



Aerosol Filling Machine (part no. 1924) **Operating instructions**

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1 Introduction

Please read the operating instructions carefully prior first use and follow these instructions accordingly. Keep this manual easily accessible at any time.

Personal injuries caused by failure to comply with the operating instructions are not covered by the product liability law.

HBC SYSTEM assumes no liability for damages to the machine caused by failure to comply with the instructions listed in the manual.

Safety instructions warn against dangers and help to avoid personal injuries and material damages. The adherence to safety instructions mentioned in this manual is imperative for your own safety.

The corresponding national and international occupational safety regulations must be observed. Each operator is solely and entirely responsible for adherence to regulations applicable to him and has to strive independently for most recent regulations.

1.1 Explanation of symbols and notes



General information for operators and maintenance staff



Detailed information for maintenance staff



This symbol is used to indicate that incorrect adherence or non-observance of safety instructions may cause injury to persons or damage to the machine.



This symbol means that special technical knowledge is required to determine and eliminate the described incidents in order to ensure a flawless and safe operation of the unit.

1.2 Safety definitions

- The design and implementation is conform to the following directives:
- (see declaration of conformity)

1.3 **Apparatus**



1.4 **Scope of delivery**

Included in delivery:

- Filling machine for aerosol cans
- Dosing jar incl. Lindal - adapter and injection nozzle
- Bolt to fix the filling machine on the erection area (see chapter 7)
- Connecting-kit for compressed-air supply
- Height adjustment adapter for Clean-Free jar

1.5 **Safety check**

To ensure the operator's safety the machine has to be bolt securely on the worktop. Check if the machine stands on a stable worktop and if the machine is connected firmly to it.

All elements of the casing of the unit are serving as protection and must not be removed partially or completely during the operation. An operation of the machine with removed or defect casing is not allowed.

The filling process is started by the actuation of the door latch. The door must be completely closed. When opening the door latch the piston moves up.

This mechanism has to be checked in regular intervals (or before every use) while the door is closed and the dosing jar set in.

Where necessary the machine must be sent for servicing.

To be checked daily:



- *Safety devices*
- *Fixation of the unit on the worktop*
- *Casing elements*
- *Test pneumatic machine parts for leaks*

1.6 Unauthorized modifications and spare parts

Modifications or alterations to the machine are only permitted subject to previous approval and written confirmation by HBC SYSTEM. Only use original spare parts and accessories authorized by the manufacturer. The use of other spare parts may annul the liability for any resultant consequences.

1.7 Monitoring

Our aim is to provide safe products with state-of-the-art technology.

Please inform us immediately of the following:

- Faults on the safety devices
- Faults during the operation
- Changed settings
- Problems operating the machine
- Accidents or near-accidents

1.8 Staff training

- Only trained personnel may operate the machine.
- The responsibilities of the personnel for operating, modifying and servicing must be clearly specified.

2 General Safety Notes



2.1 Intended use

The operational safety of the supplied facility is only guaranteed when it is used in accordance with the safety notes.

- The delivered machine is solely intended to fill special pre-charged aerosols.
- Only undamaged aerosol cans are allowed to be filled. Check the cans for damages, especially for bulging.
- The recommended filling quantity (100 ml for a 400 ml aerosol can) must not be exceeded.
- Only fill aerosol cans which are intended for the subsequent filling process.
- Don't do multiple filling.
- Only fill permitted materials. Permitted materials are lacquers and primers and other correlating agents such as hardeners, converters and thinners.

The system may only be used if it is in a technically perfect condition.

- In case of malfunction the machine must be stopped immediately, the pneumatic supply disconnected and safeguarded against unintentional reconnection. Every dysfunction and damages displayed by the system or discovered otherwise have to be reported and cleared.

The following is not permitted:

- To operate the facility in a defective condition
- To modify the defined connection requirements, intended use and technical data, which are mentioned in the technical documentation
- To modify or to alter the machine without previous approval by HBC SYSTEM
- To smoke, eat or drink whilst operating the machine
- Installed safety devices must be existing, properly installed and fully functional. They must not be removed, modified, bypassed or disabled.
- Safety components such as limit switches, valves and other control components must not be disabled.
- Persons under influence of alcohol, other drugs or medicine which might affect the reactivity must not use or maintain the machine.

Improper use is strictly forbidden. In the event of damage the responsibility remains with the operator and cannot be imposed on the manufacturer.



2.2 Special operator obligations

- Every operator has to provide operating instructions.
- The operator has to ensure that the machine and the operating materials are checked in regular intervals to maintain the good condition.
- The responsibility for the proper conduct of the test falls to the specialist.



3 Special Safety Notes

3.1 Safety devices

Never manipulate the following:

- Safety locks
- Pressure releases
- Protection door
- all other safety devices



3.2 Special personal protective equipment

- Protective glasses



- Respiratory protection



- *Protective gloves*








- Observe the safety instructions of the operator

3.3 Special dangers of the facility

Source of danger	Danger	Prevention
Loose pneumatic pipes	Risk of injury due to lashing pipes	Initial operation made by a specialist at the manufacturer
Uncontrolled actuation of the piston	Danger of crushing	Initial operation made by a specialist at the manufacturer
Machine falls down	Risk of personal injury	The machine must be mounted on a secure and stable surface.
Spilled liquids	Danger of slipping	Spilled liquids must be removed immediately and disposed of properly.

3.4 **Special dangers caused by the product**

Source of danger	Danger	Prevention	Symbol
Bursting aerosol can	Risk of personal injury	Before use, check can for damages (e.g. deformation)	
Arising vapours	Danger by poisoning/ choking	Wear respiratory protection	
Fluid ejection	Risk for the user	wear protective clothing and safety glasses	
Contact with materials to be filled	Dependent on the materials to be filled	Avoid contact by wearing appropriate protective clothing and gloves	
Fire and explosion	Dependent on the materials to be filled	Observe the safety notes of the material manufacturer Keep suitable firefighting media at hand.	

3.5 **Behaviour in case of danger**

Stop the machine by disconnecting the compressed-air supply. Further measures are to be specified by the operator.

3.6 **Rescue. First Aid**

Observe the company health and safety regulations

3.7 **Firefighting**

Observe the company firefighting procedure.

4 Transport



4.1 Safety regulation



- During the transportation, the protection door might be moved by the self-weight of the machine.
Provide a transport lock.

4.2 Requirements on the executing staff

(see chapter 1.8 Staff training)

4.3 Technical data

- Outer dimensions (L x W x H): 650 x 300 x 300 mm
- Gross weight / Net weight : 20 kg

5 Design and Function



5.1 Construction



5.2 **Technical data**

- Dimensions:
Height 615 mm
Width 225 mm
Depth 225 mm
- Weight
ca. 18 kg
- Pressure (compressed air dry and free from oil)
max: 10 bar
min: 7 bar

5.3 **Safety and monitoring devices**

- Protection door
Protects the user from eventual leaking materials
- Cam latch
The door valve is installed to be operated only by the turn latch.
- Manometer
shows the adjusted pressure

5.4 **Controls and Displays**

5.4.1 **Positioning and description**

- T-handle
The turn latch is moved by the T-handle. When turning the cam latch to the right as far as it will go the door valve is activated and the piston moves down.



Door closed
Piston moves down



Door open
Piston moves up

- Pressure regulator
The operational pressure is pre-set at the factory and can be read off at the manometer.

6 Start up



6.1 Requirements on the executing staff

(see chapter 1.8 Staff training)

6.2 Mounting/ Assembly

6.2.1 Pre-conditions

- Dry and oil-free compressed air
- Clean and stable mounting location
- Provide an ergonomic working height
- Room temperature: 15 – 30 °C

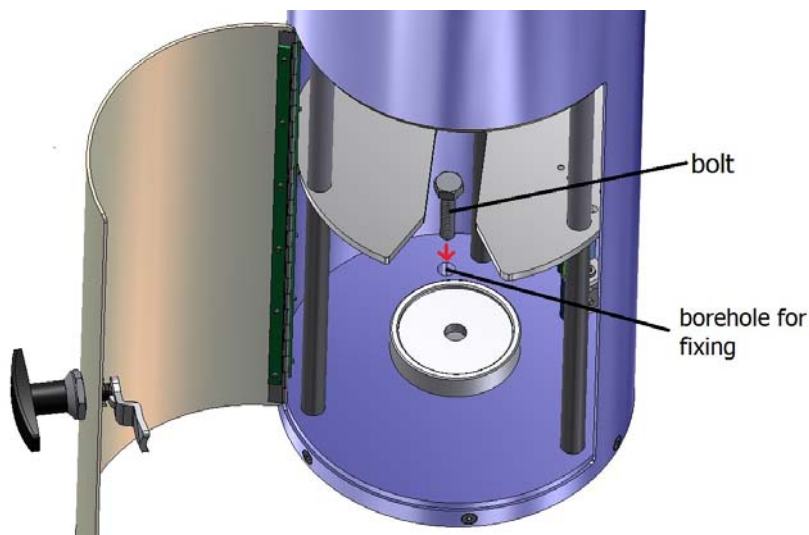
(see also 7.6.1 preliminaries before initial operation)

Required space L x W x D 1 x 1 x 2 m

Mounting on a safe (not loose) worktop on which the machine is fixed.

6.2.2 First use

- Remove the device from its packaging
- Open the protection door
- Remove the dosing jar
- Fix the device on the worktop by the bolt (through the borehole on the bottom of machine)



- Connect air supply by using included connecting-kit.



- Put a collection container under the condensate drain
- Check the operational pressure on the manometer. Pre-set: 8 bar

6.2.3 Cleaning

The machine must be cleaned immediately after the completion of the filling process. Dried residue is extremely difficult to remove.

Wipe the bottom of the piston with a solvent soaked cloth, place the dosing jar into a solvent-bath and clean with a brush.

6.3 Initial operation

The initial operation is made by the manufacturer.

7 Operation



Operation means the entirety of all activities executed on the machine and on similar working equipment from the takeover of the machine until it's decommissioning.

This chapter informs you of the following:

- Safe operation of the machine
- Exploiting the full potential of the machine
- Efficient operation of the machine

7.1 **Safety Notes**

- See also chapter 2 General Safety Notes
- See also chapter 3 Special Safety Notes
- Safety devices must be checked on a daily basis prior to use!
- In case of make-ready and adjustment works in manual mode take appropriate measures to protect the machine against unauthorised operation.
- Perform work if necessary only by two persons.
- If the machine is not in use, or if the user is leaving the working area then the machine must **always** be disconnected from the pneumatic air supply and safeguarded against unauthorised reconnection



7.2 **Operating the filling machine**

7.2.1 Setup, adjust, equip

- Close protection door
- Connect the device to the compressed air supply

7.2.2 Check before switch-on

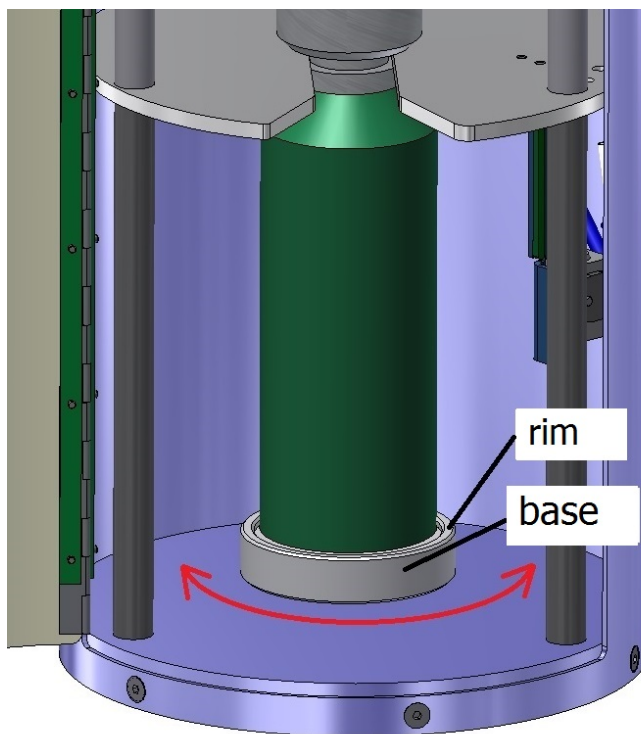
- Check that the piston is fitted tightly
- Check the piston for damages / wear and tear (e.g. grooves)

7.2.3 Preparations

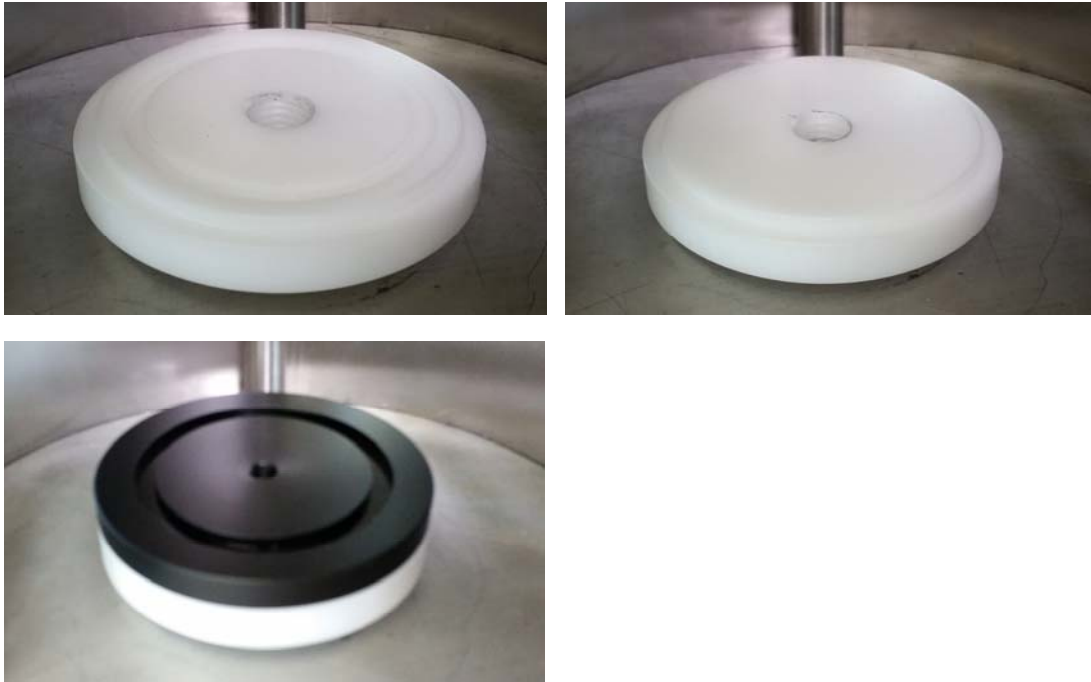
- Remove the safety cap from the aerosol can.
- Remove the spray nozzle.



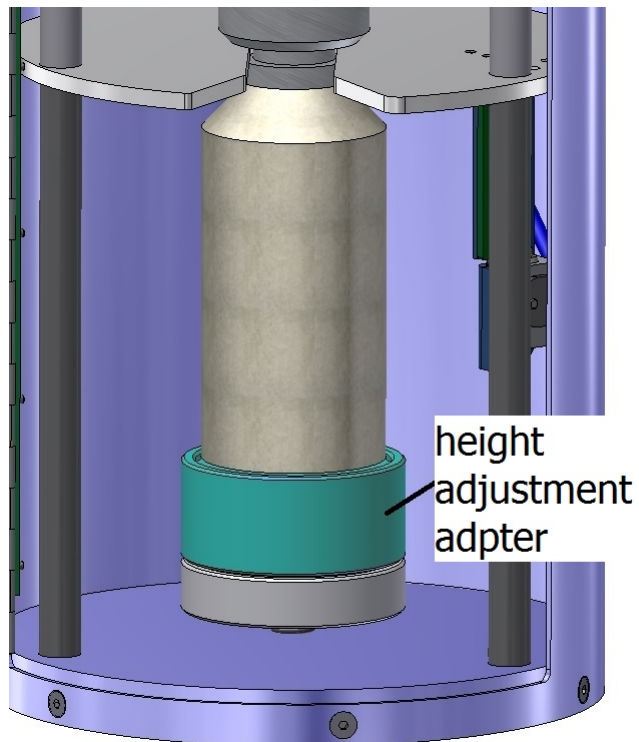
- Adapt the base to the used can.



The top side and the bottom side of the base are used for two different types of aerosol cans. The base can be turned according to the can type: Straight can or Necked-in-can.

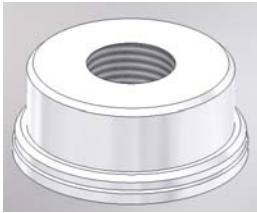


- For cans with 250 ml / 300 ml content a height adjustment adapter (sold separately, see spare parts list chapter 11) can be used.



7.2.4 Use of standard dosing jar (with cleaning)

- Ensure that the correct piston is mounted.



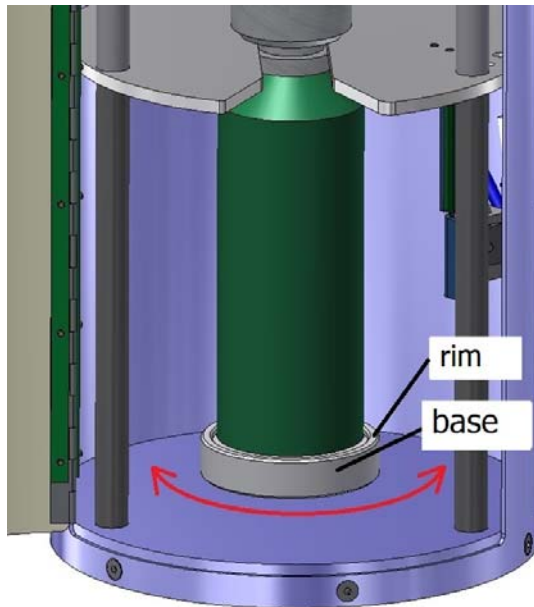
- Attach the dosing jar on the aerosol can.



- Mind that the dosing jar and the can are assembled without gap (arrow)



- Pour 100 ml of the material to be filled in the dosing jar leaving approx. 5mm of space underneath the rim of the dosing jar.
- Insert the can with attached dosing jar up to the stop into the machine.
- Adjust the height to the correct can size. Adjust the base by revolving until it butts against the bottom of the can.
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Close the protection door and turn the T-handle to the right as far as it will go. By doing so, the safety switch is activated and the necessary pressure is released.



Door closed
Piston moves down



Door open
Piston moves up

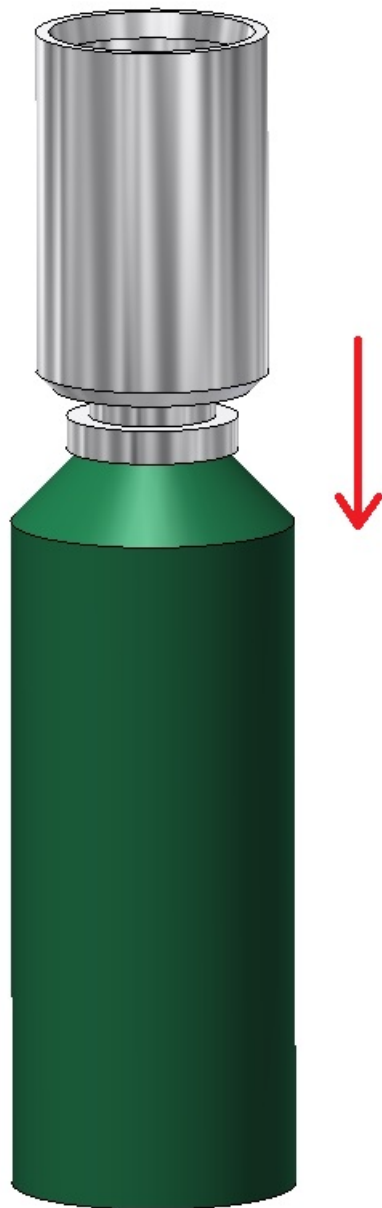
- To clear the diptube and valve of the aerosol can, turn back the door handle slightly until the piston has moved completely up. Then turn the door handle again to the right and perform a complete up and down movement of the piston.
- Once the piston has returned to its initial starting position, the front door can be opened and the aerosol including the dosing jar can be removed
- Detach the dosing jar from the aerosol can.
- If required, wipe away any excess paint from the valve by using a cloth.
- Replace the spray head and the cap.

7.2.5 Use of a clean-free jar

- Ensure that the correct piston is mounted.



- Attach the dosing jar on the aerosol can without leaving a gap.



- Insert the Clean-Free jar in the dosing jar.
(Clean-Free-Adapter-Set is sold separately, see accessories)

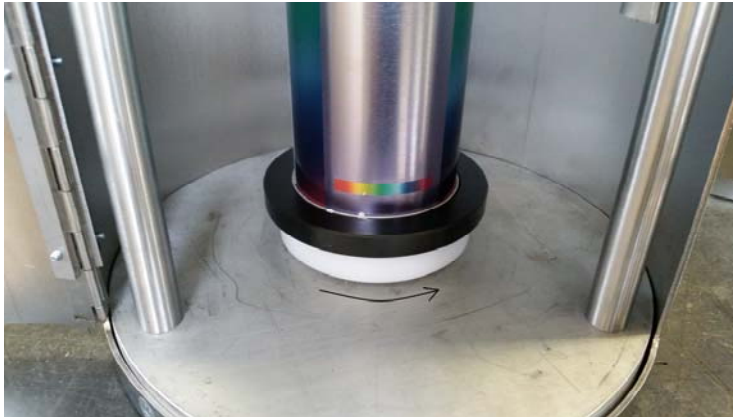


- Pour 100 ml of the material to be filled in the dosing jar leaving approx. 5mm of space underneath the rim of the dosing jar.
- Close the filling jar with the lid
- Insert the Height adjustment adapter for Clean-Free jar



- Insert the can with attached dosing jar in the filling machine.
- Fix the bottom plate
- Close the door

- Adjust the height to the correct can size. Adjust the base by revolving until it butts against the bottom of the can.



Close the protection door and turn the T-handle to the right as far as it will go. By doing so, the safety switch is activated and the necessary pressure is released.



Door closed
Piston moves c



Door open
Piston moves up

- Once the piston has returned to its initial starting position, the front door can be opened and the aerosol including the dosing jar can be removed
- Detach the dosing jar from the aerosol can.
- If required, wipe away any excess paint from the valve by using a cloth.
- Replace the spray head and the cap.

7.2.6 Power-off

Emergency power-off

- By **disconnecting the compressed air supply**
- NOT by opening the protection door.



Switch-off for short interruptions (during a break, etc.)

- By **disconnecting the compressed air supply**

Switch-off for long interruptions (weekend, holidays, etc.)

- By **disconnecting the compressed air supply**

7.2.7 Changeover/ retrofitting

- By **disconnecting the compressed air supply**

8 Dysfunction, troubleshooting/ fault repair



N:	Fault	Repair by user	What to do
1	Filling procedure does not start when turning the T-handle	allowed	Check if the cam latch of the door activates the safety valve (acoustic control), If necessary adjustment by trained personal.
2	Piston is not in the position "up"	allowed	Remove the dosing jar. Close the protection door and keep it closed. Check the compressed air supply.
3	Material is not pressed in the aerosol can.	allowed	Check air pressure and compressed air supply
4	Defective pneumatic parts	not allowed	Repair only by a specialist!
5	Material spills over the piston during the filling process	allowed	Exchange the piston.

9 Maintenance



The HBC SYSTEM - Aerosol Filling Machine (1924) is as far as possible maintenance-free.

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10 Repair



Repairs are only permitted to be carried out by the manufacturer

11 Disposal



This chapter informs about safety and legally impeccable disposal of the device and the operating material contained therein.

11.1 Safety regulations



- During the transportation of the machine single components such as the protection door might be moved by the self-weight of the machine. Provide a transport lock.

11.2 Requirements on the executing staff

- See chapter 1.7 Staff training

11.3 Operating materials

- For the disposal of the machine and its components the relevant rules and regulations for waste disposal have to be abided.
- All drive mechanisms which contain oil must be emptied. The oil must be disposed of in accordance to the local waste disposal rules and regulations
- The machine consists mainly of metal and plastic. The relevant rules and regulations for the waste disposal of these materials have to be abided.

Remark:

D The components of the machine consist largely of recyclable materials and must be returned to local recycling facilities.





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