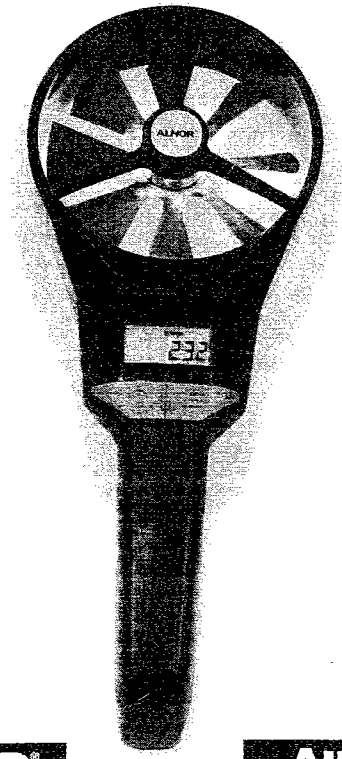
OPERATING MANUAL

Alnor Model RVA801
AIRFLOW Model LCA301

Rotating Vane Anemometer



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SECTION 1

General Description

The RVA801/LCA301 is intended for measurement of air velocity and volume flow at return grilles, fume hoods, kitchen exhausts, etc. It features a 180-degree rotating head which functions satisfactorily in the 0o and 180o positions. This allows the LCD display to be viewed from the front of the instrument while the head is oriented with the flow direction.

In addition, the instrument measures the temperature of the air flow.

SECTION 2

Safety

Observe common sense safety precautions when using the RVA801/LCA301. Exercise care to ensure that the instrument does not interfere with any moving equipment or electrical wiring.

This instrument is not designed for gas mixtures other than air. Use with explosive and/or other dangerous gas mixtures is not recommended and is at the user's own risk.

SECTION 3

About the RVA801/LCA301

Installing the Battery

The RVA801/LCA301 requires a 9-volt battery. The battery is not installed when the instrument is shipped. Remove the battery cover by pressing on the two lines and sliding downwards. Connect the battery to the flying lead, insert the battery into the instrument and replace the battery cover.

LCD display

The instrument will display the velocity, volume or temperature reading as selected.

Auto Shut Off

The RVA801/LCA301 has an auto shut off feature to help preserve battery life. If no keys are pressed for 3 minutes (5 minutes in temperature mode), the instrument will automatically turn itself off. This function cannot be disabled by the user.

SECTION 4

Detailed Operation

Press the ON\OFF key to turn the RVA801/LCA301 on and off. When the instrument is turned on, it will power up in the mode last used.

English/Metric Unit Selection

RVA801/LCA301 instruments can display Metric or Imperial units. To select metric or imperial units, press the Mode key while turning on the unit. Then press the trigger to select the unit type and press the Mode key again to save your setting.

Measuring Air Velocity

Select velocity using the MODE key if required. In order to take a velocity reading, hold the rotating vane in the airstream noting the flow direction arrow on the instrument head. Keep the vane in the airstream for about five seconds before pressing the trigger key to take a reading. This enables the vane anemometer to reach steady speed and the average reading will be more accurate.

To take a single reading, press the trigger key momentarily. The instrument will display the measured value.

Press and hold the trigger key to take a sweep, or time-averaged, reading. The sweep reading will update approximately every second. Release the trigger key to stop the sweep measurement and display the average value.

Measuring Air Volume

The operation for air volume measuring is the same as air velocity. For volume flow rate mode, determine the cross-sectional area of the duct or grille for which the volume flow rate is required. If working in Metric units, calculations must be in m2. If working in Imperial units, calculations must be in ft2. Switch the instrument to "Area +" mode and observe the area figure displayed from the memory. If the new area required is larger than the one displayed press the trigger to increase the displayed area to the calculated figure. If the area is less than the figure displayed push the Mode Button to change to "Area -" mode and press the trigger to reduce the displayed area to the calculated figure. When the correct area has been displayed use the Mode key to select the required "Vol" mode.

Note: The last area value will be retained in the memory even when the instrument is switched off.

Low Battery Indication

When the **"BAT"** icon appears, the RVA801/LCA301 has about 60 minutes of battery life remaining. If the battery is not replaced, measurement accuracy will decrease.

Serial Number Display

The instrument's serial number can be verified by holding both the trigger and mode key when switching the unit on.

SECTION 6

Care, Maintenance and Service

Please return the Product Registration Card immediately. This allows us to send service reminders, special offers, and important information about your product.

- Remove batteries from instrument if not used for an extended period of time.
- Do **not** bend or touch blades; accuracy will be affected.

- Do **not** immerse in liquids.
- Do **not** drop the instrument.
- Use carrying case for storage, transport, and protection from dust.
- Use a clean damp cloth to wipe the instrument case. Do **not** wipe the blades.

Service Return Process

Return the RVA801/LCA301 for service in case the instrument was dropped, blades were deformed, or liquid spilled on the instrument, particularly the blades.

Before sending your instrument for calibration or repair, obtain a Return Material Authorization (RMA) number by visiting our website at *http://rma.tsi.com* or contacting customer service. When obtaining an RMA number, you will also learn the cost of service or calibration and receive shipping instructions.

MODEL RVA801/LCA301
SPECIFICATIONS

(subject to change without notice)

Measurement Range

Velocity	50 to 6000 fpm	0.25 to 30 m/s
Temperature	32 to 140°F	0 to 60°C
Volumetric Flow Rate	1-9999000 cfm	1 - 999999 l/s 1 - 999999 m^3/h 0.01 – 3000 m^3/s
Area Input	0.043 - 900 ft^2	0.00399 - 90m^2

Actual range is a function of velocity and area input.

Display Resolution

Velocity	1 fpm	0.01 m/s
Temperature	1°F	0.1°C

Accuracy

Velocity	±1% reading ±4 fpm	±1% reading ±0.02 m/s
Temperature	±2°F	±1 °C

Storage Temperature	14 to 140°F	-10 to 60°C
Operating Temperature	32 to 140°F	0 to 60°C
Power Source	9-volt battery	
Battery Life	Approximately 40 hours continuous use	
Dimensions (LWD)	11in. x 4.5in. x 2.6in.	280mm x 112mm x 65mm
Weight (excluding battery)	10 oz.	275 g