



User Manual Pot washer

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Introduction

This user manual has been made for everyone who has to work on or with the machine. You should read this manual before starting to work on or with the machine.

The user manual contains important instructions and information on how to use the machine safely, competently and economically. The user manual must always be available at the place where the machine is used.

The user manual must be supplemented with instructions based on existing national regulations relating to accident prevention and environmental protection.

This user manual contains information about the operation of the machine with all possible options. Use only that information that is applicable to your machine. Depending on the intensity of use and customer wishes, this machine can be equipped with various options. See your sales advisor for this.

Supplier details if not supplied directly by
Martin Stolze b.v.
Dealer stamp:



Martin Stolze b.v. guarantees the proper operation of the machine for 6 months after delivery, but is not liable for consequential damage to buildings, other machinery or the surroundings caused by the pot-washing machine by any cause whatsoever.

Martin Stolze b.v. is constantly seeking to improve its products and services. We therefore reserve the right to change the specifications given in this user manual at any time and without prior notice.

This product is supplied according to the general delivery and payment conditions published by the Metaalunie and referred to as the METAALUNIE CONDITIONS or the SMECOMA CONDITIONS.

The text took effect on 1 January 2019 and is filed with the Court Registry of the District Court in Rotterdam. Publication of the Metaalunie, PO Box 2600, 3430 GA Nieuwegein, the Netherlands.

Martin Stolze b.v. is not responsible for errors in this user manual, nor for the consequences thereof.

Martin Stolze b.v. is not liable for damage and indirect damage that result from operating errors, lack of competent maintenance and any use other than that specified in this user manual.

The liability of Martin Stolze b.v. also lapses as soon as modifications or extensions are performed on the machine by you or third parties without prior written permission.


This machine is only suitable for process and environmental conditions as stated in the 'Specifications and tolerances' section of this user manual. All other use is not permitted by Martin Stolze b.v. and can result in danger for the operator and/or his/her surroundings.


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1 Technical specifications and tolerances

The sole purpose of this machine is the washing of the outside of non-stacked pots filled with plants. This machine is intended to process only those pots that have been specified in this user manual. The 'Operation' section provides an extensive description of the operation of the machine.

 *This machine may only be used within the limits specified for specifications and tolerances in the order, on the composition drawing and in this user manual. If the machine is used outside of these specifications, Martin Stolze b.v. accepts no further responsibility for this machine.*

 *This machine is intended solely for products as agreed in the order confirmation. In order to guarantee the correct operation of this machine, only those products with the specifications and tolerances as specified in the order confirmation may be used.*

 *Do not use this machine for purposes other than that for which Martin Stolze b.v. made the machine. This can result in damage and danger for the operator and his/her surroundings.*


 *This machine has CE marking. When several machines are placed in one line, the entire line must have proper CE marking before this machine is put into operation. Until the line has CE marking, this machine may not be put into operation.*


Specifications	
Voltage	400 V 50 Hz 3~+N+ PE
Machine connection	16 A 5-pole
Power	1.3 kW/4.5 A
Weight	±400 kg
Pot size	Minimum 9 cm, maximum 30 cm Only round pots.
Year of manufacture	See rating plate.
Type of product	As agreed in the order confirmation.

1.1 Rating plate

The rating plate is located on the door of the switch box.

2 Safety

 *The machine has been constructed according to the latest technology and recognised safety technical rules. Nevertheless, its use can cause serious injury or death to the user or third parties. Its use can also cause damage to the machine or to other goods.*

 *This machine has CE marking. When several machines are placed in one line, the entire line must have proper CE marking before this machine is put into operation. Until the line has CE marking, this machine may not be put into operation.*

2.1 Regulations

1. The operation and maintenance of this machine must be performed by qualified personnel, taking the warnings on the machine into account and with due observance of the user manual. Keep children and other (unauthorised) persons out of the way when the machine is in use.

2. This machine is only suitable for process and environmental conditions as stated in the 'Specifications and tolerances' section of this user manual. All other use is not permitted by Martin Stolze b.v. and can result in danger for the operator and/or his/her surroundings.
3. It is forbidden to modify this machine without prior written permission of Martin Stolze b.v..
4. Thermal safety devices and torque limiters may not be changed from the settings they have when the new machine is delivered. The thermal safety switches may never be used to switch the machine on or off.
5. This machine must be installed in a way that allows sufficient service space for giving instructions and/or for performing maintenance and/or inspections safely.
6. Keep the work area clean and well lit. An untidy or dark work area can lead to accidents.
7. This machine is not suitable for outdoor use. Electrical components are only splash-proof. Keep this machine away from rain and moisture. If use of the machine in a damp environment is unavoidable, you must use an earth-leakage circuit breaker.
8. Keep hands, hair, loose clothing and/or jewellery out of the way of moving parts of the machine. Wear suitable clothing with no loose parts. Wear non-slip work shoes.
9. While the machine is on, no connection or safety device whatsoever may be removed. Only use the machine if all protective measures and safety-dependent facilities are present and ready for use.
10. Caution: the machinery will start automatically as soon as a pot arrives on the conveyor through operation of the pot switch.
11. Do not stand on the machine while it is operating.
12. Never shift the machine if the power cable is still connected.
13. Terms for regular inspections and maintenance prescribed or indicated in the user manual must be respected.
14. Have the machine maintained and repaired only by qualified and competent personnel and only with original replacement parts.
15. In addition to the user manual, generally applicable statutory and other binding regulations regarding accident prevention and environmental protection must be observed. This also means, for example, the regulations concerning the handling of personal protective equipment.
16. Inform operating personnel before maintenance work is started. Disconnect the (mains) power supply before you inspect or perform maintenance on the machine by pulling the power cord plug out of the power point.
 - a. If work must take place on the machine with (mains) power voltage connected, use an extra person who can operate the emergency stop.
17. If a machine part is damaged or no longer works as prescribed, work must be stopped immediately. Work may only resume if the machine part has been repaired or replaced and checked. Consult your supplier if the machine does not work as it should.
18. The machine and/or parts must be disposed of in accordance with the local laws and regulations.



2.2 Safety devices on the machine










Covers and screens shield moving parts. Always put them back in position before starting the machine. While the machine is in use, the covers and screens must also remain closed.

2.3 Explanation of pictograms and symbols

The following symbols may be present on this machine:

Pictogram	Meaning
	Read and understand this user manual before putting the machine into use and/or performing maintenance.
	Disconnect the (mains) power supply.

	Wear safety shoes and safety goggles during all activities with or on this machine.
	Warning. Important points to note and/or instructions concerning safety and/or damage prevention are marked with this warning sign.
	Electric shock hazard. There is electric voltage here.
	Risk of crushing. Hazard from moving or rotating parts.
	Forbidden to come close to moving parts of the machine with loose clothing, long hair and/or jewellery.
	No access.
	Do not wash switchbox. Danger of moisture in the switchbox if it is washed with water.

3 Description of the machine

3.1 Machine overview

- A. Drip tray
- B. Mechanical speed adjuster
- C. Pot detection switch
- D. Pot conveyor belt
- E. Friction belt for radial movement of pots
- F. Brush moves up and down while rotating
- G. Power connector
- H. Start/Stop button
- I. Emergency stop button
- J. Motor switches

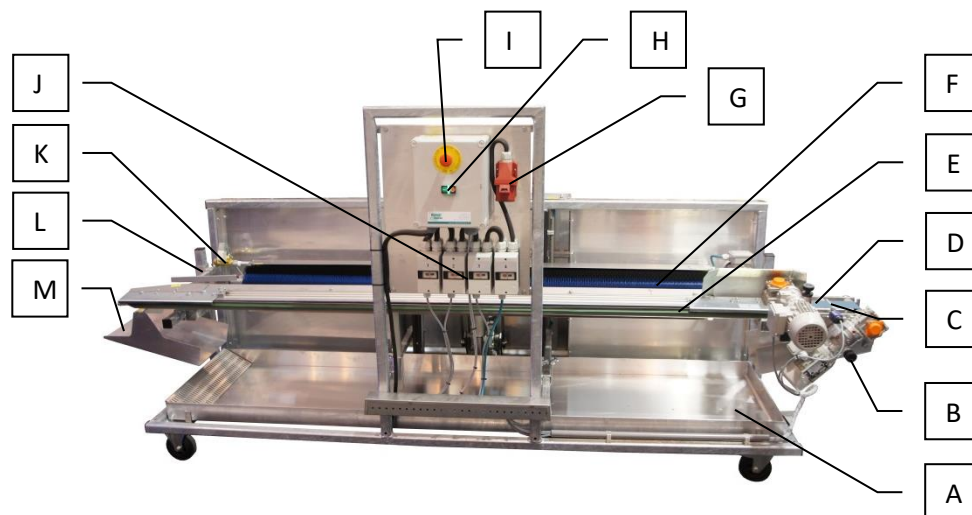
Motor 1: **Vertical movement (up and down)**

Motor 2: **Friction belt for radial movement of pots**

Motor 3: **Pot conveyor belt**

Motor 4: **Brush rotation**

- K. Water connection with magnetic valve (optional)
- L. Mechanical brush-positioning settings
- M. Drip chute



3.2 Options

Depending on the intensity of use and customer wishes, this machine can be equipped with various options. See your sales advisor for this.

Options	Code	Specifications
Water connection with magnetic valve		

3.3 Operation

The sole purpose of this machine is the washing of the outside of non-stacked pots filled with plants. This machine is intended to process only those pots that have been specified in this user manual.

The machine process starts when pots are automatically fed into it along a conveyor belt. As soon as the pot sensor is tripped, the machine will work for a set time. The conveyor belt moves pots along a rotating brush that moves up and down. Pots are turned on their vertical axis by a friction belt so that they can be cleaned all around. A water connection for spraying off the pots is available as an option.

3.4 Work areas at the machine

This machine can be operated using the control panel. Mechanical settings may only be made when the machine is switched off and the power has been disconnected from the machine.

3.5 Controls

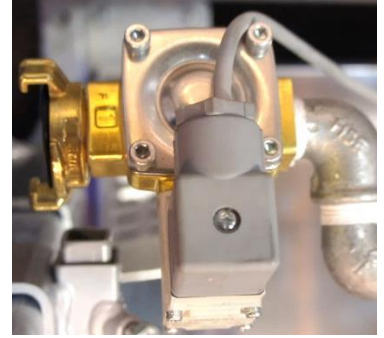
The electrical connection is on the machine's electrical box.



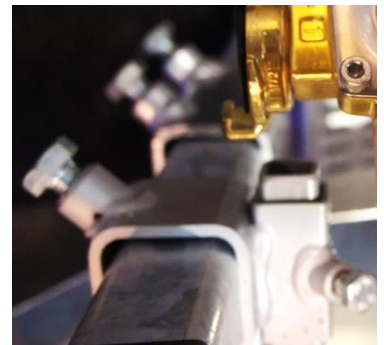
The speed of all the motors can be set by turning the mechanical speed adjuster knob.



There is an optional water connector fitted to the machine. Water at mains pressure can be connected to the machine using a Geka connector.



Various mechanical settings can be adjusted so the brush moves as required and applies the right amount of force to the pots.



4 Transport



Follow all instructions as described in this user manual, in particular the 'Safety' section.

Before positioning the machine, you must disconnect the electricity. Make sure the cables have been stored neatly.

The machine must be transported upright. The relative humidity may not be excessive, to avoid water from condensing in the machine.

Report damage during or immediately after delivery to the carrier and to Martin Stolze b.v. Take all necessary measures to prevent further damage.

5 Assembly, installation and commissioning



Follow all instructions as described in this user manual, in particular the 'Safety' section.



This machine has CE marking. When several machines are placed in one line, the entire line must have proper CE marking before this machine is put into operation. Until the line has CE marking, this machine may not be put into operation.



Caution: the machinery will start automatically as soon as a pot arrives on the conveyor through operation of the pot switch.

5.1 Placement

The machine must be placed on a flat surface with sufficient load-bearing capacity. This machine must be installed in a way that allows sufficient service space for giving instructions and/or for performing cleaning, maintenance and/or inspections safely. Put the brake on the castors before switching the machine on.



This machine is not suitable for outdoor use. Electrical components are only splash-proof. Keep this machine away from rain and moisture. If use of the machine in a damp environment is unavoidable, you must use an earth-leakage circuit breaker.

5.2 To be provided by the user

Before the delivery of the machine, the necessary materials and provisions (electrical power supply, pots etc) must be in place within 3 metres of the machines.

Required power supply: 400 V, 3 phase + Neutral + Earth.

5.3 Assembly/connection

If applicable, the parts supplied with the machine must be assembled on the machine. Make sure that the moving parts are free. When the machine is complete, it can be connected (by a qualified person) by inserting the plug in the socket.



Keep hands, hair, loose clothing and/or jewellery out of the way of moving parts of the machine. Wear suitable clothing with no loose parts. Wear non-slip work shoes.



While the machine is on, no connection or safety device whatsoever may be removed. Only use the machine if all protective measures and safety-dependent facilities are present and ready for use.

5.4 Check direction of rotation



Before operating the machine for the first time, check the direction of rotation of all motors.

Procedure:

1. Connect the power cable.
2. Start the machine.
 - a. Connect the plug.
 - b. Start the machine by pressing the green button and operating the pot detection switch.
3. Check the direction of rotation of all motors.
4. Stop the machine by pressing the red stop button.
5. Take the plug out of the power point.
6. In case of incorrect direction of rotation:
 - a. Take the plug out of the power point.
 - b. Open the plug and swap 2 of the 3 phases in the plug. This may only be done by sufficiently qualified personnel.

5.5 Setting speed of motors



Before you start working with the machine, set the speed of the different motors.

Procedure:

1. Check the speed of the different motors.

2. Adjust the mechanical speed adjusters on the motors so that the machine processes the pots properly and they complete at least two full turns along the length of the brush.



Only adjust the speed when the motor is running.

3. To adjust the speed:
 - a. Turn the knob on the appropriate adjuster:
 - i. To the left = the motor will slow down.
 - ii. To the right = the motor will speed up.

6 Use



Follow all instructions as described in this user manual, in particular the 'Safety' section.



Keep hands, hair, loose clothing and/or jewellery out of the way of moving parts of the machine. Wear suitable clothing with no loose parts. Wear non-slip work shoes.



While the machine is on, no connection or safety device whatsoever may be removed. Only use the machine if all protective measures and safety-dependent facilities are present and ready for use.



If a machine part is damaged or no longer works as prescribed, work must be stopped immediately. Work may only resume if the machine part has been repaired or replaced and checked. Consult your supplier if the machine does not work as it should.

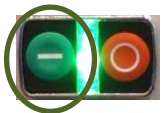


Caution: the machinery will start automatically as soon as a pot arrives on the conveyor through operation of the pot switch.

6.1 Starting

Start procedure:

1. Connect the power cable.
2. Start the machine.
 - a. Connect the plug.
 - b. Start the machine by pressing the green start button.



6.2 Stopping

Stop procedure:

1. Stop the machine by pressing the red stop button.
2. Take the plug out of the power point.



7 Maintenance



Follow all instructions as described in this user manual, in particular the 'Safety' section. The maintenance of this machine must be performed by qualified personnel, taking the warnings on the machine into account and with due observance of the user manual.



Keep hands, hair, loose clothing and/or jewellery out of the way of moving parts of the machine. Wear suitable clothing with no loose parts. Wear non-slip work shoes.



While the machine is on, no connection or safety device whatsoever may be removed. Only use the machine if all protective measures and safety-dependent facilities are present and ready for use.



For these activities, always take the plug out of the power point. Before maintenance activities are started, personal protective equipment must be put on (see section 2.3).



Inform operating personnel before maintenance work is started. If possible, disconnect the (mains) power supply before you inspect or perform maintenance on the machine, by switching the main switch off and locking it, and pulling the power cord plug out of the power point.



Caution: the machinery will start automatically as soon as a pot arrives on the conveyor through operation of the pot switch.

7.1 Preventive maintenance

Normal usage is assumed for the following maintenance instructions. For intensive use or use in extreme conditions, the maintenance must be performed at shorter intervals.

Item	Interval	Remarks
Machine	Daily	Check whether moving parts work properly and do not jam and/or whether parts are broken or damaged to such an extent that this affects the functioning adversely. Have damaged parts repaired before use.
Pictograms	Weekly	Check their legibility and, if necessary, replace.
Bearings	Monthly	Lubricate with bearing grease.
Electrical installation	Yearly	Check for damage.
Electrical motors	Yearly	Remove dust.

7.2 Failures

Problem	Possible cause	Action/solution
Failure in electric motor	The mains voltage varies more than 10% from the rated motor voltage	Ensure the correct mains voltage
	Cooling air temperature too high	Ensure cool air
	Poor cable connection	Check the cable connection and repair it if necessary
	Blown fuse	Replace the fuse
	Too little cooling air because of blocked cooling air passage	Ensure the good supply and removal of the cooling air
Problem	Possible cause	Action/solution
The motor hums and consumes too much current	Defective winding	Repair or replace the motor
Thermal switches repeatedly fail	Motor failure	Call a mechanic
	Mechanical blockage	Remove blockages
	The motor is incorrectly connected	Connect the motor correctly
Machine does not start	Circuit breaker tripped in switch box	Check why the circuit breaker has tripped. Remove obstacles. Switch on the circuit breaker after resolving the problem
	Cable length too long so voltage loss occurs	Reduce cable length
	Voltage changes because other appliances in the same group demand power	Ensure the correct mains voltage. Switch other appliances off

7.3 Drawings and diagrams

The drawings that belong to this machine have been combined in a separate file. The electrical diagrams are supplied in the machine's electrical box.

7.4 Spare parts

Only original Martin Stolze b.v. parts and accessories may be used on the machine.

Martin Stolze b.v. advises you to have certain parts in stock in connection with vulnerability for wear and tear and/or possible downtime of the machine in the event of repeat orders for the relevant parts.

Parts that can be ordered are on the parts list on the assembly drawings.

When you order parts or spare parts from Martin Stolze b.v., please provide the following information: drawing number, position number, desired length (if applicable) and the required quantity.

7.5 Customer service and advice

Our technical department will answer any other questions you may have about repair and maintenance of your machine and about spare parts. We are happy to advise you on matters concerning the purchase, use and setting of products and accessories.

8 Disposing of the machine or machine parts



Follow all instructions as described in this user manual, in particular the 'Safety' section.

Perform the following steps when disposing of the machine:

1. Shut the machine down and disconnect power and pneumatics.
2. Drain and remove all consumables.
3. Scrap the machine in accordance with locally applicable regulations.

9 EC declaration of conformity

EC declaration of conformity for machines (Directive 2006/42/EC, Appendix II, under A.)



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The Netherlands

Declares that:

Machine: **Pot washer**

is in conformity with the **Machinery Directive 2006/42/EC** and satisfies the provisions of the **EMC Directive 2004/108/EEC**.

Satisfies the harmonised European Standards:

Harmonised European Standard	Description	Harmonised European Standard	Description
NEN-EN-ISO 12100:2010	Safety of machinery – General principles for design – Part 1: Basic terminology, methodology	NPR-ISO/TR 14121-2:2010	Safety of machinery – Risk assessment – Part 2: Practical guidance and examples of methods
NEN-EN-IEC 60204-1	Safety of machinery – Electrical equipment of machines – Part 1: General requirements		



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