MINI VANEOMETER
MVA-02 , MVA-03 , MVA-04
User Manual

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INDEX

INTRODUCTION

MVA-40X series measures air speed, temperature and humidity. It is ideal for spot measurements at air outlets on account of its 30mm vane. In addition to air speed and temperature, MVA-404 also measures air moisture and absolute pressure. In this way, air conditions can be reliably checked.

MAIN FEATURES

- ■ 30mm 6 plastics blade.
- ■ Measure from light air 0.4m/s
- ■ Humidity sensor (MVA-03, MVA-04 only)
- ■ Air flow calculate function.
- ■ Max/Min/Avg and data hold.
- ■ Auto power off with disable function.
- ■ Low battery indication. "▭▛"
- ■ Memory capacity: 99 records.
- ■ Memory recall function.
- ■ Backlight function.
- ■ Absolute Pressure Sensor(MVA-404 only).

FUNCTIONS CROSS TABLE

VEL: Air Velocity   TEMP: Temperature
FLOW: Air Volume   RH: Relative Humidity
99 REC: 99 memory   PRESSURE: Absolute Pressure

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	VEL	FLOW	99 REC	TEMP	RH	PRESSURE
MVA-02	●	●	●	●		
MVA-03	●	●	●	●	●	
MVA-04	●	●	●	●	●	●

DESCRIPTION
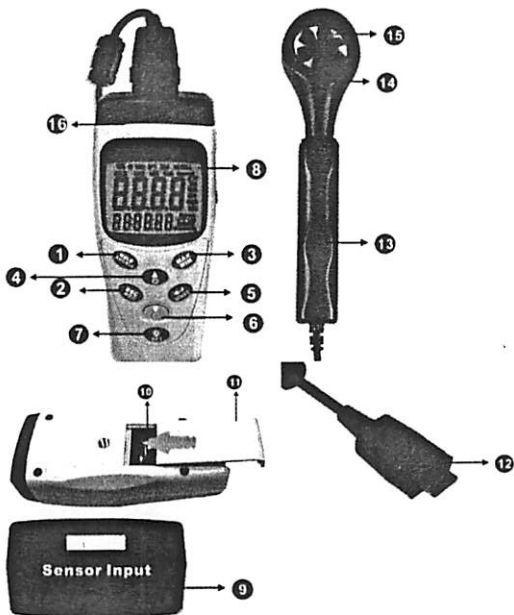
1. HOLD and RECALL key
2. ESC and REC key
3. MAX, MIN and AVG key
4. Select up and Auto shutoff key
5. Enter and UNIT change key
6. Select down and Power key
7. Backlight and Set Key
8. Display and backlight
9. Probes input
10. Battery placement
11. Battery cover
12. Probes plug
13. Probes hold
14. Probes sensor (Temperature/Humidity)
15. Blades
16. Internal Pressure Sensor (MVA-404)
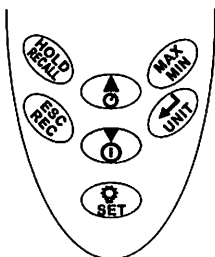
FULL DISPLAY

1. Primary display
2. Secondary display
3. Functional symbol display area
4. Lower battery indication.
5. Auto shutoff symbol indication.
6. Units of Primary display
7. Units of Secondary display

POWER ON/OFF

Press ⊙ key to turn on the meter. Press and
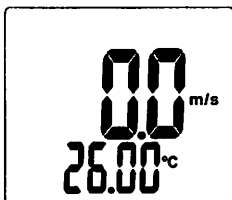
hold ⊙ key to turn off the meter.

- ■ *Do not turn off the meter manually while operating*
  Set , Unit change and recall mode.
- ■ *The key printing text in yellow stands for long press*
  (press and hold) to set up, recall, record, ...etc
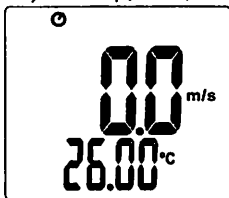
AUTO SHUTOFF

The device will auto shutoff in15 minutes inactivity.

To disable auto power off function, in normal

mode, press and hold ⊛ key until the icon ⊘ is

disappeared.

- ■ *Do not turn off the meter manually while operating*
  Set , Unit change and recall mode.

BACKLIGHT FUNCTION

Press ⚙SET key to turn on backlight. Press key
again to turn off backlight. The backlight will be
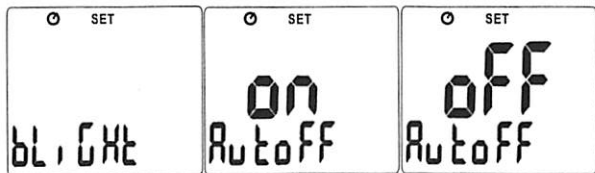unilluminated after 30 seconds.
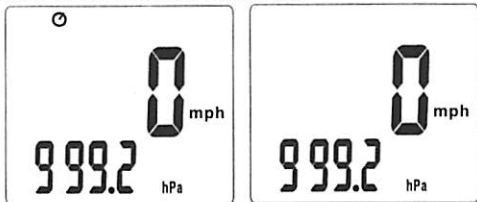
AUTO BACKLIGHT ON/OFF

Users can set on or off the 30-seconds auto-off
backlight

Press and hold SET key into setting mode.
Press ⓐ or ⓥ key to select BLIGHT setting,
as shown in figures. Press UNIT key into Backlight
setting. Press ⓐ or ⓥ key to select auto off
on or off. Press UNIT key to finish the setting mode.

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AIR VELOCITY MEASUREMENT

1.   Please insert probe plug onto the device sensor input socket at the top of the meter.

2.   Follow the arrow mark to target to the air sources to measure velocity. As shown below:
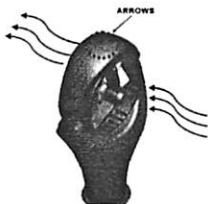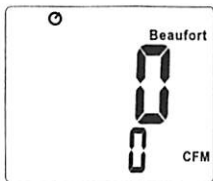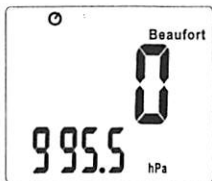

Please do not touch the blades by fingers or foreign body to avoid damage to the blades.

SECONDARY DISPLAY MODE

In the normal mode, press (▲) or (▼) key to change to secondary display mode. Selectable units are: RH% , CFM , hpa

■   *During the Humidity mode, wait couple minutes to acquire stable and accuracy humidity reading.*
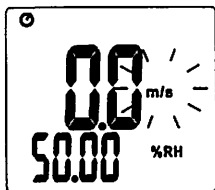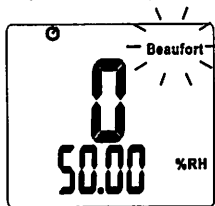
CHANGE UNITS

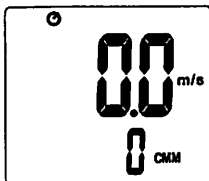Press and hold 🔘 key into the setting units mode.

While in the setting units mode, unit on LCD is

blinking, press 🔘 or 🔘 key to select desired

unit ,then press 🔘 key to save the setting.

Primary display units switch able among Beaufort,

kts, fpm, m/s, mph, kph.

AIR FLOW CALCULATION

Make sure the secondary display is in the flow
mode (CMM/CFM), the device will automatically
calculate air flow only when users entered the
area volume in advance.

SETTING AREA

Press and hold 🌼 key into the setting mode.
Press 🔼 or 🔽 key to select setting area
mode, as shown in figures. Press 🔘 key into the
setting area mode.

Digit is flashing for selecting the numbers from left
to right, press 🔘 or 🔘 key to adjust digits to
left or right. Press 🔼 or 🔽 key to increase or
decrease figures.

Users can press and hold 🔘 key to change
units (m^2 / ft^2) of area

Important Note!
- The units(m^2) setting range is 1.5 m^2 ~ 0.096 m^2.
- The units (ft^2) setting range is 16.15 ft^2 ~ 1.03 ft^2.
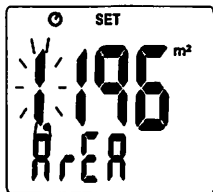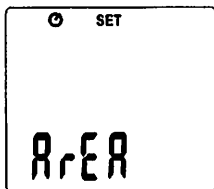
FREEZE DISPLAY (HOLD)

Users can press 🔘 key to freeze display, and
press 🔘 key again to release holding.

■ *This function is not available while in the set , unit*
  change and recall mode..

MAX/MIN/AVG RECORD

The meter may record maximum, minimum and
average readings. Viewing the figures by pressing
🔘key to hold the MAX, MIN, and AVG while
measuring. Press🔘key to switch viewing
among MAX, AVG and MIN.

■   *Press and hold🔘key to disable this function.*
    This function is not available while in the set , unit
    change and recall mode..
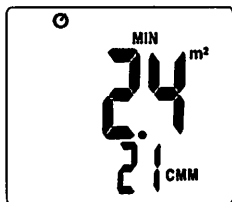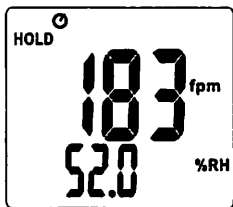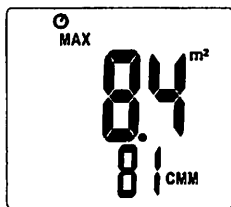
99 RECORDS

The meter can store air velocity data up to 99
records.

Press (REC) key to store current reading, the
number of the record will show on the LCD about
1 second. See below figure for reference.
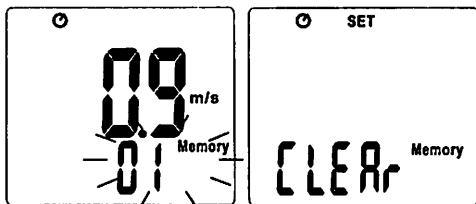
CLEAR MEMORY

When the memory (99 records) are full or you
want to clear memory data, please follow the
setup to clear memory. Press and hold (SET) key
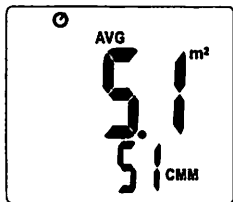into the setting mode, as shown in figures.
Press (▲) or (▼) key to select the clear memory
mode. Press (UNIT) key into the clear memory
mode. Now LCD shows "yes" to reconfirm.
Press (REC) key to leave or press (UNIT) key to clear
memory mode.

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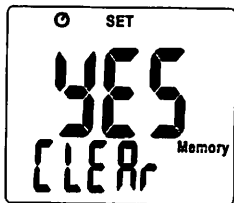
MEMORY RECALL

Users can recall the memory data to show on the display.

Press and hold 🔘 key into the RECALL mode.

The secondary display shows the memory number and primary display shows the stored velocity data.

Press 🔘 or 🔘 key to view last data or next data with memory number.

If you want to escape the recall mode, press and hold 🔘 key.
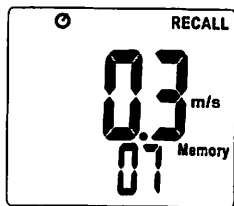
VIEW LCD/SOFTWARE VERSION

In the shutoff mode, press and hold ⟨ ⟩ key to
turn on meter, LCD will show the full display, then
the software version appears in one second, the
meter returns to normal mode for measurement.

TROUBLE   SHOOTING

■ "OL" is shown on the LCD
   Reasons: a) The input value is over-ranged
            b) The sensor is damaged
            c) Humidity probe is not plugged on
               (If it is under %RH mode)
   Action: a) Enter available value or figures.
           b) Return the meter to the store you
              purchased for sensor repaired.
           c) Plug with vane probe to get RH%

   Ex.
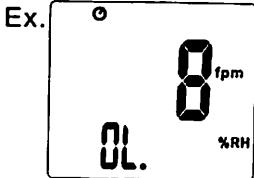
BATTERY REPLACEMENT

WARNING

If the symbol " ▭ " appears on the LCD, please replace the battery immediately

Turn off the meter and disconnect the probe before replacing the battery.
Use only the correct type of batteries, properly install in the case to power on the meter.

END OF LIFE

Caution: This symbol indicates that equipment and its accessories shall be subject to a separate collection and correct disposal.

SPECIFICATIONS

Velocity:

Unit	Range	Resolution	Accuracy
m/s	0.4~25	0.1	±2% +0.2
Km/hr(kph)	1.5~90	0.1	±2% +0.8
mph	0.9~55	0.1	±2% +0.4
Knots(kts)	0.8~48	0.1	±2% +0.4
ft/min(fpm)	79~4921	1	±2% +40
Beaufort	1~10	1	--

Air Flow Calculation:

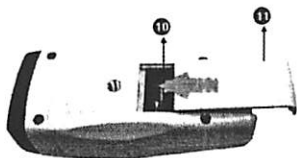| Unit	Range	Resolution	Accuracy
CMM	0~9999	1	–
CFM	0~9999	1	–

Temperature:

Unit	Range	Resolution	Accuracy
℃	-20~60	0.1	±1℃
℉	-4~140	0.1	±1.8℉

Humidity:

Unit	Range	Resolution	Accuracy
%RH	20~80	0.1	±3.5%RH
%RH	<20 , >80	0.1	±5%RH

Absolute Pressure:

Unit	Range	Resolution	Accuracy
hPa	350~1100	0.1	±2hPa
mmHg	263~825	0.1	±1.5mmHg
inHg	10.3~32	0.1	±0.1

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- Display: 42mm(W)*33mm(L) Monochrome LCD with backlight
- Battery: 9V (NEDA 1604、IEC 6F22 or JIS 006P)
- Battery Life : Approx continuous used 100 hours.
- Shutoff Rate Power: 3uA
- Operate Maximum Power: 25mA
- Operating temperature and humidity:5℃ to 40℃,below 80% RH.
- Storage temperature and humidity:-10℃ to 60℃, below 70%RH.
- Instrument dimensions: 130(L)*56(W)*38(H) mm. Weight: About 160g.
- Probe dimensions:195(L)*47(W)*30(H) mm. Cable length: 95cm. Weight: About 100g.
- Replacement probe:(Optional accessories) A-553 vane for MVA-02 A-554 vane for MVA-03, MVA-04
- Accessories:User's manual x1, 9V battery x1, Probe x1, Bag x1