

# THE ULTIMATE MEASURING INSTRUMENTS

Handheld Anemometers | HVAC Testing Instruments | High Temperature Anemometer | Multi-Channel Anemometers | Particle Counters | Cleanroom Monitoring System | Indoor Air Quality Monitors | Dust Monitors | Gas Monitors | Sound Meters | Vibration Meters | Automotive Testing Instruments | Research Instruments



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# **KANOMAX GROUP**

Since our inception over 85 years ago, Kanomax has been at the forefront of providing a broad range of precision measuring instruments for fluid mechanics research, environmental, aerosol research, particle measurement, and customized system applications. As a company that prides itself in technological innovation and providing quality products and services, we strive to maintain our unsurpassed reputation of supplying the very best testing solutions to the industrial and academic fields.

# Global Network

Our direct subsidiaries and Kanomax's affiliates and well-trained distributors worldwide are there to provide the most efficient support and service for you. Our global network is always listening to the voice of customers, like you, in order to keep providing the best measurement solutions possible.

- Kanomax Holdings Inc. (New York, NY)
- Kanomax Corporation (Osaka, Japan)
- Kanomax Instrument Shenyang Inc. (China)
- Kanomax Holdings Shanghai Co., Ltd (China)

- Kanomax USA Inc. (Andover, NJ)
- Kanomax Japan Inc. (Osaka-Tokyo-Nagoya, Japan)
- Kanomax FMT, Inc. (White Bear Lake, MN)

# ISO Certification

Kanomax is an ISO 9001/ISO14001 certified company. Kanomax management and production procedures adhere to these international quality standards.





JOA 2790

JOA-EM 1628

# KANOMAX PROVIDES OUTSTANDING MEASUREMENT SOLUTIONS

# **Environmental Measurements**

- HVAC Testing
- Indoor Air Quality
- Industrial Testing



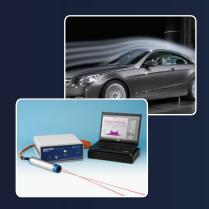
# Aerosol/Particle Measurements

- Cleanroom Contamination Control
- Aerosol Research



# Fluid Measurements

Fluid Mechanics





# CALIBRATION FACILITY ENSURES ACCURACY AND REPEATABILITY

Kanomax fully understands service is an essential part of the total solution provided to our valued customers. Having already established a worldwide service network, we continuously strive to improve our support services.

For reliable measurements it is recommended that all instruments be calibrated on an annual basis. This ensures ongoing credibility and accuracy. Our calibration laboratory in New Jersey maintains the most accurate wind tunnel of its kind. Kanomax provides the highest quality of service available with one of the quickest turnaround times in the industry. Our service specialists are highly-trained and will calibrate your instruments to the highest standards.

Our lab certifies Kanomax products adhere to NIST standards.





High Velocity Wind Tunnel



Particle Generator



Open Jet Wind Tunnel

# **FEATURED PRODUCTS**



**Handheld Anemometers** 



Airflow Capture Hood



Handheld Particle Counters



Remote Particle Sensor



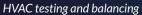


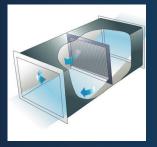
# **HANDHELD**ANEMOMETERS

**Applications** 









Testing airflow rate of ventilation

# **Specifications**

Model(s)

**Sensor Type** 

**Air Velocity Ranges** 

ft./min

m/s

Resolution

Accuracy

Air Flow CFM (ft<sup>3</sup>/min)

**Temperature Ranges** 

Accuracy

**Relative Humidity Ranges** 

Accuracy

**Differential Pressure Ranges** 

Accuracy

**Dimensions** 

Main Unit

**Probe** 

Weight





# Anemomaster<sup>™</sup> LITE

Palm-size and feather-weight standard hot-wire anemometer

- Compact and lightweight
- Data HOLD function
- Includes probe with 59 in (150 cm) cable, extension rod, 4 pcs. AA batteries, carrying case, and NIST Certificate



# Anemomaster<sup>TM</sup> Professional

Telescopic, articulating probe is designed for HVAC testing and balancing applications

- Simultaneous display of temperature and airflow or air velocity
- Telescopic, articulating probe
- Data HOLD function, record and recall MAX/MIN/AVG
- Store up to 1,500 measurements
- Data processing software allows real-time measuring and downloading data to PC
- Complete with telescopic probe with 79 in (200 cm) cable, Data processing software, USB cable, AC adapter, 6 pcs. AA batteries, carrying case, and NIST Certificate



# Climomaster™ Series

Multi-function hot-wire anemometer with detachable compatible probes

- Simultaneously measures and displays air velocity, flow rate, humidity, temperature, and differential pressure
- 8 interchangeable probes are available for various applications
- Smart probe technology: easy probe replacement without recalibration of the main unit
- Data HOLD function, record and recall MAX/MIN/AVG
- Store up to 20,000 measurements
- Data processing software allows real-time measuring and downloading of data to PC
- Includes probe, 79 in (200 cm) probe cable, 6 pcs. AA batteries, carrying case, and NIST Certificate



# Anemomaster<sup>TM</sup> Model 6820 Series

Rotating vane anemometer with high accuracy from 40 to 7800 fpm

- 2 vane head sizes are available for users' applications
- Industrial grade enclosure and metal vane probe
- Data HOLD, record and recall MAX/MIN
- Complete with metal vane sensor (choice of 2.75" or 1.00" diameter) with 5 ft long cable, extension rod with handle grip, flexible extension rod, 3 pcs. AA batteries, carrying case, and NIST Certificate

6006-DE	6036-0E/CE	6501	6822/6824/6825
Hot-wire	Hot-wire	Hot-wire	Rotating vane
2 to 3940	2 to 6000	2 to 9480	40 to 6890
0.01 to 20.0	0.01 to 30.0	0.01 to 50.0	0.2 to 35
0.01 m/s	0.01 m/s	0.01 m/s	0.01 m/s
+/- 5% of reading or 0.015 m/s whichever is greater			+/- 1% of reading
n/a	0 to 2,709,360	0 to 2,709,360	0 to 9,999
-4 to 158°F (-20 to 70°C)	-4 to 158°F (-20 to 70°C)	-4 to 158°F (-20 to 70°C)	-4 to 212°F (-20 to 100°C)
+/- 1°F (0.5°C)	+/- 1°F (0.5°C)	+/- 1°F (0.5°C)	+/- 0.5°F (0.3°C)
n/a	n/a	0.2 to 98.0% RH	5.0 to 95.0% RH
n/a	n/a	+/- 2% of reading	+/- 2% of reading
n/a	+/- 5.00 kPa *Option	+/- 5.00 kPa *Option	n/a
n/a	+/- (3% of reading +0.01) kPa	+/- (3% of reading +0.01) kPa	n/a
W2.4" x H4.7" x D1.2"	W3.4" x H7.4" x D1.6"	W3.4" x H7.4" x D1.6"	W 3.07" x D 1.32" x H 6.26"
0.24" (6.1 mm) in diameter	0.24" (6.1 mm) in diameter	1.0 to 10 mm in diameter	Vane: 2.75" or 1.00" in diameter
0.4 lbs (180 g)	0.9 lbs (400 g)	0.9 lbs (400 g)	0.95 lbs (430 g)

# **CLIMOMASTER**<sup>™</sup> 6501 SERIES

# KANOMAX

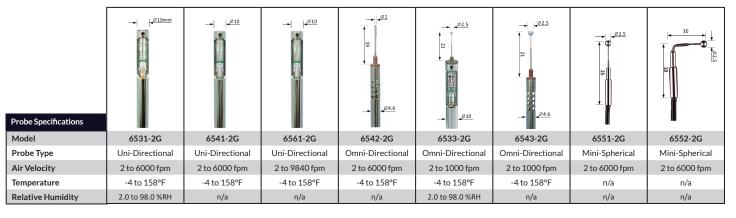
# Multi-function hot-wire anemometer with detachable compatible probes

# **Features:**

- Simultaneously measures and displays air velocity, flow rate, humidity, temperature, and differential pressure
- Airflow rate calculation based on registered duct size
- Now equipped with an automatic atmospheric pressure compensation function for precise airflow measurement
- Store up to 20,000 measurements
- 8 interchangeable probes are available for various applications
- Smart probe technology: easy probe replacement without recalibration of the
- Includes probe, 79 in (200cm) probe connection cable, 6 pcs. AA batteries, carrying case, and NIST Certificate

Main Unit Specifications	
Air Velocity Ranges	2 to 9840 fpm (0.01 to 50.0 m/s) *Varies by probe
Accuracy	+/- 2% of reading or 0.015 m/s whichever is greater
Temperature Ranges	-4 to 158°F (-20 to 70°C)
Accuracy	+/- 1.0°F (0.5°C)
Relative Humidity Ranges	2.0 to 98.0%RH *Varies by probe
Accuracy	+/- 2.0%RH
Differential Pressure Ranges (Option)	+/- 5.00 kPa
Accuracy	+/- (3% of reading + 0.01) kPa
Interface	USB / RS232C (for print-out)
Datalogging	Up to 20,000 records
Analog Output (Option)	0 to 1 V
Power Supply	6 x AA Batteries or AC Adapter
Dimensions	W3.4" x H7.4" x D1.6" (88 x 188 x 41 mm)
Weight	0.9 lbs (400 g)





### Accessories

6501-CE Main Unit with Analog Output & Pressure Sensor 6531-04: Telescopic Extension Rod (Flex-Neck)

6531-05: Telescopic Extension Rod (Straight) 6531-06: 2m Probe Cable (also available in 5, 10, 20m) Data Processing Software (for Windows) 6000-41:

6000-62: Spare carrying case

Printer Cable for DPU-S245 6000-31:

6000-61: Hands-free Case 6113-02: AC Adapter

Portable Thermal Printer DPU-S245: TP-5RLPK: Rolled Printer Paper (1 roll)







6000-61

# ANEMOMASTER<sup>TM</sup> PROFESSIONAL MODEL 6036

Multi-function hot-wire Anemometer with telescopic, articulating probe

# **Features:**

- Simultaneous display of temperature and airflow or air velocity
- Telescopic probe measures are velocity and temperature in air ducts, vents, and small openings
- Data HOLD function, Record and recall MAX/MIN/AVG
- Store up to 1,500 measurements (Professional only)
- Data processing software allows real-time measuring and downloading data to your PC
- Includes telescopic probe with 79 in (200 cm) cable, Data processing software (Professional only), USB cable (Professional only), AC adapter, 6 pcs. AA batteries, carrying case and NIST Certificate

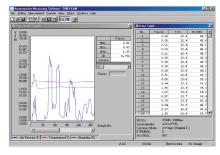
# **Applications:**

- HVAC Testing
- Facility Maintenace
- Critical Environment Certification
- IAQ Investigation



Specifications	
Model	Anemomaster™ Professional Model 6036
Probe Type	Telescopic and Articulating tip
Air Velocity Ranges	2 to 6000 fpm (0.01 to 30.0 m/s)
Accuracy	+/- 3% of reading or 0.015 m/s whichever is greater
Temperature Ranges	-4 to 158°F (-20 to 70°C)
Accuracy	+/- 1.0°F (0.5°)
Differential Pressure Ranges	+/- 5.00 kPa *Option
Accuracy	+/- 3% of reading +0.01 kPa
Interface - Digital	USB / (RS232C for print-out)
Datalogging	Up to 1500 records
Power Supply	6 x AA batteris or AC Adapter
Dimensions	W3.4" x H7.4" x D1.6"
Weight	0.9 lbs (400 g)

Control of the Contro



Windows 10 compatible software included

### Accessories

\*6036-CE: Professional with Analog and Pressure Sensor

6000-31: Printer Cable for DPU-S245

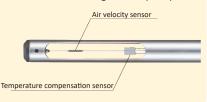
6000-61: Hands-free Case 6000-62: Spare carrying case 6113-02: AC Adapter

**DPU-S245:** Portable Thermal Printer **TP-5RLPK:** Rolled Printer Paper (1 roll)

# Theory of thermal (hot-wire) type anemometers

The air velocity sensor is heated and temperature elevated (relative to the surrounding air) by means of control electronics. The temperature compensation sensor senses the ambient, or surrounding air temperature, and forces the velocity sensor to stay at a constant overheat above the ambient. The circuit forces the voltage to be equal by

means of an operational amplifier. Air flowing past the sensor tends to cool the sensor, thus driving down its resistance. The amplifier responds by immediately delivering more power to the circuit to maintain voltage equilibrium. Delivered power is converted into electrical signals to display.



# ANEMOMASTER<sup>™</sup>LITE

# Palm-size and feather-weight standard hot-wire anemometer

# **Features:**

- Compact and lightweight
- Display switchable between m/s or ft/min (FPM) for air velocity and °F and °C for air temperature
- Average measurements over 1 or 5 seconds for air velocity
- Data HOLD function
- 4 pcs. AA batteries, extension rod, carrying case and NIST Certificate

Specifications		
Model	6006	
Air Velocity Ranges	2 to 3940 fpm (0.01 to 20.0 m/s)	
Accuracy	+/- 5% of reading or 0.015 m/s whichever is greater	
Temperature Ranges	-4 to 158°F (-20 to 70°C)	
Accuracy	+/- 1.0°F (0.5°C)	
Power Supply	4 x AA Batteries or AC Adapter	
Dimensions	W2.4" x H7.4" x D1.2"	
Weight	0.4 lbs (180 g)	



6112-03: Spare Extension Rod 6006-02: Spare Hard Carrying Case

# **VANE AIR VELOCITY TRANSMITTERS**

# **Features:**

- Transmitters specially designed for monitoring the Indoor Air Quality in the air conditioning, heating, and ventilation industries.
- Two versions available:

AT400: Air Velocity Transmitter (2.75" and 1.00" probe options available)
TAT420: Air Velocity & Temperature Transmitter (2.75" and 1.00" probe options available)

- Three separate power supplies 110 VAC 50/60 Hz, 220 VAC 50/60 Hz, and 10-30 VDC
- Three concurrent outputs for each measurement: 0-1 VDC, 0-5 VDC, and 4-20 mA DC
- Temperature range -4 to 212°F (-20 to 100°C)



Main Unit Specifications					
Measurement Specifications					
Air Velocity	Metal rotating vane	AP275/APT275: 2.75" diameter AP100/APT100: 1" diameter			
	Range	1" Probe: 300 to 6890 FPM (1.5 to 35 m/s) 2.75" Probe: 50 to 7800 FPM (0.2 to 40 m/s)			
	Accuracy	1" Probe: ±0.5% of Full-scale + 0.75% of READING ±1 digit 2.75" Probe: ±1.0% of READING ±1 digit			
	Resolution	1 FPM or 0.01 m/s			
Temperature	Range	APT Probe: -4 to 176 F (-20 to 80C)			
	Accuracy	±0.5°C			
	Resolution	0.1°F or 0.1°C			
General Specifications					
Analog Output	Current output: DC 4–20mA Voltage output: DC 0~1V or 0~5V				
Operating Temperature	Transmitter: -4 to 176F (-20 to 80°C) Probe: -22 to 212F (-30 to 100°C)				
Power Supply	120 or 220 VAC (50-60 Hz) 10 to 30 VDC				
Dimensions	Transmitter Housing	W 4.8 x D 2.2 x H 4.8 inches (12.2 x 5.6 x 12.2 cm)			
Warranty	1 year	1 x Rotating Vane Probe Head, Probe cable, Operation Manual, NIST Certificate			
	TAT420 1 x Rotating Vane Probe Head, Probe cable, Operation Manual, NIST Certificate				

# ANEMOMASTER<sup>™</sup> VANE MODEL 6820 SERIES

# KANOMAX The Ultimate Measurements

# Rotating vane digital anemometer

# **Features:**

- High accuracy from 40 to 7800 feet per minute
- 2 vane head sizes are available for users' applications
- Industrial grade enclosure and metal vane probe
- Large display with backlight
- Data HOLD, record and recall MAX/MIN
- Includes metal vane sensor (choice of 2.75" or 1.00" diameter) with 5 ft long cable, extension rod with handle grip, flexible extension rod, 3 pcs. AA batteries, carrying case, and NISTtraceable calibration certificate







6825 comes with	HTP20
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Specifications	3023 Comes With 111 202						
Model	6822 6824		24	6825			
Air Velocity Ranges	2.75" Head	1.00" Head	2.75" Head	1.00" Head	2.75" Head	1.00" Head	
ft/min	40 to 7800	300 to 6800	40 to 7800	300 to 6800	40 to 7800	300 to 6800	
m/s	0.20 to 40.0	1.5 to 35.0	0.20 to 40.0	1.5 to 35.0	0.20 to 40.0	1.5 to 35.0	
Resolution	1 FPM or 0.01 m/s 1 FPM or 0.01 m/s		0.01 m/s	1 FPM or 0.01 m/s			
Air Flow CFM (ft3/min)	0 to 9	9999	n/a		n/a		
Temperature Ranges	n/a		-4 to 212°F (-20 to 100°C)		-4 to 176°F (-20 to 80°C) *with HTP202		
Accuracy	n/a		+/- (0.3°C +0.2% of reading in °C)		+/- (0.3°C +0.2%	+/- (0.3°C +0.2% of reading in °C)	
Relative Humidity Ranges	n/a		n/a		5.0 to 95.0% RH		
Accuracy	n/a		n/a		+/- 2.0% RH		
Power Supply	3 x AA Batteries		3 x AA Batteries		3 x AA Batteries		
Main Unit Dimensions	W3.2" x H6.5" x D1.5"		W3.2" x H6.5" x D1.5"		W3.2" x H6.5" x D1.5"		
Weight	0.95 lbs (430 g)		0.95 lbs (430 g)		1.1 lbs (500 g)		

Air Velocity Probes					Humidity & Temp. Probe	
Model	AP275	APT275	AP100	APT100	Model	HTP202
Air Velocity	2.75" Head		1.00" Head		Relative Humidity	
ft/min	40 to 7800		300 to 6890		Range	5.0 to 95.0% RH
m/s	0.20 to 40.0		1.5 to 35.0		Resolution	0.1% RH
Accuracy	+/- (1.0% reading + 1 digit)		+/- 0.50% FS + 0.75% reading + 1 digit		Accuracy	+/- 2.0% RH
Temperature					Temperature	
°F	n/a	-4 to 212	n/a	-4 to 212	°F	-4 to 176
℃	n/a	-20 to 100	n/a	-20 to 100	°C	-20 to 80
Accuracy	n/a	+/- (0.3°C +0.2% of reading in °C)	n/a	+/- (0.3°C +0.2% of reading in °C)	Accuracy	+/- (0.3°C +0.2% of reading in °C)



# HVAC TESTING INSTRUMENTS







# **SOLUTIONS FOR HVAC TESTING**

Kanomax provides a complete line of products, from field test equipment to instruments used in the actual test and development of HVAC testing equipment. Rugged but accurate field instruments for the TAB technician, reliable anemometers and particle counters for development support, and precise monitoring instruments for laboratory environment control – we have it all.



Our products are becoming the first choice of HVAC professionals who operate test equipment on a day-to-day basis due to several factors. The innovative engineering of Kanomax products has resulted in unmatched ease of use, which has reduced the number of steps required to complete a task and decreased the level of effort required to utilize the equipment with maximum productivity. The same level of engineering that has maximized productivity through accessibility, has also brought about unmatched reliability so technicians can operate the equipment daily without having to worry about malfunctions or breakdowns.

# **HVAC TESTING INSTRUMENTS BY APPLICATION**

Duct and System Leakage Testing	Facilities Testing	Testing and Balancing
Duct Air Leakage Tester Model 6900	<b>TABmaster Capture Hood</b> <i>Models</i> 6710 & 6720	<b>TABmaster Capture Hood</b> Models 6710, 6720, & 6750
<b>TABmaster Capture Hood</b> <i>Models</i> 6710 & 6720	<b>Micromanometer</b> Model 6700-VG	<b>Micromanometer</b> Model 6700-VG
<b>Micromanometer</b> Model 6700-VG	<b>Handheld Micromanometer</b> <i>Model 6850</i>	Kanomax Anemometers *See Page 3
Handheld Micromanometer Model 6850	Kanomax Anemometers *See Page 3	_

# TABMASTER<sup>™</sup> CAPTURE HOOD MODELS 6710 & 6720



# A solution for airflow testing and balancing

The Kanomax TAB master  $^{\text{TM}}$  is the perfect tool for accurate supply and return airflow measurements. Interchangeable hoods make it easy to sample the air for any duct size. The unit is lightweight and easy to handle. The full color screen can be tilted so it's always at the optimal viewing angle regardless of height.

# **Features:**

- From 23 up to 2531 cfm (40 to 4300 m3/h) range
- Simultaneously measures and displays air flow, temperature and humidity
- Displays the direction of the airflow
- Store up to 8,000 measurements
- Advanced storage feature allows you to store multiple measurements under a single ID#
- Built-in back pressure compensation ensures accuracy for large volumetric flow measurements
- Removable handheld micromanometer with Bluetooth® wireless capability (Model 6715)
- Includes: standard hood, carrying case, PC communication cable, data processing software, user manual, and calibration certificate

# **Applications:**

- HVAC testing, adjusting and balancing
- Air volumetric flow measurements through registers, diffusers and grilles
- Direct readout at supply and return airflow
- Air velocity measurement in the duct
- Check filter fouling by measuring differential pressure

Specifications				
Model	6710		6720	
Airflow Range	23 to 2500 CFM (40 to 4250 m3/	'h)	23 to 2531 CFM (40 to 4300 m3/h)	
Accuracy	+/- 3	% of readi	ing +/- 10 m3/h	
Resolution		1m	3/h	
Air Velocity Range	n/a	0.15 t	to 40 m/s (Pitot), 0.15 to 15 m/s (Velocity Matrix)	
Accuracy	n/a		±3% of readings ±0.05m/s	
Resolution	n/a	0.1 m/s (>10.0m/s) 0.01m/s (<9.99m/s)		
Temperature Range	32 to 122°F (0 to 50°C)		32 to 140°F (0 to 60°C)	
Accuracy	+/- 1.0°F (0.5°C)			
Resolution	0.1°C			
Humidity Range	0 to 100% RH			
Accuracy	+/- 3.0% RH			
Resolution		0.19	6 RH	
Interface	USB	USB, Bluetooth®		
Datalogging	Up to 3000 measurements	Up to 8000 measurements		
Power Supply	AA batteries or AC adapter			
Hood Dimensions	2x2 ft (610x610 mm), $1x4$ ft (305x1220 mm), $2x4$ ft (610 x 1220 mm) $3x2$ ft (915 x 610 mm), $3x3$ ft (915x915 mm), 500x500mm			
Weight	7.9 lbs (3.6 kg)			

# Accessories

6710-01:	Spare Hood 2x2 ft (610x610mm)	6710-05:	Spare Hood 3x3 ft (915x915mm)
6710-02:	Spare Hood 2x4 ft (610x1220mm)	6710-0X:	Spare Hood 4x4 ft (1219x1219mm)
6710-03:	Spare Hood 1x4 ft (305x1220mm)	6710-07:	Spare Hood Support Poles (for 2'x2')
6710-04:	Spare Hood 3x2 ft (915x610mm)	6710-08:	Capture Hood Tri-pod Stand





Portable stand extends up to 6.5' from top to base



The Bluetooth® feature can send data to any Android-based device

# TABMASTER<sup>™</sup> MINI CAPTURE HOOD MODEL 6750



# Airflow capture hood for residential applications

The Kanomax TABmaster Mini Airflow Capture Hood is the perfect HVAC testing tool for residential or small space applications. This direct reading device gives you highly accurate and repeatable measurements in the field. With a compact and lightweight design, operators can quickly check supply and return airflow measurements in buildings.

With its transparent hood design users can easily line up with the register they measure. Capable of recording up to 6000 data points, the TABmaster Mini also comes equipped with Bluetooth® wireless capability to wirelessly start/stop measurements, as well as communicate with the Kanomax TABViewer App.

### Features:

- Bluetooth connectivity
- Lightweight and one-hand operation design
- Wireless control and communication via Kanomax Smart App
- Accurately measure small registers/vents in residential buildings
- Has applications for both residential and commercial buildings

Specifications	
Model	6750
Airflow Ranges	8 to 600 CFM (40 to 4250 m3/h)
Accuracy	+/- 3% + 1 digit m3/h (@ 8 to 350 m3/h ranges) +/- 5% + 1 digit m3/h (@ 350 to 600 m3/h ranges)
Resolution	1 m3/h
Temperature Ranges	32 to 122°F (0 to 50°C)
Accuracy	+/- 0.5°C
Resolution	0.1°C
Operating Temperature	0 to 50°C (with no condensation)
Storage Temperature	-10 to 50°C (with no condensation)
Standard Hood Dimensions	1.162 x 1.162 (355 x 355mm)
Datalogging	Up to 6,000 Measurements
Power Supply	4 x AA batteries or optional AC Adapter
Weight & Dimensions	3.3 lbs (1.5 kg), Main body: [insert here], Micromanometer: 2.4 $\times$ 4.7 $\times$ 1.2 inches (60 $\times$ 120 $\times$ 34 mm)
Warranty	1 year



# Kanomax TABViewer App



# **MICROMANOMETER MODEL 6700-VG**

# Smart micrometer for TAB professionals

The Kanomax Handheld Micromanometer - Model 6700-VG with Bluetooth® wireless capability takes airflow and pressure readings with a pitot tube or the optional velocity matrix. The matrix is a cross shaped grid, similar to the one in the base of the capture hood, that makes it possible to take face velocity readings and average velocity readings at multiple points simultaneously. The Bluetooth® feature can send data to your smartphone or any Android-based device.

### **Features:**

- Bluetooth connectivity
- Capable of taking traversal and grid readings
- Compatible with AirNAB digital data recording platform

Specifications	
Model	6700-VG
Air Velocity Ranges	0.15 to 40 m/s (with pitot tube) 0.15 to 15 m/s (with velocity matrix)
Accuracy	±3% of readings ±0.05m/s
Pressure Ranges	-2500 to +2500 Pa
Accuracy	±1.5% of reading ±0.25 Pa
Temperature Ranges	0 to 50°C
Accuracy	+/- 1% of reading +1°C
Relative Humidity Ranges	0 to 100%RH
Accuracy	±3%RH (10~90%RH)
Interface	USB, Bluetooth®
Datalogging	8000 measurements
Power Supply	4 x AA Batteries or AC Adapter







# AIRNAB BY BUILDING START

# Bluetooth control and exceptional reports

AiRNAB is a digital recording platform that allows TAB technicians to sync their Kanomax Model 6715 Airflow Capture Hoods to their iOS-based mobile device via Bluetooth to start and stop measurements, as well as to automate reporting. With AiRNAB, technicians can ditch the old methods of scribbling notes and manually creating spreadsheet after spreadsheet. Instead, all of the readings data from the 6715 goes right into the user's AiRNAB account. From there the user can generate a custom-made report in just a few clicks.

- · Log in and view air balance readings anytime.
- Track all recorded readings with usernames and date/time stamps.
- · View a chronological TAB work audit trail.
- Generate final TAB reports within 24-48 hours of project completion, regardless of project size.
- Quickly turn around the final TAB report required for a certificate of occupancy



TO LEARN MORE CONTACT A KANOMAX REPRESENTATIVE:

SALES@KANOMAX-USA.COM
(800) 247-8889

# **DUCT AIR LEAKAGE TESTER MODEL DALT 6900**



# The most versatile duct and system tester

Designed to be simple to use, accurate, and extremely convenient, the Kanomax Duct Air Leakage Tester provides step-by-step test configuration and automated leakage testing based on the SMACNA HVAC Air Duct Leakage Test Manual, and is accurate to  $\pm 2.5\%$  of reading. Though built tough with an on-board, powerful motor, the DALT 6900 is very easy to transport on its pneumatic tires and leaves little to no footprint on the job site.

# **Features:**

- Tests up to 10,500 sq ft duct surface area
- Step-by-step test configuration and automated leakage testing
- Works for square and circular ducts as well as VAV systems

Specifications					
Model	6900				
Air Valacity Danges	Flow Grid: 2 to 360 CFM (36 to 640 m3/h)				
Air Velocity Ranges	Nozzle: 2 to 21 CFM (4 to 36 m3/h)				
Accuracy	$2.5\%$ of reading $\pm0.1\text{m}3/\text{h}$				
Resolution	0.01 m3/h				
Pressure Ranges	± 10 in.wg (± 2500 Pa) Duct Static Pressure				
Accuracy	1% of reading ± 1 Pa				
Resolution	0.1 Pa				
Temperature Ranges	32 to 140 °F (0 to 60 °C)				
Accuracy	±0.5 ℃				
Resolution	0.1 ℃				
Absolute Pressure Ranges	20.6 to 38.3 in.Hg (70 to 130kPa)				
Accuracy	2% of reading				
Resolution	0.1kPa				
Testing surface area	Up to 10500 sq. ft.				
Interface	USB				
Datalogging	Up to 1000 measurements				
Weight	Approx. 75kg (165lbs)				
Dimensions	W21 x D20 x H47 inches (54 x 50 x 120 mm)				
Power Source	<b>DALT 6900-0E:</b> 110-120V, 1 Phase, 50/60Hz, 16A				
. 55. 55455	DALT 6900-1E: 220-240V, 1 Phase, 50/60Hz, 10A				



# **AUTOMATED LEAKAGE TESTING WITH EXPORTABLE REPORTS**

Our Dust Air Leakage Tester has pre-loaded standards in its user interface, including the SMACNA standard. By following the simple step-by-step testing process you'll quickly get your test up and running with very little effort. Once tests are completed you can easily export the collected data in spreadsheet format to a USB flash drive to copy to your computer. This makes testing fast and generating accurate and reliable reports a breeze.



Built-in micromanometer with pre-programmed testing standards and motor speed controls







# **HANDHELD MICROMANOMETER MODEL 6850**



# **Smart micrometer for TAB professionals**

The Kanomax Handheld Micromanometer - Model 6850 takes airflow and pressure readings with a pitot tube, making it easy to traverse ducts. With its ergonomic form factor, the 6850 is ideal for situations where technicians need their airflow meter to be portable yet durable. An optional attachable strap allows the meter to be hung from one's person or a nearby fixture to traverse ducts more easily.

# **Features:**

- Airflow (volumetric flow) measurement capabilities
- Duct traverse-capable with pitot tube (sold separately)

Specifications		
Model	6850	
Airflow Ranges	10 to 60 m/s	
Accuracy	±1.5% of reading	
Resolution	0.001 m/s	
Pressure Ranges	-2500 to +2500 Pa	
Accuracy	±0.5% of reading ±1 Pa	
Resolution	0.1 Pa	
Operating Temperature	0 to 60°C	
Storage Temperature	-20 to 70°C (no condensation)	
Interface	USB	
Datalogging	10000 measurements	
Power Supply	4 x AA Batteries or AC Adapter	
Weight	360g (0.79 lbs)	
Dimensions	W85 x H200 x D40 mm	

### Accessories

**6700-01:** Velocity-Grid (\*only for use with 6710/6715)

6700-02: Pitot tube (5/16" x 8-5/8") 6700-03: Pitot tube (5/16" x 12-5/8") 6700-04: Pitot tube (5/16" x 18-5/8") 6700-08: Static Pressure Probe



# ANEMOMASTER<sup>™</sup>MODEL 6162

# High temperature anemometer

# **Features:**

- Air velocity and temperature measurements in environments up to 932°F (500°C)
- Record and recall MAX/MIN/AVG, Timing graph display
- Store up to 999 measurements
- RS232C interface, analog output, and remote control terminal equipped
- Includes shoulder strap, AC adapter, 2 pcs. analog output cable, and 6 pcs. C cell batteries

To perform high temperature measurements the Model 6162 must be used with one of these high temperature probes (0203, 0204 or 0205)

- The Model 0203 includes probe with 4.9 ft (1.5 m) cable, 5m probe connection cable, probe case, and NIST Certificate
- The Model 0204 includes probe with 7.6 ft (2.3 m) cable, 10m probe connection cable, probe case, and NIST Certificate
- The Model 0205 includes probe with 7.6 ft (2.3 m) cable, 10m probe connection cable, probe case, and NIST Certificate

Probe Specifications						
Model		0203	0204/0205			
	Temp. Range					
	32 to 212°F	40 to 9840 fpm (0.2 to 50.0 m/s)				
Air Velocity Measuring Range	212 to 392°F	80 to 9840 fpm (0.4 to 50.0 m/s)				
Weasuring Kange	392 to 572°F	n/a	13	8 to 9840 fpm (0.7 to 50.0 m/s)		
	572 to 752°F	n/a	19	7 to 9840 fpm (1.0 to 50.0 m/s)		
Accuracy		+/- 3% Full Scale				
Temperate Measuring	Range	32 to 392°F (0 to 200°C)		32 to 932°F (0 to 500°C)		
Accur	асу	+/- 1% of reading				
Dimensions / Weight		ø 11 × 200 mm (ø 0.4" × 7.8")	0204	ø 14 x 1000 mm (ø 0.6" x 39.4") 1.1 lbs (500 g)		
		0.4 lbs (200 g)	<b>0205</b> Ø 14 x 500 mm (Ø 0.6" x 19.7' 0.4 lbs (200 g)			
Probe Cables		Teflon Coating				
Heat-resistance		392°F (200°C)				
Extension Cable		Vinyl Coating				
Heat-resistance		176°F (80°C)				

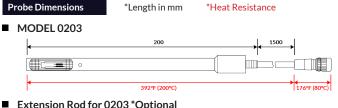


Main Unit Specifications	
Model	6162
Air Velocity Ranges	Varies by Probe, see below for Probe Specifications
Accuracy	+/- 3% of Full Scale
Temperature Ranges	Varies by Probe, see below for Probe Specifications
Accuracy	+/- 1% of reading +1°C
Interface	RS232C
Datalogging	999 measurements
Analog Output	0 to 1 V
Remote Terminal	START/STOP Key
Power Supply	6 x C cell Batteries or AC Adapter
Dimensions	W8.7" x H3.3" x D5.9"
Weight	4.0 lbs (1.8 kg)

### Accessories

0203:	Probe for Middle Temperature
0204:	Probe for High Temperature (Long)
0205:	Probe for High Temperature (Short)
6162-03:	Extension Rod for 0203
6162-04:	Extension Rod for 0204/0205
6162-05:	Communication Cable to PC
6162-06:	Probe Compression Fitting for 0204/0205
6162-07:	Probe Compression Fitting for 0203
6000-41:	Data Processing Software
6511-09:	Printer Cable for DPU-S245
DPU-S245:	Portable Thermal Printer
TP-5RLPK:	Rolled Printer Paper (1 roll)

\*Optional probe cable lengths up to 40m are available



Extension Rod for 0203 \*Optional



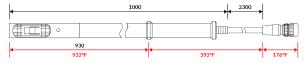
■ Entire Length



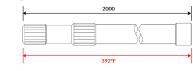
Probe Cable



# **MODEL 0204**



■ Extension Rod for 0204 \*Optional



**Entire Length** 



**MODEL 0205** 





# MULTI-CHANNEL AIRFLOW MEASURING INSTRUMENTS







# Airflow Transducer Model 6333

Compact design Airflow Transducer, fits into small spaces

- 15 interchangeable probes are available for various applications
- New micro-sized probes offer precise airflow testing at unprecedented scales
- Easy probe replacement without recalibration of the main unit
- Selectable output options: 0 to 5 V or 4 to 20 mA



# Multi-Channel Anemomaster™ Model 1580

Compact design 12-channel unit with compatible probes

- 15 interchangeable probes are available for various multi-channel applications
- Simultaneously measurements of 12 channels of air velocity
- Software allows real-time measurements of air velocity and airflow in 12 channels
- The Model 1580 includes AC Adapter (90W), Software (CD), Operation manual, USB cable, Rubber cap



# Multi-Channel Anemomaster™ Professional Model 1590

Up to 144 points multi-measurements system with a variety of probes

- System can be scaled up with modules and probes
- 15 types of probes are available
- 3 types of modules are available
- The chassis may be cascaded up to 5 units via RS232C
- Multi-channel Anemomaster PRO includes AC Adapter (90W), Software (CD), Operation manual, USB cable, Rubber cap

6333	1580	1590		
V Probe / VT Probe / VTH Probe	V Probe / VT Probe / VTH Probe	V Probe / VT Probe / VTH Probe		
20  to  9840  fpm  (0.1  to  50.0  m/s)	20 to 9840 fpm (0.1 to 50.0 m/s)	20 to 9840 fpm (0.1 to 50.0 m/s)		
32 to 248°F (0 to 120°C)	32 to 248°F (0 to 120°C)	32 to 248°F (0 to 120°C)		
5.0 to 95.0% RH	5.0 to 95.0% RH	5.0 to 95.0% RH		
n/a	Data Processing Software	Data Processing Software		
RS485	RS232C	RS232C, Centronics, GP-IB		
DC 4 to 20mA or DC 0 to 5V	0 to 5 V	0 to 5 V		
DC or AC	DC or AC	DC or AC		
W3.1" x H5.0" x D1.2"	W8.7" x H1.6" x D5"	W8.7" x H1.6" x D5"		
0.4 lbs (200 g)	1.1 lbs (0.5 kg)	1.1 lbs (0.5 kg)		

# **AIRFLOW TRANSDUCER MODEL 6333**



# **Features:**

- Smart probe technology: easy probe replacement without recalibration of the main unit
- Selectable output options: 0 to 5 V or 4 to 20 mA
- New micro-sized probes offer precise airflow testing at unprecedented scales

Main Unit Specifications					
Model	6333				
Display	_				
Air Velocity Ranges	Varies by probe, See below for Probe Specifications				
Temperature Ranges	Varies by probe				
Humidity Ranges	Varies by probe				
Accuracy	+/- 2% of reading				
Analog Output	DC 4 to 20mA or DC 0 to 5V				
Power Consumption	Approx. 3.0 W				
Power Supply	DC 12 to 24V or AC 100 to 240V				
Dimensions	W3.1" x H5.0" x D1.2				
Weight	0.4 lbs (200 g)				



# MULTI-CHANNEL ANEMOMASTER<sup>TM</sup>MODEL 1580

### **Features:**

- Simultaneous measurements of 12 channels of air velocity; easy to switch over each channel display
- Software allows real-time measurements of air velocity and airflow in 12 channels
- The Model 1580 includes AC Adapter (90W), Software (CD), Operation manual, USB cable, Rubber cap

Main Unit Specifications	
Model	1580
Air Velocity Ranges	Varies by probe, See below for Probe Specifications
Resolution	0.01 m/s
Interface	USB Micro-B, Serial Communication
Analog Output	0 to 5V
Power Supply	DC12 to 24V or AC (90 W)
Dimensions	W8.7" x H1.6" x D5" (per unit)
Weight	1.1 lbs (0.5 kg)



# Probes Compatible with Models 1580, 1590, 1591, 1592, and 6333

Model	Measurement Target	Diezetivity		Air Velocity		Wind Temperature		Humidity		Operating	Temperature compensation
Number	Target	Directivity	Measurement Range	Measurement Accuracy	Responsivity	Measurement Range	Measurement Accuracy	Measurement Range	Measurement Accuracy	Temperature	sensor
0972-00 0973-00		Yes	0.01~50.0m/s	The larger of ± 2% or	1 second						± 5% of displayed
0975-00			0.01~25.0m/s	$\pm$ 0.02 m/s of the displayed						0-100℃	value
0975-09 0975-10	Wind		0.01~50.0m/s	value							at 0-100℃
0976-03 0976-04 0976-07	Speed			The larger of ± 3% or ± 0.02 m / s of the displayed value	2 1	_	_	, <u></u>		0-120℃	± 5% of displayed value at 0-120 °C
0976-13 0976-14 0976-17		No	0.01~30.0m/s	The larger of ± 2% or ± 0.02 m/s of the displayed value	3 second					0-100℃	± 5% of displayed value at 0-100 ℃
0976-05	Air			The larger of ± 3% or ± 0.02 m/s of the displayed value		0~120℃				0-120℃	± 5% of displayed value at 0-120°C
0976-15 0975-21	Velocity and Temperature			The larger of ± 2% or		0~100℃	±0.5%				± 5% of displayed
0975-31	Air Velocity, Temperature and Humidity		0.01 ~25.0m/s	± 0.02 m/s of the displayed value		0~60℃		5∼95%RH	5~80%RH:3%RH 80~90%RH:5%RH	0-100℃	value at 0-100 ℃

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# MULTI-CHANNEL ANEMOMASTER <sup>™</sup>PRO MODEL 1590



Create monitoring systems with up to 144 measuring points

# **Features:**

- 15 types of compatible probes for various applications
- The smallest class probes in the industry
- High heat resistance enables precise measurement even in tough environments
- Large-scale system configuration with up to 144 channels available
- Easily measure in large-scale spaces
- 3 types of probes are available:
   Air velocity probe (V probe)
   Air velocity / Temperature probe (VT probe)
   Air Velocity / Temperature / Humidity probe (VTH probe)
- Analog output and hub units available (models 1591 and 1592)
- Multi-channel Anemomaster PRO includes AC Adapter (90W), Software (CD), Operation manual, USB cable, Rubber cap



۲	ACC	esso	ories

1580-01:	Spare AC Adaptor
1580-37:	DC Power Connection
1580-90:	Probe Fixture Jig Pack
1590-92:	Double Coated Tape (for 0976 probes)
1580-30:	Standard Cable (0.5m)
1580-31:	Standard Cable (2m)
1580-32	Standard Cable (5m)
1580-33	Standard Cable (10m)
1580-34	Standard Cable (20m)
1580-35	Standard Cable (40m)

Main Unit Specifications	
Model	1590
Air Velocity Ranges	Varies by Probe, See below for Probe Specifications
Resolution	0.01 m/s
Temperature Ranges	Varies by Probe, See below for Probe Specifications
Resolution	0.1°C
Relative Humidity Ranges	Varies by Probe, See below for Probe Specifications
Resolution	0.1% RH
Interface	USB Micro-B for PC Connection
Interrace	Serial Communication
Analog Output	0 to 5 V *Option with D/A Module
Power Supply	DC12 to 24V or AC (90 W)
Dimensions	W8.7" x H1.6" x D5" (per unit)
Weight	1.1 lbs (0.5 kg)

# Probes Compatible with Models 1580, 1590, 1591, 1592, and 6333

Model	hieasulement Tamet	Dinantivity		Air Velocity		Wind Tem			Humidity	Operating	Temperature compensation
Number	Target	Directivity	Measurement Range	Measurement Accuracy	Responsivity	Measurement Range	Measurement Accuracy	Measurement Range	Measurement Accuracy	Temperature	sensor
0972-00 0973-00		Yes	0.01~50.0m/s	The larger of ± 2% or	1 second						± 5% of displayed
0975-00	↓		0.01 ~25.0m/s	$\pm$ 0.02 m/s of the displayed						0-100℃	value at
0975-09 0975-10	Wind		0.01~50.0m/s	value							0-100 ℃
0976-03 0976-04 0976-07	Speed			The larger of ± 3% or ± 0.02 m / s of the displayed value	2	_	_	%. <u>~</u>	<u></u>	0-120℃	± 5% of displayed value at 0-120 °C
0976-13 0976-14 0976-17		No	0.01~30.0m/s	The larger of ± 2% or ± 0.02 m/s of the displayed value	3 second					0-100℃	± 5% of displayed value at 0-100 ℃
0976-05	Air			The larger of ± 3% or ± 0.02 m/s of the displayed value		0~120℃				0-120℃	± 5% of displayed value at 0-120 °C
0976-15 0975-21	Velocity and Temperature			The larger of ± 2% or ± 0.02 m/s of the displayed		0~100℃	±0.5%				± 5% of displayed
0975-31	Air Velocity, Temperature and Humidity		0.01 ~25.0m/s	value		0~60℃		5∼95%RH	5∼80%RH:3%RH 80∼90%RH:5%RH	0-100℃	value at 0-100 ℃





# **PARTICLE COUNTERS**

# Applications





**Cleanroom Certification** 



**Indoor Air Quality Investigation** 

# Specifications

**Particle Sizes** 

Flow Rate

**Light Source** 

**Counting Efficiency** 

Coincidence Loss

Zero Count Level

Datalogging

Interface

Accessory

**Sensor Options** 

Enclosure

**Power Supply** 

**Dimensions** 

Weight





# Handheld Particle Counter Model 3888

Simple and easy-to-use, affordable handheld particle counter

- Simultaneously measures and displays 3 particle sizes
- 4.3 inch color touchscreen
- Store up to 10,000 measurements
- Includes data processing software, USB cable, li-ion rechargeable batteries, AC adapter, and calibration certificate



# Handheld Particle Counter Model 3889

Lightweight handheld particle counter with environmental sensors

- Simultaneously measures and displays 6 particle sizes
- 4.3 inch color touchscreen
- Temperature and humidity measurements with optional probe
- Store up to 10,000 measurements
- PC interface with USB and optional software for real-time monitoring with timing graph
- Includes data processing software, USB cable, li-ion rechargeable batteries, AC adapter, and calibration certificate



# Portable Particle Counter Model 3905 & 3910

Small footprint, light-weight portable particle counter available with two different flow rates

- Simultaneous measurements of 6 particle sizes
- 50.0 or 28.3 L/min flow rate
- Small footprint, Stainless enclosure
- Large touch screen LCD displays all measurements simultaneously
- Store up to 10,000 measurements
- PC software allows Remote control, Real-time measuring, and Registering map
- Complete with Quick-start guide, AC adapter, zero filter, Isokinetic probe with 79 inch (2 m) tubing, inlet nozzle, data processing software, memory card, 2 rolls of cleanroom-grade printer paper, Li-ion battery, and calibration certificate



# 0.1 Micron Portable Particle Counter Model 3950

The perfect 0.1 micron semiconductor manufacturing particle counter

- 0.1 μm sensitivity
- 2-channels (0.1-0.3 µm)
- 0.1CFM (2.83L/min) Compliant with JIS
- B9921 and ISO21501-4
- 4.3 inch color touchscreen display
- Store up to 10,000 measurements
- Interface: RS-485, Ethernet, USB

3888	3889	3910 and 3905	3950
0.3 / 0.5 / 5.0 μm	0.3 / 0.5 / 1.0 / 3.0 / 5.0 / 10.0 µm	0.3 / 0.5 / 1.0 / 3.0 / 5.0 / 10.0 μm	0.1 / 0.3 μm
0.1 cfm (2.83 L/min)	0.1 cfm (2.83 L/min)	50.0 L/min (3910) or 28.3L/min (3905)	0.1 cfm (2.83 L/min)
Laser Diode	Laser Diode	Laser Diode	Laser Diode
50+/-20% @ 0.3 μm	50+/-20% @ 0.3 μm	50+/-20% @ 0.3 μm	50±20% @ 0.1μm; 100±10% @ 0.2μm
Less than 5% at 2,000,000 particles/ft³	Less than 5% at 2,000,000 particles/ft <sup>3</sup>	Less than 10% at 500,000 particles/ ft <sup>3</sup>	Less than 10% at 500,000 particles/ft³
Less than 1 count per 5 minutes	Less than 1 count per 5 minutes	Less than 1 count per 5 minutes	Less than 1 count per 5 minutes
10,000 measurements	10,000 measurements	10,000 measurements	10,000 measurements
USB	USB	Ethernet, USB, Memory card slot (MMC)	RS-485, Ethernet, USB
Stand (with RS485, wifi, and ethernet)	Stand (with RS485, wifi, and ethernet)	-	-
n/a	Temperature, Humidity	Air Velocity, Temperature, Humidity	n/a
Molded Plastic	Molded Plastic	Stainless Steel	Stainless Steel
Li-ion Battery or AC 100 - 240 V	Li-ion Battery or AC 100 - 240 V	Li-ion Battery or AC 100 - 240 V	AC 100 - 240 V
W8.4" x H3.9" x D2.7"	W8.4" x H3.9" x D2.7"	W7.9" x H8.1" x D7.9"	W6" x H2.5" x D9"
1.4 lbs (650 g)	1.4 lbs (650 g)	14.2 lbs (6.44 kg)	7.5lbs (3.4kg)

# **HANDHELD PARTICLE COUNTER MODELS 3888/3889**

# The standard for cleanroom monitoring and verification

# KANOMAX The Ultimate Measurements

# **Features:**

- Simultaneously measures and displays 3 or 6 particle sizes (depending on model)
- 4.3 inch color touchscreen
- Store up to 10,000 measurements
- Includes data processing software, USB cable, li-ion rechargeable batteries, AC adapter, and calibration certificate

Specifications		
Model	3888	3889
Particle Sizes	0.3 / 0.5 / 5.0 μm	0.3 / 0.5 / 1.0 / 3.0 / 5.0 / 10.0 μm
Flow Rate	0.1 cfm (2.83 L/min)	0.1 cfm (2.83 L/min)
Light Source	Laser Diode	Laser Diode
Counting Efficiency	50+/-20% @ 0.3 μm	50+/-20% @ 0.3 μm
Coincidence Loss	Less than 5% at 2,000,000 particles/ft <sup>3</sup>	Less than 5% at 2,000,000 particles/ft³
Zero Count Level	Less than 1 count per 5 minutes	Less than 1 count per 5 minutes
Datalogging	10,000 measurements	10,000 measurements
Interface	USB	USB
Accessory	Stand (with RS485, wifi, and ethernet)	Stand (with RS485, wifi, and ethernet)
Option Sensor	n/a	Air Velocity / Temperature, Humidity
Enclosure	Molded Plastic	Molded Plastic
Power Supply	Li-ion Battery or AC 100 - 240 V	Li-ion Battery or AC 100 - 240 V
Dimensions	W8.4" x H3.9" x D2.7"	W8.4" x H3.9" x D2.7"
Weight	1.4 lbs (650 g)	1.4 lbs (650 g)







# **NETWORK CONNECTIVITY**

By purchasing the optional stand you can easily connect the 3888 or 3889 to your network via RS485, wifi or ethernet for easy remote measuring and monitoring.





Carrying Case

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Software Included

# Accessories

3888-70: Cradle (Wifi, Ethernet, RS485 communication)

3888-12: Battery Charger 3888-71: Carrying Case 3800-11: Printer Cable

DPU-S245: Portable Thermal Printer
TP-5RLPK: Rolled Printer Paper (1 roll)

TRIPOD-01: Tripod

301ADAPT: Intl. Plug Adapter Kit

# **PORTABLE PARTICLE COUNTER 3900 SERIES**

# TARTICLE COOTTILITO 700 SE

# Smallest and lightest portable particle counters

# Features:

- Simultaneous measurements of 6 particle sizes respective to model
- Small footprint, stainless enclosure
- Availabe in 1.0 CFM (28.3 LPM), 1.77 CFM (50 LPM), and 3.5 CFM (100 LPM) flow rates
- Complies with all requirements of ISO 21501-4
- Large touch screen LCD displays all measurements simultaneously
- Store up to 10,000 measurements
- 21 CFR Part 11 compliance
- Complete with quick-start guide, AC adapter, zero filter, isokinetic probe with 79 inch
  (2 m) tubing, inlet nozzle, data processing software, memory card, 2 rolls of cleanroomgrade printer paper, 1x Li-ion battery, and calibration certificate

Specifications				
Model	3905	3910		3920
Particle Sizes	0.3, 0.5, 1.0, 3.0, 5.0, 10.0 (µm)	0.5, 0.7, 1.0, 3.0,	0.5, 0.7, 1.0, 3.0, 5.0, 10.0 (µm) 0.5, 0.7, 1.0, 3.0,	
Flow Rate	1.0 CFM (28.3 LPM)	1.77 CFM (50 LPM) 3.5 CFM (100		3.5 CFM (100 LPM)
Light Source		Laser [	Diode	
Counting Efficiency	50±20% at 0.3μr	n		50±20% at 0.5μm
Coincidence Loss	Less than 10% at 500,000 particles/ft <sup>3</sup>			
Zero Count Level		Less than 1 count per 5 minutes		
Datalogging		10,000 mea	surements	
Interface	[	Ethernet, USB, Memo	ory card slot (MM	C)
Optional Sensor		Air Velocity, Tempe	erature, Humidit	у
Enclosure	Stainless Steel			
Power Supply		Li-ion Battery or	AC 100 - 240 V	
Dimensions		W7.9" x H8	.1" x D7.9"	
Weight		14.2 lbs (	6.44 kg)	



(ANOMAX



Small, Lightweight Unit

# Optional environmental sensor



Optional Climomaster Environmental Sensor measures airflow, temperature and humidity.

Probe Specifications	
Model	6531-2G-P
Probe Type	Uni-Directional
Air Velocity	2 to 6000 fpm
Temperature	-4 to 158°F
Relative Humidity	2.0 to 98.0% RH



Climomaster probe for environmental measurements

# Accessories

3910-09:

Spare Li-ion Battery

Air Velocity, Temp, RH Probe with 2 m Cable 6531-2G-P: 3910-10: **Battery Charger** 3910-01: Carrying Case 3910-11: Pressure-sensor w/cable Spare Zero Filter CRVAL: 3910-04: Validation IQ/OQ Document 3900-03: 3910-06: Standard Inlet (spare) Alarm-output cable 3910-07: Stainless Isokinetic Probe (spare) TP-5RLPK: Rolled Printer Paper (1 roll) 3910-08: AC adapter (spare)

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# **0.1 MICRON PORTABLE PARTICLE COUNTER 3950**



# The perfect 0.1 micron semiconductor manufacturing particle counter

This revolutionary 0.1-0.3 micron 2-channel semiconductor particle counter comes in one of the lightest form-factors available today; clocking in at only 7.5lbs (3.4kg). It is designed for high-end contamination control environments, such as semiconductor manufacturing facilities and cleanrooms, and can be used for standalone operation or integrated into an existing monitoring system to accommodate a vast array of applications.

Device operation is made easy with its built-in 4.3 inch LCD color touchscreen, ability to store up to 10,000 records, and USB data transfer capability.

# **Features:**

- 0.1 µm sensitivity
- 2-channels (0.1-0.3 μm)
- 0.1CFM (2.83L/min) Compliant with JIS
- B9921 and ISO21501-4
- 4.3 inch color touchscreen display
- Store up to 10,000 measurements
- Interface: RS-485, Ethernet, USB



Model	3950
Particle Sizes	0.1 / 0.3 μm
Flow Rate	0.1 cfm (2.83 L/min)
Light Source	Laser Diode
Counting Efficiency	$50\pm20\%$ @ $0.1\mu$ m; $100\pm10\%$ @ $0.2\mu$ m
Coincidence Loss	Less than 10% at 500,000 particles/ft <sup>3</sup>
Zero Count Level	Less than 1 count per 5 minutes
Datalogging	10,000 measurements
Interface	RS-485, Ethernet, USB
Enclosure	Stainless Steel
Power Supply	AC 100 - 240 V
Dimensions	W6" x H2.5" x D9"
Weight	7.5lbs (3.4kg)



### Accessories

\*CONTACT KANOMAX USA FOR MORE INFORMATION

# REMOTE PARTICLE SENSOR WITH ANALOG OUTPUT



# 2-channel remote particle sensors for facility monitoring applications

Kanomax particle sensors with analog output are designed to fit into your existing monitoring system, or they can be used as an individual unit to monitor a critical area when connected to an alarm or controller. The Kanomax particle sensor is available with a 1.0 CFM flowrate and also comes in two different ranges: 0.3 and 0.5 microns or 0.5 and 5.0 microns.

# **Features:**

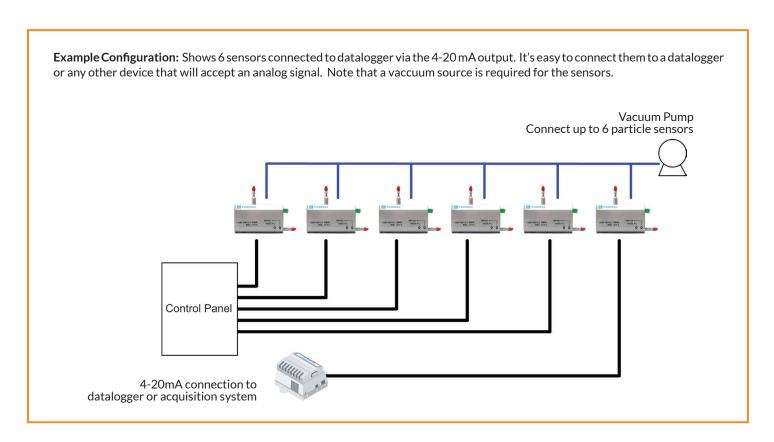
- Light scattering particle sensor
- 1.0 cfm flow rate (28.3 lpm)
- Analog output and RS485 Modbus capability makes it easy to integrate into existing systems
- 0.3 or 0.5 micron sensitivity
- Compact body with stainless enclosure
- Fully compatible with the Kanomax Cleanroom Monitoring System as well as third party existing systems

# **Applications:**

- Cleanroom Facility Monitoring
- Food Industry
- Aerospace
- Hospital Surgical Rooms



Specifications				
Model	3718-A	3719-A		
Measuring Object	Airborne	ne Particle Matter		
Particle Sizes	0.3 / 0.5 μm	0.5 / 5.0 μm		
Flow Rate	1.0 cfm (28.3 L/min)			
FIOW Rate	*External vacu	cuum source is required		
Light Source	La	Laser Diode		
Counting Efficiency	50% @ 0.3 μm	50% @ 0.5 μm		
Coincidence Loss	Less than 10%	5 at 500,000 particles/ft³		
Zero Count Level	< 1 cour	unt per 5 minutes		
Interface	RS485 (Modbus protocol) & 4-20mA			
Enclosure	Sta	ainless Steel		
Power Supply	9 - 28V (AC a	adpter supplies 12V)		
Dimensions	W5.2"	" x H3.1" x D3.7"		
Weight	2.2	2 lbs (1.0 kg)		



### Accessories

3910-04: Spare Zero Filter
 3716A-07: Isokinetic Suction Probe
 3716A-20: Product Configuration Adapter (USB-RS485 Converter)

**3716A-21:** Converter Connecting Cable **3716A-40:** Spare Configuration Software

**3716A-280:** Vacuum Pump

# **LASER PARTICLE SENSOR 3720-06**

# KANOMAX The Ultimate Measurements

# Powerful particle sensor with built-in pump

State-of-the-art addition to the acclaimed 3700 series of particle sensors, but with a significant enhancement that sets it apart - a built-in pump mechanism! The 3720-06 incorporates an efficient, integrated pump. This feature simplifies the setup and operation, offering a self-contained unit that can be deployed quickly in various environments. It is available with both 0.1 and 1.0 CFM flowrates and also comes and also comes in the following particle ranges: 0.5, 0.7, 1.0, 3.0 and 5.0 micrometers.

# **Features:**

- Light scattering particle sensor
- 1.0 cfm flow rate (28.3 lpm)
- Built-in pump mechanism
- 0.3 or 0.5 micron sensitivity
- Compact body with stainless enclosure
- Fully compatible with the Kanomax Cleanroom Monitoring System as well as third party existing systems



Main Unit Specifications	
Particle Size Distribution	0.5, 0.7, 1.0, 3.0, 5.0 µm
Counting Efficiency	Compliant with ISO21501-4, JISB 9921
Flow Rate	28.3L/min (1 CFM)
Optical Source	Laser diode
Counting Efficiency	Less than 1 count / 5 minutes
Max Detectable Concentration	500,000CNT/ft <sup>3</sup>
Setting Parameter	Sampling Time: 1 to 60 seconds
	Output Range Setting (To be configured for each particle size)  Count: 0-10CNT, 0-100CNT, 0-1,000CNT, 0-10,000CNT  Concentration: 0-10CNT/cf, 0-100CNT/cf, 0-1,000CNT/cf,  0-1,000,000CNT/cf  0-353CNT/ m3, 0-3,530CNT/m3,  0-35,300CNT/m3, 0-35,300,000CNT/m3
	Alarm Setting: 0%-100%
	Address Setting: 0-512
	Error Output Setting: ON/OFF
Sampling Pump	Built-in Pump
Interfaces	Ethernet, RS485, Analog Output (4-20mA)
Communication Protocols	Modbus RTD, Modbus TCP/IP
Software Languages	Japanese, English
Power Supply	1.) DC Power Supply: DC 15V-28V 2.) AC Adapter: AC 100-240V (50-60Hz), DC 12V 3.) Power over Ethernet: 802.3bt (PoE++)
Output	Particle counts, error status, alarm output
Operating Environment	10 to 30°C (50 to 86°F)/20 to 85%RH with no condensation
Storage Environment	Temperature: -10 to 50°C, Humidity: 95%RH or less (Non-condensing)
Dimensions	180mm (W) × 110mm (D)× 190mm (H)
Weight	3.4kg
Standard Accessories	User's Manual (English)(1), User's Manual (Japanese) (1), AC adapter (1), Zero Filter (1), Adapter 1 (1), Adapter 2 (1), Tygon Tube 1 (1), Setting Software DVD - 3718/19-40 (1)
Optional Accessories	USB-RS485 Converter 3716A-20 (Converter + Converter Connecting Cable), Converter Connecting Cable 3716A-21, RS232c-RS485 Converter 3716A-22 (Converter + Converter Connecting Cable), Isokinetic Probe - 3905-07 (1), Tygon Tube

# Accessories

3910-04:Spare Zero Filter3716A-21:Converter Connecting Cable3716A-07:Isokinetic Suction Probe3716A-40:Spare Configuration Software

3716A-20: Product Configuration Adapter (USB-RS485 Converter) 3716A-280: Vacuum Pump

# **AEROSOL PARTICLE MONITOR - AES-FPM SERIES**



# Detect particulates of 0.3 microns and larger; 4 models available

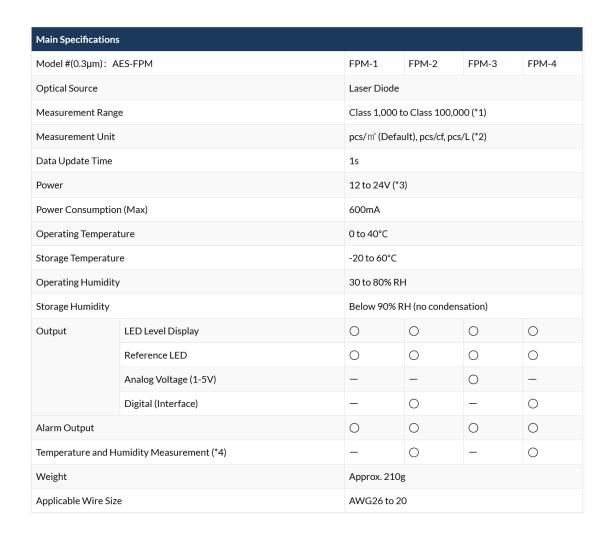
The best way to monitor the cleanliness level in the manufacturing process of precision parts and work environments, at a low cost. The Kanomax Aerosol Particle Monitors feature easy-to-read displays, can connect to a network via ethernet, and offer simplified monitoring of particulates at multiple locations. They have applications that include cleanroom monitoring and verification, semiconductor manufacturing, and food processing.

# **Features:**

- Capable to detect suspended particles at low cost
- Easy-to-check 4 step LED display for cleanliness level Class 1,000 to 100.000
- Detect particles over 0. 3μm (or 0.5μm) and over a few μm\* (\*reference value)
- 5 models available for suitable application and communication interface
- Detachable sensor unit to maintain continuous measurement during calibration
- Temperature and humidity sensor available as an option

# **Applications:**

- Monitor and verify cleanrooms/pharmaceutical/ semiconductor/food industry
- Buffer zero monitoring and management
- IAQ investigation





# **CLEANROOM MONITORING SYSTEM**

# The all-in-one monitoring solution



The Kanomax Cleanroom Monitoring System (CRMS) provides an automated means to monitor and gather airborne particle counts and other parameter levels in controlled environments. Capable of real time monitoring of temperature, humidity, airborne particles, differential pressure, energy consumption, and gases. Local or cloud-based data server available for monitoring data. Initiate alarms per designated event and have dependable remote access. Integrates **Elemental Machines** technologies.

### **Features:**

- Compact stainless enclosure with sensors
- Systems can be custom-built for multi-parameter measurements including particle count, air velocity, temperature, humidity, and differential pressure
- Multi-function, user-friendly monitoring software
- 1 PC system controls up to 128 sensors
- · Alarm outputs: warning light, on-screen, or pager notification
- No system down-time: each sensor is replaceable for repair and recalibration





# **Particle Sensors**



### Features:

- Light scattering particle sensor
- Durable stainless enclosure is easy to sanitize during whole facility cleaning



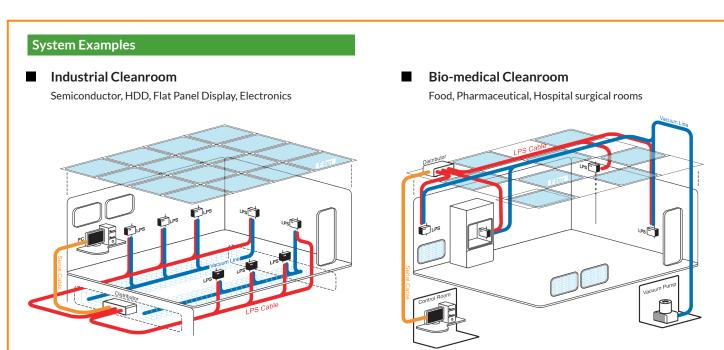
### **Features:**

- Light scattering particle sensor
- 1.0 cfm flow rate (28.3 lpm)
- Analog output and RS485 Modbus capability makes it easy to integrate into existing systems

Specifications			
Model	3714	3715	
Measuring Object	Airborne Particle Matter		
Particle Sizes	0.3 / 0.5 μm	0.5 / 5.0 μm	
Flow Rate	0.1 cfm (2.83 L/min)		
	*External vacuum source is required		
Light Source	Laser Diode		
Counting Effi- ciency	50% @ 0.3 μm	50% @ 0.5 μm	
Coincidence Loss	Less than 5% at 1,000,000 particles/ft <sup>3</sup>		
Zero Count Level	< 1 count per 5 minutes		
Interface	RS485		
Enclosure	Stainless Steel		
Power Supply	DC24V (Supplied from the 3770)		
Dimensions	W5.0" x H2.8" x D1.6"		
Weight	1.1 lbs (500 g)		

Specifications			
Model	3718-A	3719-A	
Measuring Object	Airborne Particle Matter		
Particle Sizes	0.3 / 0.5 μm	0.5 / 5.0 μm	
Flow Rate	1.0 cfm (28.3 L/min)		
	*External vacuum source is required		
Light Source	Laser Diode		
Counting Effi- ciency	50% @ 0.3 μm	50% @ 0.5 μm	
Coincidence Loss	Less than 5% at 500,000 particles/ft <sup>3</sup>		
Zero Count Level	< 1 count per 5 minutes		
Interface	RS485 & 4-20mA		
Enclosure	Stainless Steel		
Power Supply	9 - 28V		
Dimensions	W5.9" x H4.7" x D3.9"		
Weight	3 lbs (1.5 kg)		







# INDOOR AIR QUALITY MONITORS

Applications



Hospitals and Elderly Care Facilities Monitor



Green building rating system IEQ performance testing



**Indoor Air Quality Investigation** 



# **HANDHELD IAQ MONITOR MODEL 2212**

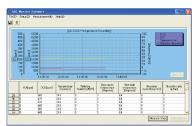
# Multi-function indoor air quality monitor

### Features:

- Simultaneous measurements of CO, CO2, temperature, and relative humidity
- Calculates dew point, wet bulb temperature, absolute humidity, humidity ratio, and % outside air
- Store up to 1500 measurements
- Easy user self calibration
- Easy replacement of probe
- PC interface with RS232C or USB and software for real-time measurements and downloading data to your PC
- Complete with probe with 79 in (2m) cable, probe stand, calibration cap & connection tube, data processing software, RS232C cable, 6 pcs. AA batteries, carrying case, and NIST-Traceable calibration certificate

Specifications		
Model	2212	
Carbon Monoxide (CO)	0 to 500 ppm	
Accuracy	+/- 3% of reading	
Carbon Dioxide (CO2)	0 to 5000 ppm	
Accuracy	+/- 3% of reading	
Temperature Range	-4 to 140 F (-20 to 60 C)	
Accuracy	+/- 1.0°F (0.5°C)	
Relative Humidity Range	2.0 to 98.0 %RH	
Accuracy	+/- 2% of reading	
Interface	RS232C	
Datalogging	1500 measurements	
Analog Output	0 to 1 V *Option	
Power Supply	6 x AA Batteries or AC Adapter	
Dimensions	W3.4" x H7.4" x D1.6"	
Weight	0.9 lbs (400 g)	





Software Included

# Accessories

 6113-02:
 AC Adapter

 2211-09:
 Analog Output

 DPU-S245:
 Portable Thermal Printer

 6000-03:
 Printer Cable for DPU-S245

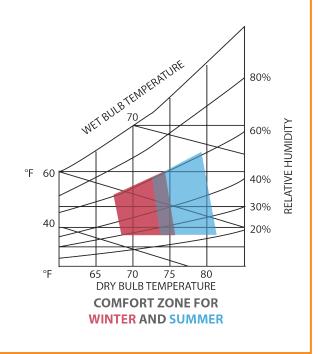
 TP-5RLPK:
 Rolled Printer Paper (1 roll)

# **Indoor Comfort**

Comfort is very subjective and will vary from one individual to the next, but ASHRAE Standard 55 provides guidelines for a "comfort zone" that most people will feel comfortable in. This comfort zone is derived from both temperature and humidity and varies depending on the season. See the chart to the right for details. The 2212 IAQ Monitor from Kanomax can measure both parameters simultaneously indicating if changes are needed to make a building's occupants comfortable.

The monitor can also check CO2 levels and determine the rate of exchange, or the percentage of outside air, being introduced to a building per ASHRAE Standard 62. Controlling the rate of exchange with the HVAC system is critical to ensuring occupant well-being. Too much CO2 build-up can cause lethargy and make it difficult for individuals to concentrate. Too much outside air may also be harmful if it's introducing external pollutants to the environment.

The 2212 is a great tool for IAQ investigation and spot checks to ensure an indoor environment remains within desired levels to maintain occupant health and comfort. The ability to measure all of these parameters in a single instrument simplifies the labor involved and eliminates the need to purchase and learn multiple instruments.



# **AEROQUAL HANDHELD GAS MONITORS**

CO, CO2, ammonia, ozone, VOC etc. More than 20 gases





# **Features:**

- Simultaneous measurements of gas concentration, temperature, and humidity
- Model S200 is a simple, easy-to-use, low-cost monitor
- Model S500 has data logging function and a USB interface for PC communication
- The gas monitor is fully compatible with all gas sensors
- Sensor heads for handheld units are interchangeable without recalibration of main unit

Feature	Series 200	Series 300	Series 500
Simple to use, easy to maintain, multiple applications	4	1	4
Interchangeable gas sensor heads	4	4	4
Field replaceable long life Lithium battery (up to 8 hours)	1	4	1
Minimum, maximum and average readings	✓	4	4
Zero calibration, gain adjustment	Zero Only	4	4
High and low alarms		4	4
Analogoutputs (0-5V)		4	4
Data logging (Up to 8,188 records (2706 incl. temp/RH)			4
Free desktop software (Series 500)			1



### Gas Sensor Heads

Gas Sensor Specifications			
Gas Sensor Heads	Range (ppm)	Accuracy	Resolution
Ammonia (ENG)	0 to 100	<+/-5 ppm + 15%	0.1 ppm
Ammonia (NH)	0 to 1000	<+/-0.5 ppm + 10%	1 ppm
Carbon monoxide (ECM)	0 to 25	<±0.5 ppm 0-5 ppm; <±10% 5-25 ppm	0.01 ppm
Carbon monoxide (ECN)	0 to 100	<+/-1 ppm (0 to 10 ppm) <+/-10% (10 to 100 ppm)	0.1 ppm
Carbon monoxide (CO)	0 to 1000	<+/-2 ppm + 15%	1 ppm
Carbon dioxide (CD)	0 to 2000	<+/-10 ppm + 5%	1 ppm
Carbon dioxide (CE)	0 to 5000	<+/-20 ppm + 5%	1 ppm
Chlorine (ECL)	0 to 10	<±10%	0.01 ppm
Formaldehyde (EF)	0 to 10	<±0.05 ppm 0-0.5 ppm;	0.01 ppm
Hydrogen (HA)	0 to 5000	<+/-10 ppm + 10%	1 ppm
Hydrogen sulphide (EHS)	0 to 10	<+/-0.05 ppm (0 to 0.5ppm) <+/-10% (0.5 to 10ppm)	0.01 ppm
Hydrogen Sulfide (EHT)	0 to 100	<±0.5 ppm 0-5 ppm; <±10% 5-100 ppm	0.01 ppm
Methane (MT)	0 to 9999	<+/-20 ppm + 15%	1 ppm
Ozone (OZS)	0 to 0.05	<±0.002 ppm	0.001 ppm
Ozone (OZL)	0 to 0.5	+/- 0.008 ppm 0-0.1 ppm; <±10% 0.1-0.5 ppm	0.001 ppm
Particulate Matter (PM2.5 and PM10)	0.001-1.000 mg/m3	± 0.005 mg /m3 + 15 %	0.001 mg /m3
Nitrogen dioxide (END)	0 to 1.0	<+/-0.02 ppm (0 to 0.1ppm) <+/-10% (0.2 to 1ppm)	0.001 ppm
NMHC (VN)	0 to 25	<+/-0.1 ppm + 10 %	0.1 ppm
Sulphur dioxide (ESO)	0 to 10	<+/-0.05 ppm (0 to 0.5ppm) <+/-10% (0.5 to 10ppm)	0.01 ppm
VOC (VM)	0 to 25	<+/-0.1 ppm + 10 %	0.1 ppm
VOC (VP)	0 to 500	<+/-5 ppm + 10 %	1 ppm
VOC (VOC)	0 to 20	<+/-0.02 ppm + 10 %	0.01 ppm
VOC (VOCH)	0 to 1000	<+/-0.2 ppm + 10 %	0.1 ppm

<sup>\*</sup>See full list of sensor heads at kanomax-usa.com

# Accessories

Wall Bracket: Model AS R33 Calibration Kit: Model AS R42 Remote Sensor Kit: Model AS R10 IP41 Remote Sensor Kit: Model AS R13 Cigarette Lighter Adapter: AS R32 Lithium Battery: Model AS R36 Industrial Enclosure: Model HH ENC Carry Case Small: Model AS R40 Carry Case Large: Model AS R41

# Compatible for Indoor Air Quality Survey

- Carbon Monoxide (CO)
- Carbon Dioxide (CO2)
- Multi-gas sensior (MS1 and MS2)
- Ozone (O3)
- Sulphur Dioxide (So2)
- Formaldohyde (CH2O)
- Volatile Organic Compounds (VOC)

### **Compatible for Environmental Survey**

- Nitrogen Dioxide (NO2)
- Hydrogen Sulphide (H2S)
- Sulphur Dioxide (So2)
- Carbon Monoxide (CO)
- Carbon Dioxide (CO2)
- Volatile Organic Compounds (VOC)
- Ozone (O3)
- Ammonia (NH3)
- Non Methane Hydrocarbon (NMHC)

#### HANDHELD ODOR MONITOR

#### Highly sensitive; 3 models for various applications

Handheld Odor Meter is the most popular simplified tool for odor analysis, which indicates the relative strength and odor classification numerically by comparing the odor gas and purified air.

#### **Features:**

- Numerical value for relative strength of smell
- Numerical value for classification of smell
- Handheld Odor meter is ideal for Before and After applications, such as air purification and cleaning service.
- Real-time sampling mode displays odor change continuously
- Memory sampling mode saves data based on the selected sampling rate. (up to 32732 data, 511 files)
- Battery operated with 7 hrs continuous usage

#### **Applications:**

#### **OMX-SRM**

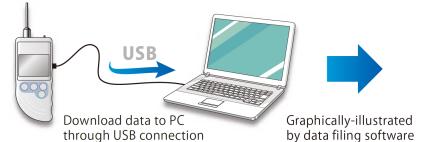
• Finding odor source at factories, incinerator, plants, or effluent treatment facility

#### **OMX-ADM**

- Evaluation for deodorizing at hospitals or nursing homes
- Suitable for putrid odor such as ammonia

#### **OMX-TDM**

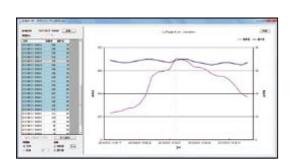
• TVOC measurement for monitoring IAQ condition











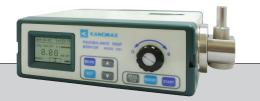
Specifications			
Model	OMX-SRM	OMX-ADM	OMX-TDM
Detection Method		Two Semiconductor Gas Sensors	
Sampling Method		Continuous Sampling with Built-in Air Pump	
Object Gas	Ethanol, Acetone, Hydrogen, etc	Hydrogen, Sulfide, Methyl Mercaptan, Ammonia, etc	TVOC (Toluene), etc
Odor Strength Level	0.0 to 999	0 to 999	0.0 to 9999 (µg/m3)
Classification	Class 0 to 90	Odor Intensity 2.5 to 5.0	n/a
Power Supply	4 x AA batteries or AC adaptor *Battery life for continuous measurement is approx. 7 hours		
Memory Capacity	Up to 32732 data		
Storage Temperature	0 to 40°C (32 to 104°F) * No condensation		
Operating Temperature	-10 to 50°C (14 to 122 °F) * No condensation		
Dimensions	74 (W) x 167.5 (L) x 35 (H) mm		
Weight	250g (without batteries)		













#### Piezobalance Dust Monitor Model 3521 / 3522

- Measures PM 10, Respirable, or PM 2.5 particle matters
- Real-time measurements of dust concentration
- Data logging up to 500 measurements
- Simple cleaning mechanism for easy maintenance
- Complete with data processing software, RS232C cable, cleaning kit, Ni-MH battery pack, AC adapter, carrying case, and calibration certificate

#### Digital Dust Monitor Model 3444

- Measures PM 10 particle matters
- Compact and Lightweight unit
- Analog output controls other devices
- Data logging up to 100,000 measurements
- PC interface with USB and software for downloading data to your PC
- Complete with rubber protector, shoulder strap, data processing software, USB cable, AC adapter, 2 pcs. LCD protective sheet, rubber cap, 2 pcs. filter, and calibration certificate

Specifications			
Model	3521 / 3522	3444	
Measuring Method	Piezobalance	Light Scattering	
Particle Size Range	0.1 to 10 μm (Model 3521) 0.1 to 2.5 μm (Model 3522)	0.1 to 10 μm	
Measuring Range	0.01 to 10.00 mg/m³	0.001 to 10.000 mg/m³	
Flow Rate	1.0 L/min	1.0 L/min	
Datalogging	500 measurements	100,000 measurements	
Interface	RS232C	USB	
Analog Output	n/a	0 to 1 V / Pulse / Alarm	
Power Supply	Ni-MH Battery or AC 100 - 240 V	6 pcs. AA Batteries or AC 100 - 240 V	
Dimensions	W2.6" x H7.1" x D5.9"	W6.7" x H2.7" x D4.3"	
Weight	3.9 lbs (1.75 kg)	2.9 lbs (1.3 kg)	

#### PIEZOBALANCE DUST MONITOR MODEL 3521/3522

# KANOMAX The Ultimate Measurements

#### Optimal tool for monitoring oil mist

#### Features:

- Measures PM 10, Respirable, or PM 2.5 particle matters, such as dust, oil mist, fumes, and soot
- Real-time measurements of dust concentration
- Data logging up to 500 measurements and data may be reviewed on screen or printed
- PC interface with RS232C and software for downloading data to your PC
- Easy operation ; no special training required
- Simple cleaning mechanism for easy maintenance
- Includes data processing software, RS232C cable, cleaning kit, Ni-MH battery pack, AC adapter, carrying case, and calibration certificate

Specifications		
Model	3521	3522
Measuring Method	Piezobalance	
Particle Size Range	0.1 to 10 μm	0.1 to 2.5 μm
Measuring Range	0.01 to 10.00 mg/m <sup>3</sup>	
Flow Rate	1.0 L/min	
Datalogging	500 measurements	
Interface	RS2	32C
Power Supply	Ni-MH Battery or AC 100 - 240 V	
Dimensions	W2.6" x H7	7.1" x D5.9"
Weight	3.9 lbs (	1.75 kg)





Software Included

#### Accessories

**3521-01:** Rechargeable Battery Pack

3521-02: Carrying Case

**3521-03:** 10 µm Impactor Nozzle (for 3521) **3521-04:** 4 µm Impactor Nozzle (for 3521)

**3521-05:** AC Adapter

**3521-06:** Cleaning Sponges (3 pieces)

3521-07: Cleaning Fluid

3521-08: RS-232C Communication Cable to PC

3521-20: Printer Cable

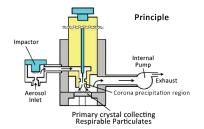
**DPU-S245:** Portable Thermal Printer **TP-5RLPK:** Rolled Printer Paper (1 roll)

#### **Dust Measuring Methods**

#### ■ Piezobalance Method

An air sample enters the system, it travels through the impactor, which captures and removes larger particulates away from the sample. Smaller particulates become electrically charged and deposited on the piezo-crystal. The total mass of the deposited particulates affects the piezo-crystal's frequency. Since the change in frequency is proportional to the mass of the particulates, the actual weight of the particulates is obtained.

Since some particle matters such as oil mist absorb lasers, the Piezobalance dust monitor would be ideal (the light scattering method would not give correct measurements).



#### Applications:

- Monitoring milling operation
- Monitoring honing

#### . Manitaria

- World of the fronting
- Monitoring boring operation

#### Light Scattering Method

When a laser hits particle matter, light scattering occurs. A dust monitor collects the amount of scattering light and calculates the mass concentration in proportion to the scattering light. Mass concentration is based on the density of particle matter, thus gravimetric sampling is required if the density is unknown.

Applications for light scattering dust monitor include Indoor air quality investigations, Point source monitoring, and Personal exposure monitoring.



Monitoring Milling Operation



Monitoring Welding Operation

#### **DIGITAL DUST MONITOR MODEL 3444**

#### Monitor particles in industrial environments

Measures aerosol concentrations corresponding to PM10. The intake isolates the aerosol sample so that the optics chamber is kept sterile for improved reliability and low maintenance. The unit measures 0.1 to  $10\mu m$  particle size aerosol contaminants such as fumes, dust, smoke and mists. It is battery-operated, data-logging, light-scattering laser photometer that gives you real-time aerosol mass readings.

#### **Features:**

- Measures PM 10 particle matters, such as dust, fumes, and smoke
- Real-time and long term measurements of dust concentration
- Compact and Lightweight unit
- PC interface with USB cable and software for downloading data to your PC
- Analog output controls other devices
- Data logging up to 100,000 measurements and displays MIN / MAX / AVG and Timing graph for review
- Complete with rubber protector, shoulder strap, data processing software, USB cable, AC adapter, 6 pcs. AA batteries, 2 pcs. LCD protective sheet, rubber cap, 2 pcs. filter, and calibration certificate

Specifications	
Model	3444
Measuring Method	Light Scattering
Particle Size Range	0.1 to 10 μm
Measuring Range	0.001 to 10.000 mg/m <sup>3</sup>
Flow Rate	1.0 L/min
Datalogging	100,000 measurements
Interface	USB
Analog Output	0 to 1 V / Pulse / Alarm
Power Supply	6 pcs. AA Batteries or AC 100 - 240 V
Dimensions	W6.7" x H2.7" x D4.3"
Weight	2.9 lbs (1.3 kg)

#### **CEGRIT AUTOMATIC FLYASH SAMPLER**

#### Isokinetic sampling for particle emission testing

With no moving parts, each CEGRIT sampler collects a sample from one point in the boiler duct. Operating on duct vacuum to drive its atmospheric-air ejector, the CEGRIT maintains near-isokinetic sampling to keep collecting unbiased sample as boiler load and duct vacuum vary.

#### Features:

- Operates continuously with no moving parts
- High efficiency sampling rate for fine pulverized dust
- Industrial construction
- Cyclone removes to facilitate periodic cleaning
- Two manometer tap points to monitor draft pressure

#### **Applications:**

- All combustion or other processes where airborne particle emission occur
- Smoke and particle emissions or grit burdens from boiler stacks
- Carbon determination in Fly ash
- Incinerator emission compliance







Software Included

#### Accessories

3444-10:	AC Adapter
3444-20:	USB Cable
3444-30:	Analog Output Cable
3444-21:	I/O Communication Cable
3444-60:	Pump Filter
3444-61:	LCD Protective Sheet
3444-70:	Rubber Protector
3444-71:	Cover
3444-72:	L-Shaped Tripod Bracket
3444-73:	Tube Connection Inlet Adapter
3444-74:	Cyclone Connection Adapter
3444-03:	Purge Filter



C8406:	Probe (2 m)
C8408:	Probe (3 m)
C8407:	Probe Extension (10 ft)
C3101:	Inlet Nozzle 1/2" (12.7 mm)
C3102:	Inlet Nozzle, 5/8" (15.9mm)
C3103:	Inlet Nozzle, 3/4" (19.0 mm)
C3104:	Inlet Nozzle, 3/8" (9.5 mm)
C5019:	Heater Jacket, 100W, 240 Volt
C5020:	Heater Jacket, 100W, 110 Volt



# FUME HOOD TESTING INSTRUMENTS



#### TRI-COLOR FUME HOOD VISUALIZER

# KANOMAX The Ultimate Measurements

#### Affordable and highly accurate fume hood vapor visualization system

The Tri-Color Fume Hood Visualizer is the simple, modern, and better way to test your fume hoods. Airflow is invisible. The Tri-Color Fume Hood Visualizer uses vapor haze and lasers to make air visible. Observing airflow inside and around your fume hood gives you invaluable knowledge and insight as to how it performs, all while educating you about air behavior. The Fume Hood Certified Tri-Color focuses on the real world conditions present in the lab, allowing for unprecedented fume hood testing.

#### **Features:**

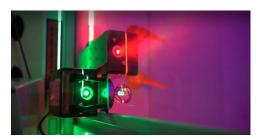
- Portable and easy to use
- Does not require SF6
- See normally invisible airflow
- Goes beyond face velocity profiling to improve user safety
- Much less expensive than traditional fume hood testing equipment

#### **Includes:**

- Tri-Color visualizer unit with remote control
- Laser units (2 x Red and 2 x Green units)
- · Laser control panel
- Hazer Professional (smoke machine)
- Hazer fluid
- Extension elbows (45- & 90-degree angle)
- Hot-wire anemometer
- Hot-wire air probe stand + probe holder
- Marking tape and tape measure
- Hard carrying/shipping case
- \*Kit accessories are available to be purchased separately

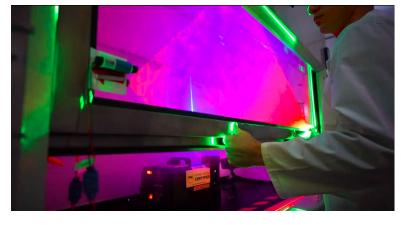


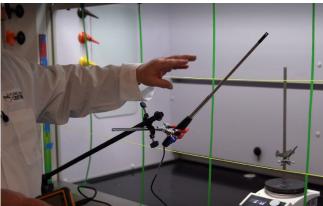












#### **VAPOR ANALYZER Q200**

#### **High Sensitivity Trace Gas Leak Detection**



Portable instrument consisting of a carrying case that contains the power supply and electronics, a small cylinder of compressed argon gas, and the main display panel. The detector is mounted in a handheld probe, attached to the main unit by means of a 3.5 meter umbilical connection. A display panel is mounted in the hand probe to enable the operator to monitor measurements even when working in difficult locations. The instrument is extremely easy to use, and provides highly accurate leak rate measurements. The response is almost instantaneous and the detector recovers quickly, even after exposure to high concentrations of trace gas. Where products are manufactured or maintained to a high leak tight specification the Q 200 is an invaluable aid in ensuring quality.

#### **Features:**

- Portable and easy to use
- Responds to SF6
- Fast response and recovery
- Locates exact position of leaks
- Quantifies the leak rate
- Displays leak rate or concentration
- RS232 serial interface for connection to data logger.
- 0-2 volt analogue output
- User adjustable audible alarm level
- Measurement store facility
- Simple user calibration procedure
- In-built fault diagnosis

#### **Applications:**

- Fume hoods/cupboard and glove box containment checks (method ASHRAE 110-2016 and EN 14175
- Building re-entrainment
- Checking hazardous materials storage vessels
- Building ventilation rate studies





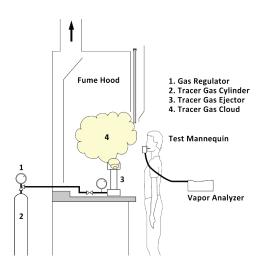
#### TRACER GAS DIFFUSER KIT - DIF-KIT

# KANOMAX The Ultimate Measurements

#### ASHRAE 110 testing made easy

The Kanomax Tracer Gas Diffuser Kit (aka Dif-Kit) is specified in ASHRAE 110 – 2016 on pages 9-12. We start with the standard design and then enhance it. The standard calls for a release rate of 4.0LPM. The output is a function of the critical orifice size and the upstream SF6 pressure. We digitally calibrate each ejector and it comes with a digital pressure gauge to ensure that you are releasing exactly 4LPM every time. Our 'Dif-Kit' includes an ejector, a digital pressure gauge, and a gas regulator. Ships in a hard case.

- Diffuser is made to the design and specifications of ASHRAE Standard Drawing #110-83M
- The internal critical orifice ensures a flow rate of 4 liters per minute (lpm)
- Thermal anemometer for face velocity testing
- Commercial fog machine for flow visualizations











Main Unit Specifications	
Critical Orifice	4 Liters Per Minute
Regulator	Dual Stage, Specialty Gas
Flow Meter	Calibrated 150mm/200psi, Glass Tube
Pressure Gauge	Large Dial, 0 to 60psi
Warranty	1 year
Standard Accessories	Diffuser, Pressure Gauge, Shut-off Valve, In-line Flow Meter, 20 ft of Tubing, Tank Regulator for Gas Cylinder

#### **ASHRAE 110 TESTING MANIKIN**

#### Test manikin for ASHRAE 110 tracer gas testing

The ASHRAE 110-2016 Testing Manikin meets the ASHRAE 110-2016 standard. It is height adjustable and mounted on a mobile platform. The head has been modified to accept the tracer gas analyzer (Q200) probe. Kit includes a manikin with a lab coat and a stand with wheel. Ships in a hard case.

NOTE: The Flow Visualization and velocity procedure test standard (ANSI/ASHRAE 110-1995 section 6) is a visualization test used to determine hood ability to contain vapors. A visible smoke is introduced in a manner that is consistent in a way the hood is typically used. See ANSI/ASHRAE 110-1995 section 6 for a complete description of testing procedures.









#### **FOG MACHINE AL900**

#### For fume hood testing and automobile testing

An economical fog machine, excellent for applications such as combine with the Kanomax tracer gas testing DIF-Kit. A simple on-off switch (in remote control mode only) initiates a remarkably powerful blast of smoke. The output from the 1000 watt heater of this compact machine is truly remarkable.

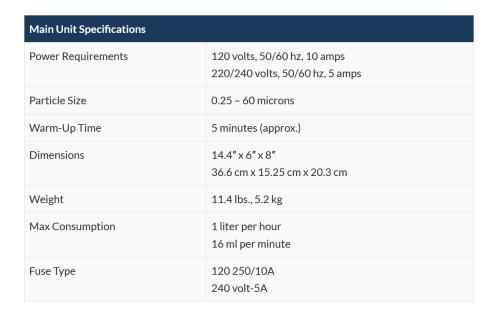
NOTE: The Flow Visualization and velocity procedure test standard (ANSI/ASHRAE 110-1995 section 6) is a visualization test used to determine hood ability to contain vapors. A visible smoke is introduced in a manner that is consistent in a way the hood is typically used. See ANSI/ASHRAE 110-1995 section 6 for a complete description of testing procedures.

#### **Features:**

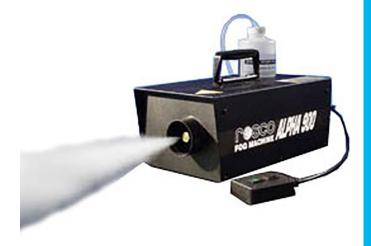
- Large volume fog machine
- · Accepts all Rosco fog fluids

#### **Applications:**

- Fume hood testing
- Ventilation testing











# SOUND AND VIBRATION METERS

Applications



**Environmental noise measurement** 



Noise exposure measurement



Industrial vibration testing

#### **SOUND LEVEL METER MODEL 4431**

#### Precision sound level meter with 0-dB function

The Kanomax Sound Level Meter is designed to be compact, lightweight and easy to use. It complies with the type 2 ANSI S1.4 1983 standard, and has an innovative, unique 0-dB feature that eliminates the self-noise of the microphone. This technology extends the lower limit of the measurement range to lower than 0 dB-SPL.

#### Features:

- Lightweight and compact design
- Equipped with highly sensitive electret condenser microphone
- Large 4 digit display with 0.1 dB resolution with backlighting and analog bar graph
- Add additional functions with the program cards
- Includes SD card for data storage, windshield, carrying case, AA batteries, hand strap, and calibration certificate

Specifications	
Model	4431
Parameters	Lp, LA, LAeq, LAE, LAmax, LAmin, LAN, Lpeak, LAtm5
Ranges	A: 28 - 130 dB, Z 39 - 130 dB
Weighting	A, C and Z
Time Response	Fast or Slow
Microphone	TYPE 7146nl (-28dB, Stand-alone -26dB)
Standards	Type 1 (4432) or Type 2 (4431) standards for ANSI S1.4 1983, IEC 61672-1
Power Supply	4 AA Batteries or optional AC Adapter (Battery life: approx. 9 hours)
Size & Weight	W3.4" x H12.9" x D1.9", Approx 1 lb.

#### **VIBRATION METER MODEL 4200**

#### Compact, easy-to-use vibration meter

The Kanomax Vibration Meter is designed to be compact, lightweight and easy to use. The magnetic accelerometer attaches easily to machinery for increased accuracy and precise operation. It's the perfect tool to diagnosis problematic vibrations with your industrial machinery or manufactured products.

#### Features:

- Compact size maximizes technician mobility
- Magnetic accelerometer increases measuring accuracy and ease-of-use
- Includes meter, accelerometer with cable and magnet, contact pin, 2 x AAA batteries, carrying case, and calibration certificate

Specifications	
Measurement Range	
Acceleration	0.02 to 200 m/s <sup>2</sup> RMS
Velocity	0.02 to 200mm/s RMS
Displacement	2 to 2000 µm EQp-p
Frequency Range	
Acceleration	3Hz to 10kHz
Velocity	10Hz to 1kHz (Compliant with JIS B0907-1989)
Displacement	10 to 400Hz
Readings	RMS, Peak, EQ Peak, EQ Peak-to-Peak
Output	
AC Output	1Vrms (Full Scale)
Headphone Output	Portable Headphones w/Volume function
Interface	RS232C
Operating Environment	
Temperature	-10 to 50°C
Humidity	30% to 90% (no condensing)
Power Supply	2 x AAA batteries or AC adapter
Dimensions & Weight	5.7"(H)x1.9"(W)x0.9"(D) Approx. 4.6 oz.





#### Accessories

AC-1026: AC Adapter

ACBC-0046-3: Microphone Cable (3m)\*
ACBC-0046-5: Extension Cable (5m)\*
ACBC-0071: BNC-Pin Cable

ACNA-0038W: Data Processing Software

ACNA-0038: Program Card (1/1, 1/3 Octave Analyzer)
ACNA-0038F: Program Card (FFT Analyzer)

ACNA-0038F: Program Card (FFT Analyzer)
ACNA-0038R: Program Card (Real Sound Recording)

ACNA-0333: Tripod

\*Additional cable lengths available



#### Accessories

AC-1046: AC Adapter
AC7812B: Pickup w/ Preamp
ACPV-0148: Spare Magnet
ACPV-5050: Strong Magnet
ACNA-0134: Auscultation Rod
ACSS-22M: Stud

ACBC-0071: BNC-Pin Cable
ACBC-0116-3: Extension Cable 3m\*
ACNA-0116: Data Processing Software
ACBC-0026: Communication Cable (RS232)

\*Additional cable lengths available





#### **AMENITY MANIKIN SYSTEM**

#### **Cabin Comfort Test Rig**

Kanomax Amenity Manikin System is a solution for precise interior cabin comfort evaluation. The system measures parameters; air velocity, temperature, humidity, and radiant heat; which relate to human comfort level. One mannequin equips more than 120 sensors all over its surface and provides sophisticated measurement.

- 4 mannequins measure simultaneously; understanding the entire cabin
- Wireless connection brings easy operation
- Graphical software for both real-time measurement and data retrieval
- Excel compatible data output as well as saved graphical data for review

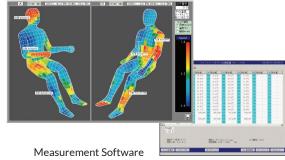
Sensor Allo	cations by Part			
	Air Velocity	Temperature	Humidity	Radiant Heat
Head	4	12	1	3
Torso	12	33	0	5
Lower Body	20	33	1	4
Total	36	78	2	12

Mannequin Specifications	
Height	Approx. 5'6" (170 cm)
Weight	90 lbs (40 kg)
Material	Plastic (FRP)

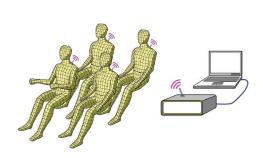
Sensor Specifications	
Air Velocity Ranges	0.10 to 5.00 m/s
Accuracy	0.05 m/s
Temperature Ranges	30 to 100°C
Accuracy	+/- 3.0°C
Humidity Ranges	3 to 95% RH
Accuracy	+/- 3% RH
Radiant Heat Ranges	0 to kw/m²
Accuracy	+/- 7%
Wavelength	0.3 to 40 μm



Amenity Manikin







**KANOMAX** 

#### STEAM GENERATOR

#### Vehicle de-mister testing instrument

The Kanomax Steam Generator is specifically designed for automobile de-mister testing. This instrument fills the automobile cabin with steam to create a humid environment, increasing the fog that accumulates on the windshield. The de-mister can then be tested in accordance with JIS D 4502/4504-1994, ISO 3470-1989(E), EEC 661, and SAE J953 standards.

#### Features:

- Generates up to 390g per hour
- Conducts tests in accordance with JIS D 4502/4504-1994, ISO 3470-1989(E), EEC 661, and SAE J953 standards.
- Steam volume generation up to 1 gallon

Specifications	
Steam Generation	65 to 390 g/hour
Heat Loss	Less than 75W
Steam Volume	1 gallon (3.785 litters)
Heater Capacity	Up to 500W at AC100V
Nozzle	Inner diameter of 15 mm x 100 mmL
Fan Airflow	0.05 to 0.1 m3/min at 49 Pa
Standards	JIS D 4502/4504-1994 ISO 3470-1989(E) EEC 661 SAE J953



#### **CABIN LEAKAGE TESTER**

#### Cabin comfort test rig

Leakage testing is performed by pressurizing or depressurizing the vehicle cabin. The tester measures the changes in cabin pressure. The control unit consists of a manometer and pressure transducers. The manometer detects the leakage flow, which is calculated by measuring the nozzle pressure relative to static pressure. The tester controls an adjustable fan to maintain static test pressure.

- Automatic Pressure Control
- Negative Pressure Testing
- Features High Accuracy Manometer

Specifications	
Airflow Ranges	100 to 500 m3/hour
Maximum Static Pressure	300 Pa
Nozzle Diameter	41 or 69 mm
Power Supply	AC100V, 20A, Single phase
Standards	JIS D1622 JIS B 8330



#### THERMAL MANIKIN SYSTEM

#### Unique Design with High Accuracy

Kanomax USA has partnered with P.T. Teknik to bring their high-end Thermal Manikin System to the US. P.T. Teknik research manikins are widely used in analysing human thermal comfort of buildings, ventilation and air conditioning systems, cars and clothing.

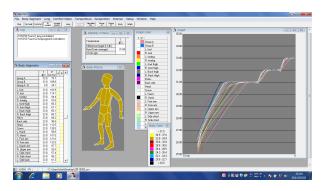
The manikins are used by universities as well as industrial R&D departments.

- Natural bodyshape male or female with a dense 2,2 mm wiring optimized to create a uniform heat loss across the thermal manikin's body.
- Reaches set point temperature in less than 10 minutes and maintains stability in any realistic operative environment
- Can be placed standing, sitting or laying down depending on the application. Option to include mode for walking/motion.
- Cast in high quality glass fiber with robust polyoxymethylen joints, allowing the thermal manikin to withstand being moved around, dressed/undressed etc.
- Operated through an intuitive PC SW interface and free on-site training/instruction in the first week.

Specifications			
Parameters	Skin T Heat flux PMV PPD SET ET Teq Clo		
Body Zones	22 - 27 (or more on request)		
Modes	30 to 100°C		
Body Size	Male 175 cm, Female 168 cm, 20 kg		
Power Supply	100 / 240 V in, 24 V DC out		
Heat Loss	+/- 3% RH		
Temperature	Range 15 - 45 C Resolution 0.1 C Precision 0.1 C		
Note	*Body can be separated in the waist for easy transport		













# PORTABLE CLEAN ENVIRONMENT

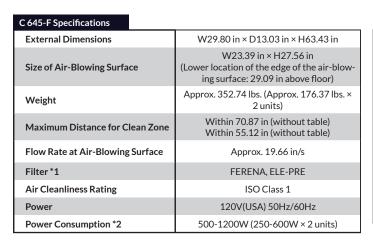
#### KOACH PORTABLE CLEAN ENVIRONMENT

Portable clean bench capable of creating an ISO Class 1 clean air environment

Koken's Table and Stand KOACHs are able to create a local environment of ISO Class 1 cleanliness in order to solve the carry-over contamination problem that is caused by airborne particulates in the laboratory. Equipped with nanofiber filters that can remove airborne particulates of  $0.1\mu m$  in diameter. KOACH can achieve ISO Class 1 cleanliness.

- Achieve ISO Class 1 cleanliness instantly (< 2 mins)
- Benchtop clean area without surrounding walls
- Low uni-directional airflow doesn't disturb the working surface
- Cost-saving compared to developing a cleanroom
- Sources of dust can be identified easily
- Sources of dust are allowed to be brought in
- Portable; can be relocated easily

T 500-F Specifications		
External Dimensions	W20.63 in × D11.61 in × H12.56 in	
Size of Air-Blowing Surface	W19.53 in × H12.20 in	
Weight	Approx. 57 lb (Aprox. 28.5 lb × 2 units)	
Maximum Distance for Clean Zone	Within 27.60 in (Maximum distance be- tween the pair of push hoods)	
Flow Rate at Air-Blowing Surface	Approx. 15.75 in/s	
Filter *1	FERENA, ELE-PRE	
Air Cleanliness Rating	ISO Class 1	
Power	120V(USA) 50Hz/60Hz	
Power Consumption *2	120-220W (60-110W × 2 units)	









C 900-F Specifications	
External Dimensions	W37.76 in × D13.82 in × H63.43 in
Size of Air-Blowing Surface	W35.43 in × H27.56 in (Lower location of the edge of the air-blow- ing surface: 29.09 in above floor)
Weight	Approx. 410 lbs. (Approx. 205 lbs. × 2 units)
Maximum Distance for Clean Zone	Within 90.55 in (with table) Within 70.87 in (without table)
Flow Rate at Air-Blowing Surface	Approx. 19.66 in/s
Filter *1	FERENA, ELE-PRE
Air Cleanliness Rating	ISO Class 1
Power	120V(USA) 50Hz/60Hz
Power Consumption *2	600-1500W (300-750W × 2 units)



# RESEARCH INSTRUMENTS

#### **SMART LDV III**

## Third generation easy-to-operate Smart LDV (Laser Doppler Velocimeter)

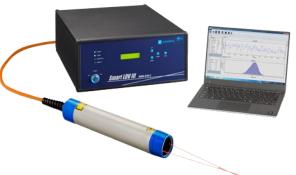
A Laser Doppler Velocimeter (LDV) measures fluid velocity by utilizing coherence of laser light. It detects the Doppler shift frequency of the scattering light of particles in the fluid and calculates the velocity of the particles (fluid). With a LDV system, non-intrusive measurements without disturbing the measuring object, liquid or gas flow, are achieved. No calibration is necessary and reverse flow measurements at a high resolution is also possible. The LDV system provides the absolute value of the flow velocity with accuracy.





- Enhanced receiving sensitivity enabling high data-rate measurement
- Up to 60,000 velocity data/sec.
- High-speed data transfer by USB3.0
- Probe designed as all-in-one, no alignment necessary

Main Unit Specifications		
Velocity Range	-40 to 260 m/s (f = 400mm, Model 8743-S)	
Laser Source	Laser Diode: λ=660nm, 60mW	
Focal Distance	150, 200, 250, 300, 350, 400 mm	
Focal Point Size	0.13 mm x 1.3 mm (f=200mm)	
Probe Size	61 mm (Dimension) x 345 mm (length)	
Shift Frequency	Model 8743-S: 0.01 to 10 MHzModel 8743: without Frequency Shifter	
Signal Processor Specifications		
Signal Processing System	8 bits FFT (512, 256, 128 points)	
Frequency Band	1 kHz to 40 MHz (8 ranges)	
Max Data Rate	60,000 speed data/sec*	
Validation	Burst Spectrum ratio	
Interface	USB 3.0	
Software		
Max. number of data	100,000	
Real time monitor	Burst waveformBurst spectrumVelocity histogram	
Analysis function	$\label{thm:mean_flow} \textbf{Mean flow velocity, Turbulent intensity, Skewness factor, Flatness factor, Velocity histogram, Time-series display}$	
Data output	CSV format	
Supported Operating System	Windows 7/8/10(64 bit only) Japanese/English	



#### **SMART CTA MODEL 7520**



# Professional and compact hot-wire anemometer for turbulence measurements and frequency analyses

The Smart CTA is a professional but easy-to-use hot-wire anemometer. In a compact design, two CTA units are integrated which enable not only a one-dimensional probe, but also a two-dimensional probe, to use with just one main unit. The Smart CTA offers the frequency response up to 20 kHz, so for most applications it can be employed.

A hot-wire anemometer (HWA) is an instrument that measures turbulence intensity of airflow and for its frequency analyses. A HWA detects velocities from analog electrical signals continuously outputted from the CTA feedback circuit. The hot-wire sensors are very tiny, a diameter of about a few microns, and therefore bring high thermal responsiveness. Those small sensors enable to capture information of the microstructure of the flow. By traversing the probe, velocity distribution can be also measured.

- 2 channels of CTA integrated in one unit, extended up to 16 channels
- Frequency response up to 20 kHz
- Compact and easy to use
- Exclusive software support from probe calibration to measurement

Main Unit Specifications	
Method	Constant Temperature Anemometry (CTA)
Bridge	
Number of Channels	2
Bridge Ratio	12:1
Set Resistance (for probe)	4.5 to 45 Ω
Current Supply to Probe	< 350 mA
Feedback Circuit	
Output Voltage Range	0 to 10 V DC
Frequency Response	< 20 kHz
Operating Environment	
Temperature	5 to 35 °C
Humidity	20 to 90% RH
Power Supply	
Voltage	AC100V / 120V / 220V / 240 V (set prior to delivery)
Frequency	50 Hz / 60 Hz
Appearance	
Dimensions	320 mm x 88 mm x 280 mm
Weight	approx. 3.8 kg
Software	
Function	Probe Calibration, Measurement, Graph Indication, Realtime Monitoring
Created Files	Probe Calibration File  Measurement File  Statistical Calculation Result File (csv)
Analysis Data (Statistical Calculation Result File)	Average velocity value, Standard deviation, Min. velocity value, Max. velocity value, Turbulent intensity
Supported Operating System	Windows 10 (64bit)

#### **BUBBLEMASTER MODEL 7961**



# Void fraction measurement and simultaneous measurement of velocity and diameter of bubbles in a gas-liquid two-phase flow

The BubbleMaster measures gas-liquid two-phase flows with optical fiber sensors. It not only measures time-averaged void fraction, but also detects individual bubble size and velocity using reflected light intensity technology that changes when a bubble penetrates the tip of the wedge-shaped optical fiber.

Three types of quartz sensor tips are available: S-TOP, T-TOP and F-TOP. The intrusive approach of the BubbleMaster enables to measure even at a higher void fraction of over  $1\,\%$ , which cannot be realized by a non-intrusive optical method.

The BubbleMaster software acquires samples from individual bubbles, which signal amplitude can be monitored on the software display. Analysis results, histogram of bubble velocity and diameter, void faction, averages and standard deviation can be obtained with the T-TOP and F-TOP sensor.

- Measurable even at a higher void fraction of over 1 %
- Simultaneous measurement of bubble velocity and diameter
- Applicable to nonconductive fluid as well
- Option of plastic fibers or heat and pressure resistant types available (S-TOP / T-TOP)



Main Unit Specifications	
Method	Photoelectric detection
Number of Channels	4 Channels
Sensors	
Shape	Wedge-shaped
Measurable Bubble Size	> 1.0 mm
Applicable Velocity	< 5 m/s
Type of Sensors	S-TOP, T-TOP and F-TOP
Software	
Sampling System	Burst signal sampling
Sampling Mode	Trigger mode, Continuous sampling mode
Real Time Monitor	Photoelectric conversion output signal
Data Acquisition	Max. 100,000 (number of bubbles)
Analysis Data (S-TOP sensor)	Bubble signal waveform, Void fraction
Analysis Data (T-TOP / F-TOP sensor)	Bubble signal waveform, Void fraction, Bubble velocity, Bubble diameter, Average value, Standard deviation
Data Table	Bubble velocity, Bubble size
Histogram Chart	Bubble velocity, Bubble size
Supported Operating System	Windows 10 (64bit)
Power Supply	
Voltage	AC 90V ~ 240 V
Frequency	50 Hz / 60 Hz
Appearance (main unit)	
Dimensions	255 mm x 313 mm x 153 mm
Weight	approx. 4.5 kg

Output Data	S-TOP	Т-ТОР	F-TOP
Void Fraction	0	0	0
Signal Waveform	0	0	0
Bubble Velocity	X	0	0
Bubble Diameter	X	0	0
Bubble Entry Angle	X	Х	0
Average Value	X	0	0
Standard Deviation	X	0	0



### TO PLACE AN ORDER CONTACT US AT:

### Kanomax USA, Inc.

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