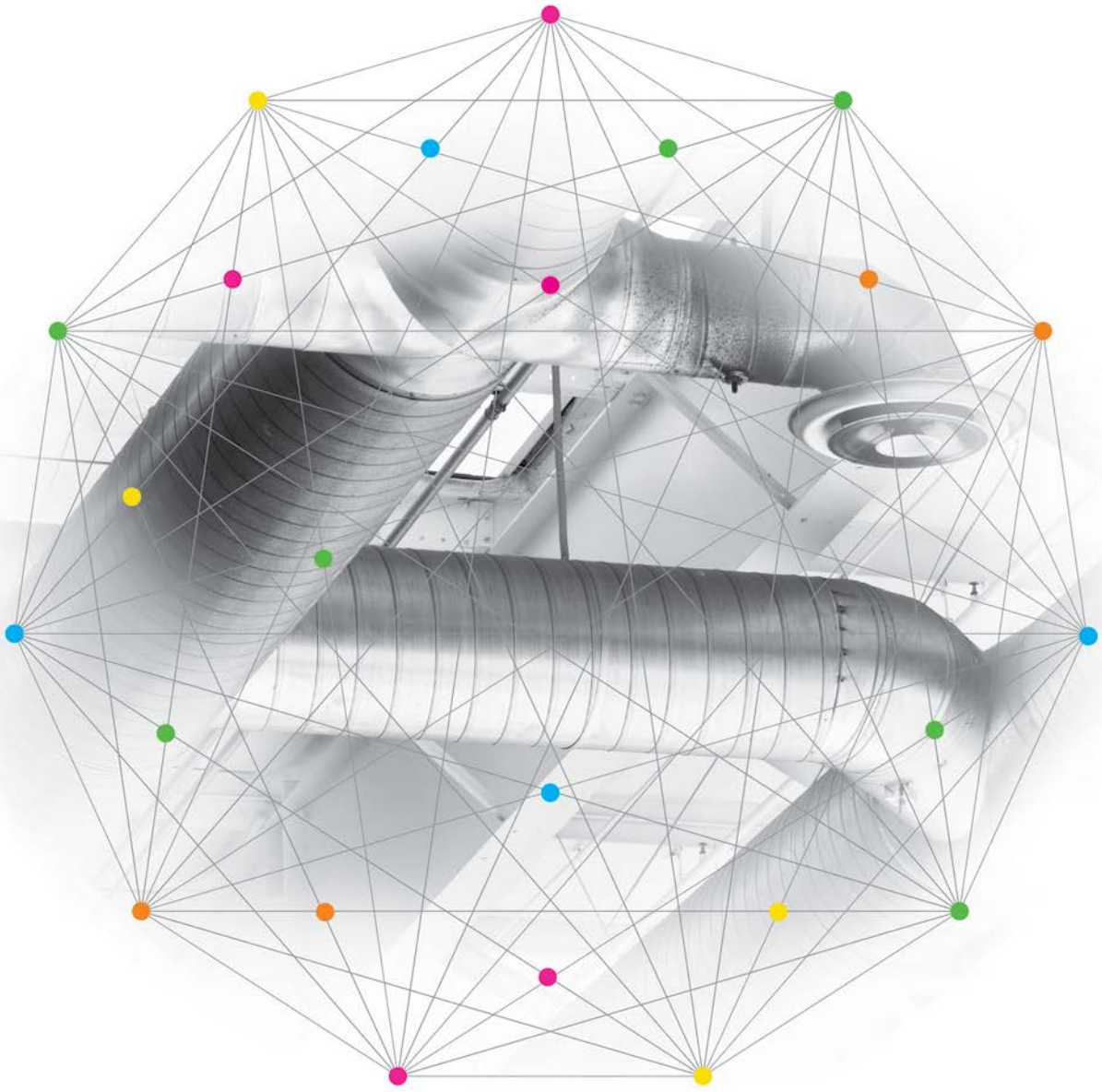
AIR MEASUREMENT INSTRUMENTS

TSI-ALNOR 2014 CATALOG



TSI | ALNOR®

Alnor 95 Serving the HVAC industry since 1919

RUGGED AND RELIABLE INSTRUMENTATION SINCE 1919

About TSI-Alnor Instruments

HVAC contractors, facility personnel, building engineers, safety officers, and industrial hygienists around the world use and trust TSI-Alnor brand handheld instruments. Alnor Instrument Co. (originally called Illinois Testing Laboratories) began operation in 1919 in Chicago, Illinois, as a repair and service center for precision instrumentation.

Over the years, the Alnor product line has grown by responding to the need for key new products and technologies. Introduced in the 1930s and still widely used today, the Alnor Velometer® Air Velocity Meters and the Velometer Jr.® Anemometers began the long series of popular products. More recently introduced products, such as the Balometer® Capture Hoods, are standards of performance in HVAC testing and balancing. And in less than two decades the AirGard® series of alarms and monitors have become an industry leader in both new and retrofit lab hood monitor installations.

In 1995, the Alnor Instrument Company was acquired by TSI Incorporated. Today the long tradition of providing reliable, durable, affordable Alnor brand instrumentation continues at the manufacturing, engineering, sales, and service facilities of TSI Incorporated in Shoreview, Minnesota.

Service and Support

You can expect fast turnaround times for calibration and repair service for your TSI-Alnor 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.alnor.com.

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ALNOR CALIBRATED INSTRUMENTS ARE SUPPLIED WITH A FREE FULLY TRACEABLE CERTIFICATE OF CALIBRATION.

BALOMETER® CAPTURE HOODS

EBT BALOMETER CAPTURE HOODS

Model EBT731

The EBT731 Balometer Capture Hood is a multipurpose electronic air balancing instrument used for taking accurate, direct air volume measurements at diffusers and grilles. Compatible with LogDat™ Mobile Remote Reader Software and capture hood stand, the EBT731 maximizes worker productivity and efficiency–saving you valuable time on the jobsite for ultimate profitability.

Features and Benefits

+ Ergonomic, lightweight design enables easy one-person operation
+ Automatic sensing and display of supply or return flows saves time on the job
+ Back pressure compensation ensures accurate readings at high flow rates
+ Detachable digital micromanometer provides additional measurement capability
+ Multiple hood size options enable measurement of different outlet dimensions
+ Compatible LogDat Mobile Remote Reader and Data Logger Software option simplifies documenting of results and emailing of reports
+ Capture hood stand eliminates the need for ladders (reaching diffusers up to 15 ft. (4.5 m) with hood attached)

Applications

+ Test and balance contractors
+ Commissioning agents
+ Facilities managers
+ Health and safety specialists
+ Ventilation system installers

Model EBT731-STA bundle shown

BUNDLE & SAVE WITH EBT731-STA BUNDLE

Bundle includes:

+ EBT731 Balometer Capture Hood
+ Capture Hood Stand
+ Smart Tablet* loaded with LogDat mobile app and instruction videos

* TSI has the discretion to change the brand and model of table at any time.

ABT BALOMETER CAPTURE HOODS

Models ABT701, ABT703, ABT711 and ABT713

The ABT Analog Balometer Capture Hoods continue the long Alnor® brand tradition of providing accurate and dependable analog instrumentation to the ventilation testing and balancing community. By placing an Alnor ABT Balometer Capture Hood over a diffuser or grille, air volume measurements are obtained quickly and easily, which maximizes productivity. Fast meter response and easy-to-read indicator over a large scale make the ABT Balometer Capture Hood an ideal choice for facility engineers, ventilation testing and balancing professionals, and commissioning agents.

Model ABT701

Features and Benefits

+ Simple-to-read analog meter allows for quick measurements
+ Easy to carry with one hand using sturdy middle handle
+ Ergonomic design and ultra-light weight for easy one-person operation
+ Multiple hood sizes available
+ Measurement hold function
+ Wheeled, luggage-style carrying case

LOFLO BALOMETER® CAPTURE HOODS

Models 6200D and 6200F

The LoFlo Balometer Capture Hood is the ideal way to measure very low volumetric flow. Confidently and accurately measure supply or return flows from 10–500 ft^3/min (17–850 m^3/h). This light-weight instrument is great for residential or light commercial use.

Model 6200D

Features and Benefits

+ Models available with 2 ft. x 2 ft. (610 mm x 610 mm) hoods or 16 in. x 16 in. (406 mm x 406 mm) hoods
+ Weighs only 6.5 lbs. (3 kg) with 2 ft. x 2 ft. (610 mm x 610 mm) hood attached
+ Simulated analog display shows air trends and digital readings
+ Uses 4 C-size alkaline batteries; minimum 10 hours continuous use
+ For small diffusers, the base can be used without a hood

ACCESSORIES

LoFlo Balometer Hood and Frame Kits

634620120	16 in. x 16 in. (406 mm x 406 mm) - 8 in. tall (200 mm)
634620085	16 in. x 16 in. (406 mm x 406 mm) - 18 in. tall (457 mm)
634620110	2 ft. x 2 ft. (610 mm x 610 mm)
634620130	26 ft. x 26 ft. (650 mm x 650 mm)

ABT and EBT Balometer Hood and Frame Kits

801097	(Standard) 2 ft. x 2 ft. (610 mm x 610 mm)
801200	1 ft. x 4 ft. (305 mm x 1,220 mm)
801201	2 ft. x 4 ft. (610 mm x 1,220 mm)
801202	1 ft. x 5 ft. (305 mm x 1,525 mm)
801203	3 ft. x 3 ft. (915 mm x 915 mm)
801206	1 ft. x 4 ft. (305 mm x 1,220 mm) and 2 ft. x 4 ft. (610 mm x 1,220 mm)
801207	1 ft. x 5 ft. (305 mm x 1,525 mm) and 3 ft. x 3 ft. (915 mm x 915 mm)
801209	16 in. x 16 in. (406 mm x 406 mm)
801210	5.25 in. x 48 in. (133 mm x 1,220 mm)
801211	28 in. x 28 in. (710 mm x 710 mm)
801212	28 in. x 50 in. (710 mm x 1,270 mm)
801215	1 ft. x 3 ft. (305 mm x 915 mm)

EBT Balometer Capture Hoods

801204	Biological Safety Cabinet Hood, 8 in. (200 mm) hood and frame kit
801205	Biological Safety Cabinet Hood, 10 in. (250 mm) hood and frame kit
800187	Air flow probe 18 in. (46 cm)
801090	Velocity Matrix, telescopic handle, two 8 ft. (2.4 cm) neoprene tubes
800220	Telescopic humidity and temperature probe
CH-Stand	Capture hood stand

VELOMETER® AIR VELOCITY METERS

THERMAL ANEMOMETERS

Models AVM440 and AVM430

The Models AVM440 and AVM430 are like having multiple meters for the price of one, yet simple to operate. Purchase instruments with either a straight or articulated probe–all in one compact package.

Features and Benefits

+ High accuracy over a wide velocity range 0-6,000 ft/min (0-30 m/s)
+ Simultaneously measures temperature and velocity
+ Calculates volumetric flow and actual/ standard velocity
+ Data logging and LogDat2 downloading software included
+ Articulating probes are available
+ Measures humidity (AVM440)

Model AVM440

Model AVM410

The AVM410 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 0-4,000 ft/min. (0-20 m/s)
+ Large, easy-to-read display
+ Press button to hold reading

Model AVM410

VELOMETER ROTATING VANES

Model RVA801

Model RVA801 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 RVA801 displays readings in metric or imperial mode from 50-6,000 ft/min. (0.25-30 m/s) and 32-140°F (0-60°C).

Model RVA801

Features and Benefits

+ Reversible 4 in. (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

VELOMETER JR. ANEMOMETERS

Model 8100

Contractors, balancers, plant engineers, and industrial hygienists have preferred Alnor Velometer instruments for decades. Ideal for measuring general face velocities.

Model 8100-8

Features and Benefits

+ 8100 available in multiple ranges
+ Measures accurately in any position
+ Compact, palm size meter
+ Light weight
+ Dual scales
+ Inherently intrinsically safe

Models

8100-8; 0-200 and 0-800 ft/min.
8100A-16; 0-400 and 0-1,600 ft/min.
8100B-25; 0-500 and 0-2,500 ft/min.

Model RVA501

Model RVA501 is a handheld digital Rotating Vane Anemometer used for air velocity and volumetric flow measurements.

Model RVA501

Features and Benefits

+ Measures velocity and temperature
+ Compatible with Aircone Flow Hoods
+ Log, store, and recall data
+ Download data to a PC using LogDat2 downloading software
+ Optional telescopic probe available
+ Measurement range: 50-6,000 ft/min. (0.25-30 m/s) and 32-140°F (0- 60°C).

AIRCONE FLOW HOODS

Model 801750

Aircone Flow Hoods are a fast and accurate method of maximizing the usefulness of your 4-in. (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.

Model 801750

Features and Benefits

+ Kit includes rectangular 11 in. x 9 in. (285 mm x 235 mm) and circular 7 in. (180 mm) cones available
+ Measures volumetric flow at grilles, diffusers and registers
+ Excellent choice for small bathroom exhausts
+ Works with RVA801 and RVA501

AIR AND WATER PRESSURE

MICROMANOMETER

Model EBT730

The EBT730 is one of the most advanced, versatile, and easy-to-use Micromanometers 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.

Features and Benefits

+ Accurately measures pressure, velocity (Pitot), and flow
+ Large, easy-to-read display
+ Data logging and LogDat2 downloading software included
+ Measures differential and static pressure from -15 to +15 in. H_2O (-3,735 to +3,735 Pa)
+ Resolution 0.00001 in. H_2O (0.001 Pa)
+ Built-in duct traverse mapping application
+ Bluetooth communications

Optional Accessories for EBT730

+ 16 point velocity matrix with telescoping handle
+ Air flow probe
+ Temperature/humidity probe
+ Thermoanemometer probes
+ Pitot probes
+ Duct plugs

Model EBT730 Shown with Optional Accessories

Model AXD620

Model AXD610

MICROMANOMETERS

Model AXD620

The AXD620 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.

Model AXD610

The AXD610 is an easy-to-use, handheld digital Micromanometer for fast, accurate and reliable pressure measurements. It can also calculate velocity.

Features and Benefits

+ Measures differential and static pressure from -15 to +15 in. H_2O (-3,735 to +3,735 Pa)
+ Calculates and displays velocity when using a Pitot tube

Added Features for AXD620

+ Calculates volumetric flow rate in duct from velocity and user-input duct size and shape
+ Records data points of duct traverse using sampling function
+ Data logs with time and date stamp
+ Includes LogDat2 downloading software
+ Programmable K factors

Optional Accessories for AXD610/AXD620

+ Pitot probes
+ Tubing
+ Duct plugs

Model HM685

HYDRONIC MANOMETERS

Models HM675 and HM685

The HM675 and HM685 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.

Features and Benefits HM675 and HM685

+ Large back-lit display for use in low light areas
+ Operates on four alkaline or NiMH rechargeable batteries
+ Reads in. H_2O, ft. H_2O, psi, in. Hg, mm H_2O, kPa, mm Hg, or bar
+ Measures from 0–300 psi (0–2,068 kPa)

Added Features for 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

INDOOR AIR QUALITY

IAQ-CALC™ INDOOR AIR QUALITY METERS

Models 7515, 7525 and 7545

TSI IAQ-Calc Meters are outstanding instruments for investigating and monitoring indoor air quality (IAQ). Model 7515 is a cost-effective meter for carbon dioxide (CO_2) measurements. Models 7525 and 7545 simultaneously measure and data log multiple parameters. Model 7525 measures CO_2, temperature, humidity, and calculates dew point, wet bulb temperature, and percentage outside air. Model 7545 adds detection of carbon monoxide (CO).

Applications

+ Conduct IAQ evaluations
+ Verify building HVAC system performance
+ Examine building IAQ conditions to optimize worker productivity
+ Comply with regulations and guidelines

Features and Benefits

+ Low-drift NDIR CO_2 sensor for stable, accurate readings
+ Sampling function records multiple point measurements
+ Ergonomic, overmolded case design

Added Features and Benefits for 7525 and 7545

+ Temperature and relative humidity measurements help determine thermal comfort
+ Calculates percentage outside air from either CO_2 or temperature
+ Directly calculates dew point and wet bulb temperatures
+ Electrochemical sensor measures CO (Model 7545)
+ Displays up to three parameters
+ TSI LogDat2 software permits easy transfer of data to a computer
+ Data can be reviewed on-screen, or downloaded to a computer for easy report generation
+ Statistics function displays average, maximum and minimum values, and the number of recorded samples

Model 7545

INSTALLED INSTRUMENTS

Model 335

AIR VELOCITY TRANSDUCERS

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

Model 8455


Model 8455


Model 8465


Model 8475

AIRGARD® LAB HOOD MONITORS

Models 335, 200, 405, 315 and 350

Alnor AirGard Lab Hood Monitors provide an indication of safe levels of airflow in laboratory fume hoods and meet the requirements of ANSI Z9.5-2003, NFPA 45-2004, SEFA 1.2-2002, and NSF 49-2002. The models 200/405 feature an audible and visual alarm with relay output in an easy-to-calibrate unit ideal for retrofitting existing hoods. The model 335 features a color analog LCD display to indicate face velocity; it may also be configured to display face velocity digitally.

Features and Benefits

+ AirGard 335 gives you continuous viewing of face velocity
+ AirGard 200/405 is designed for easy retrofit to existing hoods
+ AirGard 315/350 gives you velocity readings taken by remote probe inserted in air flow stream

PARAMETERS AND FEATURES CHART

THE CHART BELOW IS A GUIDE FOR SELECTING AN INSTRUMENT TO BEST FIT YOUR MEASUREMENT NEEDS.

	Model	10-500 ft³/min (17-850 m³/hr)	0-1,000 ft³/min	0-2,000 m³/hr	25-2,500 ft³/min (42-4,250 m³/hr)	Temperature (°F or °C)	Velocity Matrix, Temperature or RH% Probe	With 2 ft x 2 ft Hood	With 16 in x 16 in Hood	Statistics (min, max and avg)	Data Log (Recall, Download to PC)	K-Factor Input or Field Calibration	Automatic Density Correction	Backpressure Compensation
Electronic Balancing Tool	EBT731†				+	+	O	+		+	+	+	+	+
ABT Balometer Capture Hoods	ABT701		+					+						
	ABT703		+						+					
	ABT711			+				+						
	ABT713			+					+					
LoFlow Balometer Capture Hoods	6200D	+						+				+		
	6200F	+							+			+		

	Model	Air Velocity	Temperature Reading	Flow Rate	Differential Pressure	Humidity % RH, Dew Point, Wet Bulb	% Outside Air	Density Correction	K-Factor	Data Logging/ Down-loading	Review Data	Statistic	Variable Time Constant	Field Calibration Adjustment	Back-Lit Display	CO	CO_2
Velometer Velocity Meters	AVM410	T	+														
	AVM430	T	+	T				+		+	+	+	+	+	+		
	AVM440	T	+	T		+		+		+	+	+	+	+	+		
Velometer Rotating Vanes	RVA501	R	+	R						+	+	+	+	+	+		
	RVA801	R	+	R													
Micromanometers	AXD610	P			+												
	AXD620	P		P, C	+			+	+	+	+	+	+	+	+		
	EBT730	P	O	P, C	+	O		+	+	+	+	+		+	+		
IAQ-CALC Indoor Air Quality Meters	7515											+		+			+
	7525		+			+	+			+	+	+	+	+	+		+
	7545		+			+	+			+	+	+	+	+	+	+	+
Air Velocity Transducers	AVT55	T											+	+			
	AVT65	T											+	+			
	AVT75	T											+	+			

†EBT731-STA Bundle

Bundle & Save	EBT731-STA	Includes: EBT731 Balometer Capture Hood, Capture Hood Stand, Smart Tablet* loaded with LogDat mobile app and instruction videos * TSI has the discretion to change the brand and model of table at any time.

All instruments include a free NIST or EAL Certificate of Calibration.

+ = Standard Feature
O = Optional
T = Thermal Anemometer
P = Pitot Tube Reading
C = Calculated from Differential Pressure
R = Rotating Vane Anemometer

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