

# MECHANICAL SEED DRILLS **SAPHIR**



# Trend-setting seed drill technology

High peak workloads are unavoidable in medium-sized agricultural companies, as well as larger ones. But such peaks can be absorbed with effective sowing technology, like the Saphir mechanical seed drill, from LEMKEN.

Whether hydraulically mounted or with 3-point coupling as a Saphir AutoLoad, the Saphir is both short and compact. And it is a genuine all-rounder,

for example in combination with working implements such as the Zirkon power harrow, or the Quartz cultivator. A large tank volume and accurate seed depth guarantee higher area capacity coupled with uniform crops.

The LEMKEN Saphir can be equipped with Double Disc coulters with rubber-depth wheels. Depending on the

coulter type, and the soil surface, a following harrow can also be used as an accessory.

The Double Disc coulter performs outstanding work both for mulch seeding and in conventional cultivation. The double discs are offset to each other to avoid blockages. The depth guide wheels enable high forward speed to be combined with accurate seed





depth in all soil types and conditions – for optimum field emergence.

Anyone changing from conventional, to minimum-tillage crop establishment, can count on additional saving potentials with the LEMKEN Saphir.





# Versatile drive concept



**Saphir 7**

The Saphir 7 is equipped with a mechanical seed drive.

- The seed metering units are driven by a land-wheel, through a shaft drive. Seed rate is adjusted via a continuously variable oil bath gearbox. Seed is metered by simple and accurate means.
- The Easytronic on-board computer checks and monitors the seeding process, and provides data such as hectare meter and tramline function.



**Saphir 8**

On the Saphir 8, the speed is electronically measured, and the sowing shaft electrically driven. This enables the most varied types of seed to be reliably and accurately metered. Calibrate it once and the seed rate is set.

- The electric motor and job computer are mounted in a protected location on the seed drill. They are operated easily from the tractor seat using the Solitronic terminal. Seed rate can be adjusted from the cab whilst travelling across the field – all it takes is a push of a button.





### Mounted Saphir AutoLoad

The Saphir AutoLoad, from LEMKEN, can be mounted directly to a tractor's 3-point linkage, or combined with seed-bed preparation implements such as a power harrow. When mounted to a power harrow or cultivator, the depth roller holds the seed drill at the correct height. The tractor link arms do the same when no cultivator is used.

- Inconvenient support wheels, which have been typical on seed drills in the past, are no longer needed. This avoids additional wheelings in the drilled crop.
- All seeding coulters run in a uniformly prepared seed-bed. Track looseners in front of the outer coulters are no longer necessary.
- All coulters operate uniformly, without need to set the outer ones at a different pressure, and thereby also sow the seed uniformly.



### Mounted Saphir

The classical Saphir is mounted onto the roller of the soil cultivation implement.

- The complete seed drill is borne immediately in front of the roller. This means that the power harrow can avoid obstacles more easily.
- Thanks to the Saphir's sophisticated mounting system, the seed drill can be simultaneously raised and moved forward. This reduces lift requirement, and allows part fields to be cultivated without seeding. And this without having to remove the seed drill.





# Safe and short distances



## Low filling height

Despite the large seed hopper, with a volume of up to 1,050 litres, the machine is built very low. This means that the driver has an excellent view over the top of the machine.

- The lid of the seed hopper is tightly sealed. Gas struts make it easy and safe to open or close.







### Large seed hopper

The Saphir's large seed hopper holds up to 1,050 litres. This volume increases the area capacity and reduces down time.

- The tank's power-coated panels are riveted together.
- The tank walls and hopper bottoms are steep. This means there is almost no residual seed even when sowing small seeds. The tank can be cleaned easily and quickly.



### Stable loading platform

The standard loading platform is wide and stable. It is entered from the left through stairs. Another step on the right-hand side prevents any differences in height to the seed hopper. One simply drives past the trailer at the side. Distances and filling time are reduced.

- The filling height is only 70 cm above the loading platform.
- The hand-rail guarantees a safe standing position.









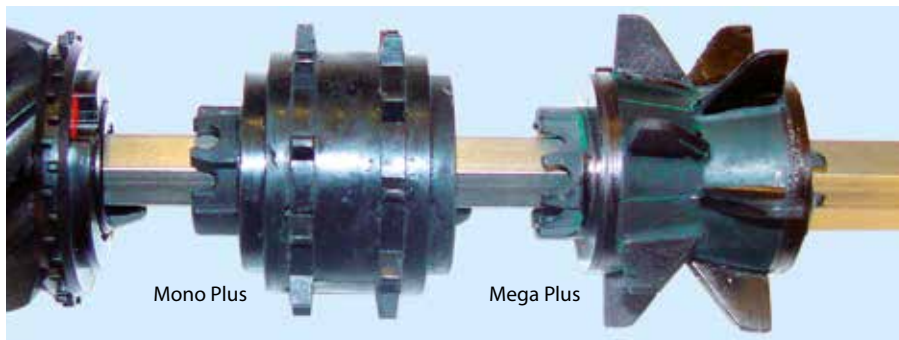
# Accurately metered



## „Conti Plus“ combination seed wheel

The Conti Plus seed wheel combines a fine seed roller with a larger fluted roller. It feeds the seed continuously into the seeding pipes.

- The two elements turn together to meter large seeds.
- The narrow part of the roller turns alone for fine seeds, such as rape.
- The separate seed wheel parts can be easily switched on and off – using a screwdriver on the easily-accessible red slide control.



## Fast change

The Saphir is equipped with a hexagon-shaped seed shaft with a quickchange device. Alternative seeding wheels can be fitted quickly and easily.

- Two single-piece seeding wheels are available: “Mono Plus” for small peas up to 150 kg/ha, and “Mega Plus” for peas and beans over 150 kg/ha.



## Seed wheel housing

The functional seed wheel housing is made of solid low-wearing plastic.

- Shut-off slide and bottom flaps can be adjusted quickly and without any tools.
- A gate, integrated into the seed wheel housing, can be quickly and simply changed over from sowing operation to calibration mode. This avoids potentially troublesome movement of the seed hoses.



# High speed



## Double disc coulters

In combination with the rubber-tired depth wheel, the double disc coulters guarantee a precise seeding depth – even on undulating soils.

- Irrespective of forward speed, the coulters depth remains constant.
- Consolidation of soil around the seed, by the depth wheel, ensures good soil-to-seed contact. Water retention and rooting are ideal. The plants grow quickly and, even on extremely dry soil, the field emergence is uniform and of a high emergence percentage.



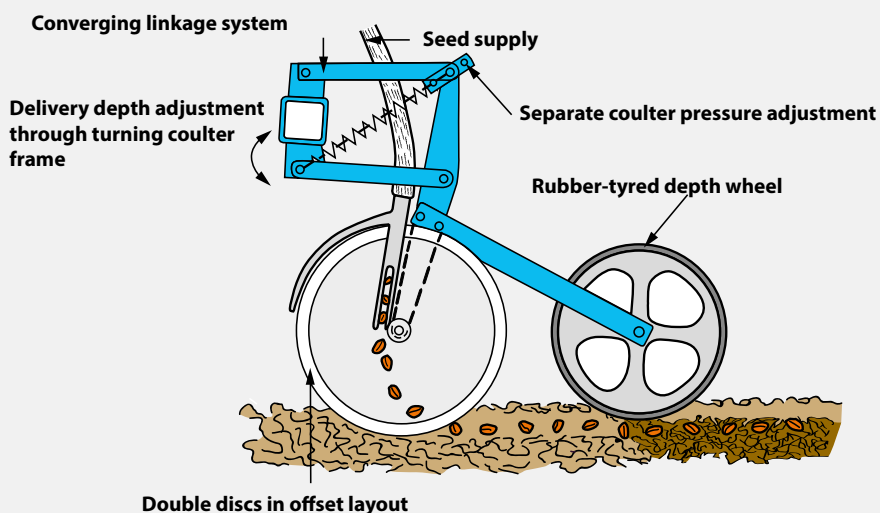
## DS sowing depth adjustment

The delivery depth of the double disc coulters can be continuously varied using a spindle in the middle of the seed drill.

- Rotating the coulters frame, changes the position of the depth wheel relative to the double disc coulters, and therefore the seed depth. The independent adjustment of sowing depth and coulters pressure, particularly on changing soil types, guarantees precise seed depth.

## Coulter adjustment

The parallelogram-mounted double disc coulters enable the coulters pressure and delivery depth to be adjusted separately. The discs are equipped with low-wearing and maintenance-free ball bearings, which are well protected thanks to fixed covering caps. A covering also completely covers up the gaps in the discs so that stones or other foreign bodies cannot block the Saphir. The offset layout of the double disc coulters also prevents clogging where large volumes of organic matter are involved.







### Exact following harrows

The two-piece S-harrow can be fitted behind Double Disc. Harrow pressure and working intensity can be easily adjusted without any tools. Two rows of drag tines guarantee excellent leveling and seed coverage.



- The S-harrow can be equipped with hydraulic lift if required. This makes it possible to work both with and without harrows.



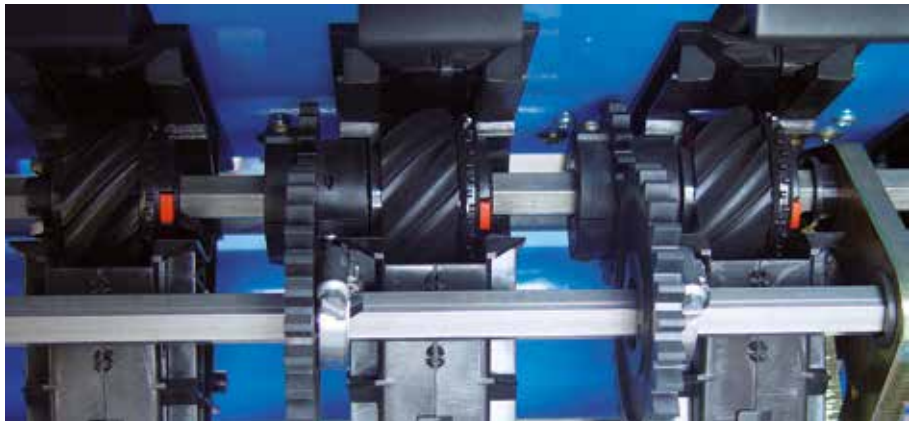
### The single harrow

As an alternative option, the single harrow can be used. It works on two seed rows at the same time and the depth is easily adjusted.





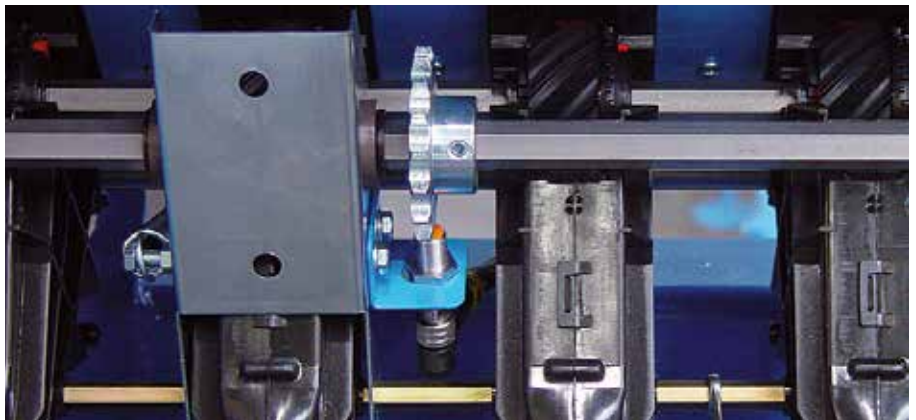
# Safety information



## Tramline control

Tramline control enables tramlines to be created in different rhythms. The relevant seed wheels are switched on and off using gear wheels and a coupling.

- The use of cleaning brushes, normally required for seed containing oil, is no longer necessary when using the fine seed wheel.
- The gear wheels on the countershaft can be shifted to suit. The different track widths can therefore be simply adjusted.
- The tramline width can be adjusted to match the tyre width by additional gear wheels.



## Sensors

Sensors regularly notify the driver regarding the operating state of the Saphir.

- The sensor on the countershaft monitors operation of the tramline control.
- Any malfunctions when creating tramlines are notified by means of audible and visual fault messages. The corresponding sensor also monitors the sowing shaft. It issues an alarm, if the seed shaft stops, e.g. if land-wheel has lost contact with the soil.



# Comprehensive function monitor



## Tank sensor

If required, the on-board computer can be equipped with a visual and acoustic low seed level alarm.

- On slopes a second sensor detects in good time when the seed hopper is running empty on one side.
- The sensor in the tank can be moved, up or down, and it records the residual quantity at any given time.



## Advance marking system

All LEMKEN Saphir seed drills can be equipped with a pre-emergence marker.

- The two marking discs are actuated by the on-board computer along with the tramlines. They are hydraulically operated and forcefully placed into the soil. Their track is clearly visible even on heavy soil or min-till conditions.

# Saphir 7, mechanical drive – reliable and safe



## Continuously variable oil-bath gearbox

The continuously variable oil-bath gearbox enables exact metering of seed rates from 0.5 to 500 kg/ha. It covers the entire seeding range – without any additional adjustment to the drive area. The narrowly spaced dial graduation, of 0 to 150, guarantees the necessary degree of precision. The sowing shaft operates smoothly thereby ensuring accurate longitudinal seed distribution. This is important, in particular, with small seed rates and a slow running sowing shaft.



## Maintenance-free universal-shaft drive

The maintenance-free universal-shaft drive also operates in dust and dirt reliably without any problems. There is no need to re-tighten or lubricate any drive chain.



## Optimum position of land wheel

The land wheel runs within the width of the seed drill between two seed rows. This helps to maintain a constant drive performance, be it on uphill or downhill sections. The large diameter guarantees slip-free rotation and excellent power transmission. Once work is over the land wheel can be folded up in a single movement without any tools.







**Easytronic on-board computer**

The Easytronic control terminal enables tramlines to be reliably created, controlled and monitored. The required tramline rhythm can be quickly and easily programmed, something particularly important when used on other farms or for contract work. Integrated into the on-board computer, is a hectare counter, which measures the individual field and the overall area capacity.



**Divided calibration tray**

Calibration can be conducted quickly and easily because the seed is collected in two calibration trays. These are pushed in and out of the machine at the side using practical drawers. Emptying flaps, at the side, enable the seed to flow straight into the weighing hopper. A set of digital scales, in a practical transport case, is available.



**Simple calibration test sample**

Detailed calibration aids, in the Easytronic control terminal, make other tools unnecessary. The Easytronic control terminal can be connected to the rear of the Saphir 7, during calibration, making the process much easier. An audible alarm is emitted, when enough seed has been metered, meaning there is no need to count the number of crank rotations. After the first calibration sample the Easytronic defines the new gearbox value for the second calibration sample. Calibration in this manner is a really easy task.



# Saphir 8, electrical drive – Simple and versatile



## Electrical drive

The electric drive of the seed shaft enables seeds from 0.5 to 500 kg/ha to be metered: Calibrate once and then the seed rate is configured.

- Electric motor and job computer are mounted at the front in a protected location on the seed drill.
- They are operated comfortably from the tractor seat using the Solitronic display. Changing the seed rate while driving is no longer a problem – all it takes is a push of a button.



## Control system

The Solitronic offers lots of features for optimum reliability.

- It records residual tank quantities, monitors the seed shafts, displays the speed and continuously registers hectares covered.
- After calibration, the Solitronic shows the driver the optimum speed range for the seeding process.
- If this range is exceeded, the driver is notified by the Solitronic.



## ISOBUS technology

ISOBUS technology supports numerous Saphir features. It's standardised interface connects the so-called "job computer" to the machine through the corresponding control (LEMKEN CCI-200 terminal) in the tractor cab.

- Jobs from various field record cards can also be processed. The data is exchanged using a USB stick or a GSM modem. All the jobs can be accurately documented chronologically and locally.
- The user-guided display simplifies the general handling process.
- The ergonomically-shaped joystick, with three switching levels, guarantees simple operation.
- Additional devices for displaying or operating various features can be integrated without any problems.
- This means that a single terminal can be used for seed drill, field sprayer, fertiliser spreader and other machines.
- Headland-Command and Tramline-Control is available with ISOBUS.





## Versatile use

The Solitronic enables the Saphir to be configured easily and quickly to the required seed quantity. The on-board computer guides the operator clearly through the calibration menu and controls the calibration process.

A single calibration suffices and the quantity is configured. The seed rate can also be raised or lowered while working from the tractor. Electronic hectare meter, an integrated diagnosis system for troubleshooting, ISOBUS

compatibility and DGPS capability, make the Saphir 8 with the Solitronic a highly-versatile seed drill.



## Impulse wheel

On the Saphir 8, an impulse wheel replaces the normal land wheel. As the impulse wheel does not transmit power, speed and distance can be recorded very accurately.

The impulse wheel runs between two seed rows, within the width of the seed drill, and therefore always on a seeded area. The drive therefore runs constantly.

After work has been completed, the impulse wheel can be folded in a single movement without any tools.

# Technical data

Description	Working width apprx, cm	Number of rows seed coulters	tank volume apprx, litres	approx, kg
<b>with double disc coulters and depth control wheels / row distance 125 mm</b>				
Saphir 7/250-DS	250	20	650	838
Saphir 7/300-DS	300	24	800	927
Saphir 7/400-DS	400	32	1,050	1,136
Saphir 7/250 AutoLoad-DS	250	20	650	810
Saphir 7/300 AutoLoad-DS	300	24	800	900
Saphir 7/400 AutoLoad-DS	400	32	1,050	1,070
Saphir 8/300-DS	300	24	800	927
Saphir 8/400-DS	400	32	1,050	1,136
Saphir 8/300 AutoLoad-DS	300	24	800	900
Saphir 8/400 AutoLoad-DS	400	32	1,050	1,070
<b>with double disc coulters and depth control wheels / row distance 150 mm</b>				
Saphir 7/250-DS 150	250	17	650	793
Saphir 7/300-DS 150	300	20	800	867
Saphir 7/400-DS 150	400	27	1,050	1,061
Saphir 7/250 AutoLoad-DS 150	250	17	650	765
Saphir 7/300 AutoLoad-DS 150	300	20	800	840
Saphir 7/400 AutoLoad-DS 150	400	27	1,050	995
Saphir 8/300-DS 150	300	20	800	867
Saphir 8/400-DS 150	400	27	1,050	1,061
Saphir 8/300 AutoLoad-DS 150	300	20	800	840
Saphir 8/400 AutoLoad-DS 150	400	27	1,050	995

## Saphir 7, Saphir 7 AutoLoad basic equipment

Easytronic machine control with automatic tramline 2 x 2, hectare counter and operator guidance, quick-changing device for seed wheels, two-piece seed wheel Conti Plus, continuously variable oil-bath gearbox, drain wedges, seed hopper lid with forward-folding gas-filled shock absorbers, mechanical filling level display, tail wheel drive, catwalk with steps, agitator shaft

## Saphir 7, Saphir 7 AutoLoad accessories

Single harrow (DS), sowing harrow-S, advance marking, tank volume 1,100 litres (7/300), agitator shaft for grass seeds, partition plates for rape seed, remote hydraulic seed rate adjustment, overload strip, tramline extension from 2 to 3/4 rows, tractor connection cable, carbide metal scraper (DS), scraper for pressure roller (DS), spring-loaded tail wheel, electronic filling-level monitor, illumination, adjustable spot lamp Digital scales, Mono Plus pea wheel for up to 150 kg/ha, Mega Plus as of 150 kg/ha hydraulic semi-mounting device (Saphir 7) depth limiter (AutoLoad), track marker, hydraulic vertically folding, coulter pressure increase, support cap depth control wheels, camera surveillance system

## Saphir 8, Saphir 8 AutoLoad basic equipment

Solitronic machine control with automatic tramline 2 x 2, hectare counter and operator guidance, quick-changing device for seed wheels, two-piece seed wheel Conti Plus, mechanical section width control, electronic filling-level display, electrically-driven sowing shaft, impulse wheel, drain wedges, seed hopper lid with forward-folding gas-filled shock absorbers, catwalk with steps, agitator shaft, digital scales, carrier for sowing harrow and advance marking

## Saphir 8, Saphir 8 AutoLoad accessories

Single harrow (DS), sowing harrow-S, advance marking, tank volume 1,100 litres (8/300), agitator shaft for grass seeds, partition plates for rape seed, overload strip, tramline extension from 2 to 3/4 rows, carbide metal scraper (DS), scraper for pressure roller (DS), interface for GPS, ISOBUS operation, illumination, adjustable spot lamp Mono Plus pea wheel up to 150 kg/ha, Mega Plus as of 150 kg/ha hydraulic semi-mounting device (Saphir 8) depth limiter (AutoLoad), track marker, hydraulic vertically folding, coulter pressure increase, support cap depth control wheels, camera surveillance system

All specifications, dimensions and weights are subject to continuous technical development and are therefore not binding. The weight specifications always refer to the basic equipment. Subject to change.



# Service decides



When you have bought a machine from LEMKEN, the well known, almost proverbial LEMKEN service starts. 18 customer-oriented factory branches and outdoor storage areas in Germany as well as our own sales companies and importers in more than 40 countries, and a strong dealer network, ensure that machines and spare parts are supplied quickly. If a part is not in stock,

it can be delivered to the customer within 24 hours via the LEMKEN logistics centre which is manned round-the-clock, 365 days a year.

## **Knowledge from the LEMKEN specialist**

Well trained customer service technicians are available to farmers, contractors and trade, who are

using machinery for the first time, as well as for professional maintenance and repairs. Thanks to regular training courses, LEMKEN customer service is always up to date with the latest LEMKEN technology.

## **Original spare parts for maximum service lives**

LEMKEN wearing parts are designed for a maximum service life. High-quality steels, the latest production methods, and an intensive quality control ensure a long service life.

Therefore, all original spare parts bear a unique identification with the registered LEMKEN trademark. Original spare parts can be ordered at any time online on the Internet via the LEMKEN information and ordering system.



LEMKEN GmbH & Co. KG  
Weseler Straße 5  
46519 Alpen  
Tel. +49 2802 81-0  
Fax +49 2802 81-220  
info@lemken.com  
www.lemken.com



Your LEMKEN dealer:

