



Four-rotor gyrorakes  
GA 13031 - GA 13231 - GA 15231





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**GA**

Four-rotor gyrorakes

## **WORLD RECORD IN RAKING 188.9 HECTARES IN 8 HOURS!**

KUHN ACHIEVES THE FIRST RAKING WORLD RECORD ON 26/08/19 IN DENMARK WITH THE GA 15131, A STANDARD MACHINE, IN THE PRESENCE OF THE DLG\* INSTITUTE WHICH CONFIRMS: «188.9 HECTARES WERE RAKED IN 8 HOURS». SYNONYMOUS WITH HIGH YIELDS, FLEXIBILITY AND PERFECT WORK QUALITY, THESE FOUR-ROTOR RAKES FORM THE BASIS FOR A HIGH PERFORMANCE HARVESTING CHAIN.

### **RAKING WORLD RECORD**

ONE LESS HOUR MAINTENANCE,  
ONE MORE HOUR RAKING

Having only one drive to lubricate saves you up to one hour of daily maintenance. One hour saved for maintenance is one hour saved for raking!

REGULAR WINDROWS FOR AN EFFICIENT HARVEST

The boost function increases the speed of the front rotors by 20% for improved fodder ejection. The rear rotors can easily pick up the fodder, creating perfectly shaped windrows.

LARGE WIDTH AND EASY TO USE

Despite their impressive size, the gyrorakes remain easy to use and adjust. All adjustments are controlled from the cab for the GA 13231 and GA 15231.

\* The DLG (Deutsche Landwirtschaft-Gesellschaft – German Agricultural Society) founded in 1885 is an independent center of expertise that aims to make technological progress available by promoting quality.



**GA 13031 | 13231 | 15231**

## LESS MAINTENANCE, MORE TIME

KUHN has developed an exclusive hydraulic drive for its four-rotor rakes. Very low maintenance requirements gives you the time to take care of more important things. Other benefits include smooth, quiet operation and minimal wear.



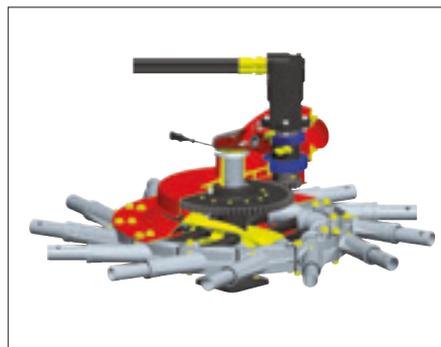
EXCLUSIVE

### **An integrated hydraulic system**

The hydraulic unit of the GA 13031, GA 13231 and GA 15231 rakes is positioned on the pivoting headstock of the machine frame. The primary pto drive is thus perfectly aligned with the tractor. The PTO speed can be modified from the cab for perfect adaptation to the fodder type and volume.

### **Save an hour a day**

The hydraulic rotor drive only has one drive to minimize maintenance. **You save up to an hour** compared to an equivalent-sized mechanically driven gyrorake. An asset that can make all the difference when rain threatens or when you have to bring the fodder in quickly.



EXCLUSIVE

### **Increased stability on slopes and on the road**

The hitch with integrated suspension improves driving flexibility and increases stability between the tractor and the rake when turning. Deteriorated roads are no longer a problem. You will appreciate turning and the smooth, individual rotor lifting without jolts on the lift arms.

EXCLUSIVE

### **Reliable in difficult conditions**

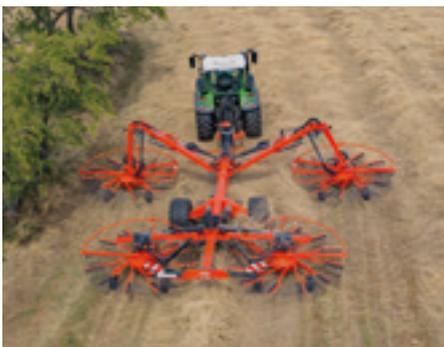
With a new hydraulic drive and an even more powerful MASTER DRIVE GIII gearbox, your machine can cope with high fodder volumes and difficult conditions. The drive is performed by spur gears. Tolerances are controlled for overall increased reliability and robustness.

### **And treat yourself**

A regular windrow is especially pleasant for drivers of the following harvesting machines. It is most easily collected by the pick-ups of forage harvesters, self-loading trailers and balers.

# ADAPT THE WINDROW TO THE FODDER VOLUME AND PICK-UP WIDTH

The working widths are one of the strengths of the four-rotor gyrorakes. From 8.40 to 12.50 m for the GA 13031 and GA 13231 rakes and 9.50 to 14.70 m for the GA 15231, they achieve outstanding performance. These large widths require excellent adaptability of the machine to the requirements of the forage harvesters or balers further downstream the harvest chain. This flexibility allows you to adjust the working width and the windrow width continuously and hydraulically from the cab.



## Individual adjustment of the rotor width

Individual adjustment of the width of the two front rotors comes as standard. Easily controlled from the terminal; raking plot edges and bypassing obstacles will thus be simplified. A simple press of a button allows you to easily return to the initial position.

## Working width and windrow width

The in-cab adjustment of the hydraulic cylinders allows you at any time to:

- adjust the positioning of the front rotors to adapt the working width (from 8.40 to 14.70 m depending on the model),
- modify the position of the rear rotors to adjust the windrow width (between 1.40 and 2.50 m depending on the model).

## Individual rotor lifting

Four-rotor rakes are flexible enough to work in wedge-shaped fields. Their ability to lift each rotor individually makes it possible to rake at the headlands or avoid obstacles. In addition, the high clearance under the rotors facilitates crossing over windrows.

**GA 13031 | 13231 | 15231**

## **SOIL PROTECTION AND PLANT COVER PRESERVATION**

To protect the soil and the plant cover, optimal adaptation of the rotors to the changing terrain is just as important as low ground pressure that limits compaction. KUHN four-rotor rakes are fully equipped to meet these requirements.





### Larger contact area for reduced ground pressure

The wide tyres help reduce soil compaction and ensure rotor stability, even on slopes. Stability on slopes is also the strength of the radial tyres available as option.



### 3D pendulum suspension of the rotors

Suspended from the junction of an articulation and independent of the main frame, the rotors can rotate in all directions. They precisely and efficiently follow the variations in the terrain. The result: a flawless performance, the assurance of a clean crop and a healthy plant cover.



### Pivoting wheels to preserve the grass

Each rotor is equipped with four pivoting wheels ensuring that the plant cover is preserved, even in tight turns. Thanks to their position close to the tines, the rotors adapt immediately and efficiently to ground unevenness.

## LESS GROUND PRESSURE

The hydraulic suspension of the front rotors automatically corrects itself in line with the working width on the GA 13231 and GA 15231. The mechanical suspension by powerful springs allows the GA 13031 to adapt well to the conditions. Hydraulic suspension on the rear rotors is available as option to cope with the most rugged terrain.



### Stable at work and on the road

With the STABILIFT system, available only on the GA 13231 and GA 15231 models, a hydraulic cylinder automatically locks the rotor articulation once it is raised. The machine becomes more stable.



### A very useful "jet" effect

Just like an aeroplane, the rear of the rotor lands before the front of the rotor. The tines therefore do not come into contact with the soil, thus preserving the plant cover and avoiding tine wear and breakage.

View our videos showcasing the adventure of the World Record in raking on our **Youtube channel**



Scan the QR code



## LESS THAN FOUR METERS FOR TRANSPORT

Despite their impressive size, the four-rotor gyrorakes are relatively compact to transport and easy to move:

- in transport position, the machines reach a height of less than 4.00 m, without having to remove tine arms,
- their low center of gravity ensures good stability on the road,
- the high clearance under the rotors prevents any collision with an obstacle on the road and allows drivers to drive more serenely.



### Extend your working day

Five high-quality LED lights are available as optional equipment - one for each rotor and one to illuminate the window at the rear. Rake after sunset without any problem at all.



### Obtain an overview

A camera mounted on the rear of the rake provides an overview from the cab. The machine is safe and easy to use at work, on the road and when turning.



### Go wherever you want

The pivot point is set back from the tractor lift arms, thus providing great manoeuvrability. Difficult-to-access plots are no longer a problem.

## APPRECIATE ITS SIMPLICITY

Simplicity and speed are the strengths of the GA 13031 four-rotor rake. With an adjustable working width between 8.40 and 12.50 m, it is the perfect ally for a high work output. The 100% hydraulic drive and the MASTER DRIVE GIII gearbox ensure a long service life in heavy and dense crop year after year. The 3D articulation of the rotors, the wheels as close as possible to the tines, the hyper-tangential arms, the «jet effect» lowering are all assets for excellent ground following, limited incorporation of impurities and forming a homogeneous and calibrated windrow.



### Easy to adjust.

Easily pilot the machine thanks to the hydraulic valves. The movements involved in folding/unfolding, adjusting working width and windrow width are very easily performed using 3 hydraulic valves: 2 double acting and 1 single acting with free return.



### Working height adjustment

Take advantage of the machine's easy adjustment. A crank on each rotor is used to individually adjust the working height.



### KGA 03C control box available as option

The simple buttons on this electric control box allow:

- the machine to be folded/unfolded without a cord,
- the front rotors to be individually or simultaneously lifted,
- work to be performed in floating position, which only uses the rear rotors for improved ground following.

## MAKE A DIFFERENCE

The working widths of 8.40 to 12.50 m and 9.50 to 14.70 m allow outstanding yields to be achieved, which is one of their many assets. The comfort and ease of use will also allow you to quickly get to grips with the machine without any constraints.



### ADJUSTMENTS ARE CHILD'S PLAY

All adjustments can be made easily from the in-cab terminal, without interrupting work: rotor lifting, working width and windrow width, raking height, machine folding, automatic rotor folding/unfolding. The raking height can easily be adjusted without having to leave the cab. The rotors can be adjusted either simultaneously two by two at the front or at the rear, or individually. The height of the rotors is displayed on the terminal screen and on the rotor frame.

### A «BOOST» FUNCTION FOR PERFECTLY SHAPED WINDROWS

The speed of the front rotors can be increased by 20% compared to the rear rotors. The boost function ensures that the crop is moved more towards the centre of the machine. As it doesn't roll over the soil, it is less twisted. This allows the rear rotors to form a uniform and airy windrow. This is an ideal solution for perfecting crop drying and promotes harvesting fluidity for the next machine.





## WORKING WIDTH «A LA CARTE»

For easier machine handling and adaptation to the field, the following can be controlled from the terminal:

- working width of the two front rotors,
- raking width of the two rear rotors,
- individual width adjustment of the front rotors (comes as standard)
- a central button allows you to return to the initial position.

An indicator shows the position of each rotor at a glance.



## ADAPTATION OF THE MACHINE TO YOUR WORKING CONDITIONS

The suspension of the front rotors is carried out via hydraulic cylinders allowing more precise adjustment. A new feature automatically corrects the ground pressure according to the working width. The user thus has the possibility of easily adapting the machine to the working conditions and preserving the plant cover.

# ELECTRONICS : MAKING IT CHILD'S PLAY

The new ISOBUS control interface of the rake has been revised and is now more user-friendly and modern. Numerous indicators, features and automatic operations increase the operator's comfort. With just a few fingertip adjustments, it is possible to quickly and easily adapt the machine to the working conditions.

Automatic adjustment of front rotor ground pressure. The user can change the setting very easily.

BOOST function

Headland management; the rotor raising / lowering sequence adapts to the shape of the headland.

Section Control function for automatic rotor raising and lowering at the headland.

Monitoring from the CCI A3 joystick with functions displayed on the screen

Working height indicator. Rotors can be set individually or by pair.

Individual adjustment of front rotor width. A key is used to return to the initial position.

GO/END keys: a single press to switch between working position and headland turn position.

Indicator of working width, windrow width, rotor position



## At the headland you decide

The new headland management feature allows you to select the shape of the headland. Depending on this, the rotor lifting and lowering order will be adapted. The result is smooth operation and less risk of breaking up the already formed windrows.

## Even more peace of mind with Section Control

Take advantage of the Section Control feature to automate rotor lifting and lowering at the headlands. In the most difficult plots or at headlands, the driver can focus solely on driving; a real comfort and a veritable gain in productivity!

# ALL ADJUSTMENTS CAN BE MADE FROM THE CAB

The ISOBUS standard now allows you to control different machines using a single in-cab terminal. The GA 13231 and GA 15231 rakes are ISOBUS AEF-certified. To easily adopt this technology, KUHN offers two in-cab terminals: the CCI 800 or CCI 1200 control boxes. A CCI A3 joystick can also be connected to the control box to facilitate the piloting of the machine. It is also possible to reuse an ISOBUS terminal and joystick, whether from a competitor or not, already installed on the tractor or present on the farm.



The symbols are directly visible on the CCI A3 joystick.



## Three functions are AEF-certified

### Function UT

You are sure that your machine has the capacity to operate on any UT certified terminal, and vice versa.

### Function AUX-N

You can use control elements that make it easier for you to operate your machine, like a joystick.

### Function TC-BAS

You benefit from documentation supplied by the machine on values that are relevant to the work being performed.

## Take advantage of the KUHN CCI Connect Lite pack

By connecting your ISOBUS terminal CCI 800 or CCI 1200 to the Internet, you can benefit from new features that limit downtime as well as assist your drivers remotely so that you can manage your sites continuously! **The KUHN CCI Connect Lite pack** (available as an option) gives you access to CCI Remote View (remote display of the terminal screen from a laptop, smartphone or tablet) and Online CCI Update (notification of new software version availability).



## KUHN PARTS



**Designed and manufactured to rival time.** KUHN foundries and forge as well as a high-level manufacturing process allow the production of spare parts to defy time. You can truly rely on our know-how and our genuine parts. Farmers benefit from our client support and logistics services via any KUHN PARTS warehouse, which provide quick and reliable repair solutions in cooperation with your nearest authorized KUHN dealer.

## Technical specifications

	GA 13031	GA 13231	GA 15231
Working width (m)	8.40 to 12.50		9.50 to 14.70
Windrow width (m)	1.40 to 2.40		1.40 to 2.50
Transport width (m)	3.00		
Transport length (m)	9.95		10.90
Transport height (m)	3.95		4.00
Rotor diameter (m)	3.20		3.65
Number of tine arms per rotor	front rotors : 11 rear rotors : 12		front rotors : 13 rear rotors : 15
Number of tines per arm	4		
Gearbox	MASTER DRIVE GIII		
Rotor drive	By hydraulic unit mounted on the headstock		
Ground adaptation	3D pendulum articulation		
Working height adjustment	Manual	Hydraulic	
Number of wheels per rotor	4 - pivoting		
Tyres under the rotors	16 x 6.50 - 8		16 x 9.50 - 8 (< 18 x 8.50 - 8)
Tyres on carrying frame	500 / 60 - 22.5 (< 600 / 50 - 22.5 RADIAL or 710 / 40 - 22.5 RADIAL)		600 / 50 - 22.5 (< 710 / 40 - 22.5 RADIAL)
PTO speed (min <sup>-1</sup> )	1,000 (< 750)		
Hitch	2-point on lower links - cat. 2 and 3		
Sequential lifting of the rotors	◆		
Functions controlled by the ISOBUS terminal	-	Adjustment of working width and windrow width, raking height, individual or pair lifting of the rotors, speed of the front rotors (boost drive)	
Required electrical tractor equipment	1 x 7-pin socket (signalling)		
Required tractor hydraulic equipment	1 SA with floating position + 1 free return + 2 DA	Load Sensing	
Lighting and signalling	◆		
Minimum PTO power requirement approx. (kW/hp)	70 / 95		85 / 115
Weight (kg) approx.	5,100	5,150	6,100

◆ as standard < optional - not available

**Optional equipment:** kit of wide tyres for the carrying frame of the GA 13231 and GA 15231: 600/60-22.5 and 710/40-22.5 - 5 LED lights - camera - kit of shims for windrowing high mowed crops - Load Sensing hydraulic kit - KGA 03C control box - rear rotor suspension

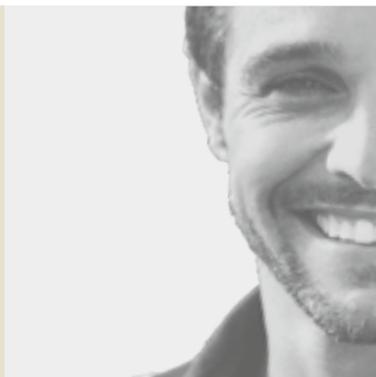
## KUHN SERVICES\*

**KUHN sos order** - Express spare parts service, 24/7\*\*

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**KUHN i tech** - For ever quicker repairs!

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\* Not all services are available in all countries. \*\* except January 1, May 1 and December 25

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