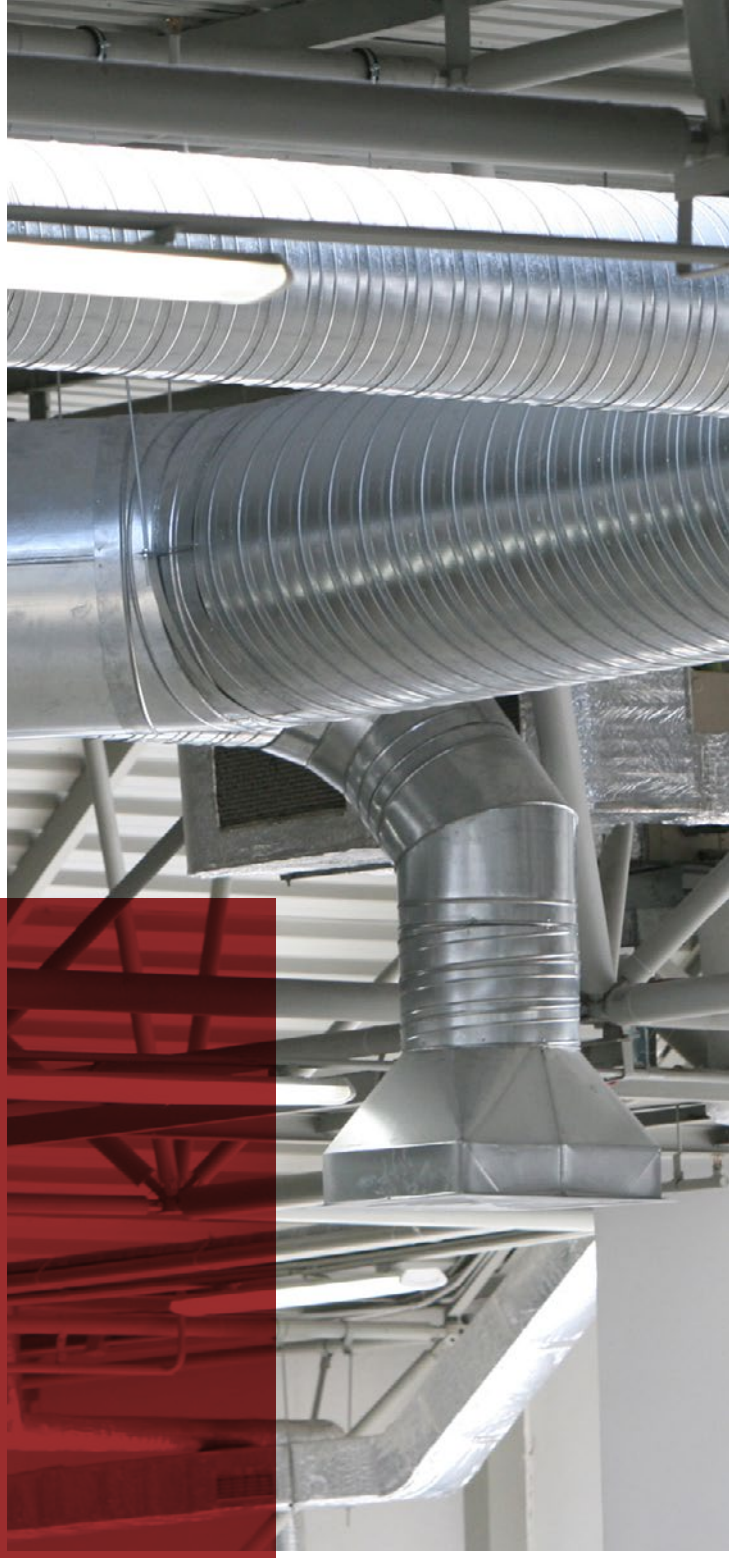
TSI® | AIRFLOW™ INSTRUMENTS



TSI® Airflow™ Catalog

Air Measurment Instruments

Accurate. Reliable. Every Time.

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.

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.tsi.com/airflow-instruments.

Table of Contents

Airflow Calibrated Instruments are Supplied with a Free Fully Traceable Certification of Calibration

Anemometers Built for Versatility

Multi-Function Anemometers

TA465 Series
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. An articulated model (TA465-A) is also available.

Features and Benefits
- Displays up to five measurements simultaneously
- Optional 'smart' plug-in probes, including CO, CO_2, rotating vane probes, and VOC (volatile organic compounds)
- Data logging and downloading software included
- Pre-program up to five duct dimensions and pressure Kfactors
- Intuitive menu structure allows for ease of setup and use

Model TA465

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. Both models measure velocity, temperature and calculate flow. The Model TA440 also measures relative humidity, calculates dewpoint and wetbulb temperature.

Features and Benefits
- High accuracy over a wide velocity range
- Easy to read display
- Includes calibration certificate
- Data logging and downloading software included

Model TA440

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

Model TA410

Rotating Vane Anemometers

Model LCA501
Model LCA501 is a hand held digital Rotating Vane Anemometer used for air velocity and volumetric flow measurements. High accuracy and reliability make the LCA501 the professional tool for measuring unevenly distributed of fluctuating velocity or flow.

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

Model LCA501

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 diff users; 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

Model LCA301

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 & Pressure Products

Capture Hoods

Models PH731
The PH731Capture Hood is a multipurpose electronic air balancing instrument primarily used for efficiently taking direct air volume readings at diffusers and grilles. It features a detachable micromanometer which can be used with optional probes for increased flexibility in multiple measurement applications. Offering durable, trouble-free operation, this lightweight, ergonomically designed capture hood kit saves time and money by combining multiple measurement tools into one package. The PH731 ProHood Capture Hood helps you create healthy and energy efficient environments while meeting local codes, guidelines and regulations for ventilation systems.

Features and Benefits

- Ergonomic design and ultra light weight for easy, one-person operation
- Automatically senses and displays supply or return flows, saving time on the job
- Back pressure compensation ensures accurate readings
- Multiple hood sizes available for easy, cost effective use across multiple jobs
- Detachable digital micromanometer offers flexibility to use in multiple applications
- Includes Swirl X Flow Conditioner for use with twist or swirl type supply air diffusers

Model PH731 -STA Bundle shown

Manometer

Model PH730
The PH730 is one of the most advanced, versatile, and easy–to–use micromanometers on the market today. The PH730 features an auto-zeroing pressure sensor that increases measurement resolution and accuracy along with an intuitive menu structure for ease of operation.

Features and Benefits
- Accurately measures pressure, velocity (Pitot), and flow
- Large, easy to read display
- Data logging and downloading software included
- Bluetooth®* communications
- Built-in duct traverse mapping application
- Resolution: 0.001Pa

Model PH730

Optional Accessories for PH731 and PH730

- Air flow probe
- Temperature probe
- Temperature/humidity probe
- Thermoanemometer probes
- Velocity matrix

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.

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

Model PVM620

Added Features PVM620
- Calculates volumetric flow rate in duct from velocity and user-input duct size and shape
- Preset up to 5 round or rectangular duct sizes
- Preset up to 5 k factors
- 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

*Bluetooth® function is not available in Asia Pacific countries.

Hydronic Manometers

Models HM675 and HM685
The HM675 and HM685 Hydronic Manometers are used to balance hydronic heating and cooling systems, check pump performance and to set balancing valves. They can measure and display differential, high side and low side pressure simultaneously, without having to change hose connections or instrument valve settings. Each model features a backlit display and operates on four alkaline or NiMH rechargeable batteries.

Features and Benefits
- Measure and display high side, low side, and differential pressure simultaneously from 0 to 300 psi (0 to 2,068 kPa)
- Robust, splash-proof case
- Inputs for two temperature probes

Features and Benefits (HM685 only)
- Calculates flow using valve manufacturers' Cv (Kv) factor [up to 100 Cv (Kv) can be entered]
- Calculates heat flow, impeller diameter and brake power
- Stores up to 4,000 data points to memory for later recall download to a PC using CompuDat™ USB Software and USB interface cable
- Intuitive menu structure for easy navigation and instrument set up

Model HM685

Leakage Testers

Positive and Negative Duct Accreditation (panda) System

Model PAN341 Light

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 ± 2,5% of volume flow
- Unique performance and fan speed control charge up of duct system to test static pressure within minutes
- Weighs 55 Kg (121 lbs.)
- Fits in the back of vans and estate cars
- Model PAN341 comes with standard Airflow TA465-P Multi-Function Instrument and PVM610 Micromanometer.
- Automatically calculates leakage rate in real time.
- Simultaneous displays flow leakage rate and static pressure

Model PAN341

Indoor Air Quality Monitoring for Healthy, Efficient Environments

Work environments, as well as homes and businesses, often require that people spend a majority of their time indoors. As a result, individual's long-term health and comfort are largely dependent upon indoor air quality testing. Businesses are increasingly interested in air quality monitoring systems to keep an eye on the conditions that maximize worker productivity and save energy.

Accurate and Dependable Air Monitoring Instruments from TSI

TSI provides a full line of indoor air quality monitoring equipment that gauge temperature, humidity, outdoor air calculations, carbon dioxide, carbon monoxide and airborne particles. These factors are some of the primary components that help measure occupant thermal comfort and assure a healthy indoor environment.

IAQ-Calc™ Indoor Air Quality Meters

Model 7545
The 7545 model simultaneously measures and data logs multiple parameters. Measurements are CO, CO_2, temperature, humidity; and calculations are dew point, wet bulb temperature, and % outside air.

Features and Benefits

- Low-drift NDIR CO_2 sensor for stable, accurate readings
- Electrochemical sensor measures CO
- Temperature and relative humidity measurements help determine thermal comfort
- Calculates dew point and wet bulb temperatures
- Calculates % outside air from either CO_2 or temperature
- Displays up to three parameters
- Logs up to 26,900 data points
- Includes downloading software and USB interface cable

Model 7545

IAQ-Calc Indoor Air Quality Meters

Model 7525
The Model 7525 simultaneously measures and data logs multiple parameters such as carbon dioxide (CO_2), temperature, and humidity; and calculates dew point, wet bulb temperature, and % outside air.

Features and Benefits
- Displays up to three parameters
- Low-drift NDIR CO_2 sensor for stable, accurate readings
- Temperature and relative humidity measurements help determine thermal comfort
- Calculates percent outside air from either CO_2 or temperature
- Calculates dew point and wet bulb temperatures
- Includes downloading software and USB interface cable

Model 7525

IAQ-Calc Indoor Air Quality Meters

Model 7515
The Model 7515 is a cost-effective meter for carbon dioxide (CO_2) measurements.

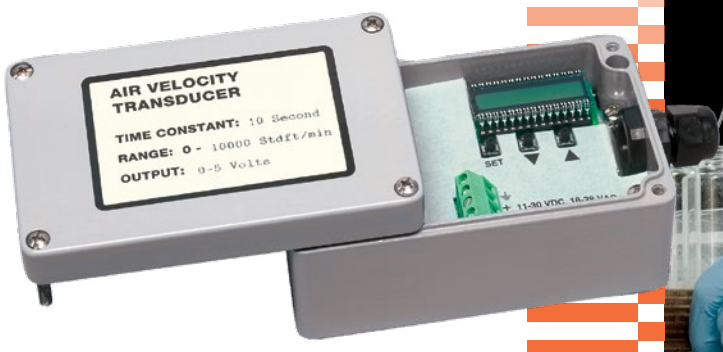
Features and Benefits
- Integrated low-drift NDIR CO_2 sensor for stable, accurate readings
- Sampling function
- Ergonomic, overmolded case design

Model 7515

Air Monitoring

Models 8455, 8465 and 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

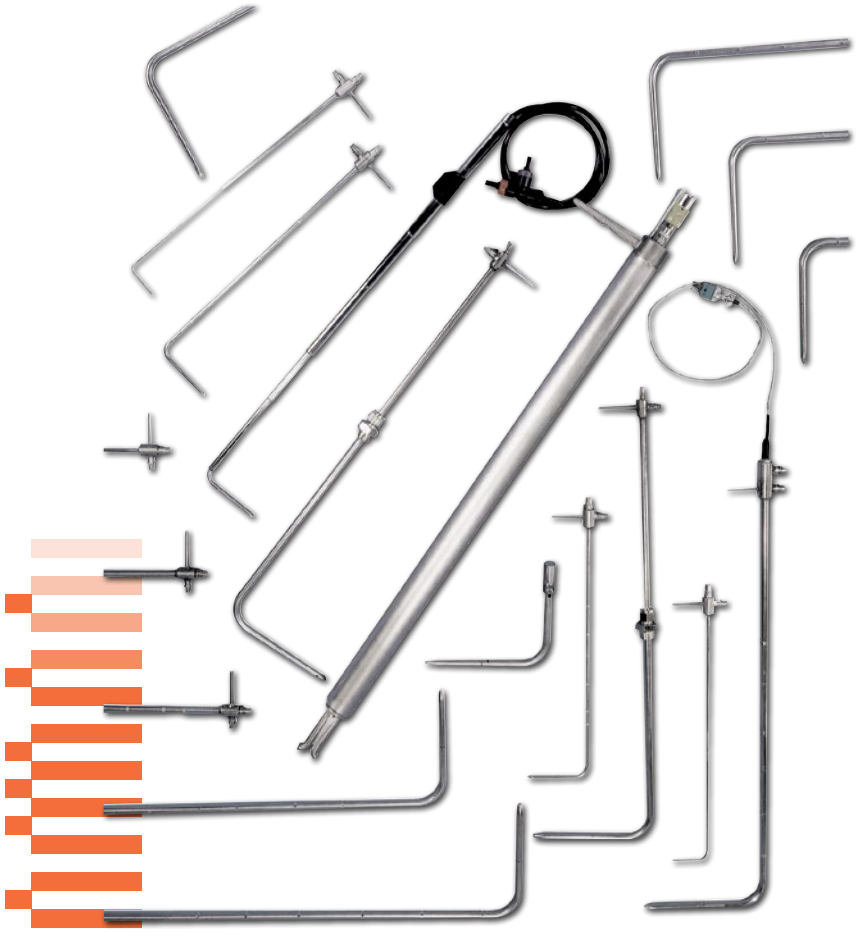


Pitot Static Tubes

Choose from a comprehensive range of Pitot Static Tubes offering telescopic, fixed length, to suit virtually any application. Also available are Pitots with adjustable mounting glands for permanent installations. 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



Parameters and Features Chart

The chart below is a guide for selecting an instrument to best fit your measurement needs.

	Model	CO_2 (Carbon Dioxide)	Tempera-ture	Humidity, Wet Bulb, Dew Point	CO (Carbon Monoxide)	% Outside Air	VOC (Volatile Organic Com-pounds)	Air Velocity	Flow Rate	Differen-tial Pressure	Particles (Dust)	Data Logging/ Download-ing	Review Data	Statistics	Field Calibra-tion	Optional Plug-In Probes
Q-Trak™	7575	■	■	■	■	■	□	□	□			■	■	■	■	■
IAQ-Calc™	7515	■													■	
	7525	■	■	■		■						■	■	■	■	
	7545	■	■	■	■	■						■	■	■	■	
DustTrak™	8530										■	■	■	■	■	
	8532										■	■	■	■	■	
SidePak™	AM520										■	■	■	■	■	
P-Trak™	8525										■	■	■	■		
AeroTrak®	9303										■	■	■	■		
	9306										■	■	■	■		
VelociCalc®	9515		■					T								
	9535		■					T	T			■	■	■	■	
	9535-A[1]		■					T	T			■	■	■	■	
	9545		■	■				T	T			■	■	■	■	
	9545-A[1]		■	■				T	T			■	■	■	■	
	9565	□	■	■	□	□	□	T, P	T, P, C	■		■	■	■	■	■
	9565-A[1]	□	■	■	□	□	□	T, P	T, P, C	■		■	■	■	■	■
VelociCalc® Rotating Vane	5725		■					V	V			■	■	■	■	
AccuBalance®	8380[2]		■	□				P	D, P, C	■		■	■	■	■	■
Micro-manometer	8715		□	□				P	P, C	■		■	■	■	■	■

All instruments include a free NIST or EA traceable Certificate of Calibration. [1]Articulating Probe [2]Back Pressure Compensated

■ = Standard Feature
T = Thermal Anemometer
P = Pitot Tube Reading
C = Calculated from Differential Pressure
R = Rotating Vane Anemometer
□ = Optional
D = Direct Reading

Optional Probes for VelociCalc 9565 Series and Q-Trak 7575

Model	Probe Description
960	Air Velocity and Temperature, straight probe
962	Air Velocity and Temperature, articulating probe
964	Air Velocity, Temperature, and Humidity, straight probe
966	Air Velocity, Temperature, and Humidity, articulating probe
995	100 mm Rotating Vane probe
792	Surface Temperature probe
794	Air Temperature probe
980	Indoor Air Quality probe, CO_2, Temperature, Humidity
982	Indoor Air Quality probe, CO_2, Temperature, Humidity, CO
984	Low Concentration (ppb) VOC and Temperature
985	High Concentration (ppm) VOC and Temperature
986	Low Concentration (ppb) VOC, Temperature, CO_2, and Humidity
987	High Concentration (ppm) VOC, Temperature, CO_2, and Humidity

Airflow Instruments, TSI Instruments Ltd.
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