900 Touch Control

Tutorial

8.900.8010EN

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This documentation has been prepared with great care. However, errors can never be entirely ruled out. Please send comments regarding possible errors to the address above.

Table of contents

1 Introduction

The present tutorial helps you to get acquainted with the operation of the 900 Touch Control. You will be guided step by step through the most important dialog pages by using a simple pH titration as an example. Thereby you will learn how to efficiently operate and use the 900 Touch Control.

1.1 Structure of the tutorial

- **Setup**
  Preparing the titration system.
- **Basics – simple acid-base titration**
  Loading and carrying out methods, displaying results.
- **Additional functions – creating methods, statistics etc.**
  Optimizing titration parameters, calculating statistics, efficiently using the sample table.
- **User administration**
  User list, login with USB flash drive or password.

Detailed information on the functioning and operation of the Titrando system can be found in the online help and the corresponding manuals:

- Manual for the Titrando
- Manual for the 900 Touch Control
- Manual for the exchange unit
- Manual for the 800 Dosino or the dosing unit

1.2 Symbols and conventions

The following symbols and formatting may appear in this documentation:

*(5-**12**)*	**Cross-reference to figure legend** The first number refers to the figure number, the second to the instrument part in the figure.
1	**Instruction step** Carry out these steps in the sequence shown.
Method	**Dialog text**, **parameter** in the software
File ▸ New	Menu or menu item
[Next]	**Button** or **key**

	**WARNING** This symbol draws attention to a possible life-threatening hazard or risk of injury.
	**WARNING** This symbol draws attention to a possible hazard due to electrical current.
	**WARNING** This symbol draws attention to a possible hazard due to heat or hot instrument parts.
	**WARNING** This symbol draws attention to a possible biological hazard.
	**CAUTION** This symbol draws attention to possible damage to instruments or instrument parts.
	**NOTE** This symbol highlights additional information and tips.

2 Setup and configuration

2.1 Setting up the instruments

What you will need:

- A 900 Touch Control
- A Titrando **with** internal dosing drive and an 806 Exchange Unit
  or
  A Titrando **without** internal dosing drive, with an 800 Dosino and an 807 Dosing Unit
- A magnetic stirrer (801 Stirrer), an 803 Ti Stand or an 804 Ti Stand with propeller stirrer (802 Stirrer)
- Some sample vessels
- A pH electrode with connection cable
- Possibly an additional 805 Dosimat with an exchange unit (e.g. 20 mL)
  or
  Possibly an additional 800 Dosino (dosing drive) with a dosing unit (e.g. 20 mL)
- A bottle with titrant (e.g. caustic soda c(NaOH)=0.1 mol/L)
- Possibly a printer with connecting cable
- Possibly a balance with connecting cable
- Deionized water (carbonate-free)

The manual for the Titrando describes in detail how to install the accessories. A few notes about this:

Titrant

During this tutorial you will carry out simple titrations. Select an acid or base as titrant.

Sensor

Use a pH glass electrode for the acid-base titration. Do not forget to plug the electrode cable into the connector **Ind.** on the rear of the instrument.

Stirrer

Connect the magnetic stirrer (**801 Stirrer**) on the rear of the instrument to the connector **MSB 1**.

Printer

Select a printer with a USB connector. Use a commercially available USB cable to connect the printer.

Balance

If you connect a balance to the 900 Touch Control, you can transfer the sample size per push-button from the balance to the titrator.

800 Dosino

In case you would like to automatically add an auxiliary solution to the sample before the titration, you will also need a Dosino. Connect it to the connector MSB 2 on the Titrando.

Samples and sample vessels

You can use sample beakers of any size. Use an acid or base as sample, which can be titrated with the selected titrant.

Please note that the stirrer has to be connected to the connector MSB 1 of the Titrando for the following example methods. If you use a Titrando without internal dosing drive, then you must connect the external dosing device (here: Dosino) to the MSB connector of the stirrer. This way it will be controlled like an internal dosing drive of the Titrando, i.e. as dosing device 1.

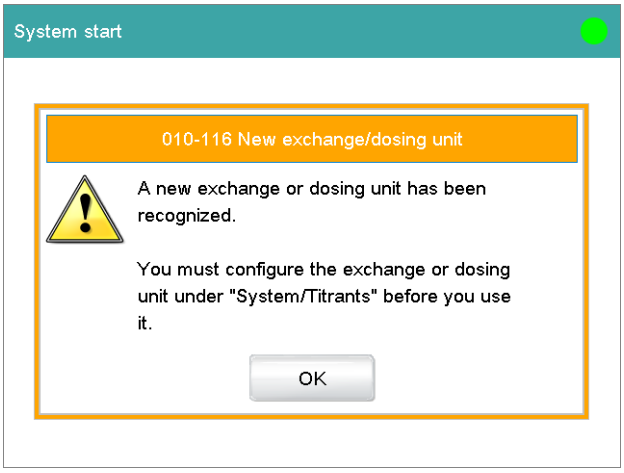
2.2 Configuring

2.2.1 Switching the instrument on and off

Switching on the instrument

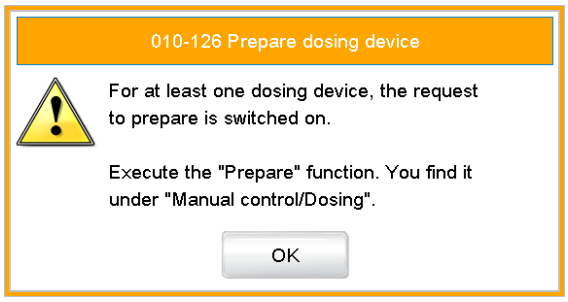
Proceed as follows:

1 ▪ Press the power switch on the left-hand side of the back panel of the 900 Touch Control.
The 900 Touch Control and the Titrando are initialized and a system test is carried out. This process takes some time.
As soon as the buret unit has been recognized a message appears.
If you use a new buret unit, a request for configuring it will be displayed:



The configuration of a new buret unit is described in chapter *2.2.5*.
If you take a buret unit already having been used, a request for applying the titrant data appears instead. Confirm the request with **[Yes]** in order to apply the data on the data chip of the buret unit to the titrant list.

- Confirm the message with **[OK]** (or with **[Yes]**).
  The request to carry out the **Prepare** function ("Prepare" function) appears:



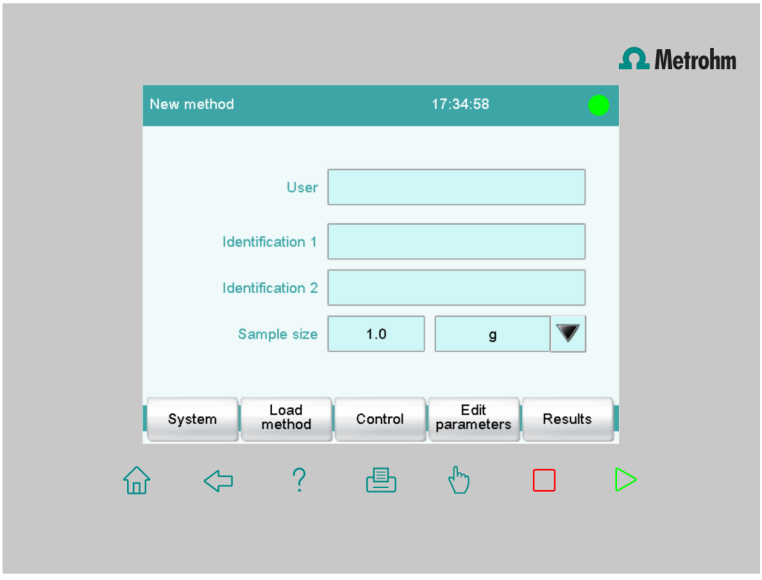
  All tubings and the cylinder of the buret are rinsed with the **Prepare** function. The preparing of the buret unit is described in *chapter 3.3.1, page 25*. The buret unit must, however, first be configured *(see chapter 2.2.5, page 9)*.
- Confirm the message with **[OK]**.

The main dialog is displayed.

2.2.2 Switching off the instrument

The 900 Touch Control can be switched off with the power switch on the left-hand side of the back panel. The switching-off procedure takes a short time. The current data is saved and the system is shut down during this process. At the same time, all other instruments connected to the 900 Touch Control via a USB cable are also being switched off.

2.2.3 Display elements and controls



The following display elements and controls are available:

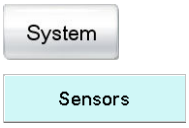
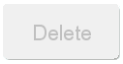
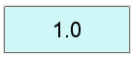
Table 1 Fixed keys which are always available

	[Home] always opens the main dialog.
	[Back] saves the entry and opens the next-higher dialog page.
	[Help] opens the online help for the dialog displayed.
	[Print] opens the printing dialog.
	[Manual] opens the manual control.
	[Stop] cancels the running determination.
	[Start] starts a determination.

The file name of the loaded method, the time and the system status are displayed in the main dialog in the **Title bar**.

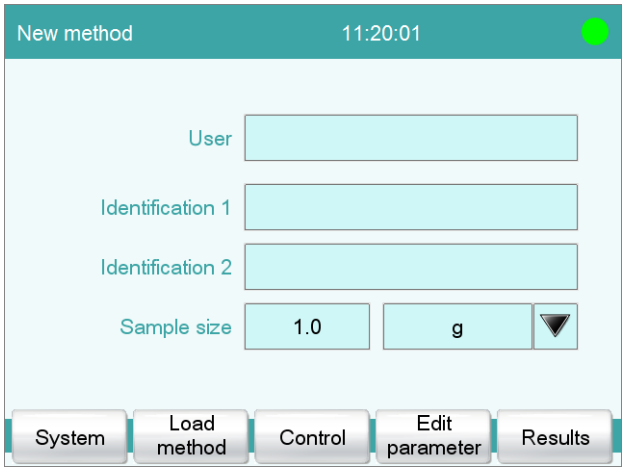
In the other dialogs, the title bar shows the headings of the next upper level and of the displayed dialog. This is an aid for orientation during navigation through the user dialog.

Table 2 Screen elements

	**Buttons** open a new dialog when they are tapped.
	**Inactive buttons** with gray lettering indicate that the respective function is not available at the moment.
	**Input fields** open an input dialog when tapped.
	Tapping on the **selection symbol** opens a selection list.
	A **check box** can also be activated or deactivated by tapping on it.

2.2.4 Setting the dialog language

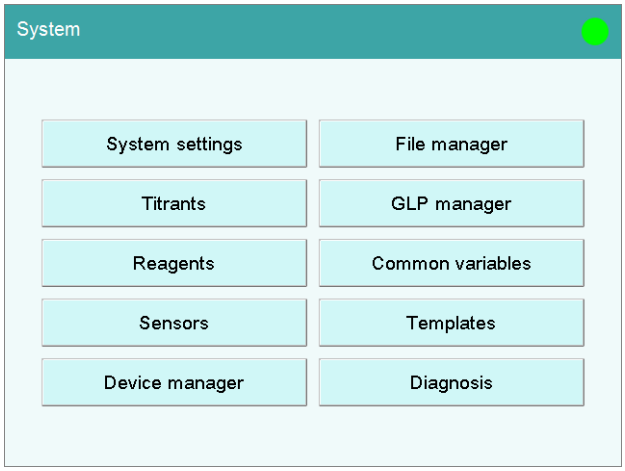
Changing the language



If the dialog does not appear in the appropriate language, the dialog language can be changed. Proceed as follows:

1 Opening the system settings

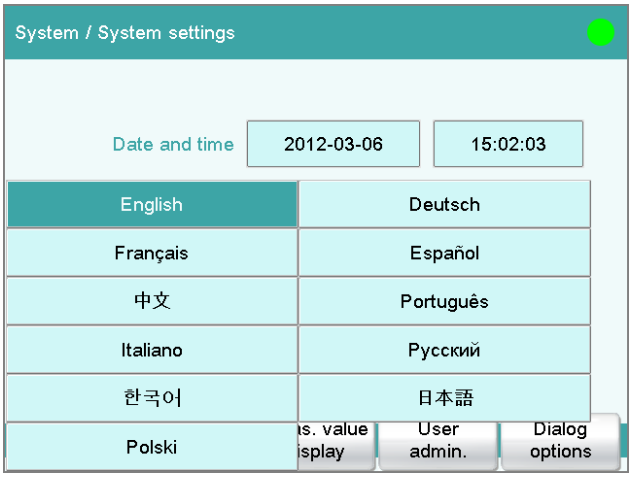
- In the main dialog, tap on **[System]**.



- Tap on **[System settings]**.

2 Changing the dialog language

- Tap on the input field after **Dialog language** and select a different language.



- Press the fixed key **[** ⇦ **]** (Back) or **[** ⌂ **]** (Home).

2.2.5 Configuring a new titrant

Configuring the titrant

You can have all of your titrants and auxiliary solutions be managed by the instrument. This has the advantage that the relevant data for these solutions (e.g. concentration or titer) can be calculated and monitored automatically.

NOTICE

A buret unit must be attached before carrying out the instructions listed below.

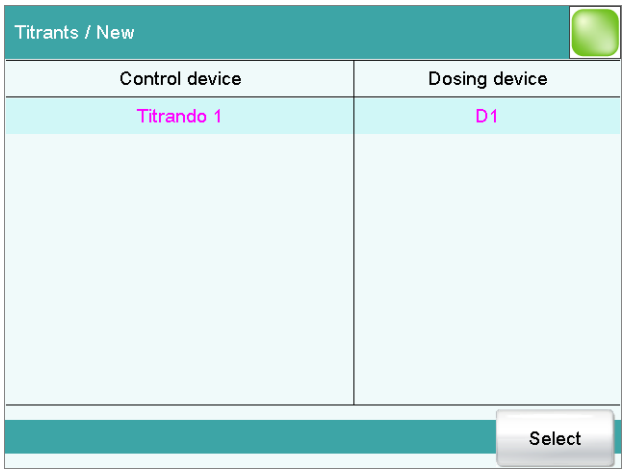
The solutions are configured under **System** ▸ **Titrant**.

Proceed as follows:

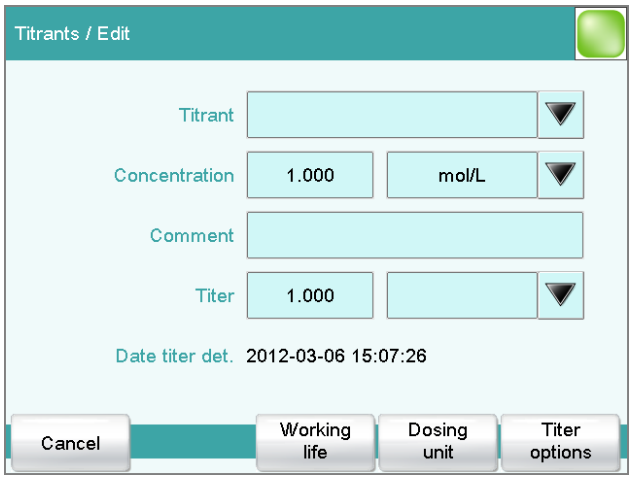
1 Opening the titrant list

- In the main dialog, tap on **[System]**.
- Tap on **[Titrant]**.

- Tap on **[New]**.
  You will now see an entry which depicts the attached buret unit.



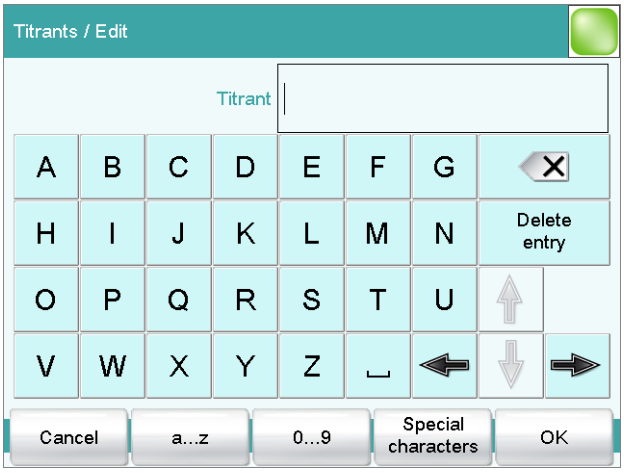
- Tap on **[Select]**.



2 Entering the titrant data

- You can now enter the necessary data for the titrant. Each of the buttons with the arrow symbol opens selection lists with useful suggestions.

- Tap on the input field **Titrant**.



  The text editor permits the entry of letters of the alphabet, digits and mathematical characters.
- The functions are:
  - **[a…z]** switches over to lower case letters.
  - **[0…9]** switches to digits and mathematical signs.
  - **[Special characters]** switches over to special characters (additional special characters are available under **[More]**).
  - **[A…Z]** switches over to upper case letters.
  - **Backspace** (upper right) deletes the character to the left of the cursor.
  - **[Delete entry]** deletes the entire input field.
  - The **arrow keys** move the cursor.
- Enter a name for the titrant.
- Use **[OK]** to confirm the entry and close the text editor.
  Pressing **[Cancel]** would undo the entry.
- Enter additional data entries, e.g. for the concentration or the titer.
  The 900 Touch Control manual contains additional information regarding the settings which can be specified for titrants.

The new titrant has been entered in the list. The cylinder size and the type of the buret unit are displayed. In the **Dos.device** column can be seen whether or not and at which connector and instrument the titrant is attached.

NOTICE

When you use buret units of the types **IDU** (intelligent dosing unit) and **IEU** (intelligent exchange unit), then data can be applied directly from the data chip.

The types **DU** and **EU** have no data chip. You can create titrants in buret units which have no data chip yourself by tapping on **[New]**.

2.2.6 Defining the report output

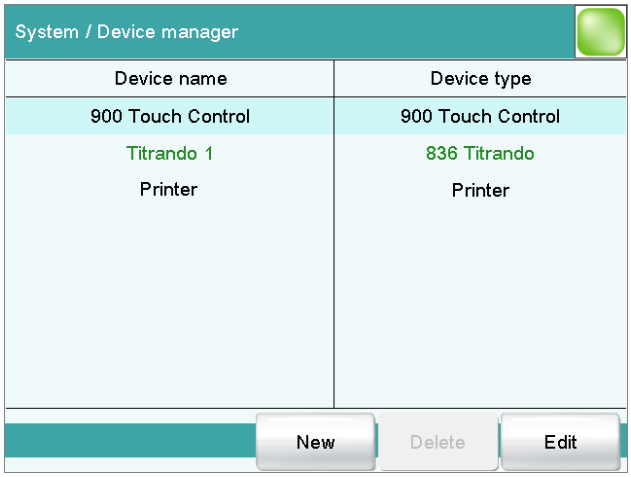
Configuring the printer

If you wish to print out results and titration curves, then you must configure the printer in the device manager. You also have the option of saving a report as a PDF file on a USB flash drive. You can then open the reports on your computer and print them out.

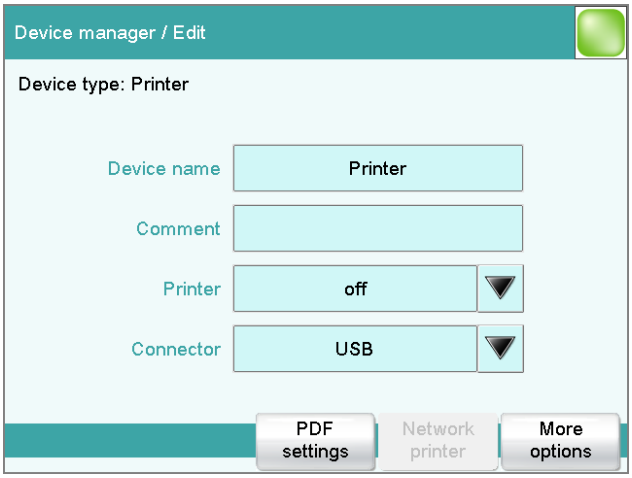
Proceed as follows:

1 Configuring a printer

- In the main dialog, tap on **[System]**.
- Tap on **[Device manager]**.



- Select **Printer** and tap on **[Edit]**.



- Tap on **Printer** and select a printer type.
- If you would like to use a printer in your company network, tap on **Connector** and select **Ethernet**. The 900 Touch Control must already be connected to the network.
  You can enter the necessary information for the identification of the network printer under **[Network printer]**.
- Return to the main dialog with **[** ⌂ **]**.

3 Carrying out simple titrations

3.1 Creating a titration method

Now create a method for a simple titration. A method contains a sequence of commands which are executed one after the other.

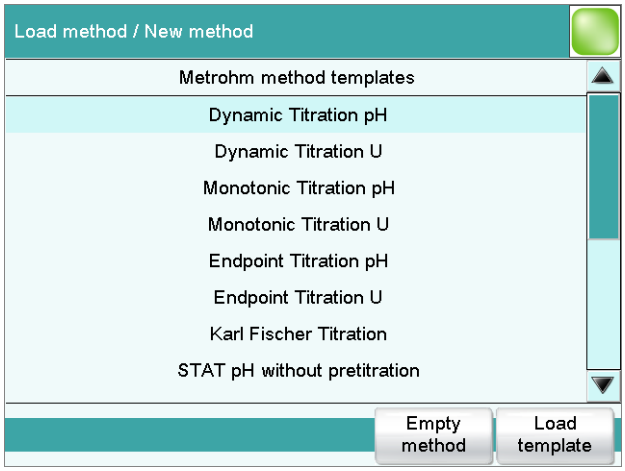
The acid or base content of a sample should be determined by means of a triple determination. If you have a printer connected, then a report with the result and the curve should be printed out automatically at the end of the determination.

Proceed as follows:

Creating a new method

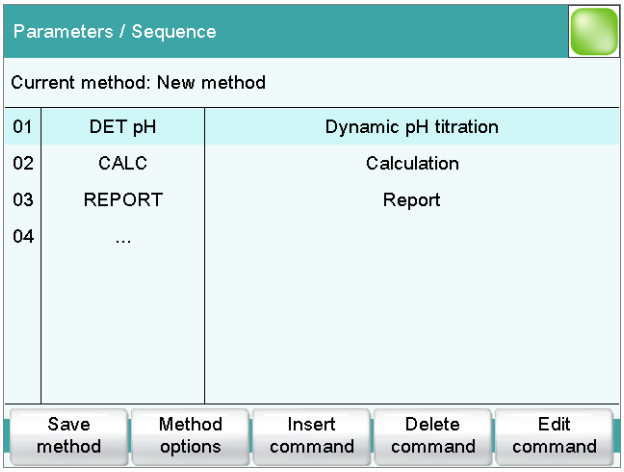
1 Loading a method template

- In the main dialog, tap on **[Load method]** and then on **[New method]**.



- Select the template **Dynamic Titration pH** and tap on **[Load template]**.
  Use **[Yes]** to confirm any message which may appear concerning the modification of an existing method.

- In the main dialog, tap on **[Edit parameters]**.



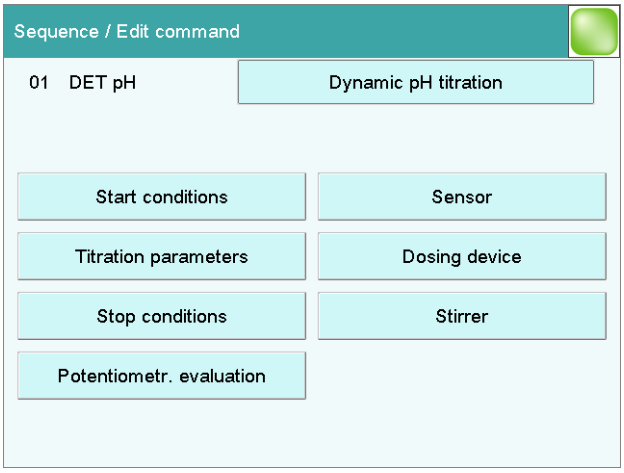
The new method contains three commands:

- DET pH
  Contains the parameters for the titration.
- CALC
  Here the calculation of the result is defined.
- REPORT
  Contains the list of the individual reports which are printed out.

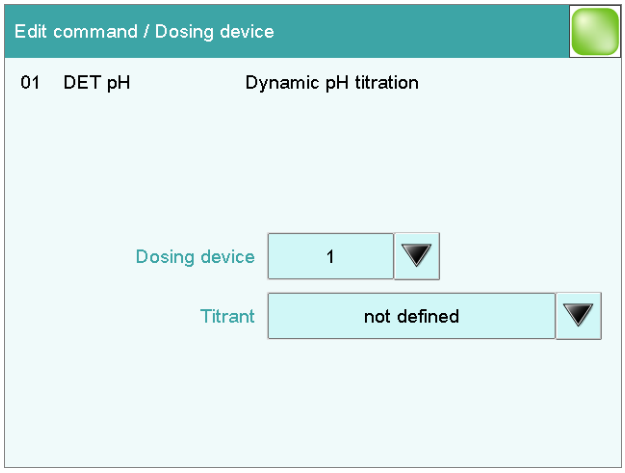
Defining the titrant

1 Opening the dosing device settings

- Select the **DET pH** command and tap on **[Edit command]**.



- Tap on **[Dosing device]**.



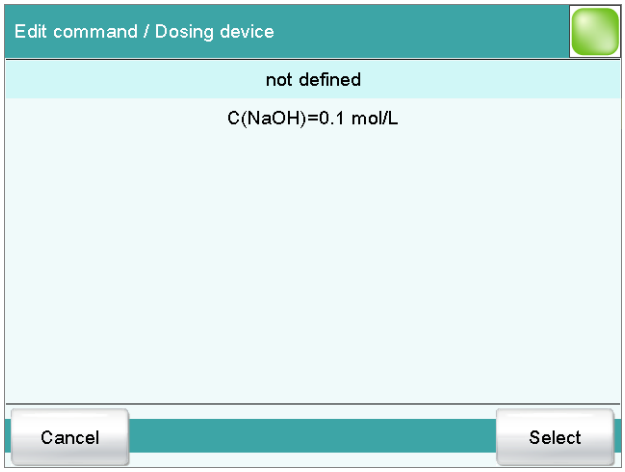
2 Selecting the dosing device connector

- Tap on the selection symbol under Dosing device and select an MSB connector.

Make sure that the dosing device is also connected to the MSB connector that you have selected.

3 Selecting the titrant

- Under **Titrant**, tap on the selection symbol.



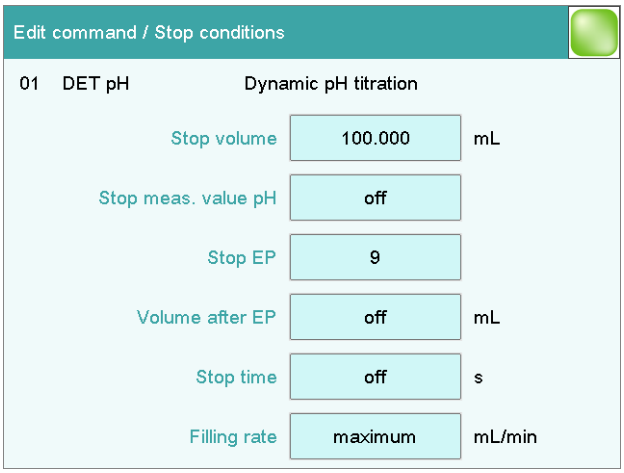
The list shows the previously configured titrants.

- Select a titrant and tap on **[Select]**.
- Tap on the fixed key **[⇦]**.

Defining stop conditions

1 Opening the dialog

- Tap on **[Stop conditions]**.



2 Defining a stop volume

- Tap on the input field **Stop volume**.
- Enter a value corresponding to the cylinder volume of the buret unit used.
- Apply the value by tapping on **[OK]** and close the input dialog.

3 Defining the number of equivalence points

- Tap on the input field **Stop EP**.
- Enter **2** and close the input dialog with **[OK]**.
- Tap twice on the **[⇦]** fixed key.

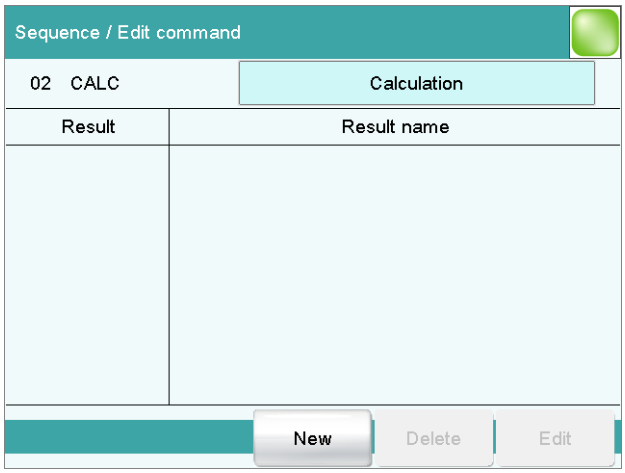
With these parameters as stop conditions, the titration will be ended automatically as soon as two equivalent points have been found. If only one equivalence point (or even none at all) is recognized, then the titration will be ended after an entire cylinder volume has been dosed.

Defining a calculation

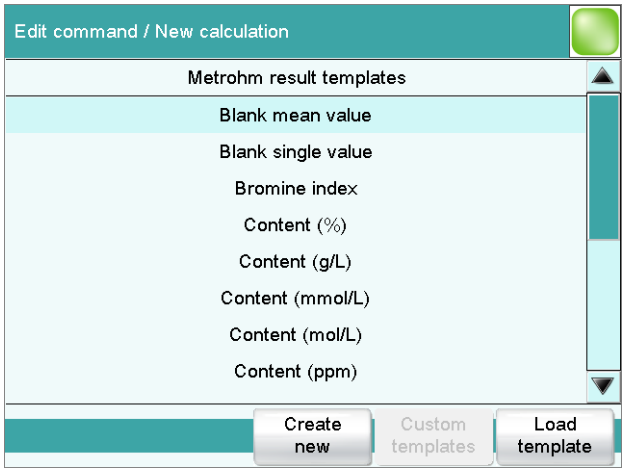
You will now see the three commands again in the dialog with the method run.

1 Opening the selection of result templates

- Select the **CALC** command and tap on **[Edit command]**.

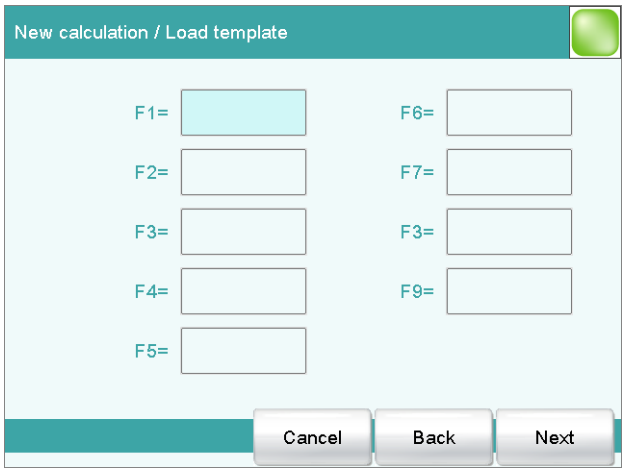


- Tap on **[New]**.



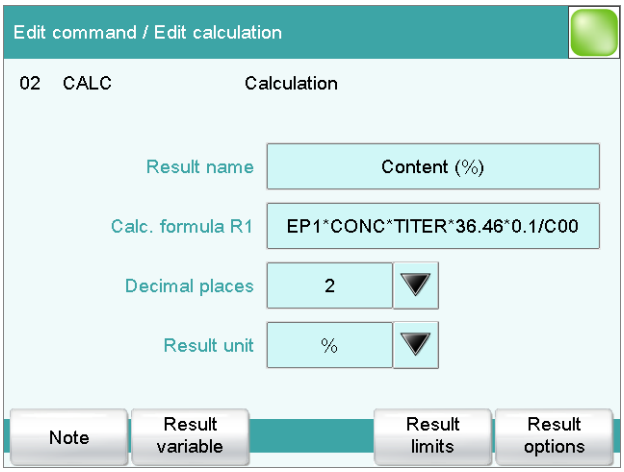
2 Selecting a result template

- Select the result template **Content (%)** and tap on **[Load template]**.
  The information window which now appears will announce that the wildcard **F1** in the calculation formula stands for the molar mass of the sample.
- Tap on **[Next]**.



3 Defining the molar mass

- Tap on the input field **F1=**.
- Enter the molar mass of the sample and confirm with **[OK]**.
- Tap on **[Next]**.



4 Defining the result properties

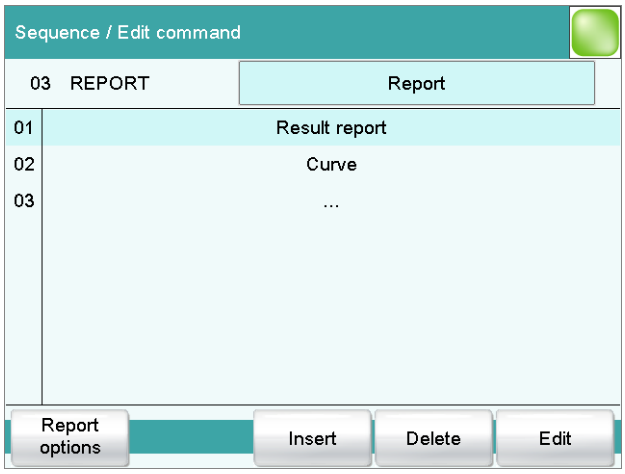
Now you can change the specifications for the result calculation (e.g. result name or the number of decimal places).

- Close the dialog for the calculation by tapping twice on **[⇦]**. You will now see once again the dialog with the three commands.

Defining the report output

1 Opening the report command

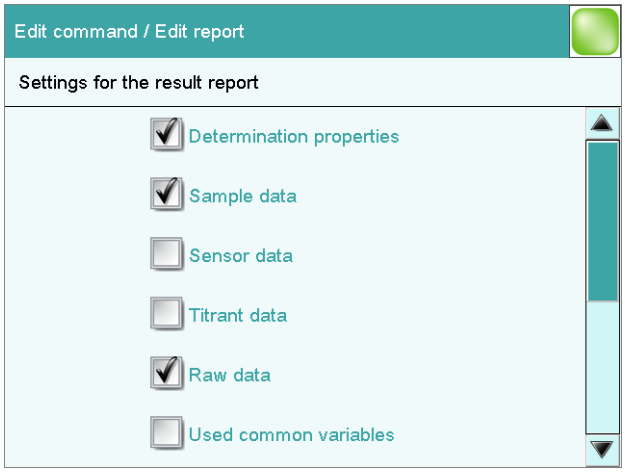
- Select the **REPORT** command and tap on **[Edit command]**.



Two reports are already specified. According to these parameters, a result report and a titration curve will be printed out automatically after each determination.

2 Modifying the result report

- Select **Result report** and tap on **[Edit]**.

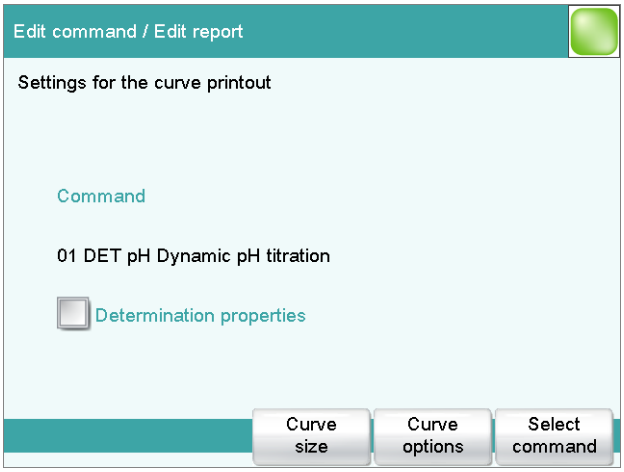


Here you can select the data which will be printed in a result report.

- Select additional data (e.g. **Sensor data** and **Titrant data**) by tapping accordingly.
- Close the dialog with the **[⇦]** fixed key.

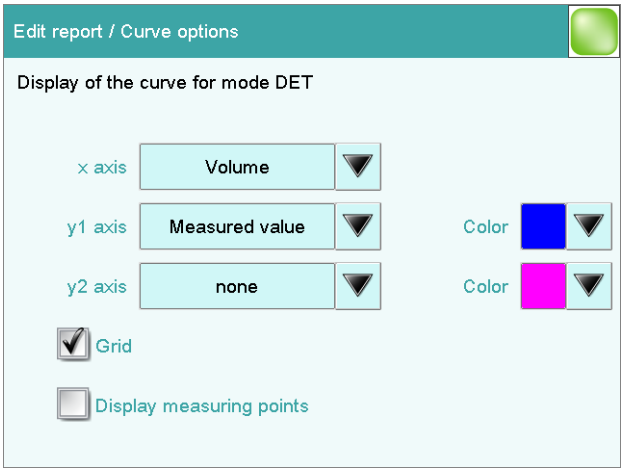
3 Defining the curve display

- Select **Curve** and tap on **[Edit]**.



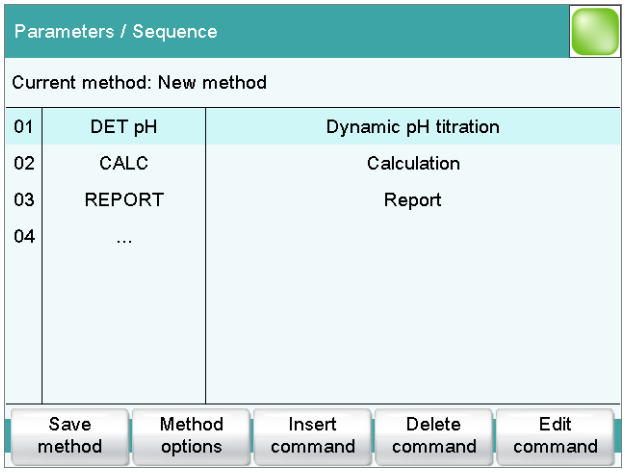
Various settings can be established for the output of the titration curve.

- Tap on **[Curve options]**.



Here you can, for example, select the colors for the measurement curve or add a second type of curve.
Tap on the input field **y2 axis** and then select **ERC**. Afterwards, close the dialog with **[⇦]** or **[Select]**.
The ERC curve (1st derivative) will be printed out along with the standard titration curve as a result.

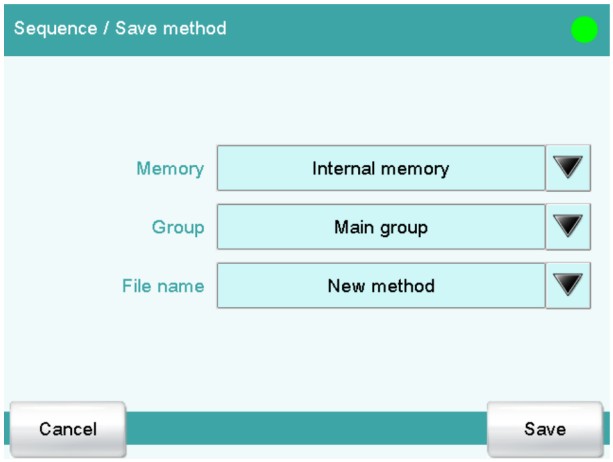
- Tap on **[⇦]** three times.



Saving a method

1 Saving a method

- Tap on **[Save method]**.



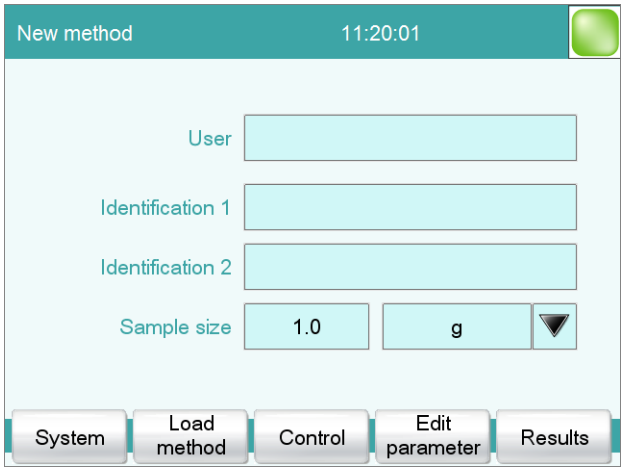
You can save the method in the instrument's internal memory, on a USB storage medium or in a shared data directory in a network. In addition, you can also create different groups and/or folders for the methods.

- Tap on the input field **File name**.
- Enter a name for the method.
- Use **[OK]** to confirm the entry and close the text editor.
- Save the method by tapping on **[Save]**.
  The method is stored in the **Main group** folder.
- Return to the main dialog with the **[⇦]** or **[⌂]** fixed key.

3.2 Entering user name and sample data

There are two possibilities to enter sample data, such as e.g. the sample size, in the instrument. For sample series with a lot of different samples, the sample table can be used. For single determinations or sample series with the same sample data, it can be entered on the main page of the instrument dialog.

For the first determination, for testing the created method, enter the data on the main page.



Entering data

1 Entering the user name

- Tap on the input field **User**.
- Enter your name.
- Confirm the entry with **[OK]**.

2 Entering the sample identifications

- Tap on the input field **Identification 1**.
- Enter a designation for your sample (e.g. type of sample or an analysis number).
- Confirm the entry with **[OK]**.
- Tap on the input field **Identification 2**.
- Enter a further designation for the sample (e.g. batch number or sampling date).
- Confirm the entry with **[OK]**.

3 Entering the sample size

- Tap on the input field **Sample size**.

- Enter a value for the sample size.
- Confirm the entry with **[OK]**.
- Open the selection list for the unit of the sample size by tapping on the arrow symbol.
- Select a unit.

NOTICE

You can also enter a unit of your own. Tap on the input field for the unit. You can use the text editor to enter any text you like.

Applying the sample size from the balance

If you have connected a balance, you do not need to open the input dialog of the sample size and the unit. On the balance, press the key (with the printer symbol) for printing the weight. The sample size and the corresponding unit are transferred to the 900 Touch Control and are displayed in the main dialog.

NOTICE

Consult the manual for the 900 Touch Control to learn how you can connect and configure the balance.

NOTICE

Whether or not the sample size is entered in the main page or into the sample table depends on whether the sample table is activated or deactivated.

Proceed as follows to deactivate the sample table:

1 Deactivating the sample table

- Tap on **Control**.
- If the check box in front of **Sample table** is activated, then tap on it to deactivate it.
- Tap on the fixed key **[⇦]**.

3.3 Carrying out the determination

3.3.1 Preparing the titration

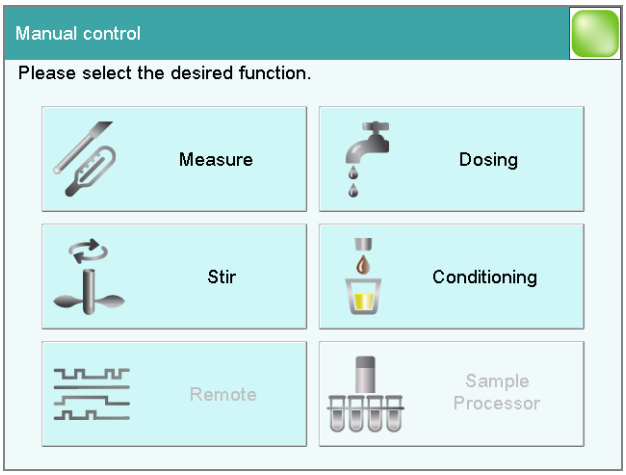
The **Prepare** function is used to rinse the cylinder and tubings of the buret unit and fill them bubble-free. You should carry out this function before the first determination or once a day.

Preparing the buret unit

Proceed as follows:

1 Opening the manual control

- Tap on the fixed key **[ ]** (= **Manual control**).



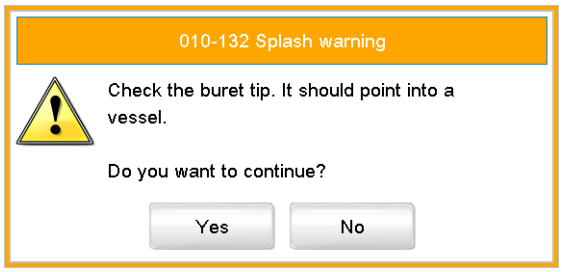
- Select **Dosing**.

2 Carrying out the "Prepare" dosing function

NOTICE

Make sure that the buret tip is directed into a vessel that can accommodate the cylinder volume of your buret unit several times over.

- Tap on **[Prepare]**.
  The following message is displayed:



- Tap on **[Yes]**.
  Preparing is carried out. The proceeding of the function is shown on the display. Details on the function **Prepare** can be found in the manual for the 900 Touch Control.
- Tap on the fixed key **[** ⌂ **]**.

Preparing the sample

1 Rinsing the electrode and dosing tip

- Place an empty vessel on the stirrer (or the titration stand).
- Rinse electrode and titration tip with deionized water (or with a suitable solvent) from the wash bottle.

2 Positioning the sample

- Dissolve the sample in the sample vessel with deionized water (or with a suitable solvent).
- Add a stirring bar to the sample vessel.
- Place the sample vessel on the stirrer (or titration stand).
- Immerse the electrode and the titration tip in the sample solution.

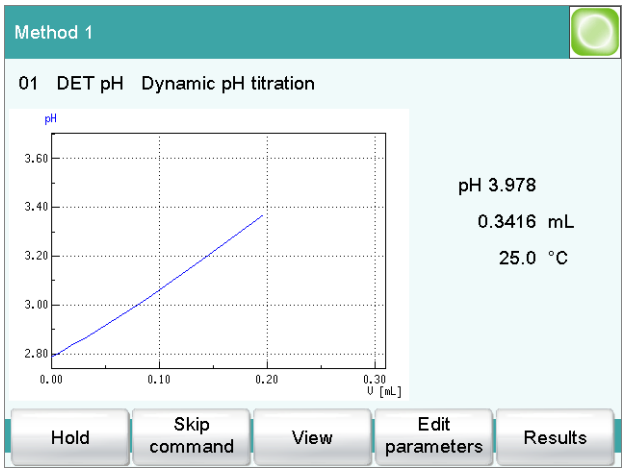
3.3.2 Carrying out the titration

1 Starting the method

- Tap on the fixed key **[** ▷ **]** (= **Start**).

The determination starts. The individual steps of the methods are displayed.

At the start of the titration, the titration curve and the current values (measured value, volume, temperature) are displayed. As the titration continues, the curve is automatically scaled anew in order that the entire titration run is always visible.



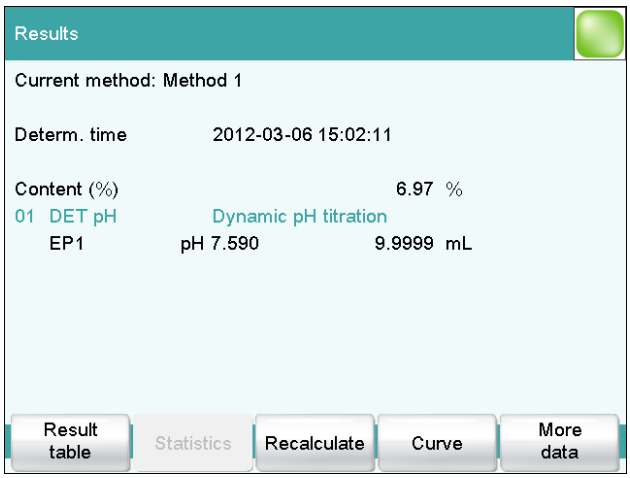
Use the **[⇦]** key to move to the main page while a determination is running. It is thus possible to modify individual parameters during a determination. However, only those parameters which do not decisively influence the running determination can be modified. Use the **[Live display]** button in the main dialog to switch back to the "Live" depiction of the determination.

The two defined reports are printed out after the titration.

3.3.3 Displaying the results

After the determination, the result page is displayed.

The results of the last determination are always available under **Results**.

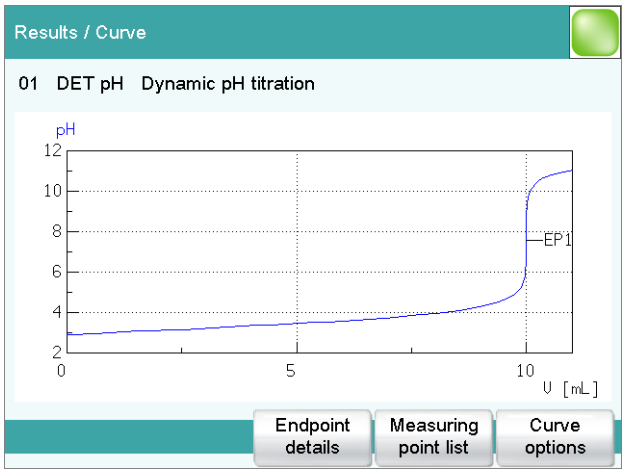


Result name and result are displayed. Furthermore, the measured value and volume of the endpoints found are displayed.

Proceed as follows to display the titration curve:

1 Displaying the titration curve

- Tap on **[Curve]**.



You can change the presentation of the curve under **[Curve options]**.

- Use the **[⇦]** fixed key to return to the result page.

3.3.4 Recalculating the determination

The titration may be recalculated if needed after it has been completed.

If you wish to perform a recalculation, you can, for example, change the sample size, the calculation formula or the evaluation parameters.

As an example, the result should be recalculated in **mol/L**.

Adding and recalculating a calculation

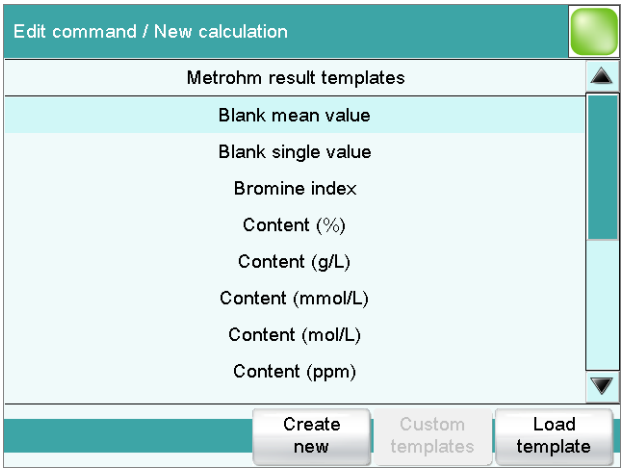
Proceed as follows:

1 Opening the CALC command

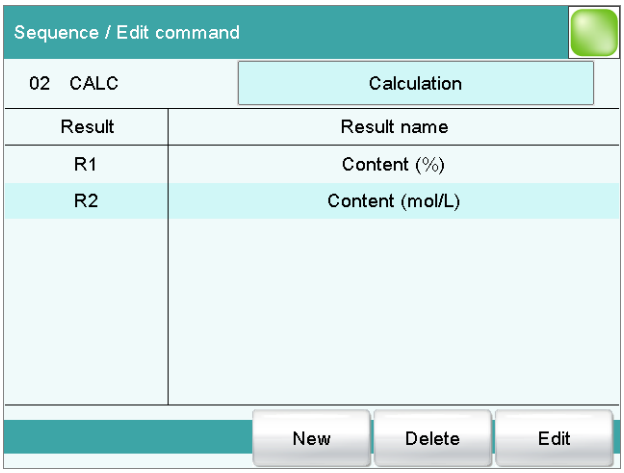
- Return to the main dialog with the **[⌂]** fixed key.
- Open the method with **[Edit parameters]**.
- Select the **CALC** command and tap on **[Edit command]**.

2 Adding a new calculation

- Tap on **[New]**.



- Select the result template **Content (mol/L)** and tap on **[Load template]**.
- Tap on **[Continue]**.
- Apply the new calculation with the **[⇦]** fixed key.



3 Initiating the recalculation

- Return to the main dialog with the **[⌂]** fixed key.
- Open the result page with **[Results]**.
- Tap on **[Recalculate]**.

Now two results will be displayed.

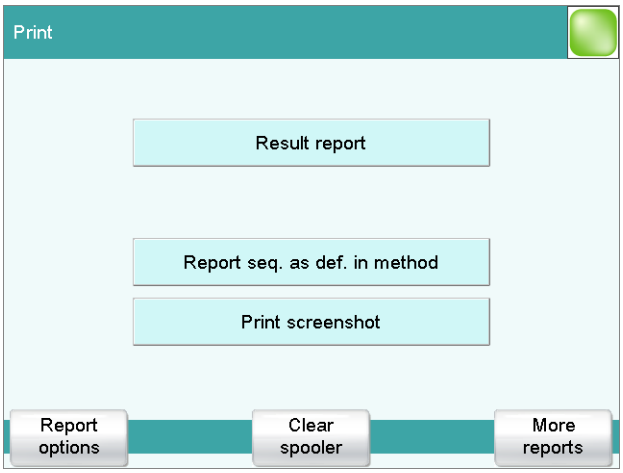
3.3.5 Printing a report manually

You can have the report of a determination printed out manually.

Print report

1 Opening the print dialog

- Tap on the fixed key **[ ]**.



Numerous reports are available to you for printing in the print dialog.

At the top you will see the report which belongs to the previously displayed dialog window. In the case of the result window, this will be the result report. You can also print out the same report(s) which were defined in the method (result report and curve report).

Numerous other reports, e.g. measuring point list, parameters report or titrant list, can also be selected under **[More reports]**.

2 Initiating the printing

- Tap on the selected report

or

- under **[More reports]**, select another report and tap on **[Print]**.

4 Carrying out an extended titration

4.1 Statistics function

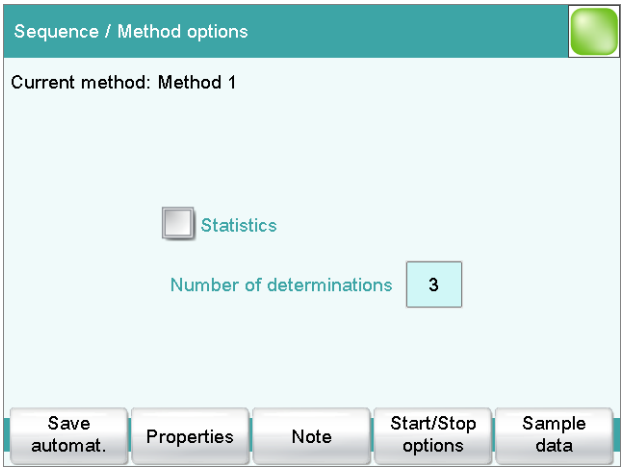
The statistics function can calculate the mean value and the absolute and relative standard deviations (s abs and s rel) from several determinations. The calculation is carried out continuously, i.e. the calculation is updated after every determination that is carried out until the defined number of determinations has been reached.

Several results can be calculated for one determination, all of which can be incorporated in the statistical calculation.

Activating the statistics

1 Editing the method options

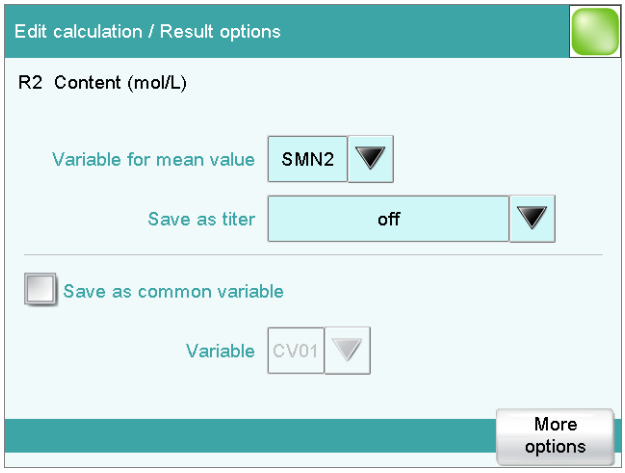
- In the main dialog, tap on **[Edit parameters]**.
- Tap on **[Method options]**.



Here you can define the statistics function for this method. You can specify the number of determinations for which the respective statistical calculations are to be carried out.
These settings apply for all determinations which are carried out with this method.

- Tap on the check box **Statistics**.
- Enter a value under **Number of determinations**.
- Tap on the fixed key **[⇦]**.
- Select the **CALC** command and tap on **[Edit command]**.
  The second calculation **Content (mol/L)** should not be incorporated in the statistical calculation.
- Select the result name **Content (mol/L)** and tap on **[Edit]**.

- Tap on **[Result options]**.



- The variable name under which the calculated mean value is to be stored is specified under **Variable for mean value**. You can change this variable assignment in order to deactivate the statistical calculation for this result.
- Tap on the selection symbol next to **SMN2** and select **off**.
- Return to the main dialog with the **[** ⌂ **]** fixed key.

4.2 Saving the determination and the PC/LIMS report

You can have the determination data (measuring point list, results, etc.) of a titration which has been carried out saved automatically. This makes it possible to reprocess or print out this data later. You can save the determinations to a USB storage medium or to a drive in a PC network.

If you would like to manage the determination data in a database on a PC, then you can save it in a report called PC/LIMS report or transfer it directly to a PC through a serial connection. The *tiBase* database from Metrohm is available to you for administering the determination data on the PC.

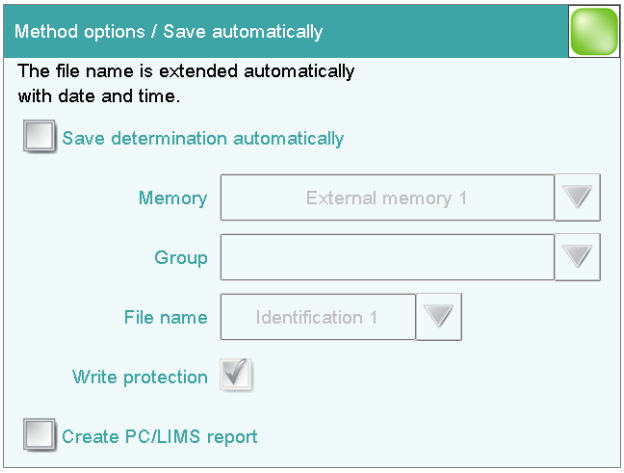
Defining the automatic saving

Proceed as follows:

1 Opening the method options

- In the main dialog, tap on **[Edit parameters]**.
- Tap on **[Method options]**.

- Tap on **[Save automat.]**.



2 Activating Save determination

- Tap on the check box **Save determination automatically**.
- Select the memory location under **Memory**. You can choose between **External memory 1** (e.g., a USB flash drive) or **Shared memory** (memory location in a computer network).
  A USB flash drive (external memory) must be plugged in on the 900 Touch Control before a determination is carried out. This memory location must already be defined in the device manager at the time of the selection of a shared memory location in a computer network. Before a determination is carried out, the 900 Touch Control must be connected to the network with an Ethernet cable.
- Tap on the selection symbol under **Group** to select an existing group or to create a new group.
  The determination data can be stored on the storage medium in various groups (= folders on the storage medium). You can create groups of your own by tapping on the input field **Group**.
- Define the designation for the file name.
  Two sample identifications or the method name are available for selection. If you tap on the input field **File name**, then you can enter a designation of your own for the file name.
- Activate or deactivate write protection.
  You can protect the original determination data against overwriting.

3 Activating the PC/LIMS report

- Tap on the check box **Create PC/LIMS report**.
  Define the memory location for the PC/LIMS report in the device manager.
- Return to the main dialog with **[** ⌂ **]**.

NOTICE

Details concerning the PC/LIMS report can be found in the manual for the 900 Touch Control.

NOTICE

These settings are method-specific. The determination data is saved to the defined memory location for all determinations which are carried out with this method. You can define different memory locations for your methods.

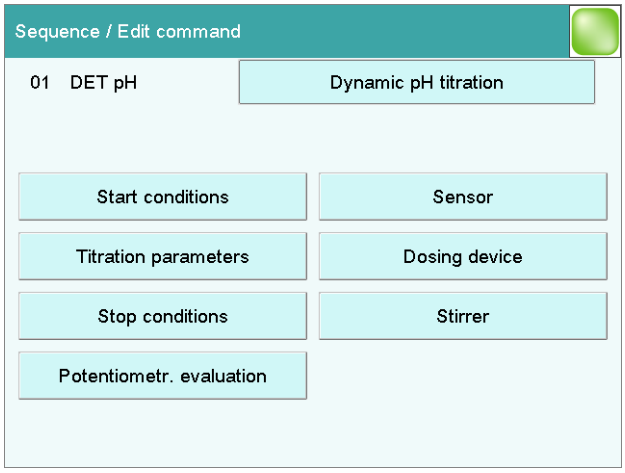
4.3 Modifying the titration parameters

You can optimize a titration run by modifying individual titration parameters according to the needs of the titration. For the following titration, the stirring rate, the dosing rate and the maximum waiting time are being modified.

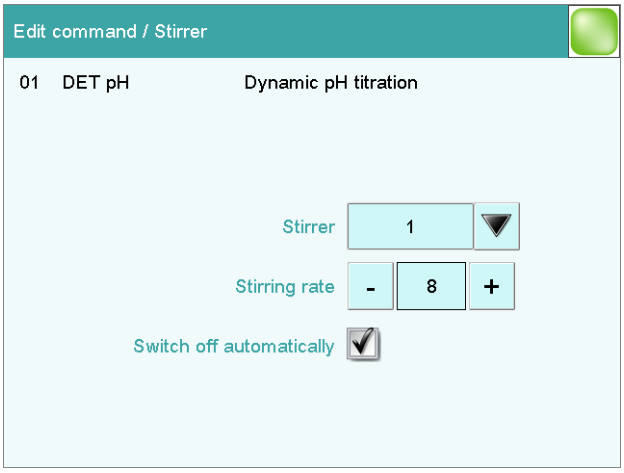
Setting the stirring rate

1 Opening the stirrer settings

- In the main dialog, tap on **[Edit parameters]**.
- Select the **DET pH** command and tap on **[Edit command]**.



- Tap on **[Stirrer]**.



2 Modifying the stirring rate

- Tap on **[-]** or **[+]** to modify the stirring rate.
  You can use the check box **Switch off automatically** to set whether or not the stirrer is switched off after the titration.
- Use the **[⇦]** fixed key to return to the **DET pH** command.

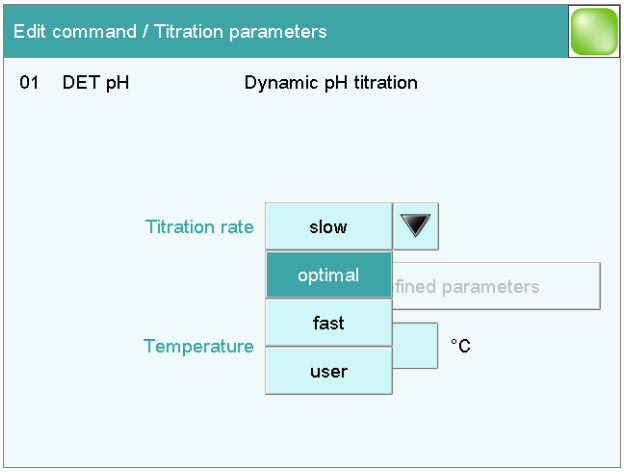
Modifying the settings for the titration

Three pre-defined parameter sets (**slow**, **optimal** and **fast**) are available for adding the titrant and recording the measured values during the titration. These are suitable for most applications.

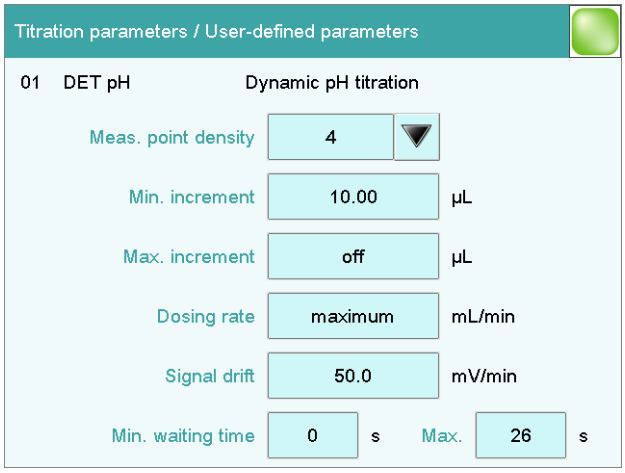
You can also make your own settings.

1 Modifying the dosing rate

- Tap on **[Titration parameters]**.



- Under **Titration rate**, select the selection **user**.
  Now all of the settings of the previously set parameter set will be available under **User-defined parameters**.
- Tap on **[User-defined parameters]**.



- Tap on the input field **Dosing rate**.
  The parameter **maximum** means that the most rapid dosing rate possible will be applied in each case. This is dependent on the size of the dosing cylinder. If a 20 mL cylinder is used, then dosing will be twice as fast as with a 10 mL cylinder.
  If you wish to specify a particular dosing rate, then you must enter a numerical value here.
- Enter a value of e.g., **20 mL/min**, and confirm with **[OK]**.

2 Modifying the maximum waiting time

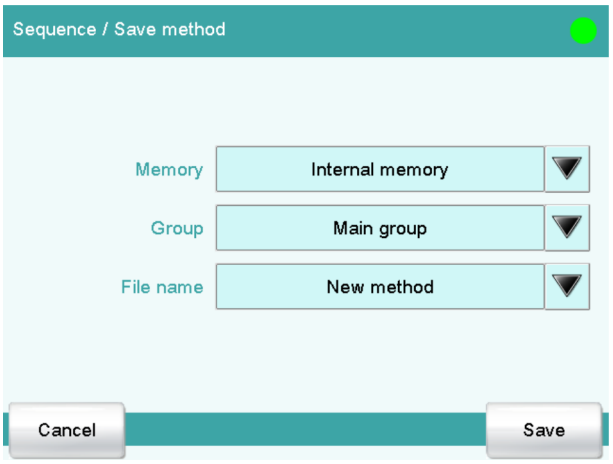
- Tap on the input field **Max.** at the bottom on the right.
  This value determines the maximum time between two volume steps. If the signal drift drops below the set level before the waiting time has expired, then the next volume step will take place immediately. The maximum waiting time thus occurs only with high drift values, i.e. before and after an equivalence point.
- Enter a somewhat longer waiting time, e.g., **30 s**, and confirm with **[OK]**.
- Tap three times on the **[⇦]** fixed key.
  You will now see once again the method run with the three commands.

4.4 Saving a method

Saving a method

1 Saving a method

- Tap on **[Save method]**.



You can save the method in the instrument's internal memory, on a USB storage medium or in a shared data directory in a network. In addition, you can also create different groups and/or folders for the methods.

- Tap on the input field **File name**.
- Enter a name for the method.
- Use **[OK]** to confirm the entry and close the text editor.
- Save the method by tapping on **[Save]**.
  The method is stored in the **Main group** folder.
- Return to the main dialog with the **[** ⇦ **]** or **[** ⌂ **]** fixed key.

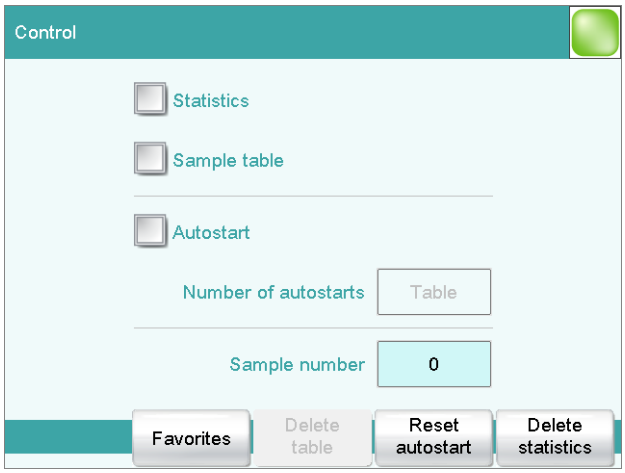
4.5 Creating a sample table

If you wish to carry out several titrations, you can create a sample table with the various sample data. Proceed as follows:

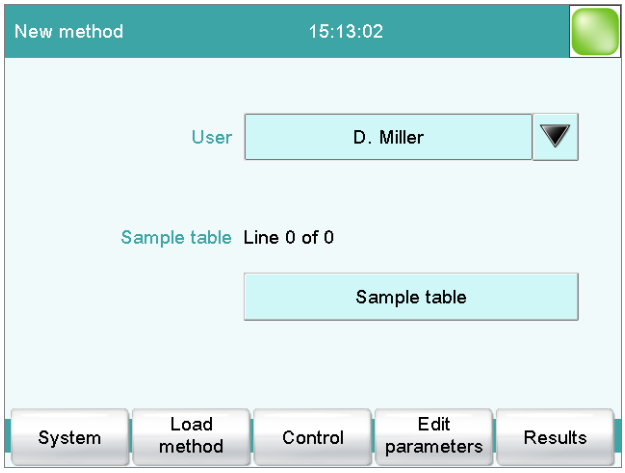
Filling the sample table with sample data

1 Activating the sample table

- In the main dialog, tap on **[Control]**.

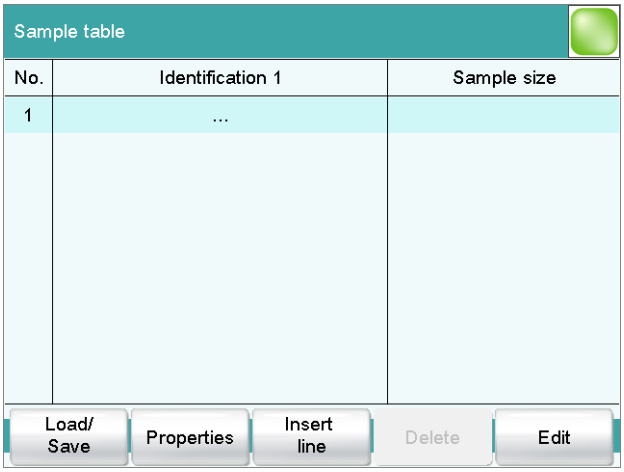


- Tap on **Sample table**. A checkmark shows that the sample table has now been activated.
- Return to the main dialog with the **[⇦]** fixed key.
  A new button is now visible in the main dialog.



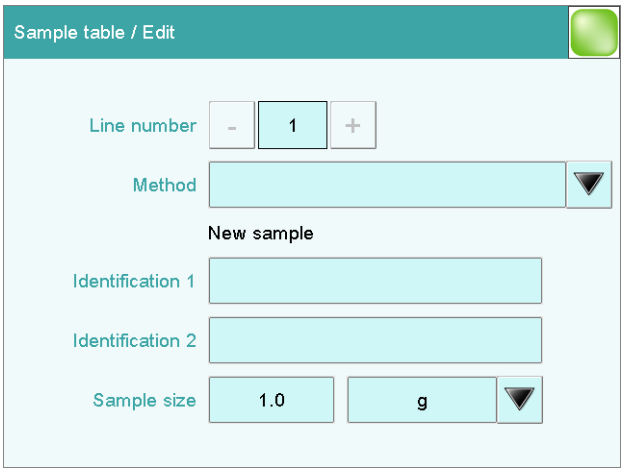
2 Entering the sample data

- Tap on **[Sample table]**.



The sample table is still empty. The first line is highlighted.

- Tap on **[Edit]**.



- Tap on the selection symbol next to the input field **Method**.
- Select a saved method and tap on **[Select]**.
  A particular method can be selected for each sample which is to be processed. If no method is specified, then the currently loaded method is executed.

- Fill out the fields for sample identification and the sample size.
  The line number is automatically increased by one after the sample size has been entered. The next sample size can be entered directly.
  The criterion, after which the line number should be increased by one, can be modified in the properties dialog of the sample table under **[Editing options]**.

- Use the **[⇦]** fixed key to return to the sample table.
- Switch to the main dialog with the **[⌂]** fixed key after the desired number of sample data has been filled in.

4.6 Carrying out titrations

Now carry out the titrations with the samples for which you have entered sample data.

If you have activated the option for sending a PC/LIMS report, do not forget to connect a USB storage medium beforehand.

Each time that you press the **[▷]** fixed key, the sample data will be loaded from the top line of the sample table and applied for the current titration. This line will be deleted at the end of the titration. The sample data of the next line down will be used for the next titration.

A result report will be printed out and a PC/LIMS report will be saved after each titration if you have defined or activated these options.

NOTICE

The sample table can also be used with automated determinations.

4.7 Displaying statistics data

You can have the statistics data displayed after the titrations. Proceed as follows:

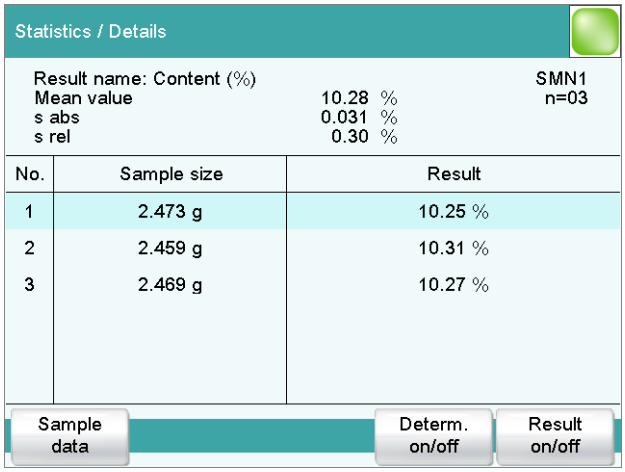
1 Opening the statistics page

- In the main dialog, tap on **[Results]**.
- Tap on **[Statistics]**.

The mean value of the result is displayed in the statistical overview.

2 Displaying statistics data

Tap on **[Details]**.



In the upper part of the display you will see the mean value of the result as well as the absolute and the relative standard deviation. The single results of the titrations are listed in a table.

If you would like to exclude a titration from the statistical calculation, you can select it and then tap on **[Result on/off]** or **[Determ. on/off]**. The recalculation of the statistics data will be performed immediately.

If you would like to add other titrations to the statistics, you can do this in the statistical overview.

5 Setting up the user administration

If different persons are working on the instrument, we recommend that the user administration of the 900 Touch Control be used. This means that everyone can use their user identification to log on to the instrument. The reports will then automatically contain the respective user name.

In addition, a dialog level can be set up for each user. In addition to the expert dialog, with access to all functions and settings, a routine dialog can be selected with limited access rights. The available functions and dialog areas can be configured for the routine dialog.

Administrator rights can be assigned to users who are permitted to administer methods and to make configuration settings.

If you create a user list, then you can use it in different ways. You can apply different combinations of login options. Three possibilities are listed in the following:

- User name can be selected in the main dialog without login
- Automatic login with USB flash drive
- Login with password

5.1 Creating a user list

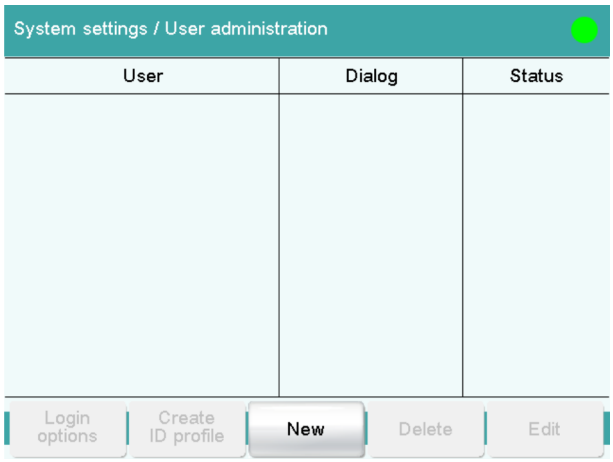
The creation of a user list is required for all of the possibilities of the user login.

Defining users

Proceed as follows:

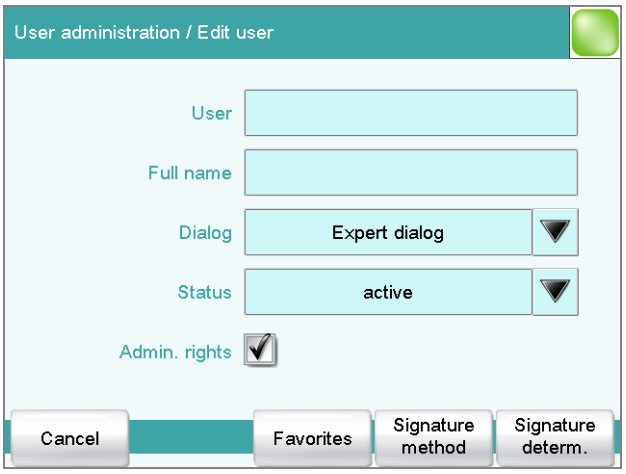
1 Opening the user administration

- In the main dialog, tap on **[System]**.
- Tap on **[System settings]**.
- Tap on **[User admin.]**.



2 Creating a new user

- Tap on **[New]**.



- Tap on the input field **User** and enter an unambiguous user identification (e.g.,abbreviation). Close the input dialog with **[OK]**.
- Tap on the input field **Full name** and enter the name of the user. Close the input dialog with **[OK]**.
- Tap on the selection list **Dialog** and select either **Expert dialog** or **Routine dialog**. Remember that the system settings cannot be changed except in the expert dialog.
  The setting is effective only when working with login.
- Activate or deactivate the administrator rights.
  The user administration can be used only with administrator rights. At least one person must be in possession of administrator rights.
- Return to the user administration with **[⇦]**.
- Define additional users.
- Return to the main dialog with **[⌂]**.

If you would like to work without a login, it is sufficient to create a user list. Each user can select his or her entry from the user list in the main dialog. Then the user name will be printed out with reports and/or saved along with a determination.

5.2 Automatic login with USB flash drive

It is possible to have automatic user recognition without requiring that a password be entered. If each user uses a USB flash drive of his or her own with his or her user profile, then the instrument can recognize whose USB flash drive it is at the time of the switching on. User login then takes place automatically.

The USB flash drive can be used for saving determination data, methods, PC/LIMS reports or for backing up the entire system.

Creating user profiles

You now need to create an ID profile for each user on a separate USB flash drive. The USB flash drive must be formatted.

Proceed as follows:

1 Plugging in the USB flash drive

- Return to the main dialog with **[** ⌂ **]**.
- Plug in a USB flash drive into the rear of the 900 Touch Control.
- Wait until a message appears which confirms that the USB flash drive has been recognized.

2 Saving the user profile

- Switch over to the user administration with **[System]**, **[System settings]** and **[User admin.]**.
- Select a user name.
- Tap on **[Create ID profile]**.

A message will appear which confirms the creation of the ID profile.

If you now set the login options, you will automatically be logged in at once with this ID profile.

Setting the login options

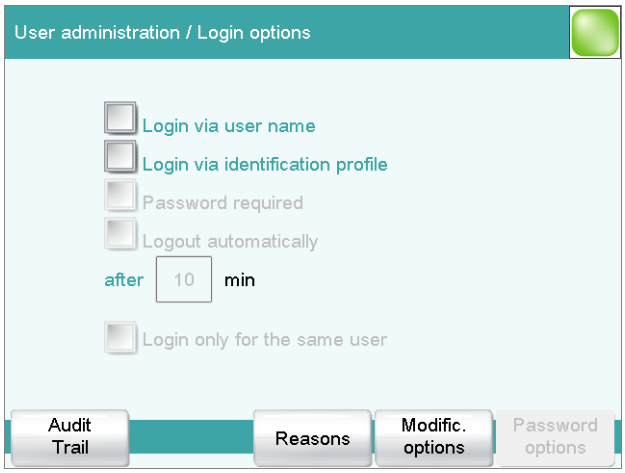
NOTICE

The following steps are possible only if the user has administrator rights.

Proceed as follows:

1 Opening the login options

- In the user administration, tap on **[Login options]**.



2 Activating login with ID profile

- Activate **Login via identification profile**.
- Deactivate all other settings.
- Return to the user administration with **[⇦]**.

You can confirm the request following the creation of ID profiles with **[Yes]** if you have created an ID profile beforehand. Make sure that the USB flash drive is plugged in.

NOTICE

If you have not yet created any ID profiles, then you must confirm the request with **[No]**. Then you can deactivate the **Login via identification profile** and create an ID profile in the user administration.

Confirm any messages which may appear with **[Yes]**.

An automatic login will now take place.

3 Logging in

- Tap on **[OK]** after the request that you plug in the USB flash drive with your ID profile.
- In order to log in another user with ID profile, tap in the main dialog on **[Control/ Logout]** and afterwards on **[Logout]**.
  The request appears once again to plug in a USB flash drive.

5.3 Login with password

If you wish to make it imperative that each user log in on the instrument with a password, then you can activate this in the login options.

NOTICE

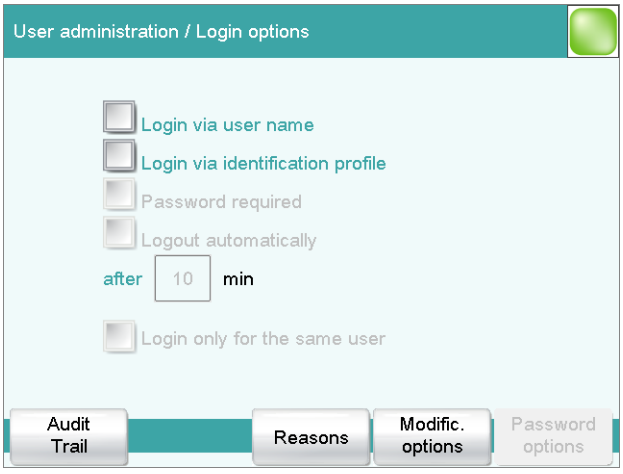
Please note that you will no longer be able to delete the entries created in the user administration once you have activated the password request. The only option available afterwards is to deactivate users.

Setting the login options

Configure the following settings:

1 Opening the login options

- Use **System** ▸ **System settings** ▸ **User admin.** to switch over to user administration.
- Tap on **[Login options]**.



2 Adjusting the settings

- Activate **Login via user name**.

- Activate **Password required**.

Many settings are possible in the login options. Consult the manual of the 900 Touch Control to look these up if necessary.

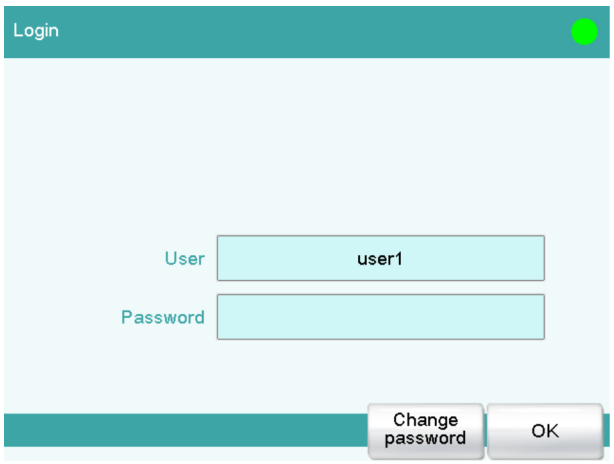
NOTICE

The login dialog is called up as soon as you exit the login options dialog with **[** ⇦ **]** or **[** ⌂ **]**. You must then log in for the first time. You must define and enter a password to accomplish this.

If the login dialog is not called up, switch the instrument off and then back on again.

First login

You must define a password at the time of the first login on the instrument. Proceed as follows:



1 Entering the user name

- Tap on the input field **User**, enter the user name and confirm with **[OK]**.
- Tap on **[Change password]**.

2 Defining a password

- Tap on the input field **New password**.
- Enter a password. It may not be more than 10 characters long.

NOTICE

Note the password.

- Confirm the entry with **[OK]**.
- Enter the password once again under **Confirm password**.
- Tap on **[OK]**.

3 Logging in

- Enter the new password under **Password** and tap on **[OK]** in the login dialog.