

# Gastro<sup>+</sup> Gastrolyzer<sup>®</sup>



Breath hydrogen (H<sub>2</sub>) monitor



The Gastro<sup>+</sup> Gastrolyzer is used to measure hydrogen levels in expired breath. It is intended for multi-patient use by healthcare professionals in a clinical environment to aid in the detection of gastrointestinal disorders.



scientific contributions to health

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# Gastro+ Gastrolyzer®

## Hydrogen and gastrointestinal disorders

Hydrogen (H<sub>2</sub>) is generated in the intestinal lumen by bacterial action on carbohydrates in the large or small intestine. This resultant H<sub>2</sub> diffuses into the bloodstream and then to the alveoli, after which it can be detected in expiratory air. Levitt (1969)<sup>1</sup> demonstrated the correlation between intestinal lumen H<sub>2</sub> production and H<sub>2</sub> excretion in expiratory air. Thus, accurate measurement of H<sub>2</sub> in parts per million (ppm) in expiratory air reveals abnormal breakdown and/or malabsorption of carbohydrates.

<sup>1</sup> Levitt, M.D. (1969); Production and excretion of hydrogen gas in man. New Engl. J. Med. 281:122-127

## Breath hydrogen monitor

The Gastro+ Gastrolyzer is used to measure hydrogen levels in expired breath to reveal abnormal breakdown and/or malabsorption of carbohydrates as well as other gastrointestinal disorders.

The monitor is easy to use and interpret, with a colour touch-screen which shows instant breath hydrogen results which can be viewed in both a table or graphical format.

To obtain a breath sample, either a mouthpiece or facemasks for adults or paediatrics can be attached to the monitor. To ensure infection control is maintained the mouthpiece and facemask should be changed after every breath test.

## Benefits

- Allows clinicians the opportunity to offer a low-cost, quick and reliable test to people suffering gastrointestinal symptoms
- Instant results. No need to send laboratory samples as result is shown instantly in ppm on the colour screen
- Results are available in both tabular and graphical format making them easy to read and interpret
- Quick warm up time ensuring no time is wasted waiting to commence test in clinic
- Surgically non-invasive monitor ideal for use with paediatrics or adults
- Easy to calibrate by non-technical personnel with pictorial guide on monitor

## Applications

- Lactose malabsorption
- Lactose intolerance
- Carbohydrate malabsorption and breakdown deficiency
- Bacterial overgrowth
- Sucrose malabsorption
- Fructose malabsorption
- Sorbitol malabsorption
- Intestinal transit time



## Calibration and servicing

The Gastro<sup>+</sup> requires calibrating at least every three months. The Gastro<sup>+</sup> will give a reminder when calibration is due during start-up of the monitor. Calibration is easy to achieve by non-technical staff with Bedfont's own calibration kit.

The Gastro<sup>+</sup> must be calibrated with Bedfont 100ppm hydrogen in air gas. This is available direct from Bedfont in a 20 litre and 110 litre canister for approximately 10 and 200 calibrations respectively. A range of annual service packages are also available.



## Technical Specification

Concentration Range	0-500ppm hydrogen (H <sub>2</sub> )
Display	Colour LCD with 1ppm increments
Detection principle	Electrochemical sensor
Accuracy (repeatability of reading)	± 5%
Carbon monoxide cross-sensitivity	<2%
Batteries	3xAA (LR6 or equivalent) alkaline batteries
Response time	Typically <45 seconds
Operating temperature range	0-40°C (Storage 0-50°C)
Operating humidity	10-90% (Storage 0-95%) non-condensing
Sensor operating life	2-3 years, 6 months warranty
Sensor sensitivity	1ppm
Dimensions	Approx 44 x 77 x 138mm
Weight	Approx 250g including batteries
Construction	Case - Polycarbonate/ABS blend with elastomeric overmould D-piece - Polypropylene

## Consumables

Bedfont Scientific supply a range of consumables to complement your Gastro+ Gastrolyzer. It is recommended that you use Bedfont consumables for optimum performance from your monitor.



### 1 Flatpak Mouthpieces

The Flatpak mouthpiece has revolutionised the world of breath monitor mouthpieces. These mouthpieces take up less than a tenth of the space of normal cardboard mouthpieces. They are also packed in batches of 25 to reduce handling and the risk of cross-infection and are available in boxes of 50 or 250.

### 2 D-pieces

The D-piece incorporates a one-way valve to prevent air being drawn back from the monitor. The breath then passes through an infection control filter, proven to remove and trap >99.9% of airborne bacteria<sup>2</sup>. This system further reduces the risks of cross infection and protects the instrument from contamination.

<sup>2</sup> Health Protection Agency (HPA), Porton Down, Report No 43/06, pp.10-11

### 3 Facemasks

Single-use infant, child and adult facemasks for breath sampling with paediatrics and unconscious patients, supplied individually wrapped.

### 4 Y-piece

Single-use breath sampling system for use with facemasks.

## Instrument Cleansing Wipes

Bedfont provide instrument cleansing wipes for the instrument and external D-piece surfaces. Cleaning products containing alcohol should never be used, as they could affect the accuracy of the instrument. It is recommended that wipes are used for one surface only.

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