

# analyser

the art of measuring



IMT Analytics

# CITREX H5



## CITREX H5 – the flexible platform for universal use

CITREX H5 provides a flexible and adaptable platform for testing various medical devices. With its 4.3" multi-touch screen and advanced user interface, values and measurement curves are displayed in a clearly arranged manner. Thanks to its state-of-the-art display, curves can be analysed and measured out directly on the device. CITREX H5 is ideal for checking ventilators, anaesthetic machines, CO<sub>2</sub> insufflators and home ventilators.

### Measurement

The flow channel can measure bidirectional gas flows of  $\pm 300$  L/min, pressures up to 150 mbar, temperatures and oxygen. The sensors measure and calculate 25 different parameters. Gas flow and volume can be displayed in 17 different gas standards. In addition, differential pressure can be measured in the range  $\pm 200$  mbar and high pressure can be measured up to 10 bar. All readings are displayed in a clearly arranged manner and analysed directly with a set of statistics.

### Apps

Apps for different devices help to conduct test procedures quickly and easily. Procedures are visualised according to the manufacturer-specific instructions. At the end of a particular testing process a signed test report is generated that contains your company information. That can easily be exported and printed out.

### Interfaces

With the Wi-Fi interface, software updates can be downloaded and installed directly. As a result, you can benefit from new functions immediately. CITREX H5 is provided with USB, Ethernet, RS-232, CAN and Analog Out interfaces and an external trigger input. With the Ethernet interface, data and measurement curves can be transmitted via the network directly and easily.

### Profiles

With profiles, settings and representations are saved, which brings about a time saving and increased safety when testing devices. The simple export function makes it possible to share profiles. That means you can use the same profiles throughout the entire facility with minimal effort.



# CITREX H4



## Ventilator tester for mobile use



CITREX H4 is designed for mobile and effortless application, meeting all the requirements of daily use in the field. Its numerous functions make it possible to subject various medical devices to advanced performance testing. CITREX H4 is suitable for checking ventilators, anaesthetic machines, oxygen blenders and suction equipment.

### Ventilation parameters on real-time graphs

Up to 25 relevant ventilation parameters that are chiefly based on volume, flow and pressure are continuously measured and calculated and can be shown graphically and numerically on the colour display in real time. The flow and pressure measuring instrument makes it possible to measure up to 8 gas types or mixtures such as Air, Air/O<sub>2</sub>, N<sub>2</sub>O/O<sub>2</sub>, CO<sub>2</sub>, etc. In addition, 17 internationally applied gas standards such as ATP, BTPS, STPD, etc. are supported and thus permit smooth safety checks on various medical devices.



### Oxygen measurement

Fast and precise measurement of oxygen concentration is an important function when verifying and calibrating medical devices. That is why CITREX H4 provides an oxygen sensor as standard.

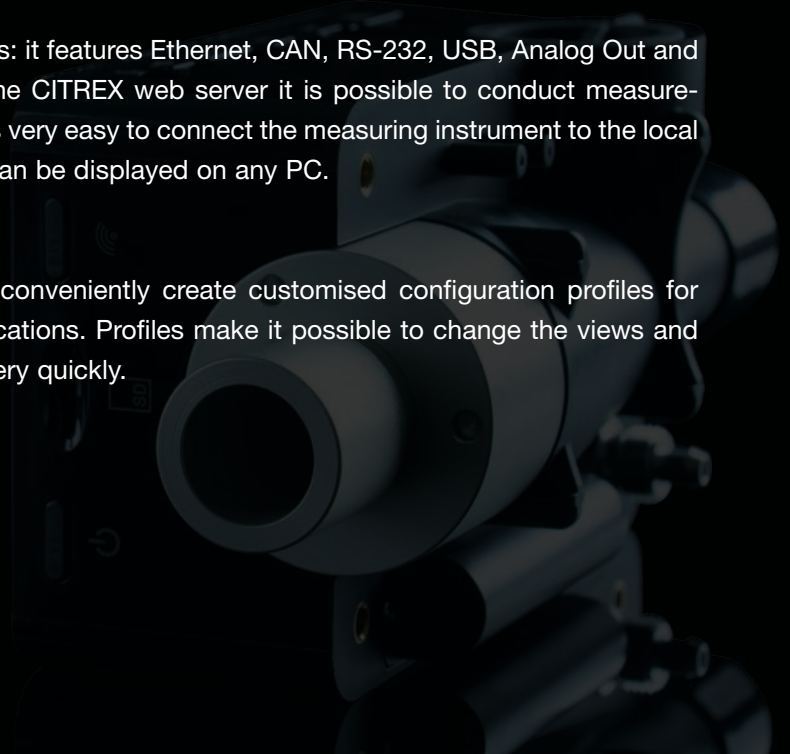


### Interfaces

CITREX H4 has various interfaces: it features Ethernet, CAN, RS-232, USB, Analog Out and an external trigger input. With the CITREX web server it is possible to conduct measurements via your local network. It is very easy to connect the measuring instrument to the local network. Readings and graphs can be displayed on any PC.

### CITREX profiles

Profile functions enable you to conveniently create customised configuration profiles for each of your ventilators or applications. Profiles make it possible to change the views and settings for a particular device very quickly.



# CITREX H3



## The mobile entry-level model CITREX H3



CITREX H3 can measure the key ventilation parameters. The measuring instrument is also ideal for flow and pressure measurements. Since gas standards and gas types can be set to suit requirements, CITREX H3 is highly flexible in use. The extremely compact and light instrument offers everything you need to verify home ventilators and intensive care ventilators.

### Measurement

With a wide measuring range of  $\pm 300$  L/min and an accuracy of  $\pm 2\%$  the measuring instrument is suitable for many applications. Since it is possible to measure bidirectional flows, it is not necessary to turn the device round. The integrated pressure sensor measures from  $-50$  mbar to  $+150$  mbar. Volume and gas flow measurements can be displayed with 9 different gas standards. Up to 5 different gas types can be measured and 17 different parameters can be displayed.

### Oxygen sensor

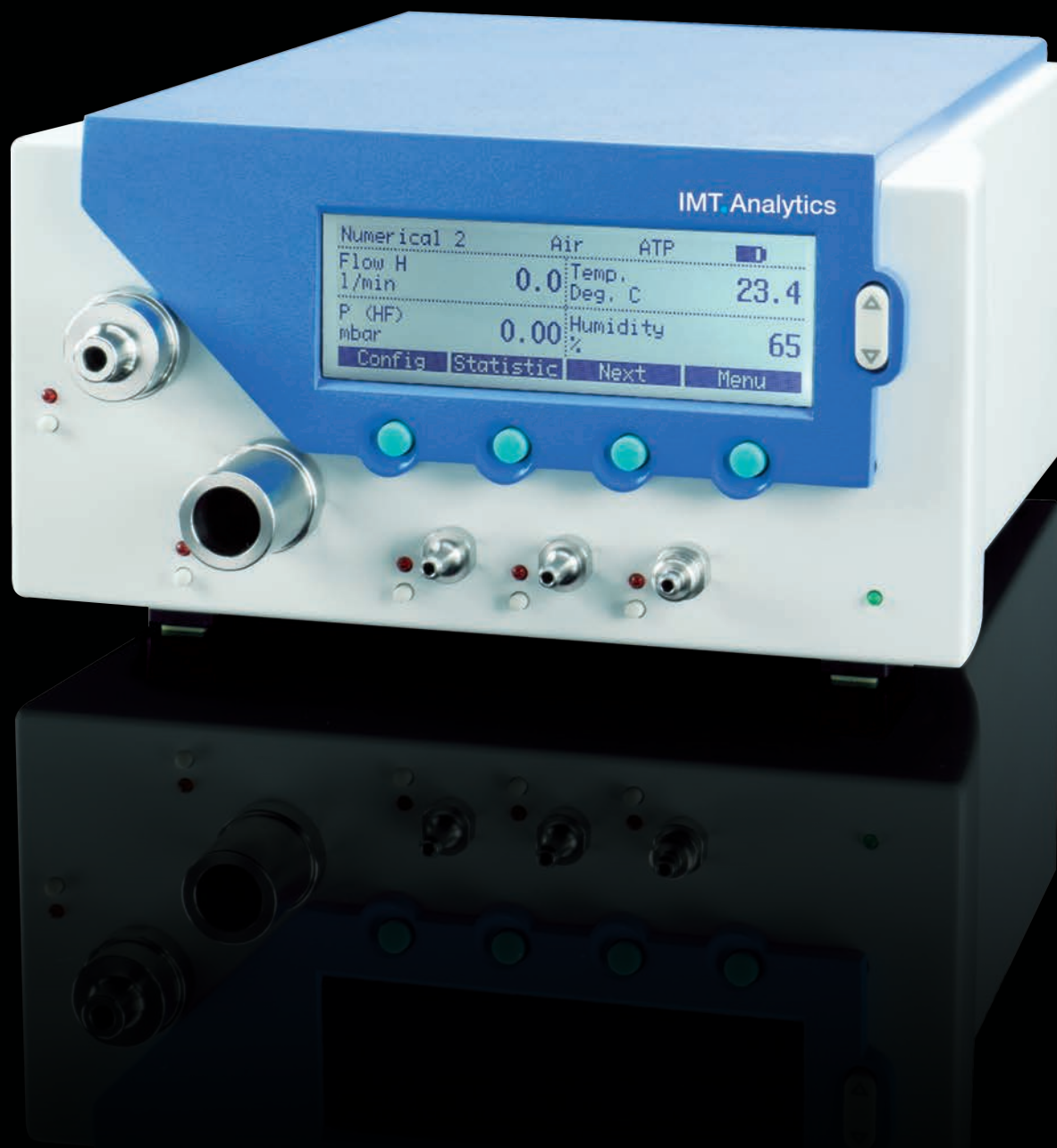
An optional oxygen sensor extends the functions of the measuring instrument. With the option it is possible to measure and display oxygen concentrations in the range 0–100%  $O_2$ . The oxygen concentration measured is automatically included for compensation.

### Configuration

Configuration can be easily performed on the PC. As a result, you always have the necessary parameters with the appropriate units up front.



# FlowAnalyser PF-300





## Premium ventilator tester for health experts

FlowAnalyser PF-300 makes it possible to test, check and calibrate all kinds of medical devices that use gas pressure or gas flow, e.g. ventilators and anaesthetic machines. The FlowAnalyser measures bidirectional flow, various pressures, temperature, humidity and oxygen concentrations. Three different trigger modes for adult, paediatric and high-frequency ventilators simplify the test procedure considerably. The instrument incorporates separate high-flow and low-flow channels, integrated data storage, a built-in battery and an optional interface connecting to our PC software FlowLab. On account of its accuracy and excellent measuring performance the PF-300 has evolved to become the industry standard.

### Ventilation parameters

FlowAnalyser PF-300 offers up to 27 ventilation parameters for testing all kinds of ventilator. HFO frequencies can be measured up to a maximum of 1000 breaths per minute. In total there are 17 gas standards and 10 gas types available. Furthermore, personal gas types and gas mixtures can be defined on an optional basis in order to conduct flow measurements and volume calculations for particular requirements.

### MultiGasAnalyser

Extend the capabilities of your FlowAnalyser with the optional MultiGasAnalyser OR-703 in order to measure CO<sub>2</sub>, N<sub>2</sub>O, halothane, enflurane, isoflurane, sevoflurane and desflurane. The external sensor can be very easily connected up and positioned for measurement at the desired location.

### Interfaces

The FlowAnalyser is provided with USB and RS-232 interfaces and an external trigger input.

### FlowAnalyser product variants

- |                   |   |
|-------------------|---|
| <b>PF-300</b>     | <b>The standard model for universal applications</b>  |
| <b>PF-301 VAC</b> | Includes an additional vacuum sensor for measurements in the range $\pm 1$ bar                    |
| <b>PF-302 LOW</b> | Includes an additional pressure sensor with increased accuracy for measurements from 0 to 5 mbar. |

BTPS

STPH

ATP

STP

AP21

ATPD

15/1013

25/991

20/1013

BTPS-A

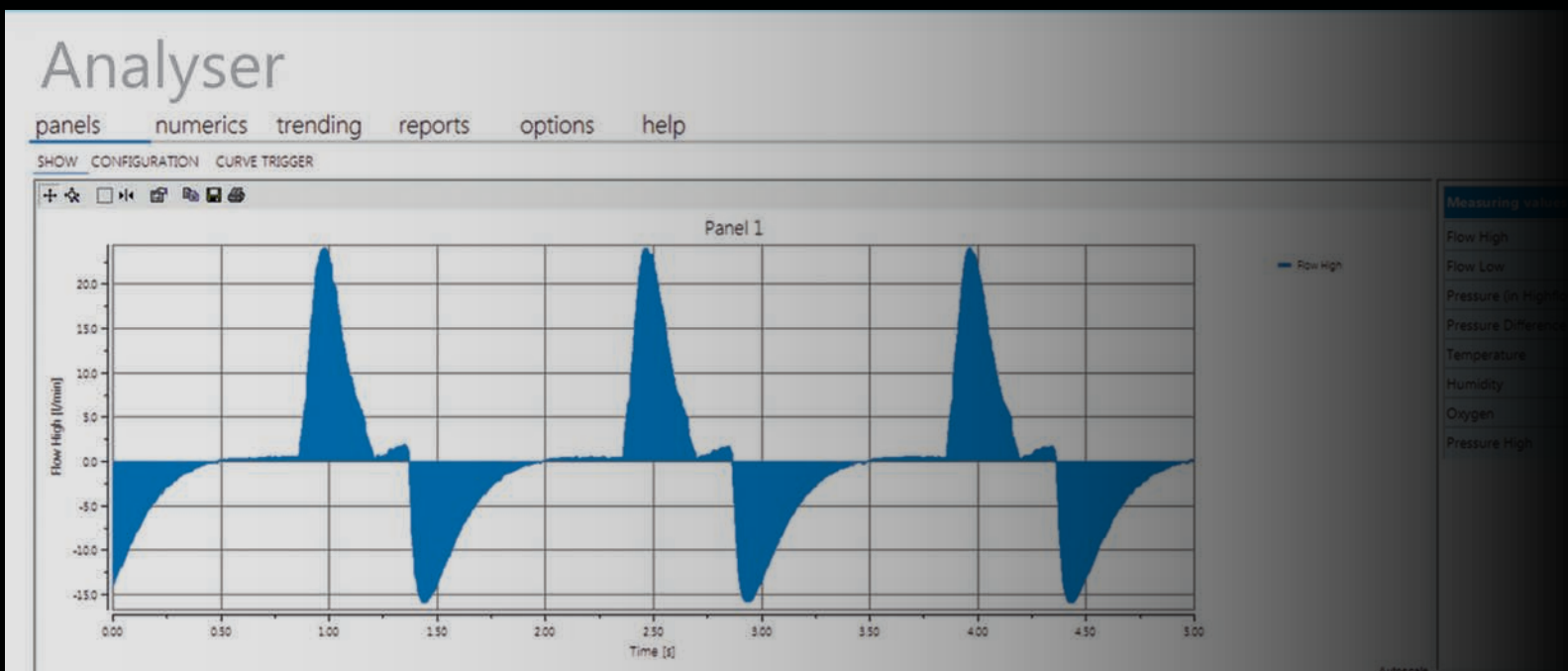
ATPS

# FlowLab – the analysis software

View flow, pressure and volume measurements conveniently on your computer monitor. FlowLab displays your measurement results graphically on real-time curves or numerically. Measurements can be analysed with freely adjustable test points. As a result, you can generate personalised test reports in the form of PDF files. With the trending function, 10 parameters can be recorded for over 100 hours, enabling in-depth analysis and documentation of measurements.

The software operates with FlowAnalyser PF-300 and its variants as well as with CITREX H4 and CITREX H5.

« Software package for real-time graphs, 100-hour trends and customised reporting. »



# EasyCal – calibration service

The EasyCal calibration service from IMT Analytics offers annual calibration and maintenance for your FlowAnalyser or CITREX test instruments. The online ordering system plans pick-up time to suit your requirements and generates freight and Customs documents automatically. The calibration laboratory is accredited in accordance with ISO 17025 and operates in compliance with strict international quality standards.

The EasyCal calibration and maintenance package comprises:

- Annual maintenance of the measuring instrument (firmware update, performance test, replacement of wearing parts)
- Complete calibration of flow, pressure, temperature, oxygen and humidity
- Easy online ordering with pick-up service

Thanks to logistics partners the global calibration centres in Singapore and Switzerland can be contacted quickly so you have the measuring instruments back within 10 working days (express variant).



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