

CAMMAG®



INSTRUCTION MANUAL TLC/HPTLC SPRAYER



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1 Introduction

1.1 Basic overview

The CAMAG TLC Sprayer is used for spraying reagents on TLC plates for the derivatization of substances.

Air is used as propellant.

1.2 Precautions



- Please read this operating manual before starting the installation! This manual contains information and warnings the user has to follow to ensure reliable operation of the instrument
- If the instrument is used in a manner not specified in this manual, the protection provided by the equipment may be impaired
- This sign indicates (on instrument and in this manual) that failure to take note of the accompanying information may result in damage of the instrument
- The instrument is manufactured and tested in accordance with the respective European safety publications shown on the Declaration of Conformity (DoC). The instrument complies with safety class 1 and has been designed for indoor use only (IP 20). Further, this device has passed the CAMAG Quality Assurance tests and has been delivered in safe operation condition. For detailed instrument data see chapter technical data
- Attention: For safety reasons the instrument may only be used for the purposes described in the operating manual
- To avoid injury use adequate safety equipment (protective goggles, gloves etc. if applicable) when working with the instrument
- Before first operation, check whether the voltage shown on the instrument matches your local mains voltage. The power cord may only be connected to a grounded, fused (not higher than 16A) outlet. Do not use extension cords without ground contact
- When working with the fluids of the instrument, be sure to take the appropriate caution (protect your eyes from direct contact with liquid)
- The instrument may not be used in rooms with danger of explosions
- Use a damp lint free cloth for cleaning the instrument surface. Do not employ aggressive detergents
- Only authorized personnel may open the instrument. Service and repair is only to be performed by trained specialists. Use spare parts and consumables supplied by

CAMAG only. The warranty is voided if parts from other sources are used. Check the service manual before you start service to reduce product-specific risks

- If the instrument is found to be defective, it must be switched off and steps must be taken to ensure that it cannot be switched on by mistake
- If liquids penetrate the inside of the instrument, the power has to be disconnected immediately. Small amounts of liquid can be wiped off and/or dried by means of a hairdryer, with larger amounts of liquid a service technician has to be called. A test of functionality has to be performed in all cases
- Carry out all safety checks and the preventive maintenance as recommended by the manufacturer in order to assure your personal safety and the full functionality of the instrument. Have an authorized service specialist perform any service not described by this manual
- See original manufacturers' manuals for further safety data on third party equipment supplied with the system
- The safety of any system incorporate with the equipment is the responsibility of the assembler of the system
- This symbol indicates that this equipment must not be disposed of as unsorted municipal waste but is to be collected separately as electrical and electronic equipment (WEEE-Directive 2002/96/EC). To properly recycle the instrument or parts of it you are requested to send the equipment back to the distributor, producer or an adequate collection system at the end of its life. This will have potential effects on the environment and human health



1.3 Parts supplied/Accessories/Consumables

The following items are supplied with the CAMAG TLC Sprayer (basic setup), order number 022.6530:

Cat. No.	Quantity	Description
100.6531	1	Charger unit
100.6532	1	Pump unit with bottle clamp and mounted compressed air connector
746.6535	1	Spray head type A
746.6536	1	Spray head type B
960.0140	1	Reagent bottle 100ml with cap
960.0145	1	Reagent bottle 50ml with cap
B.022.6535	1	Instruction manual

The following consumable parts are available for the CAMAG TLC Sprayer:

Cat. No.	Quantity	Description
022.6535	Package of 6	5 spray head type A, 1 spray head type B
022.6538	Package of 6	Spray head type B
022.6534	1	Compressed air connector
022.6536	Package of 6	Reagent bottle 100ml with cap
022.6537	Package of 6	Reagent bottle 50ml with cap
022.6540	1	Bottle holder
022.6539	1	Service-Kit comprising: 1 compressed air connector, 2 gaskets, 2 filters, bottle holders

2 Unpacking/Installation

Check with reference to the parts supplied section whether any parts are missing.

2.1 Installation of pump unit



Connect the charger unit (1) to a main power outlet and place the pump unit (2) into the circular cavity of the charger. The pilot lamp (3) lights up.

Prior to first use charge the unit for a minimum of 16 hours.

There is no danger of overcharging. The battery should not be completely discharged – therefore charge the battery regularly even if the instrument is not used.

2.2 Connect the spray unit

For solutions of regular viscosity, spray head type A is suitable.

For solutions of higher viscosity (such as sulphuric acid up to 30%), CAMAG recommends to use spray head B (black cover).

- Remove the cover and the cover disc, screw the spray head (4) with bottle adapter (7) on the filled reagent bottle (6).
- Insert the reagent bottle with spray head into the clamp, so that the cam of the spray head is positioned within the groove of the clamp.
- Press the end of the connecting tube (8) onto the spray head until it snaps into position.

By following this procedure, the pump unit is tightly connected with the spray unit.

2.3 Hints

- Make sure reagent solutions are free from solid particles; filter if necessary.
- Do not fill the reagent bottle higher than to its shoulder.
- When using a 50 mL bottle, shorten the capillary tube of the spray head, cutting it at 45° angle.
- Do not store the instrument in the charger.
- Use the sprayer until the battery is almost down, and then fully re-charge it.
- If the instrument is not used for a longer time, disconnect the mains connection.

3 Getting started

Remove the charged and prepared TLC Sprayer unit from the charger unit and start spraying by pressing the control switch (9).

CAMAG recommends to start spraying at a distance of 20cm from the plate. Move the sprayer in a steady motion over the plate until the surface is sufficiently wet (to get best results, stop before the plate is totally wet).

Spray distance, time and after-spraying treatment depend strongly on the method used.

4 Maintenance/Troubleshooting

4.1 Maintenance

A regular maintenance is mandatory to keep the instrument in perfect working condition. Therefore follow the steps below:

- Discharge the sprayer once a month (by spraying until the battery is almost empty) and charge it fully (also if the TLC sprayer is not used)
- Replace the spray head on a regular base

- Clean the spray head with a respective solvent if the sprayer is not used for a longer time

4.2 Decontamination

If the instrument needs to be decontaminated, follow the respective safety regulations/guidelines if applicable.

4.3 Troubleshooting

In case of insufficient performance check:

- Loading state of the battery
- Level of solution in the reagent bottle
- Clogged nozzle: clean carefully, using a fine needle. Make a test spray prior to next application. If this does not help, exchange the spray head.

5 Technical data

Charger unit

Mains voltage: 100 - 240 Volt / 50 / 60 Hz

Power consumption: approx. 5 Wh

Pump unit

Operating voltage: 4.8 V DC

Inductive charge: 45 - 50 mA / 14 - 16 hours

Avoid contact of water or organic solvents with the sprayer or the charging unit.

The TLC Sprayer meets all relevant safety regulations as EEC safety regulation 82/499; VDE (Assoc. of German Engineers) spark protection 0871-B.

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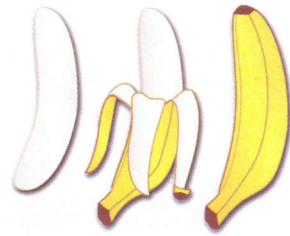
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Certificate of Conformity

We herewith declare that the commercial version of the machine characterised in the following complies with the relevant fundamental safety and health requirements of the EEC Guide Lines due to its conception and design.

In case of alterations on the machine without our consent this declaration becomes invalid.

Product: DC/TLC Sprayer
Type: GW 1

Relevant EEC

EEC Machinery Guide Line (98/37/EEC)
EEC Low Voltage Guide Line (73/23/EEC), amended by 63/68/EEC
EEC Guide Line about Electromagnetic Compatibility (89/336/EEC)
EEC Guide Line for Pressure Vessels (97/23/EEC)

Applicable National Standards

Pressure vessel directive in the latest valid version

Due to in-house measures it is established that all serial equipment always meets the current EEC Guide Lines and the applicable Standards.

The undersigned act on behalf of and with the authority of the Management.

Marc Fuhrig

Wolfgang Fuhrig

12.06.2003

