

LEHNER

Operating instructions with spare parts list

Vento® II



Controller: LAS PSM
Software: from version 0.84
Last updated: November 2018

Serial number:
Software version:

Original operating manual

Publisher's information

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English

1 Declaration of conformity

EC Declaration of Conformity

In accordance with the EC Machinery Directive 2006/42/EC, app. II, 1.A

Manufacturer:

LEHNER Agrar GmbH
Haeuslesaecker 5-9
89198 Westerstetten

Person resident in the Community who is entitled to assemble the relevant technical documents:

LEHNER Agrar GmbH
Haeuslesaecker 5-9
89198 Westerstetten

Description and identification of the machine:

Product: Vento®

Function:

Vento® is a pneumatic granulate dispenser for different kind of seeds and granulated fertilizer in agriculture. The exact dosage is via a rotary valve, which is controlled speed dependent application rate. An automatic dosing via wheel sensor or GPS receiver is also possible. The pneumatic spreader feature is an agitator for heavy-flowing spread materials. The grit is discharged by airflow of 8 tubes. Vento® is manufactured in different sizes.

It is expressly declared that the machine is in accordance with all relevant provisions of the following EC Directives:

2006/42/EC	EC Machinery Directive 2006/42/EC
2004/108/EC	(Electromagnetic Compatibility) Directive 2004/108/EC of the European Parliament and the Council dated 15 December 2004 on the harmonization of legal regulations in the member states regarding electromagnetic compatibility and replacing Directive 89/336/EEC

Source of the applied harmonized standard acc. to Article 7, para. 2:

EN ISO 12100-2:2003-11	Safety of Machinery – Basic concepts; general principles for design – Part 2 Technical principles
EN ISO 14121-1:2007	Safety of Machinery – Risk assessment – Part 1: Principles (ISO14121-1:2007)
EN 50498:2010	Electromagnetic compatibility - Product family standard for electronic equipment installed subsequently in vehicles
EN ISO 14982:2009	Electromagnetic compatibility - Agricultural and forestry machinery

Source of the applied other technical standards and specifications:

EN ISO 12100-1:2003-11	Safety of Machinery – Basic concepts; general principles for design – Part 1: Basic terminology, methodology
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Westerstetten, 01.07.2015

Place, Date



Signature
Helmut Lehner
Managing Director

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2 What you should know

2.1 Foreword

Congratulations on purchasing the **Vento® II**, a high-quality, innovative product. Thank you for this expression of confidence.

Thanks to its advanced design, meticulous material selection, state-of-the art manufacturing techniques and the precision work of our employees, this equipment meets all efficiency, quality, reliability and value requirements.

Maintenance and cleaning as detailed in the operating manual ensure the safety and retain the value of your **Vento® II**.

2.2 About this operating manual

This operating manual is an important component of the spreader and must always be kept close to hand. All persons who work with the spreader must read, understand and follow the operating manual.

Keep the operating manual in a safe place. If you sell your spreader, always provide this operating manual to the buyer.

2.3 About your safety

Read through this operating manual carefully before starting operation. Comply with the instructions, warnings and safety information. Always keep this manual to hand at the point of use.

- Observe the accident prevention regulations, safety and operating regulations and the regulations for environmental protection.
- Observe all applicable standards and guidelines.
- Observe the safety instructions.
- Wear appropriate working and protective clothing.
- Avoiding injury to personnel or damage to vehicles incurring liability.
- Before operation, check that the spreader is safely and correctly attached to the carrier vehicle.
- Do not take the spreader into operation if there are technical safety defects.
- Make sure that technical safety defects are rectified immediately.
- When travelling on public roads and tracks used by agricultural vehicles, follow the applicable rules of the road.
- No other persons or animals are allowed to be in the spreading zone.
- Never open the hopper during operation.
- Disconnect the mains plug before maintenance, troubleshooting, repair and cleaning work on the spreader.
- Comply with the safety instructions on the fertiliser that you are using.
- It is essential to comply with the instructions of the pesticide or fertiliser manufacturer in question.
- After completing work, always perform a complete residual discharge of the spreader.
- Spreading tables and additional information about the fertiliser used can be requested from the manufacturer in question.
- **LEHNER Agrar GmbH** cannot accept any liability for the storage and application of the spreading material (seeds and fertiliser).

2.4 Notices used

Warning notices

Warning notices in this operating manual are identified as follows:



Danger!
Warning against immediate danger.
Non-observance of appropriate measures will result in death or severe personal injury.



Warning!
Warning against possible danger.
Death or severe personal injury is possible.



Caution!
Warning of possible dangerous situations.
Slight personal injury or damage to property is possible.

Notices

Notices in this operating manual are identified as follows:



Advice
For application instructions and other useful information.

2.5 Intended use

The **Vento® II** is exclusively used for spreading seeds and fertiliser in granulated form.

The seeds and fertiliser used must be free-flowing and, due to technical reasons, permit application by dosing. In case anything is unclear, please contact the product specialists at Lehner.

The pneumatic granulate doser is only allowed to be used within the scope of its designated use.

2.6 Reasonably predictable misuse

Vento® II may only be used for approved seeds and fertiliser.

Vento® II may only be used on approved carrier vehicles with an adequate axle load and a vehicle electrical system with a voltage of at least 12.5 to 15.0 V and a maximum current capacity of 40 A.

2.7 Package

The **Vento® II** consists of the following components:

- Pneumatic granulate doser with blower and spreading material hopper, pre-mounted on a universal holder
- Control unit with a 6 mm² battery connection cable
- 25 m hose
- 8 baffle plates (complete and ready to install)
- 8 hose grommets

Optional accessories

- Wheel sensor
- GPS sensor
- Headland Manager (VGM) sensor magnet
- Y-cable for speed signal via 7-pin socket as well as VGM sensor/magnet

At the time of manufacture, we are not aware of any negative effects from the seed and fertiliser on the materials of the spreader.

2.8 Warranty

Subject to use in accordance with the designated use, **LEHNER Agrar GmbH** offers a 24-month warranty on the spreader.



Caution! Danger of short circuit!

Faulty or incorrectly sized plugs and cables can lead to malfunctions. Only use original plugs and cables, or ones approved by the manufacturer.

Warranty repairs must be coordinated with **LEHNER Agrar GmbH** before any work is started.

For replacement parts, additional expenses are charged for any changes made to cables and plugs by the customer.

Replacement parts are to be returned carriage paid.

Any changes to cable or plug connections without factory approval automatically invalidate the entire warranty.

Rusted bearings are not subject to the manufacturer's warranty.

Motors are not allowed to be opened or dismantled.

On receipt:

Please check the goods on receipt to ensure they are undamaged and nothing is missing.

If there has been damaged in transit, please inform the manufacturer within 24 hours!

2.9 Technical data

	Vento® II 120 litre hopper	Vento® II 230 litre hopper
Length [mm]	527	570
Width [mm]	919	947
Height [mm]	1009	1199
Weight, empty [kg]	61	67
Spreading width [m]	≤ 6	≤ 6

2.10 Technical data, electrical system

Operating voltage	12.5 to 15 V
Fuse	40 A
Speed range	20 to 120 rpm
Power consumption of motor	10 A
Total Power consumption of Vento® II 8-Row	33 A
Total Power consumption of Vento® II 16-Row	45 A
Operating temperature	-10 to +50 °C
Storage temperature	-10 to +50 °C
Battery cable	minimum 6 mm ²

2.11 Description of function

The **Vento® II** is a pneumatic granulate doser for applying seeds and granulated fertiliser in agriculture.

Precise dosing is achieved using a cellular rotor valve that is driven according to the speed of the vehicle. Automatic dosing by means of a wheel sensor or GPS receiver is possible. The spreader has an agitator for spreading materials with reduced free-flowing properties. The spreading material is applied by means of an airflow through 8 hoses.

2.12 List of components



- 1 Hopper with cover
- 2 External Start/Stop control button on unit
- 3 Complete drive unit
- 4 Residual discharge hatch
- 5 Drive belt
- 6 Universal holder
- 7 Baffle plate
- 8 Hose grommet
- 9 Cellular rotor shaft
- 10 Brushes
- 11 Blower
- 12 Agitator
- 13 Empty indicator
- 14 Load relief roof
- 15 Pressure piece

3 Mounting and start-up



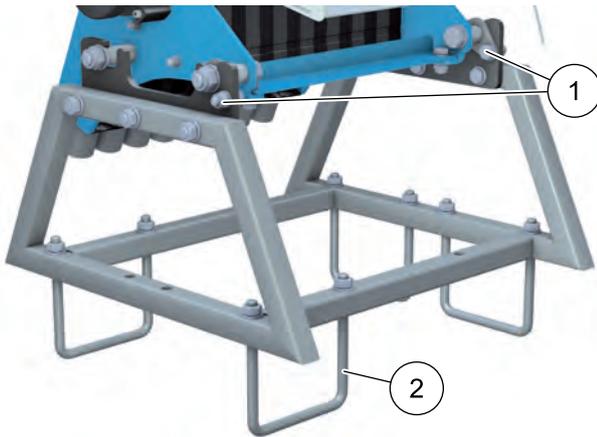
Warning!

Risk of injury due to inadequate attachment

If the spreader or hopper tip over, this can cause crushing or other injuries.

- Only mount the spreader on carrier vehicles that have a sufficient load carrying capability.
- Before start-up, make sure that the implement, spreading material hopper and hopper cover have been correctly attached.

3.1 Implement holder



The **Vento® II** is supplied mounted on the universal holder as standard. The mounting is specifically dependent upon the carrier vehicle provided, and must be adapted to its conditions.

Before operation, check the attachment of the spreader on the universal holder. The attachment must be secured with the safety bolts (1). If replacing them, use M10 bolts with a strength class of at least 8.8, with self-locking nuts.

Optionally, installation is possible using U-brackets (2) on a square tube with dimensions 80×80 mm to 120×120 mm.

3.2 Install the control panel

Install the universal holder supplied in the package in the working range of the driver.

The installation is specifically dependent upon the carrier vehicle provided, and must be adapted to its conditions.

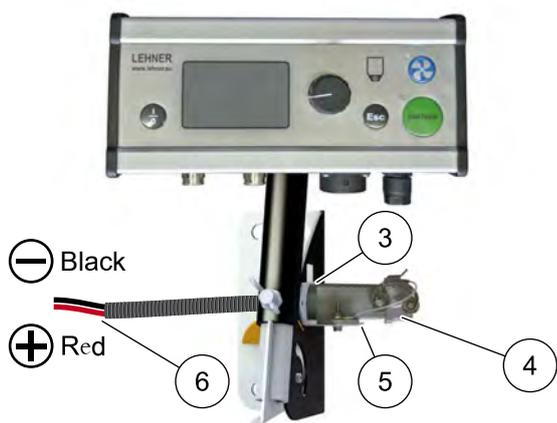


Advice

Select the installation position so that the accessibility of other controls is not adversely affected.

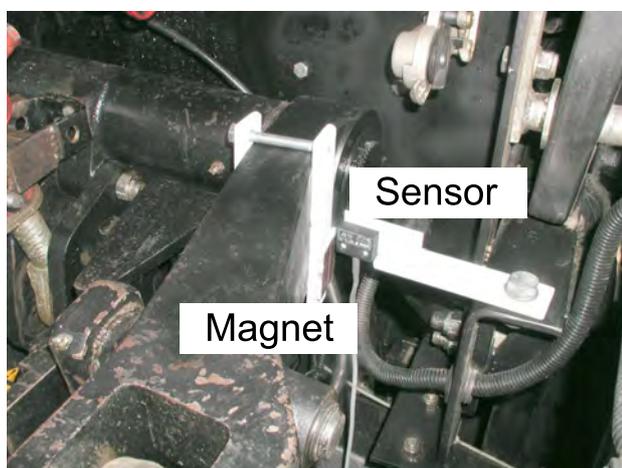


1. Secure the universal holder to the vehicle using point (1) and (2).



2. Thread the battery connection cable (6) through the opening (3).
3. Secure the battery cable plug (4) to the holder (5).

3.3 Install the electronic linkage control (EHR)



1. Secure the sensor in the joint area of the lower link.
2. Secure the magnetic encoder to the lower link.
3. Set the position of the sensor and the magnetic encoder.
 - Maximum distance 8 mm.



i

Advice

Please note that the contact surfaces (1) of the sensor are only located on the left and right sides.

Sensor inactive

The sensor must not be within range of the magnetic encoder.

Sensor active

The sensor must be within range of the magnetic encoder.

Signal from linkage control

The "active" signal can be output during raising or lowering. Check the correct setting [see "Electronic linkage control \(EHR\) function"](#).

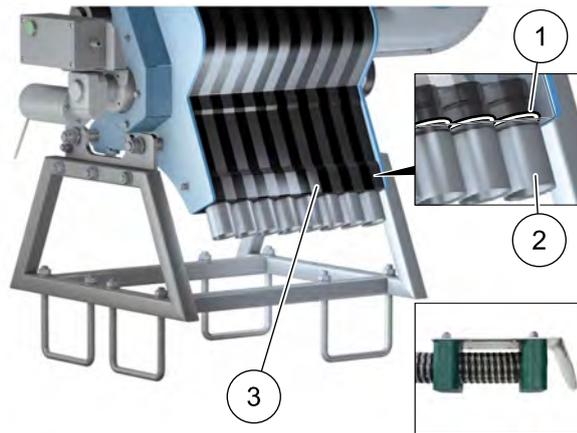
3.4 Installing hoses



Advice

Route hoses with as few bends as possible, and with the largest possible bending radius. Incorrect hose routing can result in blockages in the hose. Only insert clean hose grommets into the holder.

Installing hose



1. Install the sealing ring **(1)** on the hose grommet.
 - Ensure that it is correctly seated to avoid capacity losses.
1. Secure the hose grommet **(2)** to the hose.
2. Slide the hose grommet **(2)** into the mounting **(3)** until it engages.
3. Route the hose and cut to length.
4. Cut the hose off with a straight end.
5. Secure the baffle plate to the hose using a hose clip (see detail illustration).

3.5 Electrical connection

**Caution!**

Risk of short-circuit and injury when working on the battery and electrical system! Electrical current flowing through the body can cause cramps, ventricular fibrillation, heart stoppage and internal burns. Risk of burns due to arcing caused by short circuits.

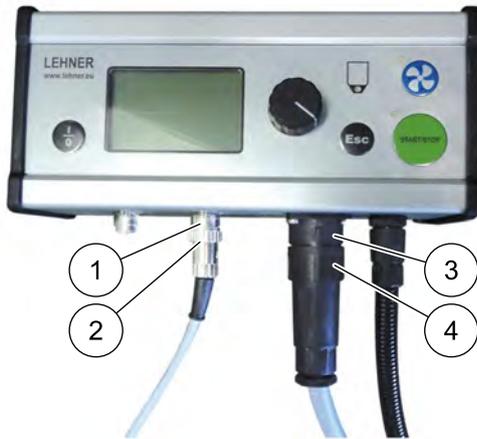
- Protect the battery against damage and moisture.
- Disconnect the electrical power supply before starting work on the battery and electrical system.
- Use suitable tools so as to avoid short circuits.
- Sure that the cables are routed without tension, kinking and chafing, and also avoid bending them around sharp edges.
- During all work on the battery, please comply with the regulations of the vehicle manufacturer in question.
- Only use original cables, or ones approved by the manufacturer.
- Always push on the cap and lock it to protect electrical connections against damage.

**Advice**

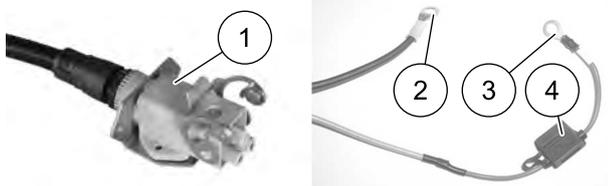
Faulty cables or cables with incorrect dimensions can lead to malfunctions and damage to the spreader. Any changes to cable or plug connections without factory approval automatically invalidates the entire warranty.

Changes to cables undertaken by the customer are taken into account in the case of repair. Only use original cables, or ones approved by the manufacturer. You must consult with the manufacture before carrying out any cable modifications. Power loss must be taken into account when extending cables. A poor power supply may prevent you from achieving the desired blower speed. Also, this could lead to intermittent complete failure.

3.6 Connect the control panel



1. Connect the signal cable **(2)** on the electronic linkage control to the 7-pole socket **(1)**.
2. Connect the control cable **(4)** on the spreader to the multi-pole socket **(3)**.



1. Place the control panel plug into the socket **(1)** on the supplied battery cable.
2. Connect the connector **(2)** on the black cable to the negative pole on the battery (not to the bodywork).
3. Connect the connector **(3)** on the red cable with the fuse **(4)** to the positive pole on the battery.



Advice

- Use the supplied 6 mm² battery cable to ensure a perfect power supply.
- A poor power supply may prevent you from achieving the desired blower speed. Also, this could lead to intermittent complete failure.

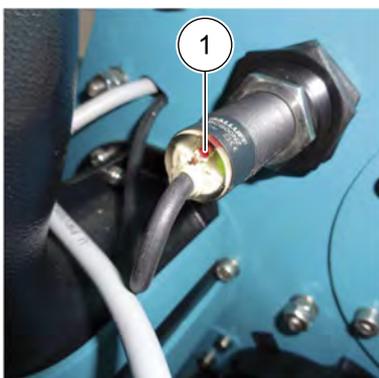
Any changes to cable or plug connections without factory approval automatically invalidates the entire warranty. Changes to cables undertaken by the customer are taken into account in the case of repair.

The spreader is ready for use.

3.7 Adjust the empty indicator

The empty indicator is given a default setting at the factory.

If you use particularly lightweight spreading material, it may be that the sensitivity of the empty indicator has to be adjusted.



Adjust the empty indicator:

1. Turn the red setting screw clockwise.
 - This increases the sensitivity of the empty indicator.
2. Turn the red setting screw anti-clockwise.
 - This reduces the sensitivity of the empty indicator.

3.8 Filling the Vento® II



Warning!

Risk of injury during operation if the spreading material hopper is open, due to spreading material being thrown out and rotating parts.

This can cause injuries to the eyes and crushing injuries.

- Only operate when the hopper cover is closed.
- Always switch off the spreader and blower before opening the spreading material hopper.



Warning!

Risk of injury!

- Wear appropriate working and protective clothing during all work.
- Comply with the regulations of the fertiliser manufacturer.



Advice

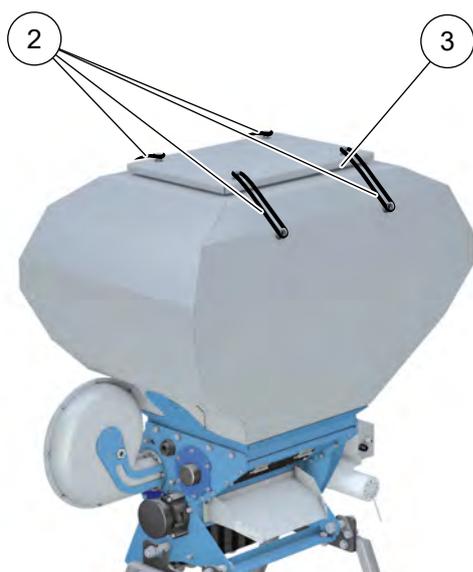
Attach the data sheet of the fertiliser used in a clearly visible position on the spreader.



Advice

Make sure that no foreign bodies (e.g. packaging material) get into the hopper, in order to avoid malfunctions.

Before starting, ensure that the hopper on the **Vento® II** is completely secure.

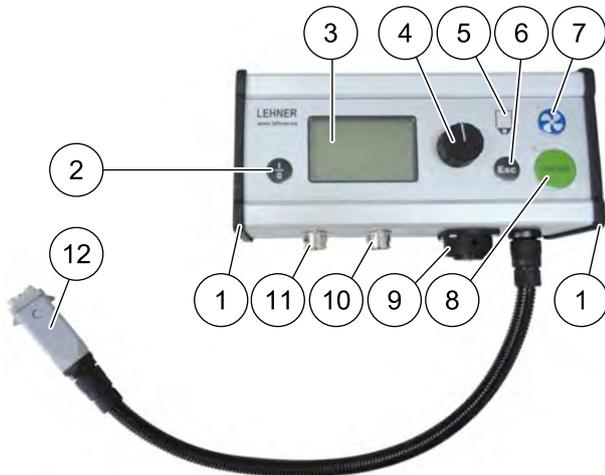


Filling

1. Make sure that the spreader and blower are switched off.
2. To fill the spreader release the rubber straps **(2)** on the hopper and remove the cover **(3)**.
3. Make sure that suitable rotary valves are fitted according to the spreading material table, and that the load relief roof of the agitator has been mounted correctly.
4. Fill the spreading material, making sure that no foreign bodies or impurities get into the hopper.
5. **Before closing the hopper, make sure that the seal is in place all round between the hopper and the hopper cover.**
6. Seal the hopper using the four rubber straps **(2)**.

4 Operation

4.1 Controls on the control panel



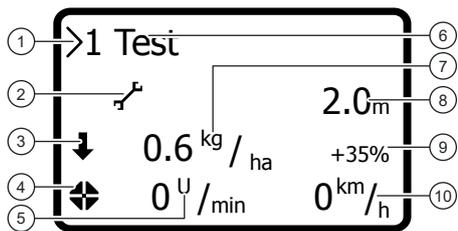
Controls

- 1 Side cover with blower opening
- 2 On/Off key
- 3 Graphic display
- 4 Turn-and-push button (encoder) for menu guide through the program
- 5 Empty indicator
 - Red LED lit: small residual amount in hopper
- 6 Escape (back key)
- 7 Blower On/Off key and selector for blower power setting
 - Orange LED lit: blower inactive
 - Blue LED flashes: blower power setting not yet reached
 - Blue LED lit: blower running at power setting
- 8 Start/Stop key
 - Orange LED lit: Stop is active
 - Blue LED flashes: Start selected but not yet possible
 - Blue LED lit: Start active

Connections

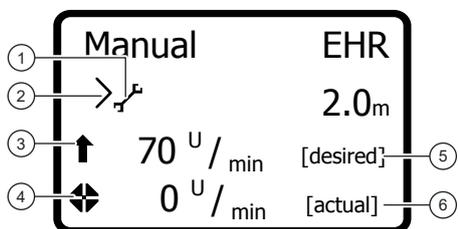
- 9 Socket for spreader control cable
- 10 7-pole socket for EHR magnetic sensor, Y cable or 7-pole connection cable
- 11 5-pole socket for wheel sensor or GPS receiver
- 12 6 mm² connection cable for battery cable

4.2 Information shown on the display



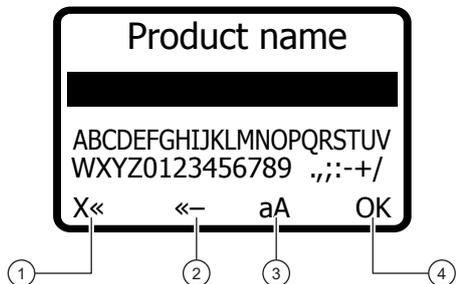
Automatic mode

- 1 Cursor
- 2 Main menu symbol
- 3 EHR symbol
- 4 Cellular rotor symbol
- 5 Cellular rotor speed
- 6 Selected calibration test
- 7 Output rate
- 8 Working width
- 9 Qty. adaptation
- 10 Travel speed



Manual

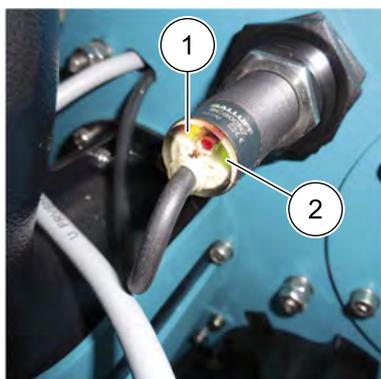
- 1 Main menu symbol
- 2 Cursor
- 3 EHR symbol
- 4 Cellular rotor symbol
- 5 Cellular rotor desired speed
- 6 Cellular rotor actual speed



Entry box

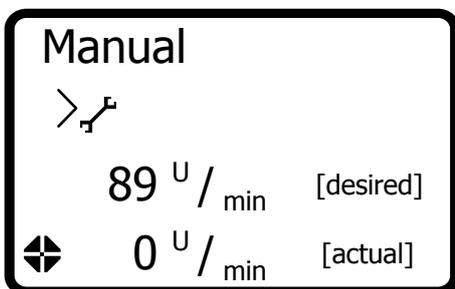
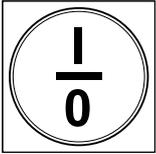
- 1 Delete single letters
- 2 Delete complete text
- 3 Upper/Lower case
- 4 Continue to calibration test

4.3 Information shown on the unit



- 1 LED lit: Empty indicator detects material in the hopper.
- 2 LED lit: empty indicator is ready.

4.4 Switching on



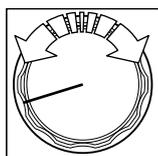
1. Press On/Off key.
 - "Lehner Agrar GmbH" appears in the display.
 - "**Vento** with the appropriate software version" appears in the display.
 - The last operating mode set will appear as the start screen.

4.5 General setting possibilities and displays

The control element can be used to make the following settings:

- Quantity adaptation (only possible in automatic mode)
- Hectare counter (only possible in automatic mode)
- Service query
- Calibration test
- Operating mode
- Calibration run
- Speed pulse
- EHR signal
- Working width
- Residual discharge
- Error memory
- Language
- Units
- Blower

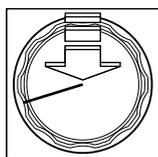
Select main menu:



1. Turn the turn-and-push button.



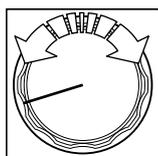
2. Select the "Main menu" symbol.



3. Push the turn-and-push button.

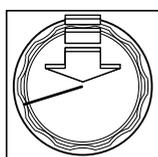
➤ The main menu will be displayed.

Select a menu point:



1. Select main menu.

2. Turn the turn-and-push button.



3. Push the turn-and-push button.

➤ The menu point will be displayed.

4.5.1 Qty. adaptation



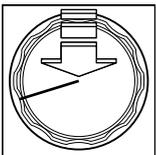
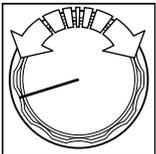
Advice

- The Qty. adaptation Can only be selected if automatic mode is selected.
- The quantity can only be adapted if at least one product has been created, [see "Calibration test"](#).

Qty. adaptation

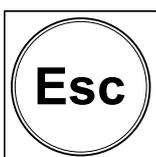
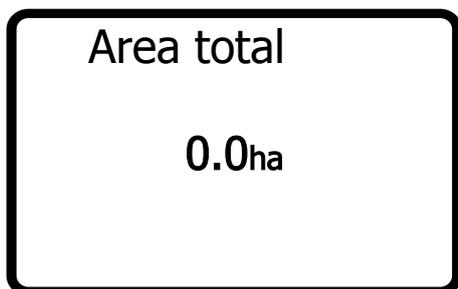
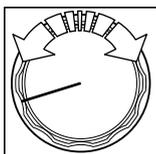
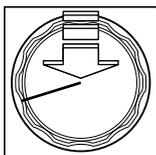
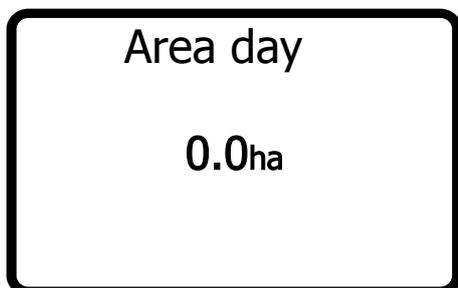
+50%

0.3 kg/ha



1. Select "Quantity adaptation" menu point.
 - The current value will be displayed.
2. Set the required value by turning the turn-and-push button.
3. Press the turn-and-push button to save the set qty. adaptation.
 - The entry will be confirmed.
 - The main menu will be displayed.

4.5.2 Hectare counter



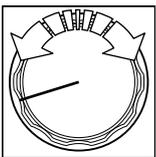
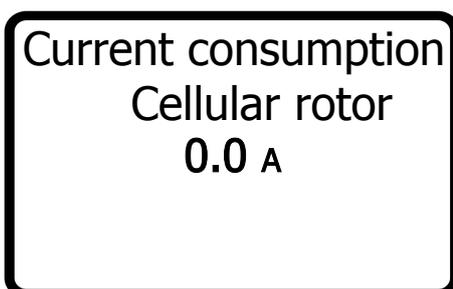
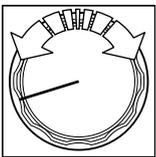
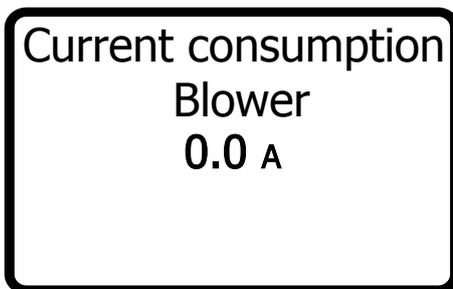
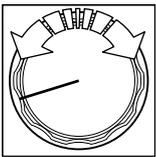
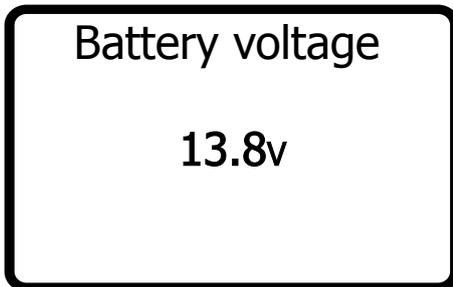
1. Select "Hectare counter" menu point.
 - The value for "Area day" will be displayed.

2. Turn the turn-and-push button clockwise.
 - ▶ Press and hold the turn-and-push button for 2 seconds to reset the daily area.

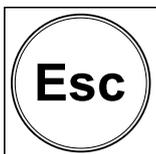
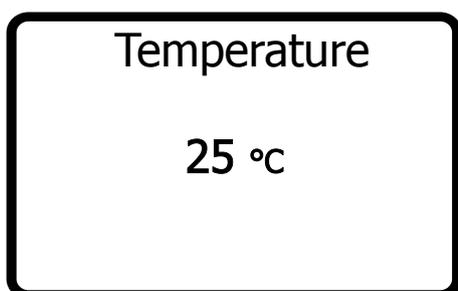
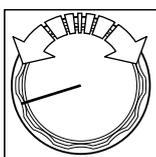
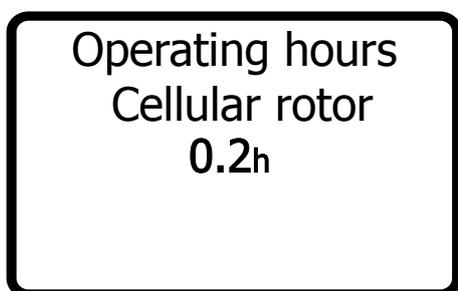
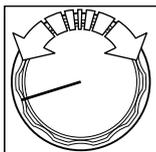
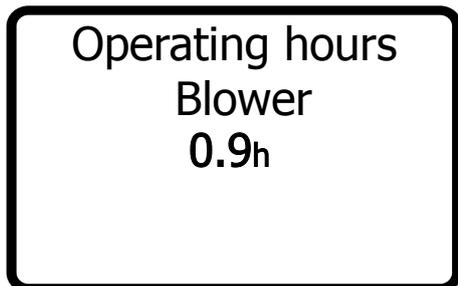
 - The value for "Area total" will be displayed.

3. Press the ESC key.
 - The main menu will be displayed.

4.5.3 Service query



1. Select "Service query" menu point.
 - The value for "Battery voltage" will be displayed.
2. Turn the turn-and-push button clockwise.
 - The value for "Blower current consumption" will be displayed.
3. Turn the turn-and-push button clockwise.
 - The value for "Cellular rotor current consumption" will be displayed.
4. Turn the turn-and-push button clockwise.



- The value for "Blower operating hours" will be displayed.

5. Turn the turn-and-push button clockwise.

- The value for "Cellular rotor operating hours" will be displayed.

6. Turn the turn-and-push button clockwise.

- The current temperature of the ambient air at the control panel is displayed.

7. Press the ESC key.

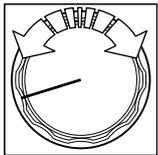
- The main menu will be displayed.

4.5.4 Calibration test

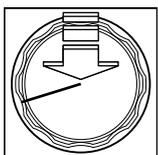
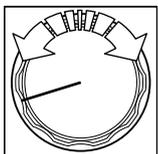
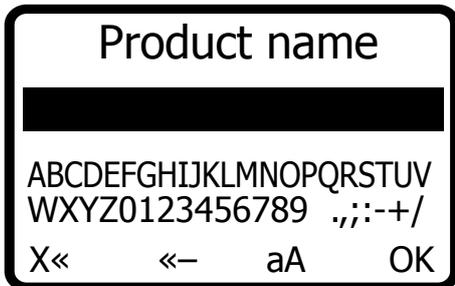


Advice

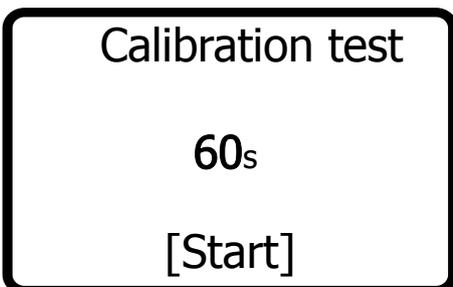
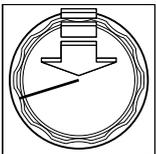
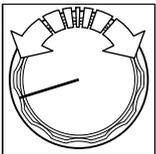
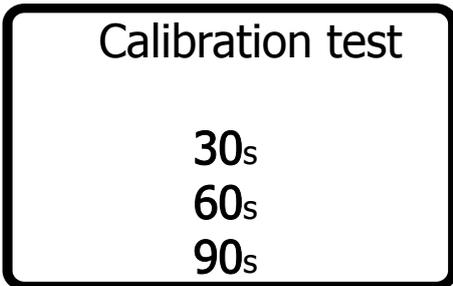
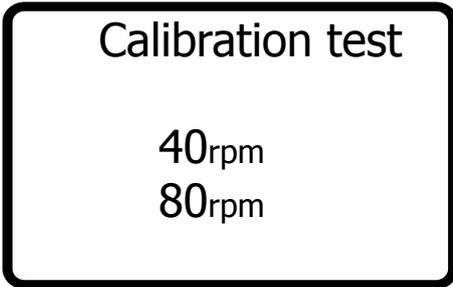
- A maximum of 75 products can be saved.
- Saved products can be overwritten but not deleted.



New product:



1. Pull off all hoses on the spreader.
2. Place a container under the outlets.
3. Select "Calibration test" menu point.
 - "Product selection" is displayed.
4. Turn the turn-and-push button to choose between "New product" and "Products already created".
5. Select "New product".
 - The entry box for the product name appears.
6. Turn the turn-and-push button to select the symbols required for the product name.
7. Push the turn-and-push button to confirm the selected symbol.



8. Select "OK" and confirm to save the product name.

9. Select the speed of the rotary feeder shaft.



Advice

Depending on the speed and granulate, the cellular rotors might not be filled completely. This can result in variances in the output quantity.

Recommendation:

Fine granulate: 80 rpm

Coarse granulate: 40 rpm

10. Select the duration of the calibration test.



Advice

The accuracy of the calibration test increases with its duration and the grain size of the material.

Fine material: less time

Coarse material: more time

11. Turn the turn-and-push button to select the duration of the calibration test.

12. Save the entry by pressing the turn-and-push button.

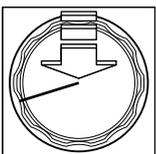
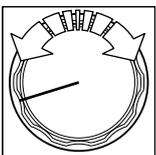
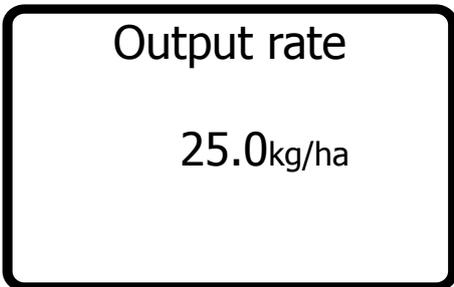
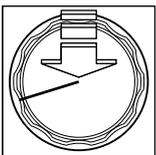
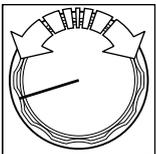
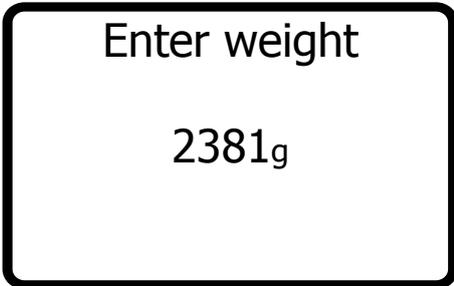
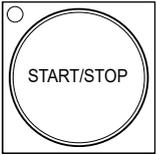
- The entry will be confirmed.

- The start menu for the calibration test appears.



Advice

By turning the turn-and-push button quickly to the left or right, you can skip the countdown and the weight can be entered or edited in the program.



13. Press the "Start/Stop" key or external Start/Stop button on the unit.

- The calibration test will be started.

- After 60 seconds have passed, the "Enter weight" menu will appear.

14. Enter the collected weight by turning the turn-and-push button.

15. Save the entry by pressing the turn-and-push button.

- The entry will be confirmed.

- The "Output rate" menu will appear.



Advice

The fixed output rate may be saved from the calibration test. However, the output rate may be edited at any time.

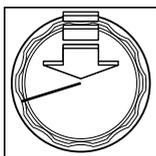
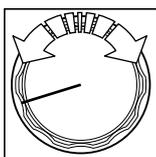
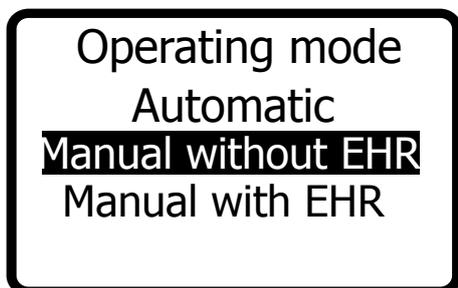
16. Enter the output rate by turning the turn-and-push button.

17. Save the entry by pressing the turn-and-push button.

- The entry will be confirmed.

- The main menu will be displayed.

4.5.5 Operating mode



1. Select "Operating mode" menu point.
 - The possible operating modes will be displayed.

2. Turn the turn-and-push button to select an operating mode.

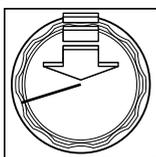
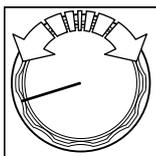
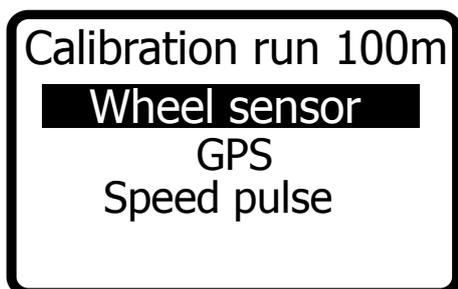
3. Save your selection by pressing the turn-and-push button.
 - The selection will be confirmed.
 - The main menu will be displayed.

4.5.6 Calibration run



Advice

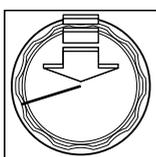
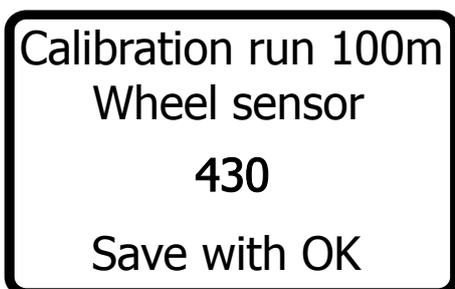
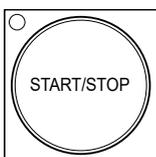
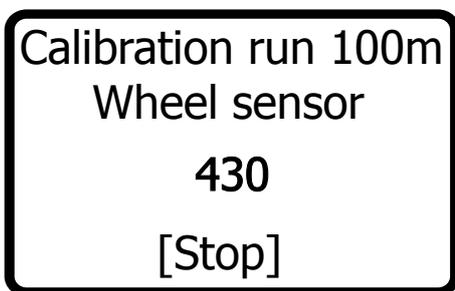
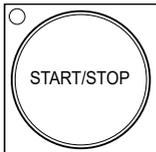
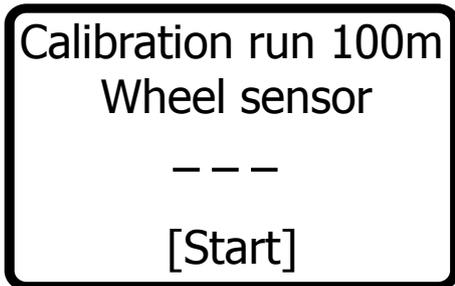
A measured distance of exactly 100 m must be covered in the calibration run.



1. Select "Calibration run" menu point.
 - The sensors for calibration will be displayed.

2. Turn the turn-and-push button to select a sensor.

3. Confirm your selection by pressing the turn-and-push button.



➤ The start menu for the calibration run appears.

4. Press the "Start/Stop" Key to start the calibration run.

5. Cover a distance of 100 m with the vehicle.

6. Press the "Start/Stop" Key to end the calibration run.

➤ The "Save with OK" menu will appear.

7. Save the measured distance by pressing the turn-and-push button.

➤ The entry will be confirmed.

➤ The main menu will be displayed.

4.5.7 Speed pulse

1. Select "Speed pulse" menu point.

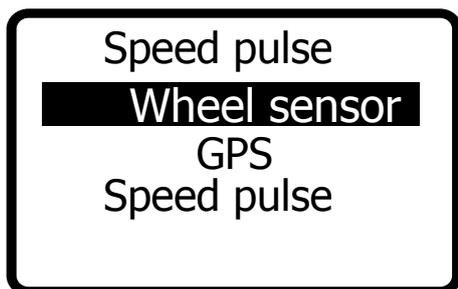


Advice

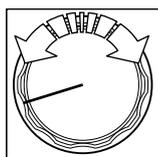
After completing the calibration run, the number of pulses recorded is automatically saved in this menu, point 3.5.7. The controller calculates the speed using these pulses.

Caution: Pay attention to the pulse numbers:

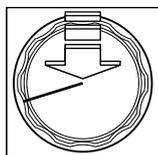
- Min. 300 pulses/100 m
- Max. 40,000 pulses/100 m



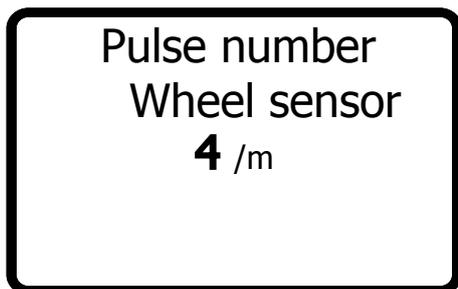
- The selection of the sensors is displayed.



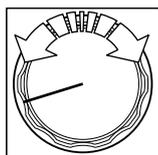
2. Turn the turn-and-push button to select a sensor.



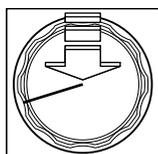
3. Confirm your selection by pressing the turn-and-push button.



- The current pulse number will be displayed.



4. Turn the turn-and-push button to change the pulse number.



5. Confirm your selection by pressing the turn-and-push button.

- The entry will be confirmed.
- The main menu will be displayed.

4.5.8 Electronic linkage control (EHR) function

The spreader is fitted with EHR signal communication (socket) at the factory. The hydraulic signal is taken from the 7-pole EHR socket on the carrier vehicle or from the sensors attached to the lower link (install magnet with sensor on lower link - option).

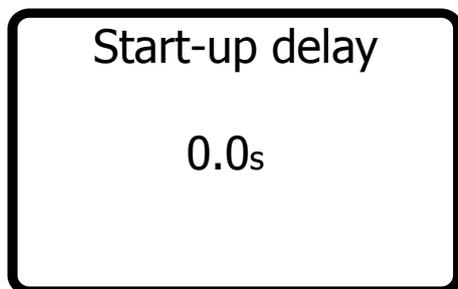
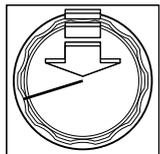
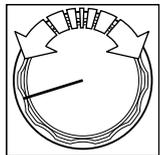
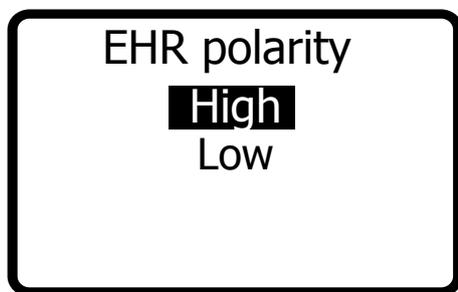
Depending on the carrier vehicle, the signal is output on lifting or on lowering. Check the EHR signal is set correctly and correct it if necessary.

The start-up/switch-off delay defines after how many milliseconds the spreader is switched on/off after lowering/lifting of the hydraulics. When changing the work position (lower/lift hydraulics) under the set start-up/switch-off delay, no function is carried out.

The spreader is stopped automatically when the front or rear hydraulics of the carrier vehicle are lifted. The spreader can be stopped manually at any time using the control panel.

If the sensor is **active** when the linkage is raised, set the EHR polarity to "High".

If the sensor is **inactive** when the linkage is raised, set the EHR polarity to "Low".



1. Select "EHR signal" menu point.
 - The EHR polarity selection menu will be displayed.

2. Turn the turn-and-push button to choose between "High" and "Low".

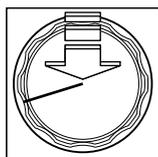
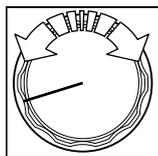
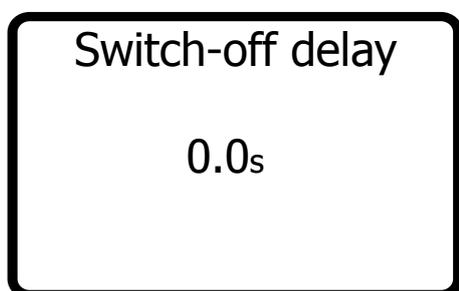
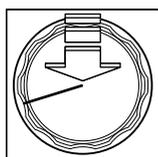
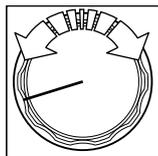
3. Confirm your selection by pressing the turn-and-push button.
 - The entry will be confirmed.

4. Set the duration of the start-up delay.



Advice

The factory setting for the start-up delay is 0.0 s.



5. Turn the turn-and-push button to select the duration of the start-up delay.

**Advice**

With the setting 0.0 s, there is no start-up delay for the EHR function.

6. Save the entry by pressing the turn-and-push button.

- The entry will be confirmed.

7. Set the duration of the switch-off delay.

**Advice**

The factory setting for the switch-off delay is 0.0 s.

8. Turn the turn-and-push button to select the duration of the switch-off delay.

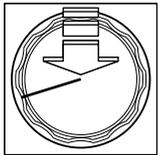
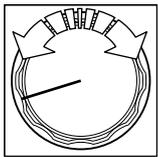
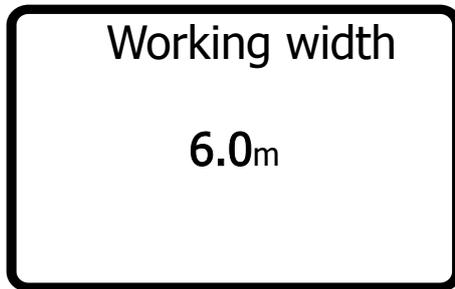
**Advice**

With the setting 0.0 s, there is no switch-off delay for the EHR function.

9. Save the entry by pressing the turn-and-push button.

- The entry will be confirmed.
- The main menu will be displayed.

4.5.9 Working width



1. Select "Working width" menu point.
 - The current working width will be displayed.

2. Turn the turn-and-push button to change the working width.

3. Confirm your selection by pressing the turn-and-push button.
 - The entry will be confirmed.
 - The main menu will be displayed.

4.5.10 Residual discharge



Caution!

Risk of environmental pollution due to incorrect handling of fertilisers!

Comply with regulations and laws of the country in question.

Make sure that no fertiliser is spilled onto the ground.

Comply with the instructions from the fertiliser manufacturer regarding handling, storage and disposal of the fertilisers.



Advice

To avoid damage to property after completing work, always perform a complete residual discharge of the spreader.

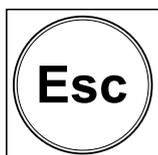
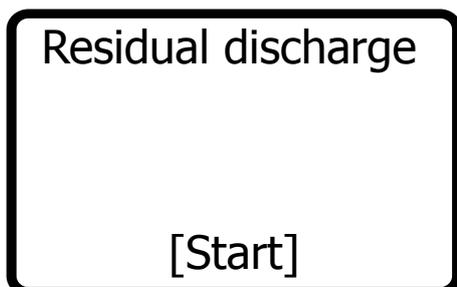
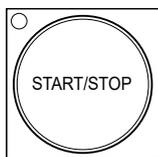
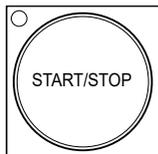
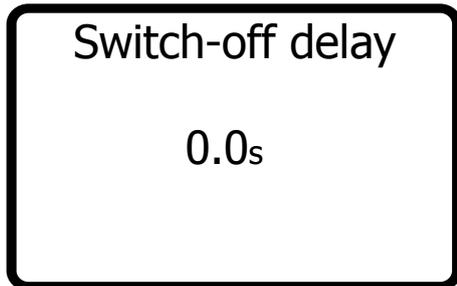
Even if a visual inspection indicates that the spreader is empty, it can be expected that there will still be a quantity left in the spreader.

The residual amount of granulate must be collected in containers with a sufficient capacity.

Empty larger amounts through the residual discharge hatch, see [Chapter 5.2, "Spreading material hopper"](#).

Residual discharge for smaller amounts:

1. Pull off all hoses on the spreader.
2. Place a container under the outlets.
3. Select "Residual discharge" menu point.



- "Residual discharge start" will be displayed.

4. Press the "Start/Stop" key or external Start/Stop button on the unit.

- The residual discharge will be started.

5.

- "Residual discharge stop" will be displayed.

6. Press the "Start/Stop" key or external Start/Stop button on the unit.

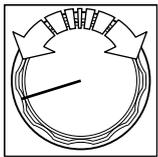
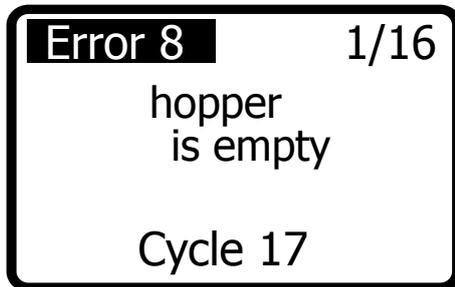
- The residual discharge will be stopped.

- "Residual discharge start" will be displayed.

7. Press the ESC key.

- The main menu will be displayed.

4.5.11 Error memory



1. Select "Error memory" menu point.

➤ The list of errors will be displayed.

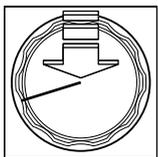
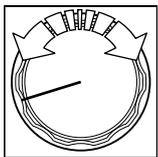
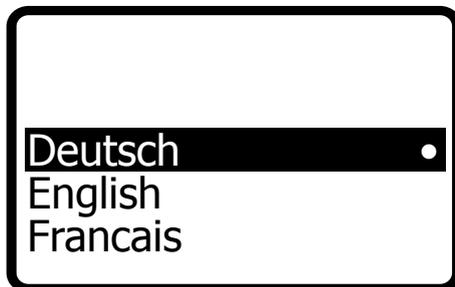
2. Turn the turn-and-push button.

➤ The error messages will be displayed in sequence.

3. Press the ESC key.

➤ The main menu will be displayed.

4.5.12 Language



1. Select "Language" menu point.

➤ The languages will be displayed.

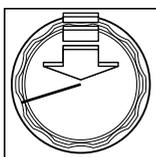
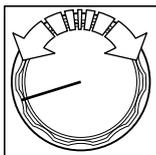
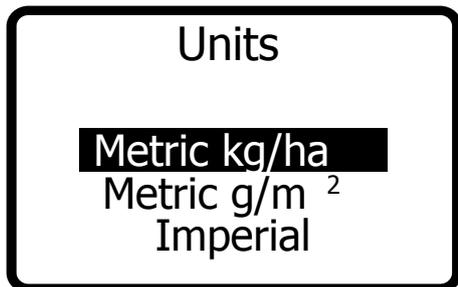
2. Select a language by turning the turn-and-push button.

3. Save your selection by pressing the turn-and-push button.

➤ The entry will be confirmed.

➤ The main menu will be displayed.

4.5.13 Units



1. Select "Units" menu point.
 - The units will be displayed.

2. Select a unit by turning the turn-and-push button.

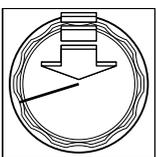
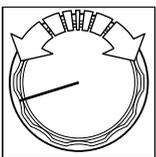
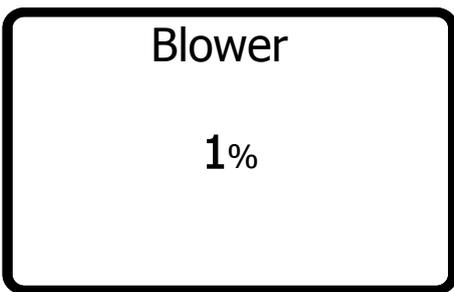
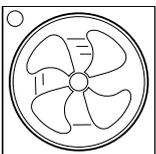
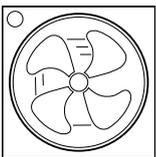
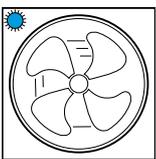
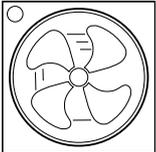
3. Save your selection by pressing the turn-and-push button.
 - The entry will be confirmed.
 - The main menu will be displayed.

4.5.14 Blower



Advice

Setting a high blower power increases energy consumption.
Lateral distribution can be varied by means of the blower power.



To switch on blower:

1. Press blower button.

 - The blue status LED will flash.
 - The blower will accelerate to the last setting.

- After reaching this setting, the blue status LED will be lit.

To switch off blower:

1. Press and hold the blower key for 3 seconds.

 - The blower will switch off.
 - The orange status LED will be lit.

To set the blower:

1. Press the blower key whilst the blower is operating.

 - The current setting will be displayed.

2. Set the required value by turning the turn-and-push button.
3. Confirm your selection by pressing the turn-and-push button.

 - The entry will be confirmed.
 - The start menu will be displayed.

4.6 Automatic dosing

With automatic dispensing, the speed of the cellular rotor is calculated according to the following values:

- Speed
- Output rate
- Qty. adaptation
- Working width
- Calibration value of the spreading material

The calibration value can be stored in a calibration test, see [Chapter 4.5.4, "Calibration test"](#).

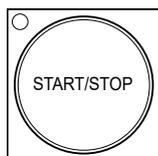
The output rate and product can be set directly, see [Chapter 4.5, "General setting possibilities and displays"](#).

Starting automatic dosing:

**Warning!****Risk of injury!**

Make sure that no other persons or animals are in the danger zone during operation.

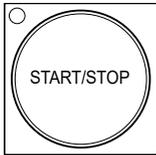
The automatic dosing system will only start if there is a speed signal, a linkage signal is being output and there is material in the hopper, see [Chapter 4.5.11, "Error memory"](#).



1. Press the Start/Stop key.
 - The blower will start, the blue blower LED and the blue LED in the Start/Stop key will flash until the set speed has been reached, see [Chapter 4.5.14, "Blower"](#).
 - The LED in the Start/Stop key will turn orange when the blower speed has been reached.
2. Only press the "Start/Stop" when the speed is greater than 2 km/h and the hydraulics are lowered.
 - The dosing system will start.
 - The blue LED in the Start/Stop key will be lit.

Stopping automatic dosing:

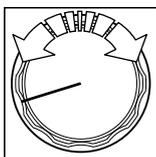
The dosing system will be stopped automatically when the hydraulics are raised or the travel speed is less than 1.5 km/h. The spreading procedure restarts when both signals are received again.



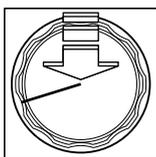
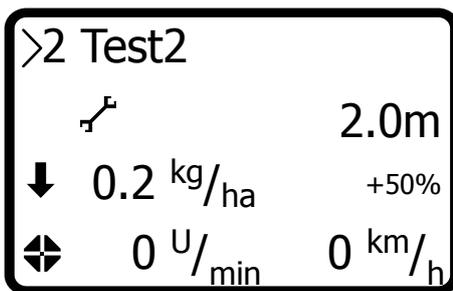
1. The spreading procedure can be stopped at any time by pressing the Start/Stop key.

Possible settings in automatic mode:

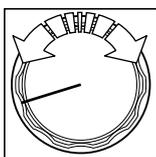
The output rate and product can be set at any time. A product change is only possible if several products have already been stored, see [Chapter 4.5.4, "Calibration test"](#).



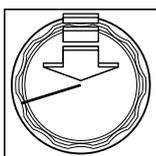
1. Select a product or output rate by turning the turn-and-push button.



2. Push the turn-and-push button to edit the product selection or output rate.



3. Turn the turn-and-push button to choose between the products or values.



4. Push the turn-and-push button to confirm the product selection or output rate.

4.7 Manual without EHR



Warning!

Risk of injury!

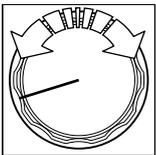
Make sure that no other persons or animals are in the danger zone during operation.

The motor to power the cellular rotor and blower can be switched on and off at any time.

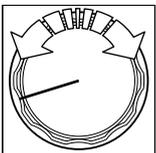
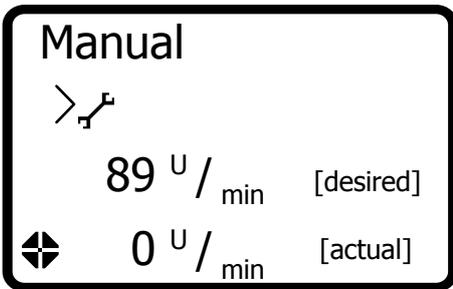
The speed of the cellular rotor can be adjusted manually at any time.

To adjust the speed of the cellular rotor:

1.



1. Select a desired speed by turning the turn-and-push button.

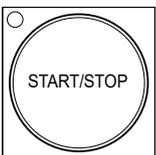


2. Turn the turn-and-push button to select a desired speed.

Blower:

1. To switch the blower on/off, [see "Blower"](#).

Start/Stop the cellular rotor drive motor:



1. Press the Start/Stop Key to switch the motor on and off.

4.8 Manual with EHR

The motor to power the cellular rotor and blower can be switched on and off manually when the EHR signal is being received from the carrier vehicle or a lifting gear sensor, [see "Manual without EHR"](#).

The speed of the cellular rotor can be adjusted manually.

When an EHR signal from the carrier vehicle or the signal from a lifting gear sensor is received, [see "Electronic linkage control \(EHR\) function"](#), the spreader will stop automatically when the hydraulics are raised.

Dosing starts automatically when the hydraulics are lowered.

4.9 Error message

Message on the display	Error No.	Explanation
Cellular rotor blocked	1	<ul style="list-style-type: none"> Check cellular rotor shaft for foreign bodies and remove blockage
Cellular rotor not responding	2	<ul style="list-style-type: none"> The control cable for the spreader is not connected to the control panel Check the control cable for damage Check the connection cable for the cellular rotor drive unit Check the plug on the control cable for damage
Blower blocked	3	<ul style="list-style-type: none"> Check the blower for blockages
Excess voltage	4	<ul style="list-style-type: none"> Max. voltage supply 15.5 V
Inadequate voltage	5	<ul style="list-style-type: none"> Check voltage supply (min. 12.5 V) Have you used our original 6 mm² battery cable?
Travel speed too high	7	<ul style="list-style-type: none"> Maximum cellular rotor speed reached Reduced travel speed or use a larger cellular rotor
Hopper empty	8	<ul style="list-style-type: none"> Residual quantity (approx. 2 l) in the hopper
Speed signal missing	9	<ul style="list-style-type: none"> No speed signal detected Faulty contact or cable break on speed sensors
Overheating	10	<ul style="list-style-type: none"> Allow the control unit to cool Check the ventilation openings on the side covers to ensure they are clear Keep the control unit out of direct sunlight Check the power supply, is sufficient voltage being supplied (min. 12.5 V)

4.10 Troubleshooting

No signal from the wheel sensor	<ul style="list-style-type: none">• Check the distance between the sensor and wheel nuts and adjust if necessary. Distance should be less than or equal to 4 mm.• Check the wheel sensor/control panel plug connection.• Check the counting points.• Check the cables.
No signal from the linkage magnetic sensor	<ul style="list-style-type: none">• Distance between the sensor and magnet too large.• Note the installation direction of the sensor, see "Install the electronic linkage control (EHR)".• Check the cables.
Output rate excessive/insufficient	<ul style="list-style-type: none">• Perform a calibration test, enter the correct value and confirm.• Check the quantity adaptation.• Check the cellular rotor for contamination.• Check the brushes for signs of damage and contamination, see "Brushes".

5 Maintenance and cleaning



Warning!

Risk of injury.

Disconnect the power supply before starting maintenance, repair and cleaning work.



Warning!

Risk of injury!

Wear appropriate working and protective clothing during all work. Comply with the regulations of the pesticide or fertiliser manufacturer.



Warning!

Risk of injury.

Always comply with the regulations for the specific pesticide or fertiliser. Refer to the product descriptions for the pesticide or fertiliser for more details.



Caution!

Risk of pollution due to incorrect handling of pesticides and fertilisers.

Comply with regulations and laws of the country in question.

Make sure that no pesticide or fertiliser is spilled.

Comply with the instructions from the pesticide or fertiliser manufacturer regarding handling, storage and disposal of pesticides and fertilisers.

5.1 Maintenance schedule

Maintenance activity	Interval	Remark
Calibration test	At the beginning of a season or following a product or product batch change	see "Calibration test"
Check the cellular rotor shafts for contamination and wear ➤ Clean or replace the cellular rotors	After 20 operating hours and at the end of the season	see "Cellular rotor shaft"
Check the brushes for contamination or wear ➤ Clean or replace them if necessary.	After each product change	see "Brushes"
Clean the hopper and agitator	After each season or product change	see Chapter 5.2, "Spreading material hopper"
Check the seal between the hopper and spreader ➤ The seal must be in contact all the way around.	When the hopper is removed/renewed and at the end of the season	see Chapter 5.2, "Spreading material hopper"
Check drive belt for wear	After 100 operating hours or every month and at the end of the season	see "Install/Remove drive unit"
Check all felt seals for wear	After 100 operating hours or every month and at the end of the season	see "Spare parts"

5.2 Spreading material hopper



Advice

Clean the hopper, cellular rotor shafts, agitator and blower in dry condition!
Never clean the spreader with a high-pressure cleaner or highly acidic cleaning agents.
Do not use any greases or oils. Note the instructions from the manufacturers.

5.2.1 Cleaning the hopper

Cleaning the hopper

Clean the hopper and spreader at the end of the season. The hopper can be nearly completely emptied [see "Residual discharge"](#) by means of the residual discharge. If there are larger quantities of spreading material or malfunctions in operation, the hopper can also be emptied via a hatch, see ["Emptying the hopper through the residual discharge hatch"](#). All residues that build up during cleaning of the spreader must be collected and disposed of according to the regulations valid in the particular country.



Warning!

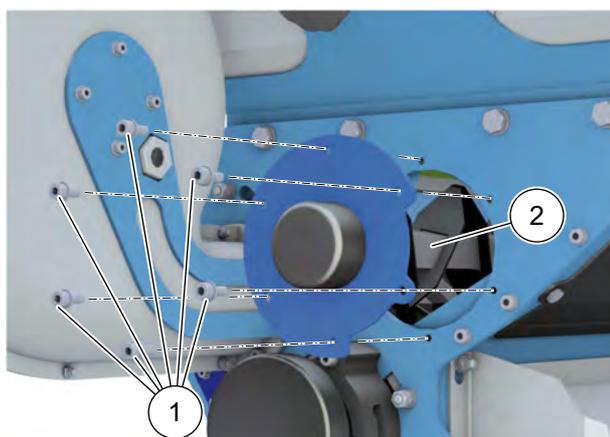
Risk of injury during maintenance work.

This can lead to crushing due to inadvertent start-up of the machine or short circuit.

- Disconnect the electrical power supply before starting maintenance, repair and cleaning work.
- Wear appropriate working and protective clothing during all work.

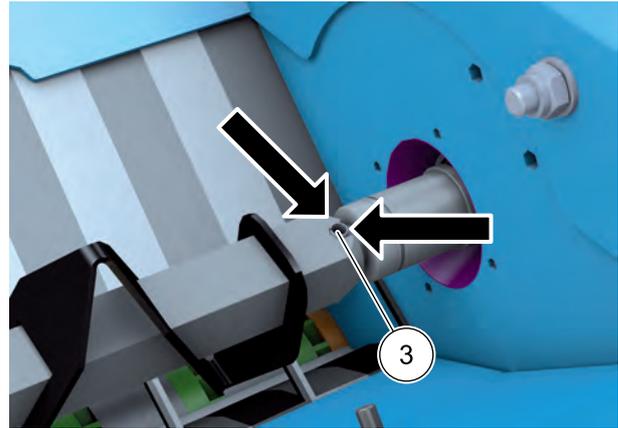
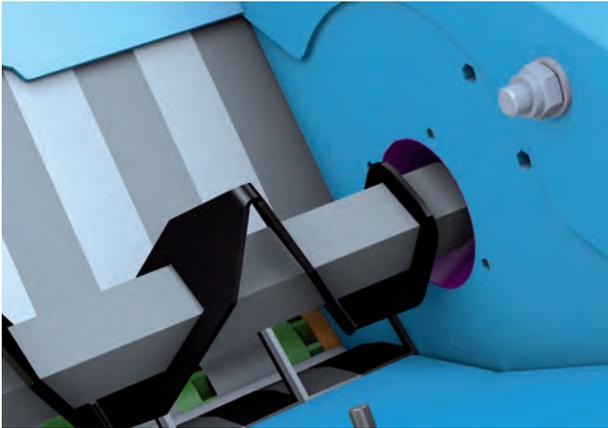
1. Empty the hopper if necessary, see Emptying the hopper.
2. Remove the agitator and clean it, see Cleaning the agitator.
3. Clean the hopper, agitator and spreader in dry condition or, if required, with a damp cloth and suitable cleaning agent.
4. Reassemble the spreader.

5.2.2 Cleaning the agitator



Cleaning the agitator

1. Undo the 6 screws (1).
2. Pull out the agitator (2).
3. Clean the agitator (2) and check it for wear.
4. When installing the agitator, push the groove on to the pin (arrow, 3).
5. Resecure the agitator in the correct position using the 6 screws (1).

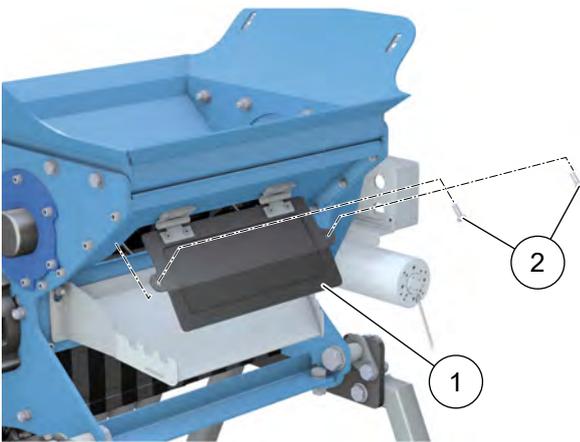


5.2.3 Emptying the hopper through the residual discharge hatch



Advice

Do not open the hatch completely since otherwise material will be discharged without control.



The hopper can be emptied through the hatch (1).

1. Switch off the **Vento® II**.
2. Place a container under the hatch (1).
3. Undo the screws (2) and carefully open the hatch up to 1/4 of the way (so as to control the discharge volume).
4. After emptying, close the hatch (1) again.



Warning!

Risk of injury during maintenance work.

This can lead to crushing due to inadvertent start-up of the machine or short circuit.

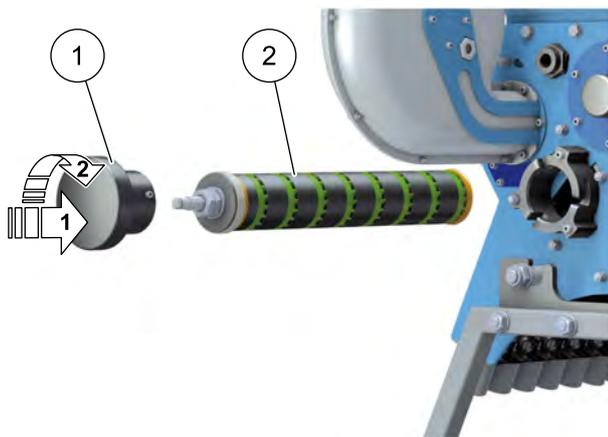
- Disconnect the electrical power supply before starting maintenance, repair and cleaning work.
- Wear appropriate working and protective clothing during all work.

5.3 Cellular rotor shaft



Advice

Different spreading material may require special cellular rotors. For changing, it is recommended that you keep pre-assembled shafts available according to the size of the cellular rotors, and always replace the entire shaft.



Remove the cellular rotor shaft

1. Press the pressure piece **(1)** on the shaft, turn it clockwise and remove it.
2. Pull out the shaft **(2)**. If this is not possible, please use the supplied tool.

Clean cellular rotors

- Pull the cellular rotors off the shaft and clean them. Check individual parts for damage and wear, renew if necessary.
- When dismantling the shaft, identify the sequence of components, and push back onto the shaft in reverse order when assembling. During assembly, make sure that the **cellular rotors are mounted offset to one another**.
- Cellular rotor shaft structure, see:

[7.6.5 "Spare parts for cellular rotor shaft green, 1 x 2.5 ccm"](#)

[7.6.6 "Spare parts for cellular rotor shaft green, 2 x 2.5 ccm"](#)

[7.6.7 "Spare parts for Cellular rotor shaft blue, 1 x 5.0 ccm"](#)

[7.6.8 "Spare parts for Cellular rotor shaft blue, 2 x 5.0 ccm"](#)

[7.6.9 "Spare parts for cellular rotor shaft red, 1 x 10 ccm"](#)

[7.6.10 "Spare parts for cellular rotor shaft red, 2 x 10 ccm"](#)

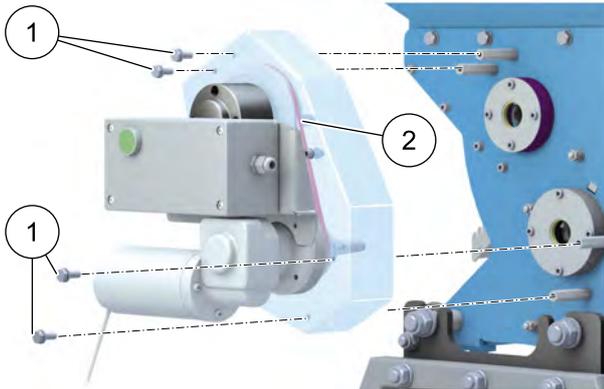
Installing the cellular rotor shaft

1. Insert the shaft into the holder as far as the stop.

If this is difficult (for example because the cellular rotor shaft is new), the supplied tool can be used to help, by performing slight rotating movements.

2. Put on the cover and turn to the left to lock.

5.4 Install/Remove drive unit



1. Disconnect the cables from the electric box.
2. Undo the 4 screws **(1)**.
3. Remove the complete drive unit **(2)**.
4. Install the complete drive unit **(2)** using the same procedure in reverse.
5. Connect the cables to the electric box.

Maintenance work

1. Check the drive belt and replace if necessary.
2. Remove the complete drive unit in the event of a motor defect.

5.5 Blower



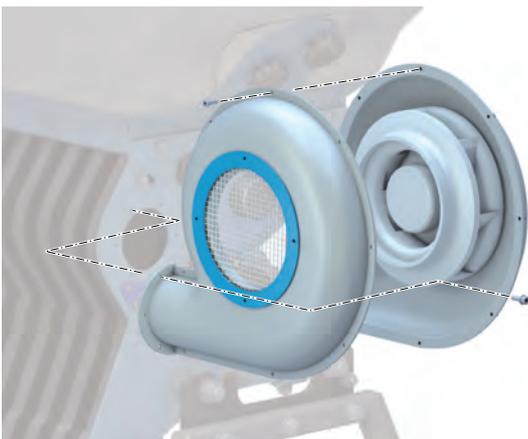
Caution!

**Risk of injury due to high suction power of the blower.
Long hair or loose objects can be snagged in the blower.**

- Keep loose objects away from the area in front of the intake grille.
- Tie up long hair.

The blower does not require maintenance.

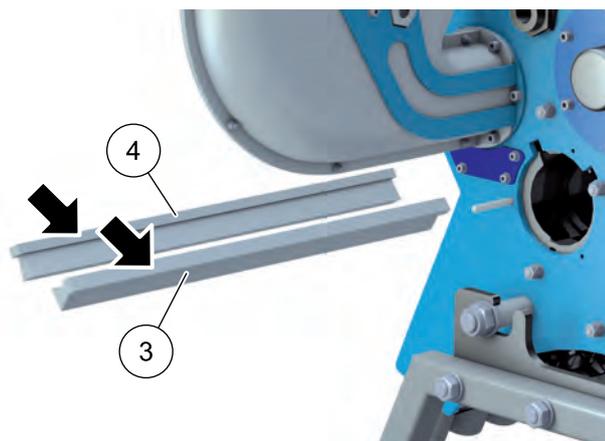
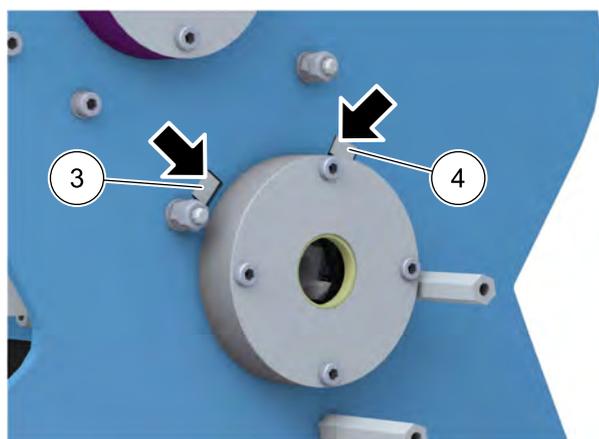
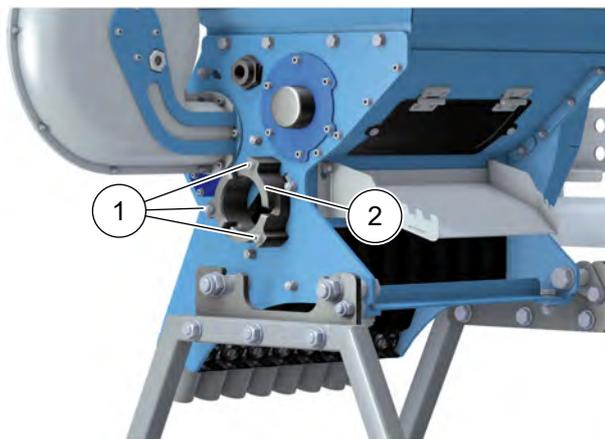
If there is a malfunction, check the blower for blockages due to contamination. Clean the blower in dry condition if necessary, and check it can turn freely.



The blower cover with the intake grille can be removed for cleaning if necessary, by unscrewing the screws. Renew the self-locking screws when reinstalling the cover!

5.6 Brushes

After each product change, check the two brushes on the shaft and the cellular rotors for contamination and wear. Clean or renew the brushes if necessary.



Removing and installing brushes

1. Remove the cellular rotor shaft, [see "Cellular rotor shaft"](#).
 2. Undo 2 screws and a cap nut **(1)** and remove the holder **(2)**.
 3. Remove the drive, [see "Install/Remove drive unit"](#).
 4. Push the brushes **(3 = crinkled fibres, 4 = smooth fibres)** from the drive side to the blower side slightly by pressing them with a flat tool (for example an Allen key).
 5. Pull the brushes **(3 = crinkled fibres, 4 = smooth fibres)** straight out of the blower side.
 6. Check the brushes and clean or renew them if necessary.
 7. Push the brushes back in, at least until they are flush.
- Caution:** Different brushes, make sure the arrangement is correct!
8. Secure the holder with the 3 screws **(1)**.
 9. Install the drive and cellular rotor shaft.

5.7 Install/Remove empty indicator



Removal

1. Strip and expose the cable.
2. Undo the lock nut (2).
3. Unscrew the sensor (3) from the housing (1).

Installation

1. Screw the new sensor (3) into the housing (1) until you feel resistance.
 - Only tighten the sensor by hand, risk of damage.
2. Tighten the lock nut (2).
3. Route and connect the cable.

6 Storage and disposal

6.1 Storage

Before storing the spreader, empty it completely and clean it, see [Chapter 5.2, "Spreading material hopper"](#).

Ambient conditions at storage site:

- dry
- protected from UV radiation
- -10°C to 50 °C

6.2 Disposal

**Caution!****Risk of pollution due to incorrect handling of pesticides and fertilisers.**

Comply with regulations and laws of the country in question.

Make sure that no pesticide or fertiliser is spilled.

Comply with the instructions from the pesticide or fertiliser manufacturer regarding handling, storage and disposal of pesticides and fertilisers.

Dispose of the spreader and pesticide or fertiliser according to local regulations and laws.

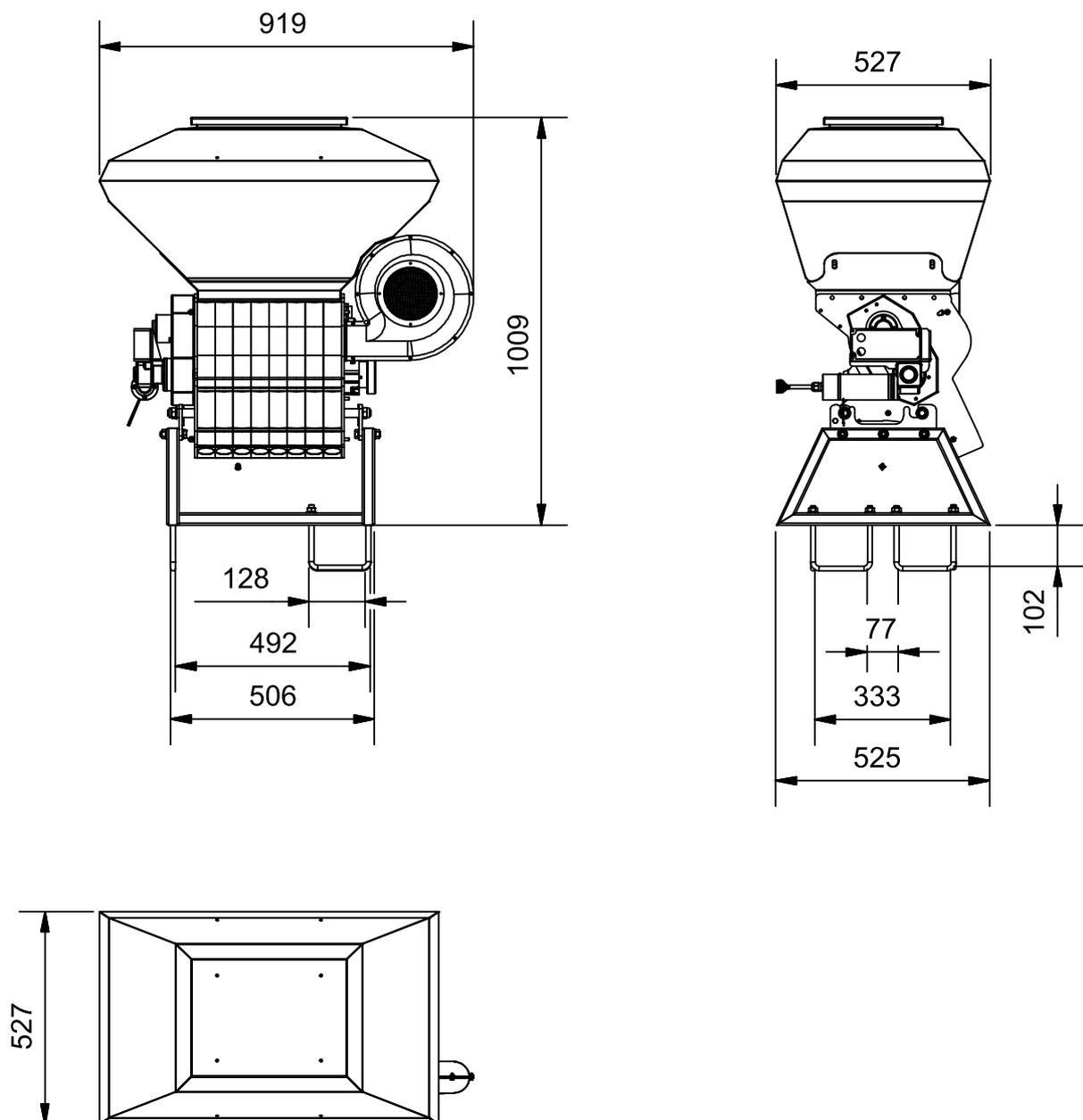
7 Appendix

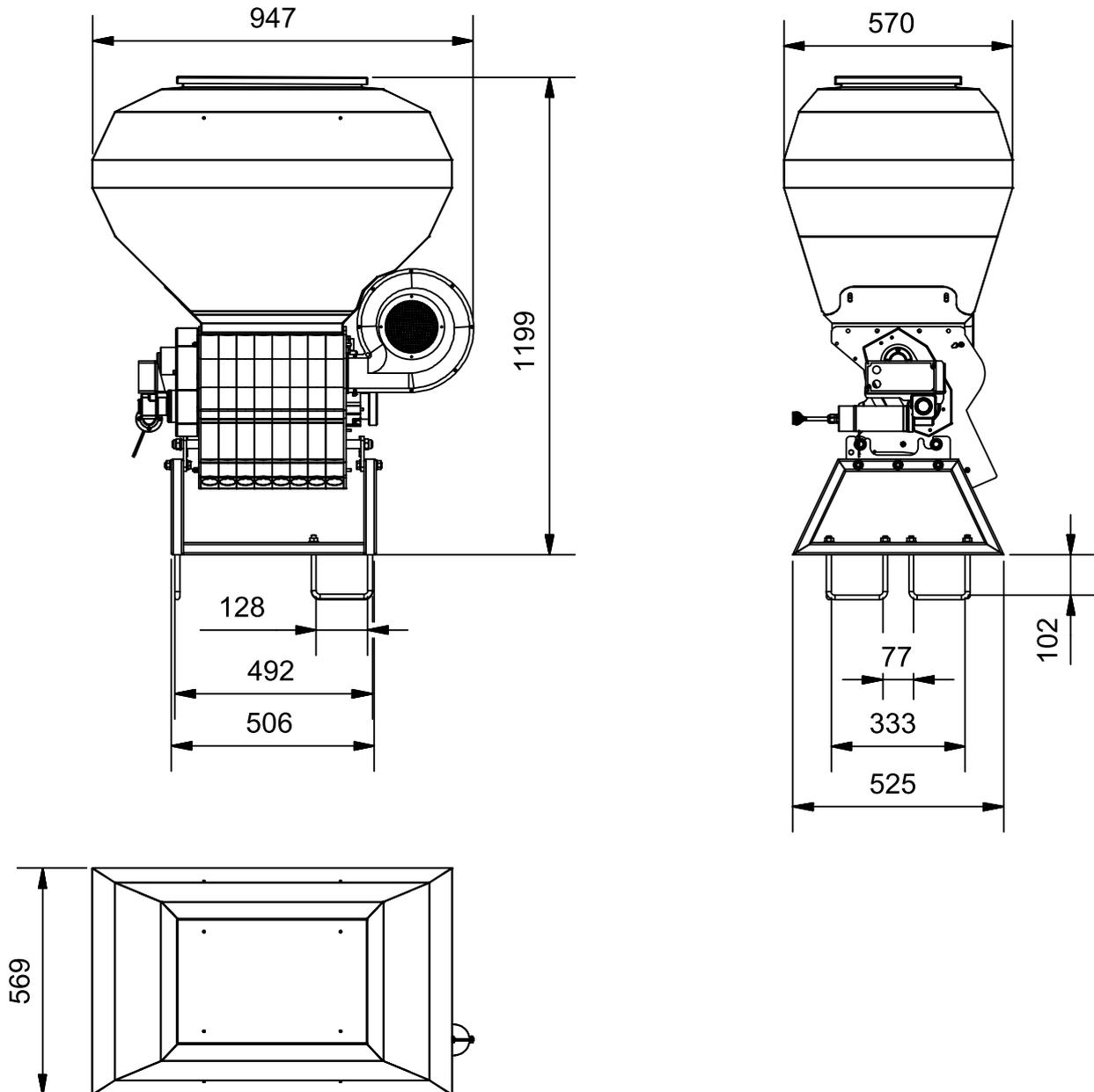
7.1 Identification

The serial number of the spreader is shown at the rear right on the inside of the frame.
 Note the serial number in this operating manual so that it is readily available for inquiries.

7.2 Dimensions

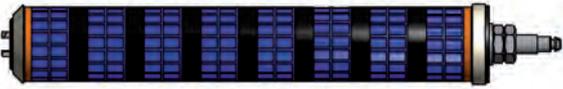
Vento® II 8-row with 120 litre hopper



Vento® II 8-row with 230 litre hopper

(All dimensions are subject to technical modifications.)

7.3 Overview of rotary feeder shafts

Rotary feeder shaft	
<p>1 x green per hose (73316)</p> 	<p>2 x green per hose (73319)</p> 
<p>1 x blue per hose (73317)</p> 	<p>2 x blue per hose (73320)</p> 
<p>1 x red per hose (73318)</p> 	<p>2 x red per hose (73321)</p> 

7.4 Formulae

$$\frac{\text{Discharge volume in kg/min} \times 600}{\text{Output rate in kg/ha} \times \text{spreading width in m}} = \text{Speed in km/h}$$

$$\frac{\text{Discharge volume in kg/min} \times 600}{\text{Speed in kg/h} \times \text{spreading width in m}} = \text{Output rate in kg/ha}$$

$$\frac{\text{Output rate in kg/ha} \times \text{speed in km/h} \times \text{spreading width in m}}{600} = \text{Discharge volume in kg/min}$$

7.5 List of spreading material

**Advice**

Please note that these are guide values. The flow properties are greatly affected by external factors such as moisture content and humidity. Check the settings by conducting a field trial.

White mustard

	Cellular rotors per hose outlet 1 x green	Cellular rotors per hose outlet 2 x green
Speed [rpm]	1335.00 g calibration sample	2643.00 g calibration sample
5	66.75 g/min	132.15 g/min
10	133.50 g/min	264.30 g/min
20	267.00 g/min	528.60 g/min
30	400.50 g/min	792.90 g/min
40	534.00 g/min	1057.20 g/min
50	667.50 g/min	1321.50 g/min
60	801.00 g/min	1585.80 g/min
70	934.50 g/min	1850.10 g/min
80	1068.00 g/min	2114.40 g/min
90	1201.50 g/min	2378.70 g/min
100	1335.00 g/min	2643.00 g/min
110	1468.50 g/min	2907.30 g/min
120	1602.00 g/min	3171.60 g/min

Phacelia

	Cellular rotors per hose outlet 1 x green	Cellular rotors per hose outlet 2 x green
Speed [rpm]	1384.00 g calibration sample	2718.00 g calibration sample
5	69.20 g/min	135.90 g/min
10	138.40 g/min	271.80 g/min
20	276.80 g/min	543.60 g/min
30	415.20 g/min	815.40 g/min
40	553.60 g/min	1087.20 g/min
50	692.00 g/min	1359.00 g/min
60	830.40 g/min	1630.80 g/min
70	968.80 g/min	1902.60 g/min
80	1107.20 g/min	2174.40 g/min
90	1245.60 g/min	2446.20 g/min
100	1384.00 g/min	2718.00 g/min
110	1522.40 g/min	2989.80 g/min
120	1660.80 g/min	3261.60 g/min

Fodder radish

	Cellular rotors per hose outlet 1 x green	Cellular rotors per hose outlet 2 x green
Speed [rpm]	1186.00 g calibration sample	2316.00 g calibration sample
5	59.30 g/min	115.80 g/min
10	118.60 g/min	231.60 g/min
20	237.20 g/min	463.20 g/min
30	355.80 g/min	694.80 g/min
40	474.40 g/min	926.40 g/min
50	593.00 g/min	1158.00 g/min
60	711.60 g/min	1389.60 g/min
70	830.20 g/min	1621.20 g/min
80	948.80 g/min	1852.80 g/min
90	1067.40 g/min	2084.40 g/min
100	1186.00 g/min	2316.00 g/min
110	1304.60 g/min	2547.60 g/min
120	1423.20 g/min	2779.20 g/min

Microstar PZ

	Cellular rotors per hose outlet 1 x green	Cellular rotors per hose outlet 2 x green
Speed [rpm]	289.00 g calibration sample	598.00 g calibration sample
5	14.45 g/min	29.90 g/min
10	28.90 g/min	59.80 g/min
20	57.80 g/min	119.60 g/min
30	86.70 g/min	179.40 g/min
40	115.60 g/min	239.20 g/min
50	144.50 g/min	299.00 g/min
60	173.40 g/min	358.80 g/min
70	202.30 g/min	418.60 g/min
80	231.20 g/min	478.40 g/min
90	260.10 g/min	538.20 g/min
100	289.00 g/min	598.00 g/min
110	317.90 g/min	657.80 g/min
120	346.80 g/min	717.60 g/min

Alfalfa

	Cellular rotors per hose outlet 1 x green	Cellular rotors per hose outlet 2 x green
Speed [rpm]	209.00 g calibration sample	418.00 g calibration sample
5	10.45 g/min	20.90 g/min
10	20.90 g/min	41.80 g/min
20	41.80 g/min	83.60 g/min
30	62.70 g/min	125.40 g/min
40	83.60 g/min	167.20 g/min
50	104.50 g/min	209.00 g/min
60	125.40 g/min	250.80 g/min
70	146.30 g/min	292.60 g/min
80	167.20 g/min	334.20 g/min
90	188.10 g/min	376.20 g/min
100	209.00 g/min	418.00 g/min
110	229.90 g/min	459.80 g/min
120	250.80 g/min	501.60 g/min

Perennial rye-grass

	Cellular rotors per hose outlet 1 x blue	Cellular rotors per hose outlet 2 x blue
Speed [rpm]	1023.00 g calibration sample	2047.00 g calibration sample
5	51.15 g/min	102.35 g/min
10	102.30 g/min	204.70 g/min
20	204.60 g/min	409.40 g/min
30	306.90 g/min	614.10 g/min
40	409.20 g/min	818.80 g/min
50	511.50 g/min	1023.50 g/min
60	613.80 g/min	1228.20 g/min
70	716.10 g/min	1432.90 g/min
80	818.40 g/min	1637.60 g/min
90	920.70 g/min	1842.30 g/min
100	1023.00 g/min	2047.00 g/min
110	1125.30 g/min	2251.70 g/min
120	1227.60 g/min	2456.40 g/min

Terra Life GOLD

	Cellular rotors per hose outlet 1 x red	Cellular rotors per hose outlet 2 x red
Speed [rpm]	653.00 g calibration sample	1305.00 g calibration sample
5	32.65 g/min	65.25 g/min
10	65.30 g/min	130.50 g/min
20	130.60 g/min	261.00 g/min
30	195.90 g/min	391.50 g/min
40	261.20 g/min	522.00 g/min
50	326.50 g/min	652.50 g/min
60	391.80 g/min	783.00 g/min
70	457.10 g/min	913.50 g/min
80	522.40 g/min	1044.00 g/min
90	587.70 g/min	1174.50 g/min
100	653.00 g/min	1305.00 g/min
110	718.30 g/min	1435.50 g/min
120	783.60 g/min	1566.00 g/min

Wolffs mixture with sunflowers

	Cellular rotors per hose outlet 1 x red	Cellular rotors per hose outlet 2 x red
Speed [rpm]	642.00 g calibration sample	1270.00 g calibration sample
5	32.10 g/min	63.50 g/min
10	64.20 g/min	127.00 g/min
20	128.40 g/min	254.00 g/min
30	192.60 g/min	381.00 g/min
40	256.80 g/min	508.00 g/min
50	321.00 g/min	635.00 g/min
60	385.20 g/min	762.00 g/min
70	449.40 g/min	889.00 g/min
80	513.60 g/min	1016.00 g/min
90	577.80 g/min	1143.00 g/min
100	642.00 g/min	1270.00 g/min
110	706.20 g/min	1397.00 g/min
120	770.40 g/min	1524.00 g/min

Wolffs mixture without sunflowers

	Cellular rotors per hose outlet 1 x red	Cellular rotors per hose outlet 2 x red
Speed [rpm]	576.00 g calibration sample	1155.00 g calibration sample
5	28.80 g/min	57.75 g/min
10	57.60 g/min	115.50 g/min
20	115.20 g/min	231.00 g/min
30	172.80 g/min	346.50 g/min
40	230.40 g/min	462.00 g/min
50	288.00 g/min	577.50 g/min
60	345.60 g/min	693.00 g/min
70	403.20 g/min	808.50 g/min
80	460.80 g/min	924.00 g/min
90	518.40 g/min	1039.50 g/min
100	576.00 g/min	1155.00 g/min
110	633.60 g/min	1270.50 g/min
120	691.20 g/min	1386.00 g/min

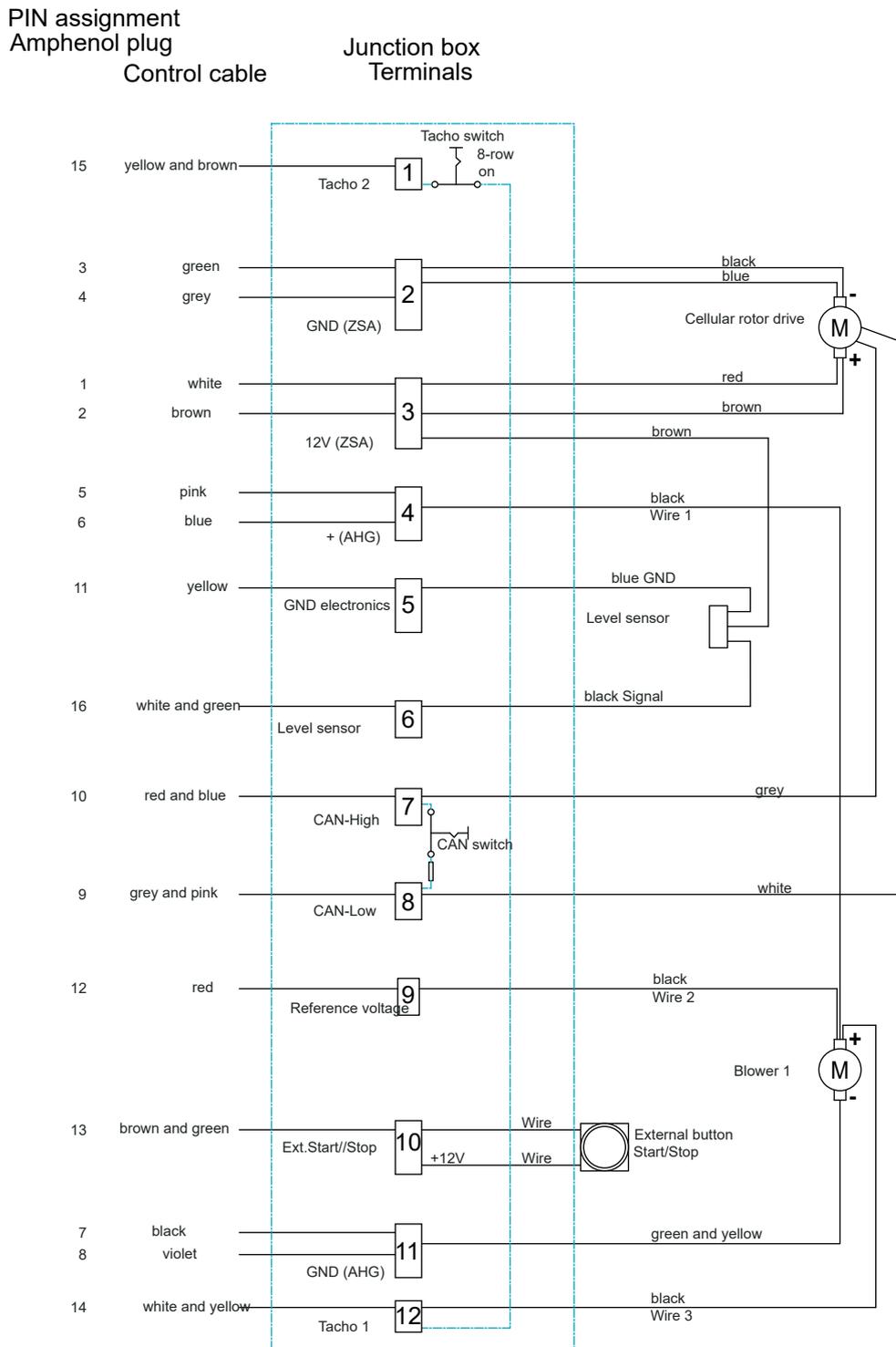
Oats

	Cellular rotors per hose outlet 2 x red
Speed [rpm]	516.00 g calibration sample
5	25.80 g/min
10	51.60 g/min
20	103.20 g/min
30	154.80 g/min
40	206.40 g/min
50	258.00 g/min
60	309.60 g/min
70	361.20 g/min
80	412.80 g/min
90	464.40 g/min
100	516.00 g/min
110	567.60 g/min
120	619.20 g/min

7.6 Spare parts and accessories

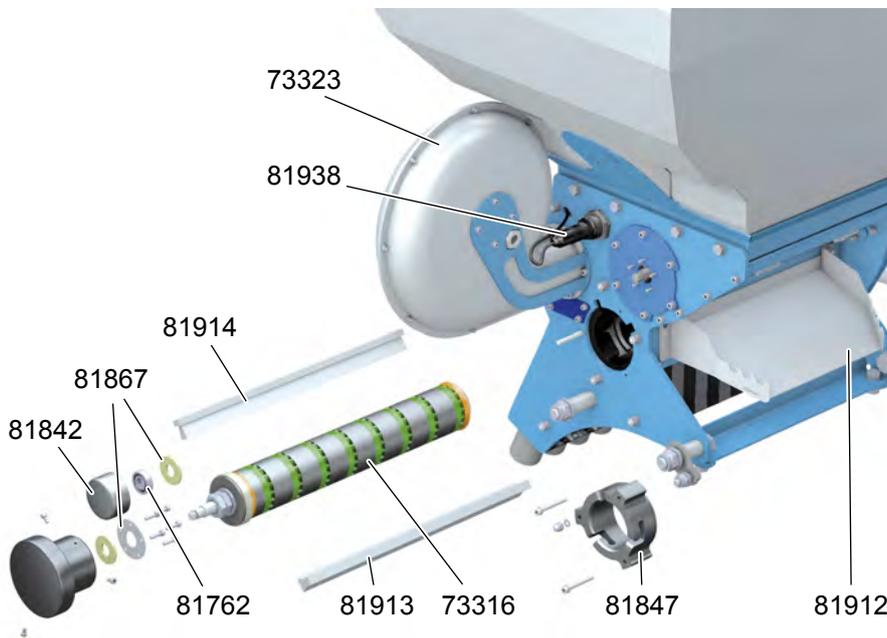
7.6.1 Circuit diagram for side junction box

Vento II 8-row

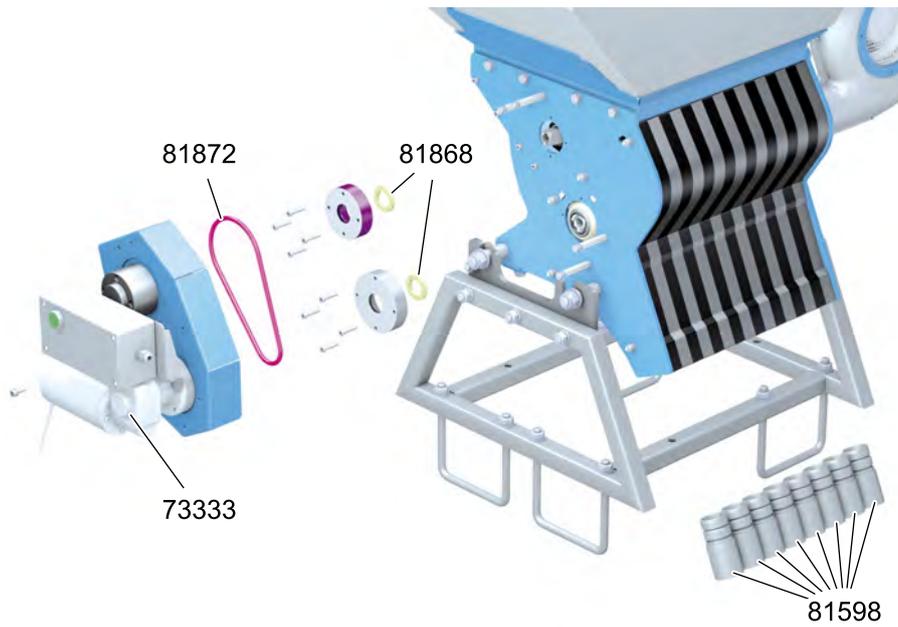


7.6.2 Spare parts

Vento® II 8-row

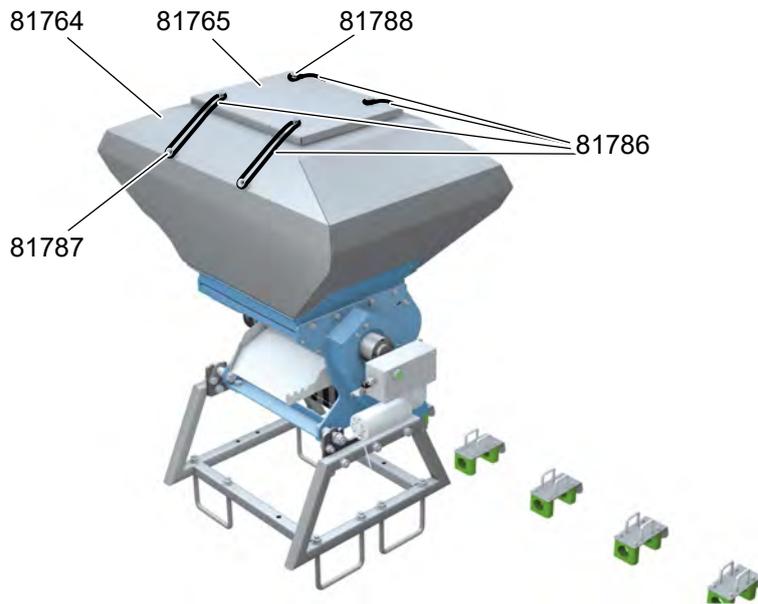


Component number	Description
73316	Cellular rotor shafts 1 x 2.5 ccm (alternative gear shafts 73317, 73318, 73319, 73320, 73321)
73323	Vento® II blower
73326	Agitator bearing unit comprising 81842, 81762, 81867
81762	DIN 625 SKF - SKF 6001-2RS1
81842	Agitator bearing holder
81847	Sealing flange on pressure piece side
81867	Felt ring 35-15-3
81912	Residual discharge chute
81913	Brush with crinkled fibres
81914	Brush with smooth fibres
81938	Empty indicator

Vento® II 8-row

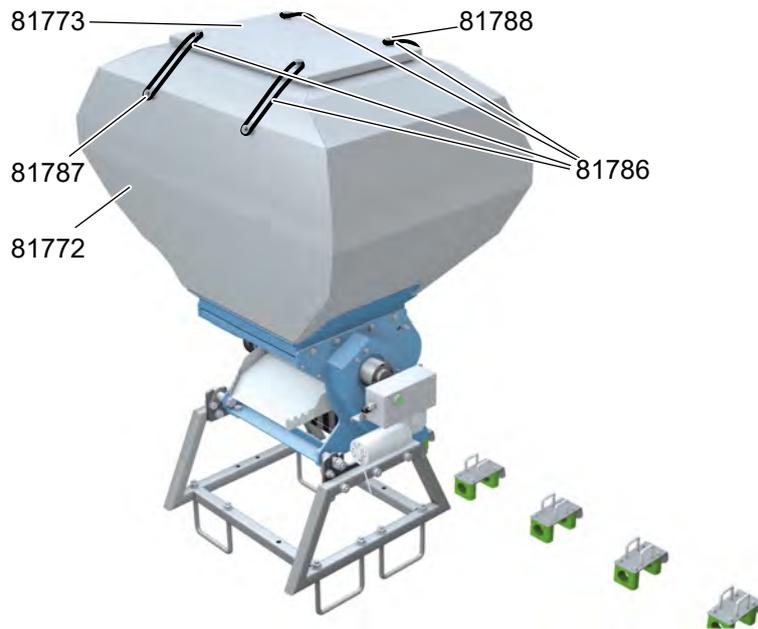
Component number	Description
81872	Round belt
81868	Felt ring 37-25-5
81598	Hose grommet
73333	Vento® II drive unit, complete
81931	Vento® II drive motor

7.6.3 Spare parts 120 litre hopper



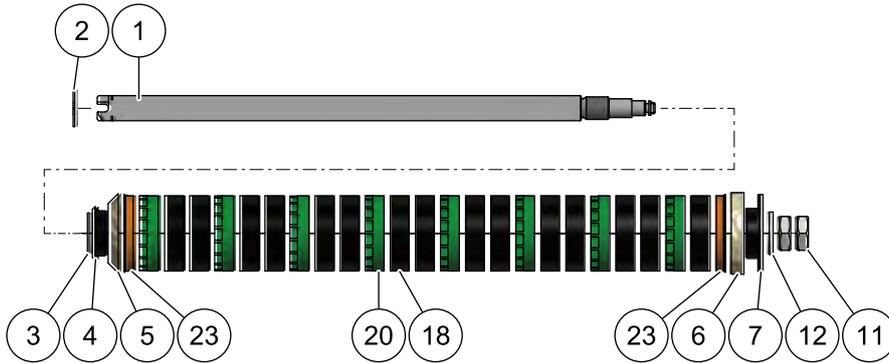
Component number	Description
81764	120 litre sheet metal hopper
81765	Hopper cover for 120 litre hopper
81786	20 cm rubber strap for Vento® II hopper
81787	Button (black) isosceles for Vento® II hopper
81788	Button (black) for Vento® II hopper cover
80637	Sealing tape (sealing transition from hopper to hopper platform)
80670	Edge protection with cushion (sealing hopper with hopper cover)

7.6.4 Spare parts 230 litre hopper



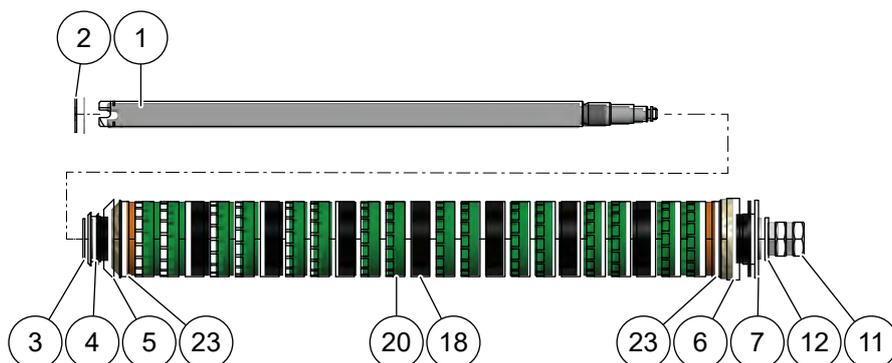
Component number	Description
81772	230 litre hopper for Vento® II
81773	Hopper cover for 230 litre hopper
81786	20 cm rubber strap for Vento® II hopper
81787	Button (black) isosceles for Vento® II hopper
81788	Button (black) for Vento® II hopper cover
80637	Sealing tape (sealing transition from hopper to hopper platform)
80670	Edge protection with cushion (sealing hopper with hopper cover)

7.6.5 Spare parts for cellular rotor shaft green, 1 x 2.5 ccm



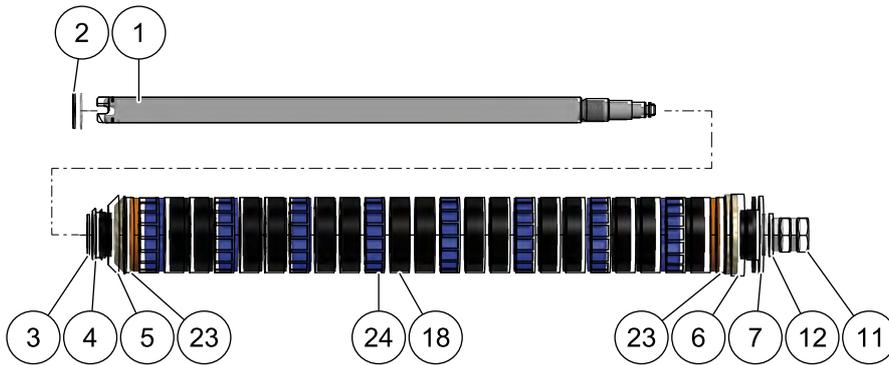
Item	Component number	Number	Description
	73316		Cellular rotor shaft 1 x 2.5 ccm, Cellular rotor shaft fully assembled, comprising items 1- 23
1	81857	1	Cellular rotor shaft
2		1	Circlip DIN 471 - 25 x 1.2
3	81839	1	Cellular rotor shaft end disc
4	81859	1	Cellular rotor shaft felt ring holder motor end
5	81870	1	Felt ring 65-36-10-45°
6	81869	1	Felt ring 65.2-40-10
7	81858	1	Cellular rotor shaft felt ring holder pressure piece end
11		2	Hexagon nut DIN 439 - M18 x 1.5
12		1	Washer DIN 125 - A 19
18	81644	15	Cellular rotor 0 ccm
20	81638	8	Cellular rotor 2.5 ccm
23	81791	2	Cellular rotor distance 7 mm

7.6.6 Spare parts for cellular rotor shaft green, 2 x 2.5 ccm



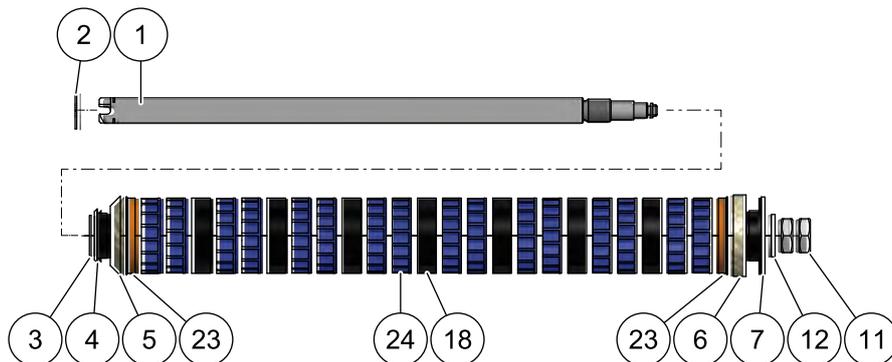
Item	Component number	Number	Description
	73319		Cellular rotor shaft 2 x 2.5 ccm, Cellular rotor shaft fully assembled, comprising items 1- 23
1	81857	1	Cellular rotor shaft
2		1	Circlip DIN 471 - 25 x 1.2
3	81839	1	Cellular rotor shaft end disc
4	81859	1	Cellular rotor shaft felt ring holder motor end
5	81870	1	Felt ring 65-36-10-45°
6	81869	1	Felt ring 65.2-40-10
7	81858	1	Cellular rotor shaft felt ring holder pressure piece end
11		2	Hexagon nut DIN 439 - M18 x 1.5
12		1	Washer DIN 125 - A 19
18	81644	7	Cellular rotor 0 ccm
20	81638	16	Cellular rotor 2.5 ccm
23	81791	2	Cellular rotor distance 7 mm

7.6.7 Spare parts for Cellular rotor shaft blue, 1 x 5.0 ccm



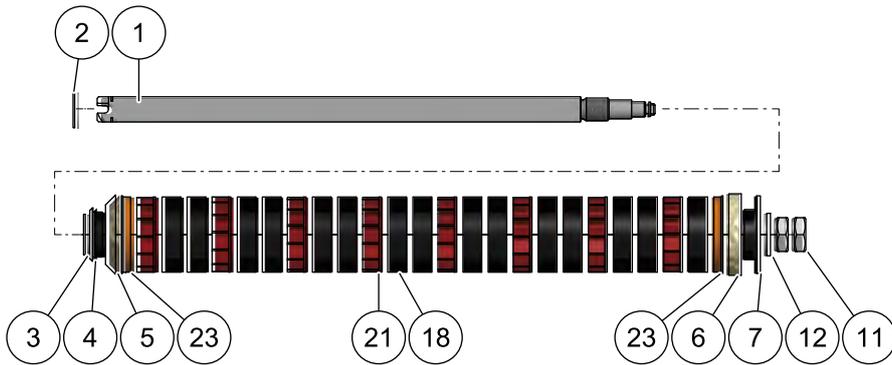
Object	Component number	Number	Description
	73317		Cellular rotor shaft 1 x 5.0 ccm, Cellular rotor shaft fully assembled, comprising items 1- 24
1	81857	1	Cellular rotor shaft
2		1	Circlip DIN 471 - 25 x 1.2
3	81839	1	Cellular rotor shaft end disc
4	81859	1	Cellular rotor shaft felt ring holder motor end
5	81870	1	Felt ring 65-36-10-45°
6	81869	1	Felt ring 65.2-40-10
7	81858	1	Cellular rotor shaft felt ring holder pressure piece end
11		2	Hexagon nut DIN 439 - M18 x 1.5
12		1	Washer DIN 125 - A 19
18	81644	15	Cellular rotor 0 ccm
23	81791	2	Cellular rotor distance 7 mm
24	81639	8	Cellular rotor 5.0 ccm

7.6.8 Spare parts for Cellular rotor shaft blue, 2 x 5.0 ccm



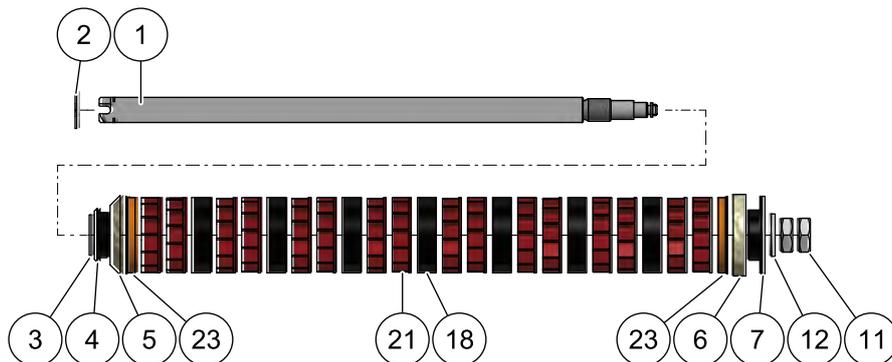
Item	Component number	Number	Description
	73320		Cellular rotor shaft 2 x 5.0 ccm, Cellular rotor shaft fully assembled, comprising items 1- 24
1	81857	1	Cellular rotor shaft
2		1	Circlip DIN 471 - 25 x 1.2
3	81839	1	Cellular rotor shaft end disc
4	81859	1	Cellular rotor shaft felt ring holder motor end
5	81870	1	Felt ring 65-36-10-45°
6	81869	1	Felt ring 65.2-40-10
7	81858	1	Cellular rotor shaft felt ring holder pressure piece end
11		2	Hexagon nut DIN 439 - M18 x 1.5
12		1	Washer DIN 125 - A 19
18	81644	7	Cellular rotor 0 ccm
23	81791	2	Cellular rotor distance 7 mm
24	81639	16	Cellular rotor 5.0 ccm

7.6.9 Spare parts for cellular rotor shaft red, 1 x 10 ccm



Object	Component number	Number	Description
	73318		Cellular rotor shaft 1 x 10 ccm, Cellular rotor shaft fully assembled, comprising items 1- 23
1	81857	1	Cellular rotor shaft
2		1	Circlip, DIN 471 - 25 x 1.2
3	81839	1	Cellular rotor shaft end disc
4	81859	1	Cellular rotor shaft felt ring holder motor end
5	81870	1	Felt ring 65-36-10-45°
6	81869	1	Felt ring 65.2-40-10
7	81858	1	Cellular rotor shaft felt ring holder pressure piece end
11		2	Hexagon nut DIN 439 - M18 x 1.5
12		1	Washer DIN 125 - A 19
18	81644	15	Cellular rotor 0 ccm
21	81640	8	Cellular rotor 10 ccm
23	81791	2	Cellular rotor distance 7 mm

7.6.10 Spare parts for cellular rotor shaft red, 2 x 10 ccm



Object	Component	Number	Description
	73321		Cellular rotor shaft 2 x 10 ccm, Cellular rotor shaft fully assembled, comprising items 1- 23
1	81857	1	Cellular rotor shaft
2		1	Circlip DIN 471 - 25 x 1.2
3	81839	1	Cellular rotor shaft end disc
4	81859	1	Cellular rotor shaft felt ring holder motor end
5	81870	1	Felt ring 65-36-10-45°
6	81869	1	Felt ring 65.2-40-10
7	81858	1	Cellular rotor shaft felt ring holder pressure piece end
11		2	Hexagon nut DIN 439 - M18 x 1.5
12		1	Washer DIN 125 - A 19
18	81644	7	Cellular rotor 0 ccm
21	81640	16	Cellular rotor 10 ccm
23	81791	2	Cellular rotor distance 7 mm

7.6.11 Control unit spare parts list



Object	Component	Number	Description
1	81968	1	Side cover, left
2	81967	1	Side cover, right
3	81939	1	LAS VENTO® II controller with encoder and graphic display, complete

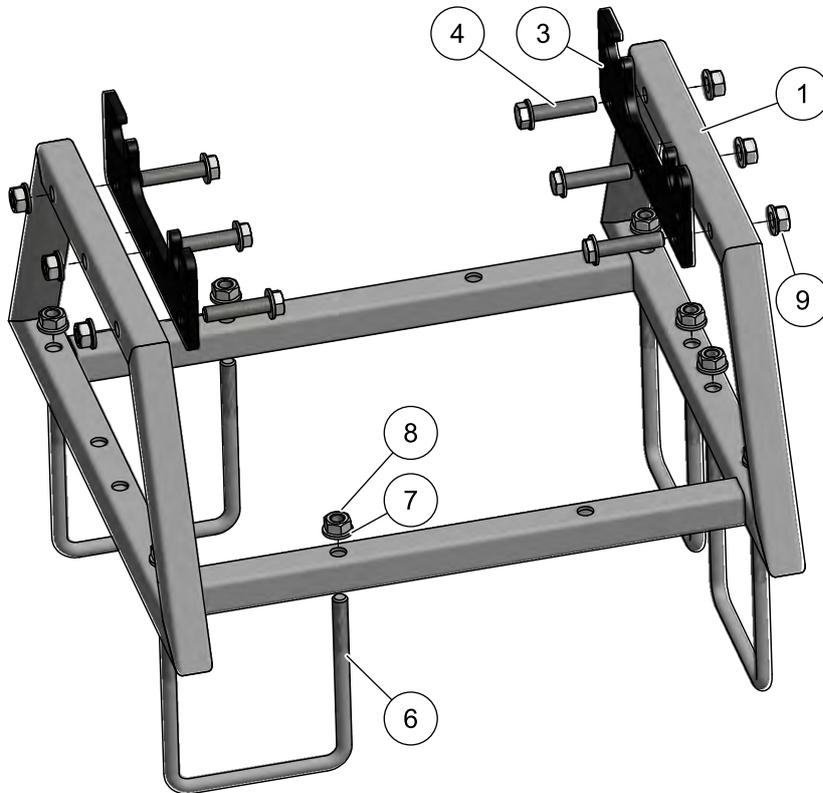
7.6.12 Universal holder control unit spare parts list



Object	Component	Number	Description
1	81937	1	Control panel holder, bottom part, pivot-mounted
2	80642	1	Control panel holder, top part, pivot-mounted

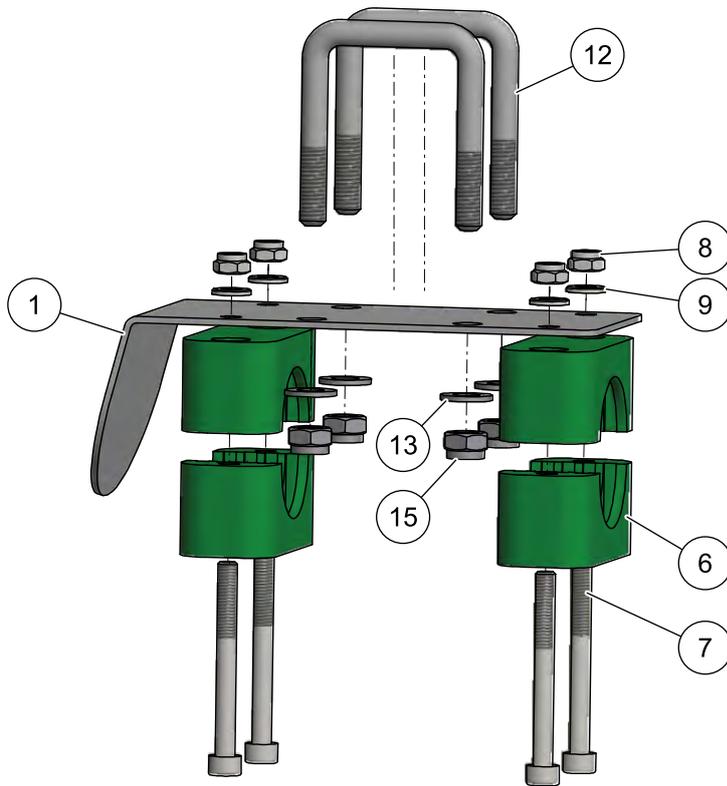
7.6.13 Spare parts list for baffle plate and universal holder

Universal holder



Object	Component	Number	Description
1	81874	1	Transport and storage frame
3	81804	2	Component locking plate
4		6	Hexagon bolt ISO 4018 - M12 x 55
6	80410	4	U-bracket M12x50 galvanised
7		8	Washer DIN 125 - 2-B 13
8		14	Hexagon nut DIN 934 - M12
9		12	Washer DIN 125 - 2-B 13

Baffle plate



Object	Component	Number	Description
1	81824	1	Baffle plate Vento® II base plate
6	81727	4	Stauf pipe clip size 5-38
7		4	Cheesehead screw DIN 912 - M6 x 60
8		4	Hexagon nut DIN 985 - M6
9		4	Washer DIN 125 - 1-B 6.4
12	81907	2	U-bracket for baffle plate 40x40 M8 galvanised
13		4	Washer DIN 125 - A 8.4
15		4	Hexagon nut DIN 985 - M8

7.6.14 Accessories

Art. no.	Description
73201	Wheel sensor
72141	Headland manager sensor/magnet
73210	Headland manager Y-plug (for sensor & speed signal)
81603	GPS receiver for speed signal

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