

## Manual Wöhler SM 500 PC Software



# Contents

<b>1</b>	<b>PC system requirements</b> .....	<b>3</b>
<b>2</b>	<b>Application</b> .....	<b>3</b>
<b>3</b>	<b>Installing the Wöhler SM 500 PC software from the CD</b> .....	<b>4</b>
<b>4</b>	<b>Connecting the PC and the Wöhler SM 500</b> .....	<b>5</b>
<b>5</b>	<b>Structure and functions on the main screen</b> .....	<b>6</b>
5.1	Structure of the main screen .....	6
5.2	Clearing or saving the diagram .....	8
5.3	Setting the screen size .....	10
<b>6</b>	<b>Menu bar</b> .....	<b>11</b>
6.1	Start.....	11
6.2	Stop.....	11
6.3	Measurements .....	11
6.4	Logging .....	12
6.5	Information .....	13
<b>7</b>	<b>"Customers" screen</b> .....	<b>14</b>
7.1	Create a customer.....	15
7.2	Delete a customer .....	15
7.3	Saving measurement data .....	15
7.4	Load or transmit measurement data.....	16
7.5	Import or export customer data .....	16
7.6	Measurement results display.....	17
7.7	Print Report .....	17
<b>8</b>	<b>"Settings" menu</b> .....	<b>18</b>
8.1	General .....	18
8.2	Company data.....	19
8.3	Web server.....	20
<b>9</b>	<b>Short guide</b> .....	<b>22</b>
	<b>Points of sale and service</b> .....	<b>23</b>

## 1 PC system requirements

Description	Details
Operating system	Microsoft Windows XP Microsoft Windows Vista Microsoft Windows 7 Microsoft Windows 8 Microsoft Windows 10  In addition, Microsoft .net Framework Version 4.0 must be installed. This is normally a component of the Windows operating system; however, it can also be downloaded for free from the Microsoft website and installed later.
Processor	Pentium 4 2.4 GHz or higher
RAM	512 MB minimum
Miscellaneous	Graphic card  Microsoft .NET-Framework 4.0

## 2 Application

Using the SM 500 PC software from Wöhler it is possible to transmit measurement data from the Wöhler SM 500 to a PC for evaluation. It is equally possible to transmit data from a PC to the analyzer.

It is possible to process data in XML format to facilitate data exchange with external programs.

The software supports recording logs and long-term measurements.

### 3 Installing the Wöhler SM 500 PC software from the CD

- Install the software by clicking on the installation file.
- Follow the installation instructions to install the software successfully.

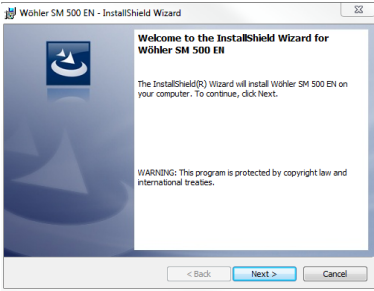


Fig. 1: Installation wizard

## 4 Connecting the PC and the Wöhler SM 500

- Connect the Wöhler SM 500 Suspended Particulate Analyzer to the PC using the USB cable included in the scope of supply. The USB port on the Wöhler SM 500 is located below the operating keys of the operating unit.



### NOTE!

If the USB cable is removed during measurements, the Wöhler SM 500 aborts the present measurement and starts a new measurement.

- Switch on the Wöhler SM 500.

It is also possible to launch the software first and then switch on the analyzer. The software recognizes automatically when a device is connected.

- To launch the program, click the SM 500 icon that is created automatically on your desktop during installation
- Alternatively, click Start > All programs > Wöhler > SM500



Fig. 2: Icon for Wöhler SM 500 PC software.

## 5 Structure and functions on the main screen

### 5.1 Structure of the main screen

The main screen is displayed when the software is launched. The selected menu is highlighted blue (here "Online").



**NOTE!**

No values are displayed initially in the main screen. Values are displayed once the software on the PC and the analyzer are connected, see Chapter 6.1.



Fig. 3: Measurements screen

1	Numerical representation of measurement values
2	Graphic representation of measurement values
3	Frequency
4	Hose temperature (TS)
5	Filter temperature (TF)
6	Flow
7	Absolute pressure
8	Name of log file when logging data
9	Serial number of the Wöhler SM 500
10	Software screen resizer
11	Exit software

## Structure and functions on the main screen

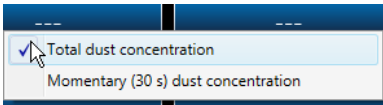


Fig. 4: Change measurement value display  $m_{ST}$

Right-click  $m_{ST}$  to change the display from Total dust concentration to Momentary dust concentration, which indicates changes to the dust concentration value in the last 30 seconds.

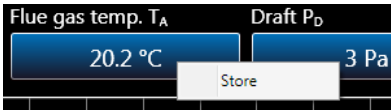


Fig. 5: Store  $T_A$  and  $P_D$

Right-click the measurement values  $T_A$  and  $P_D$  to incorporate the values into the measurement results displayed in the Customer screen.

## 5.2 Clearing or saving the diagram

During the measurement, the measured data is presented as a diagram on screen

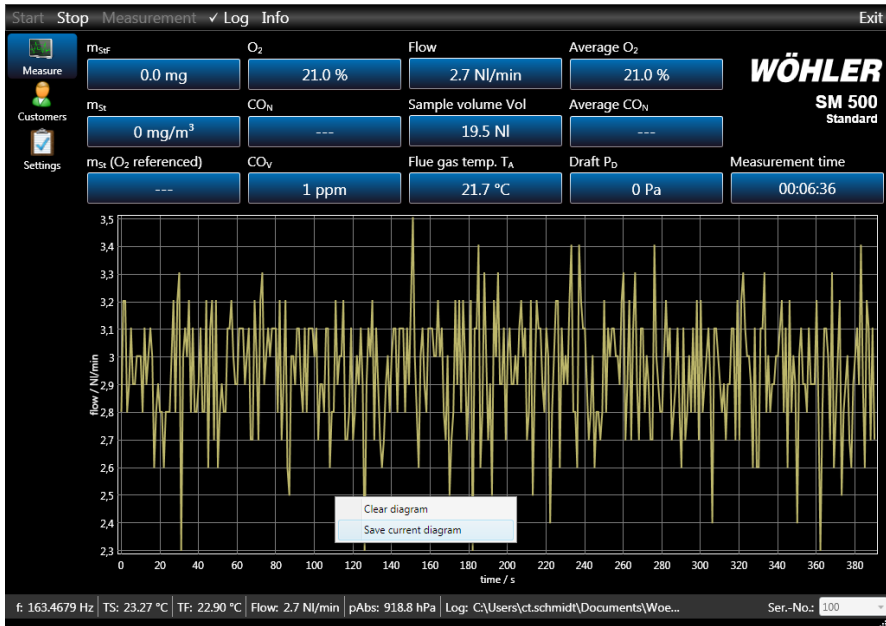


Fig 6: Measurement diagram with options "clear" and "save"

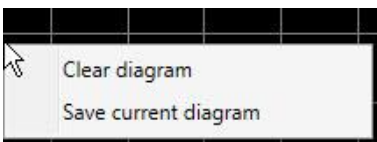


Fig. 7: Options

After a right mouse click in the diagram a window with two options will open:



Clear diagram

The screen will be cleared and a new diagram will start.

Save current diagram

A screenshot of the current diagram will be saved as png file in the directory selected in the settings menu (Settings > Default image directory).



Abb. 8: Select the image directory

**5.3 Setting the screen size** It is possible to make the following screen settings:

- To adjust the height and width of the software screen, click and hold down the left mouse button at the bottom right corner of the screen and drag the screen to the size you want (compare Fig. 4, Pos. 10).
- To maximize the software display to the full size of the screen, double-click the top menu bar of the software window (full screen mode). Double-click the top menu bar again to return to the previously viewed screen size.



**NOTE!**

It is possible to switch the graphic display to different channels during measurements to view a graphic of the different values currently being measured. To do so, click the corresponding blue numerical fields of the numerical display (compare Fig. 4, Position 1).

## 6 Menu bar

### 6.1 Start



Fig. 9: Menu bar

- Switch on the Wöhler SM 500. Click "Start" in the menu bar of the software to establish a connection between the PC/PC software and the analyzer.

The measurement values recorded by the Wöhler SM 500 are now displayed on the screen. They are identical to the values displayed on the Wöhler SM 500.



#### NOTE!

A graphic representation of the measurement values is displayed following the stabilizing phase; in other words, during the measurement process.

- In the Online viewing mode, click the blue field below the corresponding value to view the graphic trend display in real time. It is possible to display several values simultaneously.
- Click "Stop" to terminate the connection with the Wöhler SM 500.
- To select the measurement you wish to carry out next, click "Measurement" in the menu bar and then the corresponding menu item.
- Then click start to start the measurement.



#### NOTE!

To subsequently change the measurement type you must first click "Stop".

### 6.2 Stop

### 6.3 Measurements



Fig. 10: Measurement types

- Carry out the measurement as described in the operating manual of the Wöhler SM 500.

## 6.4 Logging

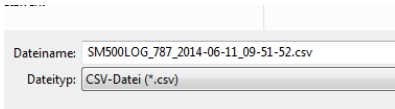


Fig. 11: Saving a log file

The submenu "Logging" is active only when the analyzer is connected.

Click the submenu item "Log" to open the "Save as" dialog box and save logged data as a \*.csv file.



### NOTE!

It is possible to open and analyze CSV data in Excel.

When the data is saved a tick is displayed next to the submenu item; this allows the user to see immediately that logger mode is active.

The logging rate is always one second.

All further commands are entered via the Wöhler SM 500:

Start > Leak tightness test > Warm-up phase > Insert probe > Wait for "stabilized" message > Set to zero > Measure.



### NOTE!

The graphic is first displayed on the PC during the 15 minute measurement. "PC mode" is shown in the analyzer display.

- To stop the measurement, remove the tick from the submenu item "Logging".

## 6.5 Information

Click the submenu item "Info" to open the "Software information" window. The software version is displayed in this window.

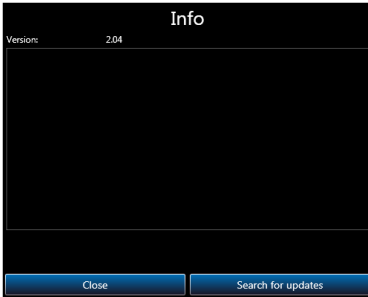


Fig. 12: Software information

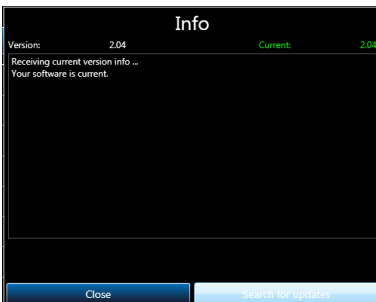


Fig. 13: Search for updates

To see if the software is up-to-date, click "Search for updates".

A message is displayed if an update is available.

- If that is the case, click "Update" to download the current software version.



### NOTE!

To download the most up-to-date version of the operating manual for the software visit [www.woehler.de](http://www.woehler.de).

## 7 "Customers" screen

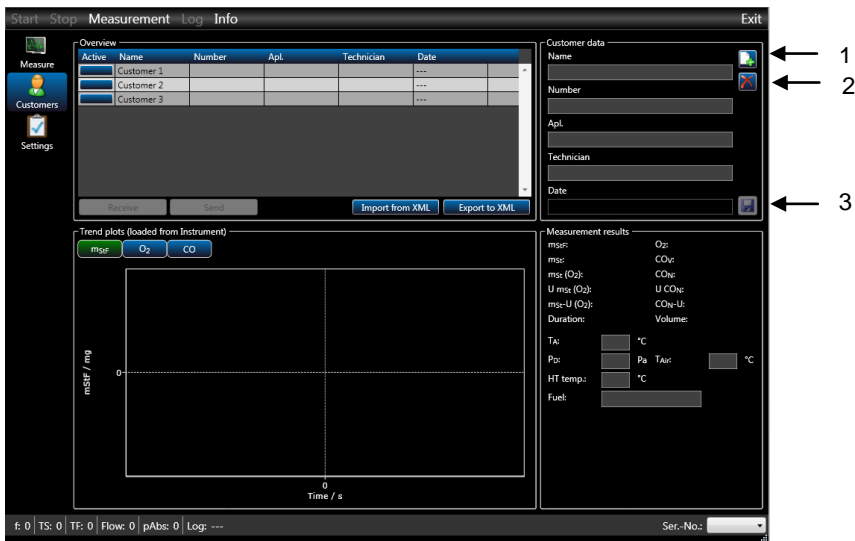


Fig. 14: Customers screen

Legend:

1	Create a new customer
2	Delete a customer
3	Save data

In this screen it is possible to create, save and delete a customer using the buttons 1, 2 and 3.



### NOTE!

At the beginning of a working day it is possible to conveniently enter on a PC customer data of the systems to be measured, and then load the information onto the suspended particulate analyzer. At the end of the day simply transmit the customer data back to the PC for effortless evaluation.

### 7.1 Create a customer

Fig. 15: Create a customer

- To create a new customer, click the "Create customer" button.

Enter the customer's data manually. The date of measurement is assigned automatically on the date measurements are carried out.

### 7.2 Delete a customer

Active	Name	Number	Apl.	Technician	Date
Active	Customer 1				---
	Customer 2				---
	Customer 3				---

Fig. 16: Delete a customer

- To delete a customer, first click the customer name in the Customer Overview.

The selected field is then highlighted blue.

- Now click the "Delete customer" button.

### 7.3 Saving measurement data

Active	Name	Number	Apl.	Technician	Date
Active	Customer 1				---
	Customer 2				---
	Customer 3				---

Fig. 17: Activate customer to save measurement data

- To save measurement data under a customer name you must first set the customer to "active" in the Customer Overview.

- Now click the "Save data" button to save current measurement data under the active customer name.



#### NOTE!

There are several options available to save measurement results under a customer name:

- Set the corresponding customer to active before beginning measurement. The measurement results are then automatically saved under the active customer name when the measurement is complete.
- If you have not set any customer to active, you will be asked if you wish to create a customer when the measurement is complete. You now have two options available:
  - If you respond to the question with "Yes", a new customer is created automatically and the measurement results saved under the new customer name.

- If you respond with "No", you will have to save the measurement results manually. To do so, either create a new customer and set the new customer to active or set an existing customer to active. Then click "Save data" (see Fig. 20). The measurement results are saved under the selected customer name.

## 7.4 Load or transmit measurement data

To transmit measurement data you must first set the customer to active.

"Transmit" button: Customer data of the active customer are now transmitted to the suspended particulate analyzer.

"Load" button: Measurement data from the suspended particulate analyzer is saved in the software under the active customer name.



### NOTE!

Existing measurement data is overwritten.

## 7.5 Import or export customer data

Active	Name	Number	Apt.	Technician	Date
	Customer 1				---
	Customer 2				---
	Customer 3				---

Abb. 18: Customer menu

„Export to XML“ button: all customer data with the correspondent measurement data will be stored in an XML-file on the PC (or mobile device). Always the complete customer list will be stored in the XML-file.

- Click **Export to XML** and select the directory where to store XML-file.
- Click **Import from XML** to import the measurement data from the PC to the software again.



## 7.6 Measurement results display

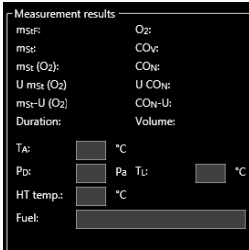


Fig. 19: Measurement results display



Fig. 20: "Measure" button

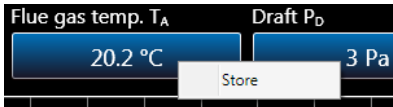


Fig. 21: Store value  $T_A$

After measurements are complete or the measurement data has been loaded into the software from the suspended particulate analyzer the measurement results are automatically displayed in the customer screen.

The user must enter the values in the gray fields. Alternatively, it is possible to incorporate the values  $T_A$  and  $P_D$  from the measurement.

- To save  $T_A$  and  $P_D$  values, change to the Measure view.

- Right-click the blue field  $T_A$  or  $P_D$ .
- Click "Store".
- The value will now be displayed under the Measurement results.

## 7.7 Print Report

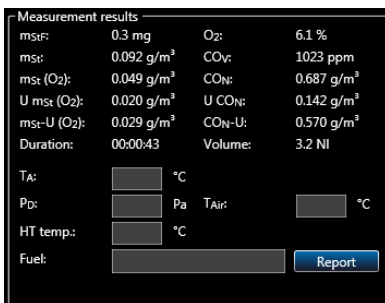


Fig. 22: Log measurement results with Report-button

If a continuous measurement has been taken, a Report-button will appear in the measurement-results-field.

- Click the **Report** to print a report of the logger measurement results.

The report will present the measurement results numerically and as a graph.



*Note!*

Graphs will be generated by the logfiles. Therefore we recommend to activate the option „Start logging automatically when measurement starts”, see chapter 8.1.

## 8 "Settings" menu



Fig. 23: Settings button

In this submenu you can set options for logging measurements, as well as information on the printout and on the report. Furthermore you can select the default directories where to save the logged data and the screenshots of the graph.

### 8.1 General

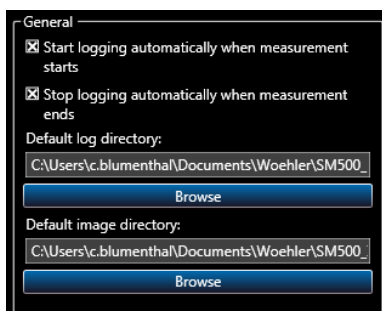
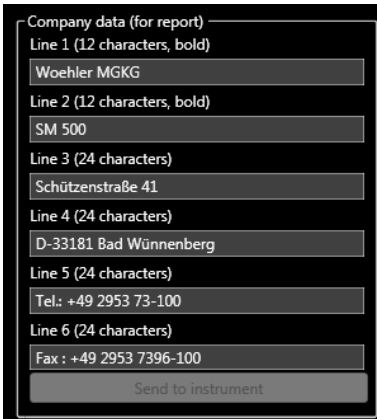


Fig. 24: General Settings

When logging options are activated a log file is created automatically in CSV format each time a measurement is carried out and saved to the path and location specified in this dialog box. This file contains the serial number of the analyzer as well as the time and date when the corresponding measurement value was measured. If obtained, the final measurement results of the measurement are listed under the individual measurement values.

Under "Default image directory" the user can select the directory where to export the screenshots made from the measurement diagram in the measurement menu, see chapter 5.2.

## 8.2 Company data



Company data (for report)

Line 1 (12 characters, bold)  
Woehler MGKG

Line 2 (12 characters, bold)  
SM 500

Line 3 (24 characters)  
Schützenstraße 41

Line 4 (24 characters)  
D-33181 Bad Wünnenberg

Line 5 (24 characters)  
Tel.: +49 2953 73-100

Line 6 (24 characters)  
Fax: +49 2953 7396-100

Send to instrument

Data stored as company information is displayed in the report.

Fig. 25: Data detailed in the report.

### 8.3 Web server

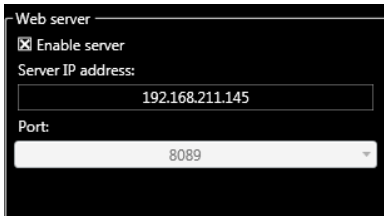


Fig. 26: Web server enabled

When the option "enable server" is activated, the program will automatically search the IP address of the PC in the local network.

- Select the Port **before activating the server**.
- Select "Enable the server".

In this case, the program will be used as a web-server and provides the measured value to all network participants, so that a remote diagnosis will be possible.

- Enter the server IP and the Port address into the browser of your PC or mobile device (laptop, smartphone, tablet etc.)

**Example shown in Fig. 26:**

Server IP address: 192.168.211.145

Port: 8089

- Enter: `http://192.168.211.145.8089`

The current data measured by the Wöhler SM 500 will appear on screen.



Fig. 27: Measurement data Messdaten Wöhler SM 500 displayed on the PC or mobile device.

Each field contains information about the correspondent measuring value

- Click on the field. An explanation of the measurement value will appear

Below the measurement value, information concerning the diagnosis values, the status and the device settings will appear.

Above the measurement values a colored message will appear, if any intervention of the user is required:

Message	Action required
Check filter	Change filter
Stable	Insert the sampling probe into the measurement orifice
End	Dust measurement has finished. Take the probe out of the orifice and purge for 3 minutes

## 9 Short guide

- Switch on the Wöhler SM 500.
- Connect the Wöhler SM 500 with the PC using the USB cable.



**NOTE!**

**A symbol is displayed in the top right corner of the analyzer to indicate it is connected to the PC via USB.**

- Launch the Wöhler SM 500 PC program.
- Click Start in the main screen of the PC program.



**NOTE!**

**The current measurement values are displayed on the PC.**

- All further commands are entered via the Wöhler SM 500: Start -> Leak tightness test -> Warm-up phase -> Insert probe -> Set to zero.



**NOTE!**

**The graphic is first displayed on the PC screen during the actual measurement.**

- The measurement is terminated automatically after 15 minutes.
- Flush and switch off the analyzer.

## Points of sale and service

### Germany

#### **Wöhler Messgeräte Kehrgeräte GmbH**

Schützenstr. 41  
33181 Bad Wünnenberg  
Tel.: +49 2953 73-100  
Fax: +49 2953 73-96100  
info@woehler.de  
www.woehler.de

#### **Wöhler West**

Castroper Str. 105  
44791 Bochum  
Tel.: +49 234 516993-0  
Fax: +49 234 516993-99  
west@woehler.de

#### **Wöhler Süd**

Gneisenaustr.12  
80992 München  
Tel.: +49 89 1589223-0  
Fax: +49 89 1589223-99  
sued@woehler.de

### International

#### **United Kingdom**

##### **Wöhler United Kingdom**

Tel.: +44 7517 851066  
Fax: +44 1223 281107  
e-mail: info@woehler.co.uk  
www.woehler.co.uk

#### **Czech Republic**

Wöhler Bohemia s.r.o.  
Za Naspem 1993  
393 01 Pelhřimov  
Tel.: +420 5653 49011  
Fax: +420 5653 23078  
info@woehler.cz

### USA

Wöhler USA Inc.  
5 Hutchinson Drive  
Danvers, MA 01923  
Tel.: +1 978 750 9876  
Fax.: +1 978 750 9799  
www.woehlerusa.com

### France

Wöhler France SARL  
16 Chemin de Fondeyre  
31200 Toulouse  
Tel. : 05 61 52 40 39  
Fax : 05 62 27 11 31  
info@woehler.fr  
www.woehler.fr

### Italy

Wöhler Italia srl  
Corso Libertà 9  
39100 Bolzano  
Tel.: +390471402422  
Fax: +39 0471  
www.woehler.it

**Your contact:**