



## **OPERATOR'S MANUAL**



### **PIPPA Breathing Monitor**

**General Safety Information:**

- Read the Operator Manual prior to use.
  - The PIPPA is a monitoring device strictly for the purpose of monitoring the breathing rate of a patient, and should not be used for any other purpose.
  - Do not use the monitor in the presence of radio, short-wave, microwave, x-ray, high frequency or electro-magnetic radiation, as readings may be affected.
  - Do not use the monitor in the presence of flammable gases, anaesthetic gases or mixtures.
  - Keep the monitor and sensors away from direct heat.
  - Do not autoclave the monitor or sensors.
  - Use only c-Lect sensors.
  - All PIPPA PEP sensors are strictly for single patient use only and cannot be sterilised and re-used.
  - Use only AA 1.5V alkaline batteries.
  - If the monitor is stored away for periods of 1 week or more, the batteries should be removed to stop them discharging whilst the monitor is not in use.
  - Clean the unit using a damp cloth with either warm water or a disinfection fluid (use the minimum concentration of fluid as specified by the manufacturer). Do not submerge the unit in liquid to clean. Do not use any solvents or abrasive substances.
  - Warranty will be void if the unit is dismantled by anyone other than the manufacturer.
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**Checklist:**

If the packaging is received damaged, please contact the local distributor.

Prior to use, please check that the PIPPA breathing monitor kit (1610000) includes:

Qty	Description	Part Number
1	PIPPA breathing monitor.	1610100
1	Patient lead (monitor→sensor).	1610200
1	Carrying case.	1620010
1	Battery pack (AA, 1.5V, alkaline), Pack of 2.	1650000
1	Sensors (universal), Pack of 5 x 1650009.	1650010
1	Mask (Flexicare) with integrated sensor, Pack of 5 x 1650049.	1650050
1	Operator manual.	1690000

**Installing the batteries:**

1. Remove the two “AA” 1.5V alkaline batteries from the packaging.
2. Remove the battery cover from the rear of the PIPPA monitor.
3. Place the batteries into the battery compartment making sure to install them the correct way as shown below.



4. Replace the battery compartment cover and lock the latch into place.

The PIPPA Breathing Monitor is a hand held device, for monitoring the breathing rate of a patient under a variety of conditions.

**Applications for use include:** General patient monitoring,  
Oxygen therapy,  
Epidurals,  
Continuous spinals,  
PCA,  
Nebulised medications.

**Areas of use include:** Accident & Emergency,  
Paramedic Ambulances,  
Acute Medical Wards,  
Respiratory Unit,  
Obstetrics Unit,  
High Dependency Units,  
Postoperative Wards,  
Recovery Ward,  
Operating Theatres.

The PIPPA breathing monitor is designed for use with an oxygen mask fitted with a PEP sensor.

There are two main types of compatible PEP sensors:

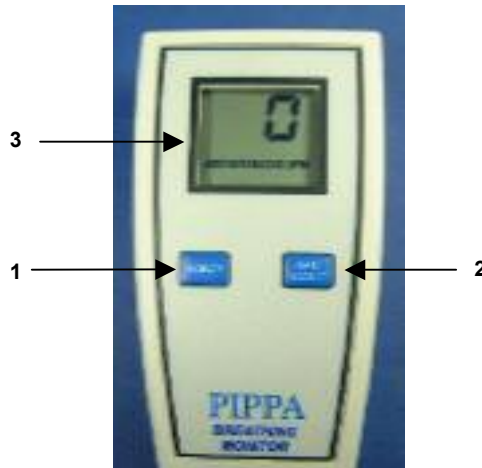
- The **Mask Integrated Sensor** \*, already fitted into an oxygen connector and mask.
- The **Universal Sensor** \* which can be fitted to any type of oxygen mask using an adhesive backing and then simply plugged into the PIPPA breathing monitor.

\* See 'Sensor application in masks' section for more information on the use of PEP sensors.

With the patient breathing oxygen via a mask with the selected PEP sensor fitted, the patient lead (part number 1610200) can be used to connect the PIPPA breathing monitor to the socket of the sensor.

Switch the PIPPA on using the 'Power' button and select the type of monitoring required using the 'Rate Select' button; either instantaneous breaths per minute (IBPM) or averaged breaths per minute (ABPM).

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1. **Power button:** Switches the monitor on or off.  
The monitoring mode on switch on is INSTANTANEOUS BPM.
2. **Rate Select:** Allows the operator to select either INSTANTANEOUS BPM or AVERAGE BPM. Pressing Rate Select when in alarm will cancel the alarm for a period of 15 seconds.
3. **Display screen:**  
Shows Breaths per minute (BPM) rate from 0 to 99.  
Shows whether the monitor unit is in AVERAGE BPM mode or INSTANTANEOUS BPM mode.  
Shows BATTERY LOW when the batteries need to be replaced.



**Monitoring Modes:**

**Instantaneous BPM (IBPM):** The calculated breathing rate based on the measured time interval between the last two detected breaths.

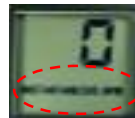
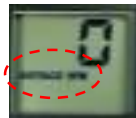
**Average BPM (ABPM):** The calculated breathing rate based on the measured time intervals between the last four detected breaths.

**Alarms & Limits:**

- The minimum breathing rate limit is pre-set to 8 BPM.
- The maximum breathing rate limit is pre-set to 30 BPM.

An audible and visual alarm is activated if the calculated breathing rate in either Instantaneous BPM (IBPM) or Averaged BPM (ABPM) falls outside the pre-set alarm limits.

When in alarm, the sounder beeps in time with the flashing of the monitoring mode caption on the display screen.



Pressing Rate Select in alarm mode will cancel the alarm for a 15 seconds period.

The alarm will stop if the breathing rate returns to normal (8 – 10 BPM).

The alarm will also sound if a sensor is not connected within 15 seconds.

A 'low battery' alarm will sound with the LOW BATTERY indicator on the display screen when the batteries need replacing.

Refer to 'Set up and Checklist' for details of replacing batteries.

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**Application of Sensors in Oxygen Masks****Mask Integrated Sensor** (part number: 1650049):

The Mask Integrated Sensor comes fitted complete with the facemask and requires the operator to simply connect the patient lead (supplied with the PIPPA breathing monitor, part number 1610200) into the socket on the facemask connector as shown below.



Mask Integrated Sensor.



PIPPA connected to a Mask Integrated Sensor with mask via the patient lead.

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### Application of Sensors in Oxygen Masks

**Universal Sensor** (part number, 1650009):



**Important:** Ensure there are no obstructions

The Universal Sensor is intended for use in a variety of oxygen masks. The sensor must be applied to the facemask to allow the patients breath to fall upon the sensor surface **without any obstruction**. Placing such that the sensor slightly overhangs the oxygen inlet hole would be an ideal location.

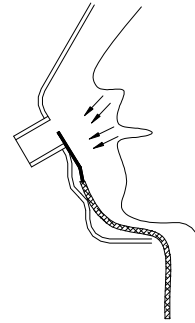
#### Connection:

Remove adhesive tape backing and affix the sensor to the oxygen mask inner surface.

The patient lead supplied with the PIPPA breathing monitor directly connects into the socket on the bottom of the disposable sensor cable.



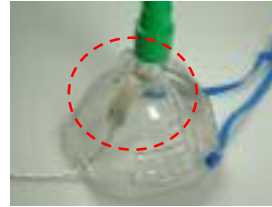
PIPPA connected attached to a Universal Sensor via the patient lead.



Correct sensor location in the path of exhaled breath.



Typical Universal Sensor locations in a variety of masks:



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**Specifications:**

Dimensions	Length	140 mm
	Width	64 mm
	Height	32 mm
	Weight	0.13 Kg
Device Characteristics	Modes of operation	Instantaneous breathing rate
		Averaged breathing rate
	Display indications	INSTANTANEOUS BPM
		AVERAGE BPM
		LOW BATTERY
	Breathing rate range	2 digits (0 – 99 breaths per minute)
	Resolution	1 breath per minute
	Accuracy	± 1 breath per minute
Power	Response time	4 breaths per minute
	Alarms	Below 8 breaths per minute (4.8 seconds between breaths)
		Above 30 breaths per minute (20 seconds between breaths)
		Low battery
	Voltage	3V DC
		2 x AA, 1.5V (alkaline)
	Batteries	
Environmental	Operating temperature	0 - 40 °C
	Storage temperature	0 - 30 °C
	Operating relative humidity	100% non condensing
	Storage relative humidity	100% non condensing
	Waterproofing	Splash proof to IP43
	Cleaning and disinfection	No special procedures

\* Specifications are subject to change without notice.

**Warranty:**

The PIPPA breathing monitor is guaranteed for 12 months from the date of purchase.

This excludes sensors, which are designed for single patient use and will be irrevocably damaged if sterilisation is attempted.

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