



# Dräger Scio Four Gas Measurement Modules

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O<sub>2</sub>, CO<sub>2</sub>, N<sub>2</sub>O and volatile anaesthetic agents at a glance: Scio Four modules measure real-time inspiratory and expiratory breathing gas concentrations. Used with a Dräger Infinity Acute Care System or a Dräger Vista Patient Monitoring Solution, precise and reliable concentration data and curves are displayed exactly where you need it.

# Benefits

## Accurate Real-Time Gas Measurement

Whether inspiratory or expiratory concentration values for O<sub>2</sub>, CO<sub>2</sub>, N<sub>2</sub>O or anaesthetic agents:

- Dräger Scio Four modules measure precise and reliable concentration data, which is transferred to a Dräger Infinity Acute Care System or a Dräger Vista patient monitor to make your desired values available to enable targeted and safe anaesthesia
- As a modular extension to your patient monitoring setup, Scio Four enables to replenish the data on your patient monitor with additional parameters and curves regarding O<sub>2</sub>, CO<sub>2</sub>, N<sub>2</sub>O and anaesthetic agents
- For clinically relevant parameters provided by Scio Four, adjustable alarm limits are available on the patient monitor

## Scalable Solutions for every Application

The Scio Four family consists of four different variants making it both flexible and scalable to configure a system setup exactly meeting your needs.

Option with O<sub>2</sub> measurement

- Scio Four's Oxi variants measure inspiratory and expiratory O<sub>2</sub> concentrations using a paramagnetic oxygen sensor
- Unlike electrochemical sensors, the consumption-free paramagnetic measurement method helps to reduce maintenance costs

Option with automated agent identification and mixture measurement

- Scio Four's plus variants feature automated anaesthetic agent identification with simultaneous measurement of up to two anaesthetic agents

## Enhanced Intraoperative Patient Safety

Scio Four does even more than measure gas concentrations in the breathing circuit.

- In combination with a Dräger Infinity patient monitor or a Dräger Vista patient monitor, MAC values for anaesthetic agents are displayed, contributing to avoid under- and overdose so optimal gas concentrations can be maintained while supporting targeted anaesthesia
- Scio Four comes equipped with the WaterLock 2 water trap with a dual hydrophobic diaphragm design. Its small pores allow gases to pass freely while reliably protecting the patient as well as the sensor of the Scio Four from condensation, pathogens, and other contaminants
- Automatic detection of volatile anaesthetic agents helps to make the workflow easier and enhances patient safety

## Sustainability and Reliability

Scio Four has been developed to require minimal maintenance and has a long service life. The Dräger infrared spectroscopic sensor technology used in the gas measurement modules involves no moving parts such as e.g., filter wheels, making it durable.

- Due to the filter performance of WaterLock 2 the sample gas can be recycled back into the breathing system contributing to save anaesthetic agents and to reduce the ecological footprint
- Even under challenging conditions such as minimal flow anaesthesia, where heavy condensation can be a problem, the sample and purge gases remain free from condensation assuring accurate capnography
- WaterLock 2 can be easily emptied by the operator and only requires monthly replacement making it highly economical

# System Components

D-47657-2012



## Dräger Fabius plus XL

The Dräger Fabius plus XL combines proven German engineering you can count on with high performance ventilation therapy. Thanks to its scalable design concept, it allows you to choose the quality workstation you want now without losing sight of your future goals and needs.

D-30739-2017



## Infinity Acute Care System

Transform your clinical workflow with Infinity Acute Care System. Its multiparameter monitor integrates with its networked medical-grade workstation, giving you real-time vital signs, access to clinical hospital systems and data management applications for a comprehensive range of patient information and powerful analysis tools at the point-of-care.

D-8549-2023



## Vista 300

The Dräger Vista 300 is an essential patient monitor for adults, paediatrics, and neonates. It is part of a scalable patient monitoring system that fits securely into your hospital's network to give you all-time data access and optimise your workflows. Vista 300 facilitates enhanced workplace integration in your acute care areas with a comprehensive set of parameters and modules, helping you to improve patient care and outcomes as well as lower costs.

D-6829\_2014



## Vista 120

Hospitals around the world share a common challenge – to provide the best possible care in locations with growing populations, stricter financial regulations and caregivers that are increasingly overloaded. The Vista 120 was engineered to meet your clinical needs and stay within your budget, allowing you to deliver efficient and high-quality patient care.

# Accessories



D-14348-2017

## WaterLock 2

Protects your patient, protects your gas measurement systems. Designed to give you reliable gas measurements, the Dräger WaterLock 2 helps you to effectively filter humid and contaminated exhaled air thanks to our advanced membrane technology. Keeping your patients and investments safe from water, bacteria, and potential viruses.



D-37369-2015

## Gas sample line

The Dräger gas sample line is optimised for accurate readings and good curve display.



D-37360-2015

## Gas sample recycling

So long as the anaesthesia machines have a corresponding functionality, the sampling gas can be recycled back into the breathing system. This means that low flow anaesthesia can be used, thereby allowing optimum conditioning of the breathing gas to ensure gentle ventilation of your patients. It also significantly reduces the consumption of volatile anaesthetic agents.

# Related Products



D-15623-2014

## Vamos / Vamos plus

Targeted, safe anaesthesia requires efficient anaesthetic gas monitors. This is exactly what Vamos and Vamos plus compact anaesthetic gas monitors provide by reliably displaying carbon dioxide, nitrous oxide and volatile anaesthetic gas concentrations.

# Technical Data

## Operational characteristics

Weight	2.9 kg (6.4 lbs) w/o O <sub>2</sub> sensor
	3.2 kg (7.0 lbs) w O <sub>2</sub> sensor
Dimensions (H x W x D)	11.5 cm x 19.0 cm x 27.0 cm (4.8 in x 7.5 in x 10.5 in)
Power supply	100 to 240 V ~ 50/60 Hz
Device noise emission	≤45 dB(A)
Device interfaces	1 x RS 232 Connector to patient monitor
	1 x RS 232 MEDIBUS Connector

## Ambient conditions

Temperature	10 to 40°C (50 to 104°F)
Ambient pressure	620 to 1,100 hPa (9.0 to 15.9 psi)

## Measurement specification

O <sub>2</sub>	Range	0 to 100 vol.%
	Accuracy	±(2.5 vol.% + 2.5% rel.)
	Rise time (t <sub>10/90</sub> )	<500 ms
CO <sub>2</sub>	Range	0 to 10 vol.%
	Accuracy	±(0.43 vol.% + 8% rel.)
	Rise time (t <sub>10/90</sub> )	<300 ms
N <sub>2</sub> O	Range	0 to 100 vol.%
	Accuracy	±(2 vol.% + 8% rel.)
	Rise time (t <sub>10/90</sub> )	<300 ms
Anaesthetic agents	Range	0 to 8.5 vol.% (isoflurane and halothane)
		0 to 10 vol.% (sevoflurane and enflurane)
		0 to 20 vol.% (desflurane)
	Accuracy	±(0.20 vol.% + 15% rel.)
	Rise time (t <sub>10/90</sub> )	<350 ms
<450 ms (halothane)		
Respiratory rate	Range	0 to 100/min
	Accuracy	0 - 60/min.: ±1/min for an I:E ratio of 1:1
		0 - 80/min.: ±1/min for an I:E ratio of 1:2

# Technical Data

## Device classification

Protection class (IEC 60601-1 & ISO 80601-2-55)	Class I, type BF
Mode of operation	Continuous operation
Ingress of liquids and particulate matter (IEC60601-1)	IP21
Classification in accordance with EU Regulation 2017/745	IIb
UMDNS code	17-445

## Scio Four Variants

Device name	Automatic agent ID	Integrated O <sub>2</sub> measurement
Scio Four Oxi plus	yes	yes
Scio Four plus	yes	no
Scio Four Oxi	no	yes
Scio Four	no	no

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