

Ocio Desk Multi Tank *Stand Alone*

Software



Use and Installation Manual

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1. Preface

This manual describes the “Ocio Desk Multi Tank Software”, which through the computer manages data from 4/8/12 OCIOs regarding the corresponding tank levels.

Before using the “Ocio Desk Multi Tank Software” please read the “**Use and Installation Manual**”, which describes the technical features and functions of the tank level monitoring system.

This software allows the user to record tank liquid level and volume data on the computer.

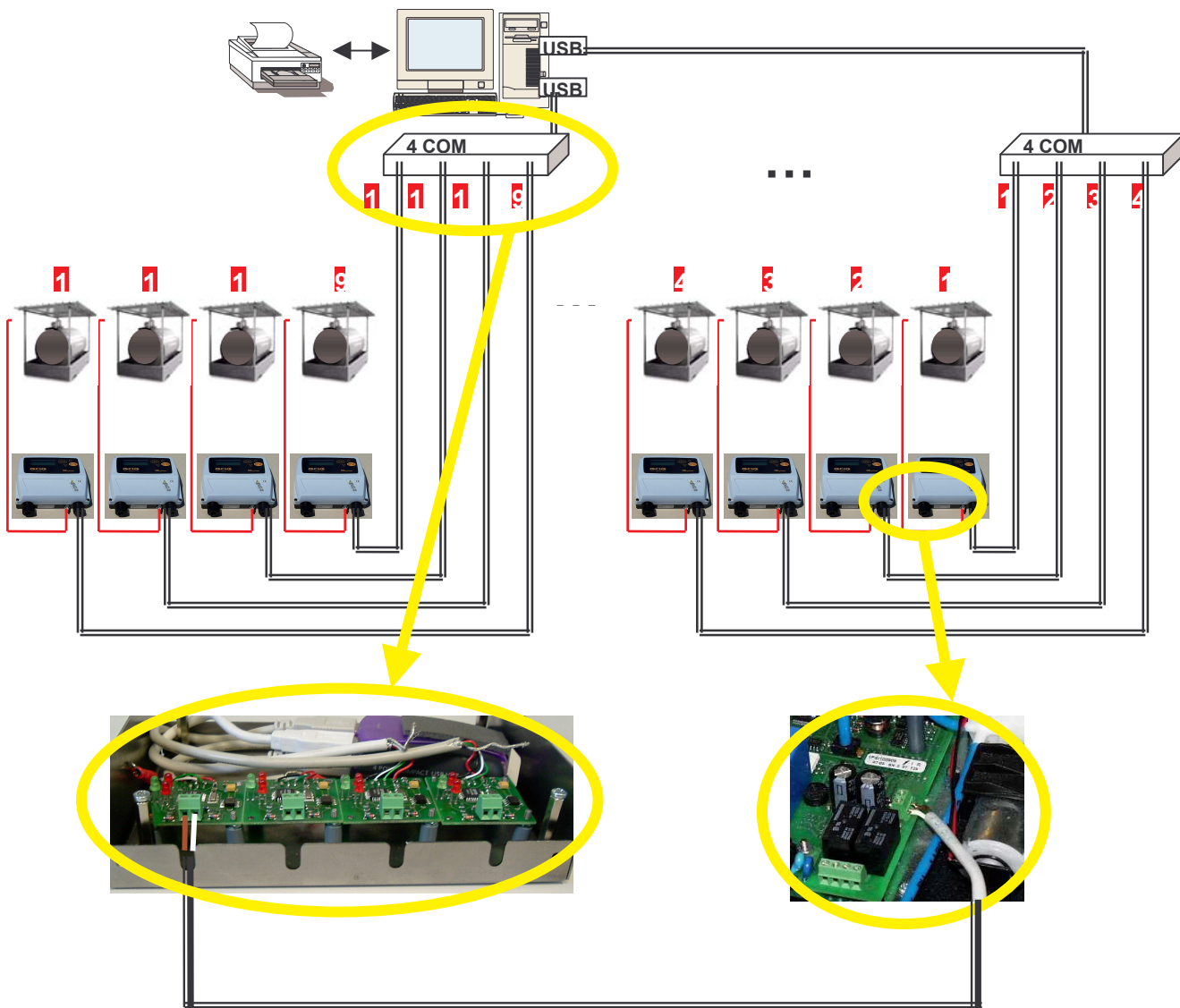
The procedures described in this manual show the user how to install, configure and use the software.

2. Installation

2.1 Hardware Installation: Connection Diagram

The system connection is done in 2 steps:

- 1) The connection of the PC's USB ports to the USB ports on the 4COM Adapters using the cables included.
- 2) The connection of the Ocios to the 4COM Adapters using RS485 lines ("twisted pair" wires) which allow connections up to 1200 metres. These cables are not included.

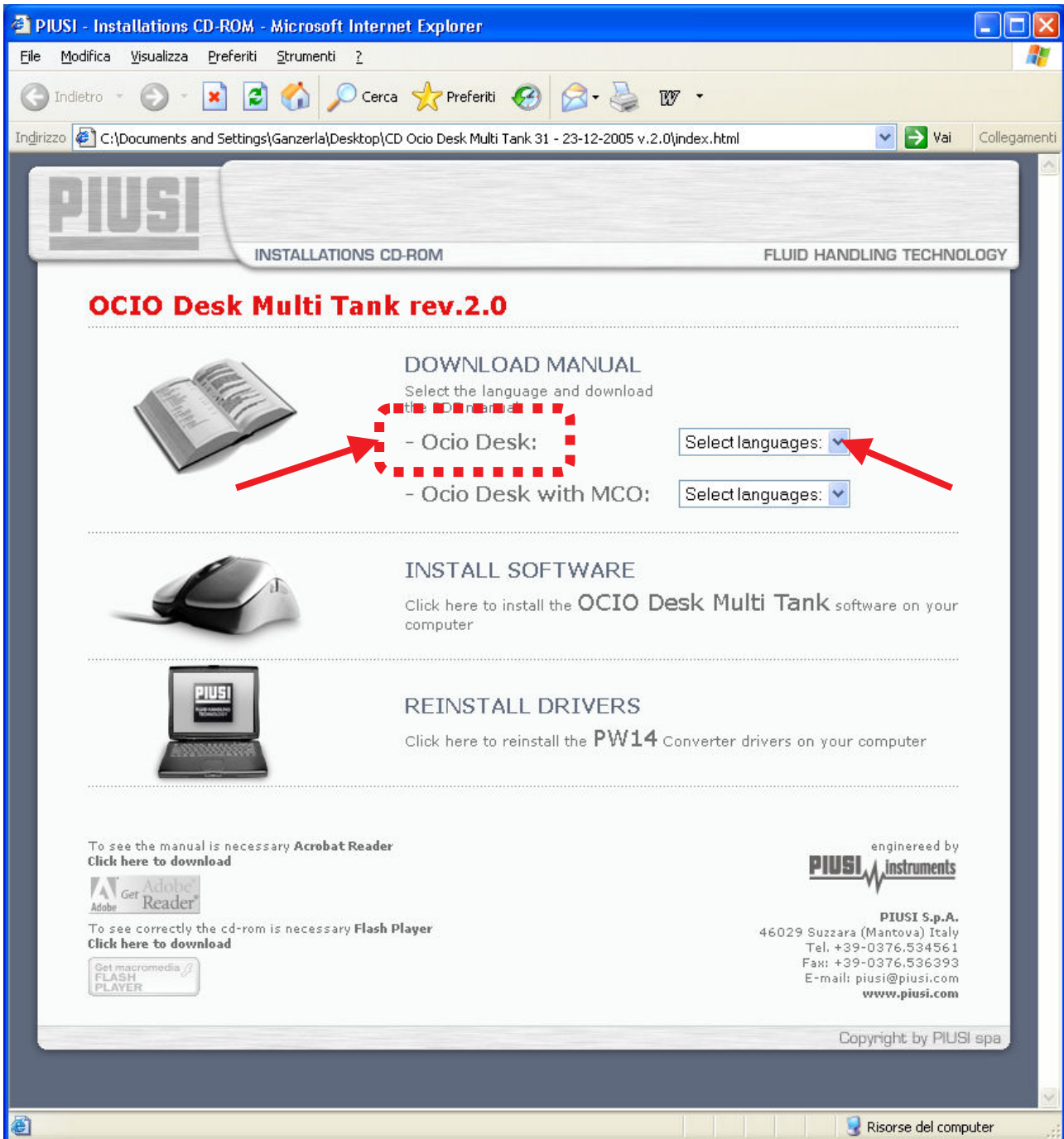


ATTENTION: Do not insert the USB cable in the computer before completing software installation as seen in paragraph 2.2.
Only after completing the operations in paragraph 2.2, insert the USB cable to complete driver installation (paragraph 2.3).

2.2 Software Installation

The “Ocio Desk Multi Tank Software” is provided on CD and can be installed like a normal application on a Pc with Windows 2000/XP:

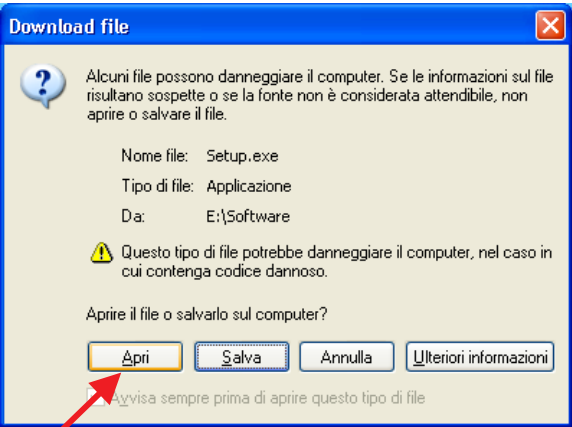

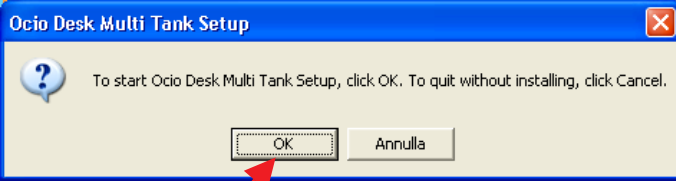

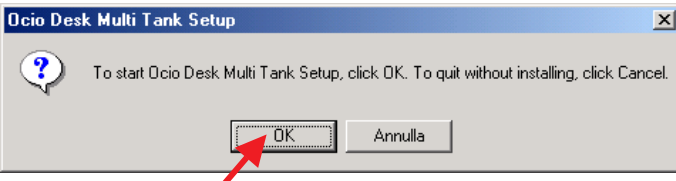
- Insert the CD into the computer’s CD-ROM drive;
- The following start up window should appear automatically. If this does not happen find the CD-ROM in “My Computer”, select the file “index.html” and launch it.



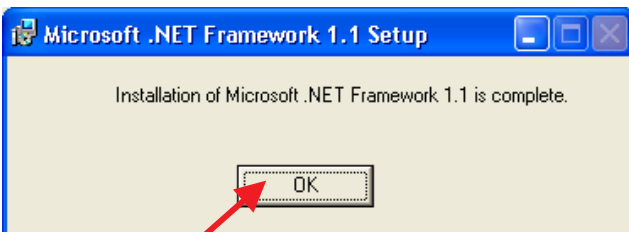
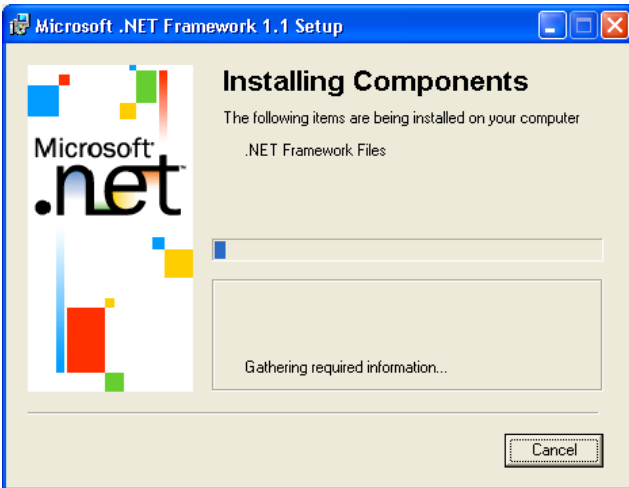
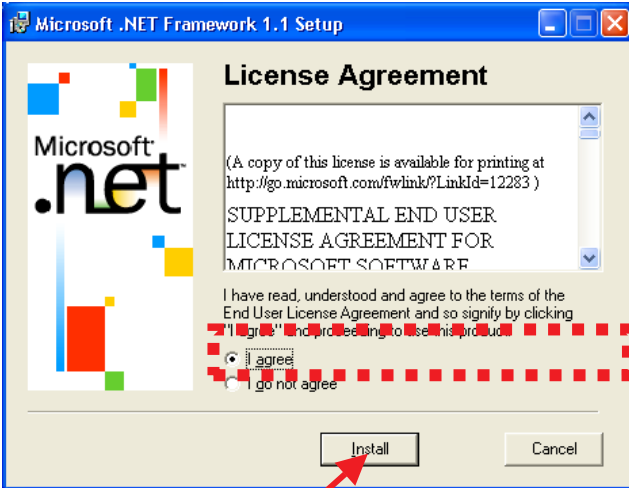
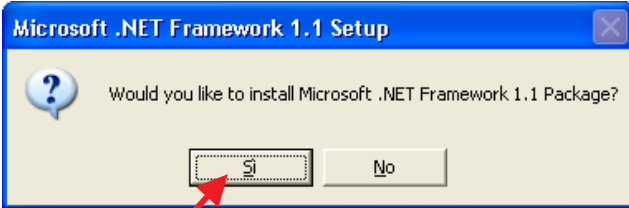
- Click on “Click here to install the software on your computer” and launch the Setup program; the windows are different depending on version in use WIN XP or WIN 2000. Here under is shown both versions. A red arrow is used to show where to click and a dotted red line to show which options to choose in each window.

ATTENTION! The following windows depend on the operating system but also on set security levels and applications installed on the computer (for example the installation of a VB.net framework).

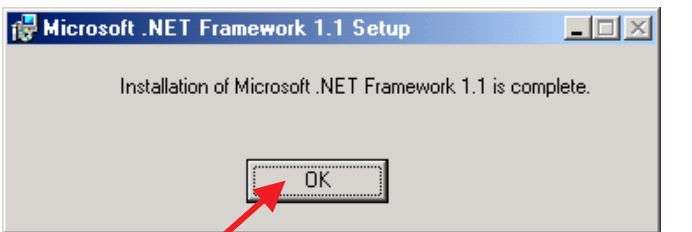
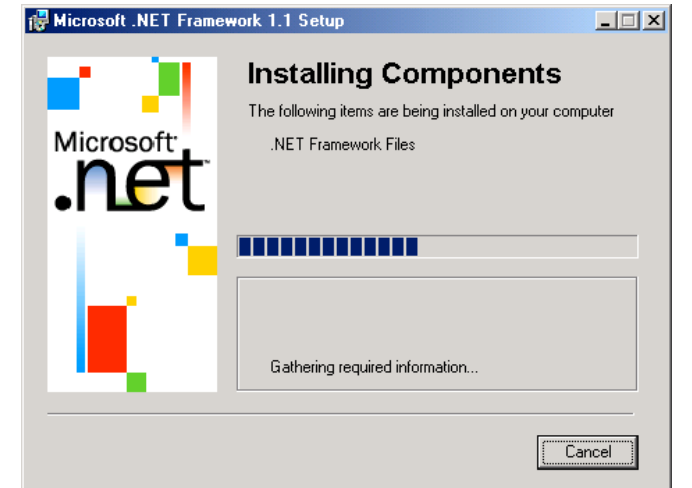
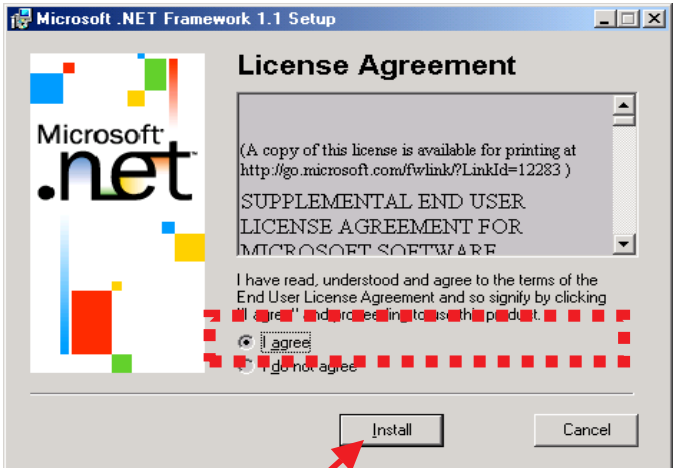
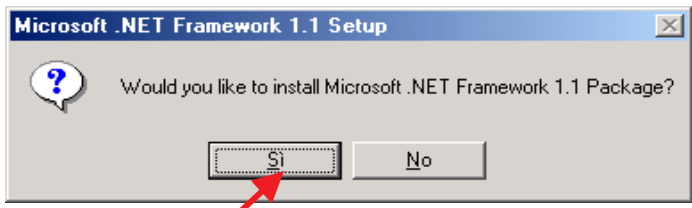
For this reason the following windows are to be considered only some examples of those possible. However they show a wide range of possible windows that can be shown.

WIN XP	WIN 2000
	
	 

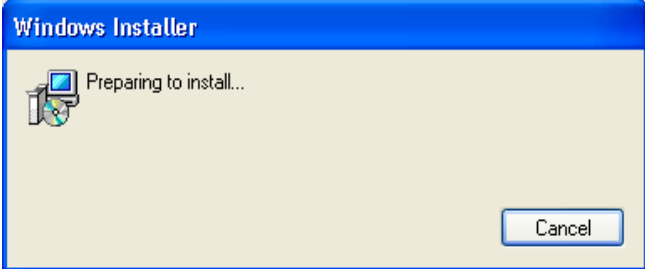
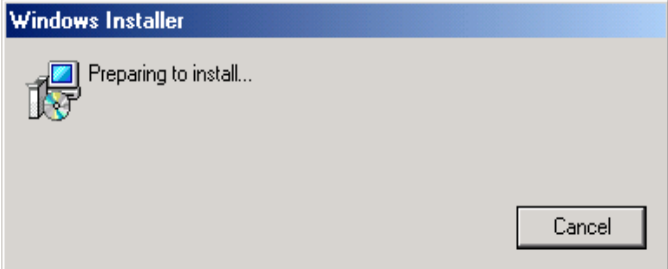
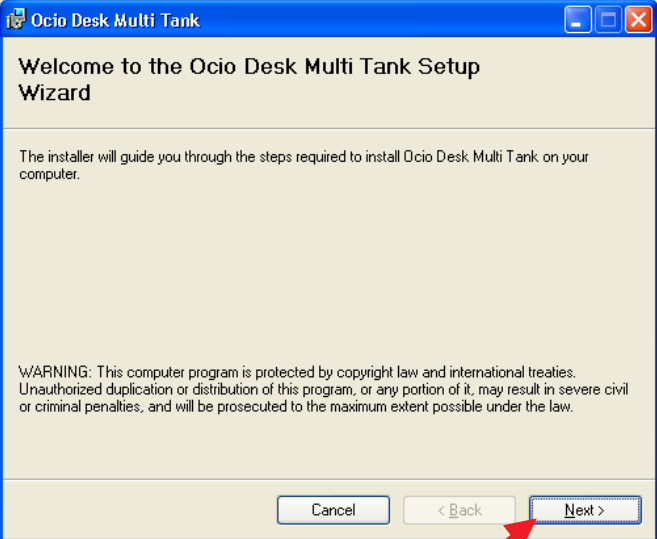



WIN XP



WIN 2000

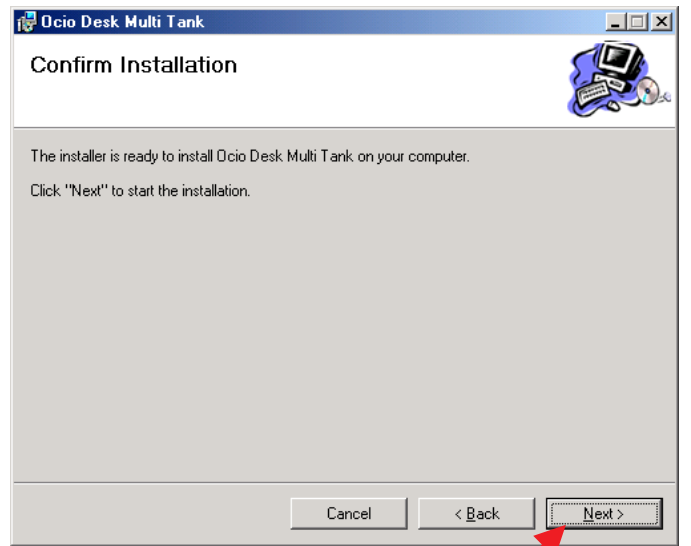
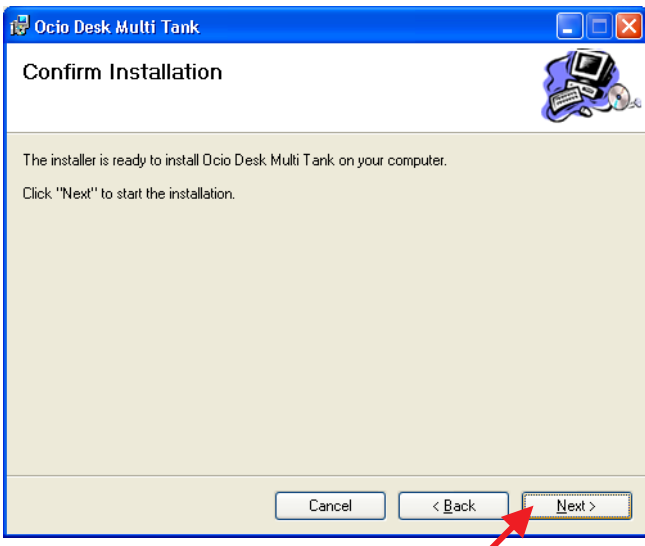
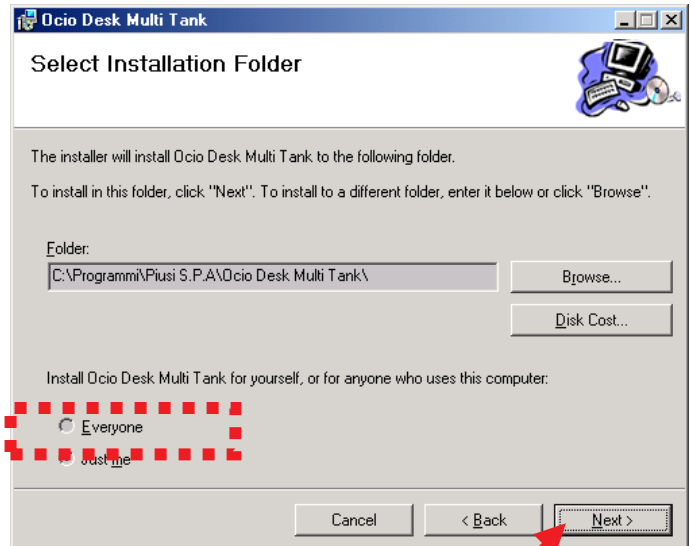
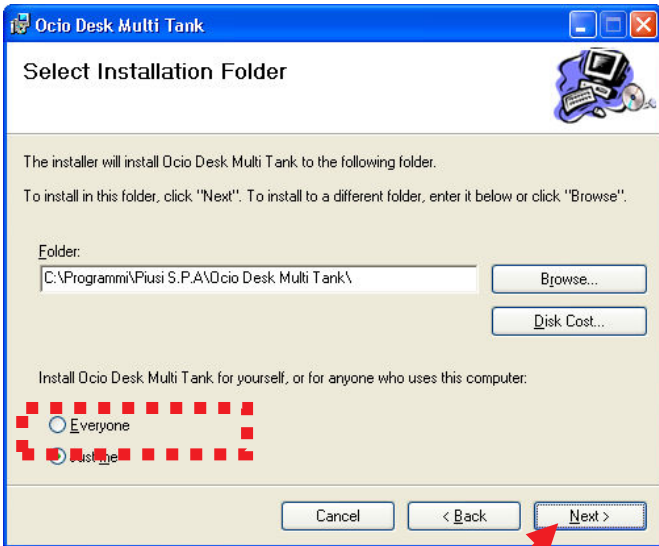
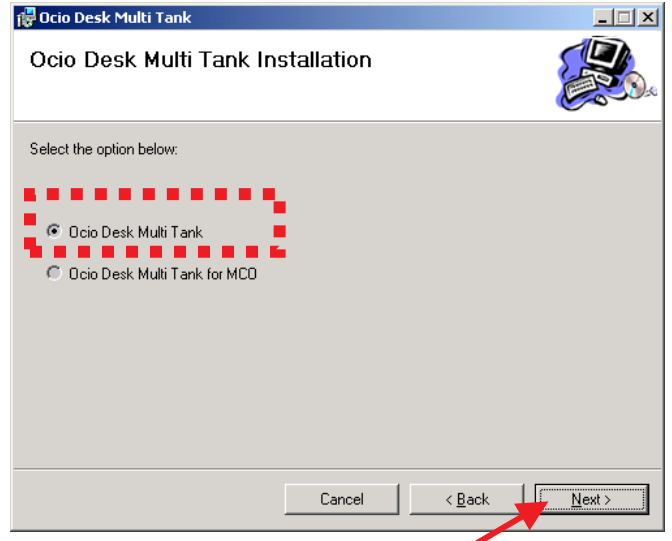
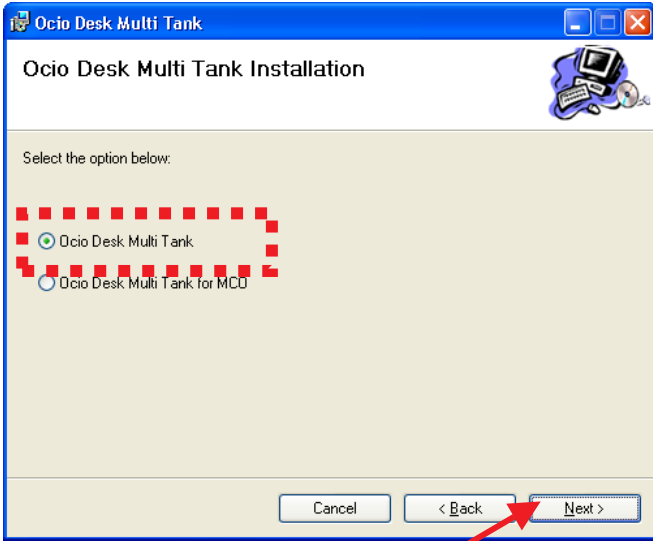


The following windows summarizes the steps of installation.

WIN XP	WIN 2000
	
	
	

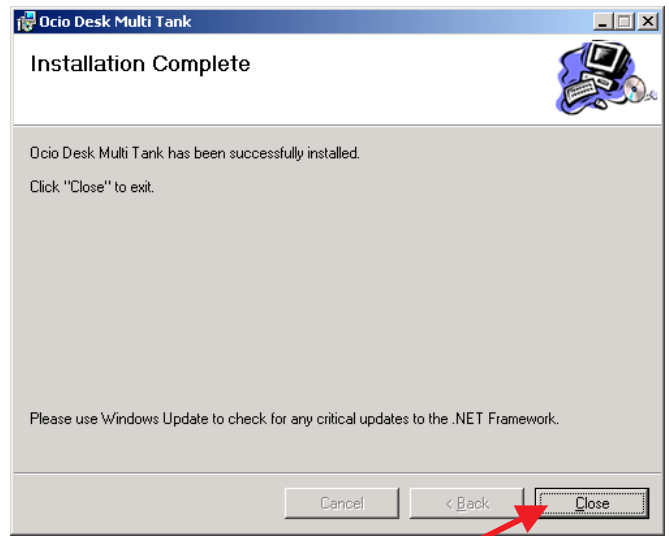
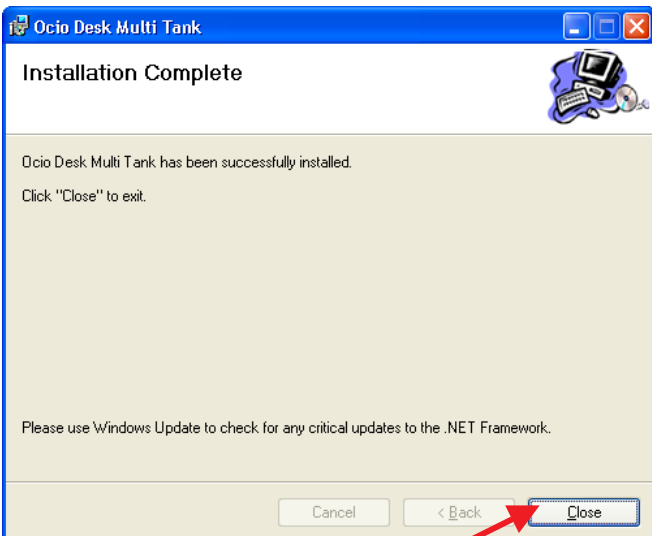
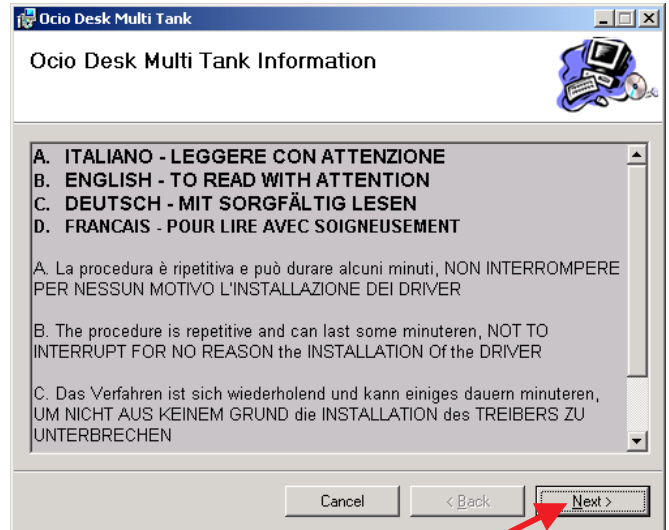
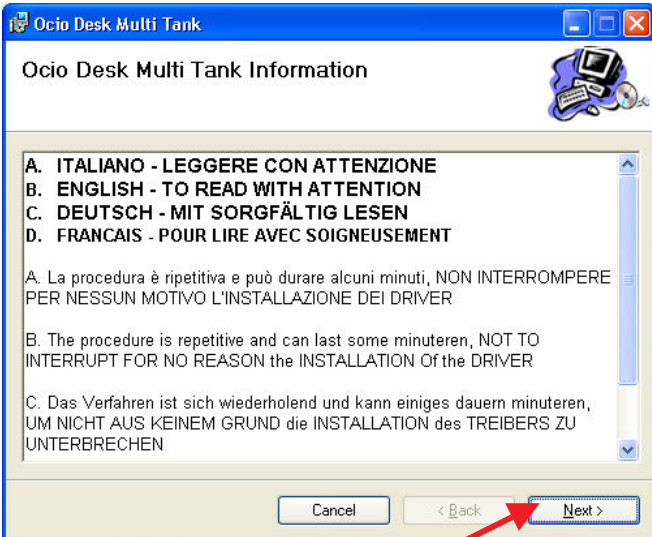
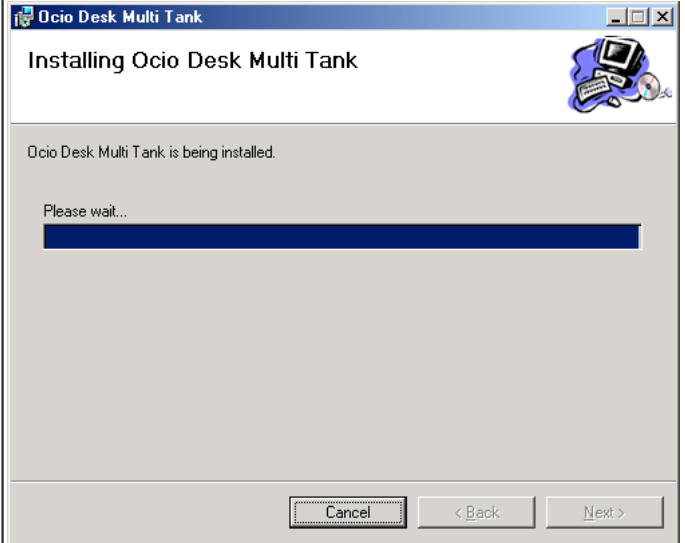
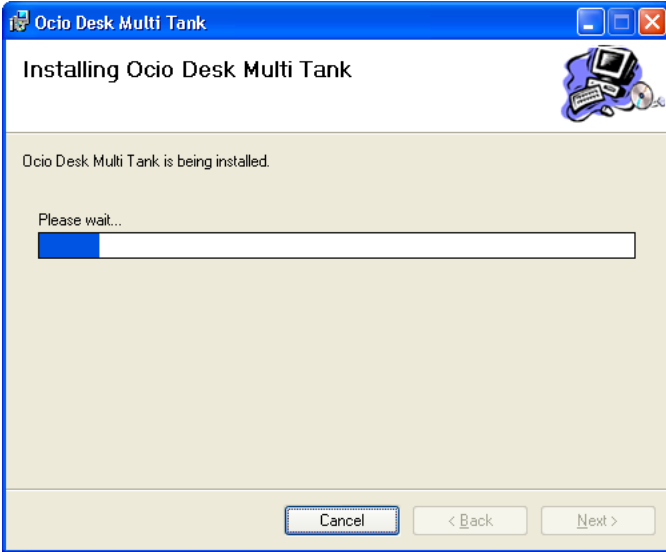
WIN XP

WIN 2000



WIN XP

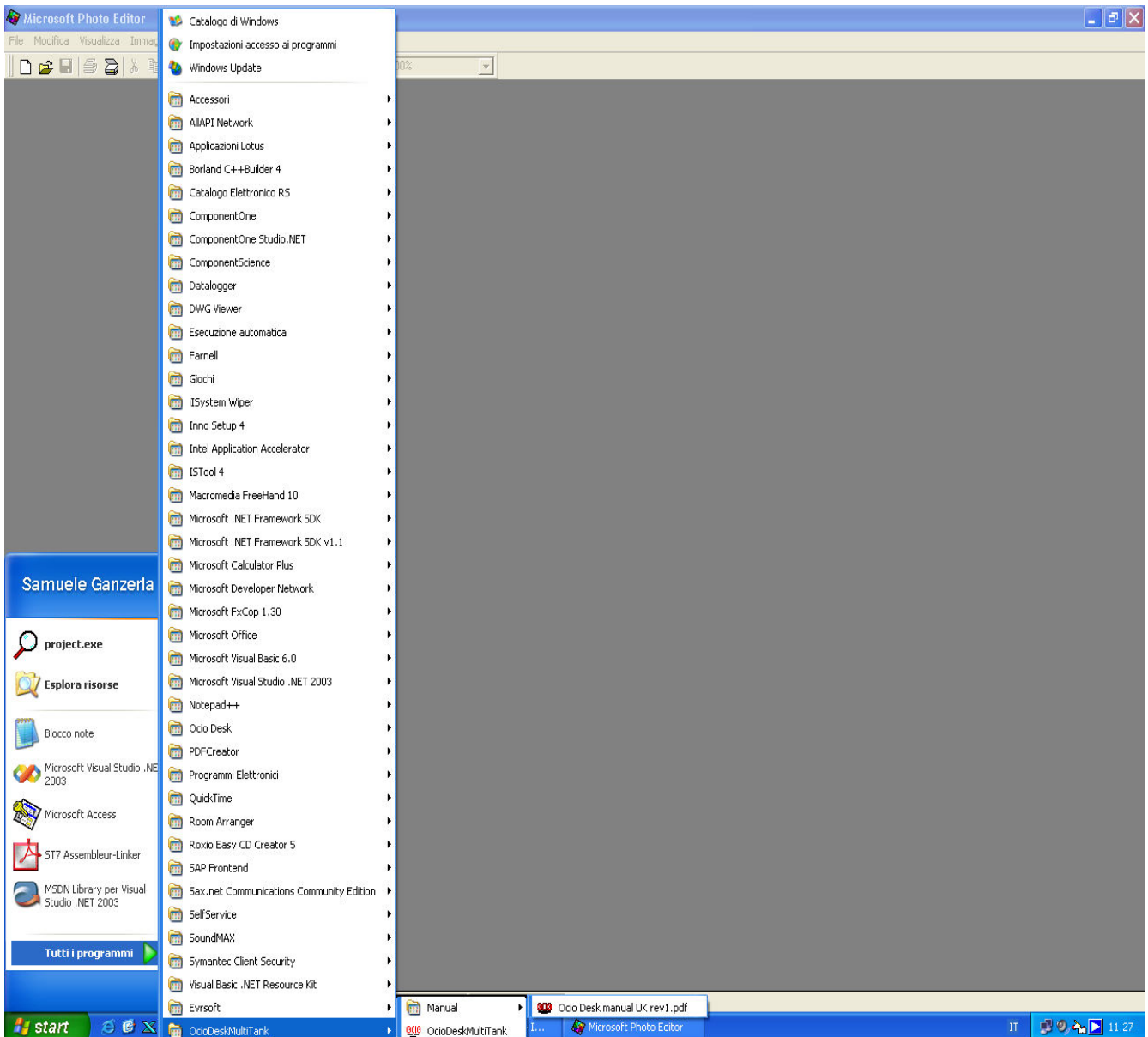
WIN 2000



Upon successful installation, a **Ocio Desk MultiTank** folder is created in the **Programs** folder, accessible from the **Start** menu of Windows.

Selecting this folder the following dropdown menu appears:

- **OcioDeskMultiTank**
 - **OcioDeskMultiTank**
 - **Manual**
 - **Ocio Desk MultiTank Manual rev.1**



In detail:

Ocio Desk MultiTank

The manager interacts with the system through this program both for the configuration (during installation) and everyday data collection and processing activities.

The program uses Windows tools (windows, menus, buttons) to make it easy to learn and manage the system.

Manual

This folder contains the user manuals for the **Ocio Desk Multi Tank** Software.

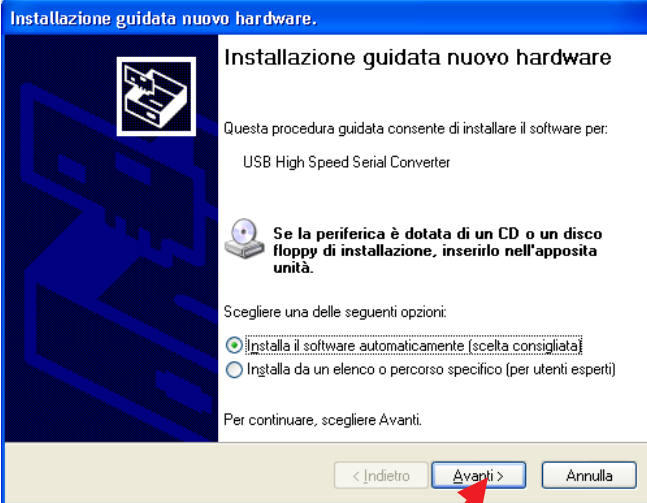
2.3 4COM Adapter Installation

Insert the USB cable first in the 4COM Adapter, then in a free USB port of the PC. At this point the Operating System should find the new device and the following series of screens appears four times.

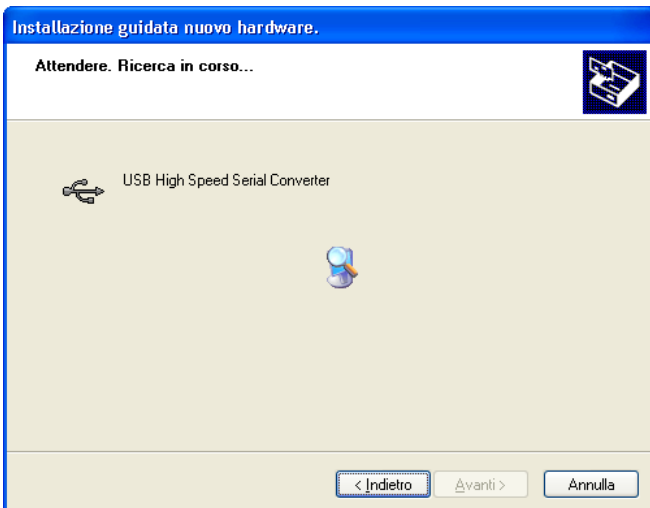
ATTENTION: This sequence of screens will appear four times for each 4COM Adapter installed (e.g. if you install 3 4COM Adapters the screens will be shown 12 times).

WIN XP

WIN 2000

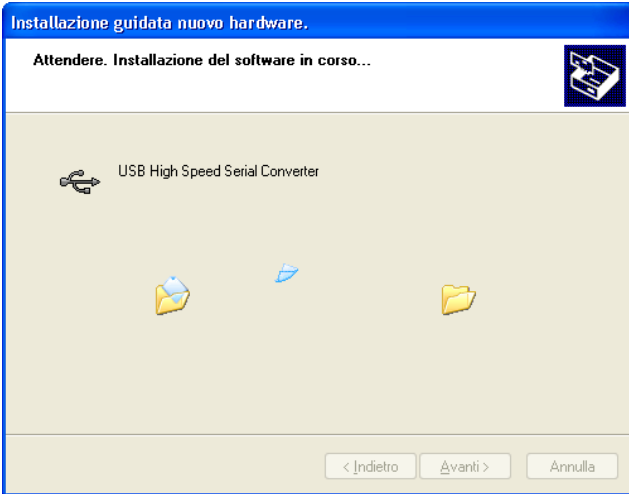


In WIN2000 the drivers are found automatically with no need for confirmation.



WIN XP

WIN 2000



... ..

ATTENTION:

The COM ports operated by the 4COM Adapters can be only from COM1 to COM16, as the 4COM Adapter drivers are not able to handle more than 16 COM ports.

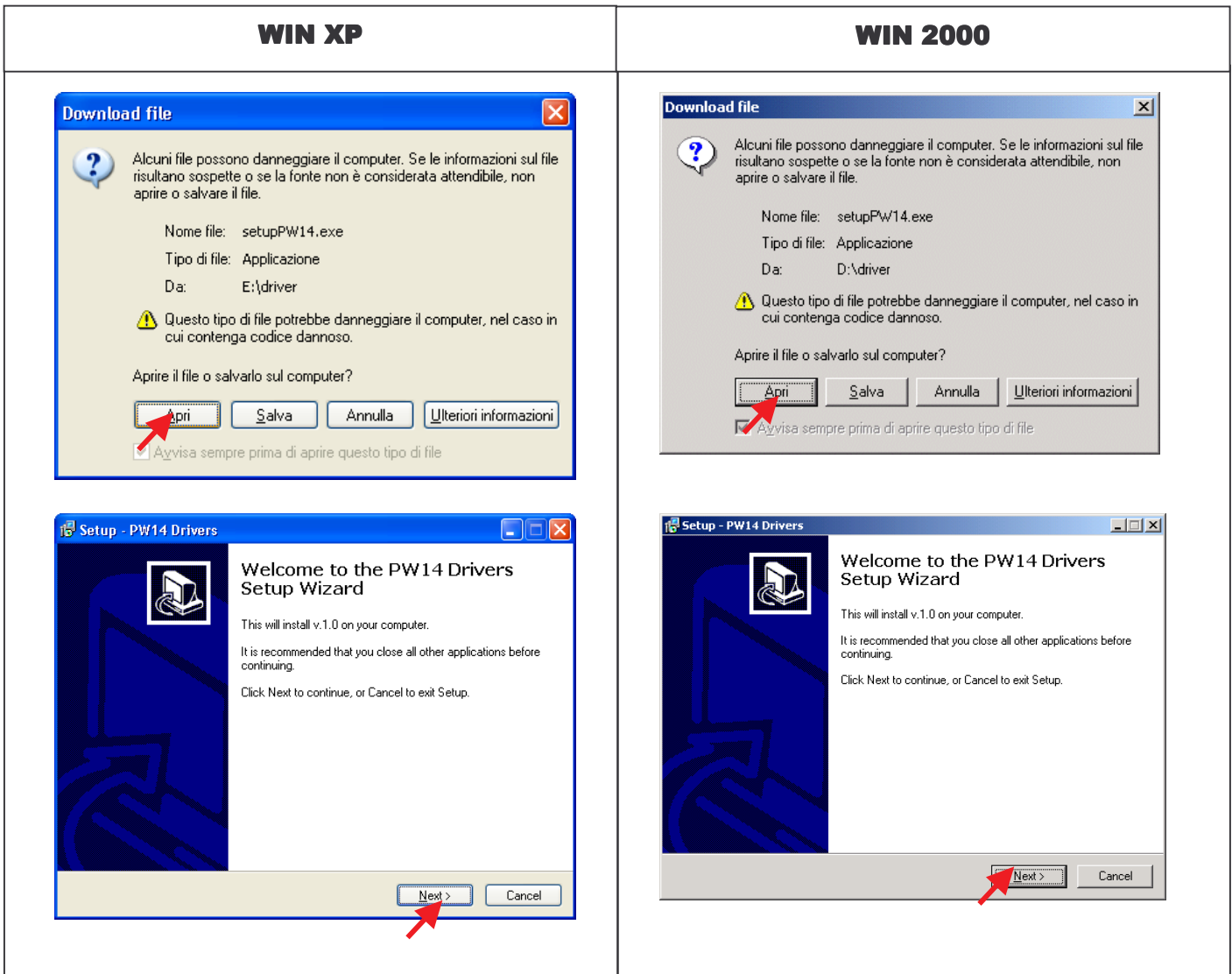
If the PC has 5 COM ports already in use, you won't be able to have 12 tanks as the last would be COM17 which is not possible.

In this case to manage 12 tanks, one of the previous 5 COM ports must be renamed as COM17 or COM 18 or COM 19 etc. so that the tanks' COM ports are within the interval of COM1 to COM16.

2.4 Reinstall drivers

If the drivers are accidentally removed from the system they can be reinstalled without having to reinstall the Ocio Desk Multi Tank Software, the procedure is as follows:

- Insert the installation CD
- Click on "Reinstall Drivers"
- The following windows appear, agree to each and the drivers will be reinstalled.



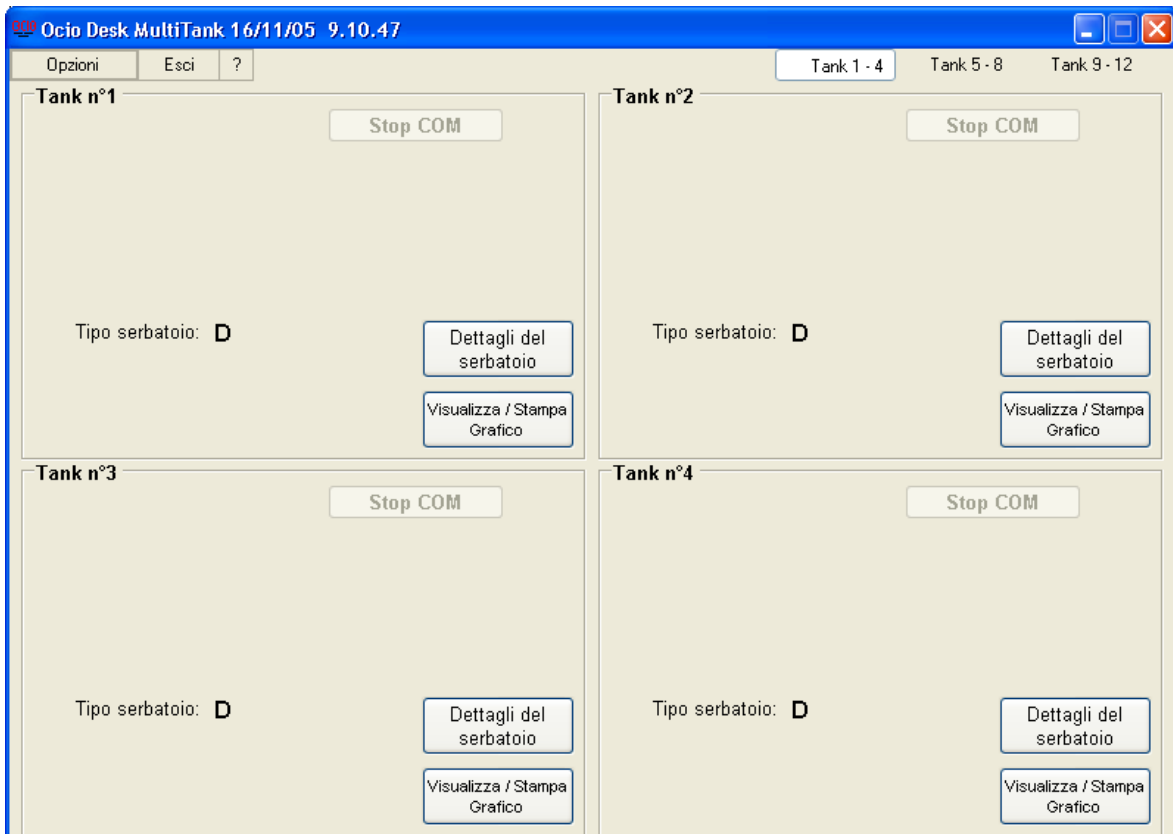


3. Opening the Application

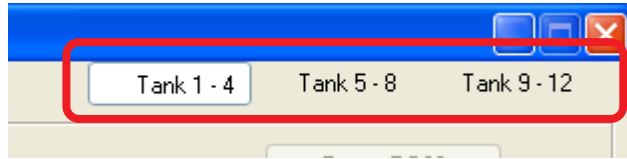
To open the application from the Windows **START** menu select:

- **Programs**
- **Ocio Desk MultiTank**
- **Ocio Desk MultiTank.**

Default screen on first start up is on three pages like the one below:

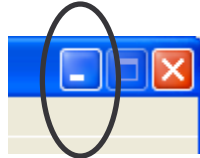


Each contains data for 4 tanks and it is possible to go from one to another using the buttons on the upper right.



It is possible to minimize through two procedures:

A) Click on the Windows symbol



B) Select the Exit menu → Send to System Tray (Minimize)

Minimizing hides the program in the System Tray as shown in the following picture.



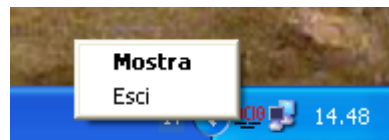
The OCIO icon is present next to the systems clock.

To reshown the program:

- Double click on the OCIO icon next to the systems clock;

or

- Right click on the same icon, a dropdown menu appears: **Show** and Exit. Click on **Show**. Click on **Exit** to close the program.



4. Configuration

This paragraph presents the steps to follow to correctly configure the Ocio Desk Multi Tank Software:

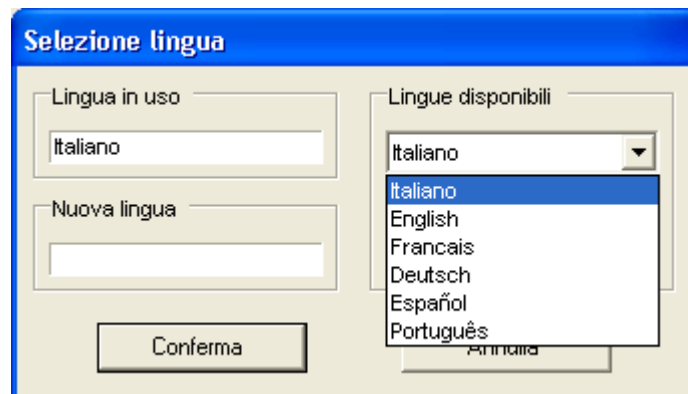
- 4.1 Choice of language
- 4.2 Identify the COM ports between PC and Ocios on the 4COM Adapters
- 4.3 Choice of unit of measurement
- 4.4 Definition of tank details
 - 4.4.1 Tank description
 - 4.4.2 Tank configuration
 - 4.4.3 Alarms configuration
 - 4.4.4 Saving data
 - 4.4.5 Ocio start up

4.1 Choice of language

This operation allows you to choose the interface language to be used in the application starting from a list of languages offered. The default language from the moment of sale is English.

Procedure:

- Open the “Options” menu
- Select “Language selection”
- Choose the desired language among those available



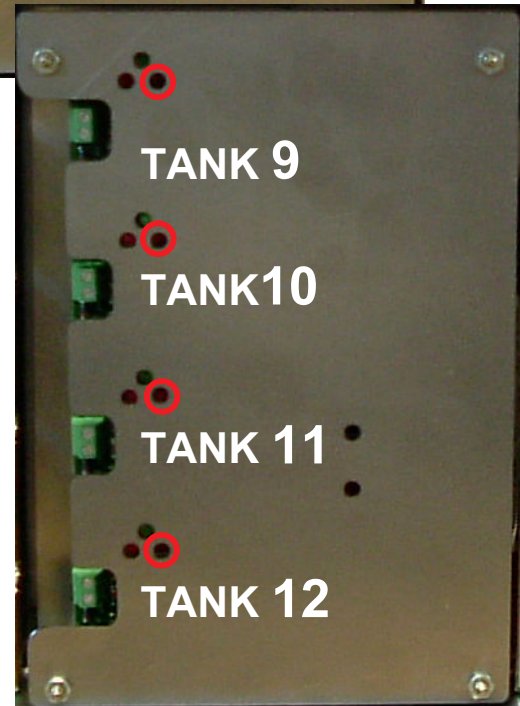
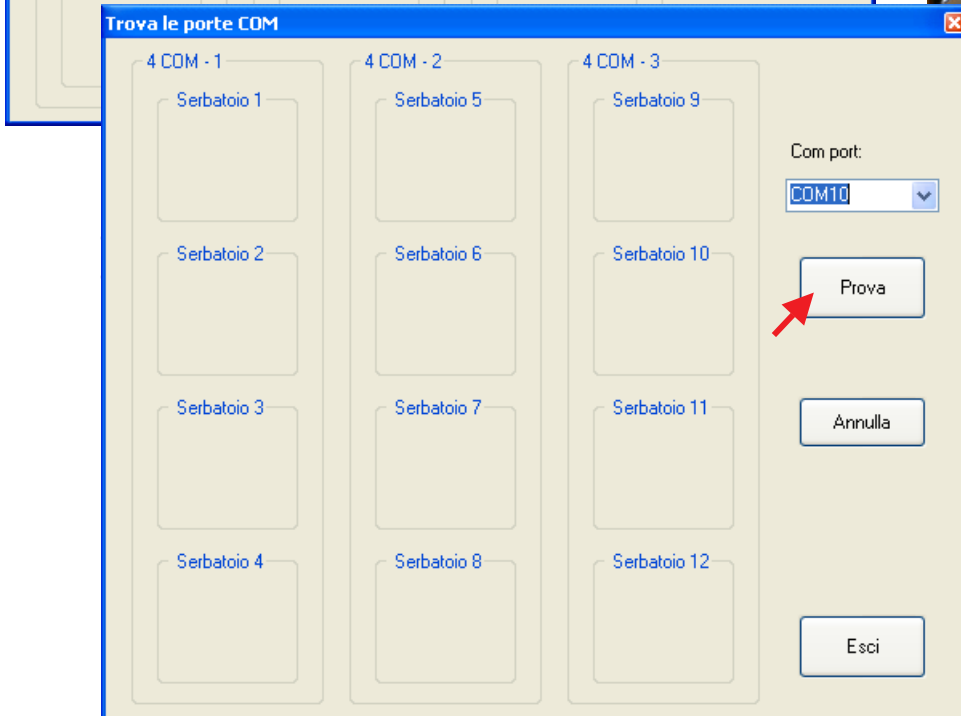
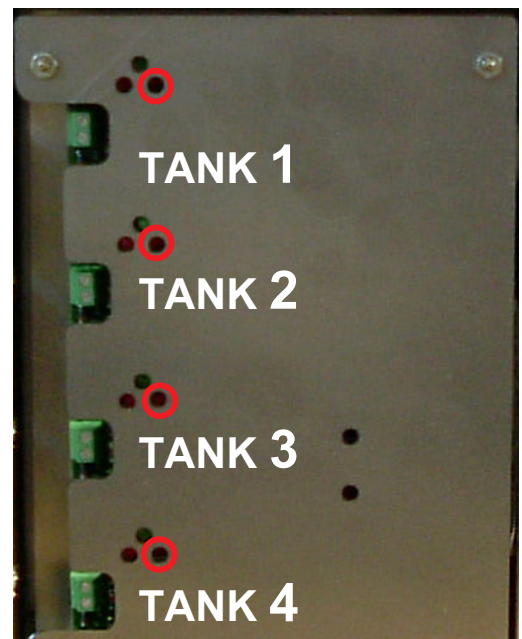
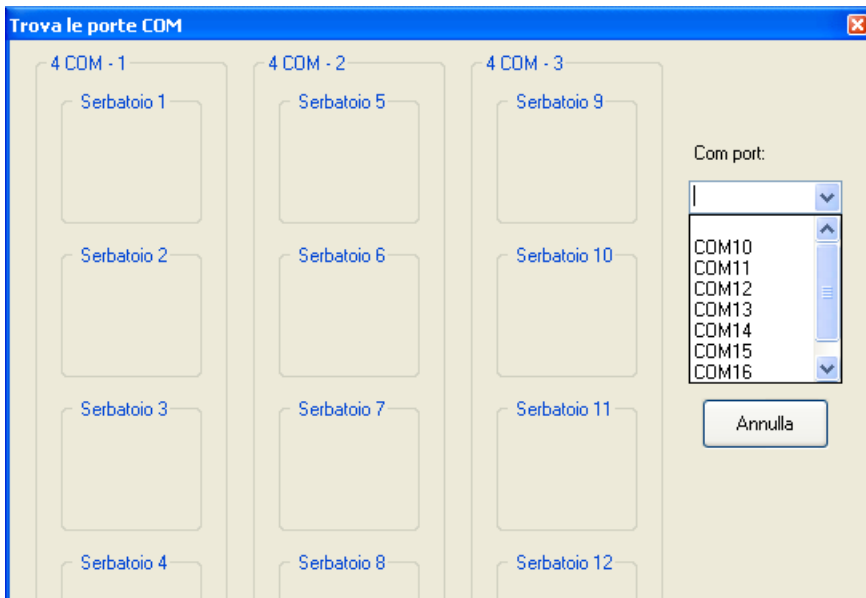
- Click on “Confirm”: the new language is immediately applied.
- Click on “Cancel” to close window without making any modifications.

4.2 Identify the COM ports between PC and Ocios on the 4COM Adapters

This operation identifies the number of the COM port associated to a port of the 4COM Adapters.

Procedure:

- Open the “Options” menu
- Click on “Find COM ports”
- In the window select the COM port from the dropdown menu and click on “Try”



- Verify which of the red LEDs (shown in the figure above right) turns on and click on the corresponding box in the window: the COM port will be assigned to the tank indicated.

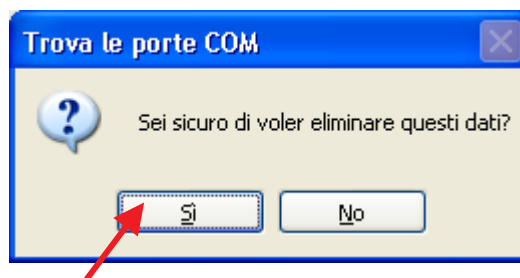
- Follow this procedure for all COM ports.



- Click on “Cancel” to cancel the last association between COM port and tank. Then repeat the procedure.
- To delete one or more configured COM ports, right click on the port to eliminate and click on “Delete COM port”.



Click on “Yes” to confirm the elimination, otherwise click on “No”.



The deleted port will appear in the dropdown menu “Com port” to reconfigure it if so desired.

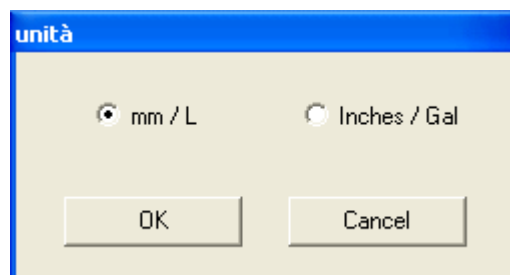
- Click on “Exit” to save the new configuration and exit.

4.3 Choice of unit of measurement

This operation allows you to choose the unit of measurement to be used.

Procedure:

- Open the “Options” menu
- Select “Unit”
- Choose the unit of measurement (default is mm/L)



4.4 Definition of tank details

All tank parameters: tank name, shape and dimensions, possible alarms and saving data are defined in this window. The window is divided in four areas:

- Tank description
- Tank: Shapes & dimensions (blue)
- Alarms: Values & types (red)
- Saving Data (yellow)

4.4.1 Tank description

To make the identification of the tanks as simple as possible there is a “Description” text box to define the name of the tank (e.g. fluid type, where the tank is installed, etc.).

To name the tank, type in the name in the text box.

If you do not want to name the tank, leave the space blank.

Dettagli del serbatoio

Tank n° 1

descrizione: Diesel

Serbatoio: Forme & Dimensioni

A
 B
 C
 D
 E

Nessuno Serbatoio Cliente

mm

Allarmi: Soglie & tipi

		Minimo	Massimo
Alarm1:	<input type="text" value="0"/> %	<input type="radio"/>	<input type="radio"/>
Alarm2:	<input type="text" value="0"/> %	<input type="radio"/>	<input type="radio"/>

Salvataggio dati si no

Salvataggio dati

intervallo di tempo
 Opzioni di salvataggio
 Intervallo: h : m : s

variazione di livello
 Opzioni di salvataggio
 passo: mm

variazione di volume
 Opzioni di salvataggio
 passo: L %

Nome file:

4.4.2 Tank configuration

In the section “Tank: Shapes & Dimensions” it is possible to define the shape and dimensions of the tank to be monitored by Ocio.

Dettagli del serbatoio

Tank n° 1

descrizione: Diesel

Serbatoio: Forme & Dimensioni

A
 B
 C
 D
 E

Nessuno Serbatoio Cliente

H: D: mm

Allarmi: Soglie & tipi

		Minimo	Massimo
Alarm1:	<input type="text" value="0"/> %	<input checked="" type="radio"/>	<input type="radio"/>
Alarm2:	<input type="text" value="0"/> %	<input checked="" type="radio"/>	<input type="radio"/>

Salvataggio dati si no

Salvataggio dati

intervallo di tempo
 Opzioni di salvataggio
 Intervallo: h : m : s

variazione di livello
 Opzioni di salvataggio
 passo: mm

variazione di volume
 Opzioni di salvataggio
 passo: L %

Nome file:

Attention 1: It is not necessary to configure all of the settings of tank dimensions and alarms for the program to function. In fact, these settings provide the highest possible performance from the software in terms of information received, but they are not indispensable for correct operation.

If you connect OCIO without having entered any settings, only the level in mm or inches is shown, without extra information on volume, percentage or alarms.

If you do **not** wish to enter any settings go to paragraph **4.4.4**.

Attention 2: For tank configuration on the external unit OCIO refer to specific manual. If you want to set all the tank data on OCIO, it is important to use the same data as is inserted in the computer. If the data configuration in OCIO is different from that in the computer there will be differences in the volume and liquid percentage data (there won't be any difference in the level in mm or inches).

To avoid incongruities you can choose not to configure a tank on OCIO and to insert the data only in the software (in this case it is not possible to set the alarms on the device itself).

- Select the type of tank (A,B,C,D,E). For type E (Customer Tank) details are given below.
- Insert the tank dimensions, to allow the program to calculate the volume of liquid present (**H** tank height, **L** length, **P** depth, **D** diameter for cylindrical tanks).

Personalised customer tank (type E)

If you want to choose a personalised tank select "Customer Tank". The following window will appear immediately, in which the user must insert data to establish the relation between tank level and liquid volume. These tables (called "conversion tables") are made up of a number of pairs level-volume that can vary between 10 and 100.

Procedure:

- Place the cursor on the “Level” box and insert the level value, then place the cursor on the “Volume” box and insert the volume value. Continue until all data has been inserted into the table.

Livello: mm	Volume: L
0	0
100	100
500	500
1000	1000

Buttons: Annulla, Cancella Dati, Verifica Dati Serbatoio, Chiudi Dati Serbatoio

- Click on “Cancel” to cancel the last insertion.
- To cancel all data from the table, click on “Cancel Data”.

Dati Serbatoio

Livello: mm	Volume: L
0	0
100	100
500	500
1000	1000
2000	2000
3000	3000

0

0

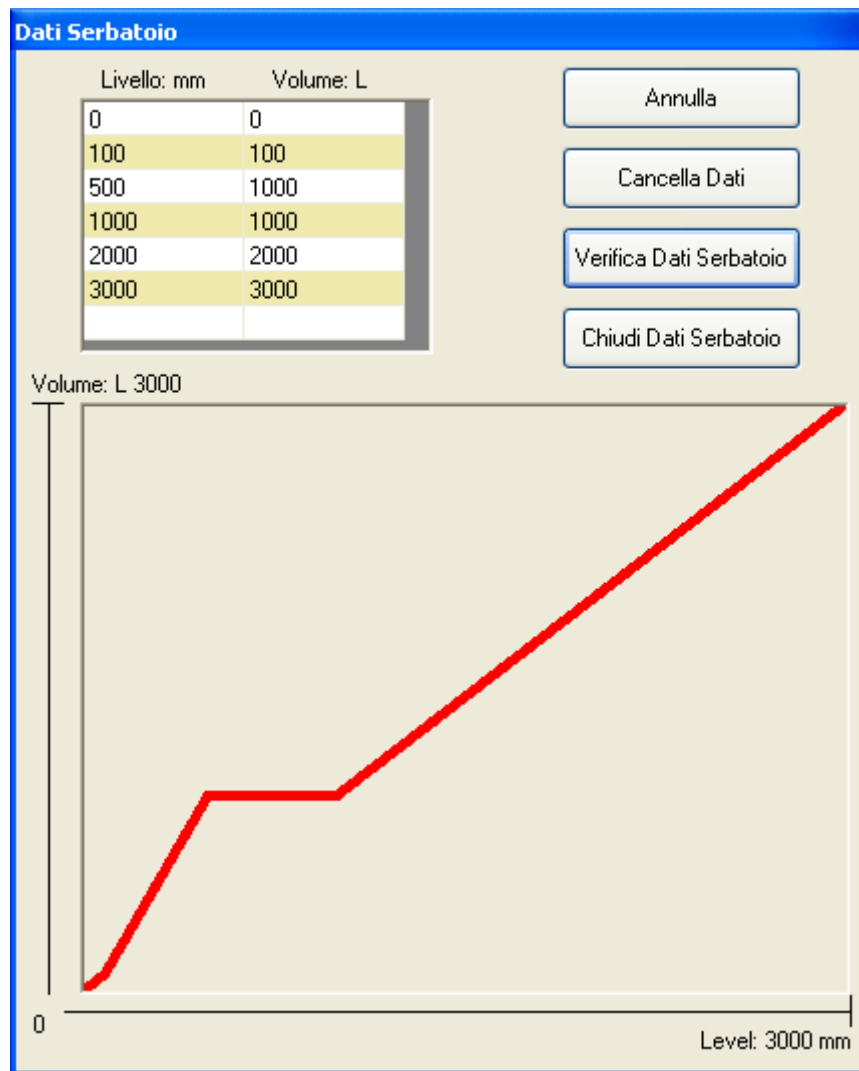
Annulla

Cancella Dati

Verifica Dati Serbatoio

Chiudi Dati Serbatoio

- To save the data in the table and verify that it is right, click on **Verification Tank's data**. A chart is visualised which represents the trend of volume based on the level. Points of discontinuity on the curve indicate the probable insertion of an incorrect value.



- Click on **Close Tank's data** to exit.

4.4.3 Alarms configuration

In this window it is possible to set the type (low or high) and the activation value of two alarms. Reaching the value set on the alarms activates windows and warning messages on the computer screen.

Procedure:

- Select “**Low**” to activate the alarm when the tank level goes below the minimum percentage value specified by the user in the text box.
- Select “**High**” to activate the alarm when the tank level exceeds the maximum percentage value specified by the user in the text box.

Dettagli del serbatoio

Tank n° 1

descrizione: Diesel

Serbatoio: Forme & Dimensioni

A B C D E

Nessuno Serbatoio Cliente

H: 2500 D: 1000 mm

Allarmi: Soglie & tipi

	Minimo	Massimo
Alarm1: 5 %	<input checked="" type="radio"/>	<input type="radio"/>
Alarm2: 90 %	<input type="radio"/>	<input checked="" type="radio"/>

Salvataggio dati si no

intervallo di tempo Opzioni di salvataggio Intervallo: h : m : s

variazione di livello Opzioni di salvataggio passo: mm

variazione di volume Opzioni di salvataggio passo: L %

Nome file: _____

Conferma Annulla Cancella Dati

- Click on “Confirm” to save the settings.
- Click on “Cancel” to close the window without making any modifications.
- Click on “Cancel Data” to cancel all tank data.

4.4.4 Saving data

The data collected by OCIO can be saved in a text file. It is possible to save data based on:

- i. Time interval
 - ii. Level variation
 - iii. Volume variation
- i. The data recorded in each time interval specified by the user in the box **interval** is saved.
 - ii. Data is saved in the file each time that a level variation equal to or higher than the value indicated in the **step** box is recorded.
 - iii. Data is saved in the file each time that a volume variation equal to or higher than the value indicated in the **step** box is recorded. The variation can be specified as a percentage or in liters / gallons.

Dettagli del serbatoio

Tank n° 1

descrizione: Diesel

Serbatoio: Forme & Dimensioni

A B C D E

Nessuno Serbatoio Cliente

H: 2500 D: 1000 mm

Allarmi: Soglie & tipi

	Minimo	Massimo
Alarm1:	5 %	<input type="radio"/> <input type="radio"/>
Alarm2:	90 %	<input type="radio"/> <input type="radio"/>

Salvataggio dati si no

intervallo di tempo

Opzioni di salvataggio

Intervallo: h : m : s

variazione di livello

Opzioni di salvataggio

passo: mm

variazione di volume

Opzioni di salvataggio

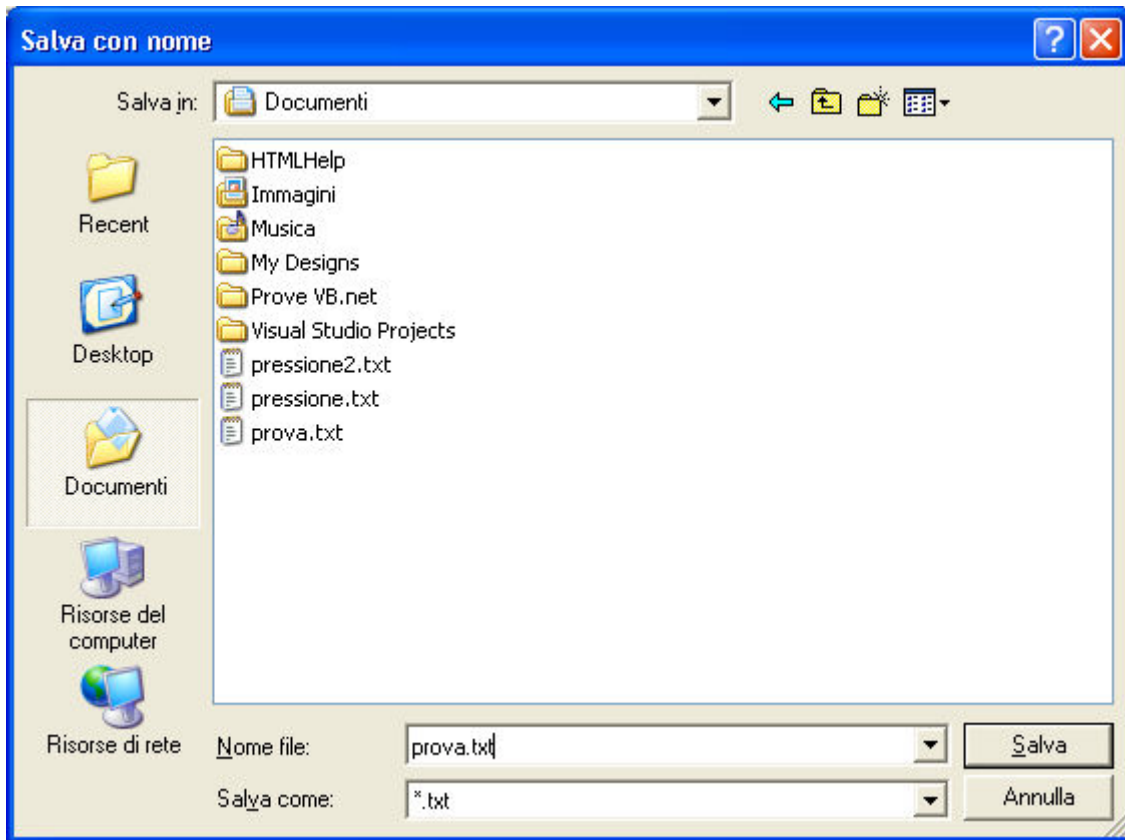
passo: L %

Nome file: prova.txt

Conferma Annulla Cancella Dati

The procedure is as follows:

- On "Saving Data" choose **yes**;
- Choose the saving option from time interval, level variation and volume variation;
- Enter the value of the sampling interval (interval or step);
- Click on "File name": the following window allows you to define the name and directory of data file to be saved.



- Click on “Confirm” to save the configuration.
- Click on “Cancel” to cancel all operations.
- Click on “Cancel data” to cancel all tank data.

The program will now save the data, at each set time interval or variation, in the following formats based on the saving criteria:

Start on 18/02/2004 at 14.11.51

intervallo di tempo=0:0:1

Date	Time	Livello:	Volume:	Percentuale:
18/02/2004	14.12.17	1870	72257	46
18/02/2004	14.12.18	1860	72200	46
18/02/2004	14.12.19	1870	72257	46

Start on 18/02/2004 at 14.11.51

variazione di volume=15%

Date	Time	Livello:	Volume:	Percentuale:
18/02/2004	14.12.17	1870	72257	46
18/02/2004	14.12.18	1260	48701	31
18/02/2004	14.12.19	650	25136	16

Start on 18/02/2004 at 14.11.51

variazione di livello=15mm

Date	Time	Livello:	Volume:	Percentuale:
18/02/2004	14.12.17	1870	72257	46
18/02/2004	14.53.37	1855	72021	45
18/02/2004	15.27.09	1840	71780	45

We suggest saving the data in different files each time the saving criteria is changed to have separate, easy to manage files. It is possible to visualize a maximum of 10,000 entries on the graph.

If you no longer wish to save the data recorded by OCIO:

- Open the “Management” menu
- Select “Saving option”
- On “Saving Data” choose **no**.

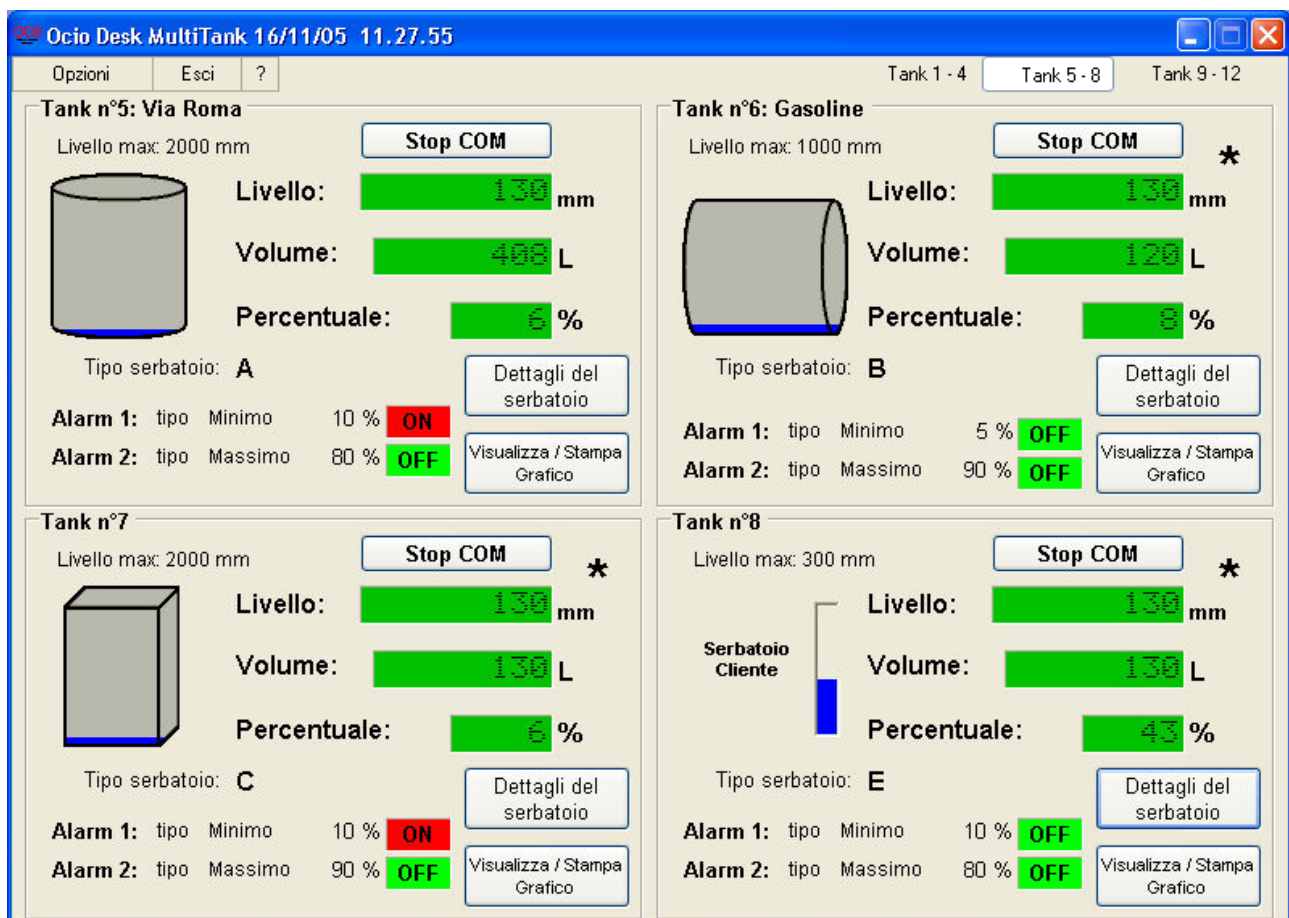
4.4.5 Ocio start up

At this point the system has been configured and it is possible to start up the OCIOs.

Attention: It is not necessary to configure all of the settings of tank dimensions and alarms for the program to function. In fact, these settings provide the highest possible performance from the software in terms of information received, but they are not indispensable for correct operation.

If you connect OCIO without having entered any settings, only the level in mm or inches is shown, without extra information on volume, percentage or alarms.

In case of communication, the following window will appear:



When the communication is not correct or Ocio is turned off, the following window appears and a warning symbol alternates with the error message:



If the program is minimized in the System Tray, the warning icon alternates with the Ocio icon.



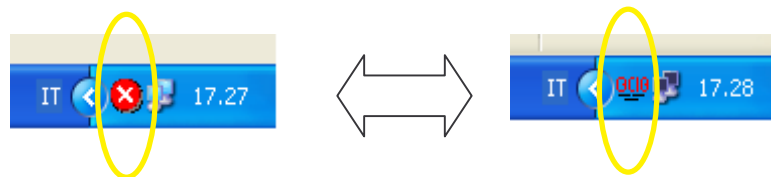
If this happens, check the connections and/or if Ocio is turned off.

Alarms:

If the tank level reaches the preset alarm thresholds (Low level alarm or High level alarm), the alarm indication starts flashing, switching from OFF to ON and from green to red.

Alarm 1:	tipo	Minimo	10 %	ON
Alarm 2:	tipo	Massimo	90 %	OFF

If the program is minimized in the System Tray, the above window automatically appears. If the program is minimized again while an alarm is activated, the OCIO icon alternates with the alarm symbol as shown below.



When the alarm is **deactivated** the indications change from ON to OFF and from red to green, and the alarm icon disappears leaving only the OCIO icon.

5. Management

This activity allows you to visualize and process the data collected by Ocio relative to the monitored tank level.

5.1 Visualization / Print Graph

5.2 Print

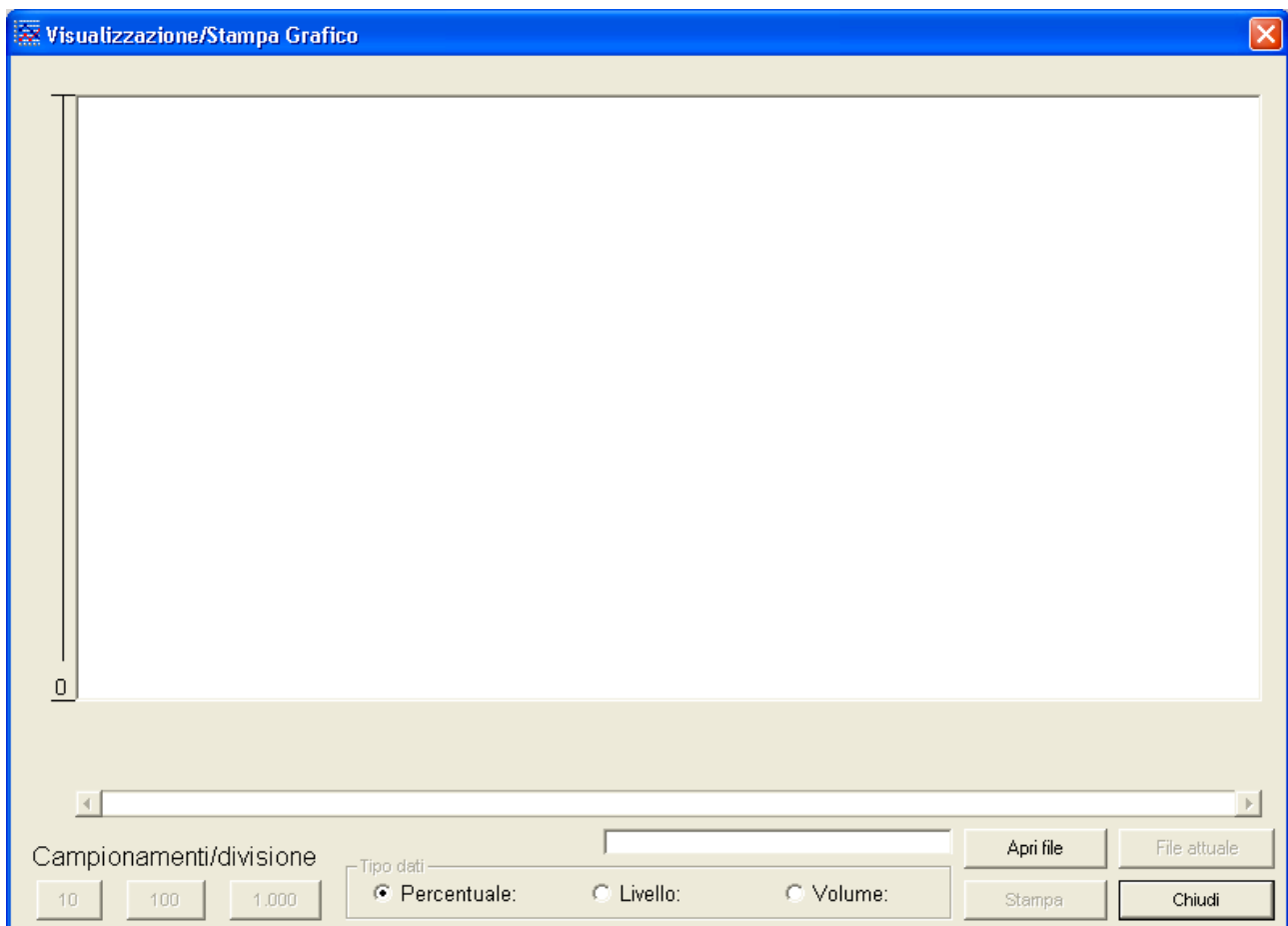
5.1 Visualization / Print Graph

This operation allows you to visualize the trend of tank level or liquid volume on a graph and to print it.

Procedure:

- In the main program window, click on “Visualization / Print Graph”

If you have selected **no** on “Saving Data” (Management → Saving option), an empty graph will appear as shown below.



If ☉ **yes** was selected on “Saving Data”, when you select **Visualization / Print Graph** the data being saved is visualized and the following screen appears.



This screen contains the graph showing the trend of the tank level by day and time of recording. The various parts of the graph and the possible options are shown.

(1) Present time and date

(2) Y Axis

On the Y axis it is possible to have three different types of information:

- Level in millimeters or inches, or
- volume in liters or US Gallons, or
- percentage of present volume relative to total tank capacity.

The user chooses one of the three options by selecting (☉) from the **Data type** box on the bottom in the middle of the screen **(11)**.

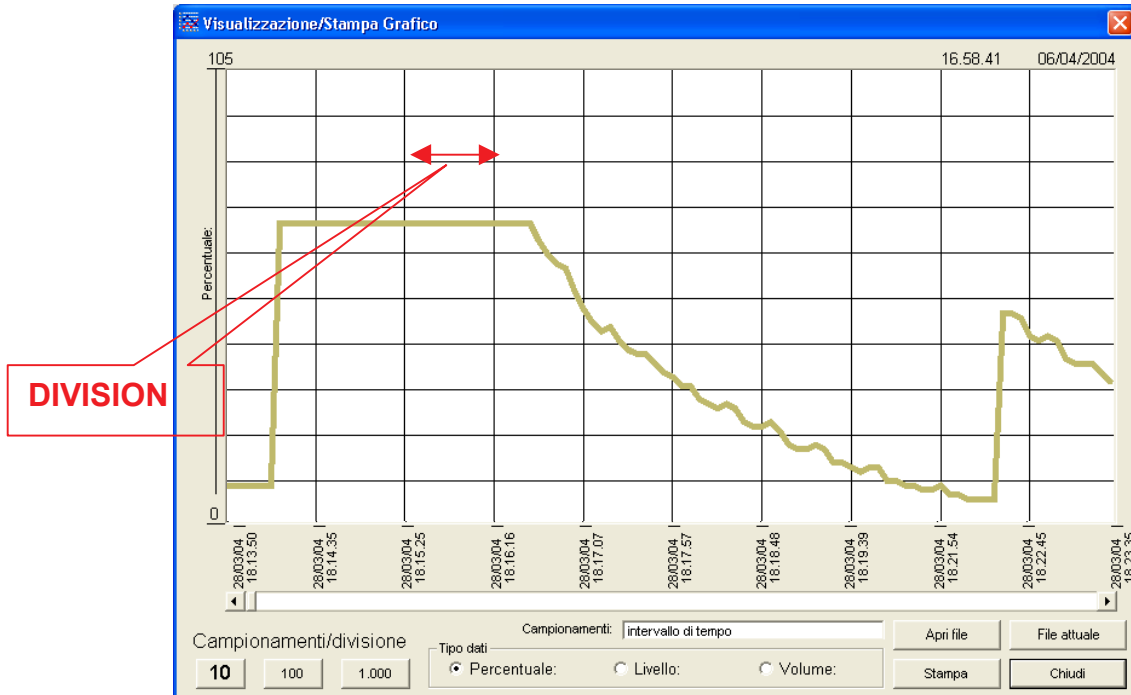
(3) X Axis

On the X axis the time and date when the corresponding data was recorded is shown.

(4) The scroll bar allows you to scroll the graph in case of numerous data.

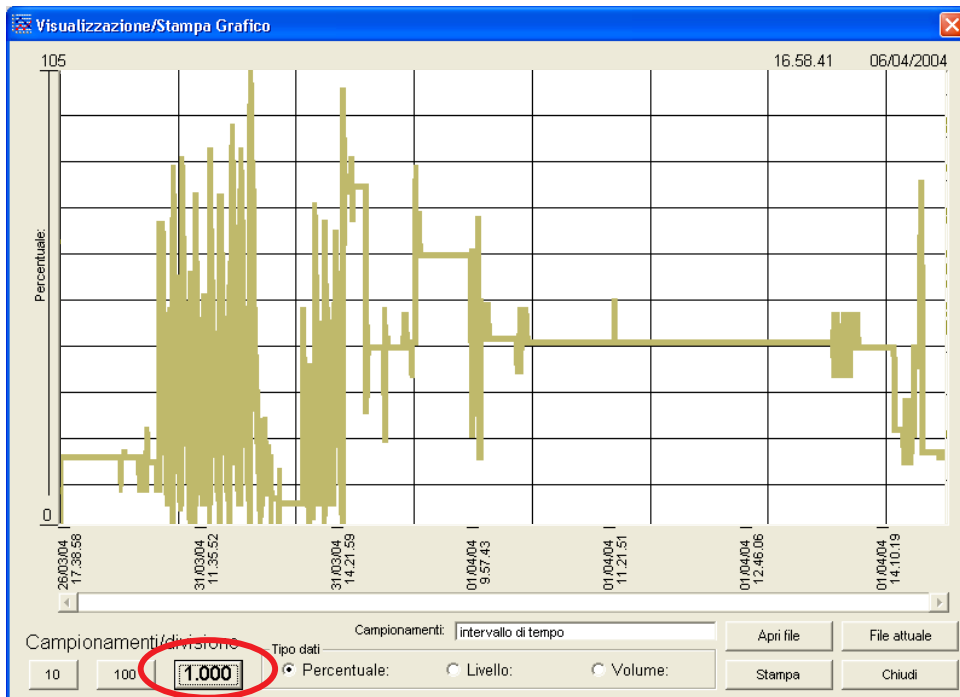
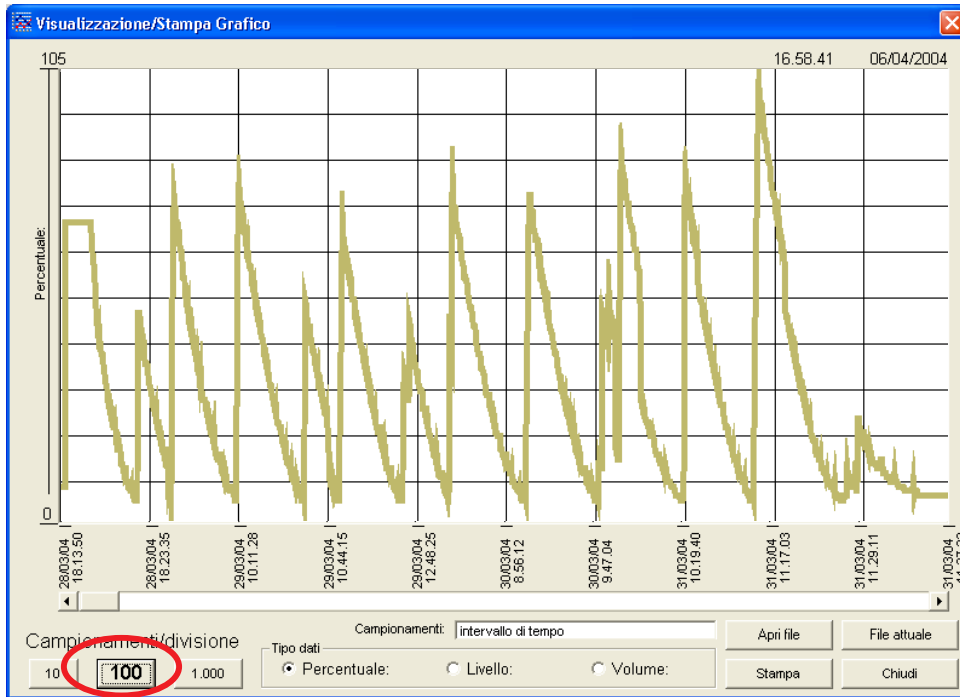
(5) The text box **Samplings** shows the criteria with which the visualized data has been saved: time interval, level variation, volume variation (see paragraph **Saving data**).

(6) The option **Samplings/Division** on the bottom left allows you to choose how much samplings to visualize for each division (10, 100 or 1000). A DIVISION is the distance between two points on the X axis, as seen below:



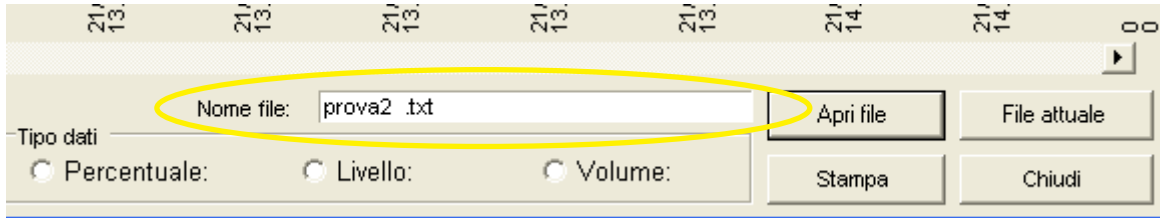
To show 10 (100 or 1000) samplings per division means that within a division 10 (100 or 1000) samplings are visualized.

In the graph above 10 samplings per division are shown; below are examples of graphs with the option of 100 or 1000 samplings visualized.



In the lower right corner of the “Visualization/Print Graph” screen there are 4 buttons:

(7) **Open file:** allows you to open a text file in which data has been previously saved. To import data to be visualized in a graph click on “Open file” and select the text file you want. In this case the text box **Samplings** is substituted with the name of the file opened.

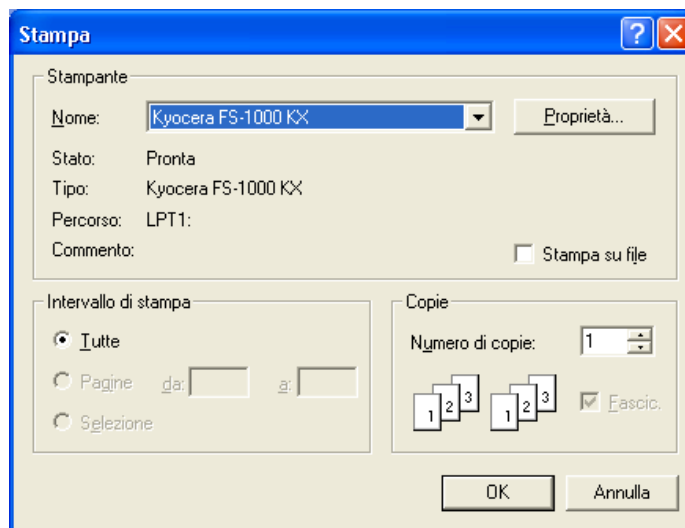


Attention! If data has been saved in a unit of measurement (mm instead of inches) please remember which unit of measurement was chosen when you re-read the data. If the software was set in inches and you read the data in mm it will appear preposterous (for example a height of 3000 mm becomes 3000 inches equal to 72.6 meters!).

(8) **Current file:** if **yes** was chosen on “Saving Data” this option allows you to visualize the data being saved in the current file.

(9) **Print:** prints the screen **Visualization / Print Graph**.

- Choose the destination printer



- Click on “Cancel” to cancel the operation
- Click on “Ok” to print, the print window disappears and the printing starts.

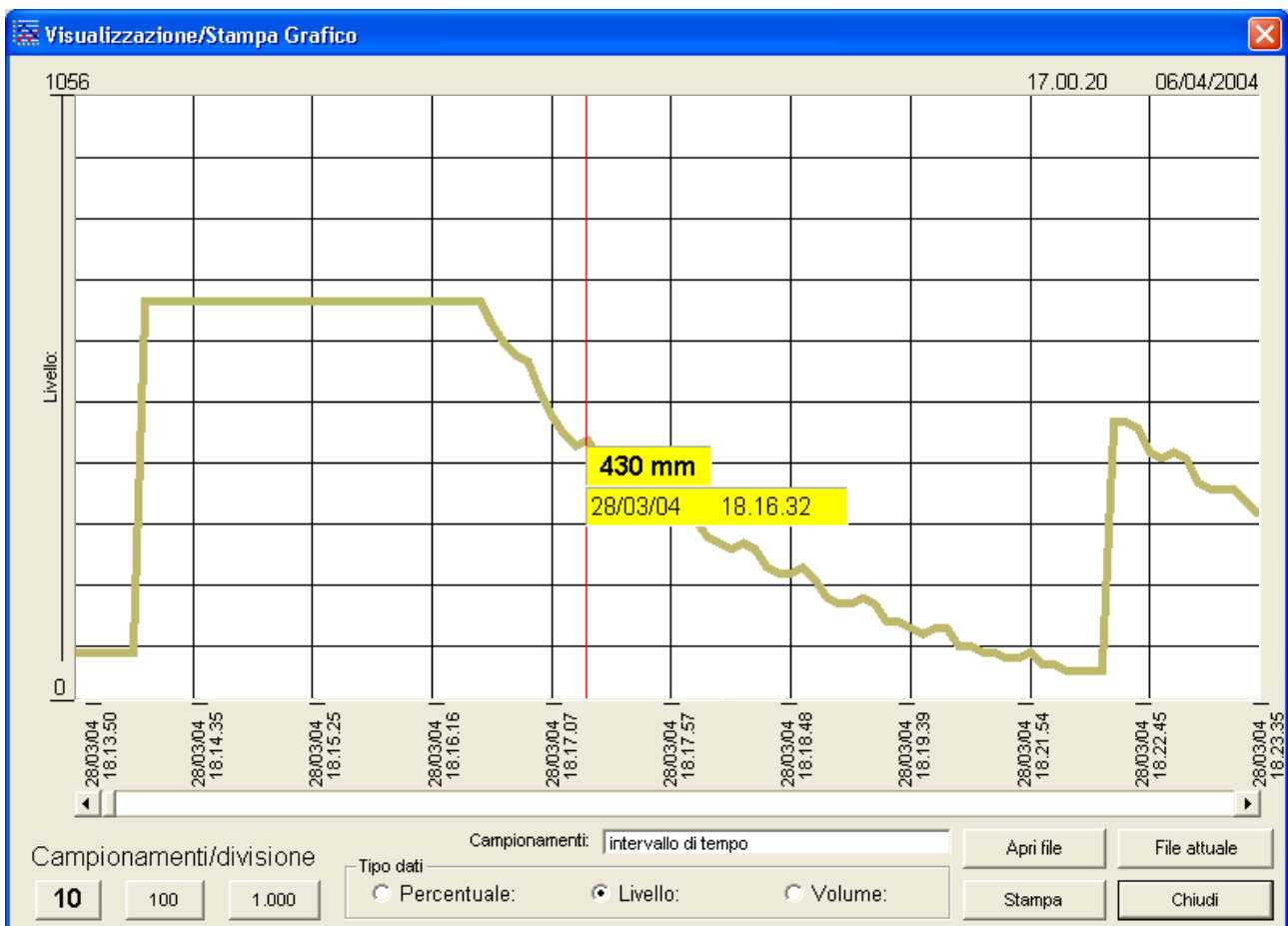
(10) **Close:** closes the screen.

Details of a point on the chart

If you want to visualize the details of a specific point on the graph, click on that point. The following appears:

- a red line which allows you to verify the position of the point;
- the value of the Y axis (in the unit of measurement chosen for that axis);
- the time and date when the data was recorded.

Right click to make the details disappear.



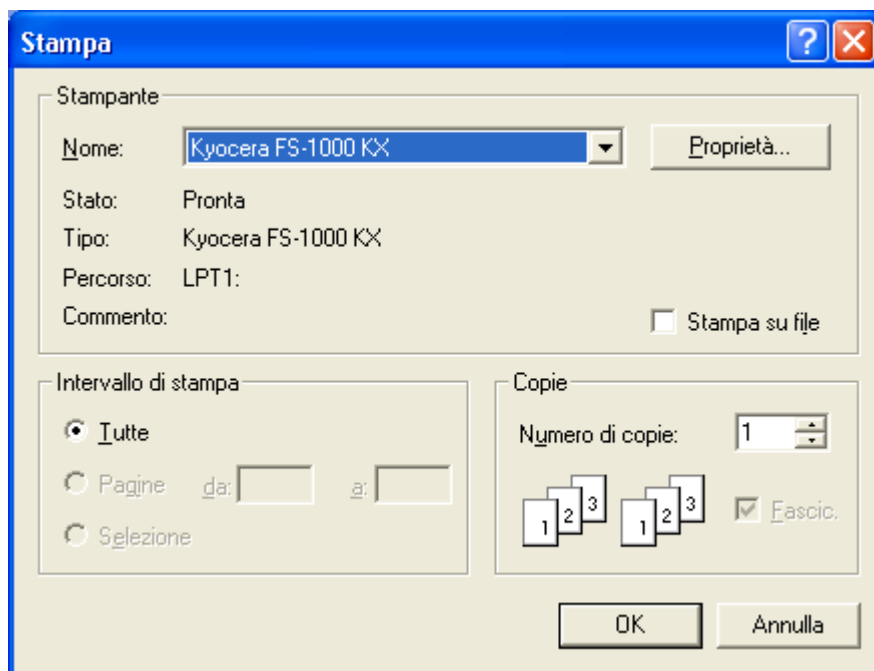
5.2 Print

This operation allows you to print window visualized at the moment this option is chosen:

Procedure:

- Open the “Options” menu
- Select “Print”

The following window appears:




- Choose the destination printer
- Click on “Cancel” to cancel the operation
- Click on “Ok” to print, the print window disappears and the printing begins.

6. (?) Information

This activity allows you to have information of the version of software being used.

Procedure:

- Click on 
- Click on “Ocio Desk MultiTank Information”
- A screen similar to this will appear:



Click on “Confirm” to exit.

7. Exit

This allows you to close the Ocio Desk MultiTank application.

It is possible to close the application by clicking on the X in the upper right corner or by opening the exit menu and clicking on “Exit”.

Exiting from the application all data saving settings are interrupted. Data saving begins again when the application is reopened.

8. Uninstall Software

This procedure must be followed to correctly uninstall the “Ocio Desk Multi Tank Software”:

- Close the “Ocio Desk Multi Tank” application by clicking on the “X” in the upper right corner of the main window or from the “Exit” menu.
- Enter the **Start → Control Panel**
- Select “Add/Remove Programs”
- Select “Ocio Desk MultiTank”
- Click on “Remove”

The software is automatically uninstalled from the computer in use.

In case of problems remove the “Piusi S.p.A.\ Ocio Desk MultiTank” folder from the Programs folder manually.