LEHNER

Operating manual with parts list

Vento®

Controller: LAS PSM
Software: from Version 8.08 onwards
Last updated: February 2015

Serial number: .....
Software version: .....

Translation of original operating manual

Publisher's information

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English

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1 What you should know

1.1 Foreword

With the **Vento**® you have acquired a high-quality and 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®.**

1.2 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.

1.3 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 does not accept any liability for storage and use **of** spreading material (seeds and fertiliser).

1.4 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.

1.5 Intended use

The **Vento**® 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.

1.6 Reasonably predictable misuse

Vento® is only allowed to be used for permitted seeds and fertiliser.

Vento® is only allowed to be used on approved carrier vehicles with an adequate axle load and a vehicle electrical system with 12-15 volts and 25 amp current capacity at least.

1.7 Scope of supply

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

- Pneumatic granulate doser with blower and spreading material hopper, pre-mounted on a universal holder
- Control panel with battery 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
- Y-cable AccoSat for speed signal via GPS receiver 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.

1.8 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!

1.9 Technical data of Vento®

	Vento® 120 litre hopper	**Vento®** 230 litre hopper
Length [mm]	527	570
Width [mm]	919	947
Height [mm]	1009	1199
Weight, empty [kg]	60.5	67
Spreading with [m]	≤ 6	≤ 6

1.10 Description of function

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

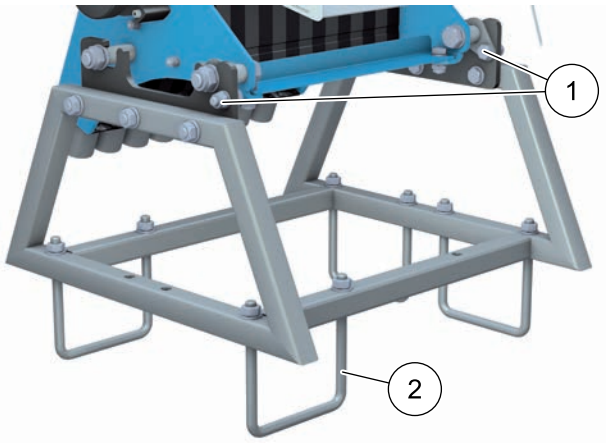
Precise dosing is achieved using a rotary feeder valve that is driven according to the speed of the vehicle. Automatic dosing by means of a wheel sensor or GPS receiver is possible. The spreader has an agitator for spreading materials with reduced free-flowing properties. The spreading material is applied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

2 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.

2.1 Implement holder



The **Vento®** 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.

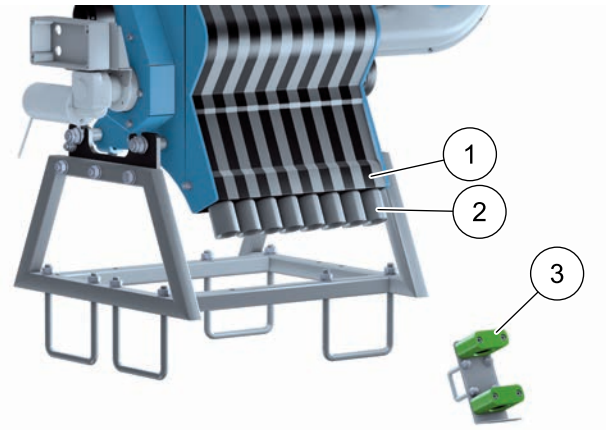
Before operation, check the attachment of the spreader on the universal holder. The attachment must be secured with the safety bolts (1). If replacing them, use M10 bolts with a strength class of at least 8.8, with self-locking nuts.

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

2.2 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. Screw hose grommet **(2)** onto hose.
2. Push hose grommet **(2)** into the holder **(1)** until it engages.
3. Route the hose and cut to length.
4. Cut the hose off with a straight end.
5. Attach baffle plate **(3)** to the hose with a hose clip.

2.3 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.

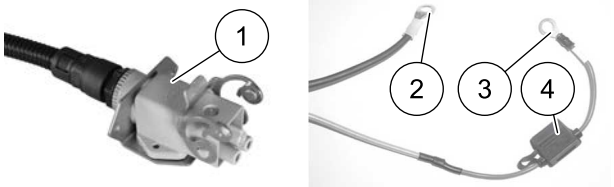
Advice!
Faulty cables or cables with incorrect dimensions can lead to malfunctions and damage to the spreader. Any changes to cable or plug connections without factory approval automatically invalidates the entire warranty.

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.

2.3.1 Technical data, electrical system

Operating voltage	12 to 15 V
Fuse	25 A
Speed range	20 to 120 rpm
Power consumption of motor	8.5 A
Operating temperature	10 to +50 °C
Storage temperature	-10 to +50 °C
Battery cable	minimum 6 mm²

2.3.2 Mounting the control panel



1. Mount support for the control panel in the vehicle cabin.
2. Plug the control panel cable into the 3-pin socket **(1)** of the supplied battery cable.
   Connect connection **(2)** to the negative terminal of the battery (not to the bodywork).

Connect connection **(3)** with fuse **(4)** to the positive terminal of the battery. Run the end of the cable with the socket to the carrier vehicle.

3. Plug the control cable of the spreader into the multi-pin socket of the control panel.

Advice!
To ensure an optimum electrical power supply, use the supplied battery cable.

The spreader is ready for use.

2.4 Filling the Vento®

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.

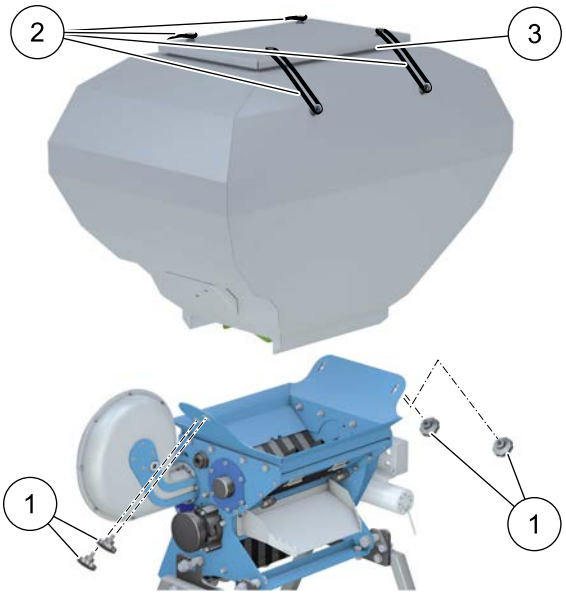
Warning!
Risk of injury!

- 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 start-up, make sure that the hopper on the **Vento®** has been firmly bolted in place. To do this, check the four knurled screws **(1).**



Filling

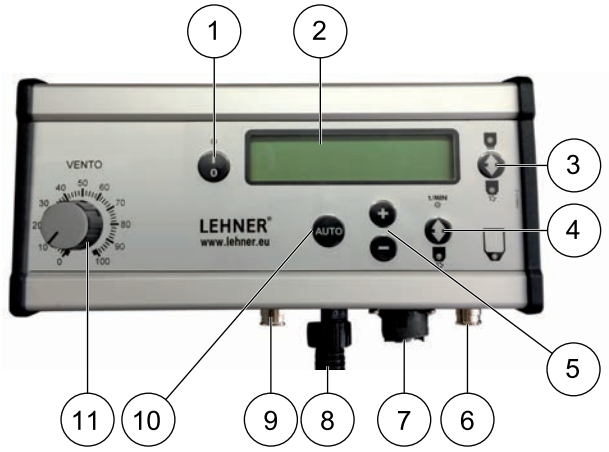
1. Make sure that the spreader and blower are switched off.
2. To fill the spreader, release the rubber clamping band **(2)** on the hopper and remove the cover **(3).**
3. Make sure that suitable rotary valves are fitted according to the spreading material table, and that the load relief roof of the 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. Close the hopper with the four rubber clamping bands **(2)** making a firm seal.

Warning!
Incorrect filling will lead to incorrect dosing applications.

- The hopper cover must be closed during operation, in order to avoid incorrect dosing applications.

3 Operation

3.1 Controls on the control panel



Controls

1 On/Off key

2 Display

3 Start/stop spreader

Green LED lights up: Rotary feeder valve drive motor running

Green LED flashes: waiting for electronic lifting gear control (EHR) enable signal and/or speed

Yellow LED lights up: Rotary feeder valve drive motor off

4 Toggle switch for menu control by the program

5 + and - keys for altering the rotation speed of the rotary feeder valve as well as navigating through various menu functions

10 Switch automatic dosing on and off

11 Blower speed

Connections

6 Socket for wheel sensor

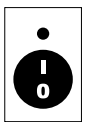
7 Control cable from spreader

8 Battery cable 6 mm²

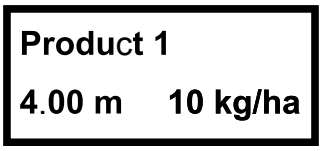
9 Socket for EHR magnet sensor or 7-pin connection, GPS, Y-cable

3.2 Switching on/off

When the control panel is switched on, the versions of the hardware and software are displayed briefly.



Press the key.
LED above the key lights up: Spreader is ready for operation and in automatic dosing operating mode.
The blower starts when set to at least 20% of the blower power.



3.3 Information shown on the display

Automatic dosing

1. Selected spreading table
2. Working width
3. Output rate in kg/ha

Changeover using AUTO key

Manual mode

1. Manual operating mode
2. Current speed of the rotary feeder valve
3. Dosing OFF: Rotary feeder valve drive motor off
   Dosing ON: Rotary feeder valve drive motor running

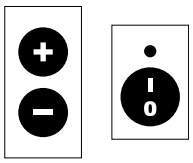
3.4 General setting possibilities and displays

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

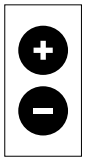
- Language
- Displaying product lists and deleting products
- Qty. adaptation
- Calibrating the wheel sensor
- Setting the EHR signal
- Entering the calibration values
- Creating products

3.4.1 Language

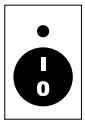
Switch off the spreader.



Press the **+**key, the **-** key and the On/Off key simultaneously.
Keep all three keys pressed for about 3 seconds.



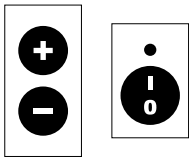
Press the key to set the language.



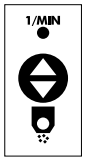
Use the On/Off key to exit the menu.

3.4.2 Displaying product lists and deleting products

Switch off the spreader.

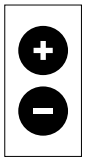


key, the **+**key, the **-** key and the On/Off key simultaneously.
Keep all three keys pressed for about 3 seconds.



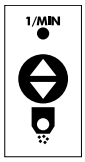
Press the toggle switch to call up the product list.

View **list**
+ = scroll



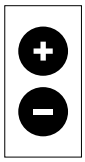
Press the **+** key to scroll in the list.

PRODUCT 1
888 grams/100R



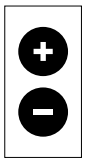
Press the toggle switch again to be able to delete products.

Delete **list**
+ = scroll



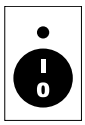
Press the **+** key to scroll in the list.

Delete **list**
+ = scroll



Press the **-** key to delete the displayed product. Product 1 cannot be deleted!

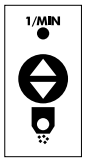
Delete **list**
+ = scroll



Use the On/Off key to exit the menu.

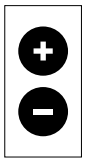
3.4.3 Changing the settings

The output rate, working width and product can be set directly. A product change is only possible if several products have already been stored. "Product 1" is a factory setting. Creating new products, see Chapter 3.4.8, "Spreading tables and calibration procedure".



Press toggle switch. The selected value flashes and can be set. To move to the next item, or to return to operating mode, press the toggle switch again.

Product 1
4.00 m 10 kg/ha



Press the **+/-** keys to switch between the stored products or to change the numerical values.

3.4.4 Quantity adaptation (only in AUTO mode)

Please note that at this item is only available in the automatic area.

The spreading value stored in the spreading table can be changed temporarily. This change is not stored when the spreader is switched off.

Press the Automatic dosing key for approx. 6 seconds.

Qty. adaptation
0%

Press the **+** + key to increase the spreading value up to 50 %.
Press the **-** key to reduce the spreading value up to 50 %.

Press the Automatic dosing key to return to the operating mode.

3.4.5 Electronic lifting gear control (EHR) function

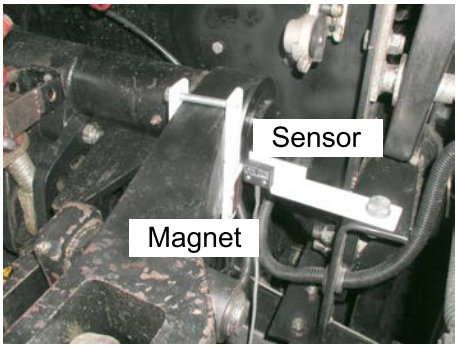
The spreader is stopped automatically when the front or rear hydraulics of the carrier vehicle are lifted. The spreader can be stopped manually at any time using the control panel.

The signal can be detected by means of a 7-pin plug or a sensor signal.

7-pin socket

1. Connect the connecting cable of the control panel to the 7-pin signal socket of the carrier vehicle.
2. Set the EHR signal of the carrier vehicle depending on whether the carrier vehicle sends the hydraulic signal when lifting or lowering.

Sensor signal



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

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

Hydraulics lowered:

Sensor is not allowed to be in field of magnetic encoder. Dosing stops (see EHR setting: high active or low active).

Hydraulics lifted:

Sensor must still be in field of magnetic encoder. When the hydraulics are lifted, the sensor must not leave the field of the magnetic encoder, as otherwise the dosing will start again.

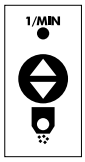
3.4.6 Setting setting signal for electronic lifting gear control (EHR)

The spreader is equipped ex-works with EHR signal communication (socket). The hydraulic signal is taken from the 7-pin EHR socket of 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.

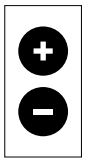
Press the Automatic dosing key for approx. 6 seconds.

Qty. adaptation
0%



Press the toggle switch twice.

Cal. wheel sens.
+ = YES

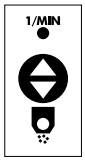


Press the key to set the EHR signal.
EHR signal for lifting: High active is displayed
EHR signal for lowering: Low active is displayed

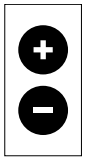
EHR signal 0
High active

Press the Automatic dosing key to return to the operating mode.

Press the Automatic dosing key for approx. 6 seconds.



Press the toggle switch three times.



Press the toggle switch to display the setting for the speed sensor of the EHR signal. Adapt the speed signal with the **+/-** keys.
Factory setting: 130 /m

Speed pulse EHR
130 /m

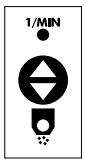
Press the Automatic dosing key to return to the operating mode.

3.4.7 Calibrating the wheel sensor

To calibrate the wheel sensor, it is necessary to move a distance of exactly 100 m.

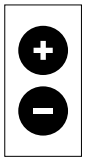
Press the Automatic dosing key for approx. 6 seconds.

Qty. adaptation
0%



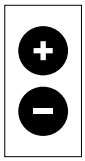
Press the toggle switch once. Press the **+** key to confirm.

Cal. wheel sens.
+ = YES



Press the **+** key, the calibration procedure starts.
After moving 100 m, press the **-** key, the calibration procedure is finished.

Cal run 100 m
+ = Start - = Stop



Press the **+** key to store the value.

Store 0.12 /m
+ = YES - = NO

Press the Automatic dosing key to return to the operating mode or

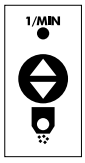
Speed pulses wheel
0.12 /m

If both an EHR signal and a wheel sensor signal are being output, the wheel sensor signal always takes priority.

3.4.8 Spreading tables and calibration procedure

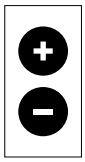
Calibration procedure

1. Pull off all hoses on the spreader.
2. Place a collecting container under the outlets.
3. Start the calibration procedure:



Briefly press the toggle switch twice within one second.
Then press the toggle switch again.

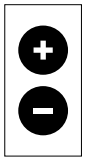
Calibrate start?
+ = YES

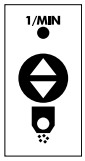


Press the **+** key.
The spreader starts the calibration procedure. The calibration procedure has finished as soon as the spreader stops, and a weight value is shown on the display.

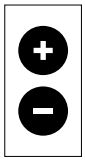
Calibrating....

4. Weigh the spreading material dispensed and input this weight:

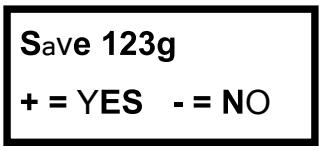




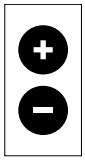
Press the **+/-** keys to enter the weighed value and confirm with the toggle switch.



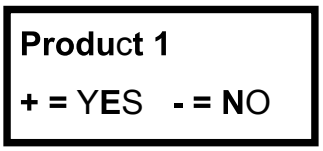
Press the **+** key to store the value.

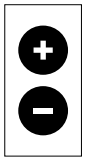


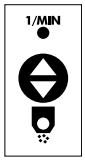
5. Select the product name/spreading table or create a new one:



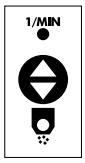
Press the **+** key in order to save the entered value in the "Product 1" spreading table.
Press the **-** key in order to save the entered value with a new product name.







Press the **+/-** keys to select the letters or numbers and confirm each one with the toggle switch.



Press the toggle switch twice to save the name in the spreading table.
The program automatically returns to the operating mode.

3.5 Automatic dosing

With automatic dispensing, the speed of the rotary feeder is calculated according to the following values:

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

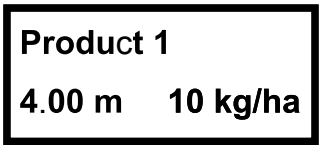
The calibration value can be stored in a spreading table, see Chapter 3.4.8, "Spreading tables and calibration procedure".

The output rate, working width and product can be set directly, see Chapter 3.4.3, "Changing the settings".

Display with automatic dosing:

The following appears on the display:

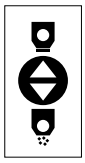
- Product name (spreading table used)
- Distance between plant or seed rows
- Output rate



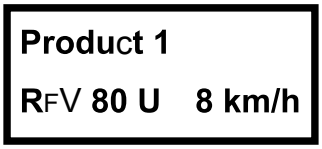
Starting automatic dosing:

Warning!
Risk of injury!
Make sure that no other persons or animals are in the danger zone during operation.

Automatic dosing can only be started a speed signal is received and a lifting gear signal is output, see Chapter 3.10, "Error message".



Press the key.
Dosing starts when the speed is faster than 2 km/h and the hydraulics are lowered.



Green LED lights up. Rotary feeder drive motor running.

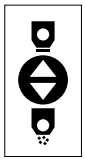
The following is shown in the display:

- Product name (spreading table used)
- Speed of the rotary feeder
- Travel speed

An audible signal indicates when dosing has started correctly. Three audible signals indicate there is a fault and dosing has not been started.

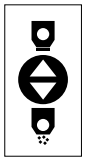
The green LED flashes if the speed or lifting gear signal is not received.

Stopping automatic dosing:



The spreading procedure can be stopped at any time by pressing the key.

Otherwise, dosing is 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.



After an automatic interruption, it is necessary to press the key again in order to restart the dosing.

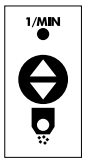
3.6 Setting the blower

Using the dial, it is possible to set the blower power according to the product type and output rate, until achieving satisfactory material transport.

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

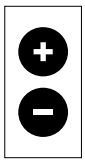
3.7 Changing the settings

The output rate, working width and product can be set directly. A product change is only possible if several products have already been stored. "Product 1" is a factory setting. Creating new products, see Chapter 3.4.8, "Spreading tables and calibration procedure".



Press toggle switch. The selected value flashes and can be set. To move to the next item, or to return to operating mode, press the toggle switch again.

Product 1
4.00 m 10 kg/ha



Press the **+/-** keys to switch between the stored products or to change the numerical values.

3.8 Manual mode

In manual mode, the speed of the rotary feeder is set manually.

Setting

Press the Automatic dosing key.
This changes over between automatic dosing and manual mode.

Display in manual mode

The following appears on the display:

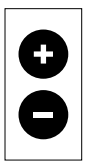
- Manual: Manual operating mode
- Speed of the rotary feeder in rpm
- Dosing OFF: Rotary feeder valve drive motor off

Start dosing

Manual operation is possible with or without electronic lifting gear control (EHR).

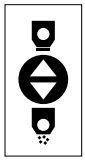
Manual operation without EHR

Setting the speed



Press the **+/-** keys to change the speed.

Warning!
Risk of injury!
Make sure that no other persons or animals are in the danger zone during operation.



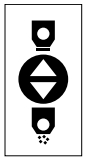
Press the key.
Green LED lights up.
Rotary feeder valve drive motor running.
The following appears on the display:

- Manual: Manual operating mode
- Speed of the rotary feeder in rpm
- Dosing ON: Drive motor

Rotary feeder valve running.

Manual RFV 42 U
Dosing ON

Stopping dosing



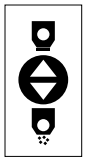
Press the key.
Yellow LED lights up:
The drive motor stops.

Manual RFV 42 U
Dosing OFF

Manual operation with EHR

The EHR signal from the carrier vehicle or the signal from a lifting gear sensor (see Chapter 3.4.5, "Electronic lifting gear control (EHR) function") stops the spreader automatically when the hydraulics are raised.

Dosing starts automatically when the hydraulics are lowered.



The spreading procedure can be stopped at any time by pressing the key.

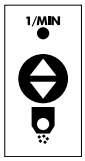
3.9 Residual discharge

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.

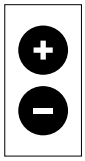
Even if a visual inspection indicates that the spreader is empty, it can be expected that there will still be approx. 2 litres remaining in the spreader. The residual amount of granulate must be collected in containers with a sufficient capacity. Empty out larger amounts through the residual discharge opening.

Residual discharge for smaller amounts:



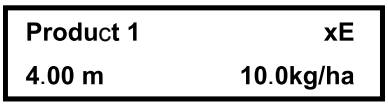
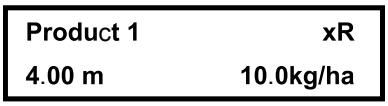
Press the toggle switch twice within 1 second.

Start emptying?
+ = YES



Press the **+** key to start the residual discharge.
It is possible to cancel the residual discharge whilst in progress by pressing the **+** key.
Return to operating mode by pressing the **-** or Auto key.

3.10 Error message

Message on the display:	Explanation:	
	**xE =**	The 7-pin plug is not connected to the control panel.
	**↓E =** **↑**	The 7-pin plug is connected to the control panel, but there is no speed signal. **Down arrow =** Hydraulics lowered. **Up arrow =** Hydraulics raised.
	**O =**	**O circulating =** Means that the speed is too slow (slower than 1.5 km/h). **O circulating and flashing =** The speed is OK (faster than 1.5 km/h).
	**xR =**	**x =** No lifting gear magnetic sensor is connected to the control panel. **R =** No wheel sensor is connected to the control panel or wheel sensor plugged in but no signal from the sensor.
	**xO =**	**x =** No lifting gear magnetic sensor is connected to the control panel. **O circulating =** No signal from the wheel sensor or speed is too slow (slower than 1.5 km/h).

3.11 Troubleshooting

Error	Possible cause	Action to take
Output rate excessive/insufficient	Incorrect settings	Perform a calibration test, enter the correct value and confirm, see Chapter 3.4.8, "Spreading tables and calibration procedure".
Poor continuous flow, output rate too low or rotary feeder shaft does not turn	Spreading material contaminated or clumpy, foreign bodies in the spreading material hopper (e.g. packaging material)	Check the spreading material (remove through the discharge hatch, see Chapter 4.2, "Spreading material hopper"). Do not use spreading material with impurities or clumps. Check the hopper and rotary feeder shaft for contamination, clean if necessary, see Chapter 4.3, "Rotary feeder shaft".
Rotary feeder shaft does not turn	Hopper, rotary feeders or brushes heavily contaminated	Check hopper, rotary feeders or brushes for contamination and clean if necessary, see Chapter 4, "Maintenance and cleaning".

Error	Possible cause	Action to take
	Drive belt wear	Check drive belt and renew if necessary, see Chapter 4.4, "Drive belt".
Blockage of particular hoses	Excessive differences in hose length means the air flow in the blocked hose is too low	Install the hose at the far left. Discuss the problem with the product specialist, possibly install customer-specific throttle orifices to control the air flows.
	Hose routed with excessively tight bending radius	Route the hose with the largest possible bending radius and as few curves as possible.
Blower does not function	Heavy contamination leads to blockage	Clean the blower when dry, see Chapter 4.6, "Blower".
Hose grommet does not stay in place or fails to engage	Pressure element in the holder contaminated	Renew the pressure element if necessary.
No signal from the wheel sensor	Distance between the sensor and wheel nuts too large	Check the distance and set if necessary. Distance should be less than or equal to 4 mm.
	Contact problems	Check the wheel sensor/control panel plug connection. Check the cables.
		Check the counting points.
No signal from the lifting gear magnetic sensor	Distance between the sensor and magnet too large	Check the distance and set if necessary. Distance should be less than or equal to 8 mm.
	Sensor installed in wrong direction	Note the installation direction of the sensor.
		Check the cables.

4 Maintenance and cleaning

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.

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.

Advice!
Clean the hopper, rotary feeder 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.

4.1 Maintenance schedule

Maintenance activity	Interval	Remark
Calibration test	At the beginning of a season or following a product or product batch change	See 3.4.8 "Spreading tables and calibration procedure"
Check the rotary feeder shafts for contamination and wear	After 20 operating hours and at the end of the season	Cleaner or renew the rotary feeders, see 4.3 "Rotary feeder shaft"
Check brushes for contamination or wear, clean or renew if necessary	After each product change	See 4.5 "Brushes"
Clean the container and agitator	After each season or product change	See 4.2 "Spreading material hopper"
Check the seal between the hopper and spreader	When the hopper is removed/renewed and at the end of the season	Visual inspection: seal must be in contact all the way around, see 4.2 "Spreading material hopper"
Check drive belt for wear	After 100 operating hours or every month and at the end of the season	See 4.4 "Drive belt"
Check all felt seals for wear	After 100 operating hours or every month and at the end of the season	

4.2 Spreading material hopper

Advice!
Clean the hopper, rotary feeder 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.

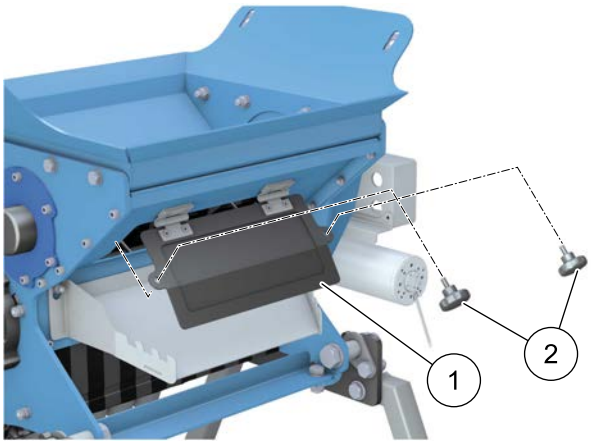
Cleaning the hopper

Clean the hopper and spreader at the end of the season. The hopper can be nearly completely emptied by means of the residual discharge, see 3.9 "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.



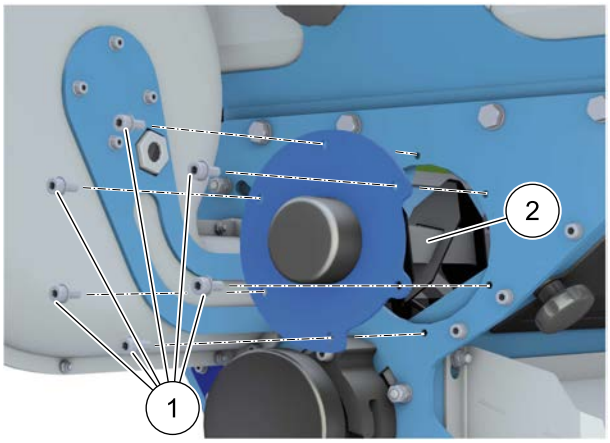
Emptying the hopper through the residual discharge hatch

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

1. Switch off the Vento®.
2. Place a collecting container under the hatch **(1).**
3. Unscrew the knurled screws **(2)** and open the hatch.
4. After emptying, close the hatch **(1)** again.

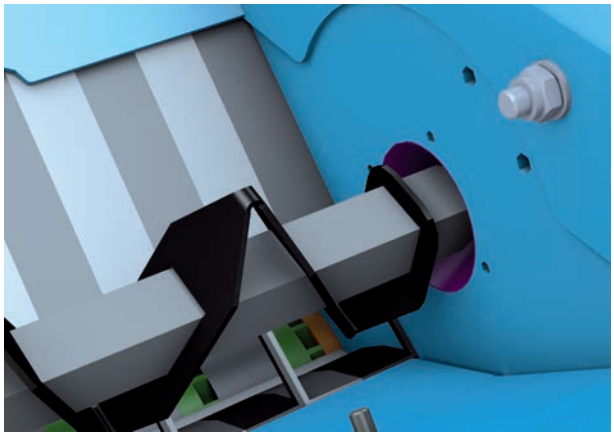
Warning!
Risk of injury during maintenance work.
This can lead to crushing due to inadvertent start-up of the machine or short circuit.

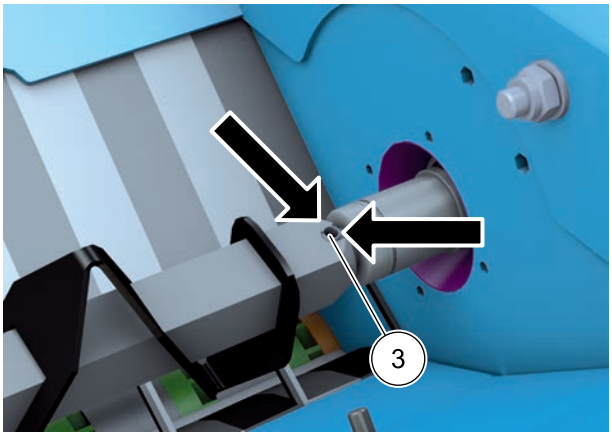
- Disconnect the electrical power supply before starting maintenance, repair and cleaning work.
- Wear appropriate working and protective clothing during all work.



Cleaning the agitator

1. Unscrew 6 screws **(1).**
2. Pull out agitator **(2).**
3. Clean agitator **(2)** and check for wear.
4. When installing the agitator, push the groove onto the pin **(arrows, 3).**
5. Reattach the agitator in the correct position with the 6 screws **(1).**



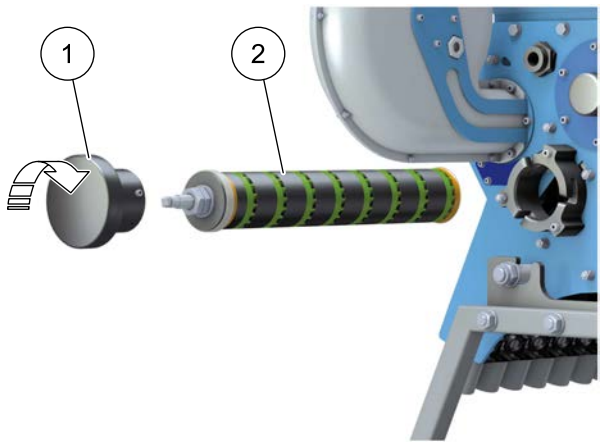


Removing/mounting the hopper

1. Unscrew two knurled screws (1) each on the blower and drive ends.
2. Remove the hopper and clean or renew it as required.
3. Check the seal between the spreader and hopper before mounting. The seal must make contact all the way around.
4. Reattach the hopper with the four screws (1).

4.3 Rotary feeder shaft

Advice!
Different spreading material may require special rotary feeders. For changing, it is recommended that you keep pre-assembled shafts available according to the size of the rotary feeders, and always exchange the entire shaft.



Removing the rotary feeder shaft

1. Press pressure piece **(1)** of the shaft, turn to the right and remove.
2. Pull out shaft **(2).** If not possible, please use the supplied tool.

Cleaning rotary feeders

- Pull the rotary feeders 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 rotary feeders are mounted offset in relation to one another.
- Rotary feeder shaft structure, see:

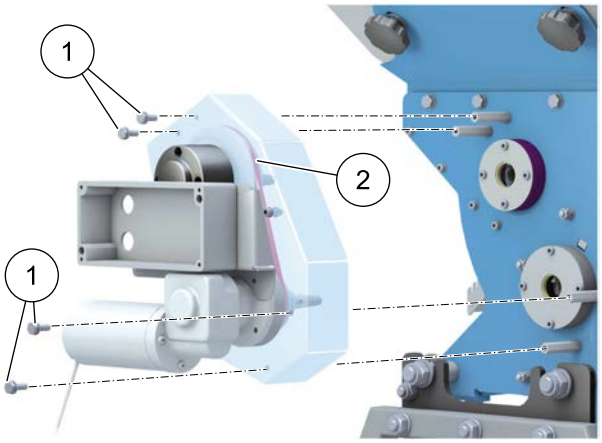
6.6.4 "Spare parts for rotary feeder shaft green, 1 x 2.5 ccm"
6.6.5 "Spare parts for rotary feeder shaft green, 2 x 2.5 ccm"
6.6.6 "Spare parts for rotary feeder shaft blue, 1 x 5.0 ccm"
6.6.7 "Spare parts for rotary feeder shaft blue, 2 x 5.0 ccm"
6.6.8 "Spare parts for rotary feeder shaft red, 1 x 10 ccm"
6.6.9 "Spare parts for rotary feeder shaft red, 2 x 10 ccm"

Installing the rotary feeder shaft

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

   If this is difficult (e.g. because the rotary feeder shaft is new), the supplied tool can be used as assistance, by performing slight rotating movements.
2. Put on the cover and turn to the left to lock.

4.4 Drive belt



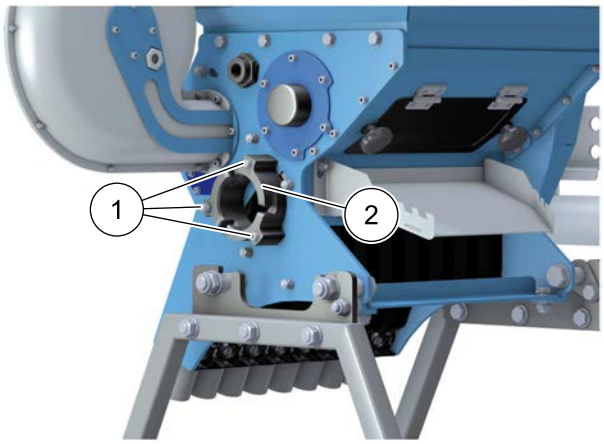
Check the drive belt for wear every month, after 100 operating hours and at the end of each season; renew if necessary.

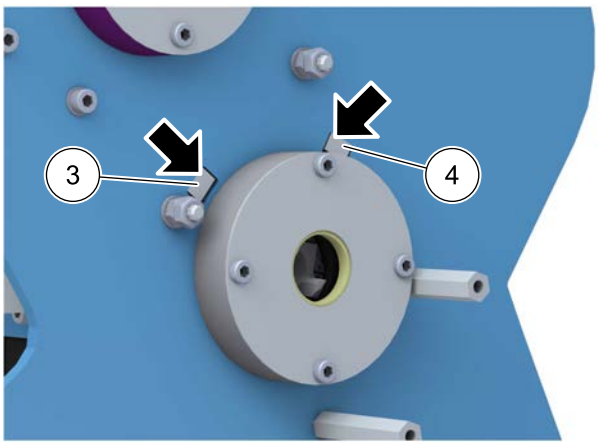
Checking/renewing the drive belt

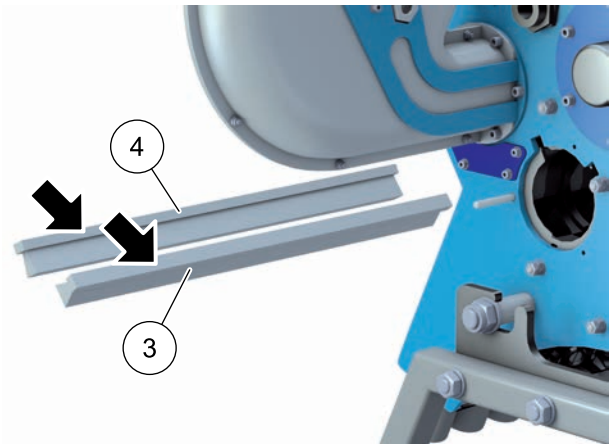
1. Unscrew 4 screws **(1).**
2. Remove drive **(2)** completely.
3. Checking the drive belt and renewing if necessary
4. Reinstall drive **(2).**

4.5 Brushes

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







Removing and installing brushes

1. Removing the rotary feeder shaft, see Removing the rotary feeder shaft.
2. Undo 2 screws and one cap nut **(1)** and remove holder **(2).**
3. Removing the drive, see "Drive belt".
4. Apply pressure with a flat tool (e.g. Allen key) to push the brushes **(3 = crinkled fibres, 4 = smooth fibres)** a short distance from the drive end to the blower end.
5. Pull out brushes **(3 = crinkled fibres, 4 = smooth fibres)** straight on the blower end.
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. Reattach the holder with the 3 screws **(1).**
9. Reinstall the drive and rotary feeder shaft.

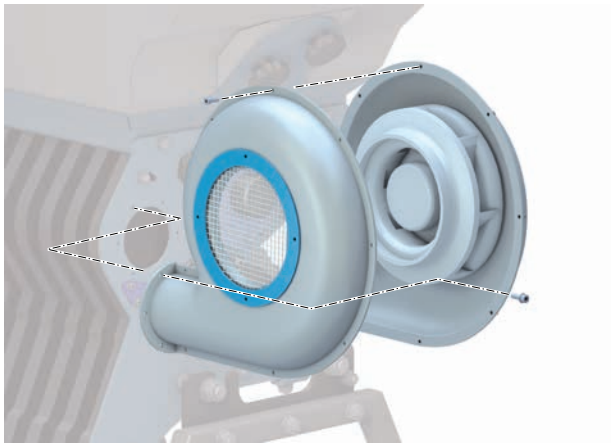
4.6 Blower

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 Storage and disposal

Storage

Before storing the spreader, empty it completely and clean it, see 4.2 "Spreading material hopper".

The spreader should be stored in a dry place, without exposure to direct sunlight, at a temperature range from -10 to +50 °C.

Disposal

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.

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

6 Appendix

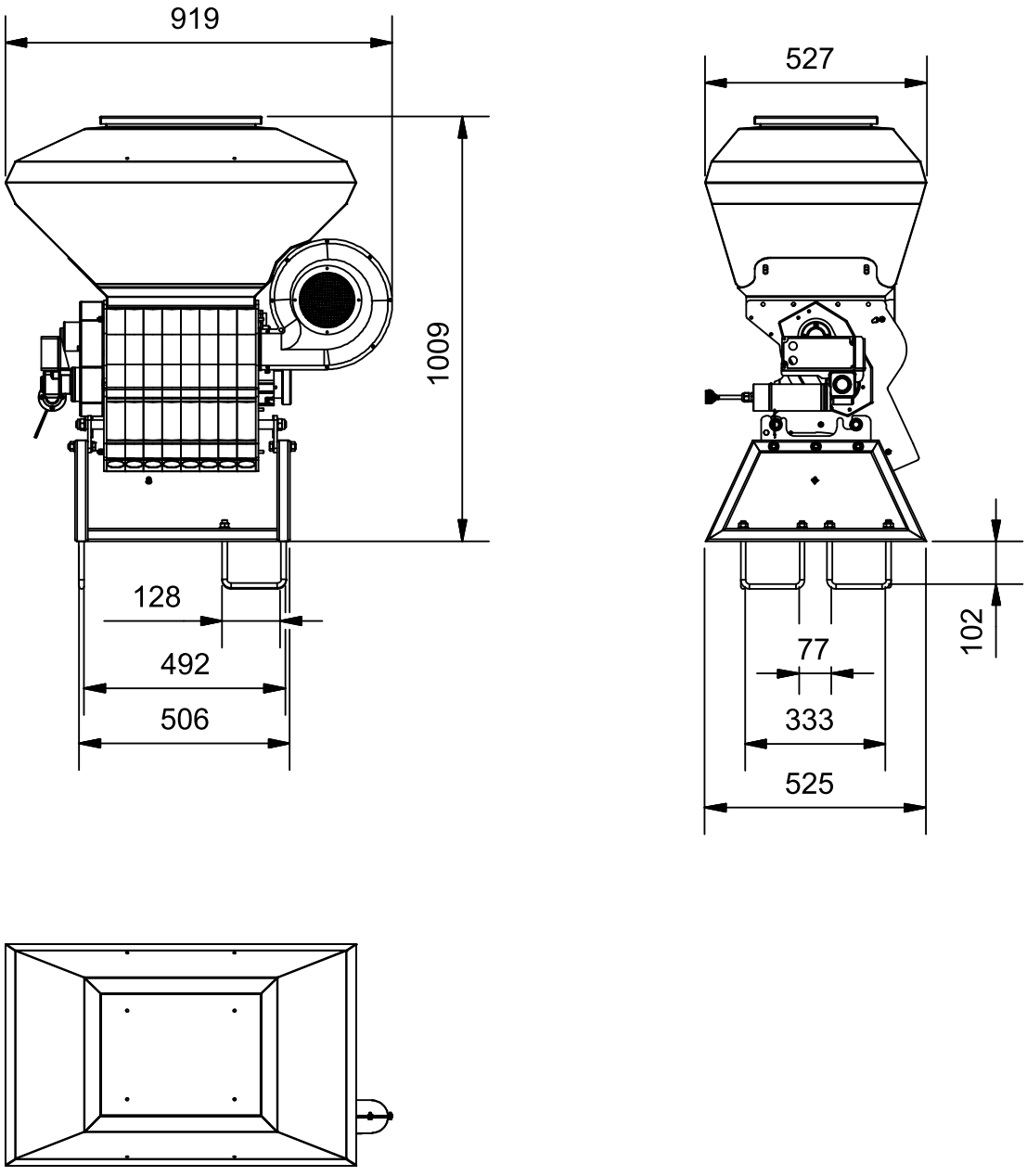
6.1 Identification

The serial number of the spreader is shown at the rear right on the inside of the frame.

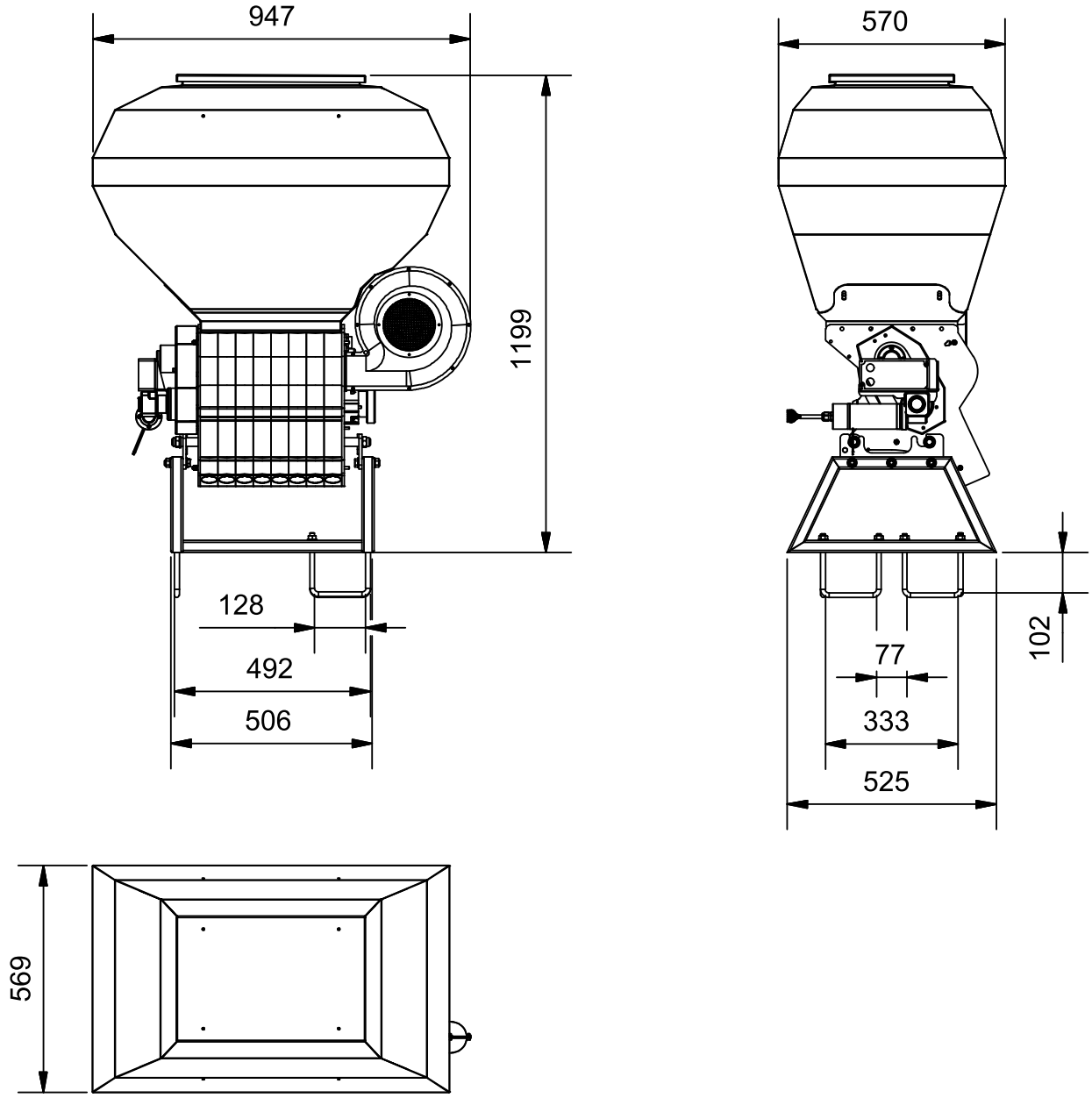
Note the serial number in this operating manual so that it is readily available for inquiries.

6.2 Dimensions

Vento 8-row with 120 l hopper



Vento 8-row with 230 l hopper



(All dimensions are subject to technical modifications.)

6.3 Overview of rotary feeder shafts

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

6.4 Formulas

$$\frac{\text{Förderleistung in kg/min x 600}}{\text{Ausbringmenge in kg/ha x Streuweite in m}} = \text{Geschwindigkeit in km/h}$$

$$\frac{\text{Förderleistung in kg/min x 600}}{\text{Geschwindigkeit in km/h x Streuweite in m}} = \text{Ausbringmenge in kg/ha}$$

$$\frac{\text{Ausbringmenge in kg/ha x Geschwindigkeit in km/h x Streuweite in m}}{600} = \text{Förderleistung in kg/min}$$

6.5 Spreading material lists

White mustard

	Rotary feeders per hose outlet 1 x green	Rotary feeders 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

	Rotary feeders per hose outlet 1 x green	Rotary feeders 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

	Rotary feeders per hose outlet 1 x green	Rotary feeders 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

	Rotary feeders per hose outlet 1 x green	Rotary feeders 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

	Rotary feeders per hose outlet 1 x green	Rotary feeders 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

	Rotary feeders per hose outlet 1 x blue	Rotary feeders 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

	Rotary feeders per hose outlet 1 x red	Rotary feeders 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

	Rotary feeders per hose outlet 1 x red	Rotary feeders 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

	Rotary feeders per hose outlet 1 x red	Rotary feeders 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

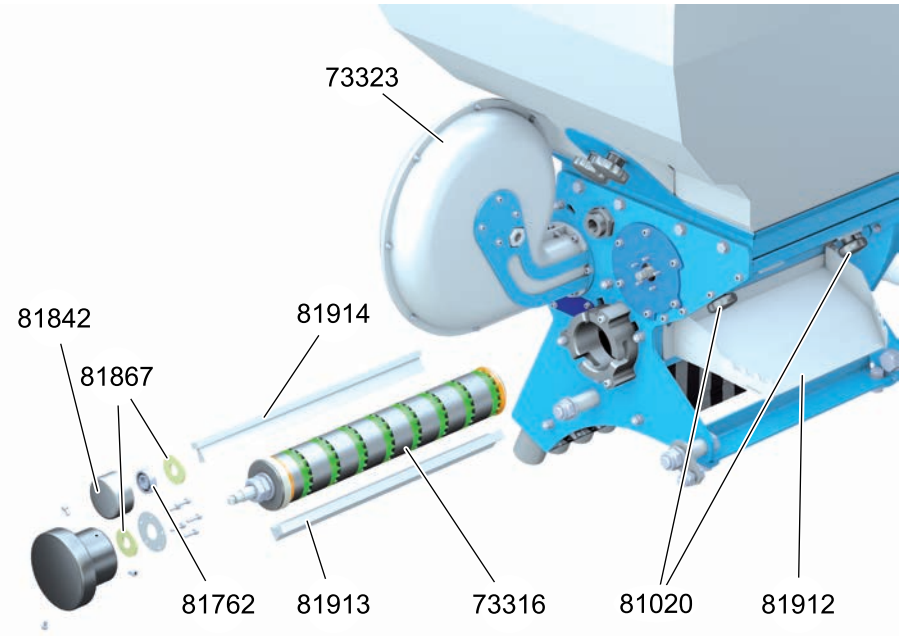
Oats

	Rotary feeders 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

6.6 Spare parts and accessories

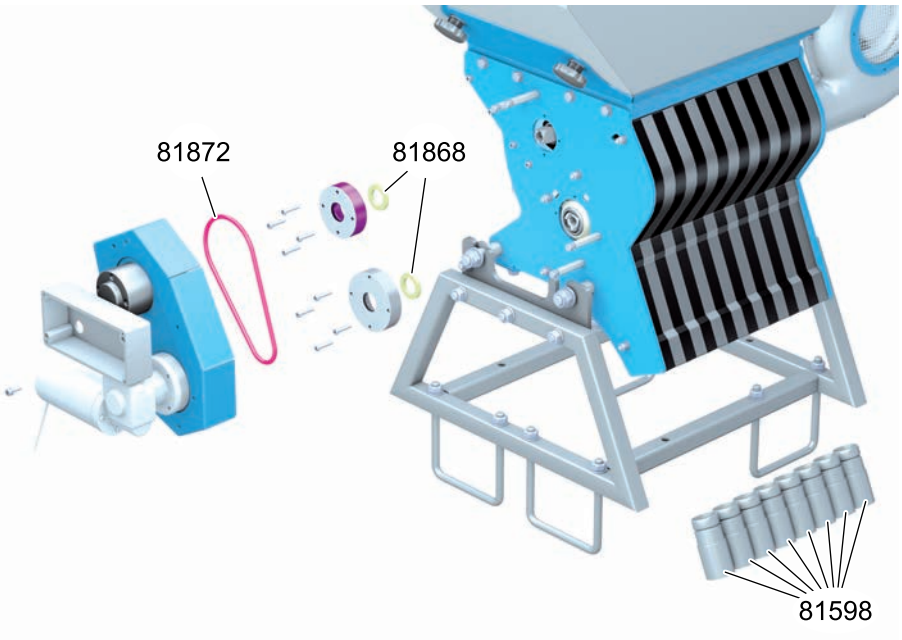
6.6.1 Vento® spare parts

Vento® 8-row



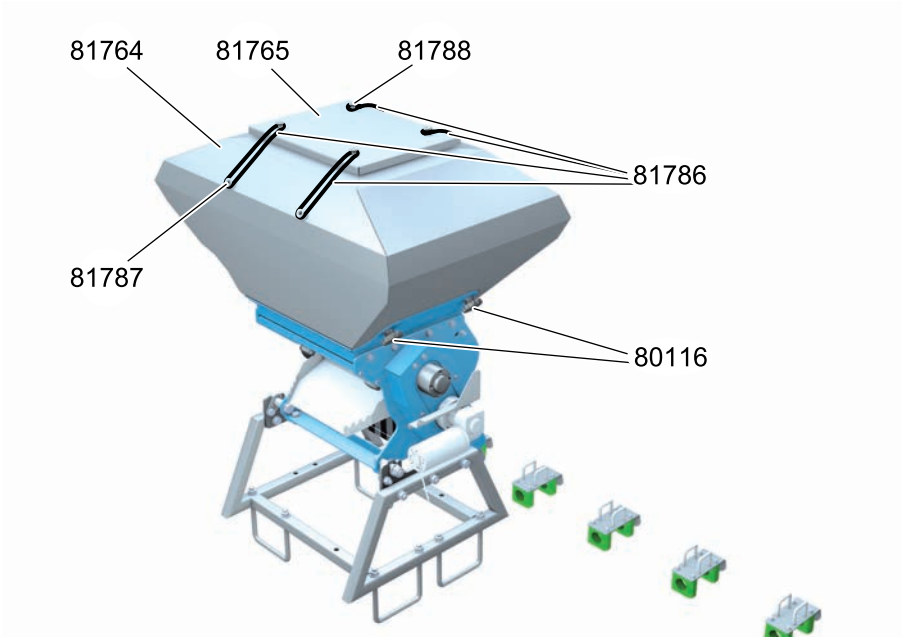
Component number	Description
73323	Vento® blower
73326	Agitator bearing unit comprising 81842, 81762, 81867
81842	Agitator bearing holder
81762	DIN 625 SKF - SKF 6001-2RS1
81867	Felt ring 35-15-3
81912	Residual discharge chute
81020	Star-knob screws 40 M6x14 for residual discharge
73316	Rotary feeder shafts 1 x 2.5 ccm (alternative gear shafts 73317, 73318, 73319, 73320, 73321)
81913	Brush with crinkled fibres
81914	Brush with smooth fibres

Vento® 8-row



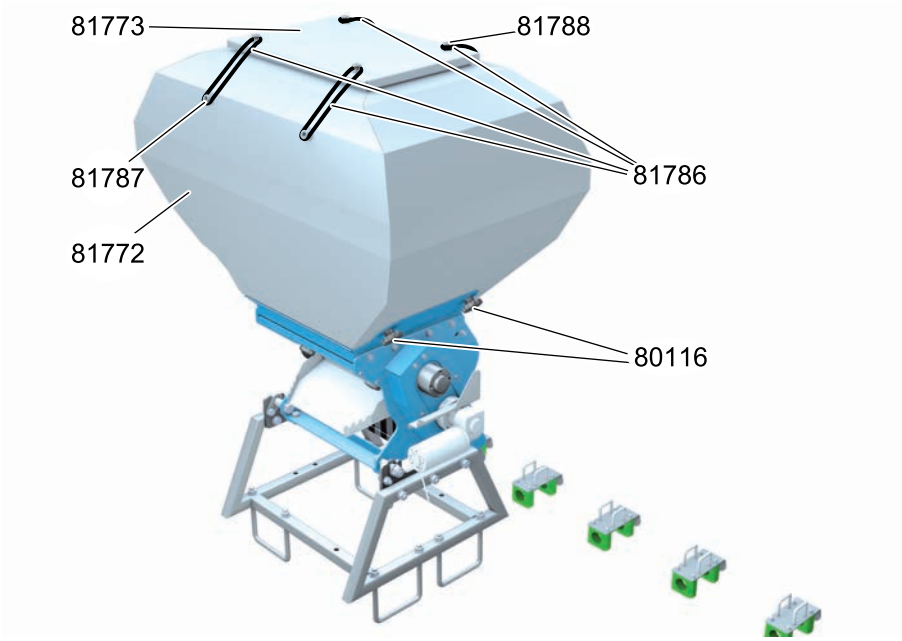
Component number	Description
81872	Round belt
81868	Felt ring 37-25-5
81598	Hose grommet

6.6.2 Spare parts for 120 litre hopper



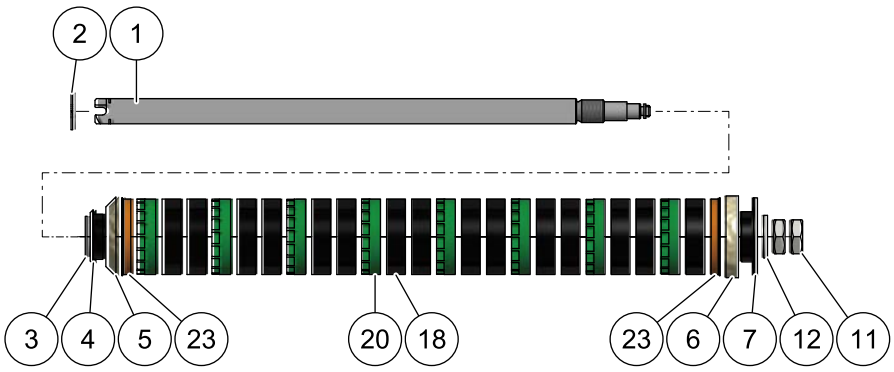
Component number	Description
81764	120 litre hopper sheet metal
81765	Tank cover for 120 litre hopper
81786	Rubber clamping band 20 cm for Vento hopper
81787	Button (back) isosceles for Vento hopper
81788	Button (black) for Vento hopper cover
80116	Star-knob screws 50 mm M8x14 mm
80637	Sealing tape (sealing transition from hopper to hopper platform)
80670	Edge protection with cushion (sealing hopper with hopper cover)

6.6.3 Spare parts for 230 litre hopper



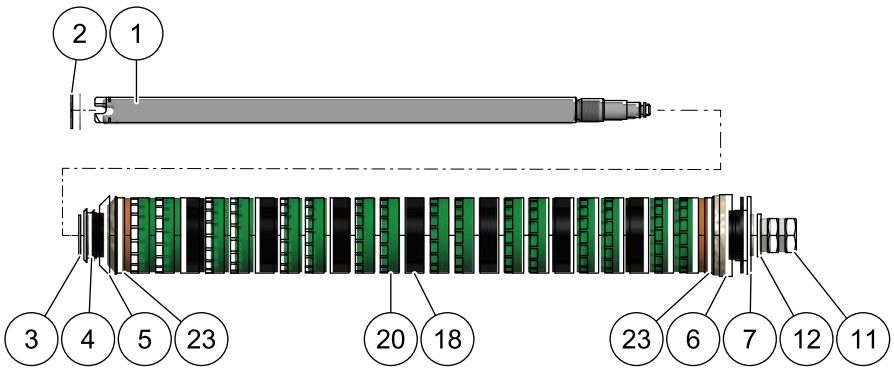
Component number	Description
81772	230 litre hopper Vento
81773	Tank cover for 230 litre hopper
81786	Rubber clamping band 20 cm for Vento hopper
81787	Button (back) isosceles for Vento hopper
81788	Button (black) for Vento hopper cover
80116	Star-knob screws 50 mm M8x14 mm
80637	Sealing tape (sealing transition from hopper to hopper platform)
80670	Edge protection with cushion (sealing hopper with hopper cover)

6.6.4 Spare parts for rotary feeder shaft green, 1 x 2.5 ccm



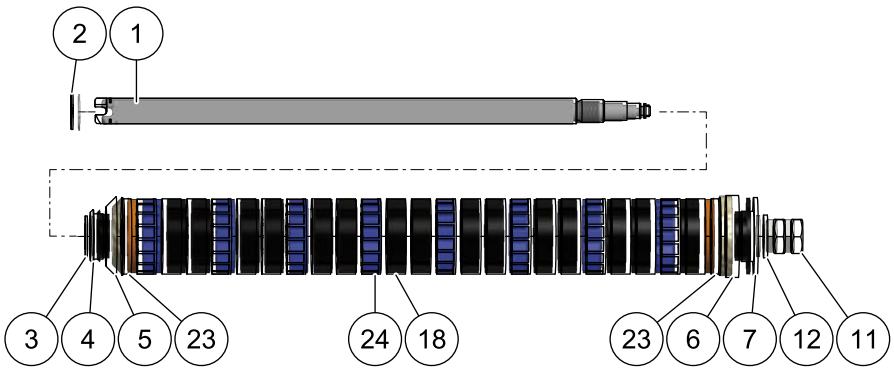
Item	Com-ponent number	Number	Description
	73316		Rotary feeder shaft 1 x 2.5 ccm, Rotary feeder shaft fully assembled, comprising items 1-23
1	81857	1	Rotary feeder shaft
2		1	Circlip DIN 471 - 25 x 1.2
3	81839	1	Rotary feeder shaft end disc
4	81859	1	Rotary feeder shaft felt ring holder motor end
5	81870	1	Felt ring 65-36-10-45°
6	81869	1	Felt ring 65.2-40-10
7	81858	1	Rotary feeder 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	Rotary feeder 0 ccm
20	81638	8	Rotary feeder 2.5 ccm
23	81791	2	Rotary feeder distance 7 mm

6.6.5 Spare parts for rotary feeder shaft green, 2 x 2.5 ccm



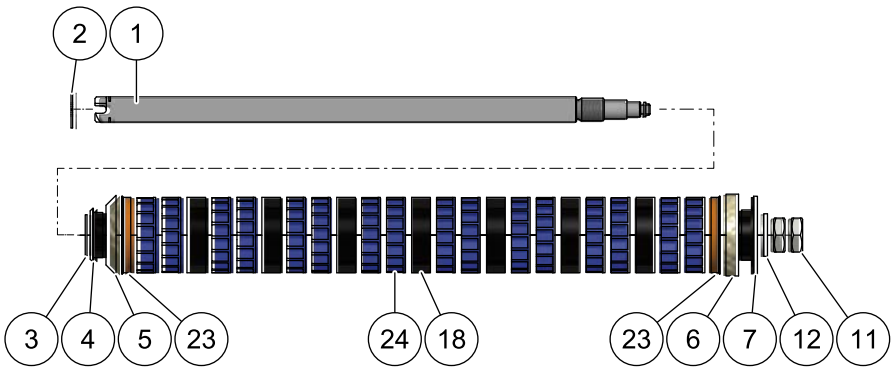
Item	Com-ponent number	Number	Description
	73319		Rotary feeder shaft 2 x 2.5 ccm, Rotary feeder shaft fully assembled, comprising items 1-23
1	81857	1	Rotary feeder shaft
2		1	Circlip DIN 471 - 25 x 1.2
3	81839	1	Rotary feeder shaft end disc
4	81859	1	Rotary feeder shaft felt ring holder motor end
5	81870	1	Felt ring 65-36-10-45°
6	81869	1	Felt ring 65.2-40-10
7	81858	1	Rotary feeder 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	Rotary feeder 0 ccm
20	81638	16	Rotary feeder 2.5 ccm
23	81791	2	Rotary feeder distance 7 mm

6.6.6 Spare parts for rotary feeder shaft blue, 1 x 5.0 ccm



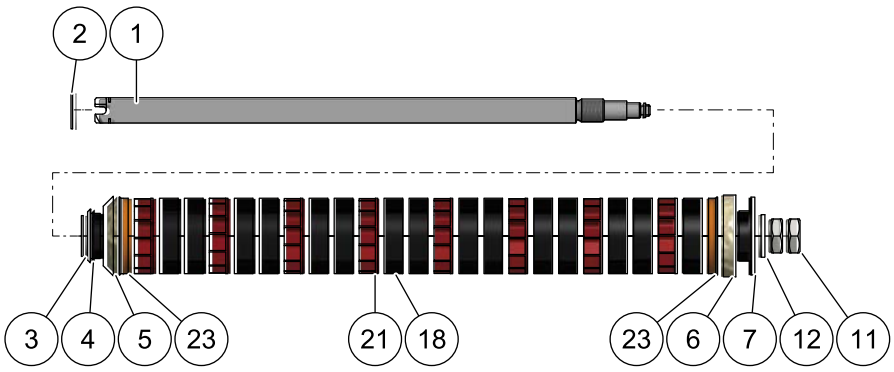
Object	Com-ponent number	Number	Description
	73317		Rotary feeder shaft 1 x 5.0 ccm, Rotary feeder shaft fully assembled, comprising items 1-24
1	81857	1	Rotary feeder shaft
2		1	Circlip DIN 471 - 25 x 1.2
3	81839	1	Rotary feeder shaft end disc
4	81859	1	Rotary feeder shaft felt ring holder motor end
5	81870	1	Felt ring 65-36-10-45°
6	81869	1	Felt ring 65.2-40-10
7	81858	1	Rotary feeder 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	Rotary feeder 0 ccm
23	81791	2	Rotary feeder distance 7 mm
24	81639	8	Rotary feeder 5.0 ccm

6.6.7 Spare parts for rotary feeder shaft blue, 2 x 5.0 ccm



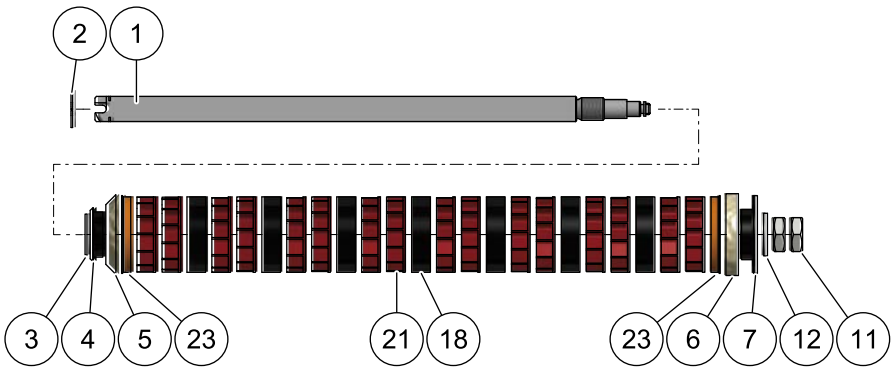
Item	Com-ponent number	Number	Description
	73320		Rotary feeder shaft 2 x 5.0 ccm, Rotary feeder shaft fully assembled, comprising items 1-24
1	81857	1	Rotary feeder shaft
2		1	Circlip DIN 471 - 25 x 1.2
3	81839	1	Rotary feeder shaft end disc
4	81859	1	Rotary feeder shaft felt ring holder motor end
5	81870	1	Felt ring 65-36-10-45°
6	81869	1	Felt ring 65.2-40-10
7	81858	1	Rotary feeder 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	Rotary feeder 0 ccm
23	81791	2	Rotary feeder distance 7 mm
24	81639	16	Rotary feeder 5.0 ccm

6.6.8 Spare parts for rotary feeder shaft red, 1 x 10 ccm



Object	Com-ponent number	Number	Description
	73318		Rotary feeder shaft 1 x 10 ccm, Rotary feeder shaft fully assembled, comprising items 1-23
1	81857	1	Rotary feeder shaft
2		1	Circlip, DIN 471 - 25 x 1.2
3	81839	1	Rotary feeder shaft end disc
4	81859	1	Rotary feeder 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	Rotary feeder 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	Rotary feeder 0 ccm
21	81640	8	Rotary feeder 10 ccm
23	81791	2	Rotary feeder distance 7 mm

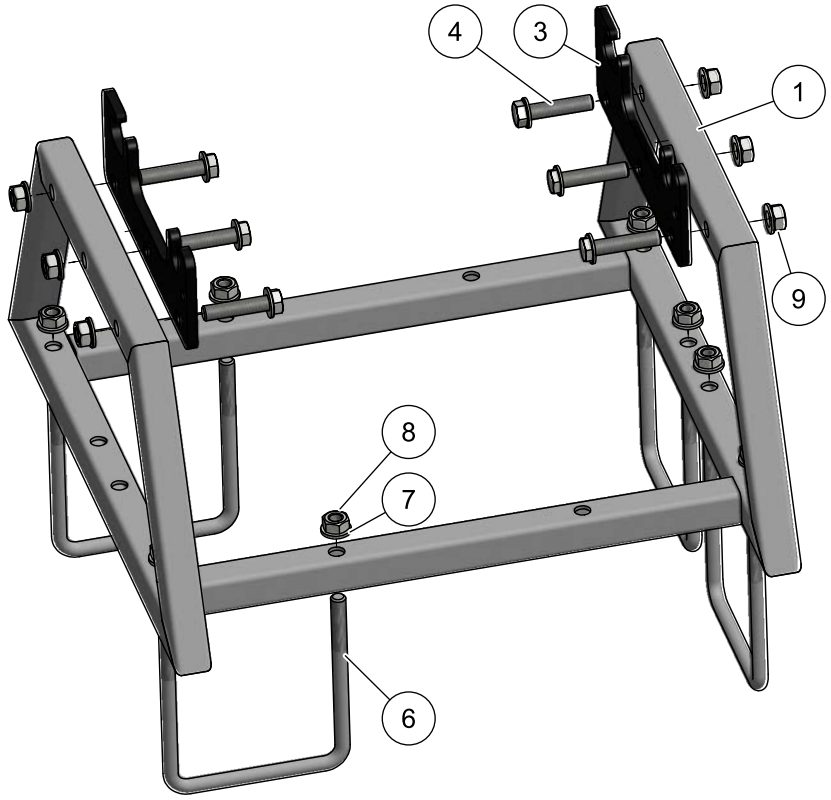
6.6.9 Spare parts for rotary feeder shaft red, 2 x 10 ccm



Object	Compo-nent	Number	Description
	73321		Rotary feeder shaft 2 x 10 ccm, Rotary feeder shaft fully assembled, comprising items 1-23
1	81857	1	Rotary feeder shaft
2		1	Circlip DIN 471 - 25 x 1.2
3	81839	1	Rotary feeder shaft end disc
4	81859	1	Rotary feeder 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	Rotary feeder 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	Rotary feeder 0 ccm
21	81640	16	Rotary feeder 10 ccm
23	81791	2	Rotary feeder distance 7 mm

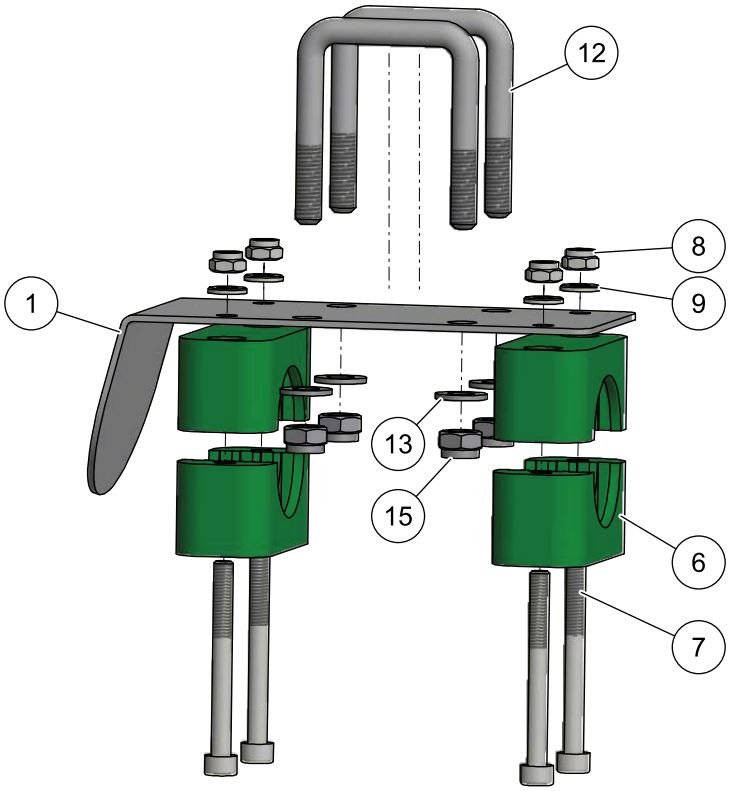
6.6.10 Spare parts for baffle plate and universal holder

Universal holder



Object	Compo-nent	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	Compo-nent	Number	Description
1	81824	1	Baffle plate Vento base sheet
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

6.6.11 Vento® 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
73328	Y-cable AccoSat for speed signal via GPS receiver as well as VGM sensor/magnet

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