PRODUCT RANGE COMPACT DISC HARROWS MIXING CHISEL PLOWS



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LEMKEN – ONE OF THE WORLD'S MOST EXPERIENCED MANUFACTURERS FOR FARM MACHINERY

LEMKEN is a leading international manufacturer of agricultural machinery for soil cultivation, seeding and crop protection. As a family business we value close relationships with our partners. This includes our staff and distributors but above all farmers and contract farming companies. Close collaboration with our partners plays a fundamental role in the development of our multi-award winning innovations. We subscribe to the vision of supporting the work of our partners in order to secure their financial success. Through our work, we also want to contribute to secure the global food supply sustainably by means of efficient technology. It is this vision that makes us the Agrovision Company.



State-of-the-art, 592,000-sq. ft. Factory and Head Office in Alpen, Germany

SUPERIOR QUALITY FOR ANY JOB

Our customers expect our products to provide superior quality. We use high quality special steels and state-of-the-art production processes, from CNC-controlled processing centers and robotic welding systems, through to fully automated metal working and tempering systems. This approach produces implements that reflect our customers' needs, increase their efficiency and remain extremely flexible under a wide range of operating conditions.



Automated Steel Forming & Tempering System

WE ARE THERE FOR YOU

This overview of our product range provides you with comprehensive information on both our latest innovations and on LEMKEN implements that have long proven their outstanding value on our customers' fields. Of course, we are happy to provide additional information and answer any questions you may have.

LEMKEN at a glance

LEMKEN is a leading European manufacturer of professional arable farming technology.

- Founded in 1780, now a 6th and 7th-generation family business
- > Over 1,600 employees worldwide
- Head office in Alpen near Düsseldorf, additional German location in Haren
- > 29 branch offices in Europe, North America, Asia and Africa
- Production over 15,000 implements per year
- > Export ratio of about 77%
- > Numerous international awards



Nicola Lemken, partner, and Anthony van der Ley, CEO

LEMKEN 3

LEMKEN COMPACT DISC HARROWS – YOUR INVESTMENT IN EFFICIENCY



Compact disc harrows have revolutionized modern agriculture for more than 15 years. No other soil cultivation implement combines a comparable mixing quality with such high acreage capacities.

LEMKEN 's three different models perform perfectly in applications from seedbed preparation to high residue primary tillage in only

one pass. Due to the aggressive dual cutting angle the whole soil profile is worked and an unrivaled mixing intensity achieved.

Various rollers from LEMKEN's wide range offer optimal crumbling, leveling and firming as well as precise depth control for different soil and working conditions leaving your field ready to plant.





Heliodor 9

- 20" disc diameter
- Dual disc angle of 10.5° to the soil and 16.5° to the direction of travel
- Working depth up to 4"
- Shallow stubble cultivation in light to medium soil
- Seedbed preparation in various conditions
- Working width m: 8'(2.5M) to 52'(16M)





Rubin 9

- 24" disc diameter
- Dual disc angle of 20° to the soil and 17° to the direction of travel
- Working depth up to 5.5"
- Working width m: 26'(8M) to 39'(12M)





Rubin 10

- 25" disc diameter
- Dual disc angle of 20° to the soil and 17° to the direction of travel
- Working depth up to 6"
- Intensive and uniform mixing of high amounts of residue
- Smooth and leveled finish
- Working width m: 8'(2.5M) to 23'(7M)





Rubin 12

- 29" disc diameter
- Dual disc angle of 20° to the soil and 16° to the direction of travel
- Working depth up to 8"
- Manages huge volume of crop residue
- Soil penetration even in the hardest conditions
- Working width m: 10'(3M) to 31'(9.5M)



WELL DESIGNED CONCEPT



Perfect soil coverage due to the dual cutting angle of the discs

LEMKEN's compact disc harrows use two rows of individually mounted discs. This system provides a uniform cultivation depth and allows the individual mounted discs to ride over rocks when necessary.

- Each mounting arm provides a unique dual cutting angle. The angled position to the entry point of the soil ensures the discs cut the soil optimally.
- The second angle to the direction of travel guarantees an intensive mixing and a complete coverage over the full soil profile at working depths as low as only two inches.



The open frame design ensures a blockage-free operation

The open-frame design ensures that LEMKEN compact disc harrows can handle huge amounts of organic material.

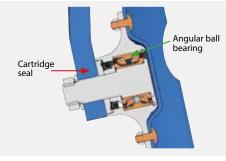
- This has proven to be an important advantage compared to conventional disc harrows where the disc axle is always the limiting factor.
- The combination of intensive mixing and shallow working depth requires less power and saves you fuel and money.



Working over the entire soil profile

With the ability to work over the complete soil profile even at shallow working depths unworked ridges will belong to the past.

- When doing primary tillage every root is cut and a constant mixing quality is achieved.
- For seedbed preparation the uniform working depth ensures that the moisture and the temperature are always at the same level which is a prerequisite for an equal plant development and high yields.



Service-free double ball bearing

The disc bearings are designed as maintenance-free angular ball bearings with no need to grease or adjust them.

- The maintenance effort for LEMKEN's compact disc harrows is minimal.
- The bearings reliably absorb the radial and axial forces of the concave discs.
- An internal six-fold cassette sealing ensures optimum protection against dust and moisture.



Optimum design for residue handling and overload protection

The concave discs are attached individually using leaf springs on the Heliodor and pre-tensioned coil spring elements on the two Rubin models.

- More precise maintaining of the working depth, even in hard and difficult conditions can be achieved.
- The individual attachment to the frame gives the discs enough clearance when working with high amounts of residue.

The suspension design allows LEMKEN compact disc harrows to lift over obstacles, but prevents sideward movement.

- Gaps in the cultivation horizon are consistently avoided.
- This spring suspension has proven to be an important advantage compared to softer rubber pads.



HELIODOR 9 – COMPACT, VERSATILE AND EASY TO PULL



The Heliodor compact disc harrow can be used for shallow stubble cultivation on light and medium soils as well as for seedbed preparation in various growing conditions and farming systems. It fits both conventional and minimum-tillage operations. High working speeds and a low power requirement guarantee high-performance at low costs.

Individually mounted 20" discs maintain a constant angle in the soil. The open frame design lets the Heliodor handle residue where tines come to their limit. The disc angle of 10.5° to the

ground and 16.5° to the direction of travel ensures excellent mixing over the entire soil profile to create a uniform seedbed that warms up evenly.

The robust leaf spring elements have a vibrating effect for good crumbling and a blockage-free operation even in rocky conditions.

Together with the Solitair seed drill the Heliodor forms an efficient one-pass combination that saves you time and money.





Compact frame

The open frame design of the Heliodor with its large free spaces helps to avoid blockages.

- The short and compact concept with its advantageous center of gravity enables lighter tractors with lower lifting power to be used.
- Premium-quality steel serves as a guarantor for high strength and therefore a long service life.
- The optional boundary discs are available to ensure precise pass alignment.



Optimum ground tracking

Wing sections, of the Heliodor models with working widths starting at 16.5' are pendulum mounted below the center frame.

- Sections can float independently of the main frame.
- Pendulum mounting ensures smooth running and precise depth control across varying field contours.



Perfect leveling with leveling work tines

As an accessory 6" wide, strong leveling tines can be mounted before or after the discs.

- The leveling tines are particularly useful to level fields after the use of a plow or a ripper.
- The aggressiveness of the leveling tines can be hydraulically adjusted from the tractor seat to provide optimum leveling and to control the soil flowing to the discs or rear roller.



RUBIN 10 – A NEW-GENERATION COMPACT DISC HARROW

The Rubin 10 is designed to make tillage even more efficient and flexible. Regardless of the field conditions, whether seedbed preparation, shallow stubble cultivation, or incorporating large volumes of organic matter – the Rubin 10 always delivers outstanding performance.

The symmetrical disc arrangement facilitates work without lateral pull. This reduces fuel consumption and saves money.

The new 25" diameter DuraMAXX discs provide up to 30% greater service life, saving replacement time and money. The Rubin 10 achieves full surface tillage at working depths of 2.5" or greater for even incorporation of organic matter. The maximum working depth is 6".

The discs are installed at an angle of 20° to the ground and 17° to the direction of



travel to deliver unparalleled soil penetration even under the harshest of conditions.

Similar to the Heliodor 9, the Rubin 10 can also be used in combination with the Solitair seed drill, so that stubble tillage, seedbed preparation, and precision seeding are all completed in a single high-speed pass.

This makes the Rubin 10 the perfect compact disc harrow for flexible one-pass operations under a wide range of conditions.





Superior disc attachment

The concave discs of the Rubin 10 are attached individually to a heat treated mounting arm. Its special shape provides maximum space between the discs.

- The overload safety device is welded directly to the frame eliminating u-bolts and has recoil protection.
- The Rubin 10 operates without plugging due to the optimized clearance between the discs.



Symmetrical disc arrangement

The symmetrical arrangement of both rows of concave discs provides precise directional stability with no side draft even when operating on slopes.

- Fuel savings as lateral pull is eliminated
- Ability to use GPS without correction
- Always pulls straight behind the tractor due to the symmetrical blade arrangement.



Working depth

The working depth of the Rubin 10 is adjusted hydraulically.

• The frame integrated depth indicator can easily be read from the tractor cab.



RUBIN 12 – INTENSIVE MIXING WITH IN-DEPTH EFFECT

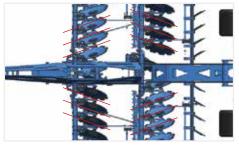


Compact disc harrows used to provide intense and homogeneous mixing of soil and organic matter to a depth of approximately 5". With the Rubin 12 LEMKEN has introduced a new performance class among the compact disc harrows that can work up to 8" deep. It can operate in all soil types previously reserved for machines equipped with shanks.

The Rubin 12 is designed in particular for the incorporation of huge amounts of crop residue. The 29" concave discs are mounted in an angled position of 20° to the soil and 16° in the direction of travel to achieve an unrivaled mixing intensity and good soil penetration even in the hardest conditions. The aggressive dual cutting angle in combination with the Open Frame design allows the Rubin 12 to handle organic matter of the highest yielding corn crops in North America.

Where other compact disc harrows, conventional discs or disc chisels need several passes to manage high amounts of residue the Rubin 12 leaves a well-mixed finish in only one pass saving time and money.

Completely even working depth also in hilly terrain due to automatic adjustment of the side sections (optional).



Symmetrical disc arrangement

The symmetrical arrangement of both rows of concave discs provides precise directional stability with no side draft, even when operating on slopes.

- The center discs are mounted offset. This ensures regular cultivation over the whole working width without causing clogging of the implement.
- A patent is granted for this unique arrangement.



Rebound harrow and leveling harrow

The rebound harrow (1) behind the first row of concave discs guides the soil flow:

- It provides intensive mixing and crumbling of the soil.
- The soil flow is slowed before the second row.

The leveling harrow (2) behind the second row of concave discs leaves a flat surface:

• The soil flow is deflected and thus perfectly leveled.



Central control

An innovative, self-locking device allows easy adjustment of the working depth of the harrows.

- Both harrows feature central depth adjustment.
- A quick adjustment to changing working conditions ensures optimal working results.
- No additional locking is required

"The LEMKEN Rubin 12 allows me to work my cornstalks in one pass in the fall. With my previous tillage tool it took two passes and the job was still not as good as with one pass with the LEMKEN. There were less clods and residue to deal with this spring allowing me to do one light seedbed preparation pass and then plant this year's crop. The cost of the Rubin 12 compared to other tillage tools is reasonable and I am very happy with the performance and cost savings due to the elimination of a pass across the field."

> Luke Weirtzema, near Campbell, Minn.

KARAT 9 AND KARAT 12

KARAT 9 – ONE MACHINE TO DO IT ALL

The LEMKEN Karat 9 is a multi-talent that can do several tillage jobs at working depths from 2" to 13". Three rows of shanks with a spacing of approximately 10" are followed by leveling discs and an integrated roller to leave a smooth and firm finish.

The narrow shank spacing guarantees a complete fracturing of compaction zones. The combination of point and guideboard ensures an optimal mixing quality, whether you want to do primary tillage, deep mixing, ripping or seedbed preparation. With its flexibility, the Karat 9 can replace many implements that were necessary to do the tillage jobs between harvest and seeding. The Karat can do it all in one pass – leaving your field ready to plant.



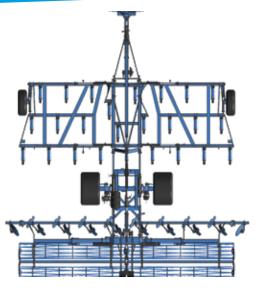
KARAT 12 – EVEN MORE INTENSIVE CULTIVATION

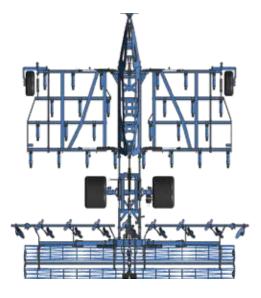
The Karat 12 cultivator is particularly well suited for heavy soils and no-tillage cultivation methods for both shallow and deep cultivation.

Its bars are arranged at 35"-31"-35" distances to provide sufficient clearance for clogging-free operation even with 4 rows of tines and a line distance of 9".

The symmetrical tine arrangement effectively minimises lateral pull, prevents unilateral dipping of the implement into the soil and optimises pass alignment. The depth control wheels positioned next to the first row of tines ensure that the cultivator is optimally guided.









Wing shares for shallow passes – narrow shares for intensive mixing at deeper passes

With eight different combinations of points and wings on changeable share feet it is possible to equip the Karat for various operation conditions in working depths from 2" to 13".

- Wing shares can be equipped for shallow passes. The wings overlap to ensure full coverage over the whole working profile.
- For deeper passes the Karat can be equipped with narrow shares in different shapes depending on the mixing intensity.

Switching of the points can be done quickly and without tools thanks to the LEMKEN quick change system.

- The replacement of worn parts is very easy, as the whole assembly can be removed and put on a work bench for safe and convenient maintenance.
- To ensure a long service life of the wearing parts, the share points are hard-faced.
- As an optional extra the points are also available with extremely hard carbide coating.



High tripping forces with maintenance-free auto-reset

When hitting obstacles, the auto reset tines move up- and backwards before quickly returning to the work position after passing it.

- A tripping force of 1200 lb. per tine guarantees a smooth operation even when working deep.
- The addition of a shear bolt ensures the LEMKEN Karat is optimally protected even when a tine is stuck under a rock or root.
- The robust, forged beams and durable pressure springs endure highest constant loads.





The innovative guideboard

The combination of point and the innovative guideboard guaranties an intensive mixing of soil and organic matter. While the point is breaking the soil and ensures a good penetration even in hard conditions, the guideboard stirs soil and residue upwards and let it roll to the front.

• This continuous process is responsible for the superior incorporation and crumbling result that is unique for a machine that is equipped with tines.



Automatic adjustment of the leveling discs

When the working depth of the Karat is changed, the rear discs automatically adapt to the new working depth without re-adjustment.

- A parallelogram automatically adjusts the rear discs and rollers to leave a smooth and leveled finish.
- On folding Karat cultivators each disc and roller section can follow the ground contours independently of the cultivator frame.



Optimum firming even when working deep

For deep passes up to 13" it is important to have enough weight to provide adequate packing. The packer profile roller for semi-mounted Karats has been especially designed for these conditions.

- The front roller firms the soil at depth. The rear roller presses the soil surface to encourage germination of weeds and volunteers.
- The large roller diameters of up to 24" reduce the traction power requirement considerably.

"We used to do a lot of mouldboard plowing but with our climate and conditions we struggled with soil erosion. With the Karat we can work deep, and incorporate straw throughout the soil. The packing rollers provide a smooth, finished field that prevents erosion from wind and holds the snow better. In the spring we use the Karat to prepare the soil for planting potatoes and for lighter cultivation with other crops. It allows us to do more strategic tillage on our farm than other machines do."

> **Dennis MacNevin,** G W & R Visser Farms at Vernon, P.E.I.



TECHNICAL DATA

Heliodor 9	mounted, ri	igid			mounted, hydraulic folding						
Туре	9/200	9/250	9/300	9/350	9/400	9/400 K	9/450 K	9/500 K	9/600 K	9/700 K	
Working width ft (m)	6.5 (2.0)	8(2.5)	10 (3.0)	11,5 (3.5)	13 (4)	13 (4)	15 (4.5)	16.5 (5)	20 (6)	23 (7)	
Weight (lb) without roller	1.254	1.566	1.874	2.130	2.385	3.940	4090	4.242	4.853	5460	
Discs (number Ø inch)	16/20	20/20	24/20	28/20	32/20	32/20	36/20	40/20	48/20	56/20	
HP (from - to)	50 - 80	63 - 100	75 - 120	88 - 140	100 - 160	100 -160	113 -180	125 - 200	150 - 240	175 - 280	
Heliodor 9	semi-moun	ted, hydraulio	folding			trailed, hyd	aulic folding				
Туре	9/400 KA	9/450 KA	9/500 KA	9/600 KA	9/700 KA	Gigant 10/800	Gigant 10/1000	Gigant 10/1200	Gigant 12S/1600		
Working width ft (m)	13 (4)	15 (4.5)	16.5 (5)	20 (6)	23 (7)	26 (8)	33 (10)	39 (12)	52.5 (16)		
Weight (lb) without roller	6.224	6.567	6.932	7.396	7.880	10.996	12.232	14.850	21.492		
Discs (number Ø inch)	32/20	36/20	40/20	48/20	56/20	64/20	80/20	96/20	128/20		
HP (from - to)	100 -160	113 -180	125 - 200	150 - 240	175 - 280	200 - 320	250 - 400	300 - 480	400 - 640		
Rubin 10	mounted, ri	igid			mounted, hy	ydraulic foldi	ing				
Туре	10/250 U	10/300 U	10/350 U	10/400 U	10/400 KU	10/450 KU	10/500 KU				
Working width ft (m)	8(2.5)	10 (3.0)	11,5 (3.5)	13 (4)	13 (4)	15 (4.5)	16.5 (5)				
Weight (lb) without roller	3.263	3.594	3.880	4.167	6.041	6.528	6.969				
Discs (number Ø inch)	20	24	28	32	32	36	40				
HP (from - to)	88 - 126	105 - 150	123 - 175	140 - 200	140 - 200	158 - 225	175 - 250				
Rubin 10	semi-mounted, hydraulic folding						Rubin 9	trailed, hyd	raulic folding		
Туре	10/400 KUA	10/450 KUA	10/500 KUA	10/600 KUA	10/700 KUA			Gigant 10S/800	Gigant 12S/1000	Gigant 12S/1200	
Working width ft (m)	13 (4)	15 (4.5)	16.5 (5)	20 (6)	23 (7)			26 (8)	33 (10)	39 (12)	
Weight (lb) without roller	7.385	7.826	8.488	10.141	12.015			15.357	24.110	27.298	
Discs (number Ø inch)	32	36	40	48	56			64/24	80/24	96/24	
HP (from - to)	140 - 200	158 - 225	175 - 250	210 - 300	245 - 350			280 - 400	350 - 500	420 - 600	
Rubin 12	mounted, ri	igid		semi-mount	ted, hydraulic	folding					
Туре	12/300 U	12/350 U	12/400 U	12/400 KUA	12/500 KUA	12/600 KUA	12/700 KUA	12/800 KUA	12/950 KUA		
Working width ft (m)	10 (3.0)	11.5 (3.5)	13 (4)	13 (4)	16.5 (5)	20 (6)	23 (7)	26 (8)	31 (9.5)		
Weight (lb) without roller	4.511	4.721	5.767	9.811	11.464	12.456	14.617	17.085	20.172		
Discs number (Ø) (inch)	18/29	18/29	22/29	22/29	30/29	34/29	42/29	42/29	50/29		
HP (from - to)	135 - 240	158 - 280	180 - 320	180 - 320	225 - 400	270 - 480	315 - 560	360 - 640	428 - 760		
¹ based on a working speed	l of 10 mph										

¹ based on a working speed of 10 mph

TECHNICAL DATA

Karat 9	mounted, rigid			mounted, rigid, with automatic overload safety device			mounted, hydraulic folding		mounted, hydraulic folding, with automatic overload safety device	
Туре	9/300	9/350	9/400	9/300 U	9/350 U	9/400 U	9/400 K	9/500 K	9/400 KU	9/500 KU
Working width ft (m)	10 (3.0)	11,5 (3.5)	13 (4)	10 (3.0)	11,5 (3.5)	13 (4)	13 (4)	16.5 (5)	13 (4)	16.5 (5)
Weight (lb) without roller	1.874	2.094	2.315	2.535	2.899	3.263	3.671	4.156	4.685	5.434
number of tines / pairs of discs + single disc	11/3	12/3+1	14/4	11/3	12/3+1	14/4	14/4	17/5	14/4	17/5
Line distance (inch)	10.6	11,4	11.0	10.6	11,4	11.0	11.0	11,4	11.0	11,4
Beam disctance (inch)	27,6	27,6	27,6	27,6	27,6	27,6	27,6	27,6	27,6	27,6
HP (from - to)	105 - 150	125 - 175	140 - 200	105 - 150	125 - 175	140 - 200	140 - 200	175 - 250	140 - 200	175 - 250

Karat 9	semi-mount	ted, hydraulio	folding		semi-mounted, hydraulic folding, with automatic overload safety device				
Туре	9/400 KA	9/500 KA	9/600 KA	9/700 KA	9/400 KUA	9/500 KUA	9/600 KUA	9/700 KUA	
Working width ft (m)	13 (4)	16.5 (5)	20 (6)	23 (7)	13 (4)	16.5 (5)	20 (6)	23 (7)	
Weight (lb) without roller	8.261	9.165	10.046	11.171	9.187	10.355	11.413	12.273	
number of tines / pairs of discs + single disc	14/4+1	18/6	21/7	25/8	14/4+1	18/6	21/7	25/8	
Line distance (inch)	11.0	11.0	11,4	11.0	11.0	11.0	11,4	11.0	
Beam disctance (inch)	39,4	39,4	39,4	39,4	39,4	39,4	39,4	39,4	
HP (from - to)	140 - 240	175 - 300	210 - 360	245 - 420	140 - 240	175 - 300	210 - 360	245 - 420	

Karat 12	Semi-moun	ted, hydrauli	c folding, witl	h automatic c	verload protection
Туре	12/400 KUA	12/500 KUA	12/600 KUA	12/700 KUA	
Working width ft (m)	13 (4)	16.5 (5)	20 (6)	23 (7)	
Weight (lb) without roller	11.751	12.324	14.374	16.028	
number of tines / pairs of discs + single disc	17/4	21/5	25/6	29/7	
Line distance (inch)	23.4	23.4	23.4	23.4	
Beam disctance (inch)	35/31/35	35/31/35	35/31/35	35/31/35	
HP (from - to)	180 - 340	224 - 425	270 - 510	314 - 595	

¹ based on a working speed of 7.5 mph

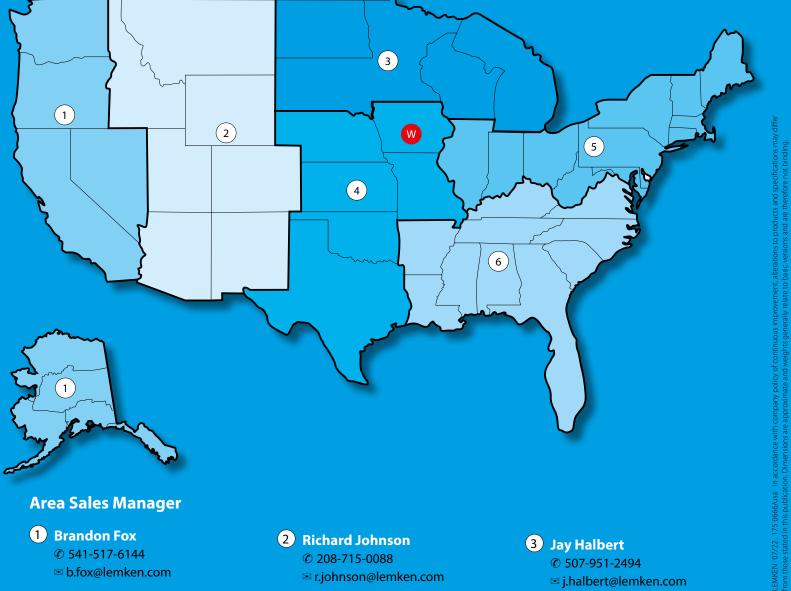
WE'RE HERE FOR YOU

For high-quality original wear parts

Our LEMKEN original wear parts enable your LEMKEN implement to stay as it is: an original. Whichever machine you need a spare part for, we ensure that the original parts are always available for all LEMKEN implements. Not only in the short term, but for years to come.

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



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