VELOCICALC®
AIR VELOCITY METER
MODEL 5725

OPERATION AND SERVICE MANUAL

P/N 1980566, REVISION D
OCTOBER 2014

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Germany	**Tel:** +49 241 523030		

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Address
TSI Incorporated / 500 Cardigan Road / Shoreview, MN 55126 / USA

Fax No.
(651) 490-3824

Limitation Of Warranty And Liability (effective April 2014)
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Seller warrants the goods, excluding software, sold hereunder, under normal use and service as described in the operator's manual, to be free from defects in workmanship and material for **24 months**, or if less, the length of time specified in the operator's manual, from the date of shipment to the customer. This warranty period is inclusive of any statutory warranty. This limited warranty is subject to the following exclusions and exceptions:

a. Hot-wire or hot-film sensors used with research anemometers, and certain other components when indicated in specifications, are warranted for 90 days from the date of shipment;

b. Pumps are warranted for hours of operation as set forth in product or operator's manuals;

c. Parts repaired or replaced as a result of repair services are warranted to be free from defects in workmanship and material, under normal use, for 90 days from the date of shipment;

d. Seller does not provide any warranty on finished goods manufactured by others or on any fuses, batteries or other consumable materials. Only the original manufacturer's warranty applies;

e. This warranty does not cover calibration requirements, and seller warrants only that the instrument or product is properly calibrated at the time of its manufacture. Instruments returned for calibration are not covered by this warranty;

f. This warranty is **VOID** if the instrument is opened by anyone other than a factory authorized service center with the one exception where requirements set forth in the manual allow an operator to replace consumables or perform recommended cleaning;

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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 5725 3
Installing the Batteries 3
Using the Optional AC Adapter 3
Attaching the Handle 3
Using the Optional Articulating Extension 3
Connecting to a Computer 4

CHAPTER 3 OPERATION 5

Keypad Functions 5
Common Terms 5
Menus 6
DISPLAY SETUP 6
SETTINGS 6
FLOW SET UP 6
DATA LOGGING 6
Measurements 6
Log Mode/Log Settings 7
Delete Data 7
% Memory 7
LogDat2™ Downloading Software 7

CHAPTER 4 MAINTENANCE 9

Recalibration 9
Cases 9
Storage 9

CHAPTER 5 TROUBLESHOOTING 11

APPENDIX A SPECIFICATIONS 13

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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
3. USB cable
4. CD-ROM with Downloading Software

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Chapter 2

Setting-up

Supplying Power to the Model 5725

The Model 5725 VELOCICALC Air Velocity Meter is powered with four size AA batteries.

Installing the Batteries

Insert four AA batteries as indicated by the diagram located on the inside of the battery compartment. The Model 5725 is designed to operate with either alkaline or NiMH rechargeable batteries, although it will not recharge NiMH batteries. Battery life will be shorter if NiMH batteries are used. Carbon-zinc batteries are not recommended because of the danger of battery acid leakage.

Using the Optional AC Adapter

When using the AC adapter, the batteries (if installed) will be bypassed. Be sure to provide the correct voltage and frequency, which is marked on the back of the AC adapter. The AC adapter will not recharge the batteries.

Attaching the Handle

To attach the handle, screw the handle into the bottom of the rotating vane head until secure. Remove the handle after use to prevent damage to either the head or the handle.

Using the Optional Articulating Extension

The articulating extension allows you to secure the vane head at nearly any angle. Once you have attached the articulating extension, you can unscrew the swivel adjustment bolt, and adjust the angle of the elbow. You can then adjust the pivot position of the head by partially unscrewing the head from the handle and tightening it with the knurled knob, located underneath the vane head.

Using the Optional Air Cone Kit

Air Cone Flow Hoods are a fast and accurate method of maximizing the usefulness of your 100 mm (4 in.) rotating vane anemometer by turning it into an air volume balancing tool. Kit comes with both rectangular 285 mm x 235 mm (11.2 in. x 9.2 in.) and circular 180 mm (7.1 in.) diameter cones. Simply slide the vane head into the Air Cone to perform supply or extract/return measurements. Kit includes instructions for usage.

Connecting to a Computer

Use the Computer Interface USB Cable provided with the Model 5725 to connect the instrument to a computer for downloading stored data.

For information on how to download stored data see Chapter 3 section titled LogDat2™ Downloading Software.

Caution: This symbol is used to indicate that the data port of the Model 5725 is **not** intended for connection to a public telecommunications network. Connect the USB data port only to another USB port.

Chapter 3

Operation

Keypad Functions

ON/OFF Key	Press to turn the Model 5725 on and off. During the power up sequence the display will show the following: Model Number, Serial Number, Software Revision and Last Date Calibrated.
Arrow (▲▼) Keys	Press to scroll through choices while setting a parameter.
↵ (Enter) Key	Press to accept a value or condition.
Arrow (➤ or ➤) and Menu Soft Keys	Press arrow keys to change choices while setting a parameter. Press the Menu soft key to select the Menu selections, which are Display Setup, Settings, Flow Setup, Data Logging and Calibration.

Common Terms

In this manual there are several terms that are used in different places. The following is a brief explanation of the meanings of those terms.

Sample	Consists of all of the measurement parameters stored at the same time.
Test ID	A group of samples. The statistics (average, minimum, maximum, and count) are calculated for each test ID. The maximum number of test IDs is 100.

Time Constant	The time constant is an averaging period. It is used to dampen the display. If you are experiencing fluctuating flows, a longer time constant will slow down those fluctuations. The display will update every second, but the displayed reading will be the average over the last time constant period. For example, if the time constant is 10 seconds, the display will update every second, but the displayed reading will be the average from the last 10 seconds. This is also referred to as a “moving average”.

Menus

DISPLAY SETUP

Display setup menu is where you will setup the desired parameters to be displayed on the running screen. With a parameter highlighted you can then use the ON soft key to have it show up on the running screen or select the OFF soft key to turn off the parameter. Use PRIMARY soft key to have a parameter show up on the running screen in a larger display. Only one parameter can be selected as a primary, and up to 2 secondary parameters can be selected at one time.

SETTINGS

Settings menu is where you can set the general settings. These include Language, Beeper, Select Units, Time Constant, Contrast, Set Time, Set Date, Time Format, Date Format, Number Format, Backlight and Auto Off. Use the ◄ or ➤ soft keys to scroll through the settings for each option and use the ↵ key to accept settings.

FLOW SET UP

In Flow Setup mode, there are 3 types: Round Duct, Rectangle Duct and Duct Area. Use the ◄ or ➤ soft keys to scroll through the types and then press the ↵ key to accept the desired type. To change the value, highlight the Enter Settings option and press the ↵ key.

DATA LOGGING

Measurements

Measurements to be logged are independent of measurements on the display, and must therefore be selected under DATA LOGGING → Measurements.

Log Mode/Log Settings

You can set Log Mode to Manual or Auto-save.

- Manual mode does not automatically save data, but instead prompts the user to save a sample.
- In Auto-save mode, the user manually takes samples that are automatically logged.
- In Cont-key mode, the user starts taking readings and logging by pressing the ↵ key. The instrument will continue taking measurements until the ↵ key is pressed again.
- Auto-save and Cont-Key modes use Log Interval under the Log Settings:

Mode	Log Settings
Auto-save	Log Interval
Cont-key	Log Interval

- Use Cont-key mode with Log Interval set to 1 second to take a Sweep measurement across an area.

Delete Data

Use this to delete all data, delete test or delete sample.

% Memory

This option displays the memory available. Delete All, under Delete Data, will clear memory and reset the memory available.

LogDat2™ Downloading Software

The Model 5725 comes with special software called LogDat2 Downloading Software, which is designed to provide you with maximum flexibility and power. To install this software on your computer, follow the instructions on the label of the LogDat2 CD-ROM.

To download data from the Model 5725, connect the supplied computer interface USB cable to the Model 5725 and to a computer USB port. Then run the LogDat2 software. Within the LogDat2 software, either select the tests to be downloaded or double-click on a test to open it.

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Chapter 4

Maintenance

The Model 5725 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 5725 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.

U.S. & International

TSI Incorporated
500 Cardigan Road
Shoreview MN 55126-3996
Tel: (800) 874-2811
(651) 490-2811
Fax: (651) 490-3824

The Model 5725 can also be recalibrated in the field using the CALIBRATION menu. These field adjustments are intended to make minor changes in calibration to match a user's calibration standards. The field adjustment is NOT intended as a complete calibration capability. For complete, multiple-point calibration and certification, the instrument must be returned to the factory.

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 5725. If the enclosure of the Model 5725 or the AC adapter 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.

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Chapter 5

Troubleshooting

Table 5-1 lists the symptoms, possible causes, and recommended solutions for common problems encountered with the Model 5725. If your symptom is not listed, or if none of the solutions solves your problem, please contact TSI.

Table 5-1: Troubleshooting the Model 5725

Symptom	Possible Causes	Corrective Action
No Display	Unit not turned on	Switch unit on.
	Low or dead batteries	Replace batteries or plug in AC adapter.
	Dirty battery contacts	Clean the battery contacts.
Velocity reading fluctuates unstable	Fluctuating flow	Reposition probe in less-turbulent flow or use longer time constant.
Instrument Error message appears	Memory is full	Download data if desired, then DELETE ALL memory.
	Fault in instrument	Factory service required on instrument.

WARNING!
Remove the probe from excessive temperature immediately: excessive heat can damage the sensor. Operating temperature limits can be found in Appendix A, Specifications.

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Appendix A

Specifications

Specifications are subject to change without notice.

Velocity:
Range: 50 to 6,000 ft/min (0.25 to 30 m/s)
Accuracy: ±1.0% of reading ±4 ft/min (±0.02 m/s)

Duct Size:
Range: 0 to 500 ft^2 (0 to 46.45 m^2)

Volumetric Flow Rate:
Range: Actual range is a function of actual velocity and duct area

Temperature:
Range: 40 to 113°F (5 to 45°C)
Accuracy: ±2°F (±1°C)
Resolution: 0.1°F (0.1°C)

Instrument Temperature Range:
Operating (Electronics): 40 to 113°F (5 to 45°C)
Storage: -4 to 140°F (-20 to 60°C)

Instrument Operating Conditions:
Altitude up to 4000 meters
Relative humidity up to 80% RH, non-condensing
Pollution degree 1 in accordance with IEC 664
Transient over voltage category II

Data Storage Capabilities:
Range: 12,700+ samples and 100 test IDs (one sample can contain fourteen measurement types)

Logging Interval:
Intervals: 1 second to 1 hour

Time Constant:
Intervals: User selectable

External Meter Dimensions:
3.3 in. × 7.0 in. × 1.8 in. (8.4 cm × 17.8 cm × 4.4 cm)

Meter Weight:
Weight with batteries: 0.6 lbs (0.27 kg)

Power Requirements:
Four AA-size batteries (included) or AC adapter (optional) 9 VDC, 300 mA, 4-18 watts (input voltage and frequency vary depending on which adapter is used)

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USA	**Tel:** +1 800 874 2811	**India**	**Tel:** +91 80 67877200
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