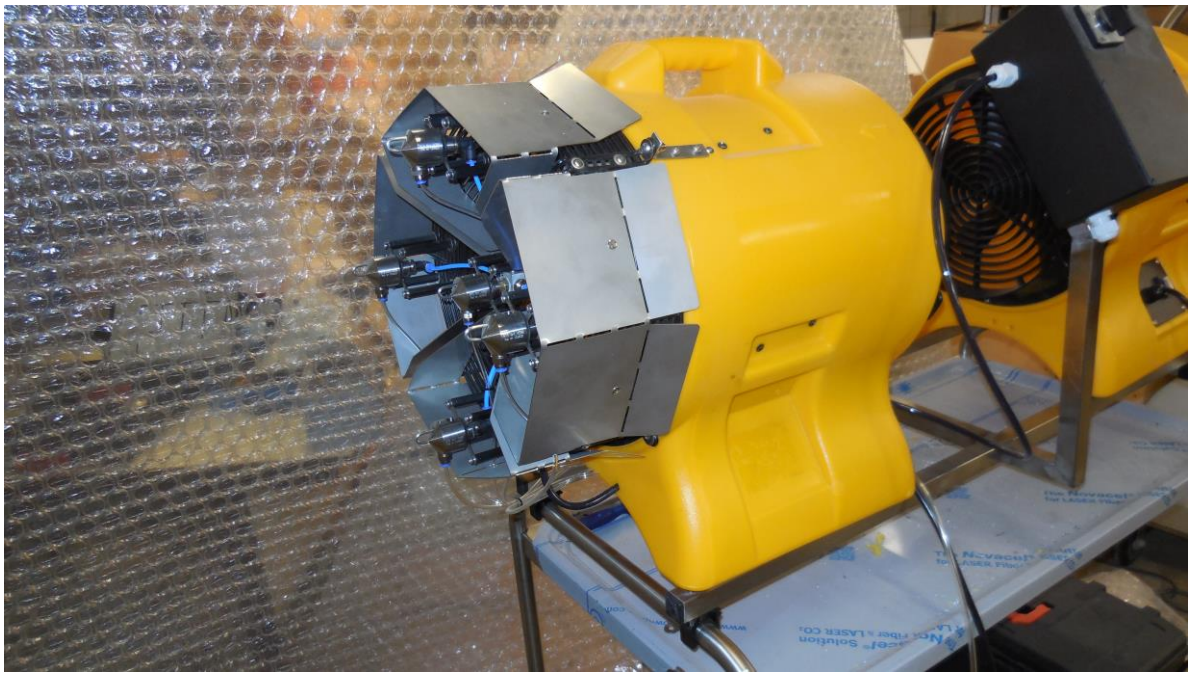
Operating instructions

POWERMISTER LVM H5 x 1

Version 1.0



Besteman Techno Support
Molenlei 1H
1921CZ Akersloot
Tel.: 0653753106
Fax: 0847406692

info@bestemantechnosupport.nl
www.bestemantechnosupport.nl

Send this declaration to Besteman Techno Support:

Address of the supplier

Transfer and instruction declaration

Transfer of the type :. POWER MISTERRLVM H5 X 1 …….
Serial no. :……
On the following date :……
By the seller (name) :……
Company :……
Customer name :……
Customer address :……
City/postcode :……
Email address :……
Tel. no. on which the person can be reached
:……

The buyer and/or trained person makes it known through this declaration by signing this form that he/she has been authorized and trained by the seller in the correct operation of the aforementioned type of LVM device. The buyer and/or trained person also indicates/indicate that he/she/they is/are aware of the possible risks and the prevention thereof in accordance with the safety instructions specified on the rear side and understand and will observe the safety instructions contained in the operating instructions. When this declaration is signed, the guarantee arrangement will come into force in accordance with the provisions defined within the terms and conditions for the metal industry.

…… ……
(City, data and signature of the buyer) (trained person)

Besteman Techno Support
Molerlei 1H, 1821 CZ Akersloot The Netherlands

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Preface

You must attentively read this user manual and follow the instructions that it specifies.

Always ensure that the user manual is within reach of the RLVM or download it from
www.bestemantechnosupport.nl

Guarantee and liability provisions in the general delivery terms and conditions of Besteman Techno Support will not be extended or replaced by the aforementioned or what follows below.

Permitted use

The RLVM (Resonator Low Volume Mist) is only meant for the spraying disinfectants for disinfecting rooms facilities. The droplets are microscopically small and will continue to float around in the storage facility for 12 hours after having used the device because of this. The inhibitor is distributed in the barn facility and will penetrate into the pores of the hard surface in space
Any other use can lead to damage to the device and/or the environment and personal injury.

Copyright

Molenlei 1H
1921CZ Akersloot
Tel.: +31(0)653753106

Type: Power Mister RLVM

Volts: 220/240
Year: 2020
Serial no.:
Weight:17 kg
Amps: 5

CE

1. Technical data

The BTS Power Mister -H5 x1 is a mist machine with a capacity of between 20 litres of liquid
The values of the delivery will depend on the following:

- The viscosity maintenance properties of the liquid to be atomized;
- The quantity of liquid that is passed on to the spray nozzle
- The contamination of the filter.
- The height of the liquid from the desinfection product tank.

Weight	: 17 kg
Material	: stainless steel 304 & PE
Voltage	: 230 V
Power	: 175 W
Liquid tank volume	: not included
Low-culture mist dispersion	: 80 mtr
Fan speed	: 3500 rpm
Fan volume flow	: 3900 m^3/h one fan

Fan

Motor:	220V, 1 phase
Number of revolutions:	3500 min^{-1}
Fuse:	Motor thermal fuse
Power:	0.800 kW
Air displacement (max.):	7800 m^3/h (when there is free passage) total

Liquid

Stock tank content:	not included
Liquid delivery:	20 litres of liquid(water)/hour
Area range:	2000 m^2 (with stator fans)

Electricity

RLVM supply:	220 to 240 V, 1 phase
S switching box:	Aluminum
Safety class:	IP 54
Fused	5 A

Dimensions

Length:	mm	(0.65, m)
Width:	mm	(0,5 m)
Height:	mm	(0.65 m)

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Device protection
The Power Mister is only meant for atomizing protection barns en stores desinfection for which the RLVM should be used for. Any other used can lead to damage to the device, injury to people and/or environmental damage.

Notification
No rights can be derived from these instructions for use.

Blockages can be prevented by following the prescribed maintenance and cleaning schedule. This is the responsibility of the user.

2. Safety instructions and accident prevention

Observe the following safety instructions. Disregard may lead to damage to the device, personal injury and environmental damage.

Authorisation

- Only trained people may be present and set and operate the device during commissioning and operation of this device.
- Do not smoke when this device is operational!
- Switch off sources of ignition in the area to be sprayed.
- Never fill the tank for active ingredients with petrol or another highly flammable liquid (FIRE RISK).
- Pay attention to the following safety issues when using the device for atomizing (highly) flammable liquids:
  1. Never atomize more than 2.5 liters of a flammable liquid /1000 m^3or more than 10 litres of a highly flammable liquid with a viscosity that is nearly the same as water with a water content of less than 50% per 1000 m^3 in area.
  2. Do not atomize flammable liquids in a sealed off storage location without ventilation or when there is an ignition point in the vicinity (explosion risk).

Protection of the building and user

- Follow the application guidelines of the producer or supplier of the used active ingredients and atomizing liquids.
- Wear protective clothing in the location where atomizing will take place when atomizing as recommended by the supplier.

Before use:

- Check whether the device to be put down individually works safely by first running a trial run outdoors. Ensure that there is a stable substrate so that the device cannot slide or fall over.
- Smoking and using sources of ignition are strictly forbidden when filling the liquid tank. Remove all sources of ignition.
- Leaks that the device may present must be sealed professionally b a technically competent person.

After use:

- Do not convey the device in a closed vehicle and never with a full protection product tank.
- Inspect the device annually and certainly when different protection products have been used.
- Always clean the resonator and tank using a cleaner prescribed by the protection product supplier (when you wish to change protection products). If the Power Mister is used regularly, it can be left with a tank filled with the relevant protection product.

Important issues to remember!

Read, understand and respect the following safety instructions before you start to work with the device. Not respecting these safety rules can lead to injury and environmental damage. The instructions for use must be attentively examined and understood by the operator of the device before it is used.

- Always first test the operation of the mist atomizer.
- If you do not know which liquid was used previously, then always fully clean the device before use. Only use the cleaners that the supplier recommends for this.
- Check whether the resonator is positioned correctly in front of the outflow opening of the spray nozzle.
- Check the liquid delivery (the air bubble speed in the liquid suctioning hose is 6 seconds for 20 cm at approximately 3 liters per/hour).
- Check the reaction of the resonator with the liquid to be atomized for a newly to be used liquid. If a droplet occurs on the bottom side of the resonator when the device is put into operation, the air/liquid ratio is still not correct. .
- Never smoke or have other types of fires in the vicinity of the device!
- Do not atomize chlorine-containing products because of the stainless steel and brass chromed materials that are used to manufacture this device.
- First wash your hands and face before eating or drinking when you have been in contact with the active ingredient. Always follow the recommendations of the manufacturer of the active ingredient with regard to this issue.

When the device does not operate correctly:
Have the device checked by an expert and competent person (supplier).
This device can also be inspected every year before the season when it is to be used. Fill in the data of the maintenance contract and send it to your supplier. This can prevent plenty of irritation and stress.

At the back of these instructions for use you will find the forms to have the RLVM maintained every year.

Ensure you are aware of the icons used and what they mean.

- Ensure that the warning labels can be easily read and replace them immediately when the damaged.
- Read the user manual before starting to work with the RLVM!
- Always use an earthed power point.
- Check to which fuse group the power point has been connected and ensure that it is protected with a 30 milliamp earth-leakage circuit breaker.

Attention! Risk of injury with the machine!
Ensure that people who have no experience with the Powermister are fully informed about the risks of atomizing protection products by using the Powermister. Serious injury can be caused when safety instructions related to the Powermister are not passed on to people who came into contact with the Powermister. The machine may only be operated by people who are 18 or older if they have studied the user instructions and have been informed about the risks and dangers of the Powermister and the protection products to be atomized.

Pay careful attention when carrying out maintenance work!

- Position a warning sign near the Powermister with the warning: “maintenance work: out of service”;
- Stop the machine and impede anybody being able to start it by disconnecting the plug from the power point;
- Inform the people in the vicinity that work is being performed on the device;
- Consult the user manual;
- Pay attention to the hot components of the device.

Prevent the risk of being poisoned!
Ensure there is good personal protection!

Stay away from the operational fan! Never remove the protective guards! There is a risk of being injured when you come in contact with the running fan of the Powermister.

When atomizing protection products with the Powermister, you will be working with extremely small particles of crop protection products. The probability of coming into contact with the protection product is, therefore, significant. In addition to absorption of the crop protection product through the mucous membranes of the airways, the risk of absorption through skin is also present. This may cause very serious cases of poisoning!

DO NOT ENTER a storage location where a Powermister is running or has just been running and where ventilation has not yet taken place! Avoid having to perform work in the atomized storage or barn location as long as possible after ventilating. If you need to enter the storage location, take the require precautions.

Always position a warning sign where atomization has taken place with the text: “Do not enter this storage location because there is a risk of being poisoned!”

If you need to enter the storage location after having treated the crop, ensure you have sufficient personal protection as prescribed by the manufacturer of the protection product.

3. Operation of the BTS Resonator Spray nozzle.

Diseases and pests in storerooms and cells, sheds or greenhouses can be controlled by using the Resonator atomizer. This is accomplished by the very fine distribution of liquid to protect / disinfect products in the form of mist. The droplets are microscopically small and will continue to float around in the storage facility for 12 hours after having used the device because of this. The protection product is distributed in the incubator, shed or store and penetrates in-between the product. Or, the droplets will evaporate in an air stream.

The airflow that is blown through the spray nozzle and is released at the venturi on the outside of the spray nozzle has the shape of a cone and is hollow. A vacuum is created in the cone through which the liquid is suctioned up from the tank. The liquid is, next, mixed with air in the BTS spray nozzle after which the liquid hits the vibrating resonating resonator with a speed of more than 700 km/hour at 4.5 bar once it is outside of the spray nozzle and, therefore, a fine mist is created.
A fan is installed behind the spray nozzle that blows directionally and without turbulence. This ensures that the crop protection product is taken by the airflow and is distributed regularly over the location were you use the Powermister .

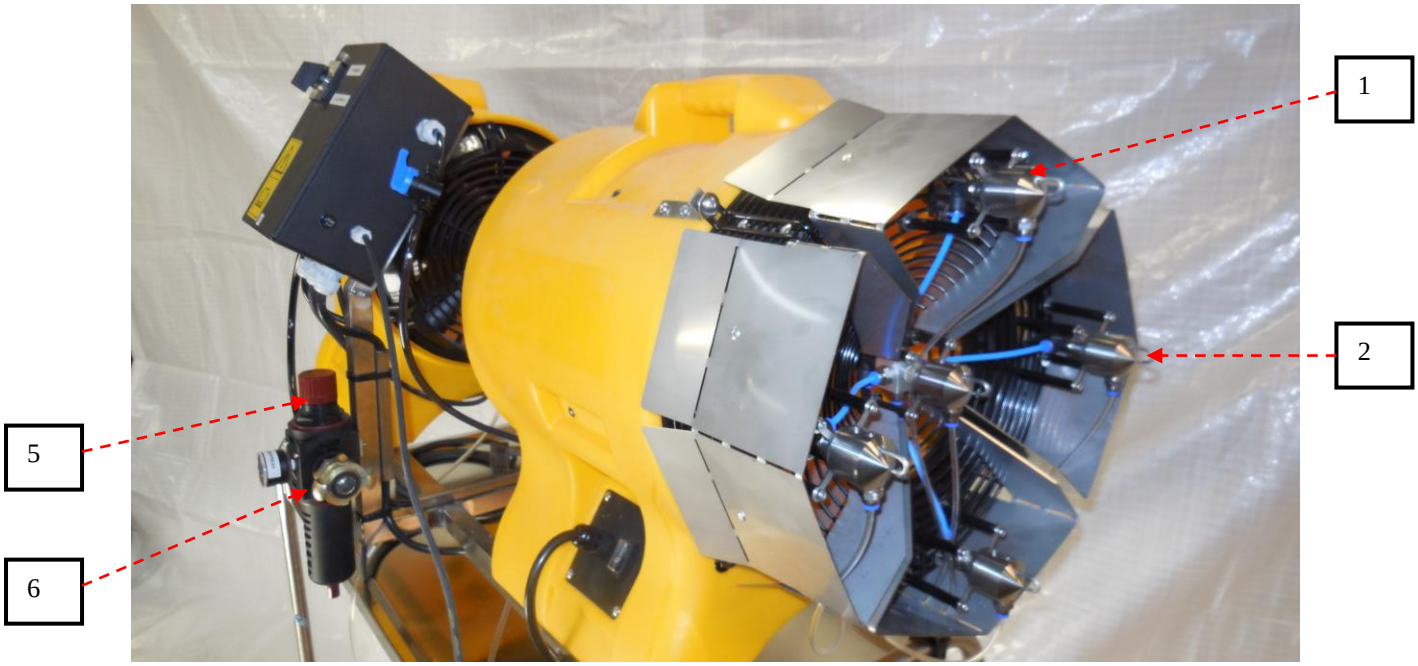
The method consists of allowing particles to float for a long time in the storage location where the device has been positioned. Administration, therefore, must take place when people are no longer in the storage location. This in order to prevent contact with the desinfection product.
Using the Powermister is best when there is a reasonable large temperature difference indoors when compared to outdoors so that the natural air movement in the storage location assists in distributing the protection product in the storage location.

A storage location treatment using the Powermister must always be performed in a sealed off storage location. After approximately 8 to 12 hours after treatment, the storage location can be ventilated should this be required.

Components of the RLVM H5

1. BTS Resonator spray nozzles
2. Resonator from the spray nozzles
3. Fan position lock nuts
4. filter
5. Pressure-reducing valve
6. Compressed air Claw coupling
7. Storage tank
8. level measurement float
9. Stator fans
10. Fan liquid collection tray (can be ordered separately)
11. Liquid retour tube

Figure 2a



The POWER MISTER RLVM H5 x 2

Figure 2b

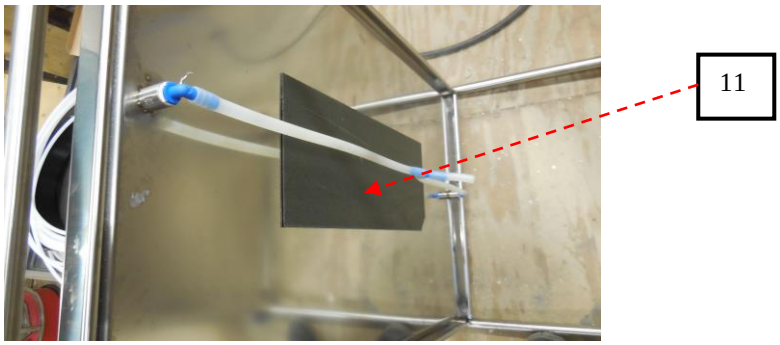


Figure 2c

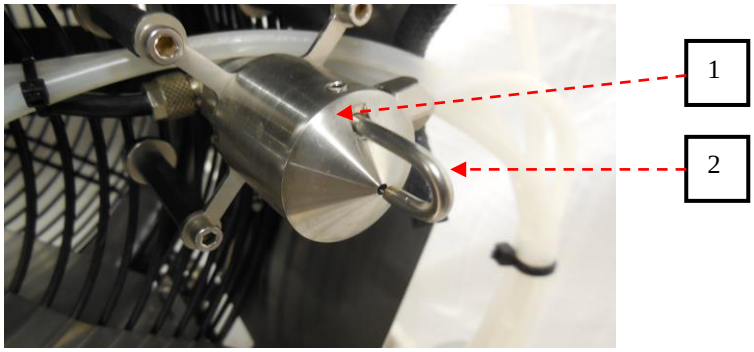


Figure 2d

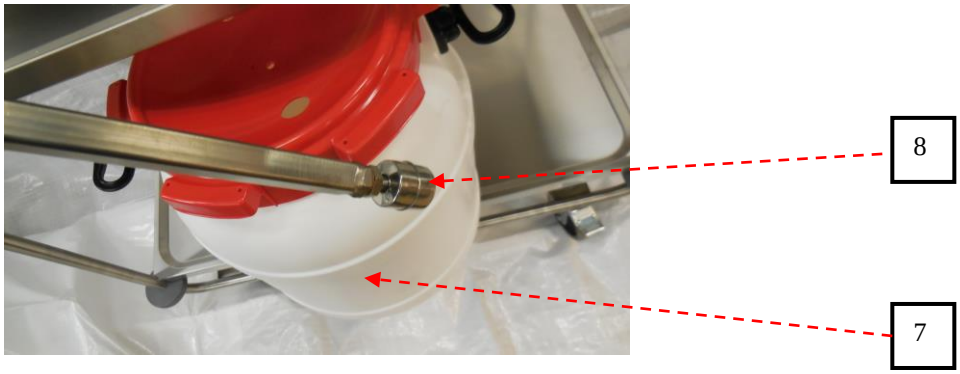
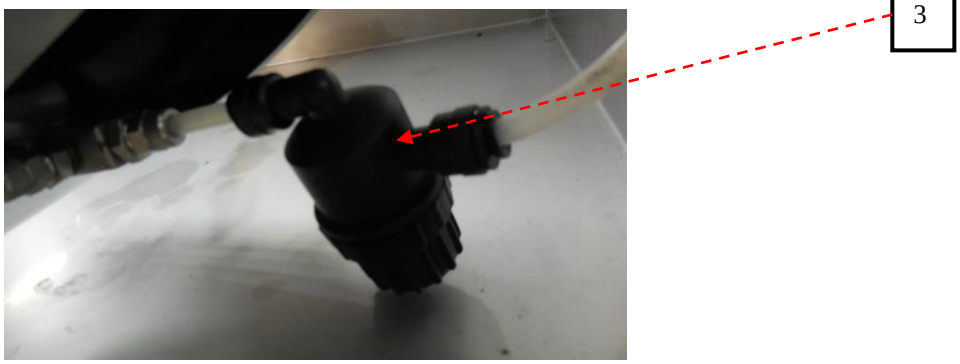
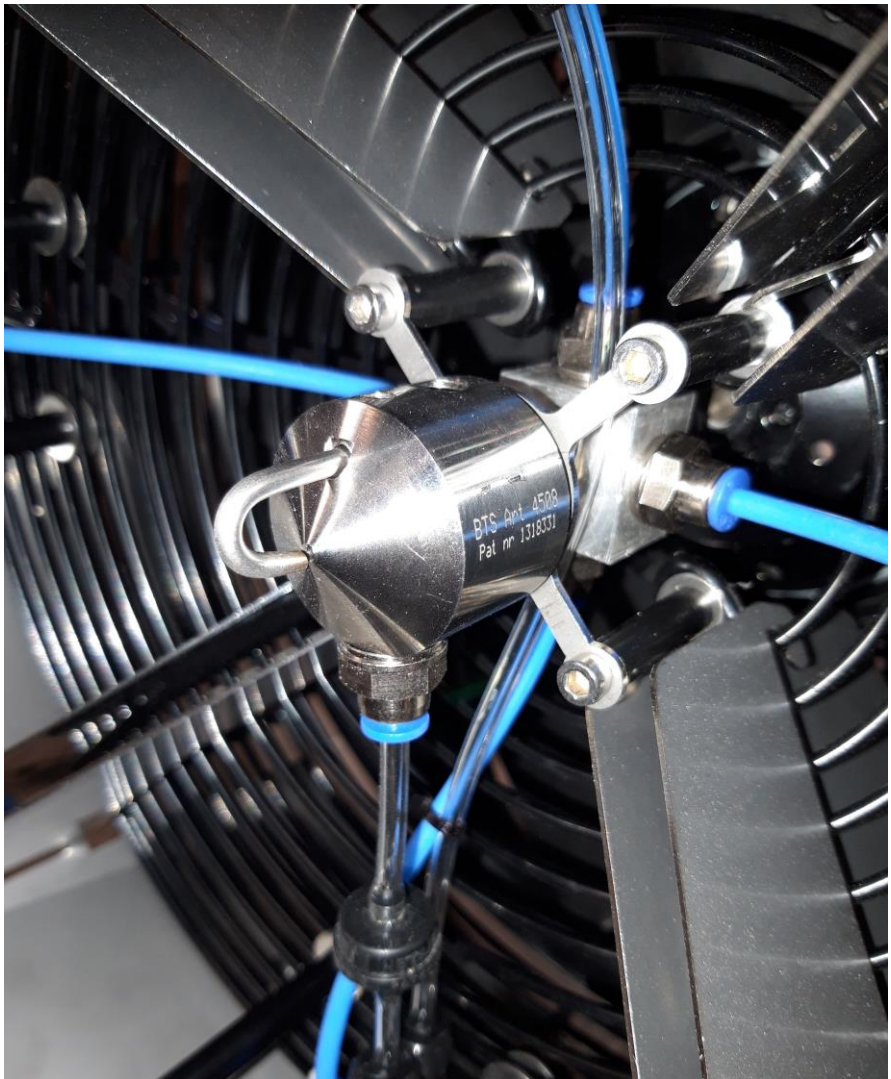


Figure 2e



Easy cleaning of the fan.
A smooth surface

9



The new BTS 4508 has a greater capacity of up to 4 a 5 liters per hour maximum.
The Sprayer are easy to keep clean if needed.

4. Connection and operation

Power supply
The BTS Powermister desinfection supplied by 220/240 V 50 H light current. When the power supply cable is extended, it is important that it has a diameter of at least 1.5 mm^2 and has been uncoiled completely from the reel. Insert the plug of the compressor in the power point before commissioning the Powermister always ensure that the wall socket is earthed and that this power point is also connected to a 30 milliamp earth leakage facility.

Compressed air
Ensure that the end pressure of the compressor is set to at least 7 bar and that it does not amount to more than 10 bar. The compressed air compressor must also always be positioned outside the desinfection room.
The operating pressure for the Powermister must at least be 5 a 6 bar (4.5 bar for at least 60 to 70 l/min.). The higher the pressure (max 6 bar) the finer the mist. The compressed air hose can be connected by using an claw coupling The quick coupler of the hose must be connected to the location as indicated in figure 2a-6:

Position of the Powermister
The fan can be moved from its horizontal position to set the mist flow:
- Loosen the grip nuts (see figure 3) on the frame (hold the fan pipe whilst doing this).
- Set the fan pipe to the required position (not more than 20º upwards)
- Retighten the grip nuts on the frame.

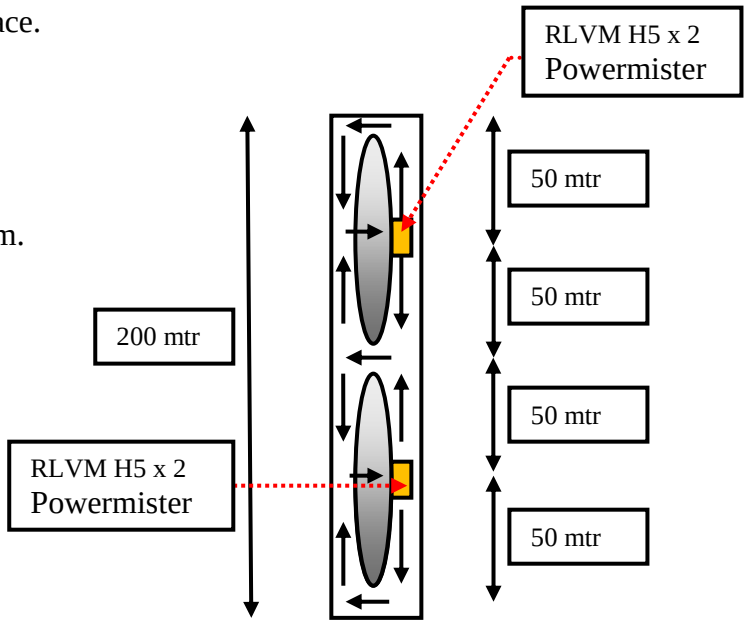
Ensure that the mist flow does not touch the crop and is pointed towards the open storage location so that construction parts are not touched either! Use in a large area: have BTS advice you.) When you use the Powermister for the first time: First allow the RLVM to run a trial run without having been connected to the protection product tank. Next, try it with the protection product and check whether the resonator reacts appropriately and the operating pressure is set correctly (4.5 bar).

Position of the Powermister RLVM H5 x 2
Position of the disinfection device in the room.
Make sure that the appliance is positioned so that the air can start to turn
With as little resistance as possible in the surface.

Position of the MASTER RLVM H5 x 2 desinfection

Position of the disinfection device in the room.
Make sure that the appliance is positioned so that the air can turning easily
With as little resistance as possible in the surface.

Therefore, position the device 3 meters from the facade on the side.



Filling the tank with product
Always carefully clean the protection product tank when different protection products are used.
Always allow the protection products to be atomized pass through a mesh filter before adding them to the protection product tank.

Liquid supply
The liquid supply is set to 40 liters per hour (viscosity of water).
If the liquid is thicker, the capacity of liquid that will be atomized will be lower.
The appliance stops automatically when the tank is empty when the level level measurement goes down in the tank when automatic was enabled.

Theorem: The less fluid per hour is sprayed, the finer the mist.

If you see a droplet on the Resonator of the spray nozzle during testing, the spray nozzle is being supplied with too much liquid or the air pressure must be set to a lower or higher value with regard to this liquid. Every liquid reacts differently!

Pressure	Compressed air consumption	Delivery	Drop size
5,5 bar	60 litres / min.	4 litres. (water) .	0 - ≤ 8 microns

The air supply is controlled by a pressure-reducing valve with a filter that can be found on the side of the plate frame (see figure 2a - 5). The air pressure can be controlled using this. Ensure that the compressor pressure is set at least 7 bar.
The best drop is obtained in relation to the liquid delivery. (This is usually 5 to 6 bar operating pressure.) This is indicated on the pressure gauge of the pressure-reducing valve. Do, however, pay attention to the drop formation, that is, what is commonly referred to as the splashing of the liquid nozzle.
When this happens, the pressure is to high and that is often referred to as splashing stops. Decrease the pressure on the pressure-reducing valve. This will be the operating pressure.

Operation

Always wear protective clothing.

There is an automatic stop system on the Powermister. This means that you can operate the Powermister automatically. So when the tank is empty, the Powermister stops automatically.
It is true that the level must be installed in the tank. Neatly standing in the corner of the edge.

Cleaning the filter

Clean the filter by flushing the installation with water. Then with a pass between the resonator of the atomizer and the atomizer saw the air close. This must be done while running. Repeat this for all sprinklers. Then the filter must be clean. It is best to do this with hot water. The filter is built into the bottom. This can be unscrewed only if necessary. And holding the filter under a tap or cleaning the filter with an air gun to rinse or blow it clean....

Starting the BTS RLVM H5 x 1 MASTER

1. Remember to wear protective clothing.
2. Clean the tank (or check the dirt that may be present in the tank).
3. Fill the tank with the liquid to be atomised.
4. The level must be installed in the tank.
5. Put the liquid suction hose in the tank.
6. Make sure that the tank is underneath the return collection
7. Remove the dust from the resonator (if very dirty, clean using a cleaner (detergent) and hot water).
8. Compressor pressure set at a minimum of 7 bar.
9. Connect the compressed air.
10. Check the pressure and, if not set correctly, ensure it is set to 5 a 6 bar.
11. Check that the resonators are positioned in front of the opening in the spray nozzle and, if this is not the case, adjust it.
12. Put the timer between the power cable

5. Maintenance and cleaning

- Inform those in the vicinity of the device that work is being performed on it.
- Only have maintenance performed by people who are competent in this area.
- Liquid drops that originate from the fan and grille are collected using a collection tray made for this purpose.
- Ensure that the plug of PowerMister has been disconnected from the power point.
- Thoroughly clean the machine using hot water and a cleaner (detergent) before performing maintenance work.

Maintenance after each treatment

Maintenance after each treatment

- Clean the storage tank of the BTS PowerMister after every treatment when another protection product is used or when the inside of the tank is contaminated.
- Drain the moisture from the tank of the compressor by using the drainage valve.
- Ensure that the resonator of the spray nozzle has been thoroughly degreased before liquid atomization is used when atomizing liquid on a water basis. This can be done using a little bit of pure detergent, ammonia or methylated spirits. This should certainly be done when the liquid is changed.
- Check whether the resonator spray nozzle atomizes the liquid correctly before starting any atomization session so that no surplus liquid remains behind suspended from the resonator. And to ensure that drops do not form on the bottom side of the resonator during atomisation.
- If the same liquid is used each time that always remains liquid and does not harden, the liquid piping and tank can be left as-is with the product inside.

Weekly maintenance

- Check the oil level of the compressor.
- Check whether the moisture in the tanks of the compressor has been drained.
- Check whether the hose and compressor filters are still sufficiently clean and, if required, clean them.

Yearly maintenance

- Thoroughly clean the PowerMister RLVM 5 H x 1 after every season.
- Treat sensitive places against oxidation (grease, treat with Tectyl and paint).
- Check the oil level of the compressor.
- Drain the moisture from the tank of the compressor.
- Clean the storage tank of the PowerMister thoroughly.
- Check the fan for dirt if it is seriously contaminated and should it vibrate. Have it cleaned by your dealer should this be the case.

6. Problems and faults

Problem	Cause	Solution
Spray nozzle stops atomizing regularly	Air permeability blocked.	Check the reducing valve and air valve. Clean the atomizer by hand with a small drill bit of 1 mm exactly in the middle of the hole of the atomizer during the mist with the resonator turned to the left or right. Then push the drill in and out in the hole while blowing. Then it must be cleaned. Never disassemble the atomizer yourself.
	Filter PowerMister blocked.	Thoroughly clean the filter.
	Suctioning hose of the PowerMister is suctioning false air somewhere.	Tighten the nut of the suctioning hose that connects the suctioning hose to the tank tightly.
	The compressor has too much condensate and is blocking the air supply.	Have the condensate drain from the compressor pressure tank.
	The pressure-reducing valve air pressures of the compressor is too low. The pressure-reducing valve pressure of the RLVM is too low.	Set the pressure-reducing valve compressor pressure to at least 7 bar. The operating pressure of the RLVM should be 4.5 to 5.5 bar (check drop formation on the resonator).

7. Transport, storage and disposal

Transport of the BTS PowerMister

- Ensure that the plug of the PowerMister is disconnected from the power point.
- Ensure that there are no protruding or loose parts.
- Always ensure that the PowerMister is blocked so that sliding, tilting or rolling away is impossible.
- Ensure that the device stays thoroughly clean and that windows are open in the vehicle during conveyance in relation to hazardous fumes that the device may emit.

Storage

- Thoroughly clean the PowerMister using a soft brush.
  Avoid brushing the PowerMister (since this may undo settings).
- Ensure that the plug of the PowerMister has been disconnected from the power point.
- Thoroughly clean the PowerMister using the cleaners recommended by the supplier of the protection products. Never, however, use acids, ether and/or thinners since they will dissolve the rubber materials.
- Check the PowerMister for components that are loose and any defects.
- Carry out all the items that are listed in the Maintenance section.
- Store the PowerMister in a covered and frost-free location.
- Grease the places that are sensitive to oxidation.
- Ensure that children cannot come in contact with this device.

Removal and disposal

After a long period of intensive use, the PowerMister will have to be replaced and the device will have to be removed and disposed of in a safe manner that is environmentally friendly. The removal can be left to the supplier but you can also do this yourself. When you will be disposing of the machine yourself, follow the following instructions:

- Thoroughly clean the machine.
- Separate the different materials and offer them to the local authorities for waste processing. The hydraulic oil and grease are classed as household chemical waste and must, therefore, also be processed as such.

9. Declaration of conformity

(in accordance with annex II A of the Machinery Directive)

EC Declaration of conformity for machines
(Directive 98/37/EC. Annex II. under A)

Besteman Techno Support
Molenlei 1H
1821 CZ Akersloot

declares that the:

BTS RLVM H5 x 1

meets the Machinery Directive (2006/42/EG) and IEC guideline as changed locally and also declares that the following (parts of) European (harmonised) standards have been applied;
EN ISO 12100-1, EN ISO 12100-2, EN-ISO 14121, EN ISO 14847

EN ISO 12100
and meets the following national and international technical standards and specifications:
EN 294, EN 418, EN 626-1, EN 953, EN 954-1, EN 1037, EN 50082, EN 60204, NEN-EN-IEC 60204-1,

Machine: PowerMister RLVM H5 x 1 Type:…1……

Date on which the final check took place:…10-02-2020 …. Serial no:…...20…….

Akersloot . 1- 2020

L.P. Besteman

Maintenance performed in partnership with different suppliers. Visit our website for more information or

When the device does not operate correctly:
Have the device checked by an expert and competent person (supplier).
This device can also be offered for inspection before use on a yearly basis.
Ask about our maintenance contract.

Besteman Techno Support . General sales and delivery terms and conditions of the Metaalunie (Dutch Metal Industry Association)