



THE POWER OF GREEN

**ZX**

Self-loading and  
forager-filled forage wagons





# ZX

KRONE self-loading and forager-filled wagons

- The world's most powerful self-loading and harvester-filled forage wagon – thanks to the **KRONE Powerbelt** driveline with a transmission capacity of up to 400hp
- Camless pick-up with hydraulic drive and electro-hydraulic suspension
- Pivoting headboard increases capacity from a compact build



- Pull-out blade cassette with 48 individually protected blades
- Three standard discharge rollers on ZX GD models. Overload protection comes from a clutch in the main driveline.
- Optional **SpeedSharp** blade grinder
- Axles with hydraulic auto-levelling system
- **PowerLoad** auto filling system with auto chain-and-slat floor control



## ZX – the versatile and dual-purpose forage wagon

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# ZX – The high-capacity range

- Versatile
- Efficient
- Economical
- Convenient

The key to viable farming is boosting efficiencies, cutting costs and utilizing equipment to full potential all year round. This is the scenario in which KRONE developed the ZX dual-purpose wagon. Dual-purpose means These machines serve as both self-loading forage wagons with discharge rollers and forager-filled forage wagons in maize and grass.



### Nothing is lost

Filling the ZX models from the forager is straightforward and easy, especially as there are neither hoops nor ropes nor sliding covers where material could collect. The chute can direct the stream of material into every corner and hence achieve consistent and complete fills.

Model	Discharge rollers	The structure	Capacity (DIN 11741)	No. of blades
ZX 430 GL	–	Solid steel extensions	43 m <sup>3</sup>	48
ZX 430 GD	3 (2)	Solid steel extensions	43 m <sup>3</sup>	48
ZX 470 GL	–	Solid steel extensions	47 m <sup>3</sup>	48
ZX 470 GD	3 (2)	Solid steel extensions	47 m <sup>3</sup>	48
ZX 560 GL	–	Solid steel extensions	56 m <sup>3</sup>	48
ZX 560 GD	3 (2)	Solid steel extensions	56 m <sup>3</sup>	48

\* May vary depending on individual specification



#### **Picking up fast and cleanly**

The hydraulic pick-up, the massive rotor cutter and the innovative driveline combine to make the ZX a high performer – just the kind of machine contractors ask for.



#### **The models without discharge rollers**

The dual-purpose forage wagons without discharge rollers are super-efficient machines that offer fastest unloading rates thanks to the pivoting tailgate, the pivoting headboard and two powerful floor chains, leaving more time for compacting the silage for better quality.



#### **Unloading without discharge rollers**

Solid steel bodies and up to three discharge rollers make the ZX 430 GD, ZX 470 GD and 560 GD models very versatile machines which unload the material in uniform mats to reduce the workload on the clamp and establish the best conditions for high-quality silage.



# The KRONE EasyFlow pick-up

- Separate hydraulic drive
- Maintenance-free and hard wearing
- Automatic and manual speed control to adapt to the current ground speed
- Consistent collection of the material by tines in a staggered W arrangement
- Large pivoting range
- Electrohydraulic suspension for even better sward protection.

The camless and hydraulic EasyFlow pick-up with tines arranged in a helix meets the most exacting demands. Absolutely maintenance-free and a benchmarker in performance, this pick-up offers an even larger work width now that its hydraulic drive has been integrated in the rotor. As a result, an increased pick-up width helps collect even more material at an optimum ground speed, maximizing the overall intake capacity.

## Camless is better

This camless pick-up stands out for the scrapers and their special design, that ensure a continuous and smooth crop flow as the tines retract



## EasyFlow – more efficient and more effective

Working at a width of 2.12 mm (DIN 11220), the wide and camless pick-up with helical tines is powered by its own separate hydro motor for dependable performance also in challenging conditions. Even awkwardly shaped swaths are

gathered with precision and in a uniform flow. The height is adjusted easily to suit the current crop, the swath volume and ground speed.



#### **A unique pivoting system**

Arranged in a W, the tines warrant a consistent crop flow and an equally consistent and full-width supply of the material to the rotor cutter, boosting throughputs and machine fills.



#### **Hydraulic drive**

The integral hydro motor offers a number of advantages:

- It frees space on the pick-up ends for a wider work width
- Maintenance-free
- The absence of sprockets on the sides translates into a larger pivoting range
- Manual or automatic ISOBUS speed adjustment to the current ground speed and prevailing conditions



# The KRONE EasyFlow pick-up



## Extra strong

The 6.5 mm tines with large-diameter coils withstand the most arduous conditions.



## Crop press roller

This standard-fit roller maximizes the machine's pick-up capacity and warrants a continuous flow of the crop into the machine. The roller can be set to various heights to match the swath size and ground speed perfectly.



## Excellent tracking

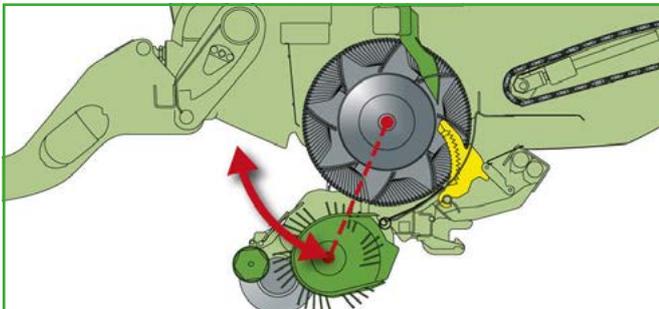
The pneumatic guide wheels on either side of the pick-up offer height control for full adaptation to any ground contours. Tracking excellently behind the tractor during headland turns, these wheels avoid scuffing and offer best protection of the sward.



## Large pivoting range

The laterally pivoting pick-up follows ground contours both axially and transversely and benefits from more generous travel now – courtesy of the integral hydro motor that replaces an external sprocket. The result is a clean rake and nothing is left behind.





### Lifting out higher

In undulating terrain, the pick-up oscillates through a constant range around the core of the cut-and-feed rotor, maintaining an optimum flow of material into the machine no matter how difficult the conditions. Aligned with the core of the rotor, the pick-up can be lifted out high on the headland.



### Auto articulated drawbar

The articulated drawbar with double-acting ram is standard specification and provides a generous ground clearance of up to 75 cm – enough to roll on clamps no problem. The new automatic articulated drawbar offers a better ground clearance for headland turns. One headland and one road position can be programmed to the control unit.



### Guide wheels at the rear

Optional guide wheels at the back of the pick-up ensure reliable performance in soft and wet ground. Height-adjustable, these wheels do not run in the tractor wheelmarks, preventing the pick-up from scratching the ground.



### Gentle on the soil NEW

A nitrogen damper provides electro-hydraulic suspension for the pick-up for even better soil protection. The system allows operators to set the suspension pressure from the cab and on the move.



## The KRONE cut-and-feed rotor

- Unique KRONE Powerbelt – for efficient transmission of up to 400 hp
- Large feeding width (191 cm) for maximum machine fills
- Large 88 cm diameter rotor translates into a huge appetite
- Excellent quality of cut thanks to wide feed tines with extra hard Hardox plates

The cut-and-feed rotor is powered by a 6-groove poly V-belt and planetary gears – a driveline concept that caters for the enormous horsepower of today's high-end tractors. Integrating the gearbox inside the rotor frees space to extend the rotor so work rates and throughputs can increase – a unique design that offers superb responsiveness in peak loads.



### A KRONE exclusive – the Powerbelt

The unique KRONE Powerbelt drive concept in conjunction with a planetary gearbox inside the cut-and-feed rotor reduces the input speed for the rotor. The compact design of the assembly allows us to maximize the length of the rotor and hence the width of the crop flow.

The KRONE Powerbelt offers an exceptionally long service life and extremely quiet running. Transmitting up to 400hp is no challenge for the extra wide belt. A cam clutch inside the tractor driveshaft protects the entire driveline from overloads of up to 2,800 Nm. But the highlight of this system is that the KRONE Powerbelt simply absorbs the peak loads caused by lumpy swaths. Maximum throughput in literally all conditions – this landmark feature makes the KRONE ZX the world's most powerful forage wagon.





### Higher outputs, better cuts

Powered by a poly V-belt, the 88 cm diameter and 191 cm wide feed rotor is extremely powerful. It features eight rows of tines in a helical arrangement. The tines have wider steel plates that treat the crop more gently for enhanced cutting quality. The feed plates are made from extra hard Hardox steel for enhanced wear resistance and extended service life at reduced costs.



### Clever design

The two-speed integral planetary gearbox reduces the speed to optimize the circumferential speed of the cut-and-feed rotor. This in turn makes for a wider stream of crop that is fed into the machine.



# The KRONE cutting system

- Top-quality and scissor-like cuts
- Nominal chopping length: 37 mm chops by up to 48 blades
- Automatic activation of 0, 24, 24, 48 blades
- Blade replacement without tools, central locking

Cutting like a scissor – the secret of this system lies in the extremely narrow gap between the wide tine plates and the blades. 48 blades are available to give perfect cuts. The central blade selection system quickly selects the desired number of blades and hence the length of cut.

## The material is pulled over the blades

Cutting with their full edges, these blades lead to smoother and quieter running. The wavy blades maintain their sharpness over extended periods of time.



## Peace of mind and perfect results

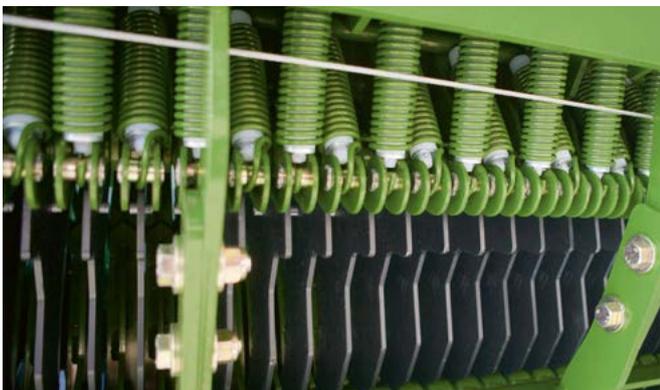
The extremely small gap between the blades and the wide plates on the rotor tines ensures the material cannot escape the blades, which is important to avoid it is squeezed and produce perfect cuts.





**Controlled from the cab**

The blade cassette lowers hydraulically to remove a blockage. After the blockage is removed, the blade cassette swings back into position and work is resumed.



**Individual blade protection**

Equipped with individual spring protection, each blade retracts and swings back automatically once the object has passed. The tripping force is set variably from the cab and can be adjusted to special conditions.



**Central blade group control system**

The central blade selection system makes it easy for the operator to set the desired chop length. ZX operators select the blades in sets of 24 or 48 which provide nominal chop lengths of 74 mm or 37 mm. '0' blades means the material is not cut.



# Quick-change blades

- Pull-out blade cassette
- Blade replacement without tools, central locking
- Controlled from one single lever on the left machine side

You change the blades without tools and without leaning over the blade cassette which is now alongside the machine. Lower the blade cassette, swing it out to the side and remove the blades without tools – a time and cost saving system.



## How you do it

Lower the entire blade cassette hydraulically, retract all blades to position 0 and unlock them. Then operate a lever on the left machine side to unlock the bar and swing it out (pic. 1).

You can now remove all blades easily and conveniently (pic. 2).

The blade cassette swings back in place and locks home automatically on its right end (pic. 3).



**From the cab**

Operated hydraulically, the blade cassette lowers deep for an effective removal of blockages and swings out to the side for convenient blade replacement.



**Convenient for operators**

These controls allow operators to conveniently raise and lower the blade cassette from the ground – for easy maintenance and blade changes.



# KRONE SpeedSharp

- Sharpens the blades conveniently and fast within minutes
- Sharpens 24 blades in one operation
- A 'cold' grind prevents annealing
- Simple design, absolutely dependable
- No sparks flying under the wagon

Sharp blades are fundamental for clean and smooth cuts. Therefore KRONE developed SpeedSharp, the unique blade sharpening system for fastest, safest and most convenient grinds. The trademark of this system is its simplicity.



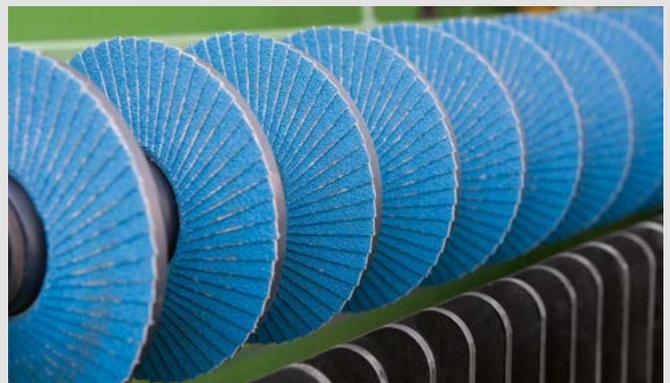
### Convenient for operators

They can set the blade grinding interval on the terminal to adapt the intensity to the actual level of wear.



### A KRONE exclusive!

This optional and fully automatic sharpener consists of a hydraulic shaft with grinding discs that slide to the side. Sharpening of all 48 blades is triggered and carried out automatically – simply by a press of a button.



### Flap discs

The 24 flap discs have generously overlapping flaps. Warranting superior performance and longevity, they give a 'cold' grind that prevents the blades from annealing.



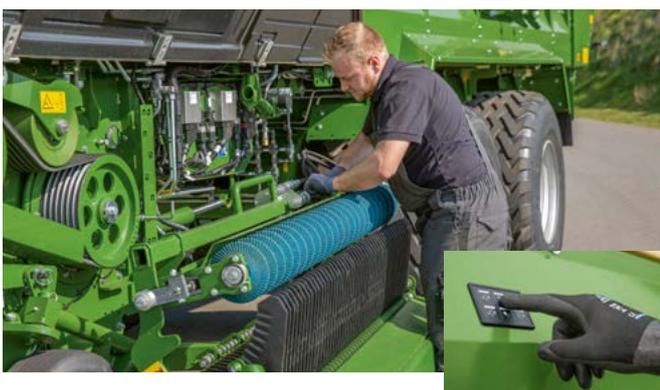
#### **Consistent sharpness**

Each disc is pressed on to the blade by a bevel spring, a design that leads to a high-quality and consistent cut of all blades whilst minimising the material that is removed from each blade. The system warrants consistently sharp blades even when these show different degrees of wear.



#### **Sharp blades in only 4 minutes**

A complete grinding cycle on all 48 blades including moving the blade cassette out and back in takes only four minutes depending on the number of cycles entered to the terminal. With the blade cassette out and alongside the machine, the operator can watch the grinding process and conveniently check on the result.



#### **Automatic and safe**

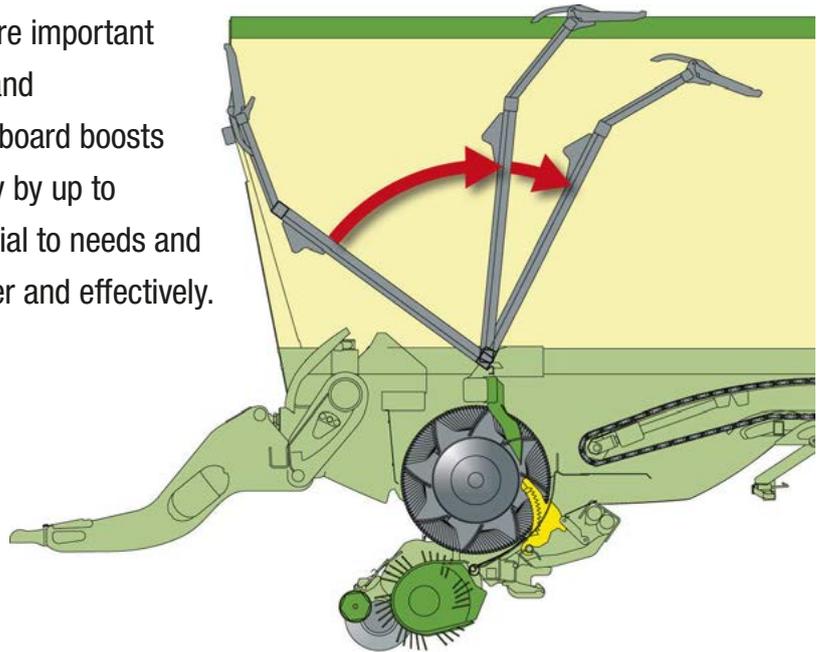
Simply swing out the blade cassette, fold up the grinding shaft, couple two oil hoses and connect an electric lead. Then press an external control to start grinding hydraulically and watch how the shaft moves automatically up and down and to the sides, completing the job without any interference from the operator. The grinding is carried out with the blade cassette out and alongside the machine so you can easily watch the process.



# The pivoting headboard

- Adds up to 4.5 m<sup>3</sup> to the loading volume
- Ensures fast and thorough unloading
- Supports the chain-and-slat floor
- Provides variable degrees of compression in loading application

Loading and unloading rates are important parameters in viable farming and contracting. The pivoting headboard boosts the machine's loading capacity by up to 4.5 m<sup>3</sup>, compresses the material to needs and helps empty the machine faster and effectively.



## In loading position

The movable headboard is in mid position when the forage wagon is loading. This position is stored to the control system. It is easy to adapt the board to suit varying harvest conditions.



## Plus 4.5 m<sup>3</sup>

When the sensor detects the machine is filled to capacity, the headboard moves automatically towards the tractor expanding the capacity by 4.5 m<sup>3</sup> without extending the machine length. So ZX is not compromised in its compact build and agility.



## As forage transport wagon

When the machine is used to haul chopped forage, the headboard moves fore into its end position, increasing the loading volume and intake area.



### Powerful

The robust headboard is operated by hydraulic rams on either side. Its movement is controlled either manually or automatically. The 'slotted' design provides an excellent view of the load area.



### Boosting unloading rates

The headboard pivots to the rear so the wall of forage topples over, ensuring the machine is emptied fast and effectively. All unloading sequences run fully automatically.



### Perfect for first passes

The headboard tilts toward the tractor and the articulated drawbar lowers – an ideal scenario for the forager to fill the wagon following behind, eliminating any risk of crop loss and providing optimum fills.



# The **load area**

## The structure and the chain-and-slat floor

- Conical frame and sides for easier unloading
- Double chain-and-slat floor with two separate motors
- Ultra-durable and flat-link chains
- Auto fast mode is standard specification

It takes high-end engineering that withstands the permanent exposure to huge masses of material and fast unloading processes. Two chain-and-slat floors, i.e. four flat link chains and two motors and a conical design that tapers to the rear will always deliver.



### **Smooth emptying**

The conical design offers the advantage of providing a wider outlet area for a smoother material flow. Also, all obstacles in the material flow have been eliminated ensuring nothing is left behind.



### **Strong**

The 240 cm high stanchions are made from hat channel steel and offer ultimate durability and strength. The sides are hot-galvanized, powder-coated and plastic-laminated. Quality through and through.



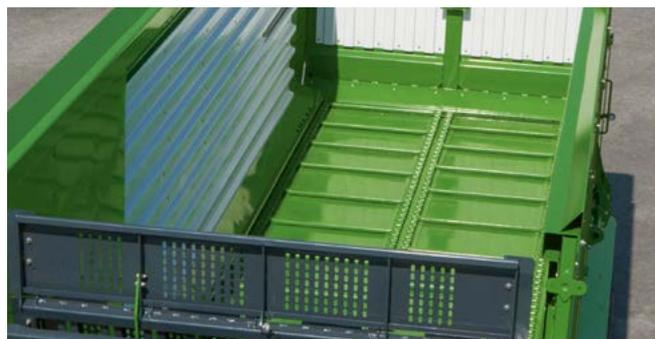
### **No losses**

You can cover the cut-and-feed rotor with a plate to protect it from ingress of chopped maize when serving the forage harvester.



### Double chain-and-slat floor

The use of two chain-and-slat floors doubles the machine's unloading efficiency. Each of the four flat-link chains is tensioned individually and mechanically. The box section chain slats offer good grip and a positive feed.



### Powered from either side

Each chain-and-slat benefits from its separate drive assembly. The gearboxes and hydromotors are journalled inside the frame without any strain. The operator can double the floor's advance speed via a spool. Everything else is carried out automatically by the fast mode feature.



### Flat link chains

The four flat link chains feature massive joints and are extremely hard-wearing and high-tensile. The wide chain links and sprocket teeth translate into less wear and a powerful advance.



# The **load area**

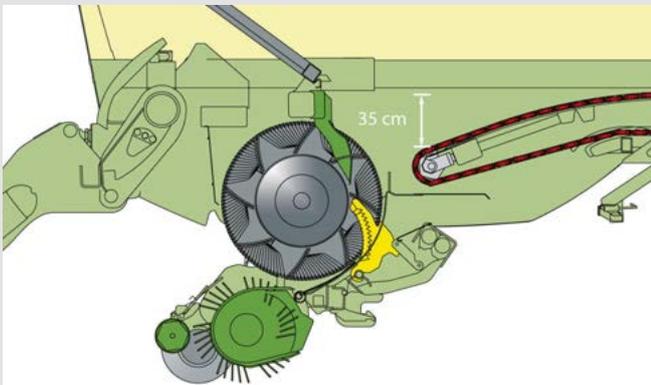
## The automatic loading system

- The forward sloping chain-and-slat floor increases the capacity and reduces the pto input.
- Robust steel floor – great longevity
- The standard **PowerLoad** feature boosts capacity by pre-compressing the material
- Controls the speed at which the chain-and-slat floor advances automatically.

A load sensor and a volume sensor on the headboard trigger the signal for the chain-and-slat floor to start moving when the filling level and density of the crop is right, ensuring the machine is utilized to potential and reducing operator stress.

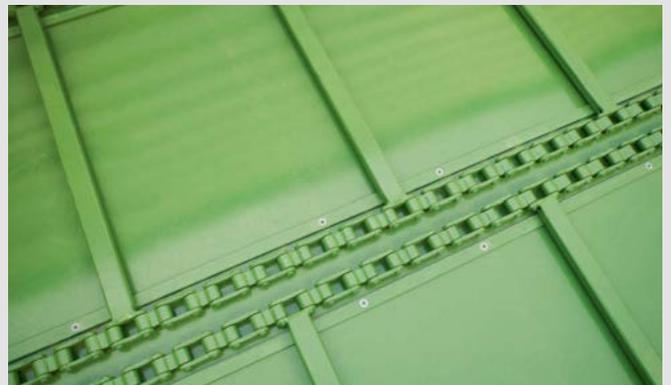
### Smooth operation

The floor slopes 35 cm towards the cut-and-feed rotor – for increased capacity and a smoother material flow into the machine.



### Longer service life

It takes hard wearing materials to manufacture a machine that delivers excellent results. Therefore we equipped our ZX wagons with a steel floor.



### The powerful chain-and-slat floor

The chain-and-slat floor slopes at the front, which increases the capacity and reduces the length of the feeding passage for a faster and gentler crop feed and a significantly reduced power input. This ensures maximum efficiency and fuel economy.



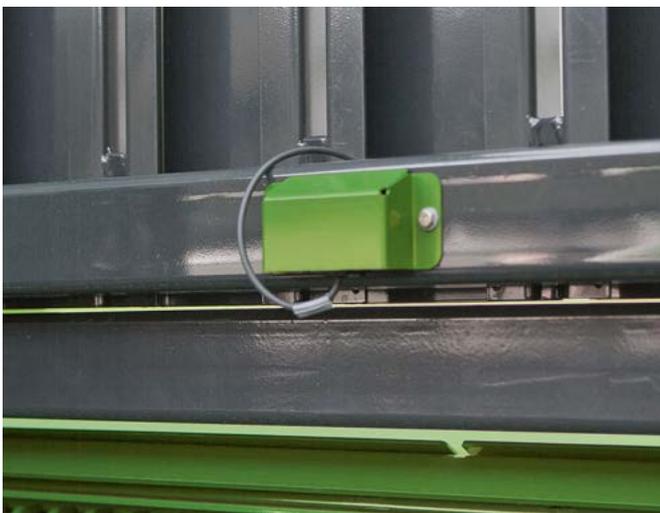


**Powerful auto-loading**

A strain gauge measures the load down on the headboard. When the gauge detects the load and the crop density inside the wagon has reached the default limit, the chain-and-slat floor starts moving automatically, adapting its advance speed to the strain measured by the sensor. A truly impressive system that leads to uniform fills, full utilization, and reduced fuel consumption.

**Making the most of machine capacity**

The volume sensor on the sensor flap at the top of the headboard senses the filling level. When the hatch at the top of headboard is opened longer than for a preset time, the system triggers the chain-and-slat floor which starts moving. PowerLoad combines the two systems. The benefit is reduced operator fatigue and full use of the machine's capacity.





# ZX 430 GL • 470 GL • 560 GL

The models without discharge rollers

- Versatile use – as self-loading and forager-filled forage wagons
- Sturdy steel sides and hydraulic tailboard
- Massive, up to 56 m<sup>3</sup> capacities (DIN 11741)
- Hydraulic headboard

Offering capacities of 43 m<sup>3</sup> to 56 m<sup>3</sup> (DIN 11741) in versatile applications and featuring solid steel sides and no discharge rollers, the ZX dual-purpose 430 GL, 470 GL, and 560 GL models are our ‘contractor’ machines.



### Dependable in the heat of harvest

The GL models are the heavy-duty models in the ZX range. Rated to a 34 t gross weight, these massive machines boast huge capacities, highest work rates, a superior quality of cut and absolutely dependable operation – qualities that are crucial in silage harvesting.



### The ideal forager companion

Lacking top hoops and ropes, they make perfect trailers to run in the maize harvest chain.



#### **It's safe, too**

After the pick-up has filled the body to capacity a sensor switch on the tailboard stops the floor and tilts the head-board towards the tractor.



#### **Automatic locking and unlocking**

The tailgate is opened and closed by hydraulic rams on either side. The board is locked and unlocked automatically – very convenient.



#### **Pump it out**

The conical structure, the vertical sides, the powerful floor chains and a tailgate that opens wide and clear allow the ZX GL to unload huge masses speedily and reliably.



# ZX 430 GD • 470 GD • 560 GD

## Unloading without discharge rollers

- 3 large-diameter discharge rollers (47 cm) are standard specification
- Discharge rollers protected through main drive shaft
- Stopping the bottom roller auto-stops the floor
- Both bottom rollers spin at higher speeds for consistent unloading

The first step in producing quality silage is to spread the material in a perfect mat on the clamp. The ZX GD models with steel sides and up to three large-diameter rollers at the rear unload the material layer by layer and across the full length of the clamp for easier rolling.



### The efficient driveline

Heavy-duty gearboxes transmit the power without losses to the 1" roller chains with automatic chain tensioners. The chains are powered by a shaft that runs down the chassis, driving a right-angle gearbox inside one of axial section beams.



### Automatic chain-and-slat floor limit stop

When the machine is filled to capacity and material is pressing the bottom rotor to the rear, a motion detector stops the chains and the discharge rotors to start off smoothly.



### Three rotors for three-fold power

Specify your forage wagon with three enclosed rollers and an adjustable tailboard and you can produce even more uniform mats. Studded with V-tines, the rotors spread the crop across the full machine width, with the rotors spinning at a higher rpm to cut down on unloading time.



**Convenient**

The side door with foldable ladder offers safe and convenient access to the load area.



**Unloading faster**

Powered directly by the main gearbox, the discharge rollers perform absolutely dependably. In addition, they are overload protected by a clutch inside the main drive shaft to eliminate any downtime.



# The **running gear**

## The tandem axle

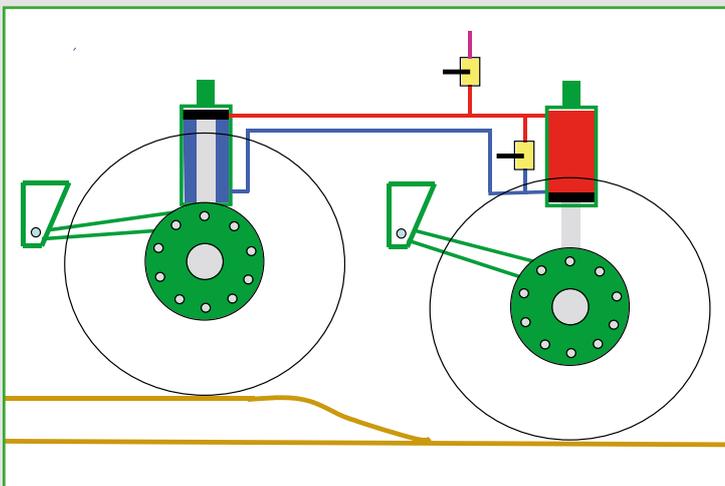
- Good road stability and safe ride at speeds of up to 60 km/h
- Maximum stability on slopes, reduced risk of rollover
- Uniform distribution of the machine weight on all wheels for reduced brake wear
- Optional 30.5" tyres for less soil compaction
- Steered axles protect the sward and reduce tyre wear
- Optional hydro-pneumatic suspension for enhanced operator comfort

The caster and force-steered tandem axle offers hydraulic levelling to cater for all requirements and needs. Each assembly offers maximum roll stability when managing bends at speed. More than that, they provide great stability on the slope. These axles offer maximum safety and operator comfort.



### **Very adaptable**

The axles provide for generous travel, distributing the load uniformly to the rear and front wheels at all times. The design provides for excellent climbing and unloading on high and steep clamps.



### **Maximum stability**

To compensate for undulating ground, the oil flows from the cylinder on the front wheel to the cylinder on the rear wheel on the same side of the machine and vice versa. Using two separate circuits inside one axle assembly eliminates the risk of rolling and maintains the body level at all times.



#### **Gentle on the sward**

The steered axles are standard specification. Tracking excellently in headland turns and curved lines, these wheels eliminate the risk of scuffing, protect the sward and take off stress from the running gear.



#### **Superior road stability**

A separate oil circuit on either machine side and equal oil pressures on either side of a ZX tandem or tridem axle assembly translate into greater road stability and reduce the risk of roll when working on slopes or managing tight turns.



#### **Big boots**

The ZX models with tandem axle can be equipped with 30.5" tyres. Boxy tread bars improve ride stability in wet conditions and larger contact area reduces ground pressure,



# The **running gear**

## Tridem axle

- Tridem axle is standard on ZX 560GL and ZX 560GD
- Up to 30 t axle load
- Superior operator comfort, great stationary and on-the-move stability
- Steered front and rear axle
- Lift axle is standard specification

The ZX 470 and ZX 560 models with tridem axles, bottom-mount ball hitches, a 34 t gross weight and 40 km/h or 60 km/h maximum speeds tick every box. The heavy-duty chassis features hydro-pneumatic suspension and hydraulic levelling for superior stability.



### **Built-in road stability**

The six wheels on the tridem assembly ensure soft treading and full ground contour following. The hydraulic auto-levelling system between the hydraulic rams on the front and rear wheels and the separate circuits make it easy for the machine to run behind the tractor. There is no risk of rolling, instead you enjoy superior stability. The machine may be approved to 60 km/h.

### **Up to large 30.5" wheels**

Tyres are offered with a range of different treads and carcasses to provide the perfect outfit for every situation. The ZX 560 models with tridem axle can be ordered with 30.5" wheels for an increased footprint and reduced rolling resistance, protecting the sward and saving fuel.



**800/45 R 26.5 TL 174 D**  
Width: 800 mm  
Diameter: 1,350 mm



**800/45 R 26.5 TL 174 D (Trac)**  
Width: 800 mm  
Diameter: 1380 mm



**710/50 R 30.5 TL 173 D (Trac)**  
Width: 730 mm  
Diameter: 1485 mm



**800/45 R 30.5 TL 176 D (Trac)**  
Width: 810 mm  
Diameter: 1510 mm

NEW



### Steered wheels

A steered front or rear axle ensures excellent tracking in every curve protecting the sward and minimizing drawbar power.



### Lifting axle

The front axle can be raised by pressing a button on the operator terminal. This lift axle is a standard feature that reduces tyre wear and fuel costs in empty hauls.



### Full flotation

Each axle benefits from individual suspension and hence offers huge travel. As a result, each wheel puts the same pressure to the ground no matter how undulating the terrain.



# The **running gear**

## Brakes and steering

- The optional electronic EBS brake system features
  - ALB auto load sensitive brake power control
  - ABS anti-lock brake system
  - RSS roll stability support
- Caster steer, hydraulic / electronic forced steering, easy attachment

Ever bigger and faster tractors, ever higher trailer capacities and payloads call for a thorough rethink on road and field safety. Therefore KRONE offers the EBS electronic braking system as an option. The system is sourced from commercial vehicles where it has proven well for many years. In addition, steered axles help protect the swath and provide added safety.



### **The brake**

The ZX dual-purpose forage wagons have dual line air brakes as standard specification. The hydraulic ALB valve controls the braking power relative to the current load. This brake is an option in specific countries.



### **Enhanced operational dependability**

EBS is the optional electronic brake system, which comprises ALB, ABS and RSS functions. The roll stability system intervenes by braking whenever there is a risk of rollover so that ZX will not roll over when managing narrow bends at speed. Combined, all these functions lead to an enhanced reliability.



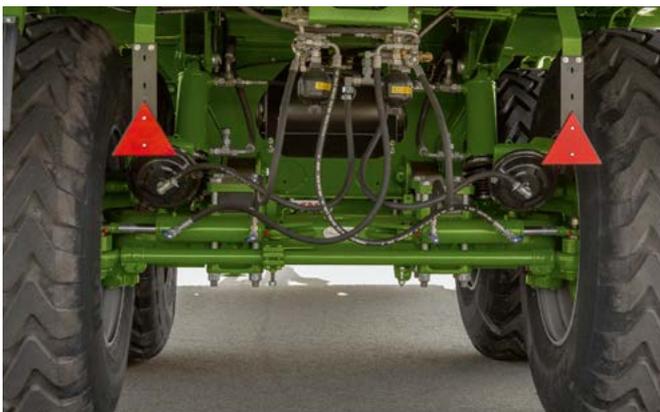
### **Best straight travel**

The cam discs on the stub axles are locked relative to the load that is currently placed on the axle. This results in maximum road stability and safe turning. The deflection forces are lowest when the machine is empty.



#### Caster-steer axle

The passive caster steer tandem axle is base specification for all ZX 430 and ZX 470 models. This axle assembly offers reduced tyre wear, reduced scuffing and light pulling in curves.



#### Locking cylinder

The caster steer system can be locked for shunting and clamping by operating a locking cylinder from the terminal. On an ISOBUS-compatible tractor this auto lock system ensures quiet casting at speeds of more than 30 km/h and when reversing.



#### Managing tightest turns

Doing without a control linkage, the passive caster steer system provides for plenty of clearance around the drawbar and therefore tightest turns. All clear for the rotors.



# The **running gear**

## Forced steering

- Option on tandem axles, standard feature on tridem axles
- Hydraulic or electro-hydraulic control as an option
- Light and smooth ride, low tyre wear, perfect manoeuvring
- Electronic steering allows operators to interfere by countersteering

Forced-steer wheels protect the sward and the tyres as the machine is making the turn, reducing the load on the tandem or tridem axle and resulting in easier pulling.

The electronic system allows the operator to interfere with the shunting or countersteer manually on the slope or on the clamp.



### **Cardanic rotor suspension**

The tandem and tridem axles are steered by a rod that connects to the standard hitch ball and operates the master cylinder.



### **Electronic forced steering**

An electronically controlled forced-steer system controls the axle via the tractor's hitch ball, a steering rod and a sensor that senses the wagon's current steering angle relative to the tractor and sends the information to the axle steering system via the steering computer. This steering version uses a very compact linkage system which provides better agility than the hydraulic system.



### **Safe road travel**

The electronic forced steering system offers superior ride stability, quiet running and safety at speed, Starting to decrease the intensity of steering when the machine's forward speed reaches 30 km/h and reducing it to zero when the combination reaches 50 km/h.



#### **Beware of the edge**

You know it too well – the machine is at risk of slipping off the clamp whilst rolling too closely along the edge. In this situation, the electro-hydraulic forced steering system allows the rear wheels on a tandem assembly (or the front and rear wheels on the tridem axle) to steer away from the edge.



#### **Steering uphill**

The electro-hydraulic forced steering system allows operators to countersteer in situations where the wagon is at risk of drifting downhill when travelling at right angles to the slope. The system steers the leading and rear axles on a tridem assembly.



# Tractor attachment

- Bottom-mount drawbar with higher tongue loads
- Drawbar suspension for quiet running
- Hitch ball for high operator comfort

Increased gross weights have made bottom-hitching the most popular type tractor attachment, because it transfers more load to the tractor's front axle and gives the four-wheel drive system more grunt.



## Bottom-mount drawbar

The ZX dual-purpose forage wagons have bottom-mount drawbars, which in combination with a ball hitch increase tongue load capacities to up to 4 t.



## Suspended drawbar

The drawbar suspension system uses nitrogen tanks on the rams to absorb all shock loadings for superior operator comfort.



### Easy

ZX features a foldable stand. The articulated drawbar adjusts hydraulically to the tractor's hitch height. It's easy.



### Convenient attachment

The operator can also control the articulated drawbar from these buttons on the front of the machine. This way, he monitors the hitching process.



### Ball hitch 80

This hitch ball offers maximum operator comfort and minimizes wear on your equipment as the combination runs smoothly without jolting or experiencing shockloads. Forced-steering systems require ball hitch attachment.



# The **safety features**

- Powerful LED work lights for excellent visibility at night
- Reflectors and front position lights for safe operation in the field and safe road travel
- Crop covers prevent material is lost in transport

Night work is extremely fatiguing for forager and tractor operators and therefore KRONE offers extra lighting for ZX models that brings maximum safety to all machines and operators involved in the campaign. Optional crop covers ensure no crop is lost during road transport and also increases road safety.

## **Spot on**

Four powerful LED light bars inside the body are a standard feature illuminating the load area at night. Up to eight extra sidelights are available for the ZX model as an option.



## **Cameras are an option**

An optional camera is available for all ZX models. The images are displayed on the colour screen for added visibility and safety.



## **High visibility**

Standard sidelights and optional reflective strips mark the contours of the machine so other drivers recognize the full size of the machine from far away.





### Flexible and safe

The optional crop covers are flexible to adapt to the contours of the forage mass. Hinged to the sides, they cover the material effectively and will not open as the combination travels at speed.



### Covers down

The open covers fold simply down the sides of ZX wagons. There is nothing in the way that might obstruct filling.



### Hydraulic

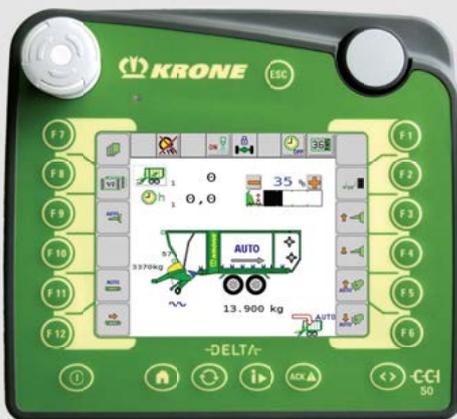
The covers are operated by hydraulic motors for quick and dependable control.



# Operation

- Convenient
- Clear concept
- Easy
- CCI ISOBUS – one control box for all

Operator comfort is essential. Our shockproof operator terminals are compact, clear-cut and easy to operate. They feature backlit buttons to reduce operator fatigue during those long shifts well into the night. The CCI terminal is a universal operator control unit, which is compatible with a wide variety of ISOBUS implements from many manufacturers.



## Delta terminal

The ISOBUS-compatible Delta terminal offers operators full fingertip control of all loading and unloading operations. Here you retrieve the number of hauls and operating hours and pin point potential malfunctions but also control the LED work lights, the crop covers and silage additive system. The backlit digital display screen provides an excellent overview of all machine functions. In addition, you control the auto loading and unloading system which automatically locks the steered axle, the electric forced steering system, the automatic drawbar and blade sharpener. In addition to the fingertip control option, you can also operate the blade cassette from the ground on two controls by the side of the bank.



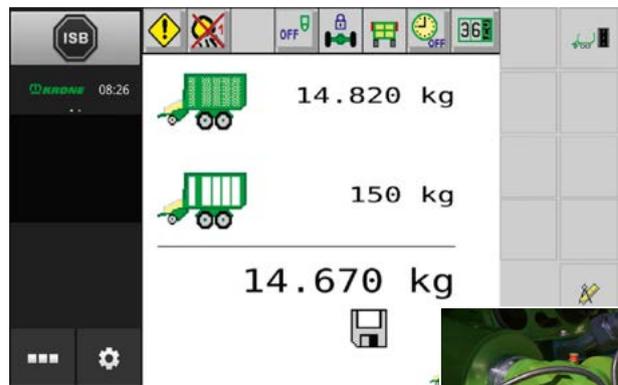
## CCI 1200 terminal

The CCI 1200 operator terminal with 12" touchscreen offers the same features as the Delta terminal plus it allows operators to split the screen in two views, for example to see all machine control elements in one view and the camera footage in the other. Also, an additional AUX joystick enhances operator comfort even further.



### ISOBUS tractor terminal

The ISOBUS terminal on the tractor offers the extra feature of locking the steered axle automatically when reversing the combination or when exceeding a default speed (e.g. 30 km/h).



### Optional weighing system

The electronic weighing system uses sensor pins inside the drawbar and on the tandem/tridem axle with hydraulic levelling. The system determines the weight of the load by computing the difference between the gross weight and the weight of the material left on the machine after unloading is completed.



# Technical data

## Dual-purpose forage wagons

		ZX 430 GL	ZX 430 GD
Capacity (DIN 11741)*	m <sup>3</sup>	43	43
Overall length	Approx. m	9.84	9.84
Total width*	Approx. m	2.95	2.95
Total height*	Approx. m	3.99	3.99
Platform height*	Approx. m	1.70	1.70
Track width	Approx. m	2.05	2.05
Drawbar tongue load	t	4	4
GVWR on tandem-axle model	t	24	24
GVWR on tridem axle-axle model	t	–	–
Pick-up work width (DIN)	m	2.12	2.12
Hydr. artic drawbar ground clearance	cm	75	75
Crop feed width	m	1.91	1.91
Rotor cutter diameter	cm	88	88
Nominal chop length			
24 blades	mm	74	74
48 blades	mm	37	37
Discharge rollers	Number	–	3 (2)
Tyre size			
800/45 R 26.5 TL 174 D		Standard	Standard
800/45 R 26.5 TL 174 D Trac		Option	Option
710/50 R 30.5 TL 173 D Trac		Option	Option
800/45 R 30.5 TL 176 D Trac		Option	Option
Input power	min. kW/hp	155/210	155/210

\* depending on specification

\*\* 30.5" tyres are not available for tridem-axle ZX 470 models



ZX 470 GL	ZX 470 GD	ZX 560 GL	ZX 560 GD
47	47	56	56
10.59	10.59	11.99	11.99
2.95	2.95	2.95	2.95
3.99	3.99	3.99	3.99
1.70	1.70	1.70	1.70
2.05	2.05	2.05	2.05
4	4	4	4
24	24	–	–
31	31	34	34
2.12	2.12	2.12	2.12
75	75	75	75
1.91	1.91	1.91	1.91
88	88	88	880
74	74	74	74
37	37	37	37
–	3 (2)	–	3 (2)
Standard Option Option** Option**	Standard Option Option** Option**	Standard Option Option Option	Standard Option Option Option
155/210	155/210	175/240	175/240

All specifications, weights and dimensions do not necessarily comply with standard specifications and are therefore not binding. Specifications are subject to change without notice.

# Maschinenfabrik Bernard KRONE

Perfect in every detail



Innovative, proficient and close to our customers – these are the keywords that mark the philosophy of our family-owned company. As a forage specialist, KRONE manufactures disc mowers, tedders, rakes, forage wagons and silage trailers, round and square balers as well as the high-capacity and self-propelled BiG M mower conditioners and our BiG X forage harvesters. Quality made in Spelle – since 1906.

Your KRONE dealer



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