

VELOCICALC[®] Air Velocity Meter

Model 9525

Operation and Service Manual



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Service Policy

Knowing that inoperative or defective instruments are as detrimental to TSI as they are to our customers, our service policy is designed to give prompt attention to any problems. If any malfunction is discovered, please contact your nearest sales office or representative, or call Customer Service department at (800) 874-2811 (USA) or (1) 651-490-2811 (International).

CONTENTS

CHAPTER 1 UNPACKING AND PARTS IDENTIFICATION	1
CHAPTER 2 SETTING-UP	3
Supplying Power to the Model 9525	3
Installing the Batteries	3
Using the Telescoping Probe	3
Extending the Probe	3
Retracting the Probe.....	3
CHAPTER 3 OPERATION	5
Keypad Functions	5
CHAPTER 4 MAINTENANCE	7
Recalibration	7
Cases	7
Storage	7
CHAPTER 5 TROUBLESHOOTING.....	9
APPENDIX A SPECIFICATIONS.....	11



Chapter 1

Unpacking and Parts Identification

Carefully unpack the instrument and accessories from the shipping container. Check the individual parts against the list of components below. If anything is missing or damaged, notify TSI immediately.

1. Carrying case
2. Instrument

Chapter 2

Setting-up

Supplying Power to the Model 9525 VELOCICALC Air Velocity Meter

The Model 9525 is powered with four size AA batteries.

Installing the Batteries

Install batteries by loosening the screw in the battery access cover located on the back of the instrument. Insert four AA-size alkaline batteries in the battery tubes according to the polarity indicated on the instrument case under the battery access cover. Replace the battery access cover and tighten the screw.

WARNING:

The Model 9525 is only listed for intrinsic safety when operating with four size AA alkaline batteries. Batteries of other types (NiCd, carbon-zinc, etc.) are not acceptable for use in a hazardous environment.
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Using the Telescoping Probe

The telescoping probe contains the velocity sensor. When using the probe, make sure the sensor window is fully exposed and the orientation dimple is facing upstream.

Extending the Probe

To extend the probe, pull the black tip of the probe from the center of the instrument. Once extended to its three-inch length, the probe can rotate 90° to measure air from many directions.

Retracting the Probe

To retract the probe, align the sensor window so that you can view straight through the window from the front of the instrument. Once the window is aligned to the front, grasp the probe tip and push firmly straight into the instrument case. Always store the probe retracted when not in use in order to protect the sensor.

Chapter 3

Operation

Keypad Functions

ON/OFF Switch	The ON/OFF switch is used to turn on or turn off power to the Model 9525. When the Model 9525 is turned on, it will display approximate battery life in percent for five seconds.
BATT/VEL Switch	This switch is used to change the display to read air velocity or approximate percentage of remaining battery life.
FAST/SLOW Switch	This switch is used to change the display average of the Model 9525. When set to FAST, the display average is approximately 3 seconds. When set to SLOW, the display average is approximately 12 seconds.

Chapter 4

Maintenance

The Model 9525 requires very little maintenance to keep it performing well.

Recalibration

To maintain a high degree of accuracy in your measurements, we recommend that you return your Model 9525 to TSI for annual recalibration. Please contact one of TSI's offices or your local distributor to make service arrangements and to receive a Return Material Authorization (RMA) number. To fill out an online RMA form, visit TSI's website at <http://service.tsi.com>.

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Cases

If the instrument case or storage case needs cleaning, wipe it off with a soft cloth and isopropyl alcohol or a mild detergent. Never immerse the Model 9525. If the enclosure of the Model 9525 becomes broken, it must be replaced immediately to prevent access to hazardous voltage.

Storage

Remove the batteries when storing the unit for more than one month to prevent damage due to battery leakage.

Chapter 5

Troubleshooting

Table 5-1 lists the symptoms, possible causes, and recommended solutions for common problems encountered with the Model 9525. If your symptom is not listed, or if none of the solutions solves your problem, please contact TSI.

Table 5-1: Troubleshooting the Model 9525

Symptom	Possible Causes	Corrective Action
No display.	Unit not switched on	Switch unit on
	Low or dead batteries	Replace batteries
	Dirty battery contacts	Clean battery contacts
	Batteries installed incorrectly	Check battery alignment against illustration inside battery cover
BAT is blinking	Batteries are getting low	Replace batteries
Display reads “LO” and the BAT indicator is on	Batteries are low	Replace the batteries
	Dirty battery contacts	Clean the battery contacts
Velocity reading fluctuates badly	The flow is fluctuating	Reposition the probe in a less turbulent section of the flow or set the RESPONSE switch to SLOW
Velocity reading blinks 2000 FPM or 10.16 m/s	The velocity exceeds 2000 FPM or 10.16 m/s	Use an alternative method to measure the velocity
	Sensor may be damaged	Contact TSI
Display indicates greater than 10 FPM (0.05 m/s) in zero flow condition	Sensor may be damaged	Contact TSI

WARNING!

Remove the probe from excessive temperature immediately: excessive heat can damage the sensor. Operating temperature limits can be found in [Appendix A, Specifications](#).

Appendix A

Specifications

Specifications are subject to change without notice.

Velocity:

Range: 0 to 2000 ft/min (0 to 10 m/s)

Accuracy^{1&2}: $\pm 5\%$ of reading or ± 5 ft/min (± 0.05 m/s), whichever is greater

Resolution: 1 ft/min (0.01 m/s)

Instrument Temperature Range:

Operating (Electronics): 40 to 113°F (5 to 45°C)

Operating (Probe): 32 to 122°F (0 to 50°C)

External Meter Dimensions:

Instrument: 2.7 in. \times 5.2 in. \times 1.3 in. (6.8 cm \times 13.2 cm \times 3.3 cm)

Probe: 0.25 in diameter (6.4 mm)

3.1 in. length (7.9 cm)

Meter Weight:

Weight with batteries: 0.6 lbs (0.27 kg)

Meter Display Dimensions:

4-digit LCD, 0.4 in. (10 mm) digit height

Power Requirements:

Four AA-size batteries (included)

Safety Rating:

UL Listed

Intrinsically safe for use in hazardous locations for Class I Groups C and D, Class II Groups E, F, and G, and Class III, only when used with four size AA alkaline batteries.

¹ Temperature compensated over an air temperature range of 40 to 150°F (5 to 65°C).

² The accuracy statement of $\pm 5.0\%$ of reading or ± 5 ft/min (± 0.05 m/s), whichever is greater, begins at 30 ft/min through 2000 ft/min (0.15 m/s through 10.16 m/s).

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Contact your local TSI Distributor or visit our website **www.tsi.com** for more detailed specifications.