



MINIAIR NOVA

PNEUMATIC VEGETABLE PRECISION DRILL

WHEN FARMING MEANS BUSINESS

Realising the full potential of farming is about growing and developing your business, not only your crop or livestock, but also your profit. Improve productivity and profitability by focusing on the positives and minimising disadvantageous aspects, through strong, dedicated management.

Success springs from determination and clear targets, from laying down the appropriate strategy and allocating correct investments for the future. Quality results require the right ideas and equipment. When there is work to be done, you need the optimal setup and smart solutions that support you towards an easier, more profitable way of working. You need solutions that make tough and demanding conditions less complicated.





Effective sowing means speeding up when the soil is exactly right, in order to give your crop a head start.

YOUR KVERNELAND

INTELLIGENT FARMING SOLUTIONS

Choose the best farming solution for you and your land. Combine the highest possible yields with sustainability. This will start with the correct tillage. The choices you make depend on various factors and should match your specific circumstances, like soil structure, crop rotation, residue management, economic and ecological viabilities.

The choice is yours!

You must consider environmental and legal issues. From conventional methods to conservation tillage: the balance of operations at the right time has to be found to achieve high yields with the best soil condition (air, moisture, biological activity, etc.) with a minimum amount of energy, time and investment. For this, Kverneland offers a full range of intelligent farming solutions.

CONVENTIONAL TILLAGE

Conventional Tillage

- **Intensive** method of cultivation
- Complete soil inversion e.g. by a plough
- Less than 15-30% crop residues left on soil surface
- Seedbed preparation done by an active tool or special seedbed harrow
- High phytosanitary effect by reduced pressure of weed and fungi diseases - fewer herbicides and fungicides needed
- Better dry-off and faster increase of soil temperature for better nutrients absorption

CONSERVATION TILLAGE

Mulch Tillage

- **Reduced** intensity in terms of depth and frequency
- More than 30% of residues are left on soil surface
- Extended repose period of the soil
- Cultivator and/or discs incorporate the crop residues within the top 10cm of soil for stable bearing soil
- Full-width tillage - seedbed preparation and seeding in one pass
- Protection against soil erosion; reduce soil loss by run-off and improve water storage capacity.
- Improvement of soil moisture retention

Strip Tillage

- **Zonal strip loosening** before or during seeding of up to 1/3 of the row width (Loibl, 2006). Up to 70% of the soil surface remains untouched
- Strip-till combines the soil drying and warming benefits of conventional tillage with the soil-protecting advantages of no-till by disturbing only the area of the soil where the seeds are placed
- Exact fertilising deposit
- Soil protection against erosion and drought

Vertical Tillage / No-Till

- **Extensive** method
- Working soil vertically avoids additional horizontal layers or density changes
- Increasing water infiltration, root development and nutrient take-up
- Plants' roots dictate the overall health of the plant, as they deliver nutrients and water throughout the season, contributing to a higher yield
- A strong set of roots make plants more resistant to wind and drought.
- Lower energy input required

CROP ESTABLISHMENT SYSTEMS		KVERNELAND'S INTELLIGENT FARMING SOLUTION							
		Method	Deep Tillage (not a must)	Basic Tillage	Seedbed Preparation	Seeding	Spreading	Spraying	
CONSERVATION	extensive	Soil coverage after Seeding > 30%	Vertical Tillage shallow tillage						
			Strip Tillage stripwise loosening						
	Soil coverage after Seeding 15 - 30%	Mulch Seeding without soil inversion							
		Reduced Till without soil inversion							
CONVENTIONAL	intensive	up to 15%	Conventional with soil inversion						
									

CLASSIFICATION OF TILLAGE METHODS KVERNELAND (Source: adapted from KTBL)



PRECISE

EFFICIENT

ECONOMIC

VERSATILE



SEED BY SEED TO MAKE SOWING A SUCCESS

Precise

The MiniAir Nova is excellent in precise seed placement. You can be sure that the sowing unit follows the ground contour perfectly and the coulter forms a clean and clear furrow to ensure best seed-to-soil contact. Precise seed placement is the first, fundamental step on the way to producing top quality vegetable products.

Economic

You invest in the best equipment for sowing your crop. In return you want the best results and to increase the yields significantly. With the MiniAir Nova you have everything under control. The key to economic success is growing fresh products that comply with the highest of quality standards.

Efficient

When the time is right, you want to sow immediately. The soil has to be prepared with care and the moment of sowing depends on the right conditions. The particularly clear structure and the incorporated technology on the machine is extremely user-friendly and highly efficient from setting to sowing.

Versatile

You want a precision drill that is versatile. Ready for the various vegetables with smaller or bigger seeds, to sow shallow or deep. The MiniAir Nova guarantees customised precision sowing for all sorts of vegetable seeds and is thus the ultimate machine for vegetable producers.

*From the seed to the carrot
for high added value.*

SEEDING HEART - THE CORE OF SUCCESS

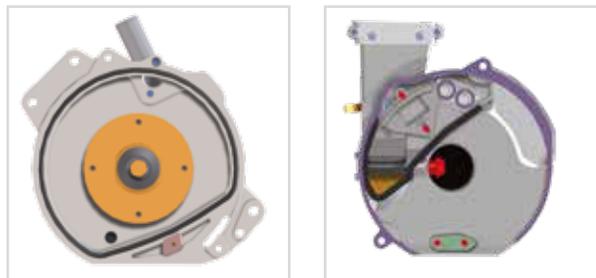
PRECISE METERING AND PLACEMENT

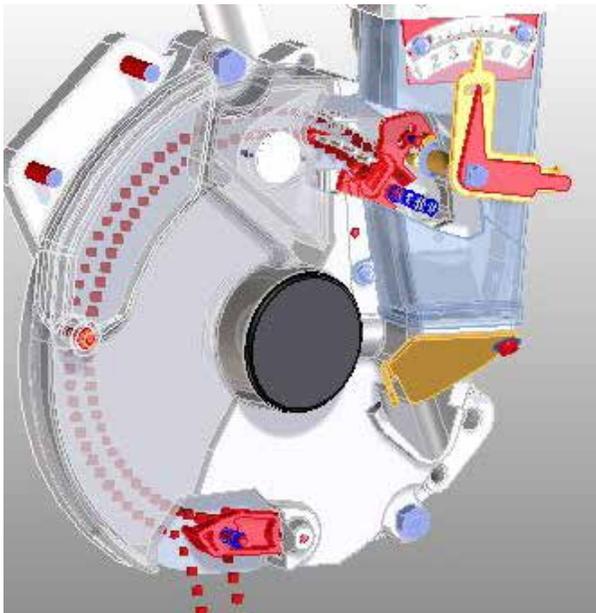
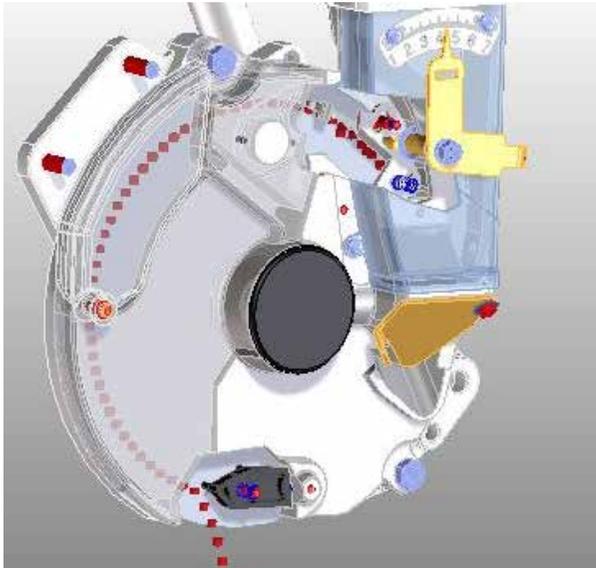
The seeding heart is made of cast aluminium and guarantees highly accurate seed placement thanks to its sophisticated technological design. Individual seeds are sucked on to the holes in the seed discs by a vacuum and proceed via the rotating disc to the ejection area, where the vacuum is interrupted and the seed is placed precisely in the soil. Thanks to the compact design of the MiniAir Nova a minimised dropping height supports the exact placement.

Surplus seed at the holes is removed with the help of adjustable singulators and returned to the seed flow. The feeding of seed from the 4 litre plastic seed hopper is regulated with the help of a baffle plate, so that the flow of surplus seeds back to the intake is guaranteed at all times. A rotary agitator at the seed flow prevents blockages and bridging, ensuring a consistent supply of seed to the seed disc.

A small air jet clears the holes in the seed disc of any dust or seed residue to ensure perfect pick-up every time. The shape of the nozzle is patented. It is mounted on bellows and easy to change. The seeding heart is easy to open and can be fitted with all sorts of different seed discs. These can also be changed easily and without the need for tools thanks to the special seed disc mounting. A flap on the hopper makes it easy to empty it entirely, if needed. Alternatively, any leftover seeds can be removed by using the optional vacuum that is attached to the frame.

Reduced maintenance costs.





MINIAIR NOVA FRAME CONCEPT

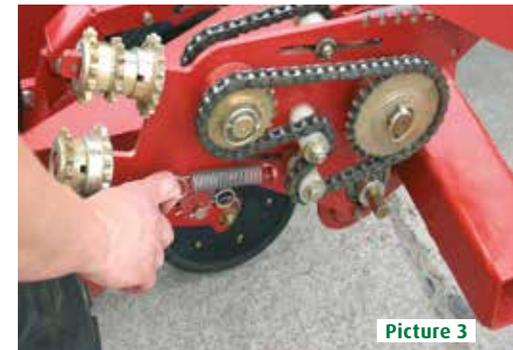
LIGHTWEIGHT AND STURDY

The Miniair Nova is based on the familiar Monopill frame, available rigid or as a parallel hydraulic folding model, with working widths of 2.5 to 6.5m (wider widths on demand).

The 7.00-12AS tyres are standard fittings and ensure low soil impact during sowing. The land wheels drive the gear box. A maximum of 11 sowing hearts are connected with one gear box. The wheels are positioned behind the toolbar in the same line as the precision seeder units. They balance the machine, thus ensuring it remains exactly on track. Wheels are positioned outside the sowing beds or between the rows.

Simple and cost-efficient.

The machine can be adjusted for field, bed or ridged cropping systems via the holes on an adjustment bar at the wheel (pictures 1 and 2). The standard gearbox is fitted with an automatic chain tension adjustment device and allows seed spacing of 0.9 – 43.4cm. The chain wheels can be changed without the need for tools (picture 3). Track markers are available as an option.





Rigid frame
from
2.5 to 6.5m



Parallel hydraulic
folding frame 6m



Parallel hydraulic
folding frame
in transport
position

SOWING ROW



Double row

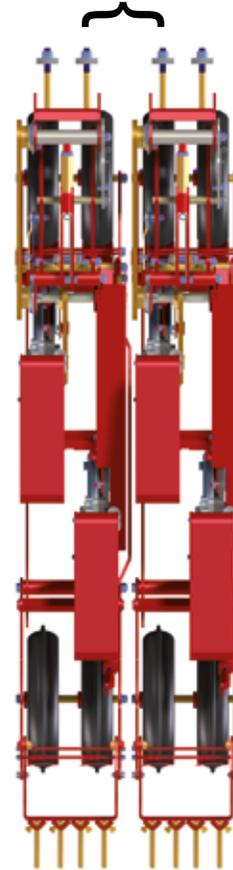


Twin row

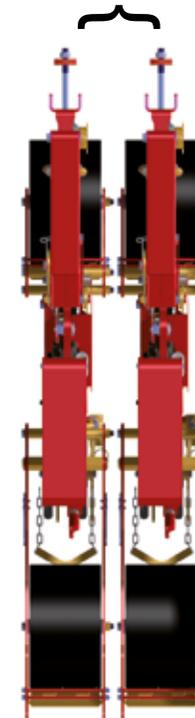


Single row

Double row
with minimum
row width of 24cm and a
row distance of 5-11cm



Twin row
with minimum
row width of 21cm



Single row
with minimum
row width of 11cm



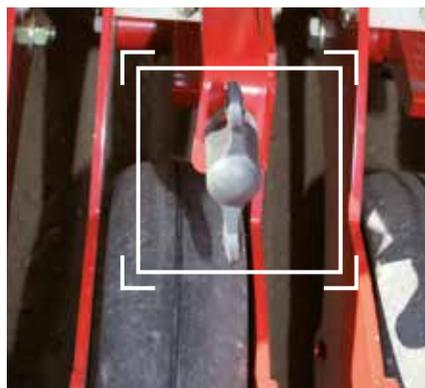
ROW VARIANTS WITH TANDEM DEPTH CONTROL

The sowing unit concept consists of a parallelogram-linked tandem waggon with a hitched sowing unit. The depth of the row is guided by the front and rear wheel and can be adjusted to any conditions to achieve high balance. The downward weight of the unit can be reduced or increased as required via a spring-loaded suspension system. The drop height is very low, which means that the seed falls exactly into the furrow.

3 row executions for perfect sowing.

Linked front and rear press wheels ensure a consistent sowing depth. The sowing depth can be set quickly, steplessly and easily via a spindle on the tandem waggon. Once the first row is set, a scale ensures the depth is applied to all rows. A lifting mechanism allows the sowing unit to be raised and locked in position for maintenance work or if the number of working rows should be reduced.

The sowing unit can be fitted with various different press wheels and coverers, so that it is possible to adjust it according to soil quality. There is also a long version of the tandem waggon, which can optionally be fitted with an intermediate press wheel and additional coverer.



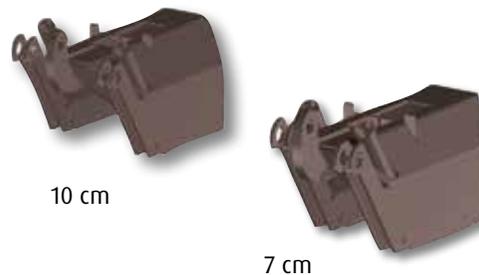
EXACT PLACEMENT FOR SEEDS AND MORE WITH THE RIGHT SEED COULTER

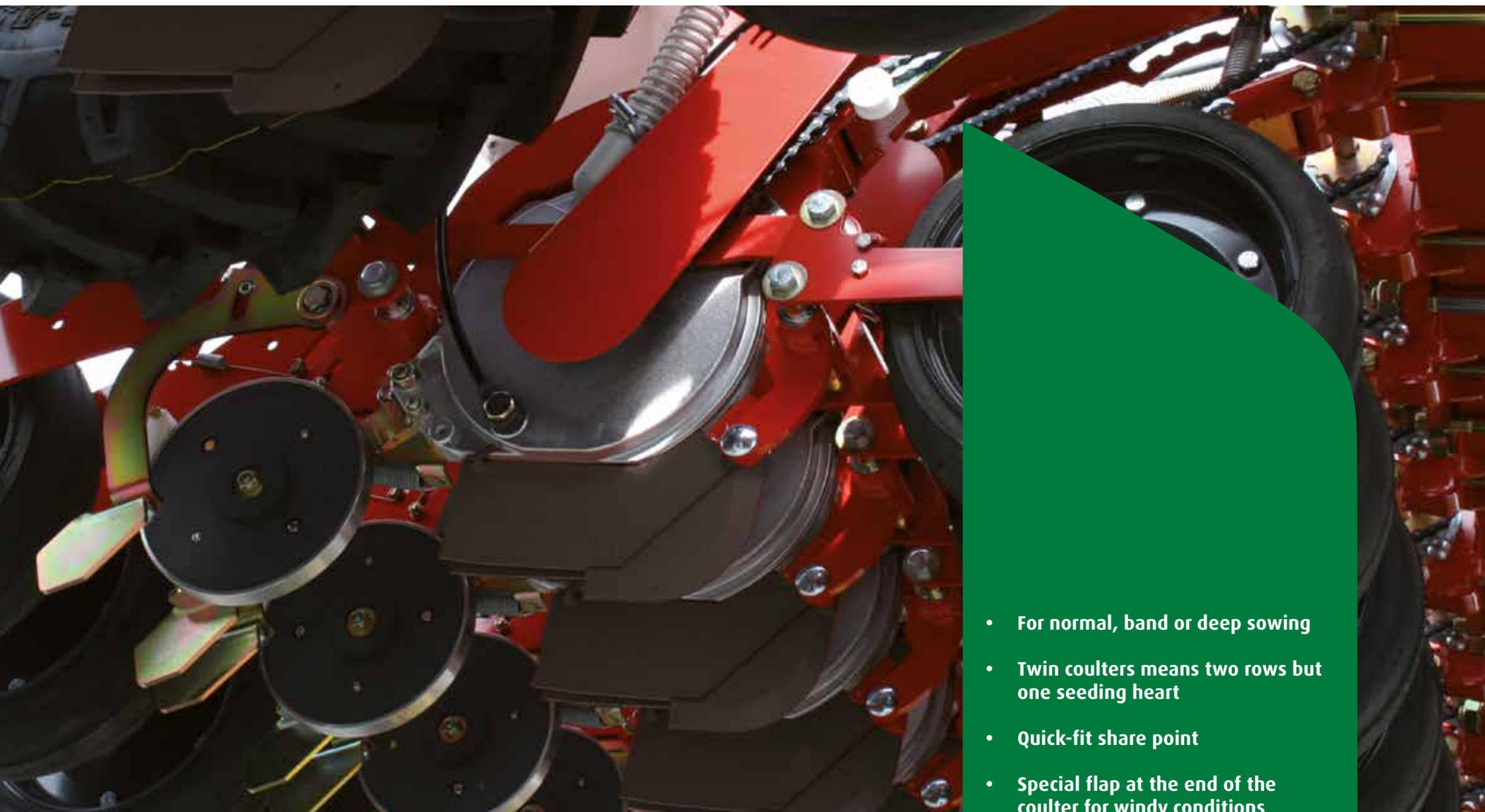
When it comes to choosing a seed coultter, there are various interesting options. It is, for example, possible to choose between the standard coultter for normal placement and a band coultter for wide placement.

Different choice of coultters.

Also in the Kverneland range is the twin coultter. In this case the standard seed coultter comes in two sections that make it possible to plant two rows of seed using one seeding heart. This twin seed coultter is available in 7cm and 10cm widths, with a minimum distance between rows of 21cm. The standard and twin seed coultters are both fitted with a share-point that can be changed easily in case of wear. A wind flap at the end of the coultter ensures precise seed placement even in windy conditions. A micro-granule applicator is available as an option.

The “two-lane” seed disc staggers the placement of the seed, thus optimising the spatial distribution of individual plants in order to make the best use of nutrients, light and water.



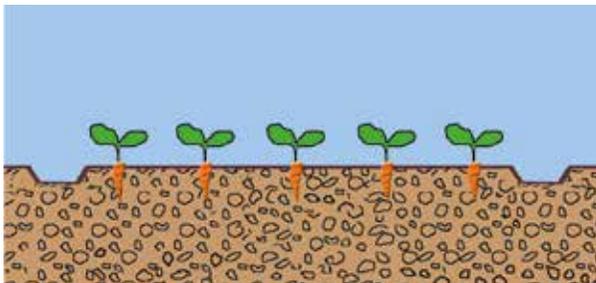


- For normal, band or deep sowing
- Twin coulters means two rows but one seeding heart
- Quick-fit share point
- Special flap at the end of the coulter for windy conditions

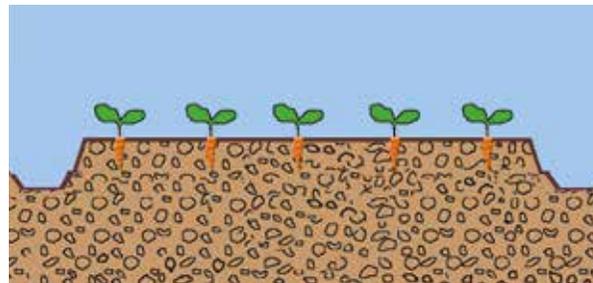
FLAT GROUND, BED OR RIDGES FOR PROFESSIONAL VEGETABLE GROWERS

Ridge sowing is mainly done on soil which tends to have stagnant water. Especially with light-coloured and humid soil, it results in a quicker warming in spring. The roots reach deeper soil layers faster. By creating the ridges, the field is divided into crests and furrows. In the ridge furrows there is the option to grow underseed.

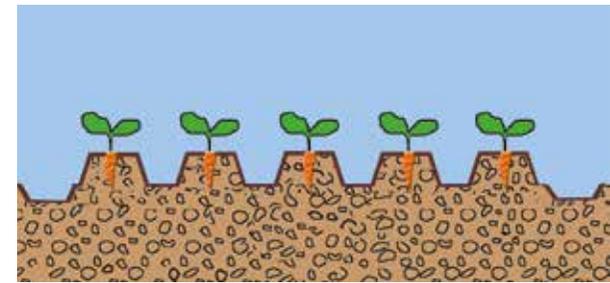
Versatility and reliability are the key.



Sowing on flat ground



Sowing on beds



Sowing on ridges





EASY ADJUSTMENTS

PROFESSIONAL FUNCTIONS

The Miniair Nova combines functional design with precision and productivity for exact seed placement, high output and easy handling. That saves time and guarantees success. By professionals for professionals!

- Row width setting with the robust toolbar and headstock design
- Quick and convenient setting of the sowing depth by spindle
- Emptying flap and optionally integrated vacuum cleaner for quick and residue-free emptying
- Exchangeable coulters tips
- Spring-adjusted weight-on/weight-off feature
- Easy adjustment of frame height
- Spring-loaded self-aligning cleaning nozzle and easily adjustable scraper



Operator-friendly

- Excellent overview
- Complete control of the machine from cab

Environmentally friendly

- Precise and defined application
- Saving seeds

Return on investment

- Saving cost of seeds
- Increase in germination and in yield

State-of-the-art technology for the professional farmer.





Carrots



Onions

ORIGINAL PARTS & SERVICE

ONLY ORIGINAL PARTS WILL KEEP YOUR MACHINE A KVERNELAND

Did you know that Kverneland parts are manufactured to the same high standards and strict specifications as Kverneland machines? Original Parts will always work and fit as intended, and are guaranteed to keep your machine running at maximum performance.

Do not compromise quality with cheap solutions, remember that only Original Kverneland parts are the guaranteed solution to achieve what is expected by a Kverneland machine.



YOUR PARTS SPECIALIST

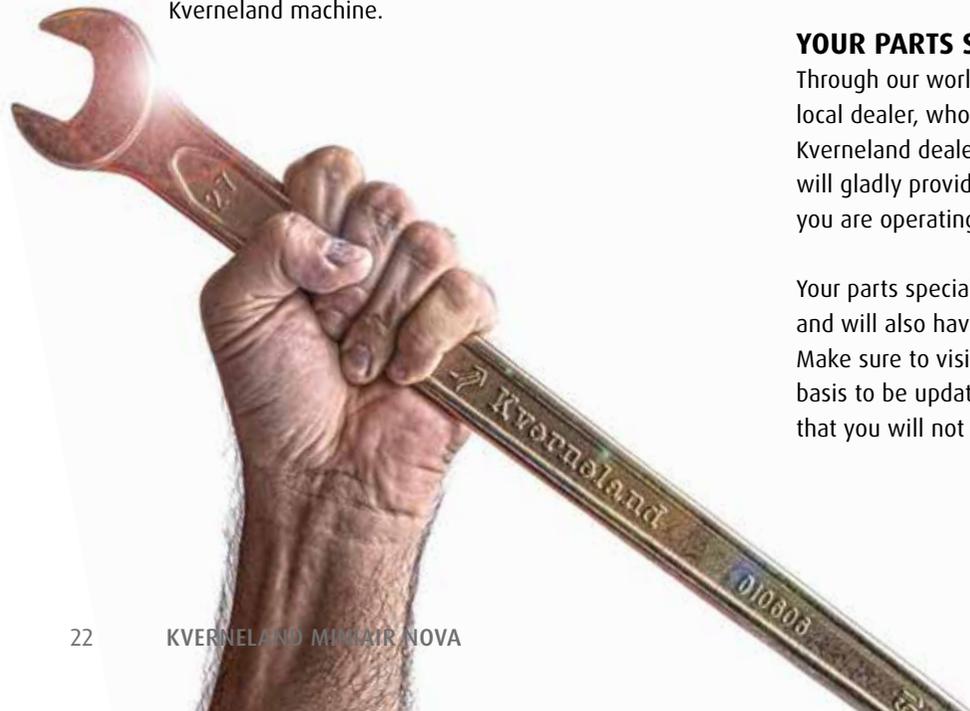
Through our worldwide dealer network you will find your local dealer, whom is always prepared to assist you. Your Kverneland dealer knows every inch of your machine and will gladly provide the expertise needed to ensure that you are operating at maximum potential.

Your parts specialist has got all the parts that you need and will also have the facilities to service your machine. Make sure to visit your Kverneland dealer on a regular basis to be updated on promotions and product news that you will not find elsewhere.

ALWAYS AVAILABLE

Time is money, and we know the importance of receiving the right parts at the right time! Your Kverneland dealer is supported by a massive distribution network to supply you with exactly what you need, when you need it.

Our main distribution centre is located in Metz, France. A strategic location for distributing parts to all corners of the world. With over 70,000 parts in stock and 24/7 service, we are ready to supply you with parts – at any time!



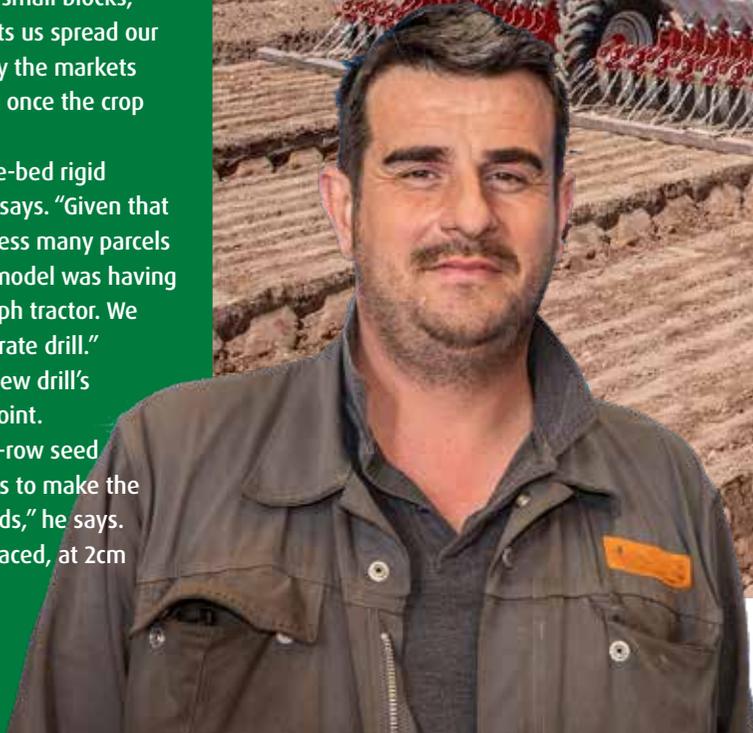
Herbs for wholesale

Supplying wholesale markets with premium quality ethnic and traditional herbs, Shifnall-based, Shropshire grower JK Fresh is focussed on planting accuracy and seed placement to ensure consistent supply. It is why the firm has opted for a three-bed Miniair Nova to get its coriander, fenugreek, spinach, kale, dill, parsley and mint, off to a good start.

"We need accurate seed metering and placement, so each crop grows evenly," explains farm manager Bill Preece. "We choose to plant little and often, splitting each crop into small blocks, and on different soil types. This lets us spread our harvesting dates, so we can supply the markets for the maximum amount of time, once the crop matures."

"This time, we've opted for a three-bed rigid machine with an end-tow kit," he says. "Given that we have a lot of road travel to access many parcels of land that we farm, our folding model was having a tough time on the back of a 50kph tractor. We needed a stronger, and more accurate drill." And according to Bill Preece, the new drill's planting accuracy does not disappoint.

"There's no misses, and down-the-row seed spacing is much better, allowing us to make the most of beds to maximise our yields," he says. "Fenugreek seeds are precisely spaced, at 2cm between each seed."



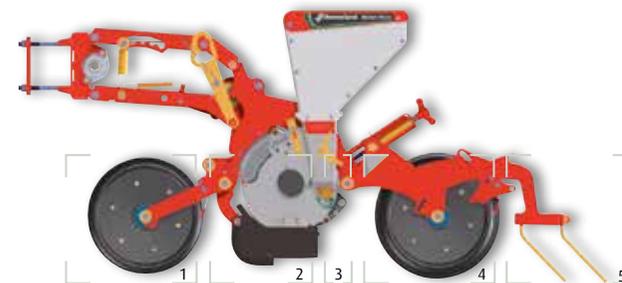
SINGLE SOWING UNIT

Standard fittings:

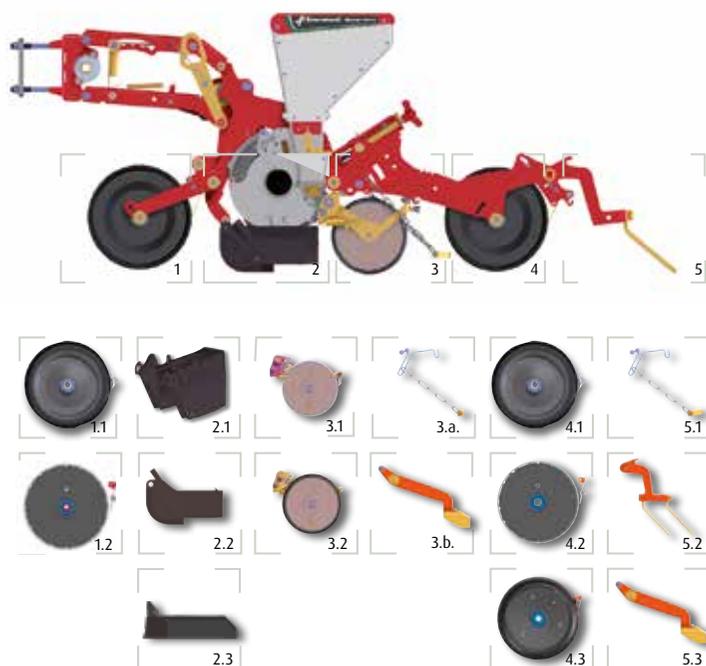
1. Farmflex press wheel smooth 280 mm
2. Standard seed coulters
4. Farmflex press wheel
5. Tine coverer

Different models:

- | | |
|---|---|
| 1.1 Farmflex press wheel smooth 280mm | 4.1 Farmflex press wheel smooth 280mm |
| 1.2 Press wheel, stainless steel | 4.2 Press wheel, stainless steel smooth |
| 1.3 Farmflex flat wheel 280x60mm | 4.3 Farmflex press wheel with bead ring |
| 1.4 Farmflex smooth 300x100mm | 4.4 Farmflex flat wheel 280x60mm |
| 2.1 Standard seed coulters | 4.5 Farmflex smooth 300x100mm |
| 2.2 Band sowing coulters 65mm | 4.6 Cage wheel 280x65mm |
| 3.1 Intermediate press wheel, stain steel | 5.1 With trailed rear coverer |
| 3.2 Intermediate press wheel, rubber | 5.2 Tine chain |
| 3.3 Cast iron with stainless steel ring | 5.3 Adjustable coverer |
| 3.a. With chain coverer | |
| 3.b. Adjustable coverer | |



TWIN SOWING UNIT



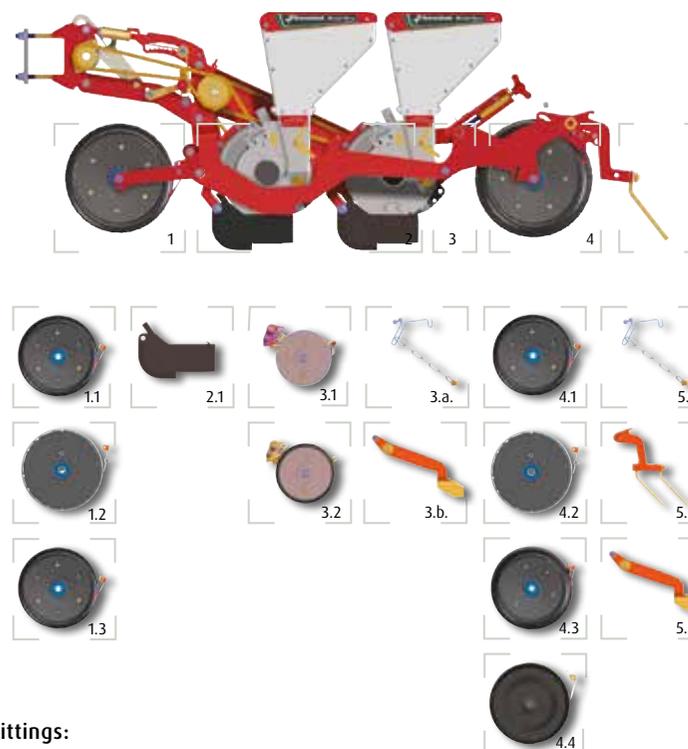
Standard fittings:

- 1. Wide farmflex press wheel, 250 x 140mm
- 2. Twin coulters 7cm or 10cm
- 4. Wide farmflex press wheel, 250 x 140mm
- 5. Tine coverer

Different models:

- | | |
|--|--|
| 1.1 Wide farmflex press wheel, 250 x 140mm | 4.1 Wide farmflex press wheel, 250 x 140mm |
| 1.2 Press wheel, stainless steel | 4.2 Press wheel, stainless steel smooth |
| 2.1 Twin coulters 7cm or 10cm | 4.3 Cage wheel 280x140mm |
| 2.2 Single coulters for twin row | 5.1 Tine chain |
| 2.3 Band coulters 65mm | 5.2 Tine coverer |
| 3.1 Intermediate press wheel, stain steel | 5.3 Adjustable coverer |
| 3.2 Intermediate press wheel, rubber | |
| 3.a. With chain coverer | |
| 3.b. Adjustable coverer | |

DOUBLE SOWING UNIT



Standard fittings:

- 1. Farmflex press wheel smooth 280 mm
- 2. Standard seed coulters
- 4. Farmflex press wheel with bead ring
- 5. Tine coverer

Different models:

- 1.1 Farmflex press wheel smooth 280 mm
- 1.2 Press wheel, stainless steel
- 1.3 Flat wide farmflex press wheel, 250x140mm
- 2.1 Standard seed coulters
- 3.1 Intermediate press wheel, stain steel
- 3.2 Intermediate press wheel, rubber
- 3.a. With chain coverer
- 3.b. Adjustable coverer

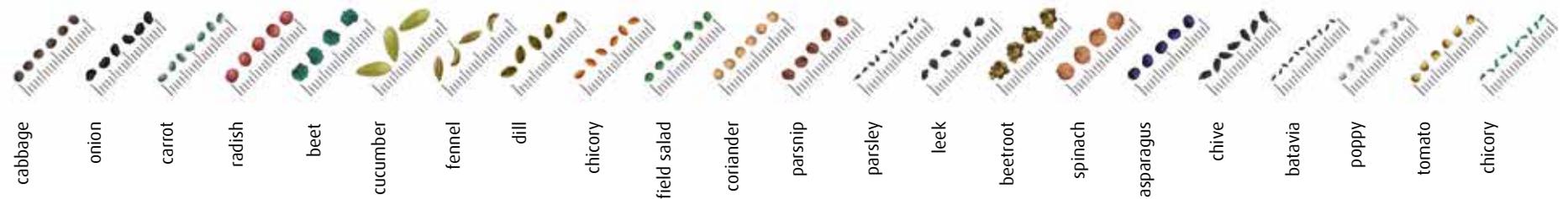
Optional fittings:

- 3. Intermediate press wheel with coverer

- 4.1 Farmflex press wheel smooth 280 mm
- 4.2 Press wheel, stainless steel smooth
- 4.3 Farmflex press wheel with bead ring
- 4.4 Smooth rubber press wheel
- 5.1 With trailed rear coverer
- 5.2 Tine chain
- 5.3 Adjustable coverer

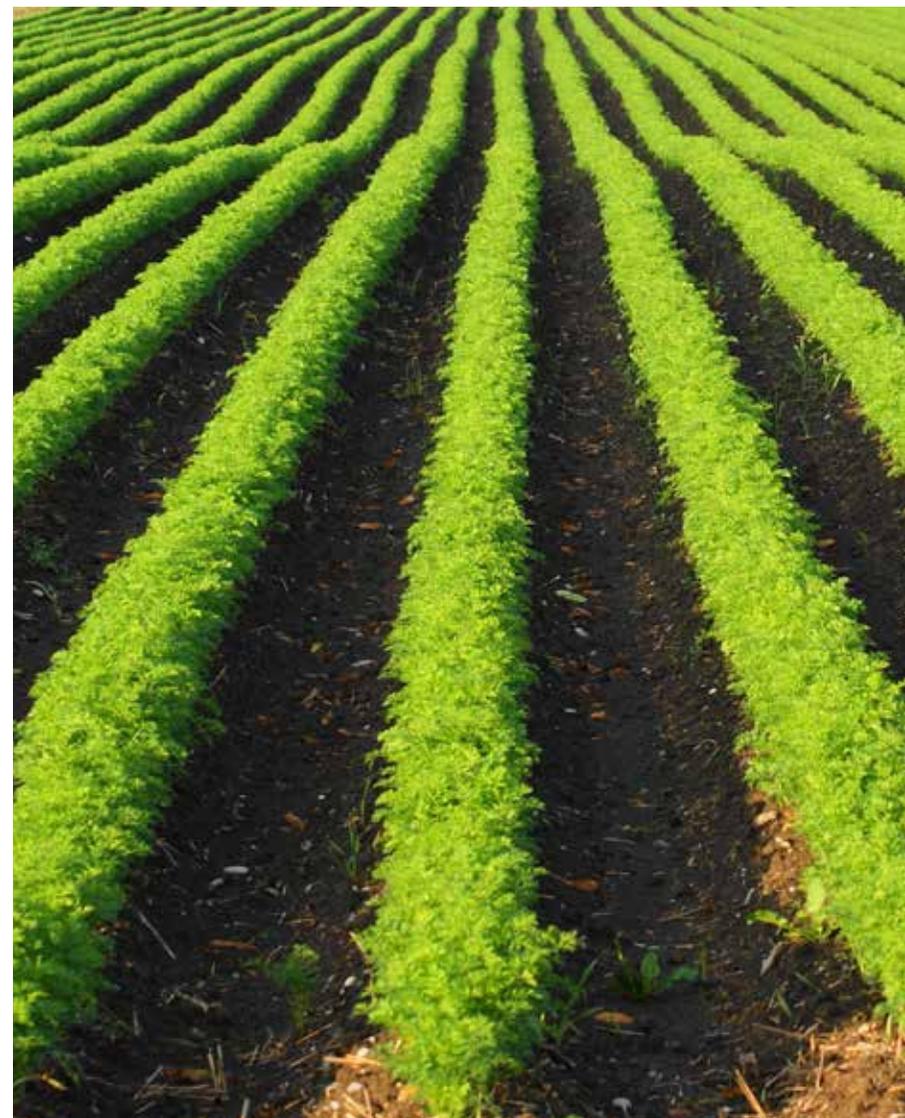
TECHNICAL DATA

Miniair Nova									
Frame	rigid	fold							
Weight of frame (kg)	355	360	380	655	665	670	680	740	970
Working width (m)	2.50	3.00	3.50	4.00	4.50	5.00	6.00	6.50	6.00
Number of rows, max. (single row)	14	19	23	28	32	32	32	32	32
Drive 540 rpm	●	●	●	●	●	●	●	●	●
Hydraulic fan drive	○	○	○	○	○	○	○	○	○
Tyres 7.00-12 AS; 2.0 bar	●	●	●	●	●	●	●	●	●
Support legs	●	●	●	●	●	●	●	●	●
Standard gearbox	●	●	●	●	●	●	●	●	●
Track marker, manually operated	○	○	-	-	-	-	-	-	-
Single/double acting Trackmarker	○	○	○	-	-	-	-	-	-
Hydr. folding Trackmarker	-	-	-	○	○	○	○	○	○
Microgranular applicator	○	○	○	○	○	○	○	○	○
Vacuum emptying device	○	○	○	○	○	○	○	○	○
Lighting bracket	○	○	○	○	○	○	○	○	○
Hectaremeter, mechanical	○	○	-	○	○	○	○	○	○



Sowing Unit (without seed disc)	Single	Twin	Double
Parallelogram hitch with integrated chain drive	●	●	●
Standard coulters with cast steel coulters tip	●	●	●
Band sowing coulters	○	○	-
Twin coulters 7 cm width	-	●	-
Twin coulters 10 cm width	-	○	-
Intermediate press wheel, rubber	○	○	○
Intermediate press wheel, stain steel	○	○	○
Various press wheels	○	○	○
Various seed discs	○	○	○
Minimum row width (cm)	11	20	24
Row width within double sowing unit (cm)	-	-	5 - 11
Various coverers	●	●	●
Single hopper, volume (l)	4	4	2 x 4
Weight of sowing unit (kg)	28	40	54

● Standard equipment
 ○ Option
 - Not available



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