VISSER GROUP

# MPD Feeder

## User Manual

**Version 6.0, November 2011**

(Translation of the original user manual)

**(Configuration may vary)**

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# Foreword

This user manual describes safety precautions, operation and maintenance for the MPD Feeder. This user manual is intended for persons operating the machine as well as for persons carrying out maintenance and other servicing of the machine.

The content of this user manual must not be construed as a guarantee that the machine cannot cause any injury or damage, even if the safety instructions are stricly observed. Read this user manual through with care before commissioning the machine.

Precautions and safety instructions in this user manual are in bold type, and are accompanied by a safety or warning symbol adjoining the paragraph.

This user manual is part of the CE file which is supplied with the machine (line) and may contain documents providing additional information such as general safety instructions and/or regulations, a declaration of conformity, machine specifications, service information, parts lists and electrical diagrams.

This user manual has been prepared on the basis of Dutch standard NEN 5509:1998.

Since the Visser Group makes machines that are tailored to the customer's wishes and because even after delivery of the machine (and the user manual) it can still be further adapted, it may happen that your machine and machine parts do not correspond exactly to the figures and illustrations in this user manual. The Visser Groups asks for your understanding in this regard.

If you have any questions regarding the MPD Feeder, please contact:

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# Table of Contents


*1. Machine description and main process elements ..... 4*

*2. Technical specifications ..... 4*

*3. Precautions and safety instructions ..... 6*

**3.1 Key to symbols ..... 6**

**3.2 General hazards ..... 7**

**3.3 Hazard zones of the machine ..... 7**

3.3.1 Stack of trays entry side ..... 7

3.3.2 Tray exit side ..... 7

*4. Machine installation, start-up and use ..... 8*

**4.1 Machine installation ..... 8**

**4.2 Machine start-up ..... 8**

**4.3 Machine use ..... 8**

*5. Working and operation of the machine ..... 10*

**5.1 Working of the machine ..... 10**

**5.2 Operating buttons ..... 10**

5.2.1 “Emergency stop active” indicator light ..... 10

5.2.2 “Thermal cut-out” indicator light ..... 11

5.2.3 “Machine in operation” indicator light ..... 11

5.2.4 Emergency stop ..... 11

5.2.5 Reset emergency stop ..... 11

5.2.6 Stop button ..... 11

5.2.7 Start button ..... 11

5.2.8 Touchscreen (if provided) ..... 12

**5.3 Machine adjustment ..... 12**

**Tray adjustments ..... 12**

Tray width ..... 12

Tray height ..... 12

Tray guide plates ..... 12

Tray stop ..... 13

Tray lifting clamps ..... 13

Tray clamps ..... 13

*6. Inspection and maintenance ..... 14*

**6.1 Maintenance for each component group ..... 14**

6.1.1 Chains ..... 14

6.1.2 Sprockets (driving) ..... 16

6.1.3 Sprockets (driven) ..... 17

6.1.4 Gear/rack transmissions ..... 18

6.1.5 Guide wheels ..... 18

6.1.6 Bearing blocks ..... 19

6.1.7 Motors ..... 19

6.1.8 Pneumatics ..... 20

6.1.9 Electrical component ..... 21

**6.2 Periodic maintenance table ..... 22**

*7. Decommissioning, storage and reinstallation ..... 24*

*8. Faults ..... 25*

# 1. Machine description and main process elements

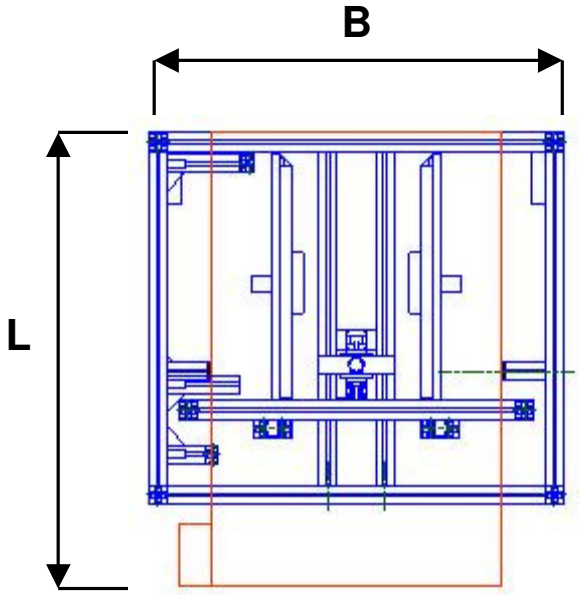
The MPD (Multi-Purpose Destacker) feeder is a destacker which can destack trays of various kinds and sizes.

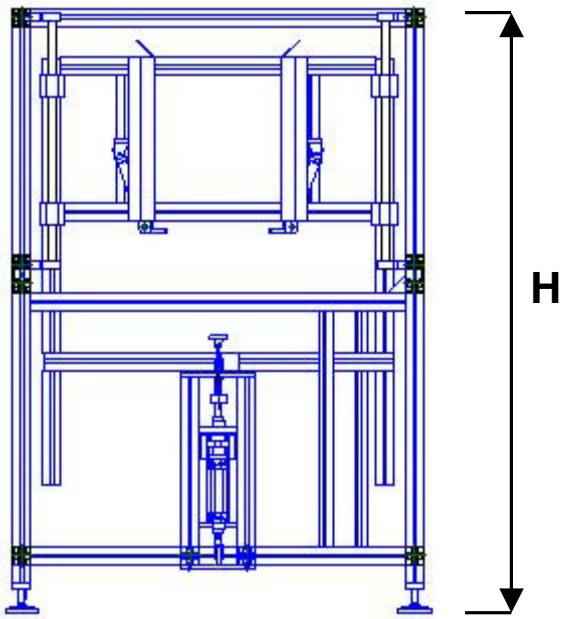
For a more detailed description of the working of the machine, see chapter 5.1.

1. belt conveyor
2. belt conveyor driving motor
3. trays
4. clamp


## 2. Technical specifications

| **Machine specifications** | |
|---|---|
| Length (L) | 1,000 mm. |
| Width (W ) | 950 mm. |
| Height (H) | 1,500 mm. |
| Mass | 115 kg. |
| Drive | 400 Volt 3 Ph. 50 Hz. |
| Control | 24 V (DC) |
| Electric power | 0.18 kW. |
| Air consumption | 25 l./min. |
| Maximum sound-pressure level (S.P.L.) | ≤ 70 dB(A) |
| Capacity | variable |



# 3. Precautions and safety instructions

This chapter concentrates on machine safety. There are warnings about potential hazards, and precautions that require to be adopted before putting the machine into service are listed.

**Products must not be corrected, added or removed by hand from any part of the machine while it is in operation. If a hand or an arm interrupts the light beam from one of the photocells, if any, the system will detect a product and this can result in machine components moving unexpectedly. In addition, counters may become deranged.**

## *3.1 Key to symbols*

The following safety and warning symbols may appear in this user manual:

| | |
|---|---|
|  | Do not enter specified zone. |
|  | Trapping hazard. |
|  | Pinch hazard between conveyor belt rollers. |
|  | Pinch hazard between chain and sprockets. |
|  | Lockout. Lock the switch. |
|  | Electrical hazard. |
|  | Caution! Observe the stated warning! |
|  | Use measuring tool for the stated operation. |
|  | Inspection by ear. |
|  | Visual inspection. |

## *3.2 General hazards*

- Trapping hazard between product and machine. It is therefore forbidden to stand or sit in the machine whenever it is or could be in operation.
- Trapping hazard between parts powered by motors and cylinders.
- Ensure there is sufficient clearance for moving parts whenever the machine is or could be in operation.
- Do not carry out maintenance or replace parts unless the switch box is isolated and the main isolator switch is locked.
- Use products intended for this machine only.
- Ensure that the cables for the machine are not damaged. Should this be the case, any damaged cables must be replaced immediately. Cables must not be replaced unless the switch box is isolated. This will preclude any electrical hazard.
- Ensure that loose clothing, jewellery and hair cannot come into contact with moving parts in the machine.

## *3.3 Hazard zones of the machine*

This section examines the various components of the machine, showing the potential hazards and risks in each component. Most hazard zones are protected by guards or railings, but others are not because doing so would prevent the machine from functioning. This section provides warnings for the latter category.

### 3.3.1 Stack of trays entry side

**PINCH HAZARD!** At the stack of trays entry side pinching could occur between the fixed and moving parts.
Therefore, do not enter this area!

### 3.3.2 Tray exit side

**PINCH HAZARD!** At the tray exit side pinching could occur between the fixed and moving parts.
Therefore, do not enter this area!

The locations where the aforementioned potential hazards could occur are identified with warning stickers where possible.

**Emergency stops are provided at all workplaces at the machine (line). The main isolator switch is located on the main switch box of the machine.**

# 4. Machine installation, start-up and use

## *4.1 Machine installation*

For sound and safe operation of the machine the following requirements must be met prior to installation.

- Ensure the floor has a hard, level, clean and dry surface.
- Ensure the availability of electric power supply with sufficient power [This will be exactly determined when designing the machine (line)] in the immediate vicinity of the machine to be installed.
- Ensure there is a clean, dry and oil-free compressed air connection in the immediate vicinity of the machine to be installed. The compressed air connection must have sufficient capacity [minimum air pressure and total air consumption will be exactly determined when designing the machine (line)].
- Ensure the work area is illuminated at a minimum of 500 Lux. Lighting must be such that there are no disturbing areas of shadow after the machine has been installed.

## *4.2 Machine start-up*

**ALWAYS read the safety instructions in chapter 3 of this manual!**

**Ensure that all safety features such as switches, sensors and light screens are fitted and in operation before starting the machine!**

The machine must not be started up before satisfying oneself that there is no one in or in the vicinity of moving parts of the machine.

Firstly it must be ascertained whether the control box is switched on and whether the box has power. Check whether the main isolator switch on the main box is switched on. In order to be able to start the machine, all emergency stops must be released and any doors shut. Once this has been checked, the emergency stop can be reset.

It is also important to check that the thermal cut-out for the box is not off. Read section 5.2.2 if the thermal cut-out in the box is off.

## *4.3 Machine use*

The machine may be used only by appropriately qualified and informed users.

The user must have studied this user manual carefully before being allowed to use the machine.

The machine is not suitable for persons under 16 years of age. Therefore, take care to ensure that children cannot come in the vicinity of the machine.

Keep (domestic) animals away from the machine. They do not take the slightest notice of rotating machine parts and safety features such as for example walk-in guards.

The machine is intended to be used only in connection with products for which it has been designed. Therefore, never use any other products. This may damage the machine, jeopardizing not only correct but also safe operation of the machine.

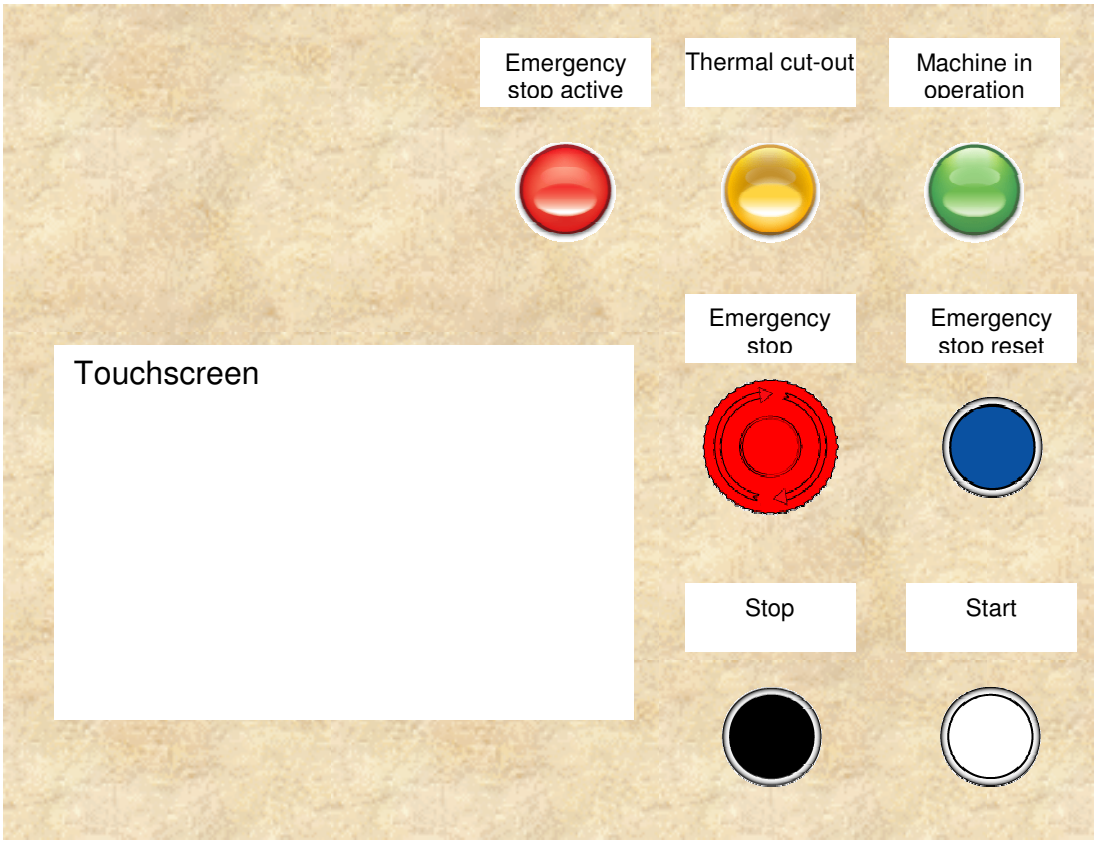
In hazardous situations, always use the red emergency stop button to stop the machine immediately. An emergency stop button is provided at all workplaces at the machine.

# 5. Working and operation of the machine

## *5.1 Working of the machine*

This tray feeder operates as follows: a stack of empty trays is placed on the belt of the MPD Feeder manually or by means of a feed belt (optional). This belt conveyor carries the stack to the (adjustable) stop position. Then the whole stack is lifted up, while at the same time the lowest tray is pushed loose. The conveyor belt carries the tray further, whereupon the whole stack of trays is placed back again on the conveyor belt by the lifting system.

## *5.2 Operating buttons*




### 5.2.1 “Emergency stop active” indicator light

This light indicates that an emergency stop button has been pressed somewhere on the machine or that a door has been opened.

### 5.2.2 “Thermal cut-out” indicator light

If the yellow light on the main box is burning, one of the motors has been shut down by a thermal cut-out. A motor is controlled by a relay or a frequency regulator. A relay is provided with a thermal cut-out which ensures that the motor is no longer energized when it is being overloaded. You can recognize a tripped thermal cut-out by a small yellow pawl visible through the lens in the switch box (see figure). The thermal cut-out can be reset by pressing the blue button. This works only when the motor has sufficiently cooled down again.

**NB. If a motor has been shut down by a thermal cut-out, the cause of the motor overload must be established first.**

Before resetting a thermal fault condition, it must be checked whether the motor concerned is not too hot. Under normal conditions the motor temperature may reach about 50 °C. It is then still possible to hold the motor with your hand. If the motor is too hot, it must be checked whether the motor is not jammed. First let the motor cool off before resetting the fault condition. After having reset the thermal fault condition, it must be checked whether the motor is running normally, and does not produce any “odd” sounds. If it does, call in an expert to solve the problem.

### 5.2.3 “Machine in operation” indicator light

This light indicates that the machine is in operation.

### 5.2.4 Emergency stop

The emergency stop button must be pressed to stop the machine in hazardous operating situations. By rotating the emergency stop button a quarter turn, the button will snap up, eliminating the emergency stop condition.

### 5.2.5 Reset emergency stop

In order to be able to restart the machine following an emergency stop situation, the emergency stop must be reset. After rotating the emergency stop button a quarter turn and shutting all doors, you can press the “Reset emergency stop” button to reset the emergency stop situation.

### 5.2.6 Stop button

The stop button must be pressed in order to stop the machine in normal operating conditions.

### 5.2.7 Start button

The start button must be pressed in order to start the machine.

### 5.2.8 Touchscreen (if provided)

Using the touchscreen, you can adjust and operate the machine by touching the buttons on the screen by hand. See section 5.3 for the description of how this is done.

## *5.3 Machine adjustment*

To be able to properly destack a stack of trays, the destacker must be adjusted in a manner so that it firmly clamps the lowest tray and lifts correctly the remainder of the stack.
The MPD Feeder must therefore be provided with the following adjustment features:

- Tray-width adjustment;
- Tray-length adjustment;
- Tray-height adjustment;
- Tray clamps;
- Tray lifting clamps;
- Tray guide plates.

## *Tray adjustments*

### Tray width

1. Place the trays in the MPD feeder.
2. To adjust the width, first loosen the locking knobs on both sides.
3. The distance between the guide plates can then be adjusted using knob 1.
4. Do not yet tighten locking knobs 1 so that it will still be possible to refine the tray adjustment later on.

### Tray height

5. Then loosen locking knob 1.
6. Using knob 1, adjust the height of the tray lifting clamps between the first and the second tray.
7. Operate the tray lifting clamps by manual operation.
8. Turn knob 1 back until the tray lifting clamps have reached their correct position for lifting the stack of trays. Then tighten both locking knobs.

### Tray guide plates

9. Turn the four knobs to loosen the tray guide plates.
10. Push the tray guide plates towards the trays, leaving a clearance of 1 to 2 mm between the trays and the plates.

**Tray stop**

11. Close the doors by manual operation. Push the trays against the door. Turn the two locking knobs to loosen the stop piece and push the stop piece towards the trays, leaving a clearance of about 1 to 2 mm between the stop piece and the trays.

**Tray lifting clamps**

12. Put the tray lifting clamps in the correct position.

**Tray clamps**

13. Put the tray clamps in the correct position.
14. Test the adjustments by manual operation. Feed the trays, close the doors and continue feeding in.

If you need to correct the height as adjusted for the tray clamps, this can be done using the M8 screw bolt.

# 6. Inspection and maintenance

Maintenance of the machine requires to be carried out by technicians with general maintenance work experience to the intermediate vocational education level with basic safety certificate or equivalent. Ensure the operating switch is turned off during maintenance work and that it is locked so that the machine cannot be started under any circumstances.

Please contact our service department if you do not have the requisite knowledge or if you would rather rely on our knowledge and experience, see the Service Document.

This chapter deals with the parts requiring maintenance that are most often used by the Visser Group in building its machines. It is therefore possible that maintenance of machine parts not included in the machine are discussed as well.

## *6.1 Maintenance for each component group*

This section discusses parts requiring maintenance in each machine component. Emphasis is placed on inspection and maintenance, preventive or otherwise.

### 6.1.1 Chains

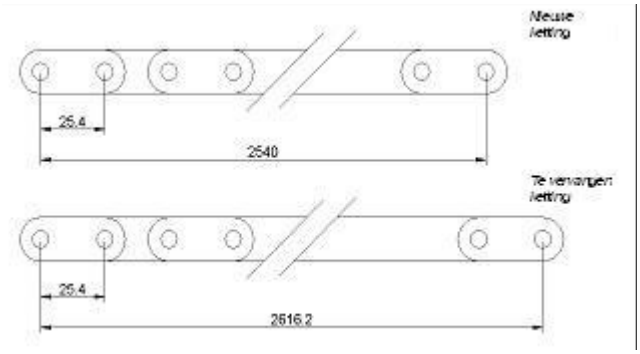
Checking

All chains in the machine require to be checked monthly. A chain must be checked for proper tension among other things. At the midpoint of the chain track, it should not be possible to move the lower part of the chain up and down by more than 20 mm. Ensure that the chain is equally tensioned on both sides. A chain can be tensioned using a chain tensioner. This is done as described with reference to chain replacement. If the chain tensioner has reached its maximum position, a link must be removed from the chain. This will shorten the chain substantially.

The chain is due for replacement once it has stretched 3% relative to the length of a new chain. Measure out the replacement chain and compare the length of the old chain with that of the new one.

**Always switch the machine off before checking, maintaining or replacing a component in view of hazards and possible faults!**

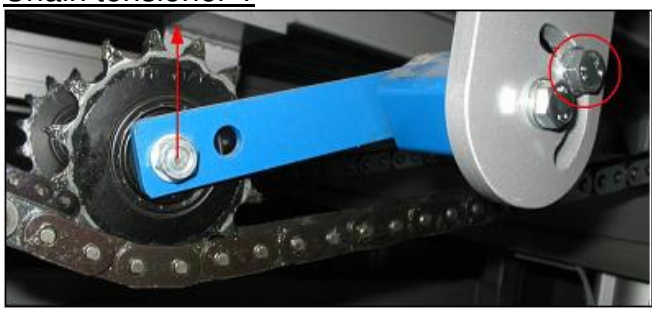
Example
The new chain is made up of 100 one-inch (25.4 mm) pitch links. The total length of the chain will then equal 100 x 25.4 = 2540 mm. The chain requires to be replaced once it has stretched by 3% and so has a length of 2540 x 1.03 = 2616.2 mm.




Maintenance
No clear guidelines can be given for the maintenance of chains/chain sprockets. Whether or not to lubricate and, if so, how will largely depend on their use, the load and various factors in the environment. The Visser Group can give you appropriate advice on this.

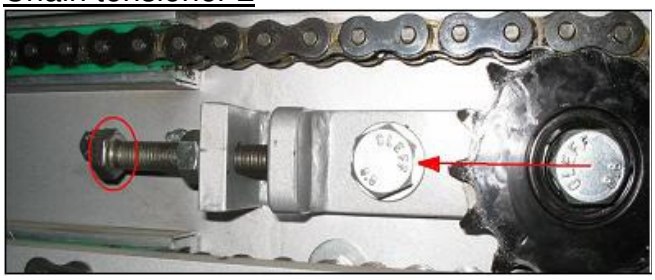
Replacement
The machine may contain three types of chain tensioners. These are discussed below.

Chain tensioner 1



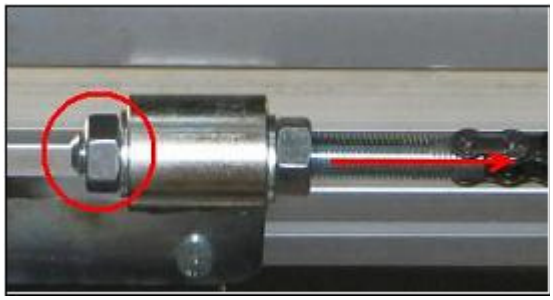
Slacken the chain by loosening the bolt and nut. Turn the chain tensioner away from the chain, thus releasing tension from the chain. Remove the pins from the links. Replace the chain. Tension the chain by tightening the bolt and nut after putting the chain tensioner back into the right position. Ensure that the chain is tightened by the same amount either side. For the chain to be properly tensioned, it should not be possible to move the lower part of the chain up and down by more than 20 mm at the midpoint of the chain track.

Chain tensioner 2



Slacken the chain by loosening the bolt. The sprocket then moves in the direction of the arrow, thus releasing tension from the chain. Memorize the number of turns of the bolt. This must be the same for both chains in order to ensure that the tension is equal on both sides of the machine. Remove the pins from the links. Replace the chain. Tension the chain by tightening the bolt after putting the chain tensioner back into the right position. Again memorize the number of bolt turns to ensure equal tension on both sides if there are two chains. For the chain to be properly tensioned, it should not be possible to move the lower part of the chain up and down by more than 20 mm at the midpoint of the chain track.

Chain tensioner 3



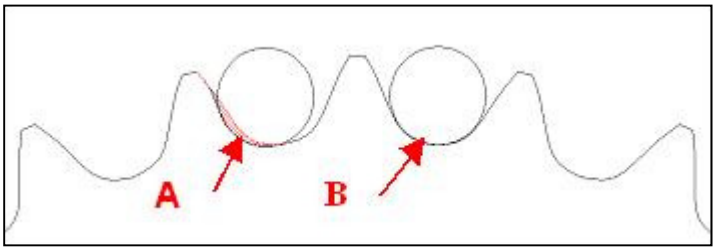
Slacken the chain by loosening the bolt. The sprocket then moves in the direction of the arrow, thus releasing tension from the chain. Memorize the number of turns of the bolt. This must be the same for both chains in order to ensure that the tension is equal on both sides of the machine. Remove the pins from the links. Replace the chain. Tension the chain by tightening the bolt after putting the chain tensioner back into the right position. Again memorize the number of bolt turns to ensure equal tension on both sides if there are two chains. For the chain to be properly tensioned, it should not be possible to move the lower part of the chain up and down by more than 20 mm at the midpoint of the chain track.

### 6.1.2 Sprockets (driving)

**Warning! If the sprockets are due for replacement, it is advisable to replace the chain(s) at the same time.**

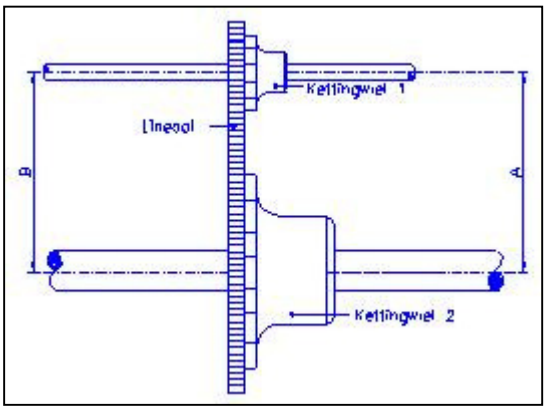
Checking

Visually check the sprockets monthly for undercutting/overcutting. Undercutting shows up as worn away tooth flanks as shown at A. B shows the situation with the chain rollers meshing in correctly with the sprocket teeth. Undercutting requires the sprockets to be replaced.




Also check the sprockets for alignment. For sprockets to be aligned they must be positioned in the same plane, i.e. run in parallel. It is easy to check if the alignment is correct. This is done by placing a ruler or aiming a laser along the sprockets and then checking whether it touches both sprockets everywhere in the plane (see drawing). Then rotate the sprockets a quarter turn and check again. If the alignment is not correct, adjust the sprockets. Sprockets are adjusted using the securing bolts. (Axial adjustment). Radial adjustments can be made using the return gear wheels. The

support is provided with slotted holes for fixing. By setting the bolts finger-tight, you will be able to move the shaft and sprockets.




Sprocket 1

Ruler

Sprocket 2

**Always switch the machine off before checking, maintaining or replacing a component in view of hazards and possible faults!**

Maintenance

A sprocket must never be lubricated because lubrication would attract dirt and dust. Clean a sprocket with a clean and dry, sturdy brush. Then treat it with compressed air.

Replacement

Remove the motor from the shaft as described in section 6.1.7. Release the tension from the chain as described in section 6.1.1. Mark the position of the bearings and sprockets on the shaft. Loosen the securing bolts of both the sprockets and bearing blocks. Loosen the bolts of the bearing block. Withdraw the shaft and replace the sprockets. Position the bearings and sprockets so as to coincide with the marks applied before disassembly. Tighten the securing bolts. Fit the shaft with bearing blocks to the frame. Mount the motor as described in section 6.1.7.

### 6.1.3 Sprockets (driven)

**Warning! If the sprockets are due for replacement, it is advisable to replace the chain(s) at the same time.**

Checking

See section 6.1.2.

Maintenance

See section 6.1.2.

Replacement

Remove the motor from the shaft as described in section 6.1.7. Release the tension from the chain as described in section 6.1.1. Mark the position of the bearings and sprockets on the shaft. Loosen the securing bolts of both the sprockets and the bearing blocks. Loosen the bolts of both the bearing block and the sprockets. Withdraw the shaft and replace the sprockets. Position the bearings and sprockets so as to coincide with the marks applied before disassembly. Tighten the securing bolts.

Fit the shaft with bearing blocks to the frame. Mount the motor as described in section 6.1.7.

### 6.1.4 Gear/rack transmissions

Checking

The gear/rack must be visually checked for wear and alignment on a monthly basis.

**Always switch the machine off before checking, maintaining or replacing a component in view of hazards and possible faults!**

Maintenance

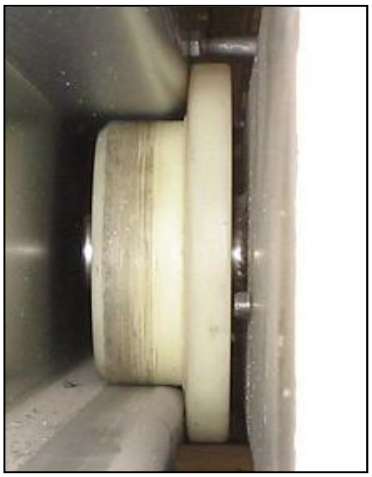
Gear/rack alignment is carried out as described in section 6.1.2. Gear/rack transmissions are lubricated with grease only. This can be ordered from the Visser Group.

Cleaning is to be done every month using a dry and clean, sturdy brush before treating the parts with compressed air. Then the parts must always be lubricated with grease again.

Replacement

Gear/rack transmissions do not easily break down. However, in the event this should happen (usually due to wrong loads or alignment), you should contact the Visser Group.

### 6.1.5 Guide wheels



Visually inspect the contact surfaces and flange guiding surfaces of guide wheels on a monthly basis. The wheels are provided with a ball bearing. If the bearing is jamming, this may have a dragging effect on the guide wheel. If the contact surface of a wheel shows flat-worn areas, the cause needs to be established. When replacing the wheel, it is advisable to replace also the ball bearing. If the wheel flange shows traces of wear, you should check the alignment of the chain and sprockets as described in section 6.1.2. For guide wheel replacement, we advise you to contact the Visser Group.

**Always switch the machine off before checking, maintaining or replacing a component in view of hazards and possible faults!**

### 6.1.6 Bearing blocks

Checking

The condition of a bearing block can be determined by checking the sound it produces while running. Check bearing blocks every month.

Symptoms of a defective bearing are:
- Ticking, a sharp-sounding bearing noise;
- Irregular squeaking or grinding bearing noise;
- Increased bearing temperature, friction due to contamination / dust;
- Lubricant leakage (in a bearing sealed both sides);
- Rubbing sound;
- A whistling or squeaking sound points to inadequate lubrication;
- Play.

**Always switch the machine off before checking, maintaining or replacing a component in view of hazards and possible faults!**

Maintenance

If symptoms point to insufficient lubrication of the bearing, it needs to be lubricated at the golden lubricating nipple provided on the bearing block. A bearing block must be lubricated with e.g. Food Lub Non Tox. This lubricant can be ordered from the Visser Group. Clean the lubricating nipple using a dry cloth to prevent dirt from penetrating into the bearing. When adding grease, pay attention to the counterpressure of the grease gun. Never give more than 2 shots of grease per bearing. If grease pops out of the bearing, you must replace the bearing! Too little but also too much grease leads to too high a friction coefficient, which shortens the bearing's life considerably.

Replacement

To replace a bearing block you will need to contact the Visser Group.

### 6.1.7 Motors

Checking

Check a motor monthly for oil leaks. If excessive, carry out maintenance of the motor. Also check the motor every month for wear of the gearbox in the motor. This is done by checking the sound it produces while running. If there are grinding and/or squeaking sounds coming out of the gearbox, it must be replaced.

**Always switch the machine off before checking, maintaining or replacing a component in view of hazards and possible faults!**

Maintenance

Please contact the Visser Group for maintenance.

Replacement
The motor is fixed to the motor plate by a reaction arm. Withdraw the cables and draw up an electrical diagram. Unscrew the bolt and remove the motor from the shaft.

After carrying out maintenance of the motor, chain or sprockets, you can place motor back. Tighten the bolt finger-tight, definitely not any tighter as this would eliminate the function of the reaction arm. Then connect the cables.

### 6.1.8 Pneumatics

Checking

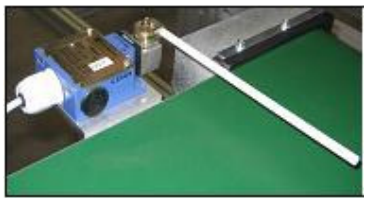

Check all pneumatic components monthly for compressed air leaks. Clean air is essential to correct operation of pneumatic components. This means ensuring that the compressed air supply cannot be contaminated with water, dust, dirt, oil, etc. Also, do not forget to check all hoses. Any compressed air hoses found to be leaking must be replaced.

**Always switch the machine off before checking, maintaining or replacing a component in view of hazards and possible faults!**

Maintenance
Ensure that all pneumatic components are cleaned monthly with a clean and dry cloth to ensure that the compressed air is kept clean. In addition, the filter bowl of the reduction valve requires to be emptied monthly. This is done by depressing the venting button on the valve. If this operation is carried out too infrequently, dirt retained in the filter can be drawn into the lines by compressed air.

Replacement
Please contact the Visser Group for a pneumatic component replacement.

### 6.1.9 Electrical component



Checking

Manually check all limit switches monthly for operation. A mechanical click must always be audible on switching.
Check all photocells every month for alignment. A photocell will remain active after the emergency stop has been depressed. By looking over the cell you can check whether the red beam strikes the reflector opposite centrally.
Always check to ensure that a photocell and its associated reflector are fixed securely. Tighten the attaching hardware as required.

**Always switch the machine off before checking, maintaining or replacing a component in view of hazards and possible faults!**

Maintenance

Before using the machine, ensure that all photocells and proximity switches are clean and dry in order to prevent malfunctions. Dirt and water can actually cut or distort the laser beam. Clean photocells and proximity switches preferably using a soft, lint-free cloth.
Clean the inside of the switch box as well, using a dry cloth. Never use water or compressed air as either of these could damage the electrical components.

Replacement

The power supply to the system requires to be switched off always when replacing a photocell. Unscrew the photocell next and remove the wires. Fit a new photocell, replace the wires and realign the photocell.

To replace other electrical components you will need to contact the Visser Group.

## *6.2 Periodic maintenance table*

The table below shows clearly the maintenance that the machine requires and the intervals at which it is required for optimum operation and to minimize hazards and the risk of breakdowns.

For lubricating points of machine components, see the pictures in section 6.1.

| ***Periodic maintenance table*** | | | |
|---|---|---|---|
| **When** | **Component** | **What** | **How** |
| **Daily** | All components | Clean / clear out dirt | Remove label residues, pieces of wood and cardboard, product residues, soil, etc. |
| | Photocells, proximity switches | Clean | See section 6.1.9 |
| **Weekly: 40-60 operating hours** | Photocells, cables, guides | Check for: operation, leaks, damage, etc. | See section 6.1 |
| **Monthly: 240-280 operating hours** | Chains | Check for: proper tension, length | See section 6.1.1 |
| | | Clean | |
| | | Replace as required | |
| | Sprockets (driving) | Check for: under-cutting/overcutting, alignment | See section 6.1.2 |
| | | Clean | |
| | | Replace as required | |
| | Sprockets (driven) | Check for: under-cutting/overcutting, alignment | See section 6.1.3 |
| | | Clean | |
| | | Replace as required | |
| | Gear/rack transmissions | Check for: wear, alignment | See section 6.1.4 |
| | | Clean | |
| | | Lubricate | |
| | | Replace as required | |

| *Periodic maintenance table (CONTINUED)* | | | |
|---|---|---|---|
| **When** | **Component** | **What** | **How** |
| **Monthly: 240-280 operating hours** | Guide wheels | Check for: wear of contact surfaces, flange guiding surfaces, alignment | See section 6.1.5 |
| | | Replace as required | |
| | Bearing blocks | Check for: wear, leaks | See section 6.1.6 |
| | | Clean | |
| | | Lubricate | |
| | | Replace as required | |
| | Motors | Check for: leaks, wear | See section 6.1.7 |
| | | Replace as required | |
| | Pneumatics | Check for: leaks | See section 6.1.8 |
| | | Clean | |
| | | Empty filter bowl | |
| | | Replace as required | |
| | Electrical components | Check for: switch operation, photocell alignment, photocell fixing | See section 6.1.9 |
| | | Clean inside of switch box | |
| | | Replace photocells, other electrical components as required | |

# 7. Decommissioning, storage and reinstallation

If the machine is to be stored for possible use at a later date, we would advise you to contact the Visser Group. This will enable us to advise you on dismantling the machine as well as location and ambient conditions. This will ensure that the machine will operate at its optimum when it is reinstalled.

If you have any questions regarding decommissioning, storage and reinstallation, please contact:

Visser Group
Service Department
Tel. +3178 6739800

# 8. Faults

This chapter will endeavour to provide an understanding of pinpointing and correcting possible faults in the machine.

**Always depress the red emergency stop button in the event of a fault (see section 5.2.4). The emergency stop button is located in a readily visible and accessible position on the manual control box and at all workplaces at the machine.**

| SYMPTOM | CAUSE / RESULT | SOLUTION |
|---|---|---|
| Machine will not start | Emergency stop has been activated | Release the emergency stops, press reset emergency stop button and then start |
| | No power | Switch on main isolator switch, check wiring |
| Emergency stop | All commands are halted | Check the reason for the emergency stop. Reset the emergency stop using the push button on the box after clearing the cause |
| PLC battery flat | | Replace the battery. Do not remove power from the PLC under any circumstances! |
| Thermal fault | Motor control is switched off | Establish the cause of the motor shutdown by thermal cut-out. Solve the problem and restore thermal cut-out. Do not change any of its settings |
| Photocell not emitting a signal | The photocell is not aimed correctly at the mirror | Adjust the photocell such that it lights up when it is aimed at the mirror |
| | Photocell is defective | Replace photocell |
| Reed contact not emitting a signal | Cylinder not activating contact | Ensure the cylinder can travel over its full stroke |
| | Reed contact is defective | Replace reed contact |
| Products are not correctly positioned | Products wrongly handled by the machine (turned, removed, added, etc.) | Stop the machine, correct the problem and start machine |

If a fault cannot be resolved using the above table, the PLC and the valve blocks, if any, should be examined. The PLC is located in the switch box and any valve blocks can be found on the frame of the machine.


In the event of faults, examine the PLC and these blocks, and contact the Visser Group. They will endeavour to help you resolve the fault by phone.

**Always switch the machine off before checking a component in order to prevent any accidents!**

For faults which cannot be resolved using this manual, we advise you to contact the Visser Group.

Visser Group
Service Department
Tel. +3178 6739800