

# CITREX™



«The compact and mobile testing device for ventilators.»

# Developed for mobile use

simple. compact. reliable.

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**Simple operation**  
CITREX is simple and intuitive to operate. The colour screen offers excellent readability and can be adapted to any situation due to its flip-screen function.



**Bidirectional flow measurement**  
The newly developed measuring method allows extremely precise, bidirectional flow measurement with low measuring resistance.



**Respiratory parameters**  
All the relevant respiratory parameters are measured and calculated.



**Real-time graphs**  
The device measures flow, volume, four pressures, temperature and oxygen concentration.



**Gas standards and gas types**  
13 gas standards and 7 gas types can be measured so as to meet a range of measuring requirements.



**Memory function**  
It is simple to save measurements on the device and export them to external data media for subsequent analysis.



**Interfaces**  
Due to the numerous interfaces, the device is ideal for networking, remote control and configuration.



**A compact device with everything you need**  
CITREX is especially impressive due to its size, low weight and robustness. All required components are integrated and the battery enables prolonged independent use.

# Options and accessories

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The device is shipped with all important parts for immediate use in the field. There are also a number of accessories and options which can be purchased separately.

## Transport bag (optional)

The transport bag is made of high-quality materials and is big enough to securely hold and transport the device along with all accessories. There is also space for optional accessories such as test lungs and the adapter set.



Price includes:

- CITREX H4 device
- High-performance battery
- Universal power plug
- USB cable
- Micro SD memory card
- Protection filter
- Quick-start guide
- Data CD



## Adapter-Set (optional)

The adapters contained in the set allow connection of virtually any test object to the CITREX device. Minimum dead space and very slight differences in the diameter of the flow stream help increase measurement accuracy.



## Oxygen measurement (optional)

Fast and precise measurement of oxygen concentration is an important function when verifying and calibrating ventilators. This option is available for new devices or can be acquired subsequently as a retrofit set.

# Technical Specifications



Flow and Pressure Measurements		Range	Accuracy
Flow		± 300L/min	± 1.9%* or ± 0.1L/min**
Temperature compensated		yes	
Pressure compensated		yes	
<b>Pressure</b>			
High		0..10 bar	± 1%* or ± 10mbar**
Differential		± 200mbar	± 0.75%* or ± 0.1 mbar**
Flow channel		-50..150mbar	± 0.75%* or ± 0.1 mbar**
Barometer		500..1150 mbar	± 1%* or ± 5mbar**
<b>Units</b>			
Flow		L/min, L/s, cfm, mL/min, mL/s	
Pressure		bar, mbar, cmH <sub>2</sub> O, inH <sub>2</sub> O, Torr, inHg, hPa, kPa, mmHg, PSI	
Other Measurements		Range	Accuracy
Oxygen, pressure compensated		0..100%	± 1% O <sub>2</sub> **
Gas temperature		0..50°C	± 1.75%* or ± 0.5°C**
Gas types		Air, Air/O <sub>2</sub> , N <sub>2</sub> O/O <sub>2</sub> , Heliox (21% O <sub>2</sub> ), He/O <sub>2</sub> , N <sub>2</sub> , CO <sub>2</sub>	
Gas standards		ATP, ATPD, ATPS, AP21, STP, STPH, BTPS, BTPD, 0/1013, 20/981, 15/1013, 25/991, 20/1013	
Ventilation Parameters		Range	Accuracy
Breath rate		1..1000bpm	±1bpm or ± 2.5%**
Time	Ti,Te	0.05..60s	± 0.02s
Ratio	I:E	1:300..300:1	± 2.5%*
	Ti/Ttotal	0..100%	± 5%*
Volume	VTi, Vte	± 10L	± 2%* or ± 20mL**
Minute volume	Vi, Ve	0..300L/min	± 2.5%*
Peak flow	Insp. / Exp.	± 300L/min	± 1.9%* or ± 0.1 L/min**
Pressure	Ppeak, Pmean, PEEP, Pplateau	0..150mbar	± 0.75%* or ± 0.1 mbar**
Compliance	Cstat	0..1000mL/mbar	± 3%* or ± 1 mL/mbar**
Volume trigger	Adult, Pediatric, HFO	flow or pressure at preset and at adjustable levels	
<b>General Information</b>			
Color display		yes	
Realtime curves		flow, pressure, volume	
Interface		RS-232, USB, Ethernet, CAN, Analog Out, TTL	
Power		90..260VAC	
Battery		4 hours	
Dimension (w×d×h)		11.4 × 6 × 7 cm	
Weight		0.4 kg	
Calibration		Annually	
Memory card		yes	
Approvals		CE	

# The perfect device for every application

For a several years, now, imtmedical has been the market leader and most important supplier of testing and calibration solutions for ventilators and anaesthesia devices. Developers appreciate the reliability and accuracy of the devices, as do service technicians and quality specialists.



## The compact class for mobile use

CITREX was designed for mobile use and meets all the requirements of day-to-day field operations. Reliable, compact and mobile.

- Verification and calibration of ventilators (hospital and homecare)
- Use in production plants



## The market leader in the lab and development category

The three models of the FlowAnalyser are put to use wherever high-precision measurement of pressure, flow and volume is required. Measurements can be subjected to detailed analysis using FlowLab software.

- Lab, research and development
- Calibration of ventilators
- Anaesthesia gas measurement
- Verification of spirometers and oxygen concentrators



## ...and just the right test lung, too

The various imtmedical test lung models cover every conceivable purpose.

- Calibration of ventilators and anaesthetic equipment
- Quick daily check of various devices
- Instruction courses and training programs
- Research and development