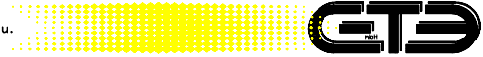


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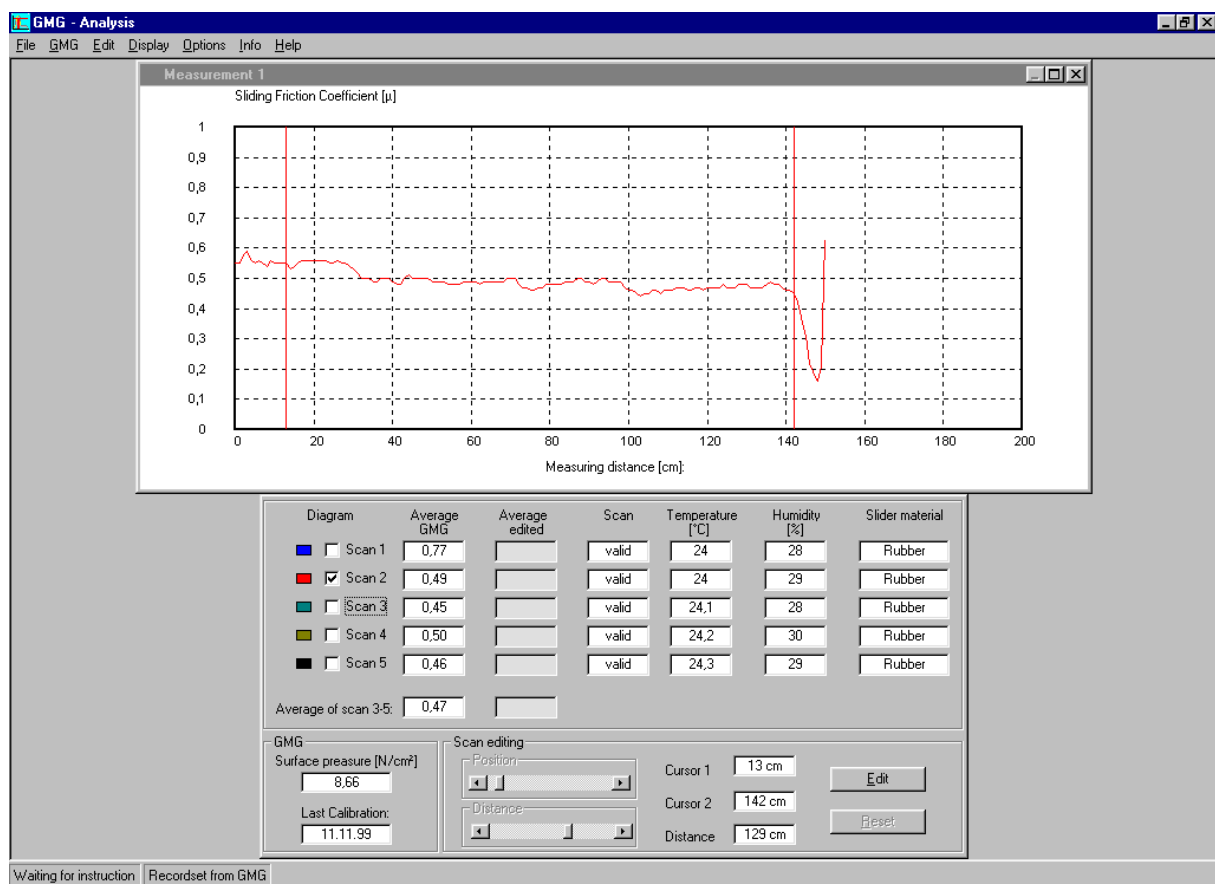
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## User Manual

# Program GMG – VD 1.0

for evaluation and recording of sliding friction measurements



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## 1 The GMG Program

The program GMG-VD 1.0 allows to visualize and to record measurements of sliding friction. Together with a Laptop and the GMG – 100 SC instrument, the sliding friction of floor surfaces may be tested at any place. The measured data of the GMG 100 SC can be transferred to and saved on a data medium. Saved measurements can be visualized at any time. The program, furthermore, allows to establish a record of the measurements, which can be saved and printed. The program also shows the data transferred from the GMG 100 SC instrument as an instructive diagram.

### *Standard display:*

The data of the GMG 100 SC, their calculation and evaluation and the measuring curves, used for the calculation of the final result, are visualized. The part of the measuring curves, used by the instrument to form the average value, are also visualized and displayed. Since the instrument GMG 100 SC is in total retractably calibrated, and the program in this mode is only used to visualize and to record the calculated data, the indicated values are equally retractably calibrated.

### *Special mode:*

For testing purposes, the program offers the possibility to choose that part of the measuring curves, used for and calculation of average values. This special mode does not influence the standard values in the instrument, but offers further possibilities of processing measured values by visualization.

## 2 System requirements

- 486 - 33Mhz or higher
- 8 - 16 MB main memory
- serial interfaces and mouse
- 3 ½" drive
- 5 MB free space on hard disc
- graphic card with 800 x 600
- Windows 95/98

## 3 Installation

Your PC or Laptop must be equipped with Windows 95/98. Put diskette 1 of GMG installation diskettes into your drive and start the setup program from the Explorer of Windows 95 by double click on „setup.exe“.

Follow the instructions of the setup program. It will ask for the directory into which the GMG-program should be installed. The proposal to use the standard directory should be altered only for compelling reasons. Further adjustments are now made automatically. You will only be asked to put the next installation diskette into the drive and to acknowledge.

## 4 Start of program

The setup program automatically installs an individual program group for the GMG-program. In Windows 95 you can find the program via start menu left below in the task bar. Move the cursor to „Programs“. In the menu displayed you will find „GMG-VD 1.0“ program, from where the program can be started, or you may use the icon on the desktop, produced by the setup program.

## 5 First start

First check the connection between GMG 100 SC instrument and your PC (or Laptop). If necessary, the components must be changed in menu „Adjustments“ and sub-menu „Interfaces“.



The window shows the number of interfaces in your PC. On most PC's, the interface „Com 1“ is occupied by the mouse, which means that you have the choice of „Com 2“, „Com 3“ or „Com 4“. Not existing interfaces are displayed „covered-up“. The supplier's adjustment is „Com 1“, because normally the program is installed on a Laptop which has an integrated mouse.

A new connection may be tested by command „**Connection test**“ in the GMG menu. A faulty or no connection is displayed in another windows (below the tool box) as status display „**no connection**“.

## 6 Start information

Data may be transferred from GMG via menu „GMG“ and „data transfer“ or from hard disk via „file“ and „data transfer“.

One set of data consists of all data of the instrument, i.e. all measurements and the appropriate travels (scans). Via the menu „file“ and „measurement transfer“, the measurements and the scans can be transferred.

The file names for a set of data are \*.dat and for a single measurement \*.mes. The same names are also valid for the saving of data.

## 7 First measurement

Bring the GMG to the measuring place and switch it on. Now perform the desired number of measurements or scans. According to the standard 5 travels (scans) must be carried out for each measurement. After 2 test scans, 3 further scans must be carried out. From these last 3 scans the average value of the sliding friction coefficient is determined, which is then saved together with the measuring diagram.

The measuring diagram and the computed values remain saved, also when the instrument is switched off. The GMG can save totally 90 scans (e.g. 18 measurements with 5 scans each).

## 8 Data transfer from GMG-instrument

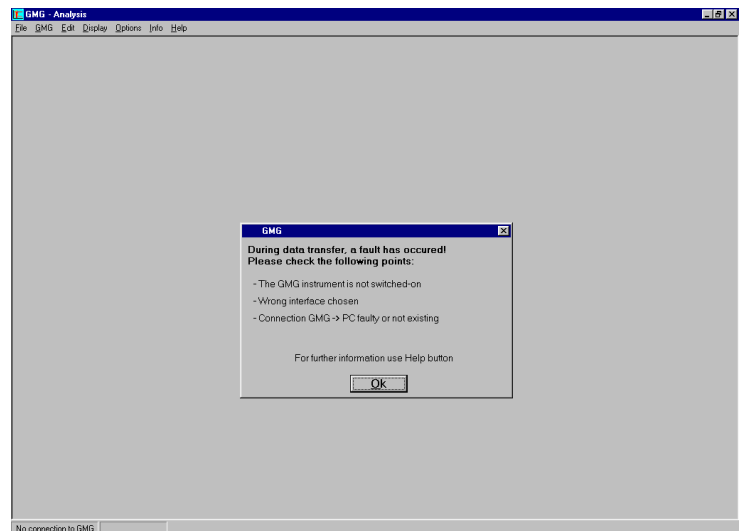
Connect the GMG via the special cable to the serial interface of the PC of Laptop. Switch it on. Start the GMG program and click on function „GMG“ and „data transfer“. Now the data are transferred.

If not, the following instructions are displayed on your monitor:

During data transfer, a fault has occurred! Please check the following points:

- The GMG instrument is not switched on.
- Wrong interface chosen
- Connection GMG to PC faulty or not existing.

For further information click on „Help“



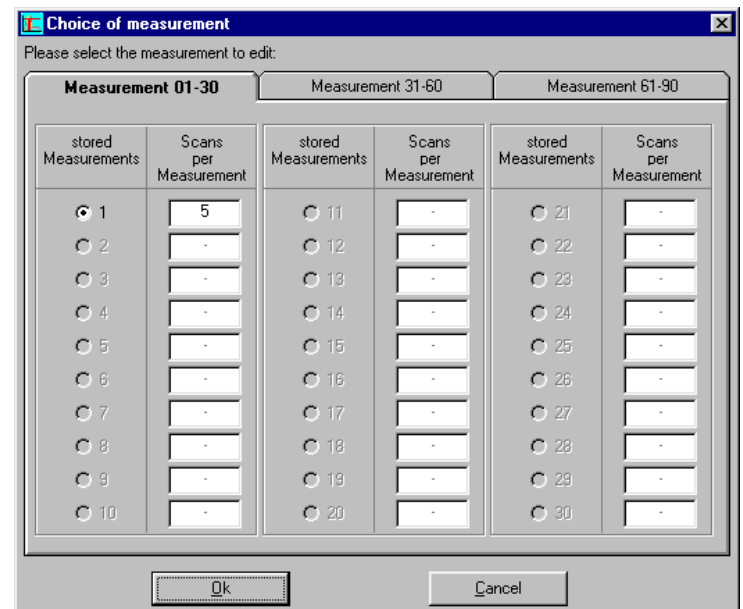
After transfer of data from hard disc or GMG, the following windows is displayed on the monitor:

GMG-choice of measurements

Please choose the measurement to be treated  
Measurement 1-30 ...

Saved measurements  
Scans per measurement

This example shows only 1 measurement with 5 scans.

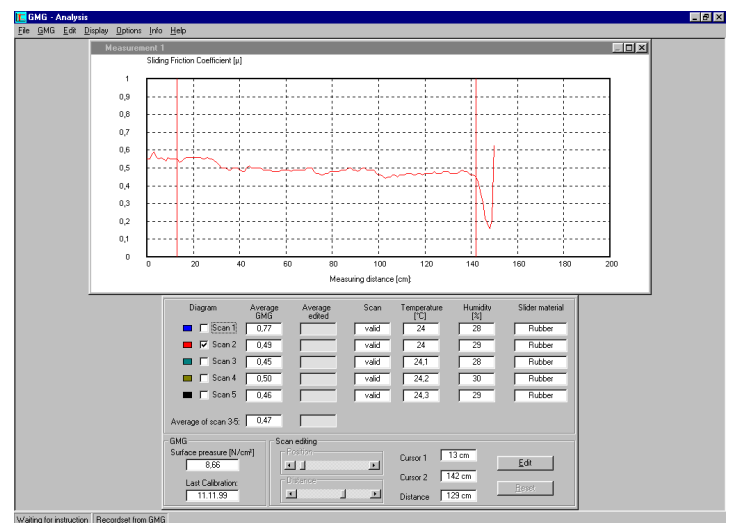


GMG evaluation

Measurement 2

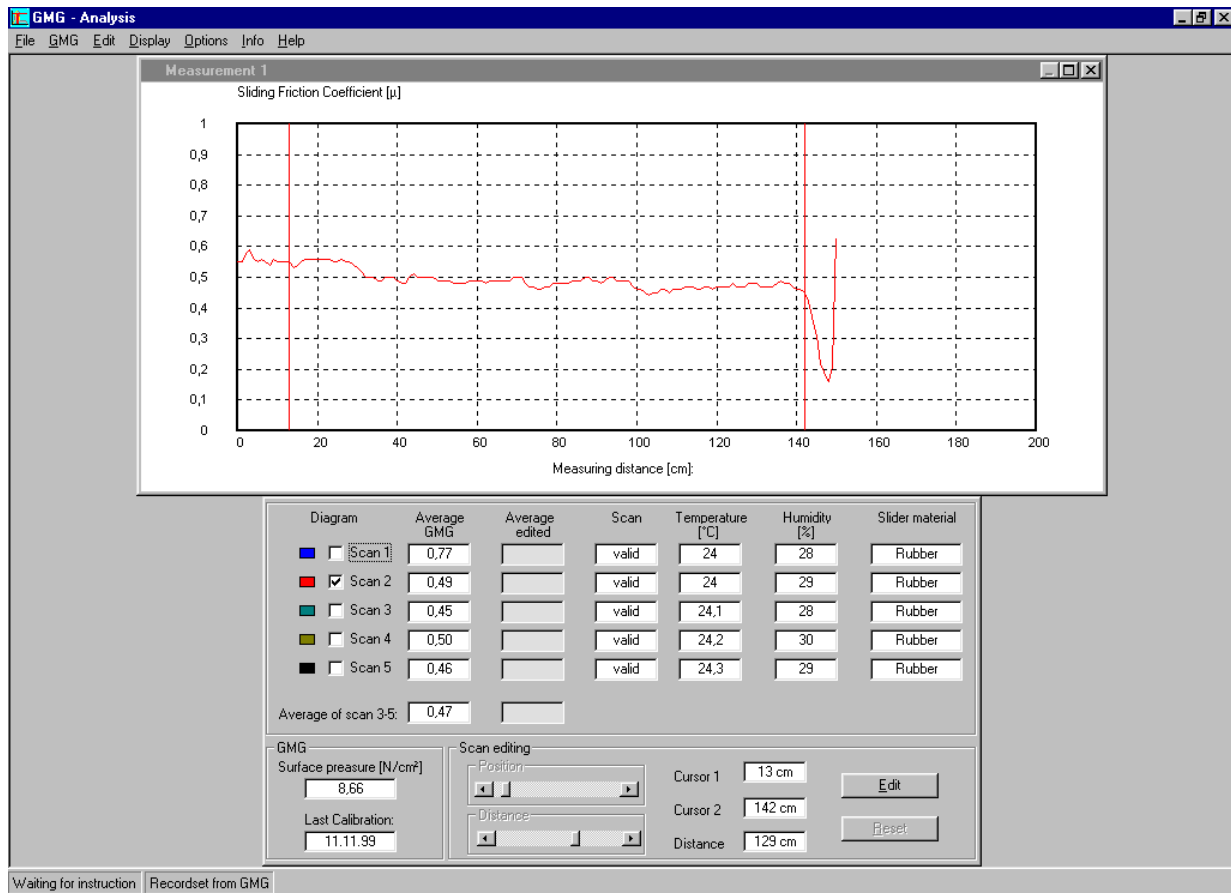
Sliding friction coefficient

Measuring range (cm)



Now the diagrams to be displayed may be chosen. The column **“Average value GMG”** shows the sliding friction values measured by the GMG. On each diagram, that range of the complete curve is displayed, which was automatically chosen to determine the average value, and during which the required speed accuracy was maintained.

By clicking on the button **„Treatment“**, you change from the display mode to the treatment mode. Now you have the possibility, to choose a measuring range from a certain curve. The distance between the 2 range limiting cursors can be adjusted to less than 1 cm.



The appropriate average value of the selected range is displayed in the column **„treated average value“**. Below the column of the 5 scans, the average value of scans 3 to 5 is displayed, if these 3 scans 3 to 5 have been valid.

By clicking on the button **„Return“**, the cursor positions return to the original range selected by the instrument with the function **„Treatment“** and **„Record“**, a recording window is opened, into which all relevant data may be inserted. These insertions are printed out together with the measuring diagrams. With the function **„Remarks“**, additional remarks may be inserted.

## 9 Choice of Language (not yet installed)

At option, 2 languages are incorporated in the program (German and English). Choice can be made via menu **„Adjustments“**. The language may be changed during working.

## 10 Delivery status of GMG program and GMG – 100 SC instruments

The GMG program is only compatible with the supplied GMG – 100 SC instruments.

During data transfer, the program compares the licensed internal numbers of the GMG instruments. If a GMG instrument, which is not licensed for the relevant program, is connected to the GMG-program, an error message will be displayed **„instrument not licensed for this program“**.

If at a later date, further GMG instruments are supplied and should be operated with the initial program, a new update diskette will also be supplied, which contains the license numbers of these additional instruments.

## 11 Read data from data medium

All saved data may be read directly from the hard disc or the diskette.

## 12 Printing

Under this function, a record with diagram is printed. The optimum print quality, especially of the diagram, is obtained by using a laser printer. If an inkjet or wire printer is used, the print quality may be poorer. To achieve highest printing quality, the printer has to be adjusted to grayscale printing.

**Information: The function „Help“ is not yet installed.**

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