

FOODLABFAT



Instrument for the Quality Control of Oils and Fats

In-Vitro-Analysis



Made in Italy **CDR s.r.l., Firenze, Italy**
Development - Manufacturing - Sales – Technical Service

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**P/Number:** MAN 029-10-2012**INDEX OF INSTRUCTION REVISIONS**

Revision	Edition	Author	Subject
R1	25/01/05	F. Curradi	1 st . edition
R2	March 2011	J. Schenne	2 nd . edition
R3	October 2012	J. Schenne	3 th edition (USA)

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Ing.-Buero fuer Bio-Prozessanalytik

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In case of missing information or descriptions that could cause misunderstandings, please get in touch with your distributor to solve it.

Similar products are:

FOODLAB, Oxitester, PalmOilTester and WinLAB

Some dialogues are different between the instruments depending on test available!



Content

1 General information	5
1.1 Intended use	5
1.2 Who will use the manual	5
1.2.1 Manual usage	6
1.2.2 Use not permitted	6
1.2.3 Personnel qualified to use the instrument	6
1.2.4 Personal protection devices	6
1.3 Safety	6
1.3.1 Symbols to understand	6
1.3.2 Safety of the product	7
2 System description	9
2.1 The FOODLABfat analyser	9
2.2 Instrument nameplate	9
2.3 Operating parts	10
2.4.1 Key folio layout and display	10
2.3.2 Reading cells	10
2.3.3 CDR Test cuvette	11
2.3.4 CDR Reagent kit	11
2.3.5 Pipettes	11
2.4 Transportation and storage	12
2.4.1 Packaging, movement and transportation	12
2.4.2 Storage conditions	12
2.4.3 Conservation and/or disposal of the packaging	12
3 Installation	13
3.1 Receipt of the instrument	13

3.2 Positioning and electrical connections.....	13
4 Operation	14
4.1 Operation procedure.....	14
4.2 Switching on the instrument.....	15
4.3 Condition of the reading cells	15
4.4 Test selection and execution	16
4.5 Printing of the results	16
4.6 Standardisation of tests	17
4.7 Menu description	17
4.7.1 Edit dialogue	17
4.7.2 Setup dialogue.....	18
4.7.3 Auto start dialogue.....	19
4.7.4 Printer dialogue.....	19
4.7.5 Info dialogue	20
5 Error messages	21
6 Maintenance	22
6.1 Recommended actions and precautions	22
7 Appendix.....	23
7.1 List of cdR reagents.....	23
7.2 Spare parts	23
7.3 Declaration of conformity.....	24
7.4 Technical data	25
7.5 Interface description	26
7.6 Waste disposal	27

1 General information

1.1 Intended use

FOODLABfat is made for the analysis of vegetable or animal oils and fats using cdR test kits only together with special test application instructions. Note that the matrixes can be very different of its nature and calibration curves need to be re-calibrated.

1.2 Who will use the manual

This manual presents detailed information regarding the safety, characteristics, installation, use, maintenance and disposal of the FOODLABfat instrument manufactured by the cdR S.r.l. Company.

The manual is made for the training of the following categories of persons:

- Persons employed in the operation of the instrument (installation, use and storage).
- Persons employed in the maintenance, if different from the persons employed in the operation.

The instrument must be used according to the instructions specified in this manual. It is highly recommended that these instructions are **read very carefully** before doing any operation. Everything written and illustrated must be carefully noted. Respecting the norms and recommendations written will allow the operator to use the instrument in the correct way and using the correct methods as agreed by the manufacturer. If the operator finds a disagreement between anything described in this manual and the instrument he must advise the manufacturer immediately without using the instrument. Any erroneous or inconsiderate use could provoke anomalies or mal-functions of the instrument.

The Operator's manual constitutes an integral part of the instrument and it is therefore necessary to conserve it in good condition in a safe place and at the disposition of the operator (or whoever is authorised to use the instrument) for the whole productive life of the instrument.

The instructions must be provided with the instrument in the case of sale, hire, concessional use or financial lease of the instrument.

Advice for the operator.

The descriptions and illustrations attached to this document are only advisory. The cdR S.r.l. Company reserves the right to make any change and any modification of components, essential parts and suppliers that it thinks fit without prior notice and also the updating of this publication. The reproduction of this document in whole or in part and by any means is not permitted without prior written authorisation of the author. Any eventual infraction will be followed according to the law. All names and logos present in this manual are property of the respective manufacturers.

1.2.1 Manual usage

This manual is identified by a code and divided into numbered chapters and paragraphs in progressive order. In addition to the information written, the manual contains symbols, photographic images and designs.

The photographic images and the designs (defined as figures) are numbered in progressive order and after the number a brief description of the illustration follows.



Figure 1.1 FOODLABfat analyser

In the example shown here, we have the “Figure. 1.1” where the first one indicates the chapter and the second 1 indicates the progressive number of the figure within the chapter (the successive will be “Figure 1.2” and so on). The figures always refer to the paragraph in which they are inserted and their recall is reported in the description of the paragraph (in this case, figure 1.1 refers to the description of paragraph 1.2 because it explains the reading).

1.2.2 Use not permitted

The instrument cannot be used for making tests on biological matrixes different from those indicated in the methodologies. The instrument is specifically calibrated during construction to test the biological matrixes indicated in the methodologies.

The instrument cannot be used for diagnostic testing that has not been approved of by cdR. The instrument does not operate with diagnostic flow tests.

1.2.3 Personnel qualified to use the instrument

The persons authorised to use the instrument must be qualified to operate in a biological environment and therefore have expert knowledge about the products to be handled.

1.2.4 Personal protection devices

It is recommended to use glasses and gloves during operation to avoid skin irritations etc. caused by biological substances or reagents. Pay attention to legal requirements.

1.3 Safety











1.3.1 Symbols to understand

It is of fundamental important for the operator to understand the significance of the icons. The icons, according to their form and colour represent:

- **DANGER** (triangular icon, with a black border and yellow background, with black graphic symbol)
- **FORBIDDEN** (circular icon, with red border and white background, with black graphic symbol)
- **OBLIGATORY** (circular icon, with blue background and white graphic symbol)

- **GRAPHIC SIGN** (defined as a perceptible visual figure to transmit information independent from the language)

With regards to this, in the successive paragraphs are explanations about the icons that are in use in this manual.

Danger symbols					
	WARNING		ELECTRIC SHOCK		TOXIC SUBSTANCES
	BIOLOGIC HAZARDS		SCIN IRRITATION		FLAMMABLE
Prohibition symbols					
	SMOKING FORBIDDEN		ENTRANCE PERMITTED TO AUTHORIZED ONLY		
Generic symbols					
	READ DIRECTIONS FOR USE		GENERAL INFORMATION FOR THE USER		

1.3.2 Safety of the product

1.3.2.1 European Directives consulted during the design stage

The instrument has been designed and constructed following the health and safety requirements of the directive:

Table 1: European Directives consulted during the design stage	
Directive Number	Title and implementation into Italian legislation
89/336/CEE and successive amendments	89/336/CEE: Council Directive of the 03/05/89 for the legislative alignment of the member states relative to electromagnetic compatibility <i>Italian legislation implementation:</i> <i>D. Lgs. of the 4th December 1992, n. 476 "Activation of the Council Directive 89/336/CEE of the 3rd May 1989 about the legislative alignment of the member states relative to</i>

	<p><i>electromagnetic compatibility, modified by the Council Directive 92/31/CEE of the 28th April 1992". On the basis of art. 6 of the D. Lgs the Ministerial Decree of the 30/12/93 was issued "List of harmonised norms on electromagnetic compatibility".</i></p> <p>D. Lgs. of the 12th November 1996, n. 615: "Activation of the Council Directive 89/336/CEE of the 3rd May 1989 about the legislative alignment of the member states relative to electromagnetic compatibility, modified and integrated by the Council Directive 92/31/CEE of the 28th April 1992, by the Council Directive 93/68/CEE of the 22nd July 1993 and by the Council Directive 93/97/CEE of the 29th October 1993".</p>
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1.3.2.2 Norms and standards used for the design and testing

The FOODLABfat instrument corresponds to the essential requisites of the norms:

EN 50081/1	Electromagnetic compatibility: emission – residential environment – light industry.
EN 55022.A	Radio disturbance measures on equipment for computer technology.
EN 50082/2	Irradiated and induced electromagnetic sensitivity.
ENV 50140	Electromagnetic compatibility: immunity test to radio frequency irradiated electromagnetic fields and their attraction.

1.3.2.3 Conformity of the product

The instrument has the CE-mark in accordance with the Directive 89/336/CEE and successive modifications and integrations. Each modification that alters the design and construction characteristics of the instrument and not expressly authorised by cdR S.r.l. will cancel the conformity and consequently the right of use.

Use of the instrument that is not described by this document is considered. cdR S.r.l. will not be held responsible for damage caused by not respecting the technical specifications described herein and by the improper use of the instrument or biological products.

2 System description

2.1 The FOODLABfat analyser

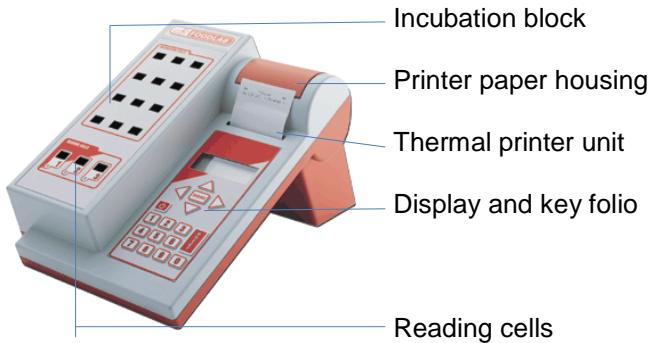


Figure 2.1 Modules

2.2 Instrument nameplate

The instrument has a nameplate that displays the CE mark and identification data.



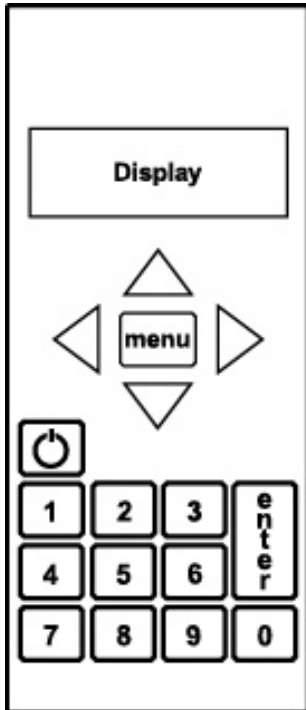
Figure 2.2 Nameplate

Important:

- ❖ Never remove the nameplate from the original position chosen by the manufacturer.
- ❖ Do not modify or falsify the data displayed on the nameplate.
- ❖ Do not clean the nameplate with abrasive products.

2.3 Operating parts

2.4.1 Key folio layout and display



LCD display, numerical

Menu selection - Operating mode/editing mode selection

Arrow keys:

Left : Place the cursor to the left of the display

Right: Place the cursor to the right of the display

Up: Move the cursor upwards on the display / stop number of samples

Down: Move the cursor downwards on the display / interruption of a running test

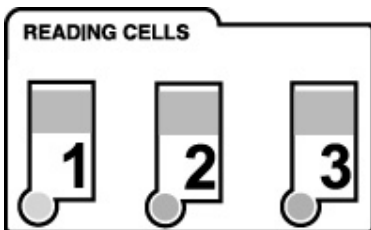
Power ON/OFF the instrument

Numerical keys 0-9

Enter: Confirm data / advancement of the test

Figure 2.3 Key folio layout and display

2.3.2 Reading cells



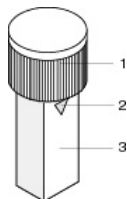
After test selection a green illuminated LED shows the reading cell that must be used for testing. While measuring the LED is illuminating red for some seconds.

Figure 2.4 Reading cells

2.3.3 CDR Test cuvette

For opening or closing of the cuvette, it is much recommended to place the cuvette into an incubation cell and turn then the cup on or off. This procedure keeps the optical window clean.

Pre-filled test cuvette



- 1 cup that closes the cuvette
- 2 triangular mark that indicates the reagent filling level
1000µl for reagents
- 3 optical window, keep it clean, don't touch it with fingers!

Figure 2.5 CDR test cuvette

2.3.4 CDR Reagent kit

Test kit contains 10 pre-filled cuvettes in an aluminium bag.

For example:



Test name: Acidity
Code: 300125
Lot: reagent lot number
Exp: expiration date
Store at: storing temperature
Symbols should be observed!

A package for 100 tests consist of 10 bags.

Figure 2.6 Reagent bag

2.3.5 Pipettes

For a maximum of accuracy it is much recommended to use especially for the displacement of oil a positive displacement one e.g. a Gilson Microman M10, M25 ...

Operate with a pipette according to the manufacturer's description!

2.4 Transportation and storage

2.4.1 Packaging, movement and transportation

cdR packs the FOODLABfat instrument inside a cardboard carton. Each single carton with the instrument inside can be carried out manually. To transport the instrument in the carton, use a covered box so that the instrument is not exposed to atmospheric conditions. Please note that the carton does not provide sufficient protection against rain, sun, snow and wind.

2.4.2 Storage conditions

The instrument in its carton must be stored in a closed environment within the temperature range -20°C . to $+70^{\circ}\text{C}$ (-4°F to 158°F) and a relative non-condensed humidity of 20% to 90%.

The storage place must not be exposed to contaminating agents such as humidity, dust, acids, corrosive gases, salt, smoke etc. Do not stack the cartons more than five high.

2.4.3 Conservation and/or disposal of the packaging

The manufacturer recommends conserving the carton in case of future transport after the first installation.

The disposal of the packaging, does not present any particular dangerous aspects to persons, animals or materials. Before disposal of the carton, consult the Council Directive 94/62/CE on packaging and the disposal of packaging.

3 Installation

3.1 Receipt of the instrument

Each apparatus is checked following specific procedures and instruments by cdR before being shipped. However, damage could occur during transportation and will not be the responsibility of cdR. Effectuate a visual control of the packaging and the apparatus to check that there is no visual damage due to knocks and bangs. If damage can be seen, send back the apparatus to the service department for a functional check.

3.2 Positioning and electrical connections



DO NOT SMOKE while operating with reagents! Danger of fire!

For the installation of the FOODLABfat instrument proceed as follows:

A. Take the FOODLABfat out of the carton and put it on a plane surface in such a position that it is not exposed by mechanical vibrations or extreme temperature fluctuations or excessive light.

B. Connect the external power adapter to the port at the rear of the instrument (Figure 3.1) using the appropriate power cord to the mains (110V to 230V)

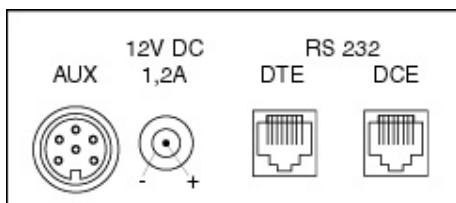


Figure 3.1 ports

C. In case the adapter is different from the one included with the instrument, check that the electrical and safety characteristics (12 Vdc - 1,4A) are equivalent (CE mark) and that the polarity of the connectors is respected Figure 3.1).

D. If necessary, insert the paper roll into the printer module by opening the protective cover and insert the roll as indicated in Figure 3.2 and 3.3.

Open in menu the printer dialogue and press any times **line feed** to move the paper through the unit.



Figure 3.2 Paper roll insertion, Figure 3.3 Paper roll insertion

Connection of the data connection leads.

To connect the FOODLABfat instrument to a host computer to download analytical data, use the lead (code CDR 220804) connected to the (RS232) DCE connector. To connect the FOODLABfat Instrument to a host computer to update the software, use the lead (code CDR 220805) connected to the (RS232) DTE connector.

4 Operation

4.1 Operation procedure

The FOODLABfat is an instrument equipped with dedicated software for the determination of parameters on different oils and fat extracts and alimentary matrixes of various natures.

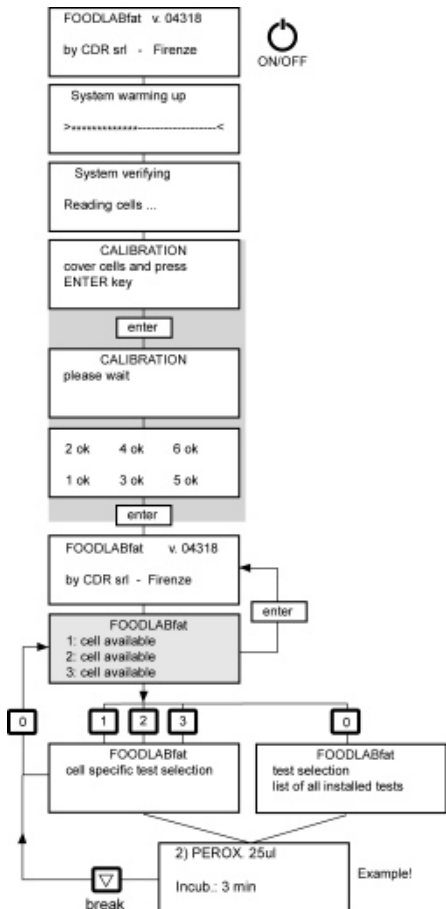
The instrument receives electrical current by inserting the power supply plug. At this point:

- On the display for one second appears the version of the installed software and it carries out a first level auto-test.
- It loads all available tests for analysis from EEPROM module.
- It will be in Stand-by mode (the heating of the instrument are not switched on in this mode).

In case an error code occurs on display, proceed as described in chapter 5 Error messages.

4.2 Switching on the instrument

To run the FOODLABfat press the ON/OFF key for a second on key folio. After switching ON the FOODLABfat heats up to 37°C/98.6°F and the following lines will be printed out:



* * FOODLABfat by CDR srl
- Firenze -

It takes about 45 min to warm up to 37°C/98.6°F. Make sure that the reading cells are free and not occupied by a cuvette!

The photometer parameters are checked automatically. In case of different values a message appears for a recalibration.

Cover the cells with the cover pad (accessory) that keeps out the light, press the <enter> key to proceed the calibration process.

After that the results are shown on display. All installed optics must be "ok". In case of differences refer to chapter 5 Error messages. Press enter key to proceed on.

The instrument is now ready to start analysis and the **stand-by dialogue** is shown (cell available).

Figure 4.1 Dialogue overview

4.3 Condition of the reading cells

On **stand-by dialogue** is shown after heating up "cell available" for all three reading cells. Cell available means that a test can be loaded from the list of tests available. It is possible to run different tests on different cells, in this modality, information is visualised on the subsequent condition of the cells. In particular, the name of the on-going test and the operating status is indicated for each cell.

The information about the condition of the corresponding cell is shown when one of the numerical keys <1>, <2> and <3> is pressed. If the chosen cell is not used for any tests, the available cells are shown. (an asterisk positioned on the right of the name is used to indicate the unavailability). If there is an analysis on-going on the cell, there is an indication of the type of analysis in progress and the messages for the operator are displayed in order to proceed with it.

The status of the cells is shown by pressing the numerical <0> key. Pressing it again, all tests are shown.

In the second modality the list of all the available analysis is displayed for the instrument (an asterisk positioned on the right of the name highlights the unavailability). Pressing the numerical <0> key the visualisation of the condition of the cells is effectuated.

4.4 Test selection and execution

On **stand-by dialog** press the <0> key to display the list of tests available. Position the cursor with arrow key up/down to select the test to run. Press enter key to confirm, the first test dialogue is shown on display.

It is also possible to run a test on a specific reading cell. E.g. press 1 for reading cell 1 and all tests that could run are shown. Select the test you want and press <enter> to confirm. The first test dialogue is shown on display then.

Regarding to the chosen tests, the instrument requests the intervention of the operator to insert the test tubes and to start the reading. The reading cell that must be used is indicated by a green LED. During reading, the green LED changes to red.



In all cases to proceed a test, go as described in the detailed Test Application Instructions.

Results are shown automatically on display and printed out. After that you have the possibility of reprinting them or press <down arrow> key to turn to the list of test.

Cancellation of a test: press <down arrow> key to cancel a running test.

Handling of reagents

Read carefully the information provided in the **Test Application Instructions!**

4.5 Printing of the results

The results of the analysis are shown on the display and printed out on paper. The print-out format as an example:

Header	
<Date>	<Hour>
<1 >	<Acidity>
K factor	<Value>
q offset	<Value>
norm.	<Value>
Code	<ol. %.>

Sample 1	<Result>
Sample 2	<Result>



The printer is not equipped with a function that signals the end of the paper roll. Depending on the manufacturer in most cases the end of paper is indicated with a colour stripe. For a replacement see chapter 3 Installation.

4.6 Standardisation of tests

Each test can be recalibrated with samples measured after the valid standard measuring method. Normally the reading of at least three samples is requested to define the regression coefficients that correlate the instrument to the reference method (max. 14 points). To effectuate a recalibration, modify the ANL-STD parameter from the "Edit" menu item of the corresponding tests (see paragraph 4.7.1). Select the test for recalibration, change position ANL-STD to STD-ANL, then you will be requested to define up to 14 points. After measuring results are shown on display together with K and Q values and the regression coefficient R. These values can be stored in memory and printed out by pressing the <up arrow> key. After the print-out, the instrument is ready for a testing.

4.7 Menu description

To open the Menu dialogue it is necessary to press rapidly the sequence of the following keys: *ENTER + 1 + 2 + 3 + ENTER ... and wait a second.*

Press the <menu> key to display the content.

- Edit (List of tests installed)
- Setup (Language, Contrast, Time)
- Autostart
- Printer (Line feed, Header)
- Info

Select a menu point by arrow key and confirm by pressing enter key to open it.

4.7.1 Edit dialogue

For each test it is possible to configure the following functional parameters:

- Multiplicative correlation coefficient **K**: to modify this value it is necessary to position the cursor on it and then press the <enter> key. Digit the requested value and then press the <enter> key to confirm or the <menu> key to return to

the original value. The <left arrow> key changes the sign.

- Additive correlation coefficient **Q**: to modify this value it is necessary to position the cursor on it and then press the <enter> key. Digit the requested value and then press the <enter> key to confirm or the <menu> key to return to the original value. The <left arrow> key changes the sign.
- **ANL-STD**: configures the instrument to effectuate the reading of standard concentration samples or normal test samples. To change from one mode to another, press the <enter> key and successively the <arrow up> and <arrow down> key. Press <enter> to confirm or the <menu> key to return to the original mode.
- **BLK Timer**: definition for of incubation time up to 15 minutes for an activation time prior blank value reading. To change this time, press the <enter> key and successively the <up arrow> key and the <down arrow> key. Press the <enter> key to confirm or the <menu> key to return to the original value.
- **SMP Timer**: definition of the incubation time up to 15 minutes for an activation prior reading of the sample. To change this time, press the <enter> key and successively the <up arrow> key and the <down arrow> key. Press the <enter> key to confirm or the <menu> key to return to the original value.
- **Decimals**: it is possible to choose the number of decimals (from 0 to 3) with which the results can be visualised. To alter this number, press the <enter> key and successively the <up arrow> key and the <down arrow> key. Press the <enter> key to confirm or the <menu> key to return to the original value.
- **Code**: Selection between serial and individual positive identification number of samples.
No: is for automatic serial number
Si: is for individual identification number of max. 12 figures

4.7.2 Setup dialogue

The following sub-menu can be accessed from this mode:

Language

Contrast

Time (setting of date and time)

4.7.2.1 Language setting

Following languages can be selected:

1 Italiano, 2 English, 3 Espanol, 4 German, 5 Francais.

To select a language press the corresponding key and confirm by pressing the <enter> key. To exit the dialogue without storing press <menu> key.

4.7.2.2 Contrast

It is used to set up the contrast of LCD display.

As indicated on the first line of the display pressing the <left arrow> key the contrast is decreased, pressing the <right arrow> key is increased. An indicator shows during the adjustment of the contrast that assumes a proportional length to the intensity of the contrast.

Press the <enter> key or the <menu> key to return to the menu mode.

Both keys confirm the new value of contrast inserted.

4.7.2.3 Time

It is used to adjust the time and date settings.

In this mode, the date or the hour that should be changed flashes and it is possible to use the <up arrow> key to increase the time and the <down arrow> key to decrease the time.

To make adjustments move the <left arrow> and the <right arrow> keys. Press the <enter> key or the <menu> key to return to the menu mode.

Both keys confirm the new time.

If the operator does not press any key within 30 seconds, the instrument returns automatically to the menu mode.

4.7.3 Auto start dialogue

In this mode it is possible to insert the time of automatic switching on of the FOODLABfat instrument if it is connected to the mains and is ready for testing after 45 minutes.

On the screen are displayed the initials of the days of a week, the hour and the minutes to power on. Using the <right/left arrow> key to select the position to be modified. Using the <up/down arrow> key to select the day and to increase or diminish the hourly values of automatic switching on. The minimum is 15 minutes. A selected day will be marked with the following sign ^ below the initial. Under Mode the function can be set to on or off. Once having concluded the editing, press the <enter> key or <menu> key to return to the menu mode.

4.7.4 Printer dialogue

Line feed and Header

After selection of **Line feed** you can press enter to effectuate a move of printer paper for one line upwards. Use it for a replacement of paper.

In **Header** dialogue you can write a name of your laboratory or company which should show on top of a result print out. 4 lines 20 figure each.

Set figures as shown beside the keys

Press Arrow up key for the edition of big figures.

Press Arrow down key for a deletion of a figure.

4.7.5 Info dialogue

After selection the following information is shown:

Registration: represents the registration of the instrument.

Firmware: represents the version of programme installed.

Operator: operator code, only for Technical Service

5 Error messages

Certain problems could be highlighted during the auto-test and are shown by an acoustic alarm and a code formed by LED's associated to the reading cells. These signals do not allow the analytical operation and the technical service assistance department must be advised in order to check the problem.

These signals are coded with a brief description about their significance. The RRV indication, for example, means that the LED associated to the reading cell is green while the other two are red.

Code	Description
VRV	Corrupted EEPROM analysis
RRV	Modification to the version of the data trace
RVR	Memory error of the personalisation analysis
RVV	Hardware error on the display
VRR	Non-identifiable error of another type

NOTE!



A specific case can occur when a particular sequence RRR occurs during the normal use of the instrument and not only during the start up. This sequence indicates overheating of the instrument and therefore a temperature of more than 41°C / 105.8°F. In this case it is necessary to switch off the instrument, let it cool down and then switch it on again. If the problem persists, <please contact the technical assistance department for repairing.

In the following are summarized the instructions to be followed in case specific problems occur. For any other problem it is possible to contact the cdR technical assistance department.

PROBLEM CHECK

Problem	Check
The instrument does not switch on – the display does not show any information	After having checked the connection of the power plug, check if that there is a power supply at the input entry of the adapter (230 Vac) and also at the instrument (12Vdc). If necessary, substitute the external adapter with a similar one that has the same characteristics and check the polarity.
The instrument does not print	Check if the roll of thermal paper is present and correctly inserted.
It is not possible to enter into the analysis key 3 and into the absorption key 5	The instrument has not reached the operating temperature. 20 minutes are necessary for the instrument to reach the temperature from switching on to being in an operational mode.
The readings are not aligned to historical data	Attention! The calibration procedure of the instrument is very simple but must be carried out correctly. Ensure that during the calibration the reading cells are not occupied by cuvettes

	and that they are not exposed to direct light.
The readings are not aligned to historical data	The analytic parameters inserted (if different from those selected in default) remain in the memory as long as the <Default> key is not pressed. Check in the programme that the parameters memorised are those requested.
It is not possible to manually insert the K-factor	This parameter must be inserted manually in the programme only for KINETIC analysis. For the other modalities of analysis it is necessary to calculate them analytically.
The instrument does not print the reference values	Ensure that the reference with the appropriate <2: Rif.> key has been selected.

6 Maintenance

6.1 Recommended actions and precautions

The FOODLABfat instrument is easy to use and it is normally maintenance free. Do not spill any liquid over the instrument. In case of spilled liquid suck it immediately up with a suitable tissue or use a pipette to remove it out of cells. Wipe the surface with a disinfection solution made for laboratory instruments one time a week for your own safety.

For measuring safety you can use an oil of suitable results for precision control.

Use a syringe for medical use and suck in that oil of known results and store it in a fridge at 2 to 8°C / 35.6 to 46.4°F. For quality control of the system you can take a sample directly out of the syringe with a Gilson pipette. Remove it without air bubbles back in the fridge.

The results will be move from day to day and it depends on it nature.

7 Appendix

7.1 List of cdR reagents

Test kit	Description	Order code
Free fatty acids FFA	10 x 10 pre-filled test cuvettes	300125
Diluent for higher FFA 1-12% and 5-24%	10 x 10 pre-filled test cuvettes 100 empty cuvettes + cups	300129
Peroxide value	10 x 10 pre-filled test cuvettes	300150
<i>p</i> -Anisidin value	10 x 10 pre-filled test cuvettes	300500
<i>p</i> -Anisidin value	1 x 10 pre-filled test cuvettes	300503
Soaps	10 x 10 pre-filled test cuvettes	300175
Polyphenol	10 x 10 pre-filled test cuvettes	300475
Iodine value	10 x 10 pre-filled test cuvettes	300560

There are also smaller kits available. Please ask your distributor.

7.2 Spare parts


CDR AEP 119	1 x roll of thermal printer paper 57 mm, diam. 45 mm
CDR ALP 004	external power adapter 100-230V AC to 12V dc
CDR 225 058	protective cover for reading cells
CDR 220 805	data cable DTE (RJ 45 to PC) 1 Stk.
CDR 220 804	data cable DCE (RJ 45 to PC) Host-PC 1 Stk.
CDR 220 115	dust protection cover

Pipettes

CDR ACF001	Gilson M10 Mikropipette Microman (1µl - 10µl)
CDR ACF003	Gilson M25 Mikropipette Microman (3µl - 25µl)
CDR ACF005	Socorex Mikropipette (50µl - 200µl)
CDR ACF006	Socorex Mikropipette (2µl - 20µl)
CDR ACF008	Mikropipette Tricontinent (2-10 ml)
CDR ACF011	Mikropipette Tricontinent (0.5-2 ml)
CDR ACF012	Mikropipette Tricontinent (10 ml)
CDR ACF013	Mikropipette Tricontinent (5 ml)
CDR ACF014	Mikropipette Tricontinent (50 ml)
CDR ACF015	Mikropipette Tricontinent (100 ml)

For pipette tips ask your distributor

7.3 Declaration of conformity



analisi e sviluppo sistemi cibernetici

DECLARATION OF CONFORMITY

The Company CDR srl, via degli Artigiani, 6 – Ginestra Fiorentina (Florence) – Italy, declares under his own responsibility, that the following devices:

Model: FOODLAB Code: 225004Z01 Serial number: 0054 - 0063 Year of building: 2003	Model: MiniFOOD Code: 229000Z01A Serial number: 0033 - 0212 Year of building: 2003
---	---

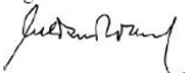
ARE IN CONFORMITY

with the following standards, and the Low Voltage Directive 73/23/EEC and the Electromagnetic Compatibility Directive EMC 89/336/EEC, and in particular with the following normatives:

UNI EN 292	Machine safety – Terminology.
EN60204-1	Requirements and recommendations for the control circuits
L 626	Safety criterions on the work places
EN 50081/1	Electromagnetic compatibility: emission – residential environment – light industry.
EN 50082/1	Irradiated and induced electromagnetic sensitivity.
EN 55022	Radio disturbance measures on equipment for computer technology
ENV 50140	Electromagnetic compatibility: immunity test to radio frequency irradiated electromagnetic fields and their attraction.

Florence, 01.04.2004

CDR srl
 Ing. Luciano ROMOLI



CDR srl, Reg. Imprese, FI 55623 – C.C.I.A. R.E.A. 423250 – P.IVA 04170450482 – Cap. Soc. € 50.000 – I.V.
 Sede Legale: Via della Madonna della Pace, 45 50125 FIRENZE
 Sede Operativa: Via degli Artigiani, 6 – 50020 Ginestra Fiorentina – FIRENZE – Tel. 05587143.1 – Fax 05587143.22
 Settore biotecnico: Via F. Crispi, 33 – 52100 AREZZO – Tel/Fax 0575/28908

7.4 Technical data

Analyser Type:	Analyser with photometer technique for the in-vitro-diagnostic by trained persons on vegetable oils and fats
Wavelength:	Meas. cell 1: 630 nm and 545 nm (can be different) Meas. cell 2: 505 nm and 366 nm (can be different) Meas. cell 3: 700 nm and 604 nm (can be different) - automatic calibration and self-testing - linearity control, if necessary warning note - drift compensation automatically - photometric range: 0,0-2,3 Abs, amplified: 0,0-4,0 Abs - photometric resolution: A = 0,001 max - photometric accuracy: $\pm 3\%$
Analysis methods:	Endpoint, Kinetic and fixed time
Incubation block:	37,0°C \pm 0,5 / 98.6°F, temp. controlled, 4 x 3 positions
Cuvettes:	Volume at triangular mark: 1000 μ l mixed polymer, for optical use
Cups:	Polystyrol made
Sample volume:	depending on test
Throughput:	depending on test
Processor:	MC 68331 micro processor
Software:	In EPROM stored
Languages selectable:	English, German, Francais, Italiano, Espanol.
Tests selectable:	pre-defined test stored in EPROM
Dialog:	LCD-Display, 4 lines, 20 figures each
Printer built-in:	57 mm thermal printer
Ports:	RS 232: DTE and DCE
Optional:	Barcode scanner (without software)
System time:	real time clock for time and date
Power supply:	external AC/DC adapter
Prim. voltage:	100 - 250V, 47 - 63 Hz, 0,8 A
Sec. voltage:	12V, 1,4 VA, max.: 3,0 A
Fuses:	no
Safety certificates:	TÜV/GS, UL, CE
Environment-conditions:	rel. humidity: 20% - 80%, no condensing temperature range +12 to +35°C / 53.6 to 95°F
Dimensions:	height 165 mm, width 190 mm, depth 315 mm
Weight:	ca. 2.5 kg

7.5 Interface description

During normal functioning, the FOODLABfat instrument transmits a series of information on the DCE serial channel configured as follows:

Baud Rate 9600

Data Bits 8

Parity None

Stop Bits 1

Such information is formatted according to an *xml* protocol and its description is repeated every time the instrument is switched on. The data transmitted, collected and saved by a terminal, can be interpreted by any *xml* browser.

The principal elements of the protocol are:

```
<FOODLAB> principal element
<SWITCH_ON> switching on the instrument
<DATE> date in the days/months/years format
<TIME> time in the hours/minutes format
<NAME> name of the instrument
<MATR> registration number of the instrument
<FW> version of firmware
<READ_CHECK chk=cc> check reading cells cc=[OK,KO]
<DATE> date in the days/month/years format
<TIME> time in the hours/minutes format
<CALIBRATION> calibration
<DATE> date in the days/months/years format
<TIME> time in the hours/minutes format
<CAL ch=n> calibration outcome n=[1,2,3,4,5,6]
<NEW_SESS poz=n> start analysis session n=[1,2,3,4,5,6]
<DATE> date in the days/month/years format
<TIME> time in the hours/minutes format
<ANL> analysis name
<READ_BLK poz=n> neutral substances reading n=[1,2,3,4,5,6]
<DATE> date in the days/months/years format
<TIME> time in the hours/minutes format
<CODE> sample code
<ABS> absorbance
<DROP_BLK poz=n> cancellation neutral substances reading
n=[1,2,3,4,5,6]
<DATE> date in the days/months/years format
<TIME> time in the hours/minutes format

<READ_SMP poz=n> sample reading n=[1,2,3,4,5,6]
<DATE> date in the days/months/years format
<TIME> time in the hours/minutes format
<CODE> sample code
<ABS> absorbance
<DROP_SMP poz=n> cancellation sample reading n=[1,2,3,4,5,6]
```

```

<DATE> date in the days/months/years format
<TIME> time in the hours/minutes format
<END_SESS poz=n> end of analysis session n=[1,2,3,4,5,6]
<DATE> date in the days/months/years format
<TIME> time in the hours/minutes format
<ANL> analysis name
<K> multiplicative factor
<Q> additive factor
<NORM> normality values
<SMP_NO> number of samples analysed
<UM> unit of measure
<SMP>
<COD> sample code
<CONC> concentration (if outside linearity it appears
as lin=N)
<DROP_SESS poz=n> cancellation analysis session
n=[1,2,3,4,5,6]
<DATE> date in the days/months/years format
<TIME> time in the hours/minutes format
<ANL> analysis name
<SWITCH_OFF> switching off of the instrument
<DATE> date in the days/months/years format
<TIME> date in the hours/minutes format
  
```

Connectivity

The two ports on the rear enable to connect the analyser to a computer. FOODLABfat can be connected to LIMS (Laboratory Information Management System) and the XML (Extensible Markup Language) protocol.

7.6 Waste disposal

The instrument is constructed of materials that do not present particular problems for the operator during disposal.

The operator must handle the waste product, (the substance or object of which the holder demolishes or has decided or has the obligation to demolish) as outlined by the European Directive 91/156/CEE on waste product, 91/689/CEE on dangerous waste product and 94/62/CE on packaging and waste materials (for Italy see D.L.vo 22 of the 05/02/97), in such a way that the waste material can be recuperated or disposed of without danger to human health and without using procedures or methods that could cause danger to the environment.



In particular:

- a) without creating risk to water, air, the earth and the flora and fauna
- b) without causing inconvenience by noise and smells.

c) without damaging the landscape and sites of particular interest, protected by the norms in force.

ATTENTION!

Do not hesitate to contact your distributor about any question that is inherent to the demolition procedures of the instrument and about any other subject not been contemplated in this technical document.

