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EKOMILK[®]

SOMATIC CELLS ANALYZER **SCAN**

Milk Somatic Cells Analyzer



USER'S GUIDE

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GENERAL INFORMATION

The Somatic Cells Milk analyzer **Ekomilk Scan** is designed for fast and cost effective control of milk quality in dairy farms and dairy enterprises. The regular milk control in a dairy farm is the main part of process of prevention, detection and medical treatment of mastitis – the most important dairy disease. The proper incoming milk control in dairy enterprises guarantees a high-quality and ecologically pure products.

Application Area:

Dairy farms

Milk collecting points

Dairy industry

Veterinary and dairy laboratories

Key feature:

Simple and lightweight design;

Proven method;

Cost effective:

- Low power consumption;

- Small quantity of milk required 10ml;

LCD indication;

Power supply independent Data collection mode for storing up to 250 records with information about supplier ID, time and somatic cells number;

Embedded Real time clock;

RS 232 and/or USB Interface;

ESC POS Printer Support;

One year full warranty.

Technical specifications

Measuring Range -Somatic Cells count per 1 ml	90 000 -1 500 000
Accuracy (depending on measuring mode)	±15%
Average time per one measurement	4 min
Size	200x260x290 mm
Weight	< 4.5 kg
Power consumption	< 30 W
AC Power Supply voltage	240V +10/-15%
DC Power Supply voltage	12V – 14.2V

Operating conditions:

Ambient temperature.....	15- 30 °C
Relative ambient humidity.....	30-80 %

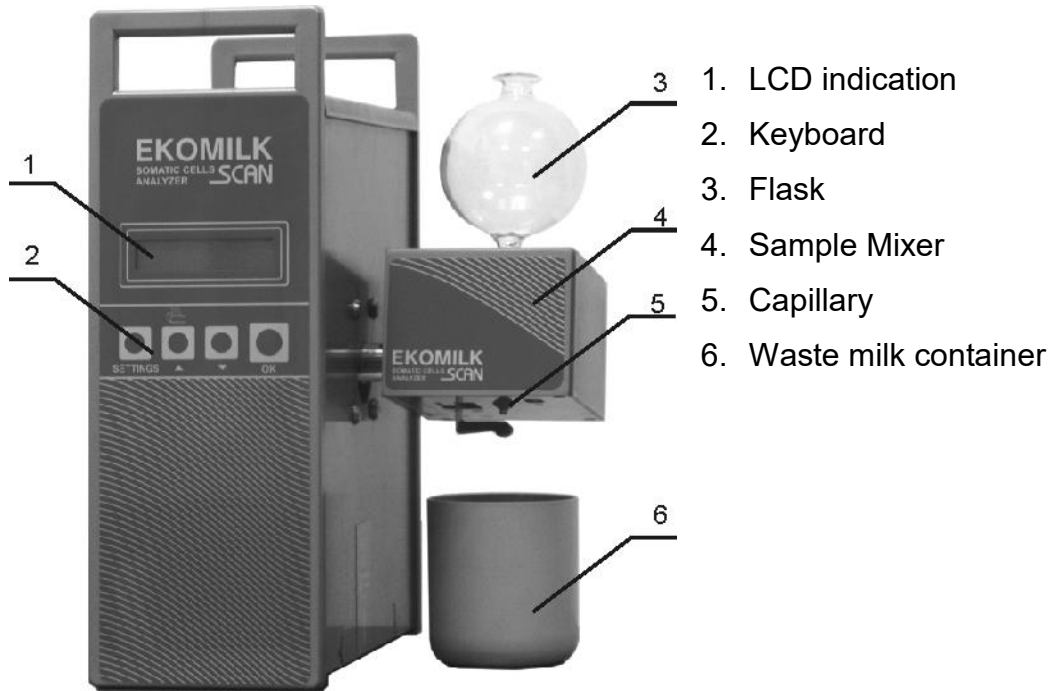
Parts, accessories and spare parts

Milk Somatic Cells Analyzer Ekomilk Scan	1 pc.
Measuring flask	2 pcs
Ekoprim powder container	2 pcs
Syringe	2 pcs
Waste milk container	1 pc.
Rubber balloon	1 pc.
Nylon Wire for capillary cleaning	1 pc.
CD – Ekomilk software	1 pc.
RS 232 cable	1 pc.
User's guide	1 pc.
12 V cable car lighter	1 pc.
USB cable	1 pc.
Compact Thermal Printer*	1 pc.
Digital Thermometer*	1 pc.

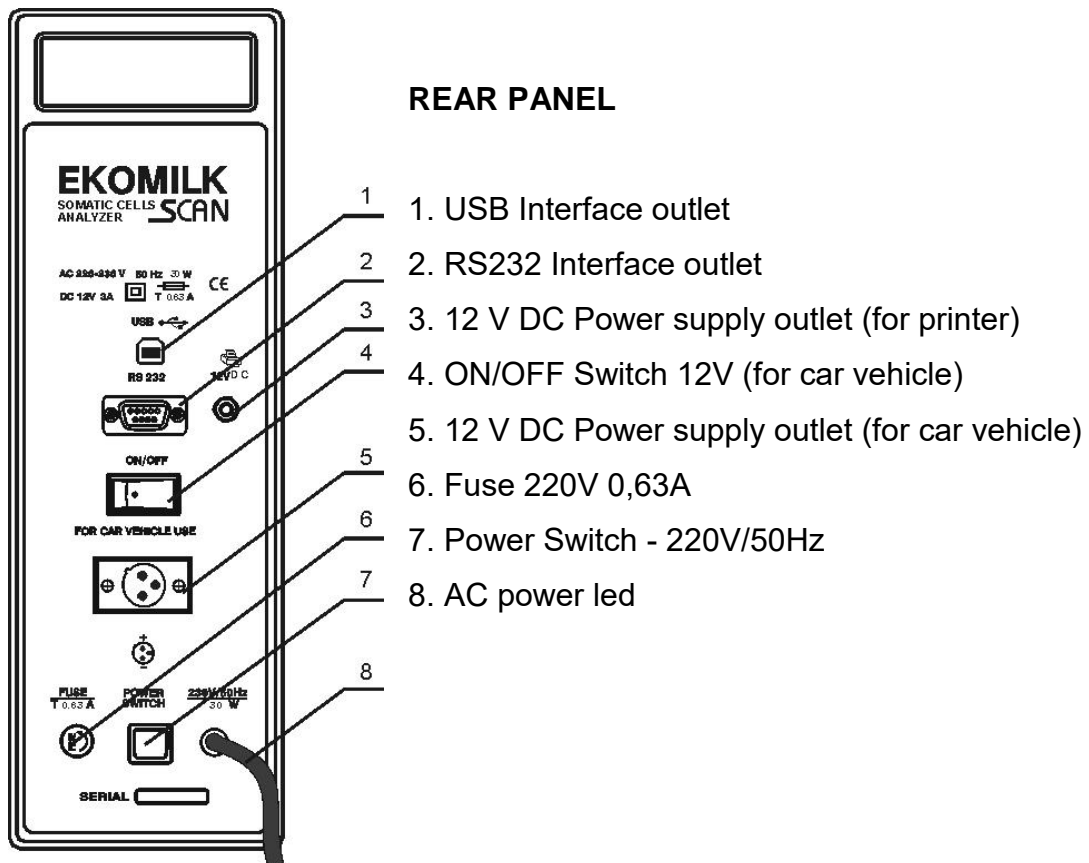
*Additional options available on request at the time of placing the order

GENERAL VIEW AND REAR PANEL

GENERAL VIEW



REAR PANEL



SAFETY MEASURES

1. Read carefully and strictly follow the instructions described in this user's guide
2. There are two glass flasks in the milk analyzer packing. They can be broken because of carelessness or inappropriate handling and can cause bodily harm.
3. The analyzer consists on 2 modules – main module and sample mixer. The sample mixer performs rotary motion. Do not place in the range of the sample mixer any objects that could be overturned or broken.
4. There is a hole on the top of the sample mixer. Make sure no liquids or solid particles to drop inside this hole.
5. Under no circumstance you should try to repair Analyzer's power lead yourself. In case of power lead damage, contact your dealer to make the repairs.
6. The covers of the Analyzer should never be removed while mains power lead is connected.
7. Ekoprim is a powder substance, which in case of direct contact can irritate respiratory organs and eyes.

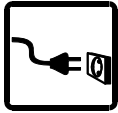
PRINCIPLE OF THE METHOD

Ekoprim is a surfactant that dissolves the somatic cells membrane as well as its nucleus envelope and forms a gel, elevating the viscosity of the milk.

There is proportional relation between the viscosity of mixture (milk – Ekoprim) and number of somatic cells of the tested milk.

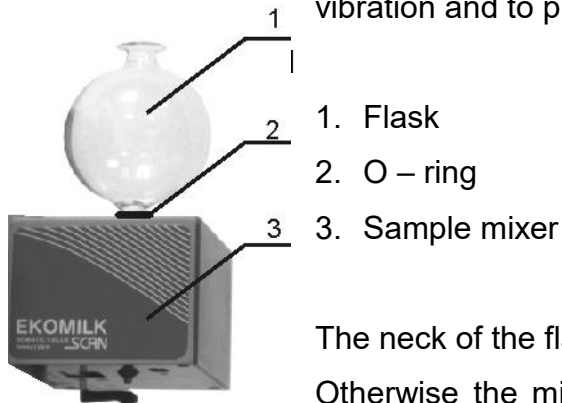
The milk analyzer Ekomilk Scan measures the flowing time of the milk through the sample mixer capillary and determines the number of somatic cells in accordance with this time.

The viscosity measurement is temperature sensitive. For reliable results, the milk sample and **Ekoprim working solution** temperatures should be 20-22⁰C.



ANALYZER INSTALLATION

Place vertically the Analyzer on a table or any other flat surface. Put the glass flask into the hole of the sample mixer as it is shown on fig. 1. Put the O-ring on the neck of the flask. Its purpose is to decrease the noise and vibration and to prevent any liquids or particles to drop in.



The neck of the flask should touches the bottom of the hole. Otherwise the milk will run from the sample mixer and will

damage the analyzer.

Attention: Handle glass flask carefully. Breaking the flask can cause scattering of glass particles.

Put the waste milk container under the sample mixer.

Power supply setting:

- Setting of AC Power Supply Voltage

Connect the AC power lead to the mains socket.

Switch on the AC power.

- Setting of 12V DC Power Supply Voltage

Connect the DC supply lead to 12V outlet (black is “-”) and to the autonomous DC supply (for example car supply).

Switch on the DC power.

When the power is on, **EKOMILK SCAN n Washing?** appears on the display.

If you want to refuse the washing, press button **SETTINGS**. In this case **PREPARE SAMPLE** appears on display. The analyzer is ready for use.

If you want to accept the washing procedure, press **OK**. In this case **FILL WATER** appears on display. Use distilled water as a washing liquid. Measure 15 ml distilled water, pour it into the flask and press **OK**. The analyzer shakes many times the flask with water, next stops and water flows through the capillary.

Attention: Do not pour more than 15 ml water in the flask, because during shaking it will flow out the flask.

WASHING key to continue appears on the display. Pressing whichever button put the analyzer in measuring mode - the sample mixer with the flask leans onward and **PREPARE SAMPLE** appears on the display.

Attention: Do not take into consideration the first sample result because it is likely to be with a deviation out of specification.

ANALYZER MENU

You can enter in analyzer menu only just before measurement, when the message **PREPARE SAMPLE** is on the display. Press button **SETTINGS**. Use the arrow buttons to move from one to another menu position

1. **CALIBRATION** – for more information see section “Calibration”.
2. **PARAMETERS** – Press **OK** to set the analyzer parameters.
 - 2.1.**N Average** – Average result mode. This option determines how many measurements of one and the same milk sample will be made to get a average result. When the marker is at this option press **OK**. On the display appears **Average Results** and **N measures = 1**. Use arrow buttons to change the value of **N measures**. You can choose 1, 2 or 3. 1 means - without average result, 2 means that your choice is to make 2 analysis of one and the same milk sample. After the second measurement the analyzer will show on the display the average result of both measurements. Select 3 if you want to make 3 measurements for one milk sample. Press **OK** to confirm your choice. Press **SETTINGS** to go back to the main menu. A second pressing on **SETTINGS** puts the analyzer in measuring mode.
 - 2.2. **N SamplSwing** During the measurement, the Sample mixer performs rotary motion to mix the sample. This menu option determines how many swings will be performed. When the marker is at this option press **OK**. On the display appears **SAMPLE Swing =** Use arrow buttons to change the value. The producer recommends 10 swings to be selected. Press **OK** to confirm your choice. Press **SETTINGS** to go back to the main menu. A second pressing on **SETTINGS** puts the analyzer in measuring mode.

- 2.3. **N Wash Swing** This menu option determines how many swings will be performed by the sample mixer during the washing procedure. When the marker is at this option, press **OK**. On the display appears **WASH Swing =** Use arrow buttons to change the value from 1 to 6. The producer recommends 3 swings to be selected. Press **OK** to confirm your choice. Press **SETTINGS** to go back to the main menu. A second pressing on **SETTINGS** puts the analyzer in measuring mode.
- 2.4. **SIGNALING** This menu item switches on and off visual and audio signaling on surpassing the preliminarily given somatic cells count. When the marker is at this option, press **OK**. On the display appears:

SIGNALING

0400 e3/cm3 OFF

The arrow button **▼** changes cursor position and button **▲** changes the over cursor value. Press **OK** to confirm your choice. Press **SETTINGS** to go back to the main menu. A second pressing on **SETTINGS** puts the analyzer in measuring mode.

Example: If the setting of this option is:

SIGNALING

0400 e3/cm3 ON

and you confirm it by pressing OK, The analyzer will alarm every time when the result of measuring is equal or surpass 400 000 SCC/ml.

3. **DATA COLLECT** - Power supply independent Data collection mode for storing up to 250 records with information about supplier ID, time and somatic cells number. This menu option switch on/off the data collect mode. When the marker is at this option, press **OK**. On the display appears **Data Collect ON** or **OFF**. Use arrow buttons to select between **ON** and **OFF**.

4. **SEND & CLEAR**. This option allows data transferring from analyzer memory to PC. If you work in **Data collect ON** mode the measurements will be stored in the memory until records number reaches 250. Then the error message "**DC Memory FULL!**"**Data Collect OFF**" appears on the display. In this case you have 3 possibilities:

- You can continue working in **DATA COLLECT OFF** mode. Meanwhile you can connect the milk analyzer to PC. In **DATA COLLECT OFF** mode the analyzer sends each measurement to the PC program EKOMILK.

- You can send the stored data to the PC program EKOMILK.
- You can delete data. Go to the **SEND & CLEAR** menu option. Press **OK**. The message **Start TRANSMIT? [250 records]** appears on the display. Press **OK** again and wait for a message.

Attention: Awaiting time depends on the number of stored records whereas the max time is 1 minute.

As soon as the transfer is completed the display shows message: "**TRANSMIT OK? > Clear&Exit**". Press **OK** to delete the records from the analyzer memory or press **SETTINGS** to go back to the main menu. In this case the data remains in analyzer memory.

5. **Set TIME** – Adjust time menu option. Press **OK**. **Current time:** appears on the display. The arrow button ▼ changes cursor position and button ▲ changes the over cursor value. Press **OK** to confirm your choice. Press **SETTINGS** to go back to the main menu. A second pressing on **SETTINGS** puts the analyzer in measuring mode.

6. **Set DATE** – Adjust date menu option. Press **OK**. **Current Date:** appears on the display. The arrow button ▼ changes cursor position and button ▲ changes the over cursor value. Press **OK** to confirm your choice. Press **SETTINGS** to go back to the main menu. A second pressing on **SETTINGS** puts the analyzer in measuring mode.

7. **LANGUAGE SEL** – Use this menu option to select your preferred language .

PREPARATION OF EKOPRIM WORKING SOLUTION

Ekoprim is a powder substance. Before preparing the work solution from the powder, check the shelf life label of the powder substance. After the expiration date the product is ineffective and the result for Somatic Cells Count will be out of spec.

Ekoprim solution storage : The 3.5% Ekoprim water solution is good for use up to 3 months after preparation if the bottle is closed properly after every use.

The Ekoprim solution can be stored at room temperature or in the fridge without freezing. If the solution is stored below 10°C, then the solution will become an intransparent and white gel. In that case, before using the solution, please warm up the solution above 30°C so it becomes transparent again.

Instruction for preparing 100 ml working solution:

Weigh 3.5 g Ekoprim and put it in a graduated flask or cylinder. Add to 100 ml in advance warmed distilled water (30 - 35 °C). Stir the mixture up to complete dissolving and then cool it down to 20 - 22°C

Attention: Ekoprim is a powder substance, which in case of direct contact can irritate respiratory organs and eyes.

MILK SAMPLES

1. Analyze the milk sample not later than 12 hours after milking. The life span of the most somatic cells is 12 hours. After that the milk sample is inappropriate for analysis with Ekomilk Scan.

2. Store the milk sample at temperatures between 5 to 10.

Holding the milk sample at temperature below 5°C and above 10°C results in gradual death of the leucocytes, which will give inaccurate results.

3. Do not freeze the milk sample;

4. Do not pasteurize the milk sample;

5. Filter the milk sample before measurement – this filtering is needed to ensure physical cleanliness of the sample. Any filter with pore size from 35 to 150 micrometer can be used.

We recommend filtering the milk sample through a 4-layered lint. Please contact your dealer for more details.

6. Mix the milk before measurement by shaking it gently 5 times.

7. Before measurement, make sure that the temperature of the milk sample is between 15 to 25°C. Alternatively, an additional “high-temperature” calibration can be purchased for testing in warm weather at around 35°C. Please contact your dealer for more details.



MILK ANALYSIS

1. Milk analysis in DATA COLLECT OFF Mode

Press button **SETTINGS**. The message **PREPARE SAMPLE** appears on the display. If you are working in average result mode a number appears after the message (1,2 or 3) depending on current sample number.

The sample mixer with the flask leans onward.

Attention: The viscosity measurement is temperature sensitive. For reliable results, the milk sample and Ekoprim solution temperature should be 20-22°C

1. Measure 5 ml Ekoprim solutions and pour it into the flask.
2. Next measure 10 ml milk prepared as it is described in the MILK SAMPLE section, pour it into the flask and press **OK**.

The analyzer shakes the flask many times, stops and mixture flows through the capillary. As soon as the measurement is completed the display shows the result:

TIME: and a value (seconds), corresponding to flow time - on the upper row.

CELLS: and a value, corresponding to the Somatic Cells count divided by 1000 - on the bottom row.



In case of printer connected to the analyzer, after the current measurement is completed, the results could be printed by pressing the arrow button **▲** on the analyzer front panel. Results are printed every time when this button is pressed.

Press button **OK**. If you work in average result mode (see **MENU** section), and the number for average result is done, the average result appears on the display.

TIME: and a value (seconds), corresponding to average flow time - on the upper row.

CELLS: and a value, corresponding to the average Somatic Cells count divided by 1000 - on the bottom row.

Attention: If the average Somatic Cells count differs more than 5% from whichever measurement, on the display, instead of average result appears: **INVALID RESULT**

Tolerance > 5%. In this case you should make a new measurement of the same milk sample.

Press button **OK**. After a measuring, the analyzer enters in Washing Mode. The message **FILL WATER** appears on the display. Measure 15 ml distilled water, pour it into the flask and press **OK**. The analyzer shakes many times the flask with water, next stops and water flows through the capillary. **WASHING key to continue** appears on the display. As accessory, the producer provides a rubber balloon. Its purpose is to blow through the capillary. The producer recommends after washing procedure to use this balloon for complete capillary cleaning.

Pressing whichever button put the analyzer in measuring mode - the sample mixer with the flask lean onward and **PREPARE SAMPLE** appears on the display.

Attention: It is necessary to wash the analyzer after each measuring with a view to protect the capillary from blocking up and to ensure troublefree work for a long time. For more information see section "Cleaning procedure".

2. Milk analysis in DATA COLLECT ON Mode

Press button **SETTINGS**. The message **Supplier Number: 0001** appears on the display. In this case you should prepare in advance a list of suppliers by number and name. The arrow button ▼ changes cursor position and button ▲ changes the over cursor value. Press **OK** to confirm your choice. The next message appears.

Identifier:

bulk milk

quarter 1

quarter 2

quarter 3

quarter 4

Use arrow buttons to select the desired option. **Bulk milk** is a milk from many animals at once, or a milk from all quarters of one cow. Select **quarter 1, 2, 3 or 4** in case of testing a cow for inflammation in one or more quarters.

Press **SETTINGS** to go back to the main menu.



CLEANING PROCEDURE

This section gives directions for daily and periodical cleaning of the milk analyzer Ekomilk Scan in order to protect the capillary from blocking and to ensure troublefree work for a long time.

1. Washing after a single measurement.

After a measuring, the analyzer enters in Washing Mode. Use distilled water for this procedure (see section "Milk Analysis"). As accessory, the producer provides a rubber balloon. Its purpose is to blow through the capillary. The producer recommends after washing procedure to use this balloon for complete capillary cleaning.

2. Cleaning at the end of the working day.

At the end of working day, wash once again the analyzer with distilled water. Blow the capillary through the flask hole. Switch off the analyzer. Remove the flask. Lean onward the sample mixer. Use the rubber balloon to blow the capillary through the back side. Leave the analyzer in this position to the next working day. Before starting work, turn back the sample mixer in work - horizontal position.

Attention: The non-adherence to this procedure could cause capillary blocking out. In this case use the producer provided nylon wire for mechanical cleaning of capillary.



CALIBRATION

Remark: The milk analyzer EkomilkScan is factory calibrated. It is not necessary to calibrate before first use.

Attention: Before calibrating, the milk analyzer must be switched on 3 hours in advance. The room temperature should be 20-22 °C.

Preparation of calibration solution:

Add 4-5 drops black ink in 100 ml distilled water, stir and filter it through filter paper.

Attention: The viscosity measurement is temperature sensitive. For reliable calibration, the calibration solution temperature should be 20-22 °C

Before starting the calibration, perform the procedure described in section "Cleaning procedure" check the capillary passability using the wire provided by the producer.

While the message **PREPARE SAMPLE** is on the display press button **SETTINGS** to enter in analyzer menu. Use the arrow buttons to select **CALIBRATION** option and confirm it with **OK**. The following message appears on the display:

FILL TEST WATER on the upper row.

[Act Tref=.... s] – The last calibration value on the bottom row.

Measure 15 ml solution and pour it into the measuring flask. Press **OK** to start the test. As soon as the test is completed the display shows the results: **Time** and a value.

If the value is in the spec limits 8 - 8,6, the calibration procedure is done and the message **Calibration OK!** is on the display. **The reference time is 8.3 sec.**

If a message **FLASK EMPTY!** appears on the display, that means the calibration solution needs more ink. Add 1-2 drops and repeat the calibration.

If the value is out of range of 8 - 8,6 the analyzer shows the message **CalibrationFAULT**. Repeat the full calibration procedure. If the result is again negative it is necessary to adjust the capillary sensor position.

Adjustment of capillary sensor position



- 1 Switch off the analyzer. Remove the flask. Lean onward the sample mixer. On the sample mixer bottom, in an oval hole the adjustment screw is situated. Screwing clockwise increases the flowing time and vice versa. 3 turnovers change the flowing time with 0.1 sec. Calculate the number of needed turnovers and adjust the sensor position.

Perform once again the calibration procedure.

Attention: If the needed turnovers are more than 24, contact your dealer to make the repairs.

Attention: Do not apply a force over the adjusting screw.

Example:

During calibration, the flowing time (T_f) is 8.7 sec. The reference time (T_r) is 8.3 sec. The needed time correction is $T_c = T_r - T_f = -0.4$ sec. The symbol minus shows the

screwing direction should be counter-clockwise. The number of turnovers in this direction are $TC * 30 = 12$.

SOFTWARE CALIBRATION

Electronic Software calibration via computer is possible and allows to increase accuracy of the results. Such software calibration also allows to use Ekomilk Scan at higher testing temperatures. Please contact your dealer for more details.



PC PROGRAM SCCDATA

This program is designed to collect the milk data from one milk analyzer Ekomilk.

There are two possible interfaces to connect the milk analyzer to the PC:

1. RS232 - In this case it is enough to connect Ekomilk using RS232 cable to some PC COM port
2. USB - Ekomilk uses a FTDI chip to connect to USB port.

1. MINIMAL SYSTEM REQUIREMENTS:

Pentium or better

256 Mbytes of RAM (needed memory depends on operating system)

Approx. 15 Mbytes of free hard disk

CD-ROM Drive or internet connection

VGA graphic adapter and monitor (256 colors)

Windows XP, Vista, Windows 7

Mouse

2. INSTALLATION:

WARNING:

Place the CD into your CD-ROM drive or download the setup file from the website indicated by your dealer.

Close all applications.

WARNING if you are upgrading from an older version of SccData:

Before going ahead, please first take a manual backup of all your SccData measurements on your PC or contact your dealer to avoid loss of previous measurement data on your PC.

Please first uninstall the previous version of the software (via control panel).

Run Setup.exe from CD-ROM drive. You need to have administrator rights to install on Win 7. In case your virusscanner is still active, you may get the warning "w.s .

Reputation" has been found. This does not mean that your setup file is infected, it is not a virus. Please continue with the installation.

The SccData setup program will start and guide you through the installation. Click on NEXT and follow the prompts until completion.

After installation a new program icon named SccData appears on your Windows Desktop.

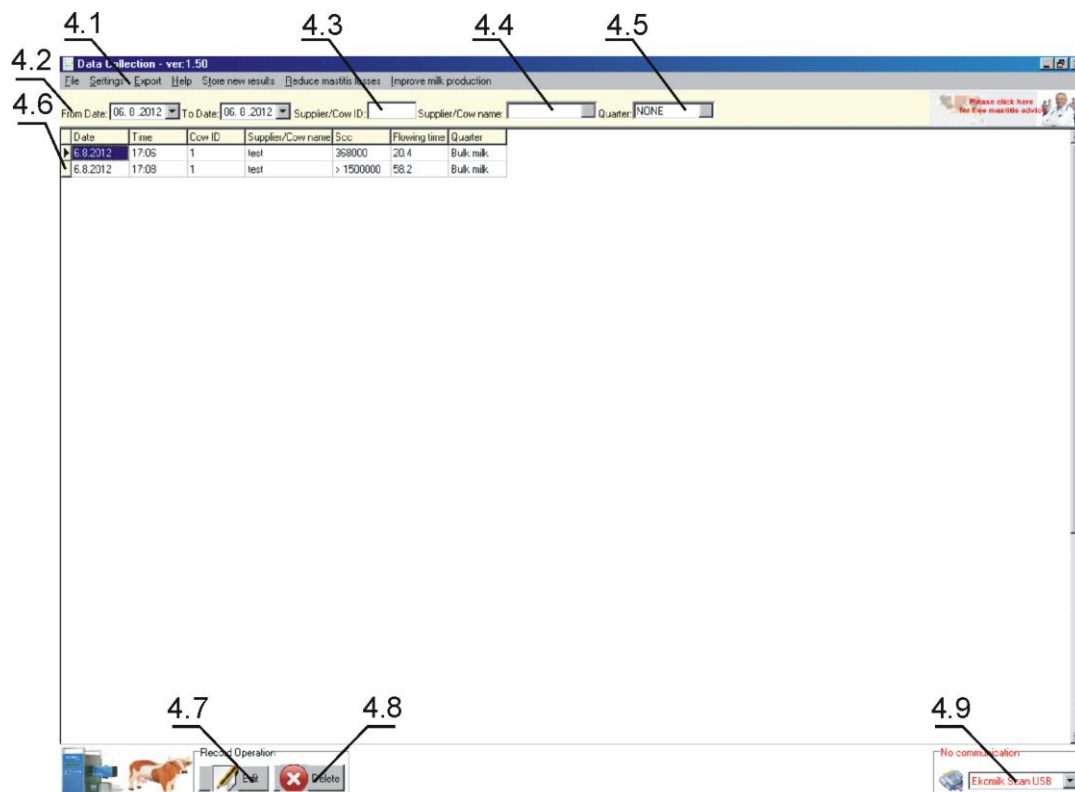
3. HARDWARE INSTALLATION

There are 2 ways to connect Ekomilk to the PC. Choose one of them:

1. Connect the USB cable to a free USB port of the PC and to the USB connector of Milk analyzer.
2. Connect the RS 232 cable to a free COM port of the PC and to the RS 232 connector of Milk analyzer.

4. Program Work Space

The program workplace is what you see on your screen - a data table area, a menu bar, toolbars. The program workplace also includes elements such as menu commands and dialog boxes.



4.1. Menu

4.1.1. File

4.1.1.1. Report

Click on Report to print only those records in the table, corresponding to the criteria defined in the Date and Supplier filter. The Print Preview window appears. To see more about the print preview toolbar buttons, point to some button. The name and additional information about the function of the button appears on the screen.

4.1.1.2. Suppliers

Click on this menu option to open the Suppliers window. Use this option to create, delete, edit or save supplier's data.

4.1.1.3. Exit

Click on this menu option to close the program.

4.1.2. Settings




4.1.2.1. Compact database


Use this option to remove empty rows and make a backup copy of the database file. Each new backup copy overwrites the previous. The backup copy **sccdata.old** is stored in the installation folder (*default: c:\Program Files\SccData*)

To use the backup file, rename its extension to MDB.

4.1.2.2. Delete measuring

Click **Delete measuring** to delete some records under supplier and dates. If you try to edit or delete some data, you will be asked to type a password. Default password is **1**. You can change it - see section **Setting/Set user password**.

In the Start Date box, click on the . A calendar appears on display. To find the desired month use the   icons. When the desired month is displayed, click on the date. The start date appears in the first box. Repeat the same procedure for the End Date box.

The click on  in the Supplier box allows you to select one specific supplier from the supplier's list or blank to select all suppliers. Click **OK** to delete the desired records or **Cancel** to cancel deleting.

4.1.2.3. Set user password

To change your password:

Click **Set user password**.

Type your old password (First time type **1**).

Type your new password, and then type it again in **Again please box**.




Click on the button with green mark to confirm the change.


4.1.2.4. Log Out

Click on **Logout** to forbid data editing and deleting - see **Edit and Delete functions section**.




4.1.3. Export

Click this option to export some records under supplier and dates.

In the Start Date box, click on the . A calendar appears on display. To find the desired month use the   icons. When the desired month is displayed, click on the date. The start date appears in the first box. Repeat the same procedure for the End Date box.

The click on  in the Supplier box allows you to select one specific supplier from the supplier's list or blank to select all suppliers. Click Export to Excel to save data in Excel format


4.2. Date filter

This option enables you to display only those records in the table that correspond to the criteria defined in the From date box, To date box. In the Date boxes, click on the . A calendar appears on display. To find the desired month use the   icons. When the desired month is displayed, click on the date. The date appears in the box.


4.3. Supplier/Cow ID filter:

Enter the Supplier/Cow ID to see all measuring data of this Supplier/Cow for the time period defined by Data filter.

4.4. Supplier/Cow name filter:

A click on the  in the Supplier box allows to select one supplier from the suppliers list. If you want to select all suppliers, you should leave in the box blank.

4.5. Quarter:

A click on the  in the Quarter box allows to select the measuring results for one of cow's quarter if this kind of tests were done.

4.6. Table with measuring results.

4.7, 4.8. Edit and Delete (Record Operation)

The measuring results are protected from unwanted access. If you try to edit or delete some data, you will be asked to type a password. Default password is **1**. You can change it - see section **Setting/Set user password**. Type the password to unlock the **Edit** and **Delete** functions. **Setting/LogOut** becomes active.

The Edit and Delete functions remain unlocked until:

- Closing Milk data program;
- Click on **Setting/LogOut**. **Setting/LogOut** becomes inactive.

4.9. Communication (USB or RS232) Box.

4.9.1. The default communication is USB. The program automatically search to detect an analyzer connected to the of USB port. When the communication is established the Communication success appears. All messages are green.

4.9.2. In case of RS232 communication, click on the Port arrow and the list of all available COM ports appears. Choose the COM port connected to the Milk analyzer. When the communication is established the Communication success appears. All messages are green.

5. The analyzer has 2 modes for PC communication:

a) Data Collecting mode:

continuous, real-time transferring of analyzer results to PC

b) Data Transferring mode:

storing results locally in analyzer memory and afterwards transferring the results from analyzer memory to PC.

In general, the right settings for both modes are:

a. Data Collecting

a.1. Connect a milk analyzer Ekomilk to the PC with Ekomilk program.

a.2. The Milk analyzer should work in **Data Collect OFF** mode. To set this mode press Ekomilk button **SETTINGS**. (You can enter in analyzer menu only just before measurement when the message **PREPARE SAMPLE** is on the display.) Use the arrow buttons to go to **DATA COLLECT** menu option. When the marker is at this option, press **OK**. On the display appears **Data Collect ON or OFF**. Use arrow buttons to select **OFF**. Press **SETTINGS** to go back to the main menu. A second pressing on **SETTINGS** puts the analyzer in measuring mode. Start a measurement. When the measurement is completed, a dialog box appears. Select the supplier from the existing suppliers list and check right quarter. Press **Save** to store the measurement or **Cancel** for decline it.

b. Data transferring.

b.1. Connect a milk analyzer type Ekomilk to the PC with Ekomilk program.

b.2. The Milk analyzer should work in Send&Clear mode. To set this mode press Ekomilk button **SETTINGS**. (You can enter in analyzer menu only just before measurement when the message **PREPARE SAMPLE** is on the display.) Use the arrow buttons to go to the **SEND & CLEAR** menu option. Press **OK**. The message **Start TRANSMIT? [250 records]** appears on the display. Press **OK** again and wait for a message.

Attention: Awaiting time depends on the number of stored records where the max time is 1 minute.

As soon as the transfer is completed, the analyzer display shows message:
"TRANSMIT OK? > Transmit Again.

- Press **OK** to transmit the again;
- Press **SETTINGS** to go back to the main menu. . In this case the data remains in analyzer memory.
- Press arrows buttons to show the **"Delete & Exit"** message. When this message is on the display press **OK** to delete the records from the analyzer memory or press **SETTINGS** to go back to the main menu. In this case the data remains in analyzer memory.

The program asks your confirmation for saving the measurements. Press **Confirm** to store the measurements or **Cancel** for decline them



ERRORS LIST

Error message	PROBLEM & CAUSE & REMEDY
INVALID RESULT Tolerance > 5%	Average result mode error. If the average Somatic Cells count differs from whichever measurement more than 5%, on the display, instead of average result appears this error message. In this case you should make a new measurement of the same milk sample.
DC Memory FULL ! Data Collect OFF	If you work in Data collect ON mode the measurements will be stored in the memory until records number reaches 250. Then the error this error message DC Memory FULL ! "Data Collect OFF" appears on the display. For more information see menu section SEND&CLEAR
CalibrationFAULT	See section "Calibration"
FLASK EMPTY!	Calibration error. If this message appears on the display, there is not calibration solution in the flask or the calibration solution needs more ink. See section "Calibration".
SET DEFAULTS?	This message offers you to restore the default analyzer settings. This is a service error message and appears only in case of analyzer memory damage. Press OK to restore default settings.
EPROM Not Exist!	There is not communication between the main processor and PROM. PROM is burnt or not properly put in the socket. Contact your dealer to make the repairs.
RTC Not Present! press any key	There is not communication between the main processor and Embedded Real time clock. The clock is burnt or not properly put in the socket. Contact your dealer to make the repairs.
Err:XX Motor OVERLOAD while H,V,F	Each one of these errors indicates a motor problem. Contact your dealer to make the repairs.

Error message	PROBLEM & CAUSE & REMEDY
Motor OVERLOAD	
Motor OVERLOAD	
Unexpected ON	Each one of these errors indicates a capillary sensor problem. Contact your dealer to make the repairs.
Sens X Missing	

GUARANTEE

Guarantee is one full year. Guarantee is void if warranty labels are removed. Under no circumstance you should try to repair the Analyzer yourself, as this will invalidate the guarantee. The guarantee conditions for this analyzer are as defined by our representative in the country of sale.

Serial N:

Date:
