

GastroCH₄ECK™

CH₄ (Methane), H₂ (Hydrogen) and O₂ (Oxygen) Monitor

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

A new member of the Gastrolyser® family is due to be launched at the end of 2011. The GastroCH₄ECK™ 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 into providing an end-tidal sample. If they are unable to do this the GastroCH₄ECK™ will automatically correct the reading saving the patient from embarrassment and having to carry out another test.

Features / Benefits

- Online breath sampling for instant results
- Breath bag sampling for simultaneous testing of larger groups
- Requires calibration just once per month, saving precious time and calibration gas costs
- Fast warm up time of less than 20 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 has shown that the level of non-hydrogen producers ranges from 5-43%”¹



Applications

The GastroCH₄ECK combined methane and hydrogen breath monitor can be used to detect:

- Fructose intolerance and fructose malabsorption
- Lactose intolerance and lactose malabsorption
- Irritable bowel syndrome (IBS)
- Small intestinal bacterial overgrowth (SIBO)
- Intestinal transit time
- Sucrose intolerance and sucrose malabsorption
- Sorbitol malabsorption

breath analysis is the new blood test

Specification

Power Supply:	Mains power 240 V [110 – 240 compatible]
Warm-up time:	< 20 minutes
Calibration frequency:	Once a month
Detection Principle:	Electrochemical and Optical sensors
Operating temperature:	0 – 40 degrees C
Operating Humidity:	0 – 100%
Dimensions:	300 x 265 x 140 mm
Weight:	Approx. 6kg

Gas Ranges

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: +/- (5% of range or 5% of reading) ¹
	H ₂	Resolution: 1 ppm Accuracy: ± 5%
	O ₂	Resolution: 0.1% Accuracy: +/- 2% full scale
Test time:	CH ₄	Typically <45 seconds
	H ₂	Typically <45 seconds
	O ₂	Typically <45 seconds

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

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ISO 9001:2008
Cert No. FM 31664
ISO 13485:2003
Cert No. MD 502905

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Breath Bags

Specifically designed for use with the GastroCH₄ECK™

The GastroCH₄ECK™ breath bags have been specifically developed to capture as much end-tidal sample as possible. Breath can also be stored in these bags for up to one month with no loss of concentration, making them ideal for remote testing and analysing later.

One-way breath bag mouthpieces are supplied to ensure no loss of sample and increased infection control.

Breath bags are single patient use only



Specification

Dimensions	340mm x 100mm
Sample size	450ml

Online breath sample mouthpieces

Specifically designed for use with the GastroCH₄ECK™

The GastroCH₄ECK™ on-line breath sample mouthpieces enable patients to exhale directly into the monitor with instant results. The mouthpiece itself is specifically designed with the latest bacterial filtration to remove 99.9% of airborne bacteria and any moisture from the patient's breath.

Mouthpieces are single patient use only



Specification

Dimensions	64mm x 37mm
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Moisture Removal Filter

Specifically designed for use with the GastroCH₄ECK™

The GastroCH₄ECK™ breath bag sampling filters remove both moisture and bacteria from the breath sample. This protects the GastroCH₄ECK™ from moisture damage and contamination, providing excellent infection control.

The filter will gradually change colour from orange when dry to dark green when saturated with water in order to indicate when replacement is required. Unlike some drying materials, Bedfont use only non-carcinogenic drying methods for optimum safety.



Specification

Moisture content at 145 degrees C:	2.0% maximum
Absorption capacity at 50% relative humidity, 25 degrees C:	23% minimum
Typical Properties:	
Indicator content:	0.2% w/w
Bulk density:	700-800 grams/litre
BET surface area:	>600 m ² /g
Pore volume:	0.35 - 0.45 ml/g
Average pore diameter:	1.8 - 2.2
Detection agent:	Amorphous silica impregnated with an organic indicator (methyl violet).

Water-Absorption Capacity at 25 degrees C:

20% r.h	>8% w/w
35% r.h	>12% w/w
50% r.h	>23% w/w
80% r.h	>30% w/w

Colour change:

Dark Orange	10% w/w absorption
Olive green	15% w/w absorption
Dark green (replace)	20% w/w absorption (this will be approx 150 tests)

Bead size:

Less than 2 mm	5.0% maximum
Greater than 5 mm	5.0% maximum

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