

PNEUMATIC SEED DRILLS

SOLITAIR

 **LEMKEN** THE AGROVISION COMPANY



Versatile Cultivation Methods

In modern agriculture, a higher working rate of the technology, the universal combination of tools in the implements, and faster and easier road transport are becoming increasingly important.

Here, the extensive range of Solitair pneumatic seed drills provides the requirements for efficient implement use when seeding. The pneumatic seed drills Solitair 9 and 12, depending on the type, can be trailed, mounted or semi-mounted.

Working widths of 4 to 12 metres provide the requirements for cost-efficient operation on all types of farms. In addition to combinations, it is also possible to use the Solitair 9 pneumatic seed drills on their own.

Depending on the previous crop, crop rotation, weather and harvest conditions, switching over from conventional to conservation tillage methods can lead to significant cost savings. The Solitair from LEMKEN fulfils all of the requirements for working without clogging and with precise seed placement.

The double disc coulters do excellent work with mulch seeding and conventional cultivation methods. The depth control wheels of the double disc coulters ensure precise seeding depth and uniform covering of the seed.

After ploughing and seedbed preparation with a power harrow, compact or seedbed combination, seeding is performed with the Solitair solo or in combination. The double disc coulters provide ideal seed placement and covering both under wet and dry soil conditions, and therefore create the ideal conditions for maximum field germination.

The Solitair can be combined with compact cultivators or compact disc harrows for mulch seeding. These combinations are ideal for loosening over the whole width, intensive mixing, good reconsolidation and seed placement in the soil without clogging. In addition, these mulch seeding combinations enable maximum seed placement precision with high working speeds.





Always the Right Size



Solitair 9

The combination possibilities of the Solitair 9 pneumatic seed drill with different soil tillage implements and solo operation provide a multitude of uses in various cultivation methods. It is available as a hydraulic-folding version, or as semi-mounted folding version in working widths of 4 to 6 metres.





Solitair 12

The trailed Solitair 12 pneumatic seed drill completes the range as a solo machine with working widths of 8, 9, 10 and 12 metres. The seed hopper volume of 5,800 litres and the innovative coulters bar are the prerequisites for maximum acreage performance when seeding.



Innovative Technology



Multi-section metering

For the seeding of different types of seeds, the 6-part cell wheels can be switched on or off manually or hydraulically depending on specification. Speed and width of cell wheel are adjusted to provide a uniform flow of seed. Depending on the working width, the Solitair has between two and eight metering devices.



The hydraulically driven fan

The fan is hydraulically driven. The speed of the fan can be continuously adjusted and is independent of PTO speed. Fan speed is maintained even at low engine RPM of the tractor. Fluctuations in the rpm of the tractor's engine do not influence the speed of the fan. Uniform seed flow is always ensured.



The outer distributor

The seed distributors are located outside of the seed hopper, directly above the coulter bar. For precise distribution, the seeding hoses from the distributor to the coulter are of the equal length. Continuous incline of the seeding hoses prevents blockage. The distributor can be easily opened for inspection.



Precise Work



Switching of part width sections

Each metering unit can be individually switched on and off mechanically. Optionally, this function can be actuated electro-hydraulically from the tractor seat by using the Solitair control unit. Overlaps can be easily avoided.



The tramline mechanism

2, 3 or 4 rows per wheeling can be automatically switched off for tramlines. The automatic function of the tramline flaps maintains constant air pressure in the system. Uniform seed distribution is also ensured with switched tramlines. During the setting of the tramlines, seed is brought back to the seed hopper.

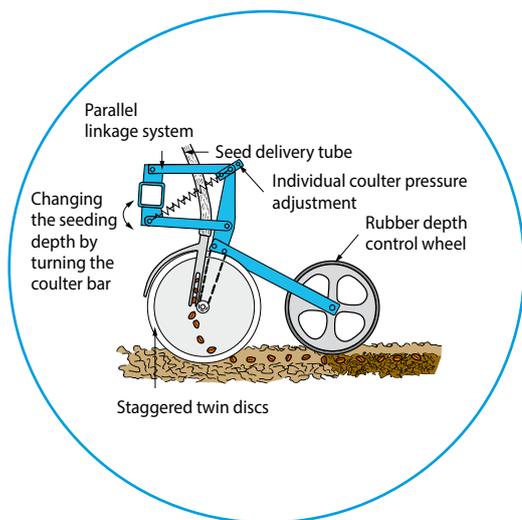


Emptying the seed hopper

There are two options for the quick and easy emptying of the seed hopper: For emptying via the bottom flaps, the calibration tray is placed under the metering unit and the seed can flow out of the hopper into the calibration tray. For emptying via the distributor, the emptying hose is attached to the distributor. The fan is used to blow the seed out of the tank via the hose.



High Speed Operation



The couler system

The double disc couler with parallel linkage enables the independent adjustment of the couler pressure and the seeding depth. The discs are equipped with wear and maintenance-free ball bearings. Fixed protective caps seal the bearings. The space between the discs is fully sealed with a cover. The double discs ensure working without blockage, even with large amounts of mulch material.

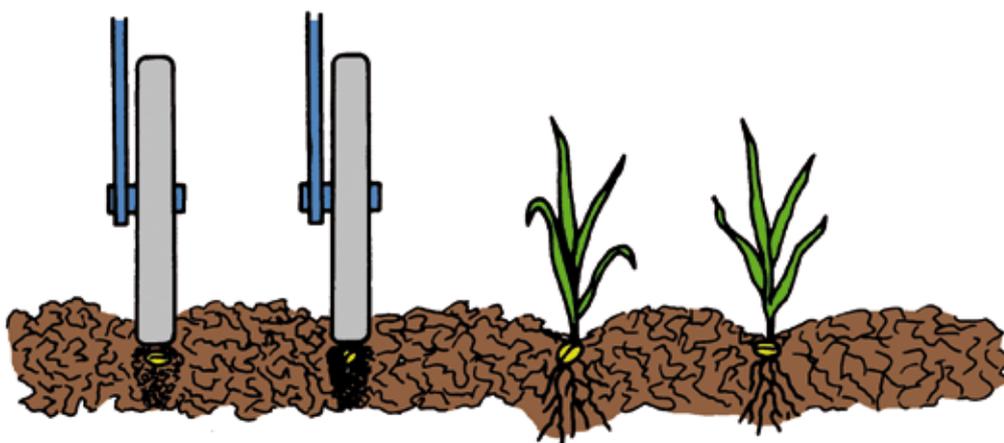
The double disc couler

The double disc couler with rubber depth control wheels places the seed accurately at a constant depth, even under changing soil conditions. The depth control of the twin discs remains ideal at high operating speeds. The pressing of the seed with the depth control wheel provides ideal soil contact. The optimal water supply leads to rapid seed germination. The unconsolidated areas between the rows reduce puddling and erosion. An optional trapeze roller, in front of the seed discs, further improves moisture retention. The reconsolidation in strips is precisely aligned with the spacing of the seed rows.



The disc couler and scraper

The short and compact design of the couler bar and linkages provides maximum stability. The parallel linkage is made of forged and surface-hardened steel, ensuring reliable operation even under stony conditions. The double discs are equipped with highly resistant bearing bushes. The bearing pin is secured against unintentional turning and sealing rings prevent dirt from getting in. The scraper on the double disc couler has an ideal cleaning effect and a long service life. It is simply put on and adjusts itself independently.



Precise Seed Placement



Coulter pressure adjustment

The coulters pressure is transferred centrally onto the coulters via the sturdy coulters bar. On the mounted seed drills, it can be adjusted mechanically using the pins. Hydraulic adjustment is available as an option (as a standard on semi-mounted machines). A coulters pressure of up to 45 kg can be reached on each double disc coulters.



The DS seeding depth adjustment

Especially on different types of soils, the independent setting of the seeding depth and the coulters pressure is a guarantee for precise seed placement. The position of the press wheels relative to the double disc coulters, and therefore the seeding depth, is changed by turning the coulters bars using two spindles. This ensures a high and uniform germination rate, even on extremely dry soils. The seeding depth can be continuously adjusted using two spindles.



The harrow

An optional S harrow can be fitted on all coulters variations. The harrow pressure and working intensity can be easily adjusted without tools. Two rows of harrow tines provide good levelling and covering of the seed. The S-harrow can be equipped with hydraulic lifting for e.g. for precision farming. 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.



LEMKEN Solitronic - Everything under Control



The Solitronic

The Solitronic is responsible for all control and monitoring functions on the Solitair 9 and 12. The colour touch display shows the individual graphically designed menus and is user-friendly. The hectare performance per field, day and year are measured and recorded electronically. All of the tramline variations can be entered and easily changed.

The impulse wheel

The impulse wheel serves exclusively for measuring the travelled distance. Slip-free rolling is guaranteed, as no drive force has to be provided for the seeding shaft. A sensor on the impulse wheel ensures precise distance measurement. The impulse wheel runs between two seed rows inside of the seed drill working width and always on the cultivated area. This ensures constantly uniform drive behaviour.





The drive and control

The electric motor installed underneath the seed hopper reliably drives the metering unit via chain drive and seeding shaft. With the Solitronic's simple menu navigation, the Solitair is easily and quickly set to go. After one single calibration, the on-board computer shows the driver the ideal speed range for the set seeding rate, and warns if travelling too fast or too slow. The set seeding rate of 1.5 to 500 kg can be increased or decreased at any time during operation. The system always ensures high reliability, e.g. through monitoring the seeding rate, fan speed and seeding shaft. An integrated diagnosis system for all inputs and outputs facilitates troubleshooting. Every error in the system is signalled to the driver both acoustically and visually.

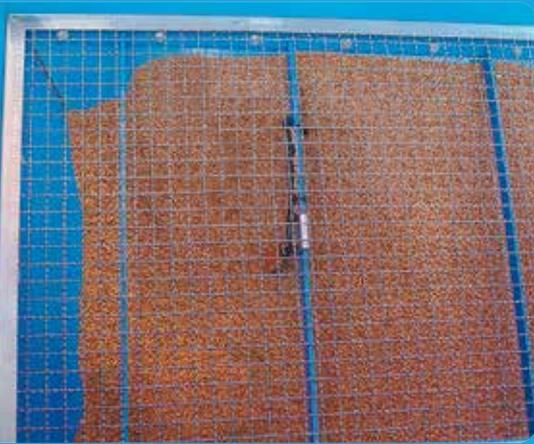


Innovation with ISOBUS

The Solitronic is equipped with a CANBUS interface, is ISOBUS compatible, and can be operated with an ISOBUS terminal. The electronic system supports implement functions such as distributor or tramline monitoring, hydraulic track marker and part width section switching. DGPS compatibility offers further applications for the Solitronic. The ISOBUS version of Tramline Control with GPS allows tramlines to be created freely across the field. The system is optimised for CCI.Command. Headland Command significantly simplifies implement control at the headlands and controls implement lifting and lowering to prevent gaps and double seed rates.



The Accessories



Reliable seed hopper monitoring

The hopper level sensor informs the Solitronic if the seed level is low, and gives a visual and an acoustic signal. The seed level sensor is height-adjustable and can be optimally adjusted for any type of seed. The sieve in the seed hopper protects the seeding wheels from clogging by foreign objects contained in the seed.



Pre-emergence marker

All LEMKEN Solitair seed drills can be equipped with a pre-emergence marker upon request. The marker discs are controlled with the on-board computer and hydraulically actuated during tramlining. They are powerfully guided into the soil and produce a readily visible track, even on heavy soils or with mulch seeding. The compact design of the pre-emergence marker is particularly advantageous at the headlands.



Seed pipe or distributor monitoring

The sensors for monitoring the tramlines or part width sections are integrated directly behind the distributors in the seed hoses (1). If the seed flow is irregular or interrupted, the driver is warned with a buzzing tone. At the same time, the number of the blocked row or width section is shown on the display.



Solitair 9 - The right concept



The semi-mounted version

The Solitair 9 with the semi-mounted Zirkon power harrow, the Kristall compact cultivator, the Heliodor and Rubin compact disc harrows, as well as the System-Kompaktor seedbed combination are all ideal for use by agricultural contracting companies or on large-scale farms. The rear axle load is lower than on mounted combinations, enabling the use of the correct tyre pressure adapted to the soil conditions. The pressure brake system can reliably brake the combination filled with up to 2,300 l of seed.



The mounted version

The Solitair 9 pneumatic seed drill can be mounted on all Zirkon power harrows and Heliodor compact disc harrows from LEMKEN. The folding Solitair 9 with working widths of 4 to 6 metres can be combined with the Zirkon power harrow.





The solo version

All variations can be used solo with a carriage. The Solitair can then be directly connected to the three-point linkage on the tractor. Optional wheel kits offer fully-mounted or trailed possibilities of the solo drill.



Compact seed hopper

The seed hopper is reliably closed with the large, easy-to-open lid. It is placed towards the front, to create a favourable centre of gravity for the combination. The total hopper volume can be used for seed, since the seed distributor is placed directly above the coulter bar. This facilitates the cleaning and emptying of the hopper. The wide, safe ladder makes filling the hopper with sacks easier. Big bags or an auger can also be used for filling the hopper.



Transport

In the mounted or semi-mounted version, the Solitair 9 with working widths above 3 metres can be easily and rapidly hydraulically folded to a transport width under 3 m. It can be rapidly and safely moved from field to field at any time.

Solitaire 12 - Powerful and Reliable



Seed hopper

The Solitaire 12 completes LEMKEN's upper range of pneumatic seed drills with working widths of 8, 9, 10 and 12 metres. The approx. 5,800 litre capacity of the seed hopper can be easily and quickly filled using a telescope loader, Big Pack or auger. The hydraulically driven fan provides a constant flow of air, which carries the seed evenly out to the outermost seed rows. Even with large working widths, a good lateral distribution is ensured. The fan drive requires about 37 litres of oil per minute.



Metering unit

In the metering unit, the two seeding shafts are driven by a powerful electric motor, and are electronically regulated. 2 x 4 metering units release the desired seed quantity into the air stream allowing the seed to reach the eight distributors positioned directly above the coulters. A part width section control can be integrated upon request.



Coulter bar

The coulters bar is divided into two parts. An innovative hydraulic system provides the ground adaptation that is particularly important for large working widths. The coulters bar is equipped with four linked cylinders, which ensure proper ground adaptation even on undulating terrain. The coulters pressure and working depth of the double disc coulters with depth control wheels are hydraulically adjusted.



Transport

The Solitair 12 is attached to the tractor's drawbar, hitch or piton fix. The coulter bar is folded similar to a spraying boom, and is also transported parallel to the direction of travel. A square profile frame with 160x160 mm provides high stability for the drill frame. The carriage with large tyres enables an authorised total weight of the seed drill of up to 8.5 tons. The tyre size of 550/60-22.5 reduces soil compaction. The compressed air or hydraulic brake system ensures safe road transport.



Technical data

Model	Working width [approx. cm]	Number of rows with row spacing		Hopper volume [approx. l]	Weight for 12.5 cm [approx. kg] DS ¹	Mounted on mounted Zirkon or Quarz	Mounted on Heliodor	Mounted on carriage	Mounted on semi-mounted implements
		12,5 cm	15,0 cm						
Mounted, hydraulic folding									
Solitair 9/400 K	400	32	27	1,850	1,202	x		x	
Solitair 9/450 K	450	36	30	1,850	1,274	x		x	
Solitair 9/500 K	500	40	34	1,850	1,354	x		x	
Solitair 9/600 K	600	48	40	1,850	1,514	x		x	
Semi-mounted, hydraulic folding									
Solitair 9/400 KA	400	32	27	2,300	1,274			x	x
Solitair 9/450 KA	450	36	30	2,300	1,364			x	x
Solitair 9/500 KA	500	40	34	2,300	1,504			x	x
Solitair 9/600 KA	600	48	40	2,300	1,684			x	x
Trailed, hydraulic folding									
Solitair 12/800 K	800	64	54	5,800	4,545				
Solitair 12/900 K	900	72	60	5,800	4,725				
Solitair 12/1000 K	1,000	80	68	5,800	4,905				
Solitair 12/1200 K	1,200	96	80	5,800	5,315				

*Exceeds the permitted transport width in several countries

¹ Double disc coulters

² Suffolk coulters, only Solitair 8

Solitair 9, 12 standard equipment

Electronic seed drill operation with operation terminal LVT-50, hydraulically driven fan, folding cover, seed hopper with exterior seed distributors, hopper sieve, electronic hopper level monitoring, electrically driven seeding shaft, impulse wheel, dust filter, digital scale

Solitair 12 standard equipment

Hydraulic coulters pressure adjustment, 550/60-22.5 tyres

Solitair accessories

Tramline mechanism, tramline monitoring, switch-off of width sections, hydraulic coulters pressure adjustment, harrow, Pre-emergence marker, on-board hydraulic fan drive, hydraulic folding track marker, carriage, carriage wheelmark eradicator, lighting equipment

Solitair 9, 12 accessories

ISOBUS, long coulters step (except Solitair 12)

Solitair 12 accessories

Brake system, 700/50-30.5 tyres, hydraulic folding track marker

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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.





LEMKEN 05/24-175 0420/en - 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.

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