassis. They are ideal for flow measurements, flow visualization, and thermal resistance measurements at different operation temperature and air flow.

These wind tunnels generate airflows from 0 to 4 m/s and support temperatures between -10°C and +85°C. Their aerodynamically designed ducts and advanced flow management ensure consistent airflow within the test section. Temperature regulation is achieved using conventional heaters and optional refrigeration units.

To minimize heat loss, the tunnels feature a double-wall structure with thermal insulation. The test section is also insulated with a Delrin frame, equipped with front and side windows made of heat-resistant multilayer glass for optical access and easy flow visualization.

To enhance data collection, the test section features 24 sensor-ports on the front and sides, accommodating different probes such as thermocouples, Pitot tubes, and velocity sensors. Wind tunnel operation can be fully automated with the optional stagePOINT™ technology.



## FEATURES

- » **Heat Sink Characterization**  
Characterize a variety of heat sink sizes for natural and forced convection cooling
- » **Heat Sink Comparison**  
Large test section enables testing of multiple heat sinks in the same environment
- » **Component Testing**  
Elevated testing of IC, IGBTs and power devices at elevated temperatures
- » **PCB Testing**  
Test actual or simulated PCBs for thermal and flow distribution
- » **Flow Visualization**  
Observe flow distribution in the tunnel by smoke or buoyant bubbles through the all Plexiglas™ test section
- » **Variable Speed**  
Change flow rate by controlling the fan RPM, using exterior power supply
- » **Flow Direction**  
Test the effect of flow direction by controlling the fan operation
- » **Quick Access**  
Quickly change the test specimen through the front access test section
- » **Sensor Ports**  
Multiple sensor ports for measuring P, T, and V at different locations of DUT

| Part Number | L                | W               | H                | Weight                | Test Domain (L x W x H)              | Sensor Ports | Flow Range                   | Temperature Range                 |
|-------------|------------------|-----------------|------------------|-----------------------|--------------------------------------|--------------|------------------------------|-----------------------------------|
| CLWT-100    | 112"<br>(285 cm) | 45"<br>(114 cm) | 78"<br>(198 cm)  | 2000 lbs<br>(900 kg)  | 12" x 12" x 12"<br>(30 x 30 x 30 cm) | 24           | 0 to 800 FPM<br>(0 to 4 m/s) | 52°F to 185°F<br>(-10°C to +85°C) |
| CLWT-150    | 140"<br>(356 cm) | 50"<br>(127 cm) | 99"<br>(251 cm)  | 2200 lbs<br>(997 kg)  | 18" x 18" x 18"<br>(45 x 45 x 45 cm) | 24           | 0 to 800 FPM<br>(0 to 4 m/s) | 52°F to 185°F<br>(-10°C to +85°C) |
| CLWT-200    | 130"<br>(330 cm) | 50"<br>(127 cm) | 124"<br>(315 cm) | 2300 lbs<br>(1043 kg) | 24" x 24" x 24"<br>(61 x 61 x 61 cm) | 24           | 0 to 800 FPM<br>(0 to 4 m/s) | 52°F to 185°F<br>(-10°C to +85°C) |

For further technical information, please contact Advanced Thermal Solutions, Inc. at **1-781-769-2800** or **ats-hq@qats.com**.

