

Performance Measurements for Mechanical Air Handling Systems



*Enhancing the Comfort,
Safety, and Operating Efficiency
of Indoor Environments*



About TSI instruments...

TSI Incorporated is a worldwide supplier of instrumentation for scientific research, indoor comfort, industrial hygiene and environmental testing. We are an instrument company. That's all we make!

reliable

Since we introduced our first portable meter in 1973, TSI has been a recognized leader in ventilation test instruments. Our meters give reliable, accurate measurements you can count on.

easy to use

In addition to their reliability, TSI meters make it easy for you at the job site. The displays are large and easy to read. Operation is fast and simple. Want to measure velocity? Just push a button.

time saving

Our instruments save you time with handy, built-in calculations. Flow rate, actual air velocity, multiple humidity parameters and heat flows are programmed into many of our meters.

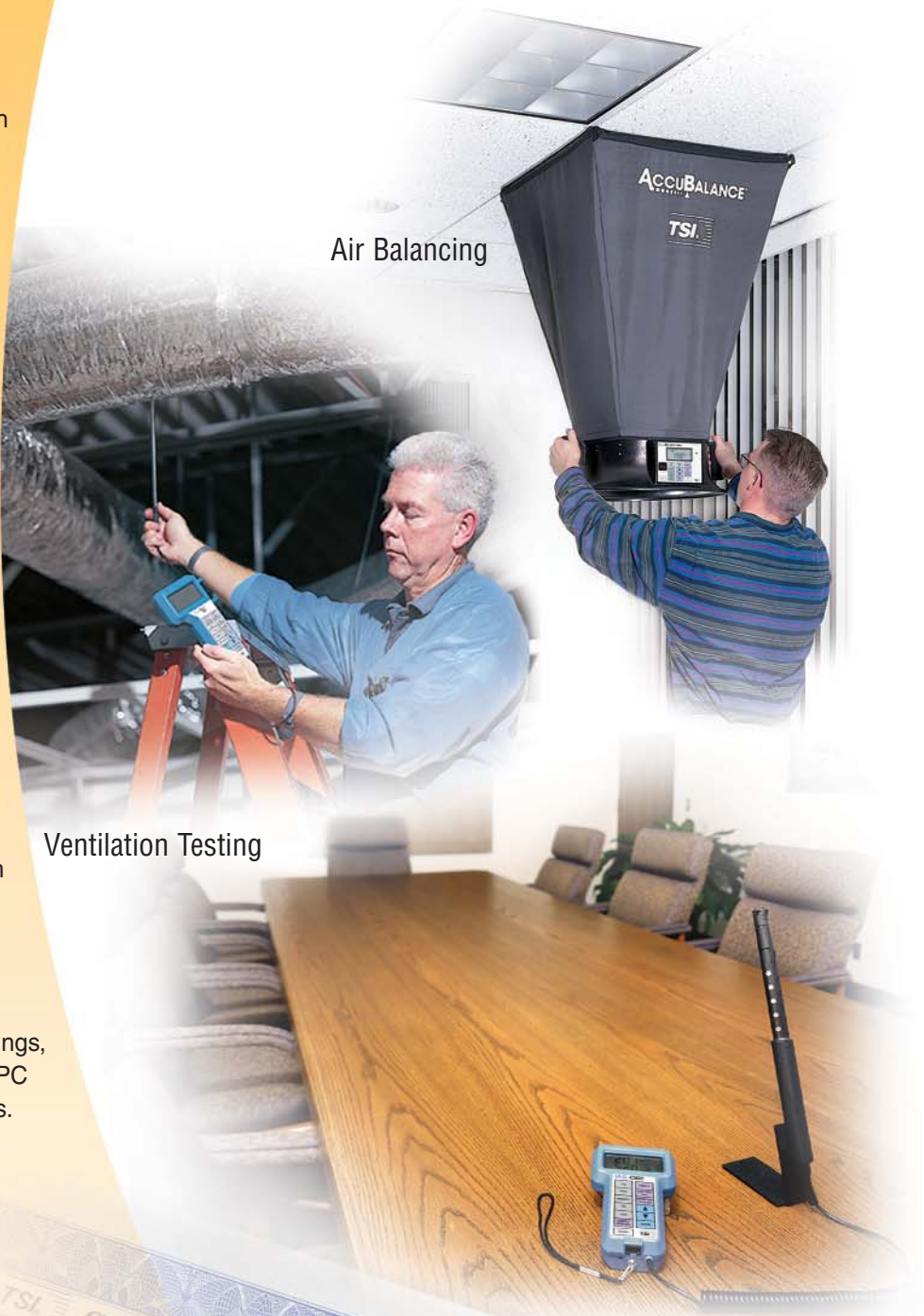
convenient

TSI combines sensors into a single probe so you can avoid the cost and inconvenience of buying a probe for each measurement you make. For example, with the VELOCICALC® Plus meter, you can measure temperature, humidity, velocity and flow with the push of a button.

data management

Let TSI's sampling/statistics functions and LogDat™ software keep records and make calculations. Many of our meters store readings, calculate statistics and download data to a PC to save time and provide permanent records.

Innovative Measurement Solutions



Air Balancing

Ventilation Testing

Indoor Air Quality

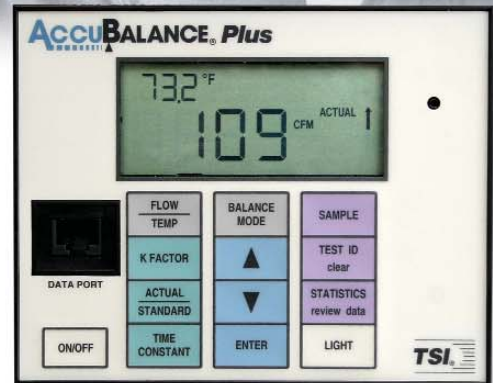
TSL CERTIFICATE OF CALIBRATION AND TESTING			
TSI Model	8385	Serial No.	99100066
Description	VELOCICALC PLUS PORTABLE AIR VELOCITY METER	Instrument	VELOCITY METER, SERIAL NO. 107
Calibration Standard	WIND TUNNEL CALIBRATION SYSTEM	Tolerance	
Calibration Standard	Output	Difference	Error Compared to Tolerance
0.0 ft/min	0.0 ft/min	-0.9%	PASS
35.0 ft/min	34.7 ft/min	0.0%	PASS
64.7 ft/min	64.7 ft/min	-1.5%	PASS
99.1 ft/min	98.1 ft/min	-1.2%	PASS
161.7 ft/min	159.8 ft/min	-0.7%	PASS
332.3 ft/min	330.8 ft/min		
502.9 ft/min	502.1 ft/min		
673.5 ft/min	642.1 ft/min		
844.1 ft/min	999.7 ft/min		
1014.7 ft/min	1477.7 ft/min		
1185.3 ft/min			
1355.9 ft/min			
1526.5 ft/min			
1697.1 ft/min			
1867.7 ft/min			
2038.3 ft/min			
2208.9 ft/min			
2379.5 ft/min			
2550.1 ft/min			
2720.7 ft/min			
2891.3 ft/min			
3061.9 ft/min			
3232.5 ft/min			
3403.1 ft/min			
3573.7 ft/min			
3744.3 ft/min			
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6132.7 ft/min			
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8179.9 ft/min			
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8691.7 ft/min			
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61234.5 ft/min			
61405.1 ft/min			
61575.7 ft/min			
61746.3 ft/min			
61916.9 ft/min			
62087.5 ft/min			
62258.1 ft/min			
62428.7 ft/min			
62599.3 ft/min			
62769.9 ft/min			
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63111.			

AccuBALANCE® PLUS

Air Capture Hoods

Models 8372, 8373

- Measures air volume directly.
- Available with a variety of hood sizes.
- Sums flows automatically and calculates statistics.
- Allows easy adjustment of dampers to a preset value when used in balancing mode.
- Stores up to 1,000 downloadable data points with time and date stamp.
- Automatically corrects for air density.
- Features back-lit display.
- Easily calibrated in the field.
- Measures temperature and automatically detects flow direction (Model 8373).



AccuBALANCE®

Air Capture Hood

Model 8371

- Measures air volume directly.
- Available with a variety of hood sizes.
- Features back-lit display.
- Includes k factor function and variable time constant.
- Easily calibrated in the field.

VELOCICALC® Plus

Multi-Parameter Ventilation Meters

Models 8384, 8384(A), 8385, 8385(A), 8386, 8386(A)

- Measures air velocity and temperature.
- Measures % RH and calculates dew point, wet bulb and heat flow (Model 8386).
- Measures static and differential pressure with built-in micromanometer and velocity using Pitot tube (Models 8385 and 8386).
- Calculates flow rate in ducts from velocity and user-input duct size and shape.
- Records data points in ducts or face velocity with sampling function.
- Calculates average velocity and flow rate with statistics function.
- Stores 1,300+ downloadable data points with time and date stamp.



VELOCICALC®

Air Velocity Meters

Models 8345, 8346, 8347, 8347(A)

- Measures air velocity, flow volume and temperature.
- Provides humidity measurements and calculates dew point and wet bulb temperatures (Models 8347 and 8347A).
- Calculates flow rate in duct from velocity and user-input duct size and shape.
- Records data points in ducts or face velocity with sampling function.
- Calculates average velocity and flow rate for up to 255 samples with statistics function.

VELOCICHECK®

Air Velocity Meters

Model 8330

- Measures air velocity and temperature.
- Features 37-inch (940-mm) telescoping straight probe.
- Includes adjustable time constant.

Model 8340

- Measures air velocity.
- UL listed intrinsically safe.
- Features retractable 3-inch (75-mm) probe tip.
- Includes adjustable time constant.



VELOCICALC®

Rotating Vane Anemometers

Models 8321, 8322, 8324

- Measures air velocity and temperature.
- Features 4-inch (101-mm) diameter rotating vane head.
- Provides single area measurement when sweep mode is used.
- Calculates flow rate from velocity and user-input "free area."
- Calculates minimum, maximum and average velocity, temperature and volume.
- Displays temperature and velocity simultaneously (Model 8321).

Models 8322, 8324

- Records data points with sampling function and calculates statistics.
- Includes variable time constant.
- Features optional 36-inch (910-mm) telescoping probe handle.
- Stores 2,800+ downloadable data points with time and date stamp (Model 8324).



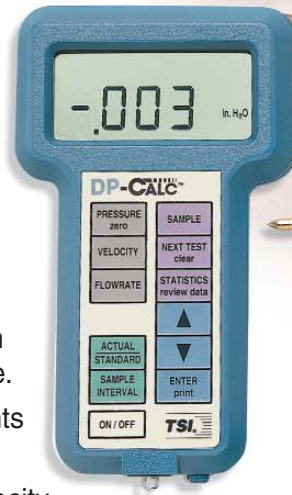
DP-CALC™ Micromanometers

Models 8702, 8705

- Measures differential and static pressure from -5 to +15 in. H₂O (-1245 to +3735 Pa).
- Calculates and displays velocity when using a Pitot tube.
- Records data points in duct traverse using sampling function.
- Calculates average velocity and flow rate using statistics function.

Model 8705

- Calculates volumetric flow rate in duct from velocity and user-input duct size and shape.
- Stores up to 1,000 downloadable data points with time and date stamp.
- Converts between actual and standard velocity.



DP-CALC™ Micromanometer

Model 8710

- Measures differential and static pressure from -15 to +15 in. H₂O (-3735 to +3735 Pa).
- Features automatic zeroing to eliminate manual zero calibrations between readings.
- Accurately measures velocities down to 25 ft/min (0.13 m/s).
- Calculates and displays velocity from Pitot tubes, velocity matrix and air flow probe.
- Records data samples and calculates statistics.
- Stores up to 1,000 downloadable readings with time and date stamp.
- Optional 16-point velocity matrix for quick averaged readings.

NIST
Cert

IAQ CALC™

Indoor Air Quality Meters

Models 8760, 8762

- Features fast, accurate measurement of key IAQ parameters with a single probe.
- Measures temperature, humidity, and CO₂ (Model 8760). Model 8762 adds CO.
- Calculates % outside air from CO₂ or temperature.
- Displays humidity as % RH, dew point, wet bulb, absolute or humidity ratio.
- Records data samples and calculates statistics.
- Stores up to 14,000 sets of downloadable readings with time and date stamp.



**NIST
Cert**

TH-CALC™

Thermohygrometers

Models 8720 and 8722

- Measures temperature, % RH and dew point.

Model 8722 only

- Calculates % outside air.
- Calculates wet bulb, absolute and humidity ratio.
- Stores up to 14,000 sets of downloadable readings with time and date stamp.



**NIST
Cert**

Air Velocity Transducers

Models 8455, 8465, 8475

- Accurately measures air velocity using thermal anemometry.
- Suitable for temporary studies or fixed installation.
- Available in multiple sensor styles.
- Field-selectable velocity ranges.
- Optional Model 8495 Display and Monitor gives digital readout plus user-selectable alarms.



**NIST
Cert**

Parameters and Features Chart

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

	Model	Data Logging/Downloading	Air Velocity	Temperature Reading	Flowrate	Differential Pressure	Humidity, % RH	Dew Point, Wet Bulb	% Outside Air	Carbon Dioxide	Carbon Monoxide	Balancing Mode	Flow Direction Indicator	Density Correction	K-factor	Review Data	Statistics	Variable Time Constant	Field Calibration Adjustment	Printer Output	Back-lit Display	Intrinsically Safe	Articulating Probe
VELOCICHECK	8330		T	•														•					
	8340		T															•				•	
VELOCICALC	8345		T	•	T												•	•	•	•			
	8346		T	•	T												•	•	•	•			•
	8347		T	•	T		•	•									•	•	•	•			
	8347A		T	•	T		•	•									•	•	•	•			•
VELOCICALC Plus	8384	•	T	•	T								•	•	•	•	•	•	•	•	•		
	8384A	•	T	•	T,P,Δ								•	•	•	•	•	•	•	•	•		•
	8385	•	T,P	•	T,P,Δ	•							•	•	•	•	•	•	•	•	•		
	8385A	•	T,P	•	T,P,Δ	•							•	•	•	•	•	•	•	•	•		•
	8386	•	T,P	•	T,P,Δ	•	•	•					•	•	•	•	•	•	•	•	•		
	8386A	•	T,P	•	T,P,Δ	•	•	•					•	•	•	•	•	•	•	•	•		v
VELOCICALC Rotating Vane	8321		V	•	V														•				
	8322		V	•	V													•	•	•	•		
	8324	•	V	•	V											•	•	•	•	•			
Air Velocity Transducers	8455		T															•	•				
	8465		T															•	•				
	8475		T															•	•				
ACCUBALANCE	8371				D								•	•				•	•	•	•		
	8372	•			D					•			•	•	•	•	•	•	•	•	•		
	8373	•		•	D					•	•	•	•	•	•	•	•	•	•	•	•		
DP-CALC	8702		P		•													•	•	•			
	8705	•	P		P,Δ	•							•	•	•	•	•	•	•	•			
	8710	•	P	O	P,Δ	•	O					•	•	•	•	•	•	•	•	•			
IAQ-CALC	8732									•							•	•	•	•			
	8760	•		•		•	•	•	•	•						•	•	•	•	•			
	8762	•		•		•	•	•	•	•	•				•	•	•	•	•	•			
TH-CALC	8720			•		•	•										•			•			
	8722	•		•		•	•	•									•			v			

T= Thermal Anemometer Δ= Calculated from Differential Pressure D= Direct Reading O= Optional
P= Pitot Tube Reading V= Rotating Vane Anemometer •= Feature of Instrument

All instruments include a NIST calibration certificate at no additional charge.



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