

The SIP logo consists of the letters 'SIP' in a bold, white, sans-serif font, with a small 'TM' trademark symbol to the upper right. It is set against a solid red rectangular background.

**SIP**<sup>TM</sup>

# HAY HARVESTING

Robust hay harvesting

[www.sip.si](http://www.sip.si)



# SALES PROGRAM

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# WE ARE EXPERTS IN **MOWING** AND **HAY HARVESTING**

SIP is the biggest producer of agricultural machinery in Slovenia based in Šempeter v Savinjski dolini. We draw on our experience and long tradition to produce robust and quality machines.



Our core program consists of:  
**mowers,**  
**tedders**  
**and rakes.**

Our **vision** is to produce quality machines for mowing and hay harvesting, which meet the demands of all our end users.

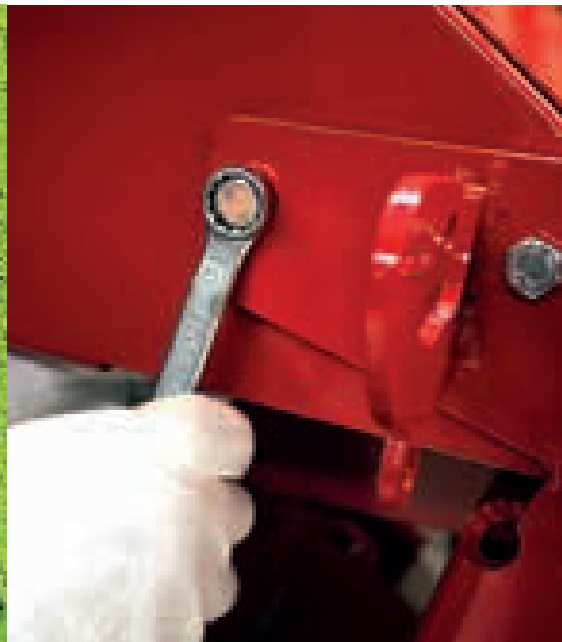
SIP machinery is distinguished by its simplicity of use and unique robust construction which offers excellent durability.

Our hay harvesting program is intended for two main types of **users**:

- **professional contractors** and farmers who work on large expanses of land and need one hundred percent efficiency
- **farmers** and land owners with small pieces of hard to reach mountainous land, who need small and light weight machinery.

We export more than 80 percent of our products to 55 countries worldwide.

# WE HAVE ACCUMULATED MORE THAN **60 YEARS** OF EXPERIENCE AND KNOWLEDGE IN TO OUR MACHINES.



By choosing our **machines** you opt for a robust, simple to use, tried and tested solution, which is appropriate for both flatlands and mountainous terrain.

With the intent of developing the most reliable and durable machines, we contacted our end users and let them test our machines in all kinds of terrain. With the feedback from our clients we were able to implement this knowledge in to producing new and simple to use solutions.

The result is a palate of excellent machines renowned for their reliability and adaptability to all kinds of terrain from wide open fields to mountainous terrain.

We only use parts from the most recognised manufacturers because we insist that the most crucial components must work flawlessly.

We have a quick reaction time and are open to all kinds of suggestions. We provide you with spare parts in the shortest possible time or repair the problem and in this way do not impede your work.

## COMPUTER AIDED DESIGN

Computer aided design and development are crucial for the manufacturing of high-end machines. A thorough analysis of the production process is important to ensure that all components fulfil the highest standard of quality.

## PROFESSIONAL APPROACH

In finding the right solutions we cooperate with many world famous manufacturers.

## FIELD TESTS

We leave nothing to chance. Before our machine is launched on to the market a few of our most demanding clients test them out on their farms.

Our users are also our R&D team. Their personal input is combined with the knowledge and experience of the whole company to make improvements where it is necessary.

If you wish to take part in our research process you can sign up to our testing program.

# OUR PHILOSOPHY: **ROBUST**

In this word you can find three **attributes** that define SIP machinery:

## **DURABILITY**

Our machines are extremely durable. They are appropriate for all types of terrain even the harshest conditions.

## **EFFICIENCY**

Our machines are simple to use so you can shorten the preparation period and prolong your working time. With our machines you can do more in less time.

## **USEFULNESS**

Easy maneuvering, very adaptable, simple transport and storage are just some of the benefits that help you concentrate more on your work.



# DISC MOWERS

Daily work in the grass fields requires reliable machinery. Our **robust** and **durable** disc mowers with an outstanding hydraulic ground pressure relief system ensure a precise cut and clean high quality forage. Perfect stability, quick adaptability and easy maintenance are their main attributes.



# BOLTED CUTTER BAR

Sophisticated and enhanced

While mowing it is important to get the cut grass behind the cutter bar as fast as possible so the forage flow is not obstructed. For this reason we have designed the cutter bar with specially shaped discs which ensure a **fast and efficient forage flow** over the cutter bar even on sloped terrain.

**1**

**The specially shaped disc,** made of wear resistant steel 5 mm thick, ensures excellent forage flow.

**2**

The cutter bar is protected against an overload by the DDSS system (disc drive safety system). The system comprises of an **intermedia flange** with four shear pins, which break in case of an overload to prevent damage to the rest of the pinions. This design allows the pins to be changed quickly and easily so as little time as possible is wasted.

**3**

The cutter bar is additionally **reinforced by a profile at the back** of the cutter bar, which gives the cutter bar better rigidity and better forage flow.

**4**

The QCS (quick change system) comes as standard.

**5**

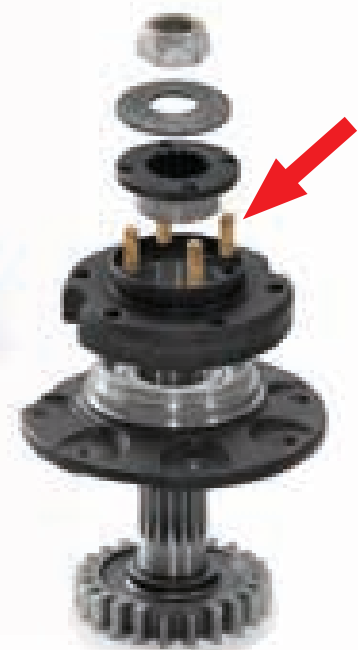
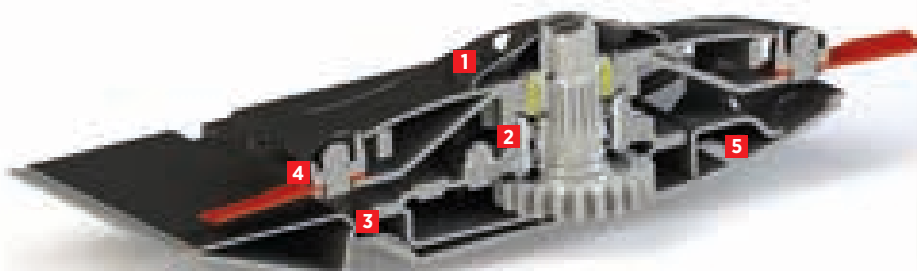
**Perfectly shaped and additionally protected skids** made of wear resistant boron steel ensure a long lifespan and excellent protection both of the cutter bar and the discs.



QCS (quick change system)



Bolted cutter bar



DDSS - disc drive safety system

# SIDE MOWER

## SILVERCUT DISC S

New robust linkage

CSS (collision safety system)

Hydraulic float (hydraulic ground pressure relief system)

Central pivoting cutter bar

DDSS (disc drive safety system)



### STANDARD EQUIPMENT

Attachment	3-point linkage Cat. II & III
Drive	Angle drive, PTO shaft and double universal joint
Collision safety system	Mechanical
Ground pressure relief	Hydraulic
PTO shaft	Friction safety clutch and free wheel clutch
Hydraulic connection	1 x one-way hydraulic connection (1EW) 1 x two-way hydraulic connection (1DW)
Other standard equipment	QCS (quick change system), spare blades, QCS tool, shear safety pins, foldable protective curtains against flying debris (CE Norm)

TECHNICAL DATA	SILVERCUT DISC 300 S	SILVERCUT DISC 340 S	SILVERCUT DISC 380 S
Working width (m)	2,90	3,25	3,67
Weight (kg)	790	850	930
Transport width (m)	1,86	1,86	1,86
Transport height (m)	3,39	3,65	4,00
PTO rotation speed (rpm)	1000	1000	1000
Disc rotation speed (rpm)	3000	3000	3000
Number of discs	7	8	9
Number of blades	14	16	18
Blade dimensions (mm)	110x48x4	110x48x4	110x48x4
Required tractor power (HP/kW)	46/61	54/72	62/82
Max. working speed (km/h)	18	18	18
Capacity (ha/h)	3,5	4,0	4,5
Cutting height (mm)	40 - 70	40 - 70	40 - 70
Swath width (m)	1,40 - 1,80	1,80 - 2,20	2,20 - 2,60
Disc rotation	paired	paired	paired
Assembly time (h)	3	3	3

Direct drive to the first disc via a PTO shaft, angle drive and universal joint.



CSS (collision safety system)



In the transport position, the mower is tilted 120°. In this position can be stored on a surface area of just 3,2m<sup>2</sup>.

**SILVERCUT DISC S** is a side disc mower with a three point linkage which adapts perfectly to the terrain and allows even and fast mowing on larger surfaces.

The main construction of the mower gives it its rigidity and optimum power transfer allowing you to utilize all of its potentials.

While using SILVERCUT DISC S you will have complete control of the machine and an excellent overview of the working area. By using SILVERCUT DISC S the job will be done faster and more efficiently.

# SIDE MOWER WITH CONDITIONER

## SILVERCUT DISC S FC/RC

New robust linkage

CSS (collision safety system)

Hydraulic float (hydraulic ground pressure relief system)

Central pivoting cutter bar

Finger or rubber roller conditioner



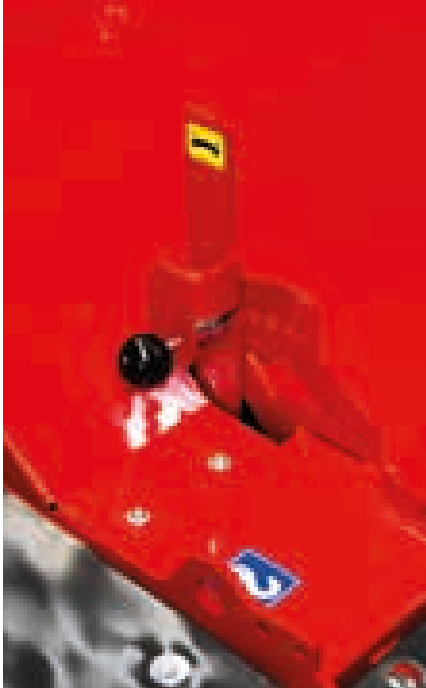
### STANDARD EQUIPMENT

Attachment	3-point linkage Cat. II & III
Drive	Angle drive, PTO shaft and double universal joint
Collision safety system	Mechanical
Ground pressure relief	Hydraulic
PTO shaft	Friction safety clutch and free wheel clutch
Hydraulic connection	1 x one-way hydraulic connection (1EW) 1 x two-way hydraulic connection (1DW)
Other standard equipment	QCS (quick change system), spare blades, QCS tool, shear safety pins, foldable protective curtains against flying debris (CE Norm)

### TECHNICAL DATA

	SILVERCUT DISC 300 S FC	SILVERCUT DISC 340 S FC	SILVERCUT DISC 270 S RC	SILVERCUT DISC 300 S RC
Working width (m)	2,90	3,25	2,47	2,90
Weight (kg)	1060	1180	1000	1160
Transport width (m)	1,86	1,86	1,86	1,86
Transport height (m)	3,39	3,65	3,00	3,39
PTO rotation speed (rpm)	1000	1000	1000	1000
Disc rotation speed (rpm)	3000	3000	3000	3000
Number of discs	7	8	6	7
Number of blades	14	16	12	14
Blade dimensions (mm)	110x48x4	110x48x4	110x48x4	110x48x4
Required tractor power (kW/HP)	60/80	68/90	52/70	60/80
Max. working speed (km/h)	18	18	18	18
Capacity (ha/h)	3,5	4,0	3,0	3,5
Cutting height (mm)	40 - 70	40 - 70	40-70	40-70
Swath width (m)	1,40 - 2,80	1,60-3,00	1,00 -2,40	1,40 - 2,80
Disc rotation	paired	paired	paired	paired
Conditioner	finger	finger	rubber roller	rubber roller
Assembly time (h)	3	3	3	3

Adjustable intensity of conditioning



Finger conditioner (FC) with plastic fingers and the possibility of setting the intensity of conditioning offer optimum conditioning.



Rubber roller (RC) offers even conditioning.



The conditioning pressure can be continuously adjusted.



Hydraulic float (hydraulic ground pressure relief system)

**SILVERCUT DISC S FC/RC** side mower with finger or rubber roller conditioner offer faster drying of forage and therefore greater efficiency.

The adjustable flaps allow the forage to be spread according to the conditions and terrain. The hydraulic ground pressure relief system can be adjusted while the mower is in operation.

Conditioners are an essential piece of equipment for every modern farmer. Proper conditioning increases the quality of forage because it breaks up bigger pieces of forage. This is why the forage is easier to spread out and dries better, which prevents the rotting of forage.

# FRONT MOWER

## SILVERCUT DISC F

The drive is protected by a robust housing

A robust linkage allows the mower to be as close to the tractor as possible

QCS (quick change system)

DUAL SPRING (ground pressure relief system)



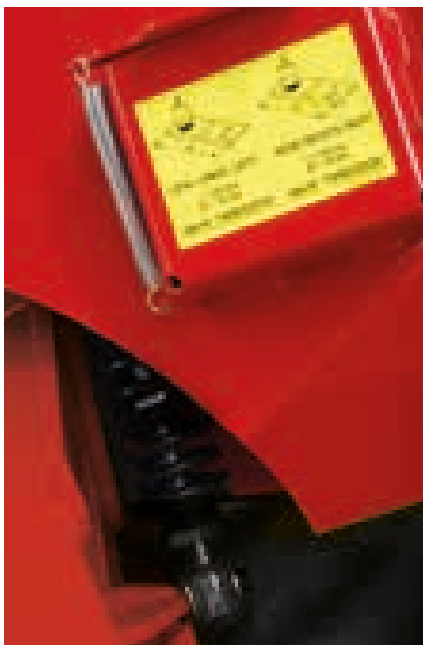
### STANDARD EQUIPMENT

Attachment	Quick A frame linkage Cat. II
Drive	Angle drive, PTO shaft and double universal joint
Ground pressure relief	Mechanical
PTO shaft	Friction safety clutch and free wheel clutch
Other standard equipment	QCS (quick change system), spare blades, QCS tool, shear safety pins, foldable protective curtains against flying debris (CE Norm)

TECHNICAL DATA	SILVERCUT DISC 270 F ALP	SILVERCUT DISC 300 F	SILVERCUT DISC 300 F ALP
Working width (m)	2,62	2,97	3,03
Weight (kg)	530	580	590
Transport width (m)	2,70	3,00	3,05
PTO rotation speed (rpm)	1000	1000	1000
Disc rotation speed (rpm)	3000	3000	3000
Number of discs	6	7	7
Number of blades	12	14	14
Blade dimensions (mm)	110x48x4	110x48x4	110x48x4
Required tractor power (kW/HP)	38/51	46/61	46/61
Max. working speed (km/h)	18	18	18
Capacity (ha/h)	3,0	3,5	3,6
Cutting height (mm)	40 - 70	40 - 70	40 - 70
Swath width (m)	1,00	1,40	1,20-1,40
Disc rotation	towards centre	combined	towards centre
Assembly time (h)	1	1	1



A mechanical ground pressure relief system (DUAL SPRING) with two springs ensures efficient ground contoured following and even pressure of the cutter bar onto the ground.



The leveling mechanism of the linkage ensure that the cutter bar is in balance +/- 9°.



Quick A frame linkage Cat. II  
(SILVERCUT DISC 270 F ALP, 300 F)

The centre of gravity of the front mower **SILVERCUT DISC F** is as close to the tractor as possible. That is why the mower is in balance and this allows easy and safe manoeuvring even on sloped terrain.

The front mower SILVERCUT DISC F offers great visibility and excellent control while mowing. The mower is very responsive and is very accurate when mowing near the edge, fence or other obstacles.

Because of its robust and thought out design the mower SILVERCUT DISC F offers long term and reliable use.

# FRONT MOWER WITH CONDITIONER

## SILVERCUT DISC F FC/RC

Transmission of power to the conditioner by a special toothed belt made of Kevlar (Gates)

Transmission of power through the PTO shaft and gear box directly to the first disc

Centre of gravity close to tractor

Hydraulic float  
(hydraulic ground pressure relief system)



### STANDARD EQUIPMENT

Attachment	Quick A frame linkage Cat. II
Drive	Angle drive, PTO shaft and double universal joint
Ground pressure relief	Hydraulic
PTO shaft	Friction safety clutch and free wheel clutch
Hydraulic connection	1 x one-way hydraulic connection (1EW)
Other standard equipment	QCS (quick change system), spare blades, QCS tool, shear safety pins, foldable protective curtains against flying debris (CE Norm)

### TECHNICAL DATA

	SILVERCUT DISC 300 F FC	SILVERCUT DISC 340 F FC	SILVERCUT DISC 300 F RC
Working width (m)	2,90	3,25	2,90
Weight (kg)	870	990	930
Transport width (m)	2,96	3,25	2,96
PTO rotation speed (rpm)	1000	1000	1000
Disc rotation speed (rpm)	3000	3000	3000
Number of discs	7	8	7
Number of blades	14	16	14
Blade dimensions (mm)	110x48x4	110x48x4	110x48x4
Required tractor power (kW/HP)	60/80	70/95	60/80
Max. working speed (km/h)	18	18	18
Capacity (ha/h)	3,5	4,0	3,5
Cutting height (mm)	40-70	40-70	40-70
Swath width (m)	1,40	1,50	1,40
Disc rotation	paired	paired	paired
Conditioner	finger	finger	rubber roller
Assembly time (h)	2	2	2

A robust linkage with a hydraulic ground pressure relief system (Hydraulic float) offers excellent responsiveness to changes in terrain.



The side guards can be folded up during transport by a special mechanism thus providing a narrower transport width.

The intensity of conditioning with the finger conditioner (FC) can be set to provide the best forage. Plastic fingers offer the optimum degree of conditioning.



The rubber roller conditioner (RC) offers even conditioning of the forage. The intensity of conditioning is continuously adjustable.

**SILVERCUT DISC F FC/RC** is very manoeuvrable and accurate. Because of its conditioning abilities it produces high quality forage.

The lower pushing force on the cutter bar allows the mower to respond better to changes in terrain. This offers an even and clean cut and does not damage the grass.

While mowing the mower adapts to terrain  $\pm 9^\circ$ . In the transport position the mower is lifted high of the ground, which is also useful when cleaning the machine. Beside a great overview of the working area while mowing it also offers an excellent ground pressure relief system and protection of all vital parts of the machine.

# TRAILED MOWER

## SILVERCUT DISC T FC/RC

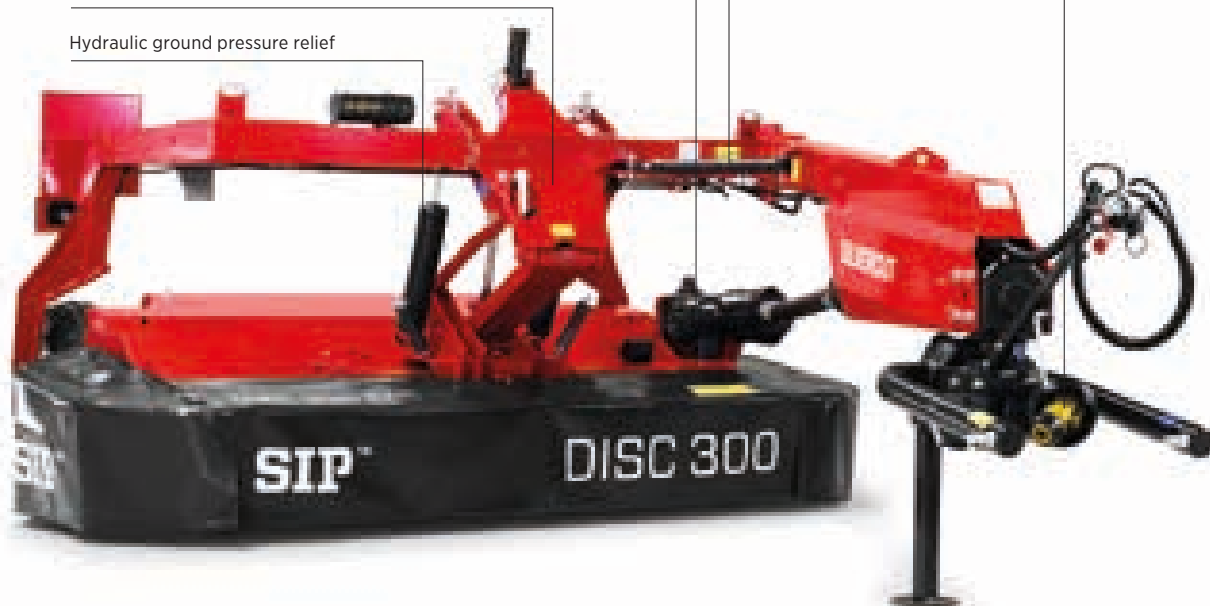
### Drive

Hydraulically controlled drawbar

Transmission of power to the conditioner  
by a special toothed belt made of Kevlar (Gates)

Parallelogram frame

Hydraulic ground pressure relief



### STANDARD EQUIPMENT

Attachment	Lower arms of 2-point linkage Cat. II & III
Drive	Angle drive, PTO shaft and double universal joint
Collision safety system	Parallelogram frame
Ground pressure relief	Hydraulic
PTO shaft	Friction safety and free wheel clutch
Hydraulic connection	1 x one-way hydraulic connection (1EW) 1 x two-way hydraulic connection (1DW)
Other standard equipment	QCS (quick change system), spare blades, QCS tool, shear safety pins, foldable protective curtains against flying debris (CE Norm)

### TECHNICAL DATA

### SILVERCUT DISC 300 T FC    SILVERCUT DISC 300 T RC

Working width (m)	2,9	2,9
Weight (kg)	1880	1880
Transport width (m)	3	3
Transport height (m)	2	2
Number of discs	7	7
Number of blades	14	14
Blade dimensions (mm)	110x48x4	110x48x4
Disc rotation speed (rpm)	3000	3000
PTO rotation speed (rpm)	1000	1000
Capacity (ha/h)	3,5	3,5
Required tractor power (kW/HP)	60/80	60/80
Max. working speed (km/h)	18	18
Cutting height (mm)	40-70	40-70
Disc rotation	paired	paired
Conditioner	finger	rubber roller
Safety clutch (Nm)	1500	1500
Assembly time (h)	2	2

The cutting height can be continuously adjusted on the parallelogram frame.



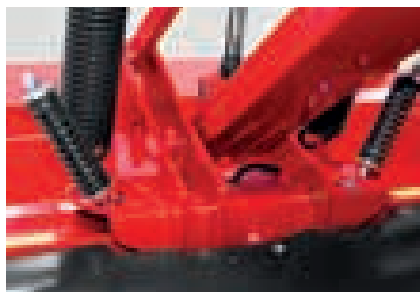
The main gear box on the linkage can be rotated by 90°



Special gear box on the cutter bar.



The rubber roller conditioner (RC) offers even conditioning of the forage. The intensity of conditioning is continuously adjustable.



The parallelogram frame offers excellent ground contour following.



The wheels of the frame are positioned close to the cutter bar.

**SILVERCUT DISC T FC/RC** trailed mower is a well-balanced mower that offers excellent ground contour following thereby providing better quality forage. Because the mower is trailed it offers vast energy savings, lower consumption of fuel and less wear to the machine itself.

The easy to use welded construction offers excellent manoeuvrability because the mower can turn at an angle of over 90°.

Both the rubber roller and finger conditioner ensure an even conditioning of the forage along the whole length of the mower. This speeds up the process of drying the forage which saves up to 10 % of the energy used.



The intensity of conditioning with the finger conditioner (FC) can be set to provide the best forage. Plastic fingers offer the optimum degree of conditioning.

# MOWER COMBINATION

## SILVERCUT DISC C

Robust linkage with support legs allows safe storage

CSS (collision safety system)

Hydraulic float (hydraulic ground pressure relief system)

Central pivoting cutter bar

QCS (quick change system)



### STANDARD EQUIPMENT

Attachment	3-point linkage Cat. II & III
Drive	Angle drive, PTO shaft and double universal joint
Collision safety system	Mechanical
Ground pressure relief	Hydraulic
Hydraulic connection	1 x one-way hydraulic connection (1EW) 2 x two-way hydraulic connection (2DW)
PTO shaft	Friction safety clutch and free wheel clutch
Other standard equipment	QCS (quick change system), spare blades, QCS tool, shear safety pins, foldable protective curtains against flying debris (CE Norm)

TECHNICAL DATA	SILVERCUT DISC 900 C	SILVERCUT DISC 900 C FC	SILVERCUT DISC 800 C RC
Working width (m)	8,69	8,69	8,00
Weight (kg)	1760	2320	2320
Transport width (m)	2,86	2,86	286
Transport height (m)	3,65	3,65	3,50
PTO rotation speed (rpm)	1000	1000	1000
Disc rotation speed (rpm)	3000	3000	3000
Number of discs	16	16	14
Number of blades	32	32	28
Blade dimensions (mm)	110 x 48 x 4	110x48x4	110x48x4
Required tractor power (kW/HP)	90/120	140/190	118/157
Max. working speed (km/h)	18	18	18
Capacity (ha/h)	12	12	10
Cutting height (mm)	40-70	40-70	40-70
Swath width (m)	1,80-2,20	1,60-3,00	1,40-2,80
Disc rotation	paired	paired	paired
Conditioner	-	finger	rubber roller
Assembly time (h)	8	8	8



The power to the mower is transferred by a PTO shaft with a friction clutch. Transmission of power to the conditioner is by a special toothed belt made of Kevlar (Gates) which does not need tensioning.

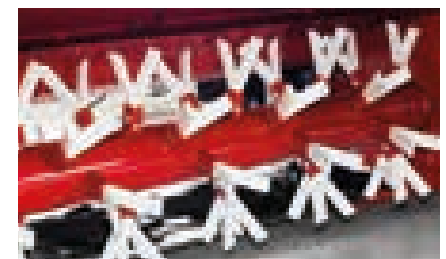


Adjustable support legs allow the machine to be stored in the transport position

Hydraulic ground pressure relief system



The rubber roller conditioner (RC) offers even conditioning of the forage. The intensity of conditioning is continuously adjustable.



The intensity of conditioning with the finger conditioner (FC) can be set to provide the best forage. Plastic fingers offer the best optimum of conditioning.

The **SILVERCUT DISC C** mower combination has only one goal: ensure the highest possible quality in the shortest possible time.

By combining the mowers the output is significantly higher. That is why the mower combination is intended for large scale farming and professional contractors.

If we take into account that the mower combination is capable of mowing up to 15 ha/h, we truly believe that this machine will satisfy the needs of even the most demanding users.

# SIDE MOWER

## DISC S ALP

DUAL SPRING (ground pressure relief system)

Robust linkage

CSS (collision safety system)

Hydraulic cylinder for lifting the mower

Large opening protective curtains for easy access to the cutter bar



### STANDARD EQUIPMENT

Attachment	3- point linkage Cat. I & II
Drive	Belt drive
Collision safety system	Mechanical
Ground pressure relief	Mechanical
Hydraulic connection	1 x one-way hydraulic connection (1EW)
PTO shaft	Free wheel clutch
Other standard equipment	QCS (quick change system), spare blades, QCS tool, shear safety pins, foldable protective curtains against flying debris (CE Norm)

TECHNICAL DATA	DISC 220 S ALP	DISC 260 S ALP	DISC 300 S ALP
Working width (m)	2,16	2,6	3,0
Weight (kg)	455	490	580
Transport width (m)	1,7	1,7	1,46
Transport height (m)	2,7	3,1	3,8
Number of discs	5	6	7
Number of blades	10	12	14
Blade dimensions (mm)	110x48x4	110x48x4	110x48x4
Disc rotation speed (rpm)	3185	3185	3185
PTO rotation speed (rpm)	540	540	540
Capacity (ha/h)	2,5	3	3,5
Required tractor power (kW/HP)	28/39	38/50	45/60
Max. working speed (km/h)	18	18	18
Cutting height (mm)	35-60	35-60	35-60
Swath width (m)	0,8-1,1	1,1-1,6	-
Disc rotation	towards centre	towards centre	towards centre
Assembly time (h)	1	1	1



Tensioning spring of the belt drive



Robust and lightweight three point linkage



DUAL SPRING (ground pressure relief system), the first spring (1) reliefs the inner heel of the cutter bar and the adjustable second spring (2) reliefs the outer end of the cutter bar.



Drive of the cutter bar

**DISC S ALP** side mower ensures excellent mowing on extremely sloped terrain.

The light yet robust construction and professional cutter bar ensure excellent ground contour following in the range of  $-30^\circ$  do  $+45^\circ$ . In the event of a collision the mower is well protected.

Despite working on extremely sloped terrain discs rotating towards the centre enable a narrower swath, clean cut and less damage to the turf.

The main attributes of DISC S ALP mower are easy handling, easy transport and easy maintenance.

# FRONT MOWER

## OPTICUT DISC F ALP

Direct drive to the first disc via a PTO shaft, angle drive and universal joint

Central lubrication system

Three point linkage Cat. II & III with CSS (collision safety system)

Hydraulic shift of mower (optional)



### STANDARD EQUIPMENT

Attachment	Front 3-point linkage Cat. I & II
Drive	Angle drive, PTO shaft and double universal joint
Collision safety system	Mechanical
Ground pressure relief	Mechanical
PTO shaft	Friction safety clutch and free wheel clutch
Other standard equipment	Central lubrication system, QCS (quick change system), spare blades, QCS tool, shear safety pins, foldable protective curtains against flying debris (CE Norm)

### TECHNICAL DATA

	OPTICUT DISC 220 F ALP	OPTICUT DISC 260 F ALP	OPTICUT DISC 300 F ALP
Working width (m)	2,18	2,61	3
Weight (kg)	360	400	470
Transport width (m)	2,10	2,53	3
PTO rotation speed (rpm)	540/1000	540/1000	540/1000
Disc rotation speed (rpm)	3000	3000	3000
Number of discs	5	6	7
Number of blades	10	12	14
Blade dimensions (mm)	110x48x4	110x48x4	110x48x4
Required tractor power (kW/HP)	30/40	38/51	46/61
Max. working speed (km/h)	18	18	18
Capacity (ha/h)	2,20	2,60	3,6
Cutting height (mm)	40-70	40-70	40-70
Swath width (m)	0,70- 1,20	0,80-1,50	0,9 -1,7
Disc rotation	towards centre	towards centre	towards centre
Safety clutch (Nm)	900	900	900
Assembly time (h)	1	1	1

Central lubrication system



Universal three point linkage for different types of mountain tractors

CSS (collision safety system)



Transmission of power through the PTO shaft and angle gear directly to the first disc

**OPTICUT DISC F ALP** front mower is lightweight yet robust. It is perfectly adapted for work on sloped and uneven terrain and even on mountainous terrain.

Low weight does not affect the performance of OPTICUT DISC F ALP. The centre of gravity is as close to the tractor as possible which ensures enough pressure on the mowing surface and allows for a clean cut. That is why even the most demanding terrain will not present a problem.

Discs rotating towards the centre ensure optimum mowing and a narrow swath when mowing downhill.

All the attributes for mowing on sloped terrain also apply for mowing on flatlands that is why OPTICUT DISC F ALP mower fulfills the needs for mowing on mountainous and flatland fields.

# DRUM MOWERS

Long term use and easy maintenance are the main attributes of the drum mowers. Because of their excellent ground pressure relief system the drum mowers offer a **clean cut** and uniform swath width. That is why they perform perfectly even in the harshest conditions.

# SIDE MOWER

## ROTO DRUM S

Robust linkage Cat. I & II

CSS (collision safety system)

Mechanical ground pressure relief system

V - belt drive

Hydraulic lift



### STANDARD EQUIPMENT

Attachment	3-point linkage Cat. I & II
Transport	Back rotation / side lift
Drive	Belt drive
Collision safety system	Mechanical
Ground pressure relief	Mechanical
PTO shaft	Free wheel clutch
Other standard equipment	QCS (quick change system), spare blades, QCS tool, foldable protective curtains against flying debris (CE Norm)

TECHNICAL DATA	ROTO DRUM 165 S	ROTO DRUM 185 S	ROTO DRUM 220 S
Working width (m)	1,65	1,85	2,20
Weight (kg)	392	425	490
Transport width (m))	1,34	1,46	1,48
Transport height (m)	2,85	3,30	3,95
PTO rotation speed (rpm)	540	540	540
Drum rotation speed (rpm)	1950	1725	1530
Number of drums	2	2	2
Number of blades	6	6	6
Number of belts	3	3	4
Capacity (ha/h)	2,00	2,20	2,50
Required tractor power (kW/HP)	22/30	26/35	32/44
Assembly time	3	3	3



# ROTARY TEDDERS

The quality of forage depends on two factors: precision of working and drying time. That is why tedders are a significant part of the hay harvesting process.

Up to date technology, simple use and manoeuvrability are essential for an even and optimum spread of forage. With tedding the forage will dry quicker and more evenly. Just right.

# ROTARY TEDDERS

## ROTOR AND ALPINE ROTOR

The sophisticated design of the rotors prevents damage to the turf and ensures clean forage. Simple folding of the rotors eases the transport process and spring tines made of high quality steel ensure a long lifespan.

## ROTOR

**1**

Spring tine arms made of round tubes

**2**

Bottom ring for rotor reinforcement

**3**

Protective plastic plug at the ends of the arms to prevent the loss of spring tines in case of damage

**4**

Robust mounting of spring tines around the arm

**5**

Main rotor plate made of 4mm thick steel

**6**

Robust cast iron housing; gears are submerged in oil bath for quieter and smoother running,

**7**

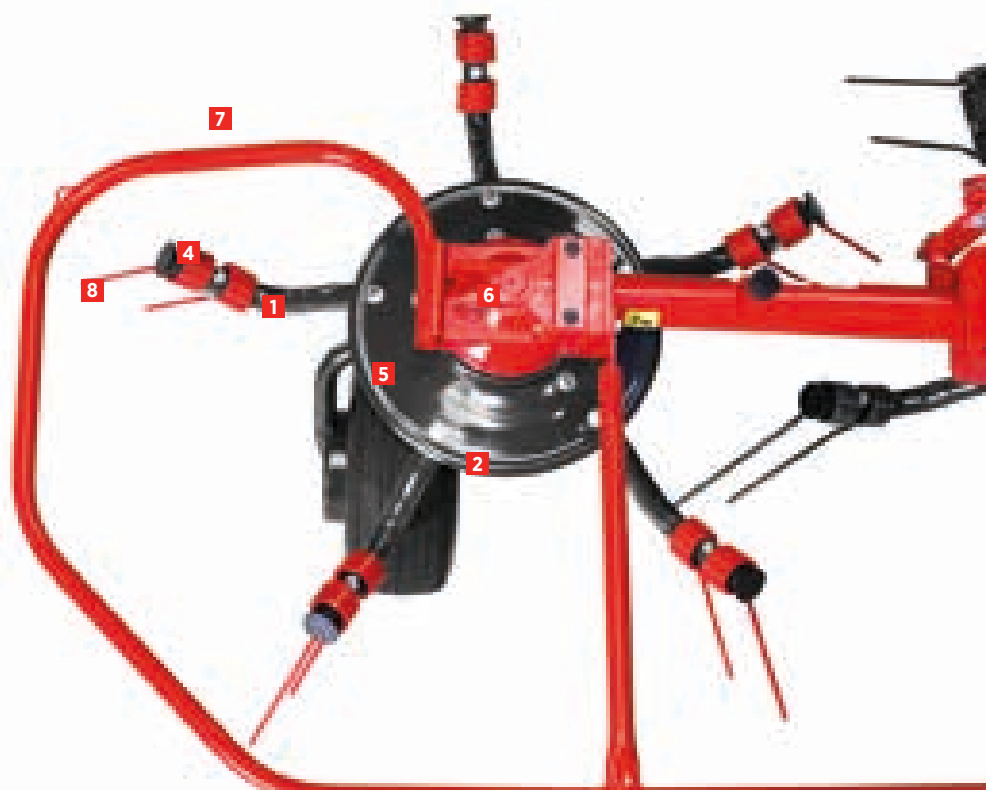
Small rotor diameter for even spreading of forage

**8**

Different shank lengths of spring tines for a clean pick up



Spring tine arm with protection against loss of broken spring tines





## ALPINE ROTOR

**1**

Solid spring tine holders made of flat steel (HARDOX) for reliable operation even with larger amounts of forage.

**2**

Main rotor plate with larger diameter made of 3mm thick steel.

**3**

Robust gear housing made of nodular cast iron

**4**

Small rotor diameter for evenly spreading of forage.

**5**

Innovative mounting of spring tines, which simultaneously protects against loss of broken spring tines

**6**

Different shank lengths of spring tines for a clean pick up

**7**

Solid gear pairs with gear module of 4 and correction ensure greater load bearing capacities.



Spring tine arm with protection against loss of broken spring tines



# ROTARY TEDDERS

## SPIDER 455|4, 555|4

Adjustable multi-height and spreading angle of tedding; wheel shift for tedding near the edge of fields

Rotation of outer rotors in the transport position

Hydraulic lift into the transport position

Pivoting linkage



### STANDARD EQUIPMENT

Attachment	3-point pivoting linkage Cat. II
Transport	Hydraulic folding and mechanical rotation of external rotors for a narrower transport width
Rotors	Spring tine arms made of high-quality round tubes
Spring tines	Spring tines made of high-quality spring steel with different shank lengths
PTO shaft	PTO shaft with safety clutch
Hydraulic connection	1 x one-way hydraulic connection (1EW)
Other standard equipment	Road safety equipment (SPIDER 555 4)

### TECHNICAL DATA

	SPIDER 455 4	SPIDER 555 4
Number of rotors	4	4
Rotor diameter (m)	1,60	1,70
No. of spring tines per rotor	6	6
Angle adjustment	14-18°	14-18°
Capacity (ha/h)	4,5	5,5
Working width (m)	4,50	5,30
Transport width (m)	2,60	2,95
Transport height (m)	2,40	2,70
Weight (kg)	425	475
Required tractor power (kW/HP)	15/20	15/20
PTO rotation speed (rpm)	450-540	450-540
Rotor rotation speed (rpm)	175	175
Tyre size	15x6.00-6	15x6.00-6
Safety clutch (Nm)	900	900
Assembly time (h)	4	4

System for rotation of external rotors for a narrower transport width



Wheels with multi-level height and spreading angle adjustment. For tedding near the edge of the fields it is possible to shift the wheels.



A pivoting linkage allows the machine to follow the tractor easier. In the transport position a special mechanism locks the pivoting linkage perpendicular to the tractor.

**SPIDER 455|4 and 555|4** are a versatile tedders that offer stability and adaptability.

This professional four rotor tedder despite its robust construction offers excellent flexibility and precision tedding on sloped terrain and near the edge of fields.

# ROTARY TEDDERS

## SPIDER 615|6 /HS, 685|6 /HS

Wheels with multi-level height and spreading angle adjustment

Hydraulic folding of rotors

Pivoting linkage

Double universal joint



### STANDARD EQUIPMENT

Attachment	3-point pivoting linkage Cat. II
Transport	Hydraulic folding of rotors
Rotors	Spring tine arms made of high-quality round tubes
Spring tines	Spring tines made of high-quality spring steel with different shank lengths
PTO shaft	PTO shaft with safety clutch
Hydraulic connection	1 x one-way hydraulic connection (1EW), 1 x one-way hydraulic connection for central wheel shift (1EW) (HS version)
Other standard equipment	Road safety equipment, stabilizers

### TECHNICAL DATA

	SPIDER 615 6/HS	SPIDER 685 6/HS
Number of rotors	6	6
Rotor diameter (m)	1,30	1,50
No. of spring tines per rotor	5	6
Angle adjustment	16-20 °	14-18 °
Capacity (ha/h)	6,2	7
Working width (m)	6,00	6,80
Transport width (m)	2,80	2,95
Transport height (m)	3,00	3,60
Machine width (m)	6,30	7,30
Weight (kg)	740	790
Required tractor power (kW/HP)	33/45	44/60
PTO rotation speed (rpm)	450-540	450-540
Rotor rotation speed (rpm)	175	175
Tyre size	16x6,50-8	16x6,50-8
Safety clutch (Nm)	900	1020
Assembly time (h)	5	5

Protection against loss of broken spring tines



Wheels with multi-level height and spreading angle adjustment. For tedding near the edge of the fields it is possible to shift the wheels.



All HS versions are equipped with a central wheel shift system

**SPIDER 615|6 /HS** and **685|6 /HS** are highly productive tedders for heavier grass types.

Despite its large size and working width the tedder is extremely manoeuvrable and easy to use because most of the settings can be done from the tractor cabin.

SPIDER 615|6 /HS and 685|6 /HS are both very adaptable machines: multi-level height adjustment, wheel shift for tedding near the edge of fields and spreading angle adjustment.

# ROTARY TEDDERS

## SPIDER 815|8, 815|8 HS

Robust gearbox

Hydraulic folding of rotors

Mechanism for folding of outer rotors

Pivoting linkage

Digit drive



### STANDARD EQUIPMENT

Attachment	3-point pivoting linkage Cat. II, Lower arms of 2-point linkage Cat. I & II (trailed version)
Transport	Hydraulic folding of rotors
Rotors	Spring tine arms made of high-quality round tubes
Spring tines	Spring tines made of high-quality spring steel with different shank lengths
PTO shaft	PTO shaft with safety clutch
Hydraulic connection	1 x one-way hydraulic connection (1EW), 1 x one-way hydraulic connection for central wheel shift (1EW) (HS version)
Other standard equipment	Road safety equipment, stabilizers

### TECHNICAL DATA

	SPIDER 815 8	SPIDER 815 8 HS
Number of rotors	8	8
Rotor diameter (m)	1,30	1,30
No. of spring tines per rotor	5	5
Angle adjustment	16-20°	16-20°
Capacity (ha/h)	9,5	9,5
Working width (m)	7,85	7,85
Machine width (m)	8,17	8,17
Transport width (m)	2,95	2,95
Transport height (m)	2,95	2,95
Weight (kg)	1085	1400
Required tractor power (kW/HP)	60/80	60/80
PTO rotation speed (rpm)	450-540	450-540
Rotor rotation speed (rpm)	201	201
Tyre size of transport undercarriage	16x6.50-8	16x6.50-8
Safety clutch (Nm)	1020	1020
Assembly time (h)	4	4



Trailed version of tedder with transport undercarriage



Digit drive



Wheels with multi-level height and spreading angle adjustment. For tedding near the edge of the fields it is possible to shift the wheels.



All HS versions are equipped with a central wheel shift system

The above average **SPIDER 815|8** and **815|8 HS** are intended for users who like to think big.

The professional eight rotor tedder offers controlled and stable work on large surfaces.

The sophisticated design ensures excellent mobility and adaptation to your needs: from adjustable height to adjustable spreading angles.

Its qualities can also be seen in the transport position. The tedder quickly folds in to the transport position which meets all road regulations and has good road handling capabilities.

# ROTARY TEDDERS

## SPIDER 1100|10

Adjustable draw bar height

Robust transport frame

Patented rotor angle adjustment

Linked protection rails giving the machine better rigidity

Small rotor diameter



### STANDARD EQUIPMENT

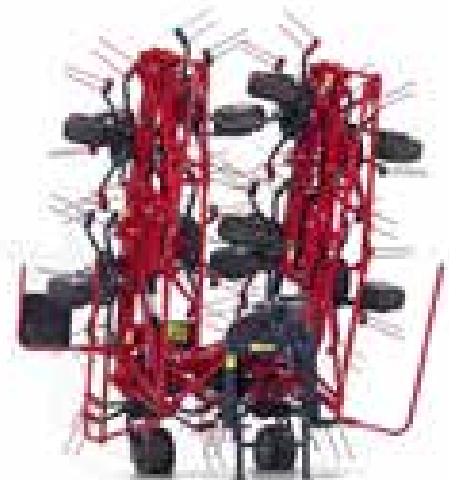
Attachment	3-point pivoting linkage Cat. II and III., drawbar with transport frame (*trailed version)
Transport	Hydraulic folding on to transport frame
Rotors	Spring tine arms made of high-quality round tubes
Spring tines	Double spring tines made of high-quality spring steel with different shank lengths
PTO shaft	Wide-angle PTO shaft with safety clutch
Hydraulic connection	1 x one-way hydraulic connection (1EW), 1 x two-way hydraulic connection (1DW)
Other standard equipment	Road safety and lighting equipment

### TECHNICAL DATA

### SPIDER 1100|10

Number of rotors	10
Rotor diameter (m)	1,45
No. of spring tines per rotor	6
Capacity (ha/h)	11
Angle adjustment	15-21°
Working width (m)	10,80
Transport length (m)	2,20/5,10*
Transport width (m)	2,95/3,00*
Transport height (m)	3,70/2,40*
Weight (kg)	1780
Required tractor power (kW/HP)	74/100
PTO rotation speed (rpm)	450-540
Rotor rotation speed (rpm)	185
Tyre size of transport frame	16x6.50 -8 6 PR 18x8.50 -8 6 PR
Tyre size of the undercarriage	- /11.5/80 x 15*
Safety clutch (Nm)	1300
Assembly time (h)	3

\* pivoting linkage/trailed version



In the transport position the machine is stable and compact. (SPIDER 1100|10)





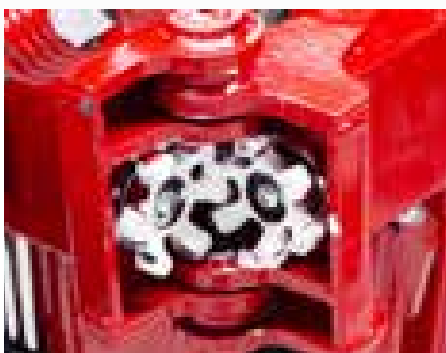
Version with 3-point linkage



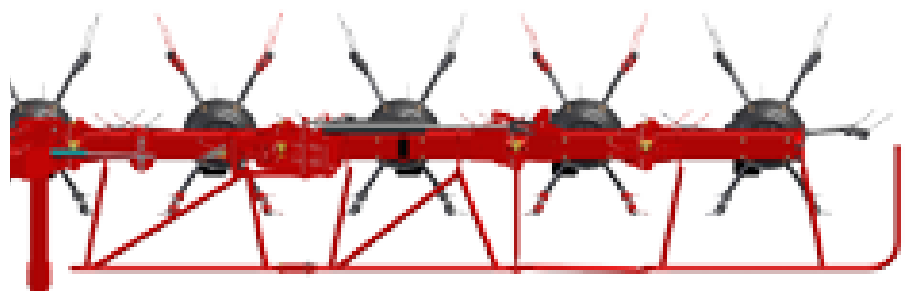
\* trailed version



3-point pivoting linkage



The digit drive offers smooth and quiet running and a higher load bearing capacity.



The linked safety railings give the machine additional stability and rigidity.

Rotary tedder **SPIDER 1100|10** is extremely robust and compact, however light. The linked safety railings give the machine additional stability and rigidity whilst taking most of the loads of the joints between the rotors.

Each rotor can follow the ground contour individually which in combination with the small diameter of the rotor offers excellent tedding abilities. The angle of tedding is easily adjusted which makes working with the SPIDER 1100|10 quick and hassle free. In the transport position the tedder is narrower than 3 meters.

# ROTARY TEDDER

## SPIDER 1500|14 T

Adjustable height

Robust transport frame

Patented rotor angle adjustment

External gearbox

Linked protection rails give the machine better rigidity



### STANDARD EQUIPMENT

Attachment	Drawbar with transport frame
Transport	Hydraulic folding on to transport frame
Rotors	Spring tine arms made of high-quality round tubes
Spring tines	Spring tines made of high-quality spring steel with different shank lengths
PTO shaft	Wide-angle PTO shaft with safety clutch
Hydraulic connection	1 x one-way hydraulic connection (1EW) 1 x two-way hydraulic connection (1DW)
Other standard equipment	Road safety and lighting equipment

### TECHNICAL DATA

### SPIDER 1500|14 T

Number of rotors	14
Rotor diameter (m)	1,45
No. of spring tines per rotor	6
Capacity (ha/h)	16
Angle adjustment	10-19°
Working width (m)	14,8 (DIN 11220)
Transport length (m)	5,50
Transport width (m)	2,98
Transport height (m)	2,41
Weight (kg)	2950
Required tractor power (kW/HP)	70/95
PTO rotation speed (rpm)	540
Rotor rotation speed (rpm)	210
Tyre size of transport frame	16/6.50 -8
Safety clutch (Nm)	1800
Assembly time (h)	4



Patented rotor angle adjustment system  
- optional hydraulically controlled rotor angle adjustment system



In the transport position with all the road safety equipment in place the machine is smaller than a midrange manure spreader.

An innovative system protects the right and left side of the tedder separately from overloading



Adjustable rotor angle 10° - 19° for fine spreading of dry and fresh forage



The digit drive offers smooth and quiet running and a higher load bearing capacity.

**SPIDER 1500|14 T** is above standard in every aspect. With 14 rotors even the biggest fields are no match for its capacity.

With ever increasing demands the market requires a machine with specialised solutions: flawless rotor angle adjustment and a gear box with an innovative safety system.

The result is here: a top of the range robust tedder that does more.

# ROTARY TEDDERS

## SPIDER 230|2 ALP, 350|4 ALP, 400|4 ALP, 600|6 ALP

Hydraulic folding of rotors

Pivoting linkage

Double universal joint

Adjustable wheels



### STANDARD EQUIPMENT

Attachment	3- point rigid linkage Cat. I & II (230 2 ALP, 350 4 ALP, 400 4 ALP*) 3-point pivoting linkage Cat. I & II (SPIDER 400 4 ALP, 600 6 ALP)
Transport	Folding of external rotors for transport (SPIDER 350 4 ALP) Hydraulic folding (SPIDER 400 4 ALP, 600 6 ALP) and mechanical rotation (SPIDER 400 4 ALP) of the external rotors for a narrower transport width
Rotors	Spring tine arms made of high-quality spring steel (230 2 ALP, 350 4 ALP, 400 4 ALP) or high-quality round tubes (600 6 ALP)
Spring tines	Spring tines made of high-quality spring steel with different shank lengths
PTO shaft	PTO shaft with safety clutch
Hydraulic connection	1 x one-way hydraulic connection (1EW) (SPIDER 400 4 ALP, 600 6 ALP)
Other standard equipment	Load relief folding springs (SPIDER 350 4 ALP)

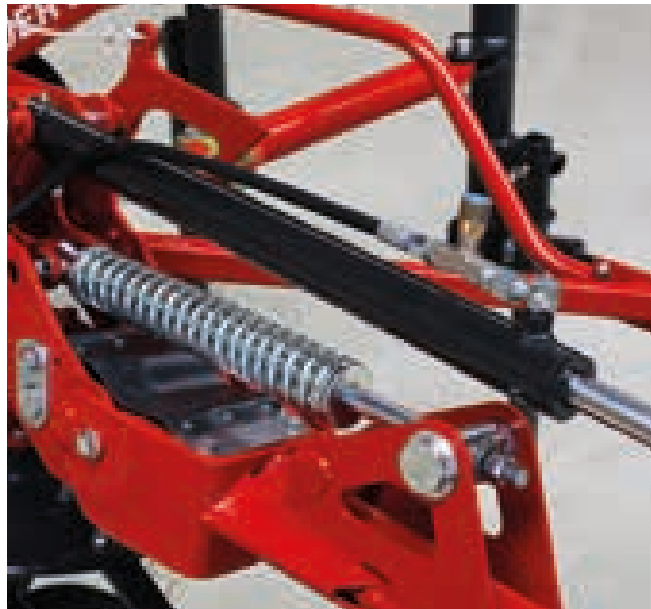
### TECHNICAL DATA

	SPIDER 230 2 ALP	SPIDER 350 4 ALP	SPIDER 400 4 ALP* 400 4 ALP	SPIDER 600 6 ALP
Number of rotors	2	4	4	6
Rotor diameter (m)	1,70	1,35	1,50	1,36
No. of spring tines per rotor	6	5	6	5
Capacity (ha/h)	2,3	3,4	4,0	6,2
Working width (m)	2,20	3,40	4,00	6
Transport width (m)	2,60	2,20	2,40	2,85
Weight (kg)	152	226	390	570
Required tractor power (kW/HP)	9/12	11/15	13/18	44/60
PTO rotation speed (rpm)	450-540	540	540	450-540
Rotor rotation speed (rpm)	150	205	205	205
Tyre size	15x6.00-6	15x6.00-6	15x6.00-6	15 x 6.00-6
Safety clutch (Nm)	600	460	600	900
Assembly time	2	2	2	2

Pivoting linkage with stabilizers allows the machine to follow the tractor easier (SPIDER 400|4 ALP, 600|6 ALP).



For tedding near the edge of the fields it is possible to shift the wheels (SPIDER 400|4 ALP, 600|6 ALP)



Hydraulic folding of rotors allows for easier handling of machine from tractor cabin (SPIDER 600|6 ALP and SPIDER 400|4 ALP standard, SPIDER 350|4 ALP and 400|4 ALP\* optional equipment).

The smaller tedders are intended for use on smaller fields in combination with less powerful tractors.

Because of their light weight construction they are very manoeuvrable and ensure the same quality of tedding as their bigger counterparts: they achieve the same degree of spreading without damaging the turf.

Because of their attributes, versatility and low maintenance they are an essential piece of machinery on small and medium sized farms.



# ROTARY RAKES

SIP offers a wide range of rakes that ensure better quality of forage. Our rakes make airy and light swaths which ensure better drying and an easier pick up.

# ROTARY RAKES

## MODULAR AND WELDED ROTOR

Rakes with SIP's innovative solutions, like modular rotors and tandem axles, ensure fast work and forage with increased energy value.

### MODULAR ROTOR

- 1** Individually replaceable spring tine arm holders
- 2** Low maintenance and long life span
- 3** Low weight due to high-quality materials
- 4** Large module on the gear pairs

- 5** Large hardened and tempered cam track made of ductile cast iron.
- 6** Cylindrical roller bearings mounted in the cam track ensure smooth and quiet running.
- 7** Vertical rotor shaft with two ball bearings.



Individually replaceable spring tine arm holders with two bearings and nipple.





## WELDED ROTOR

- 1**  
Robust and solid construction
- 2**  
Low maintenance and long life span
- 3**  
Cam track made of ductile cast iron

- 4**  
Vertical rotor shaft mounted with two ball bearings.
- 5**  
Ball bearings on the connecting rod of spring arm holders, travelling inside the cam track

Cam track made of ductile cast iron



Four double spring tines per arm



# ROTARY RAKES

## STAR 360|10, 400|11, 430|12, 470|13

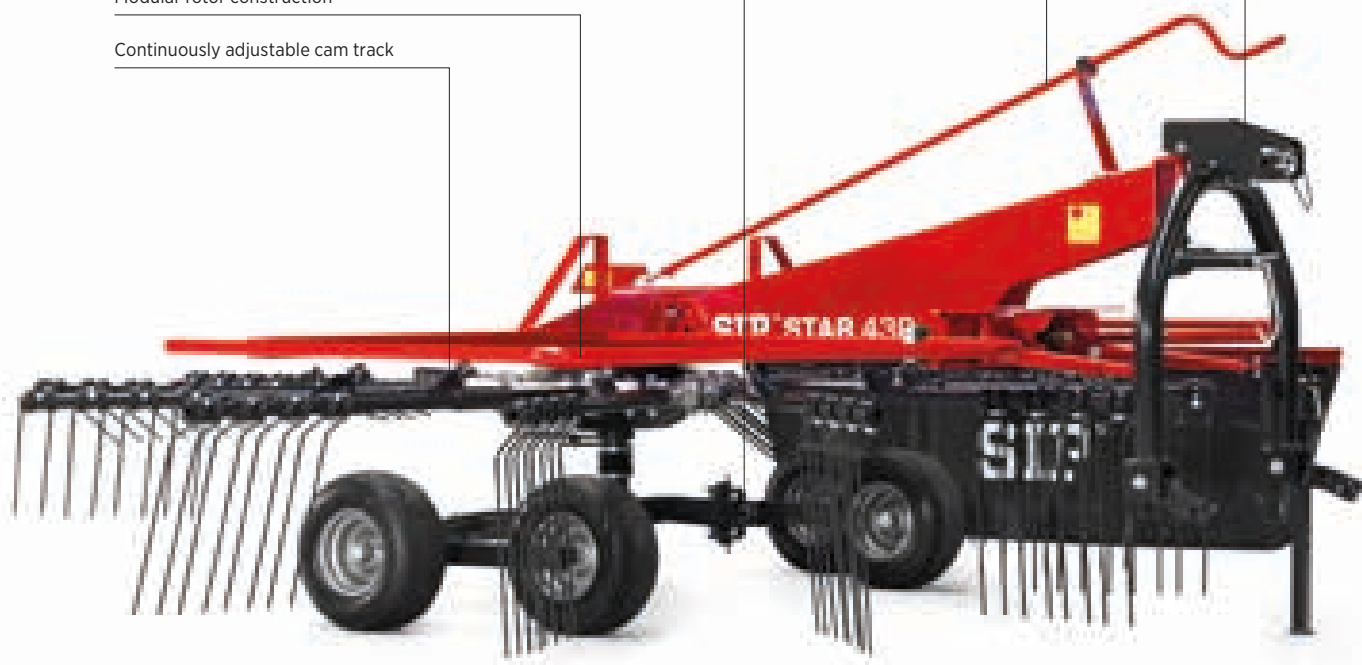
Pivoting linkage

Height adjustable rotor

Tandem axle (SIP patent)

Modular rotor construction

Continuously adjustable cam track



### STANDARD EQUIPMENT

Attachment	3-point pivoting linkage Cat. I & II
Transport	All spring tine arms are removable
Rotor	Modular rotor
PTO shaft	PTO shaft with safety clutch
Other standard equipment	Height adjustable spring tines, tandem axle, swath curtain

TECHNICAL DATA	STAR 360 10	STAR 400 11	STAR 430 12	STAR 470 13
Working width (m)	3,60	4,00	4,30	4,70
Rotor diameter (m)	2,83	3,15	3,34	3,56
Transport width (m)	1,68	1,99	2,20	2,20
Machine width (m)	2,99	3,51	3,51	3,72
Weight (kg)	495	550	564	575
No. of spring tines per arm (machine)	4 (40)	4 (44)	4 (48)	4 (52)
Tyre size	16x6,50-8 4Ply	16x6,50-8 4Ply	16x6,50-8 4Ply	16x6,50-8 4Ply
Required tractor power (kW/HP)	22/30	22/30	22/30	30/41
PTO rotation speed (rpm)	540	540	540	540
Safety clutch on PTO shaft (Nm)	600	600	600	600
Capacity (ha/h)	4,5	5	5,5	6,2
Assembly time (h)	3	3	3	3

Adjustable cam track - according to the quantity and humidity of forage.



Adjustable side tilt of rake for cleaner pick up.



Tandem axle (SIP patent) standard on every rake. Allows better ground contour following, greater speeds and reduces impact loads on the machine.

STAR single rotor rake with four spring tines per arm ensures a clean pick up and airy swath.

Because of their pivoting linkage they are extremely agile, follow the tractor perfectly and have a small turning circle.

The ground contour following capabilities of STAR single rotor rake are excellent. A jokey wheel (optional) helps to achieve the same capabilities on uneven terrain.

Adjustment of rotor height from the tractor cabin allows for greater efficiency and greater working speed.

# ROTARY RAKES

## STAR 430|12 T

Lift link drawbar

Modular rotor

Hydraulic lift of rotor

Continuously adjustable cam track

Tandem axle (SIP patent)



### STANDARD EQUIPMENT

Attachment	Lift link drawbar
Transport	All spring tine arms are removable, hydraulic lift of rotor
Rotor	Modular rotor
PTO shaft	Wide angle PTO shaft with safety clutch
Hydraulic connection	1 x one-way hydraulic connection (1 EW)
Other standard equipment	Height adjustable tandem axle, swath curtain, road safety equipment

### TECHNICAL DATA

### STAR 430|12 T

Working width (m)	4,30
Rotor diameter (m)	3,34
Transport width (m)	2,08
Machine width (m)	3,56
Weight (kg)	710
No. of spring tines per arm (machine)	4 (48)
Tyre size	18x8,5-8 4Ply
Required tractor power (kW/HP)	20/27
PTO rotation speed (rpm)	540
Safety clutch on PTO shaft (Nm)	600
Capacity (ha/h)	5,5
Assembly time (h)	2

The drawbar of the rake is connected to the lift link of the tractor which allows the machine to follow the tractor perfectly and gives the machine a smaller turning circle.



The machine is ready for storage with the spring tine arms stowed in the transport location and the side curtain folded.



The tandem axle (SIP patent) comes as standard. It allows excellent ground contour following, greater working speed and transport speeds up to 40km/h.



Modular rotor

The trailed version of STAR single rotor rake combines efficient work and great transport properties.

The rake has to be only partially folded down for transport. The hydraulic 470 mm lift of the rotors makes passing over swaths considerably easier.

**STAR 430|12 T** rake has a modular rotor and four spring tines per arm that allow for a perfect pick up.

The biggest attribute of STAR 430|12 T is the innovative tandem undercarriage which allows transport speeds of up to 40 km/h.

# ROTARY RAKES

## STAR 600|20 T

Modular rotor

Tandem axle (SIP patent)

Connecting chassis

Hydraulic lift of rotors

Hydraulic maneuvering  
of rear rotor



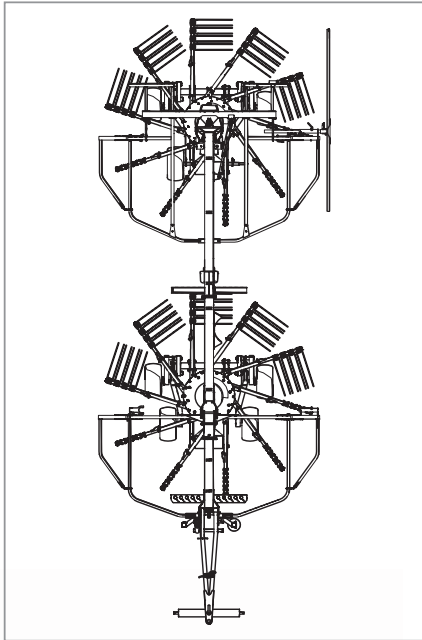
### STANDARD EQUIPMENT

Attachment	Lift link drawbar
Transport	All spring tine arms are removable, hydraulic lift of rotors
Rotor	Modular rotors
PTO shaft	Wide angle PTO shaft with safety clutch
Hydraulic connection	1 x one-way hydraulic connection (1EW)
	1 x two-way hydraulic connection (1DW)
Other standard equipment	Height adjustable tandem axle, swath curtain, road safety and lighting equipment

### TECHNICAL DATA

### STAR 600|20 T

Working width two single swaths (m)	3,40-6,20
Working width one double swath (m)	6,00
Rotor diameter (m)	2,85
Transport width (m)	1,73
Machine width (m)	2,99
Weight (kg)	1480
No. of spring tines per arm (machine)	4 (80)
Tyre size	18x8,50-8 4Ply
Required tractor power (kW/HP)	30/41
PTO rotation speed (rpm)	540
Safety clutch on PTO shaft (Nm)	900
Capacity (ha/h)	7
Height (m)	1,53
Length (m)	8,23
Assembly time (h)	8



Ideal ground contour following due to pivot mounting of the rear rotor with a parallelogram frame.



The drawbar of the rake is connected to the lift link of the tractor which allows the machine to follow the tractor perfectly and gives the machine a smaller turning circle.



Hydraulically manipulating the rear rotor from the tractor cabin saves time and effort.

**STAR 600|20 T** double rotor rake is intended for simple use and high efficiency.

2 modular rotors with 20 arms and 80 spring tines make either a one double swath or two single swaths.

The innovative tandem axle and 3D pivoting linkage of the rotor to the frame allows STAR 600|20 T to adapt to any kind of terrain.

# ROTARY RAKES

## STAR 700|22 T



Hydraulic lift of rotors

Modular rotor

Pivoting tandem axle

Robust steering mechanism

### STANDARD EQUIPMENT

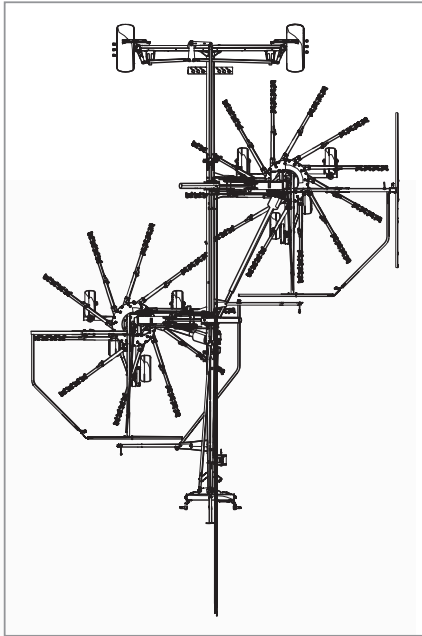
Attachment	Lower arms of three point linkage Cat. I & II
Transport	All spring tine arms are removable, hydraulic lift of rotors
Rotor	Modular rotor
PTO shaft	Wide angle PTO shaft with safety clutch
Hydraulic connection	1 x one-way hydraulic connection (1EW) 1 x two-way hydraulic connection (1DW)
Other standard equipment	Height adjustable spring tines, tandem axles, swath curtain, road safety equipment.

### TECHNICAL DATA

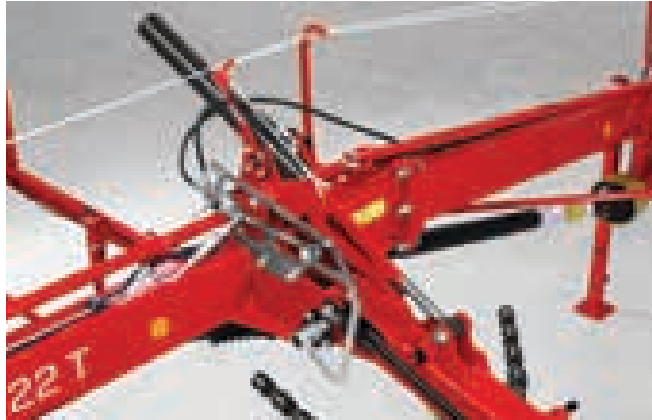
### STAR 700|22 T

Working width side swath (m)	6,9
Rotor diameter (m)	3,25
Transport width (m)	2,99
Transport height (folded protection railing) (m)	3,99 (3,2)
Weight (kg)	1880
No. of spring tines per arm (machine)	4 (88)
Tyre size	16x6,50-8 4Ply
Required tractor power (kW/HP)	37/50
PTO rotation speed (rpm)	540
Safety clutch on PTO shaft - left / right (Nm)	600 left, 900 right
Capacity (ha/h)	8,0
Length (m)	7,63
Assembly time (h)	8





Successive folding of the rotors with a single-line hydraulic connection. The guided folding of the rotors ensures better manoeuvrability.



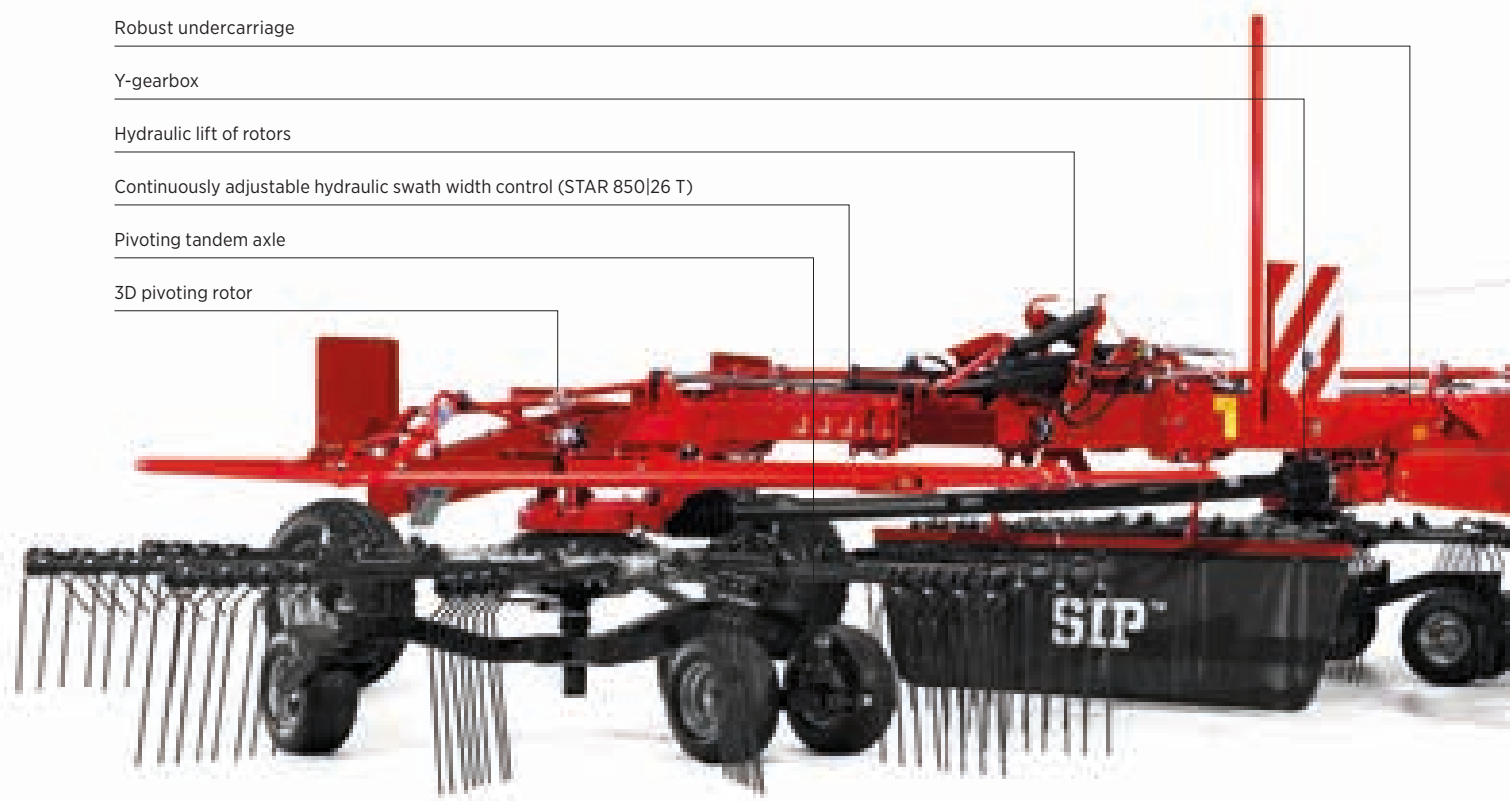
A modular rotor with a 3D pivoting linkage to the frame allows better ground contour following capabilities.

Ideal for professional contractors and large scale farmers with large fields.

**STAR 700|22 T** double rotor rake has a robust construction and is made of high quality materials. This combination offers excellent performance and a long lifespan.

# ROTARY RAKES

## STAR 720|22 T, 850|26 T



Robust undercarriage

Y-gearbox

Hydraulic lift of rotors

Continuously adjustable hydraulic swath width control (STAR 850|26 T)

Pivoting tandem axle

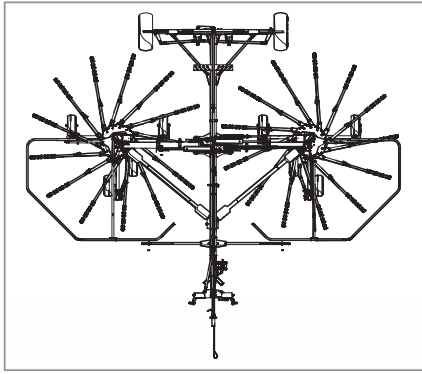
3D pivoting rotor

### STANDARD EQUIPMENT

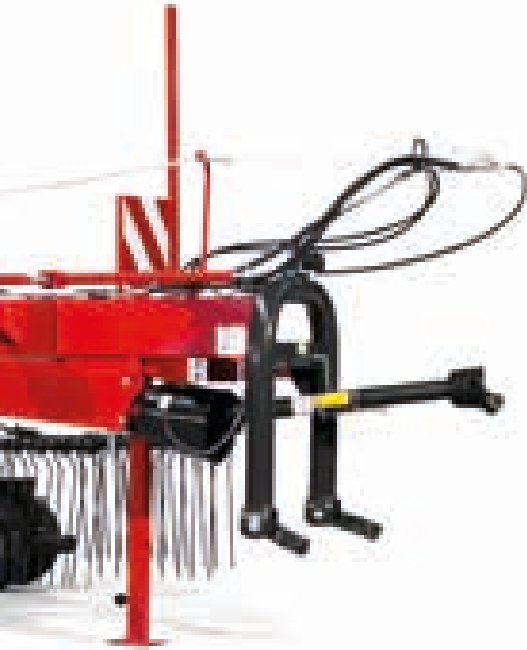
Attachment	Lower arms of three point linkage Cat. I & II
Transport	All spring tine arms are removable, hydraulic lift of rotors
Rotor	Modular rotor
PTO shaft	Wide angle PTO shaft with safety clutch
Hydraulic connection	1 x one-way hydraulic connection (1EW) 1 x two-way hydraulic connection (1DW) (STAR 850 26 T)
Other standard equipment	Height adjustable tandem spring tines, tandem rotor axles, swath curtain, road safety equipment, hydraulically adjustable working width (STAR 850 26 T)

### TECHNICAL DATA

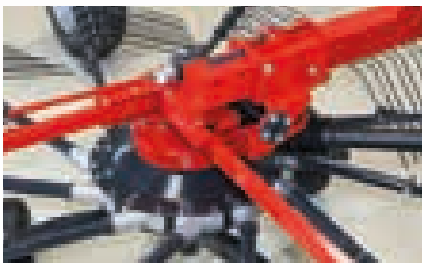
	STAR 720 22 T	STAR 850 26 T
Working width central swath (m)	6,60-7,15	7,24-8,30
Swath width (m)	1,30-1,85	1,15-2,13
Rotor diameter (m)	3,15	3,55
Transport width (m)	2,99	2,99
Transport height (folded protection railing) (m)	3,99 (3,60)	3,99 (3,20)
Weight (kg)	1800	2040
No. of spring tines per arm (machine)	4 (88)	4 (104)
Tyre size	16x6,50-8 4Ply	16x6,50-8 4Ply
Required tractor power (kW/HP)	40/55	40/55
PTO rotation speed (rpm)	540	540
Safety clutch on PTO shaft	900	900
- left / right (Nm)		
Capacity (ha/h)	9,0	11,0
Length (m)	5,51	5,82
Assembly time (h)	8	8



The robust steering mechanism offers a 55° turning angle that allows the rake to follow the tractor perfectly.



Continuously adjustable hydraulic swath width control allows the width to be adjusted even when working (STAR 850|26 T)



The STAR 720|22 T swath width is adjusted manually.

With four spring tines per arm, tandem axles and height adjustable rotors **STAR 720|22 T** and **STAR 850|26 T** double rotor rakes ensure shorter working time and greater productivity.

The stability of the double rotor rakes allows for excellent efficiency and an airy and quick drying swath also on uneven terrain.

A 3D pivoting linkage of the rotors to the frame ensures excellent ground contour following on all types of terrain.

After the work has been done you can simply fold the rake in to the transport position and with no hassle drive home.

# ROTARY RAKES

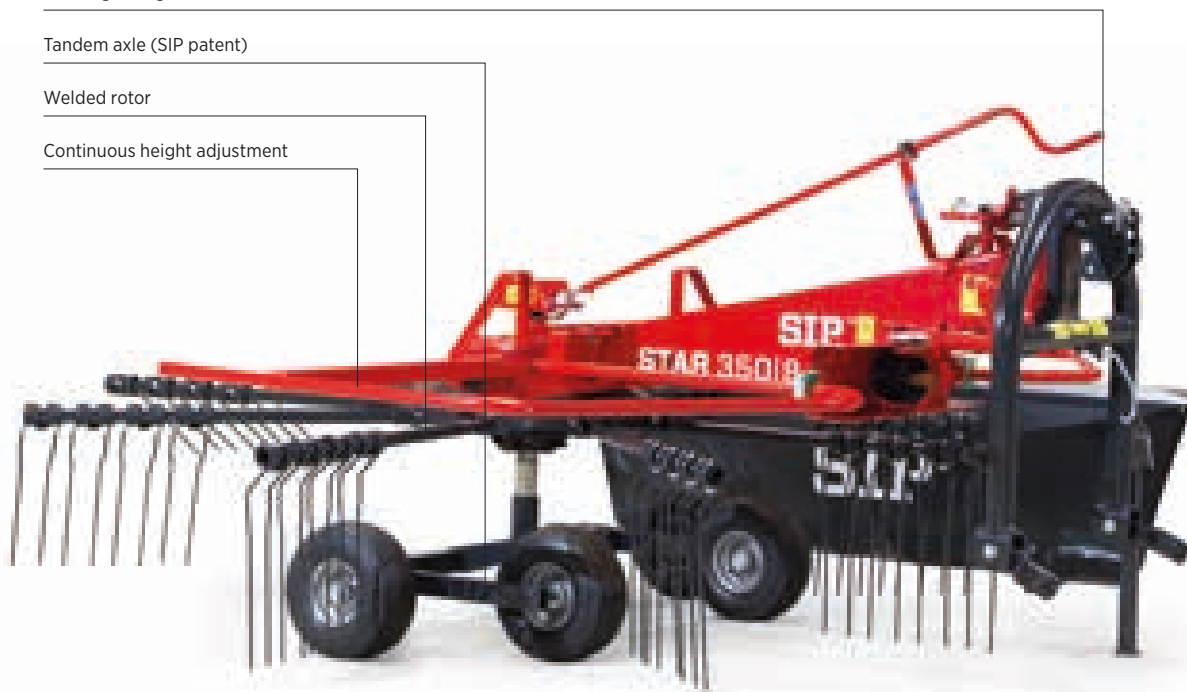
## STAR 300|8 ALP, 350|8 ALP

Pivoting linkage

Tandem axle (SIP patent)

Welded rotor

Continuous height adjustment



### STANDARD EQUIPMENT

Attachment	3-point rigid linkage Cat. I & II (300 8 ALP), 3-point pivoting linkage Cat. I & II (350 8 ALP)
Rotor	Alpine rotor
PTO shaft	PTO shaft with safety clutch
Other standard equipment	Swath curtain, wide tyres, single adjustable axle (STAR 300 8 ALP), Height adjustable spring tines and tandem axle (STAR 350 8 ALP)

### TECHNICAL DATA

	STAR 300 8 ALP	STAR 350 8 ALP
Working width (m)	3,00	3,50
Rotor diameter (m)	2,60	2,80
Transport width (m)	1,44	1,68
Weight (kg)	338	417
No. of spring tines per arm (machine)	3 (24)	4 (32)
Tyre size	15x 6,00-PR	15x 6,00-4Ply
Required tractor power (kW/HP)	13/18	22/30
PTO rotation speed (rpm)	540	540
Safety clutch on PTO shaft (Nm)	600	600
Capacity (ha/h)	2,5	4
Attachment type	rigid	pivoting
Assembly time (h)	1	1

A tandem axle (SIP patent) offers optimum ground contour following, higher working speeds and reduces impact loads on the machine

Rigid linkage (STAR 300|8 ALP)



Pivoting linkage (STAR 350|8 ALP)



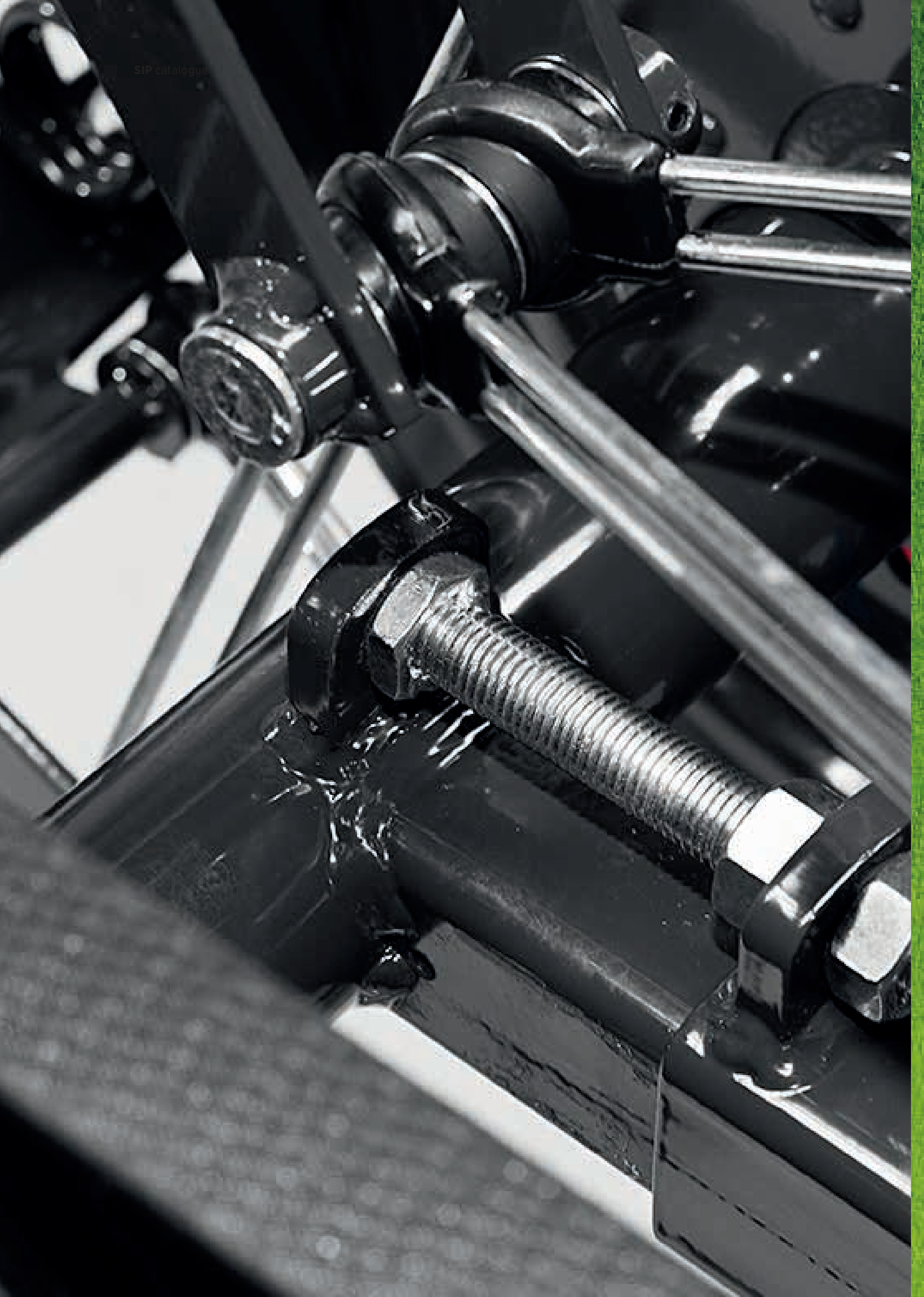
Pivoting wheels and adjustable raking height (STAR 300|8 ALP)



3- point linkage Cat. I or II

**STAR 300|8 ALP** and **STAR 350|8 ALP** single rotor rakes are ideal for smaller fields and sloped terrain.

The rakes biggest attribute is the optional jockey wheel, which ensures less dirt in the swath because the spring tines do not hit the ground and consequently less damage and a longer life span of the spring tines.



# BELT RAKES

The robust construction of our FAVORIT belt rakes makes them very versatile and can be used for tedding, spreading or raking. They need very little maintenance, have high productivity and can be mounted on the front or rear linkage. Regardless if the rake is mounted in the front or the rear it has excellent ground contour following capabilities.

# BELT RAKES

## FAVORIT

### 234 /F ALP, 254 /F ALP, 274 /F ALP

Adjustable swath curtain

Pivoting linkage

Swivel support wheel for easier manoeuvring when not attached to tractor

Four double spring tines per bracket



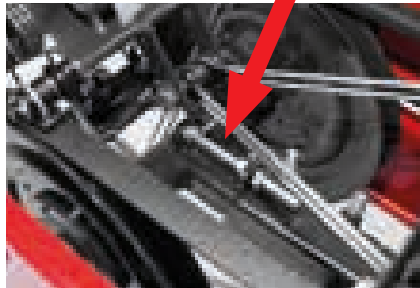
#### STANDARD EQUIPMENT

Attachment	3-point pivoting rear linkage Cat. I & II
PTO shaft	3-point pivoting front linkage Cat. I & II (F)
Other standard equipment	PTO shaft Swath curtain

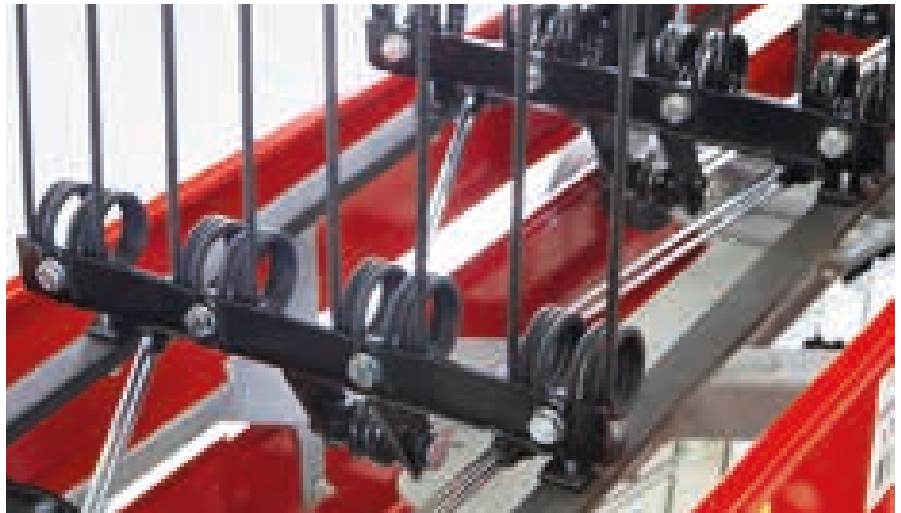
TECHNICAL DATA	FAVORIT 234 ALP	FAVORIT 254 ALP	FAVORIT 274 ALP	FAVORIT 234 F ALP	FAVORIT 254 F ALP	FAVORIT 274 F ALP
Attachment location	rear	rear	rear	front	front	front
Length (m)	1,00	1,20	1,20	1,20	1,20	1,20
Width (m)	2,75	2,95	3,15	2,75	2,95	3,15
Height (m)	1,00	1,00	1,00	1,00	1,00	1,00
Working width (m)	2,30	2,50	2,70	2,30	2,50	2,70
Weight (kg)	285	295	300	285	295	300
No. of spring tines per bracket	4	4	4	4	4	4
Required tractor power (kW/HP)	15/20	15/20	15/20	15/20	15/20	15/20
PTO rotation speed (rpm)	540	540	540	540	540	540
Tyre size	15x6,00 6PR	15x6,00 6PR	15x6,00 6PR	15x6,00 6PR	15x6,00 6PR	15x6,00 6PR
Capacity (ha/h)	2,3	2,5	2,7	2,3	2,5	2,7
Assembly time (h)	1	1	1	1	1	1



Simple tensioning of the belts



Adjustment of wheel height with lever



Four double spring tines per bracket

Belt rakes are an excellent choice for farmers who are looking for a small but versatile rake for tedding, spreading or raking dry or fresh forage. Because the spring tines never touch the ground the forage stays airy, which allows the forage to dry faster. Belt rakes are very manoeuvrable and can also be, unlike other tedders and rakes, driven in reverse.



# SELF-LOADING WAGONS

SENATOR self-loading wagons meet the needs of all farmers and professional contractors who are looking for high quality forage and high efficiency. Optional wide track and lower centre of gravity also allow work on sloped terrain.

# SELF-LOADING WAGONS

## SENATOR 17|9, 22|9, 26|9

Hydraulically controlled drawbar

Hydraulically controlled lift of pick up unit

Foldable side and front extensions

Swivel wheels on pick up unit

Hydraulically controlled drive of floor conveyor

Hydraulically controlled tail gate



### STANDARD EQUIPMENT

Attachment	Universal hydr. controlled draw bar with towing eye $\varnothing$ 40
PTO shaft	Wide angle PTO shaft with safety clutch 900 Nm
Breaks	Hand break
Hydraulic connection	1 x one-way hydraulic connection (1EW), 1 x two-way hydraulic connection (1DW)
Other standard equipment	Hydraulically controlled drawbar , hydraulic lift of pick up unit, swivel wheels on pick up unit, hydraulic lift of tail gate

TECHNICAL DATA	SENATOR 17 9	SENATOR 22 9	SENATOR 26 9
Transport length (m)	5,83	6,73	7,33
Transport width (m)	2,06 (2,38)	2,06 (2,38)	2,06 (2,48)
Transport height - max/min (m)	2,84/2,21	3,12/2,40	3,12/2,40
Transport height (low centre of gravity, wide track) - max /min (m)	2,69/2,06	2,76/2,00	2,76/2,00
Volume (max/min) (m <sup>3</sup> )	17/10	22/12,5	25/14
Volume DIN11741 (m <sup>3</sup> )	11,22	14,52	16,50
Weight (kg)	1580	1700	1800
Required tractor power (kW/HP)	20/27	25/34	35/48
PTO rotation speed (rpm)	540	540	540
Number of blades	9	9	9
Pick-up unit width (m)	1,53	1,53	1,53
Max. total weight (kg)	3000	3500	4000
Max. axle load (kg)	2500	2900	3200
Max. load of towing eye (kg)	500	600	800
Tyre size	11,5/80x15	15/55x17	15/55x17

Hydraulically controlled tail gate



Swivel wheels on pick up unit allow better pick up of forage.



Hydraulically controlled drawbar allows the self-loading wagon to be attached to upper or lower linkage of the tractor.



Wide track and tyres with tractor profile (optional)

Our spacious, simple to use and efficient self-loading wagons offer you safe and reliable pick up and transport of your forage.

**SENATOR** self-loading wagons are equipped to do their job quickly and efficiently.

The volume of our self-loading wagons varies from 17 m<sup>3</sup> to 25 m<sup>3</sup>, which means that it can satisfy the needs of both small and large scale farms.

# COMPANY



**SIP Strojna industrija d.d.** is situated in the heartland of Savinjska dolina. With more than 60 years of experience in research and development we are known for our simple solutions and unique robust construction, which is built to last.

The production program includes:

- hay harvesting equipment
- manure spreaders
- maize harvesting equipment

With our efficient and high performance machinery we guarantee our customers the work is done flawlessly and in the shortest possible time.

We keep improving and upgrading our machines. We provide machines for both small scale farmers as well as for professional contractors and large scale farmers.

We offers a wide range of solutions to problems which farmers come in contact with daily.

In the mower segment these solutions are for instance hydraulic ground pressure relief and swath wheels that offer uninterrupted forage flow. With the tedders we focused mainly on smaller rotor diameter, height adjustment and optimal angle of spring tines. We have equipped the rakes with a SIP patented tandem axle which offers excellent ground contour following, greater working speeds and less impact loads on the machine. All rotors have height adjustment and side tilt adjustment.

Maize cob pickers ensure high performance and quality husking without damaging the cob. These economical machines are agile also on small surfaces. Maize picked by the maize cob picker can be dried naturally which lowers production costs and is more energy efficient.

Traditional SIP manure spreaders are recognised for their simple use, easy maintenance and long life span. They come in all sizes perfect for all users. By removing the spreading unit the machine can also be used as an ordinary trailer.

# WARANTY, CLAIMS AND SPARE PARTS



We keep original parts on stock for machines for up to 10 years. We have on stock more that 10.000 different spare parts of both new machines and machines that have gone out of production.

Our service engineers are always ready to help.









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Robust hay harvesting