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Biomedical

VT305 Portable Gas Flow Analyzer

Technical Data

Simple. Portable. Efficient.

The VT305 Portable Gas Flow Analyzer is the quick and easy way to test medical gas flow and pressure devices. This versatile tool evaluates the performance of a wide variety of devices and multiple ventilator parameters.

The VT305 features internal sensors to make connecting to medical devices a fast and easy process. The four-button front-panel control makes switching to the best view of measured data simple. Onboard graphing capabilities allow users to view waveforms right on-screen, and measurements (numeric and waveform data) can be stored on the unit's 2 GB SD card with a simple button-touch. Users can upload these measurements to a computer for viewing or printing using the included Windows-compatible utility program.

The base unit measures flow, pressure and oxygen concentration. It also measures gas temperature within the on-board flow-measurement channel to make correction to selectable gas standards easy.

Additionally, the VT305 is compatible with Ansur software, which streamlines the standard work for testing medical devices through ready-to-use templates and easy drag-and-drop template modifications. The automation provided by the Ansur software helps reduce human error, improves consistency in data collection and reporting, and ensures compliance to OEM requirements.

Key features:

- Bidirectional flow, volume, vacuum, pressure and oxygen concentration measurements
- Display orients itself horizontally and vertically
- Four-button control
- Portable and compact
- USB for computer control
- 2 GB SD card memory for storing results

Options:

- Ansur VT Plug-in for creating and running visually guided test procedures with automatic test configuration and measurement data collection and comparison against pre-determined test limits for Pass/Fail results
- Power adapter (battery eliminator) 100 V ac to 240 V ac 50/60 Hz auto-switching

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Technical specifications

Display	26 x 33 mm, reflective CLCD
Operational modes	Standalone without any PC software or with the Ansur VT Plug-in
Gas types	Air, Air/O_2 Man, Air/O_2 Auto, N_2O/O_2 Man, He, Heliox (21 % O_2), He/O_2 Man, He/O_2 Auto, N_2, CO_2
Gas standards/compensations	ATP, ATPD, ATPS, AP21, STP, STPH, BTPS, BTPD, 0/1013, 20/981, 15/1013, 25/991, 20/1013
Battery power supply	Battery life: 4 hours, VT305 operation only
External power supply	Input voltage: 100 to 240 V ac, 50/60 Hz
	Output voltage: 12 V
Pressure	
Difference	Operating pressure (Differential): – 200 to 200 mbar
	Span accuracy: ± 0.75 % or ± 0.1 mbar**
High	Operating pressure: 0 to 10 bar
	Span accuracy: ± 1 % or ± 10 mbar**
Airway/in the flow channel	Operating pressure: – 50 to 150 mbar
	Span accuracy: ± 0.75 % or ± 0.1 mbar**
Barometer	Operating pressure: 500 to 1150 mbar
	Span accuracy: ± 1 % or ± 5 mbar**
Flow	
Flow port	Operating flow range: ± 300 slpm
	Accuracy: ± 1.9 % or ± 0.1 l/min, whichever is greater
	Ambient pressure compensated: Yes
	Temperature compensated: Yes
	Fittings: 15 mm OD/ID, 1:40 conical male
Oxygen concentration	
Oxygen measurement	Range: 0 to 100 %
	Accuracy: ± 1 % O_2**
	Sensor technology: Galvanic Fuel Cell
	Calibration: Allows user calibration using air and 100 % O_2
	Notes: Automatic partial pressure compensation for barometric and airway pressure changes
Temperature	
Gas temperature	Range: 0 to 50 °C
	Accuracy: ± 1.75 % or ± 0.5 °C**
Respiratory parameters	
Inspiratory and expiratory tidal volume	Range: ± 10 L
	Accuracy: ± 2 % or ± 20 ml**
Inspiratory and expiratory minute volume	Range: 0 to 300 l/min
	Accuracy: ± 2.5 %*
Breath rate	Range: 1 to 1000 BPM
	Accuracy: ± 1 BPM or ± 2.5 %**

* tolerance related to the measured value

** absolute value

*** sl/min units are based on conditions of 0 degrees C and 1013 mbar (DIN 1343 standard)

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Technical specifications cont.

Inspiratory to expiratory time and ratio (i:e ratio)	
Ti/Te	Range: 0.05 to 60 sec
	Accuracy: ± 0.02 s
I:E	Range: 1:300 to 300:1
	Accuracy: ± 2.5 %*
Ti/tcycle	Range: 0 to 100 %
	Accuracy: ± 5 %*
Peak, mean, peep and plateau pressure	Range: ± 150 mbar
	Accuracy: ± 0.75 % or ± 0.1 mbar**
Peak inspiratory and expiratory flow	Range: ± 300 lpm
	Accuracy: ± 1.9 % or ± 0.1 l/min, whichever is greater**
Compliance (Cstat)	Range: 0 to 1000 ml/mbar
	Accuracy: ± 3 % or ± 1 mbar**
Trigger	Adult/Pediatric/HFO: Flow and pressure (from default settings and adjustable levels)
RS-232 serial communications	RS-232, USB, Ethernet, CAN
	Analog out: TTL
Environmental specifications	
Temperature****	Operating: 10 °C to 40 °C (50 °F to 104 °F)
	Storage: –25 °C to 50 °C (–13 °F to 122 °F)
Humidity (selected from values in the Settings menu for humidity)	Operating: 0 to 80 % non-condensing at temperatures to 31 °C, decreasing linearly to 50 % relative humidity at 40 °C (104 °F)
Storage	0 to 95 % non-condensing
Barometric	Range: 500 to 1150 mbar Accuracy: ± 1 % or ± 5 mbar**
Operating	7 psia to 18 psia
Storage	–1000 ft to 10000 ft (787.9 mmHg to 522.7 mmHg)
Dimensions (LxWxH)	11.4 cm x 6 cm x 7 cm
Weight	0.4 kg

* tolerance related to the measured value
** absolute value
*** sl/min units are based on conditions of 0 degrees C and 1013 mbar (DIN 1343 standard)
**** gas temperature in the VT305 measurement chamber

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Ordering information

Models/descriptions

4280692	VT305 Gas Flow Analyzer
4296065	TA–VT305 Gas Flow Analyzer with Ansur VT plug–in license

Standard accessories

107109	Ethernet cable, 2M
4281291	Acculung II, portable precision test lung
4281611	VT305 O_2 Sensor Assembly
4294528	VT305 Protection Filter
4294537	VT305 Adapter Set
4296104	VT305 O_2 Sensor Cable
4296162	VT305 SD Card 2GB
4296170	VT305 Inlet Pipe
4296181	VT305 Carry Case

Optional accessories

107109	Ethernet cable, 2M
4294543	VT305 Adapter O_2, high pressure
4294555	VT305 Adapter Air, high pressure
3837485	Ansur VT License Key (included with Model 4296065 TA–VT305)
4281291	Acculung II, portable precision test lung
4281611	VT305 O2 Sensor Assembly
4294528	VT305 Protection Filter
4294537	VT305 Adapter Set
4296104	VT305 O2 Sensor Cable
4296162	VT305 SD Card 2GB
4296170	VT305 Inlet Pipe
4296181	VT305 Carry Case

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About Fluke Biomedical

Fluke Biomedical is the world's leading manufacturer of quality biomedical test and simulation products. In addition, Fluke Biomedical provides the latest medical imaging and oncology quality-assurance solutions for regulatory compliance. Highly credentialed and equipped with a NVLAP Lab Code 200566-0 accredited laboratory, Fluke Biomedical also offers the best in quality and customer service for all your equipment calibration needs.

Today, biomedical personnel must meet the increasing regulatory pressures, higher quality standards, and rapid technological growth, while performing their work faster and more efficiently than ever. Fluke Biomedical provides a diverse range of software and hardware tools to meet today's challenges.

Fluke Biomedical Regulatory Commitment

As a medical test device manufacturer, we recognize and follow certain quality standards and certifications when developing our products. We are ISO 9001 and ISO 13485 medical device certified and our products are:
• CE Certified, where required
• NIST Traceable and Calibrated
• UL, CSA, ETL Certified, where required
• NRC Compliant, where required

Fluke Biomedical.

Better products. More choices. One company.

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