

855 Robotic Titrosampler



Integrated system for automatic sample preparation and analysis

- Titrator and Robotic USB Sample Processor combined in a single system
- Precise and reproducible results
- Reliable, robust and safe

Robotic Titrosampler – save time and space in titration

02

The 855 Robotic Titrosampler integrates automatic sample preparation and titrimetric analysis in a very small space. Thanks to the built-in high-performance titrator and the compact design, users save up to 40% of the space on the laboratory bench in comparison with a conventional analytical system with discrete devices. With the 855 Robotic Titrosampler it is easy to analyze large sample series quickly, reliably and with the highest precision. The proven **tiamo**[™] titration software ensures that the user always has an overview of what is happening.

The Robotic Analyzer family consists of various packages, each of which covers a standard application. At the center of these packages is always the 855 Robotic Titrosampler. Depending on the application, the 855 Robotic Analyzer is equipped with the complete accessories necessary for the particular application and is then ready for use immediately.



Highlights

- Space savings through compact design
- Time savings by taking over routine tasks
- Automatic sample preparation
- High reproducibility and accuracy
- High sample throughput
- Automatic cleaning and conditioning of the sensor
- Sample rack can be chosen at will
- Stand-alone operation with 900 Touch Control or **tiamo**[™] software
- Possibility for connecting three burets
- Robust and reliable
- Ready-to-use packages for standard applications

03



Robotic Chloride Analyzer – the automation solution for chloride titration

04

Chloride content is a parameter that needs to be determined routinely in almost every laboratory and regardless of the nature of the samples. No matter whether these are foodstuffs, water, pharmaceuticals or petrochemical substances – the chloride content is of great interest to many sectors.

The Robotic Chloride Analyzer contains all the components needed for fully automatic chloride titration, including not only the titrating sample changer, but also the Ag Titrode with a maintenance-free reference system and a peristaltic pump to empty the titration beaker at the end of each titration, and much more besides.



Robotic Acid/Base Analyzer – made for large sample series

Apart from the determination of chloride content, other standard tasks in any laboratory are the determination of pH values and of acid or base contents. Because these are extremely important parameters, several dozen samples may have to be analyzed in the course of a day.

The Robotic Acid/Base Analyzer contains all the components needed for fully automatic determination of the pH value and of the acid and base content. Coming with a sample rack with 59 positions there is always enough space available even if the number of samples varies from day to day. Combined with the robust and rapidly responding Aquatrode plus, this version of the 855 Robotic Analyzer is ideal for continuous operation.

05



Robotic TAN/TBN Analyzer – the workhorse for petrochemical and lubricant analysis

06

The determination of the total acid number (TAN) or total base number (TBN) is indispensable not only in the petrochemical industry. In many sectors the regular analysis of oils and lubricants is used in preventive maintenance. No matter whether one is dealing with wind turbines, hydraulic systems or machines – based on the values obtained, users can intervene early and replace the lubricant before any damage is done. Laboratories that undertake this analysis have a correspondingly high number of samples.

Some of the aforementioned analyses require aggressive solvent mixtures, the handling of which is not only unpleasant, but also harmful to health. For this reason, convenient automated systems are now being used in many places.

The Robotic TAN/TBN Analyzer contains all the components needed for fully automatic determination of the total acid number or total base number. Highly resistant materials, a high degree of automation, and low consumption of solvent minimize direct contact with the chemicals.



Robotic Fluoride Analyzer – fully automatic fluoride determination

Fluoride is added to a variety of products for daily consumption. This ensures that the population is provided with an adequate intake of this important trace element. For this reason, the fluoride content needs to be monitored regularly in many products. Depending on the concentration, methods such as ion chromatography and measurement with ion-selective electrodes are used for this. The latter has the advantage of providing a large number of results in a very short time.

The Robotic Fluoride Analyzer contains all the components needed for fully automated determination of the fluoride content in up to 28 samples per series. Users can choose whether determination should be performed as a direct measurement after calibration or by way of standard addition, which eliminates interfering matrix effects of the sample. The defined method sequence guarantees that the electrode is always cleaned and conditioned in the optimum way between measurements; over the long term this increases the life of the sensor.

07



Robotic Transfer Analyzer – totally traceable sample preparation and analysis

08

In every laboratory pipets of various sizes are used for measuring and preparing samples prior to analysis. Unless several aliquots of the same sample have to be pipetted, the pipet has to be changed after each sample, in order to prevent carryover effects. In addition, sample preparation and analysis are often not done on the same laboratory bench, so mix-ups and, consequently, incorrect results can result. Depending on the nature of the sample, the consequences can be serious.

The Robotic Transfer Analyzer offers a complete package that prevents these problems. Because the stated volume of sample is pipetted directly and automatically into the titration vessel and is analyzed immediately, there is no possibility of any mix-up. In this way the complete traceability of sample preparation and analysis is guaranteed.



Robotic Analyzers – Overview

09

	Chloride	Acid/Base	TAN/TBN	Fluoride	Transfer
Titration head	•	•	•	•	
Number of samples	59	59	59	28	141
Titration in sample beaker	•	•	•	•	
External titration cell					•
Built-in membrane pump	1	2	1	2	2
External 772 Pump Unit	1		1		
800 Dosino	2	1	2	2	2
5 mL Dosing Unit	•				
10 mL Dosing Unit					•
20 mL Dosing Unit	•	•	•	•	•
50 mL Dosing Unit			•	•	
Drip tray	•		•		•
Bottle holder left/right	0/1	0/1	0/1	0/1	1/0
Indicator electrode	Ag Titrode	Aquatrode Plus	Solvotrode easyClean	Fluoride ISE	Aquatrode Plus



Full control – just as you want it

Depending on your requirements, the 855 Robotic Titrosampler can be operated either by using a 900 Touch Control or **tiamo**[™] titration software.

Wherever benchspace is very limited the 900 Touch Control is just the right solution. Much smaller than a laptop and therefore taking up little space, this bench-top operating unit allows the 855 Robotic Titrosampler to be controlled easily and quickly. The user interface of the 900 Touch Control features a clear layout enabling users to get anywhere they want in the menu quickly with just a few touches of the touchscreen or even start the required method directly at a single touch of freely definable favorites.

If a PC-controlled system is preferred, **tiamo**[™] titration software would be the right choice. The industry's leading titration software offers you everything that is necessary for large numbers of samples – and more. From flexible method parameter setting (including parallel running of different processing steps) up to data storage in a professional database – **tiamo**[™] is a sophisticated solution in which simply everything fits together.



Higher sample throughput, less bench space required – 855 Robotic Titrosampler «Light»

In many laboratories, sample loads are hardly ever higher than ten to 50 samples per batch. The 855 Robotic Titrosampler «Light» is exactly the right solution for this kind «medium» loads. The samples are placed in single row racks with a smaller diameter and analyzed without any loss of space, as the titrator is built into the autosampler.

If sample loads should increase, this does not mean that you have to invest into another Titrosampler. You can increase the capacity of your 855 Robotic Titrosampler at any time simply by retrofitting a Swing Head, a Robotic Arm, and a larger sample rack – at a price far below that of another complete system.

For larger sample series, we provide sample racks with higher capacities. Thus, large sample series can be processed unattended overnight and even over whole weekends – a great advantage, in particular when sophisticated and time-consuming sample preparation steps are required.



Ordering information

Robotic Analyzer

- 2.855.1010 Robotic Chloride Analyzer
- 2.855.1020 Robotic Acid/Base Analyzer
- 2.855.2010 Robotic TAN/TBN Analyzer
- 2.855.2020 Robotic Fluoride Analyzer
- 2.855.3020 Robotic Transfer Analyzer

Robotic Titrosampler «Basic»* and «Light»*

- 2.855.0010 855 Robotic Titrosampler «Basic» with one built-in pump
- 2.855.0020 855 Robotic Titrosampler «Basic» with two built-in pumps
- 2.855.0030 855 Robotic Titrosampler «Light» with one integral pump
- 2.855.0040 855 Robotic Titrosampler «Light» with two integral pumps

* Accessories such as sample rack, stirrers, cables, robotic arm, titration head, and sample vessels have to be ordered separately

Peristaltic pumps

- 2.772.0110 772 Pump Unit
- 2.772.0120 772 Pump Unit «Aspiration»
- 2.772.0130 772 Pump Unit «Rinse»

Membrane pumps

- 2.823.0010 823 Membrane Pump Unit
- 2.823.0020 823 Membrane Pump Unit «Aspiration»
- 2.823.0030 823 Membrane Pump Unit «Rinse»



11



www.metrohm.com