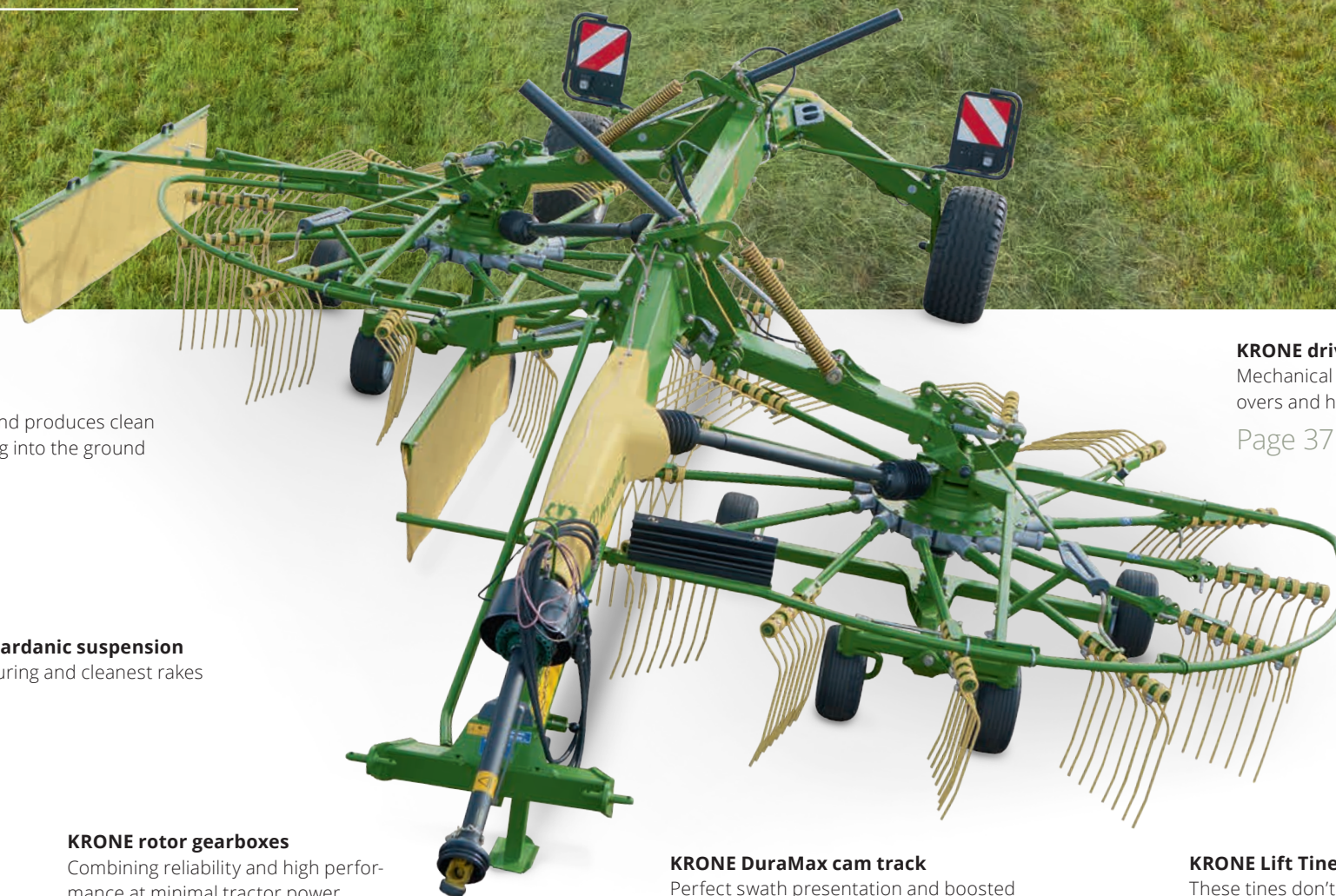




Swadro S | TS
SIDE DELIVERY ROTARY RAKES

Swadro S | TS

Single-, twin and three-rotor rakes



KRONE Jet Effect

Protects the sward and produces clean forage without poking into the ground

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The pull-type cardanic suspension

Optimum contouring and cleanest rakes

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KRONE rotor gearboxes

Combining reliability and high performance at minimal tractor power

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KRONE DuraMax cam track

Perfect swath presentation and boosted harvest chain efficiency

Page 14

KRONE driveline

Mechanical drives all-round for fast change-overs and high area outputs

Page 37

KRONE Lift Tines

These tines don't rake but lift the crop from the ground – delivering perfect results at low raw ash levels

Page 18



*KRONE Swadro -
a machine you can depend on*

KRONE side delivery rotary rakes
The most comprehensive offer on the market

The KRONE Swadro S and TS line-up of rotary rakes offers the largest choice of side delivery rakes in the market. Our programme comprises an unmatched number of models and variants – from the single-rotor rakes for non-contiguous fields all the way up to the Swadro TS 970, the world's most unique three-rotor rake for maximum productivity and harvester capacities.

#TEAM SWADRO



As a **specialist manufacturer of hay and forage equipment**, KRONE focuses on innovative and high-performance machines that make a difference in high-quality foraging. For years, the KRONE Swadro model range has set the benchmark in terms of quality rakes and clean forage.



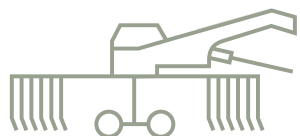
As an innovation leader and specialist manufacturer of forage harvesting equipment, KRONE gives you the machine that fits into your individual harvest chain for uncompromised efficiency and forage quality.
Join the #TEAM SWADRO – BECAUSE YOUR ANIMALS DESERVE IT.

The pioneer in quality foraging

Every single blade of grass is clean

Swadro creates an optimum swath that suits your individual harvester – whether baler, forage wagon or forage harvester. It produces large and massive swaths that are ideal for the forager and boxy and uniform swaths for the cutting system on forage wagons and baler pick-ups for perfectly shaped bales.

KRONE Swadro lifts rather than rakes the material – maximizing your success at every single stage of your harvest campaign and sustainably for generations.



The world of Swadro S / TS models

How our KRONE Swadro transforms *into your personal KRONE Swadro that meets your requirements*

The KRONE Swadro S/TS programme of rotary rakes lines up the largest number centre delivery rakes on the market – from the Swadro 35 single-rotor rake to the world's largest side delivery rake, the Swadro TS 970, offering working widths from 3.50 m to 9.70 m. In addition to that, each model is available with multiple options and operator comfort features.



Swadro 35 or 38 and 38 T
3.50 m or 3.80 m work width



Swadro S 380
3.80 m work width



Swadro 42 and 42 T
4.20 m work width



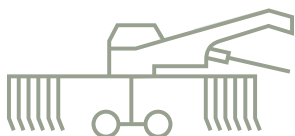
Swadro S 420
4.20 m work width



Swadro 46 and 46 T
4.60 m work width



Swadro S 460
4.60 m work width





Swadro TS 620
6.20 m work width



Swadro TS 620 Twin
Work width: 6.20 m (2 rotors of 3.46 m each)



Swadro TS 680
6.80 m work width



Swadro TS 680 Twin
Work width: 6.80 m (2 rotors of 3.80 m each)



Swadro TS 740
7.40 m work width



Swadro TS 740 Twin
Work width: 7.40 m (2 rotors of 4.10 m each)



Swadro TS 970
9.70 m work width



Swadro 710/26 T
Work width: 6.20 m (2 rotors of 3.40 m each)

Powerful selling points

The technical details *make the difference*

incl. the cardanic rotor suspension **KRONE Jet Effect**

- Optimum ground contouring
- Minimum losses

Producing the best forage from the first to the last cut

KRONE DuraMax cam track

- Maintenance-free
- Dry cam track
- The steepest cam track in the market

Perfect and boxy swaths that maximize harvest chain efficiencies.

KRONE Lift Tines

- Clean forage from the Lift Effect
- High work rates without fragmentation

Raking up every single blade of grass

KRONE rotor gearboxes

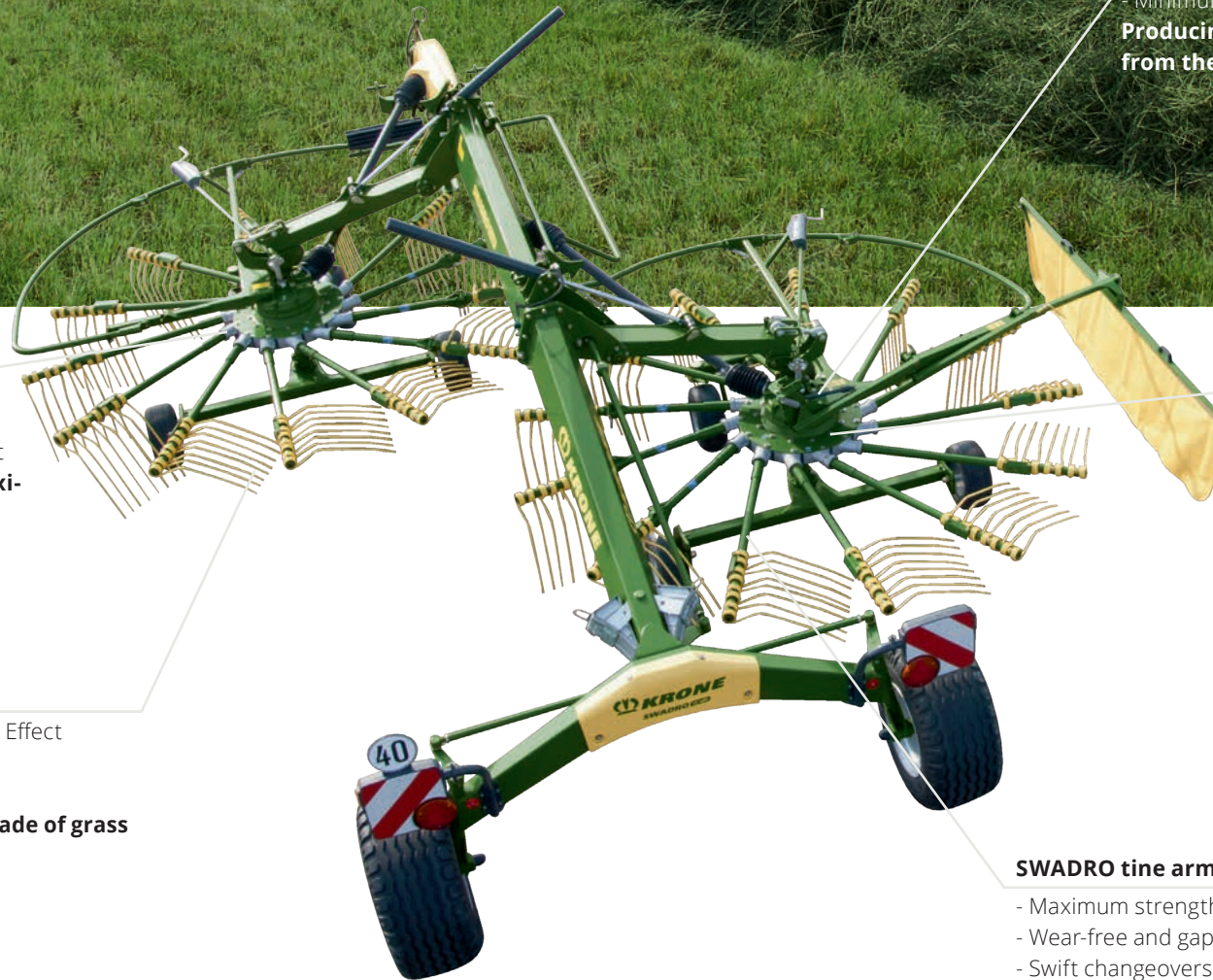
- Maintenance-free
- Minimum input power
- Permanently lubricated

Maximum reliability and daily output from the first to the last swath.

SWADRO tine arms

- Maximum strength, stability and reliability
- Wear-free and gap-free folding arms
- Swift changeovers

Unmatched reliability and longevity from the first to the last job.





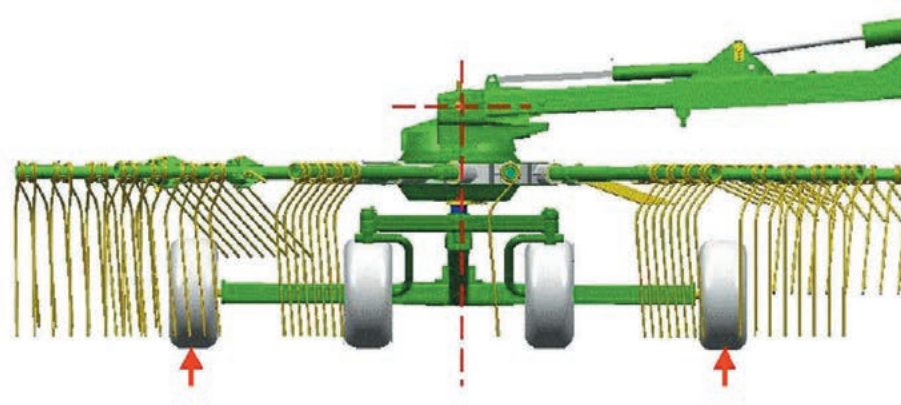
The pull-type and cardanic design

Producing the best forage *from the first to the last cut*



Pulling not pushing

The Swadro rotors are pulled in direction of travel. Its pull-type suspension in combination its central arrangement allows the rotor to stay level when lifting and lowering. Its weight is uniformly distributed to all gauge wheels, ensuring optimum contouring and minimizing contamination and losses.



Top-quality forage

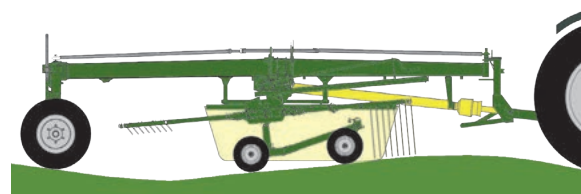
- **3D contouring** in any direction
- **Best possible 3D contouring** for all tines
- Clean forage, no losses





The KRONE Jet Effect

The KRONE Jet Effect ensures the tines will not dig into the ground when the rotors lower and lift. Emulating the touch-down and take-off behaviour of an airplane, The clever design of the rotor suspension ensures there is always a maximum of clear space between the tine and the sward when the rotor lifts and lowers out and into work – an intelligent system that helps protect the sward and avoids crop contamination.



3D contouring

The rotors suspend in a pull-type and cardanic configuration which provides exact guidance to the tines and optimum contouring – both in and across the direction of travel. This way the tines pick up every haulm but not a single grain of sand. Uncontaminated forage, minimum loss rates and high work rates – this is the Swadro definition of quality work.

The Swadro rotor gearbox

Maximum reliability *from the first to the last swath*

Endurance design

- Sealed and **maintenance-free rotor gearboxes**
- **Fuel-efficient gear ratio**
- **Permanently fluid greased**



No downtime

The weather sets the pace in forage harvesting. Maintenance-free and permanently liquid greased rotor gearboxes make the KRONE Swadro a very reliable partner in your harvest campaign. Swadro is always ready to go, ensuring dependable operation in narrow harvest windows. No time is wasted on service stops. Come rain or harvester.





High performance meets minimum tractor input

The Swadro rotor gearbox is powerful and yet frugal in terms of tractor power. Thanks to its large gear ratio, Swadro requires only low pto speeds at minimum wear. Compared to other swathing systems, Swadro rotary rakes stand out for low input power and great fuel economy.



Rugged build

No matter how difficult the conditions, the Swadro rotor gearboxes deliver reliable performance and great stability without any servicing or maintenance. Count on these qualities.



The DuraMax cam track

Optimal and boxy swaths *that satiate high-capacity harvesters*



The unique DuraMax cam track

The KRONE cam track features the unique Bainite structure which is obtained by a special hardening process. Accordingly, this cam track has a very durable surface and yet a flexible core, a combination that results in low wear. This type of coating also reduces rolling resistance for reduced friction, wear and power input.



Steep and small-diameter cam track

Stand-out features of our **DuraMax cam track** is the extremely small diameter and steep track design. It is this unique design and its effect that lead to the formation of optimum swaths in all conditions. The small diameter of the cam track combines with the massive size of the rollers for smooth and low-wear operation. As the tine arms follow the steep curve the tines are promptly lifted out of work, forming boxy and optimum swaths in all conditions.



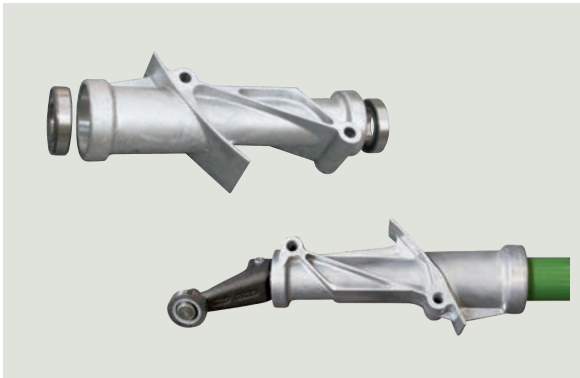


Forming optimal swaths

- Maintenance-free
- Special Bainite hardness
- Dry cam track

The Swadro tine arms

Dependable and durable *from dawn to dusk*



The tine arms

Each tine arm is controlled by its control shaft that is manufactured to precision-fit tolerances for exact fit in the control arm and precision tine control as the arm follows the cam track. It is this design that leads to those clean and loss-free rakes.

Each tine arm is mounted on two ball bearings inside the hub plate. The two bearings are spaced wide for stable and smooth control of the shaft as well as reduced wear and higher work rates.

The main part of the tine arm is the thick-walled and maintenance-free tube which is permanently and wear-free connected to the control shaft for reliable tine control without play. This is the secret behind optimum tine control and quality rakes.



Operational reliability

- **Maximum stability** and reliability
- **Wear-free and gap-free** folding arms
- **Swift changeovers**
- **Integrated predetermined bending point**

Maximum stability and reliability.

The Swadro tine arms set the benchmark in terms of durability and reliable operation. The massive design of the arms with pre-machined notches makes these arms stand out in the rotary rake sector, because it withstands the highest loads and brings peace of mind in extremely difficult conditions.



Changeovers from transport to field are a matter of minutes

Some KRONE Swadro models have foldable tine arms either as a standard feature or an option for reduced transport heights.

This unique folding mechanism reduces the transport height and width in a matter of minutes without requiring the operator to remove the arms and carry them to their holder on the machine, reducing the strain on the operator and saving time and money when changing fields.

Belleville springs inside the arms connect the two parts reliably and fast, a solution that eliminates potential wear of a locking pin or hole. At the same time, the connection is gap-free and very durable to give reliable operation in many harvest seasons.



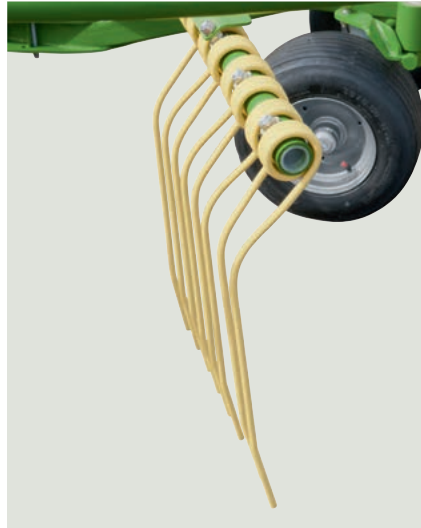
The KRONE Lift Tine

Exceptional rakes. *Not a single grass blade is left behind*

Effective in every respect

- **Clean forage** thanks to the Lift Effect
- **High work rates** and no fragmentation
- **Improved forage quality**
- **Reduced losses**

All current KRONE Swadro models have the KRONE Lift Tines as standard specification. Kinked in two positions, these tines offer significant benefits that have been verified in KRONE field tests and a DLG Focus Test.



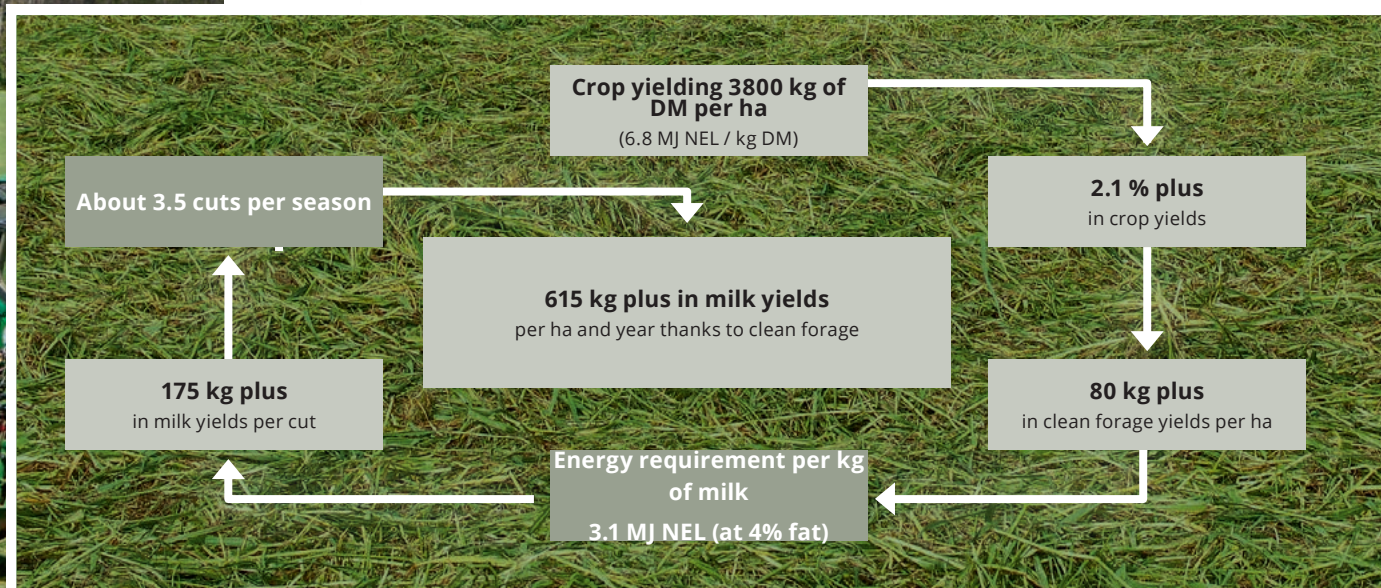
The double kink trick

For more than 10 years, the KRONE Lift Tine has convinced our customers around the world in terms of quality forage and rakes. Kinked in two positions, the vertical tine lifts the material clear off the ground. This is the secret behind producing clean forage in difficult conditions.

The Lift Effect sees the grass moving up the length of the tine. Even extremely wet and heavy material will not bend the tines which are up to 10.5 mm thick and are coiled around large-diameter arms for greatest stability and tidiest rakes.



How KRONE Lift Tines boost your yields



DLG confirms: Less contamination and fewer losses in the raking pass

- We place greatest importance on clean forage and an excellent raking quality. Therefore, we seek scientific evidence in confirmation to our visual assessments.
- Consequently, we submitted the KRONE Lift Tines to a DLG Focus Test in order to assess the level of crop contamination and rake quality and compare the results with other tine systems.
- The results were indeed very clear: The KRONE Lift Tines reduce crop contamination with raw ash to levels of less than 9% - at any forward speed.
- In addition, the special design of the tine reduces losses by up to 2.1% compared with other systems. Losses never reach 1.5% of the total crop yield, not even when work rates are high.



The bogies on the KRONE Swadro rakes

Perfect contouring and clean rakes *in any terrain*



Excellent rides

The guide wheels on the bogies run very close to the tines for effective guidance and contouring. As the wheels cover a large surface area, the tines pick up every single blade without contacting the sward.

In addition, every model has individual setting options that help adjust the bogies to the specific conditions. The leading wheels are castering.

High flotation tyres are options for soft and boggy terrain and two extra wheels are available for each rotor for work in very rough pastures.



Lifting and swathing

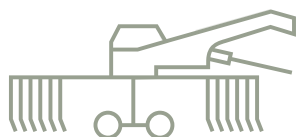
- Gauge wheels on **high flotation tyres** run very close to the tines
- **The largest wheelbase** on the market
- Adjuster changes the rotor angle across the direction of travel for **optimum swaths and loss-free rakes**.
- **Caster steer wheels** at front and rear (option) protect the sward

The wheels under the KRONE Swadro rotors never lose contact with the ground, not even the roughest terrain. The largest possible contact area and pivoting range in combination with suitable tyres ensures no blade is left on the sward and the sward is not damaged. Clean and intact swards are the cornerstone for top quality forage also from the next cut.



Slightly tilted for greatest efficiency

An optimum rotor tilt across the direction of travel translates into minimal losses and boxy swaths. All Swadro rotors tilt as a standard feature. The lateral tilt controls the position of the tines relative to the ground and is set on the rear wheels of each rotor. In fact, the rotor should tilt slightly towards the swath in order to balance out the load the material puts on the tines. KRONE recommends a 1-2 cm tilt toward the swath.



Extraordinary simplicity

Swadro S 380, S 420, S 460

Unique coupling system

Featuring the patented KRONE tractor attachment, the Swadro S single-rotor rakes are mounted in the rear linkage. The robust tube steel headstock offers storage positions for the pto shaft and the electric line. It makes coupling an easy job as all operations are carried out on the left side of the machine. Its flexible connection to the main beam plus the balancing arm and damper struts automatically align the Swadro S single-rotor rake centrally behind the tractor.





Four coupling options

All Swadro S single-rotor rakes offer as many as four coupling options for the top link – three round holes that suit various tractor ends plus one slot that ensures optimum ground following of models that have the leading gauge wheel.



Short and sweet

All three Swadro S rakes couple to short lower link arms, which brings them close to the tractor and shifts up to 10% more weight to the front axle than regular single-rotor rakes do. As such, these rakes are also suitable for running behind small and compact tractors.



Easy adaptation

Increase the space between the tractor and the headstock by repositioning the coupling pins, which is an easy job and simply takes swinging them into the long coupling position. In this coupling option, the tractor and rake form a nimble combination – even if the tractor is a high-horsepower machine or runs on high wheels.

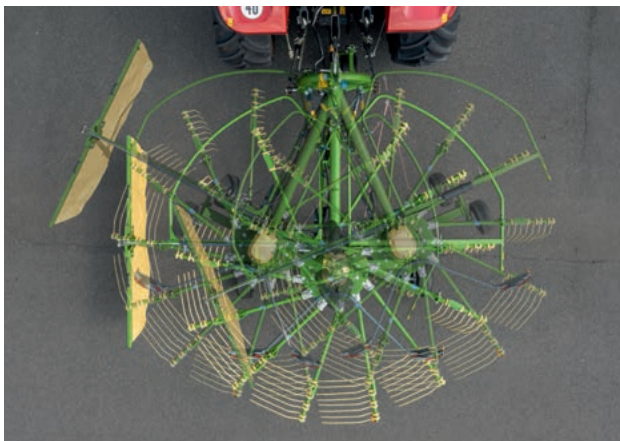
Adjust the work width to the job at hand

- Mounted in the three-point linkage and **offering 3.80 m to 4.60 m working widths**
- **Unique caster-steered headstock** with patented lower link couplers offers two attachment options
- **A level of operator comfort** and set-up accuracy that is **second-to-none**

The new Swadro S single-rotor rakes with 3.80 m, 4.20 m and 4.60 m working widths stand out for great longevity and reliability but also in terms of operator comfort and convenient setup. Their remarkable level of reliability and longevity is attributed to their durable drive components that are sourced from the KRONE high-output rakes. Also, the compact Swadro S build offers the best possible view of the rotors and the swath whilst the precise and convenient setting options make for easiest use and optimum results.

Swadro S 380, S 420, S 460

Small machines *that rake a difference*



Clever casting properties

The caster-steered headstock tracks accurately behind the tractor as this is making the turn. Thanks to the intelligent balancing arm you also manage tight headland in awkwardly shaped fields without a hitch. The damper struts eliminate tailing and ensure straight and uniform swaths. Also, the machine centres itself exactly and automatically behind the tractor as it is being raised. This also eliminates a separate transport locking system.



Lifting out without poking

Built to the same design as the high-capacity rakes with transport running gears and pivoting headstocks, the Swadro S models benefit from the same Jet Effect as their bigger siblings. Consequently, the Swadro S single-rotor rakes produce the same clean forage as our high-capacity rakes and, like these, they leave the sward intact.

Compact in size

- **Great agility** and best tracking thanks to the tracking mechanism and balancing arm
- Mechanical or hydraulic dampers provide **powerful and yet gentle alignment centrally behind the tractor**
- **The KRONE Jet Effect** controls the tines during life-out and touch-down
- **Standard four-wheel running gear** for treading softly on big flotation tyres
- **Leading gauge wheel is an option** for perfect contour following in uneven terrain

The Swadro single-rotor rakes deliver outstanding results. The damper struts, the balancing arm and the pull-type configuration of the rotors combine and interact for optimum casting. The wheels are clad with big flotation tyres and run in close vicinity to the tines for accurate contour following. This is the formula for raking up every single blade of grass without damaging the turf.



Mechanical dampers

Mechanical damping rods are standard specification on the Swadro S single-rotor rakes. These are spring-loaded dampers that ensure the rake tracks reliably behind the tractor when making a turn and automatically align the machine centrally behind the tractor.



Gentle and yet powerful

You can also choose hydraulic damping for Swadro S, which comes into its own in very hilly and difficult terrain and ensures stability in sloping fields whilst maintaining your output levels high.



Effective in every respect

The Swadro S rotors run on four wheels as standard. With the wheels running in close vicinity to the tines, these are able to follow any contour without raking up sand or dirt or damaging the sward. This is the perfect formula for high-quality forage. An additional and optional gauge wheel can enhance contouring even further.

Swadro S single-rotor rakes

Easy setup *and operation*

Precision settings made easy

- Down-to-the millimetre **rotor height settings and accurate scales**
- **Convenient curtain fold-up mechanism** takes out the hard work
- **Foldable tine arms** feature wear-free and gapless joints

The Swadro S single-rotor rakes stand out for ease of operation. For example, work height and swath width are changed on the left side of the rake or even from the cab as an option. The tine arms are foldable and need not removing and storing into transport position so changeovers from field to road are fast and easy.



Accurate height control

The working height is easily set on a manual crank that sets the height down to the millimetre for accurate ground contouring. The current height is indicated on the scale, eliminating awkward measurements and ensuring the rake is set exactly to the cutting height of the mower.



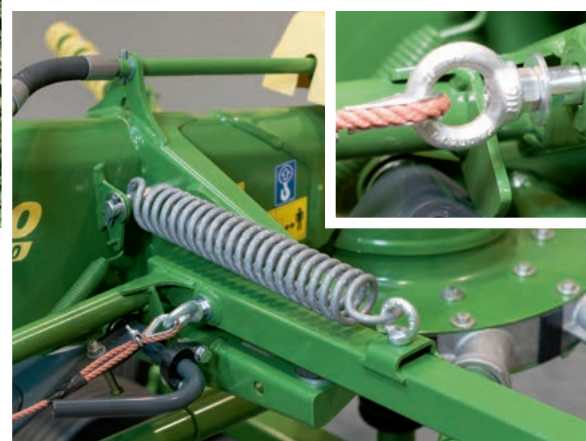
Electric convenience

An electric height control is also available which allows you to change the rotor height from the cab. The current setting is displayed on the in-cab screen and quickly adapted without dismounting – a feature that saves valuable time.





KRONE



Spring-assisted folding

On entry-level machines, the curtain is manually folded and extended into the required swathing width, which is assisted by a spring. In addition, folding releases a torsion resistance mechanism on the rotor, protecting this from operator errors.



Hydraulic curtain

The swathing curtain can be operated hydraulically from a double-acting spool which lowers the curtain into work and then extends it to the desired swathing width. This routine is reversed when the curtain is raised out of work. The ram features end of stroke cushioning which makes the fouling routing soft and gentle.





Single-rotor models for three-point linkage attachment

Swadro 35, 38, 42, 46

Well proven

- **Standard tandem axle** and flotation tyres
- **Stepless work height control** for a consistently high-quality forage
- The leading gauge wheel controls the rotor for smooth action in undulating terrain

The single-rotor Swadro models of 3.50 m to 4.60 m work widths (11'6" to 15'1") for three-point attachment feature unique strength and engineering. Many of their well-proven features have been taken over from the high-capacity rakes. The wide bogie with a castoring tandem axle and the optional leading gauge wheel provide accurate tine control for super clean forage even from undulating fields and deep ruts.



The tyres

Fitted with Super Balloon 16/6.50-8-ply tyres, these Swadro single-rotor rakes simply got the right boots. These tyres offer superior rides and light treading for best protection of the sward.

The tandem axle

The Swadro single-rotor rakes have a tandem axle as standard specification with wheels running closely alongside the tines – a set-up that ensures perfect contouring and cleanest rakes in undulating terrain.

The lateral tilt

No grass blade is left behind – not even in heavy material. The tilt is adjusted from a pin/hole setting system on either side of the rotor.





The leading gauge wheel

The height-adjustable and caster-steered gauge wheel is an optional extra which brings better ground hugging in undulating terrain.



Attachment for the top link

A selection of holes for the top link ensures optimum rotor control in all conditions. The attachment via the top link in the elongated hole allows the use of a leading gauge wheel.



The height control system

The rotor depth is controlled steplessly from a crank that is operated from the tractor seat – a quick and easy system that warrants clean and loss-free rakes.

Swadro 35 | 38 | 42 | 46

Further technical *details*



The transport position

As the machine is raised into transport position, the damping rods retract automatically, aligning the machine centrally behind the tractor.



The tracking system

The patented tracking system steers the KRONE rakes through the tightest turns. Combining a swing arm with damping rods leads to a steering angle of about 20° which in turn translates into excellent manoeuvrability and an enormous lift-out height.



The damping rods

The damping rods ensure the machine tracks dependably behind the tractor when travelling at speed and working downhill.



Reliable and accurate

- **Damping rods** feature internal compression springs
- **Auto-centring** lift-out system
- **Folding tine arms**

Dense traffic and a fast tractor present a challenge to tractor-attached machines and their road safety, a challenge that KRONE rakes meet easily. Once the tine arms are folded and the crop deflector is raised, a Swadro single-rotor rake makes an extremely compact combination for swift travel between fields.



The crop deflector

Adjusting the crop deflector is as easy as it can get. Simply telescope the unit in and out as necessary to adjust it to the current conditions and header widths of the following harvester.



Raking along curved lines

No crop is lost, even when working in curved lines. The 20° steering angle is useful in small and awkward fields where it enables operators to gather all the material even in tight curves and form a perfect swath.



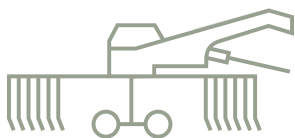
Raising the deflector curtain

A massive coil spring supports the crop deflector as this is being raised into transport position. At the same time, the transport locking system of the rotor is lowered. This applies to machines that are specified with folding tine arms.



The folding tine arms

Folding the outer tine arms into transport position is a quick and straightforward job – just a small effort.



Trailed single-rotor rakes

Swadro 38 T, 42 T and 46 T

Light pulling

- **Wide working width**
- **Low power input**
- Parallel-linkage controlled **drawbar**
- Standard **tandem axle** and 18" tyres
- **Swadro 38 T and 42 T** not available in Germany

The 38 T, 42 T and 46 T additions to the Swadro model range were developed in response to farmer demands for a trailed and well-proven single-rotor rake that offers the well-proven Swadro technology. The tandem axle on these models serves also as transport chassis.



The tandem axle

The tandem axle runs on standard 18" Super Balloon flotation tyres. The threaded spindle adjusts the lateral tilt, which is useful in heavy crops. No blade of grass is left behind.

The gauge wheel

For smooth casting in tight curves, the Swadro 46 T model and the 42 T model have a leading gauge wheel as standard (46 T) and optional (42 T) specification. The height is easily set by refitting a pin.

Safe ride on public roads

The side arms on Swadro 46 T fold up easily into a compact transport unit for safe travel on public roads.





The drawbar

The parallel control on the height-adjustable and pivoting drawbar eliminates any risk of the hitch ring seizing up on the linkage drawbar or pivoting drawbar. The hydraulic ram on the drawbar levels the rotor during lift-out and lowering.

Lifting the rotors hydraulically

The rotors are lifted out hydraulically. These rakes offer a 500 mm (1'8") ground clearance courtesy of the tandem chassis and the special attachment of the hydraulic cylinder – the perfect configuration for crossing a swath without disturbing it.

Work height control

Adjusting the work height is easy by telescoping and securing the box section arm with a pin.

Low power input

It is not pto power that limits the output of a single-rotor rake but the risk of too little load on the tractor's front axle when the machine is lifted out of work. The solution is the Swadro 38 T, 42 T and 46 T. These trailed models were designed for small and light tractors and work on slopes. The trailed Swadro models stand out for their low tractor power input.



For us, it is important to get a wide spread from the leading rotors, because this eliminates roping.



Raking made easy and tidy

The KRONE Easy-Line increases rotor rpm on the leading units by about 10% compared with the rear units, so the leading rotors present the material in a wider mat to the ones at the rear which rake it into fluffy and boxy swaths. The Easy Line driveline ensures the material doesn't drop back on the ground once it has been picked up.

KRONE Easy-Line drive concept

Higher rotor rpm on *twin- and three-rotor rakes*



Mechanical and effective

The KRONE Swadro side delivery rakes have purely mechanical drivelines where every rotor is individually protected from overload. The drive power flows reliably to all rotors, thanks to the special arrangement of the driveshafts – a design that also ensures low-power consumption.

The efficient way of swathing

- **A controlled material flow** through the machine for best rakes
- **Boosted outputs** from the forage wagon, baler or forager
- **No roping** for maximum harvester performance



Doubling your flexibility

- **Single and double swathing**
- **Right-hand swath presentation**
- **Variable work width**
- **Hydraulic crop deflector adjustment**
- **13 tine arms per rotor**

Featuring as many as 13 tines, this KRONE 710/26 T twin-rotor side delivery rake not only offers excellent value for money but also the cleanest rakes. Swadro 710/26 T forms single and double swaths as well as two narrow swaths side by side.

Twin-rotor side delivery model

Swadro 710/26 T



Attaching to a pivoting or linkage drawbar

The drawbar – floating drawbar or linkage drawbar – is height-adjustable and the hitch ring is controlled by a parallel linkage. The hydraulic ram on the drawbar maintains the leading rotor parallel to the ground as it is lifted and lowered.



The tandem axle

A wide wheelbase with 18" wheels provides excellent contouring. The wide wheelbase of the front axle provides optimum stability in sloping terrain. The working height is adjusted via these pin setting systems.



Adjusting the side angle

Adjusting the rotor's lateral tilt is easy from this threaded spindle so that the rotors will also pick up the extra material that is building up on the curtain.

Forming one single swath
Raking 6.20 m into one swath



Forming a twin swath
Raking 6.80 m into two swaths



Forming one double swath
Raking 12.40 m into one double swath



Swathing all material to the right, forming one single swath

This is the swath presentation that suits high-capacity harvesters and light crops. The working width is varied by operating a hydraulic cylinder,



Shifting the rear rotors left/right

Operators can quickly shift the rear rotor to the side by operating a ram which allows you to disturb all material.



Swathing all material to the left, forming a twin swath

This mode of swathing is selected to tailor swath sizes to small harvester capacities and in leafy crops and for making night windrows.



The twin-rotor side delivery rakes

Swadro 710/26 T



Perfect for right-hand presentation

The cab controls are arranged on the right-hand side in the cab for maximum operator convenience.



Approved for 40 km/h

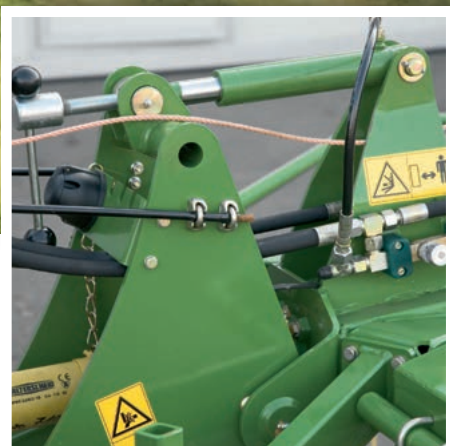
Quick travel between fields saves unproductive time and helps boost your daily output. The wide tandem axles and 18" wheels provide the proper gear to achieve just that.



The cardanic rotor suspension system

Both rotors have cardanic suspension. On the front rotor this is implemented via the float position of the drawbar-mounted ram (left photo) and on the rear rotor by the elongated hole. This gives both rotors full hugging abilities so they rake up every haulm also in difficult conditions and in hilly or undulating terrain.





Levelling the machine

The front crank alters the tilt of the frame, which adapts this to the current working width. When raising the frame, the front cylinder lifts the front end first so the tines won't poke into the sward.



An ideal combination

Leading gauge wheels combine with the cardanic rotor suspension for perfect rotor control. These castoring and height adjustable wheels can also be offset to one side depending on the crop volume.



Rugged

The sturdy box section beam absorbs any stress and strain, offering great stability when travelling at speed and working in difficult terrain.



Convenient for operators

The hydraulic curtain control on the rear rotor is operated conveniently from the cab, allowing you to adapt the swath width accurately, easily and conveniently and retracting the curtain into transport position.



The trailed twin-rotor side delivery rakes

Swadro TS and TS Twin

The power model

- Flexible swathing – **single swaths, double swaths and twin swaths**
- The sequence controlled rotors lift clear off the ground for **stress-free headland turns**
- **Individual rotor lift-out** as an option for perfect rakes in corners
- **Extremely compact in transport** thanks to a unique frame design

The trailed KRONE Swadro TS side-delivery rakes work at widths between 6.20 m (20'4") and 7.40 m (24'3") presenting the crop in single and double swaths. The Twin version forms twin swaths as standard specification. As a result, the machine covers work widths between 6.92 m (22'8") and 8.20 m (26'11").



Forming one single swath

The Swadro TS models can be adapted to the crop conditions and the intake capacity of the following harvester. Single swaths are ideal in high-yielding crops and when using balers or small forage wagons.

Forming a double swath

Raking up two separate swaths in one up and down operation, Swadro TS covers a work width of up to 15 m (49'3"). Double swathing is a very effective method to fully exploit the intake capacities of powerful harvest machines.

Comparing Swadro TS and TS Twin

Swadro TS	Swadro TS Twin
Single swath presentation (standard)	Single swath presentation (standard)
	Presentation of twin swaths (standard specification) <ul style="list-style-type: none">- Telescoping hydraulic arms (standard)- Front crop deflector curtain





TS Twin for twin swathing

Swadro TS Twin has telescoping arms as standard. An optional crop deflector is available to complement the twin swathing specification.



Quick changeover to twin swathing

Changing Swadro TS Twin from single swathing to twin swathing is easy and straightforward. Simply telescope the two arms to accommodate the second swath.



Easy-use crop deflectors

The curtain at the front is adjusted manually with the help of a spring whereas the curtain at the rear swings automatically into work position as the rotor lowers into work. It is also possible to adjust the rear curtain with respect to its work height, its alignment in direction of travel and distance to the rotor.

Swadro TS and TS Twin

Easy handling



Manual rotor height control

The base specification model has its work height controlled steplessly from a crank which is arranged on the outside of the rotor for easy access. The large and adjustable scale is easy to read. The height of each rotor can be set accurately down to the millimetre.



Height control and independent lift-out electrically from the cab

The height of the rotors can be controlled electrically as an option to adapt to varying conditions. It is operated from a cab-based control box from where the operator controls two servomotors which set the rotor height on the move and down to the millimetre. As an option it also raises only one rotor out of work for optimum rakes and output.



Consistent ends

A hydraulic sequence control raises the leading rotor first and then the rear rotor into the headland position. The relevant hydraulic spools for the sequencing are controlled mechanically from a shifter in a robust gate. The delay between raising the front and the rear arm can be customised by the operator.



High-stability frame with a generous ground clearance

Large-diameter tube steel gives the chassis and the main beam a particular strength. The generous ground clearance and enormous lift-out height of the rotors give the machine a ground clearance of up to 50 cm leaving big windrows undisturbed.



Side-mounted main gearboxes and coil springs

The two main gearboxes were moved clear away from the centre of the machine, which ensures the drive shafts run smoothly at all times, also in headland position. In work, strong coil springs shift the weight of the rotors to the main beam and the undercarriage, thereby taking load off the rotors.



Swadro TS and TS Twin

Easy steering and safe *road travel*



Convenient transport height

The machine folds to a transport height of less than 4 m (13'2"), with arms moving up hydraulically and the curtain on the side lowering automatically.



Choice of tyres

Choose between two tyre specifications. All Swadro TS and TS Twin can be fitted with 11.5/80-15.3/10 PR (left photo) or 15.0/55-17/10 PR (right photo) tyres. The former provide good traction on softer ground whereas the latter are best for work in sloping fields. The transport position does not exceed 2.90 metres.



Altering the track width

If the wheels are fitted with slim tyres, it will be possible to expand the track width by 6 cm (2.4"). Simply refit a distancer sleeve on the wheel arms and move each axle out 3 cm (1.2").





A very nimble machine

All Swadro TS and TS Twin models have a ball bearing that links the two-point headstock and the chassis. A rod controls the Ackermann steering system when the machine is travelling through curves. This gives Swadro outstanding agility and allows it to enter and rake up awkward patches without shunting. No hay is left behind.

Swift and safe travel

The great chassis stability gives all Swadro TS rakes excellent tracking even at higher speeds.



The triple-rotor side delivery rake

Swadro TS 970

A unique pivoting system

- 9.70 m (31'10") work width for highest work rates
- **Electric work height control** and height indicator
- **Hydraulic caster control** for optimum road stability

Raking nearly 20 metres into one double windrow, the KRONE Swadro TS 970 is the ideal match for a high-capacity precision-chop forage harvester. Offering stunning work rates of up to 10 ha/h, this machine is the performance booster in your harvest chain. A wide wheel base and Ackermann steering give this high-capacity rake an enormous agility and very easy shunting.



The electric height control system

As conditions may vary within one field it is essential to adapt the working height instantly. You can set each rotor to its own individual work height by operating a control on the control box. Then the height is shown on the display screen.



Hydraulic curtain control

As an option, the swathing curtain on the TS 970 folds hydraulically into a parking position for double swaths. The curtain is folded automatically when the rotors fold into transport position to reduce the transport height to less than 4 m. It resumes its previous position when the rake is lowered into work.



The Ackerman steering system

A hydraulic cylinder on the headstock (left photo) alters the steering angle of the running gear in an easy and convenient way (right photo). This Ackermann steering system makes for optimum castering and agile turns.



Smooth crop flow

The leading rotor has 10 tine arms and the one running in the middle has 13 arms and both rotate at a higher rpm than the rear rotor. The slower-rpm rear rotor has 13 tine arms with five double tines each. This configuration leads to a smooth crop flow through the machine and an optimum presentation of the swath.



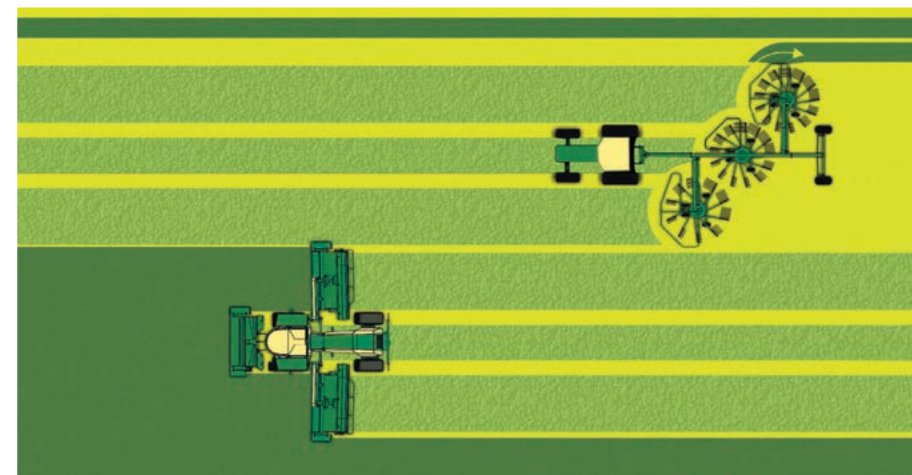
The transport position

The three rotors change quickly into transport position. The central rotor measures less than 3.00 m in diameter and so its tine arms are not folded to achieve a good transport height.



BiG M and Swadro TS 970 - the perfect match

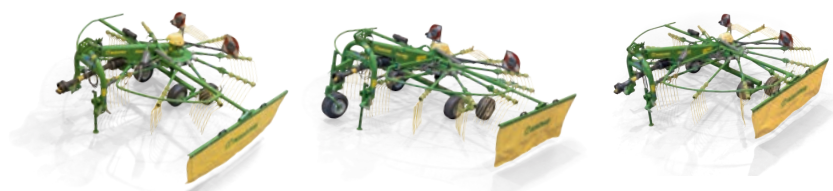
In this type of harvest chain, no crop is run on, because the tractor that is pulling the Swadro TS 970 runs in the wheelings of the KRONE BiG M high-capacity mower conditioner.



Technical data

KRONE Swadro rotary rakes

- The new generation of single-rotor rakes – Swadro S 380, S 420 and S 460
- The established Swadro 35-46 series for three-point attachment



Single-rotor rakes for the three-point linkage

		NEW Swadro S 380	NEW Swadro S 420	NEW Swadro S 460
Dimensions	Work width	3.80 m (12'6")	4.20 m (13'9")	4.60 m (15'1")
	Swath width	approx. 0.60 - 1.30 m (1'12" - 4'3")	approx. 0.80 - 1.50 m (2'8" - 4'11")	approx. 0.80 - 1.80 m (2'8" - 5'11")
	Transport width (tines folded down)	1.89 m (2.99 m) (6'2" (9'10"))	2.29 m (3.30 m) (7'6" (10'10"))	2.55 m (3.60 m) (8'4" (11'10"))
	Storage length	3.33 m (10'11")	3.68 m (12'1")	3.98 m (13'1")
	Storage height	2.20 m (7'3")	2.45 m (8'1")	2.60 m (8'6")
Output	Area output	approx. 4 - 4.5 ha/h (9,9 - 11,1 acres/h)	approx. 5 - 5.5 ha/h (12,4 - 13,6 acres/h)	approx. 5.5 - 6 ha/h (13,6 - 14,8 acres/h)
Rotors	Rotor diameter	2.96 m (9'9")	3.30 m (10'10")	3.60 m (11'10")
	No. of tine arms	10	13	13
	No. of rigid arms	5	7	7
	No. of foldable arms	5	6	6
	No. of double Lift Tines per tine arm	4	4	4
	Tine thickness	10 mm	10 mm	10 mm
	Tyres on rotor wheels	16x6.50-8	16x6.50-8	16x6.50-8
Tractor power		min. 22/31 kW/hp	min. 37/50 kW/hp	min. 37/50 kW/hp
Weight		approx. 530 kg (1168 lbs)	approx. 655 kg (1444 lbs)	approx. 680 kg (1499 lbs)
Three-point mounted		Standard	Standard	Standard

All specifications, weights and dimensions do not necessarily comply with standard specifications and are therefore not binding. All product specifications are subject to change.





Single-rotor rakes for the three-point linkage

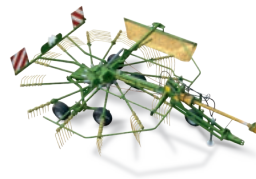
		Swadro 35	Swadro 38	Swadro 42	Swadro 46
Dimensions	Work width	3.50 m (11'6")	3.80 m (12'6")	4.20 m (13'9")	4.60 m (15'1")
	Swath width	approx. 0.60 - 1.20 m (1'13" - 3'11")	approx. 0.60 - 1.30 m (1'13" - 4'3")	approx. 0.80 - 1.50 m (2'80" - 4'11")	approx. 0.80 - 1.80 m (2'80" - 5'11")
	Transport width (tines folded down)	1.90 m (6'3")	1.90 m (6'3")	2.26 m (7'5")	2.55 m (8'4")
	Storage length	3.04 m (9'12")	3.39 m (11'2")	3.69 m (12'1")	3.99 m (13'1")
	Storage height	2.21 m (7'3")	2.21 m (7'3")	2.49 m (8'2")	2.64 m (8'8")
Output	Area output	approx. 3 ha/h (7,4 acres/h)	approx. 3.5 - 4 ha/h (8,6 - 9,9 acres/h)	approx. 4 - 4.5 ha/h (9,9 - 11,1 acres/h)	approx. 4.5 - 5 ha/h (11,1 - 12,4 acres/h)
Rotors	Rotor diameter	2.70 m (8'10")	2.96 m (9'9")	3.30 m (10'10")	3.60 m (11'10")
	No. of tine arms	10	10	13	13
	No. of rigid tine arms	5	7	7	7
	No. of foldable arms	5	6	6	6
	No. of double Lift Tines per tine arm	4	4	4	4
	Tine thickness	10 mm	10 mm	10 mm	10 mm
	Tyres on rotor wheels	16x6.50-8	16x6.50-8	16x6.50-8	16x6.50-8
Tractor power		min. 22/31 kW/hp	min. 22/31 kW/hp	min. 37/50 kW/hp	min. 37/50 kW/hp
Weight		approx. 532 kg	approx. 565 kg	approx. 640 kg	approx. 665 kg
Three-point mounted		Standard	Standard	Standard	Standard

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Technical data

KRONE Swadro rotary rakes

- Trailed single-rotor rake Swadro T without separate transport running gear
- Trailed single-rotor rake Swadro 710/26T without separate transport running gear
- Trailed three-rotor rake Swadro TS 970



Trailed single-rotor rakes		Swadro 38 T	Swadro 42 T	Swadro 46 T
Dimensions	Work width	3.80 m (12'6")	4.20 m (13'9")	4.60 m (15'1")
	Swath width	approx. 0.60 - 1.30 m (1'12" - 4'3")	approx. 0.80 - 1.50 m (2'8" - 4'11")	approx. 0.80 - 1.80 m (2'8" - 5'11")
	Transport width (tines folded down)	2.99 m (9'10")	3.40 m* (11'2")	2.55 m (8'4")
	Storage length	4.80 m (15'9")	4.95 m (16'3")	5.10 m (16'9")
	Storage height	1.25 m (4'1")	1.25 m (4'1")	2.20 m (7'3")
Output	Area output	approx. 3.5 - 4 ha/h (8,6 - 9,9 acres/h)	approx. 4 - 4.5 ha/h (9,9 - 11,1 acres/h)	approx. 4 - 4.5 ha/h (9,9 - 11,1 acres/h)
Rotors	Rotor diameter	2.96 m (9'9")	3.30 m (10'10")	3.60 m (11'10")
	No. of tine arms	10	13	13
	No. of rigid tine arms	5	7	7
	No. of foldable arms	5	6	6
	No. of double Lift Tines per tine arm	4	4	4
	Tine thickness	10 mm	10 mm	10 mm
	Tyres on rotor wheels	18x8.5-8	18x8.5-8	18x8.5-8
Tractor power		min. 19/25 kW/hp	min. 22/31 kW/hp	min. 22/31 kW/hp
Weight		approx. 730 kg (1609 lbs)	approx. 780 kg (1720 lbs)	approx. 820 kg (1808 lbs)
Tractor attachment		Drawbar	Drawbar	Drawbar

Swadro 38 T and 42 T not available in Germany
* 2.26m (7'5") option

Any specifications, weights and dimensions do not necessarily comply with standard specifications and are therefore not binding. All product specifications are subject to change.





Side delivery rakes of a special kind

		Swadro 710/26 T	Swadro TS 970
Dimensions	Working width (single swathing)	6.20 m (20'4")	9.70 m (31'10")
	Work width (double swathing)	2 x 3.40 m (6'7" x 11'2")	-
	Swath width (variable to suit crops and crop deflector setting)	approx. 0.80 - 1.40 m (2'8" - 4'7")	approx. 1.00 - 1.80 m (3'3" - 5'11")
	Transport width (with standard tyres)	2.99 m (9'10")	2.99 m (9'10")
	Transport height (rigid tine arms or foldable arms extended)	1.35 m (4'5")	4.40 m (14'5")
	Transport height (arms folded in)	-	3.90 m (12'10")
	Storage length	8.40 m (27'7")	9.80 m (32'2")
	Storage height	1.25 m (4'1")	-
Output	Area output	approx. 5.5 - 6 ha/h (13,6 - 14,8 acres/h)	approx. 9 - 10 ha/h (22,2 - 24,7 acres/h)
Rotors	Number	2	3
	Rotor diameter	2.96 m (9'9")	1 x 2.96 m / 2 x 3.60 m (3'3" x 9'9" / 6'7" x 11'10")
	No. of tine arms	2 x 13	1 x 10 / 2 x 13
	Rigid arms	Standard	-
	Foldable arms	-	Standard
	No. of double Lift Tines per tine arm	4	4 (5 at the rear)
	Tine thickness	10.5 mm	10.5 mm
	Mechanical height control	Standard	-
	Electric height control c/w scale	-	Standard
	Tyres on rotor wheels	18x8.5-8	16x6.50-8
Tractor power		approx. 37/50 kW/hp	approx. 59/80 kW/hp
Weight	in standard specification	approx. 1,600 kg (3527 lbs)	approx. 3,300 kg (7275 lbs)
Tractor attachment		Drawbar	Tractor link arms

Any specifications, weights and dimensions do not necessarily comply with standard specifications and are therefore not binding. All product specifications are subject to change.

Technical data

KRONE twin-rotor side delivery rakes

- Trailed twin-rotor rakes with separate transport running gear



Side delivery rakes		Swadro TS 620	Swadro TS 620 Twin	Swadro TS 680
Dimensions	Working width (single swathing)	6.20 m (20'4")	6.20 m (20'4")	6.80 m (22'4")
	Work width (double swathing)	-	2 x 3.46 m (6.92 m) (6'7" x 11'4" (22'8"))	-
	Swath width (variable to suit crops and crop deflector setting)	approx. 1.10 - 1.60 m (3'7" - 5'3")	approx. 1.10 - 1.60 m (3'7" - 5'3")	approx. 1.10 - 1.60 m (3'7" - 5'3")
	Transport width (with standard tyres)	approx. 2.76 m (9'1")	approx. 2.76 m (9'1")	approx. 2.76 m (9'1")
	Transport width (with optional tyres)	approx. 2.90 m (9'6")	approx. 2.90 m (9'6")	approx. 2.90 m (9'6")
	Transport height (rigid tine arms or foldable arms extended)	3.90 m (12'10")	3.90 m (12'10")	3.99 m (13'1")
	Transport height (arms folded in)	3.46 m (11'4")	3.46 m (11'4")	3.57 m (11'9")
Output	Storage length	8.00 m (26'3")	8.00 m (26'3")	8.30 m (27'3")
	Area output	approx. 6 ha/h (14,8 acres/h)	approx. 6 - 7 ha/h (14,8 - 17,3 acres/h)	approx. 6.5 - 7 ha/h (16,1 - 17,3 acres/h)
Rotors	Number	2	2	2
	Rotor diameter	2.96 m (9'9")	2.96 m (9'9")	3.30 m (10'10")
	No. of tine arms per rotor	10 / 13	10 / 13	2 x 13
	Rigid arms	Standard	Standard	Standard
	Foldable arms	Option	Option	Option
	No. of double Lift Tines per tine arm	4	4	4
	Tine thickness	10.5 mm	10.5 mm	10.5 mm
	Mechanical height control	Standard	Standard	Standard
	Electric height control c/w scale	Option	Option	Option
	Tyres on rotor wheels	16x6.50-8	16x6.50-8	16x6.50-8
Tractor power		min. 37/50 kW/hp	min. 37/50 kW/hp	min. 37/50 kW/hp
Transport chassis	Standard tyres	11.5/80 - 15.3 10 PR	11.5/80 - 15.3 10 PR	11.5/80 - 15.3 10 PR
	Optional tyres	15.0/55 - 17 10 PR	15.0/55 - 17 10 PR	15.0/55 - 17 10 PR
Weight	in standard specification	approx. 2,050 kg (4519 lbs)	approx. 2,150 kg (4740 lbs)	approx. 2,200 kg (4850 lbs)
Link arm attachment		Standard	Standard	Standard



Swadro TS 680 Twin	Swadro TS 740	Swadro TS 740 Twin
6.80 m (22'4")	7.40 m (24'3")	7.40 m (24'3")
2 x 3.80 m (7.60 m) (6'7" x 12'6" (24'11"))	-	2 x 4.10 m (8.20 m) (6'7" x 13'5" (26'11"))
approx. 1.10 - 1.60 m (3'7" - 5'3")	approx. 1.20 - 1.60 m (3'11" - 5'3")	approx. 1.20 - 1.60 m (3'11" - 5'3")
approx. 2.76 m (9'1")	approx. 2.76 m (9'1")	approx. 2.76 m (9'1")
approx. 2.90 m (9'6")	approx. 2.90 m (9'6")	approx. 2.90 m (9'6")
3.99 m (13'1")	3.99 m (13'1")	3.99 m (13'1")
3.57 m (11'9")	3.57 m (11'9")	3.57 m (11'9")
8.30 m (27'3")	8.65 m (28'5")	8.65 m (28'5")
approx. 6.5 - 8 ha/h (16,1 - 19,8 acres/h)	approx. 7.5 ha/h (18,5 acres/h)	approx. 7.5 - 8.5 ha/h (18,5 - 21 acres/h)
2	2	2
3.30 m (10'10")	3.60 m (11'10")	3.60 m (11'10")
2 x 13	2 x 13	2 x 13
Standard	Standard	Standard
Option	Option	Option
10.5 mm	10.5 mm	10.5 mm
Standard	Standard	Standard
Option	Option	Option
16x6.50-8	16x6.50-8	16x6.50-8
min. 37/50 kW/hp	min. 37/50 kW/hp	min. 37/50 kW/hp
11.5/80 - 15.3 10 PR	11.5/80 - 15.3 10 PR	11.5/80 - 15.3 10 PR
15.0/55 - 17 10 PR	15.0/55 - 17 10 PR	15.0/55 - 17 10 PR
approx. 2,250 kg (4960 lbs)	approx. 2,400 kg (5291 lbs)	approx. 2,400 kg (5291 lbs)
Standard	Standard	Standard

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