SENSORS

ATS-Patented Single-Sensor Technology

Advanced Thermal Solutions revolutionized the industry in the late 1990s with the introduction of its patented, single-sensor technology, which measures temperature and velocity with a single sensor and eliminates errors attributable to non-isothermal air flow. It broke a second paradigm when it followed years later with the production of its Candlestick sensor, a 360^0 reading sensor, offering the least invasive profile in the test domain, thus insuring the highest accuracy. Altogether, ATS presents eight different profiles and over a hundred variations in customization for its very selective and loyal instrumentation customers.

Candlestick Sensor

Multi-Sensor in Plane

Multi-Sensor PBL

Hand-Held Probe

Hand-Held Surface Probe

Traversing Probe

Micro Sensor

Spot Sensor

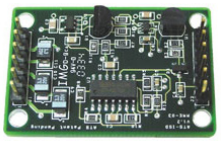
Technical Comparison

Product	Base Diameter	Height/Length	Temperature Range	Velocity Range
Candlestick Sensor	0.37” (9.5 mm)	0.35”, 0.47”, 0.78” (9 mm, 12 mm, 20 mm)	-20°C to 120°C	0 to 51 m/s (10,000 ft/min)
Multi Sensor In Plane MS 1000-IP-20	0.60” (15.2 mm)	0.53”, 0.73”, 0.92” (13 mm, 18 mm, 23 mm)	-20°C to 120°C	0 to 51 m/s (10,000 ft/min)
Multi Sensor PBL MS 1000-PBL-20	0.60” (15.2 mm)	0.53”, 0.73”, 0.92” (13 mm, 18 mm, 23 mm)	-20°C to 120°C	0 to 51 m/s (10,000 ft/min)
Hand Held Probe HHP-A	N/A	24” (609.6 mm)	-20°C to 120°C	0 to 51 m/s (10,000 ft/min)
Hand Held Surface Probe HP 1000-SP	N/A	6” (150 mm)	-20°C to 120°C	N/A
Traversing Probe TP 1000-20	N/A	6” (150 mm)	-20°C to 120°C	0 to 51 m/s (10,000 ft/min)
Micro Sensor MIC 1000-20	N/A	1.5” (38.1 mm)	-20°C to 120°C	0 to 51 m/s (10,000 ft/min)
Spot Sensor SP 1000-20R1	N/A	Custom	-10°C to 150°C	N/A

HOT WIRE ANEMOMETER DEVICES

TEMPERATURE, VELOCITY, AND PRESSURE MEASUREMENT

ATS offers a wide selection of Hot Wire Anemometer Devices that measure temperature, velocity, and pressure. All instruments use our patented single-sensor technology, which eliminates errors introduced as a result of the air flow being non-isothermal. The iQ-200™ is the only device in the industry that measures temperature, velocity and pressure with a single-system.



ISD™

eATVS™

ATVS-2020™

ATVS-NxT™

iQ-200™

Technical Comparison

Features	ISD™	eATVS™	ATVS™	ATVS-NxT™	iQ-200™
Measures Surface Temperature	✓	✓	✓	✓	✓
Measures Air Temperature	✓	✓	✓	✓	✓
Measures Velocity	✓	✓	✓	✓	✓
Measures Pressure	x	x	x	x	✓
No. of Channels	1	4 or 8	4 to 32	4 to 32	16
Temperature Range	-20°C to 120°C	-20°C to 120°C	-20°C to 120°C	-20°C to 120°C	-40°C to 750°C
Temperature Accuracy	+/- 1°C	+/- 1°C	+/- 1°C	+/- 1°C	+/- 1°C
Velocity Range	0 to 10,000 fpm (0 to 50 m/sec)	0 to 10,000 fpm (0 to 50 m/sec)	0 to 10,000 fpm (0 to 50 m/sec)	0 to 10,000 fpm (0 to 50 m/sec)	0 to 10,000 fpm (0 to 50 m/sec)
Temperature Range for Velocity	20°C to 85°C	20°C to 85°C	20°C to 85°C	20°C to 85°C	20°C to 85°C
Velocity Accuracy (% of Reading)	+/- 2 %	+/- 2 %	+/- 2 %	+/- 2 %	+/- 2 %
Pressure Range	N/A	N/A	N/A	N/A	0 to 1,035Pa (0 to 0.15 psi)
Pressure Accuracy	N/A	N/A	N/A	N/A	1% of full scale
Software	stageVIEW™	stageVIEW™	stageVIEW™	stageVIEW™	IQstage™
Power	DC power supply	DC power supply	DC power supply	110V or 220V	110V or 220V
Analog	0-5 VDC	x	x	x	x
Interface USB	x	✓	✓	N/A	✓
Weight	6 grams	4 lbs (2kg)	10 lbs (5kg)	15 lbs (7.5kg)	15 lbs (6.8kg)
Depth/Length	1.60” (40.6 mm)	9.2” (23.4 cm)	11.0” (27.9 cm)	15.0” (38 cm)	16.9” (43 cm)
Width	1.06” (26.98 mm)	5.3” (13.4 cm)	13.5” (34.3 cm)	19” (48 cm)	13.4” (34 cm)
Height	0.41” (10 mm)	2.5” (6.5 cm)	5.3” (13.5 cm)	7.5” (19 cm)	5.0” (12.6 cm)
UL Components	✓	✓	✓	✓	✓
Standalone	x	x	x	✓	x
Measurement Duration	Unlimited	Unlimited	Unlimited	Unlimited	Unlimited
Notes					12 thermocouples 4 pressure sensors

CLOSED LOOP WIND TUNNELS

WIND TUNNELS FOR ALL TESTING NEEDS

Advanced Thermal Solutions offers a comprehensive selection of research-grade closed-loop wind tunnels for companies in the electronics and power industries, ranging in weight from 156 to 2300 pounds and in height from 27" to 124". Whether your needs can be handled by a bench-top version or room-sized version, ATS is there to meet your needs.

Technical Comparison

Product	Length	Width	Height	Weight	Test Domain (L x W x D)	Sensor Ports	Flow Range	Temperature Range
CLWT-067	143.6 cm (56.5")	49.3 cm (19.4")	26.6" (67.7 cm)	70.7 kg (156 lbs)	41.8 x 22.5 x 9.5 cm (16.4" x 8.9" x 3.7")	6	0 to 7 m/s (0 to 1400 fpm)	-10°C to 85°C (52°F to 185°F)
CLWT-115	221 cm (87")	(49.3 cm (19.4")	34" (86.5 cm)	102 kg (226 lbs)	77.6 x 26 x 11.5 cm (30.5 x 10.2 x 4.5")	6	0 to 5 m/s (0 to 1000 fpm)	-10°C to 85°C (52°F to 185°F)
CLWT-100	285 cm (112")	114 cm (45")	78" (198 cm)	900 kg (2000 lbs)	30 x 30 x 30 cm (12 x 12 x 12")	24	0 to 4 m/s (0 to 800 fpm)	-10°C to 85°C (52°F to 185°F)
CLWT-150	356 cm (140")	127 cm (50")	99" (251 cm)	997 kg (2200 lbs)	45 x 45 x 45 cm (18 x 18 x 18")	24	0 to 4 m/s (0 to 800 fpm)	-10°C to 85°C (52°F to 185°F)
CLWT-200	330 cm (130")	127 cm (50")	315 cm (124")	1043 kg (2300 lbs)	61 x 61 x 61 cm (24 x 24 x 24")	24	0 to 4 m/s (0 to 800 fpm)	-10°C to 85°C (52°F to 185°F)

*Please note temperature ranges below ambient requires refrigeration system

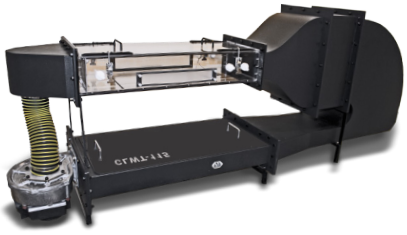
CLWTC-1000™ - Wind Tunnel Controller

Custom-built for the **CLWT-067™** and **CLWT-115™** closed loop wind tunnels, the **CLWTC-1000™** is designed to automatically control the air flow and temperature through the test chamber. It minimizes the chances for errors attributed to the use of multiple and/or less capable controlling devices.

CLWTC-1000™

CLWT-100™
CLWT-150™
CLWT-200™

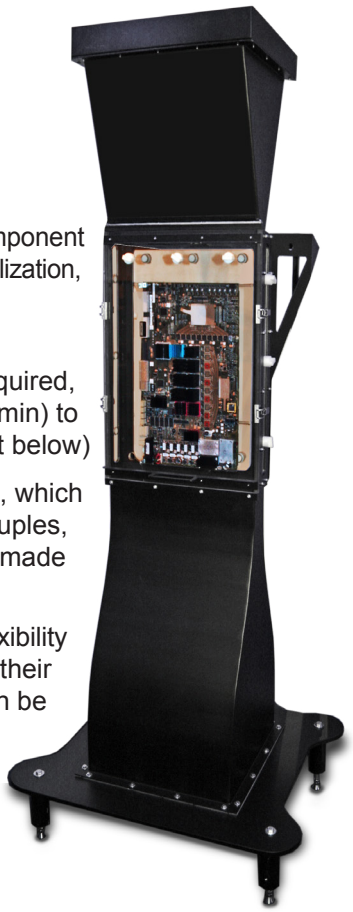
CLWT-067™



CLWT-115™

CWT Series

CONTROLLED OPEN LOOP WIND TUNNEL



These research quality wind tunnels are designed for PCB and component level testing. They are used in air flow characterization and flow visualization, thermal resistance measurements and generation of P-Q curves.

Fans are tray-mounted and easily replaced with another tray to accommodate larger or smaller fans. If other flow ranges are required, the air velocity in the test section can be varied from 0 m/s (0 ft/min) to 10 m/s (2000 ft/min) with the fan tray that is provided. (see chart below)

There are sensor ports on the front and sides of the test section, which allows for the insertion of a variety of probes, such as thermocouples, Pitot tubes, velocity measuring sensors, etc. The test section is made of Plexiglas™ for ease of flow visualization.

PCBs are mounted on a flexible railing in the test section. The flexibility of the movable mounting plate allows users to design and build their own modifications to suit specific needs. The mounting plate can be adjusted in two directions using appropriate length standoffs.

The wind tunnel has honeycombs and screens to suppress turbulence and provide uniform and near homogeneous flow at the test section. A mounted diffuser at the exit and before the fans helps with pressure recovery to provide a smooth flow.

* Power supply not included.

Product	Length	Width	Depth	Weight	Test Domain (L x W x D)	Sensor Ports	Velocity Range	Fans
CWT-100	197.6 cm (77.8")	81.3 cm (32")	68.6 cm (27")	51.7 kg (114 lbs)	61 x 40.6 x 8.3 cm (24 x 16 x 3.3")	18	0 to 10 m/s (0 to 2000 fpm)	Four 24 VDC
CWT-104	198 cm (78")	107 cm (42")	86 cm (34")	74 kg (164 lbs)	61 x 61 x 10 cm (24 x 24 x 4")	18	0 to 9 m/s (0 to 1800 fpm)	Five 24 VDC
CWT-105	198 cm (78")	107 cm (42")	86 cm (34")	75 kg (165 lbs)	61 x 61 x 12.7 cm (24 x 24 x 5")	18	0 to 7 m/s (0 to 1400 fpm)	Five 24 VDC
CWT-106	195.6 cm (76.9")	101.6 cm (40")	84.8 cm (33.4")	72 kg (159 lbs)	61 x 61 x 15.2 cm (24 x 24 x 6")	18	0 to 6 m/s (0 to 1200 fpm)	Five 24 VDC
CWT-107	197.7 cm (77.84")	101.6 cm (40")	77.2 cm (30.4")	70 kg (155 lbs)	61 x 61 x 17.8 cm (24 x 24 x 7")	18	0 to 5.5 m/s (0 to 1100 fpm)	Five 24 VDC
CWT-108	195 cm (77")	101 cm (40")	83 cm (33")	88 kg (193 lbs)	61 x 61 x 20.3 cm (24 x 24 x 8")	18	0 to 5.5 m/s (0 to 1100 fpm)	Five 24 VDC
CWT-109	203.2 cm (80")	107 cm (42")	89 cm (35")	88.4 kg (195 lbs)	61 x 61 x 22.9 cm (24 x 24 x 9")	18	0 to 5 m/s (0 to 1000 fpm)	Five 24 VDC
CWT-110	213.4 cm (84")	107 cm (42")	100 cm (40")	90 kg (198 lbs)	61 x 61 x 25.4 cm (24 x 24 x 10")	18	0 to 4.5 m/s (0 to 900 fpm)	Five 24 VDC
CWT-112	223.5 cm (88")	107 cm (42")	114 cm (45")	91 kg (201 lbs)	61 x 61 x 30.5 cm (24 x 24 x 12")	18	0 to 3.2 m/s (0 to 750 fpm)	Five 24 VDC
CWT-125	238.8 cm (94")	107 cm (42")	152 cm (60")	95 kg (210 lbs)	61 x 61 x 63.5 cm (24 x 24 x 25")	18	0 to 2 m/s (0 to 400 fpm)	Six 24 VDC

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

FEATURES:

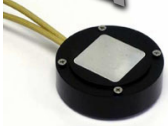
- **Component Temperature Testing**
  Evaluate the effects of airflow on components, temperature and PCB response and reliability
- **Heat Sink Characterization**
  Characterize a variety of heat sink sizes for natural and forced convection cooling
- **Sensor Calibration**
  Uniform velocity profile at the test section allows accurate calibration of sensors
- **Heat Sink Comparison**
  Test two heat sinks side by side and compare their thermal performance in the same environment
- **Pressure Drop Testing**
  Measure pressure drop across components or PCB for a given flow
- **Multiple PCB Testing**
  Test actual or simulated PCBs for thermal and flow distribution
- **Flow Visualization**
  Observe air flow distribution in the tunnel by smoke or buoyant bubbles through the all Plexiglas™ test section
- **Variable Speed**
  Change flow rates by controlling the fan RPM
- **Quick Access**
  Quickly change the test specimen through the front access test section
- **Sensor Ports**
  Measure pressure, velocity and temperature through the sensor ports
- **Orientation**
  Wind tunnel can be operated horizontally or vertically

RECOMMENDED ACCESSORIES:

WTC-100™ Wind Tunnel Controller

CLWTC-1000 Wind Tunnel Controller

ATVS-NxT™ Hot Wire Anemometer



HP-97™ High Power Component Simulator

ATS ADVANCED THERMAL SOLUTIONS, INC.
Innovations in Thermal Management®

INNOVATIONS IN THERMAL MANAGEMENT

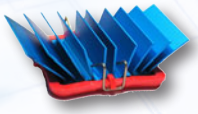
Heat Sink Overview

maxiFLOW™

L: 15-45 mm
W: 15-45 mm
H: 7.5-19.5 mm

maxiFLOW™ design features a low profile, spread fin array that maximizes surface area for more effective air cooling.

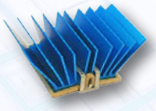
maxiFLOW™ maxiGRIP™



L: 17-45 mm
W: 17-45 mm
H: 7.5-19.5 mm

maxiGRIP™ is a secure heat sink attachment that does not require holes in the PCB. For STD and low profile component heights 1.5-4.5 mm

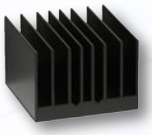
maxiFLOW™ superGRIP™



L: 15-45 mm
W: 15-45 mm
H: 7.5-19.5 mm

superGRIP™ strong, uniform attachment force helps achieve maximum performance. Requires minimal space around components perimeter making it ideal for densely populated PCBs.

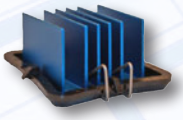
Straight Fin



L: 15-45 mm
W: 15-45 mm
H: 7.5-24.5 mm

High aspect ratio straight fin extrusions with the best thermal performance in its class.

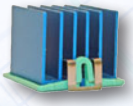
Straight Fin maxiGRIP™



L: 17-45 mm
W: 17-45 mm
H: 7.5-19.5 mm

maxiGRIP™ is a secure heat sink attachment that does not require holes in the PCB. For STD and low profile component heights 1.5-4.5 mm

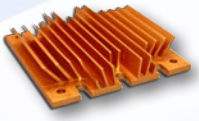
Straight Fin superGRIP™



L: 15-45 mm
W: 15-45 mm
H: 7.5-19.5 mm

superGRIP™ strong, uniform attachment force helps achieve maximum performance. Requires minimal space around components perimeter making it ideal for densely populated PCBs.

maxiFLOW™ Brick



L: 23-117 mm
W: 23-118 mm
H: 6-23 mm

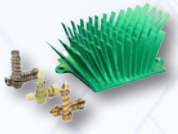
maxiFLOW™ heat sinks, specially designed to cool 1/8, 1/4, 1/2 and full brick DC-DC power converters.

fanSINK™

L: 27-45 mm
W: 27-45 mm
H: 9.5-24.5 mm
*fan not included

Cross-Cut heat sink with maxiGRIP™ attachment allows for the direct attachment of the fanSINK™ to the component.

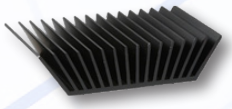
Push Pin



L: 40-41 mm
W: 38-45 mm
H: 10-25 mm

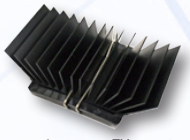
maxiFLOW™ push pin heat sinks based on industry standard hole patterns for a variety of device cooling applications.

ASIC Cooling



Designed specifically for ASIC packages and their unique cooling requirements.

Flip-Chip Cooling



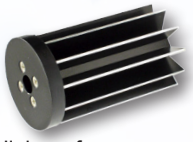
L: 21-62 mm
W: 32-52 mm
H: 9-16 mm

maxiFLOW™ custom designs for flip-chip components such as Freescale MPCs.

LGA Cooling

High performance cooling solutions for high power LGA components.

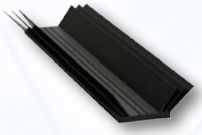
STAR LED



L: 18-85 mm
Dia: 45-100 mm

High-performance cooling solutions designed for high heat flux LEDs.

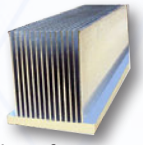
Linear LED



L: 305-330 mm
W: 45 mm
H: 26 mm

maxiFLOW™ design for cooling linear LED lighting products. Reduces temperatures by 50%

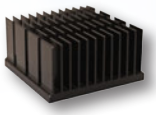
Extrusions



L: 140-1524 mm
W: 41-483 mm
H: 10-73 mm

High performance aluminum extrusions provide cost-effective price points in over 120 profiles.

High Performance Extrusions



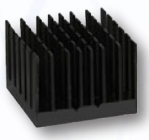
L: 10-60 mm
W: 10-60 mm
H: 2-25 mm

Over 1300 high performance specialty extrusions offered in 3 fin type configurations: straight fin, slant fin, and cross-cut.

Stamped

Diverse range of board level applications. Over 74 different designs for varied applications.

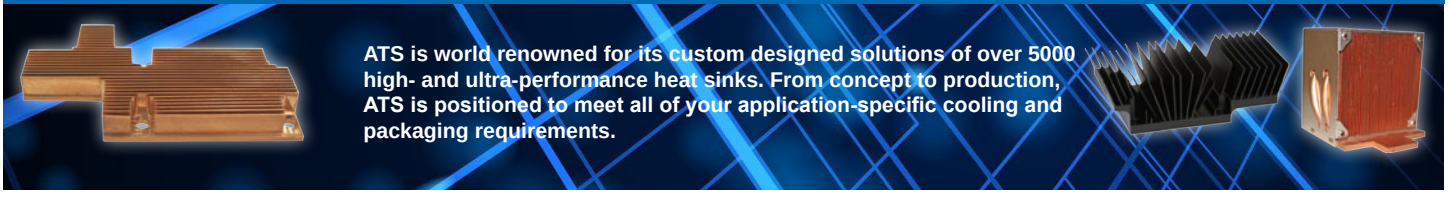
Cross-Cut



L: 15-45 mm
W: 15-45 mm
H: 7.5-24.5 mm

High aspect ratio cross-cut extrusions with the best thermal performance in its class.

Custom Designed Air and Liquid Cooling Solutions



ATS is world renowned for its custom designed solutions of over 5000 high- and ultra-performance heat sinks. From concept to production, ATS is positioned to meet all of your application-specific cooling and packaging requirements.

ADVANCED THERMAL SOLUTIONS, INC. | 89-27 ACCESS ROAD | NORWOOD, MA 02062 USA | T: 781.769. 2800 | ATS-HQ@QATS.COM | WWW.QATS.COM

PTM-1000

DIFFERENTIAL PRESSURE TRANSDUCER FOR HIGHLY ACCURATE MEASUREMENTS WITHIN ELECTRONIC SYSTEMS

The PTM-1000™ Pressure Transducer Module is a four-channel test instrument for measuring differential pressure in enclosures where air flow integrity is critical to proper performance. As the demand for more energy efficient cooling grows, the need for measuring the pressure at each source of heat generation will follow.

In thermal characterization applications, the PTM-1000 is capable of measuring pressure drop across channels in circuit cards and assemblies; differential pressure across Pitot tubes, orifice plates and venturi tubes; intake to exhaust pressure drop in forced convection cooling systems and pressure drop across in-line filters, to name a few.

The PTM-1000 Pressure Transducer Module includes user-friendly stagePRESSURE™ application software, which provides easy data viewing and logging. The user can save four channels of pressure data as a function of elapsed time for study of raw data history.

The system is available in two pressure ranges; 0-0.15 PSI and 0-0.30 PSI, the ideal for precise measurements within telecommunications, networking, embedded computing and other high performance electronic applications. Data accuracy is within 1% of the full scale. The pressure transducer is capable of measuring pressure at temperatures from -40° to 120°C with data accuracy within 1% of full scale.

The PTM-1000 pressure transducer connects to a PC via a USB socket to acquire power and data communications. It can be powered by a 5 volt power supply and provides four independent 0-5V analog output signals proportional to the pressure of each channel. These features enable the system to be easily integrated into other control circuits that require analog voltage as input signals.

ATS also offers its pressure transducer as a standalone board, the PTB-1000, for OEM applications or system integration.

AVAILABLE PRESSURE RANGES
0-0.15 PSI, 0-0.30 PSI

OPERATING TEMPERATURE RANGE
-40° to 120°C

COMPENSATED TEMPERATURE RANGE
0 to 70°C

STORAGE TEMPERATURE
-55° to 135°C

CONNECTION TYPE
USB

OVERALL DIMENSIONS (L X W X H)
233.17 mm x 144.38 mm x 60.02 mm
(9.18" x 5.68" x 2.36")

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

FEATURES:

» **Highly Accurate**
Provides accurate data to within 1% of the full scale

» **Low Pressure Measurement**
From 0-0.15 PSI or 0-0.30 PSI. Additional pressure ranges available as custom options from 0-100 PSI

» **stagePRESSURE™ Software**
User friendly application for easy data viewing and logging

» **USB Connection**
Provides power and signal communication

» **0-5V Output Analog Voltage**
For integration into control circuits that require analog voltage as input signals

APPLICATIONS:

» **Telecommunications**

» **Networking**

» **Embedded Systems**

» **Automotive**

» **Medical Instrumentation**

» **Pneumatic Control**

» **HVAC**

» **Airflow Monitors**

» **Thermal Management**

ATS ADVANCED THERMAL SOLUTIONS, INC.
Innovations in Thermal Management®

COLD PLATE CHARACTERIZATION SYSTEM

iFLOW-200™

MEASURE THE THERMAL & HYDRAULIC PERFORMANCE OF COLD PLATES

The **iFLOW-200™** system measures the thermal and hydraulic characteristics of a cold plate. It replaces the complex process of varying the volumetric flow rate of the coolant, and measuring the pressure drop and temperature of the cold plate. **iFLOW-200™** users simply set up the starting flow, ending flow, number of test points, dwell time, power applied to the cold plate and other parameters in the **coolingVIEW™** software and run the application.

FEATURES & BENEFITS

- **iFLOW-200™** measures a cold plate's inlet/outlet fluid temperature, surface temperature, coolant volumetric flow rate and pressure drop by providing different flow rates to the cold plate.
- **iFLOW-200™** measures coolant temperature from 0-70°C with accuracy of +/-1°C, using K-type thermocouples. Distilled water is used as the reference coolant.
- **iFLOW-200™** measures cold plate differential pressure up to 103,000 Pa (15 psi) with pressure measurement of +/-1% of full scale.
- **iFLOW-200™** features a separate control box and hydraulics units with USB connections.
- **iFLOW-200™** includes user-friendly **coolingVIEW™** application software that automates the testing of a cold plate by setting the required parameters.
- **iFLOW-200™**software, **coolingVIEW™**, calculates thermal resistance and pressure drop of the cold plate as a function of flow rate for selected liquids other than distilled water.

OVERALL DIMENSIONS (D x W x H)
365 mm x 425 mm x 120 mm

MAXIMUM VOLUMETRIC FLOW RATE
4.5 liter/min

FLOW TEMPERATURE RANGE
0 to 70 °C

SURFACE TEMPERATURE RANGE
0 to 200 °C

DIFFERENTIAL PRESSURE RANGE
+/- 103,000 Pa(15 psi)

PRESSURE ACCURACY
+/- 1% of full scale

TEMPERATURE ACCURACY
+/- 1 °C

FLOW RATE ACCURACY
+/-1% of full scale

SOFTWARE
coolingVIEW™

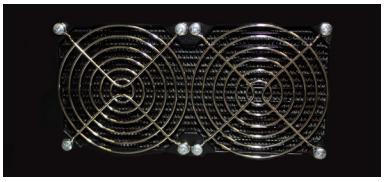
For further technical information, please contact Advanced Thermal Solutions, Inc. at **1-781-769-2800** or **www.qats.com**

FEATURES:

FLUID LEVEL INDICATOR

INLET/OUTLET OF THE COLD PLATE

SENSOR PORTS



COOLING SYSTEM FOR THE INTERNAL HEAT EXCHANGER

APPLICATION DOMAIN

- Evaluating and troubleshooting different cold plate models
- Simulating different applications and conditions
- Optimizing flow and thermal performance
- Testing alternative liquids

iQ-200™

MEASURE TEMPERATURE, VELOCITY & PRESSURE WITH ONE SYSTEM

- **iQ-200™** provides the user with the capability to ***simultaneously*** or ***individually*** measure all of the required thermal parameters with one system.
- **iQ-200™** provides multiple channels of Temperature, Velocity and Pressure.
- **iQ-200™** eliminates the need for having multiple systems or additional software to synchronize data collection of different parameters.
- **iQ-200™** comes with the unique *LabVIEW™* - based operating software, **IQ*stage*™**, eliminates data collection errors induced because of measurement time lapses or transience associated with the use of multiple systems.
- **iQ-200™** provides a compact, portable and versatile system to minimize lab clutter and go where measurement is required.

APPLICATION DOMAIN

iQ-200™ is designed to be used wherever Temperature, Pressure and Velocity measurements are required, either simultaneously or individually.

Some examples where iQ-200™ is used:

- Heat sink design and selection
- PCB characterization
- Card rack (ATCA, PICMG, 1U, etc.) characterization
- Qualification testing in the environmental chamber,e.g., NEBS, Milspec, etc.
- Mockup testing
- Wind tunnel testing of cards, heatsinks, etc.

Data Port Panel

Back Panel

OVERALL DIMENSIONS (D x W x H)
43 cm x 34 cm x 12.6 cm
(17" x 13.3" x 5")

NUMBER OF VELOCITY CHANNELS
16

FLOW RANGE
0 to 50 m/s (0 to 10,000 ft/min)

NUMBER OF THERMOCUPLES
12 (J, K, T, and E types)

NUMBER OF PRESSURE SENSORS
4 (Differential)

PRESSURE RANGE
0 to 0.15 psi

SOFTWARE
IQ*stage*™

VOLTAGE INPUT
110V or 220V

WEIGHT
7.5 kg (15 lbs.)

TEMPERATURE

- 12 thermocouple ports supporting J, K, T and E types, with a range of -40 to 750°C.
- 16 thermister ports (also used for velocity measurement) with a range of -10 to 85°C.

VELOCITY

- 16 hot wire anemometer ports supporting ATS single sensor velocity measurement technology, (*requiring no need to change sensors when measuring different velocity ranges).*
- Supports ATS unique, patented Candle Stick Sensor

ATS Candle-Stick Sensor

- Standard range for velocity measurement is 0-6 m/s (1200 ft/min). With custom calibration, the range is 0-50 m/s (10,000 ft/min) *– no need to change sensors*

PRESSURE

- Four ports supporting differential or absolute pressure measurements with a range of 0-1,035Pa (0-0.15 psi)

DATA ACQUISITION SOFTWARE - IQstage™

- **IQ*stage*™** manages incoming data from various sensors and provides a rich graphical presentation of the results
- User-friendly *LabVIEW™* - based **IQ*stage*™** is included with the system

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