

Air Measuring
Instrumentation



Accurate. Reliable. Every Time.





AIRFLOW History

Service and Support

You can expect fast turnaround times for calibration and repair service for your AIRFLOW Instruments. Our extensive network of world-class distributors is standing by to provide you with outstanding local support. Detailed product specifications, as well as service information, is available on the website at www.airflowinstruments.co.uk.

ABOUT AIRFLOW Instruments™

In 1955, from one man's expertise in the field of air flow measurement and fan design, AIRFLOW Developments Limited was founded. Designed by air measurements experts, AIRFLOW Instruments earned a reputation as being innovative, accurate, and reliable. Today, AIRFLOW Instruments are manufactured to the stringent requirements of ISO9001.

In 2005, TSI Incorporated acquired the Instrument Division of AIRFLOW Developments, combining over 90 years of expertise and innovation in air measurement. Through investment in research and development, we continually seek new ways of measuring air flow and other ventilation parameters.

AIRFLOW products are accurate, high quality, professional grade instruments used by a wide range of customers, including building service contractors, commissioning specialists, facility engineers, and research professionals.



New Products, New Look, Same Great Quality

Table of Contents

Anemometers (pages 4–5)

Multi-Function Instruments — TA460 Series

Thermal Anemometers — TA440, TA430 and TA410

Rotating Vanes (pages 6–7)

Rotating Vane Anemometers — LCA301, LCA501 and EDRA6

Volume and Pressure Products (pages 8–10)

ProHood Capture Hoods — PH721

ProHood Manometer — PH720

Micromanometers — PVM610 and PVM620

Hydronic Manometers — HM670 and HM680

Leakage Testers (page 11)

P.A.N.D.A — PAN311 and PAN321

Duct Leakage Testers — HVLT and LVLT

Indoor Air Instruments (pages 12–13)

Indoor Air Quality Meters — IAQ910 and IAQ920

Thermohygrometers — RH710 and RH720

Air Monitoring (pages 14–15)

Air Velocity Transducers — 8455, 8465, and 8475

Pitot Static Tubes

Liquid Manometers — Type SJ and Type 504 Inclined

AIRFLOW calibrated instruments are supplied with a FREE fully traceable certificate of calibration.



Anemometers



Model TA460

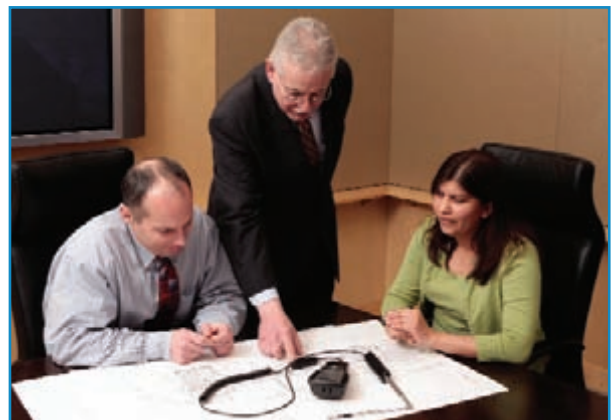
Multi-Function Anemometers

TA460 Series

The TA460 series are portable, hand held, Multi-Function Thermal Anemometers. They are designed to measure air velocity, differential pressure, temperature, and humidity. Calculations include air flow, wet bulb, dew point, and turbulence. The instruments are compatible with a range of optional probes that have a versatile choice of features and functions.

Features and Benefits

- **Accurate** air velocity measurement
- Optional 'smart' plug-in probes, including CO₂, rotating vane probes, and VOC (volatile organic compounds)
- Data logging and downloading software included
- Fast calibration and repair service



Thermal Anemometers

Models TA440, TA430

The Model TA440 and TA430 are like having multiple meters for the price of one, yet simple to operate. Purchase instruments with straight or articulated probe— all in one compact package.



Model TA440

Features and Benefits

- High accuracy over a wide velocity range
- Simultaneously measures temperature, velocity, and humidity (TA440)
- Calculates volumetric flow, actual/standard velocity, and wet bulb (TA440)
- Data logging and downloading software included

Thermal Anemometers

Model TA410

The TA410 digital velocity meter is a solid choice for an Air Velocity Meter, without compromising accuracy and precision. It is perfect for troubleshooting HVAC systems and conducting commissioning work.

Features and Benefits

- Range is 0-20 m/s
- Large, easy to read display
- Press button to hold reading



Rotating Vanes



Model LCA301

Rotating Vane Anemometers

Model LCA301

Model LCA301 is a light weight, robust, and simple to use Rotating Vane Anemometer that provides accurate and reliable readings every time. Ideal for HVAC commissioning at grilles, ducts, and diffusers; the LCA301 displays readings in metric or imperial mode.

Features and Benefits

- Reversible 100 mm head allows readings at supply and extract grilles
- Calculates volumetric flow rate
- Compatible with Aircone Flow Hoods
- No density correction factors required
- Automatic averaging of air velocity



Rotating Vane Anemometers

Model LCA501

Model LCA501 is a hand held digital Rotating Vane Anemometer used for air velocity and volumetric flow measurements.



Features and Benefits

- Measures velocity and temperature
- Sweep mode
- Log, store, and recall data
- Download data to a PC
- Optional telescopic probe available

Rotating Vanes

Model EDRA-6

The EDRA-6 Multi-Range Rotating Vane Anemometer provides instantaneous readings of air velocity. Dual scaled in m/sec and ft/min, the display is switchable across three ranges providing excellent resolution and readability even at low velocities.



Aircone Flow Hoods

Aircone Flow Hoods are a fast and accurate method of maximizing the usefulness of your 100 mm rotating vane anemometers. For a modest investment, you can double the capability of your rotating vane, turning it into an air volume flow balancing tool.

Features and Benefits

- Rectangular and circular cones available
- Measures volumetric flow at grilles, diffusers, air valves, and linears
- Reads air volume quickly and accurately
- Excellent choice for small grilles
- Compatible with LCA301 and LCA501



Volume and Pressure Products



Model PH721
Shown with
optional accessories

Capture Hoods

Models PH721

The PH721 Capture Hood is a multipurpose electronic air balancing instrument for reading air volume flow at diffusers, grilles, and linear slots. It is ideally suited for commissioning specialists, facilities managers, health and safety specialists, test engineers, and ventilation installers. This light weight, ergonomically designed kit saves time and money while helping to create a healthy and energy efficient environment.

The standard PH721 kit includes 610 mm x 610 mm capture hood, base, manometer, pitot tube, static pressure tips, Norprene™ tubing, and LogDat downloading software in a luggage style wheeled carrying case.

Features and Benefits

- Ergonomic design and ultra light weight for easy one person operation
- Detachable digital manometer for use in other applications
- Use with pitot, air flow, temperature, or relative humidity probes
- Multiple hood sizes available
- Bio-Safety hood kits available



Manometer

Model PH720

The PH720 is one of the most advanced, versatile, and easy-to-use Manometers on the market today. Auto-zeroing allows you to make measurements throughout the day. Velocity matrix accessory is useful in measuring downflows in clean rooms and other specialized spaces.



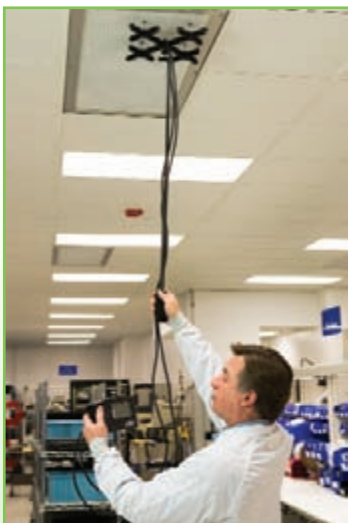
Model PH720

Features and Benefits

- Accurately measures pressure, velocity (Pitot), and flow
- Large, easy to read display
- Data logging and downloading software included
- Resolution: 0.001Pa

Optional Accessories for PH720 AND PH721

- 16 point velocity matrix with telescoping handle
- Air flow probe
- Temperature probe
- Temperature/humidity probe
- Bio-safety cabinet hood kit



Micromanometers

Models PVM620, PVM610

The PVM620 is a rugged, compact, comprehensive Micromanometer that measures pressure, and calculates velocity and volumetric flow rate. It can be used with Pitot tubes to measure velocity and then calculate flow rates with user-input duct size and shape. Premium features make it ideal for HVAC, environmental safeguards, commissioning, process control and system balancing.

The PVM610 is an easy to use, hand held digital Micromanometer for fast, accurate and reliable pressure measurement. It can also calculate velocity.



Model PVM620

Features and Benefits PVM620 AND PVM610

- Measures differential and static pressure from -3735 to +3735 Pa
- Calculates and displays velocity when using a Pitot tube

Added Features PVM620

- Calculates volumetric flow rate in duct from velocity and user-input duct size and shape
- Records data points in duct traverse using sampling function
- Data logs up to 12,700 samples and 100 test IDs with time and date stamp
- Includes LogDat2 downloading software

Hydronic Manometers

Models HM670, HM680

The HM670 and HM680 are used to balance hydronic heating and cooling systems and to check pump performance. Both models can measure and display differential, high side, and low side pressures simultaneously without the need to change hose connections or instrument valve settings.



Model HM680

Features and Benefits HM670 AND HM680

- Large backlit display for use in low light areas
- Operates on four alkaline or NiMH rechargeable batteries
- Reads in. H₂O, ft. H₂O, psi, in. Hg, mm H₂O, kPa, mm Hg, bar

Added Features HM680

- Performs on-board universal flow and btu/hr calculations
- Displays volumetric flow when a Cv (Kv) factor is programmed
- Allows up to 100 Cv (Kv) factors to be entered
- Calculates brake power, heat flow, Cv (Kv) factors and impeller sizing
- Stores up to 1,000 data points for recall or downloading via USB interface





Leakage Testers



Model PAN321

Positive and Negative Duct Accreditation (PANDA) System

Model PAN311, PAN321

The Positive and Negative Duct Accreditation (PANDA) system provides contractors, commissioning engineers, and research and development technicians with the best in class choice of test equipment to quantify air leakage in ductwork and other areas as well as the ability to measure the performance of ducted systems. The PANDA provides a fast, accurate, automated solution and helps to ensure compliance with EN12237, EN1507 and EUROVENT 2/2 standards, enhancing energy savings in buildings.

Features and Benefits

- Positive and Negative Duct Leakage Testing in one rig
- Energy savings by testing and minimizing duct leaks
- Accuracy is $\pm 2,5\%$ of volume flow
- Unique performance and fan speed control charge up of duct system to test static pressure within minutes
- Fits in the back of vans and estate cars

Duct Leakage Testers

Models LVLT, HVL

These two units provide contractors, commissioning engineers, and research and development technicians with a comprehensive choice of equipment to test and quantify air leakage virtually anywhere low pressurisation is necessary. They provide a fast, accurate measurement solution in metric or imperial units. The method of measurement of air flow rate is a primary standard directly related to BS 848 Part 1.

Features and Benefits

- LM1 Leakage Manager for instantaneous display of actual ductwork leakage and test pressure
- Two models up to 354 l/sec and 2500 Pa
- Fundamental manometry readout kit available
- AHU enclosures and laboratory containment for COSHH



Model LVLT



Model HVL



Indoor Air Instruments



Model IAQ920

Indoor Air Quality Meters

Models IAQ920, IAQ910

The IAQ920 Indoor Air Quality Meter quickly and accurately measures carbon dioxide, temperature, and humidity levels in real time with a single probe. It stores up to 12,700 sets of downloadable readings with time and date stamp. It is the ideal instrument for checking ventilation rates, air changes, investigating indoor air quality, and performing thermal comfort studies.

Features and Benefits

- Long-lasting NDIR sensor to monitor CO₂
- Manual or continuous data logging
- Includes LogDat2 software and interface cable to download to a PC
- Calculates % outside air from CO₂ or temperature
- Displays humidity as %RH, dew point, wet bulb, absolute humidity, or humidity ratio

Indoor Air Quality Meters

Model IAQ910 CO₂ Meter

The IAQ910 CO₂ Meter is an excellent hand held diagnostic instrument for measuring and monitoring carbon dioxide levels. HVAC professionals use it for conducting IAQ surveys, checking air changes, and evaluating ventilation systems in schools, offices, factories, and hospitals.

Features and Benefits

- Statistics function for average, maximum, and minimum values
- Large display
- Real-time CO₂ readings in parts per million (PPM)
- Integrated NDIR sensor

Thermohygrometers

Model RH720

The RH720 Thermohygrometer is an excellent diagnostic instrument for conducting thermal comfort studies, IAQ evaluations, monitoring manufacturing processes, checking storage facilities, and verifying heating and cooling system performance.



Model RH720

Features and Benefits

- Measures temperature and %RH in real time
- Calculates % outside air
- Calculates wet bulb and dew point temperatures
- Stores up to 12,700 sets of downloadable readings with time and date stamp
- Download to a PC using LogDat2 software



Thermohygrometers

Model RH710

The RH710 Thermohygrometer is a base model that displays average temperature and humidity. It is ideal for use in plant maintenance and inspection of air conditioning systems.

Features and Benefits

- Measures temperature and humidity
- Calculates wet bulb temperature
- Simple operation

Air Monitoring



Model AVT

Air Velocity Transducers

Models 8455, 8465, 8475

The 8455, 8465, and 8475 Air Velocity Transducers are ideal for both temporary and permanent installations for air velocity measurements in research and development labs, manufacturing processes, and other applications. The full-scale range, signal output, and time constant are user-selectable and can be easily changed to meet the needs of your application.

Features and Benefits

- The 8455 is a general purpose transducer with a protected tip and rugged ceramic sensor
- The 8465 has a windowless sensor for measurements in confined spaces
- The 8475 features an omni-directional sensor which makes it accurate at very low velocities and for use when flow direction is unknown



Model 8455



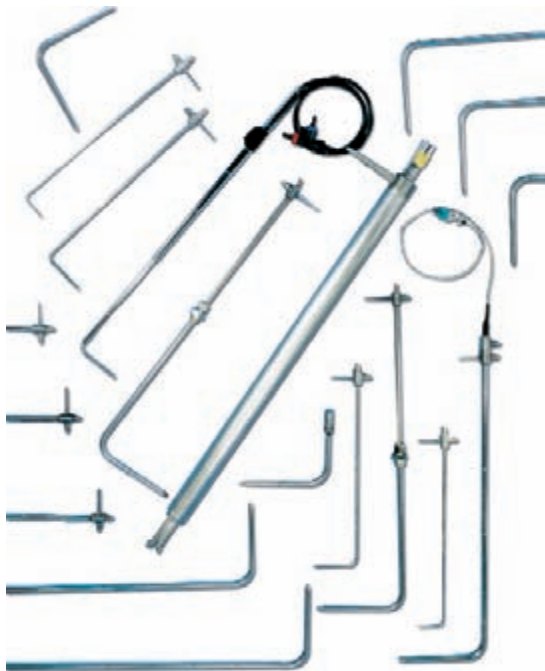
Model 8465



Model 8475

Pitot Static Tubes

Choose from a comprehensive range of Pitot Static Tubes offering telescopic, fixed length, and jointed tubes to suit virtually any application. Also available are “S” type Pitots for restricted access and hostile environments and Pitots with adjustable mounting glands for permanent installations. The Thermo–Pitot Static Tubes with integral thermocouple sensors allow combined in-line pressure and temperature measurement. Manufactured from a high grade stainless steel, all Pitots are durable and tolerate aggressive conditions. They are suitable for sensing in heating, ventilation, and air conditioning equipment including commissioning and troubleshooting.



Features and Benefits

- Totally compatible with manometers, pressure gauges, and transmitters
- Use for COSHH assessment and environmental monitoring
- Excellent accuracy, K-factor 0.997
- Excellent yaw and pitch characteristics
- Spring slip markers for insertion
- Direction pointer to ensure correct alignment

Liquid Manometers

Industrial Manometers

AIRFLOW's general purpose Manometers are suitable for positive, negative and differential pressure and combine low cost with quality engineering and a high standard of performance. The range includes basic gauges for filter monitoring in air handling systems, high sensitivity inclined gauges for monitoring more critical process pressures, and a number of vertical column gauges suitable for wall mounting or free standing use in the laboratory.



Model FL1.5



Model FL4

Type SJ (Slim Jim)

Vertical Manometers

The Standard SJ Instrument body is an aluminum extrusion, incorporating a groove which supports the sight glass along its entire length. The sight glass is held in place by the bow-front anodized aluminum scale.

Features and Benefits

- High pressure – up to 6000 Pa
- Suitable for wall mounting only
- Fine adjustment for zero by altering height of reservoir tank
- Robust construction for industrial applications

Type 504 Inclined Gauges

Highly sensitive instruments suitable for wall or panel mounting with the fixing kit supplied. The combination of long scale length gives precise measurement of low pressures.

Features and Benefits

- Scale length of 250 mm
- Range 0–125 Pa or 0–500 Pa
- Robust construction for industrial applications



AIRFLOW Instruments, TSI Instruments Ltd.

Stirling Road, Cressex Business Park, High Wycombe, Buckinghamshire, HP12 3RT, United Kingdom

UK	Tel: +44 149 4 459200	E-mail: tsiuk@tsi.com
France	Tel: +33 491 11 87 64	E-mail: tsifrance@tsi.com
Germany	Tel: +49 241 523030	E-mail: tsigmbh@tsi.com



Contact your local AIRFLOW Distributor or visit our website www.airflowinstruments.co.uk for more detailed specifications.