

# **LEHNER**

## **Super Vario®**

**Operating manual**

**Spare parts list**

**Version 3.0 onwards**

# Your SuperVario®

Heartiest congratulations for choosing your new spreader, the SuperVario®. Do not use the machine without following the operating manual.

Here you will find all the necessary information.

You will get to know the finer technical details.

You will master your machine and optimise its performance.

Maintenance and care as per the operating manual contributes to security and preserves the value of your **SuperVario®**.

Observe the safety instructions.

## **Commissioning:**

Before commissioning the machine, read through the operating manual and the safety instructions thoroughly and keep these handy in a safe place so that you can also have a look later.

## **Description:**

The **SuperVario®** consists of a solid steel frame, a spreader vessel and the electrical components. The spreading disc and the slider / proportioning device are a part of the steel frame. The spreader vessel can be removed easily, which helps cleaning and maintenance of the proportioning device. The electrical components consist of a driving motor for the spreading disc, the slider motor, a distributor switch box and the operating desk with a 2-meter long cable for electric supply. A battery cable and a control cable are connected in series from the operating desk to the spreader. The electrics of the **SuperVario®** are equipped with a speed regulation of the spreader disc, which is controlled via the operating desk. The speed regulation helps the user to spread fine seeds and granules of various types and specific weights in different working widths. The highest rotary speed of approx. 3000 revolutions / min enables the spreading of spiral corn over a working width of 24 m. If lower working widths are desired, they can be adjusted by regulating the speed. The least speed of approx. 200 revolutions / min allows the sowing of fine seeds with working width of 2 m or higher.

## **Guarantee:**

We offer a guarantee of 12 months on the **SuperVario®**.

## **Assembly:**

The **SuperVario®** can be installed in the front- as well as the rear wheel drive of a vehicle. May it be a tractor, a cross-country vehicle or a farm motorcycle / ATV. Installation on soil preparation equipment or a field sprayer is also possible. Since the **SuperVario®** can become much heavier during the filling, a solid fastening must be ensured. The optimum working height of the rocker shovel is 1m. During spreading of spiral corn on 24 m, the spreader must be installed at a discharge height of 1.30 m. There are several bores within the frame of the spreader. For fastening, you should use screws with diameter of 10 mm.

## **Tray for rejected material:**

There are 2 holes with diameters of 6.5 mm, located on the semi-circular longitudinal tray beside the distributing plate. In order to avoid the spread material from being thrown back at the driver, the standard longitudinal tray supplied, can be installed.

## **Electrical connections:**

The **SuperVario®** is supplied with several cables. The 2-lead cable connects the operating desk to the three-pin plug in the cabin of the tractor (see picture). In this manner the electric supply of the spreader is established. The 16-lead cable connects the operating desk to the distributor cabinet on the **SuperVario®**. Likewise the battery cable with the holding device and the fuse as well as the cable lugs form a part of the standard equipment. Using the cable lugs, connect the battery cable to the battery. Fasten the holding device in the cabin of the tractor. It is intended to be for insertion of the operating desk. You need this battery cable only when no three-pin socket is available.

## **Following is the most important electrical data:**

Operating voltage	10 to 15 Volt.
Fuse	25 A
Motor output:	180 W
Range of rotational speed	200 revolutions/min - 3000 revolutions/min.
Current consumption:	15 Ampere during starting, 10 Ampere during normal operation.
Operating temperature:	-10° C to + 70° C.
Storage temperature	-30° C to + 70° C.



If your driving vehicle is not equipped with a generator, make sure that the battery is in a charged sufficiently. In case of poor electric supply, it may happen that the desired rotational speed is not attained. Before yourself getting down to extending the cables, you should consult the manufacturer. With extensions, loss in the output is to be expected.

### **Commissioning of the spreader:**

All the functional keys are arranged on the front side. The main switch used for switching on and off, is located on the left, beside the display. When this is operated, the motor starts and at the same time, the spreading disc and the agitator begin to rotate immediately.

### **The Display:**

The following events can be indicated in the display.

- a) Rotational speed
- b) Opening of the slider
- c) Error message (Error 1-3). Also see the chapter 'troubleshooting'.

Using the button located directly to the right of the display, change the function of rotational speed to Slider opening. The corresponding indication is seen on the display. For this press only the centre of the button. A pilot lamp shows you the status. (Above speed indication, below slider opening)

Regulate the continuously variable speed to the adjusted value using the keys – and + under the display. The data entered first changes relatively slowly in order to adjust the values accurately. Pressing the relevant key for a longer time accelerates the function. By doing so, you can carry out practically fast changes in the speed and the slider opening. Attention, adjustment begins only on releasing the key.

The right functional key helps in operation of the slider. The symbol of the open slider is depicted above the key while below it is the symbol of the closed slider. The pilot lamps help to recognize the corresponding position of the slider. When the slider is open, an additional symbol is indicated on the display on its left hand side. Attention, on switching off the mains, the slider is closed automatically. During each insertion of the control panel, the version of the software is displayed for approx. 1/2 seconds. (e.g. 3.0)

### **Reference run of the slider:**

The control panel and the slider motor are synchronized with one another at the factory. If the values are lost over a period of time, carry out a fresh reference run. Press the keys + and – simultaneously. On doing so, the slider automatically opens first up to the end and then closes. By doing so, both the positions are stored in the memory.

## **Regulating the speed:**

The rotational speed of the distributor plate can be adjusted in the range 200 – 300 revolutions/min. The value shown in the display is the set value, to which the speed of the spreading disc is tuned. If as a result of heavy load of the motor or poor electric supply, the speed of the motor cannot be attained, then on switching the motor on, the speed actually attained, is displayed. Do not use any other plugs since they often establish poor contact and have too thin cables; (cigarette lighter, socket – connector etc.)

## **Automatic starting:**

If starting of the motor becomes difficult on account of the very heavy load, the digital control starts the motor up to ten times faster. This would give rise to the possibility of the agitator breaking loose on its own. If this does not work, the motor is switched off. The message “E 0002” appears on the display. The spreader must be switched off and rotated manually. Attention - risk of injury!

## **Error control:**

### **Indication on the display:**

E001 set position slider motor/  
Error Description: Adjusted  
Slider position not attained.  
Control defective

E002 blocking drive motor  
Error Description: Motor does  
not rotate and will be shut down  
after ten attempts to start.  
Control defective

E003 error reference run of the slider -  
Motor Error Description: Slider  
does not attain the positions open / closed  
during the reference run.  
Check the Slider unit and clean if necessary.  
Repeat the reference run. +/- Key  
Press simultaneously.

### **possible cause:**

mechanically clamped  
Power supply interrupted  
Motor defective

Agitator blocked by foreign bodies  
(Vessel empty and inspect)  
Power supply interrupted  
Motor defective

mechanically jammed  
Wiring defective  
Motor defective  
Control defective

**Fault :**

There is crackling in the control panel:  
supply. No indication on the display:  
The distributor plate does not rotate:

The agitator does not rotate:  
slackened

Slider jammed:  
the slider plates

Distributor plate does not attain the :  
maximum speed

**possible cause :**

Defective contact with the power  
+ and – keys are interchanged or  
the fuse is out of order  
Defective contact in the cable or the  
Allen screw under the distributor  
plate slackened

Allen screw on the distributor plate is

Foreign bodies in the agitator

Spread material jammed between  
the slider plates (cleaning needs to  
be done)

Check the power supply

At least 13.0 Volt are required at the  
supply of the control panel (in case  
of spiral corn, shorten the agitator-  
type finger on both sides to half, if  
necssesary)

## **Operation:**

The spreading width is dependent on the quality of the material to be spread and also on the speed of the distributor plate. The possible spreading width is directly proportional to the coarse grained structure of the material. A spreading width of 24 m (depending on the manufacturer) can be achieved with spiral corn but cannot be achieved with light spreading materials such as seeds due to their low weight. A field test is absolutely necessary. Two rocker shovels are screwed to the distributor plate for collecting the material to be spread. These shovels can be adjusted at an angle with the help of the elongated holes. Please check the proportioning device and the slider from time to time. Particularly when using spreading materials with a high content of dust, it can happen that the slider unit gets clogged. In such a case loosen the Allen screw located immediately above the distributor plate using the Allen key supplied. Remove the agitator shaft. Then using a 17 mm wrench, loosen the 4 screws on the rectangular plastic ring, which binds the slider and the storage container. Now the top plate can be removed and the slider unit can be cleaned with a brush or with compressed air.

With most conventionally used seeds having a corn structure, it is sufficient to have a lower agitator-type finger in the agitator shaft. Since grazers have very poor flow behaviour, it is necessary that you install the upper agitator-type finger as well. The upper finger must then be installed on the one side in the ratio of 2/3 to 1/3 with the lower finger.

Attention: For spreading grass, it is essential to install a second (upper) agitator-type finger. For all other products: it is necessary to remove the upper agitator-type finger and mount the lower centrally on the agitator shaft, or else the speed drops drastically.

For installing / removing the agitator-type finger, the agitator shaft must be removed. In case it is not removed, knock it off and bend the drive shaft of the motor. This leads to early damage to the bearings on the motor. For minor changes of the agitator-type finger, you can also make use of cutting pliers.

If you mount the agitator-type finger not centrally but to one side, you get a better agitation. Attention: only with grass, use on one side. Otherwise in case of other spreading materials, the higher range of speed will not be attained.

## **Spreading widths and turning operation:**

Take the reference values of the spreading width of individual spreading materials from the attached tables for these materials. In case you turn off the spreader, make sure that the material to be spread, rolls onto a firm ground, while it falls directly into the subsoil on your field and does not roll any further. Spreading widths should therefore be determined on the field. To turn off the spreader, place it in the dispatch carton. You can then collect the material to be spread and reuse it. It is important that you let the spreading disc run at the speed at which you run it when in operation. (suction effect of the locker shovels) At position 0, the sliding doser is closed and at the position 85, it is completely open.

## **The spreading quantity is determined using the following formula:**

$$\frac{\text{Desired quantity of spreading (kg/a)} \times \text{Speed (km/h)} \times \text{Spreading width}}{600}$$

### **Example:**

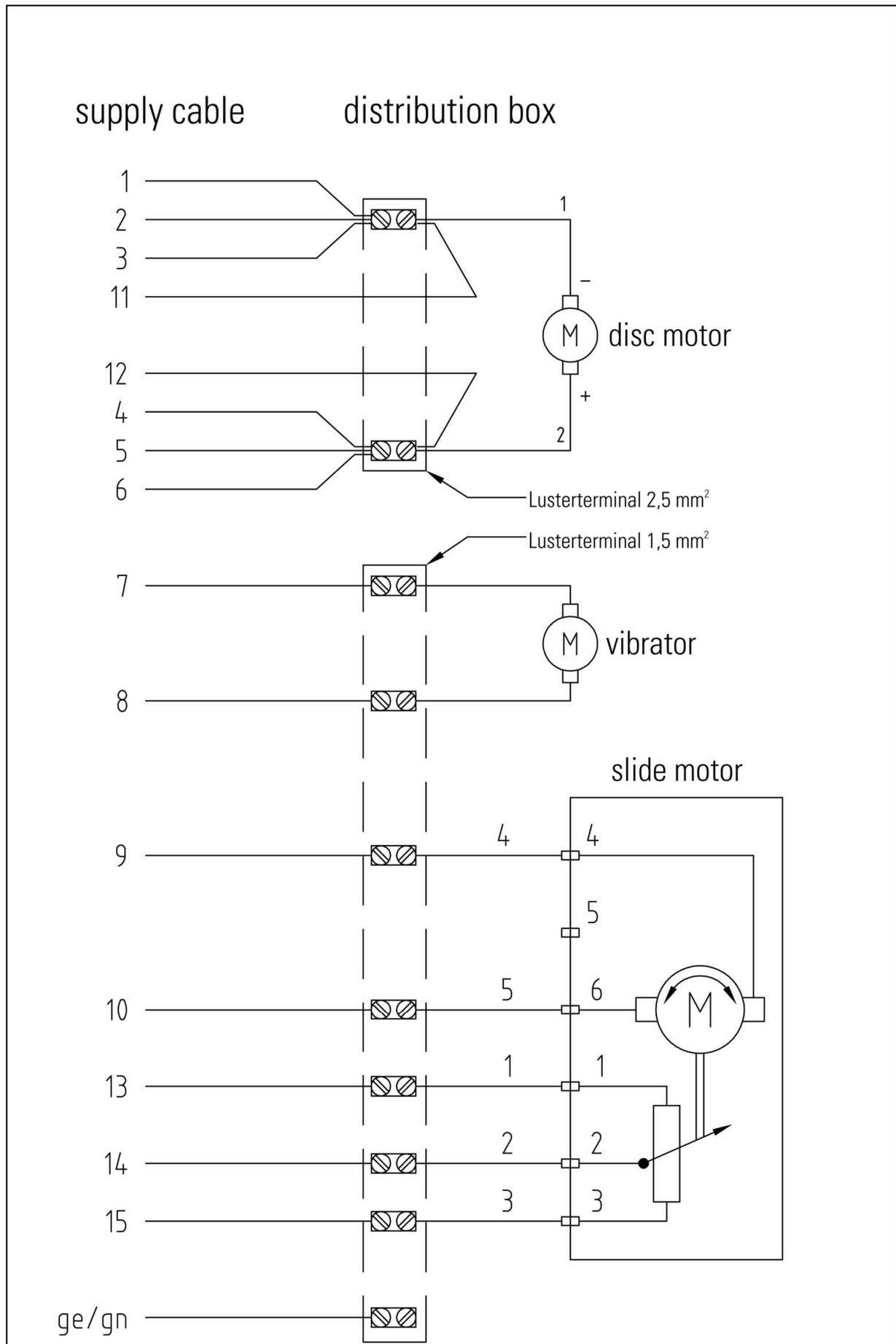
$$\frac{5.0 \text{ kg /ha} \quad \times \quad 12 \text{ km/h} \quad \times \quad 12 \text{ m}}{600}$$

Now the correct value can be obtained by fresh turning in case of changed scale settings. However after commencement of the operation the spreading quantity on the field must be controlled.

### **Safety regulations:**

1. Since the spreader runs very fast and the spreading elements are very sharp, no repairs must be carried out during its operation.
2. The spreader is accelerated considerably by the rocker shovel. Any stoppage in the region of spreading is not allowed.
3. The agitator in the storage reservoir runs very rapidly. Under no circumstances should the container slow down during the operation.
4. During the spreading of granules, the safety regulations of the supplements of the packing are to be observed.
5. Unscrew the lid to fill the instrument. Only that quantity of spiral corn required for the short term should be filled. Protective clothing must be worn during filling, particularly the universal protective hand gloves. The regulations of the spiral corn manufacturer in connection with the pesticides must be observed.
6. The instrument can be emptied using a bowl. For emptying the remnants, unscrew the container and clean the instrument with a brush. Add the remnants of the product into the original packing. These should not be disposed uncontrolled in the environment.
7. Negative effects of permitted pesticides on the materials used are not known.

# Box circuit diagramm



# CE

**Declaration of EU-conformity  
corresponding to the EU-guidelines  
89/392/EWG and 89/336/EWG**

We

**LEHNER Agrar GmbH**  
Häuslesäcker 5-9  
D-89198 Westerstetten  
Tel.: +49 7348 9596-0  
Fax: +49 7348 95 96-40  
www.lehner.tv  
info@lehner.tv

declare with the sole responsibility that the product

**SuperVario®**

to which this declaration is related, meets the appropriate, essential safety- and health standards of the EU-guidelines 89/392/EWG und 89/336/EWG as well as the standards of the other relevant EU-guidelines.

Westerstetten, 19.11.2001

  
Manfred Lehner  
Chief Executive Officer

# spare parts list SuperVario®

	<b>UNIT</b>	<b>amount</b>
1	frame	1
2	plastic square plate 150/150 mm	1
3	washer	3
4	fixed washer	1
5	slide plate	1
6	connector link	1
7	slide motor	1
8	screw	3
9	motor angle	1
10	steel square plate 150/150 mm	1
11	hopper base plate	1
12	washer	2
13	screw	2
14	screw	4
15	hopper bracket	1
16	nut	4
17	washer	4
18	plastic knop	2
19	stirring finger	2
20	stirring shaft	1
21	nylon shaft washer	1
22	hold down disc	1
23	washer	2
24	nut	2
25	spreading shovel	2
26	spreading disc	1
27	washer	4
28	lock-nut	4
29	cone point nut	2
30	disc motor	1
31	Mutter	2
32	washer	2
33	slide mechanism cover	1
34	washer	2
35	plastic knob	2
36	hopper seal	1
37	run off cover	1
38	hopper	1
39	hopper lid	1
40	lock-nut	4
41	washer	4
42	supply cable unit (without illustration)	1
43	control panel (without illustration)	1
44	battery cable (without illustration)	1
45	operating manual (without illustration)	1

