

Cole-Parmer® Chloride Analyzer

Save time—faster and more accurate salt determination

- Results in just 72 seconds
- Ensure quality with easily repeatable measurements and calibrations in mg/L and mmol/L
- Download and analyze data via RS-232 PC connection



The system is ideal for use in the food, pharmaceutical, agricultural, and petroleum industries. The system utilizes a method based on coulometric titration—an absolute method where the reagent, silver ions, is precisely and quantitatively generated at time of analysis by passing a constant current between electrodes. The end point is detected by the use of sensing electrodes which measure the change in the solution conductivity that occurs when excess silver ions are present in the solution. Unlike a conductivity meter, this analyzer actually titrates chloride with silver as in official methods.

What's included: printer cable, RS-232 port, acid buffer reagent (500 mL), 200 mg/L chloride standard (100 mL), one set of electrodes, three anodes, two 14-mL marked beakers, electrode cleaning polish, stirrer, and 6-ft (1.8-m) power cord with US plug.

Specifications

| | |
|--|---|
| Range: 10 to 999 mg/L chloride, 2 to 165 mg% salt | Measurement time: 36 seconds to reach 100 mg/L |
| Resolution: 1 mg/L chloride | Output: RS-232 |
| Accuracy: ±3 mg/L at the 200 mg/L level | Reproducibility: CV < 1% for 20 replicate samples at 200 mg/L (excluding pipetting errors) |
| Sample size: 500 µL | |

| Description | Power | Catalog number | Price |
|-------------------|-------------------|-----------------------------|-------|
| Chloride analyzer | 120 VAC, 50/60 Hz | GY-02656-20 | |

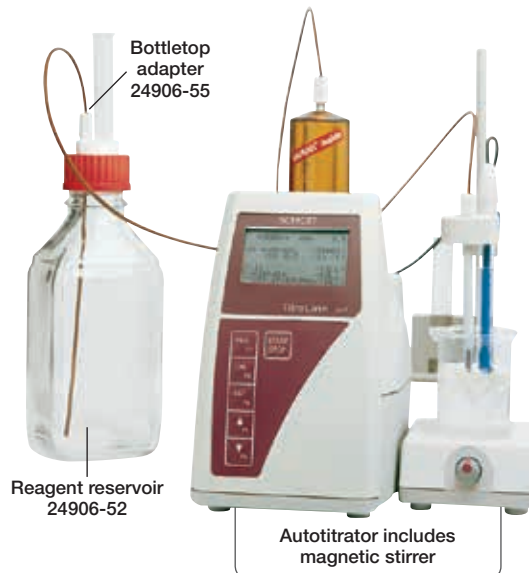
Accessories

- [GY-02656-30](#) Acid buffer reagent, 500-mL bottle
- [GY-02656-32](#) Silver electrodes; two detecting electrodes, one cathode
- [GY-02656-34](#) Silver electrodes, anode. Pack of 3
- [GY-02656-39](#) Chloride standard, traceable to NIST standards. One 100-mL bottle

Automatic Volumetric Titrator

No more difficult burette readings

- Automatically titrates to your endpoint with easy digital control
- No more overshooting endpoint—stops at preselected pH endpoint or equivalence point



Use the autotitrator with any combination pH electrode. The pH buffer solutions are stored in memory to make calibration easy.

Connect FEP tubing 24906-60 and bottle top adapter 24906-55 to 1-L reagent reservoir 24906-52 and titrator to add reagent. Order reservoir, adapter, and tubing separately below.

What's included: glass combination pH electrode, magnetic stirrer, titration stand rod, titration tip holder, titration tip with tubing, glass cylinder and valve system, and 3-ft cord with two-prong plug.



Specifications

| | |
|--------------------------------------|--|
| Accuracy: ±0.15% of span | Output: two serial RS-232 |
| Repeatability: ±0.15% of span | Dispensing accuracy: ±0.15% of total volume |
| Capacity: 20 mL | Display resolution: 0.01 mL |

| Description | Power | Catalog number | Price |
|--------------------|---------|-----------------------------|-------|
| Automatic titrator | 115 VAC | GY-24906-20 | |
| | 220 VAC | GY-24906-25 | |

Accessories

- [GY-24906-52](#) Reagent reservoir, one liter
- [GY-24906-55](#) Bottle top adapter for reagent reservoir
- [GY-24906-60](#) FEP tubing, 40" (100 cm)
- [GY-24906-75](#) Replacement silver electrode
- [GY-55503-00](#) Replacement pH electrode, glass

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Titration

Titrator Systems

No more manual titrations

- Easy operation via Apps-based user interface
- Ensure the accuracy of your measurements with precise burettes and sensors
- Download and analyze data with optional EasyDirect™ software

Everything you need in one affordable package for acid/base, acidity, precipitation, redox, and Karl Fischer volumetric titrations. Although small in size, these quality titrators provide highly accurate and consistent results.

Operation is simple and intuitive thanks to the smartphone-based Apps-driven user interface; use it to control all major functions. Easily perform basic titrations and receive automatic results from predefined formulas. Setup and tutorial with navigation is available in 14 languages. Minimize downtime with diagnostic tools for most common issues.

What's included: EasyPlus titrator, sensor, burette, sample vessel, stirrer, tubing, fittings, and power cord.



ISO9001:2008 CERTIFIED SUPPLIER CE

Specifications

Resolution: 0.1 mV **Output:** USB
Repeatability: 0.5% RDS **Power:** 100 to 240 VAC, 50/60 Hz

| Model | Tests | Catalog number | Price |
|----------------------------------|-------------------------------------|-----------------------------|-------|
| Mettler Easy pH titrator system | Acid/base | GY-94190-02 | |
| Mettler Easy Cl titrator system | Precipitation | GY-94190-04 | |
| Mettler Easy Ox titrator system | Redox | GY-94190-06 | |
| Mettler Easy Pro titrator system | Acid/base, precipitation, and redox | GY-94190-08 | |
| Mettler Easy KFV titrator system | Karl Fischer volumetric | GY-94190-10 | |

Accessories

- [GY-94190-55](#) EasyDirect titration software package
- [GY-94190-50](#) Replacement pH electrode, with BNC connector
- [GY-94190-51](#) pH electrode, for non-aqueous applications, with BNC connector
- [GY-94190-52](#) Replacement redox electrode, with BNC connector
- [GY-94190-53](#) Replacement KF electrode, with BNC connector
- [GY-94190-54](#) Replacement precipitation electrode, with BNC connector

Coulometric Karl Fischer Titrator

Use it wherever you need it!



- Guaranteed synchronization of electrolysis current produced and count rate displayed with automatic compensation
- Get hard copy of results with built-in high-speed printer
- Easy to use for determination of water in liquids, gases, and powders
- Meets ASTM D1533, D4928, D6304, IP 386, API MPMS Chapter 10.9, and BS 60814 test methods

The Cou-Lo Aquamax titrator sets new standards in versatility and ease of operation for determining water content in liquids, gases, and powders. The unique ACE (Automatic Compensation of Errors) control system guarantees that the actual electrolysis current produced and the count rate displayed are always correctly synchronized, regardless of changes to the electrolysis cell resistance.

Titrator displays results in %, ppm, mg/kg, and µg of water. Delayed start, automatic three-fold end point indication, and four different calculation modes accommodate a variety of applications. Printed results show statistics, data input parameters, sample ID numbers, and time-and-date stamp. Results can also be downloaded via the optional Results Manager software package into a PC spreadsheet format.

What's included: built-in stirrer, titration vessel, detector electrode, generator electrode, drying tube, injection septa, glass syringe, luer needle, molecular sieve, stir bar, funnel, printer, paper, universal AC voltage adapter, DC car adapter, and internal battery.

CE

Specifications

Range: 1 µg to 100 mg water **Accuracy**
Resolution: 0.1 µg From 10 to 100 µg: ±3 µg
Rate: 2.0 mg/min max titration From 100 µg to 1 mg: ±5 µg
Moisture range: 1 ppm to 100% Above 1 mg: ±0.5%
Units displayed: %, ppm, mg/kg, µg

| Description | Power | Catalog number | Price |
|--|----------------------------|-----------------------------|-------|
| Cou-Lo Aquamax Coulometric Karl Fischer Titrator | 90 to 264 VAC, 47 to 63 Hz | GY-94101-00 | |

Accessories

- [GY-94101-50](#) Carrying case
- [GY-94101-55](#) Results Manager software package
- [GY-94101-60](#) Replacement reagents pack

Volumetric Karl Fischer Titrator

Up and running in no time

- Very easy to use—function guide display walks you through operation
- Eliminates bubble formation reagent circuit

Titration features two high-accuracy 5-mL syringes with 40,000 step resolution for superior dosage accuracy. One syringe can be used for the KF reagent and the other can be used for dosing of standard titre, different factor reagents, or specialty reagents.

Titration is programmable and stores up to 10 different titration and standardization programs. Pop up annunciator will prompt the user if drift exceeds programmed limit values. Optional communications software or printer allow for the viewing or printing of stored data for data management flexibility.

What's included: two glass syringes, two burette inlet tubes, two burette outlet tubes, five drier cartridges, inlet pump tube with bottle cap, two inlet and outlet tubes with conical adapters, outlet pump tube, magnetic stirrer and titration vessel, electrode, electrode cable, ten O-rings, and universal power adapter.



Specifications

- Dispensing accuracy:** $\pm 0.2\%$ for volumes higher than 10% of syringe
- Dispensing repeatability:** $\pm 0.1\%$ for volumes higher than 10% of syringe
- Capacity:** 5 mL syringe
- Resolution:** 1/40000 of syringe volume
- Output:** two RS-232 ports for connection to a PC, printer, telephone connector, or balance
- Data logging:** 55 points

| Description | Power | Catalog number | Price |
|----------------------------------|----------------------------|-----------------------------|-------|
| Volumetric Karl Fischer Titrator | 90 to 264 VAC, 47 to 63 Hz | GY-94100-01 | |

Accessories

- [GY-94100-05](#) Replacement TLL SL syringe, 5-mL
- [GY-94100-21](#) Replacement double wire platinum electrode, AS7 connector
- [GY-94100-33](#) TiCom software kit. Includes software and cable. Pack of three
- [GY-94100-27](#) Thermal printer

Total Acid Number (TAN) Titrator

Obtain accurate results easily

- Data logger automatically stores up to 55 analysis results for easy recall
- High precision syringe provides superior dispensing resolution
- Conforms to ASTM D664 for determination of acidic constituents in petroleum products, lubricants and transformer insulating oils

Titration is easy-to-operate. Simply calibrate, run a blank, select the correct pre-programmed TAN analysis, and the titration performs the analysis. Intuitive function guide display walks you through operation. Results are displayed on screen in units of KOH/g and are also stored via internal data logger.

Flexible data management options allow for export of readings to a PC or printer. TiCOM software (order separately below) allows viewing and printing of sample input, blank, and titration measurement data.

What's included: glass syringe, burette inlet and outlet tubes, filter cartridge, support with magnetic stirrer, two conical adapters, two support hole caps, three titration vessels, indicator electrode, reference electrode, two electrode cables, calibration vessel, mL bottle of electrode fill solution, ten O-rings, and universal power adapter.



Specifications

- Dispensing accuracy:** $\pm 0.2\%$ for volumes higher than 10% of syringe
- Dispensing repeatability:** $\pm 0.1\%$ for volumes higher than 10% of syringe
- Capacity:** 10 mL syringe
- Resolution:** 1/40000 of syringe volume
- Output:** two RS-232 ports for connection to a PC, printer, telephone connector, or balance
- Data logging:** 55 points

| Description | Power | Catalog number | Price |
|----------------------------------|----------------------------|-----------------------------|-------|
| Total Acid Number (TAN) Titrator | 90 to 164 VAC, 47 to 63 Hz | GY-94100-35 | |

Accessories

- [GY-94100-39](#) Replacement TLL SL syringe, 10-mL
- [GY-94100-57](#) Replacement indicator electrode with ATC, SJ7 connector
- [GY-94100-59](#) Replacement reference electrode, SJ7 connector
- [GY-94100-53](#) Replacement titration vessel, 250-mL. Pack of three
- [GY-94100-79](#) TiCom software kit. Includes software and cable
- [GY-94100-71](#) Thermal printer