

Non-invasive breath analysis for the detection of gastrointestinal disorders with the Gastrolyzer® range

NEW



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Improving quality of life, one breath at a time.

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Hydrogen Breath Testing (HBT)

HBT is a non-invasive, sensitive and specific means of diagnosing small bowel sugar malabsorption. They make use of gut bacteria's ability to digest sugars and convert these to hydrogen, which is then absorbed into the blood and can be measured in exhaled breath¹.

The test is commonly used in paediatric and adult gastroenterology departments to diagnose malabsorption of the sugars lactose, fructose and sucrose. It is also used to investigate small intestinal bacterial overgrowth (SIBO)².

The Gastrolzyzer range is world renowned for delivering accurate hydrogen breath testing, cited by clinical leaders in gastroenterology, such as Robert Heuschkel³ and Way Seah Lee⁴.



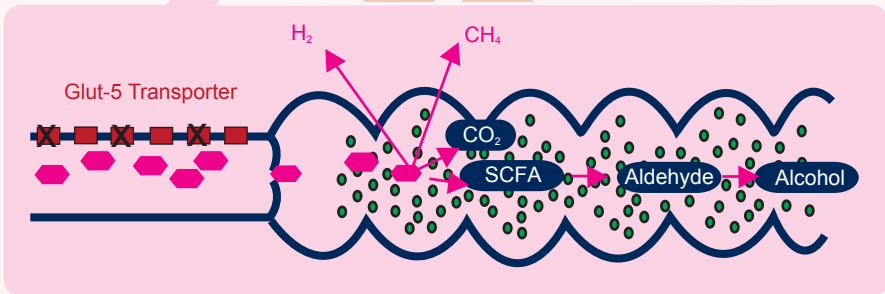
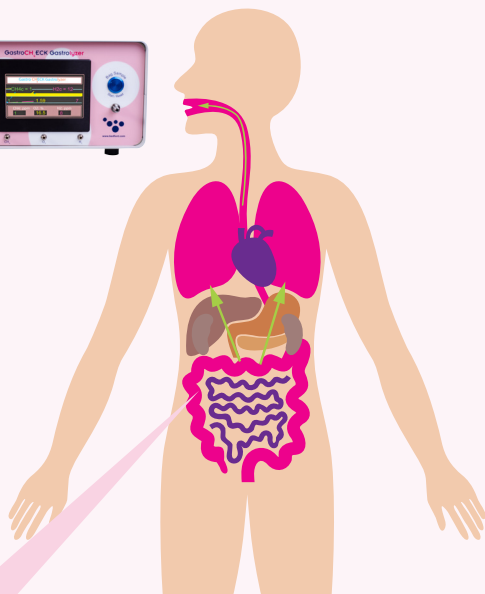
For more information on this product call us now

The role of Methane alongside hydrogen breath testing (HMBT)

A percentage of patients do not produce hydrogen and therefore would not be diagnosed by the use of HBT alone. Therefore the role of GastroCH₄ECK™ is to ensure that patients who are non-hydrogen producers but produce methane or a combination of both, are not misdiagnosed.

“Medical literature shows that the level of methane producers varies by gender and population group, from approximately 33-41%^{5,6,7”}

How H₂ & CH₄ is produced



Gastro⁺™ Gastrolyzer[®]

The Gastro⁺™; the easy to use, complete breath hydrogen monitor, with two sampling modes.



Aids in the detection of:

Food Intolerances

Irritable Bowel Syndrome (IBS)

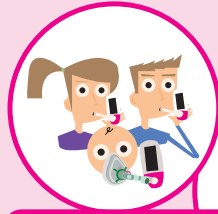
Small Intestinal Bacterial Overgrowth (SIBO)

FREE

GastroCHART™ software

Ideal for:

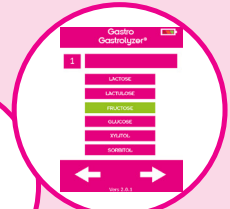
- Gastroenterologists
- Gastro paediatricians
- Dieticians
- GP's
- Endoscopy departments



Multiple patient testing



Create and save patient details



Built in testing protocol

Facemask sampling system

This sampling system is recommended for use with younger or older patients who are unable to co-operate with the test. The Gastro⁺ is attached to a facemask, which is then placed over the mouth and nose of the patient. Once 'Facemask' mode is selected, the Gastro⁺ will take a real-time reading until the result stabilises. The reading is then held on the screen and can then be saved to a patient profile, downloaded to the GastroCHART™ database or recorded manually.



For more information on this product call us now

Features and Benefits

- Brand new easy to use interface
- Maintenance reminders
- Only needs calibrating quarterly
- Create and store patient details
- Multiple patient testing
- Built in testing protocols with built in countdown timer
- Large touch screen
- SteriTouch® technology to kill off harmful bacteria
- Comes with GastroCHART™ software



Technical Specification:

Concentration range:	0-500ppm hydrogen (H ₂)
Display:	Full colour touchscreen
Detection principle:	Electrochemical sensor
Accuracy (repeatability of reading):	± 10% difference on consecutive reading
Carbon monoxide cross-sensitivity:	<1%
Batteries:	3 x AA (LR6 or Equivalent) 1 x CR2032 Lithium coin cell
Response time:	<45 seconds
Operating temperature range:	15-35°C (Storage 0-50°C)
Operating/Transport/Storage Pressure	800-1200 mbar
Operating humidity:	10-90% (Storage 0-95%) non-condensing
Sensor operating life:	2 years
Sensor sensitivity:	1ppm
Dimensions:	Approx. 34 x 75 x 140 mm
Weight:	Approx. 200g including batteries
Construction:	Case- Polycarbonate/ABS blend with elastomeric overmould. D-piece- Polypropylene

Mouthpiece sampling system

This sampling system is recommended for use with adults or patients able to hold their breath for a short period of time. The patient takes a deep breath in, holds, then exhales slowly through a sampling system. Within 45 seconds their result will be displayed on the screen and can then be saved to a patient profile, downloaded to the GastroCHART™ database or recorded manually.



Gastro⁺™ Consumables

Steribreath™ Mouthpieces - The steribreath™ mouthpieces are individually wrapped to provide optimum infection control.

Order code - STERIBREATH-MP



D-Piece™ - 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 bacteria⁸.

Order Code - D-PIECE-2 (12 per box)



Face Mask Sampling System - This sampling system is single patient use and allows the patient to breath normally through a face mask in order to produce a breath sample.

Order Code - ISSA-V (1 sampling kit)



Monitor Cleaning wipes - Free from alcohol, ensuring the continued performance of your monitor.

Order Code - WIPE-V (pack of 50)



Calibration Kit - The Gastro⁺™ requires calibration quarterly using 100ppm H₂ gas, provided as a kit or replacement cylinder.

Order Code: 012-14-12010K-V (KIT)

012-14-12010-V (replacement cylinder)



For more information on this product call us now

GastroCH₄ECK™ Gastrolyzer® Features

O₂ Reading Correction
for accurate results with every test

Real-time Reading Graph
motivates patients and gives instant results



Direct line Breath Sampling
for instant results

Breath Bag Sampling
for simultaneous testing of larger groups

GastroCH₄ECK™ Gastrolyzer®

Accurate and real-time combined CH₄, H₂ and O₂ monitoring

The GastroCH₄ECK™ a portable breath CH₄, H₂ and O₂ monitor, allows health professionals to accurately detect a range of gastrointestinal disorders. An O₂ reading is taken to motivate patients to provide an end-tidal sample. If the sample is not adequate the GastroCH₄ECK™ will automatically correct the reading saving the patient from embarrassment and eliminates the need to carry out another test.

Applications

The GastroCH₄ECK can be used as an aid to diagnose the following disorders:

- Carbohydrate Breakdown Deficiency
- Carbohydrate Malabsorption
- Lactose Intolerance
- Bacterial Overgrowth
- Determination of time passage through gut

Features / Benefits

- Direct line breath sampling for instant results.
- Breath bag sampling for simultaneous testing of larger groups.
- Requires calibration just once per month, saving time and calibration gas costs.
- Fast warm up time of less than 30 minutes.
- O₂ correction for accurate results.
- Real-time reading graph shown on screen to motivate patients and give instant results.
- Consumables contain anti-bacterial filters for optimum infection control.

“Medical literature shows that the level of methane producers varies by gender and population group from approximately 33-41%^{5,6,7”}

For more information on this product call us now

GastroCH₄ECK™ Technical Specification:

Power Supply:	Mains power 230 V [110 V compatible]
Warm-up time:	30 minutes
Calibration frequency:	Once a month
Detection Principle:	Electrochemical and Optical sensors
Operating temperature:	15 - 35 degrees °C
Operating/Transport/Storage Pressure	0-40 °C
Operating Humidity:	30 – 75% non condensing
Dimensions:	300 x 265 x 140 mm
Weight:	Approx. 6kg
Gases measured:	CH ₄ (Methane) H ₂ (Hydrogen) O ₂ (Oxygen)
Range:	CH ₄ 0 – 200 ppm, H ₂ 0 – 200 ppm, O ₂ 0 – 100%
Accuracy:	
CH ₄	Resolution: 1 ppm Accuracy: +/- (10% of reading)*
H ₂	Resolution: 1 ppm Accuracy: ± 10%**
O ₂	Resolution: 0.1%

*Conditions during factory calibration, typically 20°C, 1,000

**Calibrated and used at the same temperature

'If you are serious about providing a Gold Standard breath testing service, the Bedford GastroCH₄ECK™ system is essential, as without methane monitoring you will be missing very important clinical information and increase your percentage of false negative tests. It is also very important to map patients symptoms prior to and during the test to make sure the clinical translation of the physiological findings are maximised'.

Dr Anthony Hobson from The Functional Gut Clinic, London, UK.

GastroCH₄ECK™ Consumables

GastroCH₄ECK™ Mouthpieces - specifically designed with the latest moisture removal and bacterial filtration to remove 99.9% of airborne bacteria from the patient's breath.⁸ GastroCH₄ECK™ mouthpieces are 'per patient use' so can be used for the duration of a patients testing procedure and disposed of. DO NOT REUSE AFTER THE 1ST DAY OF TESTING.



Order code - GASTROCHECK-MP (box of 250)

GastroCH₄ECK™ Breath Bags - specifically designed to capture as much end-tidal air as possible, with a one-way mouthpiece to prevent loss of sample. GastroCH₄ECK™ breath bags are 'per patient use' so can be used for the duration of a patients testing procedure and disposed of. DO NOT REUSE AFTER THE 1ST DAY OF TESTING.



Order Codes - GASTROCHECK-BAG (250 breath bags and bag mouthpieces)

Moisture Removal Filters - for use with the breath bag sampling mode. These will last for approximately 150 samples and need to be changed when the filter changes from orange to dark green.



Order Code - GASTROCHECK-DESS (single moisture removal filter)
GASTROCHECK-DESS-XL (Pack of 5 moisture removal filters)

Calibration Kit - The GastroCH₄ECK™ requires calibration once per month using 100ppm H₂, 100ppm CH₄ & 20.9% air provided as a kit or replacement cylinder.



Order Code - GASTROCHECK-CAL-KIT (34ltr canister)
GASTROCHECK-CAL (replacement cylinder)

¹Ledochowski, M. and Ledochowski, L. (2011) Hydrogen Breath Tests. 2nd Edition edn. Austria: Verlag Akademie für Ernährungsmedizin GmbH.

²Eisenmann, A., Amann, A., Said, M., Datta, B. and Ledochowski, M. (2008) 'Implementation and interpretation of hydrogen breath tests', *Journal of Breath Research*, 2(4), p. 045002.

³Shelley, H., Brennan, M. and Heuschkel, R. (2009) 'Hydrogen breath testing in children: What is it and why is it performed?', *Gastrointestinal Nursing*, 7(5), pp. 18–27

⁴Lee, W., Davidson, G., Moore, D. and Butler, R. (2000) 'Analysis of the breath hydrogen test for carbohydrate malabsorption: Validation of a pocket-sized breath test analyser', *Journal of Paediatrics and Child Health*, 36(4), pp. 340–342.

⁵Roccarina, D., Lauritano, E. C., Gabrielli, M., Franceschi, F., Ojetti, V. and Gasbarrini, A. (2010) 'The role of methane in intestinal diseases', *The American Journal of Gastroenterology*, 105(6), pp. 1250–1256.

⁶Pitt, P., de Bruijn, K. M., Beeching, M. F., Goldberg, E. and Blendis, L. M. (1980) 'Studies on breath methane: The effect of ethnic origins and lactulose', *Gut*, 21(11), pp. 951–954.

⁷Di Stefano, M. and Corazza, G. R. (2009) 'Role of hydrogen and methane breath testing in gastrointestinal diseases', *Digestive and Liver Disease Supplements*, 3(2), pp. 40–43.

⁸Health Protection Agency (HPA). Porton Down, Report No. 43/06. pp. 10–11.

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GastroCHART™ Patient Database (included with every Gastro+™ & GastroCH₄ECK™)

The GastroCHART™ is designed specifically for use with the Gastro+™ and GastroCH₄ECK™. With the Gastro+™, the software is integrated and allows the health professionals to save up to 10 patients on the monitor for satellite breath tests. If the Gastro+™ or GastroCH₄ECK™ are connected to a PC, readings can be downloaded to an unlimited patient database immediately.

The readings can then be shown in tabular format or in a graph to show whether the patient has presented a positive/negative result. Results can be easily printed for the patient to retain and for record in their medical history.





Contact Bedfont or one of our worldwide **Gastrolyzer®** distributors for a free demonstration

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E-mail: ask@bedfont.com

A full list of our worldwide distributors can be found at
www.bedfont.com/distributors/

Breath analysis is the new blood test.

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