

# Air Velocity Meters

## TSI VelociCalc

TSI's VELOCICALC® 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 VelociCalc

- 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



VelociCalc Model 8347



VelociCalc Model 8345

VelociCalc	Model	Air Velocity	Temperature Reading	Flowrate	Humidity	Dewpoint, Wet Bulb	Statistics	Variable Time Constant	Field Calibration Adjustment	Printer Output	Articulating Probe
	8345	T	X	T			X	X	X	X	
	8346	T	X	T			X	X	X	X	X
	8347	T	X	T	X	X	X	X	X	X	
	8347A	T	X	T	X	X	X	X	X	X	X

**Key**

T = Thermal Anemometer  
 X = Feature of Instrument

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### SPECIFICATIONS VelociCalc

Velocity (all models)		Response Time (all models)	
Range	0 to 6,000 ft/min (0 to 30 m/s)	To Velocity	200 msec
Accuracy <sup>1&amp;2</sup>	3.0% or reading or $\pm 3$ ft/min (0.015 m/s) whichever is greater	To Temp. (models 8345/8346)	8 seconds at 1,000'/min
		To Temp. (models 8347/8347 (A))	Approx. 1/2 min at 1,000'/min
Temperature (all models)		External Meter Dimensions (all models)	
Range (Models 8345/8346)	0 to 200°F (-17 to 93°C)	Size Measurements	3.9" x 6.6" x 1.5" (10 cm x 16.8 cm x 3.8 cm)
Range (Models 8347/8347 (A))	14 to 140°F (-10 to 60°C)		
Resolution	0.1°F (0.1°C)	Meter Probe Dimensions (models 8345/8346)	
Accuracy <sup>3</sup>	$\pm 0.5^\circ\text{F}$ ( $\pm 0.3^\circ\text{C}$ )	Probe Length	37" (94.0 cm) telescopic
Instrument Temperature Range (all models)		Probe Diameter of Tip	0.236" (6.0 mm) telescopic
Operating (Electronics)	40 to 113°F (5 to 45°C)	Probe Diameter of base	0.395" (10.03 mm)
Operating (Probe) (8345/8346)	0 to 200°F (-17 to 93°C)	Articulating Probe (model 8346 only)	
Operating (Probe) (8347/8347(A))	14 to 140°F (-10 to 60°C)	Articulating Section Length	3.75" (9.52 cm)
Storage	-22 to 194°F (-30 to 90°C)	Diameter of Articulating Knuckle	0.25" (0.64 cm)
Volumetric Flowrate (all models)		Meter Probe Dimensions (models 8347/8347 (A) only)	
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" (101.6 cm) telescopic
Relative Humidity (models 8347/8347 (A) only)		Probe Diameter of Tip	0.276" (7.01 mm) telescopic
Range	0 to 95% rh	Probe Diameter of Base	0.395" (10.03 mm)
Accuracy <sup>5</sup>	$\pm 3\%$ rh	Articulating Probe Dimensions (model 8347 (A) only)	
Resolution	0.1% rh	Articulating Section Length	6.2" (15.75 cm)
Wet Bulb Temperature (models 8347/8347 (A) only)		Diameter of Articulating Knuckle	0.38" (9.6 cm)
Range	40 to 140°F (5 to 60°C)	Meter Weight Dimensions (all models)	
Resolution	0.1°F (0.1°C)	Weight (with batteries)	1.1 lbs (0.5 kg)
Dew Point (models 8347/8347 (A) only)		Meter Display Dimensions (all models)	
Range	-5 to 120°F (-15 to 49°C)	Display	4-digit LCD, 0.6" (15 mm) digit height
Resolution	0.1°F (0.1°C)	Power (all models)	
Duct Size (all models)		Requirements	Four AA batteries (included) or AC adapter (optional)
Range	1 to 100 inches in increments of 0.5 inches, 100 to 255 inches in incre- ments of 1 inch (1 to 100 cm in incre- ments of 0.5 cm, 100 to 255 cm in increments of 1 cm)	Printer Interface	
Averaging Capability (all models)		Type	Serial
Range	Up to 255 values each of velocity, temperature, humidity, dewpoint and wet bulb	Baud	1200
Time Constant (all models)			
Range	Adjustable from 1 to 20 seconds		

- 1 Temperature compensated over an air temperature range of 40 to 150°F (5 to 65°C).
- 2 The accuracy statement of 3.0% of reading or  $\pm 3$  ft/min. ( $\pm 0.015$  m/s), applies to 30 ft/min through 6,000 ft/min.
- 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.
- 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.

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