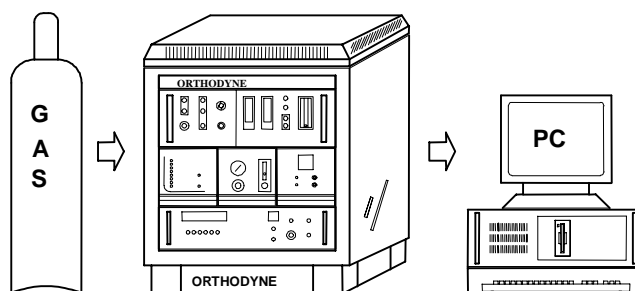





Avenue de l'union, 25A B-4430 Ans/Liège

Int'l Phone : +32(0)4-263.90.90

Int'l Fax : +32(0)4-263.09.79



# SOFTWARE MEDIOS



**ORTHODYNE**  
GAS CHROMATOGRAPHY  
*always one ppb ahead*  
PROCESS ANALYSIS OF IMPURITIES  
IN ULTRA HIGH PURITY GASES :  
**ARGON, HELIUM, NITROGEN, HYDROGEN,**  
**OXYGEN, CO2, ....**  
Visit our Web site : <http://www.orthodyne.be>

Medios Version 3.1.0 (O2)

# **1 CONTENTS.**

1	CONTENTS.....	2
2	SUMMARY.....	3
3	LEGEND.....	4
4	FIRST STEPS .....	5
4.1	Set-up Procedure.....	5
4.2	Starting the program .....	5
4.3	Description of the main Window .....	6
5	LAUNCH A JOB .....	7
5.1	Analysis Pure gas .....	7
5.2	Calibration of a continuous signal .....	9
5.3	Stability Test of a continuous signal.....	11
5.4	Validation of a continuous signal .....	12
6	Use archived jobs.....	13
6.1	Search for archived jobs .....	13
6.2	Load a job.....	14
6.3	Delete jobs.....	14
6.4	Export jobs.....	14
7	Printing .....	14
8	Exit Program.....	15
9	Data.....	15
9.1	Job.....	15
9.2	Continuous analyser .....	16
9.3	Purge sequence.....	18
9.4	Lot / Batch number .....	19
9.4.1	Pure gas.....	19
9.4.2	Label layout.....	21
9.5	Excel Code .....	22
9.6	General.....	23
9.7	User .....	24
9.8	Visible Jobs.....	25
10	Miscellaneous.....	25
10.1	Info.....	25
10.2	Config Adam .....	25
10.3	Lock.....	26
10.4	Space free on « Disk ». .....	26
10.5	Regional Settings.....	26
10.6	Predefined Excel code.....	26
10.7	List of analysers.....	28
10.8	List of jobs .....	28
10.9	List of messages in History .....	30
10.10	Maintenance of system.....	31
10.11	Drift Check.....	32

## **2 SUMMARY.**

Medios software is specially designed for O<sub>2</sub> medical analyzers.  
Medios is configured by Orthodyne for your analyzer.

Function:	Analysis of pure gas: O <sub>2</sub> Verify specifications Calibration of analysers Stability test of analysers Validation of continuous analyser Save and reload analysis Print certificate Creation and print of Batch numbers on labels with barcode
System:	Microsoft Windows NT,XP.
Language:	English, French, German and Spanish.
Save:	Parameters are saved in the Registry of Windows. Results in Microsoft ACCESS 7.0 database
Licence:	Only one copy of software can be run at the same time. Protection by hardware key
Accessibility:	Two levels: User and supervisor. Identification is done on start of program. Some operations are locked for a normal user.
Print:	With Microsoft Excel 97, 2000 and 2002.

### **3 LEGEND**

#### Analyser

An analyser measures the concentration of an impurity.  
Impurities are measured in PPM or in percent.

→ List of analysers

#### AppPath

Means the directory where the application has been installed.  
Normally is ' c:\Program Files\M E D I O S '

#### Job

The user executes a job if he wants to:

Analyse a pure gas (O<sub>2</sub>)

Calibrate an analyser

Test the stability of an analyser

Validation of continuous analyser

Each job is a sequence of different action. The job determines the impurities, the specification, the duration of purge and the report to print.

→ List of jobs

## 4 FIRST STEPS

### 4.1 Set-up Procedure.

The software is delivered on CD. It contains the Medios software with all required files.

The software is designed to run under Windows NT and XP.

Insert the disk labelled « DISK 1 ».

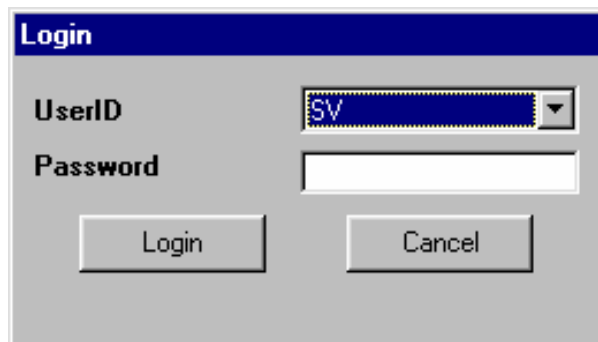
Click on « Start » in the taskbar. Click on « Run ».

Type « **A:\SETUP.EXE** » and click on « OK ».

Follow instructions.

### 4.2 Starting the program

Starting the program, the user identification window is displayed (Login)



Select the required user in the dropdown list, enter his password and click on the 'Login' button. Click on 'Cancel' to quit the program.

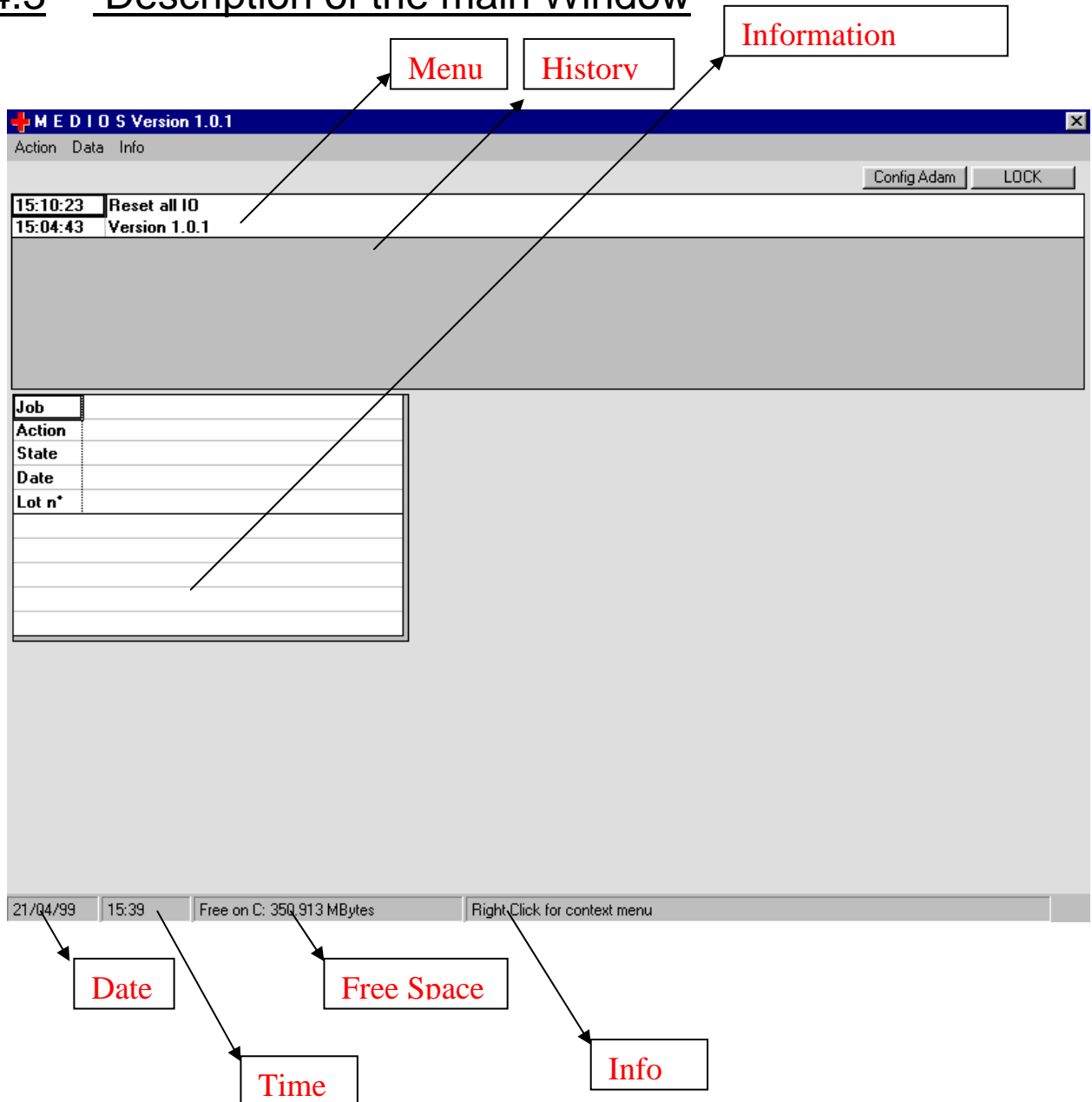
If the password is wrong, the message 'Login not successfully' appears.

After the third wrong try the program will be closed.

When you start the program for the first time, the User is "SV" and there is no password. After successfully Login, the main Window of the program is displayed.

Medios will lock the program after a defined period of inactivity. This time can be set in the General Parameter menu (TimeOut inactivity). To unlock the program, the user will have to type his password again. This option can be turned off by a general parameter 'Ask password when starting job'.

## 4.3 Description of the main Window



The **history** displays information about the different steps executed by the program. A warning (yellow) informs that something happens, but the system continues to be stable. An error (red) indicates a malfunction of the system

→ List of History messages

The field '**Free space on C:**' permanently indicates the free space on your hard disk. Verify that this space is always greater than 100 Mbytes.

If the free space falls under 100 Mbytes, jobs will no longer be saved

The field '**Info**' informs on the possible action. It changes when moving over the screen or pressing the key TAB (change focus).

## 5 LAUNCH A JOB

### 5.1 Analysis Pure gas

Select Menu – Action – Launch job – Analysis (Pure gas)

**Launch an analysis of pure gas**

Select your job: Ana O2 - 600L - Assay

Lot-Batch number: C 1 182 A0 A0

Show all:

Cylinder N\*:

<b>Product</b>	O2
<b>Cylinders</b>	1
<b>Lot raw balance</b>	(none)

Report y/n:  ANA-O2.xls

GO! Cancel

Select the kind of job you want to start. → List of jobs

Select the lot number you want to analyse.

Type the cylinder number (15 characters max)

Deselect 'Show all' if you want to see only non-analyzed lot numbers.

A \* before the lot number indicates that this number has yet to be analyzed.

Some information about the lot number are displayed:

Product Pure gas to analyse

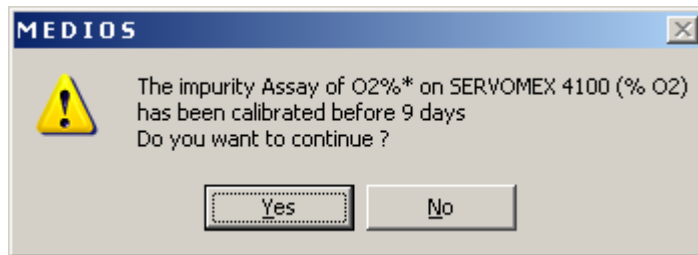
Cylinders Number of cylinders in this lot

Lot raw balance Lot number of the raw product. Always '(none)' if lot number is a raw lot number (ending by A0)

Choose if you want to print a report. This option is only available if a report has been assigned to the job. → 9.1 Job (Report)

Click on GO to launch the job, on Cancel to discard the operation.  
The following steps are executed:

- Verify for each impurity measured by the job, if the calibration date is not expired. A message informs the user in case of expiration. The user can stop the job at this moment. The interval of expiration is defined in  
→ 9.2 Continuous analyser (Interval between two calibrations)



- Execute the purge sequence for each continuous analyser → 9.3 Purge sequence
- Purge line. Duration of purge is defined in → 9.1 Job (Purge Time)
- Read signal on requested continuous analysers : Check the drift (% or ppm/min) → 10.11 Drift Check

ADAM					
Name	mA	Value /	Unit	Count	Stability (Drift)
O2-P*	11.23	12.25	%	8/240	16.60 < 0.05 % / min.

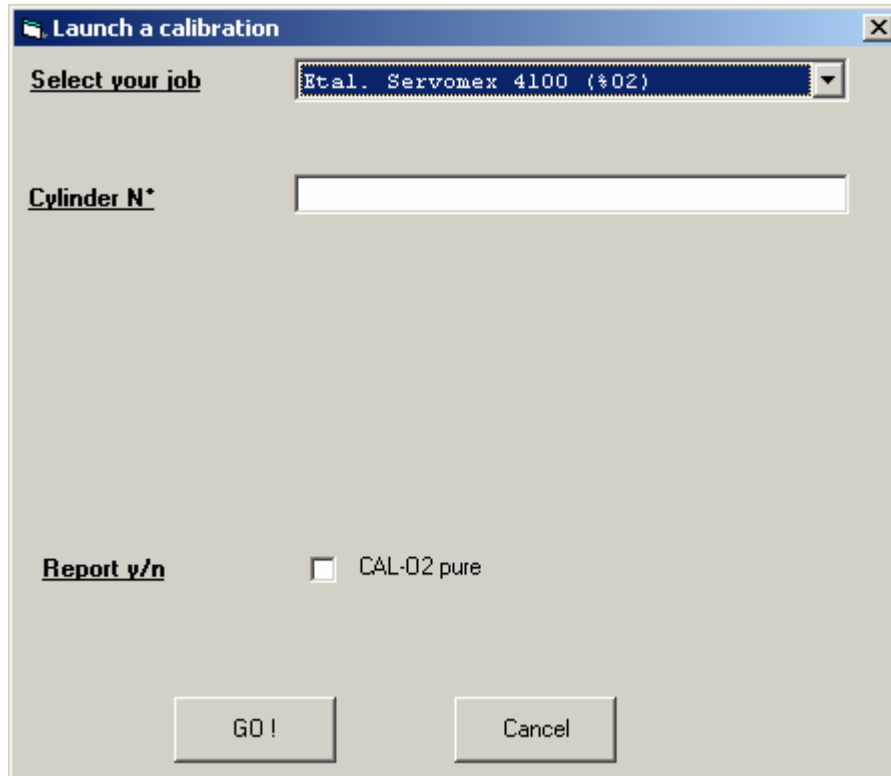
Click to ignore drift check analyse

CANCEL !

- Reset some valves → 9.3 Purge sequence
- Identify the balance gas
- Verify limits of required impurities.  
→ 9.2 Continuous analyser (Impurities - Limits)
- Display and save result. Print required reports.

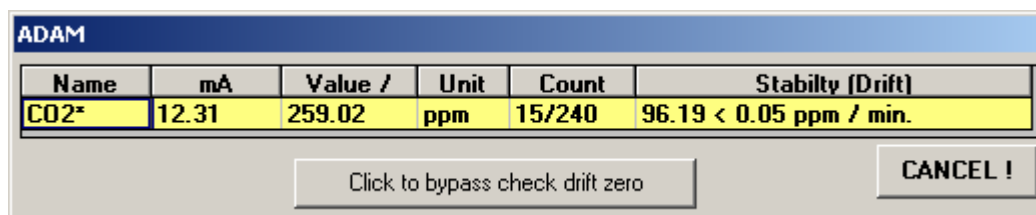
## 5.2 Calibration of a continuous signal

Select Menu – Action – Launch job – Calibration



Select the kind of job (of calibration) you want to start. → List of jobs  
Choose if you want to print a report. This option is only available if a report has been assigned to the job. → 9.1 Job (Report)  
Click on GO to launch the job, on Cancel to discard operation.  
The following steps are executed:

- Ask the user to connect the zero gas
- Execute the purge sequence for the continuous analyser → 9.3 Purge sequence
- Take the zero concentration. This concentration is calculated with the existing factors and before zero adjustment of analyzer. Signal acquisition explain → 10.11 Drift Check
- Save this value to Excel File



Name	mA	Value /	Unit	Count	Stability (Drift)
CO2*	12.31	259.02	ppm	15/240	96.19 < 0.05 ppm / min.

- The user adjusts the zero signal of the continuous analyser. It confirms when he has finished to adjust.

ADAM					
Name	mA	Value /	Unit	Count	Stability (Drift)
CO2*	10.06	188.89	ppm	36	2.68 ppm / min.

Click when zero is adjusted

CANCEL !

- Reset some valves → 9.3 Purge sequence
- Ask the user to connect the span gas
- Execute the purge sequence for the continuous analyser → 9.3 Purge sequence
- Take the span concentration. This concentration is calculated with the existing factors and before zero adjustment of analyzer. Signal acquisition explain → 10.11 Drift Check
- Save this value to Excel File

ADAM					
Name	mA	Value /	Unit	Count	Stability (Drift)
O2-P*	Wait..	Wait..	%	5/240	Wait.. (0)

Click to bypass check drift span

CANCEL !

- The user adjusts the span signal of the continuous analyser. It confirms when he has finished the adjustment.

ADAM					
Name	mA	Value /	Unit	Count	Stability (Drift)
O2-P*	10.35	3.31	%	6	4.69 % / min.

Click when Span is adjusted

CANCEL !

- Factors are calculated with specified standard concentration → 9.2 Continuous analyser – Definition (Impurities – Std. Conc)
- Reset some valves → 9.3 Purge sequence
- Display and save result.
- Display the Excel report : Click on the 'Calibrate' button if you want to calibrate
- Print required reports.

The concentration for zero and span gas are recorded in a Excel File. One Excel File per Year( example : 2002.xls). One Worksheet per continuous analyser. The user can use this Excel File to make additional calculation (average, Std-Deviation) or to display diagrams. *The model DriftReport.xls located in directory \Stat is used as standard layout. The order of Worksheets must match with the order of Continuous analyser in menu Data – Continuous Analyser.*

### 5.3 Stability Test of a continuous signal

Select Menu – Action – Launch job – Stability Test

Select the kind of job (of stability test) you want to start. → List of jobs  
 Choose if you want to print a report. This option is only available if a report has been assigned to the job. → 9.1 Parameter - Job (Report)  
 Click on GO to launch the job, on Cancel to discard the operation.  
 The following steps are executed:

- Execute the purge sequence for the continuous analyser → 9.3 Purge sequence
- Verify for each impurity measured by the job, if the calibration date is not expired. A message informs the user in case of expiration. The user can stop the job at this moment. The interval of expiration is defined in → 9.2 Continuous analyser (Interval between two calibrations)
- The actual signal is read and displayed during the required purge time. The purge can be bypassed by clicking on the button.  
 → Job purge time.

Name	mA	Value /	Unit	Count	Stability (Drift)
O2-P*	10.00	-0.20	%	17/120	0.00 % / min.

Click to bypass Purge

CANCEL !

- Read signal on the continuous analyser : Check the drift (% or ppm/min)  
 → 10.11 Drift Check

ADAM					
Name	mA	Value /	Unit	Count	Stability (Drift)
O2-P*	11.87	18.78	%	12/240	25.31 < 0.05 % / min.

Click to bypass stability test

CANCEL !

- Reset some valves → 9.3 Purge sequence
- Display and save results. Print required reports.

## 5.4 Validation of a continuous signal

Select Menu – Action – Launch job – Stability Test

Select the kind of job (of validation test) you want to start. → List of jobs  
 Choose if you want to print a report. This option is only available if a report has been assigned to the job. → 9.1 Parameter - Job (Report)  
 Click on GO to launch the job, on Cancel to discard the operation.  
 The following steps are executed:

- Execute the purge sequence for the continuous analyser → 9.3 Purge sequence  
 Verify for each impurity measured by the job, if the calibration date is not expired. A message informs the user in case of expiration. The user can stop the job at this moment. The interval of expiration is defined in → 9.2 Continuous analyser (Interval between two calibrations)
- Read signal on the continuous analyser : Check the drift (% or ppm/min)  
 → 10.11 Drift Check

ADAM					
Name	mA	Value /	Unit	Count	Stability (Drift)
O2-P*	13.53	35.51	%	11/240	47.62 < 0.05 % / min.

Click to bypass check drift

CANCEL !

## 6 Use archived jobs

Select Menu – Action – Load / Delete results

**Load Analysis**

Type: Analysis (Pure gas) | Impurities: (Cont ) Trace of CO<sub>2</sub>\*, (Cont ) Trace of CO\*, (Cont ) Assay of O<sub>2</sub>%, (Cont ) Trace of H<sub>2</sub>O\*

Analysis: (All)

Lot N°: from [ ] to [ ]

Date: from 13/12/2001 to [ ]

Cylinder N°: [ ]

Buttons: New Search, Find Now

Analysis	N° lot	Date	Cyl N°
----------	--------	------	--------

Buttons: Load Analysis, Export Analysis, Delete Analysis, Exit

### 6.1 Search for archived jobs

Select the kind of analysis (Pure – Mixed – Calibration –Stability test)

Select the kind of job you want to search.

You can enter a range of lot numbers to limit the result.

You can enter a range of dates to limit the result.

You can select the impurities to be analyzed by researched job.

Click on 'Find now' to search the jobs. The result list will be filled in with the jobs according to the introduced parameters.

Click on 'New Search' to empty the parameter fields.

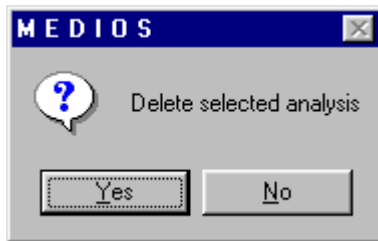
Click on Exit to quit this Window

## 6.2 Load a job

Click on a job in the result list or select a job in this list and click on 'Load analysis'. The job will be loaded into memory without leaving the window.

## 6.3 Delete jobs

Select one or more jobs in the result list and click on 'Delete analysis'. The system asks for confirmation to delete the selected jobs.



Click on 'Yes' to delete the jobs.

## 6.4 Export jobs

Select one or more jobs in the result list and click on 'Export analysis'. The system asks for confirmation to export the selected jobs.



Click on 'Yes' to export the jobs. The system asks if you want to create a new file named 'Export.txt'. Click 'Yes' to create a new file, click 'NO' to add the results to the existing Export.txt file. You will find a file named Export.txt in your application directory. This file can be imported for example into Excel.

## 7 Printing

Menu-Action-Print

Only available if a job has been realised or loaded into memory.

'Print Report' will print the report associated to the actual job. Not available if no report is associated to the job.

## 8 Exit Program

Menu - Action – exit

## 9 Data

### 9.1 Job

Menu - Data - Job

Name	Spec.	Limit	Unit
Trace of CO2*	0.000	0.000	ppm
Trace of CO*	0.000	0.000	ppm
Assay of O2%*	99.5000	99.6000	%
Trace of H2O*	60.000	40.000	ppm

Report Choose report to assign to job

Purge Time Purge time in minutes to wait before starting an analysis

### Impurities

Specification Specification to print on report

Limit Limit to respect for a conformed analysis  
= 0 means that this impurity is not tested

Click on Ok to accept changes. Click on Cancel to discard changes.

## 9.2 Continuous analyser

Menu – Data – Continuous analyser

**Parameters - Continue analyser**

Select your analyser: **1 - SERVOMEX 4100 (CO2)**

Interval between two calibrations	7	days
Deviation between two calibrations (zero)	2.000	
Deviation between two calibrations (span)	2.000	
First conversion point (Electrical value)	10.020	mA
(Physical value)	0.000	ppm
Second conversion point (Electrical value)	19.891	mA
(Physical value)	100.000	ppm
Alive limit (Electrical value)	3.900	mA
Drift check time	5	seconds
Drift check timeout	240	seconds
Max drift	0.05	ppm / min.

**Impurity**

Descr.	Std. Conc.	Threshold	Zero cylinder	Calibration cylinder	Unit
Trace of CO2*	300.000	1.000	(none)	450323	ppm

OK      Calc factor      Cancel

Interval between two calibrations

Number of days allowed between two calibrations. =0 means that the interval will never be tested for this analyser.

Deviation between two calibrations  
Deviation during stability test

For compatibility only  
Maximal allowed deviation in percent of the signal during a stability test =0 means not tested.

Duration of stability test  
First-Second conversion point

Duration in minutes of stability test.  
Used for manual calibration. See example below.

Alive limit (electrical value)

Minimum value of output signal (4-20 mA).  
The job will stop if this level is not reached.

Drift check time

number of the last acquisition points on which the average is calculated (1 acquisition/second). → 10.11 Drift Check

Drift check time out

Delay after which the drift check time is automatically finished. → 10.11 Drift Check

Max drift

Maximum drift allowed to finish the drift check test. → 10.11 Drift Check

### Example of manual calibration

We suppose a continuous analyser with an output of 4-20mA for 0-100 ppm H<sub>2</sub>O.

Enter the following parameters :

First conversion point (Electric value)	4
First conversion point (Physical value)	0
Second conversion point (Electric value)	20
Second conversion point (Physical value)	100

Click on 'Calc factor' to calculate new conversion factors.

Impurities :

Std. Conc.

Concentration of impurity in calibration cylinder

Threshold

Minimum detection level for this impurity

Zero or Calibration Cylinder

N° of zero or calibration cylinder

## 9.3 Purge sequence

Menu – Data – Purge Sequence

Time	Name	State	On Start
0.00	SV.P9	ON	<input checked="" type="checkbox"/>
0.00	SV.V9	ON	<input checked="" type="checkbox"/>
0.00	SV.V10	ON	<input checked="" type="checkbox"/>
0.02	SV.V9	OFF	<input checked="" type="checkbox"/>
0.02	SV.V10	OFF	<input checked="" type="checkbox"/>
0.04	SV.V10	ON	<input checked="" type="checkbox"/>
0.06	SV.V10	OFF	<input checked="" type="checkbox"/>
0.08	SV.V10	ON	<input checked="" type="checkbox"/>
0.10	SV.V10	OFF	<input checked="" type="checkbox"/>
0.12	SV.V10	ON	<input checked="" type="checkbox"/>
0.14	SV.V10	OFF	<input checked="" type="checkbox"/>
0.16	SV.V10	ON	<input checked="" type="checkbox"/>
0.18	SV.V10	OFF	<input checked="" type="checkbox"/>
0.20	SV.V10	ON	<input checked="" type="checkbox"/>
0.22	SV.V10	OFF	<input checked="" type="checkbox"/>
0.24	SV.V10	ON	<input checked="" type="checkbox"/>
0.26	SV.V10	OFF	<input checked="" type="checkbox"/>
0.28	SV.V10	ON	<input checked="" type="checkbox"/>
0.30	SV.V10	OFF	<input checked="" type="checkbox"/>

Enter here the purge sequence to be executed at the beginning of an analysis and at the end of an analysis.

- 1° column Time in minutes of required action
- 2° column Valve to turn
- 3° column Turn on or off
- 4° column Checked = Do at begin of analysis  
Unchecked = Do at end of analysis

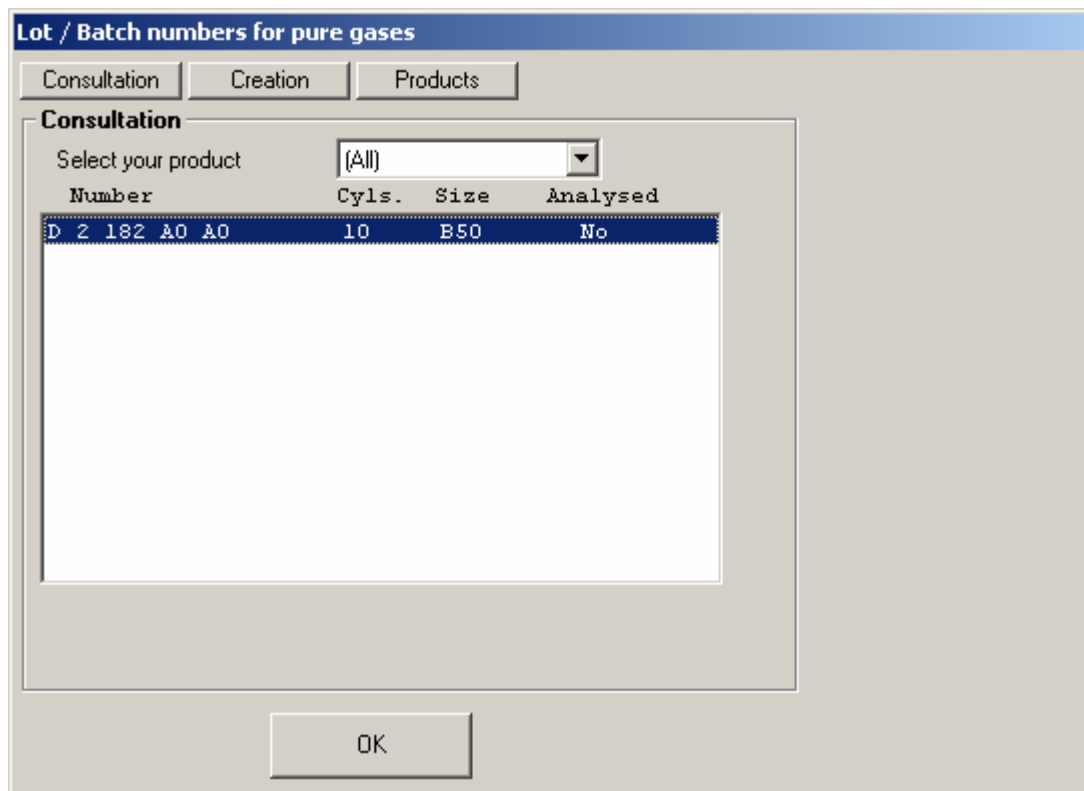
## 9.4 Lot / Batch number

### 9.4.1 Pure gas

Menu – Data – Lot/Batch number – Pure gas

#### Consultation

Click right mouse on list for context sensitive menu (Print labels, delete , sort ..)



## Creation

The screenshot shows a software dialog box titled "Lot / Batch numbers for pure gases" with three tabs: "Consultation", "Creation", and "Products". The "Creation" tab is active. It contains the following fields and controls:

- Select a product:** A dropdown menu with "O2" selected.
- Select type:** Two radio buttons: "Raw product" (selected) and "Refilled product".
- Number of cylinders:** A text input field containing "1".
- Cylinder size:** An empty text input field.
- Print labels:** A checked checkbox.
- Last created number:** A text input field containing "D 2 182 A0 A0".
- Next created number:** A text input field containing "None".
- Create:** A button to generate the lot.
- OK:** A button to close the dialog.

Select a product            O2  
Select type                 Raw or refilled product  
Number of cylinders        Cylinders size (5 characters max)  
Print labels                Print labels on creation. One label per cylinder is  
printed                     + overhead → 9.5 General (Overhead Print)  
Last created number        Last lot number created for selected product  
Next created number       Lot number that will be created  
Click on 'Create' to create the lot and print labels if required

## Products

The screenshot shows a dialog box titled "Lot / Batch numbers for pure gases" with three tabs: "Consultation", "Creation", and "Products". The "Products" tab is active, displaying a table with two columns: "Product" and "Code". The first row contains "O2" and "182". Below the table is an "OK" button.

Product	Code
O2	182

Define here the product code for each product.

### 9.4.2 Label layout

Menu – Data – Lot/Batch number – Label Layout

The screenshot shows a dialog box titled "Label layout" with a table defining the layout of a label. The table has columns for Font, Size, Flag, x (mm), y (mm), and Text. The text includes product name, code, batch number, lot number, and expire date with corresponding variables like \$PRODUCTNAME and \$LOT.

Font	Size	Flag	x (mm)	y (mm)	Text
Arial	8 B		3		Air Products Medical
	8 B		10	4	\$PRODUCTNAME
	B				{
	8 B				\$PRODUCTCODE
	B				}
	7 B		3	7	Batch number
C39T30Lfz	30 B		3	10	\$LOT
Arial	7 B		3	19	Expire Date :
	7 B		10	22	\$DATEVALIDY3

Design of label printed for lot/batch number

Font           Font used. Right Click for list. Use C39T30Lz for Barcode  
 Empty = Last font will be used

Size           Font size (6-48) in character per inch  
 Empty = Last font size will be used

Flag           B = Bold, I = Italic, U = Underline

x              Position from left border of label

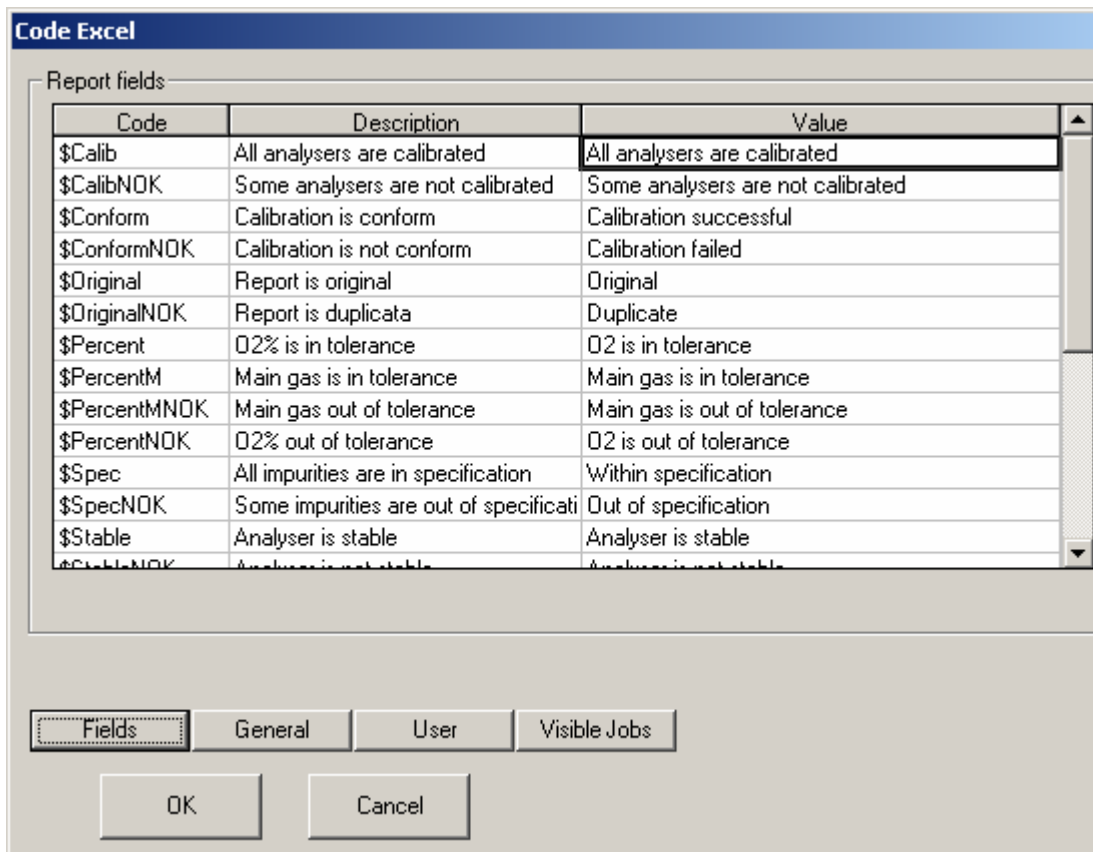
y              Position from top border of label

Text          Text that will be printed

DateValid : Set \$DATEVALIDY3 for date of expiration in 3 years  
 Set \$DATEVALIDM5 for date of expiration in 5 months

## 9.5 Excel Code

Menu – Data – Excel code



Enter here the description of messages for the reports.  
 Use the empty lines to define your own codes and assign values to them.  
 A code must always begin with \$ and can't be used yet.  
 → 10.6 Predefined Excel Code

Click on 'General' will change to → 9.6 General

Click on 'User' will change to → 9.7 User

Click on 'Visible Jobs' will change to → 9.8 Visible Jobs

## 9.6 General

### Menu – Data – General

Setting	Value
Preview before printing	<input checked="" type="checkbox"/>
Reset IO on start JOB	<input checked="" type="checkbox"/>
Overhead Print (+)	0
Overhead Print (%)	0
Compact database interval (days)	30
Plant Code	D
Label Printer -->	OKIPAGE 14ex
Left offset for labels (mm)	62
TimeOut Inactivity (sec)	120
Ask password when launching job	<input type="checkbox"/>
Report 'Continuous calibration' -->	CalibReport
Language -->	English

Preview before printing

Checked: Reports are loaded into Excel. Use Excel Menu to print the report.

Unchecked: Reports are printed directly.

Reset IO on start Job

Checked: All valves are reset at start of job.

Overhead print (+)

Additional printed labels

Overhead print (%)

Additional printed labels (% of number of cylinders in batch / lot)

Compact database ..

Days between two database compacting (Increase Speed and reduce used space)

Plant Code

First code for lot / batch number

Port AM60

Only for support

Label Printer

Printer used for labels. Right click for list

Left offset for labels ..

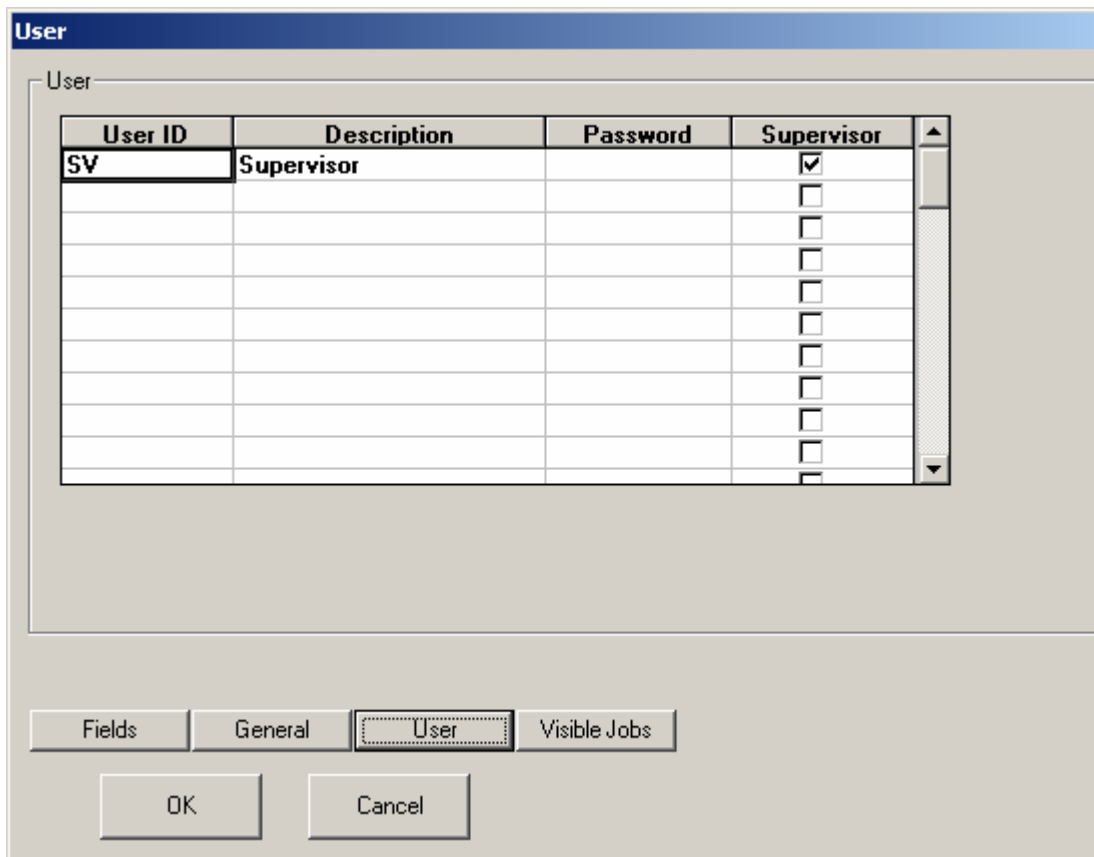
Increase this value when printing starts too far on left side.

Language

English, French, German or Spanish

## 9.7 User

Menu – Data - User



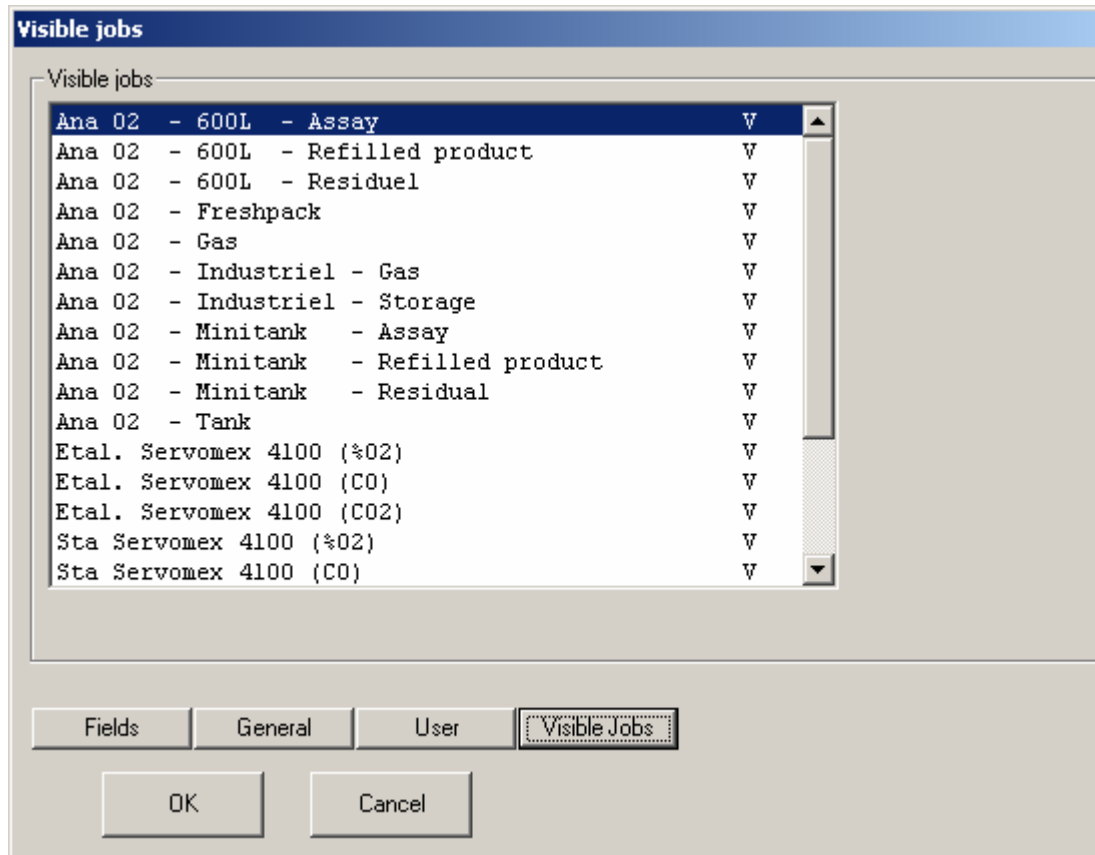
The screenshot shows a dialog box titled "User" with a tabbed interface. The "User" tab is selected, displaying a table with the following columns: "User ID", "Description", "Password", and "Supervisor". The first row contains the text "SV" in the "User ID" column, "Supervisor" in the "Description" column, and a checked checkbox in the "Supervisor" column. The rest of the table is empty. Below the table are four tabs: "Fields", "General", "User", and "Visible Jobs". The "User" tab is currently active. At the bottom of the dialog are "OK" and "Cancel" buttons.

User ID	Description	Password	Supervisor
SV	Supervisor		<input checked="" type="checkbox"/>
			<input type="checkbox"/>
			<input type="checkbox"/>
			<input type="checkbox"/>
			<input type="checkbox"/>
			<input type="checkbox"/>
			<input type="checkbox"/>
			<input type="checkbox"/>
			<input type="checkbox"/>
			<input type="checkbox"/>

Here are defined the users and there passwords. If the case 'Supervisor' is checked the user has the rights of a supervisor.

## 9.8 Visible Jobs

Menu – Data – Visible Jobs



Allows to make visible or non-visible the job in the menu Action - Launch job. Double- click on the item will alternatively makes the job visible or not.

## 10 Miscellaneous

### 10.1 Info

Menu – Data – Info – About Medios

Displays some information about the program.

### 10.2 Config Adam

Only for support

## 10.3 Lock

Only for supervisor

Click here to be temporary a user

Click on 'Unlock' to be again a supervisor (you must enter your password)

## 10.4 Space free on « Disk ».

After each analysis, the program checks that there will be enough space on the disk to save the analysis.

The saving of the analyses will be stopped when the space is less than 100 Mb.

## 10.5 Regional Settings.

Number:

Decimal symbol: « . » (Point)

Digit grouping symbol. : « , » (Coma)

Date:

Short date style: « dd/MM/yy »

Separator: « / » (Slash)

Time:

Time style: « HH:mm:ss »

Separator: « : » (Colon)

## 10.6 Predefined Excel code.

### 1. Report Code

Calib	\$Calib	\$Job	Description of Job
CalibNOK	\$CalibNOK	\$JobTyp	Description of type of Job
Conform	\$Conform	\$Date	Date + Time on analysis
ConformNOK	\$ConformNOK	\$Lot	N° of lot
Original	\$Original	\$LotMain	N° of lot main product
OriginalNOK	\$OriginalNOK	\$LotO2	N° of lot of second product (only mixed gaz)
Percent	\$Percent	\$Ncyl	Number of cylinders in lot
PercentNOK	\$PercentNOK	\$PercentO2	Percent of O2 (only mixed)
Spec	\$Spec	\$ToleranceO2	Allowed tolerance for percent O2 (only mixed)
SpecNOK	\$SpecNOK	\$DateNow	actual Date
Stable	\$Stable	\$Time	<b>code deleted</b>
StableNOK	\$StableNOK	\$User	actual User

\$Product	Analysed product	\$Identification	Gas to identify (Balance)
\$CalSpan	Value for Span during calibration	\$CalZero	Value for Zero during calibration
\$CalCyl	N° of calibration cylinder	\$ZeroCyl	N° of calibration cylinder (Zero)
\$CylNr	Cylinder N°	\$CylSize	Cylinder Size
\$CertifiedConc	Certified conc. in cyl (Validation)	\$PercentM	Percent of main gas
\$BeforeAdjZero	Conc zero before adjustment (Calib)	\$BeforeAdjSpan	Conc span before adjustment (Calib)
\$TimeNow	current time	\$TimeCalib	calibration time
\$ConcZero	old zero concentration value	\$ConcSpan	old span concentration value
\$Offset	old offset value	\$Factor	old factor value
\$NValZero	new zero signal	\$NValSpan	new span signal
\$Noffset	new offset value	\$Nfactor	new factor value
\$DevCalZero	zero deviation value	\$DevCalSpan	span deviation value
\$Titel	title	\$ProductName	O2 - N2 - N2O - ..
\$ProductCode	label code	\$DateValid	Expiration Date

## 2. Label Code

➔ File in \Excel\ExcelCode.xls sheet 'Label'

## 10.7 List of analysers

Name	Impurity	Measured in
Servomex 4100 – CO <sub>2</sub>	Trace CO <sub>2</sub>	O <sub>2</sub>
Servomex 4100 – CO	Trace CO	O <sub>2</sub>
Servomex 4100 – O <sub>2</sub>	Assay O <sub>2</sub>	O <sub>2</sub>
Systech MM1000	Trace H <sub>2</sub> O	O <sub>2</sub>

## 10.8 List of jobs

Description	Impurities	Remark
<b>Analyse of pure gas</b>		
O <sub>2</sub> -Industriel-Storage	Trace H <sub>2</sub> O, CO <sub>2</sub> ,CO Assay O <sub>2</sub>	
O <sub>2</sub> -Industriel-Gas	..	
O <sub>2</sub> -Freshpack	..	
O <sub>2</sub> -Tank	..	
O <sub>2</sub> -Gas	..	
O <sub>2</sub> -Minitank- Refilled product	..	
O <sub>2</sub> -Minitank- Residual	..	
O <sub>2</sub> -Minitank- Assay	..	
O <sub>2</sub> -600L-Refilled product	..	
O <sub>2</sub> -600L-Residuel	..	
O <sub>2</sub> -600L-Assay	Assay O <sub>2</sub>	
<b>Calibration</b>		
Servomex 4100 (CO <sub>2</sub> )	Trace CO <sub>2</sub>	
Servomex 4100 (CO)	Trace CO	
Servomex 4100 (%O <sub>2</sub> )	Assay O <sub>2</sub>	
SysTech (H <sub>2</sub> O)	Trace H <sub>2</sub> O	

<b>Stability Test</b>		
Servomex 4100 (CO <sub>2</sub> )		
Servomex 4100 (CO)		
Servomex 4100 (%O <sub>2</sub> )		
SysTech (H <sub>2</sub> O)		
<b>Validation</b>		
Servomex 4100 (CO <sub>2</sub> )		
Servomex 4100 (CO)		
Servomex 4100 (%O <sub>2</sub> )		
SysTech (H <sub>2</sub> O)		

## 10.9 List of messages in History

If a message is not listed hereafter and the message is white or yellow than the message is only an information for the user

If a message is not listed hereafter and the message is red than the message is a system message. Please note the message and the actions that provoke this message and contact the development team.

➔ 10.1 Info

### **ADAM : Bad response or TimeOut**

➔ TimeOut on ..

### **ADAM : Port not open**

➔ TimeOut on ..

### **TimeOut on ...**

Communication problems with ADAM modules.

Please verify that serial cable is connected to the right COM Port, to the Adam converter module and that Adam modules are correctly powered (Led is on)

### **ADAM : No signal**

No signal present on Input of an analogue Adam module (4017)  
Please verify cabling of continuous analysers

### **ADAM : xx : Deviation : xx > xx.xx %**

Signal is not stable enough.

### **ADAM : xx : Deviation : xx <= xx.xx %**

Information about stability of signal. Stability is ok.

### **The two signals are the same : xx**

You enter/measure the same signal for a zero and the span gas during a (manual) calibration of a continuous analyser

Please verify connected gas, signal cabling or change entered value (manual calibration)

### **Xx is an unknown code or not used in this job**

You used an unknown Excel Code → 10.6 Predefined Excel Code or you would like to print an impurity not measured by the job that prints this report.

Example: Using \$\$CONC-TS\* in a O2-Freshline job provokes this error because this Job does not measure the impurity TS.

### **AM60 : Port Not Open**

#### **AM60 : Already in use or port not available**

The program uses the AM60 module. If Oxylab is running all actions that use AM60 module, TCU or He12 are not allowed.

If Oxylab is not running than → AM60 : ..

#### **AM60 : ... (except Port Not open)**

Communication problems with AM60 module.

Please verify that serial cable is connected to the right COM Port (COM2), to the AM60 module and that module is correctly powered (Led is on)

### **No standard concentration defined for xx**

Before calibrating a continuous analyser you must enter a standard concentration for the impurity measured by the analyser → 9.3 Continuous analyser

## 10.10 Maintenance of system

Please backup regularly all files in your application directory (c:\Program Files\Medios) and all subdirectories.

Use as Backup medium floppy disk, streamer, Zip drive or network.

Verify that the free space on disk is always greater > 100 MB.

To free space on disk you can:

delete unused files, empty Recycle bin, delete unused job results (do first Backup), decrease the compact database interval

→ 9.6 General (Compact database interval)

## 10.11 Drift Check

Measure with continuous analysers

- You will have 3 parameters for each continuous analyser :
- - 1) Drift check time (seconds)
- - 2) Drift check timeout (seconds)
- - 3) Max Drift (PPM/min)
- At the end of analysis a Drift check will be done :

Example :

Drift Check time = 10 seconds

Drift check Time Out = 120 seconds

Max Drift = 2 PPM/minutes

$t(i)$  = Value taken at time  $i$  (after  $i$  seconds)

$A(1)$  = Average at time 10 =  $[t(1) + t(2) + \dots + t(10)] / 10$

$A(2)$  = Average at time 11 =  $[t(2) + t(3) + \dots + t(11)] / 10$

Drift =  $[A(2) - A(1)] * 6$  (  $6 = 60 \text{ seconds} / 10 \text{ seconds}$  )

if Drift  $\leq$  Max Drift ----> Take value on continuous analyser

if Drift  $>$  Max Drift ----> Continue with Drift check

if time  $>$  120 (timeout) --> Take value + Error Message

If Maxdrift = 0 then the value is taken after the Drift Check Time out