

# VELOCICALC<sup>®</sup> Air Velocity Meters

TSI's VELOCICALC<sup>®</sup> Air Velocity Meters are easy to use from the first time you pick them up. The Models 8345 and 8346 measure velocity and temperature, calculate flowrate, perform multi-value averaging, and determine minimum and maximum readings. The Models 8347 and 8347(A) add a humidity measurement and perform dew point and wet bulb temperature calculations.

### Features

- Extended velocity range of 0 to 6,000 ft/min
- Temperature range of 0 to 140°F or more
- Humidity range of 0 to 95% rh (Models 8347 and 8347(A) only)
- Easy to read digital display
- Variable time constant modes available for a steady display when measuring fluctuating flows
- Telescoping probes with etched length marks to make duct traverse measurements easier
- Sampling function allows for easy recording of multiple measuring points
- Direct calculation of dew point and wet bulb temperature—no psychrometric chart needed (Models 8347 and 8347(A) only)
- Statistics function can display average, maximum and minimum values, and the number of recorded samples
- Flowrate feature allows for simple and quick calculations of volumetric flowrate when the user inputs the duct shape and size
- Optional portable printer provides a hard copy documentation of your readings



- Includes a battery check that monitors battery level to ensure accurate readings
- NIST\* traceable calibration certificate

### Options

The Models 8345, 8346, 8347 and 8347(A) all measure air velocity and temperature, calculate flowrate, perform multi-value averaging, and determine minimum and maximum readings. The Models 8347 and 8347(A) also measure humidity along with dew point and wet bulb temperature calculations. The Models 8346 and 8347(A) have the added feature of an articulating probe for measurements in ceiling outlet flows or clean benches.

### Applications

- HVAC duct measurements
- Fume hood face velocity tests
- Clean room studies
- Wind tunnel work
- Filter face velocity measurements
- Indoor Air Quality tests



# Specifications

## Models 8345, 8346, 8347 and 8347(A) Air Velocity Meters

<b>Velocity (all models)</b>		<b>Response Time (all models)</b>	
Range	0 to 6,000 ft/min (0 to 30 m/s)	To Velocity	200 msec
Accuracy <sup>1&amp;2</sup>	3.0% of reading or ±3 ft/min (0.015 m/s) whichever is greater	To Temp. (Models 8345/8346)	8 seconds at 1,000 ft/min
		To Temp. (Models 8347/8347(A))	Approx. 1/2 min at 1,000 ft/min
<b>Temperature (all models)</b>		<b>External Meter Dimensions (all models)</b>	
Range (Models 8345/8346)	0 to 200°F (-17 to 93°C)	Size Measurements	3.9 in. □ 6.6 in. □ 1.5 in. (10 cm □ 16.8 cm □ 3.8 cm)
Range (Models 8347/8347(A))	14 to 140°F (-10 to 60°C)		
Resolution	0.1°F (0.1°C)	<b>Meter Probe Dimensions (Model 8345/8346)</b>	
Accuracy <sup>3</sup>	±0.5°F (±0.3°C)	Probe Length	37 in. (94.0 cm) telescopic
<b>Instrument Temperature Range (all models)</b>		Probe Diameter of Tip	0.236 in. (6.0 mm) telescopic
Operating (Electronics)	40 to 113°F (5 to 45°C)	Probe Diameter of Base	0.395 in. (10.03 mm)
Operating (Probe) (8345/8346)	0 to 200°F (-17 to 93°C)	<b>Articulating Probe (Model 8346 only)</b>	
Operating (Probe) (8347/8347(A))	14 to 140°F (-10 to 60°C)	Articulating Section Length	3.75 in. (9.52 cm)
Storage	-22 to 194°F (-30 to 90°C)	Diameter of Articulating Knuckle	0.25 in. (0.64 cm)
<b>Volumetric Flowrate (all models)</b>		<b>Meter Probe Dimensions (Models 8347/8347(A) only)</b>	
Range <sup>4</sup>	0.2 to 2,700,000 ft <sup>3</sup> /min, 0.1 to 195,000 l/s, 0.0424 to 702,000 m <sup>3</sup> /hr.	Probe Length	40 in. (101.6 cm) telescopic
		Probe Diameter of Tip	0.276 in. (7.01 mm) telescopic
<b>Relative Humidity (Models 8347/8347(A) only)</b>		Probe Diameter of Base	0.395 in. (10.03 mm)
Range	0 to 95% rh	<b>Articulating Probe Dimensions (Model 8347(A) only)</b>	
Accuracy <sup>5</sup>	±3% rh	Articulating Section Length	6.2 in. (15.75 cm)
Resolution	0.1% rh	Diameter of Articulating Knuckle	0.38 in. (9.6 cm)
<b>Wet Bulb Temperature (Models 8347/8347(A) only)</b>		<b>Meter Weight Dimensions (all models)</b>	
Range	40 to 140°F (5 to 60°C)	Weight (with batteries)	1.1 lbs (0.5 kg)
Resolution	0.1°F (0.1°C)	<b>Meter Display Dimensions (all models)</b>	
<b>Dew Point (Models 8347/8347(A) only)</b>		Display	4-digit LCD, 0.6 in. (15 mm) digit height
Range	5 to 120°F (-15 to 49°C)	<b>Power (all models)</b>	
Resolution	0.1°F (0.1°C)	Requirements	Four AA-size batteries (included) or AC adapter (optional)
<b>Duct Size (all models)</b>		<b>Printer Interface</b>	
Range	1 to 100 inches in increments of 0.5 inches, 100 to 255 inches in increments of 1 inch (1 to 100 cm in increments of 0.5 cm, 100 to 255 cm in increments of 1 cm)	Type	Serial
		Baud Rate	1200
<b>Averaging Capability (all models)</b>		1 Temperature compensated over an air temperature range of 40 to 150°F (5 to 65°C).	
Range	Up to 255 values each of velocity, temperature, humidity, dewpoint and wet bulb	2 The accuracy statement of 3.0% of reading or ±3 ft/min (±0.015 m/s), applies to 30 ft/min through 6,000 ft/min.	
<b>Time Constant (all models)</b>		3 Accuracy with instrument case at 77°F (25°C), add uncertainty of 0.03°C/°C (0.05°F/°F) for change in instrument temperature.	
Range	Adjustable from 1 to 20 seconds	4 Actual range is a function of maximum velocity and duct size.	
		5 Accuracy with probe at 77°F (25°C). Add uncertainty of 0.1% rh/°F (0.2% rh/°C) for change in probe temperature. Includes 1% hysteresis.	

Specifications are subject to change without notice.

Model	Velocity	Temperature	Volumetric Flowrate	Averaging Capability	Variable Time Constant	Articulating Probe	Printer Output	NIST* Calibration Certificate	Humidity	Wet Bulb	Dew Point
8345	•	•	•	•	•		•	•			
8346	•	•	•	•	•	•	•	•			
8347	•	•	•	•	•		•	•	•	•	•
8347 (A)	•	•	•	•	•	•	•	•	•	•	•

\*U.S. National Institute of Standards and Technology



### TSI Incorporated

**United States:** Tel: 651 490 2811 Toll Free: 1 800 874 2811 Fax: 651 490 3824 E-mail: answers@tsi.com

**Germany:** Tel: +49-241 523030 Fax: +49-241 523 0349 E-mail: tsigmbh@tsi.com

**Sweden:** Tel: +46-8-595-132 30 Fax: +46-8-595-132 39 E-mail: tsiab@tsi.com

**United Kingdom:** Tel: +44-1275-847837 Fax: +44-1275-842437 E-mail: tsiuk@tsi.com

**China:** Tel: +86-10-8260 1595 Fax: +86-10-8260 1597 E-mail: tsichina@tsi.com

or visit [www.tsi.com](http://www.tsi.com) to find your closest TSI Representative or distributor.

