



Partner in Growing



Manual

version 2011-4-1

Javo Quickfiller

Machine no.:



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Introduction

Thank you for buying a Javo Quickfiller. This tray machine allows you to further automate the tray process.

This is the user manual for the Javo Quickfiller potting machine.

This document explains the operation of the machine. This is made as clear as possible with the aid of photos and drawings. The chapter on safety and troubleshooting contains several tips and solutions for common problems.

The Javo Quickfiller has been developed and manufactured using state of the art technology. This manual is part of the engineering file which is maintained by the machine engineering plant.

The user manual has been written with the utmost care, and is intended for anyone who uses this Javo system. Javo BV accepts no responsibility for errors in this manual or for any consequences of its use.

Read and understand this manual before using the machine.

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General information

Supplier information

The machine must be installed by the supplier or the manufacturer's representative.

Manufacturer:

TRÄDGÅRDSTEKNIK AB
Helsingborgsv., Varalöv
262 96 ÄNGELHOLM

Intended use

The Javo Quickfiller is designed to be used for automatically filling trays with substrate. A complete overview of the machine operation can be found on page 5 under the heading "Operating principle".

Non-recommended use

Please do not use this machine for purposes other than those described in this manual:

- Always keep hands and loose clothing away from the moving parts of the machine.
- Do not stand on the machine while it is in use.
- The machine may only be used to process trays, substrate and other material as described in this manual.

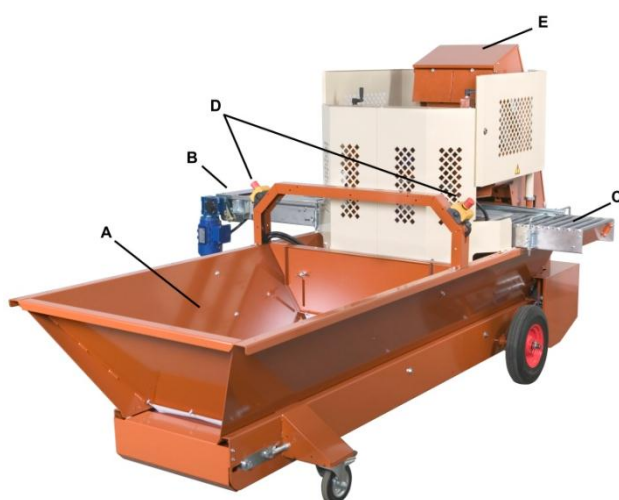
Conditions of use

The Javo Quickfiller must only be used under supervision of a qualified individual. Anyone working with the machine should have read and understood the complete manual prior to starting work.

In addition, the conditions are to comply with the requirements that are set for a normal working area. Other circumstances may affect the functionality.

The Javo Quickfiller can be equipped with several options, depending on the intensity of use and the customer's requirements. Please contact your sales representative for further information.

Description of the machine



- A. Soil bin
- B. Tray input
- C. Tray output
- D. Emergency stops
- E. Elevator*

* On delivery, the moving parts of the machine are fitted with covers and doors.

Operating principle

The machine process starts at the soil bin, which is filled with potting soil. The soil moves onto the elevator via the soil supply conveyor.

The elevator takes up the soil and fills the trays which another Javo machine or the machine operator has placed on the conveyor belt.

The height and width can be adjusted for different trays making the machine suitable for various tray dimensions.

The conveyor belt moves the trays neatly under the rotor where the soil is distributed evenly. Then the trays move past the leveller and brush and the trays will be brushed off neatly here.

The trays are now ready for further processing.

The machine is fitted with wheels making it easy to move.

Workstations at the machine

There are two workstations on the Javo Quickfiller; the tray entry and exit on the side of the soil bin.

Controls

The machine is controlled through the control panel, which has the following buttons:

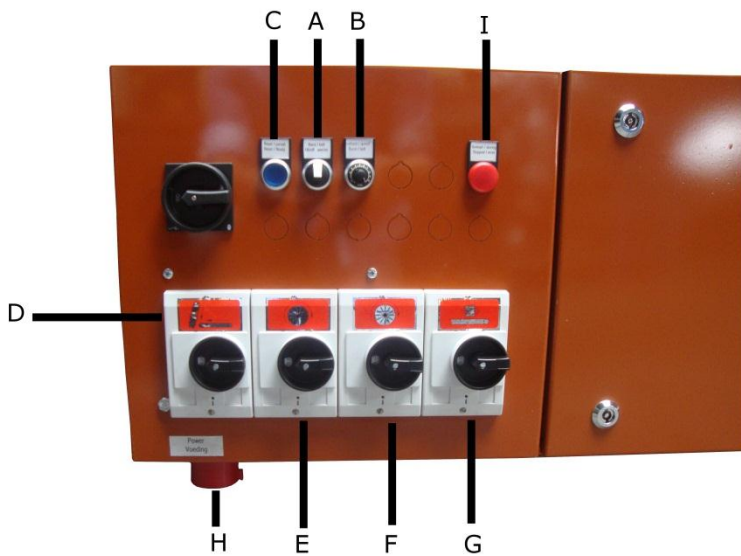
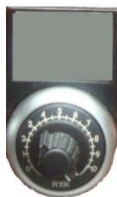
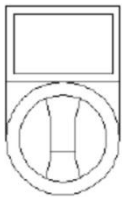


- A. Start button
- B. Stop button

The following user-instruction stickers are attached to the electrical cabinet on the machine also:

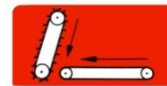
A. Conveyor belt/belt ON/OFF

B. Speed / Conveyor belt speed



C. Reset / Ready

D. Elevator (On/Off)



E. Rotor



F. Brush



G. Vibrator unit



H. Connector for power-in.



I. Stopped / error

Safety

Read all safety warnings and instructions. Failure to heed these warnings and instructions can result in an electric shock, fire or serious injury.

Use of personal safety equipment

- Be alert, pay attention to what you are doing and work sensibly when using the machine.
- Do not use the machine when tired, under the influence of drugs, alcohol or medicines.
- Wear suitable clothing / shoes without loose parts.
- Wear non-slip working shoes.

Important safety factors

- Always keep hands, hair, loose clothing and/or jewellery away from moving parts on the machine.
- Use of procedures and accessories, not specified in this documentation, may result in exposure to electrical shock hazards and/or mechanical hazards.
- Never move the machine while it is still plugged-in.

Safety precautions

- Keep the working environment clean and well lit. An untidy or unlit working environment can lead to accidents.
- Keep children and other (unauthorized) persons away from the machine, while working.
- Do not expose the machine to rain and excessive humidity.
- Keep the power cable away from heat, oil, sharp edges and moving parts.
- If using the machine in a humid area cannot be avoided, an earth leakage circuit breaker must be used.
- Do not allow individuals who have not read and are not familiar with these instructions to operate the machine. Electrically powered machines are dangerous when operated by inexperienced individuals.
- Maintain the parts properly. Check that moving parts function correctly and are not jammed and/or parts are not broken or damaged to an extent that they adversely affect operation of the machine. Have damaged parts repaired before use. Many accidents are caused by poorly maintained parts.
- The machine should only be repaired by qualified and competent individuals and using original replacement parts only. This guarantees the safety of the machine.

Safety features on the machine

- Covers and doors protect the moving parts. Always replace them and close the doors before starting the machine. The covers and doors should remain closed while the machine is in operation also.
- The machine's motors are protected by thermal switches. These switches are located inside the control cabinet.

Safety precautions

- Read and follow these instructions before using the machine.
- Engage the brake on the swivel wheels before starting the machine.
- Never use the thermal overload switches to turn the machine on or off.
- If you have followed all of the operating instructions in this manual but the machine does not function correctly, consult your supplier.

Explanation of the symbols on the machine

The symbols below show the emergency stops and the safety signs on the machine with references to the potential hazards.



Read and understand this manual before:
 - starting the machine
 - performing maintenance.



Emergency stop



No access



Hazard: injury from moving parts



Hazard: injury from pinching parts.



Hazard: injury from electric shocks

Direction of movement



Soil supply speed



<p>Tray conveyor belt</p>	<p>Brush disk</p>
<p>Elevator</p>	<p>Rotor</p>

Assembly, installation and commissioning

Location

The machine should be placed on a flat surface, with sufficient load-bearing capacity. A Javo engineer should be present during delivery of the machine to unload it from the truck.

Assembly / connection

Any loose components supplied together with the machine should be fitted to the machine. When doing so, ensure that moving parts are not obstructed.

When the machine is fully assembled, it can be connected to the power supply (by a qualified individual) by inserting the plug into the socket.

Setting-up / adjusting

The following points must be checked before starting the machine:

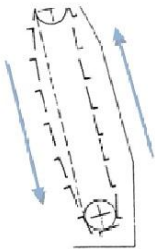
Covers and doors

All covers and doors must be closed and secured.

Type of soil

Depending on instructions.

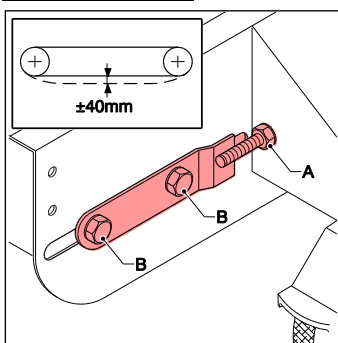
Elevator direction of movement



The direction of movement of the elevator must be from bottom to top. The front of the elevator (viewed from the soil bin) must move downwards. The covered side of the elevator must move upwards.

If it is not, have an engineer correct this.

Soil belt tension



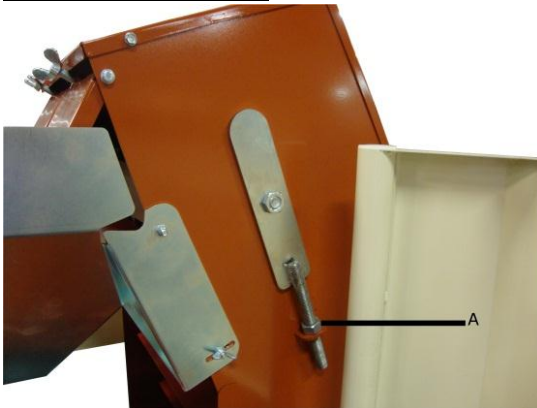
The tension is correct when the belt hangs down ± 40 mm in the centre.

The tension can be adjusted by turning the nuts (A) simultaneously.

The four bolts (B) on the block bearings must be loosened before turning these bolts.

The tension is correct when the belt hangs down ± 40 mm.

Elevator chain tension



The elevator chain tension is correct when it can move ± 20 mm in the centre.

The tension can be adjusted using the two tensioning nuts on either side of the elevator housing.

Tighten the nuts (A) equally on both sides of the elevator housing.



Note:

1. *The chain tension must not be too tight.*

Facilities to be provided by the user

Before the machine is delivered, the necessary materials and facilities (compressed air, power supply, potting material, etc.) need to be easily available within 3 metres of the machine.

Power supply: 200 Volt, 1 Phase + Neutral + Earth. (N. America: 220 V 3 phase. 60 Hz).

Operation

Setting-up and adjustments

The following points must be checked before starting the machine:

Covers and doors

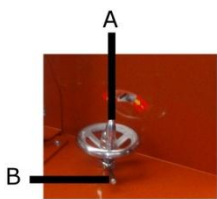
Type of soil

Elevator direction of movement

Soil belt tension

The above mentioned settings are described in detail on pages 9 and 10. (*Setting-up / adjustments", under the heading "Assembly, installation and commissioning"*)

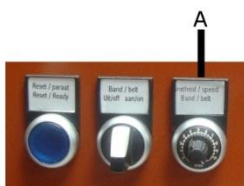
Soil elevation conveyor speed



There is a hand wheel (A) on the left side of the elevator housing. When the rod (B) is unlocked the hand wheel can be turned both left and right.

Turning to the right makes the soil elevation conveyor move more slowly. Turning to the left increases the speed of the soil elevation conveyor.

Conveyor belt speed adjustment

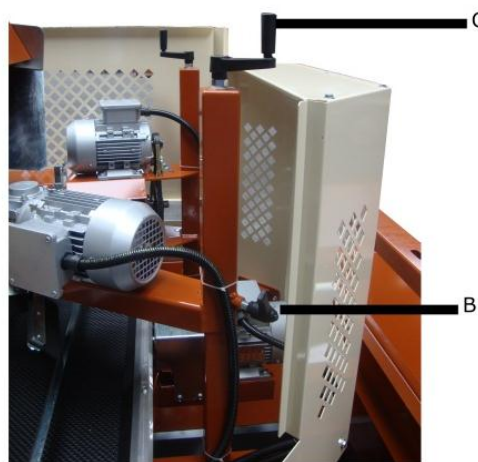


The speed of the conveyor belt can be controlled using the potentiometer (A) on the electrical cabinet.

The speed of the potentiometer ranges from 1 to 10. The conveyor belt moves fastest at speed 10.

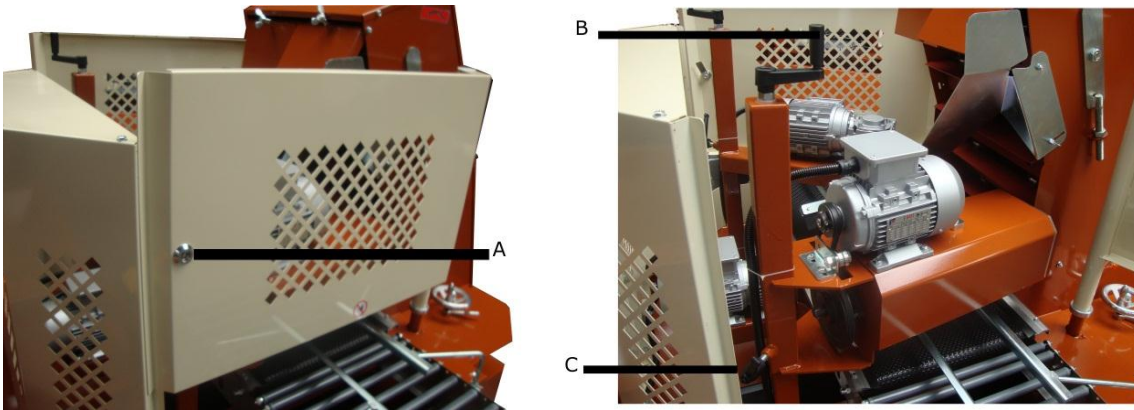
Rotor height

Remove the protective cover (A) using the door key. Once the protective cover has been removed one clamp (B) must be loosened. Then the crank handle (C) can be used to adjust the rotor up and down.

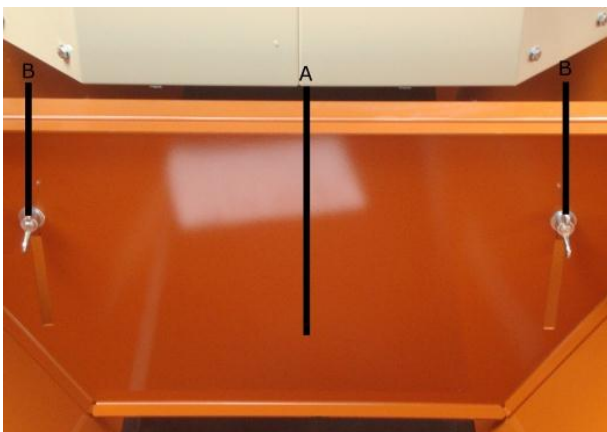


Brush height

The protective cover (A) must be removed using a door key before the brush height can be adjusted. Once the protective cover has been removed one clamp (B) must be loosened. Then the brush can be adjusted up and down using the crank handle (C).



Soil plate in the soil bin

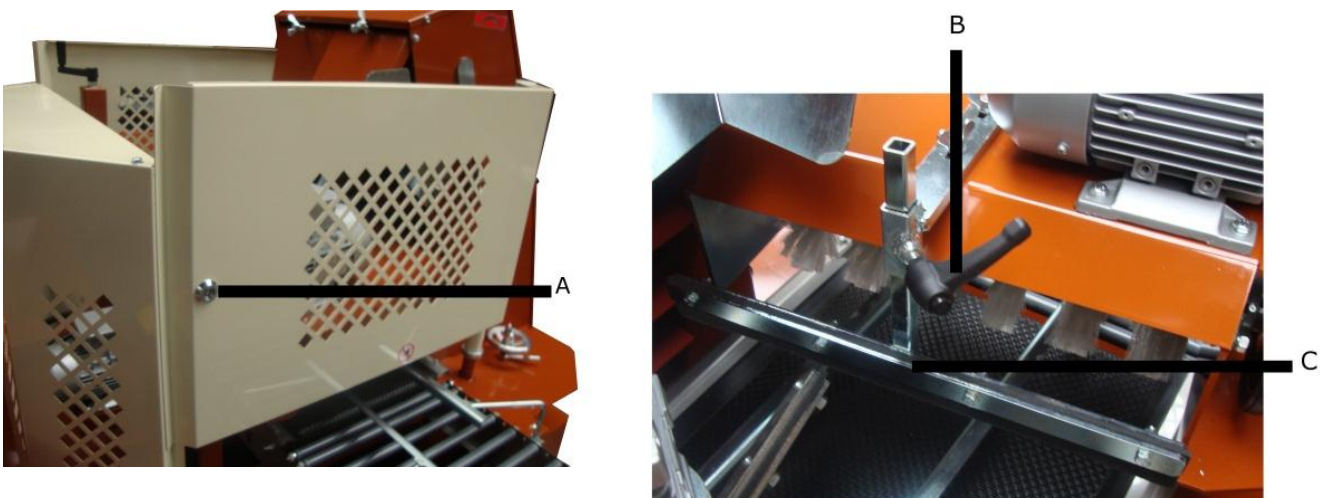


The height of the soil plate (A) in the soil bin can be adjusted to set the amount of potting soil reaching the elevator.

The soil plate is attached by two wing nuts (B). Loosening these two wing nuts allows the plate to be position higher or lower.

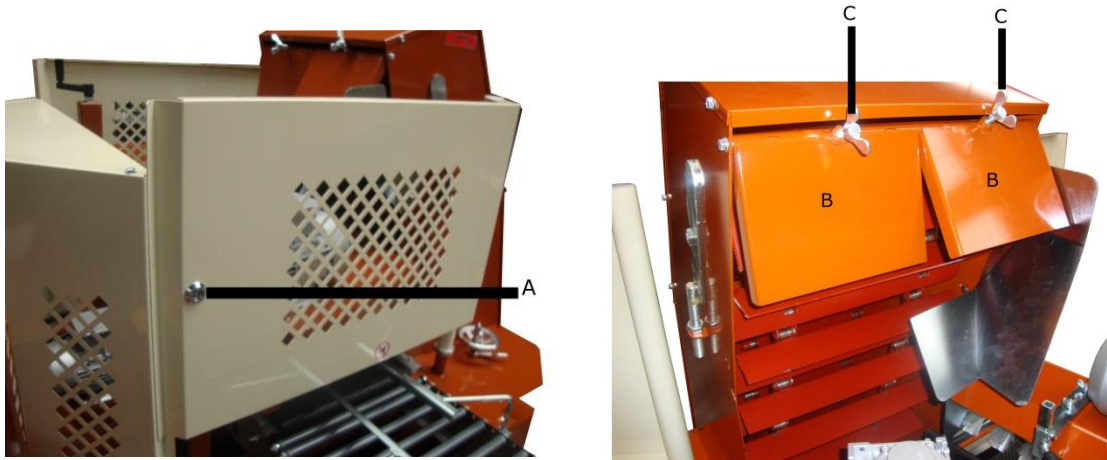
Tray levelling height

After the tray has been filled with potting soil it moves past a leveller to remove the surplus soil. Remove the protective cover (A) using the door key and loosen the clamp (B). The height of the leveller can now be adjusted.



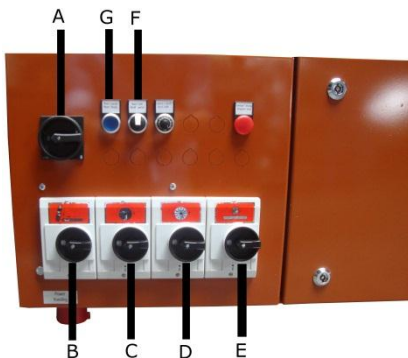
Soil guide plates

The Quickfiller has two guide plates at the potting soil discharge to send the potting soil in the right direction. Remove the protective cover (A) using a door key so that the soil guide plates (B) can be adjusted. Turning the two wing nuts (C) changes the position of the soil guide plates.



Starting, normal operation, stopping, emergency stop

The machine can be started in various ways, depending on how the machine was switched off earlier. The various options are explained below.



Turn the main switch (A) on the electrical cabinet ON.

Switch the elevator, conveyor belt, rotor, brush and vibrator unit ON using the switches (B, C, D, E & F) on the electrical cabinet. Push the blue reset button (G).

Push the green push-button on the control panel (see A on the right) to start the machine .



Normal stop

Press the red stop button on the control panel.

Emergency stop

Push the red emergency stop button on the machine to activate the emergency stop.

Restart after an emergency stop

1. Make sure the cause of the emergency stop has been resolved.
2. Close all covers and doors.
3. Pull out the red button on the emergency stop to reset it.
4. Push the blue reset button.
5. Push the green push-button on the control panel to start the machine

Unplug the machine:

- When it is not in use
- Before moving the machine
- Before cleaning the machine
- Before maintenance

Troubleshooting

Problem	Possible cause	Action/solution
Fault in the electric motor	the mains voltage differs from the nominal motor voltage by more than 10%	Ensure that the correct mains voltage is available
	Cooling air temperature too high	Supply cool air
	Poor cable connection	Check and repair the cable connection if necessary.
	Blown fuse	Replace the fuse
	Insufficient cool air due to a blocked cooling air vent	Ensure the adequate supply and discharge of cooling air
The motor hums and consumes too much power	Defective winding	Repair or replace the motor
	Relay broken on the motor	Call an engineer
Fuses keep blowing	Short circuit in the wiring or in the motor	Repair the short circuit
	The motor is shorting on the housing or there is a short circuit in the windings	Call-in a repair company to repair the short circuit
	The motor is connected incorrectly	Connect the motor correctly

Maintenance and cleaning

Always remove the plug from the socket before carrying out work. A number of items of personal safety equipment (PSE) must be worn before starting maintenance work:

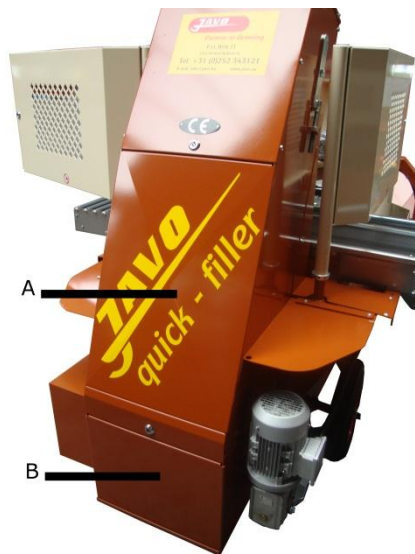
- Safety glasses
- Safety gloves
- Safety clothing

Daily cleaning, maintenance and inspection

Check the tension of the elevator and belts is still correct daily. (For specifications see pages 8 and 9). In addition, you should check that no pots or other materials have fallen into the machine. If they have, they should be removed before the machine is restarted.

Emptying the soil bin

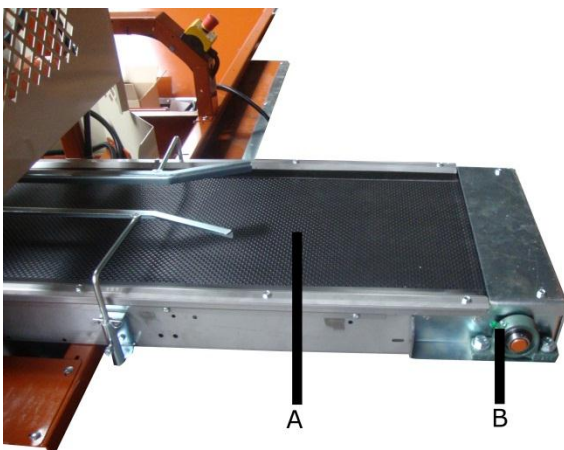
The paddles in the elevator should be cleaned regularly to prevent excessive wear and tear. The two protective covers (A and B) on the elevator can be loosened using the supplied door key. Once the two protective covers have been removed from the elevator (C) the paddles and the elevator chain can be spray-cleaned using compressed air.



Lubricating the conveyor belt bearings

The tray conveyor belt (A) is fitted with block bearings (B) must be lubricated after every 320

operating hours using a grease gun.



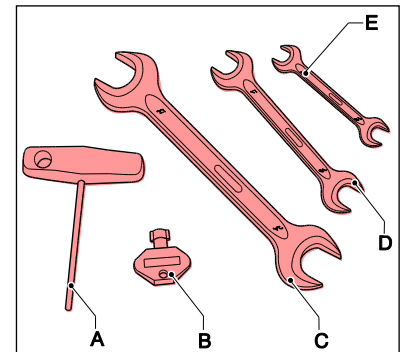
Nature and frequency of maintenance and cleaning

Part	Action	Frequency
Clean the elevator	Clean using compressed air	After every 160 operating hours
Lubricate the conveyor belt bearings	Grease using a grease gun	After every 320 operating hours
Clean the soil return chain	Clean using compressed air	Daily after use
Clean the entire machine	Clean using compressed air	After every 160 operating hours

Tools and equipment required

The standard maintenance set supplied with the machine contains the following:

- A. Allen key 4 mm
- B. Door key
- C. Open ended spanner 24-27 mm
- D. Open ended spanner 17-19 mm
- E. Open ended spanner 10-13 mm



Safety precautions

Unplug the machine:

- When it is not in use
- Before moving the machine
- Before cleaning the machine
- Before maintenance

The remaining safety precautions can be found on page 7 ("*Safety*")

Conditions for repositioning

Disconnect energy supplies

Power, pneumatics and hydraulics should be disconnected before repositioning the machine. Make sure cables and hoses are stored properly.

Transport

When repositioning the machine within the same location (machine does not have to be lifted) energy sources must be disconnected and disassembly work must have been carried out properly. Check the condition of the machine (wheels) before moving it. Make sure the route is clear so that the machine can be moved to its new location without running into any obstacles.

When the machine needs to be lifted (moving to a different location) contact your supplier or enlist the aid of a professional company.

Waste disposal

Machines, accessories and packaging must be recycled and disposed of in an environmentally responsible way.

Only for countries within the EU

Electrical components

Do not dispose of electrical components in the household waste. In accordance with the European directive on waste electrical equipment and the translation of the directive into national legislation electrical equipment that is no longer usable must be collected separately and recycled in an environmentally responsible manner.

Waste oil

Waste oil, such as oil from a reduction gear unit, classifies as household hazardous waste (HHW). A duty of collection applies for HHW. This means that waste oil cannot be disposed of in household waste. Waste oil has to be collected by/delivered to a company which is certified to collect these oils.

Attachments

Name and address of the manufacturer and/or dealer

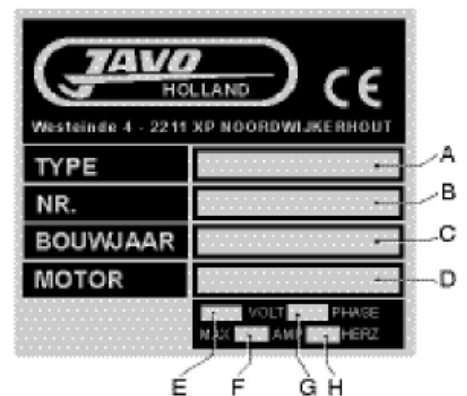
<p>Manufacturer:</p> <p>TRÄDGÅRDSTEKNIK AB Helsingborgsv., Varalöv 262 96 ÄNGELHOLM</p>	<p>Dealer:</p>
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Symbols and information on the machine

Type plate

The CE-mark is shown on the type plate attached to the control cabinet door. This plate contains the following information:

- A. Machine type
- B. Unique machine serial number (CE number)
- C. Year of manufacture
- D. Motor
- E. Voltage
- F. Maximum power consumption
- G. Number of phases
- H. Frequency



Safety symbols

The symbols below show the emergency stops and the safety signs on the machine with references to the potential hazards.



Read and understand this manual before:

- starting the machine
- performing maintenance.



Hazard: injury from moving parts



Hazard: injury from pinching parts.



Hazard: injury from electric shocks.



Emergency stop:



No access

Other markings

Direction of movement



Soil supply speed



Personal safety equipment (PSE)

Safety glasses



Safety gloves



Safety clothing



Machine specifications

Length: 3,180mm
Width: 2,150mm
Height: 1,730mm
Weight: 600 kg

Voltage: 4 frequency regulated electric motors 240 Volt / 50 Hz
Phases: 1
Amperage: 16 Amp
Power: 2.6 kW

List of spare parts

- 16 A plug
- 3 x open ended spanners
- 1 x door key
- 1 x Allen key

Drawings and diagrams

The drawings for this machine have been combined in a separate file. The electrical diagrams are supplied in the machine's electrical cabinet.

Please use the "exploded view drawings" of this machine to order spare parts. These can be found on JavoNet.

JavoNet

We recommend that you register your machine on JavoNet. This way you will have online access to the technical drawings and documents for your own machine.

Visit our website (www.javo.se) for more information and to request an account.



Customer service and support

Our technical department will answer any other questions you may have regarding repair and maintenance of your machine and about spare parts.

We will be happy to provide advice on purchasing, using and setting-up products and accessories.

EC Declaration of Conformity

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

TRÄDGÅRDSTEKNIK AB
Helsingborgsv., Varalöv
262 96 ÄNGELHOLM

Declares that:

Machine: Javo Quickfiller
Make: Javo
Type: Javo Quickfiller

Serial Number: ...

Is in conformity with:

- Machinery directive (2006/42/EC)
- National and International Technical norms (NEN) 60204-1
- International Organization for Standardization (ISO) 13857
- International Organization for Standardization (ISO) 12100-1
- National and International Technical norms (NEN) 1010