884 Professional VA semiautomated for CVS with 2 Dosinos

2.884.1210

884 Professional VA semiautomated for CVS applications is a convenient high-end routine analyzer for determinations of organic additives in electroplating baths with "Cyclic Voltammetric Stripping" (CVS), "Cyclic Pulse Voltammetric Stripping" (CPVS), and chronopotentiometry (CP), or voltammetric heavy metal determinations with rotating disk electrodes. The proven Metrohm electrode methods combined with a high-performance potentiostat/galvanostat and the extremely flexible **viva** software open up new perspectives in CVS. The potentiostat with a certified calibrator readjusts itself automatically before each measurement, thus guaranteeing maximum precision. The integrated temperature measurement input allows you to monitor the solution temperature during the measurement.

The instrument can also be used to perform voltammetric determinations. The replaceable measuring head enables rapid changes between the various applications with different electrodes.

2x 800 Dosinos (supplied) permit the automatic addition of auxiliary solutions during the determination, e.g., VMS, standard solutions or samples for the Dilution Titration technique (DT).

The **viva** software is required for control, data collection, and evaluation.

The 884 Professional VA semiautomated for CVS applications is supplied with extensive accessories and a measuring head for rotating disk electrodes. Electrode set and **viva** license need to be ordered separately.

Below, the accessories are grouped into Scope of delivery and Optional accessories.
Please keep this printout at hand for ordering replacement material.
These lists may be subject to change.

Scope of delivery 2.884.1210

Order Number	Description	Quantity
1.800.0040	**800 Dosino (cable length 0.65 m)** Drive with write/read hardware for intelligent dosing units. With permanently attached cable (length 0.65 m).	2 PCS

1.884.0010

884 Professional VA 1 PCS

884 Professional VA is the universal entry-level instrument in the Professional VA/CVS instrument series. In conjunction with the compatible measuring head and compatible electrode set, you can perform trace analysis determinations, voltammetry with the Multi-Mode Electrode pro, or determinations of organic additives in electroplating baths, with "Cyclic Voltammetric Stripping" (CVS), "Cyclic Pulse Voltammetric Stripping" (CPVS), and chronopotentiometry (CP). The proven Metrohm electrode methods combined with a completely new design of potentiostat/galvanostat and the extremely high-performance viva software open up new perspectives. The potentiostat with a certified calibrator readjusts itself automatically before each measurement, thus guaranteeing maximum precision. The replaceable measuring head enables rapid changes between various applications with different electrodes.

The viva software is required for control, data acquisition, and evaluation.

The 884 Professional VA is supplied with reduced accessories, without measuring head and electrodes. Electrode set and viva license are to be ordered separately.

6.1546.030

Piston tongs 1 PCS

For pistons for 807 Dosing Units or cylinder units OMNIS.

6.1446.040 **Threaded stopper / M6** 3 PCS

6.2739.000 **Wrench** 1 PCS

For tightening connectors

6.1805.120 **FEP tubing / M6 / 100 cm** 1 PCS

With light and kink protection

6.1808.000 **Connection bushing M6** 3 PCS

6.2621.080

Capillary cutter 1 PCS

Cutting tool for simple cutting of plastic capillaries, 1/16" and 1/8", including 5 replacement blades.

6.2703.000

Stand ring for titration vessels 1 PCS

6.2151.000

Cable USB A – mini-DIN 8-pin 1 PCS

Controller cable

6.2053.000

Cable clip 1 PCS

Cable clip for fastening cables and tubes

6.1608.070

Eluent bottle / 2 L / GL 45

2 PCS

6.1805.530

FEP tubing / M6 / 2 m

2 PCS

With light and kink protection

6.1819.010

PTFE tube

2 PCS

As gas inlet in washing bottle of VA Stand

6.1829.070

Tubing set for Professional VA/CVS instruments

1 PCS

Tubing set for the measuring head of Professional VA/CVS instruments. Comprised of 4 FEP tubings with M6 connector, tapering tip and protected against kink (2 x 82 mm long und 2 x 110 mm long).

6.2008.050

Storage vessel holder for 807 Dosing Unit 1 PCS

Together with the 6.2008.030 buret tip storage vessel, it provides a holder for the buret tip on the 807 Dosing Unit.

6.1815.010

Spiral band 0.5 m 1 PCS

For holding together different cables or tubing.

6.1608.050

Drying bottle / 100 mL / GL 45 1 PCS

6.1829.080

Aspiration tubing / M6 / 0.3 m 1 PCS

6.1801.100 **PVC tubing / 4 mm / 7 mm / 5 m** 1 PCS

6.2711.090 **Drip pan for Professional VA/CVS instruments** 1 PCS

6.2813.050 **Dummy cell for Professional VA/CVS instruments** 1 PCS

6.1256.010 **RDE measuring head for Professional VA/CVS instruments** 1 PCS

Measuring head for operation with rotating disk electrodes.

6.1602.190

Eluent Bottle Head, 1 x SGJ 14, 4 x M6 1 PCS

Eluent bottle head to connect up to 4 tubings with M6 connectors. For eluent bottle of the Eluent synthesizer.

6.1618.060

Thread adapter GL 45 to GL 45 1 PCS

Thread adapter GL45 to GL45; e.g. for reagent bottles with extended flange

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6.1824.000

Four-way micro dosing tip 1 PCS

With 4 x M6 thread. For VA measuring stands.

6.2055.110

Bottle holder or Dosino holder for two bottles /Dosinos 1 PCS

Holder for two 250 mL bottles or two Dosinos

6.3032.120

807 Dosing Unit 2 mL 1 PCS

807 Dosing Unit with integrated data chip with 2 mL glass cylinder and light protection, mountable to a reagent bottle with ISO/DIN GL 45 glass thread. FEP tubing connection, antidiffusion tip.

6.1580.250

807 Dosing Unit 50 mL without accessories 1 PCS

807 Dosing Unit with integrated data chip with 50 mL glass cylinder and light protection, mountable to a reagent bottle with ISO/DIN GL 45 glass thread.

Optional accessories

6.1256.020
MME measuring head for Professional VA instruments

Measuring head for operation with the Multi-Mode electrode pro or the scTRACE Gold.

6.5339.000
CVS electrode equipment with 1 mm platinum electrode for Professional VA /CVS instruments

Complete electrode set for the determination of organic additives in electroplating baths with CVS (Cyclic Voltammetric Stripping). Contains rotating platinum working electrode (electrode diameter: 1 mm), reference electrode, platinum auxiliary electrode, measuring vessels and electrolyte solutions.

6.5339.010
CVS electrode equipment with 2 mm platinum electrode for Professional VA /CVS instruments

Complete electrode set for the determination of organic additives in electroplating baths with CVS (Cyclic Voltammetric Stripping). Contains rotating platinum working electrode (electrode diameter: 2 mm), reference electrode, platinum auxiliary electrode, measuring vessels and electrolyte solutions.

6.5339.020

CVS electrode equipment with 3 mm platinum electrode for Professional VA /CVS instruments

Complete electrode set for the determination of organic additives in electroplating baths with CVS (Cyclic Voltammetric Stripping). Contains rotating platinum working electrode (electrode diameter: 3 mm), reference electrode, platinum auxiliary electrode, measuring vessels and electrolyte solutions.

6.5339.030

VA electrode equipment with Multi-Mode Electrode pro for Professional VA instruments

Complete electrode set for polarographic and voltammetric determinations. Includes Multi-Mode Electrode pro, reference electrode, platinum auxiliary electrode, measuring vessel, stirrer, electrolyte solution and additional accessories for setting up and operating the Multi-Mode Electrode.

6.5339.040

VA electrode equipment with rotating disk electrode (RDE) made of glassy carbon for Professional VA instruments

Complete electrode set for voltammetric determinations, e.g. using mercury film method. Includes drive for rotating disk electrode, glassy carbon electrode tip, reference electrode, glassy carbon auxiliary electrode, measuring vessel, and electrolyte solution.

6.5339.050
VA electrode equipment with scTRACE Gold for Professional VA instruments

Complete electrode set for the determination of arsenic or mercury. Includes holders for scTRACE Gold, scTRACE Gold, stirrer and measuring vessel.

2.800.0020
800 Dosino (cable: 0.65 m)

Drive with write/read hardware for intelligent dosing units. With permanently attached cable (length 0.65 m).

6.5339.500
Equipment with 2x 807 Dosing Units for VA and CVS measurements

Accessory set for 2 auxiliary solutions for expanding VA or CVS systems. Contains 2x 807 Dosing Units 2 mL, 2x 100 mL clear glass bottles, bottle holder for 2 bottles, and connector material. Without Dosinos.

2.843.0240

843 Membrane Pump Station for Professional VA/CVS systems

The 843 Membrane Pump Station enables the automatic rinsing and emptying of the measuring vessel in partly automated and fully automated Professional VA and CVS systems. It has two built-in membrane pumps that can be controlled via the remote signal.

The versions for VA and CVS are equipped with the complete accessories for the automatic rinsing and emptying of the measuring vessel.

2.919.0120

919 IC Autosampler plus for CVS

The 919 IC Autosampler plus for CVS, in conjunction with Professional VA/CVS instruments and **viva**, is suitable for small sample series of fully automatic determinations of organic additives in electroplating bath, e.g. "brighteners" and "suppressors" using "Cyclic Voltammetric Stripping" (CVS). The system is controlled directly by the **viva** software and permits automatic changes of method between different types of determinations. The sample rack supplied holds 14 samples with a maximum size of 50 mL.

The 919 IC Autosampler plus for CVS is supplied with accessories, sample rack, and connection cable so you can set up a complete workplace, although it does not come with rinsing equipment.

2.858.0110

858 Professional Sample Processor for VA and CVS

The 858 Professional Sample Processor for VA and CVS, in conjunction with Professional VA/CVS instruments and **viva**, enables the fully automatic processing of large sample series of organic additives in electroplating baths, e.g. "brighteners" and "suppressors" using "Cyclic Voltammetric Stripping" (CVS). The system is controlled directly by the **viva** software and permits automatic changes of method between different types of determinations. The sample rack supplied holds 56 samples of a maximum of 11 mL and 28 samples of a maximum of 50 mL for brightener determination.

The 858 Professional Sample Processor for VA and CVS is supplied with built-in robotic arm, together with accessories, sample rack and connection cable for setting up a complete workplace, although it does not come with rinsing equipment.

6.1110.120
Pt1000 temperature sensor for CVS (installation length 9 cm)

Pt1000 temperature sensor (class B) for Professional CVS Instruments.

6.2104.140
Electrode cable / 1 m / 2 x 2 mm

For connecting temperature sensors with Metrohm plug-in head G with 780, 781, 826, 827 pH/Ion meters and all Titrandos

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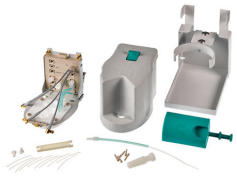
6.1454.130
Form seal made of FPM for 61414xxx

for KF and VA instruments

6.1256.030
SPE measuring head for Professional VA instruments



Measuring head for operation with *screen-printed electrodes* (SPE) or the scTRACE Gold.

6.5339.060
CVS electrode equipment with 2 mm platinum electrode for Professional VA /CVS instruments for intensive use

Complete electrode set for the determination of organic additives in electroplating baths with CVS (Cyclic Voltammetric Stripping). Contains rotating platinum working electrode (electrode diameter: 2 mm), driving axle with mercury contact, maintenance-free gel reference electrode, platinum auxiliary electrode, measuring vessels and KCl electrolyte solution.

6.5339.070
VA accessory equipment with SPE electrode shaft for professional VA instruments

Accessory equipment for use with *screen-printed electrodes* (SPE). Contains electrode shaft for screen-printed electrodes, stirrer, and measuring vessel. Without electrodes.

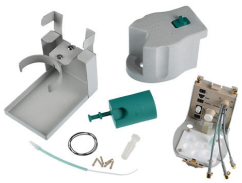
6.5339.080

VA electrode equipment with bismuth drop electrode for Professional VA instruments

Complete electrode set for voltammetric determinations of heavy metals. Contains bismuth drop electrode, reference electrode, glassy carbon auxiliary electrode, measuring vessel, stirrer, electrolyte solution, and additional accessories.

6.1256.040

RDE measuring head for Professional VA/CVS instruments with high chemical resistance



Measuring head for operation with rotating disk electrodes. Solvent-resistant version for applications in nonaqueous media.

6.5339.110

CVS electrode equipment with 2 mm platinum electrode, gel reference electrode and steel auxiliary electrode for Professional VA /CVS instruments

Complete electrode set for the determination of organic additives in electroplating baths with CVS (Cyclic Voltammetric Stripping). Contains rotating platinum working electrode (electrode diameter: 2 mm), driving axle with mercury contact, maintenance-free gel reference electrode, steel auxiliary electrode, measuring vessels and KCl electrolyte solution.

2.858.0120

858 Professional Sample Processor CVS with Dosino for sample transfer

The 858 Professional Sample Processor CVS with Dosino for sample transfer, in conjunction with Professional VA/CVS instruments and **viva**, enables the fully automatic processing of large sample series of organic additives in electroplating baths, e. g. brighteners, and suppressors, using "Cyclic Voltammetric Stripping" (CVS). The system is controlled directly by the **viva** software and permits automatic changes of method between different determination types. The sample rack (supplied) holds 56 samples of a maximum of 11 mL for suppressor determination and 28 samples of a maximum of 50 mL for brightener determination. A Dosino is used for sample transfer into the measuring vessel. This enables reduction and automatic measurement of the sample amount required.

The 858 Professional Sample Processor CVS with Dosino for sample transfer is supplied with built-in robotic arm, together with accessories, Dosino, sample rack, and connection cable for setting up a complete workplace, although it does not come with rinsing equipment.

6.5339.520

Equipment with two 807 Dosing Units (2 + 50 mL) for CVS measurements

Accessory set for two auxiliary solutions for expanding CVS systems. Includes one 2 mL and on 50 mL 807 Dosing Unit each, clear glass bottles 100 mL and 2 L, bottle holders for 2 bottles, one 2-way microtip, and connector material. Without Dosinos.

6.5339.600
Equipment with the 807 Dosing Unit for automatic sample transfer for VA and CVS measurements

Accessory set for expanding VA or CVS systems for automatic sample transfer with the Dosino. Includes one 5 mL 807 Dosing Unit, one Dosino holder and connector material. Without Dosino.

6.6065.402
viva 4.0 Full: 1 license

Computer program for control and data management of Professional VA/CVS instruments. The software permits checks, data acquisition, evaluation, and monitoring, as well as generation of reports.
Graphic user interface for routine operations, extensive database programs with reevaluation, graphic method editor with numerous templates, system configuration, very flexible user management, extensive data export functions, individually configurable report generator.
Includes the "Differential Pulse" (DP), "Square Wave" (SQW), "Linear Sweep Voltammetry" (LSV), "Cyclic Voltammetry" (CV), "Cyclic Voltametric Stripping" (CVS), "Cyclic Pulse Voltammetric Stripping" (CPVS), and Chronopotentiometry (CP) measuring modes. The following calibration techniques are supported: Standard addition, external calibration, DT (Dilution Titration), LAT (Linear Approximation Technique), MLAT (Modified Linear Approximation Technique), RC (Response Curve).
Dialog languages: German, English, Chinese, Japanese.
The following instruments are supported: 884 Professional VA, 894 Professional CVS
1 license for a maximum of 4 Professional VA/CVS instruments on a single computer. Contains USB flash drive and installation documentation.

6.6065.403

viva 4.0 Multi: 3 licenses

Client/server-compatible computer program for control and data management of Professional VA/CVS instruments. The software permits checks, data acquisition, evaluation, and monitoring, as well as report generation.

Graphic user interface for routine operations, extensive database programs with reevaluation, graphic method editor with numerous templates, system configuration, very flexible user management, extensive data export functions, individually configurable report generator.

Includes the "Differential Pulse" (DP), "Square Wave" (SQW), "Linear Sweep Voltammetry" (LSV), "Cyclic Voltammetry" (CV), "Cyclic Voltametric Stripping" (CVS), "Cyclic Pulse Voltammetric Stripping" (CPVS), and Chronopotentiometry (CP) measuring modes. The following calibration techniques are supported: Standard addition, external calibration, DT (Dilution Titration), LAT (Linear Approximation Technique), MLAT (Modified Linear Approximation Technique), RC (Response Curve).

Dialog languages: German, English, Chinese, Japanese.

The following instruments are supported: 884 Professional VA, 894 Professional CVS

Client/server version with 3 licenses for 3 computers with a max. of 4 Professional VA/CVS instruments per computer. Contains USB flash drive and installation documentation.