802 Stirrer

Manual

8.802.8001EN / v3 / 2026-02-23

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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.

Table of contents

Table of figures

1 Introduction

1.1 Instrument description

The propeller rod stirrer 802 Stirrer is controlled by a Touch Control or a computer software.

However, it also has its own control. The stirring rate is set by a controller.

The 802 Stirrer can be connected to a titration stand, a tower of a sample changer or directly to a sample changer.

1.2 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.

1.3 About the documentation

CAUTION

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

1.3.1 Symbols and conventions

The following symbols and styles are used 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** Carry out these steps in the sequence shown.
	**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 Safety

2.1 Intended use

Metrohm products are used for the analysis and handling of chemicals.

Usage therefore requires the user to have basic knowledge and experience in handling chemicals. Knowledge of the application of the fire prevention measures prescribed for laboratories is also mandatory.

Adherence to this technical documentation and compliance with the maintenance specifications make up an important part of intended use.

Any utilization in excess of, or deviating from, the intended use is regarded as misuse.

Specifications regarding the operating values and limit values of individual products are contained in the "Technical specifications" section, if relevant.

Exceeding and/or not observing the mentioned limit values during operation puts people and components at risk. The manufacturer assumes no liability for damage due to non-observance of these limit values.

The declaration of conformity loses its validity as soon as modifications are carried out on the products and/or the components.

2.2 Responsibility of the operator

The operator must ensure that basic regulations on occupational safety and accident prevention in chemical laboratories are observed. The operator has the following responsibilities:

- Instruct personnel in the safe handling of the product.
- Train personnel in the use of the product according to the user documentation (e.g. install, operate, clean, eliminate faults).
- Train staff on basic occupational safety and accident prevention regulations.
- Provide personal protective equipment (e.g. protective glasses, gloves).
- Provide suitable tools and equipment to carry out the work safely.

The product may be used only when it is in perfect condition. The following measures are required to ensure the safe operation of the product:

- Check the condition of the product before use.
- Remedy defects and malfunctions immediately.
- Maintain and clean the product regularly.

2.3 Requirements for operating personnel

Only qualified personnel may operate the product. Qualified personnel are persons who meet the following requirements:

- Basic regulations on occupational safety and accident prevention for chemical laboratories are known and complied with.
- Knowledge of handling hazardous chemicals is present. Personnel have the ability to recognize and avoid potential dangers.
- Knowledge of how to apply fire prevention measures for laboratories is available.
- Safety-relevant information is communicated and understood. The personnel can operate the product safely.
- The user documentation has been read and understood. The personnel operate the product according to the instructions in the user documentation.

2.4 Safety instructions

2.4.1 General notes on safety

WARNING

Operate this device only according to the information contained in this documentation.

This device left the factory in a flawless state in terms of technical safety. The following instructions must be observed carefully to preserve this status and ensure non-hazardous operation of the device.

2.4.2 Electrical safety

Electrical safety when working with the device 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 device. The device could become damaged. There is a considerable risk of injury if live components are touched.

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

Supply voltage

WARNING

An incorrect supply voltage can damage the device.

Operate this device only with a supply voltage specified for it (refer to the rear of the device).

Protection against electrostatic charges

WARNING

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

Do not fail to pull the power cord out of the power socket before setting up or disconnecting electrical plug connections at the rear of the device.

The device is to be operated only with the door closed.

2.4.3 Handling liquids

CAUTION

Periodically check all system connections for leaks. Observe the corresponding regulations that concern handling flammable and/or toxic liquids and their disposal.

2.4.4 Flammable solvents and chemicals

WARNING

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

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

3 Overview of the instrument

3.1 802 Stirrer

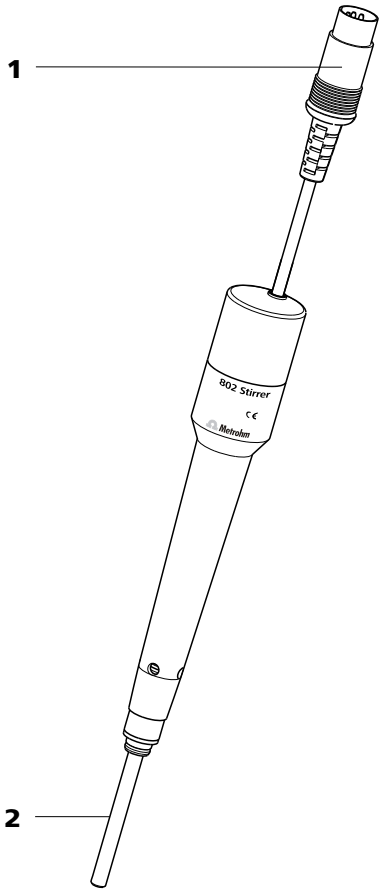


Figure 1 802 Stirrer

1 Connector plug
For connecting the propeller stirrer to the stirrer connector of a device or to a controller.

2 Metal rod
For fastening a stirring propeller.

3.2 802 Stirrer with its own control

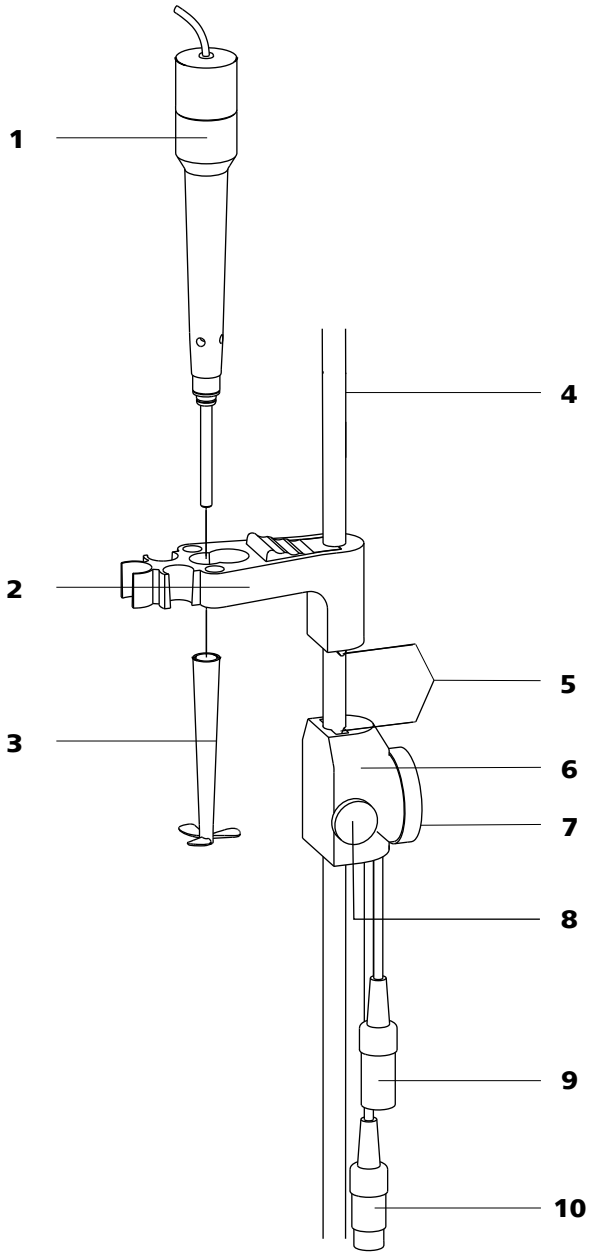


Figure 2 802 Stirrer with its own control

1	**Drive of the propeller stirrer**	**2**	**Electrode holder (6.2021.020)**
3	**Stirring propeller (6.1909.0104)**	**4**	**Support rod (6.2016.070)** Length 40 cm
5	**Switching contacts** The stirrer is switched on by a suitably attached electrode holder.	**6**	**Controller (6.2137.000)** For controlling the stirring rate

7 **Rotary wheel**
For setting the stirring rate. If the end of the scale is reached, turn to the other end in order to readjust the scale.

8 **Clamping screw**
For fixing the positioning height of the 6.2137.000 rotary controller on the support rod.

9 **Connector plug**
For connecting the propeller stirrer.

10 **Connector plug**
For connecting a power supply unit:
EU 230 V / 9 V DC
USA 110 V / 9 V DC

4 Installation

4.1 Setting up the device

4.1.1 Packaging

The product and accessories are supplied in protective special packaging. Keep this packaging to ensure safe transportation of the product. If a transport lock is present, keep this as well for future reuse.

4.1.2 Checks

Inspect the delivery immediately upon receipt:

- Check the delivery against the delivery note to ensure completeness.
- Check the product for damage.
- If the delivery is incomplete or damaged, contact your regional Metrohm representative.

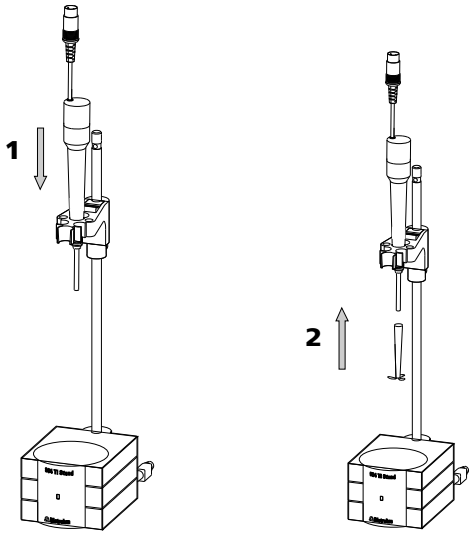
4.1.3 Location

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.

4.2 Mounting the 802 Stirrer to the titration stand

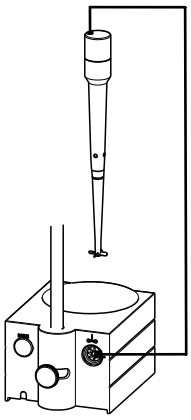


Mount the propeller stirrer as follows:

1 Insert the propeller stirrer 802 Stirrer without the stirring propeller from above into the center opening of the electrode holder.

2 Plug the stirring propeller from below to the propeller stirrer.

4.3 Connecting the 802 Stirrer to the titration stand

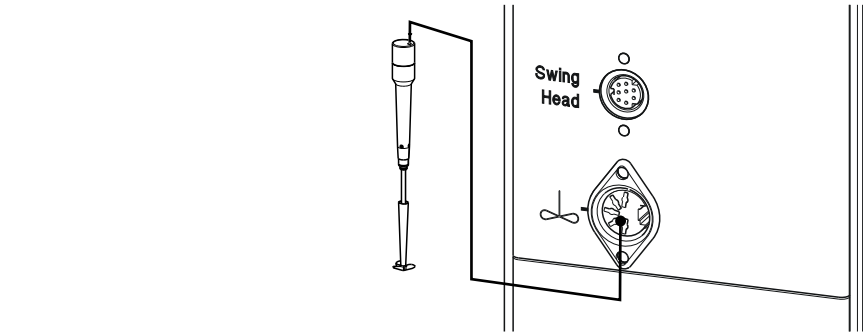


Connect the propeller stirrer as follows:

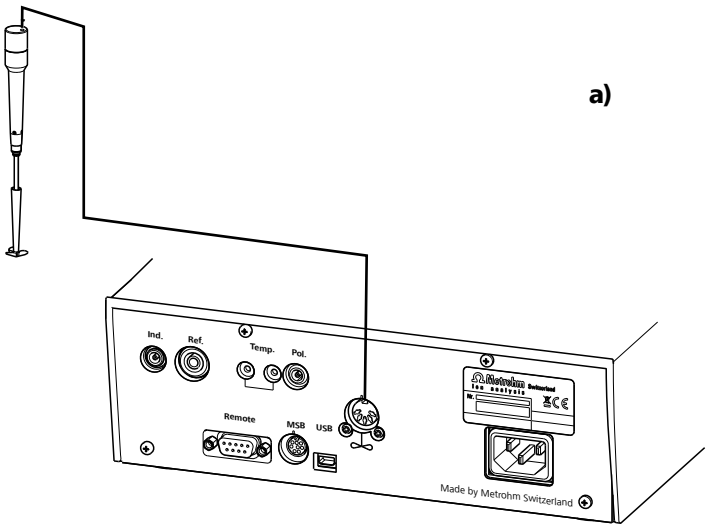
1 Connect the cable of the 802 Stirrer to the corresponding stirrer connector (with stirrer symbol) of the titration stand.

4.4 Connecting the 802 Stirrer to the sample changer

Connecting the propeller stirrer directly to the sample changer



a)

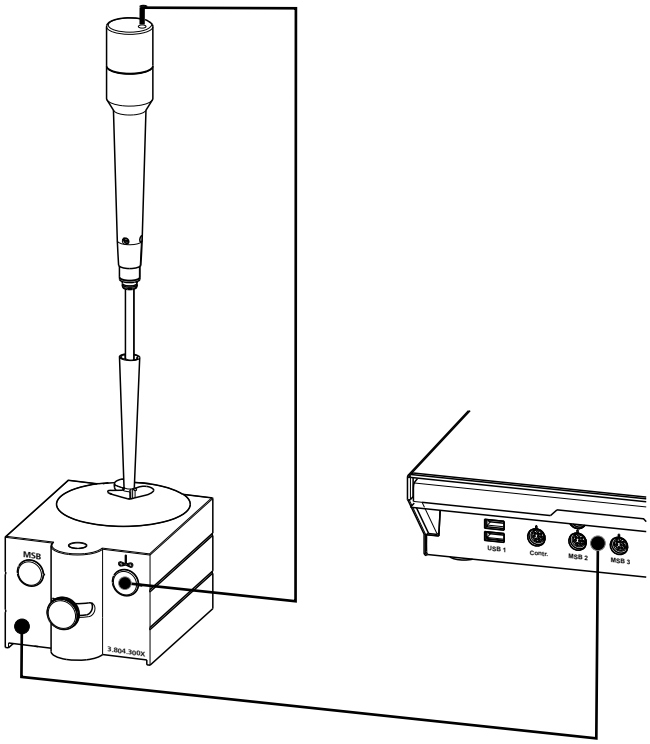


b)

Connect the propeller stirrer as follows:

1 Connect the cable of the 802 Stirrer to the stirrer connector (with stirrer symbol) on the rear of the tower (a) or directly to the sample changer (b).

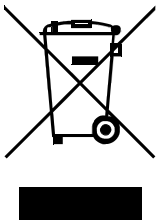
Connecting the propeller stirrer with the titration stand to the sample changer



Connect the propeller stirrer with the titration stand as follows:

1. Exit the control software.
2. Connect the connection cable of the titration stand to one of the sockets marked with **MSB** on the rear of the control instrument.
3. Connect the propeller stirrer to the stirrer socket (with stirrer symbol) of the titration stand.
4. Start the control software.

5 Recycling and disposal



Properly dispose of chemicals and of the product to reduce negative effects on the environment and public health. Local authorities, waste disposal companies or dealers provide more detailed information on disposal. Observe the WEEE EU directive (WEEE = Waste Electrical and Electronic Equipment) for the proper disposal of waste electronic equipment within the European Union.

6 Technical specifications

6.1 Ambient conditions

Nominal function range	+5 to +45 °C (at max. 80% relative humidity, non-condensing)
Storage	+5 to +45 °C (at max. 80% relative humidity, non-condensing)

6.2 Energy supply

Nominal voltage	±12 VDC +5 V DC
Power consumption	4 W
Protection	Electronic overload protection

6.3 Dimensions

Diameter	max. 27 mm
Height	250 mm without propeller
Weight	300 g

6.4 Housing

Material	Polypropylene (PP)
IP degree of protection	IP 20

6.5 Connectors specifications

Energy supply	5-pin DIN plug

6.6 Stirrer specifications

Maximum rotational speed	2550 rpm
Rotational speed settings	-15 … +15
Rotational speed change per step	140–170 rpm