



## Instruction Manual OXYBABY<sup>®</sup> V O<sub>2</sub>/CO<sub>2</sub>



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**WITT-TECHNOLOGY FOR GASES**

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# MAP all in one hand

## GAS MIXING



### KM range

- easy handling
- constant quality
- high process reliability
- maximum hygiene
- for 2 or 3 gases



### KM+ range

- remote control
- tamper proof
- high mixing accuracy
- linkable (e.g.CAN-Bus)
- for 2 or 3 gases

## GAS FLOW CONTROL



### KD range

- up to 30% gas savings
- integrated O<sub>2</sub> analysis
- electronic gas flow control

## GAS ANALYSIS



### MFA range

- analysis of smallest packages
- fast measuring results
- recording of results
- easy handling



### Oxybaby<sup>®</sup>V range

- one-hand operation
- minimal sample gas required
- fast response time
- recording of measurements
- multilingual menu guide

## PACKAGE CHECK



### Leak-Master range

- detection of smallest leaks
- reliable packaging process
- minimal response time
- for different pack sizes
- recording of results

# PRODUCTS FROM WITT

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## 2 Introduction

The OXYBABY® is an ergonomically shaped cordless oxygen and carbon dioxide analyser suitable for single hand operation. The measurement range is 0 Vol.-% to 100 Vol.-% O<sub>2</sub> and/or CO<sub>2</sub> in mixtures of non-flammable gases. It is intended to be used for analysing the carbon dioxide concentration or residual oxygen contents in food packages and similar applications.



**Caution !**

***The unit shall not be used in locations with a prevailing explosive atmosphere. It shall not be used for analysing gas mixtures containing flammable gases.***

The OXYBABY® is equipped with an internal memory for 100 measurement data. Data will be kept in the memory even when the analyser is switched off. The measurement data can be transferred to a PC using the WITT-Logger PC software which is optionally available.

To protect the operator the OXYBABY® is equipped with an automatic needle cover.

## 3 Accessories

The OXYBABY® is delivered with the following accessories:

Quantity	Description	WITT part no.
1	Carrying case	800507400
1	Mains adapter	850003200
100	Foam pads, sheet	800507900
2	Injection needle, in storage container	800499700 800286100
2	Filter, pore size 0,45 µm	800462800
1	Instruction manual for OXYBABY® V and OXYBABY® Terminal PC software* on CD-ROM WITT-Logger PC software* on CD-ROM (demo-version, clearing by option)  (* On language setting "Russian" the use of WITT-Logger and OXYBABY®- Terminal-software is not possible.)	595000001

## 4 Functional description

The sample gas is drawn into the instrument by a built-in pump and fed to an O<sub>2</sub>-sensor as well CO<sub>2</sub>-sensor.

The O<sub>2</sub> contained in the sample gas generates in the electro-chemical O<sub>2</sub>-sensor a small electrical voltage proportional to the O<sub>2</sub> concentration. The voltage signal from the sensor is measured, and the corresponding O<sub>2</sub> concentration is calculated and shown on the display.

The measurement of the carbon dioxide concentration is performed by an infrared optical sensor.

The measured O<sub>2</sub> and CO<sub>2</sub> concentration, with date and time of measurement are automatically recorded after the analysis has been finished. The internal memory is a ring type buffer, i.e. once the memory is full, the oldest data will be automatically deleted when a new measurement value is stored. Memory occupancy is indicated by a segment bar shown in the bottom line of the display.

The useful life of the O<sub>2</sub> sensor is approx. 1.5 to 2 years at normal ambient conditions (21 Vol.-% O<sub>2</sub>, 20 °C). The lifetime of the sensor will decrease if the O<sub>2</sub> concentration increases above 21 Vol.-%.

The CO<sub>2</sub>-sensor is immune to wear and tear.

The OXYBABY® is equipped with an automatic pressure compensation to prevent incorrect analyses resulting from changes in ambient pressure or gas pressures in the packaging.

## 5 Power supply

The instrument utilises a battery pack with two build-in high quality rechargeable batteries for power supply (Type: see technical data).

Empty batteries are signalled by an audible warning signal and display of the error message **battery low**. Additionally, a battery symbol shown in the right bottom of the display indicates the charging status of the batteries.



**Note !**

***In this case no further analyses should be performed as measurement accuracy may be impaired.***

- Connect the OXYBABY® to the charging device and recharge batteries.



**Note !**

***For measurement accuracy:***

***Start measurement 0,5 hours after recharging batteries.***

***Start calibration 2 hours after recharging batteries.***

The service life of the battery pack is approximately 2 to 3 years. It can be replaced when required.

Use only genuine spare parts!


To purchase a new battery pack please refer to Part number: 800.517100.

## 6 Operating modes

The OXYBABY® can be used in two different operating modes:

### 6.1 Sample-hold operation

Following to the start of the measurement the measurement programme runs automatically. A gas sample is drawn from the packaging and the O<sub>2</sub>/CO<sub>2</sub> concentration is measured. Sample time see technical data. The sampling is automatically stopped when the sample time has elapsed. The measured O<sub>2</sub>/CO<sub>2</sub> concentration, and date and time of measurement are automatically recorded after the analysis has been finished.

The measurement time can be extended by pressing  while the measurement is taken.

### 6.2 Continuous operation

After start of the measurement sample gas is continuously drawn from the packaging and the O<sub>2</sub>/CO<sub>2</sub> concentration is continuously being analysed.


During measurement the operating mode (permanent) is shown in the first line of the display. The currently measured O<sub>2</sub>/CO<sub>2</sub> concentration (vol.-%) is shown in the middle of the display.

Date and time of last recorded analysis are shown in the lower line of the display.



**Note !**

***During continuous operation the currently measured O<sub>2</sub>/CO<sub>2</sub> concentration will be recorded every 10 seconds.***

The measurement can be stopped at any time by pressing  The latest measured O<sub>2</sub> concentration, and date and time of measurement are automatically recorded.

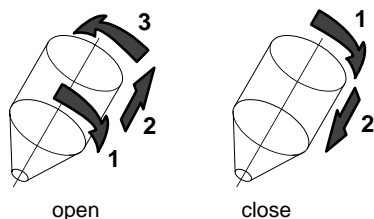
## 7 Operation



### Note !

**Please charge batteries (approx. 2 hours ) prior to first use.**

### 7.1 Open / close needle cover



### Recommendation !

**Open the needle cover only immediately before performing a measurement. Close needle cover immediately after each measurement.**

### 7.2 Switch on

- Press to switch the instrument on.
- The following data will appear in the display: Software version and serial number of the instrument. Subsequently the display will show the message "last sample", the latest measured O<sub>2</sub>/CO<sub>2</sub> concentration, and date and time of latest measurement.

### 7.3 Perform an analysis



#### Caution !

**Adapt the OXYBABY® before the measurement to a possible climatic change, in order to avoid falsified results of measurement.**

**This applies also to packing, which are stored more warmly or more coldly than the OXYBABY®.**

- Press to start measurement.
- Press to stop measurement (only in continuous operating mode necessary).
- The latest measured concentration is shown in the display.



### Note !

**During continuous operation the latest measured concentration, and date and time of measurement are automatically recorded every 10 seconds.**

### 7.4 Switch off

- Press for 2 seconds.
- The instrument is automatically purged and subsequently switched off.



### Note !

**The OXYBABY® provides an automatic switch off feature. It will be automatically switched off if no operations (e.g. operation of a key or performing a measurement) were performed for more than 2 minutes.**

## 7.5 Programme options

The OXYBABY® offers a number of programme options which can be selected by pressing the key located in the middle of the key pad.



### Note !

**You can exit all menu options of OXYBABY® without changes to the current settings and return to the measurement / display menu by pressing !**

Key	Display	Programme options
<p>1x</p>		<p><b>Measurement and display mode</b></p> <p>After switch on the unit enters automatically the measurement and display mode. The results of the latest analysis are shown in the display.</p> <p>Date and time of measurement and actual memory occupancy are shown in the bottom lines of the display. Occupied memory space is indicated by dark filled segments of the bar, free memory space is indicated by non filled bar segments.</p> <p>A battery symbol indicates the actual charging status of the batteries, i.e. a dark coloured battery means: fully charged.</p>
<p>1x</p>		<p><b>Select product</b></p> <p>The current selected product is shown in the lower line of the display.</p> <p>Press  to start product selection.</p> <p>Select another product with .</p> <p>Confirm the selected product with .</p> <p>To edit product names it is necessary to connect the OXYBABY® to your computer by an interface cable (optional available). The product names can be edited with the WITT-software «OXYBABY® - Terminal» and transmitted to the OXYBABY®.</p> <p>Press  to return to the measurement and display menu.</p>
<p>2x</p>		<p><b>Show logged data</b></p> <p>Press :</p> <p>An analysis trend chart for O<sub>2</sub> will be displayed.</p> <p>Press  and an analysis trend chart for CO<sub>2</sub> will be displayed.</p> <p>With  the three latest recorded measurement data will be displayed in tabular form with date and time of measurement. Repeatedly press  to successively display remaining data.</p> <p>The first line in the display will show: <b>record</b> and number of records (e.g. <b>100-98</b> for latest measurement data ).</p> <p>In case of no recorded measurement data the bottom line in the display will show: <b>no data in memory.</b></p> <p>The restricted space of the OXYBABY® -display does not allow to show the records together with product names. This relation is saved internally and can be evaluated with the WITT-Logger programme (see chapter 12).</p> <p>Press  to return to the log data selection menu. Press  to return to the measurement and display menu.</p>


Key	Display	Programme options
<b>3x</b> 		<b>Send logged data</b> <p>This menu option enables you to transfer the measurement data recorded in the OXYBABY® to a PC. For data transfer the OXYBABY® must be connected to the computer by an interface cable (optional available), and the WITT-Logger programme must be started on the PC (please refer to chapter 12 for details, the WITT-logger release code is optional available).</p> <p>Start data transfer by pressing  .</p> <p>During data transfer the message <b>sending</b> will be shown in the lower line of the display.</p> <p>Once the data transfer has been finished the message <b>send</b> will be displayed.</p> <p>Press  to return to the measurement and display menu.</p>
<b>4x</b> 		<b>Delete all logged data</b> <p>This menu option enables you to completely delete all measurement data recorded in the OXYBABY®.</p> <p>In case of no recorded measurement data the bottom line in the display will show: <b>no data in memory</b>.</p> <p>Press  to acknowledge selection:</p> <p>All recorded data will be deleted.</p> <p>Press  to return to the measurement and display menu.</p>
<b>5x</b> 		<b>Set / rectify date and time</b> <p>The current date and time are shown in the lower line of the display.</p> <p>This menu option enables you to adjust date and time setting (e.g. after replacement of batteries).</p> <p>Press  to acknowledge selection:</p> <p>Date and time are shown in the lower line of the display. A dark bar appears on top of the first digits (day).</p> <p>Press  until the correct figure is shown, and press  to acknowledge new date. The bar will move to the next character set (month). Continue with date and time adjustment until all data have been correctly set.</p> <p>Press  to return to the measurement and display menu.</p>
<b>6x</b> 		<b>Select operating mode</b> <p>Press  to acknowledge selection:</p> <p>The upper line in the display identifies the currently selected operating mode (e.g. sample hold). A dark bar will appear on top of the last line shown in the display.</p> <p>Press  to switch to an alternative operating mode (e.g. permanent).</p> <p>Press  when the desired operating mode is shown to confirm selection.</p> <p>Press  to return to the measurement and display menu.</p>
<b>7x</b> 		<b>O<sub>2</sub> calibration, zero calibration</b> <p>Supply zero gas to the OXYBABY® (recommendation 100 % N<sub>2</sub> or CO<sub>2</sub>).</p> <p><b>Caution !</b>  <i>The zero gas must not contain any O<sub>2</sub>!</i></p> <p>Press  to start calibration.</p> <p>The message "calibration" will start to flash.</p> <p>Wait until an audible signal is given.</p> <p>The new calibration setting is stored and the concentration reading in the display is adjusted to 0.0 %.</p> <p>Press  to return to the measurement and display menu.</p> <p>The calibration can be stopped at any time by pressing  . You will then return to the measurement / display menu without storing a new calibration setting.</p>
<b>8x</b> 		<b>O<sub>2</sub> calibration, span calibration</b> <p>Span calibration is performed using ambient air (20,9 vol.% O<sub>2</sub> in N<sub>2</sub>) as test / calibration gas.</p> <p>Make sure that the needle of the OXYBABY® is not clogged and that the room is well ventilated (O<sub>2</sub> concentration = 20,9 Vol.-%).</p> <p>Press  to start calibration.</p> <p>The message "calibration" will start to flash.</p> <p>Wait until an audible signal is given.</p> <p>The new calibration setting is stored and the concentration reading in the display is adjusted to 20.9 %.</p> <p>Press  to return to the measurement and display menu.</p> <p>The calibration can be stopped at any time by pressing  . You will then return to the measurement / display menu without storing a new calibration setting.</p>

Key	Display	Programme options
9x 		<b>CO<sub>2</sub> calibration, zero calibration</b> Supply zero gas to the OXYBABY® (recommendation 100% N <sub>2</sub> ). <b>Caution !</b> <b>The zero gas must not contain any CO<sub>2</sub>!</b> Press  to start calibration. The message "calibration" will start to flash. Wait until an audible signal is given. The new calibration setting is stored and the concentration reading in the display is adjusted to 0.0 %. Press  to return to the measurement and display menu. The calibration can be stopped at any time by pressing . You will then return to the measurement / display menu without storing a new calibration setting.
10x 		<b>CO<sub>2</sub> calibration, span calibration</b> Span calibration is performed using suitable gas. Press  to start calibration. The message "calibration" will start to flash. Wait until an audible signal is given. The new calibration setting is stored and the concentration reading in the display is adjusted. Press  to return to the measurement and display menu. The calibration can be stopped at any time by pressing . You will then return to the measurement / display menu without storing a new calibration setting.
11x 		<b>Adjusting calibration points</b> <b>Note !</b> <b>The minimum span between the upper and lower calibration point must be 5% points at O<sub>2</sub>, and 30%-points at CO<sub>2</sub>.</b> Press  to acknowledge selection: The upper line in the display shows the upper and lower calibration points of the sensors. A dark bar will appear on top of the first numeric section. <b>Note !</b> <b>It is not possible to change the lower calibration point of the CO<sub>2</sub> analysis.</b> Press  to reach the next numeric section. In case of the right number acknowledge selection with . The bar switch to the next numeric section. Go so on till all numbers are correct and the bar is not on display. Press  to return to the measurement and display menu. <b>Note !</b> <b>In case of other calibration points use an suitable calibration gas.</b>
12x 		<b>Select language</b> The currently selected language (German, English, Spanish, Italian, Netherlands, French; Polish, Finnish, Swedish or Russian*) is shown in the lower line of the display. Press  to acknowledge selection: The current language setting (e.g. German) is shown in the lower line of the display. A dark bar appears on top of the language. Press  until the correct language is shown, and press  to confirm new language setting. Press  to return to the measurement and display menu. (* On this language setting the use of WITT-Logger and OXYBABY®-Terminal-software is not possible.)
13x 		<b>Rotate display</b> The currently used setting either "not rotated" or "rotated" is shown in the lower line of the display. This option is for handle the OXYBABY® with needle to- or from the user. Press  to acknowledge selection: The actual mode (e.g. not rotated) is shown in the lower line of the display. A dark bar appears on top of the mode. Press  to retrieve the alternative display orientation (e.g. "rotated"), and press  to confirm new orientation. Press  to return to the measurement and display menu.





**You can exit all menu options of OXYBABY® without changes to the current settings and return to the measurement / display menu by pressing !**

## 8 Calibration

-  **The OXYBABY® shall be calibrated on a regular schedule ensure precise measurement at the point of use. For most applications a weekly calibration is sufficient; for highest accuracy the calibration should be performed prior to start of the measurements! Exposure of the instrument to major changes in environmental conditions (e.g. strong vibration during transport or major changes in temperature) will render a re-calibration necessary!**

The OXYBABY® is calibrated at four settings:

- Zero calibration for O<sub>2</sub>-analysis.  
(recommendation 100 vol,% N<sub>2</sub> or CO<sub>2</sub>)
- Span calibration for O<sub>2</sub>-analysis.
- Zero calibration for CO<sub>2</sub>-analysis.  
(recommendation 100 vol,% N<sub>2</sub>)
- Span calibration for CO<sub>2</sub>-analysis.  
(recommendation 100 vol,% CO<sub>2</sub>)

Press  to select the corresponding calibration point. Press  to start calibration.

-  **For measurement accuracy we recommend first calibration of O<sub>2</sub>-sensor and afterwards calibration of CO<sub>2</sub>-sensor!**

-  **Please do not move the instrument during calibration!**



### **Caution !**

**Make sure that the measuring cell is not pressurised during while performing calibration and/or measuring routines.**

**The sample gas shall always be drawn into the instrument at atmospheric pressures (=ambient pressure).**

-  **Non-observation of the above may result in incorrect measurements and / or damage of the instrument. Never draw fluid into the instrument!**


### 8.1 Zero calibration

- A suitable zero gas cylinder, equipped with a pressure reducer shall be used as calibration gas source (see technical data). Connect a hose to the outlet of the pressure reducer.
- Adjust minimum possible pressure and flow at the outlet of the pressure reducer / hose and discharge the gas through the hose unobstructedly to ambient.
- After the system pressure reducer / hose has been sufficiently purged with the zero gas (e.g. ambient air has been replaced) insert needle into the aperture of the hose so that a sample of the zero gas flow can be drawn into the instrument. Start calibration "zero gas".

-  **Make sure that the needle is inserted into hose such that the gas flow through it is not obstructed and that no pressure will build up!**

- Wait until an audible signal is given.
- The OXYBABY® automatically records and adjusts the calibration value. Simultaneously the figure shown in the display is corrected to 0,0 %.
- Keep needle properly inserted into the hose until the calibration has been finished.

### 8.2 Span calibration O<sub>2</sub>

-  **For best accuracy perform span calibration with fresh ambient air!  
The calibration shall be performed with clean, dry and oil-free air to prevent sensor damage!**

- Start span calibration.
- Make sure that there is no pressure build-up at the needle tip (=gas inlet).
- Wait until an audible signal is given.
- The OXYBABY® automatically records and adjusts the calibration value. Simultaneously the figure shown in the display is corrected to 20,9 %.

### 8.3 Span calibration CO<sub>2</sub>

- A suitable calibration gas cylinder, equipped with a pressure reducer shall be used as calibration gas source (see technical data). Connect a hose to the outlet of the pressure reducer.
- Adjust minimum possible pressure and flow at the outlet of the pressure reducer / hose and discharge the gas through the hose unobstructedly to ambient.
- After the system pressure reducer / hose has been sufficiently purged with the zero gas (e.g. ambient air has been replaced) insert needle into the aperture of the hose so that a sample of the zero gas flow can be drawn into the instrument. Start calibration "zero gas".



***Make sure that the needle is inserted into hose such that the gas flow through it is not obstructed and that no pressure will build up!***

- Wait until an audible signal is given.
- The OXYBABY<sup>®</sup> automatically records and adjusts the calibration value. Simultaneously the figure shown in the display is corrected to for example 100 % CO<sub>2</sub>.
- Keep needle properly inserted into the hose until the calibration has been finished.

## 9 Technical Data

Setting up (usage):	Indoors	(single hand unit)
Soiling index:	2 (accordance to VDE 0160)	
Enclosure rating:	IP20	
Storage temperature:	min. -20 °C	max. 70 °C
Ambient temperature at usage:	min. 0 °C	max. 50 °C
Gas inlet temperature:	min. 5 °C	max. 40 °C
Relative humidity:	≤ 90 %, not condensing at +20 °C ≤ 50 %, not condensing at +40 °C	
Max. operating altitude:	4000 m über N.N.	
Dimensions (HxWxD) in mm:	44 x 80 x 160	
Weight:	ca. 650 g	
Sample gases:	CO <sub>2</sub> , O <sub>2</sub> and mixtures of these in not combustible gases, not toxic and not corrosive gases	
Sample gas inlet pressure:	max. 0,3 barg	
Calibration gas inlet pressure:	max. 0,3 barg	
Sample volume:	≤ 4 ml	
Sample volume:	≤ 9 s	
Charged battery:	2 NI-MH accumulators, size AA, capacity: min. 1.600 mAh @ 1,2 V	
No. of samples:	ca. 250 with one battery	
Compliant with the requirements of EC directive:	EMC-directive 89/336/EWG	
German / European standards:	DIN EN 50081 part 1/03.96, and 50082 part 2/02.96 DIN EN 60439-1/04.94	
<b>O<sub>2</sub>-Analysis</b>		
Sensor:	electrochemical cell	
Sensor signal	Factory new sensor: 9-13 mV at air (20,9 vol% O <sub>2</sub> )	
Measurement range:	0 ...100 Vol.-% O <sub>2</sub> in inert gas	
Accuracy:	0,1 % absolute at O <sub>2</sub> concentrations ≤ 10 vol.-% 1 % relative at O <sub>2</sub> concentrations 10-100 vol.-% at 20 °C, respectively at calibration conditions (measured)	
Response time (t <sub>90</sub> ):	≤ 5 s	
Service life:	≥ 2 years (in air at 20 °C), replaceable sensor	

**Please note:**

**The service life of the sensor considerably depends on the O<sub>2</sub>-concentration of the sample gases!**

Operative life of sensor = 500000%-h O<sub>2</sub> at 20 °C.

Example for sensor, gas mixture 21% O<sub>2</sub> in CO<sub>2</sub>:

500000%-h : 21% : 24h = 992,06 days of operation = 2,72 years

Example for sensor, gas mixture 80% O<sub>2</sub> in CO<sub>2</sub>:

500000%-h : 80% : 24h = 260,42 days of operation = 0,71 years

Zero gas (recommended):	N <sub>2</sub>
Calibration gas (recommended):	air (20,9 vol% O <sub>2</sub> in N <sub>2</sub> )

**CO<sub>2</sub>-Analysis**

Carrier gases:	not combustible, not corrosive gases (typical: N <sub>2</sub> , O <sub>2</sub> , Ar)
Sensor:	Infrared adsorption technology
Measurement range:	0...100 vol%
Accuracy:	±2% FS at 20 °C (±2% CO <sub>2</sub> )
Operative life:	Immune to wear and tear
Kind of measurement:	Sample-hold/continuously
Time to answer:	≤ 5 s
Relative humidity:	≤ 90 %, not condensing at +20 °C, ≤ 50 %, not condensing at +40 °C
Ambient temperature at usage:	0...+40 °C, not condensing
Kind of calibration:	2 point calibration (zero-point, span)
Zero gas (recommended):	N <sub>2</sub>
Calibration gas (recommended):	100% CO <sub>2</sub>
Max. pressure at usage (g):	Atmosphere

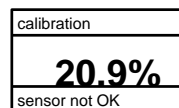
## 10 Servicing / maintenance

The OXYBABY® requires only minimum maintenance and will operate very reliably for many years if you follow the following instructions:

- Use only clean and flawless filters.  
Contaminated filters can obstruct sample gas flow through the sensor. Contaminated and / or broken filters cannot adequately remove contaminants from the sample gas.
- Check sample gas flow through the needle occasionally.  
If the needle is clogged no sample gas will be supplied to the sensor resulting in incorrect measurements. Replace clogged, bent or otherwise damaged needles immediately.
- Clean the OXYBABY® only with soft, dry or damp cloth.  
Never use solvents. Never rinse the unit with water or solvents.
- Avoid major changes in temperature and/or condensation of water vapour on the unit. In the case that water condensate developed, please remove the lower part of the housing (refer to sensor replacement) and let the unit dry at normal ambient conditions (room temperature). The unit should not be switched on until sufficiently dried.
- Avoid impact of shock or strong vibration on the unit.
- Calibrate the OXYBABY® on a regular schedule, preferably prior to start of the measurements.

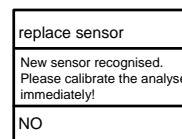
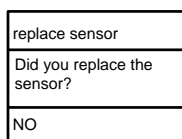
## 10.1 Replace O<sub>2</sub> sensor

- The following message appears in the display:  
To purchase a new sensor please refer to:  
Part number: 800515100.
- Switch the instrument off.
- Remove the 6 screws located on the rear of the instrument and open the housing.
- Remove slotted screw located at the O<sub>2</sub> sensor.
- Remove tubes from the O<sub>2</sub> sensor.
- Carefully remove O<sub>2</sub> sensor from the instrument.
- Unplug electrical connections at the O<sub>2</sub> sensor.
- Unscrew sensor by turning the corrugated cap nut anti clockwise.
- Insert new O<sub>2</sub> sensor following the above instructions in reverse direction.



**Do not damage hoses and cables when reassembling the device.**

- Switch the instrument on:  
Simultaneously press keys and and hold till the display shows



- Press to select **YES** and press .  
The OXYBABY<sup>®</sup> recognises the new sensor and issues an audible signal.
- Press and return to the measurement and display menu.
- Calibrate the instrument. Please refer to chapter 8 for instructions.

## 11 Error messages / warnings



**In case of an error a warning signal will sound. The corresponding flashing error message will appear on the display!**

Error message	Cause	Remedy
● zero gas high	● O <sub>2</sub> concentration in supplied gas $\geq 7,0$ Vol.-%	● supply gas with 0 Vol.-% O <sub>2</sub>
● test gas low	● O <sub>2</sub> concentration in supplied gas $\leq 7,0$ Vol.-%	● supply gas with 20,9 Vol.-% O <sub>2</sub>
● battery low	● battery empty	● charge batteries
● sensor not OK	● O <sub>2</sub> -sensor defective	● replace O <sub>2</sub> -sensor
● EPROM not OK	● internal electrical failure	● send unit to authorised service agent or manufacturer for repair

## 12 Readout data from OXYBABY<sup>®</sup>

To readout and record your analysis data you are encouraged to use the WITT-Logger, a software programme specifically developed by WITT-GASETECHNIK. The WITT-Logger provides a simple and comfortable tool to record and further evaluate the measured data.

You will find further information on the WITT-Logger, like e.g. system requirements, installation and operation, on the CD delivered with your OXYBABY<sup>®</sup>.

To purchase a new interface cable please refer to Part number: 595.000003.



**The WITT-Logger does not work if the language "Russian" is selected at an OXYBABY<sup>®</sup>.**



**The WITT-Logger PC programme is fully operational. 5 analysis results will be recorded per session, subsequently the programme will be switched into the demo-mode. Please contact WITT-GASETECHNIK to receive a release code which will provide full operability of the programme.**

## REPAIR INSTRUCTIONS OXYBABY V

### 1) Defective charger, charging circuit or storage battery

After having plugged in the charging cable:

- 1.1) Charging lamp illuminated → all O.K.!
- 1.2) Charging lamp extinguishes after a short time:
  - a) charging battery recharged → all O.K.!
  - b) storage battery defective → return the analyser to the manufacturer
- 1.3) Charging lamp not illuminated
  - a) charger defective → return the analyser to the manufacturer
  - b) charging circuit defective → return the analyser to the manufacturer



red charging  
lamp  
illuminated

picture 1

## 2) Needle or filter blocked

Consequence:

- 1) No difference between the measurements in the ambient air and in the packaging.
- 2) Measurement with zero gas (remove filter and needle in advance; see picture 2)
  - a) measurement not O.K. → return analyser to manufacturer
  - b) measurement OK → see repair

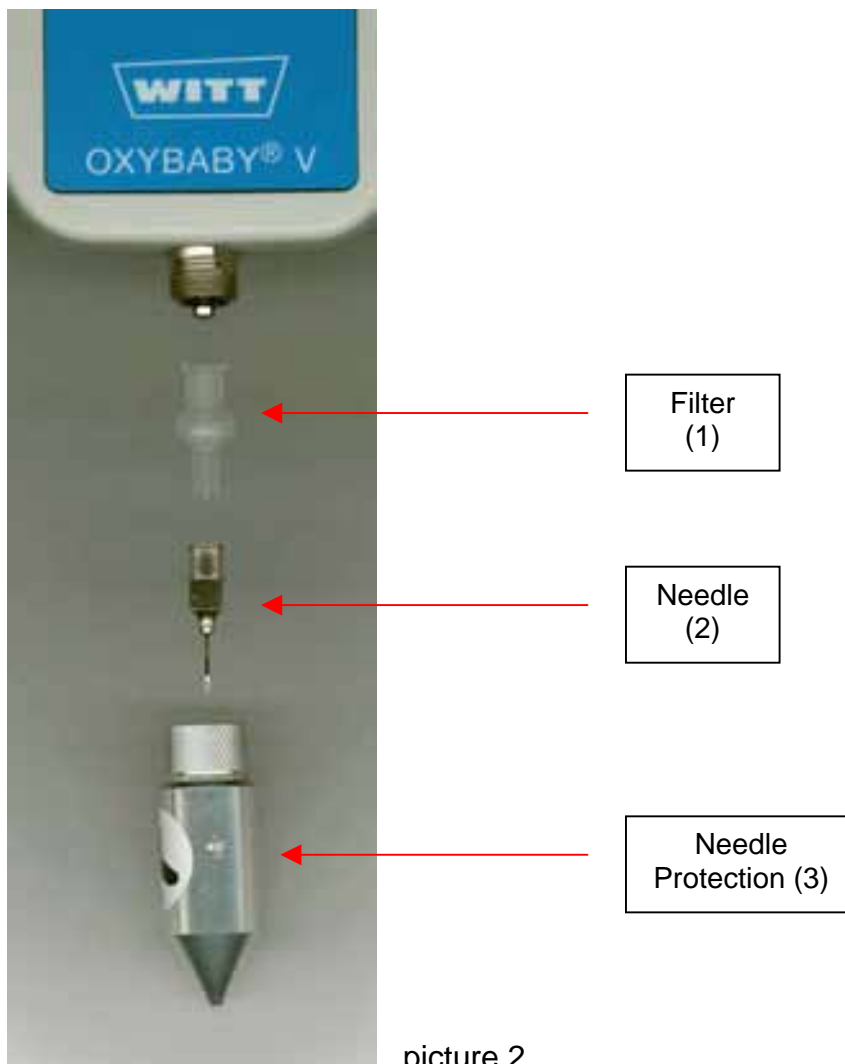
Repair:

- 2.1) Turn the needle protection anti-clockwise (3)
- 2.2) Remove the filter (1)
- 2.3) Check needle on flow and take care that it will not be blocked (2)

If the error cannot be removed → return analyser to manufacturer !



**Attention : THE OXYBABY SHOULD NEVER BE USED WITHOUT FILTER !!!**



picture 2

### 3) Defective Pump

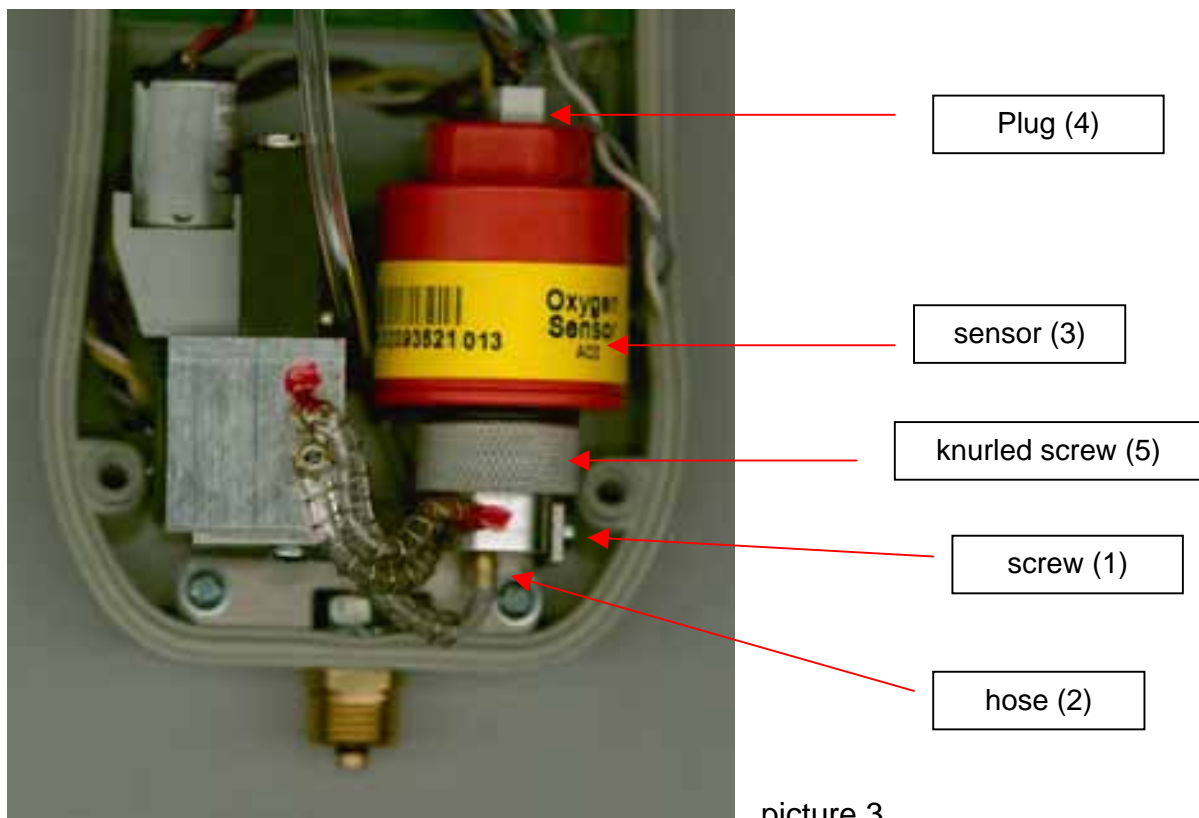
If the analyser does not "zoom" after having started the measurement  
→ return the analyser to manufacturer !

### 4) Defective Sensor:

During calibration of the upper point the condition of the sensor will be controlled simultaneously. If the sensor is defective, one is called on to replace the sensor.

Instructions:

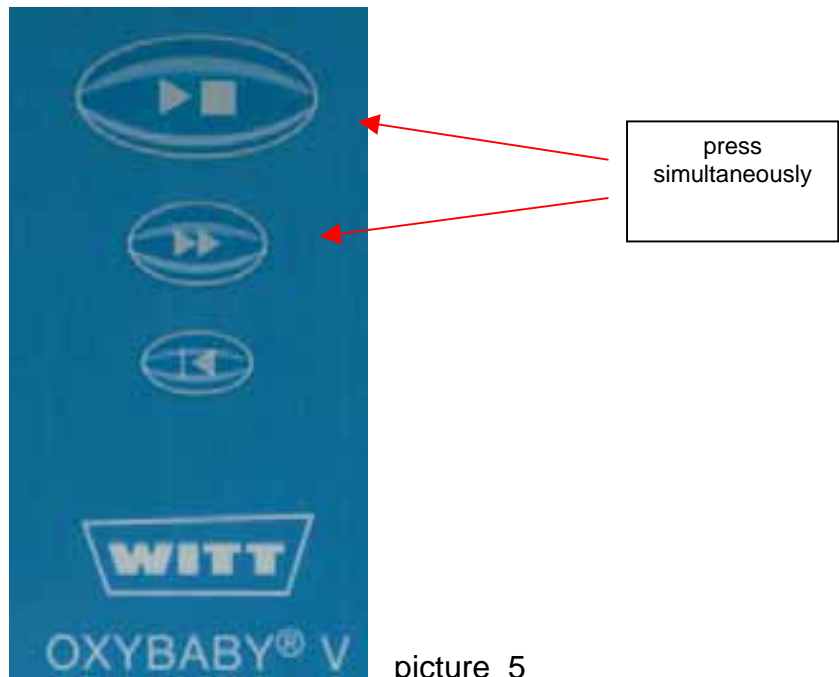
- 4.1) Open the analyser on the rear. ( 6 screws have to be detached)
- 4.2) Loosen the marked screw on the sensor . (see item (1))
- 4.3) Remove the hose (marked accordingly) from the sensor. (see item (2))
- 4.4) Remove the sensor carefully. (see item (3))
- 4.5) Detach carefully the plug from the round sensor part (see item (4))
- 4.6) Hold the sensor and turn the knurled screw anti-clockwise (see item (5))
- 4.7) Replace the new sensor in reverse.



picture 3



- **Attention:** The sensor must be screwed up until the sensor thread is completely disappeared in the knurled screw.
- **Attention:** The spring (over the hose) must be moved to the sensor
- **Attention:** All hoses (without any breaks) must be removed to the analyser.
- **Attention:** If a new sensor has been installed, the "basis calibration" must be done. Proceed as follows:
  - Switch off the analyser
  - Press both upper push-buttons as long as the following sentence will be displayed: Did you install a new sensor ?
  - Press the middle push-button → "Yes" will be displayed
  - → Press the upper bush-button in order to confirm this.



- Now you will be requested to calibrate the analyser → Proceed as described in the operating instructions (standard calibration)