User Manual

LUV “PERFEKT“

Contents

1 Identification

1.1 Declaration of conformity

Within the meaning of EU Directive 2006/42/EC

The manufacturer,

BRAUN Maschinenbau GmbH
Albert - Einstein - Strasse 10
D – 76829 Landau i. d. Pfalz
Germany

hereby declares that the unit described below

Type of construction:		Year of construction:	
Appropriate use:		Unit No.:	

conforms with the stipulations of the standards listed below.

- **EN ISO 12100** - Safety of machinery - General principles for design - Risk assessment and risk reduction
- **EN ISO13857** - Safety of machinery - Safety distances to prevent hazard zones being reached by upper and lower limbs
- **DIN EN ISO 4413 [2]** - Hydraulic fluid power - General rules and safety requirements for systems and their components
- **EN 61310-2** - Safety of machinery: Indication, marking and actuation
- **EN 614-1** - Safety of machinery: Ergonomic design principles
- **EN 60204** - Safety of machinery: Electrical equipment of machines
- **EN ISO 4254** - Agricultural machinery - Safety
- **EN 349 (ISO 13854)** - Safety of machinery: Minimum gaps to avoid crushing of parts of the human body

This EC declaration of conformity loses its validity if

- **the unit is converted, modified or used for a different purpose without our explicit prior written approval.**
- **it is used contrary to the instructions in the operating manual.**

Landau, 28/05/18
Place, Date

S. Braun, CEO
With overall responsibility

1.2 Target group

The unit is designed for ecological soil tilling. The use of chemicals can be reduced by mechanical weed control.

1.3 Explanation / note

The unit may only be supplied together with an operating manual (to provide security in legal terms).

1.4 Copyright

The unit has been designed and built to the state of the art of current technology by **BRAUN Maschinenbau GmbH**. The manufacturer has the sole copyright for marketing and exhibition. Any constructional changes to the unit and its accessory parts require the prior written approval of **BRAUN Maschinenbau GmbH**.

If this stipulation is infringed then all liability by and claims under warranty from the manufacturer shall be null and void!

All parts and components may be replaced **solely** by original parts and components from **BRAUN Maschinenbau GmbH**!

2 Product description

2.1 Structure

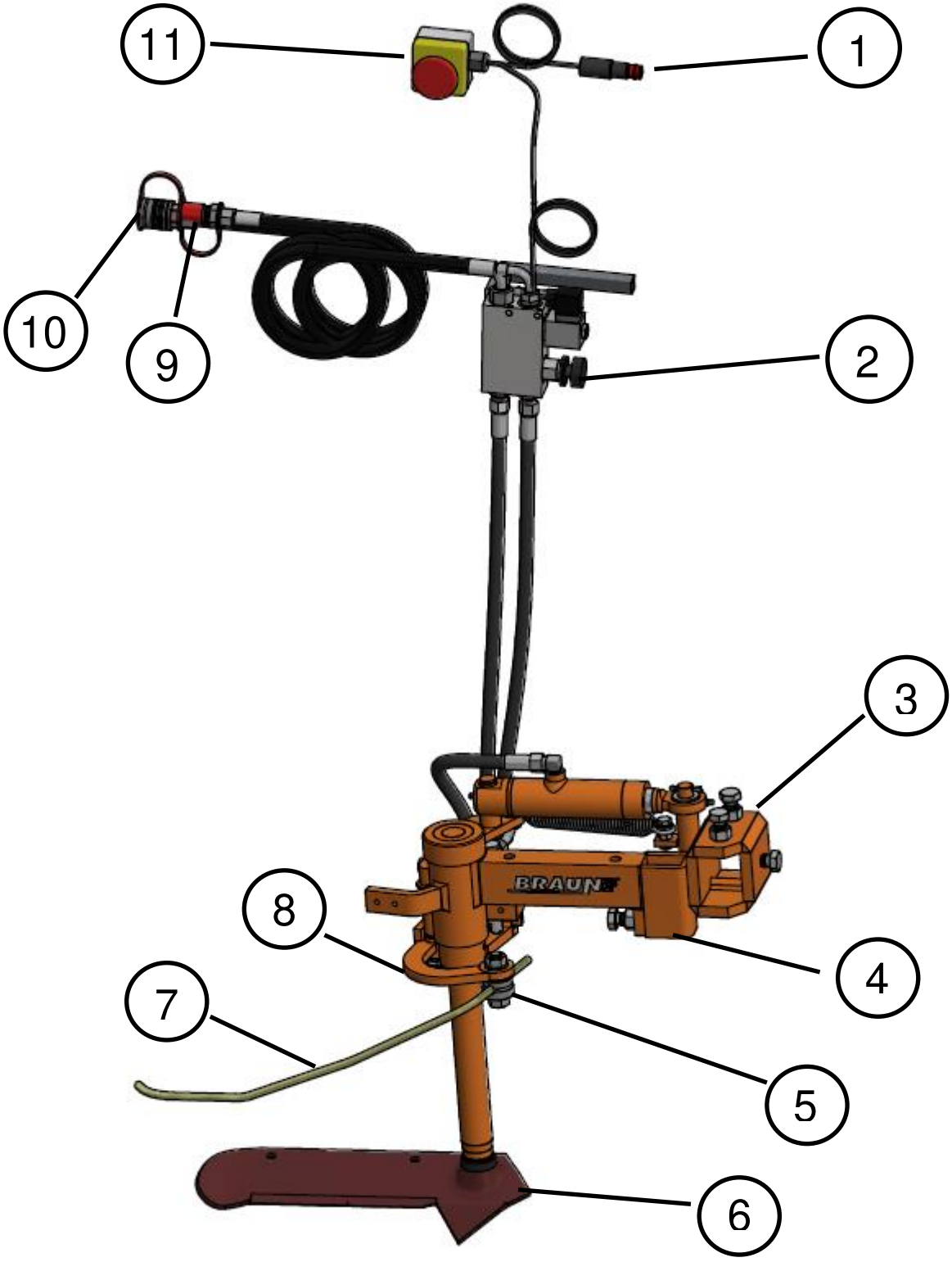


Figure 1: LUV

2.2 Components and their functions

Item	COMPONENT	FUNCTION
1	Plug	12 V power supply for the remote control
2	Adjusting screw	Setting the control pressure at the pressure regulating valve
3	LUV recess	Holder to attach the LUV to the tractor
4	Shaft holder	Holder for accessories (dimensions 50x25)
5	Feeler holder	Toothed disk to set the feeler position
6	Crow's foot blade	Tool to cut the roots of weeds between the rows of vines
7	Feeler	Sensing the plant
8	Feeler hoop	Lever to operate the control valve
9	Hydraulic connection (P)	Hydraulic connection to the tractor, under pressure
10	Hydraulic connection (T)	Tank connection, return flow to the tractor, not under pressure
11	Remote control	For manual actuation of the LUV

2.3 Technical data

2.3.1 Performance and operating values

- Min. drive rating 20 kW
- Min. travelling speed unlimited
- Max. travelling speed 8 km/h
- Max. working depth 150 mm
- Oil supply 7 – 12 l (one side) / 12 – 24 l (both sides), max. 180 bar

2.3.2 Dimensions

	(H x W x D) mm
• Transport	590 x 180 x 460
Installation/working	590 x 430 (610) x 460

2.3.3 Weight

- Transport weight 30 kg
- Weight in use 28.8 kg

2.3.4 Sound pressure

Sound pressure of the tractor

2.3.5 Ambient conditions

not dependent on temperature
secure attachment of the peripherals and third party devices to the tractor

2.3.6 Soil conditions

all normal types of soil can be worked

2.4 Type plate

The unit is identified by a type plate that clearly identifies the unit concerned by the type designation, serial number and year of construction. The type plate is attached to the rear side of the middle part of the LUV.

NOTE

Please have at hand all the relevant details from the type plate for all enquiries concerning this unit!

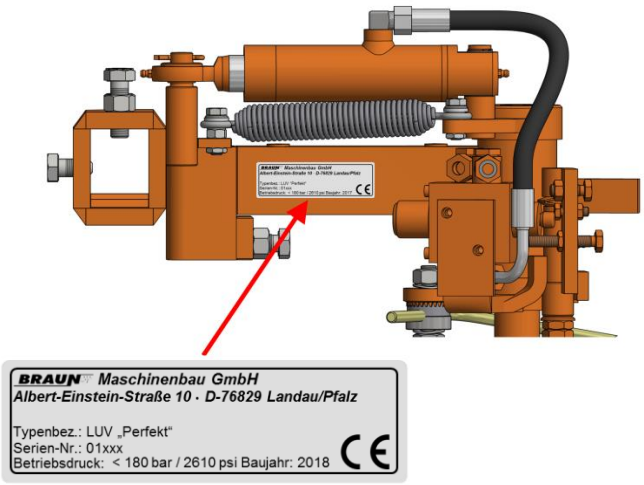


Figure 2: Position of the type plate

2.5 Protection class

All electrical connections are secured to IP 67.

3 Safety

The Safety section contains basic **warning** and working information. Following the information given in this section is a basic prerequisite for safe working with the unit and its safe operation. In addition, in the other sections of this operating manual there is additional warning information that must likewise be followed. The warning information is shown next to the relevant actions.

3.1 Meaning of the warning information

In this operating manual the warning information is shown in a systematic way according to the severity of the danger and the probability of it occurring. The danger signs bring to your attention any residual hazards that can be avoided for design reasons when operating the unit.

The warning information that is given is structured as follows:
Example

⚠ DANGER

Type and source of the danger
Possible consequences if disregarded
➔ Means to avoid the danger

Danger levels of the warning information
The danger level is indicated by the **signal word**. The danger levels are **classified into 4 levels** as follows:

Fatal danger

⚠ DANGER

Type and source of the danger
Possible consequences if disregarded
➔ Means to avoid the danger

Severe injury

⚠ WARNING

Type and source of the danger
Possible consequences if disregarded
➔ Means to avoid the danger

Minor injury

⚠ CAUTION

Type and source of the danger
Possible consequences if disregarded
➔ Means to avoid the danger

Damage to the unit

NOTE

Type and source of the danger
Possible consequences if disregarded
➔ Means to avoid the danger

3.2 Warning signs on the unit

Never remove the warning signs from the unit. Replace any safety stickers and information that are missing or illegible.

The following warning signs have been applied to the unit

	The unit can be **dangerous**. Treat prudently and handle with care.	Read the **operating manual** all the way through before using the unit for the first time.
	Never reach into **areas where there is a risk of being crushed**	Do not touch any moving parts.
	Do not crawl under the installed unit / components. **Danger of injury**	It is forbidden to stay in the **swivelling area** of the unit and attached parts.
	Beware of escaping fluid under high pressure. Disable the high pressure unit. **Danger of injury**	Follow the instructions given in the **operating manual.** Follow the corresponding instructions when carrying out maintenance!

3.3 Personal protective equipment

It is important to wear personal protective equipment when operating the unit.

Use **work gloves** that are secure against cutting and piercing, safety shoes, cut-proof **trousers** and **protective goggles** when installing / deinstalling or when making adjustments or performing maintenance or cleaning.

3.4 Worker qualifications

- Only trained and suitably instructed persons may work with the crow's foot blade under-vine weeder (LUV). The unit may only be put into operation after thoroughly studying all the sections of this operating manual by a suitably qualified person who has been instructed and commissioned by the owner.
- The responsibilities of the relevant persons for operation, setting up and maintenance must be clearly defined.
- Trainees may only work on the unit under the supervision of an experienced person who has been authorised to give instruction.
- Maintenance and servicing work may only be performed by especially trained and qualified technicians. When doing so they must follow the details concerning servicing and all the relevant safety rules and local regulations.

Activity / Persons	Instructed person	Personal with technical training (authorised to give instructions)	Superior with the corresponding competence
Transport	X	X	X
Initial commissioning		X	X
Operation	X	X	X
Setting up/equipping		X	X
Tracking down faults		X	X
Correcting faults		X	X
Maintenance		X	X
Cleaning	X	X	X
Servicing		X	X
Disposal	X	X	X

3.5 Safety instruction

This safety instruction is to be filled out by the **BRAUN dealer** for the final customer.

Customer address	

by the manufacturer	**BRAUN Maschinenbau GmbH** Albert-Einstein-Strasse 10 D-76829 Landau i. d. Pfalz Germany

Concerning unit	Serial number: _____ Designation: _____ Year of construction: _____

The customer hereby confirms this with his signature,

1. that he has received in full and in good condition the operating manual that belongs to the unit.
2. that he has been instructed that the operating manual contains exceptionally important information (especially safety information) and has received instruction on the residual risks.
3. that he has been instructed that the unit may only be started up after having carefully studied the operating manual.
4. that he has been instructed that the unit may only be used by trained, instructed and qualified persons.
5. that he has been instructed that compliance with the operating manual does not relieve him of the obligation to comply with the relevant applicable laws and regulations, especially regarding use outside the EU. This also applies if extended requirements must be implemented due to the corresponding changes in the laws and regulations and due to leading decisions.
6. a signed copy of this declaration is to be sent to **BRAUN Maschinenbau GmbH**.

_____	_____	_____	_____
Place	**Date**	**Name in capitals**	**Signature of the customer**

3.6 Appropriate use

Safety in operation of the supplied unit can only be guaranteed if it is used appropriately and correctly. Appropriate use includes following the operating and instruction manual (also of the tractor) and carrying out all the maintenance and servicing work. Attachments and equipment from other manufacturers may only be used after consulting **BRAUN Maschinenbau GmbH**.

This unit has been designed solely for the usual soil tilling in vineyards and orchards or in specialised cultivation.

Any form of use going beyond this is not appropriate!

BRAUN Maschinenbau GmbH shall have no liability whatsoever for any damage caused as a result, the user/owner bears the sole risk in such cases.

The relevant applicable accident prevention and health and safety at work regulations and other generally recognised safety, occupational medicine and road traffic rules are to be complied with.

3.7 Traffic safety

When travelling on public roads and streets the tractor must comply with the road traffic regulations of the relevant country when this unit is attached to it. The vehicle holder and tractor driver are responsible for compliance with these regulations.

3.8 Danger zone when in operation

Never allow anybody to get into or stay in the **danger zone**!

If you get between the tractor and the unit there is a great and possibly fatal danger from the tractor rolling away or from movements of the unit.

The following illustration shows the **danger zones** of the unit.

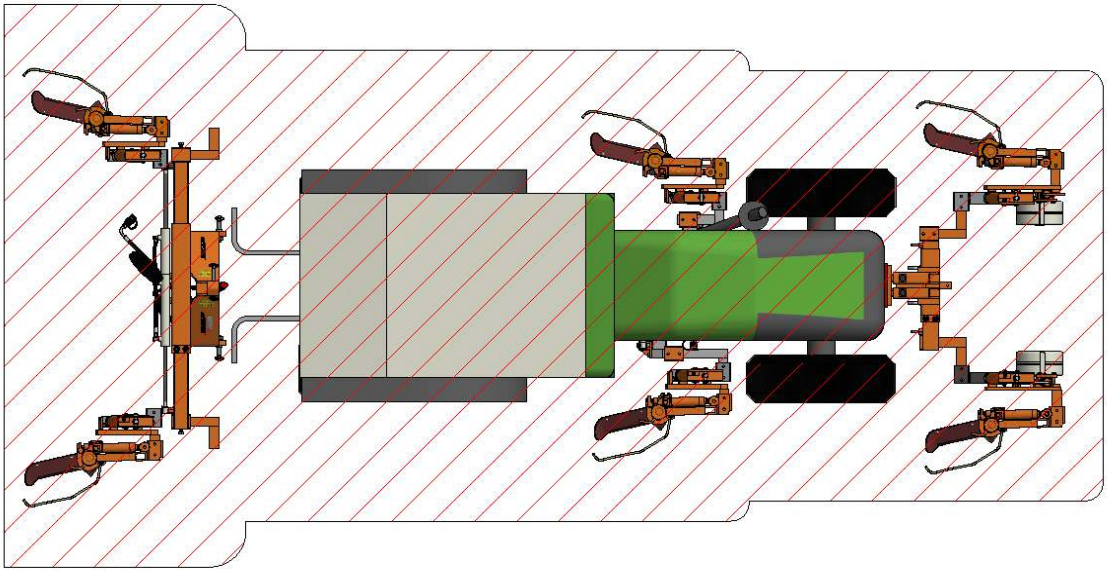


Figure 3: Danger zones of the unit

3.9 Obligation of the owner to exercise due care

The owner undertakes to use the unit only when it is in flawless condition. He must check its condition before use and ensure that any faults are corrected before starting it up.

The owner undertakes only to have persons working on or with the unit who:

- have been taught the basic principles of safety at work and accident prevention and instructed in the handling of the unit.
- have read and understood the Safety section and the warning information in this operating manual and have confirmed this with their signature.
- who are wearing the required and stipulated personal protective equipment (work clothing, safety shoes, protective gloves, safety goggles, ear protection. etc.) and also to check this.

3.10 Obligation of the user to exercise due care

The operator must have read and understood the operating manual.

Only trained and instructed persons are permitted to operate the unit.

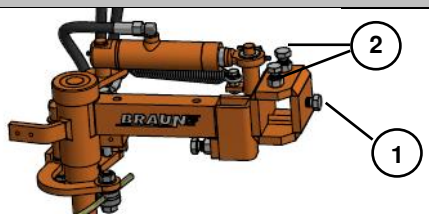
4 Before use

4.1 Installation

4.1.1 Installation description LUV

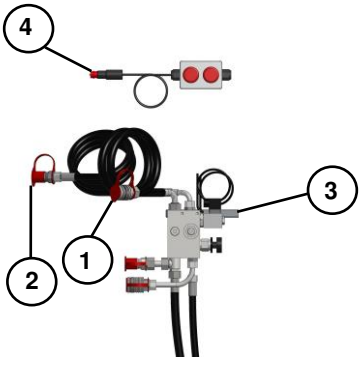
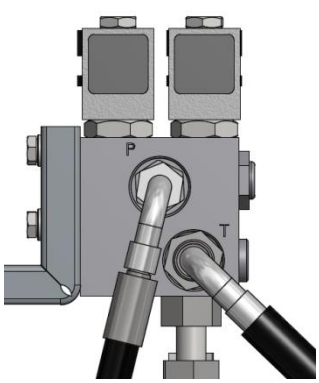
⚠ WARNING

The LUV can fall over
Your lower limbs could be crushed
➔ Wear safety shoes
➔ Handle heavy loads with lifting gear

Component	Installation steps
	1. Push the LUV recess onto the square 50 x 50 2. Push the LUV so that it is flush with the front edge of the square 3. Insert the bolt (1) 4. Adjust and lock the adjusting bolts (2) 5. Firmly tighten up the bolt (1)

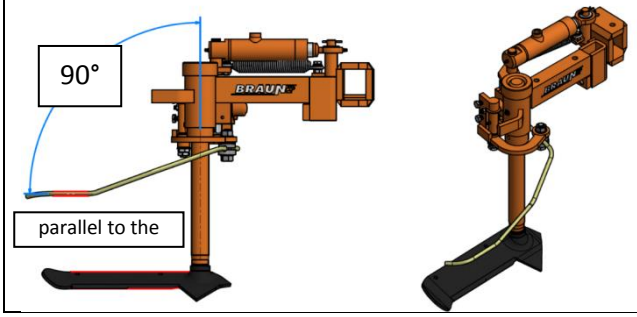
⚠ CAUTION

Slipping of the hydraulic couplings
Minor hand injuries
➔ Wear safety shoes
➔ Careful handling

Component	Assembly steps
 	1. Connect the hydraulic coupling (1) pressure hose (control block marking P) to the control unit of the tractor 2. Connect the hydraulic coupling (2) pressure hose (control block marking T) to the unpressurised return line of the tractor 3. Plug the square tube of the remote control into the requisite holder and screw it up tight 4. Connect the 12 V plug (4) to the electrical system of the tractor

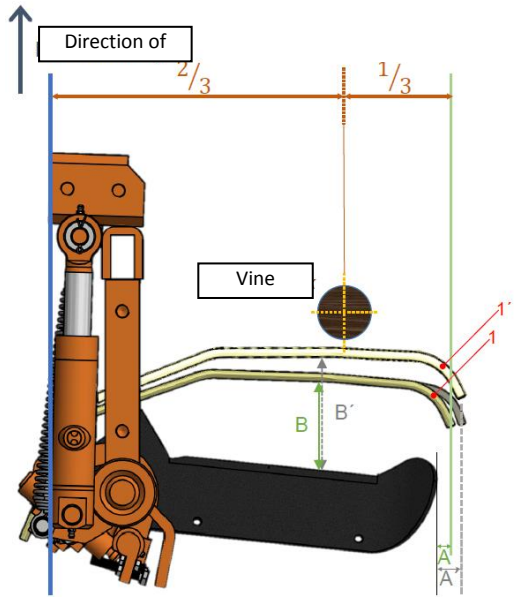
4.2 Setting up/adjusting

4.1.2 Feeler positions

Component	Adjustment steps
	1. Align the feeler so that it is parallel to the ground (red marking) Ensure a 90° angle! 2. When operating the feeler up to the détente stop of the control valve this must be flush with the front edge of the crow's foot blade

NOTE

Depending on the requirements, the feeler can be set to be minimally in front of the blade to create a buffer zone

Component	Adjustment steps
	1. **Feeler position [1]** **Vines growing straight** Push the feeler, without turning the toothed wheels, (*in the hole of the toothed disk pair*) further to the front (with respect to the plant) to create a buffer zone 2. **Feeler position [1`]** **Steep slopes** Turn the feeler at the feeler hoop to the front (*to the right, counterclockwise, to the left, clockwise*) by means of the fine teeth of the toothed disk pair to increase the distance **B`** between blade and sensor 3. **Travelling speed [B]** **Reaction time** Push the feeler further into the bolt holder to swivel more quickly under the row of vines

NOTE

Feeler position [1]

The feeling setting with parameters A and B is intended for vineyards / orchards on flat terrain. Distance A with respect to A´. is increased. This buffer zone represents an additional protective element for the plants. The LUV unit can be initiated earlier by earlier and longer contact between feeler and plant. The result is that the weeding area around the plants is reduced and the safety clearance is increased.

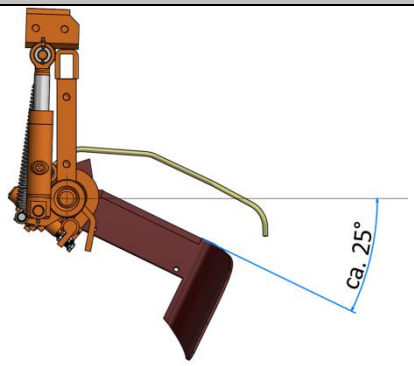
Feeler position [1`]

For steep slopes or problem areas (with plants that grow irregularly or not straight) the feeler at the feeler hoop can be turned to the front (*to the right, counter clockwise, to the left, clockwise*) by means of the fine teeth of the toothed disk pair. The distance **B`** between blade and feeler is increased as a result so that the blade swivels inwards earlier before the vine with the aid of the feeler.

Travelling speed

The higher the speed of the tractor, the further the feeler must be pushed into the bolt holder (reduction of **distance A**) so as to swivel more quickly to back under the row of vines after initiating. In the same way, when travelling slowly, the feeler must be pushed more out of the bolt holder (increase of distance **A → A´**) so that the blade does not swivel into the row of vibes too quickly.

4.1.3 Crow's foot blade

Component	Adjustment steps
	1. Rotate the crow's foot blade itself by 25° (*2 teeth*) to the rear (*away from the plant*) (The illustration shows the working position)

NOTE

The feeler of the LUV *Perfekt* with crow's foot blade is built in a similar way to that of a conventional crow's foot blade. The earth that had been heaped up between the vines can be ploughed out with the crow's foot blade.

4.2 Storage and protection between periods of use

Store the unit so that it is cool and dry. Protect it against the direct rays of the sun. Clean and lubricate the unit if it is to be stored for a longer period of time.

4.3 Storage location for the operating manual

The operating manual must be readily available to hand for the user at all times.

5 Operation

5.1 Safe operation / functioning

Do not operate the unit without a vehicle (tractor). Follow the operating manual of the relevant tractor.

⚠ DANGER

Running over persons
Death or severe injury
➔ Never allow anybody to get into or stay in the danger zone

- Ensure that nobody is in the danger zone of the unit (*see section 3.8*).
- If any persons get into the danger zone of the unit, stop the tractor at once.

5.2 Work flows

NOTE

Resistance of the soil is too great
Blade or other component can break
➔ Only let the blade into the ground while in motion

The LUV may **only** be lowered into the ground in the row while in motion. Next, turn on the oil supply of the LUV.

5.3 Operating information

5.3.1 Oil

The LUV unit and all the hydraulic components are not suitable for use with bio-oil!

5.3.2 Soil

The LUV unit can be used in all the usual types of soil, but less good working results can be expected in very stony soil, unless it is pre-treated. Here we recommend that the soil should be prepared beforehand with a suitable device. Around 5-10 cm should always be ploughed up to achieve the best results. It is easier to distinguish weeds as a result and there is less formation of islands of grass.

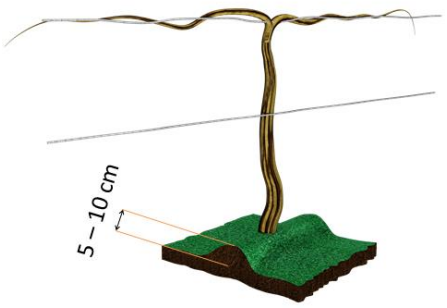


Figure 4 Ploughed-up ground

6 Servicing and cleaning / customer

6.1 Safety measures

- The operator must clean any dirt off the unit
  - Rough cleaning, grass, etc.
- The operator must lubricate the unit

⚠ CAUTION

Sharp edges
Cuts on the hands
➔ Wear protective gloves
➔ Use a suitable tool for cleaning

6.2 Servicing by specialist technicians

6.2.1 Blade bolt

Check the blade bolt:

- each time before starting work.
- before using for the first time.
- one hour after using for the first time.
- depending on the intensity of the work and the soil properties.

NOTE

Blade bolt can become loose
Toothed disk worn
➔ Tighten up blade bolt to 300 Nm

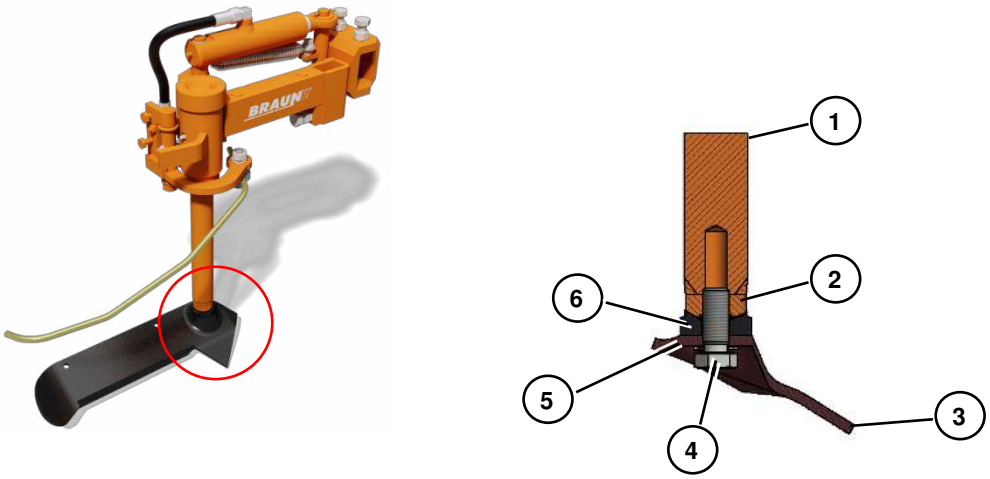


Figure 5: Blade bolt

Item	Designation	Spare part No.
1	Blade shaft	001481/0014811
2	Toothed disk to blade shaft	Upper part: 208011 Pair: 208013
3	Blades	Crow's foot blade toothed disk 350 mm: 00125151/00121511 Crow's foot blade toothed disk 350 mm: 001146/01147 Crow's foot blade toothed disk 500 mm: 001211301/001211311
4	Blade bolt	M16x50 10.9 101165021
5	Wedge locking screw	20517201
6	Toothed disk to blade shaft	208012

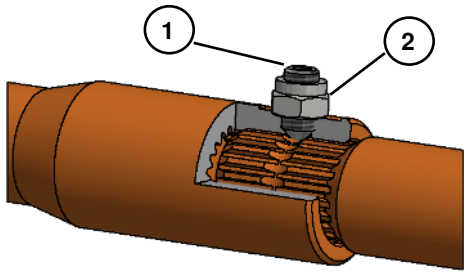
6.2.2 Threaded pin short multi-splined shaft

Checking the threaded pin:

- each time before starting work.
- before using for the first time.
- one hour after using for the first time.
- depending on the intensity of the work and the soil properties.

NOTE

Threaded pin can become loose
Multi-splined profile of the weed blade shaft is damaged
Tool can become loose
➔ Tighten up the threaded pin to 35 Nm and lock in place

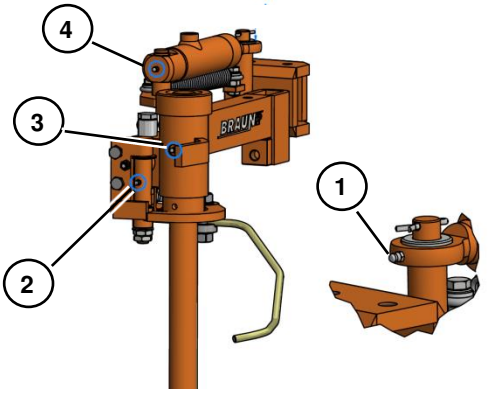
Component	Adjustment steps
	1. Position the threaded pin (1) in the groove (Ensure that the threaded pin engages into the groove) 2. Tighten up the threaded pin (1) to 35 Nm 3. Lock with the hexagonal nut (2)

Item	Designation	Spare part No.
1	Threaded pin	126122000
2	Hexagonal nut	15012101

6.2.3 Lubrication

NOTE

Components run dry
Bearing points worn
➔ Regularly ensure lubrication

Component	Lubrication steps
	1. Lubricate the following lubrication points with acid-free industrial every **50 hours of operation**: (1) Cylinder eye (2) Feeler shaft (3) Central LUV shaft (4) Cylinder housing

7 Servicing and repair / BRAUN dealer

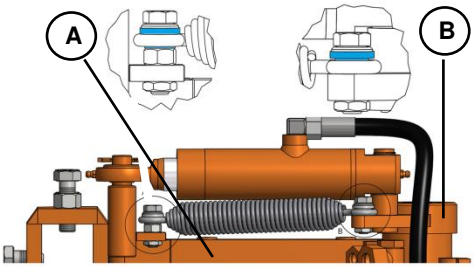
7.1 Servicing cycles for safe operation

7.1.1 LUV spring

⚠WARNING

The LUV spring is preloaded
Your lower limbs could be crushed
➔ Wear safety shoes
➔ Careful handling

Installation description

Component	Installation steps
	1. Fixed LUV middle part (**A**), increase the distance of the spring by the hexagonal nut by 8.4 mm *(hexagonal nut must sit firmly on the component)* 2. Moving LUV blade shaft (**B**), install the spring directly on the component 3. The plastic bearing (**blue**) must be able to rotate freely on the ends of the spring

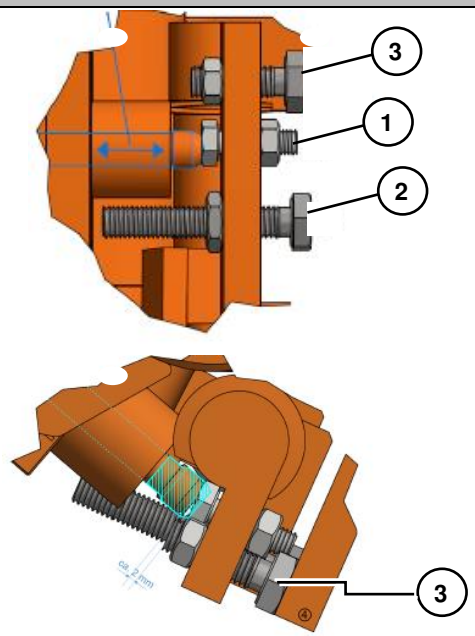
Setting the control valve of the LUV

NOTE

No circulation without pressure
Damage to the hydraulic system of the tractor
➔ Note the correct adjustment

⚠WARNING

Danger of being crushed at the adjusting screws
Your fingers could be trapped or crushed
➔ Wear safety gloves
➔ Handle with care
➔ Do not reach between moving parts

Component	Installation steps
 	1. Set a play of 1-2 mm between the valve plunger and the screw (1) so that the return flow is opened slightly when in operation. 2. Set the screw (2) so that the plunger can move max. 2-5 mm when in operation 3. Set the bolt (3) such that the valve plunger actuates around 2 mm when in operation

8 Transport and delivery

BRAUN Maschinenbau GmbH ensures the correct delivery of your unit.

8.1 Transport to the customer

8.1.1 Unpacking

⚠ CAUTION

The metal strips can spring out due to the stored energy
Cuts on the body

- **➔ Wear protective equipment**
- **➔ Keep a safe distance away - 0.5 m**

8.2 Dispose of the packaging safely

Ensure that the packaging and remnants of the items used to secure the load are disposed of in a safe and environmentally-friendly way at a recycling centre.

BRAUN Maschinenbau GmbH gives you useful tips and advice.

9 Faults and possible causes

9.1 Frequently asked questions

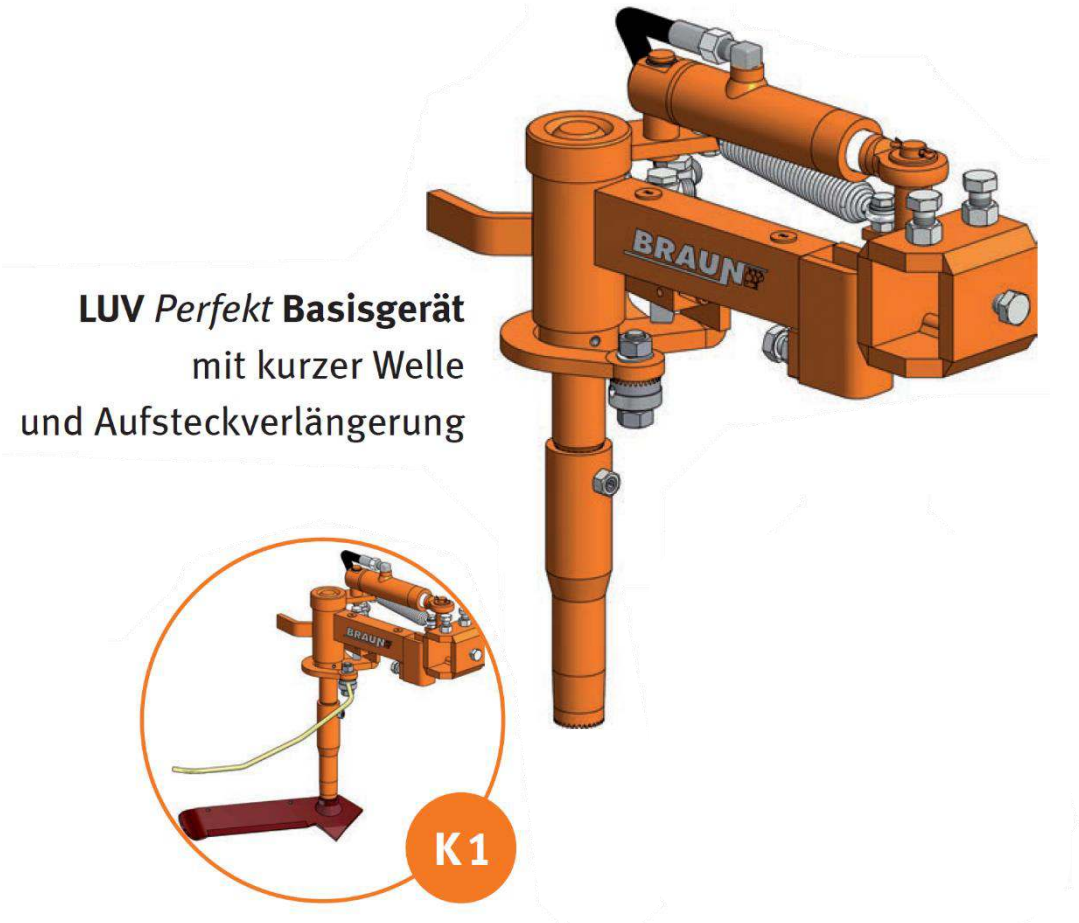
9.1.1 LUV &*Modular* system

Is it possible to fit a normal LUV unit with the long blade shaft onto an LUV in the *Modular* system with a short multi-splined shaft?

The standard LUV unit can be converted to a *Modular* LUV unit with no problems by replacing the blade shaft.

What options are there for the LUV unit using the *Modular* system?

The *Modular* system with the LUV unit as a basic component offers optimal adaptation to the requirements in the under-vine area with three combination options.



KOMBINATION 1

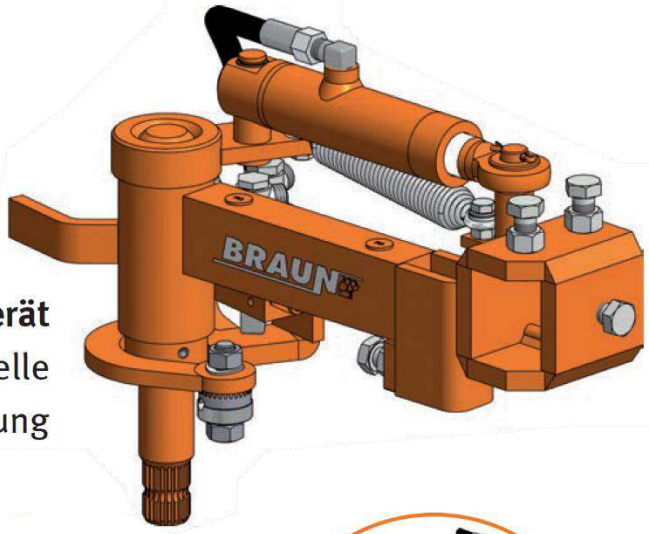
LUV *Perfekt* Basisgerät +

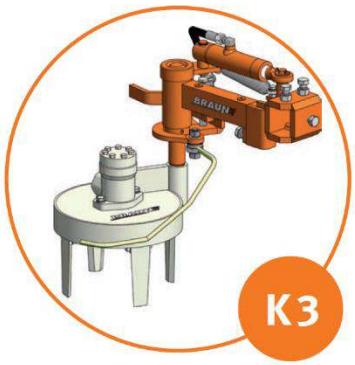
Löffelschar

- *Zum klassischen Unterfahren der Unkrautwurzeln im Unterstockbereich*
- *Zum Lockern der Erde rund um den Rebstock*

Praxisfreundlich konzipierte Aufnahme für zusätzliche Werkzeuge wie z. B. Scheibenpflug oder Stützradsech.

LUV *Perfekt* Basisgerät
mit kurzer Welle
ohne Aufsteckverlängerung

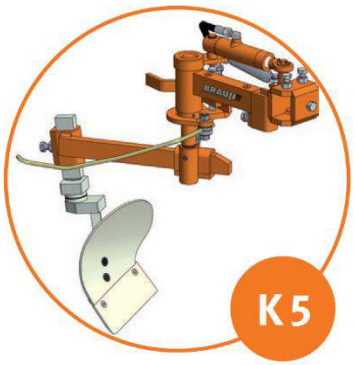




KOMBINATION 3

LUV *Perfekt* Basisgerät +
Unterstock-Kreisel

- *Zum Lockern und Krümeln des Bodens im Unterstockbereich*
- *Zur Beseitigung von hochgewachsenen Gräsern*
- *Zum Herausziehen der Unkraut wurzeln*



KOMBINATION 5

LUV *Perfekt* Basisgerät +
Abpflugvorrichtung

- *Zum Räumen angepflügter Rebreihen*

What does it cost to convert to the *Modular* LUV unit and what do the new components cost?

Your local **BRAUN dealer** will be happy to give you a custom quotation based on you and your needs.

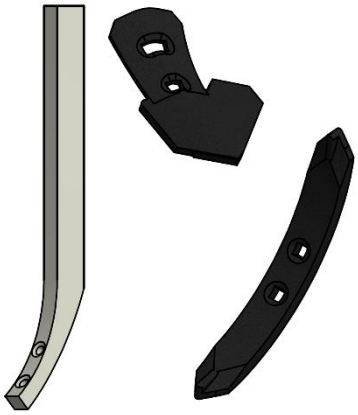
9.1.2 LUV & soil

How can the LUV be adapted to the substrate / soil?

Recommendations, experiences and tips!

For depth control (e.g. in sandy soil) the disk coulter with support wheel function (part No.: 01115/01116) is the right choice of ground preparation tool. Additional units such as the power harrow and under-vine rotary harrow in the modular system are only recommended for use in light to loose soils.

In hard or stony ground a rigid shaft (part No.: 01125) with grubber blade (part No.: 04128) or ½ duck foot (part No.: 01148) can be used as a preparatory tool in the LUV unit. The ground is torn up ahead by the use of a preparatory tool and the LUV unit can work better. At the same time, the rigid shaft protects the central blade shaft of the LUV.



9.1.3 LUV – attachment, operation and maintenance

The LUV does not actuate correctly or else too late

- **End cut-off screw**
  The upper screw (***see page 22, item number 3***) is has been turned in too far.
  ➔ no oil circulation, since the return flow line is not open
  ➔ the position of the screw is crucial for oil circulation

  How can I determine that?

  - Turn on the control valve at the tractor, observe the engine rpm!
    → Speed drop → pressure is being built up
    Solution:
    Stop the tractor engine and unscrew the upper screw
    Check the détente stop of the valve stroke limiting screw
    (***see page 22, item number 2***)!
  - Valve plunger movement 2 – 5 mm → oil circulation

- Check the **hydraulic connections** at the LUV and the tractor **(*see page 15, item number 1*)**

The return movement of the LUV unit is sluggish

- check/connect the **return flow without pressure** (***see page 15, item number 2***)

- check the **amount of oil** at the tractor
  - LUV unit installed on one side only: min. 7 $^{l}/_{min}$ max. 20 $^{l}/_{min}$
  - LUV units installed on both sides: min. 12 $^{l}/_{min}$ max. 30 $^{l}/_{min}$

The feeler of the LUV unit moves stiffly

- **Plain bearing bushes** (part No.: 402020) of the feeler shaft have been knocked out

- check the **amount of oil** at the tractor
  - LUV unit installed on one side only min. 7 $^{l}/_{min}$ max. 20 $^{l}/_{min}$
  - LUV units installed on both sides: min. 12 $^{l}/_{min}$ max. 30 $^{l}/_{min}$
- **Disk springs** (part No.: 206355183125) of the feeler shaft have been over-tensioned

The LUV unit does not swivel out fully into the working position "Under the vine"

- **Feeler bearings** (plain bearing bushes (part No.: 402020) of the feeler have become gummed up / damaged

- The position of the **end cut-off screw** (***see page 22, item number 3***) does not allow the full stroke of the cylinder

- **Oil pressure** set too low at the aluminium control block (**knurled screw**) (***see page 6, item number 2***)

The LUV unit does not swivel back fully into the starting position

- **Valve stroke limiting screw** (***see page 22, item number 2***) not set correctly

The manual initiation of the LUV unit does not function

- Check the electrical **power supply** and voltage

Classical wearing parts:

Blade and tilling tools (***see page 34***)

Designation	Spare part No.
Feeler	
350 mm Right	001045
350 mm Left	0010451
500 mm Right	0010452
500 mm Left	00104521
Plain bearing bush feeler shaft	402020
Tension spring LUV *Perfekt*	92331600
Seal set for LUV cylinder	52732802

9.2 Contact

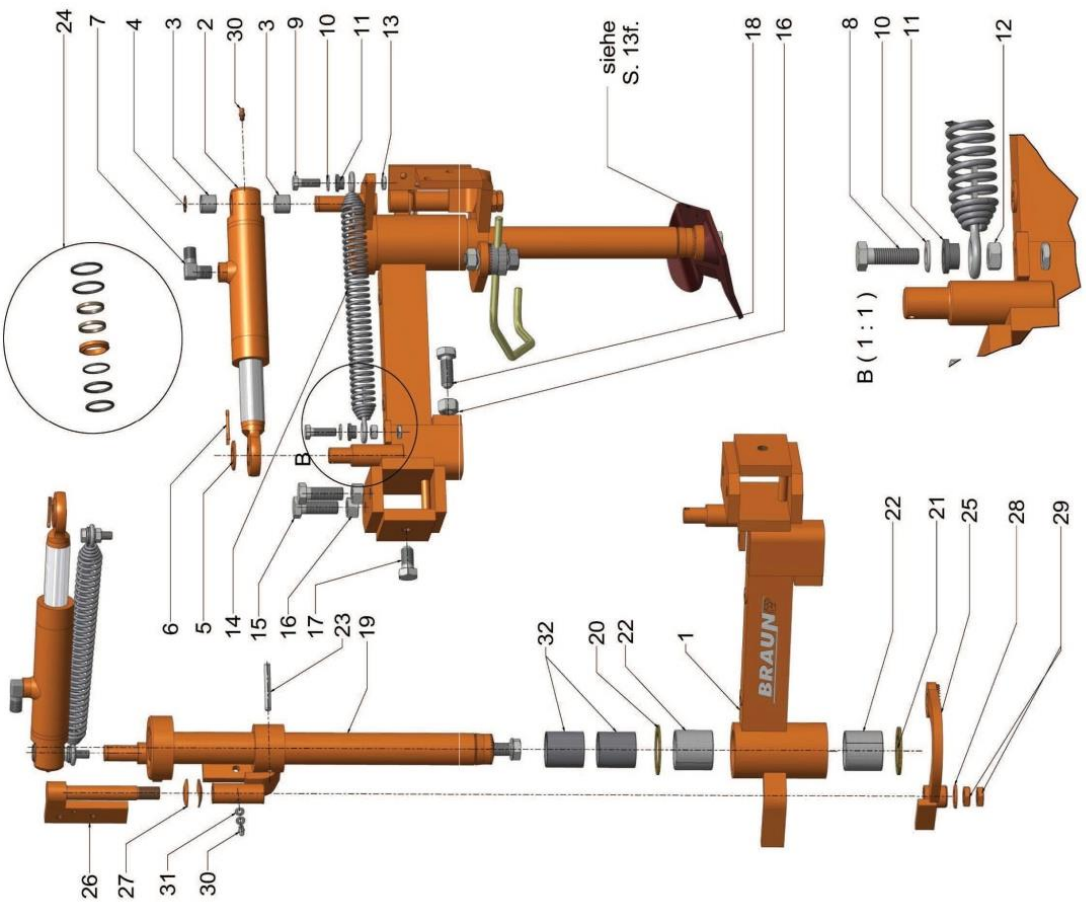
Contact your **BRAUN dealer** for advice and service.

You can get additional information at any time from **BRAUN Maschinenbau GmbH**:

BRAUN Maschinenbau GmbH
Albert-Einstein-Strasse 10
D-76829 Landau i. d. Pfalz
Germany
Telephone: + 49 (0) 63 41 / 9 50 55 00
Fax: + 49 (0) 63 41 / 9 50 55 22
E-mail: info@braun-maschinenbau.de
www.braun-maschinenbau.com

10 List of spare parts

Abb.	Artikel-Nr.	Bezeichnung	Notizen
	(01101) (01102) (01103) (01104)	LUV "Perfekt" mit 350 mm Löffelschar rechts LUV "Perfekt" mit 350 mm Löffelschar links LUV "Perfekt" mit 500 mm Löffelschar rechts LUV "Perfekt" mit 500 mm Löffelschar links	
1	001024 (00102241)	Hauptteil rechts Hauptteil links	
2	70032802	Steuerzylinder 80 mm Hub	
3	402020	Buchse 2020 DU	
4	210201	Sicherungsring A20	
5	2012101	Unterlegscheibe M20	
6	61043610	Splint 4x36	
7	50101221	Winkel-Einschraubverschraubung WEV 12L M16 x 1,5	
8	101103501	Sechskantschraube M10 x 35	
9	101103001	Sechskantschraube M10 x 30	
10	2011001	Unterlegscheibe M10	
11	45101610	Kunststoffbuchse	
12	15010101	Sechskantmutter M10	
13	15010001	Sechskantmutter M10 halbe Höhe	
14	92331600	Zugfeder LUV "Perfekt"	
15	101165001	Sechskantschraube M16 x 50	
16	15016101	Sechskantmutter M16	
17	103163001	Sechskantschraube angedreht M16 x 30	
18	103163501	Sechskantschraube angedreht M16 x 35	
19	001481 (0014811)	Scharwelle mit Zahnscheibe und Aufnahmestück rechts Scharwelle mit Zahnscheibe und Aufnahmestück links	
20	001021	Anlaufscheibe 2,3 mm	
21	001027	Anlaufscheibe 3,3 mm	
22	404550	Lagerbuchse 4550 DU	
23	66086000	Spiral-Spannstift 8 x 60	
24	52732802 (52700302)	Dichtsatz für LUV-Zylinder (32er Kolbenstange, neue Ausführung) Dichtsatz für LUV-Zylinder (30er Kolbenstange, alte Ausführung)	
25	001041 (0010411)	Tasterbügel rechts Tasterbügel links	
26	001034 (0010341)	Tasterwelle rechts Tasterwelle links	
27	206355183125	Tellerfeder für Tasterwelle	
28	2011701	Unterlegscheibe M16	
29	15016091	Sechskantmutter M16 halbe Höhe	
30	9406	Schmiernippel M6 x 1 gerade	
31	202061	Federscheibe M6	
32	4640501	Lagerbuchse, gehärtet und geschliffen	



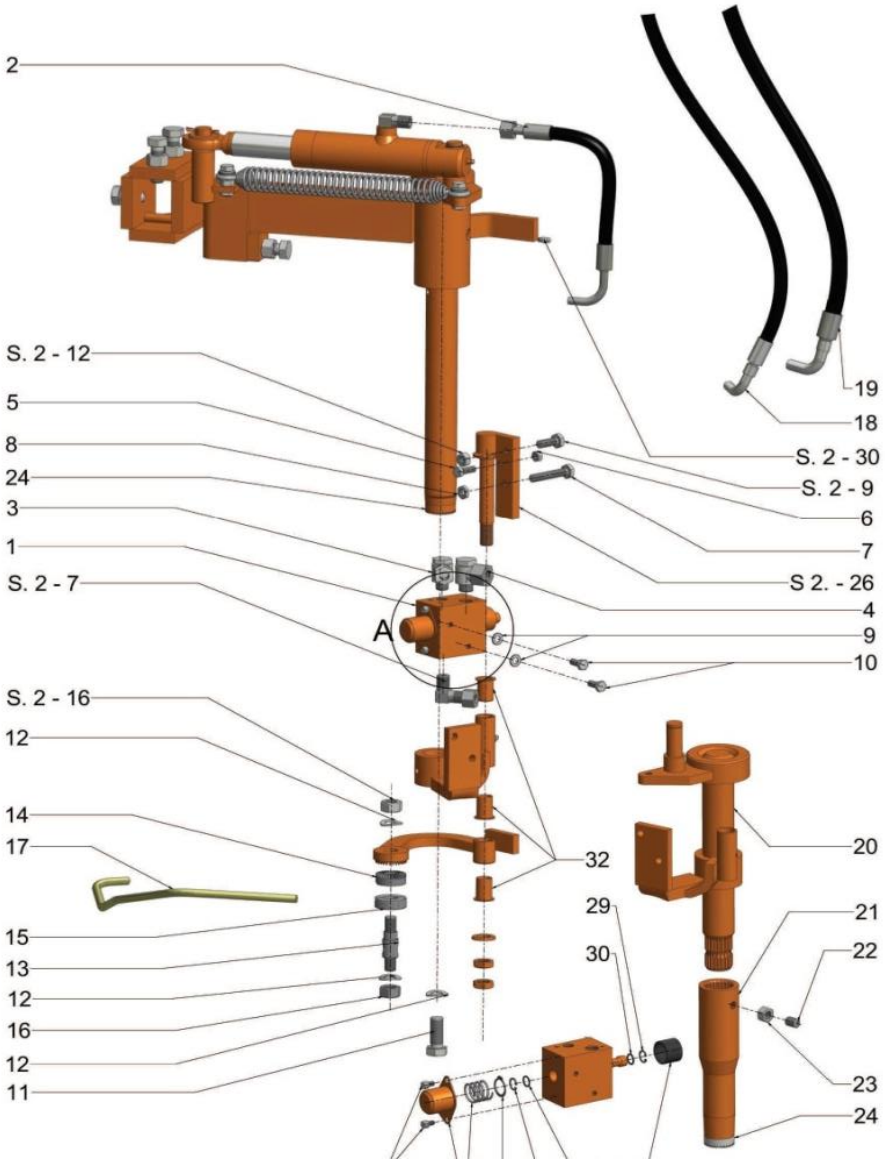


Abb.	Artikel-Nr.	Bezeichnung	Notizen
1	59306	Regelsteuerventil komplett	
2	5406012100350 (54060121003501)	Hydro-Schlauch kurz mit 90° Bogen für rechtes LUV Hydro-Schlauch kurz mit 90° Bogen für linkes LUV	
3	50201221	Winkelschwenkverschraubung SWV 12L M16 x 1,5	
4	50201531	Winkelschwenkverschraubung SWV 15L M18 x 1,5	
5	101082501	Sechskantschraube 8.8 M8 x 25	
6	15008101	Sechskantmutter 8.8 M8	
7	101106001	Sechskantschraube 8.8 M10 x 60	
8	15010091	Sechskantmutter 4.6 M10 1/2 zn	
9	20108401	Unterlegscheibe 8.8 M8	
10	101082001	Sechskantschraube 8.8 M8 x 20	
11	101165021	Sechskantschraube 10.9 M16 x 50	
12	20517201	Nordlock Scheibe ZN16	
13	001044	Tasterbolzen LUV	
14	001043	Klemmzahnscheibe zu Taster LUV	
15	0010431	Klemmscheibe zu Taster LUV	
16	15014101	Sechskantmutter M14	
17	001045 (0010451) (0010452) (00104521)	Taster rechts für 350 mm Arbeitsbreite Taster links für 350 mm Arbeitsbreite Taster rechts für 500 mm Arbeitsbreite Taster links für 500 mm Arbeitsbreite	
18 19	5406012100750 5406015130750	Hydraulikschläuche mit 90°-Bögen für Anbau an Breitenverstellung NW 10 x 750 mm (für rechtes LUV) NW 13 x 750 mm (für rechtes LUV) (je 2000 mm für linkes LUV, andere Schlauchlängen auf Anfrage)	
	(01311) (01312)	LUV "Perfekt" kurze Vielzahnkeilwelle 350 mm rechts LUV "Perfekt" kurze Vielzahnkeilwelle 350 mm links	
20	00131102 (00131202)	kurze Vielzahnkeilwelle rechts komplett mit Aufnahmestück kurze Vielzahnkeilwelle links komplett mit Aufnahmestück	
21	00131104	Scharwellenverlängerung mit Keilwellenbuchse und Zahnscheibe	
22	126122000	Gewindestift M12 x 20	
23	15012101	Sechskantmutter M12	
24	208011 (208013)	Zahnscheibe zu Scharwelle Oberteil (Anschweißteil) Paar Zahnscheiben für Scharwelle und Schar (Anschweißteile)	
25	106061000	Zylinderkopfschraube 8.8 M6 x 10	
26	5931604	Endkappe f. Regelsteuerungsblock	
27	9225431	Druckfeder f. Regelsteuerungsblock	
28	5931603	Federteller für Regelsteuerungsblock	
29	210161	Sicherungsring 16A	
30	5311220	O-Ring 12 x 2	
31	5391025	Faltenbalg	
32	451822	Bundbuchse 18x22	

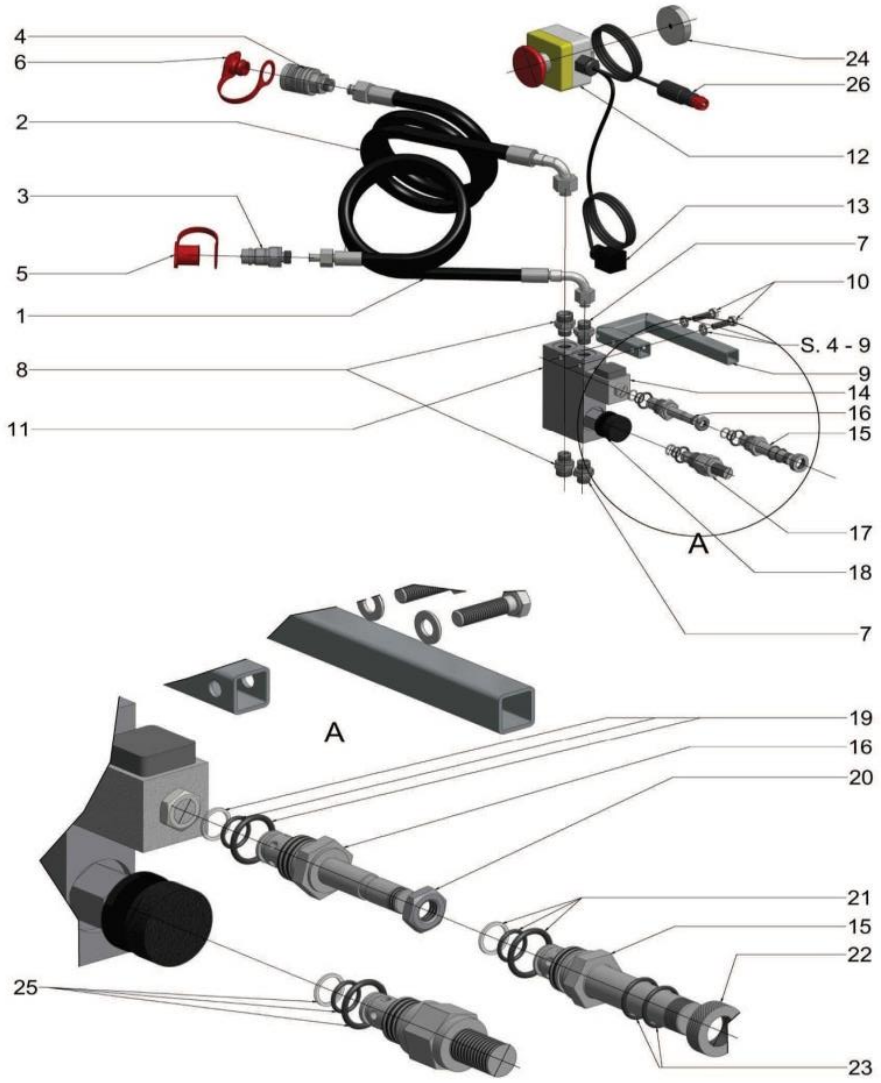


Abb.	Artikel-Nr.	Bezeichnung	Notizen
	(01105)	Fernsteuerung elektromagnetisch, einseitig, komplett	
1	5407012101150	Hydraulikschlauch mit 90°-Bogen NW 10 x 1150 mm Für Anbau an Fendt-Schlepper	
	(5407012101500)	Hydraulikschlauch mit 90°-Bogen NW 10 x 1500 mm Für Anbau an Schlepper anderer Hersteller	
2	5407015131150	Hydraulikschlauch mit 90°-Bogen NW 13 x 1150 mm Für Anbau an Fendt-Schlepper	
	(5407015131500)	Hydraulikschlauch mit 90°-Bogen NW 13 x 1500 mm Für Anbau an Schlepper anderer Hersteller	
3	510318	Hydraulikstecker M18 x 1,5	
4	510122	Hydraulikmuffe M22 x 1,5	
5	5104	Staubschutz für Hydraulikstecker	
6	5102	Staubschutz für Hydraulikmuffe	
7	50051231	Gerade-Einschraubverschraubung 12L M18 x 1,5	
8	50051531	Gerade-Einschraubverschraubung 15L M18 x 1,5	
9	001072	Halterung für Steuerblock	
10	101083001	Sechskantschraube M8 x 30 mm	
11	590107	Steuerblock für einseitige Fernsteuerung komplett	
12	84110	Schaltkasten für einseitige Fernsteuerung komplett	
13	823	Hirschmannstecker	
14	85127 (85124)	Magnetspule (Vickers) Magnetspule (Sun)	
15	59104	Magnet-Sitzventil (Sun)	
16	59107	Magnet-Sitzventil (Vickers)	
17	59207 (59204)	Druckbegrenzungsventil (Vickers) Druckbegrenzungsventil (Sun)	
18	5921701 (5921401)	Handrad mit Kontermutter (Vickers) Handrad mit Kontermutter (Sun)	
19	5217	Dichtsatz für Magnetsitzventil (Vickers)	
20	auf Anfrage	Sechskantmutter für Magnetsitzventil (Vickers)	
21	5214	Dichtsatz für Magnetsitzventil (Sun)	
22	1531609110	Rändelmutter (Sun)	
23	5311620	O-Ring 16x2 (Sun)	
24	89001	Magnetplatte	
25	5227 (5224)	Dichtsatz für Druckbegrenzungsventil (Vickers) Dichtsatz für Druckbegrenzungsventil (Sun)	
26	8220	E-Stecker	

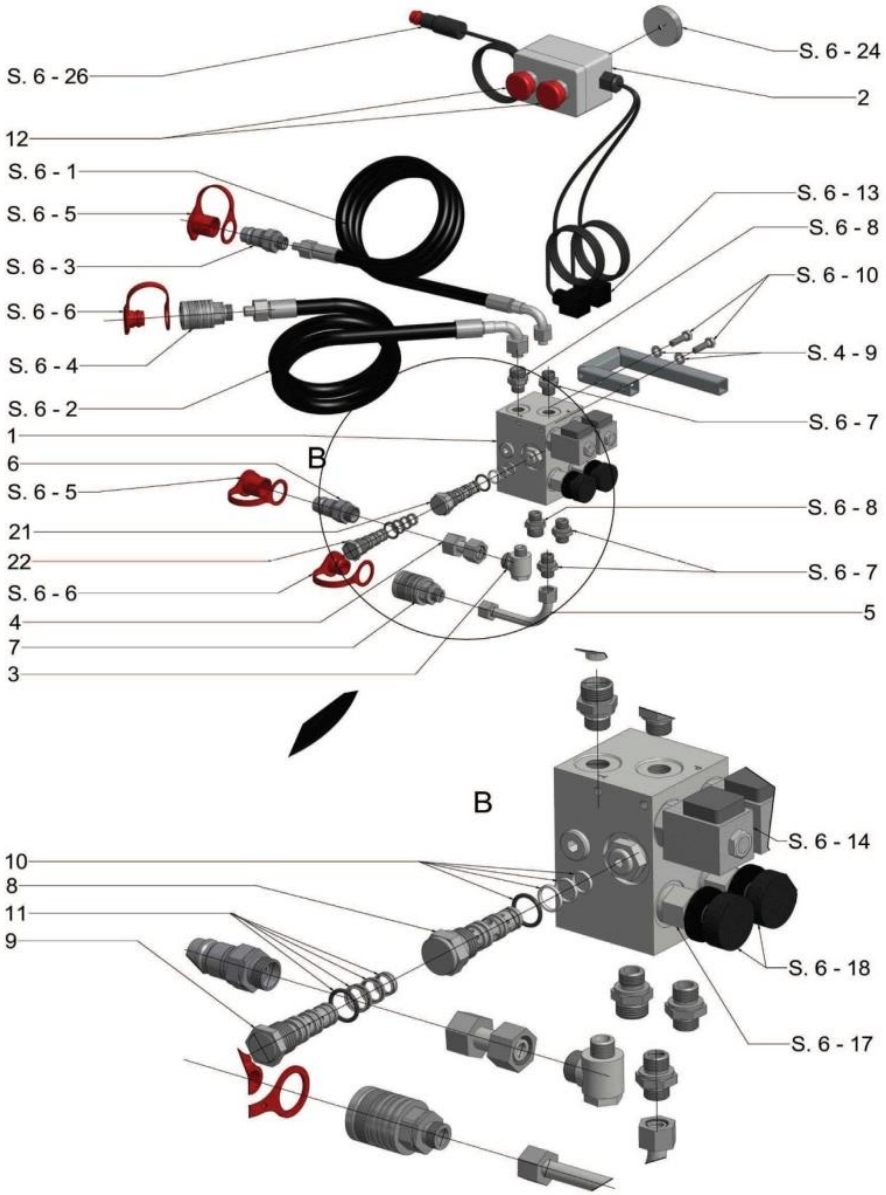


Abb.	Artikel-Nr.	Bezeichnung	Notizen
	(01106)	Fernsteuerung elektromagnetisch, beidseitig, komplett	
1	590207	Steuerblock für beidseitige Fernsteuerung komplett	
2	84120	Schaltkasten fur beidseitige Fernsteuerung, komplett	
3	50201231	Winkel-Schwenkverschraubung 12L M18 x 1,5	
4	001103	Rohrstück mit Überwurfmuttern	
5	001104	90°-Krümmer mit Überwurfmuttern	
6	510322	Hydraulikstecker M22 x 1,5	
7	510118	Hydraulikmuffe M18 x 1,5	
8	5944	Stromteiler	
9	5947	Stromteiler	
10	5244	Dichtungssatz für Stromteiler	
11	5247	Dichtungssatz für Stromteiler	
12	8311	Pilzdruckknopf	

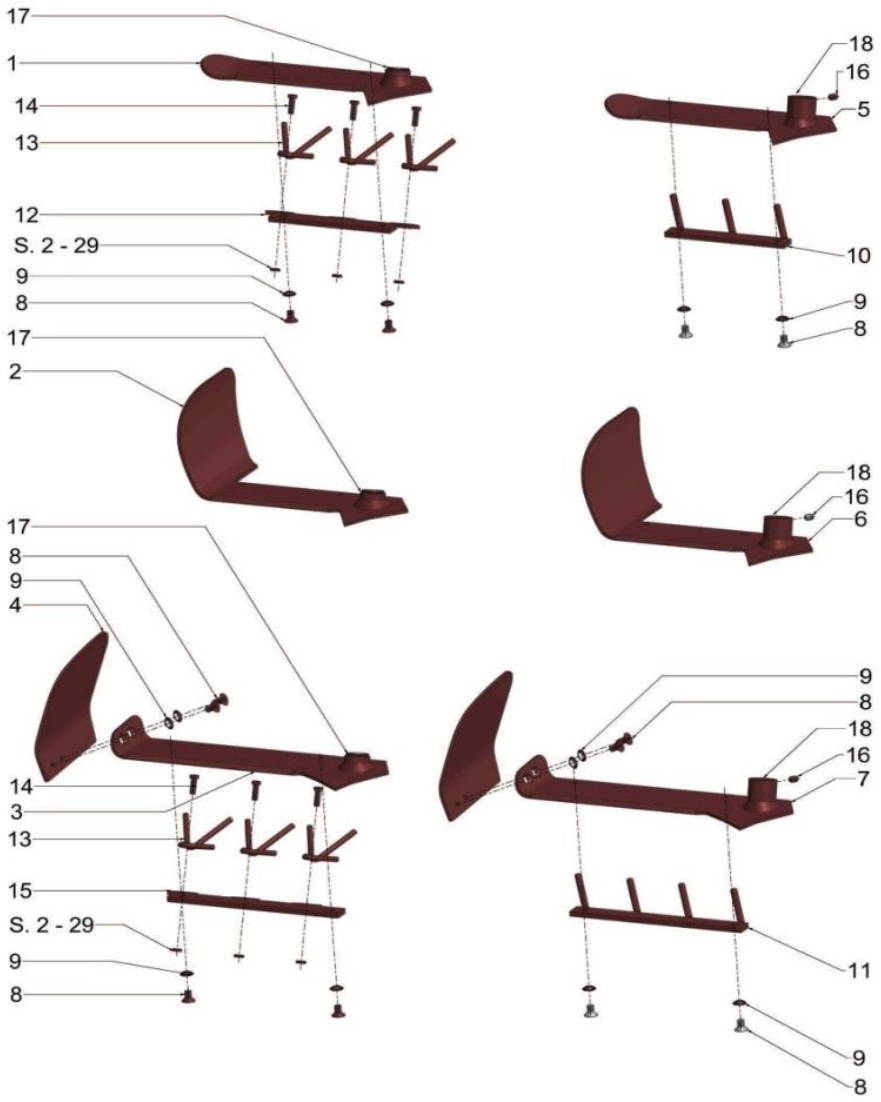
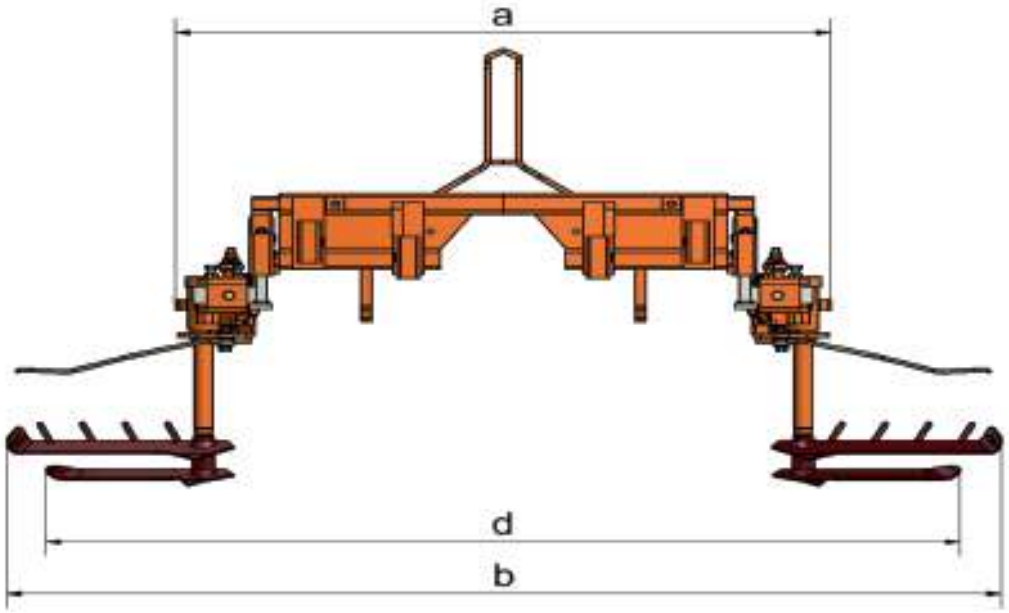
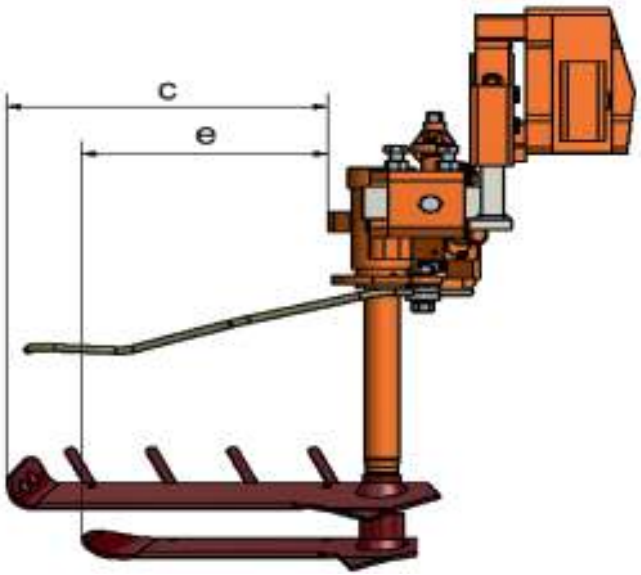


Abb.	Artikel-Nr.	Bezeichnung	Notizen
1	0012151 (00121511)	Löffelschar / ZS 350 mm, rechts Löffelschar / ZS 350 mm, links	
2	01146 (01147)	Räumlöffelschar / ZS 350 mm, rechts Räumlöffelschar / ZS 350 mm, links	
3	001211301 (001211311)	Löffelschar / ZS 500 mm m. Bohrung für Räumflügel, rechts Löffelschar / ZS 500 mm m. Bohrung für Räumflügel, links	
4	001208 (0012081)	Räumflügel rechts Räumflügel links	
5	0012212 (00122121)	Löffelschar / KB 350 mm, rechts Löffelschar / KB 350 mm, links	
6	0012162 (00121621)	Räumlöffelschar / KB 350 mm, rechts Räumlöffelschar / KB 350 mm, links	
7	001218401 (001218411)	Löffelschar / KB 500 mm m. Bohrung für Räumflügel, rechts Löffelschar / KB 500 mm m. Bohrung für Räumflügel, links	
8	139122000	Senkkopfschraube Innensechskant M12 x 20	
9	20512121	Zahnscheibe V-Form M12	
10	001220 (0012201)	Striegel für Löffelschar 350 mm rechts Striegel für Löffelschar 350 mm links	
11	001217 (0012171)	Striegel für Löffelschar 500 mm rechts Striegel für Löffelschar 500 mm links	
	(01150)	Vibrastriegel für Löffelschar 350 mm	
12	001214	Halterung für Vibrastriegel 350 mm	
13	001212	Sporn für Vibrastriegel	
14	109102500	Zylinderkopfschraube Innensechskant / niedriger Kopf M10 x 25	
	(01167) (011671)	Vibrastriegel für Löffelschar 500 mm rechts Vibrastriegel für Löffelschar 500 mm links	
15	0012141	Halterung für Vibrastriegel 500 mm	
16	126122500	Gewindestift Innensechskant M12 x25	
17	208012 (208013)	Zahnscheibe zu Scharwelle Unterteil (Anschweißteil) Paar Zahnscheiben für Scharwelle und Schar (Anschweißteile)	
18	990001	Profilkeilbuchse zu Vielzahnkeilwelle (Anschweißteil)	

Anbau außen

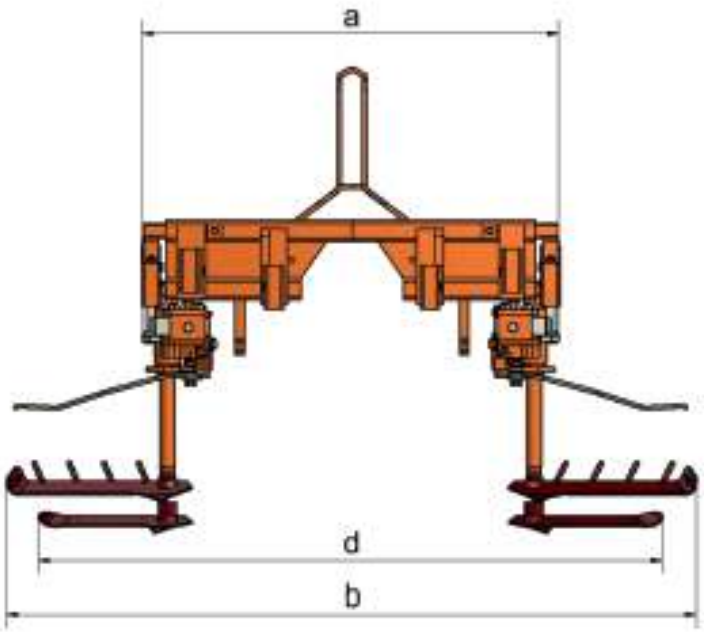
		LUV 500mm		LUV 350mm	
Arbeitsbreite	Rahmenbreite inkl. LUV	Gesamtbreite	Aufbau LUV	Gesamtbreite	Aufbau LUV
	a	b	c	d	e
800 mm	1165 mm	1740 mm	380 mm	1925 mm	290 mm
900 mm	1265 mm	1840 mm	380 mm	2025 mm	290 mm
1000 mm	1365 mm	1940 mm	380 mm	2125 mm	290 mm
1100 mm	1465 mm	2040 mm	380 mm	2225 mm	290 mm
1250 mm	1615 mm	2190 mm	380 mm	2375 mm	290 mm
1500 mm	1865 mm	2440 mm	380 mm	2625 mm	290 mm
1700 mm	2065 mm	2640 mm	380 mm	2825 mm	290 mm
2200 mm	2565 mm	3140 mm	380 mm	3325 mm	290 mm
2700 mm	3065 mm	3640 mm	380 mm	3825 mm	290 mm

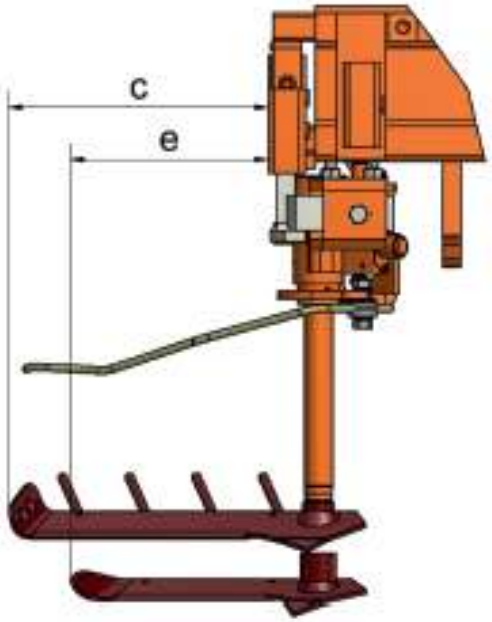




Anbau innen

		LUV 500mm		LUV 350mm	
Arbeitsbreite	Rahmenbreite inkl. LUV	Gesamtbreite	Aufbau LUV	Gesamtbreite	Aufbau LUV
	a	b	c	d	e
800 mm	835 mm	1575 mm	370 mm	1395 mm	280 mm
900 mm	935 mm	1675 mm	370 mm	1495 mm	280 mm
1000 mm	1035 mm	1775 mm	370 mm	1595 mm	280 mm
1100 mm	1135 mm	1875 mm	370 mm	1695 mm	280 mm
1250 mm	1285 mm	2025 mm	370 mm	1845 mm	280 mm
1500 mm	1535 mm	2275 mm	370 mm	2095 mm	280 mm
1700 mm	1735 mm	2475 mm	370 mm	2295 mm	280 mm
2200 mm	2235 mm	2975 mm	370 mm	2795 mm	280 mm
2700 mm	2735 mm	3475 mm	370 mm	3295 mm	280 mm





12 Decommissioning, dismantling, disposal

Once the unit has been decommissioned it should be broken down into its constituent parts and disposed off according to the type of raw material. Ensure that recyclable materials (steel, aluminium, etc.) are separated from one another at the recycler.

Hazardous and environmentally-hazardous substances (such as oils, greases, etc.) must be disposed of separately in the appropriate containers.

Alternatively, the unit can be sent back to your dealer who will carry out the disposal in the correct way and according to the regulations.