New from SI Analytics:
Simplicity without sacrificing accuracy or features



Introducing the new titrators

TitroLine® 6000 and 7000 and the new TITRONIC® 500 piston burette with innovative features for simple and easy operation–without sacrificing accuracy.



New intelligent, interchangeable modules

- Size options of 5, 10, 20 and 50 ml.
- Compact, space saving footprint for when bench space is a premium.
- All relevant reagent and unit data are stored in the integrated RFID-chip including:
  - Burette size (ml)
  - Titrant name
  - Titrant concentration or titer value of solution
  - Date of manufacturing or expiration date of the reagent.

Flexible configuration features
Expand and customize your workstation using the three USB and two RS232 ports for a total of five connection options for:

- Magnetic stirrer
- Manual controller
- Printer (HP-PCL)
- Keyboard
- Storage device
- USB expansion hub
- Balance
- Personal computer
- Plus, additional SI Analytics devices such as sample changers and peripherals.

printer



USB-manual controller



Featuring enhanced automation and additional methods

TitroLine® 7000



More methods

Do you require simple and easy titration but need more features? The TitroLine® 7000 offers storage of up to 50 user methods.



Ports

Measuring and calibrating with highest accuracy

The wireless sensor recognition automatically recognizes SCHOTT® Instruments ID electrodes and instantly stores dedicated sensor data–eliminating measurement and calibration errors.

Perfect for non-aqueous titrations

Eliminate the need for special electrodes (e.g. separate indicator, reference and auxiliary electrodes) with the built-in amplifier–ideal for titrations in non-aqueous solvents such as:

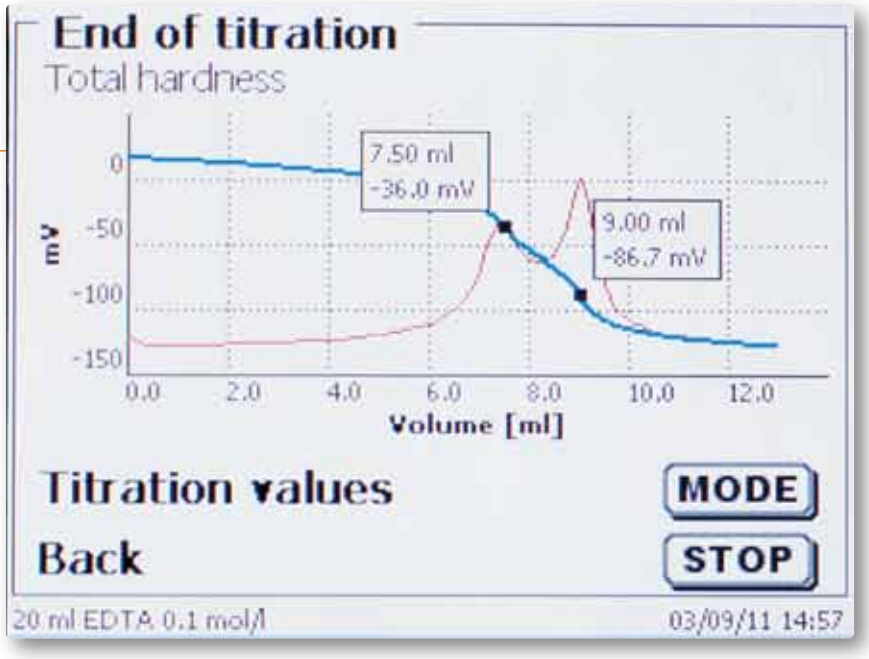
- Acid and base numbers in oils.
- Titrations in glacial acetic acid with perchloric acid.
- Hydroxyl, NCO (Isocyanate) number and further specific values.

pH Stat Titrations

With a pH stat application, a given pH is first adjusted and then kept constant during the analysis with an acid or a base. The pH stat titration is often applied to:

- Determination of the enzyme activity (ex. Lipase).
- pH stat elution of soil sample at pH 4.
- Monitoring of the pH value during chemical syntheses.

Titration curve:
Total hardness (Calcium and Magnesium hardness)



Typical application example for two equivalence points: Titration of amino hydrochlorides (method according Ph. EUR).

Up to now the amino hydrochlorides were dissolved in glacial acetic acid, the amines released through the addition of mercuric acetate and titrated with perchloric acid in glacial acetic acid.

According to the environmentally friendly method of the European Pharmacopeia the amino hydrochlorides are dissolved in ethanol and being dosed with exact 5.00 ml of a 0.01 mol/l HCl. This mixture is then titrated with NaOH 0.1 mol/l. Most titration curves show two equivalence points. The result is calculated from the difference between the first and second equivalence point.

This method, with all parameters and calculation formulas, comes standard in the TitroLine® 7000 and can be used after the input of equivalent substance weight.

More equivalence points to expand application possibilities

Yes, it is now possible to detect and calculate up to two equivalence points during one titration with the TitroLine®7000. It is possible to determine both the calcium and magnesium hardness individually in a single step, instead of the total hardness combined.

Features Overview

The most important features of TitroLine® 6000, TitroLine® 7000 and TITRONIC® 500 at-a-glance

Features	TITRONIC® 500	TitroLine® 6000	TitroLine® 7000
pH/mV measuring input with reference input	–	1	1
Wireless electrode recognition	–	–	■
Dead stop measuring input (2 x 4 mm connector)	–	■	■
Temperature measuring input (2 x 4 mm connector)	–	■	■
Interfaces	(2) USB Host, (1) USB-Slave (2) RS232	(2) USB Host, (1) USB-Slave (2) RS232	(2) USB Host, (1) USB-Slave (2) RS232
Balance connection	RS232	RS232	RS232
Burette resolution	10,000	10,000	10,000
Intelligent interchangeable modules	■	■	■
Titration to mV and pH end points	–	2 EP	2 EP
Dynamic and linear titration to inflection point (EQ), mV and pH	–	1 EQ	2 EQ
Particularly suitable for non aqueous titrations	–	–	■
Dead-stop titration	–	■	■
pH-stat titration	–	–	■
Manual titration	■	■	■
Dosing applications	■	■	■
Solution preparation (manual or automatic when connected to balance)	■	■	■
Standard formulas for miscellaneous calculations	■	■	■
Standard methods	■	■	■
Number of user methods	15	15	50
Connection and control of autosamplers	–	–	■
Can be controlled with TitriSoft 3.0	■	–	■

Ordering information

Type No.	Order no.	Product	Description
T 500-M1	285220210	TITRONIC® 500 with magnetic stirrer	TITRONIC® 500 basic unit with magnetic stirrer (TM 235), with stand rod (TZ 1510), electrode clamp (Z 305), manual controller (TZ 3880), power supply 100-240 V
T 500-M2/20	285220220	TITRONIC® 500 with magnetic stirrer and 20 ml interchangeable module	TITRONIC® 500 basic unit with magnetic stirrer (TM 235) and 20 ml interchangeable module (WA 20), with stand rod (TZ 1510), electrode clamp (Z 305), manual controller (TZ 3880), power supply 100-240 V
TL 6000-M1/10	285220050	TitroLine® 6000 with magnetic stirrer and 10 ml interchangeable module	TitroLine® 6000 basic unit with magnetic stirrer (TM 235) and 10 ml interchangeable module (WA 10), with brown glass bottle for titrant, (GL 45) and (S 40)-bottle adapter, tubes, drip tube and titration tip
TL 6000-M1/20	285220060	TitroLine® 6000 with magnetic stirrer and 20 ml interchangeable module	TitroLine® 6000 basic unit with magnetic stirrer (TM 235) and 20 ml interchangeable module (WA 20), with brown glass bottle for titrant, (GL 45) and (S 40)-bottle adapter, tubes, drip tube and titration tip
TL 6000-M1/50	285220070	TitroLine® 6000 with magnetic stirrer and 50 ml interchangeable module	TitroLine® 6000 basic unit with magnetic stirrer (TM 235) and 50 ml interchangeable module (WA 50), with brown glass bottle for titrant, (GL 45) and (S 40)-bottle adapter, tubes, drip tube and titration tip
TL 6000-M2/20	285220080	TitroLine® 6000 with 20 ml interchangeable module and pH electrode	TitroLine® 6000 basic unit with magnetic stirrer (TM 235) and 20 ml interchangeable module (WA 20), with brown glass bottle for titrant, (GL 45) and (S 40)-bottle adapter, tubes, drip tube and titration tip. With pH combination electrode and buffer set.
TL 7000-M1/10	285220140	TitroLine® 7000 with magnetic stirrer and 10 ml interchangeable module	TitroLine® 7000 basic unit with magnetic stirrer (TM 235) and 10 ml interchangeable module (WA 10), with brown glass bottle for titrant, (GL 45) and (S 40)-bottle adapter, tubes, drip tube and titration tip
TL 7000-M1/20	285220150	TitroLine® 7000 with magnetic stirrer and 20 ml interchangeable module	TitroLine® 7000 basic unit with magnetic stirrer (TM 235) and 20 ml interchangeable module (WA 20), with brown glass bottle for titrant, (GL 45) and (S 40)-bottle adapter, tubes, drip tube and titration tip
TL 7000-M1/50	285220160	TitroLine® 7000 with magnetic stirrer and 50 ml interchangeable module	TitroLine® 7000 basic unit with magnetic stirrer (TM 235) and 50 ml interchangeable module (WA 50), with brown glass bottle for titrant, (GL 45) and (S 40)-bottle adapter, tubes, drip tube and titration tip
TL 7000-M2/20	285220170	TitroLine® 7000 with 20 ml interchangeable module and pH electrode	TitroLine® 7000 basic unit with magnetic stirrer (TM 235) and 20 ml interchangeable module (WA 20), with brown glass bottle for titrant, (GL 45) and (S 40)-bottle adapter, tubes, drip tube and titration tip. With pH combination electrode and buffer set.
WA 05	285220300	Interchangeable module	5 ml interchangeable module with integrated chip for reagent data, with brown glass bottle for titrant, (GL 45) and (S 40)-bottle adapter, tubes, drip tube and titration tip
WA 10	285220310	Interchangeable module	10 ml interchangeable module with integrated chip for reagent data, with brown glass bottle for titrant, (GL 45) and (S 40)-bottle adapter, tubes, drip tube and titration tip
WA 20	285220320	Interchangeable module	20 ml interchangeable module with integrated chip for reagent data, with brown glass bottle for titrant, (GL 45) and (S 40)-bottle adapter, tubes, drip tube and titration tip
WA 50	285220350	Interchangeable module	50 ml interchangeable module with integrated chip for reagent data, with brown glass bottle for titrant, (GL 45) and (S 40)-bottle adapter, tubes, drip tube and titration tip
TM 235	285220400	Magnetic stirrer	Magnetic stirrer with stand rod (TZ 1510), for vessels up to 500 ml, agitator speed infinitely adjustable from 500 – 2000 r/min, for the connection to TitroLine® 6000/7000 and TITRONIC® 500
TZ 3835	285220410	PC keyboard	PC keyboard with USB-plug for connection to TitroLine® 6000, TitroLine® 7000 and TITRONIC® 500

SI Analytics

a xylem brand

SI Analytics GmbH
Hattenbergstraße 10
55122 Mainz
Germany
Phone +49 (0)6131/66-5111
Fax +49 (0)6131/66-5001
support.si-analytics@xyleminc.com
www.si-analytics.com

980 065US · Edition 2/2012 – Subject to change without notice!