

COMPACT CULTIVATOR KRISTALL

 **LEMKEN** THE
AGROVISION
COMPANY



STUBBLE PROCESSING **TODAY**



Stubble cultivation takes many forms. Some farmers will use it pre-ploughing to encourage germination of weed and volunteer seeds; others will use some form of stubble cultivation instead of ploughing. Whatever the reason for stubble cultivation, the main objective will always be to provide a thorough, and complete, mix of soil and straw to the chosen working depth.

Large quantities of straw

These days, combine harvesters with cutting headers up to 14 metres wide process huge quantities of straw, which choppers may struggle to reduce and evenly spread. Particularly with a minimum-tillage crop establishment program, it is crucial to intensively mix these large quantities of organic mass and the volunteer grain. At the same time, the soil capillaries must be broken to prevent the moisture loss. A well designed cultivator will efficiently achieve these requirements.



KRISTALL - THE NEW CULTIVATOR GENERATION FROM LEMKEN

The Kristall compact cultivator from LEMKEN can be used for both shallow and medium depth work in several stages. The initial shallow cultivation involves the specially shaped TriMix stubble shares working volunteer grain and organic mass into the soil across the entire width and close to the soil

surface. The volunteer grain remains in the upper layer of soil where it will quickly germinate.

The second operation follows around two weeks later. The same cultivator is now used to work at a depth of around 10-15 cm. The TriMix stubble shares lift

the accumulated vegetation, cut it over the entire area and uproot the seedlings. The Kristall compact cultivator intensively mixes the straw and organic matter, and distributes both evenly in the soil.

Fit for mulch sowing

If the fields will subsequently be tilled using the mulch sowing (or minimum tillage) method and there are large quantities of straw in the upper layer of



soil, the Kristall compact cultivator can be used at a depth of up to 18 cm. This medium depth cultivation tills the entire topsoil and reduces the straw concentration in the upper layer of soil - a key requirement for successful mulch sowing.

Versatile soil processing

Thanks to the brand new TriMix stubble shares, the Kristall compact cultivator combines the familiar advantages of a two-row cultivator with the

strengths of a machine with three or more rows of tines. Fewer tines and more efficient tools combine low draft with optimum quality of stubble processing.

The two-row Kristall is considerably shorter and more compact than multi-row cultivators. This construction allows better depth control than with long multi-row cultivators and requires less lifting force and front ballast. Three-point attachment to the tractor

up to a working width of six metres is possible. A 100 HP tractor is sufficiently powerful for a three metre working width.

The Kristall compact cultivator from LEMKEN is available in fully mounted and semi-mounted versions from three to six metres working width. Standard Kristalls have shear-bolt protection, with 'U' models benefitting from auto-reset.





TriMix - most intensive mixing by additional tools

With their shape, the TriMix shares combine three tools in a single share and thus provide a more intensive mixing than other share types. The share point rips up the soil, the guide board (or shin) mixes it, and the wing and attached winglets turn the soil again. For example, at a working width of three metres the Kristall has just 7 tines, but 21 tools.

To optimise the working quality, tines with wide wings are positioned on the front row and tines with narrow wings on the rear row. Share points and guide boards are each fixed to the tine with a single screw.

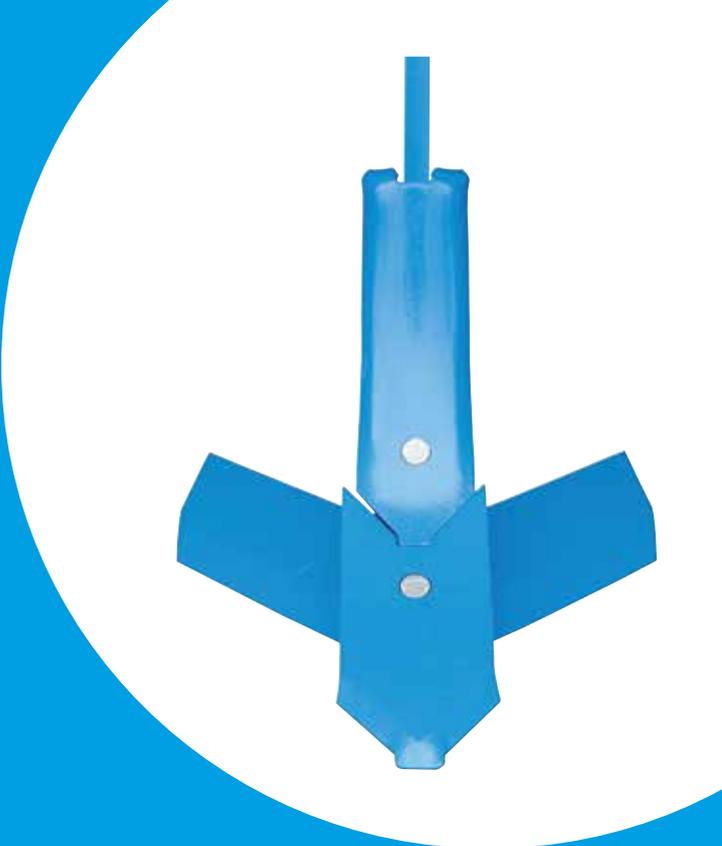
Ideal for initial shallow stubble cultivation

With TriMix shares, the Kristall has the perfect equipment for the initial shallow stubble cultivation. The share points with their long parallel edges are optimised to combine good soil penetration with minimum draft. The overlapping arrangement of the wings guarantees that the straw is worked in intensively over the entire area, even at low working depths. All soil capillaries are broken, preventing the soil from drying out.



DuoMix shares, an alternative on light soils

Alternatively, the Kristall compact cultivator can also be equipped with the new DuoMix shares, which - in contrast to the TriMix shares - are fitted with straight wings. They guarantee smooth operation on light, sticky soil. Therefore it can also make sense to combine TriMix shares in the first and DuoMix shares in the second row. Particularly well-suited for working on level to medium-depth stubble cultivation as well as seed bed preparation.



The arrangement is critical.

The tines and concave discs, for levelling, are arranged in such a way that the flow of soil comes to rest before the next tool. As a result, the Kristall always operates uniformly across its working width, without blockages, even under tough conditions. The concave discs behind the tines ensure additional good lateral distribution of straw and soil and reliably level the surface. A wide range of rollers provides optimal crumbling, reconsolidation and levelling in different soil conditions.



Automatic concave disc adjustment at any working depth

If the working depth of the Kristall compact cultivator is changed, the concave discs adapt to the new working depth without further adjustment. A parallel linkage holds the concave discs and the rear rollers in the correct position at all times and ensures they are constantly at the correct working depth. On the folding version, of the Kristall, a suspension system for each roller section ensures effective contour following, and even reconsolidation of the soil across the width.

HIGH RELIABILITY – SAFE TRANSPORT



The robust semi-mounted technique for safety and ease of operation

With working widths up to 4 m, the foldable Kristall is also available in semi-mounted trailer version. The semi-mounted system takes the load off the tractor and guarantees safer road transport, even with large working widths. The semi-mounted versions can be supplied in two axle options: as transport axle system or as combined axle system for the use in combination with further implements. The semi-mounted Kristall with the combination mounting system can be either directly combined with the pneumatic seed drill Solitair or equipped with a hydraulic three-point linkage.





The universal attachment points

Seed drill attachment points are the same on all LEMKEN semi-mounted implements and this means the same Solitair 9 pneumatic seed drill can be combined with many implements extremely easily. These include not only the Rubin and Heliodor compact disc harrows but also the Zirkon power harrow, and the Kristall compact cultivator. So with this choice of combinations the same Solitair 9 can very quickly be attached with the right kind of soil preparation implement to work efficiently and effectively within a wide variety of non powered and powered cultivation systems. Thus LEMKEN makes it easy for the farmer to simply match the system to the most variable of requirements.



Speed and precision for efficiency in minimum cultivation systems

Through the combination semi-mounted system it is possible to link-up the LEMKEN Solitair 9 pneumatic seed drill with the Kristall compact disc harrow. This can be carried out very quickly – giving a high area performance combination for mulch seeding. And in this combination the Solitair's parallelogram-controlled double disc coulters with depth control wheels, guarantee precise seed placement, even at high working speeds.

SAFE, CONVENIENT AND ECONOMICAL



Easily accessible depth adjustment

The working depth of the Kristall cultivator can be adjusted without tools and in small increments from 5 to 25 cm. On the 3 and 3.5 metre wide versions, the adjustment is made with a pin in a series of holes at the rear of the machine. To ease accessibility, the working depth of the 4 - 6 metre versions is adjusted using adjustment mechanisms on the front of the device.



Quick and easy tool changes

The Kristall compact cultivator is equipped with the innovative quick change system with interchangeable share foot as standard. The share foot and tools can be detached quickly and easily without tools. This enables the shares to be replaced quickly and easily.



High release forces with maintenance free auto-reset

In case of obstructions, an optional, maintenance-free auto-reset mechanism moves the tines up and to the rear and then returns them immediately to their working position. The significant height and the high release forces of 5500 N (550 kg) per tine guarantee fault free operation even at large working depths. The additional shear-bolt protects the Kristall if a tine gets caught under a stone or a root.

TECHNICAL DATA

Designation	Tines / Disk pairs + Individual disk	Line spacing (cm)	Bar spacing (cm)	Working width (m)	Transport width (m)	Weight without roller (approx, kg)	Tractor power kW	BHP
Attached, rigid								
Kristall 9/300	7/3	43	90	3	3	772	66-99	90-135
Kristall 9/350	7/3	50	90	3,5	3,5	871	77-116	105-158
Kristall 9/400	9/4	44	90	4	4	990	88-132	120-180
Attached, rigid with automatic overload protection								
Kristall 9/300 U	7/3	43	90	3	3	1,015	66-99	90-135
Kristall 9/350 U	7/3	50	90	3,5	3,5	1,181	77-116	105-158
Kristall 9/400 U	9/4	44	90	4	4	1,478	88-132	120-180
Attached, hydraulic folding								
Kristall 9/400 K	9/4	44	90	4	3	1,445	88-132	120-180
Kristall 9/500 K	11/5	45	90	5	3	1,543	110-165	150-225
Kristall 9/600 K	13/6	46	90	6	3	1,861	132-199	180-270
Attached, hydraulic folding with automatic overload protection								
Kristall 9/400 KU	9/4	44	90	4	3	1,776	88-132	120-180
Kristall 9/500 KU	11/5	45	90	5	3	1,901	110-165	150-225
Kristall 9/600 KU	13/6	46	90	6	3	2,328	132-199	180-270
Semi-mounted, hydraulic folding								
Kristall 9/400 KA	9/4	44	90	4	3	3,030	88-132	120-180
Kristall 9/500 KA	11/5	45	90	5	3	3,128	110-165	150-225
Kristall 9/600 KA	13/6	46	90	6	3	3,446	132-199	180-270

WE'RE **HERE FOR YOU**

Supplying high-quality original wear parts

Our original LEMKEN wear parts ensure that your LEMKEN machine stays what it is: the genuine product. Whichever machine you need a spare part for, we ensure that the original parts are always available for all LEMKEN machines. Not only in the short term, but for years to come.

Delivering spare parts speedily

The right parts at the right time in the right place — this is how a reliable replacement parts service should operate. Our professional logistics handling service ensures we can supply a wide range of replacement parts at speed, whenever and wherever they are needed.





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