

FlowAnalyser PRO

Premium Gas Flow Analyzer

analyser
the art of measuring

The FlowAnalyser PRO, with ultimate performance and configurability, enables a wide range of professionals to push the limits of what is possible.

Thanks to its extreme precision and reliability, the FlowAnalyser PRO is capable of testing a wide range of medical devices such as respiratory and anesthesia devices, oxygen flow meters, pressure gauges and suction devices.

Ultra-Low Flow

Automatic Breath Detection



Flow, Pressure, Oxygen,
Temperature, Humidity

Features

- Automatic Breath Detection
- Highest Flow Accuracy
- Ultra-Low Flow Measurement
- Fast Sampling Rate of 1000 Hz
- Pressure & Vacuum Measurements
- High Resolution Multi-touch Display
- Lightweight Portability
- 16-Hour Battery Life
- Integrated Apps with Guided Test Sequences
- Premium Platform for Future Updates
- Swiss Quality and Precision
- Accredited ISO 17025 Calibration

Direct Access

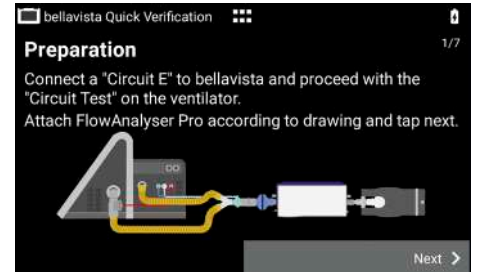
Easy to Use Interface

The FlowAnalyser PRO offers a beautiful, high resolution multi-touch user interface that is completely configurable.



Apps with Test Sequences

Run tests easier and faster with our apps. The FlowAnalyser PRO ventilator tester supports you with apps for testing and calibrating many devices. The apps enable safe and fast testing. Entire test sequences are displayed with images and texts and measured automatically. The test results are recorded in a PDF report, which can be signed directly on the screen.



Versatility

Tests a wide range of medical devices such as respiratory and anesthesia devices, oxygen flow meters, pressure gauges, suction devices, pneumatic systems, and Capnography monitors.

- Remote Control via USB or RS232
- Pairs with our Anesthesia Gas Sensor
- Utilizes our Test lungs

USB drive

Webserver

Remote Control



16 h battery



Automatic Breath Detection

Measure breath based respiratory parameters with automatic trigger detection for conventional and high-frequency medical ventilators.



Quality & Reporting

- Accredited ISO 17025 Calibration
- FlowLab PC Software Reporting Tool
- Test Sequence Editor
- Data Recording



Reporting Software

MultiGasAnalyser OR-703

Smallest multi-gas sensor in the world.

FlowAnalyser PRO, in combination with the MultiGasAnalyser, offers the best and easiest solution for testing anesthesia devices. The MultiGasAnalyser OR-703, paired with the FlowAnalyser PRO, can measure CO₂, N₂O, Halothane, Enflurane, Isoflurane, Sevoflurane and Desflurane.



Order information

700.300.000	FlowAnalyser PF-300 PRO
700.300.001	Biomedical Test-Set "Ventilation" FlowAnalyser PF-300 PRO
700.300.002	Biomedical Test-Set "Ventilation & Anaesthesia" FlowAnalyser PF-300 PRO

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Technical Specification FlowAnalyser PF-300 PRO

Flow and pressure measurements		Range	Accuracy
Flow	Measuring direction	Bidirectional	
	Temperature compensated	Automatic	
	Pressure compensated	Automatic	
	Humidity compensated	Automatic	
	O ₂ compensated	Automatic	
	Flow	± 300 L/min	± 1.65 %* or ± 0.04 L/min (for 10..40°C)**
	Ultra-Low Flow	± 1 L/min	± 1.65 %* or ± 0.01 L/min (for 10..40°C)**
Pressure	High Pressure & Vacuum (P _{High})	-1 – 10 bar	± 1 %* or ± 7 mbar**
	Differential Pressure (P _{Diff})	± 250 mbar	± 0.5 %* or ± 0.1 mbar**
	Low Differential Pressure (P _{Diff Low})	-10 – 10 mbar	± 1 %* or ± 0.01 mbar**
	Pressure in Flow Channel (P _{Channel})	-50 – 160 mbar	± 0.5 %* or ± 0.1 mbar**
	Atmospheric Pressure (P _{Atmo})	500 – 1240 mbar	± 1 %* or ± 5 mbar**
Units	Flow	L/min, L/s, cfm, mL/min, mL/s	
	Pressure	bar, mbar, cmH ₂ O, inH ₂ O, Torr, inHg, hPa, kPa, mmHg, PSI	
Additional measurements		Range	Accuracy
Oxygen	Concentration	0 – 100 %	± 1 % O ₂ **
	Pressure compensated	≤ 150 mbar	
Temperature	In Flow Channel	0 – 50 °C	± 1.75 %* or ± 0.5 °C**
Dew point	In Flow Channel	-10 – 50 °C	± 2 %* or ± 1 °C**
Humidity	In Flow Channel	0 – 100 % RH (non condensing)	± 3 % RH ** from 10 % RH to 80 % RH ± 5 % RH ** for <10 % and >80 % RH
CO ₂	Concentration (with optional OR-703)	0 – 15 vol%	± (0.2 vol% + 2 % of reading)
		15 – 25 vol%	unspecified
N ₂ O	Concentration (with optional OR-703)	0 – 100 vol%	± (2 % vol% + 2 % of reading)
HAL, ISO, ENF	Concentration (with optional OR-703)	0 – 8 vol%	± (0.15 vol% + 5 % of reading)
		8 – 25 vol%	unspecified
SEV	Concentration (with optional OR-703)	0 – 10 vol%	± (0.15 vol% + 5 % of reading)
		10 – 25 vol%	unspecified
DES	Concentration (with optional OR-703)	0 – 22 vol%	± (0.15 vol% + 5 % of reading)
		22 – 25 vol%	unspecified
Gas types		Air, O ₂ , Air/O ₂ , N ₂ O/O ₂ , He, He/O ₂ , N ₂ , N ₂ O, CO ₂ , customised gas types	
Gas standards		ATP, ATPD, ATPS, AP21, AP25, STP, STPD0, STPD20, STPD21, STPH, BTPS, BTPS-A, BTPD, BTPD-A, 0/1013, 20/981, 15/1013, 25/991, 20/1013, 23/1013, NTPD, NTPS	
Respiratory parameters		Range	Accuracy
Breath rate	Rate	1 – 2000 bpm	±1 bpm or ± 1 %**
Time	Inspiratory time (T _i)	0 – 60 s	± 0.01 s
	Expiratory time (T _e)	0 – 90 s	± 0.01 s
	Inspiratory hold time	0 – 60 s	± 0.01 s
	Expiratory hold time	0 – 90 s	± 0.01 s
	Post-inspiratory pause (% T _P)	0 – 100 %	± 0.1 %
Ratio	I:E	1:300 – 300:1	± 2 %*
	T _i /T _{total}	0 – 100 %	± 5 %*
Breath volume	V _{Ti} , V _{Te}	± 60 L	± 1.75 % or ± 0.10 mL
Minute volume	V _i , V _e	0 – 300 sL/min	± 1.75 %* or ± 5 mL
Pressure	P _{Peak} , P _{Mean} , PEEP, P _{Plateau}	0 – 160 mbar	± 0.75 %* or ± 0.1 mbar**
Peakflow	PF _{Insp} , PF _{Exp}	± 300 sL/min	± 1.65 %* or ± 0.04 sL/min**
Compliance	C _{Stat}	0 – 1000 mL/mbar	± 3 %* or ± 0.01 mL/mbar**
Trigger	Automatic, Adult, Pediatric, HFO, ext. Trigger	Adult, Pediatric, HFO; Adjustable on flow or pressure curves with user-defined limits.	
General information			
Power		100 – 240 VAC, 50 – 60 Hz	
Battery operation		16 hours	
Power consumption		Typical 5 VA, max. 25 VA (during battery charging)	
Weight		3.2 kg	
Dimensions (w × d × h)		24 × 26 × 13 cm	
Data Storage		Internal, USB stick	
Display		High resolution touch-screen display 5" (800 × 480px)	
Interfaces		USB-A for USB stick, USB-B for FlowLab Software, individual communication, TTL for external trigger, RS232	
Calibration		Annually	
Operating temperature		10 – 40 °C (50 – 104°F)	
Operating Humidity		10 – 90 % R.H.**	
Approvals		CE, CSA (North America), IEC 61010-1:2010, IEC 61326-2:2012	

The greater tolerance is valid:

*Tolerance related to the measured value, ** Absolute tolerance, with steady air flow, *** Non-condensing, **** The unit sL/min is based on ambient conditions of 0 °C and 1013.25 mbar (DIN 1343).