

Routine analysis in potentiometric titration

Easy, safe and precise – the new 848 and 877 Titrino plus



The new 848 Titrino plus from Metrohm not only looks good, but also provides precise measuring results – quickly and easily.

The Titrino plus, the new first-user models from Metrohm in the potentiometric titration sector, impress with their almost unbelievable cost-effectiveness. A large live display with titration curve, plug & play functionality for Exchange Unit, stirrer and USB printer, a high-precision measuring input, operation by mouse-click – the Titrino plus offers considerably more than you could ever expect in this price range. The Titrino plus is intended for routine users and is easy to use, which means that only a short familiarization period is required. Its robustness makes it the ideal titrator for day-to-day laboratory use. Built-in intelligence ensures the validity of your data.

The advantages of the new Titrino plus at a glance:

- Very easy installation and operation
- Intelligent Exchange Unit with titrant monitoring
- Highest precision thanks to high-resolution measuring input
- Live curve
- USB compact printer Neo's as option
- 869 Compact Sample Changer for simple automation

Very easy installation

The installation of the Titrino plus is extremely simple. On connection the Exchange Unit, stirrer and USB compact printer Neo's are automatically recognized and configured (details on Neo's can be found elsewhere in this Metrohm Information).

Highest precision thanks to new measuring input

Just like the high-end titrator Titrande, the new Titrino plus is also equipped with a high-resolution measuring input that guarantees results of the highest precision.

Graphics display with live curve

The large display allows to edit the parameters necessary for routine operation quickly and conveniently. The live curve permits monitoring of the whole titration process right from the start.

Titration aided by intelligence

Intelligent Exchange Unit for more convenience and safety

The chip of the intelligent Metrohm Exchange Unit automatically provides the titrator with all the data (cylinder volume, type of reagent, titer expiry date, etc.) that it requires to carry out an error-free titration. This means that you are always titrating under optimal conditions and, for example, do not have to repeat measurements because the titer has expired.

Plug & play stirrer

Just connect a magnetic or propeller stirrer to the Titrino plus; it will then be recognized and configured automatically. The stirring speed is incorporated in the method, which guarantees a high degree of reproducibility.

USB interface

A wide variety of instruments (keyboard, mouse, USB printer, USB storage media...) can be connected to the USB interface of the Titrino plus; with a USB hub several can even be connected simultaneously.



Everything at a glance – the large display of the 848 Titrino plus.



The data chip in the Exchange Unit stores all important titrant-related information.

The Titrimo plus is the ideal titrator for routine applications such as:

- Aqueous and non-aqueous acid/base titrations
- Redox titrations (e.g.: iodometry, permanganometry, cerimetry)
- Precipitation titrations (e.g. with AgNO_3)
- Complexometric titrations (e.g. with EDTA)
- Photometric titrations with the Spectrosense 523 nm or 610 nm
- Titrations with polarizable electrodes (U_{pol} , I_{pol})

An overview of the most important properties of the Titrimo plus

	Titrimo plus 848	Titrimo plus 877
Dosing element	Exchange Unit	
Intelligent Exchange Units with built-in data chip	yes	
Increments per cylinder volume	10'000	
Operation, dialog	Keys and mouse	
Dialog language	English	
Stirrer, titration stand	801 Magnetic Stirrer or 802 Rod Stirrer	
pH calibration (5-point)	yes	
Endpoint titration (SET) with conditioning	yes	
Monotonic equivalence point titration (MET)	yes	
Dynamic equivalence point titration (DET)	yes	no
Connection of balance, printer, USB keyboard, USB mouse, USB stick and barcode reader	via 1 USB slave port, RS-232/USB box (option)	
Graphics display with live curve	yes	
Comprehensive GLP/GMP functions	yes	
Methods and results export via USB stick	yes	
PC/LIMS report	RS-232/USB box (option)	
Connection of balance	RS-232/USB box (option)	
Connection of sample changer via Remote	yes	
Manual operation	measuring, dosing, stirring	

Automation with the 869 Compact Sample Changer

The 869 Compact Sample Changer provides rapid and easy automation for Titrimo applications.

With the 869 Compact Sample Changer multiple determinations can be done conveniently and without a lot of preparatory steps. A wide range of titrations can be carried out fully automatically and the electrode can be rinsed or conditioned between the determinations. In order to keep titrant and solvent consumption as low as possible, 120 mL polypropylene (PP) beakers are used as standard. The sample rack accommodates 12 such beakers.

Application-specific methods can be drawn up and saved on the basis of three different method templates. The fact that only four parameters need to be set is well worth mentioning. In addition, the methods can also be printed out or electronically stored via a USB (OTG) connection. Communication between the Compact Sample Changer and the Titrimo plus takes place via Remote signals without an additional control box or PC being required. The sample data table of the Titrimo plus is filled with the appropriate sample data. After the start, the Compact Sample Changer processes the samples in accordance with the sample data table. The start position can be freely selected, so that important samples can be inserted at any time.



848 Titrimo plus with 869 Compact Sample Changer. Routine analysis cannot be simpler and more convenient than this.

The titration head of the sample changer can accommodate an 802 Rod Stirrer and two further electrodes. The stirrer is connected directly to the instrument and is controlled by it. Titrant and auxiliary solutions are added from the buret tips installed in the sample changer.

On request, the 869 Compact Sample Changer can be retrofitted with an 843 Pump Station with rinsing and aspiration accessories (details about the Pump Station can be found elsewhere in this Metrohm Information).

The advantages of the 869 Compact Sample Changer:

- Favorably priced automation
- Space-saving
- Three different method templates
- Simple operation thanks to minimal method programming
- A total of 12 positions

Our tip: immediately start measuring with the automation package 848 Titropackage plus!

Treat yourself to the flexibility of a completely automated titration system and start working immediately. The 848 Titropackage plus contains everything you need for routine acid/base titrations in different types of solution. Thanks to the included 869 Compact Sample Changer, you can save a lot of time as the determinations are carried out fully automatically.

848 Titropackage plus (order number: 2.848.0110) consists of:

- 848 Titrino plus
- 869 Compact Sample Changer
- 802 Rod Stirrer with stirring propeller
- Exchange Unit (20 mL)
- Ecotrode Plus with cable
- Sample beakers (100 pieces)
- USB stick with over 100 application methods
- and more...

A further tip for carefree work: branch-specific packages for the 848 Titrino plus

Our complete branch-specific packages also provide carefree work. They contain everything you need for the usual analyses in the chosen range of applications. In addition to an 848 Titrino plus and determination methods described in detail, they also contain the complete accessories for your titrations.

Three simple steps lead to perfect results:

1. Load the methods into the Titrino plus from the USB stick supplied.
2. Carry out step by step the instructions given in the particular application collection «Food PAC», «Wine PAC» or «Oil PAC» for sample preparation and analysis.
3. Start the titration – the titrator takes care of everything else for you.

Branch-specific packages:

2.848.1010

Food Titrino plus, including combined pH glass electrode «Ecotrode Plus», buffer and electrolyte solutions, USB stick with all methods and the application collections «Food PAC» and «Wine PAC»

2.848.2010

Salt Titrino plus, including Ag Titrode for precipitation titrations with AgNO_3 and USB stick with various methods for chloride determination, e.g. in food, drinking water, petroleum products, etc.

2.848.3010

Oil Titrino plus, including combined pH glass electrode «Solvotrode» for non-aqueous acid/base titrations, electrolyte solutions, USB stick with all methods and the application collection «Oil PAC»