IC equipment

IC equipment: Additional eluent for 941 (6.5330.090)

Manual

8.110.8038EN / v2 / 2024-07-02

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Technical Communication
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This documentation is an original document.

This documentation has been prepared with great care. However, errors can never be entirely ruled out. Please send comments regarding possible errors to the address above.

Disclaimer

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. Unauthorized modifications to the product (e.g., conversions or attachments) exclude any liability on the part of the manufacturer for resulting damage and its consequences. Instructions and notes in the Metrohm product documentation must be strictly followed. Otherwise, Metrohm's liability is excluded.

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1 Introduction

1.1 Description of the IC equipment: Additional eluent for 941

The IC equipment: Additional eluent for 941 is used for upgrading the 941 Eluent Production Module Vario for the automated production of an additional eluent.

The 941 Eluent Production Module's scope of delivery includes the accessories required for the production of *one* eluent. However, the instrument is capable of fully automatically producing several eluents. To do so, you need for every additional eluent an IC equipment: Additional eluent for 941, which is described in this document. An 800 Dosino (2.800.0010) and the corresponding level sensor (6.2769.XX0) have to be ordered separately.

1.2 About the documentation

This manual describes the installation of the IC equipment: Additional eluent for 941.

CAUTION

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

1.2.1 Symbols and conventions

The following symbols and formatting may appear in this documentation:

*(5-**12**)*	**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** Perform the steps one after the other.
Method	**Dialog text**, **parameter** in the software
File ▶ New	Menu or menu item

[Continue]	**Button** or **key**
	**WARNING** This symbol draws attention to a possible life-threatening 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.
	**WARNING** Warning of optical radiation
	**CAUTION** This symbol draws attention to possible damage to instruments or instrument parts.
	**NOTICE** This symbol highlights additional information and tips.

2 Overview

2.1 Parts of the IC equipment: Additional eluent for 941

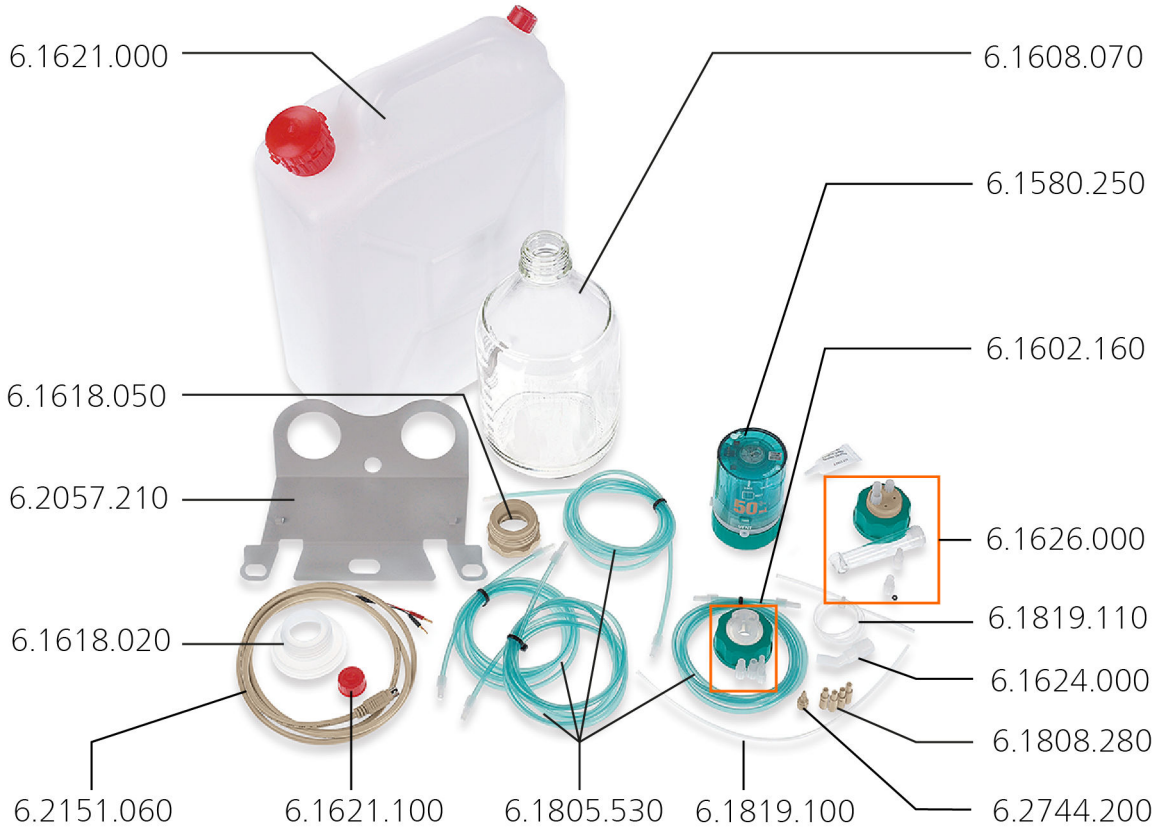


Figure 1 IC equipment: Additional eluent for 941 – Parts

For the software-controlled production of an additional eluent, you need the following products in addition to the IC equipment: Additional eluent for 941:

- an 800 Dosino (2.800.0010)
- a suitable sensor (6.2769.XX0)

3 Installation

Proceed as follows to install the IC equipment: Additional eluent for 941:

- Equip the eluent bottle.
- Equip the concentrate bottle.
- Equip the ultrapure water container.
- Assemble the 800 Dosino and connect all tubings.
- Plug level sensor cable into the 941 Eluent Production Module.

3.1 Equipping the eluent bottle

For the automated eluent production, the eluent bottle has to be equipped with a bottle cap for level sensor and a sensor. The sensor choice depends on which fill level is to be monitored: bottle full (FULL) or bottle empty (EMPTY).

Inserting the measuring sensor

Required accessories

- A bottle cap for level sensor (6.1626.000)
- FULL sensor (6.2769.000) for anion eluents or EMPTY sensor (6.2769.1X0) for cation eluents

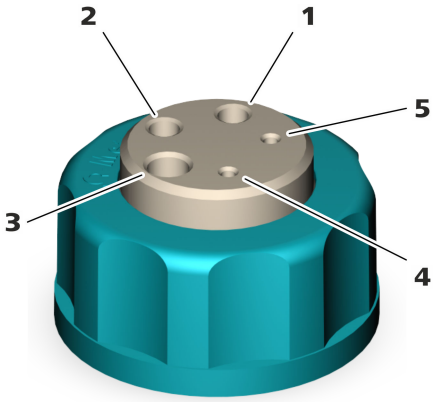


Figure 2 Bottle cap for level sensor – Openings

1	**M6 opening**	**2**	**M6 opening**
3	**M8 opening**	**4**	**Opening for level sensor cable**
5	**Opening for level sensor cable**		

1 Remove the stoppers from the bottle cap.

2 Place the bottle cap on a surface with the opening facing up.

3 Insert the two measuring sensors from the inside into the two openings for the level sensor cables *(2-**4**)* and *(2-**5**)*.

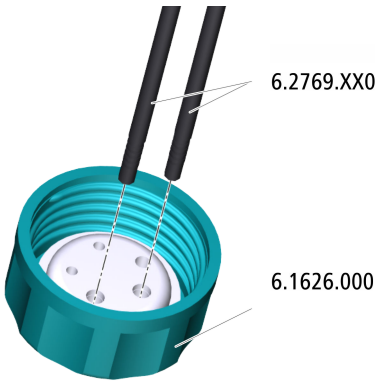


Figure 3 Bottle cap for level sensor - Inserting the measuring sensors

Mounting the bottle cap

Required accessories

- Eluent bottle (6.1608.070) from the accessories set of the ion chromatograph
- Bottle cap for level sensor (6.1626.000) with measuring sensors inserted *(see "Inserting the measuring sensor", page 4)*
- FEP aspiration tubing (6.1819.020)
- FEP tubing (6.1805.530)
- Level sensor cable (6.2151.060)
- Adsorber tube (6.1619.000), included in the accessories for the bottle cap (6.1626.000)
- Spiral band (6.1815.010)

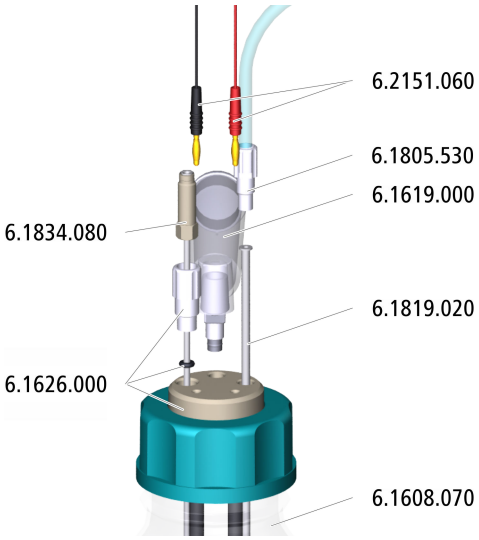


Figure 4 Installing the eluent bottle cap with level sensor

1 Mounting the adsorber tube

Fill the adsorber tube with adsorber material and cotton and insert it into the M6 opening *(2-**1**)*.

2 Connecting the FEP tubing

Fasten the tubing connection to the Dosino to the M6 opening *(2-**2**)*.

- Insert the FEP aspiration tubing into the M6 opening.
- Screw the FEP tubing into the M6 opening.

3 Connecting the eluent aspiration tubing

Fasten the capillary connection to the ion chromatograph to the M8 opening *(2-**3**)*.

- Start by pushing the M8 tubing nipple over the end of the eluent aspiration tubing, followed by the O-ring.
- Guide the eluent aspiration tubing through the M8 opening of the bottle cap and temporarily secure it in place with the tubing nipple.
- Attach the tubing weighting and the aspiration filter to the end of the eluent aspiration tubing, *see the manual of the ion chromatograph*.

4 Attaching the bottle cap

- Screw the bottle cap onto the eluent bottle.
- Loosen the tubing nipple a little.
- Push the eluent aspiration tubing so far into the eluent bottle that the aspiration filter is at the bottom of the bottle.
- Tighten the tubing nipple again.

5 Connecting the level sensor cable

Connect the two plugs of the level sensor cable to the two sockets *(2-**4**)* and *(2-**5**)*.

6 Bundling the level sensor cables and tubings

NOTE

The fine connection cables of the level sensor cable break off easily if the bottle cap is rotated too much.

The level sensor cable is damaged as a result and needs to be replaced.

To prevent the connection cables from breaking off, we recommend bundling the level sensor cable together with the tubings that are connected to the bottle cap.

Tie the level sensor cable, the FEP tubing and the eluent aspiration tubing together using a spiral band. Tie a piece of spiral band with a length of approx. 10 cm around the cable and the tubings as close as possible to the bottle cap.

3.2 Connecting the concentrate bottle

The bottle with the concentrate can be equipped with a bottle cap without level sensor, e.g. with the eluent bottle cap (6.1602.160).

Required accessories

- Bottle (6.1608.070) filled with concentrate
- Eluent bottle cap (6.1602.160), included in the accessories for the ion chromatograph
- FEP aspiration tubing (6.1819.100)
- FEP tubing (6.1805.530)
- Adsorber tube (6.1609.000)
- Ground-joint clip for SGJ 14/15 (6.2023.020), included in the accessories for the eluent bottle cap (6.1602.160)
- M6 threaded stopper (6.1446.040), included in the accessories for the eluent bottle cap (6.1602.160)

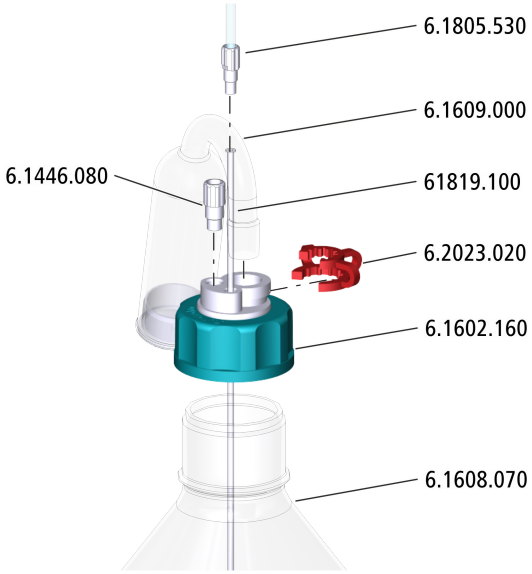


Figure 5 Installing the concentrate bottle cap without level sensor

1 Connecting the FEP tubing

Fasten the tubing connection to the Dosino to the M6 opening.

- Insert the FEP aspiration tubing into the M6 opening.
- Screw the FEP tubing into the M6 opening.

2 Sealing the M8 opening

Screw the M8 threaded stopper into the M8 opening.

3 Mounting the adsorber tube

Fill the adsorber tube with adsorber material and cotton (for anion eluents) or only with cotton (for cation eluents) and insert it into the large opening. Secure in place with a ground-joint clip.

3.3 Connecting the ultrapure water canister

Assembling the bottle cap without level sensor

The canister with the ultrapure water can be equipped with a bottle cap without level sensor, e.g. with the eluent bottle cap (6.1602.160).

Accessories

For this step, you need the following accessories:

- Canister, 10 L (6.1621.000)
- Eluent bottle cap (6.1602.160)
- FEP aspiration tubing (6.1819.110)
- FEP tubing (6.1805.530)
- Adsorber tube (6.1609.000)
- Adapter for adsorber tube (6.1624.000)

- M6 threaded stopper (6.1446.040), included in the accessories for the eluent bottle cap (6.1602.160)

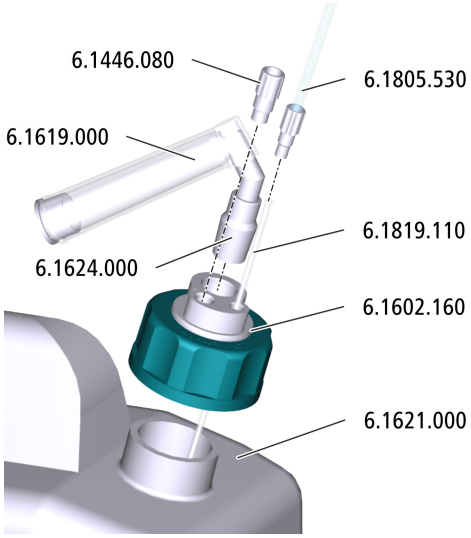


Figure 6 Installing the ultrapure water canister cap without level sensor

1 Connecting the FEP tubing

Fasten the tubing connection to the Dosino to the M6 opening.

- Insert the FEP aspiration tubing into the M6 opening.
- Screw the FEP tubing into the M6 opening.

2 Sealing the M8 opening

- Screw the M8 threaded stopper into the M8 opening.

3 Mounting the adsorber tube

- Fill the adsorber tube with soda lime and cotton.
- Fasten the adsorber tube in the large opening with the adapter.

3.4 Installing the Dosino

Attaching the Dosino to the 807 Dosing Unit

Accessories

For this step, you need the following accessories:

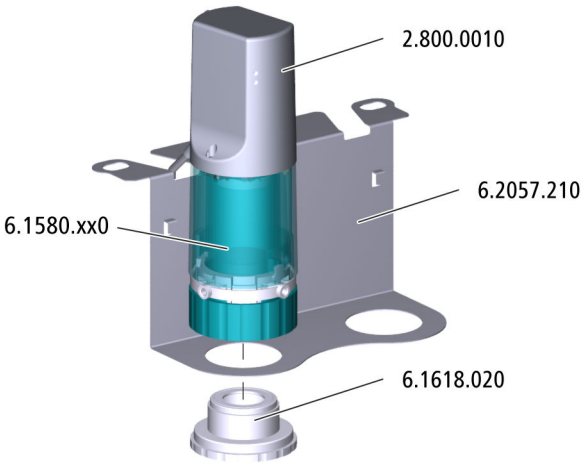
- 800 Dosino (2.800.0010)
- 807 Dosing Unit 50 mL without accessories (6.1580.250)

The Manual for the 800 Dosino describes how to attach the 800 Dosino correctly to an 807 Dosing Unit.

CAUTION

Please read through the correct procedure in the Manual for the 800 Dosino before you attach the Dosino to the 807 Dosing Unit.

Fastening the Dosino to the 941 Eluent Production Module



1 Hanging the Dosino holder onto the 941 Eluent Production Module

- Loosen the bottle holder on the 941 Eluent Production Module.
- Clamp the Dosino holder under it.
- Fasten the bottle holder again.

2 Attaching the Dosino to the holder

- Place the Dosino onto the Dosino holder.
- Fasten the Dosino to the Dosino holder by tightening the thread adapter from below.

3 Connecting the Dosino to the ion chromatograph

NOTE

The 941 Eluent Production Module **must** be switched off when the Dosino is being plugged to the MSB connector.

- Check whether the 941 Eluent Production Module is switched on. If so, switch off the instrument.
- Plug the Dosino cable into one of the 941 Eluent Production Module's MSB sockets.

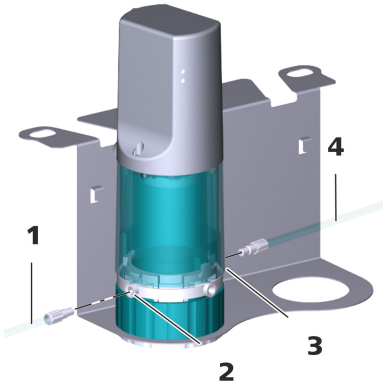
Installing the FEP tubings on the Dosino

Accessories

For this step, you need the following accessories:

- 800 Dosino (2.800.0010) with 807 Dosing Unit 50 mL without accessories (6.1580.250) attached
- The three FEP tubings connected to the bottles (6.1805.530), one additional FEP tubing (6.1805.530)
- Adapter Dosino Port 4 (6.1808.280)
- Adapter UNF / M6 (6.2744.080)

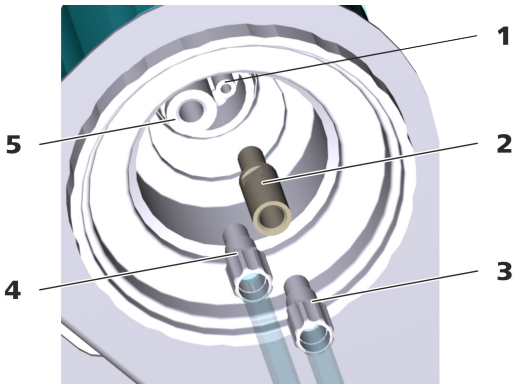
1 Connecting the lateral ports



1	**Concentrate**	**2**	**Port 1**
3	**Port 3**	**4**	**Eluent**

- Screw the concentration bottle's FEP tubing onto port 1 of the Dosino.
- Screw the eluent bottle's FEP tubing onto Port 3 of the Dosino.

2 Connecting the lower ports



1	**Port 4**	**2**	**Adapter Port 4**
3	**Waste tubing**	**4**	**Ultrapure water**
5	**Port 2**		

- Screw the FEP tubing that is connected to the ultrapure water container onto Port 2 of the Dosino.
- Attach the adapter to Port 4 of the Dosino and screw the fourth FEP tubing onto the adapter.
- Fasten the other end of the FEP tubing to the waste container with the adapter UNF/M6.

4 Operation and maintenance

4.1 807 Dosing Unit 50 mL without accessories (6.1580.250)

Maintenance work on the 807 Dosing Unit must be performed regularly. Information on the care and maintenance of the 807 Dosing Unit can be found in the Manual for the 807 Dosing Unit.

5 Displaying accessories

Up-to-date information on the scope of delivery and on optional accessories can be found on the Metrohm website.

1 Searching for a product on the website

- Go to *https://www.metrohm.com*.
- Click on  .
- Enter the article number of the product (e.g. **2.1001.0010**) into the search field and press **[Enter]**.

The search result is displayed.

2 Displaying product information

- To display the products matching the search term, click on **Product models**.
- Click on the desired product.

Detailed information regarding the product is displayed.

3 Displaying accessories and downloading the accessories list

- To display the accessories, scroll down to **Accessories and more**.
  - The **scope of delivery** is displayed.
  - Click on **[Optional parts]** for the optional accessories.
- To download the accessories list, click on **[Download accessories PDF]** under **Accessories and more**.

NOTE

Metrohm recommends keeping the accessories list for reference purposes.

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