# COMPACT DISC HARROWS HELIODOR AND RUBIN







## THE RIGHT COMPACT DISC HARF

	HELIODOR 9	RUBIN 10 U	RUBIN 12 U			
WORKING THE FULL WIDTH	o (up to 7 cm) + (from 7 cm)	o+ (up to 7 cm) ++ (from 7 cm)	o (up to 7 cm) + (from 7 cm) ++ (from 10 cm)			
Mixing*	+	++	++			
Loosening*	+	++	++			
Levelling*	++	++	++			
Reconsolidating*	+	+	++			
Crushing*	+	++	++			
CLOG-FREE OPERATION						
In chopped straw	++	++	++			
In catch crops	+	++	++			
In maize straw	0	+	++			
WORKING ON						
Ploughed land	++	0	+			
Heavy soil	0	+	++			
Medium soil	+	++	++			
Light soil	++	+	+			
OPERATING SPEED						
Up to 7 km/h	0	0	0			
Up to 12 km/h	+	+	++			
Over 12 km/h	++	++	+			

<sup>\*</sup> depending on the scope of work

++ = very well suited

+ = well suited

o = less well suited



## ROW FOR ALL TYPES OF TERRAIN

	HELIODOR 9	RUBIN 10 U	RUBIN 12 U				
AVAILABLE TRACTOR OUTPUT							
25 to 30 HP/m 18 to 22 kW/m	+	0	0				
30 to 40 HP/m 22 to 29 kW/m	++	+	0				
40 to 50 HP/m 29 to 37 kW/m	0	++	++				
Over 50 HP/m Over 37 kW/m	0	0	++				
PENETRATION IN HARD SOILS	0	+	++				
WORKING DEPTH							
Up to 5 cm	+	++	+				
5 to 12 cm	++	++	+				
12 to 14 cm	0	+	++				
14 to 20 cm	0	0	++				

++ = very well suited

+ = well suited

o = less well suited



## IT ALL DEPENDS ON THE AI

#### **HELIODOR 9**

#### **Cutting angle**

From 10.5° to the ground and 16.5° to the direction of travel



#### Line distance:

12.5 cm

Beam spacing: 70

or 95 cm

**Underframe** 

clearance:

54,5 cm



#### **RUBIN 10**

#### **Cutting angle**

From 20° to the ground and 17° to the direction of travel for the first row of discs and 15° for the second

#### Line distance:

12.5 cm

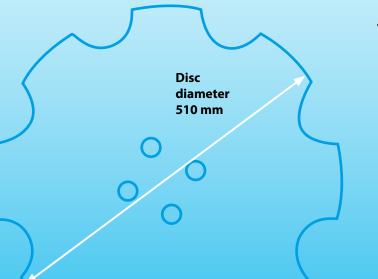
#### **Beam spacing:**

107 or 120 cm

#### **Underframe** clearance:

Up to 14 cm

80 cm



**Working depth** 5 cm

10 cm

Up to 12 cm

15 cm

20 cm

25 cm

6 BLEMKEN

## NGLE

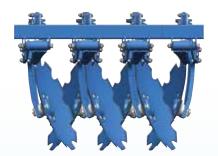




#### **RUBIN 12**

#### **Cutting angle**

From 20° to the ground and 16° to the direction of travel for the first row of discs and 14° for the second



#### Line distance:

17 cm

#### Beam spacing:

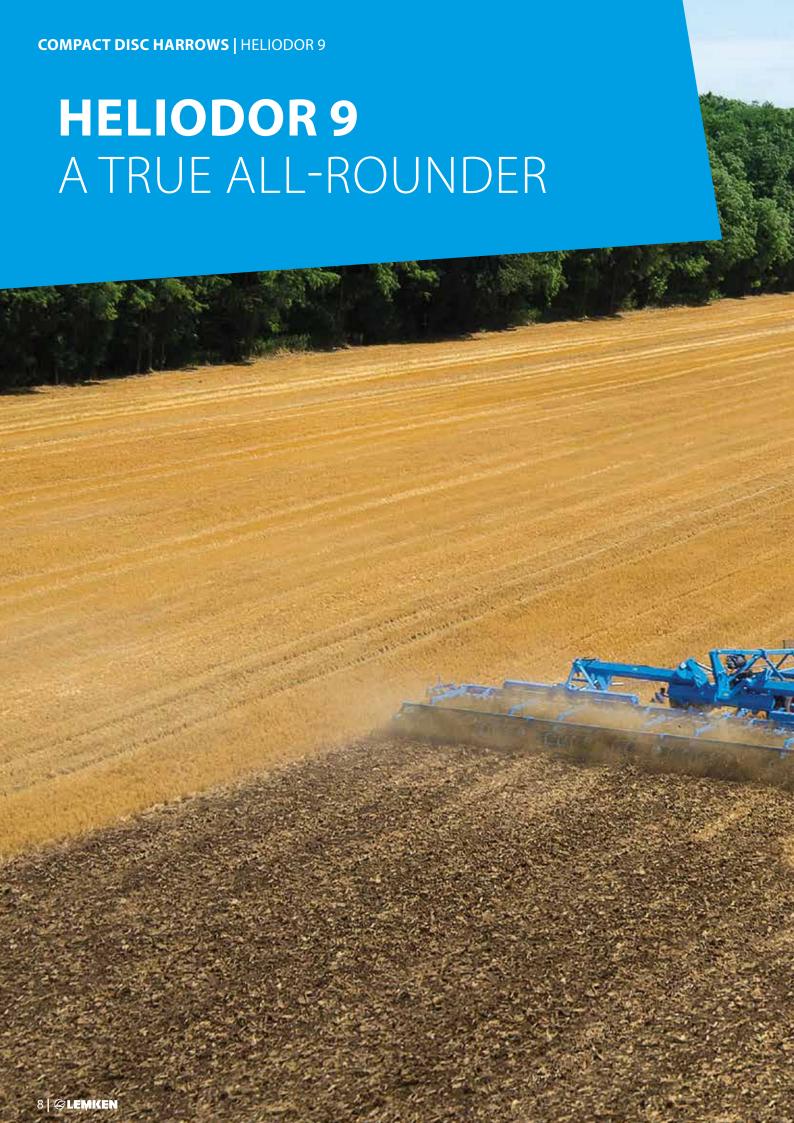
130 or 155 cm

### Underframe clearance:

80 cm

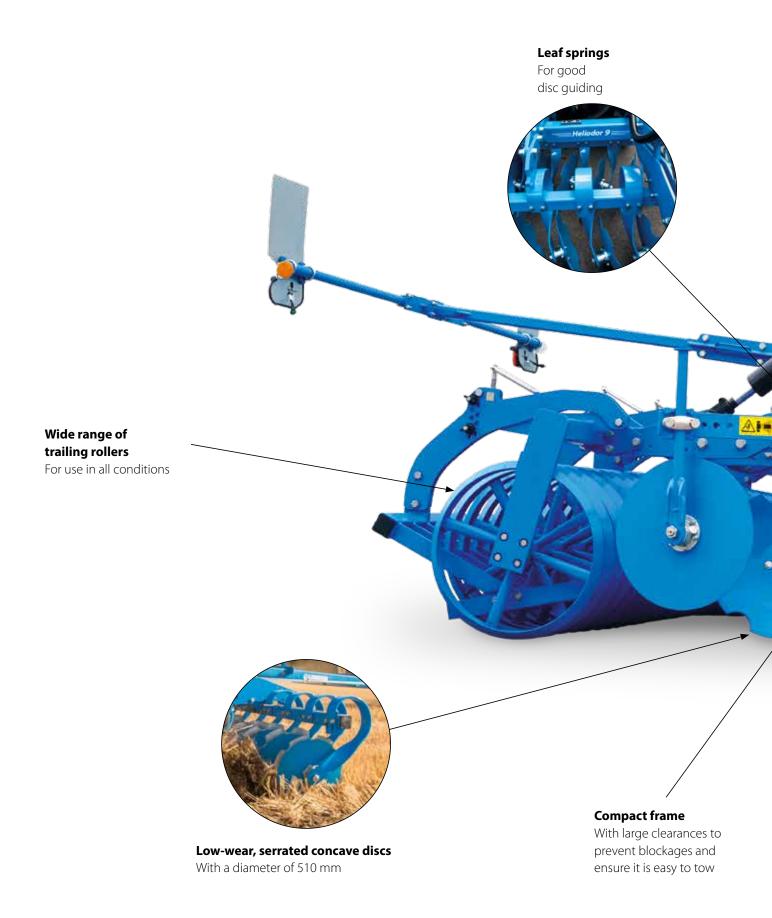


Disc diameter 645 mm Disc diameter 736 mm





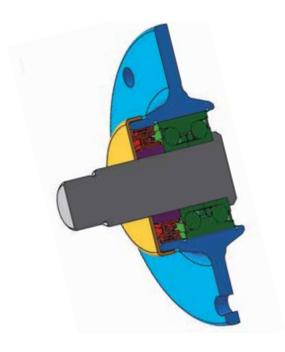
## IDEALLY EQUIPPED





## **BUILT FOR FARMERS**





#### Maintenance-free disc bearing

The high-quality angular ball bearings (green) guarantee the discs always function flawlessly.

The bearings are fully sealed so that no dirt can penetrate. An additional labyrinth seal (red) locks the bearing in from the outside. The lockable sturdy steal cover (yellow) prevents coiled up wire or twine from destroying the seal.



#### Leaf springs to guide the discs

Each disc is individually attached to the frame via leaf springs for precise depth control. Unlike commonly used rubber buffers, leaf springs guarantee that the discs have significantly higher track stability during operation.

What's more, they also act as automatic overload protection. The disc working depth can be adjusted separately in the tractor track to achieve an optimum levelling effect.



#### **Robust headstock**

Its numerous adjustment options mean that the robust headstock can be quickly adapted to a variety of tractors.

To guarantee good penetration in hard soils, additional weights can be integrated into the headstock. Up to 400 kilos for rigid implements and up to 500 kilos for folding variants.

The **Heliodor** can also be equipped with a cat. 3 or 4 N quick hitch to provide a quick and easy connection between the tractor and implement.





#### Simple working depth settings

The **Heliodor** precisely controls the working depth via a trailing roller. **LEMKEN** offers a wide range of rollers to meet every requirement for arable farmers.

The working depth on the roller can be changed quickly and easily via perforated adjustment plates with pins. The depth can be adjusted even more conveniently with optional hydraulic working depth settings. This enables you to alter the height quickly and easily from the cab while in motion.



#### Perfect levelling with levelling tines

The harrow can optionally be fitted with 150 mm wide suspended levelling tines either in front of or behind the concave discs. They ensure that the seedbed is optimally levelled, especially after ploughing.

The pitch of the levelling tines is easy to adjust hydraulically from the cab.



#### **Heliodor with SlurryKit**

The Heliodor optimally combines slurry spreading and incorporation. Due to its low own weight, the slurry tanker requires only little lifting force. The Heliodor requires little tractive power to do a perfect job.

## PERFECTLY COMBINED





#### The flexibility of a modular system

Combining the **mounted Heliodor** with the Solitair pneumatic seed drill will enable you to work with extreme efficiency. High working speeds and low fuel requirements ensure you get the job done rapidly and cost-effectively.

The modular system made up of the **Heliodor** compact disc harrow, the Zirkon rotary harrow and the Solitair pneumatic seed drill, allows you to switch between different cultivation processes, even with mounted systems. The identical coupling points on the **Heliodor** and Zirkon enable a fast exchange of the seed drill setup. Both tillage implements can of course been used individually.



#### **Powerful combination**

The **semi-mounted Heliodor** can be equipped with either a transport trailer or if fitted with the optional combination trailer, the Solitair 25 pneumatic seed drill can be quickly and easily coupled together. This powerful combination can be put to work on mulch seeding as well as more conventional processes. Different wheel sizes and optional brake systems are available for soil protection as well as safe transport on roads.

The parallelogram-guided double-disc coulters with depth control rollers enable precise seed placement, even at high speeds.

Identical seed drill coupling points on all semi-mounted **LEMKEN** implements enable the Solitair 25 to be swapped easily between different cultivation implements.



#### **HELIODOR 9 TECHNICAL DATA**

Description	Number of	Disc diam-	Line	Working	Transport	Weight	Can be combined	Tractor output	
	discs	eter (mm)	distance width (mm) (cm)		width without roller (cm) (approx. kg)		with seed drill	kW	PS
Mounted, rigid	Mounted, rigid								
Heliodor 9/200	16	510	125	200	200	570		37–59	50–80
Heliodor 9/250	20	510	125	250	250	712		46–74	63–100
Heliodor 9/300	24	510	125	300	300	852	Х	55–88	75–120
Heliodor 9/350	28	510	125	350	350*	968	Х	65–103	88–140
Heliodor 9/400	32	510	125	400	400*	1,084	X	74–118	100-160
Mounted, hydraulically fol	ding								
Heliodor 9/400 K	32	510	125	400	300	1,791		74–118	100-160
Heliodor 9/450 K	36	510	125	450	300	1,859		83–132	113–180
Heliodor 9/500 K	40	510	125	500	300	1,928		92–147	125-200
Heliodor 9/600 K	48	510	125	600	300	2,206		110–176	150-240
Heliodor 9/700 K	56	510	125	700	300	2,482		129–206	175–280
Semi-mounted, hydraulica	lly folding								
Heliodor 9/400 KA	32	510	125	400	300	2,829	X	74–118	100–160
Heliodor 9/450 KA	36	510	125	450	300	2,985	Х	83–132	113–180
Heliodor 9/500 KA	40	510	125	500	300	3,151	X	92–147	125-200
Heliodor 9/600 KA	48	510	125	600	300	3,362	Х	110–176	150-240
Heliodor 9/700 KA	56	510	125	700	300	3,582		129–206	175–280
Trailed, hydraulically folding									
Gigant 10/800 Heliodor 9	64	510	125	800	300	4,998		147–235	200-320
Gigant 10/1000 Heliodor 9	80	510	125	1000	300	5,560		184–294	250–400
Gigant 10/1200 Heliodor 9	96	510	125	1200	300	6,750		221–353	300–480
Gigant 12S/1600 Heliodor 9	128	510	125	1600	350*	10,746		294–471	400-640

<sup>\*</sup> Exceeds the permitted transport width for traffic on public roads in several countries



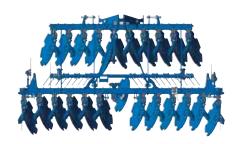


# NO SIDE DRAFT DUE TO SYMMETRICAL ARRANGEMENT

The discs on the **Rubin** are arranged to produce symmetrical forces on both sides. This diminishes any side draft. It also reduces overlaps.

No corrections are required when working with GPS. This unique disc

arrangement enables high acreage performances to be achieved while saving fuel. The middle discs are offset to prevent blockages and provide for even tillage over the full working width.



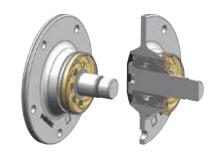


## HIGH QUALITY **DISC BEARING**

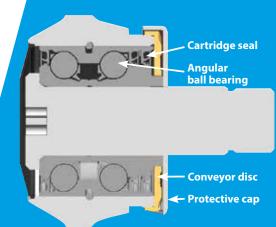
The concave disc bearings on the **Rubin** are designed as maintenance-free angular ball bearings, so that there is no need to lubricate or adjust them.

#### Optimum seal against dust and humidity penetration

The cap protects the seal on the bearing against wire and twine. The conveyor disc removes dust and



humidity from the bearing unit. The six-fold cartridge seal protects it from the inside.





## RECOIL CUSHIONING



When hitting obstacles, the concave discs deflect independently upwards and rapidly return to their working position. In the basic position, the coil spring pushes the stop upwards.

When the protection is tripped, the spring is compressed. The stop remains on top. The tripped element then deflects downwards. The stop can move down so that the recoil energy from the spring dissipates into the ground.

This cushions the recoil from the overload protection. The energy from the spring is transferred to the ground and does not place any strain on the frame.

SEE HOW OUR RECOIL CUSHIONING WORKS:



## **EQUIPMENT & ADJUSTMENT**



#### Overload protection and spring elements

Each concave disc is individually attached to the frame with pre-tensioned coil springs. This means the optimum pressure is exerted. It also ensures that on hard soils the working depth is precisely maintained and the discs are guided closely along the tracks.

If there is an obstacle, the concave discs deflect upwards individually. Once the obstacle has been overcome, they quickly return to their working position. The springs are fitted with maintenance-free bearings, just like the discs.



#### Central control

A self-locking feature allows easy adjustment of the harrow's working depth. No additional locking mechanism is required. Quick adjustment to changing working conditions ensures optimal working results.



# THE RUBIN 10 IN DETAIL

### THE RUBIN 10 IN ACTION:



#### **Levelling harrow**

Leaves an even surface

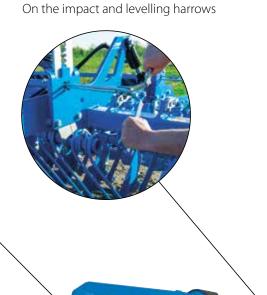
### Wide range of trailing rollers

For use in all conditions

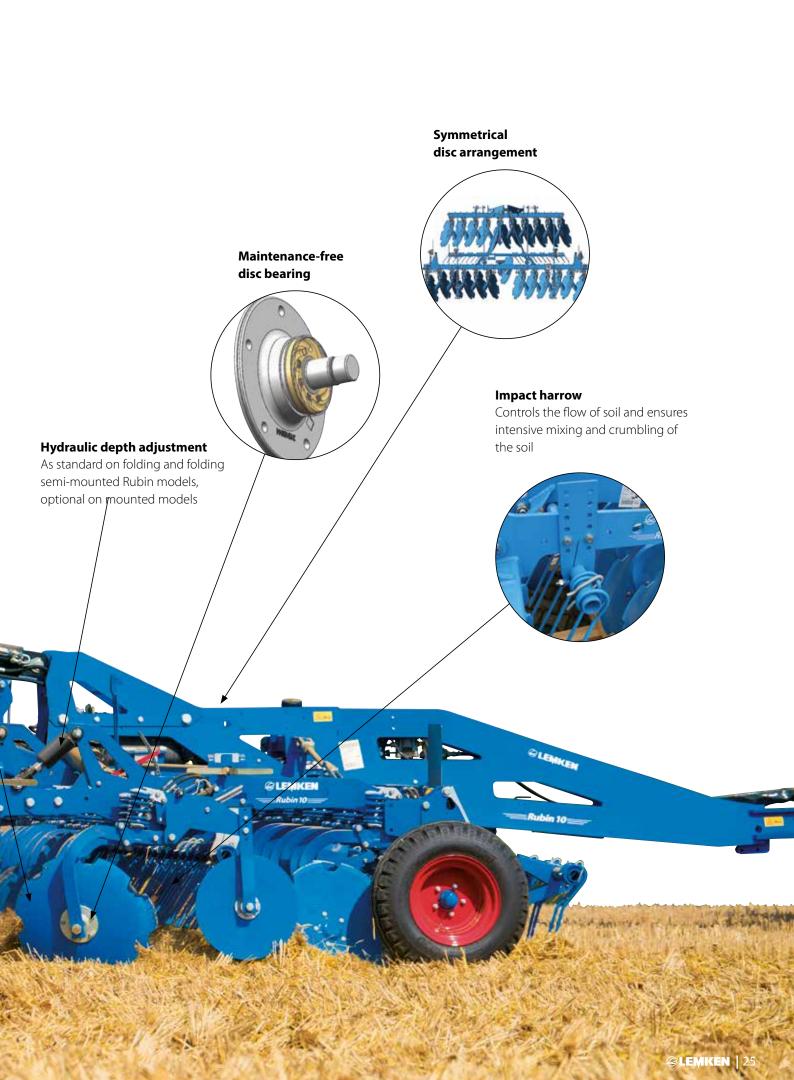
### Hardened DuraMaxx discs

With a 20% longer service life compared to Dural discs





Central depth adjustment



# **RANGE OF MODELS**RUBIN 10



#### Mounted and rigid (U)

The Rubin 10 basic mounted model is a great choice for a variety of applications.



#### Semi-mounted and hydraulically folding (KUA)

The Rubin 10 is also available as a semi-mounted model from a working width of four metres. The hydraulic folding mechanism with automatic transport locking device is also included as standard with this model.

# **DISCS**SPECIALLY POSITIONED

The discs are inclined 20° to the soil. Their angle to the direction of travel is 17° towards the outside in the front row and 15° towards the centre in the rear row.

This special disc positioning provides

optimal penetration and ensures cultivation over the full working width. The result: optimum soil mixing and crumbling.



The concave discs of the **Rubin 10** are attached individually to a surface hardened stalk. Its special shape provides maximum space between the discs. The optimised clearances between the discs enable the **Rubin 10** to operates without clogging, even under very damp and sticky conditions.





#### 3-point mounting

Two mounting positions for the lower link and a headstock equipped with several upper link holes allow a wide range of adjustments of the mounted Rubin 10

For use with different tractors and in various soil conditions.



#### **Working depth**

On rigid implements, the working depth is adjusted either hydraulically or with a series of holes. All folding Rubin 10 models feature a hydraulic working depth adjustment.

An easy-to-read display facilitates working depth adjustments.



#### Safe, versatile

The folding, semi-mounted version of the **Rubin 10** is available with either a simple transport trailer or a combination trailer. Semi-mounting reduces tractor loads and ensures safe transport via roads, even at large working widths. Different wheel sizes and optional brake systems provide soil protection and safety. The ModuLight LED also helps to provide maximum safety on the road.

### **WELL COMBINED**

If a catch crop is to be sown for cover at the same time as stubble cultivation, various different compact disc harrow models, e.g. the Rubin 10 as shown here, can be combined with the SeedHub.





# SEMI-MOUNTING WITH TRANSPORT WHEEL

Semi-mounting with transport wheel is optionally available for all mounted implements. This ensures that road transport regulations are complied with and maximum ground clearance is

ensured when using heavy trailing rollers. The transport wheel reduces the load on the rear tractor axle when the implement is raised, providing greater stability during road transport. The wheel is raised and

lowered without an extra spool valve. This allows the **Rubin 10** to be used with smaller tractors with lower lifting capacities and permitted axle loads.



## INTELLIGENT **STRAW DISTRIBUTION**

With ever wider cutting units, combine harvesters have come to leave straw unevenly distributed on the fields. Compact disc harrows incorporate it well into soil, yet their system design does not enable them to improve longitudinal distribution. As a consequence, harvest residue rots only slowly and unevenly in places, which may impact negatively on

on semi-mounted compact disc harrows, provides an effective solution to this problem.

The leading straw harrow pulls harvest residue apart. It transfers it to the discs in smaller amounts, thus ensuring good longitudinal distribution. The system is hydraulically self-contained and requires no additional spool

The harrow automatically folds towards the rear during transport and at the headland and provides sufficient clearance for the tractor.



# COMFORTABLE SWIVELLING OF THE OUTER CONCAVE DISCS

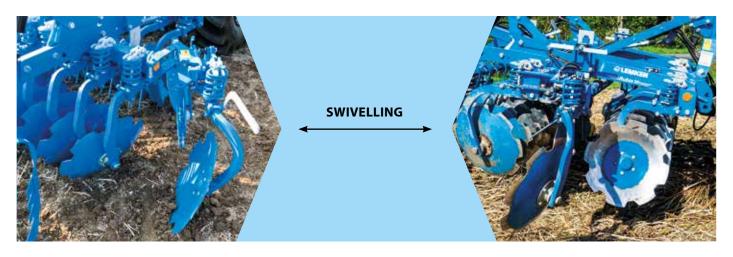
### Mechanical concave disc swivel adjustment (standard)

Easy, low-cost conversion from the transport to the working position.

### Hydraulic concave disc swivel adjustment (optional)

Easy switch from transport to working position from right inside the cab.





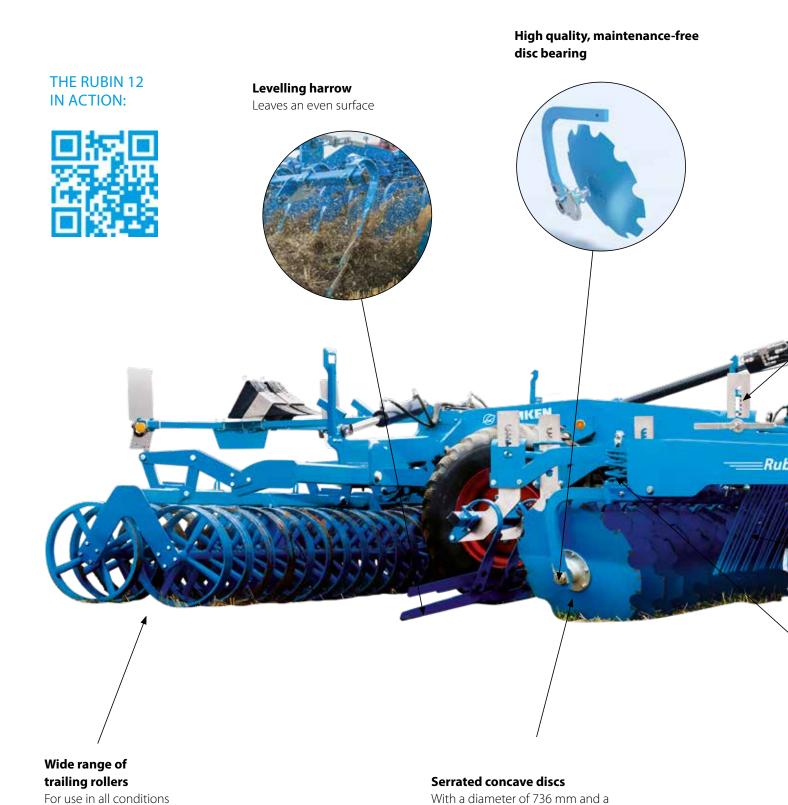




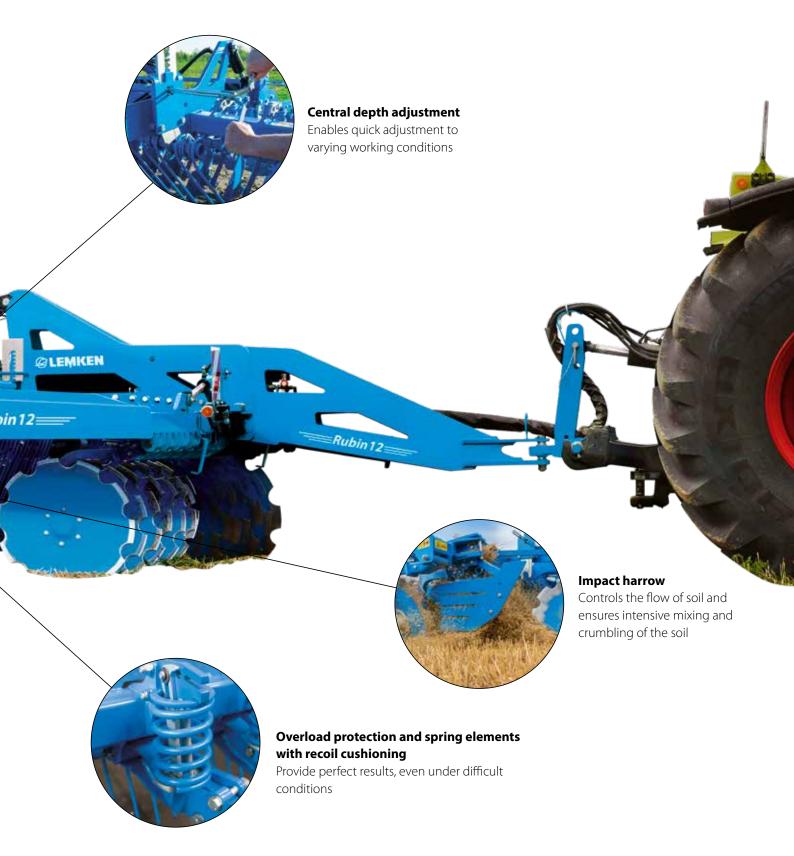
#### **RUBIN 10 TECHNICAL DATA**

Description	Working width (approx. cm)	Number of discs	Weight without rollers (approx. kg)	НР	кw			
Mounted, rigid, folding outer concave discs								
Rubin 10/250 U	250	20	1,480	87–125	64–92			
Rubin 10/300 U	300	24	1,630	105–150	78–111			
Rubin 10/350 U	350	28	1,760	123–175	91–130			
Rubin 10/400 U	400	32	1,890	140–200	104–148			
Hydraulically folding								
Rubin 10/400 KU	400	32	2,740	140-200	104–148			
Rubin 10/450 KU	450	36	2,961	158–225	117–167			
Rubin 10/500 KU	500	40	3,161	175–250	130–185			
Hydraulically folding, semi-mounted								
Rubin 10/400 KUA	400	32	3,350	140–200	104–148			
Rubin 10/450 KUA	450	36	3,550	158–225	117–167			
Rubin 10/500 KUA	500	40	3,850	175–250	130–185			
Rubin 10/600 KUA	600	48	4,600	210–300	156–222			
Rubin 10/700 KUA	700	56	5,450	245–350	182–259			

# HIGHLIGHTS RUBIN 12



material thickness of 6 mm



# **RANGE OF MODELS**RUBIN 12



#### Mounted and rigid (U)

A trailer frame with transport wheel is optionally available for all rigid implements, which ensures that road transport regulations are complied with when using heavy trailing rollers.

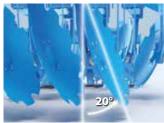


### Semi-mounted and hydraulically folding (KUA)

The Rubin 12 is also available with hydraulic folding from a working width of four metres. This model is always semi-mounted.

## THE (DISC) POSITIONING IS WHAT COUNTS





In this way, optimal mixing and crumbling results are achieved



The concave discs on the **Rubin 12** are attached individually to a surface-hardened stalk. Its special shape provides maximum clearance between the

The discs are angled at 20° to the ground and 16° in the direction of travel on the front row and 14° on the back row. This provides optimal penetration and ensures cultivation over the whole working

The optimised clearance between the discs enables the **Rubin 12** to operate without blockages, even with large quantities of crop residues.

FIND OUT MORE ABOUT THE DISC POSITIONING ON THE RUBIN 12



### **THE RIGID RUBIN 12**



#### 3-point mounting

Two mounting positions for the drawbar and a pivotable headstock allow a wide range of adjustments of the mounted Rubin 12

Ideal for hassle-free use with different tractors and in various soil conditions. Super convenient: The headstock for the upper link coupling can be easily swivelled to the front to achieve a greater lifting height.



#### Semi-mounting with transport wheel

A trailer frame with transport wheel is optionally available for all rigid implements. This ensures that road transport regulations are complied with when using heavy trailing rollers.

The transport wheel reduces the load on the rear tractor axle when the implement is raised, providing greater stability during road transport.

The roller is lifted out mechanically using the transport wheel, meaning there is no need for a control unit.



#### **Working depth**

On rigid implements, the working depth is adjusted either hydraulically or with a series of holes.

The levelling harrow is automatically adjusted to changes in the working depth.

## **THE FOLDING RUBIN 12**

The working depth of the folding semi-mounted implements is adjusted hydraulically. The depth indicator, integrated into the frame, can be easily read from the tractor cabin.



#### **Pendulum Device**

The folding semi-mounted implements with 4, 6 and 7 metre working widths are equipped with trailing rollers with self-levelling suspension.

Both rollers oscillate autonomously, so that an optimal ground adaptation is ensured even with large working widths.



#### Integrated carriage for better agility

The carriage on the semi-mounted Rubin 12 compact disc harrow is integrated into the frame. The compact disc harrow is therefore extremely compact, stable and very manoeuvrable.

Its favourable weight distribution allows the use of heavy trailing rollers to achieve a good reconsolidation.

The short distance between the coupling points and the transport wheels allows the semi-mounted Rubin to be very easily manoeuvred.





#### **RUBIN 12 TECHNICAL DATA**

Description	Working width (approx. cm)	Transport width (approx. cm)	Number of discs / 0 (mm)	Weight without rollers (approx. kg)	НР	kW		
Mounted, rigid, folding ou	Mounted, rigid, folding outer concave discs							
Rubin 12/300 U	300	300	18/736	2,046	135–240	99–177		
Rubin 12/350 U	350	350*	18/736	2,141	158–280	116–206		
Rubin 12/400 U	400	400*	22/736	2,616	180–320	132–235		
Semi-mounted, hydraulica	Semi-mounted, hydraulically folding							
Rubin 12/400 KUA	400	300	22/736	4,402**	180-320	132–235		
Rubin 12/500 KUA	500	300	30/736	5,257**	225-400	165–294		
Rubin 12/600 KUA	600	300	34/736	5,732**	270–480	199–353		
Rubin 12/700 KUA	700	300	42/736	6,630**	315–560	231–410		

<sup>\*</sup> Exceeds the permitted transport width in several countries \*\* Axle load exceeds 3t, braked version

## WE'RE HERE FOR YOU

#### PROVIDING A PROFESSIONAL

#### **ALL-ROUND SERVICE**

On-demand assistance. All around the world. That's **LEMKEN** service. The LEMKEN team provides professional advice as well as a speedy supply of machinery and parts via:

18 convenient branches and external warehouses in Germany, our own sales companies and importers in over 50 countries, and of course, a great many well-educated sales advisers and service technicians at specialist agricultural machinery dealers







