





# 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 have to 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 have 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** intensively 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 erosions with reduced lost of soil and water
- Improvement of soil moisture retention

### Strip Tillage

- **Strip-wise** 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, contributing to a higher yield
- A strong set of roots make plants more resistant to wind and drought.
- Indirect energy input

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						
			Mulch Seeding without soil inversion						
			Reduced Till without soil inversion						
			Conventional with soil inversion						
CONVENTIONAL	intensive	Soil coverage after Seeding 15 - 30%							
		Soil coverage after Seeding up to 15%							

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

# 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.

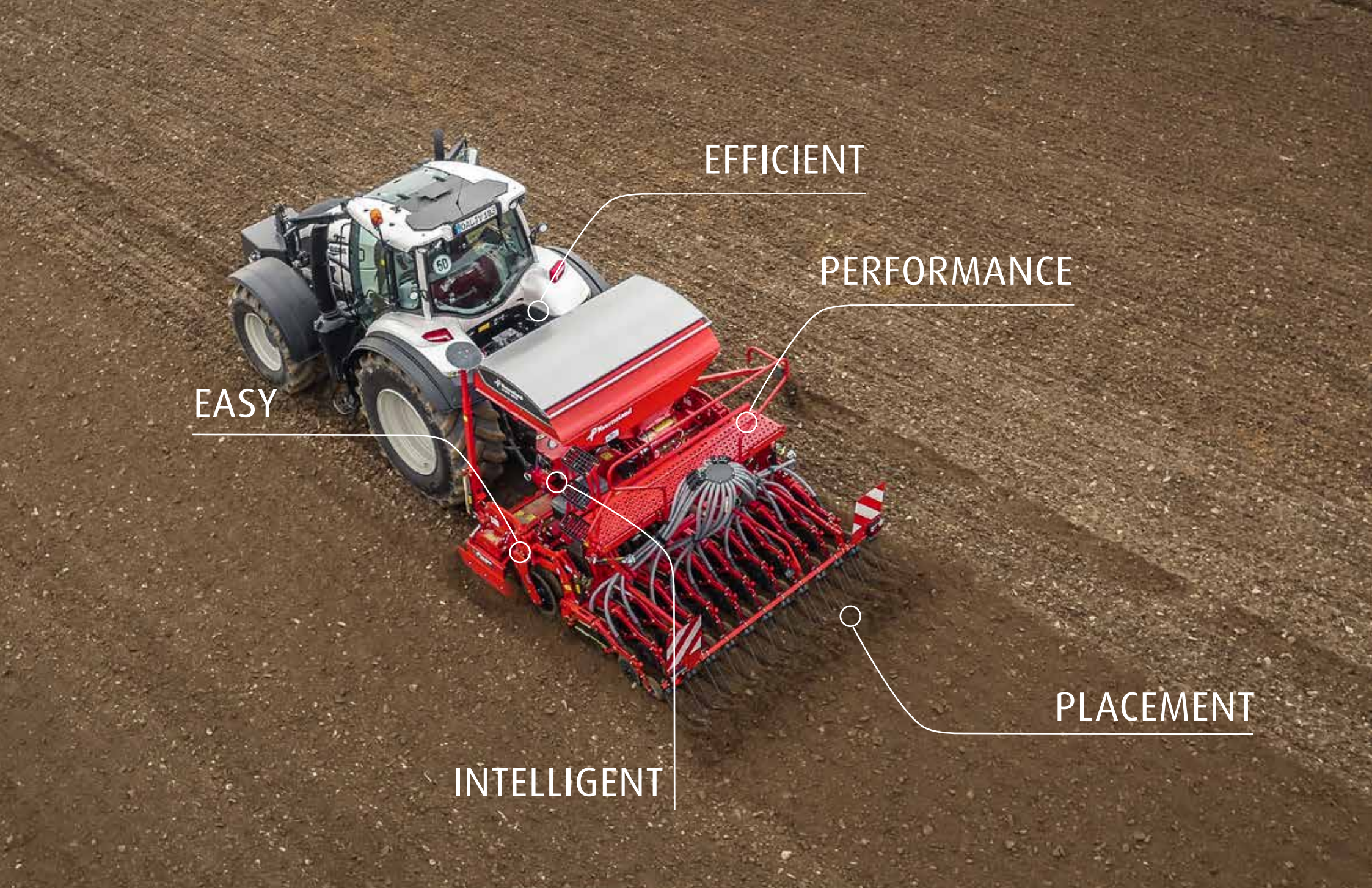
Success springs from determination and clear targets, from laying down the appropriate strategy and allocating correct investments for the future. Quality results require the right ideas and equipment. When there is work to be done, you need the optimal setup and smart solutions that support you towards 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.





EFFICIENT

PERFORMANCE

EASY

PLACEMENT

INTELLIGENT





## EFFETIVE SOWING FOR BEST GERMINATION

### **Performance**

Seeding at the right moment is one of the critical decisions you have to take as an arable farmer. And the soil needs to be prepared with care. Seed bed preparation and seeding in one pass with the cultivator-mounted e-drill relieves this pressure.

### **Intelligent**

You want a seed drill that is easy to calibrate, steer and monitor. You can rely on the Kverneland ISOBUS systems – and concentrate on your business.

### **Efficient**

You invest in the best equipment for seeding. In return you want the best results and low cost of operation. The Kverneland seeders have been developed with a close centre of gravity. Less horse power needed means saving on fuel costs.

### **Easy**

Soil structure is not the same on every field, neither are working conditions. For best results you want to adjust the tine depth of the power harrow and the sowing depth independently from each other. Centrally – to be efficient, as with the e-drill.

### **Placement**

Once you have configured your machine, you want to rely on a perfect execution. The e-drill with CX-II coulter is excellent in precision placement of the seed. Not too deep, not too shallow. So it will germinate perfectly, to grow into a great crop.

*In short, it's effective*

## AT A GLANCE

# ONE PASS POWER HARROW SEED DRILL COMBINATION

The machine's clear layout and the high level of incorporated intelligent technology offers the user maximum ease of use, from set-up and filling, to transport and the active seed bed preparation inclusive seeding operation. The combination makes it versatile to have everything done in one pass.

*On concept from one hand - Thats fits together!*

1

### Easy Filling and Lifting

The hopper can easily be filled using big bags, a front loader or a telescopic handler. The hopper can also be filled from a scissor trailer and grain auger. The large hopper capacity of up to 2000 litres reduces the set-up time. Due to the optimised position of the hopper and the power harrow, the centre of gravity is close to the tractor. The power harrow is ready for solo operation thanks to the coupling hook EURO-CONNECTION and the removable seed hopper.

2

### ELDOS - electric driven metering device

The easily accessible electric driven metering device, ELDOS, with exchangeable rotors is easy to adjust, without any tools.

3

### Easy adjustment

A parallelogram and a quadruple joint of the e-drill ensure the optimum and independent adjustment of the power harrow and coulterbar for a precise seed application. The sowing depth can be adjusted without tools by spacers which are located at the two outer hydraulic cylinders or mechanically with a crank. The power harrow is ready for solo operation within a short time thanks to the coupling hook EURO-CONNECTION.

4

### Precise seed placement with CX-II coulter

The CX-II coulter is precise, and very easy to set up. It guarantees smooth running and requires less power to pull and less coulter pressure to reach a constant seeding depth of up to 6cm.

5

### Covering the seeds

Harrowing the soil completes the seeding. An S-shaped harrow ensures an optimum covering of the seeds. The working intensity can be set by the stepless pressure adjustment.







Kverneland e-drill compact



Kverneland e-drill maxi



## MAXI AND COMPACT

### THE RIGHT CAPACITY FOR YOU!

The Kverneland e-drill compact and e-drill maxi are part of a fully integrated power harrow and seed drill combination.

The seed hopper is mounted directly on the three-point linkage of the Kverneland power harrow (H series or NG-S) for a positive centre of gravity reducing the requirement for lifting power.

The distribution head is mounted directly on the coulter bar, allowing the hopper capacity to be increased to up to 2000 litres with use of an optional hopper extension.

The patented hinged hopper cover can be fully opened for easy filling with a front-loader, big bags or filling auger. The cover is protected by a bump protection and can flex up to 15°. The loading platform between hopper and distribution head ensures safe access for filling and maintenance purposes. Working lights inside and outside of the hopper allow safe use even in darkness.

*Easy access due to patented lateral position of the ELDOS*

The patented lateral position of the metering device ELDOS ensures a good and ergonomic access. This also facilitates an easy rest emptying and cleaning of the hopper.

An electronic low level sensor, adjustable from outside the tank, monitors a range of seeds from small quantities of rape to bigger seeds and larger quantities.

Model	Hopper capacity (l)	
	Standard	with extension
<b>e-drill maxi</b>	1,600	2,000
<b>e-drill compact</b>	1,100	1,400

## OPTIMUM SEED PLACEMENT WITH ELDOS AUTOMATIC AND SAFE

ELDOS is the **electric driven metering device** for Kverneland pneumatic seed drills. It is state-of-the-art technology for perfect seed placement.

ELDOS is steered by Kverneland e-com or e-bas software. The e-com version is fully **ISOBUS compatible**. By the automatic section control, GEOCONTROL, the metering device stops/starts automatically. Double and/or missed seeding on headlands or odd-shaped fields is avoided. Special sensors ensure complete functionality from the tractor cab.

The e-bas system includes the basic electronics to run and monitor the machine functions via the Focus 3 terminal. The e-bas system controls the ELDOS metering device, the tramlining, the hectare metre and fan speed control.

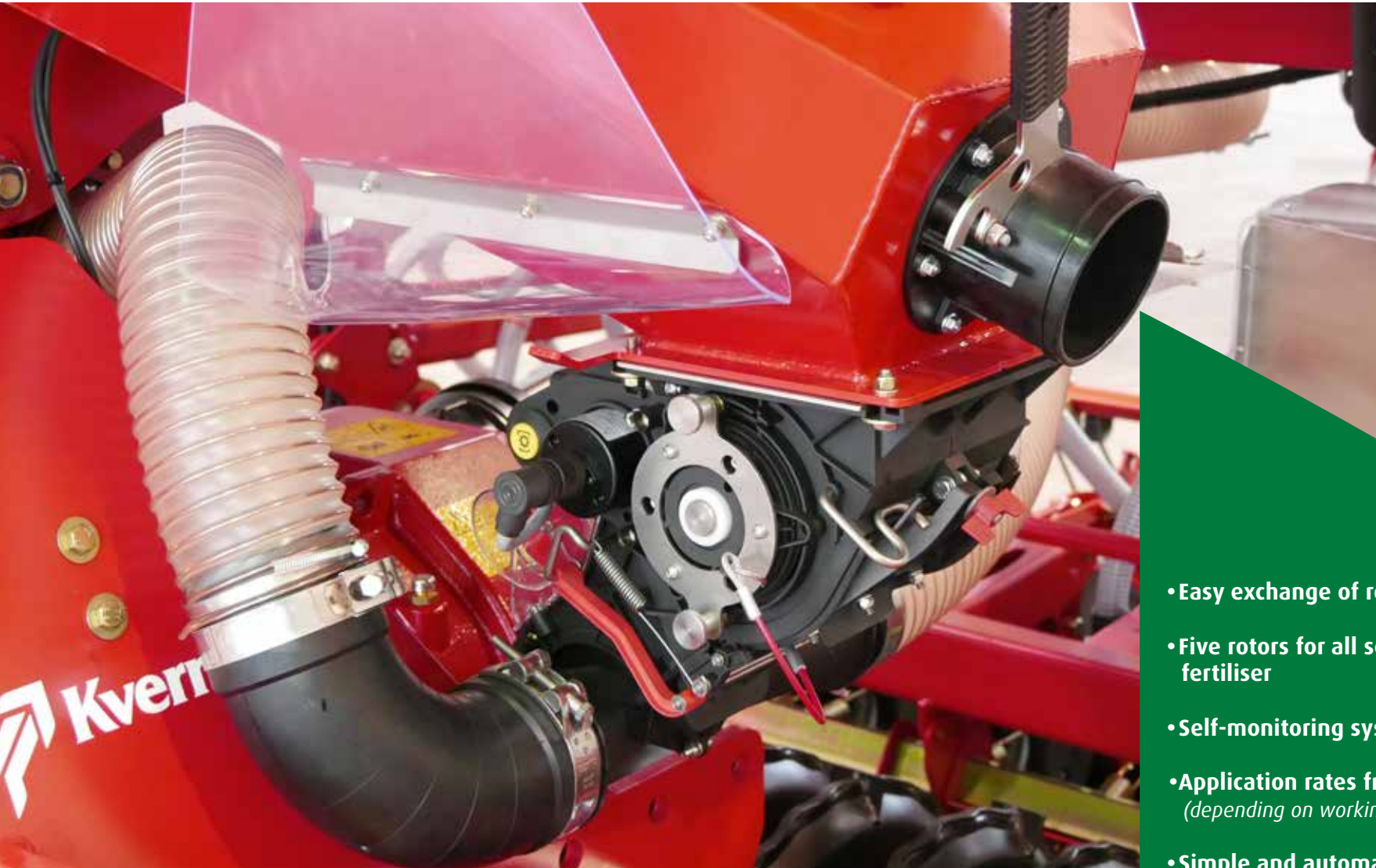
### *Self-controlled and fail-safe.*

Calibration is automatic, and a range of interchangeable seed metering rotors can be swapped - even when the hopper is full - without the need for tools. Sensors monitor the metering rotors and the calibration flap and give a warning if the wrong metering rotors are accidentally installed or the flap is not closed.

A calibration bag and set of digital scales are supplied as standard. The calibration tests are carried out electronically rather than manually.







- Easy exchange of rotors
- Five rotors for all sorts of seeds and fertiliser
- Self-monitoring system
- Application rates from 1-400kg/ha  
*(depending on working width and speed)*
- Simple and automatic calibration



### Precise smooth running

The 325mm steel disc and the flat profile disc angle of 5.4° draws a narrow furrow which reduce power requirement.

### User-friendly

The CX-II coulters is completely maintenance free and very easy to set-up. A pre-loaded spring ensures an optimum penetration.

### Optimum seed-to-soil contact

The press wheels (Ø 250mm x 42mm) can be set in flexible or fixed position or can be lifted out of work depending on soil conditions. A scraper is available for sticky soils.

### Centrally adjustment of seed depth

The seed depth adjustment can be controlled centrally via mechanical cranks or optionally by two outer hydraulic cylinders.

### Maximum clearance

The coulters staggering of 445mm guaranties save soil flow even with higher rates of residues.

12.5 & 15cm

Two seed row distances are available.



## CX-II COULTER FOR PERFECT SEED PLACEMENT

The CX-II coulters are precise, and very easy to set up. The flat cutting angle of the steel disc requires less coulters pressure to reach a constant seeding depth of up to 6cm.

Thanks to the combination of steel disc and flexible plastic disc, there is no need for independent scrapers. The coulters are completely maintenance free!

*Good penetration with less force*

The press wheels ensure the optimum coulters-soil contact. Important for a constant seed depth is the distance between the coulters and the press wheel. The close coupling of the CX-II system increases the seed depth accuracy because the closer the distance the less influence on the seed depth.

The depth adjustment, carried out without using any tools. Three possible adjustments adapted to soil conditions guarantee perfect seed placement. For level and even ground it can be set in the **fixed** position. In cloddy or stony conditions it is set in the **flexible position** to ensure smooth running and a perfect ground following. In extreme wet conditions the press wheel can be **lifted** out of work completely. On slightly sticky soils an optional scraper is recommended.



Fixed press wheel setting



Flexible press wheel setting



Lifted press wheel setting





## USER-FRIENDLY ADJUSTMENTS FOR PERFECT SOWING DEPTH

The sowing depth can be adjusted mechanically centrally via crank or hydraulically via spacers at the two cylinders without any tools.

The quadruple joint of the coulter bar ensures a constant seed application by the short and long coulters at any sowing depth. The parallelogram of the power harrow guarantees an independent adjustment of the tine depth without any impact to the sowing depth. The complete coulter bar can be lifted e.g. for the preparation of the headlands.

In addition the depth adjustment of the following harrow is organised centrally by a crank. The scale allows an easy control, even if the complete harrow is lifted up.

Always the right speed! A radar speed sensor records the speed in order to maintain the relevant distribution rate at the correct time.

*Time saving settings with a central adjustment.*



The coulter bar can be lifted completely for solo use of the power harrow.

The sowing depth can be adjusted centrally by spacers at the two hydraulic cylinder without any tools or as standard equipment mechanically by two outer cranks.

## FLEXIBLE WITH EURO-CONNECTION SOLO OR IN COMBINATION

Despite the integrated concept, the coulter bar can be coupled or uncoupled quickly via EURO-CONNECTION, allowing the power harrow also to be used solo. In addition there is the possibility to remove the hopper too for better view on the back of the levelling work and for less power and fuel consumption due to less weight.

### *Flexibility is key*

The coulterbar is attached with the EURO-CONNECTION directly to the roller frame. The coupling hook is similar to the front loader coupling. This can quickly and easily be hitched thanks to the readily accessible hydraulic and electronic interface. Track markers are attached to the power harrow, therefore, the power harrow is ready for solo operation within short time.

The e-drill model is exclusively designed to be combined with Kverneland power harrows (H Series and NGS). The power harrows need to be equipped with the EURO-CONNECTION coupling system. Conversion made simple! In a matter of minutes, the solo machine can be converted into a power harrow seed drill combination.



Flexible use of the power harrow whether with seed hopper or in solo operation depending on soil conditions.







EURO-CONNECTION







## POWERFUL SEEDBED PREPARATION FOR SUCCESSFUL GERMINATION

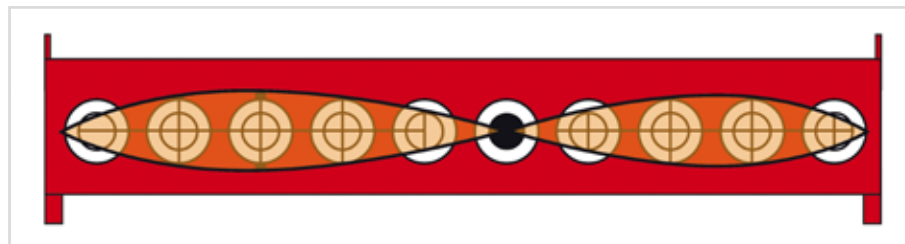
An optimal seedbed is the basis for high field emergence and thus for high yields. It requires a fine crumbled and uniform reconsolidated seedbed to allow an optimal seed coverage.

The e-drill models are exclusively designed to be combined with Kverneland power harrows H series and NG-S.

Power harrows have long since become typical combination machines because they are largely independent of the soil conditions. On heavy soils it reaches an intensive crumbling. Under light conditions, it can work flat and at a lower rotor speed. Consequently, there is no better alternative for seedbed preparation.

*Quality made in Germany*

A power harrow together with a seed drill is finally an economic high performance combination.



In order to prevent damage caused by stones and ensure even levelling 4 rotors per meter and the helical tine positioning reduces the peak loads on the driveline and results in smoother running and less fuel consumption.

## SOIL PREPARATION, FERTILISING AND SEEDING IN ONE PASS CX-II COULTER DOUBLE ENTRY



The e-drill with double-entry CX-II coulters in combination with a DF-1 front hopper (max. 1,700 l) applies the fertiliser within the seeding row. The fertiliser or a second different crop is placed together with the seeds in just one working pass.

This is especially suitable for example phosphoric fertiliser to support the initial germination and development of the plants in the most efficient way.



### **Fantastic germination**

*"We struggled last autumn to get crops in with our previous drill due to constantly changing weather patterns," explains William Orr, of West Mains. Therefore the family-run farming business bought a 4m e-drill maxi, sitting above a 4m NG-S power harrow which create a close-coupled combination with the tractor. The outfit arrived in time to drill 100ha of spring barley. With 300ha of combinable crops, the farm ploughs ahead of the drill. He believes the power harrow's cracker packer provides the optimum level of consolidation directly behind the coulters.*

*"We're really pleased with the seed placement and germination," says William. A Tellus GO in-cab terminal takes care of drill set-up, with the farm yet to take advantage of ISOBUS.*

*"That said, it's already a very easy machine to use. Seed rolls are easy to swap and calibration is straight-forward," he adds. "I don't have auto start/stop on the drill, so I do need to allow for a little overlap."*

*"The e-drill has done a fantastic job." Mr Orr is so pleased with the e-drill that he plans to sow oilseed rape with it, this summer.*

William Orr, West Mains UK



## FOCUS 3

# ECONOMIC CONTROL SOLUTION

The Focus 3 terminal runs the e-bas system to control all basic electronic functions of the machines such as the ELDOS metering device, the hopper low level sensor and various tramlining systems.

It provides information on hectare, km/h and fan speed. They are shown on a large, clear digital display. The Focus 3 also has a full diagnostic function for testing machine sensors and outputs.

The **Focus 3 is not ISOBUS compatible** and it does not support GPS signals or applications.



### Focus 3: e-bas system not ISOBUS compatible

- Control of ELDOS
- Tramlining control
- Hectare metre
- Speed control
- Low level control
- km/h





# iM CALCULATOR APP

## FREE TO DOWNLOAD

With GPS it is possible for the farmer to accurately seed, spread and spray without any overlap. The iM Calculator app calculates the cost saving by using those GPS functionalities.

*Save seeds and money!*

After filling in the required data, the calculator clearly shows what you can save in terms of money.

The amount of seeds saved depends on the size and shape of the field and may amount to more than 5%.

The iM Calculator app for tablets is free to download from the App Store or Google Play.

Please find the online calculator on our homepage:  
<http://imcalculator.kvernelandgroup.com/#/>





# MANAGE YOUR FARM AS A BUSINESS WITH OUR ISOMATCH PRECISION FARMING OFFERING

Kverneland's precision farming offering is essential in managing your farming business with success. Applying electronics, software, satellite-technology, online tools and Big Data enables you to use your farming equipment more effectively and reach higher profitability of your crops.

*iM FARMING - smart, efficient, easy farming*



Reduce overlap and save up to 15% on input costs with IsoMatch GEOCONTROL

## Enhance your success with e-learning

**IsoMatch Simulator** is a free downloadable virtual training program. It simulates all functions of the IsoMatch Universal Terminals and Kverneland ISOBUS machines. Train yourself and make yourself familiar with your machine to avoid errors and enhance your machine performance.

## The best overview in farm management

**IsoMatch FarmCentre** is the first of a series of telematics solutions. This fleet management solution is applicable for your ISOBUS machines in combination with an IsoMatch Tellus GO/PRO. Whether you wish to control your fleet, manage tasks remotely or analyse machine performance data, IsoMatch FarmCentre provides this in an efficient web application, linking implements, tractors, terminals and the cloud in one continuous flow of data and connectivity.



NEW

Maximum savings: The IsoMatch GEOCONTROL precision farming application includes Manual Guidance and Data Management free of charge. It is possible to expand this application with Section Control and/or Variable Rate Control.





NEW

100%

100% focus on the result  
in the field with  
IsoMatch AutoDrive-E

### Be a PRO in increasing productivity

The **IsoMatch Tellus PRO** 12-inch terminal provides you with the optimal solution for an all-in-one control system inside the tractor cab including automatic steering. It is the centre for connecting all ISOBUS machines, running precision farming applications and Farm Management Systems. It offers everything you need to get the maximum out of your machines and crop, as well as cost savings in fertiliser, chemicals and seeds by using automatic section control and variable rate control. With the unique dual screen functionality it gives you the opportunity to view and manage two machines and/or processes simultaneously.



### 100% focus, maximum performance

**IsoMatch AutoDrive-E** provides automatic tractor steering. Manage your work to be more efficient and avoid overlaps which leads to cost savings of up to 15%, better growing conditions and increased yield. (Only in combination with IsoMatch Tellus PRO).

### Easy control management

The **IsoMatch Tellus GO** is a cost-efficient 7-inch terminal, especially developed for managing the machine in a simple way. Easily set up the machine with the soft keys and simply use the hard keys and rotary switch for optimal control while driving.



*Improve your performance  
Maximum efficiency, minimum waste*



NEW

### IsoMatch Global PRO

GPS antenna system with RTK precision for the highest accuracy (2-3 cm) and best productivity.



NEW

### IsoMatch Grip

This ISOBUS auxiliary device is made for maximum machine control and efficient farming. Operate up to 44 implement functions from one device.



### IsoMatch InLine

Light bar for manual guidance including section status information. Manage the distance from the A-B line and steer for the ideal position.



### IsoMatch (Multi)Eye

Connect up to 4 cameras to the IsoMatch Universal Terminals. It gives you full control and overview of the entire machine operation.

## 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.

Kverneland has been a symbol of quality since 1879. The experience we have, combined with a constant strive to improve our products, ensures that the best parts are available for your Kverneland machine. Parts and service surround your machine with a safety-net. The quality of the machine ensures optimal usage and the quality of the parts provide a low life-cycle cost and longer wearing time.

Our long term relationship starts at the purchase of your Kverneland machine, and we will continuously stay by your side for support and assistance. We will guide you on the way to make sure you achieve maximum performance, productivity and profit.

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, who 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!



### EASY ACCESS TO INFORMATION

Are you looking for a complete overview of parts for your machine? Maybe you are searching for more technical information? Our Online Search Database, *Quest*, has all of the information available for your machine, gathered in one place.

Various documentation like Parts Manuals, Operation Manuals, Software updates and FAQ's are all there. *Quest* is available in several different languages and can be accessed wherever and whenever. All answers are easy to find – just a few clicks away !

# TECHNICAL DATA

Model	e-drill compact			e-drill maxi		
Working width (m)	3.0	3.5	4.0	3.0	3.5	4.0
Transport width (m)	3.0	3.5	4.0	3.0	3.5	4.0
Hopper capacity (l)	1,100			1,600		
Hopper extensions (l)	○ 300			○ 400		
Hopper cover plus gas pressure regulator	●			●		
Quick emptying chute	●			●		
Low level sensor	●			●		
Filling height / with extension (m)	2.17 / 2.36			2.29 / 2.48		
Hydraulic fan drive	●			●		
Max. fan drive (U/min)	4,500			4,500		
ELDOS electric driven metering device (No.)	● (1)			● (1)		
e-bas electronic (Focus 3)	●			●		
e-com electronic (IsoMatch Tellus Pro/Tellus GO)	○			○		
Metering device control	●			●		
Seed rate adjustment	●			●		
Seed quantity (min. / max.)	1 - 400kg			1 - 400kg		
Shut-off valves for tramlines	○			○		
Electric half-width shut-off	○			○		
Pre-emergence marker	○			○		
Vertical hydr. folding track marker with notched disc	○			○		
No. of coulters 12.5cm distance (standard)	24	28	32	24	28	32
No. of coulters 15cm distance (option)	20	24	26	20	24	26
CX-II coulter incl. press wheel	●			●		
CX-II coulter disc Ø (mm)	325			325		
CX-II coulter double entry in Combination with DF-1 front hopper	○			○		
Press wheel Ø (mm)	250 x 42			250 x 42		
Coulter pressure CX-II disc coulter (kg)	5 - 35			5 - 35		
Mechanic coulter pressure adjustment by crank	●			●		
Hydraulic coulter pressure adjustment	○			○		
Mechanic central seed depth setting by two outer cranks	●			●		
Hydraulic central seed depth setting by two outer cylinder incl. coulter bar lifting	○			○		



Model	e-drill compact			e-drill maxi		
Working width (m)	3.0	3.5	4.0	3.0	3.5	4.0
Suffolk coulters staggered in 2 or 3 rows		○			○	
S-tine harrow (10mm)		○			○	
Calibration set		●			●	
Loading step / Platform		●			●	
Lighting equipment (LED)		○			○	
Oil charge hydr. fan (l/min)		30			30	
Min. power requirement (HP/KW)	100 / 75	115 / 85	125 / 92	130 / 96	140 / 103	150 / 110
Weight * (kg) with CX-II coulters	1180	1270	1350	1220	1300	1390

\*Weight without power harrow

- Standard equipment
- Option
- Not available



**Rotor 1**  
for high rate cereals



**Rotor 2**  
for grass or similar



**Rotor 3**  
for rape and small seeds



**Rotor 4**  
for low rate cereals



**Rotor 5 (option)**  
for maize, sunflowers and  
greening seeds

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**WHEN FARMING MEANS BUSINESS**

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