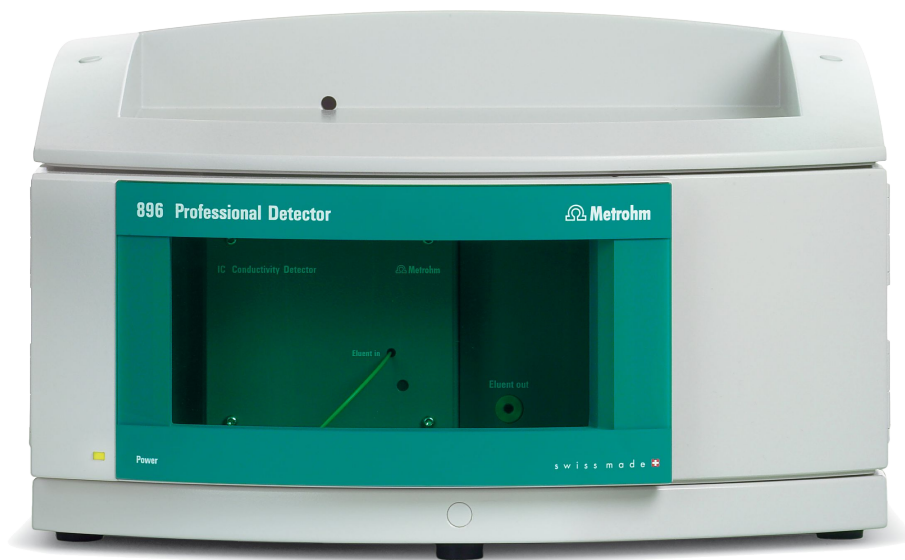


IC Professional Detector



896 Professional Detector – Conductivity

Manual
8.896.8004EN



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IC Professional Detector

896 Professional Detector – Conductivity

2.896.0010

Manual

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Documentation in additional languages can be found on
<http://documents.metrohm.com>.

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1 Introduction

1.1 Instrument description

The **896 Professional Detector – Conductivity** is an intelligent Stand-Alone Detector equipped with a high-performance conductivity detector.

As a stand-alone detector, it can for example be combined with instruments of the 850 Professional IC family for which all available detector connectors have already been assigned to conductivity detectors (AnCat systems or other multi-channel systems) when an additional conductivity detector is required.

AnCat systems or other multi-channel systems can be implemented with the 896 Professional Detector – Conductivity, even with the instruments of the Compact IC family (881 and 882) and with the 883 Basic IC plus, which possess only one detector connector which would normally be occupied by a conductivity detector.

872 Extension Modules, 891 Analog Out and 800 Dosinos, Remote Boxes, etc. can all be operated through the 896 Professional Detector – Conductivity. This opens up the flexibility of Metrohm IC systems considerably.

The instrument is comprised of the following modules:

Conductivity detector

The conductivity detector continuously measures the conductivity of the liquid passing through and indicates the measured values in digital form (DSP – Digital Signal Processing). The conductivity detector exhibits outstanding thermal stability and thus guarantees reproducible measuring conditions.

1.2 Intended use

The 896 Professional Detector – Conductivity is used as an independent conductivity detector in an IC system. It is used for the precise measurement of the conductivity during the ion chromatographic determination of cations and anions.

The present instrument is used for working with chemicals and flammable samples. Usage of the 896 Professional Detector – Conductivity therefore requires the user to have basic knowledge and experience in the handling of toxic and caustic substances. Knowledge with respect to the application of the fire prevention measures prescribed for laboratories is also mandatory.



1.3 Safety instructions

1.3.1 General notes on safety



Warning

This instrument may only be operated in accordance with the specifications in this documentation.

This instrument has left the factory in a flawless state in terms of technical safety. To maintain this state and ensure non-hazardous operation of the instrument, the following instructions must be observed carefully.

1.3.2 Electrical safety

The electrical safety when working with the instrument is ensured as part of the international standard IEC 61010.



Warning

Only personnel qualified by Metrohm are authorized to carry out service work on electronic components.



Warning

Never open the housing of the instrument. The instrument could be damaged by this. There is also a risk of serious injury if live components are touched.

There are no parts inside the housing which can be serviced or replaced by the user.

Mains voltage



Warning

An incorrect mains voltage can damage the instrument.

Only operate this instrument with a mains voltage specified for it (see rear panel of the instrument).

Protection against electrostatic charges



Warning

Electronic components are sensitive to electrostatic charges and can be destroyed by discharges.

Do not fail to pull the mains cable out of the mains connection socket before you set up or disconnect electrical plug connections at the rear of the instrument.

1.3.3 Tubing and capillary connections



Caution

Leaks in tubing and capillary connections are a safety risk. Tighten all connections well by hand. Avoid applying excessive force to tubing connections. Damaged tubing ends lead to leakage. Appropriate tools can be used to loosen connections.

Check the connections regularly for leakage. If the instrument is used mainly in unattended operation, then weekly inspections are mandatory.

1.3.4 Flammable solvents and chemicals

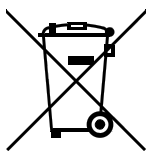


Warning

All relevant safety measures are to be observed when working with flammable solvents and chemicals.

- Set up the instrument in a well-ventilated location (e.g. fume cupboard).
- Keep all sources of flame far from the workplace.
- Clean up spilled liquids and solids immediately.
- Follow the safety instructions of the chemical manufacturer.

1.3.5 Recycling and disposal



This product is covered by European Directive 2002/96/EC, WEEE – Waste from Electrical and Electronic Equipment.

The correct disposal of your old equipment will help to prevent negative effects on the environment and public health.



More details about the disposal of your old equipment can be obtained from your local authorities, from waste disposal companies or from your local dealer.

1.4 About the documentation



Caution

Please read through this documentation carefully before putting the instrument into operation. The documentation contains information and warnings which the user must follow in order to ensure safe operation of the instrument.

1.4.1 Content and scope


This document describes the **896 Professional Detector – Conductivity**, its assembly and connection to the IC instrument, as well as the installation, operation and maintenance of the individual components. Technical specifications, troubleshooting and information concerning scope of delivery and optional accessories make up the rest of the manual.

You will find additional information on the installation and maintenance of the IC instrument and the Sample Processor in the respective manuals.

Additional information for configuration and operation with MagIC Net™ can be found in the "Tutorial for MagIC Net™" or in the MagIC Net™ online help.

1.4.2 Symbols and conventions

The following symbols and formatting may appear in this documentation:

<i>(5-12)</i>	Cross-reference to figure legend The first number refers to the figure number, the second to the instrument part in the figure.
1	Instruction step Carry out these steps in the sequence shown.
Method	Dialog text, parameter in the software
File ▶ New	Menu or menu item
[Next]	Button or key
	Warning This symbol draws attention to a possible life hazard or risk of injury.

**Warning**

This symbol draws attention to a possible hazard due to electrical current.

**Warning**

This symbol draws attention to a possible hazard due to heat or hot instrument parts.

**Warning**

This symbol draws attention to a possible biological hazard.

**Caution**

This symbol draws attention to a possible damage of instruments or instrument parts.

**Note**

This symbol marks additional information and tips.



2 Overview of the instrument

2.1 Front

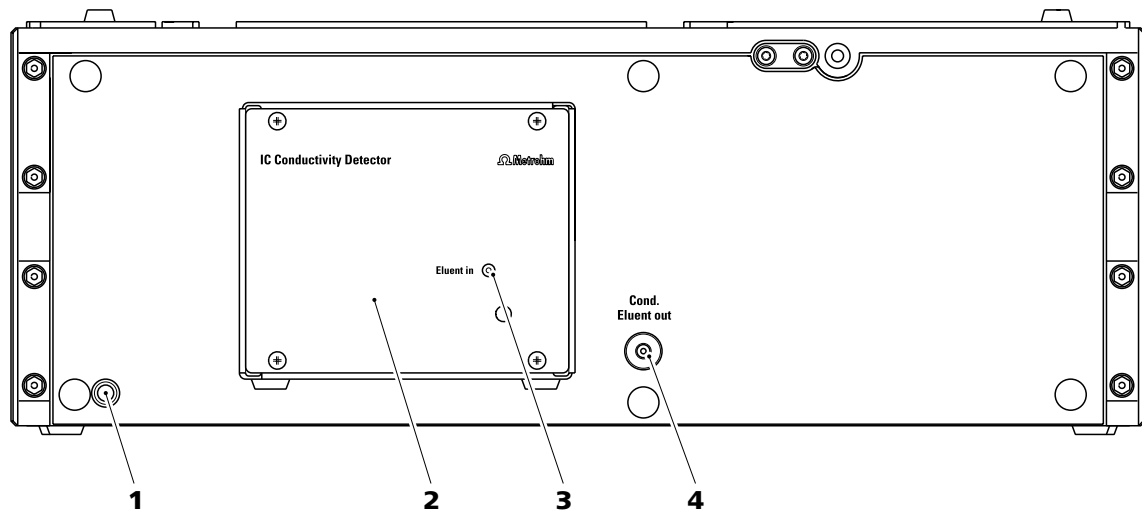


Figure 1 Front

1 Power LED

Standby indicator.

2 Conductivity detector

Permanently installed.

3 Detector input capillary

Permanently installed.

4 Coupling

For connecting the detector output capillary.
Labeled with **Cond. Eluent out**.

2.2 Rear

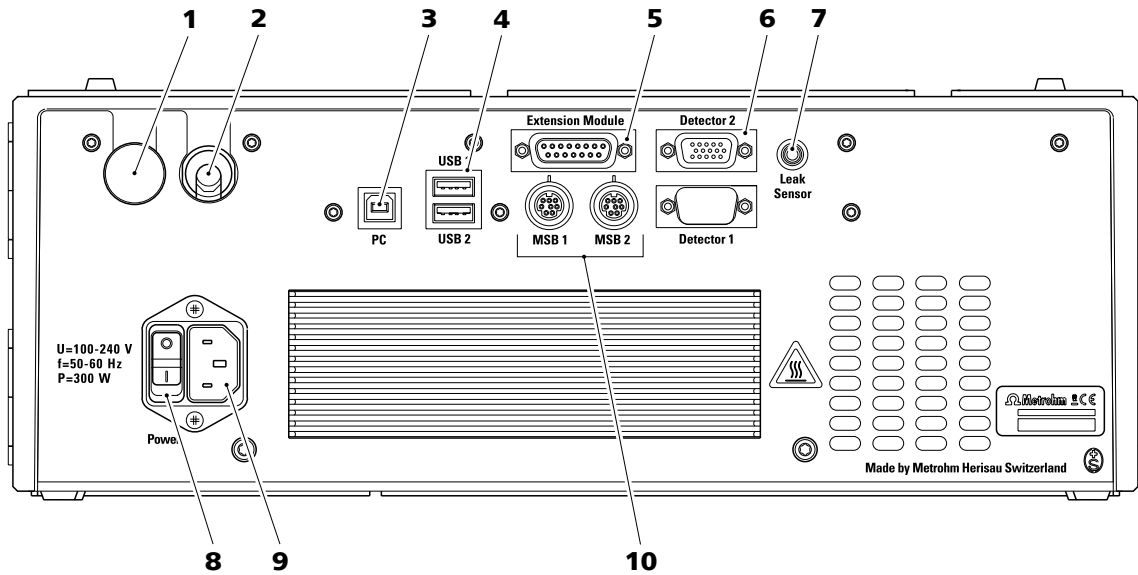


Figure 2 Rear

- | | |
|--|--|
| <p>1 Stopper
Closes off unused cable feed-through.</p> | <p>2 Cable feed-through
Output for detector cable.</p> |
| <p>3 PC connection socket
For connecting the instrument to the computer with the USB cable (6.2151.020).</p> | <p>4 USB connection sockets
Two USB connection sockets, labeled with USB 1 and USB 2.</p> |
| <p>5 Extension Module connection socket
For connecting an 872 Extension Module or an 891 Professional Analog Out. Labeled with Extension Module.</p> | <p>6 Detector connection sockets
For the connection of the installed detector, labeled with Detector 1 and Detector 2. The detector connection sockets which are not used must be covered with a lid.</p> |
| <p>7 Leak sensor connection socket
For connecting the Leak sensor connector plug, labeled with Leak Sensor.</p> | <p>8 Mains switch
For switching the instrument on and off.</p> |
| <p>9 Mains cable connection socket
For connecting the mains cable (6.2122.0x0).</p> | <p>10 MSB connection sockets
Two MSB connection sockets for connecting instruments with MSB connection. Labeled with MSB 1 and MSB 2.
(MSB = Metrohm Serial Bus)</p> |



3 Installation

3.1 Setting up the instrument

3.1.1 Packaging

The instrument is supplied in highly protective special packaging together with the separately packed accessories. Keep this packaging, as only this ensures safe transportation of the instrument.

3.1.2 Checks

Immediately after receipt, check whether the shipment has arrived complete and without damage by comparing it with the delivery note.

3.1.3 Location

The instrument has been developed for operation indoors and may not be used in explosive environments.

Place the instrument in a location of the laboratory which is suitable for operation and free of vibrations and which provides protection against corrosive atmosphere and contamination by chemicals.

The instrument should be protected against excessive temperature fluctuations and direct sunlight.

The distance between the rear of the instrument and the wall must be large enough to secure air circulation on the cooling plate.

3.1.4 Proposed setup

One option is to install the 896 Professional Detector – Conductivity directly above an 850 IC instrument. To accomplish this, the bottle holder of the IC instrument must be removed and then be placed back on the 896 Professional Detector – Conductivity (*see Chapter 3.2, page 9*).

The other option is to position the 896 Professional Detector – Conductivity directly underneath the 850 IC instrument. To accomplish this, the base tray of the IC instrument must be removed and then be placed back on underneath the 896 Professional Detector – Conductivity (*see Chapter 3.2, page 9*).

As an alternative, the 896 Professional Detector – Conductivity can be set up together with other instruments using the same support surface in one separate stack next to the IC instrument. We recommend that one bottle holder (6.2061.100) and one base tray (6.2061.110) be mounted for each stack of IC instruments.

If a 896 Professional Detector – Conductivity is to be set up underneath an 881 Compact IC pro or an 882 Compact IC plus, then the System Connector (6.2061.120) must be used instead of the base tray of the IC instrument; this adjusts the larger surface area of the 896 Professional Detector – Conductivity to the smaller surface area of the 881 or 882, respectively.

The 896 Professional Detector – Conductivity cannot be set up above an 881 Compact IC pro or an 882 Compact IC plus.

3.2 Mounting base tray and bottle holder (optional)

The 6.2061.110 base tray and 6.2061.100 bottle holder protect IC instruments from dust, dirt and leaking fluids. If more than one instrument of the Professional IC family is used, these can be set up in one or more stacks. We recommend that a base tray and a bottle holder be mounted for each stack of IC instruments.

Bottle holder and base tray must be removed or mounted every time one of the following instruments is to be mounted on or under an 850 Professional IC instrument:

- One or more 872 Extension Module.
- An 887 Professional UV/VIS Detector.
- An 896 Professional Detector.
- or another instrument of the same support surface.

3.2.1 Removing / mounting the base tray

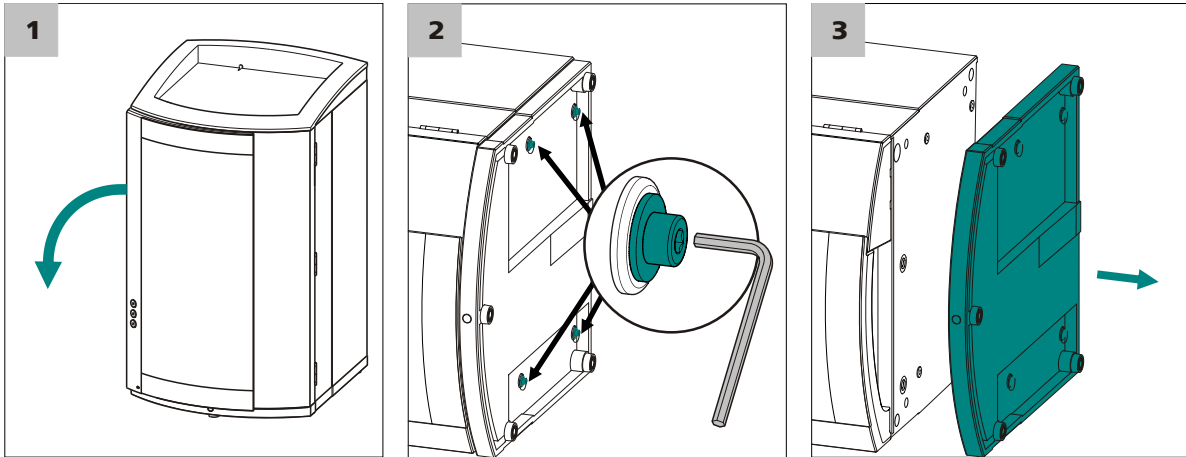
The base tray must be removed, in case you want to place another instrument under the IC instrument. Proceed as follows:

Removing the base tray

Before you can remove the base tray, the following preconditions must be met:

- The instrument is switched off.
- The bottle holder is cleared.
- All connections at the rear of the instrument are disconnected.
- There are no loose parts in the instrument.

To remove the base tray, you need a 3 mm hexagon key (6.2621.100).



- 1** Tilt the instrument sideways and lay it down flat.
- 2** Loosen the cylinder screws with the 3 mm hexagon key and remove them and their washers.
- 3** Remove the base tray.

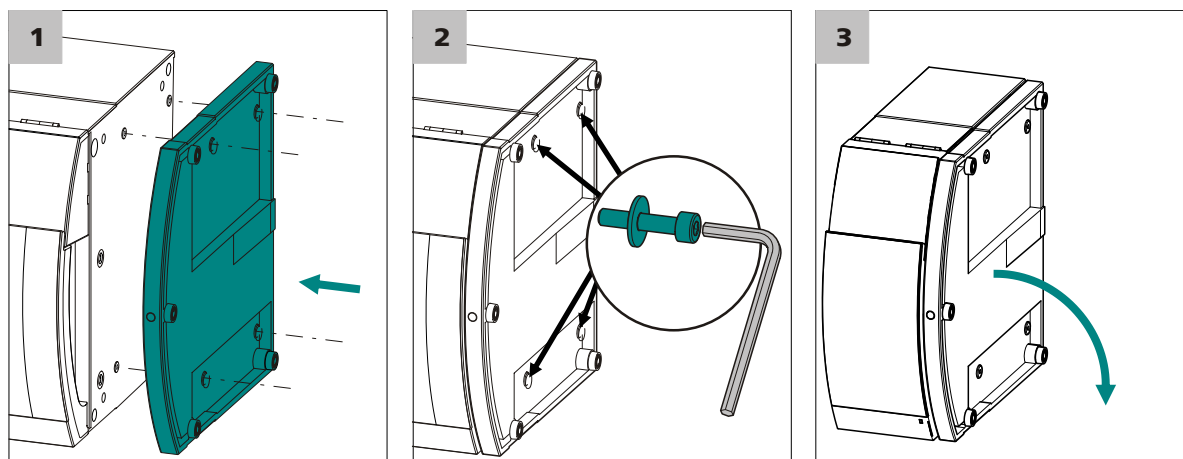
The base tray must always be mounted under the lowermost instrument of the stack. Proceed as follows:

Mounting the base tray

Before you can mount the base tray, the following preconditions must be met:

- The instrument is switched off.
- The bottle holder is cleared.
- All connections at the rear of the instrument are disconnected.
- There are no loose parts in the instrument.
- The instrument is lying on its side, and the bottom surface is visible.

To mount the base tray, you need a 3 mm hexagon key (6.2621.100).



- 1** Place the base tray in such a way that the openings in the base tray match exactly the screw threads in the bottom of the instrument.
- 2** Slide the four washers onto the four cylinder screws, insert the screws and tighten them with the 3 mm hexagon key.
- 3** Set the instrument up on the base tray.

Stack other instruments in the required order. Mount the bottle holder (6.2061.100) onto the topmost instrument on the stack (see "Mounting the bottle holder", page 12).

3.2.2 Removing / mounting the bottle holder

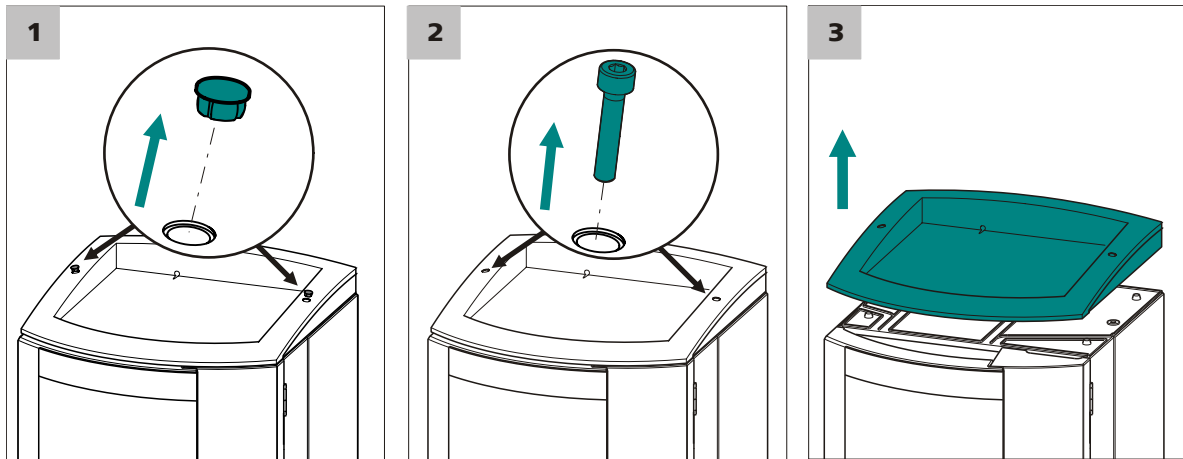
The bottle holder must be removed in case you want to mount another instrument on top of the IC instrument. Proceed as follows:

Removing the bottle holder

Before you can remove the bottle holder, the following preconditions must be met:

- The instrument is switched off.
- The bottle holder is cleared.
- Drainage tubing is disconnected from the drainage tubing connection of the bottle holder.

To remove the bottle holder, you need a 3 mm hexagon key (6.2621.100).



1 Remove the two covering stoppers.

2 Loosen the two cylinder screws with the 3 mm hexagon key and remove them.

3 Remove the bottle holder.

Stack other instruments in the required order. Mount the bottle holder (6.2061.100) onto the topmost instrument on the stack (see "Mounting the bottle holder", page 12).

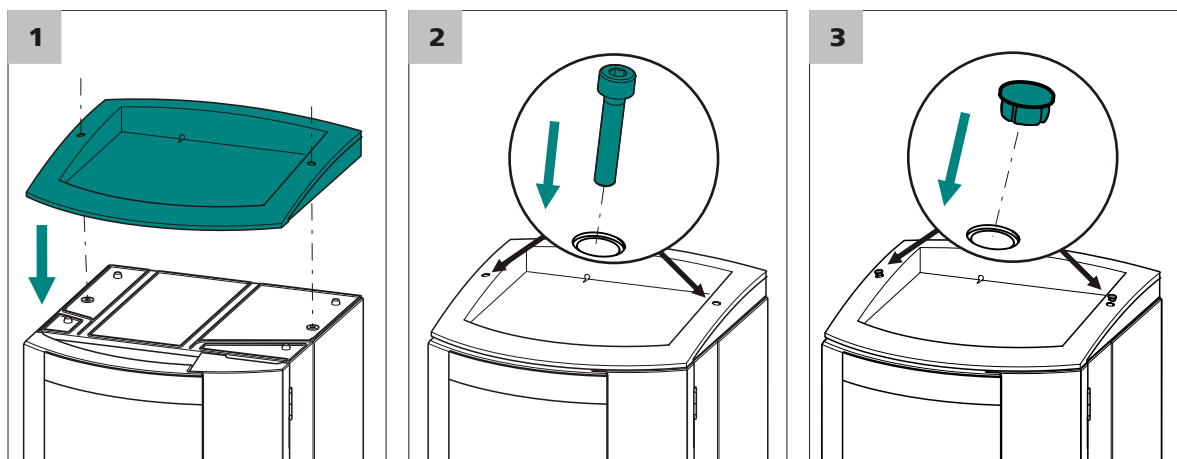
Proceed as follows:

Mounting the bottle holder

Before you can mount the bottle holder, the following preconditions must be met:

- The instrument is switched off.

To mount the bottle holder, you need a 3 mm hexagon key (6.2621.100).



- 1 Place the bottle holder onto the topmost instrument in such a way that the openings in the bottle holder exactly match the screw threads on the top surface of the instrument.
- 2 Insert the two cylinder screws and tighten them with the 3 mm hexagon key.
- 3 Insert covering stoppers.

After having attached the bottle holder, all connections which were undone at the beginning of the process, must be reconnected. Proceed as follows:

Restoring the loosened connections

- 1 Plug in the USB cable.
- 2 Plug in the MSB cable.
- 3 Plug in the mains cable.
- 4 Mount the drainage tubings again (*see manual of the IC instrument*).
Possibly, a longer section of silicone tubing (6.1816.020) must be cut to fit and mounted (*see also the manual for the IC instrument*).
- 5 If one of the instruments in the stack is equipped with a leak sensor connection socket, connect the leak sensor (*see manual of the IC instrument*).



3.3 Conductivity detector

3.3.1 Connect the detector capillaries

Connecting the detector output capillary

To connect the detector output capillary, you will need the following accessories:

- PEEK capillary (6.1831.030)
- Pressure screw (6.2744.010)

- 1 Use a pressure screw (6.2744.010) to screw one end of the PEEK capillary (6.1831.030) firmly to the coupling **Cond. Eluent out**.
- 2
 - Guide the other end of the PEEK capillary (6.1381.030) into a sufficiently large waste container and fasten it there.
OR if the application requires a subsequent amperometric detection:
 - Connect the other end of the PEEK capillary (6.1381.030) to the **Eluent in** connector on the amperometric detector.



Note

The detector output capillary must be free of blockages in order to generate sufficient backpressure (the measuring cell is tested to 5 MPa = 50 bar backpressure).

Connecting the detector input capillary

Depending on the equipment of the IC instruments the detector input capillary is connected differently:

- With instruments without suppression, directly to the separation column (see *"Connecting the detector input capillary to the separation column"*, page 15).
- With instruments with chemical suppression, to the suppressor (see *"Connecting the detector input capillary to the suppressor"*, page 15).
- With instruments with sequential suppression, to the MCS (see *"Connecting the detector input capillary to the MCS"*, page 16).



Note

In order to prevent unnecessary peak widening after separation, the connection between the outlet of the separation column and the inlet in the detector should be kept as short as possible.

Connecting the detector input capillary to the separation column

1 Connect the detector input

- Fasten the detector input capillary (3-1) using a short PEEK pressure screw (6.2744.070) (3-2) directly to the output of the column (3-3).

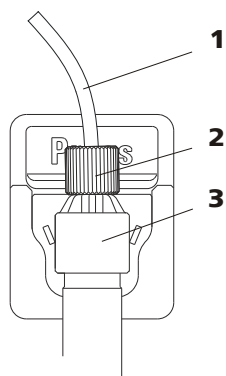


Figure 3 Connection detector – separation column

1 Detector input capillary

2 PEEK pressure screw, short
(6.2744.070)

3 Separation column

Connecting the detector input capillary to the suppressor

1 Connect the detector input

- Connect the detector input capillary (4-1) and the capillary of the suppressor (4-2) labeled with *out* to one another using one coupling (6.2744.040) (4-3) and two short PEEK pressure screws (6.2744.070) (4-4).

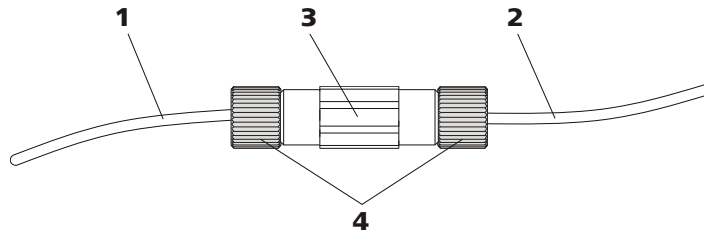


Figure 4 Connection detector – suppressor

1 Detector input capillary	2 Suppressor output capillary labeled with <i>out</i> .
3 Coupling (6.2744.040)	4 PEEK pressure screws, short (6.2744.070)

Connecting the detector input capillary to the MCS

1 Connect the detector input

- Fasten the detector input capillary (5-1) with one long PEEK pressure screw (6.2744.090) (5-2) to the output of the MCS (5-3).

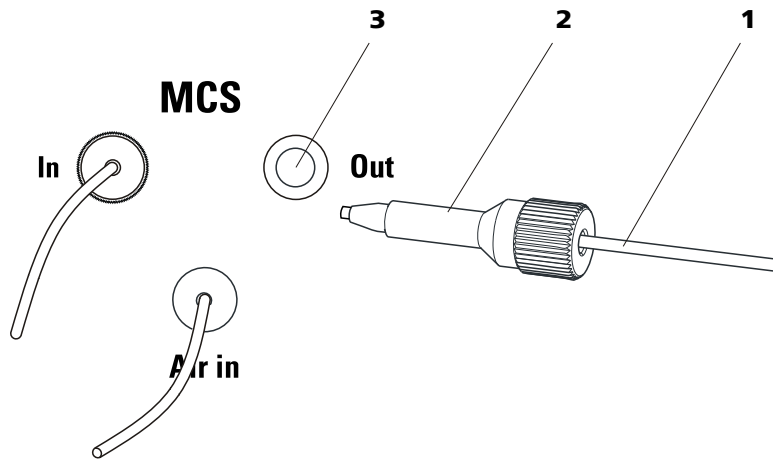


Figure 5 Connection detector – MCS

1 Detector input capillary	2 PEEK pressure screw, long (6.2744.090)
3 MCS output	

3.4 Connecting the instrument

3.4.1 Connecting the instrument to the PC



Note

The instrument must be switched off when connecting the PC.

1 Connecting the USB cable

Connect the PC connection socket of the instrument to a USB connector of the computer via the USB cable (6.2151.020).

3.4.2 Connecting the instrument to power supply



Warning

The power supply unit must not get wet. Protect it against the direct effect of liquids.

Power supply cable

Which power supply cable is supplied depends on the location:

- 6.2122.020 with plug SEV 12 (Switzerland, ...)
- 6.2122.040 with plug CEE(7), VII (Germany, ...)
- 6.2122.070 with plug NEMA 5-15 (USA, ...)

The power supply cable is three-core and provided with a plug with grounding. If another plug has to be mounted, the yellow/green conductor (IEC standard) must be connected to the protective ground (protection class I).

1 Connecting the power supply cable

- Plug the power supply cable into the power socket .
- Connect the power supply cable to the power supply.

2 Switching on the instrument

Switch on the instrument using the power switch .

After switching on, the LED on the front of the instrument flashes while a system test is carried out and the connection to the software is established. Once the system test is complete and the connection to the software has been established, the LED lights up continuously.



4 Operation and maintenance

4.1 General notes

4.1.1 Care



Warning

The instrument housing must not be opened by untrained personnel.

The instrument requires appropriate care. Excess contamination of the instrument may result in functional disruptions and a reduction in the life-time of the sturdy mechanics and electronics.



Caution

Even though design measures ensure that this will largely be prevented, the detector should be switched off without delay in the event that aggressive media have found their way into the interior of the detector. It is only thus that massive damage to the instrument electronics can be prevented. In such cases, Metrohm Service must be informed.

Spillages of chemicals and solvents should be cleaned up immediately. In particular, the plug connections on the rear panel of the instrument (especially the mains plug) should be protected from contamination.

Do not use scouring agents for cleaning the tray.

4.1.2 Maintenance by Metrohm Service

Maintenance of the instrument is best carried out as part of an annual service, which is performed by specialist personnel from Metrohm. If working frequently with caustic and corrosive chemicals, a shorter maintenance interval is recommended. Metrohm Service offers every form of technical advice for maintenance and service of all Metrohm instruments.

4.1.3 Operation



Caution

In order to avoid disturbing temperature influences, the entire system must be protected against direct sunlight.

4.1.4 Shutting down

If the instrument is shut down for a longer period of time, the entire IC system must be rinsed as follows to rid it of salts in order to prevent eluent salts from forming crystals which may cause subsequent damage.

- Rinse all capillaries and the Dosino (if present) with methanol/ultrapure water (1:4),
- rinse all pump tubings of the peristaltic pump with ultrapure water.

4.2 Conductivity detector

4.2.1 Maintenance



Caution

The conductivity detector must not be opened!



Warning

When **rinsing the detector without column**, the pressure must not exceed **5 MPa**.

In order to ensure this, set the maximum pressure of the high pressure pump to **5 MPa** in MagIC Net™.

4.2.2 Remediating blockage

The conductivity detector can become blocked if the ends of the detector input capillary or the detector output capillary are pressed together too tightly.

If this is the case, undo the detector input capillary or the detector outlet capillary, respectively, and shorten it/them by a few millimeters.

If the conductivity detector is still blocked, despite free capillaries, then it can be rinsed in the opposite direction to the normal flow direction. Proceed as follows:

- 1 Release the detector input capillary or the detector output capillary, respectively, from the system.
- 2 Connect the detector output capillary directly to the output of the high pressure pump.



- 3 In MagIC Net™, set the maximum pressure of the high pressure pump to 5 MPa.
- 4 Rinse the detector thoroughly with eluent.

4.3 Quality Management and validation with Metrohm

Quality Management

Metrohm offers you comprehensive support in implementing quality management measures for instruments and software. Further information on this can be found in the brochure «**Quality Management with Metrohm**» available from your local Metrohm agent.

Validation

Please contact your local Metrohm agent for support in validating instruments and software. Here you can also obtain validation documentation to provide help for carrying out the **Installation Qualification** (IQ) and the **Operational Qualification** (OQ). IQ and OQ are also offered as a service by the Metrohm agents. In addition, various application bulletins are also available on the subject, which also contain **Standard Operating Procedures** (SOP) for testing analytical measuring instruments for reproducibility and correctness.

Maintenance

Electronic and mechanical functional groups in Metrohm instruments can and should be checked as part of regular maintenance by specialist personnel from Metrohm. Please ask your local Metrohm agent regarding the precise terms and conditions involved in concluding a corresponding maintenance agreement.



Note

You can find information on the subjects of quality management, validation and maintenance as well as an overview of the documents currently available at www.metrohm.com/com/ under **Support**.

5 Troubleshooting

5.1 Problems and their solutions

Problem	Cause	Remedy
Marked rise in pressure	<i>Conductivity detector is blocked.</i>	<p>(see Chapter 4.2.2, page 19)</p> <ul style="list-style-type: none"> ▪ Shorten the capillary ends by several mm. ▪ Rinse the detector against the normal flow direction.
Conductivity detector is not recognized in the software	<i>No connection.</i>	<ul style="list-style-type: none"> ▪ Check the connection of the detector cable. ▪ Switch the instrument off and on again (after 15 seconds).



6 Technical specifications

6.1 Reference conditions

The technical data listed in this Chapter refers to the following reference conditions:

<i>Ambient temperature</i>	+25 °C (± 3 °C)
<i>Instrument status</i>	> 40 minutes in operation (equilibrated)

6.2 Conductivity detector

<i>Type</i>	<ul style="list-style-type: none"> ▪ Microprocessor-controlled Digital Signal Processing (DSP technology) ▪ Intelligent detector with 6 reference chromatograms
<i>Measuring range</i>	0...15000 µS/cm without range switching
<i>Noise</i>	< 0.1 nS at 1 µS/cm
<i>Deviations from the linearity</i>	<ul style="list-style-type: none"> ▪ < 0.1 % for conductivity values higher than 16 µS/cm ▪ < 1 % for conductivity values lower than 16 µS/cm
<i>Drift</i>	< 0.2 nS/cm per hour
<i>Measuring rate</i>	10 measurements per second for optimum results without filtering
<i>Resolution</i>	0.0047 nS/cm
<i>Baseline</i>	Noise < 0.2 nS/cm typical for sequential suppression
<i>Conductivity detector</i>	
<i>Cell volume</i>	0.8 µL
<i>Cell constant</i>	<ul style="list-style-type: none"> ▪ Individual calibration data saved in the detector ▪ adjustable in the range: 13.0...21.0 /cm
<i>Electrodes</i>	Ring-shaped electrodes made from stainless steel
<i>Materials in contact with eluent</i>	Chemically inert PCTFE
<i>Maximum operating pressure</i>	5.0 MPa (50 bar)
<i>Cell temperature</i>	20...50 °C in steps of 5 °C

<i>Temperature stability</i>	< 0.001 °C
<i>Temperature compensation</i>	0...5 %/K adjustable, default 2.3 %/K
<i>Heating up time</i>	< 30 minutes (40 °C)

6.3 Power connection

<i>Required voltage</i>	100 - 240 V ± 10% (autosensing)
<i>Required frequency</i>	50 - 60 Hz ± 3 Hz (autosensing)
<i>Power consumption</i>	<ul style="list-style-type: none"> ▪ 65 W for typical analysis application ▪ 25 W standby (conductivity detector to 40 °C)
<i>Power supply unit</i>	<ul style="list-style-type: none"> ▪ Up to 300 W maximum, electronically monitored ▪ internal fuse 3.15 A

6.4 Leak sensor

<i>Type</i>	Electronic, no calibration necessary
-------------	--------------------------------------

6.5 Ambient conditions

<i>Operation</i>	
<i>Ambient temperature</i>	+5...+45 °C
<i>Humidity</i>	20...80 % relative humidity
<i>Storage</i>	
<i>Ambient temperature</i>	-20...+70 °C
<i>Transport</i>	
<i>Ambient temperature</i>	-40...+70 °C



6.6 Housing

Dimensions

Width	365 mm
Height	131 mm
Depth	380 mm

Material of housing

Operating elements

Indicators	LED for standby operation
On/Off switch	On the rear of the instrument

6.7 Interfaces

USB

Input	1 USB upstream, type B (for connection to the PC)
Output	2 USB downstream, type A

MSB 2 MSB Mini-DIN 8-pin (female) (for Dosino, stirrer, remote lines, ...)

Detector 2 DSUB-15-pin high density (female)

Cell recognition 1 on the front of the instrument

Leak sensor 1 jack plug

Further connections

- 1 DSUB 15-pin (female)

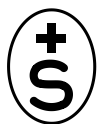
6.8 Safety specifications

This instrument fulfills the following electrical safety requirements:



CE designation in accordance with the EU directives:

- 2006/95/EC (Low Voltage Directive, LVD)
- 2004/108/EC (EMC Directive, EMC)



Federal Inspectorate for Heavy Current Installations ESTI (Accreditation Number SCESp 033)

- Safety mark for certification type 2 in accordance with NEV (type testing with market monitoring, EMC conformity)

Design and testing

According to EN/IEC 61010-1, UL 61010-1, CSA-C22.2 No. 61010-1, degree of protection IP20, protection class I.

Safety instructions This document contains safety instructions which have to be followed by the user in order to ensure safe operation of the instrument.

6.9 Electromagnetic compatibility (EMC)

Emission

- Standards fulfilled*
- EN/IEC 61326-1
 - EN/IEC 61000-6-3
 - EN 55011 / CISPR 11
 - EN/IEC 61000-3-2
 - EN/IEC 61000-3-3

Immunity

- Standards fulfilled*
- EN/IEC 61326-1
 - EN/IEC 61000-6-2
 - EN/IEC 61000-4-2
 - EN/IEC 61000-4-3
 - EN/IEC 61000-4-4
 - EN/IEC 61000-4-5
 - EN/IEC 61000-4-6
 - EN/IEC 61000-4-8
 - EN/IEC 61000-4-11
 - EN/IEC 61000-4-14
 - EN/IEC 61000-4-28



7 Warranty

7.1 Warranty (Guarantee)

Metrohm guarantees that the deliveries and services it provides are free of errors in materials, design or manufacturing.

The general warranty period is 36 months (exclusions below) from the date of delivery or 18 months in the event of continuous operation. The warranty remains valid on the condition that the servicing is provided by a Service Organization authorized by Metrohm at defined intervals and with a defined scope.

The warranty period for anion suppressors is 120 months from the date of delivery or 60 months in the event of continuous operation.

The warranty period for IC separation columns is 90 days after start-up.

For third-party components that are recognizable as such, the manufacturer's warranty regulations apply.

Consumables and materials with limited storage life and glass breakage in the case of electrodes or other glass parts are excluded from the warranty.

Warranty claims cannot be asserted if the customer has failed to meet his payment obligations according to schedule.

During the warranty period, Metrohm undertakes either to replace free of charge or to credit the purchaser for any assemblies or components that can be shown to be faulty. Any transport or customs fees that may apply are the ordering party's responsibility.

The precondition for this is that the ordering party must use the Return Material Authorization (RMA) to report the faulty part, along with specification of the article number, the article designation, an adequate error description, the delivery date and (if applicable) the serial number or the chip data, respectively. In addition, the ordering party undertakes to store the faulty part for at least 24 months in accordance with current storage directives (in compliance with ESD guidelines) and to hold it in readiness for onsite inspection or for return shipment to Metrohm. Metrohm reserves the right to invoice the ordering party for these articles, including retroactively, in the event of noncompliance with these pre-conditions.

The original warranty periods for the original part apply to parts that are replaced or repaired under the above-referenced warranties (no extension of the warranty period).

Deficiencies arising from circumstances that are not the responsibility of Metrohm, such as improper storage or improper use, etc., are expressly excluded from the warranty.

Metrohm also offers a 120-month spare parts availability guarantee and a 60-month PC software support warranty, calculated from the date on which the product is withdrawn from the market. The content of this warranty is the ability of the customer to obtain functioning spare parts or appropriate software support at market prices during the time of the warranty period.

If Metrohm AG is unable to meet this obligation due to circumstances beyond the control of Metrohm AG, then the ordering party shall be offered alternative solutions at preferential conditions.



8 Accessories



Note




Subject to change without notice.

8.1 Scope of delivery

2.896.0010 896 Professional Detector – Conductivity

Qty.	Order no.	Description
1	1.896.0010	Professional Detector - Cond. Intelligent stand-alone detector equipped with a high-performance IC Conductivity Detector. For use with intelligent IC instruments or as independent conductivity detector.
1	6.2122.0x0	Power supply cable with IEC 60320 line socket, type C13 Cable plug according to customer requirements. Switzerland: SEV 1011, Type 12 6.2122.020 Germany, ...: CEE 7, Type VII 6.2122.040 USA, ...: NEMA 5-15, Type 498 6.2122.070 Length: 1.5 m
1	6.1831.030	PEEK capillary 0.75 mm i.d. / 3 m For all IC components. Material: PEEK Outer diameter (inches): 1/16 Inner diameter (mm): 0.75 Length (m): 3








Qty.	Order no.	Description	
1	6.2151.020	Cable USB A - USB B 1.8 m USB connecting cable Length (m): 1.8	
1	6.2744.014	Pressure screw 2x With UNF 10/32 connection. For the connection of PEEK capillaries Material: PEEK Length (mm): 26	
1	8.896.8004EN	Manual for 896 Professional Detector - Conductivity, 2.896.0010	



8.2 Optional accessories

2.896.0010 896 Professional Detector – Conductivity

Order no.	Description
6.5333.000	<p>IQ/OQ Kit for IC</p> <p>The IQ/OQ Kit contains all parts and standard solutions required for IQ/OQ in ion chromatography.</p> 
6.5866.010	Upgrade 896: Amperometric Detector
8.896.3001	Declaration of conformity for 896 Professional Detector
8.896.5000	<p>Brochure: 896 Professional Detector / 850 IC Amperometric Detector - Amperometric detection for determining electroactive components</p> <p>This new amperometric detector complements Metrohm's portfolio of intelligent ion chromatography instruments as an alternative to conductivity and UV/VIS detectors. It may be used when electroactive - i.e. oxidizable or reducible - components are to be determined. The highlights at a glance: Flexible setup as stand-alone detector or detector block for IC and HPLC Outstanding selectivity due to different measuring modes: DC, PAD, flexIPAD, CV High sensitivity through excellent signal/noise ratio Large measuring range for demanding applications Easy to use due to intelligent and robust measuring cells with wall-jet and thin-layer design Large variety of working electrodes: Au, Ag, Pt, GC Different maintenance-free reference electrodes Very fast start-up without long conditioning times Leak sensor in the cell compartment Fully compliant with Metrohm Inline Sample Preparation techniques Control and monitoring by MagIC Net™ - the proven software for ion chromatography</p>
8.850.5007	<p>Brochure: Intelligent Ion Chromatography - 850 Professional IC, 872 Extension Module, 858 Professional Sample Processor</p> <p>Highlights: Highly compact modular system MagIC Net™ software for intuitive and simple operation Comprehensive monitoring and control functions Complies with GLP and FDA requirements Flexible assembly and extension: from isocratic cation system up to quaternary high pressure gradient system Combined third-generation anion-cation systems MISIP – Metrohm Inline Sample Preparation – patented and unique sample preparation Intelligent system components: iPump, iDetector, iColumn, intelligent Dosing Units Professional Sample Processor for any required volumes and extensive liquid handling operations High-precision Dosino technology Hardware from the technology leader Swiss Engineered – Swiss Made</p>

Order no.	Description	
6.6059.241	MagIC Net™ 2.4 Compact CD: 1 license	
	<p>Professional PC program for controlling an intelligent Compact IC system, a detector and an Autosampler, or a 771 Compact Interface. The software permits control, data acquisition, evaluation and monitoring, as well as report generation of ion chromatographic analyses. Graphics user interface for routine operations, extensive database programs, method development, configuration and manual system control; very flexible user administration, efficient database operations, extensive data export functions, individually configurable report generator, control and monitoring of all system components and chromatography results. MagIC Net™ Compact complies fully with FDA Regulation 21 CFR Part 11 as well as GLP. Dialog languages: German, English, French, Spanish, Chinese, Korean, Japanese, et. al. 1 license.</p>	
6.6059.242	MagIC Net 2.4™ Professional CD 1 license	
	<p>Professional PC program for controlling intelligent Professional IC systems, Compact IC systems and their peripherals such as various Autosamplers, 800 Dosino, 771 Compact Interface, etc. The software permits control, data acquisition, evaluation and monitoring as well as report generation of ion chromatographic analyses. Graphics user interface for routine operations, extensive database programs, method development, configuration and manual system control; very flexible user administration, efficient database operations, extensive data export functions, individually configurable report generator, control and monitoring of all system components and the chromatography results. MagIC Net™ Professional complies fully with FDA Regulation 21 CFR Part 11 as well as GLP. Dialog languages: German, English, French, Spanish, Chinese, Korean, Japanese, et. al. 1 license.</p>	
6.6059.243	MagIC Net 2.4™ Multi CD: 3 licenses	
	<p>Professional PC program for controlling intelligent Professional IC systems, Compact IC systems and their peripherals, such as various Autosamplers, 800 Dosino, 771 Compact Interface, etc. The software permits control, data acquisition, evaluation and monitoring as well as report generation of ion chromatographic analyses. Graphics user interface for routine operations, extensive database programs, method development, configuration and manual system control; very flexible user administration, efficient database operations, extensive data export functions, individually configurable report generator, control and monitoring of all system components and chromatography results. MagIC Net™ Multi complies fully with FDA Regulation 21 CFR Part 11 as well as GLP. Dialog languages: German, English, French, Spanish, Chinese, Korean, Japanese, et. al. Client-Server version with 3 licenses.</p>	



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