

# VM-10

## Rapid Intervention Capnograph



Small and portable



High degree of protection



Sound and light double alarm



## Overview

The VM-10 veterinary end-respiratory capnograph is designed to provide continuous monitoring of the end-tidal CO<sub>2</sub> concentration (EtCO<sub>2</sub>), capnography, and respiration rate (RR) of animals.



# Features

**Power supply: 2XAAA battery/lithium battery; Small but not simple, plug and play; Intelligent data transfer.**



**Power On/Off Button**

Turn off CapnoCOP by pressing the button "⏻" for 3s;

Press the "⏻" button to mute the alarm;

**Configuration**

Press the "↑" "↓" button to configure CapnoCOP.

**Zero calibration**

Press and hold "⏻" "↓" together to trigger the Zero Calibration process.

**Airway Adapter**

Large animals  
Small animals

**Parameter Display**

EtCO2  
AwRR  
Capnogram

**Status Display**

Bluetooth  
Battery status

- High standard Accuracy CO2 measurement by dual wave length
- Visual and audible (buzzer) alarm
- Splash proof and rugged design for use in harsh conditions
- Real-time Capnogram display
- 4 buttons for convenient settings adjustments, alarm pause and power on/off
- Up to 4 hours continuous use
- Adjustable Sweep speed
- Large animals and small animals airway adapters
- Selectable units mmHg, kPa, %
- Ultra lightweight
- Apnea detection and adjustable
- No annual routine calibration required
- Configurable alarms for Respiration rate alarm, EtCO2 high and low, clogged or missing adapter
- Support english, italian, french, hungarian, polish (other language upon request)
- Low battery indicator
- Bluetooth connectivity to export real time data



# Specifications

## Mechanical and Environment

Dimensions	60 x 47 x 43 mm (2.36 x 1.85 x 1.69 inches)
Weight	~80 g (complete device with batteries), < 350grs with transport pouch.
Mechanical robustness	Meets the shock and vibration requirements for transport of SS-EN ISO 21647:2004 clause 21.102
Temperature and Humidity	Operating: -5 to 50°C, 10 to 90% RH, non-condensing Storage: -30 to 70°C, <90% RH, non-condensing
Atmospheric pressure	70 - 120 kPa

## EtCO<sub>2</sub> Measurement

Transducer Type	Mainstream CO <sub>2</sub> Monitor
Measuring method	Dual-wavelength, non-dispersive infrared spectroscopy
Initialization Time	Capnogram, displayed within few seconds at an ambient temperature of 25°C, and full specifications within 1-2 minutes especially if temperature below 15°C
CO <sub>2</sub> Measurement Range	0 to 99 mmHg, 0 to 9.9%, 0 to 9.9 kPa
CO <sub>2</sub> Accuracy	±(0.2% + 2% of reading)
Total system response time	< 1s
Calibration	No routine user calibration required. An airway adapter zero is required when changing to a new airway adapter
Recovery time after defibrillator test	Unaffected

## Respiration Rate Measurement

Respiratory rate Range	0~150 Breaths Per Minute (BPM)
Respiration Rate Accuracy	±1BPM
Breath detect	Adaptive threshold, minimum 1 % CO <sub>2</sub> change
Airway Adapters	< 5 cc dead space ( large animals), < 1 cc dead space( small animals )

## Animals Machin Interface

Display	Active OLED color graphic display, 65 000 colors, 128 x 128 pixels Multi-languages(English, French, Italian, Hungarian, polish and more to be supported)
Front Panel Buttons	4 buttons: power on/off, alarm pause, up/down selection
Alarms	No Adapter, Clogged Adapter, No Breath Detected, High AwRR, Low ETCO <sub>2</sub> , High ETCO <sub>2</sub> , Temperature out of range, Atmospheric pressure is over operating range, Low Battery





## Power Specifications

External Supply	None
Power Consumption	TBD
Batteries	Two AAA Cell batteries (2x1.5VDC): Alkaline IEC:LR03 or Energizer Ultimate Lithium L92 batteries. Use of other Lithium batteries may present a risk of fire or explosion
Battery life time	Duracell Plus Alkaline: ~4 hours Energizer Ultimate Lithium L92: ~7 hours

## Regulatory Compliance

Certificate	CE
Standards compliance	IEC 60601-1:2012 IEC 60601-1-8:2012 IEC 60601-1-12:2014 ISO 80601-2-55:2018

## Interfaaces

Part Number	Designation		Included with device
CapnoCOP	CapnoCOP module	1	
M401D-AL	Disposable Large animal airway adapter	1	
M401D-N	Small animal airway adapter	1	
RIC-P	Pouch	1	
RIC-L	Lanyard	1	
RIC-LI	Lithium battery	1	(contain)

\* The data is subject to change without notice. Please refer to the manual for the contraindications and precautions

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