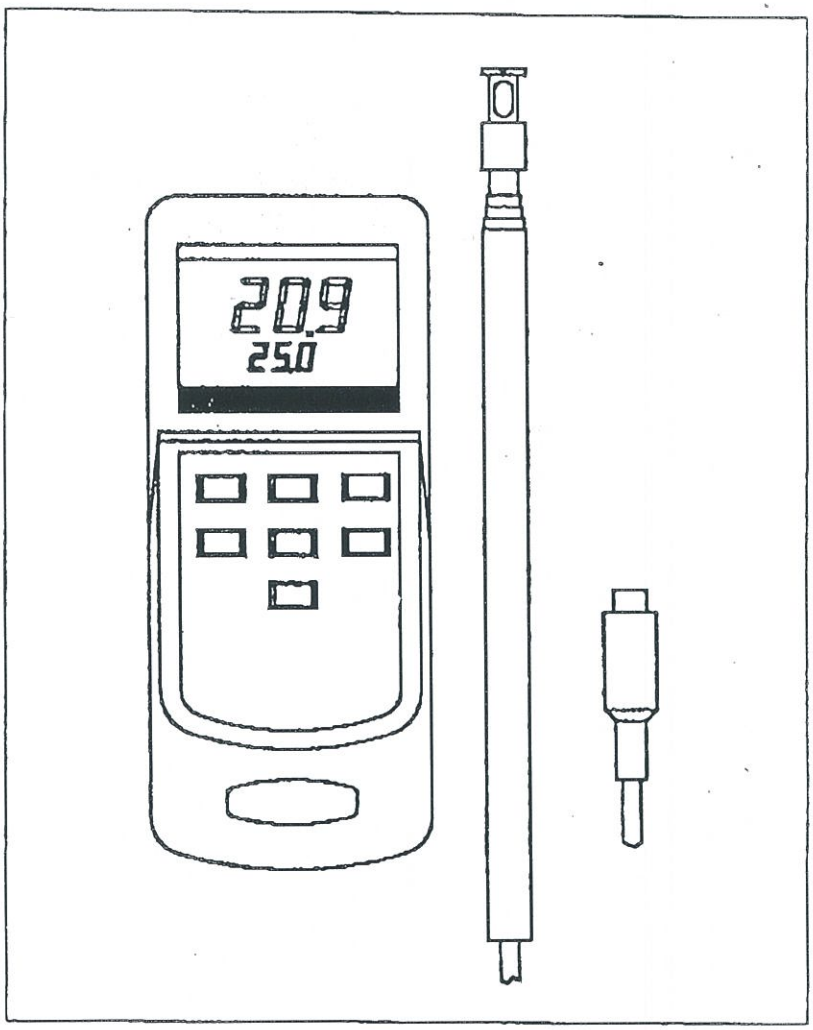
FA 743 DB

HOT WIRE ANEMOMETER



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1. FEATURES

* Thermal anemometer, available for very low air velocity measurement.
* Slim probe, ideal for grilles & diffusers.
* Combination of hot wire and standard thermistor, deliver rapid and precise measurements even at low air velocity value.
* Microprocessor circuit assures maximum possible accuracy, provides special functions and features.
* Super large LCD with dual function meter's display, read the air velocity & temp. at the same time.
* Heavy duty & compact housing case.
* Records Maximum and Minimum readings with recall.
* Data hold.
* Power supply by 1.5 V AAA (UM−4) battery x 6 PCs.
* The portable anemometer provides fast, accurate readings, with digital readability and the convenience of a remote probe separately.
* Multi−functions for air flow measurement : m/s, km/h, ft/min, knots. mile/h.
* Build in temperature °C, °F measurement.
* Thermistor sensor for Temp. measurement, fast response time.
* Used the durable, long−lasting components, including a strong, light weight ABS−plastic housing case.
* Deluxe hard carrying case.
* Applications : Environmental testing, Air conveyors, Flow hoods, Clean rooms, Air velocity, Air balancing, Fans/motors/blowers, Furnace velocity, Refrigerated case, Paint spray booths.

2. SPECIFICATIONS

2–1 General Specifications

Circuit	Custom one–chip of micro–processor LSI circuit.
Display	* 13 mm(0.5") Super large LCD display. * Dual function meter's display.
Measurement	m/s (meters per second) km/h (kilometers per hour) ft/min (feet/per minute) knots (nautical miles per hour) mile/h(miles per hour) Temp.– °C, °F. Data hold.
Sensor Structure	*Air velocity :* Tiny glass bead thermistor.
	Temperature : Precision thermistor.
Memory	Maximum and Minimum with recall.
Sampling Time	Approx. 0.8 sec.
Operating Temperature	0 °C to 50 °C(32 °F to 122 °F).
Operating Humidity	Less than 80% RH.
Power Supply	1.5 V AAA (UM–4) battery x 6 PCs. (Alkaline or heavy duty type).

Power Current	Approx. DC 30 mA.
Weight	355 g/0.78 LB.
Dimension	Main instrument: 185 x 78 x 38 mm (7.1 x 3.1 x 1.5 inch).
	Telescope Probe : Round, 12 mm Dia x 280 mm (min. length). Round, 12 mm Dia x 940 mm (max. length).
Accessories Included	Instruction manual.....1 PC. Telescope Probe.....1 PC. Hard carrying case..... 1 PC.

2–2 Electrical Specifications (23 ± 5 °C)

A. Air velocity

Measurement	Range	Resolution	Accuracy
m/s	0.2–20.0 m/s	0.1 m/s	± (5% + 1d) reading or ± (1% + 1d) full scale
km/h	0.7–72.0 km/h	0.1 km/h	
ft/min	40–3940 ft/min	1 ft/min	
mile/h	0.5–44.7 mile/h	0.1 mile/h	
knots	0.4–38.8 knots	0.1 knots	

Note:
m/s – meters per second km/h – kilometers per hour
ft/min – feet/per minute knots – nautical miles per hour
mile/h – miles per hour (international knot)

B. Temperature

Measuring Range	0 °C to 50 °C/32 °F to 122 °F
Resolution	0.1 °C/0.1 °F
Accuracy	0.8 °C/1.5 °F

Remark :

Spec. tested under the environment RF Field Strength less than 3 V/M & frequency less than the 30 MHz only.

3. FRONT PANEL DESCRIPTION

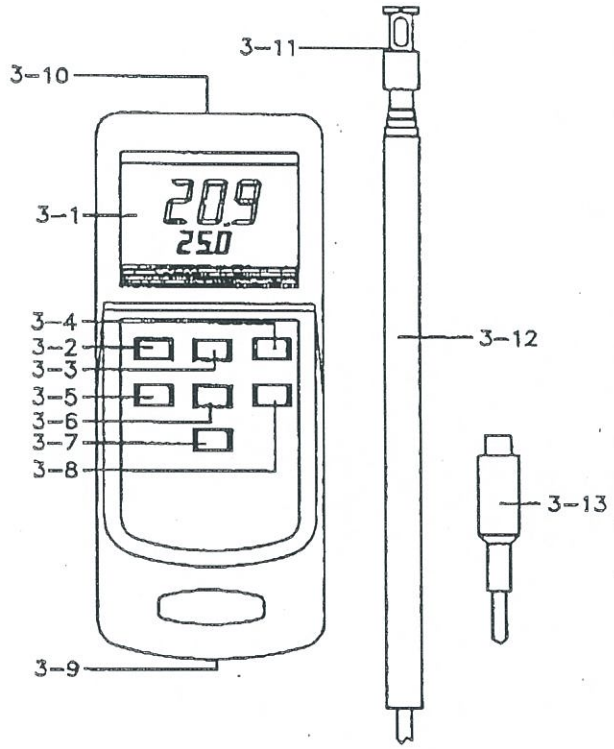


Fig. 1

3-1 Display
3-2 Power Off/On Button
3-3 Data Hold Button
3-4 °C/°F Button
3-5 Memory "Record" Button
3-6 Memory "CALL" Button
3-7 Zero Button
3-8 Unit Button
3-9 Battery Compartment/Cover
3-10 Probe Input Socket
3-11 Sensing Head
3-12 Probe Handle
3-13 Probe Plug

4. MEASURING PROCEDURE

1) Connect the " Probe's Plug " (3−13, Fig. 1) to the " Probe Input Socket " (3−10, Fig.1).
2) Power on the meter by push the " Power On/Off Button " (3−2, Fig.1) once a while.
3) Select the desired temperature units, using the " °C/°F Button " (3−4, Fig. 1).
4) Select the desired air velocity units, m/s, km/h, ft/min, knots, mile/h, using the " Unit Button " (3−8, Fig. 1).
5) Zero setting :
   a. On the " Sensing Head " (3−11, Fig. 1), slide the sensor cover to the up position to let the air velocity sensor isolated from the environment, refer Fig. 2.
   b. Push the " Zero Button " (3−7, Fig. 1) to let the reading value of air velocity show zero value.

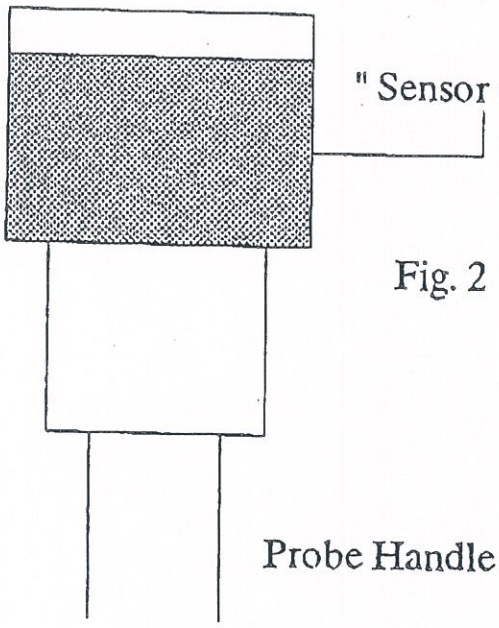


Fig. 2

6) a. Slide the sensor cover to the down position, let the air velocity sensor to contact the air, refer Fig. 3.
b. Extent the telescope probe to the convenient length, refer Fig. 4

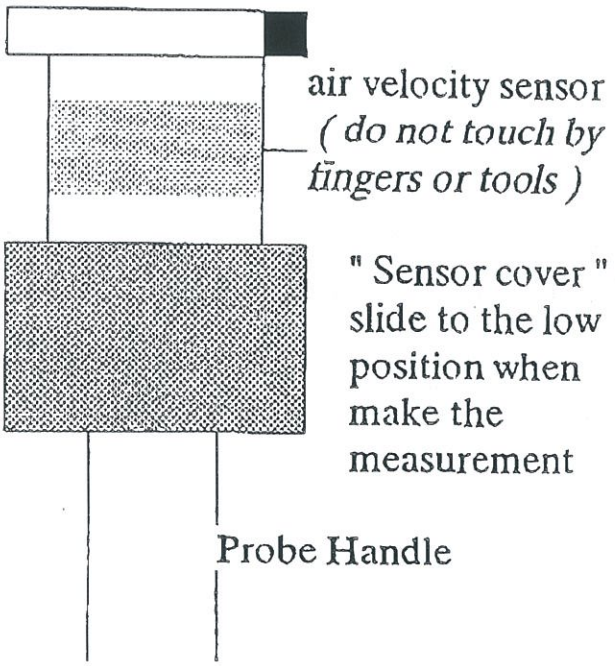


Fig. 3

Fig. 4

Caution !!!

Do not use the fingers or any tools to touch the air velocity sensor, otherwise the meter may happen the permanent damage.

7) Direction of the sensor head :

There is a mark on the top of the " Sensor Head ", When make the measurement, then this mark should against the measured wind, refer Fig. 6, Fig. 7. When sensor head face against the measurement air, then the upper display will show the air velocity value. The lower display will show the temperature value.

sensor head (side view)

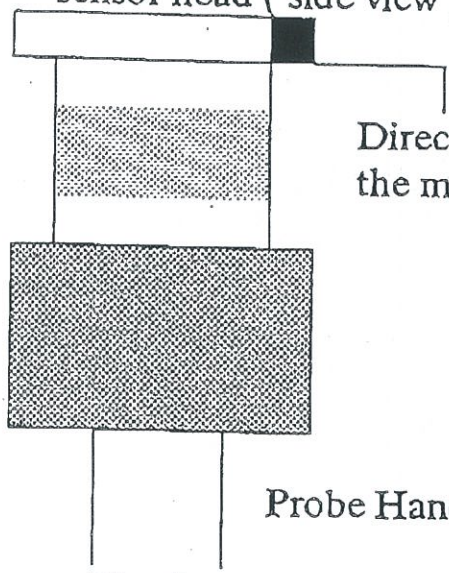


Fig. 6

sensor head (top view)

Fig. 7

8) Data Hold :

a. During measurement, pushing the " Data Hold Button " (3−3, Fig. 1) will hold the display values & the LCD will show the " D.H " symbol.

b. To cancel the Data Hold function, Press the Data Hold Button once more.

9) Data Record (Max. & Min. reading)

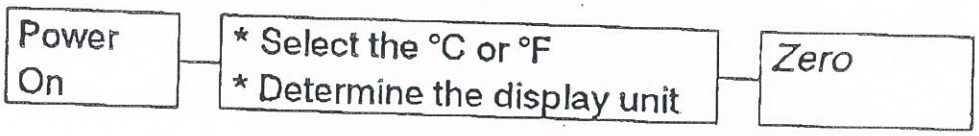
a. The Data Record function displays the maximum & minimum readings. To start the Data Record function, press the " Record Button " (3−5, Fig. 1) once. " REC " symbol will appear on the LCD display.

b. With the " REC " symbol indicated on the display

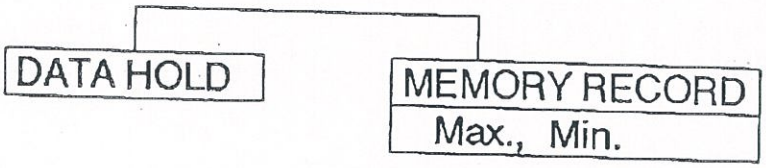
* Push the " CALL Button " (3−6, Fig. 1) once, then the " Max " symbol with the maximum values recorded will appear on the LCD display.
* Push the " CALL Button " once again, the " Min " symbol with the minimum values recorded will appear on the LCD display.
* To de−activate the Data Record function, Press the " Record Button " (3−5, Fig. 1) once again. All associated anunciators will disappear from the display.

10) For quick measurement, follow the procedures shown below :

Main procedures :



Optional measuring procedures :



5. BATTERY REPLACEMENT

1) When the left corner of LCD display show " LBT ", it is necessary to replace the battery. However, in−spec measurement may still be made for several hours after low battery indicator appears before the instrument become inaccurate.
2) Slide the " Battery Cover " (3−9, Fig. 1) away from the instrument and remove the battery.
3) Install the 1.5 V AAA (UM−4) battery x 6 PCs. Please use the Alkaline or heavy duty type battery. When install the batteries should be care for the battery polarity. After install the batteries, then reinstate the battery cover.