Operating manual

SPR-DS

Disc spreader

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Modifications and errors excepted.

EN

Contents

Table of contents

1 About this operating manual

Dear Customer!

Thank you for purchasing our sand and salt spreader and for placing your trust in us.

Please read this operating manual thoroughly and carefully before using the spreader for the first time.

Keep this operating manual handy. You can then refer to it for important information and instructions when needed.

Lists are marked with eye-catching points as follows:

- Text
- Text
- Text .

Instructions are marked in the order in which they must be carried out as follows:

1. Text
2. Text
3. Text . . .

The sand and salt spreader is subject to technical progress. All information, illustrations, and technical specifications are up to date at the time of publication. The manufacturer reserves the right to make changes at any time in the interests of technical progress.

2 Safety

This chapter summarizes regulations and instructions that you must observe.

2.1 Intended use

The spreader may only be mounted on tractors with sufficient power and a rear PTO. The speed of the rear PTO must match the speed of the spreader (see the sticker on the spreader). The ballast and maximum axle load specified for the tractor must be observed.

All other uses are prohibited.

Improper use may result in:

- Dangers to the health of the operator or third parties
- Damage to the tractor and attachments
- Damage to the environment

2.2 Qualification of personnel

Only persons who are qualified as follows may assemble, operate, and maintain the spreader:

- They are at least 18 years old.
- They have read and understood this operating manual.

2.3 General safety instructions

This section explains general safety instructions that are used in the following chapters.

Follow these safety instructions to ensure safe operation of the spreader and to save working time and costs.

Danger!
Serious injury to the operator or third parties may occur.
Follow the safety instructions.

Caution!
Minor injuries to the operator or third parties may occur. The tractor, spreader, or environment may be damaged.
Observe the safety instructions.

Note!
Important, helpful tips or information for the operator.
Read this note. It will make your work easier.

Caution!
Injuries may occur.
Wear protective work clothing.

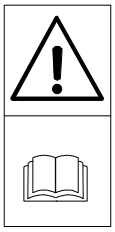
2.4 Special safety instructions

The following safety instructions are listed on stickers attached to the attachments.

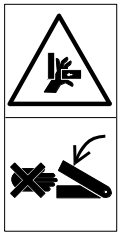
Follow these safety instructions to ensure safe operation of the spreader and to save working time and costs.

Caution!
Risk of injury from moving parts.
Remove the ignition key before performing maintenance work on the device.

Risk of injury from rotating parts.
Switch off the device. Wait until all machine parts have come to a standstill before converting or maintaining the device.



Caution!
Injuries may occur due to improper operation. The device may be damaged.
Read the operating instructions thoroughly.
Observe the safety instructions.



Caution!
Risk of crushing due to moving parts.
Never reach into the crushing hazard area while parts are moving or could move.
Observe the note in the operating instructions.

Caution!
Increased risk of accident due to rotating PTO shaft.
Only enter the working area of the PTO shaft when it has stopped rotating.
Do not wear loose clothing or clothing that could get caught in the PTO shaft.

3 Purpose and use

matev centrifugal spreaders have been specially developed for winter service and are of high quality and workmanship. The models in the SPR-IX series are centrifugal spreaders that have been specially developed for use in winter service. They are ideal for spreading dry sand, salt, and grit. To ensure a long service life and optimum usability, great importance was attached to the special requirements of municipal winter service when designing all components. A solid, torsion-free stainless steel construction is used as the carrier frame with three-point attachment, ensuring maximum protection against corrosion. The spreader hoppers are made of 8–10 mm thick, impact-resistant, flexible, and corrosion-free special plastic. The container base with metering slide, the spreading discs, the adjustable spreading vanes, the adjustment mechanism, and the fastening elements are also made entirely of stainless steel. The specially manufactured, robust special gearbox with a gray cast iron housing guarantees trouble-free, low-wear, vibration-free operation. With three container sizes available, we can offer the right spreader for every municipal tractor, ensuring large operating ranges and high area coverage. The spreading widths from 1 to 8 meters can be adjusted via the adjustable spreading width limiter and the PTO speed. The spreading quantity can be metered using the control lever, and an adjustable stop allows you to fix the ideal setting. The adjustable throwing vanes of the stainless steel spreading disc ensure that all types of spreading material are distributed cleanly and accurately over the working area. Steep hopper walls ensure that the spreading material slides down smoothly.

4 Delivery and transport

The spreader is delivered secured on a pallet.

Image1 Delivery of the spreader

4.1 Lifting the spreader from the pallet

1. Remove the protective packaging and transport securing devices.
2. Lift the spreader off the pallet using a suitable device (crane or forklift truck) and set it down.

4.2 Transport over long distances

If you want to transport the spreader over long distances (e.g., shipping), you must secure the spreader to a pallet as it was delivered.

5 Assembly

5.1 Pre-assembly

When assembling accessories, always ensure that the spreader cannot be switched on. Carry out the pre-assembly while the spreader is not mounted on the vehicle, or remove the ignition key from the tractor.

Accessories that must be ordered separately for the spreader, such as the agitator, hydraulic and electric spread rate control, lighting, etc., must be installed before the first use. Please carry out the necessary installation steps before mounting the spreader on the rear three-point hitch of the tractor.

5.1.1 Adaptation Cat. 1 and Cat. 2

For the SPR H/M 125 spreader, you need an adapter for mounting on a Cat. 1 rear hydraulic system.

An adapter is also required for mounting the SPR H/M 250/400/600 spreaders to a Cat. 2 rear hydraulic system.

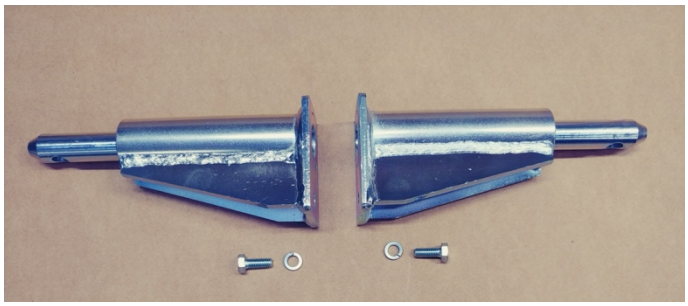


Image2 : Adaptation Cat. 1

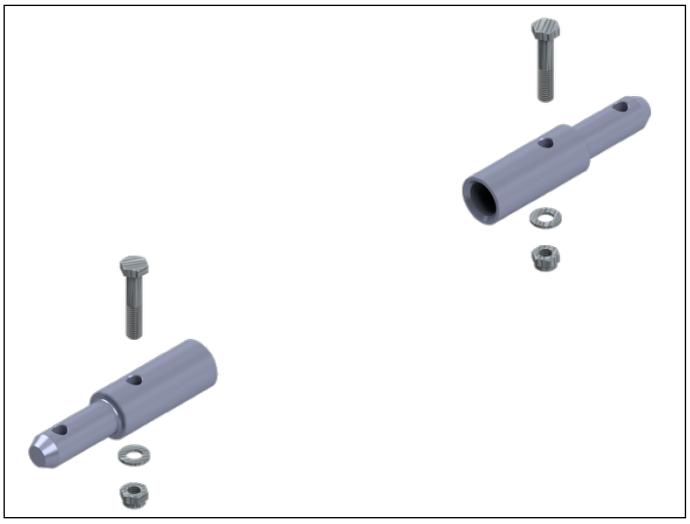


Image3 : Cat. 2 adaptation

1. Remove the lynch pins on the original lower link pins of the spreader.
2. Insert the adapters onto the lower link pins of the spreader.
3. Secure the adapters with the screws supplied.
4. Insert the lynch pins into the locking hole on the adapter.

5.1.2 Agitator

The spreader is delivered without an agitator. Different agitators are used depending on the material.

Image4 : Agitator for coarse grain size

Image5 : Agitator for sand and salt

Image6 : Chain agitator

1. Remove the grid cover of the spreader.
2. Place the agitator finger on the drive shaft in the spreader and secure it by turning it to the right.

3. Reattach the grid cover.

Image7 : Spreader grid cover

5.2 Mounting on the rear three-point hitch of the tractor

Note!
The spreaders in the SPR-IX series are compact devices that can be attached to a wide range of tractors.
Please observe the mounting recommendations in the current price list and the restrictions specified in these instructions.

Note!
Enter the chassis number of the tractor in the section "10 " of this operating manual.

This spreader can be mounted on any tractor with a suitable rear three-point hydraulic system Cat 1, Cat 1-N, Cat 2 (with adapter) and on John Deere X-series tractors with matev basic mounting device (with adapter). All mounting points must be secured with suitable locking pins.

If necessary, you will find the installation instructions for a rear three-point hitch in the documentation for your tractor or rear three-point hitch.

Before using the spreader for the first time, you must carry out the following steps:

5.2.1

Mount the spreader to the rear three-point hitch of your tractor. Make sure you select the correct coupling points depending on the rear three-point hitch.

Danger!
If you do not observe the following instructions, the device may tip over during attachment or removal: Ensure that the spreader is standing or parked on level and firm ground.

Image8 Mounting points Cat 1

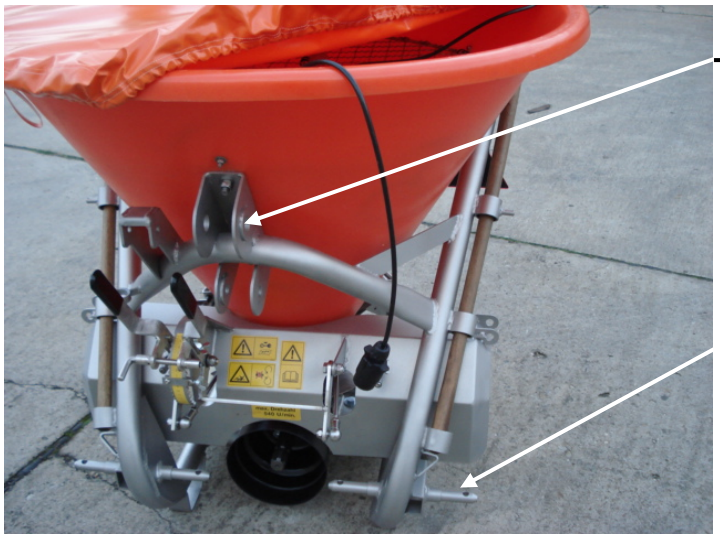


Image9 Mounting points Cat 2

Image10 Mounting points Cat 1-N

Image11 Mounting points Basic mounting device on John Deere X 748

5.2.2 Check that the drive shaft is the correct length for use on your tractor. If necessary, adjust the length of the drive shaft as described in section5.3 .

Note!
The spreading pattern depends on the tractor's PTO speed.
Observe the working speed specified by the tractor manufacturer, as this is the only way to achieve the optimum speed at the rear PTO.

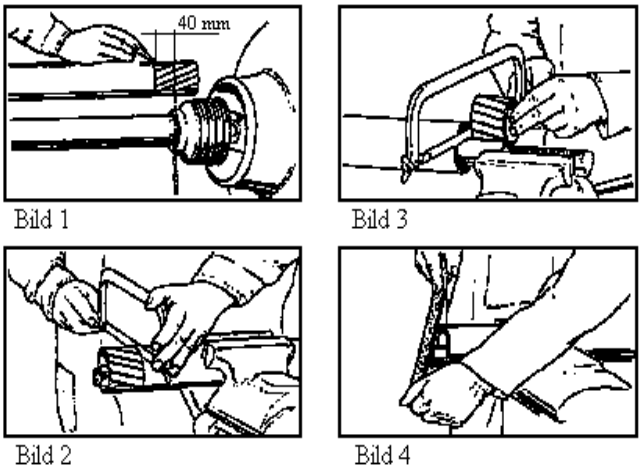
5.3 Adjusting the

Caution!
Damage to the spreader or tractor may occur.
Only use the drive shaft supplied.
Follow the operating instructions for the PTO shaft provided by the PTO shaft manufacturer.

Note
Install the drive shaft as described in the original instructions supplied by the drive shaft manufacturer.

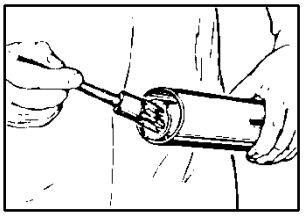
Note
Depending on the tractor type, the supplied drive shaft may be too long. In this case, it must be shortened according to the following steps.

1. Pull the drive shaft halves apart.
2. Install one end of the drive shaft on the tractor.
3. Install the other end of the drive shaft on the spreader.



12 : Adjusting the drive shaft

4. In the shortest working position, mark the section to be cut off on one half of the drive shaft.
5. Cut the drive shaft guard up to the mark.
6. Saw off the profile tube.
7. Repeat steps 4 to 6 on the second half of the drive shaft.
8. Deburr all cut edges.



13 : Grease the profile tubes

9. Grease the profile tubes.

10. Push the profile tubes together.

5.3.1 Assemble the drive shaft

1. Press the locking bolt on the outer fork and hold it down.
2. Push the outer fork onto the profile stub of the rear PTO.
3. Release the locking bolt.
4. Move the drive shaft back and forth slightly until the locking pin audibly engages.
5. Repeat steps 1 to 4 for the other side of the drive shaft.

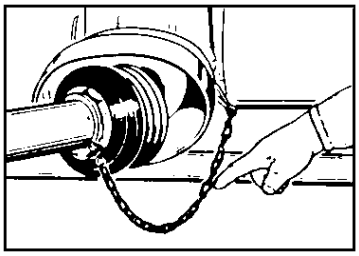


Image14 : Safety chain on the drive shaft

6. Attach the safety chains of the drive shaft to a fixed part on the tractor and on the material handling system.
7. The drive shaft is now installed.

5.3.2 Removing the drive shaft

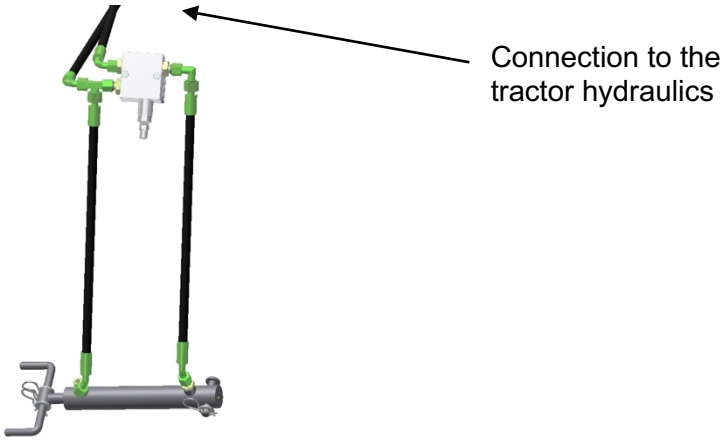
1. Loosen the safety chain on both sides.
2. Press the locking bolt on the outer fork and hold it down.
3. Pull the outer fork off the profile stub.
4. Release the locking bolt.
5. Repeat steps 2 to 4 for the other side of the drive shaft.
6. The drive shaft is now removed.

5.4 Lighting

To operate the lighting system, the spreader's plug connection must be connected to the tractor's trailer socket. The proper functioning of the lighting system must be checked and ensured before each use.

5.5 Installation of the hydraulic spread rate control

If you want to retrofit your spreader with a hydraulic spread rate control, install the individual components as shown in the following illustration.



15 image Connecting the hydraulic spread rate control

Install the pressure relief valve in the position shown on the spreader.

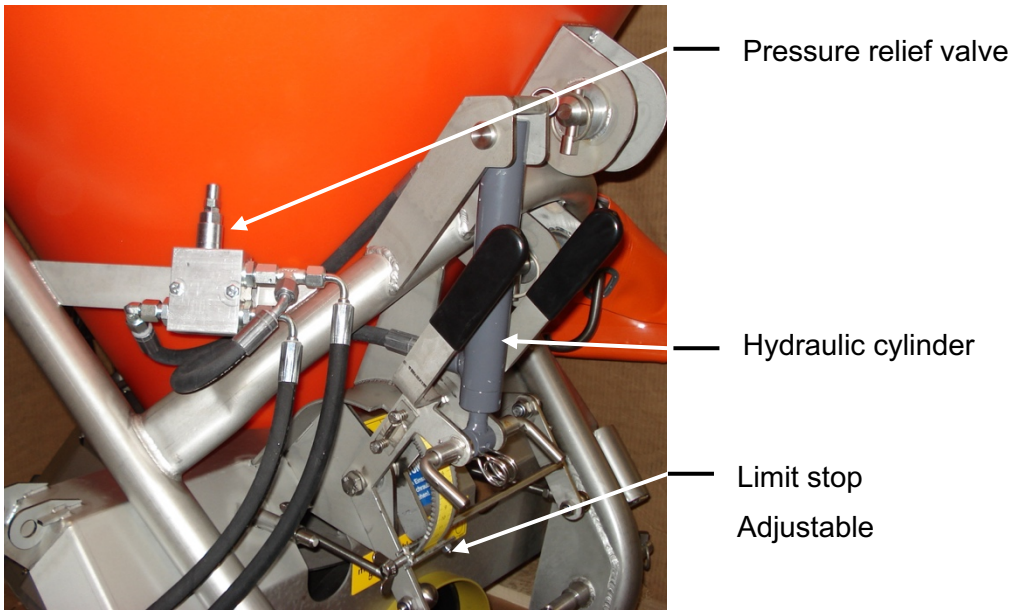


Image16 Hydraulic spread rate control

Note
If the hydraulic cylinder for adjusting the spread rate pushes away the adjustable limit stop on the spread rate scale, the pressure relief valve must be readjusted.

6 Operation

Danger!
Serious injury to the operator or third parties may occur.
The attached spreader changes the load distribution on the tractor. Steering and braking ability as well as tipping behavior are affected. Take countermeasures – apply sufficient front wheel ballast!

Danger!
Serious injury to the operator or third parties may occur.
Never reach into the area of the agitator, the throwing disc, or the throwing blades while they are rotating. Switch off the tractor and remove the ignition key before reaching into the area of moving parts. Always leave the protective grille in the protective position during operation.

Caution!
Increased risk of accident due to rotating PTO shaft.
Only enter the working area of the PTO shaft when it has stopped rotating.
Do not wear loose clothing or clothing that could get caught in the PTO shaft.

6.1 Filling the spreader

Before filling the spreader hopper, lower the rear hydraulics of the tractor and place the spreader on the ground. Switch off the tractor engine and apply the handbrake. Each time the hopper is refilled, it must be checked for foreign objects. The correct functioning of the quantity slide valve must also be checked.

Note!
Observe the maximum payload. Exceeding the payload will void the warranty. Depending on the condition of the spreading material (wet or dry), different specific weights apply

6.1.1 Spreading grit or granular fertilizer

The standard agitator finger must be used for spreading grit or granular fertilizer.

Note!
The hook agitator must not be used for grit or granular fertilizer.

6.1.2 Spreading sand and salt

The hook agitator must be used for spreading sand, salt, or sand-salt mixtures. It is recommended to position the hook agitator vertically when filling it with the spreading material.

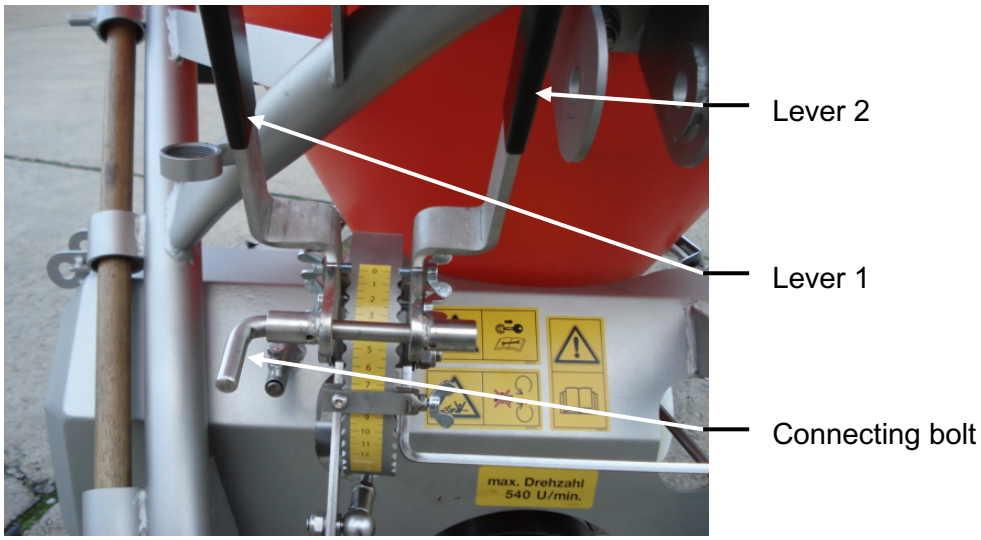
6.2 Adjusting the spreading pattern

6.2.1 Setting an even spreading pattern

Normally, if you open both slides equally and the spreading vanes are in the middle position, you will achieve an even spreading pattern. Depending on the type and moisture content of the spreading material, it may be necessary to make other adjustments, see6.2.3 and6.2.3 .

6.2.2 Spreading quantity control – adjusting the slides

If you only want to spread on one side, you can open the corresponding slide valve and leave the other slide valve closed. Unlock the connecting bolt, pull it out of lever 1 and lock it so that it only remains in lever 2. Move the desired lever. If you adjust lever 1 while lever 2 remains closed, you will spread on the left side. If you want to spread on the right side, you must open lever 2 and keep lever 1 closed. The result depends on the spreading material and humidity. Both levers can also be operated simultaneously by inserting the locking bolt into lever 1 and engaging it.



17 image Spreading quantity control

6.2.3 Adjusting the spreading vanes

To ensure even spreading of the spreading material, the spreading vanes can be adjusted depending on the type and weight of the spreading material. Adjusting the spreading vanes from the center position to the right or left changes the spreading quantity in the corresponding direction. Adjusting the spreading vanes against the direction of rotation of the spreading disc causes the spreading material to be discharged earlier. This increases the spreading density on the right-hand side when the spreading disc is rotating clockwise. Adjusting the spreading vanes against the direction of rotation of the spreading disc causes the spreading material to be discharged later. This increases the spreading density on the left-hand side when the spreading disc is rotating clockwise.

To adjust the spreading vane, pull it upwards to unlock it and turn it to the desired position. After adjustment, make sure that the locking pin is engaged in the desired position. You can engage the spreading vanes in different positions.

Image18 Spreading disc and spreading wing

6.3 Adjusting the spread rate

To regulate the spreading quantity, the spreader has a mechanical spreading quantity adjustment via a hand lever with a scale, see17 . A remote control via the tractor's rear hydraulics is also available as an optional accessory.

The opening lever is used to regulate the spreading quantity. Lowering or raising the lever increases or decreases the amount of spreading material. Downward – more, upward – less. If the lever is raised to the stop, the spreading process is interrupted. The opening limit can be adjusted manually using the wing screw.

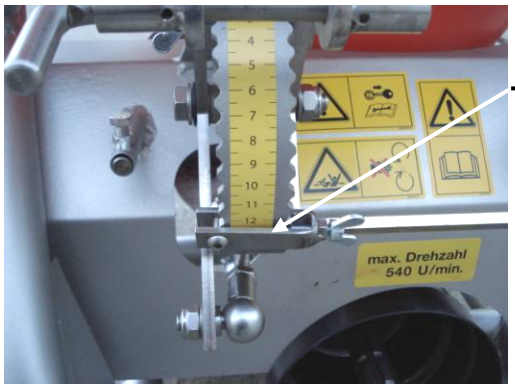


Image19 Opening limit

6.4 Spreading width

By adjusting the spreading width limit, you can achieve spreading widths of approx. 1 m to approx. 8 m with a spreading disc height of approx. 50 cm above the ground. You can also vary the spreading width by increasing or decreasing the mounting height. Furthermore, the spreading width depends on the tractor's PTO speed.

In addition to the standard manual spreading width limitation, a hydraulic and an electric remote control are available as optional accessories.

Image20 Spread width limitation

6.5 Spreading density

The spreading density g/m² depends on the following factors:

- Spreading quantity control setting
- Spreading width limitation setting
- Travel speed
- PTO speed
- Spreading material (density, grain size)
- Condition of the spreading material (dry, moist)
- Height of the spreading disc above the ground
-

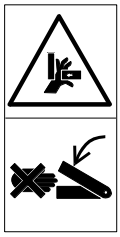
The amount of spreading material to be applied per minute at a known driving speed, spreading width, and desired spreading density can be calculated as follows:

Driving speed	*v* [km/h]
Spreading width	*b* [m]
Desired spreading density	*D* [g/m²]
Spreading agent quantity / minute	*S* [kg/min]
Calculation formula:	*S = D*b*v/60*

In order to achieve the desired target quantity (spreading agent quantity / minute), it is essential to carry out a calibration test.

6.6 Calibration test

Danger!
Serious injury to the operator or third parties may occur.
Never reach into the area of the agitator, the throwing disc, or the throwing blades while they are rotating. Switch off the tractor and remove the ignition key before reaching into the area of the throwing blades.



Caution!
Risk of crushing due to moving parts.
Never reach into the crushing hazard area while parts are moving or could move.

Caution!
Increased risk of accident due to rotating PTO shaft.
Only enter the working area of the PTO shaft when it has stopped rotating.
Do not wear loose clothing or clothing that could get caught in the PTO shaft.

To perform a spin test, proceed as follows:

1. Close the spread rate control slides.
2. Fill the spreader with the spreading material
3. Set the spreading width limiter to the lowest position
4. Set the quantity stop of the spreading width limiter according to the table or empirical values
5. Pull a plastic bag from below onto the spreader mounted on the tractor so that it does not come into contact with the throwing disc/throwing vane
6. Switch on the tractor and the PTO shaft at 540 rpm
7. Open the spread rate control slide valve fully
8. Perform the calibration test for exactly 60 seconds
9. Switch off the tractor and remove the ignition key.
10. Collect and weigh the spilled spreading material.
11. If the spilled quantity does not match the target quantity calculated, select a different slide opening and repeat the calibration test.

6.7 Spreading table

Note
The information in the following spreading tables is only a guide. The actual values depend on a variety of factors, see 6.521 . To determine the exact spreading values, a calibration test must be carried out, see6.6 .

Table1 Spreading table Salt g/m²

Scale no.	Spreading width								
	2 m			4 m			6 m		
	3 km/h	6 km/h	10 km/h	3 km/h	6 km/h	10 km/h	3 km/h	6 km/h	10 km/h
1	0	0	0	0	0	0	0	0	0
2									
3	8	4		4			3		
4									
5	54	27	17	27	13	8	18	9	5
6									
7	150	75	45	75	37	22	50	25	15
8									
9	210	105	63	105	52	31	70	35	21
10									

2 table Sand spreading table g/m²

Scale no.	Spreading width								
	2 m			4 m			6 m		
	3 km/h	6 km/h	10 km/h	3 km/h	6 km/h	10 km/h	3 km/h	6 km/h	10 km/h
1	0	0	0	0	0	0	0	0	0
2	9								
3	26	13	8	13	6		9		
4	76	38	23	38	19	11	25	13	8
5	160	80	48	80	40	24	53	27	16
6	257	129	77	129	64	39	86	43	26
7	300	150	90	150	75	45	100	50	30
8	357	178	107	178	89	54	119	59	36
9	400	200	120	200	100	60	133	67	40
10	474	237	142	237	118	71	158	79	47

3 table Grit spreading table g/m²

Scale no.	Spreading width								
	2 m			4 m			6 m		
	3 km/h	6 km/h	10 km/h	3 km/h	6 km/h	10 km/h	3 km/h	6 km/h	10 km/h
1	0	0	0	0	0	0	0	0	0

2	0	0	0	0	0	0	0	0	0
3	14	7		7					
4	78	39	23	39	20	12	26	13	8
5	178	89	53	89	45	27	59	30	18
6	295	147	88	147	74	44	98	49	29
7	612	306	184	306	153	92	204	102	61
8	774	387	232	387	194	116	258	129	77
9	1044	522	313	522	261	157	348	174	104
10	1217	608	365	608	304	183	406	203	122

6.8 Lighting

To operate the lighting system, the 7-pin plug connection on the spreader must be connected to the trailer socket on the tractor. The proper functioning of the lighting system must be checked and ensured before each use.

6.9 Spreader hopper cover

The spreader cover protects the spreading material from moisture.

The cover and its fastenings are designed for driving speeds of max. 30 km/h. If the spreader is operated or transported on vehicles that exceed this speed, the hopper cover must be secured separately or removed.

6.10 Edge spreading device

The boundary spreading device is used for precise edge spreading and protects parked cars, house walls, and green areas.

Image21 Boundary spreading device

You can use the boundary spreading device on either the left or right side. You can fold up the boundary spreading device when you do not need it.

7 Maintenance

Caution
Risk of injury from moving parts.
Remove the ignition key before performing maintenance work on the device.

7.1 Maintenance

After using the spreader or before leaving the device unused for long periods of time, the following steps must be taken:

- Clean the device thoroughly and remove any salt and grit.
- Check the device for damage and faults and replace any damaged parts.
- Tighten all screws.
- Lubricate the drive shaft with multi-purpose grease.
- Lubricate all bolt connections, the slide valves, and the joints of the spread rate control and agitators with grease.
- Check hoses and connecting cables for damage and replace if necessary.
- Check the rubber running surface of the hoe agitator and replace if necessary. The container can become worn if the rubber running surface is worn down and the stainless steel ring comes into contact with the container.
- Remove rust damage immediately and oil the device.

The gearbox is filled with oil at the factory and is maintenance-free.

7.2 Repair

Caution!
Risk of injury from moving parts.
Remove the ignition key before performing maintenance work on the device.

In the event of malfunctions, problems, or other issues, please contact your sales representative or contact:

matev GmbH

Nürnberger Str. 50
90579 Langenzenn
Tel.: +49 (0) 9101 9087-0

www.matev.eu

info@matev.eu

8 Disposal

The spreader must be disposed of in accordance with the applicable municipal or state regulations.

Depending on the material, dispose of the parts in the residual waste, hazardous waste, or recycling.

matev GmbH does not provide disposal services.

9 Warranty

The general terms and conditions of matev GmbH apply.

10 Technical data and accessories

Please enter the item number and chassis number here.

You will find these on the type plate on the sand and salt spreader.

Item number: _____

Chassis number: _____

10.1 Technical data

4 table Technical data

	Units	SPR-ST/IX 125	SPR-ST/IX 250	SPR-ST/IX 400	SPR-ST/IX 600
Capacity	L	125	250	400	600
Empty weight in standard version	kg	91	96	106	116
Height	cm	90	109	127	151
Width	cm	90.6	112	112	112
Depth	cm	90.6	112	112	112
3-point connection		Cat. 1, Cat. 1 N, Cat. 2 with adapter, basic mounting device with adapter			
Gear housing		Cast iron			
PTO speed	rpm	540			
Noise level	dB (A)	70			

10.2 Accessories

5 table Accessories

Order number	Accessories
131 7051	Boundary spreader, foldable, with vehicle tarpaulin
131 7052	Hydraulic spreading quantity control with diaphragm accumulator
131 7053	Hydraulic spreading width control
131 7164	Adaptation Cat 2
131 7171	Electric spreading width control
131 7179	Adapter for attachment to the basic mounting device John Deere X 740 / 748 X 495 / 595 X 415 / 455
131 7199	Cover for SPR-IX 125
131 7200	Cover tarpaulin for SPR-IX 250, 400, and 600

11 List of illustrations

12 EC Declaration of Conformity ung

EC Declaration of Conformity for a machine confirming compliance with the Machinery Directive 2006/42/EC and with the legal provisions enacted for its implementation.

The manufacturer

matev GmbH
Nürnberger Str. 50
90579 Langenzenn

declares that the machine

sand and salt spreader
SPR-ST 125 / SPR-ST 250 / SPR-ST 400 / SPR-ST 600
131 7791 / 131 7797 / 131 7798 / 131 8990

SPR-IX 125 / SPR-IX 250 / SPR-IX 400 / SPR-IX 600
131 7804 / 131 7810 / 131 7811 / 131 8991

complies with the provisions of the Machinery Directive 2006/42/EC and with the national legislation implementing it.

The undersigned is authorized to compile the technical documentation.

The address is that of the manufacturer.

Date / Signature January 2021 .....

Name of the signatory Georg Hemmerlein
Details of the signatory Managing Director