









# Summary

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# GA

Single-rotor rakes

# HIGH QUALITY MANUFACTURING CERTIFIED BY THE WORLD LEADER



GENTLENESS AND QUALITY ARE REQUIRED KUHN, forerunner of the rotary rakes, ensures the gentle raking of the entire forage. Technologies such as the double-bent tine arm with hyper-tangential performance have been specially developed to meet your needs.

# HIGHER PERFORMANCE WHILE REDUCING MAINTENANCE COSTS

The design of the robust MASTER DRIVE gearbox allows all types of forage to be tackled in various conditions while increasing the equipment's service life.

#### REDUCED OPERATIONAL COSTS

Saving time means a reduction in production costs. To achieve this, KUHN offers machines that let you work faster without having to compromise on windrowing quality or driving stability at the headlands or on slopes.

# **CAREFUL RAKING AND CLEAN FORAGE**

The homogeneity and structure of the windrows are prerequisites for rapid drying and easy pick-up by the various harvesting equipment.

To achieve this, KUHN has fulfiled the key requirements for an ideal forage supply:

- the tine arm forms a sharp angle up to the point where the forage is delivered on the windrow,
- the tine is quickly released at the very last moment before passing over the windrow.

Discover the KUHN advantages for forming superb windrows where air and sunlight circulate for faster drying and clean forage.



# THE STRENGTHS OF THE DOUBLE-BENT ARMS

1) They reduce the distance between tine passes. Forage loss is kept to a minimum, even at high ground speed.

2) The weight is located in the center of the tine arm. This increases its service life, as it is not subjected to any pressure during its rotation. The guide rollers are less exposed to stress.



#### Improved windrow formation

The tine arms of the GA rakes are positioned hyper-tangentially (except GA 300 GM and GA 3201). They reach an angle of 90° to the windrow. Combined with the steep cam, tine release is fast, later and requires little rotational force. The windrows are more regular, voluminous and straight.



# A clever windrowing device

The windrow deflector is mounted on a parallelogram for the GA 3201, GA 4431, GA 4731 and GA 5031 rakes. When extended, the curtain automatically moves backward, and vice versa.

To adjust it, simply turn a handle. The windrow deflector is optimally positioned in relation to the forage flow.



#### The many advantages of the tines

KUHN tines rake the forage gently, even when it is heavy and dense. They are made of heat treated steel for an increased service life and fatigue resistance. The «floating» attachment of the tines and the three large diameter coils reduce the risk of wear and breakage. The height of the tines is controlled to preserve the plant cover and forage.



#### Optimal position of the wheels

The wheels are positioned as close as possible to the rotor. Hence, the tines follow the ground contours in a very reactive way and prevent impurities from being introduced into the forage.

# STABLE IN ALL CONDITIONS. **FAST AND HIGH QUALITY WORK.**

The nutritional quality of the forage is the key factor for a high-performance feed. But don't forget to keep your production costs down to the lowest possible level. To reduce your expenses, the solution is to work fast but without compromising on quality. KUHN's GA gyrorakes have some important features to help you achieve this.





#### The flexibility of a mounted machine with the performance of a trailed machine

Most of the KUHN mounted rakes are available with a headstock (all except GA 3201 G) and are as powerful as a trailed machine. With almost 50°, this headstock offers the widest pivot angle on the market. Raking quality or windrow shape is not altered when you are working on bends. Moreover, it is easier to manage baling on corners.



#### Quick and easy

If you wish to optimize the working speed, the raking quality, preserve the plant cover and protect the machine against shocks and jolts on degraded land, KUHN offers another asset. The tandem axles have four offset wheels that follow the ground and stabilize the machine for an increased work output.



#### Stable on slopes

Some of the single-rotor models are equipped with one or several headstock dampers to improve stability on slopes. When the rotor is lifted, the damper automatically and smoothly centers it behind the tractor. The GA 3901, GA 4201, GA 4401, GA 4431, GA 4731 and GA 5031 rakes, in mounted version, have two side dampers as standard.





GA 4431 | 4731 | 4731 T | 5031 | 5031 T

# IT HAS ALL THE ADVANTAGES OF A LARGE RAKE

Choose these rakes for their reliability, which equals that of our large width twin-rotor or four-rotor rakes with a gearbox identical in every respect. This is the MASTER DRIVE GIII gearbox, which is suitable for the most intensive uses!



#### EXCLUSIVE

#### Mounted version: for high work output,

With the GA 5031 you can enjoy the largest single-rotor rake on the market. With a rotor of 4 meters in diameter for a 5-meter working width you can rake faster than with any other existing single-rotor model!



#### **Trailed version**

Effortlessly couple your single-rotor rake to a 50 hp tractor. Hitching is made on a pivoting bar and the whole device requires very little power to be operational. A single-acting hydraulic valve is sufficient for operating the rotor lift on headlands.



# MASTER DRIVE GIII: THE GEARBOX FOR COPING WITH MAXIMUM FORCES

The rotor drive is particularly subject to stress when raking. KUHN has developed fully enclosed gearboxes to ensure the mechanical parts are fully protected and reduce wear and breakage. The MASTER DRIVE GIII gearbox is particularly appreciated since its design offers reliability and exceptional durability, even under intensive conditions.



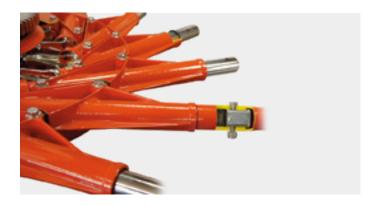
The MASTER DRIVE GIII gearbox has a unique two-stage drive, with reduction achieved by a conical torque and a cylindrical torque.

Tolerances in the bevel reduction are closely controlled for an assembly of increased reliability and robustness, even in difficult conditions.

Wear on the gearboxes is reduced to a minimum and no maintenance is required. The two stages offer the possibility of including larger cylindrical torques with more teeth for improved power transmission.

	Single-stage closed gearbox	MASTER DRIVE GIII two-stage gearbox
GA 300 GM	•	-
GA 3201 G	•	-
GA 3201 GM	•	-
GA 3901	•	-
GA 4201	•	-
GA 4401	•	-
GA 4431	-	•
GA 4731	-	•
GA 5031	-	•
GA 4731 T	-	•
GA 5031 T	-	•

The MASTER DRIVE GIII version, available on most of our twin-rotor rakes, has been developed for the most intensive of uses. The rotors are lighter and even more reliable, particularly due to the more robust tine arm attachment.



# DESIGNED TO LAST

Important details have been modified to obtain rotors that are lighter and even more robust:

- aluminium bearings for the arms that are individually removable,
- optimized cam profile less force on the roller rotation speed and pressure on the cam are reduced.
- reinforced pivoting shaft.
- reinforced tine arm attachment on their pivoting shaft (connection by patented bolted insert).

#### GA 4431 | 4731 | 4731 T | 5031 | 5031 T



#### Make windrows, don't break them!

An action on the lift linkage (mounted version) or on the single acting valve (trailed version) is enough to reach the windrow clearance height:

- over 40 cm on mounted versions.
- over 50 cm on trailed versions,



#### Windrows calibrated for quality

The hyper-tangential drive of the tine arms ensures the formation of a straight and even windrow. Forage is delivered without being accidentally picked up by the tines thanks to the quick tine clearing movement, which occurs perpendicularly and at the last moment. Easily adjust the parallelogram-mounted windrow curtain to perfect this calibration.



#### At ease on slopes

Take advantage of the stability of single-rotor units on hilly terrain and slopes. In the mounted version, an excellent centering of the machine is ensured by the two side dampers (patented). A 48° headstock radius and tandem axle as standard make it an ideal machine in terms of manoeuvrability. In trailed version, the tandem axle with 4 wheels of 18" diameter ensures perfect work, even on difficult terrain.



#### Making your life easier

On very hilly terrain and also for easier hitch adjustment resulting in time savings, choose the pivoting support wheel as optional equipment (mounted version).



# GA 3901 | 4201 | 4401

# **TACKLING HILLY LAND!**

The GA 3901, GA 4201 and GA 4401 rakes complete the range of single-rotor models with working widths of 3.90, 4.20 and 4.40 m. The innovative design of the drive gearbox allows delivering the windrow on the right-hand side, which represents a significant benefit in terms of user comfort. Designed for small tractors or tractors operating in very hilly areas, special care has been taken to ensure low weight and good ergonomics.





#### Well suited for small tractors

The low weight, compactness and good stability of the machine contribute to its excellent performance, even with small-size tractors. The 2 powerful patented spring dampers (or hydraulic dampers for the GA 4401 model) efficiently center the machine during lifting on headlands. For transport, the position of the dampers forms a triangulation to ensure a good frame hold.



#### **Excellent ground following**

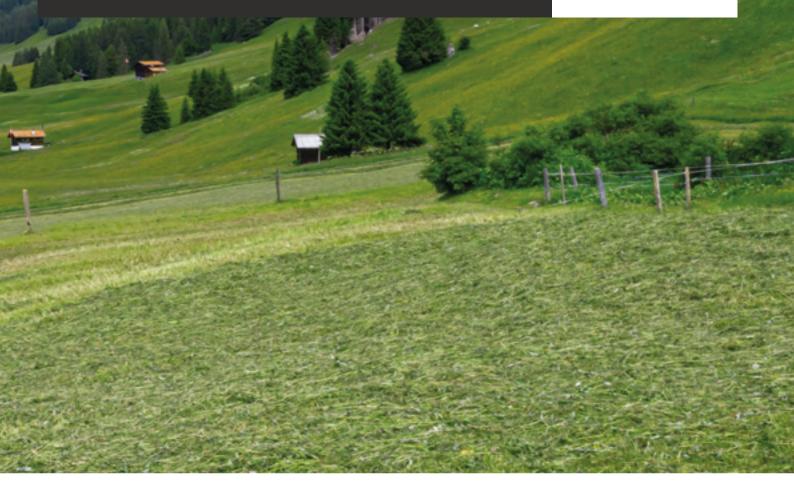
The large angled headstock prevents wheels from slipping on the ground and thus protects the plant cover. Tandem-mounted wheels are available as an option for hilly terrain.

To further improve the adaptation to ground unevenness, a pivoting front wheel is available, which limits incorporating impurities into the forage.

## A more reliable and lighter gearbox

The increase in working widths and rotor diameters coupled with the raking of difficult forage (silage, haylage), has prompted us to offer more robust drive components, also on single-rotor models.







#### **Excellent quality of work**

The rotor wheels close to the tines, and the hyper-tangential position of the arms, help achieve clean forage raking and form an airy windrow that is easy to pick up.



#### Improved ergonomics

The rotor gearbox has been designed to deliver the windrow on the right-hand side, which is benefitial in terms of work comfort. Removing the arms is easier and folding the guards is spring- assisted (or hydraulically controlled as optional equipment). The manual height adjustment is particularly comfortable and can be performed with the machine resting on the ground.



#### Windrow delivery to the right

From a practical point of view, it is an advantage to deliver the windrow on the right-hand side. Don't underestimate the comfort provided by the possibility to manage the raking quality and simultaneously make all the necessary adjustments, when windrow and control panel are on your right-hand side.

# FULLY EQUIPPED FOR LOW AND MEDIUM POWER TRACTORS

The GA 3201 G and GA 3201 GM rakes are designed for small farms and for low to medium power tractors. Equipped with nine tine arms each, these rakes work over a width of 3.20 m.



# **KEY FEATURES**

- High number of tine arms and tines per arm for improved raking.
- Fully enclosed gearbox
- Windrow curtain mounted on a parallelogram: always in the correct position, tool-free windrow width adjustment.
- Removable tine arms for reduced transport width.
- Windrow guard and curtain can be easily folded for transport and storage, thanks to a spring.



#### GA 3201 G: ideal for steep slopes

With a fixed coupling, the rake follows the path of the tractor even on the steepest of slopes. It is also equipped with pivoting wheels. The machine height can be adjusted by a lever located on the wheel.

# **GA** 300 GM

# PROVEN RELIABILITY FOR DECADES

As KUHN is the inventor of gyrorakes, our rakes have always been considered to be "THE reference". The GA 300 GM 3-point model is no exception to this rule. With its single rotor, you can harvest nutrient-rich forage while preserving the leaves.







The control components of the tine arms are housed in a fully enclosed housing and require no particular maintenance. For even more robustness, the tine arm bearings are attached to both the upper part and lower part of the housing.



#### No compromise on raking quality

The nine tine arms of the GA 300 GM follow a very pronounced curve, providing a large clearance above the windrow. The pivoting headstock improves manoeuvrability and ground following. All this ensures the formation of regular, airy and stone-free windrows, even in corners.

# MY LINK TO SUCCESS!

MyKUHN is your online space. Sign up today and discover how the exclusive services offered by MyKUHN will make it easier for you to manage your KUHN machinery fleet, especially when harvesting fodder.

Visit: mykuhn.kuhn.com



#### Manage your machine fleet

# Online tools to get the most out of your KUHN machines!

Once identified, you will be able to manage your KUHN machines by obtaining access to the parts catalogs and being able to download the operator's manuals.

#### **Original parts**

MyKUHN allows you to search for a part, either by indicating its reference, or by using the KUHN Online Catalog. It's a breeze to find a part. You can view the availability of the part at your dealer and send your selection.

#### Instructions for use

Thanks to the registration of your machines in «My Fleet», you will easily find the operator's manual you need.

MyKUHN allows you to download it in a printable version.

MyKUHN will send you a notification when your machine is affected by an improvement campaign. You can then contact your dealer very quickly. No more surprises, you will be alerted in time!



#### Maximize the performance of your machine

#### Optimize the settings of your machines

Maximize your productivity by accessing all the setup and maintenance information at the appropriate time.

#### Send your modulation map in one click

From your computer, with KUHN EasyTransfer, send application rate modulation maps to your machines via the agrirouter platform.

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# And many other interesting features.



#### Participate in events

Receive notifications when KUHN dealers organize events near you and when an essential event is scheduled.



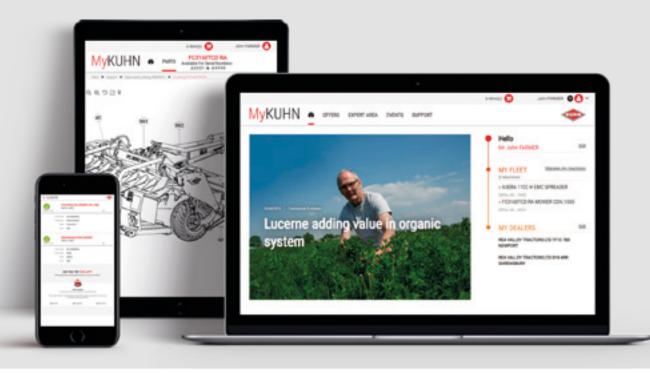
#### Take advantage of offers

Benefit from exclusive financing offers on KUHN parts and machines.



#### Keep in touch

Find and register your favorite resellers so you can contact them quickly and easily!



#### **Technical specifications**

	GA 300 GM	GA 3201 G	GA 3201 GM	GA 3901	
Working width (m/ft)		3.20/10'5"			
Average windrow width (m/ft)	Approx. 0.80 / 2'6" according to setting				
Raking deflector	Windrow screen				
Width (m) - tine arms removed/in place	- / 2.75 / 9'	1.75 / 5'7" / -		1.66/3.14 - 5'5" / 10'3"	
Unfolding and folding of guards		Manual			
Windrow curtain opening adjustment		Manual			
Rotor diameter (m/ft)		2.64 - 8'6"			
Number of tine arms per rotor / Number of tines per arm		9/3			
Tine arms	Fixed				
Gearbox	En	Enclosed - windrow to the left			
Bogie axle		-			
Wheels	Fixed	Pivoting			
Height adjustment		By scale			
Tyres under rotors		15 x 6,00 - 6			
Primary PTO shaft					
Linkage		3-point - Cat. 1 and 2			
Headstock suspension	Pivoting	Fixed			
Headstock damping		-			
Min. PTO power requirement approx. (kW)		15/20			
Necessary tractor hydraulic equipment		-			
Lighting and signalling					
Approx. weight (kg/lbs)	286	347	372	520	
• Standard - Option Not available			*		

◆ Standard <> Option - Not available



#### **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.

	GA 4201	GA 4401	GA 4431	GA 4731	GA 5031	GA 4731 T	GA 5031 T
	4.20 / 13'9"	4.40 / 14'5"	4.40 / 14'5"	4.65 / 15'3"	5.00 / 16'5"	4.65 / 15'3"	5.00 / 16'5"
Windrow curtain							
	1.88/3.38 - 6'2" / 11'1"	1.95/3.55 - 6'4" / 11'6"	2.25 / 3.75 - 7'3" / 12'3"	2.45 / 4.00 - 8' / 13'1"	2.75 / 4.35 - 9' / 14'3"	2.31 / 4.00 - 7'6" / 13'1"	2.75 / 4.35 - 9' / 14'3"
			Manual (<	> Hydraulic)			
Manual (<> Hydraulic)							
	3.20 - 10'5"	3.40 -	11'1"	3.65 - 11'10"	4.00 - 13'1"	3.65 - 11'10"	4.00 - 13'1"
	11/4	12	/4	13/4	15/4	13/4	15/4
nc	losed - windrow to the	right		Enclosed - Double sta	age MASTER DRIVE G III	- windrow to the right	
♦							
			Вус	crank			
16 x 6.50 - 8						18 x 8.50 - 8	
With torque limiter						Wide angle for tractor + torque limiter	
3-point - Cat. 2						Drawbar with parallelogram	
Pivoting						-	
lampers 2 hydraulic dampers						-	
	22/30		23/30	26/35	30/40	26/35	30/40
- (1 DA with optional hydraulic control of the guard				ng/unfolding)		1 SA	
	<b>\$</b>					•	>
	560	610	724	750	812	820	860

### **KUHN SERVICES**\*

KUHN sos order - Express spare parts service, 24/7\*\*
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- 1. Semi-mounted twin rotor gyrorakes with side delivery 2. Semi-mounted twin rotor gyrorakes with central delivery -
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