

Product Range

- ▶ Soil Cultivation
- ▶ Drilling
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In accordance with company policy of continuous improvement, alterations to products and specifications may differ from those stated in this publication. Dimensions are approximate and weights generally relate to basic versions and are therefore not binding.

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Innovation through customer focus



**Chief Executive Officer Dr. Franz-Georg von Busse
and Partner Nicola Lemken**

The brand LEMKEN as specialist for professional crop cultivation stands for a range of high performance agricultural innovations of the highest quality. In this overview you will find information about our new products together with equipment that has proven itself during decades of practical use.

The reason: LEMKEN does not plan and build in secret. Instead, we work together with farmers to develop machines which help them with their practical needs. As "The AgroVision Company", we know that every field is different. Only practical, hands-on

experience will reveal the demands placed on machines by professional crop production practices. Only with practical experience, can our design engineers gain valuable feedback for the development and optimisation of our product range.



LEMKEN custom made

For the reasons above, our product range consists of custom made machines, designed to fully meet the needs of the world's farmers and contractors. Our extensive option list allows you to tailor your machine to precisely suit your individual needs.

State of the art production processes

High quality steel forms the foundation for the durability and quality of all LEMKEN machines and spare parts. State of the art manufacturing processes ensure production quality meets our exacting standards: CNC-controlled machining centres, and robotic welding plants, are used side by side. A fully automatic production and hardening plant prepares components before machine assembly. Careful and strict quality control, throughout the production

process, ensures that only technically perfect products reach the end user.

Perfect service

Our extensive LEMKEN service structure guarantees that you can always work reliably. 16 service centres in Germany alone offer competent advice and the timely provision of high quality spare parts. A comprehensive international LEMKEN distribution network covers 45 export markets.

LEMKEN at a glance



LEMKEN is one of the leading manufacturers of professional crop production equipment in Europe.

- Owner-operated family business since 1780
- Proprietors: Viktor and Nicola Lemken
- More than 1,000 employees worldwide
- Headquarters in Alpen, northwest of Düsseldorf
- Further sites in Meppen and Hetzerath
- Products: crop production equipment for all applications
- Cultivation, sowing and pest control
- Production: approx. 14,000 units per year
- 70 % for export
- Internationally awarded products (gold and silver awards)



A clean plough line - a prerequisite for guaranteed and high yields



Through the expansion of maize cultivation in the past few years in particular, the plough has regained its importance as a primary cultivator. The reduction of plant diseases, mechanical pest control due to increasing resistance chemical resistance, and the fight against new pests, are among the most important tasks facing a plough today. Recent research has shown that loosening and aerating the root zone, with a plough, can improve the formation of

rape roots, for example, thus laying the foundation for high and guaranteed yields. LEMKEN offers a suitable plough for every soil condition and every tractor over 30 kW. There are two to seven furrow mounted ploughs, five to ten furrow semi-mounted ploughs, and large wagon ploughs up to 12 furrows. Furthermore, only LEMKEN offers the multi-award winning VariTansanit hybrid plough, offering the benefits of mounted and semi-mounted models.

A key feature of the entire plough programme is the extensive range of equipment features and plough accessories. There is a model which perfectly suits the needs of every farmer and contractor. Mechanical and hydraulic auto-reset systems for stone protection, various inter-body and under-beam clearances, and mechanical or hydraulic furrow width, are just a few of the choices available.



EurOpal



Perfect technology for improved work quality

The two to seven furrow EurOpal mounted ploughs are characterised by high strength at low weight. They are easy to pull and consequently very efficient to use.

- The Optiquick adjustment centre allows the independent adjustment of front furrow width and pull point for precise ploughing without lateral forces.
- The adjusting brackets are bolted to the thick box section made from alloy fine grain steel resulting in high stability, reliable endurance strength, and fitting accuracy.
- The skimmers can be adjusted without tools and are therefore easy to use.
- The height-adjustable cross shaft can be adjusted to any conditions and thus guarantees the perfect position of the tractor lower links.
- The short and strong turnover axle, in the headstock, is not compromised by welded joints and can therefore withstand the highest impact and permanent loads.



Optiquick adjustment centre



Working width adjustment



Skimmer

VariOpal



For wide and narrow ploughing, wide furrows for wide wheels

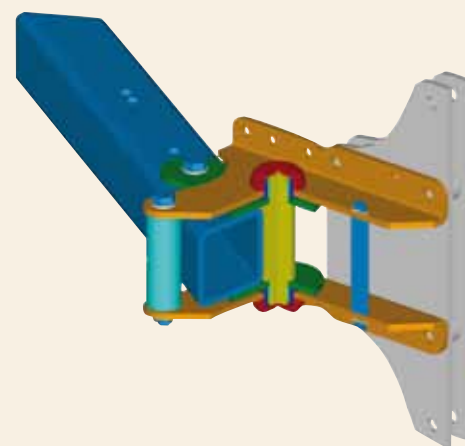
The VariOpal perfectly fulfils all requirements for ploughing. Good ploughing performance relies heavily on the working width and working depth of the different bodies.

- Once basic parameters have been set via the Optiquick adjustment centre, front furrow width and pull point are automatically adjusted whenever the working width is changed. This ensures optimum ploughing performance at every working width without lateral forces.
- All bearings have wear-resistant bushes. Hardened bolts are greasable thus guaranteeing highest stability and long durability.

- The frame plates for the pivot bracket connection are screwed to the frame. Increased durability and high fitting accuracy guarantee a long lifespan.
- The long body distance, the lateral attachment of plough bodies on the frame, and the shape of the legs, result in increased clearance thus avoiding blockages even at shallow working depths.
- The position of the land wheel on the frame allows for direct ploughing right up to ditches, fences and boundaries, depending on the number of furrows and the working width used.



Optiquick adjustment centre



Vari connection



Hydraulic ram for working width adjustment



Hydraulic support wheel

Trend-setting ploughing technology

The Juwel plough generation combines safe use, easy operation and work quality in an entirely new model. Initially available with three to seven furrows, and a 140 mm box section frame, the Juwel is suitable for medium to high HP tractors.

- The new TurnControl system gives the operator increased control of plough rotation and pitch. Increased ground clearance of the land wheel is another important feature.
- The electro-hydraulic control of the turnover device means plough pitch can be set from the tractor seat. It can also be "overridden" for the first or last pass of the field.
- New skimmers with improved shape and new leg position guarantee blockage-free ploughing even under

difficult conditions. Working depth and angle can be adjusted easily without tools.

- Can be equipped with DuraMaxx bodies, for which mouldboards and slats have been manufactured without any drill or punch holes. This allows the use of harder steels which provide added life time compared to normal steels.

The Juwel amongst ploughs

The Juwel range of mounted ploughs, which will replace the successful Opal series in the long term, has been developed to retain the key strengths of its predecessor, whilst offering a host of added improvements.

Improved turnover mechanism

For the first time, plough pitch, in the new generation of mounted ploughs, can be set and adjusted directly from the tractor cab. Used for a number of years on the Tansanit range, this new feature uses electro-hydraulic, rather than mechanical, wing stops to set the plough pitch. This will be especially useful for those ploughs working both on-land, and in-furrow. The land wheel has been re-designed to increase clearance between it, and the ground, during turnover. This advantage particularly proves its worth on tractors with low lift height and with heavy five, six, and seven furrow ploughs.

Newly designed skimmers

Manure skimmers have similarly been re-designed in respect to the previous generation. The improved shape, together with the modified blade position provides blockage-free ploughing, even in the most difficult conditions. The working depth and angle of the



The OF version, of the new Juwel mounted plough, is suitable for ploughing both “in the furrow” as well as “on-land”.

manure skimmers continues to be easily adjusted without tools.

All Juwel ploughs can be equipped with the new “DuraMaxx” generation of plough bodies giving improved wear rates. For optimal results in especially sticky soil, individual plough slats are also available in plastic.

Trouble-free work in every soil type

The “Hydromatic” auto-reset safety device provides increased protection compared to its predecessor. A mainte-



The completely new electro-hydraulic turnover device allows simple and efficient adjustment of pitch without leaving the cab.

nance-free support point ensures plough bodies are guided back precisely into working position, after tripping, even in difficult conditions. With 38 cm upward and up to 20 cm side-ward movement, there is always enough tripping space for continuous blockage-free work, even when ploughing deeply. Trip pressure can be conveniently adjusted, hydraulically from the tractor seat, to suit changing soil conditions.

Also an option on the Juwel plough is the hydraulic support wheel with an integrated damper. It provides the possibility of hydraulically adjusting the working depth even with heavy ploughs and heavy soil via a double-acting control valve.

Thanks to the precise plough adjustments using the proven “Optiquick” adjustment centre from LEMKEN, traction power requirement, as well as fuel consumption and wear, are reduced to a minimum.

Tansanit



Headstock



Transport

Consistent work quality at lower costs

The Tansanit hybrid plough combines the benefits of mounted and semi-mounted systems in a single machine. It is available in six or seven furrow format and can be used with much lighter tractors than comparable semi-mounted ploughs.

- A hydraulic top link controls the weight transfer from the plough to the tractor. This ensures optimum traction power distribution with minimum slippage and reduced fuel consumption.
- Thanks to the electronic Hybridcontrol system, the headland process is carried out automatically. Furthermore, the pitch can be adjusted from the comfort of the tractor cab.

- Weight transfer to the rear axle, and the beneficial centre of gravity achieved, leads to an increased stability and, in turn, safer headland turns, not least on hillsides.
- The Hydromatic hydraulic overload protection with high trip forces allows for failure-free ploughing even in difficult stony conditions. The firm connection of the plough bodies to the supporting point allows for horizontal and lateral movement at the same time.
- Land wheel is hydraulic and the headstock can be hydraulically set to 'fixed' for field work, or 'pivot' for road transport.

New DuraMaxx hybrid plough bodies can be optimally adjusted to soil conditions

NEW

No sticking even in extreme soils



Wearing parts are fastened without drill holes and punch holes. Slats or mouldboards are simply hooked on allowing replacement in as little as one minute.

LEMKEN has expanded its unique DuraMaxx plough body design with a hybrid body option. With it, the user can freely assemble the slats of the plough body from steel and plastic depending upon operating conditions and optimally adjust the characteristics to suit the respective soil conditions.

The best operating characteristics are achieved in extremely sticky soils when plastic slats are used. This is proven by tests with the universal CS 40 body with plastic slats, which works without sticking even under extreme conditions. However, wear rates of plastic are significantly higher than that of steel. With the new DuraMaxx hybrid body, steel and plastic slats can now be com-

bined on one body to optimise the balance between “free flowing” and “reduced wear”.

A similarly positive result from the tests is blockage-free ploughing in maize straw. Here, the greater clearance between slats and support also contributes to improved performance of the DuraMaxx plough body design. In addition, the point and wing are separated for trouble-free ploughing. The overlapping fit prevents roots or foreign objects from accumulating.



LEMKEN DuraMaxx Hybrid body with plastic slats in the upper and lower areas

Above all, the main advantage, of the LEMKEN DuraMaxx system, is up to 50 percent higher service life and the considerably lower running costs which result. DuraMaxx design removes drill and punch holes, and weld beads, from the wearing parts. This means they can be hardened to a greater degree, without the risk of cracking. Wear rate, therefore, is reduced. Furthermore, the placement of the slats over a supporting strip, reduces their need for strength. Compared to standard parts, DuraMaxx slats can be worn thinner before they break.

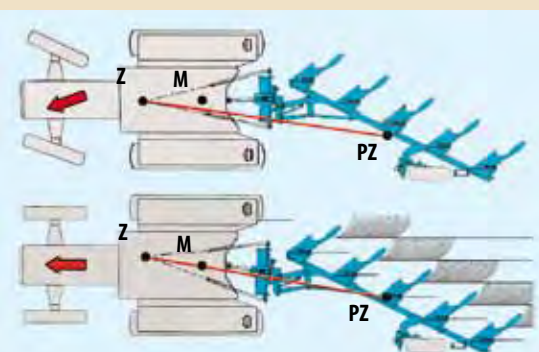
Slats and mouldboards of the DuraMaxx body are simply hooked onto a frame. Thus, wear parts can be changed without tools and in half the time of conventionally bolted bodies. And with the new QuickConnect, subsoilers can be fitted or removed more easily and in significantly less time.

The body pitch of the DuraMaxx system is adjusted by means of the Ex-center in the main body: A flat setting provides a balanced and easy pulling plough in the soil; the steeper setting provides improved penetration in hard soil conditions. Trash boards, if fitted, are mounted directly on the leg, so they can be adjusted independently of the body to current soil conditions.

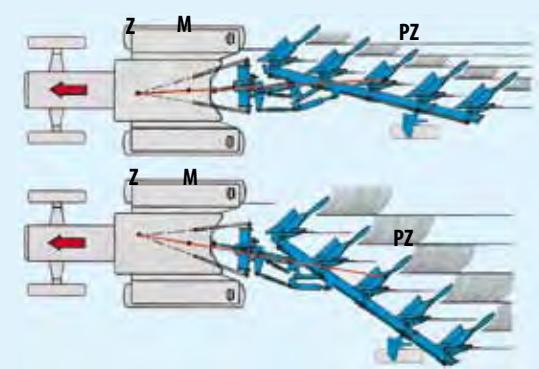


LEMKEN DuraMaxx Hybrid body equipped completely with plastic slats

Optiquick



Adjustment of front furrow width and tractor/plough line for EurOpal



VariOpal working width adjustment

Ploughing at any working width without lateral forces

The precise plough adjustment is an important factor to minimise material wear and reduce fuel consumption. This is why LEMKEN has developed its unique Optiquick adjustment system. Optiquick allows for easy and efficient adjustment of front furrow width, and tractor/plough pull line, independently of each other. Time and money are saved as a result.

- The plough is perfectly adjusted if the tractor/plough pull line – in this case the line between Z and PZ – runs through the middle of the tractor's rear axle M. Z is the point, where the imaginary extension lines of the lower links cross. PZ is the centre of the plough.

- Firstly, the front furrow width is adjusted. This is done by means of the outer turnbuckle. The tractor/plough pull line is not yet ideal, because the line between Z and PZ does not go through the middle of the rear axle. The plough will pull the tractor to one side.
- Lateral forces are eliminated by adjusting the inner turnbuckle until the tractor/plough pull line crosses the tractor's rear axle in point M. The width of the front furrow remains unchanged despite the pull point correction.
- Once set, the front furrow and the tractor/plough pull line are adjusted automatically for all Vari models with hydraulic working width adjustment.

Overload protection



Failure-free operation under any condition

- The mechanical overload protection with high trip and re-entry forces ensures soft, shock-free tripping. Tractor and plough are protected from shock loads.
- The plough beam and legs made from elastic spring steel ensure good lateral tripping potential.
- The HydriX hydraulic overload protection provides a trip force that can be adjusted between 50 and 140 bar which allows for ploughing with low trip force in light soil conditions so that stones remain in the soil.
- The Hydromatic hydraulic overload protection allows for failure-free ploughing even in difficult stony conditions. The firm connection of the plough bodies to the supporting point allows for horizontal and lateral movement at the same time. The Hydromatic protection is completely maintenance-free.



The mechanical overload protection



HydriX



Hydromatic

EuroDiamant



Adjusting bracket for working width adjustment



Simple adjustment of skimmers

Simple handling and high efficiency

With the EuroDiamant range of semi-mounted ploughs, LEMKEN fulfils the modern day ploughing needs of large farms. Five to nine furrow models provide a high working width for large tractors.

- After loosening the central screw, four different working widths from 30 to 50 cm can be chosen allowing for a range of applications.
- The generously sized land wheel minimises the ground pressure when ploughing and provides a stable base during road transport.
- The skimmers can be adjusted without tools and are therefore easy to use.
- The long clearance between the headstock and the tractor allows for tractors up to 3 metres large headland turns of up to 90 degrees. This makes the plough particularly manoeuvrable on narrow headlands.
- Two hydraulic cylinders turn the plough smoothly without loss of power by 180 degrees.
- The exact pitch can be individually adjusted for each side.

VariDiamant



Perfect ploughing at the right working width

Work quality and output are the primary requirements for modern semi-mounted ploughs. VariDiamant five to nine furrow ploughs have been developed to perfectly fulfil these two key points.

- The working width is steplessly adjustable via a double-acting hydraulic cylinder. There is no need to leave the tractor seat.
- All bearings have wear-free bushes, hardened bolts, and are greasable, thus guaranteeing highest stability and long life.
- The frame plates for the pivot brackets are bolted to the frame minimising stress forces. High fitting accuracy guarantees a long lifespan.

- On ploughs equipped with an extension furrow, the land wheel runs inside the plough frame. This allows for easy ploughing right up to boundaries, fences and other obstacles.
- Thanks to the position of the draft point, a perfect tractor/plough pull line is achieved. This reduces the landside pressure and fuel consumption, even at different working widths.



Hydraulic working width adjustment



Used together with press

EuroTitan



The rear plough part



Turning manoeuvre

Designed for use with high HP tractors

Tractor manufacturers continue to develop ever bigger tractors. Such tractors place enormous loads on the implements placed behind them. The EuroTitan plough, with nine to twelve furrows, has been designed for use with some of the largest tractors on the market today. High quality steel, and the latest CAD design processes, ensure the EuroTitan will provide years of reliable service on the largest farms.

- The large clearance between the headstock and the tractor allows for tractors up to 4 metres large turns of up to 90 degrees. This results in better manoeuvrability on the headland and facilitates ploughing with dual wheel tractors if preferred.
- EuroTitan ploughs can be reconfigured quickly and easily for on-land or in-furrow ploughing. Therefore, they

can be used behind crawlers, multi-wheel tractors, or standard tractors.

- The cross-shaft can be height-adjusted by moving a bolt allowing for targeted loading of the tractor's rear axle.
- The greasable frame joint between the front and rear plough assembly allows movement in terms of working depth as well as driving direction. This ensures perfect ground adjustment even on sloping ground.
- After loosening the central screw, four different working widths from 30 to 50 cm can be chosen.

VariTitan



High efficiency and perfect ploughing

Different ground and weather conditions demand an easy to adjust working width, if ecological and economical situations are to be fully exploited. With nine to twelve furrow versions, and working widths of up to 660 cm, the VariTitan offers the best possible output in the prevailing conditions.

- Control of turning and lifting functions via electric turn control allow for safe manoeuvring and speedy turning.
- The working width can be steplessly adjusted via a double acting hydraulic cylinder for the front and rear part of the plough.
- The exact working depth can be adjusted in fine steps without tools on the chassis and the rear support wheel via pins. This ensures constant working depths.

- The front support wheel is situated inside the plough frame making the VariTitan particularly easy to handle.
- The generously sized wheels minimise the ground pressure when ploughing and ensure stability during road transport.



Front support wheel inside the plough frame



On the headland

Technical data

EurOpal 5 (box section frame 110x110x8 mm)				EurOpal 6 (reinforced frame110 x110 x 8 mm)		EurOpal 7 (box section frame 120 x 120 x 10 mm)		
Number of furrows	2	3	3+1	4	4+1	3	4	4+1
Working width (cm)	60/100	90/150	120/200	120/200	150/250	90/180	120/240	150/250
Weight (kg)	552	707	870	907	1,070	753	949	1.155
kW/HP	29/40-44/60	37/50-59/80	44/60-74/100	51/70-81/110	59/80-96/130	51/70-74/100	59/80-96/130	66/90-118/160
EurOpal 8 (box section frame 140 x 140 x 10mm)								
Number of furrows	3	4	5	6	6+1			
Working width (cm)	120/180	120/240	150/250	180/360	210/315			
Weight (kg)	956	1,210	1,410	1,610	1,825			
kW/HP	66/90-88/120	81/110-118/160	96/130-147/200	103/140-176/240	118/160-221/300			
EurOpal 9 (box section frame 160 x 160 x 10mm)								
Number of furrows	3	4	5	6	6+1			
Working width (cm)	120/180	120/240	150/300	180/360	210/315			
Weight (kg)	1,058	1,280	1,495	1,710	1,940			
kW/HP	74/100-110/150	88/120-132/180	103/140-162/220	118/160-199/270	132/180-228/310			
VariOpal 5 (box section frame 110 x 110 x 8 mm)				VariOpal 6 (reinforced frame 110 x 110 x 8 mm)		VariOpal 7 (box section frame 120 x 120 x 10 mm)		
Number of furrows	2	3	3+1	4	4+1	3	4	4+1
Working width (cm)	44-100	66-150	88-200	88-200	110-250	66-165	88-220	110-275
Weight (kg)	567	727	950	1,067	1,290	852	1,107	1,373
kW/HP	29/40-44/60	37/50-59/80	44/60-74/100	51/70-81/110	59/80-96/130	51/70-74/100	59/80-96/130	66/90-118/160
VariOpal 8 (box section frame 140 x 140 x 10mm)				VariOpal 9 (box section frame 160 x 160 x 10 mm)				
Number of furrows	3	4	5	6	3	4	5	5+1
Working width (cm)	75-165	100-220	125-275	150-330	75-180	100-240	125-300	150-360
Weight (kg)	1,124	1,378	1,628	1,903	1,257	1,510	1,767	2.057
kW/HP	66/90-88/120	81/110-118/160	96/130-147/200	103/140-176/240	74/100-110/150	88/120-132/180	103/140-162/220	118/160-199/270
Juwel 8 (box section frame 140 x 140 x 10mm)								
Number of furrows	3	4	5	6	6+1			
Working width (cm)	120-180	120-240	150-250	180-300	210-315			
Weight (kg)	998	1,266	1,480	1,694	1,932			
kW/HP	66/90-88/120	81/110-118/160	96/130-147/200	103/140-176/240	118/160-221/300			
Juwel 8 V (box section frame 140 x 140 x 10mm)								
Number of furrows	3	4	5	6				
Working width (cm)	75-165	100-220	125-275	150-330				
Weight (kg)	1,166	1,434	1,698	1,987				
kW/HP	66/90-88/120	81/110-118/160	96/130-147/200	103/140-176/240				

Available with one-piece basic frame only: EurOpal 5, 2 furrow; EurOpal 7, 3 furrow; EurOpal 6/8/9, 4 furrow. VariOpal 5, 2 furrow; VariOpal 6, 4 furrow; VariOpal 8/9, 3 furrow. Available as flanged version only: EurOpal 5, 4 furrow ; EurOpal 6/7, 5 furrow, EurOpal 9, 7 furrow, VariOpal 5, 4 furrow; VariOpal 6/7, 5 furrow; VariOpal 8/9, 6 furrow. All other EurOpal and VariOpal ploughs are available with one-piece basic frame or as flanged version.

VariTansanit 8
(box section frame 140 x 140 x 10mm)

Number of furrows	6	6 + 1
Working width (cm)	150-330	175-385
Weight (kg)	2,317	2,596
kW/HP	103/140-151/205	103/140-169/230

EuroDiamant 8
(box section frame 140 x 140 x 10 mm)

Number of furrows	5	5+1	6	6+1
Working width (cm)	165-300	198-360	198-360	231-420
Weight (kg)	2,054	2,273	2,272	2,492
kW/HP	100/74-160/118	110/81-170/125	110/81-170/125	120/88-180/132

EuroDiamant 10
(box section frame 160 x 160 x 10 mm)

Number of furrows	5	5+1	6	6+1	7	7+1	8	8+1
Working width (cm)	165-300	198-360	198-360	231-420	231-420	264-480	264-480	297-540
Weight (kg)	2,500	2,734	2,730	2,964	2,970	3,204	3,200	3,434
kW/HP	92/125	92/125	92/125	92/125	92/125	92/125	92/125	92/125

VariDiamant 10
(box section frame 160 x 160 x 10 mm)

Number of furrows	5	5+1	6	6+1	7	7+1	8	8+1
Working width (cm)	150-275	180-330	180-330	210-385	210-385	240-440	240-440	270-495
Weight (kg)	2,675	2,969	2,940	3,234	3,215	3,509	3,480	3,774
from kW/HP	92/125	92/125	92/125	92/125	92/125	92/125	92/125	92/125

EuroTitan 10
(box section frame 180 x 180 x 10 mm)

Number of furrows	6/3	6/3 + 1	7/3	7/3 + 1	8/3	8/3+1
Working width (cm)	297-450	330-500	330-500	363-550	363-550	396-600
Weight (kg)	4,593	4,842	4,810	5,059	5,027	5,276
from kW/HP	132/180	132/180	132/180	132/180	132/180	132/180

VariTitan 10
(box section frame 180 x 180 x 10 mm)

Number of furrows	6/3	6/3 + 1	7/3	7/3 + 1	8/3	8/3 + 1
Working width (cm)	270-495	300-550	300-550	330-605	330/605	360-660
Weight (kg)	5,070	5,379	5,340	5,649	5,590	5,899
from kW/HP	132/180	132/180	132/180	132/180	132/180	132/180

Presses for large soil pores



The action of ploughing loosens the ground, and turns it over to leave the surface residues buried, and clean soil at the top. The loosening action lets air and warmth into the soil (a positive action) but also breaks soil capillaries, and leaves primarily large soil pores which will aid drainage, but hinder the necessary moisture retention. Water drains from below, and evaporates from above. To avoid excessive moisture loss, and

subsequent germination inefficiency, soil should be reconsolidated as soon as possible after ploughing.

LEMKEN presses offer the opportunity to reconsolidate, immediately after ploughing. As the press is pulled by the plough, moisture loss through evaporation is avoided, and there is a large time, and cost, saving compared to that with a separate machine pass later.

Additionally, surface clods are broken, saving further expensive operations at a later date.



FixPack



Fixpack with star roller



FixPack in transport position

The permanent connection of plough and press

The integrated FixPack furrow press remains connected to the plough at all times. The press remains with the plough during road transport or on the headland saving valuable time. It can be used with three, four and five furrow mounted reversible ploughs with up to 2.5 m working width.

- Depending on the soil type and the desired work effect, the FixPack can be used with plastic ring, or star, rollers for a perfect crumble effect and reconsolidation.
- The FixPack's pressure can be quickly and easily adjusted to suit the soil conditions, between 400 and 800 kg, via a series of holes.

- For road transport, the FixPack and the plough are lifted, rotated by 90° and mechanically locked. The press arm is then hydraulically folded in parallel to the plough. This guarantees safe road transport whilst allowing quick and easy reactivation of the plough for the first furrow.

VarioPack



High efficiency for every soil

Plough press or as front furrow press, single- or double-row, with 700 mm or 900 mm ring diameter, with 30° or 45° ring profile, LEMKEN has the right solution for any condition.

- Thanks to the ring construction without individual hub, the working width of the VarioPack furrow press can be easily adjusted by adding or removing rings. The ring shape, ring profile and special attachment method guarantee highest reliability, durability and minimum wear.
- The press arm made from highly elastic, tempered steel is resistant to accidental damage from the tractor.

- The use of a following roller ensures additional crumbling of cloddy soil and good levelling. On light to medium soils, your field can be made ready for sowing in one pass.
- A pushing device allows the press to be used in a front-mounted situation. A simple steering mechanism allows for exact, continuous coverage and easy turns.
- On folding front furrow presses, the separate sections are free to follow the ground contours providing uniform work quality.



VarioPack with following implement



Front mounted VarioPack

Technical data

FixPack

Equipment	Roller diameter (mm)	Working width (cm)	Weight (kg)
Synthetic roller with scrapers	500	200	376
Synthetic roller with scrapers	500	250	417
Star roller	330	200	327
Star roller	330	250	349

VarioPack

	110WDP 70 (double row)	S110 WDP 70 (double row)	110 WDP 90 (double row)	110WEP 90 (single row)
Ring diameter (mm)	700	700	900	900
Working width (cm)	100-300	250-440	162-400	100-400
Weight (kg)	590-1,452	1,242-2,040	1,390-3,005	572-1,847
Central frame (mm)	110 x 110 x 8	110 x 110 x 8	110 x 100 x 8	110 x 110 x 8
Number of rings	10-30	25-44	13-32	5-20
Line distance (cm)	10	10	12,5	20

VarioPack 110 FEP

	250-90	300-90	400-90
Ring diameter (mm)	70	70	70
Working width (cm)	250	300	400
Weight (kg)	1,145	1,315	1,825
Number of rings	12	14	20
Line distance (cm)	20	20	20

VarioPack 110 FEP K

	400-70	450-70	500-70	600-70
Ring diameter (mm)	70	70	70	70
Working width (cm)	400	450	500	600
Weight (kg)	1,250	1,350	1,450	1,750
Number of rings	20	22	24	30
Line distance (cm)	20	20	21	20

VarioPack 110 FEP K

	400-90	450-90	500-90	600-90
Ring diameter (mm)	90	90	90	90
Working width (cm)	400	450	500	600
Weight (kg)	2,500	2,700	2,900	3,500
Number of rings	20	22	24	30
Line distance (cm)	20	20	21	20

Rollers



Versatile and essential

The rollers on a unit play a varied role in terms of stubble cultivation and seedbed preparation as well as with conventional cultivation methods and mulch seeding. They are used to crumble, reconsolidate and level various soils.

LEMKEN offers an extensive roller range with a model to suit every situation. LEMKEN Rollers control the equipment precisely at the required depth and are equipped with a reliable support bearing. They are resistant to stones and sticking of soil and they cope with light, medium and heavy soil.

				Combinations							
				Ø ca. mm	Ø ca. mm	Weight (3 m large, ca. kg)	Zirkon 8/10	Quarz 7	Helidor 8	Rubin 9	Smaragd 9
Description		Roller	Tube								
	Tube bar roller RSW 400	400		243	•	• ¹	•	•	•		
	Tube bar roller RSW 540	540		313	•	•	•	•	•	•	
	Tube bar roller RSW 600	600		370		•	•	•	•		•
	Double roller DRF 400 tube/flat	400/ 400		420			•	•	•	•	•
	Double roller DRR 400 tube/tube	400/ 400		420			•	•	•	•	•
	Double roller DRR 540/400 tube/tube	540/ 400		490			•	•	•		•
	Knife roller MSW 600	600		470			•	•	•	•	•
	Rubber ring roller GRW 590	590	406	623			•	•	•		•
	Toothed packer roller ZPW 500	500	355	453	•	•	•	•	•		
	Double profile ring roller DPW 540	540/ 540		610			•	•	•		•
	Packer profile roller PPW 600/540	600/ 540		925							•
	Trapeze ring roller TRW 500	500		499		•					
	Trapeze disc roller TSW 500	500	323	513	•	•	•	•	•		
	Trapeze packer roller TPW 500	500	406	611	•	•	•	•	•		

¹ front mounted

Perfect seedbed as a basis for optimum plant canopies



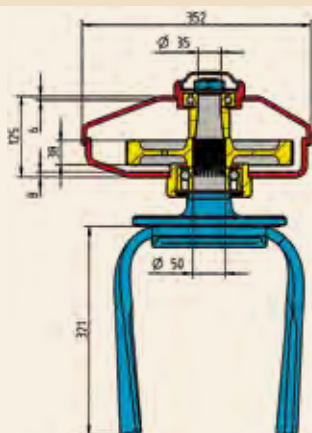
A perfect seedbed forms the basis for a successful crop. Prepared soil should be level, firm, and free from compaction, across the entire width and working depth of the seedbed preparation machine. LEMKEN seedbed cultivators guarantee an optimum size distribution of soil aggregates, to provide a balance between good drainage and optimum moisture retention. Following rollers provide optimum consolidation without compaction. This is a critical factor in the germination efficiency of the crop. Efficient machines, which prepare a perfect seedbed, at the mini-

mum operating cost, increase the profitability of the business.

In addition to the Zirkon PTO driven rotary harrows, non-powered seedbed combinations are also significant in the area of secondary soil preparation for cereal, rape seed, and fruits planted in rows. With the Quarz short combination, and the System-Kompaktor and System-Korund seedbed combinations, LEMKEN offers machines with versatile equipment possibilities to meet all agricultural requirements for perfect seedbed preparation.



Zirkon 8



Sloping pan profile of the Zirkon 8



Central adjustment of the levelling bar

The versatile rotary harrow for optimum seedbed preparation

The Zirkon 8 is the new rotary harrow model for tractors with 60 to 175 HP. The special feature of the Zirkon 8 is its modular design with various additional equipment options to suit your operational conditions.

- The height of optional levelling bar can be easily and centrally adjusted from the side, using a spanner.
- The Zirkon 8 can be combined with the Saphir or Solitair seed drills. A three-point linkage for attachment of further equipment combinations is available as an option.
- The Zirkon 8 can be specified for use at the front or rear of the tractor
- The new sloping pan profile increases overall strength, provides more space for rotor and bearings, and encourages dirt to fall away.
- Base (8 mm) and cover (6 mm) are welded firmly together, and guarantee a long operational life
- The modular design of the Zirkon 8 provides many equipment variations for tines and transmission.

The modular design for all conditions

With the selection of various options available, such as transmission and tine attachment, the Zirkon 8 can always be tailored to suit the individual requirements and conditions.



Module 1: Transmission

A simple bevel gear is available for the Zirkon 8, where the desired revolutions for the rotor can be achieved by swapping the exchangeable bevel gears. The DUAL-Shift transmission allows selection of rotor speed from 330 to 400 revolutions per minute by means of a simple gear lever. Without swapping the tines, their rotational direction can be changed by shifting the transmission from „Grip“ to „Drag“ according to requirements.



Change gear transmission



Change of revolutions on the DUAL-Shift Transmission

Module 2: Tines

The Zirkon 8 WG is equipped as standard with bolt-on tines with a length of 300 mm. The quick-change tines with a length of 320 mm are equipped with a new style of locking device. The locking device can be easily opened using a spanner to replace the tines quickly.



The bolt-on tine

Working widths

The Zirkon 8 is available in working widths of 2.5 m, 3 m, 3.5 m and 4 m. Thus the appropriate rotary harrow is always available for each operation.

Multiple accessories

The individual models of the Zirkon 8 can be extended by a large number of equipment variants. The models can be finished using a heavy duty headstock above the centrally adjustable levelling bar, and a roller available from the comprehensive range of rollers.



Replacing the quick-change tine

Zirkon 10



Change of rotational direction



Quick-change tines

The rotary harrow for maximum constant load in all tilling procedures

The Zirkon 10 is suitable for maximum constant load both in conventional and conservation-tillage procedures. The active tools of the Zirkon 10 prepare an optimum seedbed in almost all soil conditions up to a working depth of approximately 15 cm. The intensity of preparation can be specifically adjusted by selecting appropriate combinations of forward travel speed, PTO speed, and the transmission setting of the rotary harrow.

- The permanently welded gear trough made from hardened, thick-walled steel, ensures the smooth and quiet running of all gears, shafts and bearings. This, in turn, guarantees a long operational life.

- The DUAL-Shift transmission enables simple adjustment of the tine speed from 330 to 440 rotor revolutions per minute. In addition, the rotational direction of the tines can be changed simply by shifting the transmission from "Grip" to "Drag". As such, the machine is easy to adjust to all usage conditions.
- The quick-change tine with a length of 340 mm, and a thickness of 20 mm, guarantees maximum life span. The quick-change system ensures easy replacement of the tines with no tools required.
- For models with large working widths, the centrally located swing axles enable optimum adaptation to the ground contours.
- The Zirkon 10 can be specified for use at the front or rear of the tractor.

Quarz



The short and compact alternative to seedbed preparation

With the Quartz short combination, LEMKEN offers a suitable alternative to the rotary harrow or seedbed combination for light to medium soils. As a fixed version with a working width of 3 and 4 metres, the Quartz is the more cost-effective and economic alternative to powered machines. The Quartz can be combined with all LEMKEN seed drills as well as with machines from other manufacturers.

- Its short design and variable specification provide many application options for the Quartz, either as a front-mounted, or rear-mounted, machine, e.g. as an interesting alternative to the front press.

- The sprung levelling bar, secured against overload, provides optimum levelling of the soil in front of the tine section. It can be set to either "Grip" or "Drag".
- Choice of tines enables the machine to be tailored to suit the soil type and working conditions of the individual user. An adjustable headstock provides efficient connection to the tractor, and can be specified to allow front or rear-mounted operation.
- The track markers can be equipped either with wing shares or narrow shares.



The levelling bar in the „Grip“ position

System-Korund



Application of the System-Korund



Working action of the levelling bar

Powerful alternative in seedbed preparation with various equipment options

The System-Korund seedbed combination is characterised by particularly good levelling, loosening and grubbing with a high degree of surface coverage. Its capacity, due to its various tine options, is demonstrated in professional potato or maize cultivation.

- Its short and compact design provides a favourable centre of gravity and thus enables the use of tractors with lower lifting power. Due to its light weight, the machine can be used in large working widths on the tractor three-point hitch.

- The flexible support arms made from massive spring steel can absorb high impact loads and thus protect the tractor and appliance.
- To achieve an even loosening effect, tine sections with marathon or gamma tines for deep seedbed preparation are available, and for the flatter seedbed preparation duckfoot tines are recommended.

System-Kompaktor



Seedbed combination for optimum work results after only one pass

The System-Kompaktor is the ideal machine for preparing a finely cultivated, well reconsolidated seedbed with an even depth. This provides the basis for an even establishment, particularly of fine seeds like sugar beet and rape seed, and thus achieving high yields.

- Multiple combinations of tools and rollers provide optimum cultivation and reconsolidation of the seedbed.
- There is a choice of duck foot or gamma tines, and hollow tube or flat bar rollers can be selected according to preference.

- The suspension of the tine sections in a parallelogram ensures precise guidance and thus even working depth.
- The feeding of earth into the rollers is controlled via the hydraulically adjustable levelling bar for changing soil conditions. The leading levelling bar levels the surface.



Hydraulic adjustment of the levelling bar



Tool arrangement

Technical data

Zirkon 8		mounted, rigid				
Type	8/250 WG ¹ / SG ²	8/300 WG ¹ / SG ²	8/350 WG ¹ / SG ²	8/400 WG ¹ / SG ²		
Working width (cm)	250	300	350	400		
Weight (kg) ³	701	785	946	1015		
kW/HP	44/60-103/140	55/75-118/160	63/85-125/170	66/90-129/175		
Up to PTO rpm (min ⁻¹)	1,000	1,000	1,000	1,000		
Rotor speed (min ⁻¹) at 1.000 min ⁻¹	300/400	300/400	300/400	300/400		
Zirkon 10		mounted, rigid		mounted, hydraulic folding		
Type	10/300	10/400	10/400 K	10/450 K	10/500K	10/600 K
Working width (cm)	300	400	400	450	500	600
Weight (kg) ³	922	1,149	1,792	1,926	2,096	2,482
kW/HP	66/90-154/210	88/120-176/240	88/120-199/270	88/120-199/270	121/165-221/300	132/180-235/320
Up to PTO rpm (min ⁻¹)	1,000	1,000	1,000	1,000	1,000	1,000
Rotor speed (min ⁻¹) at 1.000 min ⁻¹	330/440	330/440	330/440	330/440	330/440	330/440
Zirkon 10		semi-mounted, hydraulic folding				
Type	10/400 KA	10/450 KA	10/500 KA	10/600 KA		
Working width (cm)	400	450	500	600		
Weight (kg) ³	3,561	3,764	3,953	4,477		
kW/HP	88/120-199/270	88/120-199/270	121/165-221/300	132/180-235/320		
Up to PTO rpm (min ⁻¹)	1,000	1,000	1,000	1,000		
Rotor speed (min ⁻¹) at 1.000 min ⁻¹	330/440	330/440	330/440	330/440		
Quarz		mounted, rigid		front mounted, rigid		
Type	7/300	7/400	7F/300	7F/400		
Working width (cm)	300	400	300	400		
Weight (kg)	612	834	662	884		
kW/HP	49/67-93/127	60/82-104/142	49/67-93/127	60/82-104/142		
System-Korund		mounted, rigid		mounted, hydraulic folding		
Type	300 L	450 L	600 L	750 L	900 L	
Working width (cm)	300	450	600	750	900	
Weight (kg)	872	1,410	1,952	2,860	3,268	
kW/HP	48/65-85/115	70/95-107/145	77/105-129/175	92/125-158/215	107/145-180/245	
Number + width of harrow sections	2 x 150 cm	3 x 150 cm	4 x 150 cm	5 x 150 cm	6 x 150 cm	
¹ exchangeable bevel gears						
² switchable gears						
³ weight without roller						

System-Kompaktor	mounted, rigid			mounted, hydraulic folding		
Type	300 S	400 S	600 S	400 K	500 K	600 K
Working width (cm)	300	400	600	400	500	600
Weight (kg) ¹	1,430	1,650	2,650	1,850	2,103	2,703
kW/HP	55/75-85/115	70/95-114/155	121/165-180/245	70/95-114/155	107/145-158/215	121/165-180/245
Number + width of harrow sections	2 x 150 cm	2 x 200 cm	3 x 200 cm	2 x 200 cm	2 x 150, 1 x 200 cm	4 x 150 cm
System-Kompaktor	semi-mounted, hydraulic folding		semi-mounted, rigid			
Type	500 KA	600 KA	600 SA			
Working width (cm)	500	600	600			
Weight (kg) ¹	3,670	4,270	4,225			
kW/HP	100/136-158/215	114/155-180/245	114/155-180/245			
Number + width of harrow sections	2 x 150, 1 x 200 cm	4 x 150 cm	4 x 150 cm			
System-Kompaktor	trailed, hydraulic folding					
Type	Gigant 10/800	Gigant 10/1000	Gigant 12/1200			
Working width (cm)	800	1000	1,200			
Weight (kg) ¹	5,981	7,651	10,091			
kW/HP	158/215-232/315	202/275-346/470	246/335-404/550			
Number + width of harrow sections	4 x 200 cm	4 x 150, 2 x 200 cm	6 x 200			
¹ weight with Crosskill roller						

An extensive product range for stubble and primary soil cultivation for mulch sowing



In many places the purpose of stubble cultivation has changed over recent years. Whereas stubble cultivation used to be an operation preceding ploughing, many farmers now use efficient stubble cultivation machines, followed by a cultivator drill, as a means of reduced-cost crop establishment.

Modern combine harvesters with wide headers have to handle large volumes of straw. Often the chopper cannot cut it properly, or distribute it over the full working width. However, these large

volumes of organic matter and volunteer cereals must be uniformly incorporated if the following crop is to be established without ploughing. The first stubble cultivation must break the capillaries, in order to prevent soil moisture loss, as soon as possible after harvest. If the next crop is to be mulch drilled, the soil will need to be cultivated again later after emergence of weeds and volunteers. This operation will be at a greater depth to remove compaction, and mix the chopped straw throughout the soil profile.

LEMKEN offers an extensive range of compact disc harrows and cultivators to provide for the needs outlined above. The primary cultivation, to break soil capillaries and encourage seed germination, can be done with Heliodor or Rubin compact disc harrows. Smaragd, Kristall or Karat cultivators, can be used for deeper work to remove compaction and mix chopped straw.



Heliodor



Disc arrangement on the Heliodor



Heliodor with levelling tines

High working speeds and low power requirement

The Heliodor compact disc harrow can be used for shallow stubble cultivation on light and medium soils, and for seedbed preparation before mulch sowing, or after ploughing. This means the Heliodor can be used in both conventional and mulch sowing systems. High working speeds and a low power requirement give high-performance tillage.

- With its robust leaf spring elements, the Heliodor operates continuously and without blockage, and is unaffected by stones.
- The 465 mm diameter, concave discs are protected from dust, dirt and water penetration, in

maintenance-free axial angular ball bearings with a special labyrinth sealing ring.

- The Heliodor is lightweight so that implements, from 3 to 6 metres working width, can be handled on the tractor three-point linkage.
- The 4 to 6 metre semi-mounted versions, of the Heliodor, can be combined with the Solitair pneumatic seed drill if required.
- For the large farm, the Gigant system carrier allows working widths of 8 to 12 metres to guarantee fast seedbed preparation.

Rubin

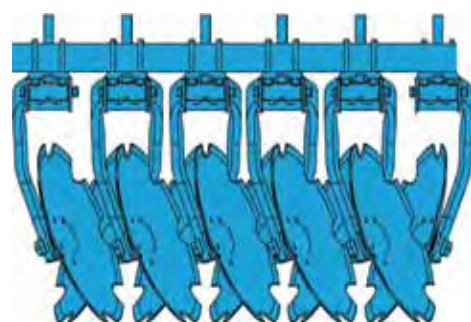


Shallow, fast and intensive

The Rubin compact disc harrow guarantees intensive, uniform mixing of organic matter and soil to a depth of approximately 12 cm. Its high weight guarantees penetration, even under hard conditions, and therefore reduces moisture loss from evaporation. This makes the Rubin highly suitable for shallow, reliable stubble cultivation at high working speeds.

- The open frame design with large clearances guarantees blockage-free operation even in tall green manure crops.
- The 620 mm diameter concave discs overlap between rows to ensure that all soil is moved even at shallow working depths.

- Legs are mounted on strong hinges, with overload protection via robust spiral springs, to ensure the discs stay on track even in difficult conditions.
- In working widths of 4 to 6 metres, the semi-mounted Rubin can be fitted with a light, transport axle, or with a combination axle for use together with the Solitair pneumatic seed drill.



Disc arrangement



Robust overload protection

Kristall



TriMix wing shares



Tool configuration

Top quality work and compact design

The new Kristall cultivator combines the proven advantages of a twin-beam cultivator with the added benefits of a cultivator with three or more tine rows.

- The innovative shape of the new, 47 cm wide TriMix shares with curved guide plates on the wings provides an unprecedented level of mixing compared to previous share designs.
 - The short, compact frame design gives better depth control than in multi-beam cultivators and requires less lifting power. Three-point linkage mounting, on the tractor, is possible up to working width of 6 metres.
 - The tines and concave levelling discs are arranged to guarantee blockage-free work without producing an unwanted "ridge effect".
- The Kristall is fitted as standard with LEMKEN's innovative quick-change system which enables the shares to be adjusted to individual requirements without tools.
 - The standard equipment also includes the automatic concave disc adjustment system to compensate for changes in working depth and automatic overload protection.

Only two beams but performance to equal a multi-beam cultivator

With its new range of Kristall cultivators LEMKEN combines the proven advantages of a twin-beam cultivator with those of a cultivator with three or more beams. Fewer tines, with more efficient shares, produce a mounted implement with low draft requirement for top quality cultivation.



The new Kristall cultivator with 7 tines (left) compared with the Karat cultivator with 11 tines. Working width is 3 m in both cases.

Top results

LEMKEN's newly developed 47 cm TriMix shares, which cut right across the soil surface, give excellent results. The curved guide plates fitted to the end of the wing shares ensure intensive mixing. On the first beam the guide plates are fitted at the outside of the wing shares. On the second beam they are shifted slightly inwards. This guarantees optimum results that have been

confirmed by a professional crop production specialist in numerous practical tests. In summary, the special shape, design and arrangement, of the tools on each of the seven tines, enable the Kristall to achieve comparable mixing to multi-beam implements with a far higher number of tines. This is true at working depths of up to approximately 15 cm. Straw and soil are intensively mixed and evenly distributed across the full working width.

Lower lifting requirement

The twin-beam Kristall is significantly shorter and more compact than multi-beam cultivators. This has the advantage of reducing the lifting requirement so that larger working widths can be lifted and transported safely by smaller tractors. A 100 HP tractor is sufficient for a 3 m working width. In this new generation of cultivators, LEMKEN has arranged the beams and concave discs for levelling so that the soil comes to rest in front of the next tool ensuring maximum freedom from blockages.

Flexible and cost-effective

Another plus point, for the new tined cultivator, is the quick-change tool system fitted as standard on the LEMKEN Kristall. Both tine and guide plate can be changed quickly without tools, providing easy adjustment of the Kristall to cater for specific requirements and soil conditions and offering other versatile application options.



Last but not least, the new generation of cultivators is highly cost-effective. The optimised number of tools, and rows of tines, reduces purchase costs and lowers operating costs by minimising outlay on wear parts without compromising the quality of work.

Karat



Quick and easy tool change



Easily accessible depth adjustment

Intensive work in deep and shallow stubble cultivation

The Karat intensive cultivator is suitable for initial shallow, all-over stubble cultivation after combining, as well as deep, intensive mixing to incorporate straw at a later date.

- With the innovative Quick-change tool system, the shares can be changed quickly and easily without tools so that the cultivator can be tailored to the different requirements of shallow or deep mixing cultivation.
- The tractor-mounted Karat has an easily accessible depth adjustment system to set working depth in small increments between 5 and 30 cm without using tools. The semi-mounted Karat is fitted with hydraulic working depth adjustment as standard.

- When the working depth is changed, the automatic disc adjustment system ensures that the maintenance-free concave discs compensate for the new working depth with no further adjustment.
- The maintenance-free auto-reset overload protection system allows the tines to move upwards and backwards when they hit an obstruction.
- In the semi-mounted version the axle is integrated within the cultivator frame to provide greater manoeuvrability.

Intelligent weight reduces fuel consumption

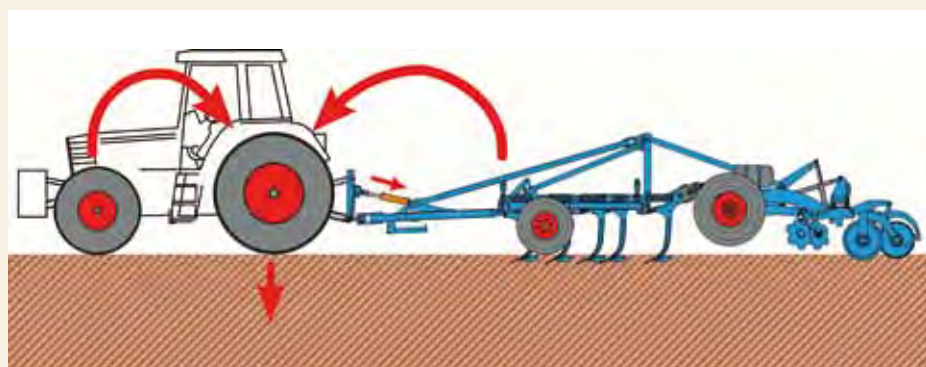


LEMKEN now delivers all semi-mounted Karat intensive cultivators, of more than four metres width, with hydraulic traction assistance as standard. This leads to lower operational costs without affecting the working quality. Hydraulic traction assistance ensures that the weight is transferred from the cultivator to the tractor rear axle, thus increasing the tractor's traction power and reducing the fuel consumption at constant working quality.

Optimised power distribution

This positive effect is achieved thanks to an additional hydraulic cylinder, which is pre-tensioned by gas accumulators. When coupling the tractor to the machine, the hydraulic cylinder attaches to the top link connection and to the cultivator drawbar. At a pre-load of 160 bar, an additional 1.5 to 2 tonnes are transferred to the tractor's rear axle.

The cylinder extends and retracts as necessary to compensate for ground irregularities, and guarantee that the cultivator always maintains the correct working depth. The hydraulic traction assistance provides intelligent weight: There is no need to add unnecessary ballast to the tractor in the form of wheel weights, or water. The cultivator transfers its own weight to the tractor.



Precise, stable and manoeuvrable

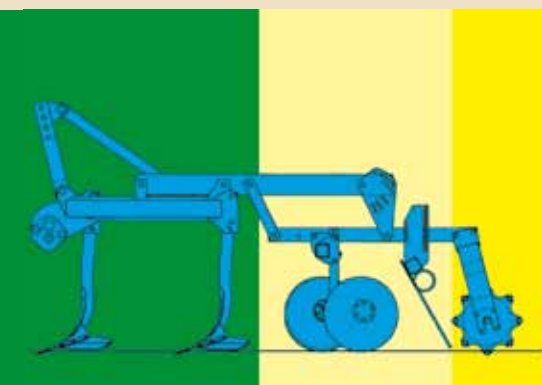
The Karat three row intensive cultivator is designed to effectively move all soil at shallow working depths, or operate as a deep cultivator down to 30cm when required. The tines are arranged to guarantee precise cultivation of the machine, at the desired working depth even on hillsides, providing a uniform finish without ridges, or unworked areas of soil. A row of notched hollow discs behind the tines level the soil ahead of the roller. The discs and roller are mounted on a common frame so that the discs do not have to be adjusted separately when the working depth is changed. This is particularly beneficial for semi-mounted Karat cultivators where hydraulic adjustment of working depth is standard.



The hydraulic traction assistance can be activated by opening a tap

The axle of the LEMKEN Karat is integrated between the tines and the hollow discs. This makes the cultivator very compact, stable and manoeuvrable on the headland and during road transport. It also allows the option of heavier rollers to fully consolidate the cultivated soil.

Smaragd



Proven tool combination



Smaragd 6 metres large

Optimum work quality, proved thousands of times

The Smaragd disc cultivator is a highly versatile model for every conceivable use on the farm. It is suitable for stubble cultivation, slurry or green manure incorporation, or seedbed preparation on light or medium soils.

- The short, compact design with large row spacings gives low-draught, blockage-free work and high field efficiency.
- The tool combination has been proven thousands of times and consists of interchangeable wing shares, concave discs, optional harrow, and following roller to guarantee optimum quality of work.
- The twin-beam frame, combined

with the parallel arrangement of concave discs and tube bar roller, provides easy adjustment of working depth and automatically gives accurate depth control.

- An optimum rear roller is available to suit most working conditions.
- The Smaragd is available in working widths from 2.6 metres up to 12 metres when used with the Gigant system carrier. A transport or combination semi-mounting system can also be added.

Topas / Dolomit / Labrador



Topas pre-cultivator

The versatile Topas pre-cultivator is the big all-rounder for many farms. Farmers using non-plough tillage value its input using interchangeable wing shares when front-mounted or with suitable flat shares when rear-mounted for deeper loosening without mixing.

- The Topas can be front or rear-mounted on the tractor and used in combination with a power harrow.
- The short, compact design provides an optimum centre of gravity.
- The symmetrical tine arrangement, with 5 to 9 tines, provides good implement control. The outer tines are infinitely adjustable.

Dolomit pre-loosener

The extremely versatile Dolomit pre-loosener is suitable for all-over soil loosening, particularly before power-harrow/drill combinations. This allows mulch drilling for sowing in a single pass.

- Extremely short, only 50 cm, design with optimum coupling point spacing.
- Working depth can be adjusted during work independently of any mounted tillage combination.
- The 60 cm wide, one-piece wing shares with hardened tips loosen the soil across the full working width.

Labrador subsoiler

The reliable Labrador subsoiler is most suitable for loosening tramlines or breaking up compacted soil.

- Optimum loosening and drainage of impermeable soil layers using two or three tines at working depths of up to 65 cm.
- The legs can be adjusted to any tractor track width for tramline.

Gigant



Gigant



One system for everything

The two system carriers, Gigant 10 and Gigant 12, offer the unique opportunity of using different LEMKEN implements with a single chassis. Both system carriers have two hydraulic three-point linkage systems to take the Heliodor or Rubin compact disc harrows, the Smaragd disc cultivator, or the System-Kompaktor seedbed combination, depending on the type of work to be done. This versatility saves on investment costs for chassis, braking systems and hydraulic implement folding. It also provides the option of using the individual implements separately without the system carrier with smaller standard tractors.

- The two three-point linkages and the individual working units provide unbeatable ground following which guarantees a uniform cultivation depth and lower fuel consumption.
- The cultivated area remains free of wheel tracks because the wheels on the Gigant system carrier run in front of the implements.
- Road transport of the Gigant 10 is simple and safe with 3 m transport width possible in every implement combination. The Gigant 12 can be fitted with a support wheel for fast, convenient use at the headland and safe implement transport.



Gigant Smaragd



Gigant System-Kompaktor in transport position

Technical data

Heliodor	mounted, rigid		mounted, hydraulic folding		
Type	8/300	8/400	8/400 K	8/500 K	9/600 K
Working width (cm)	300	400	400	500	600
Weight (kg) ¹	805	1,020	1,762	1,883	2,145
kW/HP	55/75-88/120	74/100-118/160	74/100-118/160	92/125-147/200	110/150-176/240
Discs (number Ø mm)	24/465	32/465	32/465	40/465	48/465

Heliodor	semi-mounted, hydraulic folding		trailed, hydraulic folding			
Type	8/400 KA	8/500 KA	8/600 KA	Gigant 10/800	Gigant 10/1000	Gigant 10/1200
Working width (cm)	400	500	600	800	1000	1200
Weight (kg) ¹	2,662	2,852	3,019	4,725	5,355	6,515
kW/HP	74/100-118/160	92/125-147/200	110/150-176/240	147/200-235/320	184/250-294/400	221/300-353/480
Discs (number Ø mm)	32/465	40/465	48/465	64/465	80/465	96/465

Rubin	mounted, rigid folding outer discs		mounted, hydraulic folding				
Type	9/250 U	9/300 U	9/400 U	9/400 KU	9/450 KU	9/500 KU	9/600 KU
Working width (cm)	250	300	400	400	450	500	600
Weight (kg) ¹	1,480	1,640	1,960	2,925	3,146	3,366	3,820
kW/HP	63/85-92/125	77/105-110/150	103/140-147/200	103/140-147/200	114/155-165/225	129/175-184/250	154/210-221/300
Discs (number Ø mm)	20/620	24/620	32/620	32/620	36/620	40/620	48/620

Rubin	semi-mounted, hydraulic folding			trailed, hydraulic folding			
Type	9/400 KUA	9/450 KUA	9/500 KUA	9/600 KUA	Gigant 10 S/800	Gigant 12 S/1000	Gigant 12 S/1200
Working width (cm)	400	450	500	600	800	1,000	1,200
Weight (kg) ¹	4,735	4,955	5,176	5,630	7,021	10,995	12,445
kW/HP	103/140-147/200	114/155-165/225	129/175-184/250	154/210-221/300	206/280-294/400	257/350-368/500	309/420-441/600
Discs (number Ø mm)	32/620	36/620	40/620	48/620	64/620	80/620	96/620

Kristall	mounted, rigid	angebaut, hydraulisch klappbar					
Type	9/300	9/600 K					
Working width (cm)	300	600					
Weight (kg) ¹	760	1,928					
kW/HP	55/75-99/135	110/150-199/270					
Tines/ pairs of discs	7/3	13/6					

Karat	mounted, rigid			mounted, hydraulic folding		semi-mounted, hydraulic folding			
Type	9/300	9/350	9/400	9/400 K	9/500 K	9/400 KA	9/500 KA	9/600 KA	
Working width (cm)	300	350	400	400	500	400	500	600	
Weight (kg) ¹	850	950	1,050	1,690	1,880	2,560	3,060	3,560	
kW/HP	77/105-110/150	90/122-129/175	103/140-147/200	103/140-147/200	129/175-184/250	103/140-176/240	129/175-221/300	154/210-265/360	
Tines/ pairs of discs	11/2 + 2 St.	12/3 + 1 St.	14/4 + 1 St.	14/4 + 1 St.	18/5 + 1 St.	14/4 + 1 St.	18/5 + 1 St.	21/6 + 1 St.	

¹ weight without roller

Smaragd	mounted, rigid			mounted, hydraulic folding		
Type	9/260	9/300	9/400	9/400 K	9/500 K	9/ 600K
Working width (cm)	260	300	400	400	500	600
Weight (kg) ¹	679	730	970	1,453	1,555	1,868
kW/HP	48/65-85/115	55/75-99/135	74/100-132/180	74/125-165/225	92/125-165/225	110/150-199/270
Tines/ pairs of discs	6/2 + 1 St.	7/3	9/4	9/4	11/5	13/6
Smaragd	semi-mounted, hydraulic folding			trailed, hydraulic folding		
Type	9/400 KA	9/500 KA	9/600 KA	Gigant 10/800	Gigant 10/1000 ²	Gigant 12/1200 ^{2 2 22} U ²
Working width (cm)	400	500	600	800	1,000	1,200
Weight (kg) ¹	3,233	3,325	3,648	4,697	6,990	9,370
kW/HP	74/100-132/180	92/125-165/225	110/150-199/270	147/200-265/360	184/250-331/450	221/300-397/540
Tines/ pairs of discs	9/4	11/5	13/6	18/8 +1 St.	22/10 + 1 St.	26/12 + 1 St.
Topas	mounted, rigid					
Type	140-5	140-7	140-9			
Working width (cm)	250	300	400			
Weight (kg)	381	415	540			
kW/HP	99/135	110/150	125/170			
Number of tines	5	7	9			
Dolomit	mounted, rigid					
Type	9/300	9/400				
Max. working width (cm)	35	35				
Weight (kg)	430	550				
kW/HP	125/170	147/200				
Line distance	75	75				
Number of chisels	4	6				
Labrador	mounted, rigid					
Max. working width (cm)	65					
Weight (kg)	485					
kW/HP	129/175					
Line distance	100-225					
Number of chisels	2					

¹ weight without roller² Gigant 10/1000 and 12/1200 Smaragd only available with mechanical Non-Stop overload safety device

Accurate drilling for reliable yields



Modern arable farms need high performance equipment, a versatile combination of different functions within an implement, and fast, simple road transport. And all this without compromise to good consolidation and perfect seed placement. The most important feature of a modern drill is that it will work flawlessly in both conventional and conservation tillage.

The preferred tillage method will vary according to previous crop, soil type, weather and harvest conditions. LEMKEN drills meet every requirement for blockage-free work and precise seed placement in conventional and conservation tillage.

LEMKEN seed drills can be combined with suitable cultivation tools to optimise overall seeding performance. They can be mounted, trailed, or semi-mounted depending on type. Working widths of 2.5 to 12 metres provide the flexibility for cost-effective use in all farm structures. The 650 to 5,800 litre hopper ensures the seed volume carried is in proportion to the sowing width.



Saphir 7



Transport



Hexagonal seeding shaft

High performance mechanical drilling for all working conditions

The Saphir 7 mechanical seed drill offers medium-sized farms a reliable, high performance drill to meet high work demands during busy periods. The Saphir is versatile and can be combined with a variety of implements, such as the Zirkon power harrow or the Quarz compact cultivator, to gain optimum operating efficiency.

- A spiked land wheel, maintenance-free cardan drive, and continuously variable oil bath gearbox guarantee simple, accurate seed metering. Precise adjustment for seed rates of 0.5 to 500 kg/ha is possible. The smooth running seeding shaft ensures accurate seed distribution in the row.

- The new hexagonal seeding shaft with quick-change device makes it easy to change the seed wheel, providing optimum metering over a range of seed types.
- Precise seed depth is achieved by the parallelogram-mounted Double Disc coulters with depth control wheel, or the Suffolk coulters with bolt-on tip.
- The standard Easytronic implement control system allows reliable, convenient control and monitoring of tramline function.
- Available for mounting directly on a cultivator, or as Saphir AutoLoad for three point linkage mounting, the Saphir has hopper volumes of 650 to 1,100 litres.

Saphir 8



Reliable variable seed metering with electric seeding shaft drive

The Saphir 8 is identical to the Saphir 7 mechanical seed drill except that the seeding shaft is electrically driven giving in-cab control of seed rate.

- The electric seeding shaft drive provides accurate metering of a wide range of seed from 0.5 to 500 kg/ha. The seed rate is easily set by a single calibration procedure.
- The electric motor and job computer are located safely at the front of the drill. After initial calibration, seed rate can be easily adjusted, at the touch of a button on the Solitronic control box in the tractor cab.

- The Solitronic controls the rotation of the electrically driven seeding shaft. Additionally, it provides a warning when seed level is low, displays the forward speed, and records the area sown. An integral diagnostics system for troubleshooting, and ISOBUS and DGPS compatibility, complete the standard equipment. A CANBUS interface is also available as an option.
- With Saphir 8 the spiked wheel is replaced by a rubber impulse wheel. As there is no need to transfer drive torque, this gives slip-free, accurate measurement of speed and distance travelled.



The electric seeding shaft drive



The impulse wheel

Solitaire 8



The spiked wheel at work



The hydraulically driven fan

The pneumatic seed drill for medium-sized farms

The Solitaire 8 is optimally configured for medium-sized farms that want accurate pneumatic drills for conventional and conservation tillage at low cost. With working widths of 3 and 4 metres, it can be combined with a variety of powered and non-powered tillage implements making it extremely versatile.

- The metering system is mechanically driven by a maintenance-free cardan shaft and a continuously variable gearbox. This provides smooth movement of the cell wheels in the metering unit and guarantees accurate seed distribution in the row.

- The seed hopper has a capacity of up to 1,850 litres, a forward position of centre of gravity, and a large opening for easy filling.
- The continuously variable hydraulic fan provides a constant air flow for seed delivery with uniform metering and drilling.
- The standard Easytronic electronic control system makes it easy to insert tramlines and monitor hectare performance.
- The Solitaire 8 is available with either Double Disc coulters and depth control wheels or Suffolk coulters.

LEMKEN Double Disc coulters for perfect seed placement

Sown by LEMKEN



Increasing cost pressure means that farmers must be flexible in deciding whether to use conventional or conservation tillage. Modern seed drills are increasingly fitted with Double Disc coulters allowing use in conservation tillage. They can be used under nearly all conditions and allow the farmer freedom of choice when deciding which tillage method to use.

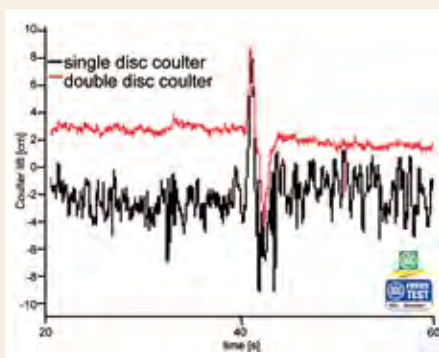
Parallelogram-mounted Double Disc coulters with a rubber-tyred depth control wheel place the seed accurately at a uniform depth even in variable soils. Coulters pressure and seed depth are adjusted independently of each other. As a result, depth control is constant regardless of forward speed and soil type.



Parallelogram-mounted Double Disc coulters

Smooth running

At 5 km/h forward speed the parallelogram-mounted Double Disc coulters displays significantly less horizontal movement than a single disc coulters with no depth control wheel. This trend continues as forward speed increases. Measurements by the DLG show that



Smooth path of the Double Disc coulters

the Double Disc coulters run better and more uniformly than the single disc coulters.

The OptiDisc coulters

OptiDisc is the new, maintenance-free Double Disc coulters from LEMKEN and is currently available on the Compact-Solitair. The maintenance-free rubber suspension bearings, with good damping and movement characteristics, are designed for high durability even in difficult conditions. The central hydraulic coulters pressure adjustment can generate a coulters pressure of up to 70 kg.



The OptiDisc Double Disc coulters

Reconsolidation

The seedbed is ideally consolidated by a trapeze roller immediately ahead of the Double Disc coulters unit. This presses in line with the following coulters, with areas in between not consolidated. Preparation of the seed row in this way enables the disc coulters to open the furrow accurately and without interference. Ideal soil coverage is obtained by pressing the seed with the following press wheel. Consistently high emergence is achieved even in dry soils.

Solitaire 9



Seed distributor



Double disc coulters

The versatile pneumatic seed drill

The Solitaire 9 pneumatic seed drill is available in a mounted rigid, or folding, version, or a semi-mounted folding version, in working widths of 3 to 6 metres. The potential for use solo, or in combination with a wide range of tillage implements creates, a versatile machine that can be used in a number of establishment situations.

- The 6 cell wheels in the central metering unit can be easily adjusted using the tool provided. Seeding rates of 1.5 to 300 kg/ha, over a range of seed types, are possible.
- The Solitronic system takes care of all the control and monitoring functions for the electric seeding shaft drive. The easy-to-read display provides simple operator guidance.

- The seed distributors are located outside the seed hopper, immediately above the coulter bar. The seed tubes between the distributor and the coulter are as short as possible and all the same length to give accurate seed distribution.
- Double Disc coulters with rubber-tyred depth wheels place the seed accurately at a uniform depth even in variable soils. Depth control is maintained even at high forward speeds.

Solitair 9 semi-mounted



Solitair semi-mounted - solo or in combination

The semi-mounting system of the Solitair pneumatic seed drill provides flexible switching between different tillage methods and makes it possible to select the right implement combination at to cope with current conditions. The combination of two implements saves

a pass, enabling more cost-effective work. Furthermore, from an agronomic point of view, a combination offers the possibility to correctly align cultivation and pressing action, with the seed row.

- Folding, semi-mounted seedbed preparation implements are easily combined with the Solitair pneumatic seed drill using universal couplings.
- The Solitair can be combined with a wide range of tillage implements

such as compact disc harrows (Rubin, Heliodor), power harrows (Zirkon), cultivators (Smaragd) or seedbed combinations (Kompaktor).

- With the optional drawbar and axle, this LEMKEN pneumatic drill can also be used solo on the three-point linkage or with a drawbar.



The universal couplings



Solo mode with additional chassis



Solitair combined with Zirkon

Solitair 10 und 12



Solitair 10



Road transport of Solitair 12

Maximum field performance for drilling

With the Solitair 10 and 12, LEMKEN offers trailed pneumatic seed drills in working widths of 4 to 12 metres for maximum field performance and cost-effectiveness.

- The large, 5,800 litre seed hopper allows work for long periods without interruption and minimises downtime.
- The large volume tyres protect the soil and make transport safe.
- The seeding shafts in the metering unit are driven by a high-performance electric motor and controlled electronically. The metering devices provide uniform seed flow and good lateral distribution.
- The additional PTO through drive on the Solitair 10 allows it to be combined with the Zirkon 10 power harrow at the rear three-point linkage. The working depth of the Double Disc coulters with depth control wheels can be hydraulically adjusted.
- The coulter bar of the Solitair 12 is in two parts. An innovative hydraulic system provides the ground following that is particularly important with large working widths. Mounted on four hydraulic cylinders, coulter sections can float independently of the main folding parts of the drill.

Jantar and Heliodor



Fertilise and drill large areas in one pass

Large farms in continental climate zones with long, hard winters and a short growing season need reliable, powerful drilling equipment to cope with high work demands during busy periods. The Jantar 12 pneumatic seed trailer with the compact disc harrow and the Heliodor 12 DS seed and

fertiliser coulters bar is designed for drilling on both ploughed soil and in conservation tillage.

- The three-part seed and fertiliser hopper with a total capacity of 12,200 litres for separate metering, and simultaneous placement, of seed and fertiliser provides a range of sowing options.
- In front of the coulter bar, the 465 mm diameter tools on the Heliodor compact disc harrow always guarantee accurate seedbed preparation.

- The MultiSeedControl seed drill computer in the tractor cab supplies the driver with all the essential information as he works.
- Fertiliser is applied by spring-loaded Double Disc coulters with a larger diameter to enable fertiliser placement beneath the seed depth:



Jantar Seed trailer and Heliodor compact disc harrow



Implement arrangement

Compact-Solitair 9 H



The Compact-Solitair in 3 metre working width



The divided hopper on the Compact-Solitair HD

The fast, trailed pneumatic tillage combination

High performance is becoming ever more important when sowing with modern drills - with no compromises, good reconsolidation, and perfect seed placement. The drill combination must also be versatile for use in mulch drilling and conventional ploughing and drilling.

- The big seed hopper is easy to fill and meets all the requirements for high performance.
- The depth of the cultivation section, with two rows of notched hollow discs, can be adjusted hydraulically.

- The spring-loaded levelling tines are essential for levelling ploughed land. The large volume, AS profile, tyre packer reduces the draft requirement and provides good reconsolidation and safe road transport.
- The new maintenance-free OptiDisc Double Disc coulters with rubber-tyred depth control wheels prevent blockages and provide uniform seed placement and ideal depth control even at high forward speeds.
- With the Compact-Solitair HD, fertiliser can be applied at the same time as drilling. The two-part, variable hopper can be used for both seed and fertiliser.

The successful Compact-Solitair is now available, for the first time, with a Zirkon power harrow cultivation element. The 6m wide, hydraulic folding machine, offers intensive cultivation for users who require a high capacity machine with a powered cultivation tool.

Multipurpose application

The rotary harrow can be used to its full advantage in conventional as well as conservation cultivation methods. It creates a perfect seedbed in one pass, in practically any soil, particularly in heavy and very changeable soils.

The seed rate can be infinitely adjusted via an electric metering shaft, from 1 to 500 kg per hectare, regardless of speed. The Solitronic PRO provides all control and monitoring functions of the Compact-Solitair KK drill combination. The clearly laid out display shows graphically based, easy to use menus.

Sowing even in damp conditions

The tyre packer roller ensures precise depth control of the rotary harrow and uniform reconsolidation without compaction. With 1.07 mm diameter, the high volume tyres are the largest of their class. Furthermore, each 3 m section can follow the ground contours independently of its neighbour. This ensures a consistent work quality over the entire working width and makes the Compact-Solitair KK even easier to pull.

For an effective increase in output



The tyres' large footprint ensures the machine continues to work well even in wet conditions. A staggered arrangement, means the wheels are self-cleaning. Tyre width has been specially selected to allow three or four coulter behind the tyre, resulting in a row distance of 12.6 or 16.7 cm.

Highest output

The seeds are placed by maintenance-free LEMKEN OptiDisc double disc coulters. Our tried and tested parallel suspension ensures optimum seed depth is achieved. Furthermore, the LEMKEN drill combination can be equipped with a trapeze packer roller for a tar-

geted pre-consolidation. Weight distribution between the tyre packer roller, and the trapeze packer roller, can be hydraulically adjusted.

Tank size, is often the limiting factor in drill output. The Compact Solitair KK drill combination uses a large, 4,500 litre tank minimising downtime for refilling.

Technical data

Saphir 7		mounted, rigid			mounted, rigid	
Type	7/250	7/300	7/400	7/250 AutoLoad	7/300 AutoLoad	7/400 AutoLoad
Working width (cm)	250	300	400	250	300	400
Number of rows	20/17	24/20	32/27	20/17	24/20	32/27
Row distance (mm)	125/150	125/150	125/150	125/150	125/150	125/150
Dead weight DS ¹ /S ² (kg)	838/693	927/744	1,136/897	810/665	900/717	1,070/840
Hopper capacity (l)	650	800	1,050	650	800	1,050
Saphir 8		mounted, rigid		mounted, rigid		
Type	8/300	8/400	8/300 AutoLoad	8/400 AutoLoad		
Working width (cm)	300	400	300	400		
Number of rows	24/20	32/27	24/20	32/27		
Row distance (mm)	125/150	125/150	125/150	125/150		
Dead weight DS ¹ /S ² (kg)	927/774	1,136/897	900/717	1,070/840		
Hopper capacity (l)	800	1,050	800	1,050		
Solitaire 8		mounted, rigid				
Type	8/300	8/400				
Working width (cm)	300	400				
Number of rows	24/20	32/27				
Row distance (mm)	125/150	125/150				
Dead weight DS ¹ /S ² (kg)	910/731	1,018/780				
Hopper capacity (l)	1,100	1,850				
Solitaire 9		mounted, rigid		mounted, hydraulic folding		
Type	9/300	9/400	9/400 K	9/450 K	9/500 K	9/600K
Working width (cm)	300	400	400	450	500	600
Number of rows	24/20	32/27	32/27	36/30	40/34	48/40
Row distance (mm)	125/150	125/150	125/150	125/150	125/150	125/150
Dead weight (kg) ³	1,050/990	1,158/1,083	1,228/1,153	1,300/1,210	1,380/1,290	1,540/1,420
Hopper capacity (l)	1,100	1,850	1,850	1,850	1,850	1,850
Solitaire 9		semi-mounted, hydraulic folding				
Type	9/400 KA	9/450 KA	9/500 KA	9/600 KA		
Working width (cm)	400	450	500	600		
Number of rows	32/27	36/30	40/34	48/40		
Row distance (mm)	125/150	125/150	125/150	125/150		
Dead weight (kg) ³	1,300/1,225	1,390/1,300	1,530/1,440	1,710/1,590		
Hopper capacity (l)	2,300	2,300	2,300	2,300		
¹ double disc coulter, row distance 125mm						
² Suffolk coulter, row distance 125mm						
³ row distance 125 mm/150mm						

Solitair 10		trailed, hydraulic folding		
Type	10/400 K	10/500 K	10/600 K	
Working width (cm)	400	500	600	
Number of rows	32/27	40/34	48/40	
Row distance (mm)	125/150	125/150	125/150	
Dead weight (kg) ³	4,480/4,405	4,598/4,505	4,716/4,596	
Hopper capacity (l)	5,800	5,800	5,800	
Solitair 12		trailed, hydraulic folding		
Type	12/800 K	12/900 K	12/1000 K	12/1200 K
Working width (cm)	800	900	1.000	1.200
Number of rows	64/54	72/60	80/68	96/80
Row distance (mm)	125/150	125/150	125/150	125/150
Dead weight (kg) ³	4,560/4,410	4,740/4,560	4,920/4,740	5,330/5,090
Hopper capacity (l)	5,800	5,800	5,800	5,800
Jantar 12		Heliodor 12 DS		
Length (cm)	630		Working width (cm)	1.200
Width (cm)	300		Weight (approx. kg)	14.700
Dead weight (kg)	4.020		Number of discs	96
Opening (cm)	285 x 120		Distance between discs (cm)	12,5
Hopper capacity (l)	12,200 (3-geteilt)		Row distance seed coulters/ fertiliser coulters (mm)	15/30
			Number of rows seed coulters/fertiliser coulters	80/40
Compact - Solitair 9	trailed, rigid		trailed, hydraulic folding	
Type	9/300 H	9/400 H	9/600 KH	9/600 KK
Working width (cm)	300	400	600	600
kW/HP	74/100-132/180	103/140-162/220	132/180-221/300	132/180-221/300
Discs (number)	24	32	48	48
Number of discs	24/18	32/24	48/36	48/36
Row distance (mm)	125/167	125/167	125/167	125/167
Dead weight (kg) ²	3,590/3500	4,150/4,030	9,700/9,520	9,980/9,800
Hopper capacity (l)	3.500	3.500	4.500	4.500
Compact - Solitair 9		trailed, rigid		
Type	9/400 HD			
Working width (cm)	400			
kW/HP	110/150-155/210			
Discs (number)	32			
Number of rows seed coulters/fertiliser coulters	24/12			
Row distance seed coulters/ fertiliser coulters (mm)	167/333			
Dead weight (kg)	4,370			
Hopper capacity (l)	3,500 (variable division)			
¹ row distance 125 mm/150mm				
² row distance 125mm/167mm				

Naturally high performance – Spraying technology from LEMKEN



Modern agriculture relies on efficient production systems. Inputs are kept to a minimum and applied in a way, and time, which provide the maximum economic return. Plant variety is critical, but so is the application machinery selected. Successful control of crop pests is one of the most important factors leading to crop yield and quality. Therefore, sprayers are

arguably the single most important machine used on farms today. The sprayer must be easy to use, and able to apply pesticides and liquid fertilisers accurately and efficiently. Output must be sufficient to allow timely application. Machine design must maximise the percentage of chemical hitting the target, combining pesticide savings with protection of the environment.

LEMKEN offers the correct field sprayer for every requirement. Every model is designed to be easy to use and precise in its application. Tank volumes range from 900 to 6,000 litres and boom widths from 12 to 39 metres. LEMKEN offers the market one of the most comprehensive ranges of mounted and trailed sprayers available.



EuroLux



Compact design makes the machine easy to lift on smaller tractors



Single-sided folding with SPH frame

Short, compact and versatile: The mounted sprayer for all requirements

EuroLux mounted field sprayers are available with a choice tank, boom and control system to suit customer need.

- A compact design ensures the centre of gravity is as close as possible to the tractor. Larger sprayers can be used with smaller tractors as a result.
- Induction hopper and control valves are located together on the left of the machine. This ensures filling is fast and efficient for the operator.
- Smooth-walled polyethylene tanks avoid irritating deposit zones, and ease cleaning. Sump design ensures minimum residual quantities are left in the tank.
- Aluminium tubular booms, available in 15 to 24 metre width, provide strength and durability. Nozzles and hoses are located within the aluminium tube, offering protection from damage. This boom design is noted by many happy customers as the primary reason for purchasing their LEMKEN sprayer.
- There is the choice of 800, 1,000 or 1,200 litre tank size. Each can be specified with one of three control systems. The TM model provides simple manual control valves; TL has a remote electric control; with TLE offering full computer control of all spraying functions.

Sirius



The high performance sprayer for the professional farmer

The new Sirius field sprayer offers a high capacity for the larger farmer or contractor. A close-coupled design means large tank volumes can be used in a mounted format. In this way, Sirius combines the output of a trailed machine, with the convenience of a mounted machine.

- Sirius is available with tank volumes of 900 to 1,900 litres. An integrated baffle ensures a high degree of safety whilst driving on the road and simple cleaning of the system.
- The QuickConnect top link coupling system enables safe and quick attachment of the Sirius field sprayers to the tractor.

- The new fully hydraulic SectionExtend rear-folding boom is available in working widths of 15 to 24 metres. With a width of 2.35 metres when folded, the machine is safe and easy to transport on the road.
- Electrical remote control LEMKEN Easyspray for Sirius 7, and LEMKEN Ecospray for Sirius 9, will be standard equipment from summer 2010. Additionally, the Sirius 9 can be equipped with ISOBUS technology if required.



Quick attachment using the QuickConnect system



Folded SectionExtend boom

Comfort and safety



QuickConnect, the automatic top link coupling system from LEMKEN, combines two important benefits, which have been mutually exclusive with all tractor coupling systems in the past. Firstly, QuickConnect provides enough space between tractor and machine for the easy and safe connection of services such as PTO shaft, pipes, cables and top links. Secondly, the innovative coupling system moves the machine closer to the tractor, than has been possible before, allowing larger machines to be lifted by lighter tractors, without loss of stability.

Simple, fast and safely connected

With QuickConnect, the tractor is first reversed to the machine leaving enough space for the driver to dismount and connect hoses, cables and PTO shaft. Other connection procedures are then completed from the safety of the tractor seat. As the tractor is reversed fully toward the machine, the intelligent coupling system automatically locks the top link into place, leaving the driver to focus on attaching the lower lift hooks.



In the operating position, the machine is positioned close to the tractor to optimise centre of gravity - ideal for field sprayers and fertiliser distributors, which require "close coupling" to the tractor due to their high weight.

The equipment is disconnected from the tractor just as easily by following the above steps in reverse order. The driver unlocks the top and bottom link from his seat and then drives the tractor forward to allow enough space to disconnect all connecting elements quickly and easily from the ground.

Shorter connection and disconnection times

Thanks to the QuickConnect system, the operator no longer has to lift heavy parts such as A-frames onto the tractor's three-point linkage system. Furthermore, the driver does not have to leave the cabin after connecting the equipment, for example to raise the attachment for transport, resulting in reduced connection and disconnection times.

LEMKEN's innovative top link coupling system is particularly useful for field sprayers and fertiliser distributors, which require a close connection due to their high weight. The result is a more stable tractor even with reduced front ballast.



With QuickConnect, the tractor is reversed leaving adequate space to dismount and connect all except the lower link arms.

VariExtend – the highly variable boom from LEMKEN

NEW

The new infinitely variable spraying boom from LEMKEN offers numerous benefits for the spreading of agricultural pesticides and liquid fertiliser.

Ideal for mixed cropping systems

The desired operating width can be precisely adjusted symmetrically or asymmetrically via three telescopic boom sections. Thus, this highly variable boom, which has been awarded the silver medal for DLG innovations 2009, is perfectly suited for use in mixed cropping systems where tramline width may vary.

Flexible and safe

An important benefit of the VariExtend boom: the functionality of the break-back is maintained regardless of operating width. Conventional folding sprayer sections cannot offer this when working at reduced width. Furthermore, field obstacles do not pose a problem for the innovative spraying boom by LEMKEN, as they can be avoided without leaving the track thanks to the sliding function.



With VariExtend, boom sections slide past each giving an infinitely variable working width.

For pin-point accurate spraying performance



The outer section 4, with lateral break-back, is folded down and sections 2 and 3 retracted to give a narrow spraying width.



The outer section 4, with lateral break-back, is folded down and sections 2 and 3 extended to provide maximum spraying width.

VariExtend also requires less space for folding in transport or operating mode than conventional boom types.

No Overlaps

VariExtend offers individual nozzle control. As the boom width is reduced, nozzles are switched off, one by one, maintaining application rate. Additionally, connection to GPS, allows the

spray boom to precisely start and stop nozzle flow according to need. This can avoid double dosing when working alongside headlands. The new infinitely adjustable LEMKEN VariExtend boom thus combines safety, flexibility and manageability, with an efficient, pin-point accurate spraying performance.

Primus



Close coupling ensures sprayer wheels follow tractor wheels as closely as possible



Safe position, even for long nozzles

The perfect entry into trailed sprayer technology

Primus uses high quality components in a high output trailed format. Efficient application and high work rates make it the first choice for many arable farms. Its simple design ensures the machine easy to use and minimises maintenance requirement.

- A compact trailed field sprayer with narrow transport width and height ensures simple and safe movement between fields, even in confined spaces.
- Ergonomically arranged layout makes the machine easy to use.
- The tough GRP tank is available in three sizes from 2,400 to 4,400 litres.

- The strong Z-profile boom, with standard suspension is available in widths from 15 to 33 metres.
- A Teejet 844 E series computer is fitted as standard with Müller Spraydos and circulation lines optional.
- Simple attachment to the tractor via a fixed drawbar with interchangeable end, to suit the tractor hitch type.

EuroTrain



The user friendly trailed sprayer with proven aluminium tubular boom

Operations requiring boom widths up to 30 metres, will find the EuroTrain a simple and reliable trailed sprayer. Tank volumes of 2,600 to 6,000 litres are available.

- Primary control valves and induction hopper are grouped together at the left of the machine. Simple single leaver control valves are used for pump settings – one selects from where the pump takes liquid; the other to where it sends it.
- The unique, but proven, aluminium tubular boom offers strength, and protection to nozzles, in 15 to 30 m widths.

- The suspended parasol frame ensures boom accurately follows the ground contours, and allows simple adjustment to suit the conditions.
- The strong but compact chassis, made from distortion resistant steel, offers durability and efficiency. A smooth underside, and ground clearance in excess of 700 mm (depending on tyres), minimises damage to the tallest of crops.
- A Müller Spraydos spray controller is fitted as standard. An option list provides an extension of the equipment up to ISOBUS technology or automated boom guidance.
- High quality standard equipment includes a 40 km/h (25 mph) road speed, wide mudguards, and mud-guard-mounted fresh water containers of 560 litres.



Distortion-free, even when folding



Proven design: Boom made from aluminium tubing

Albatros



Albatros with air assistance



Accurate tracking

The professional trailed sprayer for the larger user

A high standard specification, and many options, makes the Albatros first choice for the world's largest and most professional users. Whether you require a large but simple sprayer, or a highly sophisticated machine which adopts the latest in sprayer technology, Albatros can be configured to meet your needs.

- Compact design and low centre of gravity, achieved by incorporating the fresh water tank in the main tank, provide good stability and safe road transportation.
- The innovative GFK tank, with smooth inner walls and integrated fresh water tank, is available from 2,000 to 6,000 litres volume. The

shape provides an optimum weight distribution regardless of filling level.

- A large chemical induction hopper provides for fast, safe, and efficient input of chemicals. The standard mixing nozzle helps chemicals to dissolve before entering the main sprayer tank. A foldable cleaning nozzle ensures containers can be cleaned quickly and efficiently.
- The strong Z-profile boom is available in working widths of 15 to 39 metres. Hoses are neatly routed through the frame profile.
- The universal drawbar, with optional steering, is easily adapted to suit the tractor hitch type.

Even more comfort and operator safety

The successful Albatros range has now been reworked to gain even more comfort and operator safety. And all that in a brand new design. Type '9' enters the name, denoting the electronic control of the machine. Hence, the 4000 litre model is now known as the Albatros 9/4000.



The Albatros range by LEMKEN offers the discerning farmer a professional and well-equipped trailed field sprayer, which perfectly meets all demands to guarantee efficient and effective pest control. The operation and handling of the Albatros trailed field sprayer has been further improved. At the same time, LEMKEN has followed the farmers' demands for increased operator safety.

Functional details

All spray functions can now be logically and clearly adjusted via a revised operation centre. Single lever operation, of

the suction and pressure functions, make it simple and efficient to control. Similar to the EuroTrain range, one lever selects from where the pump takes liquid, the other, to where it sends it. A cover protects the operating area on the left hand side from contamination. A fresh water tank is situated near the cover. The integrated foldable storage area provides a convenient location for measuring a measuring jug. A separate compartment for the storage of overalls, mask, gloves and other items, is located in the redesigned electro-hydraulic operation box on the right hand side of the machine.



Increased stability

A new mast, for adjustment of boom height, allows an increased range of tyre and wheel sizes to be fitted. Thanks to the series of holes, the boom transport height can now be variably adjusted to suit the tyre size. This, in turn, offers a lower centre of gravity and leads to increased stability on the road.

New axle design, optimised tank profile

Also revealed is the axle design. The improved tank now has the same smooth and easy to clean surface inside and out. Thanks to the mirror-smooth inner surface, less rinsing water is required for cleaning than with conventional tanks.

New design

Finally the Albatros range has been re-branded, bringing it into line with LEMKEN's standard colour and product denomination. Blue tank, silver chassis, and red wheel rims, become standard features.

Technical data

EuroLux		TM			TL/TLE	
Type	800	1,000	12,000	800	1,000	1,200
Tank capacity (approx. l)	890	1,100	1,290	890	1,100	1,290
Dead weight (approx. kg) with boom	850 with SPH12	900 with SPH 15	950 with SPH15	850 with SPH12	900 with SPH 15	950 SPH15
Maximum pump capacity (l/min)	142	142	226	142/226(option)	142/226(option)	226
Working widths (m)	12 to 15	12 to 15	12 to 15	12 to 24	12 to 24	12 to 24
Boom types	SP SPH	SP SPH	SP SPH	SP SPH SH	SP SPH SH	SP SPH SH
Sirius 7 and 9						
Type	900	1,300	1,600	1,900		
Tank capacity (approx. l)	970	1,400	1,700	2,000		
Dead weight (approx. kg) with boom	1,270 with HE 15	1,430 with SE 15/11	1,590 with SE21/17	1,680 with SE 21/17		
Maximum pump capacity (l/min)	142	226/265 (option)	226/265 (option)	226/265 (option)		
Working widths (m)	15 to 24	15 to 24	15 to 24	15 to 24		
Boom types	HE SE	HE SE	HE SE	HE SE		
EuroTrain						
Type	2600 TC	3500 TC	5000 TC	6000 TC		
Tank capacity (approx. l)	2,800	3,850	5,300	6,350		
Dead weight (approx. kg) with boom	2,750 with SHS 21	3,360 with SHS 21	4,640 with HX 27	5,400 with HX 27		
Maximum pump capacity (l/min)	265	265	2x265	2x265		
Working widths (m)	15 to 28	15 to 28	21 to 30	21 to 30		
Boom types	SHS HX	SHS HX	HX DLA	HX DLA		
Primus						
Type	25	35	45			
Tank capacity (approx. l)	2,400	3,300	4,400			
Dead weight (approx. kg) with boom	2,140 with B27 15	2,460 with B27 21	2,990 with B30 30			
Maximum pump capacity (l/min)	250	2x160	2x250			
Working widths (m)	15 to 28	15 to 28	15 to 33			
Boom types	B21 B27	B21 B27	B21 B27 B30 B33			
Albatros						
Type	20	30	40	50	60	
Tank capacity (approx. l)	2,200	3,000	4,000	5,000	6,200	
Dead weight (approx. kg) with boom	2,590 with B27 15	2,830 with B27 15	3,160 with B27 27	3,630 with B30 27	4,920 with B36 36	
Maximum pump capacity (l/min)	250	2x160	2x250	2x250	2x250	
Working widths (m)	15 to 28	15 to 28	15 to 33	15 to 39	15 to 39	
Boom types	B21 B27	B21 B27	B21 B27 B33	B21 B27 B33 B36 B39	B21 B27 B33 B36 B39	

Operating terminals for field sprayers



		ISOBUS	EuroLux TL	EuroLux TLE	Sirius 7	Sirius 9	Primus	Albatros	EuroTrain
Type									
	LEMKEN Easyspray		•	•					
	Teejet 844 E						•		
	Spraydos			•		•	•	•	•
	LEMKEN Ecospray					• ¹			
	Basic-Terminal	yes					•	•	•
	Basic-Terminal Top	yes					•	•	•
	Comfort-Terminal	yes				•	•	•	•
	LEMKEN CCI 200	yes				•	•	•	•

• series • option ¹ series from summer 2010

A superior innovation: The CCI ISOBUS standard operating platform

Added value for the user

This is the first time, in the history of agricultural engineering, that such a large number of manufacturers have combined forces for the benefit the end user. The result of the initiative is the new CCI ISOBUS Terminal, which has been distinguished with the gold medal for innovations by Agritechnica.



may choose to mount it directly on the main terminal or, perhaps, on the arm-rest of the tractor seat. Various optimized controls are available for the differing machine types utilised.

Uniform operational concept

A noteworthy and unique added value is created by means of the standard operating concept. The user interface, as well as the input of values, is the same for all machines used. Therefore time consuming familiarisation, machine by machine, is avoided. Once the control terminal is understood for one machine, its primary functions are understood for all machines used together with it. Uniform symbols and pictograms developed from experience are also used for other machines.

For maximum compatibility of the ISOBUS, the CCI uses an optimised, uniform ISOBUS driver. This gives problem-free connection, of the manufacturer-specific electronic devices, to the ISOBUS.



Ergonomic design

The robust and ergonomically designed housing of the CCI Terminal is equipped with a bright, high-quality 21 cm (8.4") display. A high-quality touch screen allows intuitive menu navigation and simple input of values.

An ambient light sensor automatically adjusts the optimal display illumination and controls the illumination of the keys, allowing fatigue-free work, even in the dark. Six soft keys (F1 through F12) are arranged to the left and right of the display for operation of machine functions. These keys can be duplicated on the rear of the terminal to allow convenient single-handed control of machine functions. The desired values can be directly and quickly entered and adjusted by means of a scroll

wheel with response function that is ergonomically positioned on the terminal.

CCI Terminal with AUX Controller

The AUXControlBox (auxiliary control terminal) provides additional operating controls, with switches, buttons, joysticks and scroll wheel, for mounting separately in the tractor cab. Operators



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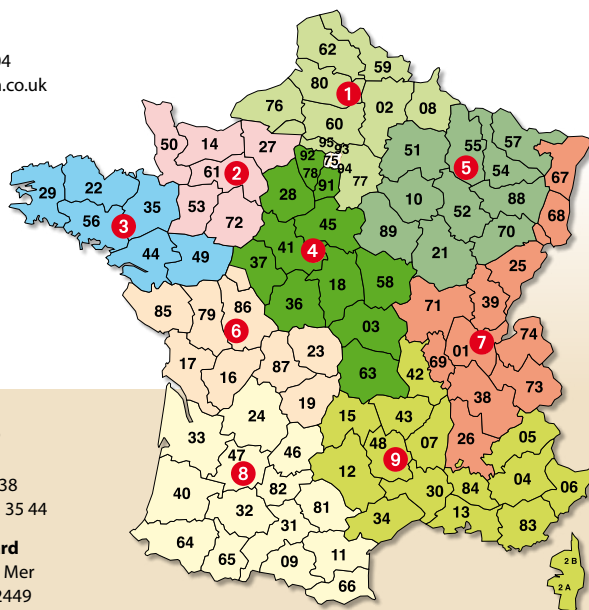
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Better stick to the original: LEMKEN spare parts!



Imagine: at some point, your farm machine will need a spare part. There is no room for compromise. An original LEMKEN spare part is the best you can get for your machine. LEMKEN quality pays - always and everywhere. Reliability is an important feature in cultivation technology. Wear is an unavoidable reality. LEMKEN's answer: technically optimised, innovative materials, which guarantee a maximum service life. This



applies to the entire production process as well as the manufacture of spare parts.

Precisely fitting, simple, efficient and safe

We use specially treated steels, which have been produced exclusively for LEMKEN. This results in a particularly high wear resistance of our components, so that you won't have to replace them as often as other parts. But there are other reasons for choosing original spares. Their extraordinary fitting accuracy and the simple, efficient and safe installation, for example. This is achieved thanks to LEMKEN's three-dimensional precision measuring technology, checking not only every individual part, but also the jig which is used to produce it. All benefits, which will prove valuable in practice.

Classification made easy

Which part fits where? LEMKEN is taking the hassle out of classifying parts.



Every original consumable carries a unique identification mark on the back so that even heavily worn parts can be identified promptly making your life easier when ordering. No matter where original spare parts are needed, they are guaranteed to be high-quality if they carry the original LEMKEN logo.



Perfect service: 24 hours, 7 days a week.

You also can count on LEMKEN for efficient customer service. 7 days a week, 24 hours a day, you can order original spare parts at www.lemken.com for dispatch from your local dealer. Of course, you can also place your order directly with one of the many LEMKEN



stockists, who will be pleased to advise you on any queries you might have.

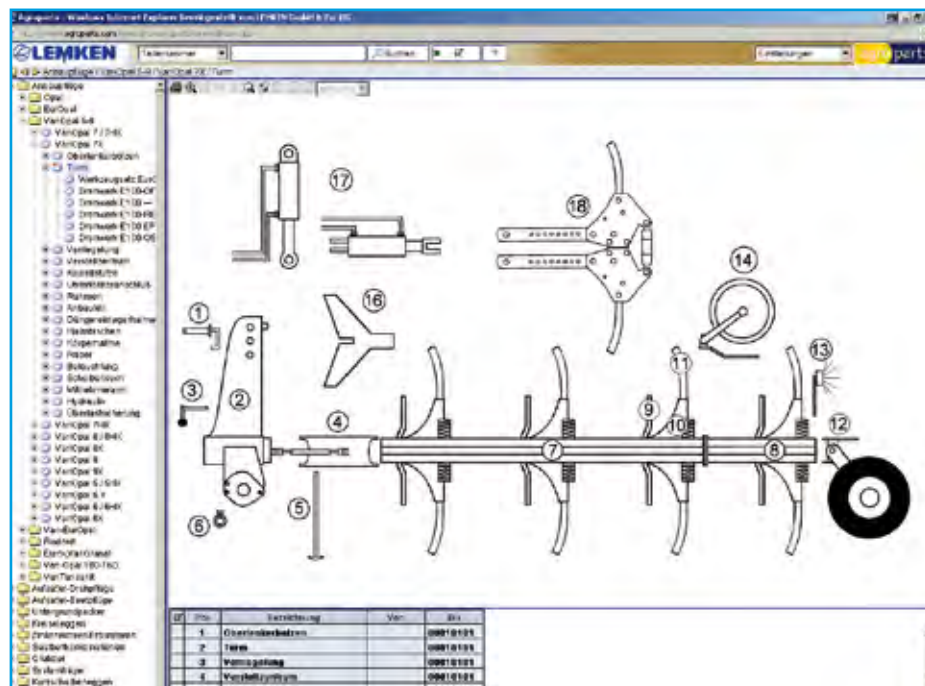
And to ensure that your machine is available again for field operation as soon as possible, you can download all assembly and operating instructions free from our homepage.

That's what we call perfect service!



„These days, everybody is talking about service. But when it really counts, matters can take a long time to be resolved. LEMKEN is a pleasant exception to the rule. I know that from personal experience. Last year, I encountered my first problem with my ten-year-old cultivator. Only two hours later, the LEMKEN customer service technician was in my field. That's what I call perfect service!“

Christoph Herberg, Bücken





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