

## Hotwire thermo-anemometer VT 110 – VT 115



### KEY POINTS

- Easy to use
- Adjustable backlight
- Automatic average
- Hold-min-max functions
- Selection of units
- Airflow calculation

### TECHNICALS FEATURES

<b>Measuring element</b>	<b>Hotwire air velocity:</b> thermistance with a negative temperature coefficient. <b>Ambient temperature:</b> NTC sensor
<b>Display</b>	4 lines, LCD technology. Sizes 50 x 36 mm. 2 lines of 5 digits with 7 segments (value) 2 lines de 5 digits with 16 segments (unit)
<b>Probes</b>	<b>VT 110:</b> Stainless hotwire probe <b>VT 115:</b> Telescopic hotwire probe bent at 90°
<b>Cable</b>	Straight, lenght: 2 m
<b>Housing</b>	ABS, protection IP54
<b>Keypad</b>	5 keys
<b>Conformity</b>	Directives EMC 2014/30/EU and EN 61010-1
<b>Power supply</b>	4 batteries AAA LR03 1.5 V
<b>Battery life</b>	180 hours
<b>Ambience</b>	Neutral gas
<b>Operating temperature (instrument)</b>	From 0 to +50°C
<b>Operating temperature (probe)</b>	From 0 to +50°C
<b>Storage temperature</b>	From -20 to +80°C
<b>Auto shut-off</b>	Adjustable from 0 to 120 min
<b>Weight</b>	250 g

### SPECIFICATIONS

Measuring units	Measuring range	Accuracy**	Resolution
<b>Velocity (hotwire)</b>			
m/s, fpm, km/h	From 0.15 to 30 m/s	From 0.15 to 3 m/s: $\pm 3\%$ of reading $\pm 0.05$ m/s	0.01 m/s
		From 3.1 to 30 m/s: $\pm 3\%$ of reading $\pm 0.2$ m/s	0.1 m/s
<b>Airflow</b>			
m <sup>3</sup> /h, cfm, l/s, m <sup>3</sup> /s	From 0 to 99 999 m <sup>3</sup> /h	$\pm 3\%$ of reading $\pm 0.03$ x area (cm <sup>2</sup> )	1 m <sup>3</sup> /h
<b>Temperature</b>			
°C, °F	From -20 to +80°C	$\pm 0.3\%$ of reading $\pm 0.25$ °C	0.1°C

\* Except class 110 S

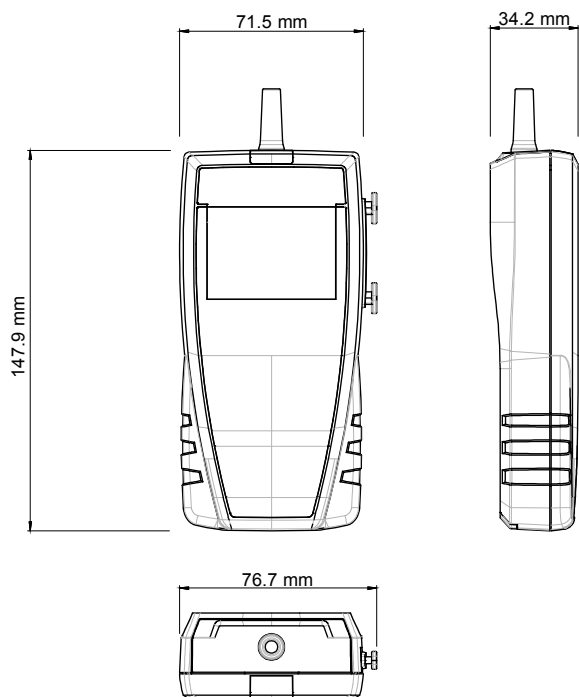
\*\* All accuracies indicated in this document were stated in laboratory conditions and can be guaranteed for measurements carried out in the same conditions, or carried out with required compensation.



### FUNCTIONS

- Airflow calculation
- Airflow calculation with cone
- Selection of units (air velocity, airflow and temperature)
- Hold function
- Display of minimum and maximum values
- Adjustable auto shut-off
- Backlight
- Selection of cone
- Dimensions of rectangular and circular duct
- Automatic average
- Air velocity compensation in atmospheric pressure

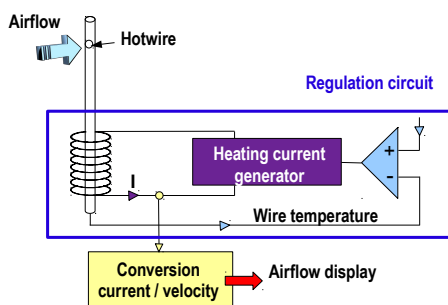
## DIMENSIONS



## OPERATING PRINCIPLES

### Hotwire anemometer

A wire is continuously heated at a superior temperature than ambient and continuously cooled by airflow. Constant temperature is maintained by a regulation circuit. The heating current is proportional to the airflow velocity.



### Thermometer: NTC probe

Probes with a negative temperature coefficient are thermistors with a resistance that decreases with the temperature, according to the equation below:

$$R_{(T)} = R_{(T_0)} e^{\left( \frac{\alpha}{100} \times (T_0 + 273.15)^2 \times \left( \frac{1}{T + 273.5} - \frac{1}{T_0 + 273.5} \right) \right)}$$

$R_{(T)}$  = resistance sensor value at temperature  $T$

$R_{(T_0)}$  = resistance value of the temperature sensor at reference  $T_0$

$T$  and  $T_0$  in °C

$\alpha$  and  $T_0$  sensor specific constants

## SUPPLIED WITH

- Instruments are supplied with:
- **VT 110:** Straight hotwire probe
- **VT 115:** Telescopic hotwire probe bent at 90°
- Calibration certificate\*
- Transport case (ref: ST 110)



\* Except class 110 S

## ACCESSORIES

**CQ 15:** Magnetic protective housing



**K 35 – 75 – 120 – 150:** Airflow cone



**MT 51:** ABS transport case



## MAINTENANCE

We carry out calibration, adjustment and maintenance of your instruments to guarantee a constant level of quality of your measurements. As part of Quality Assurance Standards, we recommend you to carry out a yearly checking.

## GUARANTEE

Instruments have 1-year guarantee for any manufacturing defect (return to our After-Sales Service required for appraisal).