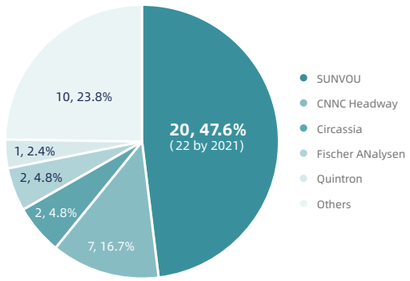
About Sunvou

SUNVOU is global leader in breath molecular diagnosis technology innovations, with the most granted patents, the most registered products, 400+ peer reviewed publications, 4,000+ devices in hospitals and 12 million+ tests from 2012 to 2021, founded by formal NASA, Honeywell, CISCO and Huawei scientists & engineers, joined by MIT and UC Berkeley graduates.

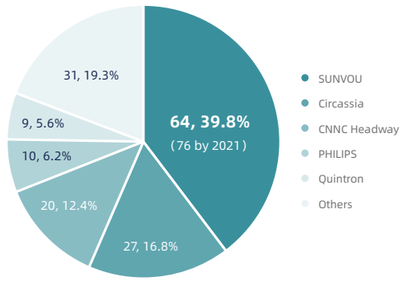
Most Registered Products Worldwide

Data Source：Breath Test Medical Devices Market Research, Frost Sullivan, 2019



Most Granted Patents Worldwide

Data Source：Breath Test Medical Devices Market Research, Frost Sullivan, 2019



70+ Granted Patents

400+ Peer Reviewed Publications

ISO 13485 by TUV Rheinland since 2011

CE Marked since 2012

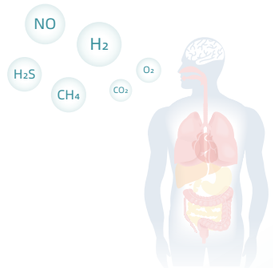
TÜVRheinland CERTIFIED
Management System
EN ISO 13485:2016
www.tuv.com
ID 0000040691

CE IVD

Nano Coulomb Breath Analyzer

for H_2, CH_4, H_2S & NO breath tests

H_2, CH_4 & H_2S Breath Tests: Diagnosis of Dysbiosis
H_2S & NO Breath Tests: Diagnosis of Inflammations
Routine Check-up on Gastrointestinal Conditions
Recommended by Consensus and Guidelines



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Breath Sense Health

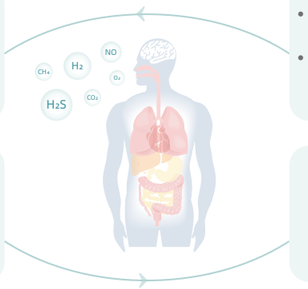
Product Specifications

Specification	Sunvou-CA4458	Quintron BreathTracker SC	Bedfont Gastro+
Biomarkers	H_2, CH_4, H_2S, NO, CO_2, O_2	H_2, CH_4, CO_2	H_2
Detection Option	Online, Offline, Tidal	Offline	Online
Sensor Technology	Nano Columbic electrochemical, semiconductor, infrared sensors	Chromatographic column, semiconductor detector	Electrochemical sensor
Concentration Range/Accuracy	**Range:** 0-200 ppm for H_2, 0-75 ppm for CH_4，0-3000ppb for NO/H_2S **Accuracy:** ±2ppm or 5% for H_2/CH_4，±3ppb or 10% for NO/H_2S	**Range:** 2-150 ppm H_2, 2-75 ppm CH_4 **Accuracy:** ±3 ppm or 5% of full scale for H_2/CH_4	**Range:** 20-500ppm H_2 **Accuracy:** ≤±3ppm/10%
Warm-up Time	10 minutes	8 hours	Not specified
QC	Qualified user, Standard gas, Self-calibration Pre-calibration	Standard Gas **Daily calibration before use**	Standard gas **calibration every 3 months**

Breath Test for Dysbiosis and Inflammations

Dysbiosis and inflammation could increase or inhibit NO、H_2S、H_2 and CH_4 production in microorganism cells, after which these gases would be exhaled and analyzed through breath test

Multiple factors：genetics、environment、diet、lifestyle、mental stress、inappropriate treatment



- Causing or progressing the severity of gastrointestinal disorders
- Causing or progressing hepatobiliary、metabolic、immune、respiratory、cardiovascular and neurological disorders through imflammatory path

Causing gut dysbiosis and inflammation which further inducing lesions in gastrointestinal、metabolic、immune、respiratory system

Recommended by Clinical Guidelines and Technical Standards

1998 Nobel Prize in Medicine and Physiology for "NO as a signalling molecule"

2005 ATS/ERS Technical Standards for exhaled NO

2017 ERS Technical Standards for NO/VOC(H_2S)

2021 Chinese Expert Consensus of Adults and Children for exhaled NO

Digestive tract microbiome/end tidal breath test research

2009 Rome Consensus on H_2 breath test

2017/2019/2021 multidisciplinary consensus/guideline of H_2/CH_4/H_2S breath test in USA/North America/European

2022 multi-center digestive NO+H_2S+H_2+CH_4 braeth test research in Gastroentrology

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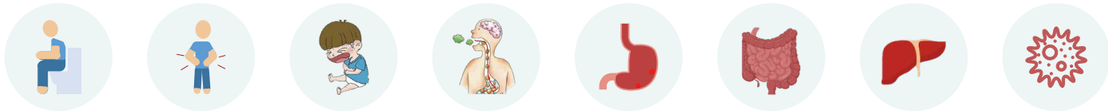
Clinical Applications

- **Routine Check-up on Gastrointestinal Conditions-**Diagnosis dysbiosis and inflammation, guide and evaluate antibacterial and anti-inflammatory treatment, and Monitor prognosis.

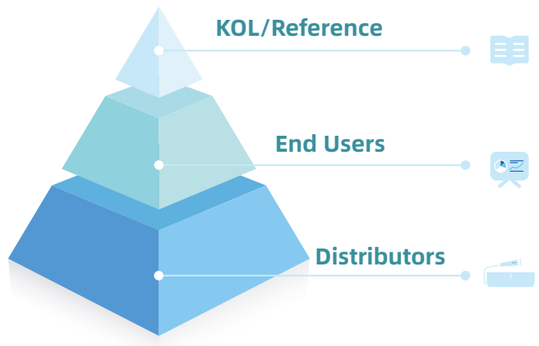
Dysbiosis can be divided into 3 gas-producing microorganism overgrowth

End tidal breath test	NO	H_2S	H_2	CH_4
Fasting: test 1 time, 3 min to give results	Inflammation	Intestinal Sulfate-Reducing Bacteria overgrowth or colorectal carcinoma	Intestinal bacterial overgrowth	Intestinal methanogen overgrowth
Substrate: test ≥ 4 times, 90 minutes to give results	N/A	Small intestinal Sulfate-Reducing Bacteria overgrowth (ISO)	Small intestinal bacterial overgrowth (SIBO)	Small intestinal methanogen overgrowth (IMO)
Typical gastrointestinal symptoms	Abdominal pain	Severe diarrhea、Bloody stool	Bloating、Diarrhea	Constipation
Indications and clinical departments	See **Indications** of digestive and non-digestive diseases below，involving digestion, endoscopy, neurogastrointestinal and motility, nutrition, paediatrics (formulated in Europe Guidelines), metabolic/endocrinology, immunological/rheumatology, psychiatric/neurological, brain/cardiology, allergic, dermatological/orthopedic, otorhinolaryngology/respiratory and physical examination, etc			

Indications



Sunvou Services



Supported the Establishment of 8 National Guidelines and Consensus

Sponsored **200+** clinical rearserch projects, **400+** Peered Reviewed Publications. **2** National Breath Test QC Center

Serving 30,000+ Clinicians and Nurses

100+ Training courses, **200+** On-line reading articles
1000+ Literatures, **1000+** Annual conferences

Customer Survey Satisfaction >99% for 11 Consecutive Years

Installation/training/QC/upgrade **3000+**
24-hr online 1-to-1 service, and **200+** instant chat service groups

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[4]. Chen Jian, Qiu Zhibing, Luo Zhongguang. Small intestinal bacterial overgrowth and low-grade systemic inflammation in 50 patients with irritable bowel syndrome[J]. Chin J Dig, 2018,38(11):769-773.

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