

# VAPOR

## Anesthesia Tester

### Instructions

### Introduction

The VAPOR Anesthesia Gas Detector (the Product or Accessory) measures concentrations of Anesthesia gas. The Accessory connects to the VT900A Gas Flow Analyzer (the Analyzer). To use the Accessory, see *Operation*. For more information see the *VT650/VT900A Users Manual*.

### Intended Use

The anesthesia sensor accessory is intended to be used only with the VT900A Gas Flow Analyzer to measure anesthesia gases described below. It is for use by service technicians trained in medical instrumentation technology in hospitals, clinical engineering departments, independent service organizations, and at original equipment manufacturing facilities. It is intended to be used in the laboratory environment, outside of the patient care area, and not to be used on patients or to test devices while connected to patients.

### Safety

A **Warning** identifies hazardous conditions and actions that could cause bodily harm or death. A **Caution** identifies conditions and actions that could damage the Product, the equipment under test, or cause permanent loss of data.



#### Warning

**To prevent possible electrical shock, fire or personal injury:**

- Read all safety information before you use the Product.
- Carefully read all instructions.
- Use the Product only as specified, or the protection supplied by the Product can be compromised.
- Do not use the Product around explosive gas, vapor, or in damp or wet environments.
- Do not use the Product if it operates incorrectly.
- Use this Product indoors only.
- Use only the external mains power supply included with the Product.

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- **Disable the Product if it is damaged.**
- **Do not use the Product if it is damaged.**
- **Do not put metal objects into connectors.**

Table 1 shows the symbols used on the Product and in this document.

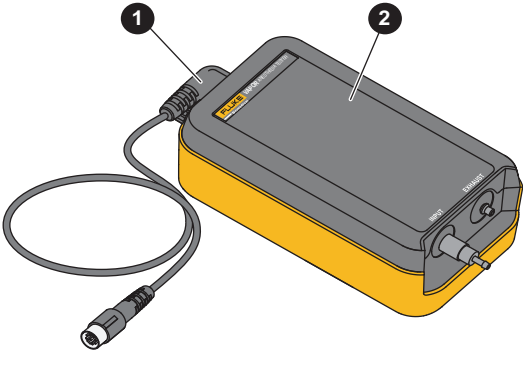
**Table 1. Symbols**

Symbol	Description
	WARNING. RISK OF DANGER.
	WARNING. HAZARDOUS VOLTAGE. Risk of electric shock.
	Consult user documentation.
	Conforms to European Union directives
	Conforms to relevant North American Safety Standards
	Conforms to relevant Australian Safety Standards
	Conforms to relevant South Korean EMC Standards
	This product complies with the WEEE Directive marking requirements. The affixed label indicates that you must not discard this electrical/electronic product in domestic household waste. Product Category: With reference to the equipment types in the WEEE Directive Annex I, this product is classed as category 9 "Monitoring and Control Instrumentation" product. Do not dispose of this product as unsorted municipal waste.

## The Accessory

Table 2 shows the Accessory connections.

**Table 2. The Accessory**

	
<b>1</b>	Connector to the Analyzer
<b>2</b>	The Product

## Operation

Use the Accessory with the Analyzer to measure concentrations of anesthesia gas flow. For more information on connecting and using the Accessory with the Analyzer, see the *VT650/VT900A Users Manual*.

## Maintenance

The Accessory needs little maintenance or special care. Treat the Analyzer as a calibrated measurement instrument. Do not drop or cause other mechanical abuse.

To clean the Accessory, wipe with a damp cloth.

## Specifications

### Temperature

Operating .....	10 °C to 40 °C
Operating Humidity .....	10 % to 90 % non-condensing
Storage.....	-20 °C to 60 °C
Storage Humidity.....	5 % to 95 % non-condensing
Altitude .....	3000 m
Weight .....	0.5 kg (1.2 lb)
Size .....	19 cm x 9.5 cm x 5.7 cm (7.5 in x 3.8 in x 2.3 in)

### Safety

IEC 61010-1 .....	Overvoltage Category none, Pollution Degree 2
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### Electromagnetic Compatibility (EMC)

IEC 61326-1: Basic

Emissions Classification..... IEC CISPR11: Group 1, Class A.

*Group 1 have intentionally generated and/or use conductively coupled radio-frequency energy which is necessary for the internal functioning of the equipment itself.*

*Class A equipment is suitable for use in nondomestic locations and/or directly connected to a low voltage power supply network.*

USA (FCC)..... Intentional Radiators

*This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. (15.19)*

**Table 3. Anesthesia Gas**

Gas	Concentration Range	Warmup Specification	Full Specification
Carbon Dioxide (CO <sub>2</sub> )	0 % to 1 %	±0.4 % ABS	±0.1 % ABS
	1 % to 5 %	±0.5 % ABS	±0.2 % ABS
	5 % to 7 %	±0.6 % ABS	±0.3 % ABS
	7 % to 10 %	±0.8 % ABS	±0.5 % ABS
Nitrous Oxide (N <sub>2</sub> O)	0 % to 20 %	±(10 % of rdg + 2 % ABS)	±2 % of rdg
	20 % to 100 %	±(11 % of rdg + 2 % ABS)	±3 % of rdg
Halothane (HAL)	0 % to 1 %	±(8 % of rdg + 0.15 % ABS)	0.15 % ABS
	1 % to 5 %	±(8 % of rdg + 0.2 % ABS)	0.2 % ABS

**Table 3. Anesthesia Gas (continued)**

<b>Gas</b>	<b>Concentration Range</b>	<b>Warmup Specification</b>	<b>Full Specification</b>
Enflurane (ENF)	0 % to 1 %	$\pm(8 \% \text{ of rdg} + 0.15 \% \text{ ABS})$	0.15 % ABS
	1 % to 5 %	$\pm(8 \% \text{ of rdg} + 0.2 \% \text{ ABS})$	0.2 % ABS
Isoflurane (ISO)	0 % to 1 %	$\pm(8 \% \text{ of rdg} + 0.15 \% \text{ ABS})$	0.15 % ABS
	1 % to 5 %	$\pm(8 \% \text{ of rdg} + 0.2 \% \text{ ABS})$	0.2 % ABS
Desflurane, (DES)	0 to 1%	$\pm(8 \% \text{ of rdg} + 0.15 \% \text{ ABS})$	0.15 % ABS
	1 % to 5 %	$\pm(8 \% \text{ of rdg} + 0.2 \% \text{ ABS})$	0.2 % ABS
	5 % to 10 %	$\pm(8 \% \text{ of rdg} + 0.4 \% \text{ ABS})$	0.4 % ABS
	10 % to 15 %	$\pm(8 \% \text{ of rdg} + 0.6 \% \text{ ABS})$	0.6 % ABS
	15 % to 18 %	$\pm(8 \% \text{ of rdg} + 1 \% \text{ ABS})$	1 % ABS
Sevoflurane, (SEV)	0 % to 1 %	$\pm(8 \% \text{ of rdg} + 0.15 \% \text{ ABS})$	0.15 % ABS
	1 % to 5 %	$\pm(8 \% \text{ of rdg} + 0.2 \% \text{ ABS})$	0.2 % ABS
	5 % to 8 %	$\pm(8 \% \text{ of rdg} + 0.4 \% \text{ ABS})$	0.4 % ABS

### WARRANTY AND PRODUCT SUPPORT

Fluke Biomedical warrants this instrument against defects in materials and workmanship for one year from the date of original purchase. During the warranty period, we will repair or at our option replace, at no charge, a product that proves to be defective, provided you return the product, shipping prepaid, to Fluke Biomedical. This warranty covers the original purchaser only and is not transferable. The warranty does not apply if the product has been damaged by accident or misuse or has been serviced or modified by anyone other than an authorized Fluke Biomedical service facility. NO OTHER WARRANTIES, SUCH AS FITNESS FOR A PARTICULAR PURPOSE, ARE EXPRESSED OR IMPLIED. FLUKE SHALL NOT BE LIABLE FOR ANY SPECIAL, INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES OR LOSSES, INCLUDING LOSS OF DATA, ARISING FROM ANY CAUSE OR THEORY.

This warranty covers only serialized products and their accessory items that bear a distinct serial number tag. Recalibration of instruments is not covered under the warranty

This warranty gives you specific legal rights and you may also have other rights that vary in different jurisdictions. Since some jurisdictions do not allow the exclusion or limitation of an implied warranty or of incidental or consequential damages, this limitation of liability may not apply to you. If any provision of this warranty is held invalid or unenforceable by a court or other decision-maker of competent jurisdiction, such holding will not affect the validity or enforceability of any other provision.

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To find the nearest service center, go to [www.flukebiomedical.com/service](http://www.flukebiomedical.com/service) or:

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