

# VT900 Gas Flow Analyzer

## Technical data



**The Fluke Biomedical VT900 is designed to accurately and reliably test all types of medical gas flow equipment—ventilators, insufflators, oxygen meters—especially those requiring high accuracy in ultra-low flow and ultra-low pressure measurements such as anesthesia machines and flow meters.**

### Accurate

The VT900 is Fluke Biomedical's high-accuracy premium gas flow analyzer. The single, full-range  $\pm 300$  lpm air flow channel offers built-in oxygen, temperature and humidity measurements, to streamline testing and automatically compensate for environmental conditions. The VT900 features an external trigger input and special ultra low-flow and ultra low-pressure ports. These ultra-low flow and ultra-low pressure ports allow the highest accuracy for devices requiring crucial low volume and pressure testing such as anesthesia machines and flow meters. Designed and tested to world renown Molbloc-L calibration specifications ensures traceability to global regulatory standards with reliable measurements you can count on.

### Key benefits and features:

- Streamline your testing procedure, reduce errors and quicken your test time with the ability to create customized test profiles
- Avoid confusion and ensure accuracy with one-channel, full-range air flow functionality
- Reduce testing time with built-in line sensors which automatically test humidity, temperature and oxygen while compensating for atmospheric pressure and environmental conditions
- Ensure patient safety with ultra-low flow and ultra-low pressure anesthesia and flow meter testing
- Have confidence that your measurements comply to global regulatory standards and adhere to SI units of measurement with the Molbloc-L calibration system
- Easily transport and store the lightweight (3.6 lb/1.6 kg), all-in-one device—no extra modules for different tests
- Have more control over your testing by selecting your own trigger point with the external trigger input



**Traceable**

The large on-board memory of the VT900 allows both short and long term recording and storing of test data. Transfer data via USB to a PC and upload the generated test file to your CMMS system for simple reporting. This device can be easily adapted to specific testing needs. With the ability to create custom profiles and the capacity to take remote commands for automated testing, the VT900 helps to decrease risk and increase efficiency.

**Easy-to-use**

The VT900 offers a large 7" (17.8 cm) touch screen display, allowing you to view multiple measurements at once, and quickly access menu options. Review results in real-time with either color graphs or numerical data. The global user interface makes operating this device straightforward and uncomplicated.

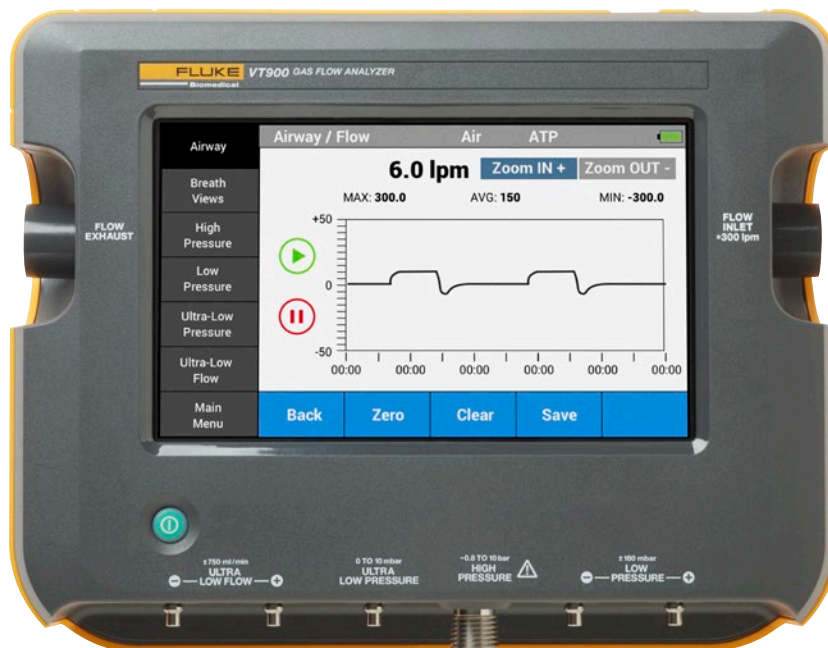
**Portable**

Weighing only 3.6 lb (1.6 kg), this compact, all-in-one device is highly portable. The snap-in carrying handle/shoulder strap and rugged design allow you to easily test on-the-go, while its small unit size and bale (kick stand) allows comfortable viewing for benchtop testing. A universal VESA mount also gives you the option of mounting the device to save space. With AC/DC power options and an 8-hour battery life, this tester is perfect for laboratory, clinical or field environments where AC power may not be available.



Onboard memory and USB for easy data transfer and test file upload to your CMMS

7" (17.8 cm) color touchscreen showing real-time graphs and test data. Allows for customizable test profiles (by user, test type, or model) and data logging



Full-range ±300 lpm air flow channel with built-in oxygen, humidity, and temperature measurements

Portable, light (3.6 lbs/1.6 kg) and rugged design with 8 hours of battery life

High and differential low-pressure ports. All sensors have the best accuracies on the market, reliably calibrated using Fluke Molbloc-L system

## Technical specifications

<b>Features</b>	
Battery life hours	8 hrs
Charge time in hours	5 hrs, typical
Memory	internal memory
Connection type	USB, Micro-B device port
Weight	3.6 lb (1.6 kg)
Display	7 in (17.8 cm)
Single full-range channel	√
Ultra-low flow ports	±750 ml/min
Ultra-low pressure port	0 to 10 mbar
<b>Flow</b>	
<b>Full range flow channel</b>	
Range	±300 slpm
Accuracy (air)	1.7 % or 0.04 slpm
<b>Ultra-low flow channel</b>	
Range	±750 ml/min
Accuracy (air)	±1.7 % or 0.01 slpm
<b>Volume</b>	
Range	±100 l
Accuracy	±1.75 % or 0.02 l
<b>Pressure</b>	
<b>High pressure</b>	
Range	-0.8 to 10 bar
Accuracy	±1 % or ±0.007 bar
<b>Differential low pressure</b>	
Range	±160 mbar
Accuracy	±0.5 % or ±0.1 mbar
<b>Ultra-low pressure</b>	
Range	0 to 10 mbar
Accuracy	±1 % or ±0.01 mbar
<b>Airway pressure</b>	
Range	±160 mbar
Accuracy	±0.5 % or ±0.1 mbar
<b>Barometric pressure</b>	
Range	550 to 1240 mbar
Accuracy	±1 % or ±5 mbar
<b>Other</b>	
<b>Temperature</b>	
Range	0 to 50 °C
Accuracy	±0.5 °C
Resolution	0.1 °C
<b>Humidity</b>	
Range	0 to 100 % RH
Accuracy	±3 % RH (20 to 80 % RH) ±5 % RH (20 < or > 80 % RH)
<b>Oxygen</b>	
Range	0 to 100 %
Accuracy	±1 %

**Technical specifications**

<b>Breath parameters</b>	
Inspiratory tidal volume range	0 to 60 l
Inspiratory tidal volume accuracy	±1.75 % or 0.02 l
Expiratory tidal volume range	0 to 60 l
Expiratory tidal volume accuracy	±1.75 % or 0.02 l
Minute volume range	0 to 100 l
Minute volume accuracy	±1.75 % or 0.02 l
Breath rate range	1 to 1500 bpm
Breath rate accuracy	±1 %
Inspiratory to expiratory time ratio (I:E) range	1:300 to 300:1
Inspiratory to expiratory time ratio (I:E) accuracy	±2 % or 0.1
Peak inspiratory pressure (PIP) range	±160 mbar
Peak inspiratory pressure (PIP) accuracy	±0.75 % or 0.1 mbar
Inspiratory pause pressure range	±160 mbar
Inspiratory pause pressure	±0.75 % or 0.1 mbar
Mean airway pressure range	±160 mbar
Mean airway pressure accuracy	±0.75 % or 0.1 mbar
Positive end expiratory pressure (PEEP) range	±160 mbar
Positive end expiratory pressure (PEEP) accuracy	±0.75 % or 0.1 mbar
Lung compliance range	0 to 1000 ml/mbar
Lung compliance accuracy	±3 % or 0.1 ml/mbar
Inspiratory time range	0 to 60 s
Inspiratory time accuracy	0.02 s
Inspiratory hold time range	0 to 60 s
Inspiratory hold time accuracy	1 % or 0.1 s
Expiratory time range	0 to 90 s
Expiratory time accuracy	0.5 % or 0.01 s
Expiratory hold time range	0 to 90 s
Expiratory hold time accuracy	0.02 s
Peak expiratory flow range	±300 lpm
Peak expiratory flow accuracy	±1.7 % or 0.04 lpm
Peak inspiratory flow range	±300 lpm
Peak inspiratory flow accuracy	±1.7 % or 0.04 lpm
<b>Environmental</b>	
Operating temp	10 °C to 40 °C
Storage temp	-20 °C to 60 °C
Operating humidity	10 to 90 % non-condensing
Storage humidity	5 to 95 % non-condensing



**Technical specifications**

<b>Gas corrections</b>	<b>Gas types</b>
ATP (ambient temp/pressure, actual humidity)	Air
ATPD (ambient temp/pressure, dry)	Nitrogen (N <sub>2</sub> )
ATPS (ambient temp/pressure, saturated)	Nitrous Oxide (N <sub>2</sub> O)
STP20 (20 °C temp/pressure 760 mmHg, actual humidity)	Carbon Dioxide (CO <sub>2</sub> )
STP21 (21 °C temp/pressure 760 mmHg, actual humidity)	Oxygen (O <sub>2</sub> )
STPDO (0 °C temp/pressure 760 mmHg, dry)	Argon
STPD20 (20 °C temp/pressure 760 mmHg, dry)	Heliox (21 % O <sub>2</sub> , 79% He)
STP or STPD21 (21 °C temp/pressure 760 mmHg, dry)	Oxygen/Nitrogen
BTPS (body temp 37 °C/ambient pressure 760 mmHg, saturated)	Oxygen/Nitrous Oxide
BTPD (body temp 37 °C/ambient pressure 760 mmHg, dry)	Oxygen/Helium

**Ordering information**

**VT900 Gas Flow Analyzer**

Includes:

- Bacterial filter (1)
- 1.2 m (4 ft) silicon tubing (2)
- 22 mm ID x 22 mm ID tubing adapters (2)
- 22 mm OD x 22 mm OD tubing adapters (2)
- Tapered 15 mm OD x 33 mm OD tubing adapters (2)
- Flexible 15 mm ID x 22 mm ID tubing adapters (2)
- DISS hand tight nut/nipple to 6.4 mm (1/4 in ) ID hose barb adapter (1)
- USB serial cable
- AC power adapter
- Detachable carrying handle
- Detachable shoulder strap
- Certificate of Calibration with test data

**Optional accessories**

ACCU LUNG I Test Lung

ACCU LUNG II Test Lung

VESA Mounting system/test arm

**Fluke Biomedical.**

*Trusted for the measurements that matter.*

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