

## BiG X 480 · 530 · 580 · 630

The compact forage harvesters



**WKRONE** | BiG X 480/530/580/630 01/18





BiG X Setting new standards in chop quality, performance, handling and operator comfort.

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#### 'OptiMaizing' -

#### a KRONE concept for BiG X forage harvesters

The OptiMaize concept was developed by Krone and aims at producing forage of a superior quality. Livestock farmers ask for different chop lengths that meet different aims in the silage maize ration. The smaller the amount of fibres in the ration, the longer should the maize chops be to suit the needs of rumens. By comparison, chop lengths should be short when the maize is used to fuel Biogas plants whereas the feed rations for beef bulls and dairy cows require much longer chop lengths to add structure to the ration. KRONE OptiMaize combines various chopping drums (see table) and conditioners that enable BIG X forage harvesters to produce short and long chops of maize allowing machine owners to respond to individual customer needs. If you have to produce short biogas maize chops in the morning but coarse maize chops for animal feed in the afternoon, you will find KRONE VariLOC the ideal solution for you.

This is a mechanical gearbox which forms an integral part of the chopping drum and reduces drum speed from 1,250 rpm to 800 rpm within just a few minutes. This reduces the cutting frequency and increases the range of available chop lengths by up to 53 %. This technology allows operators to select between short and long chops at short notice and without any changeovers. This in combination with the large choice of KRONE corn conditioners makes the BiG X forage harvester a truly all-round machine.

The chop length can be grouped into four different ranges: OptiMaize S, M, L, XL. Each concept describes a different technical solution that leads to customised lengths that suit all applications.

## **Flexibility**

OptiMaize brings full flexibility to all BiG X harvesters, allowing them to produce any type of chop lengths livestock farmers and Biogas producers call for. MaxFlow and Biogas drums are available with various numbers of blades. Combined with the KRONE conditioner to match, they deliver various chop lengths from 4 mm to 30 mm. The BiG X offers this wide range of chops without operators having to swap or refit the chopping drum — simply by reducing the cutting frequency with the help of VariLOC.

OptiMaize -					
OptiMaize S	4 mm to 7 mm	Biogas	Biogas (40 blades) or MaxFlow (36 blades)		
OptiMaize M	8 mm to 10 mm	Dairy feed rations with ~40% maize  Beef bulls	MaxFlow (36 blades) or MaxFlow (28 blades)		
OptiMaize L	11 mm to 19 mm	Dairy feed rations with ~60% maize	MaxFlow (28 blades) or MaxFlow (20 blades)		
OptiMaize XL	20 mm to 30 mm	Dairy feed rations with >80 % maize	MaxFlow (20 blades)		



#### The correct level of compaction

Clamping forage that is chopped to lengths longer than 20 mm requires more time and heavier equipment to eliminate the risk of mould and heating.





#### OptiMaize S

Maize that is harvested to fuel biogas plants is chopped to very short lengths. Depending on moisture levels, chops of 4 mm to 7 mm lengths have been found ideal for this application, because shorter chops make the energy readily available to the methane producing bacteria in the fermenter thereby increasing gas yields.

The KRONE forage harvesters use a Biogas drum with 40 or 48 blades to harvest biogas maize. Alternatively, OptiMaize S can also be achieved with the 36-blade MaxFlow drum. A KRONE corn conditioner with 144 teeth will then fracture the material and destroy the kernels so these ferment easily.



#### OptiMaize M

Grass based rations for beef bulls and dairy cows which consist of up to 40 % of maize should be made up of 8 mm to 10 mm chop lengths. This length of cut and an appropriate conditioning intensity avoids lack of fibre in the ration. OptiMaize M chopping quality is achieved by the MaxFlow drums with 36 and 28 blades. The ideal conditioner is the KRONE corn conditioner with 144 or 123 teeth whose speed differential can be increased from 20 % to 30 % or 40 %.





#### OptiMaize L

Chop lengths of 11 mm to 19 mm are ideal for dairy feed rations where the percentage of maize is about 60 %. Rumens require silage maize that is reach in fibres. The OptiMaize L chopping quality is achieved by the KRONE MaxFlow drums with 28 or 20 blades.

The recommended conditioner is the KRONE corn conditioner with 123 or 105/123 teeth whose speed differential can be increased from 20 % to 30 % or 40 %.



#### OptiMaize XL

The maize in dairy feed rations made up of more than 80% by maize and that do not contain sufficient quantities of grass and feed straw should be chopped to 20 mm to 30 mm lengths to avoid lack of structure in the feed. The ideal drum for long chops is the MaxFlow drum with 20 blades which is complemented by the KRONE corn conditioner with 105 or 105/123 teeth (+30 or 40% speed differential). The KRONE disc conditioners offers a 2.5 times larger friction surface area and therefore are the best option for optimum conditioning at maximum outputs.



#### The intake system

- 6 intake rollers
- Additional protection against foreign objects
- Hydraulic drive
- Steplessly variable LOC

Perfectly protected for an optimum chop lengths

## The chopping drums

- Universal MaxFlow chopping drum with 20, 28 or 36 blades



## BiG X delivers more

When you're looking to maximize your machine's throughputs, the technology must be up to the job. That's where the BiG X models from KRONE come in: precision-chop forage harvesters that deliver an exceptional quality cut, maximum throughput and impressive comfort and convenience. All courtesy of the direct crop flow system and a wealth of innovative details that meet the needs of the successful contractor and make light work of the job.



#### **StreamControl**

- Powerful crop accelerator
- Adjustable crop throw
- Precision fills of following trailers
- Highly fuel-efficient

No losses

#### VariQuick

- Movable corn conditioner / grass duct unit
- Quick changeovers between corn conditioning and no corn conditioning
- Quick-remove conditioner via a downward folding gliding plane

Changing over from grass to corn in no time

- Spring-loaded chopping drum floor
- Spring-loaded accelerator backplate
- Continuous crop flow

High throughputs





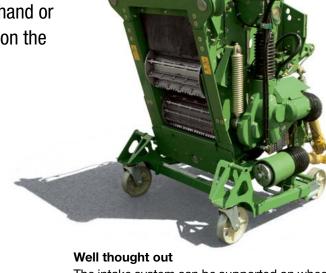
#### Reliable, safe and convenient

Six pre-compression rollers and an 820 mm (2'8") gap between the leading roller with metal detector and the rearmost roller not only enhance pre-compression but also protect the blades better against metal objects, even at high-speed intake. The hydraulic driveshaft automatically adjusts the LOC in line with the maturity of the crop, which is detected by the KRONE AutoScan sensor. If the engine speed drops below 1,200 rpm as the load increases, the header and intake system are stopped automatically while the chopping drum continues to turn - because blockages caused by low speeds cost time and money.

## Top technology for top silage

The intake system is the first link in the chopping quality chain inside a precisionchop forager. Here, the feed rollers are crucial. The higher and the more consistent the pressure that is exerted on the crop, the better the quality of chop.

So BiG X features a long intake system with six highpressure rollers for an easier and more precise chop. The LOC can be adjusted steplessly either by hand or automatically courtesy of the hydraulic drives on the intake rollers.



The intake system can be supported on wheels for fast access to the chopping assembly.



#### Full-width application

The lower front intake roller is fitted with full-width metal detector sensors, guaranteeing detection of foreign objects across the full chamber width.

#### Convenient

The intake system can be folded forwards for easy inspection access to the chopping drum and counterblade.

#### Under pressure

Adjustable coil springs keep up the pressure on the crop from the intake rollers, ensuring strong crop compaction and top chopping results.

#### Voracious appetite

Maximum throughputs are guaranteed from the huge opening between the six intake rollers. The heavy-duty drive shafts on the pre-compression rollers can cope with even the toughest loads.







# The chopping assembly

## OptiMaize chopping drums

- Chopping drums with 20, 28, 36 or 40 blades for OptiMaize S to OptiMaize XL
- High inertia from an enclosed 660 mm (2'2") diameter drums
- Top quality chop: bespoke 630 mm (2'1") wide drums for the 480, 530, 580 and 630 models
- Extremely fuel-efficient: high inertia, pulling cut





Drum type	MaxFlow	MaxFlow	MaxFlow	Biogas drum
Number of blades per drum	20	28	36	40
LOC	5 - 31 mm	4 - 22 mm	3 - 17 mm	2.5 - 15 mm



## No-compromise chop

The design and dimensions of the chopping drum have an impact on the crop flow, the chopping quality, the input power and fuel economy. Matching the drum dimensions to the forager and choosing the right number and shape of blades not only gets more power out of a BiG X but extends its range of uses to OptiMaize S, M, L and XL. The wide range of drums available for BiG X deliver a top-quality chop in any conditions anywhere in the world — at top performance levels.

#### **Optimum crop mats**

It's not just the number of blades that produces a good quality chop. The thickness of the crop that passes through them and therefore the width of the chopping drums are just as important. So KRONE offers the updated 630 mm (2'1") chopping drum for the BiG X 480, 530, 580 and 630 models ensuring the same outstanding and proven quality chop you get from our high-capacity foragers with 800 mm (2'7.5") drums.





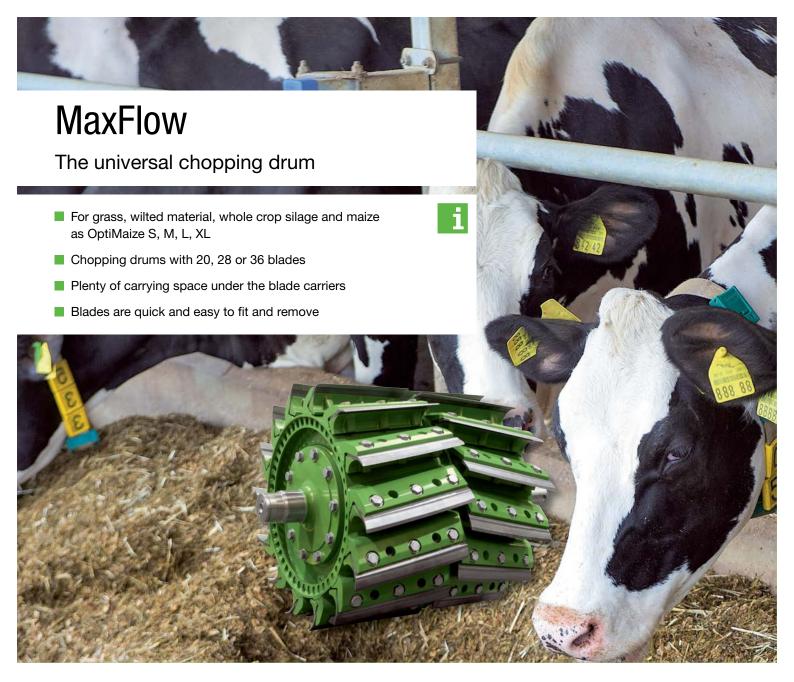
#### The material is pulled over the blades

The blades on the KRONE chopping drums are arranged chevron-style and at an angle of 11° relative to the counterblade. This arrangement makes for a continuous crop flow, extremely quiet running and maximum efficiency.



#### The blades and counterblade

BiG X can be fitted with grass or maize blades. Slots on the blades allow for precision adjustment relative to the counterblade and protect the blades against breakage when they hit foreign objects.



#### **Quick fit blades**

Every blade is bolted to the chopping drums with just three hex bolts. The blade carrier above the blades holds them securely in place.



#### **Cutting edge**

To ensure a good quality cut, the blade and the counterblade must be set to the correct gap. The blades are quick and easy to align using the eccentric plate.



#### More space for more crop

The blade carriers are arranged and designed to allow plenty of space under the blades. This extra carrying space means higher throughputs and smoother running, particularly in long chops.





## The specialist drums for animal feed

The universal chopping drums are specialists when it comes to preparing top quality silage. Harvesting pre-wilted material in uneven swaths is tough going for the chopping drums. So KRONE universal chopping drums feature specially designed blade carriers with more space under the blades. Larger 'pockets' and the spring-loaded drum floor result in extremely smooth running and high power reserves. So Big X makes light work of temporary crop accumulations.



### OptiMaize M, S

#### The 36-blade drum

Handling massive throughputs and providing a wide range of cutting lengths, this 36-blade drum will earn its keep in no time. Remove half the blades and the unit is perfect for long chop applications.



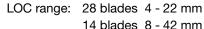
LOC range: 36 blades 3 - 17 mm 18 blades 6 - 34 mm



#### OptiMaize L, M

#### The 28-blade drum

This 28-blade unit is the universal drum. Used with just half the number of blades, it is perfect for producing long chops.







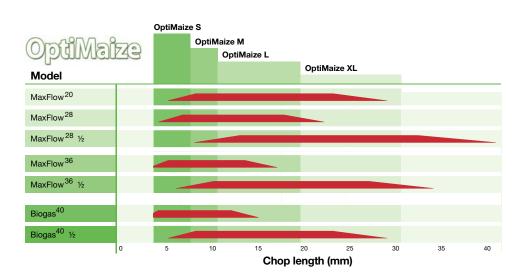
#### The 20-blade drum

This drum cuts the kind of long lengths that are called for in some countries.

LOC range: 20 blades 5 - 29 mm







#### Always the correct length

The KRONE OptiMaize chopping drum offers a wide range of technical solutions that achieve an equally wide range of chop lengths. You can get the ideal chopping drum that suits your needs, using all blades or half the numbers of blades and various KRONE drums.



#### The 40-blade drum

With its higher throughputs and lower fuel consumption per tonne of chopped maize, the 40-blade Biogas cylinder pays for itself in no time. Short 2.5 - 15 mm chops increase the efficiency of the biogas fermenter. With the higher gas yield per m³ of crop, less acreage is needed for biogas production.





## The specialist for biogas plants

The KRONE Biogas drum has proved its worth over the years and is popular with contractors working largely for biogas plants. As gas yield and throughput are the main criteria affecting the biogas plant's bottom line, profitability can only be ensured if the basics are right. The KRONE Biogas drum plays a key part in ensuring efficient plant operation. Its extremely short LOC (OptiMaize S)

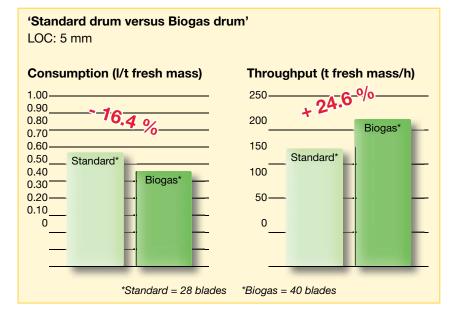
increases fermenter gas yields and throughputs.





#### High frequency of cuts

40 blades can achieve an impressively high cutting frequency. So the Biogas drum cuts harvesting time and increases throughput – even when producing short LOCs.



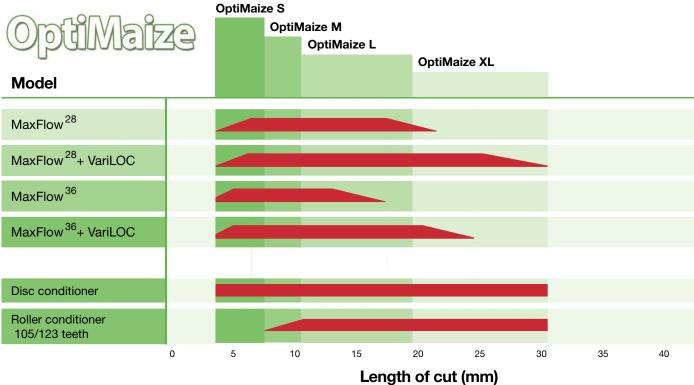
#### Higher output, lower costs

Working with short LOCs, the 40-blade Biogas drum boosts throughputs by almost 25% over the 28-blade universal drum. At the same time, fuel consumption drops by up to approx. 16% per tonne of chopped crop.\*

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Results from the 2006 workshop with leading agricultural magazines





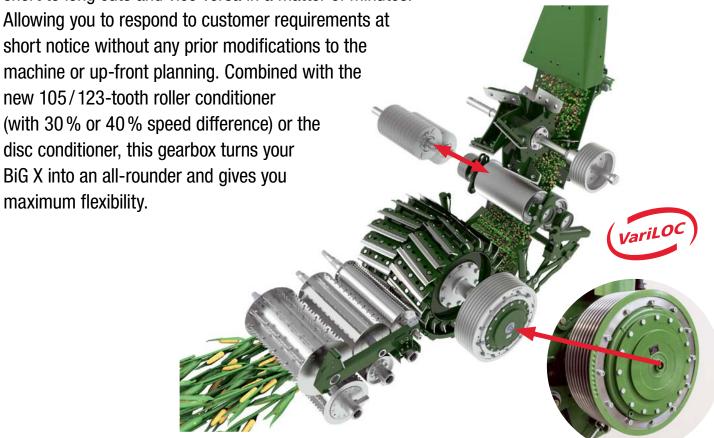
#### **Great flexibility**

The KRONE VariLOC is available for the MaxFlow drums with 28 and 36 blades. VariLOC is a mechanical gearbox that allows the MaxFlow chopping drum to produce the full range of chop lengths (OptiMaize S-XL) with 28 or 36 blades.



# Biogas silage (S) in the morning, long chops (XL) in the afternoon

Forming an integral part of the pulley, VariLOC is a gearbox that alters the speed of the chopping drum. By changing the drum speed from 1250rpm to 800rpm with a simple spanner, you can increase the LOC range by up to 53%. This way you can instantly change over from short to long cuts and vice versa in a matter of minutes.

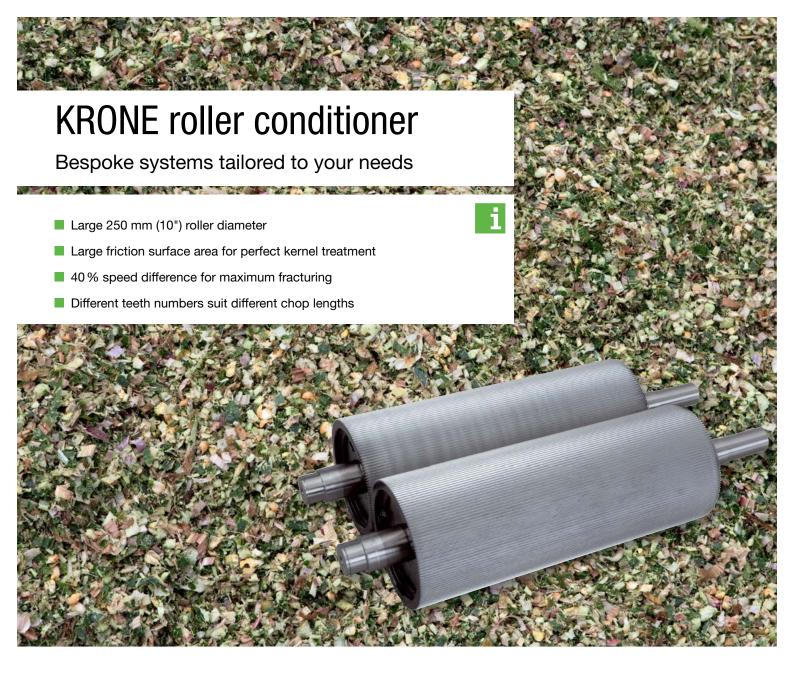


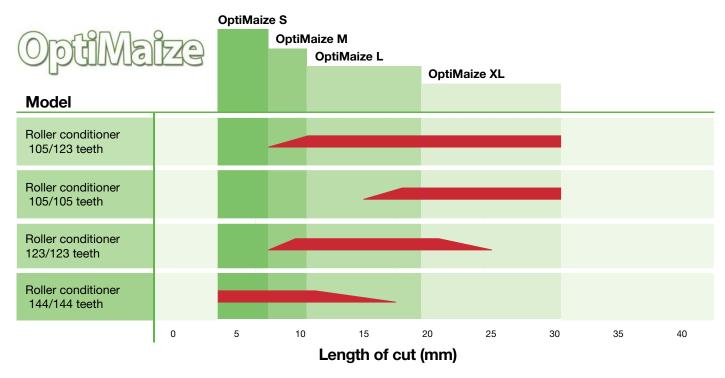
#### **Chop length ranges offered by VariLOC**

The chopping drums	min. LOC [mm]	max. LOC [mm]	LOC range [mm]	Larger LOC range
MaxFlow <sup>28</sup>	4	21	17	
MaxFlow <sup>28</sup> + VariLOC	4	30	26	+ 53 %
MaxFlow <sup>36</sup>	3	17	14	
MaxFlow <sup>36</sup> + VariLOC	3	24	21	+ 50 %

#### Wide cutting range

The KRONE VariLOC increases the cutting lengths that are available from the MaxFlow chopping drums with 28 and 36 blades. For the 36-blade drum it increases the range by 50 % from 3 - 17 mm to 3 - 24 mm. For the 28-blade drum it increases the range even by 53 %, which means from 4 - 21 mm to 4 - 30 mm. This allows operators to adjust the chop length flexibly as the application changes.







# Forage of optimal digestibility

This is what livestock farmers call for. The requirement is to treat every kernel and defibrate even long stalks and leaves. The large diameter of the KRONE roller conditioner offers a larger friction surface area for effective conditioning and a perfect result.

#### Standard toothed rollers

The rollers on the standard roller conditioner have 105, 123 or 144 teeth of a special triangular form for optimum conditioning.

#### Toothed rollers with hard chrome coating

The chrome coated roller conditioners are bespoke developments to deal with extreme conditions and offer a long service life. The friction surface is made up of saw teeth for maximum conditioning. Choose between 105, 123 or 144 teeth.

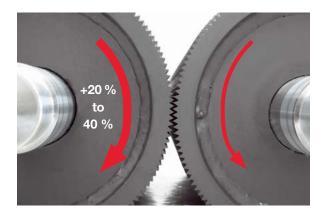
#### The KRONE corn conditioner cracks every kernel

Our 250 mm (10") diameter rollers have a larger friction surface area than the smaller toothed rollers and can be operated at larger roll gap for greater efficiency and fuel economy and better long stalk conditioning. The standard rollers revolve at a speed difference of 20%. This can be increased to 30% or 40% for those who seek a higher conditioning intensity. These speeds are recommended for long chops where they ensure thorough conditioning and fracturing of long chops.

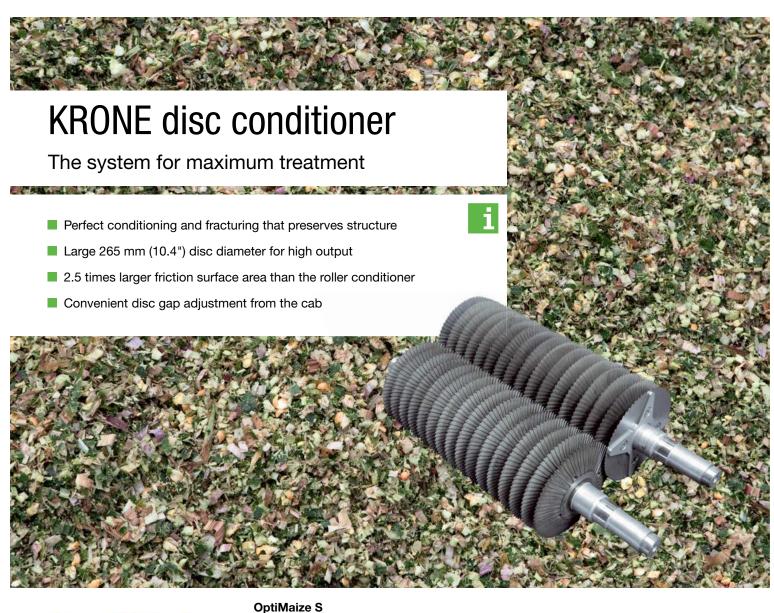
#### Variable roll gap

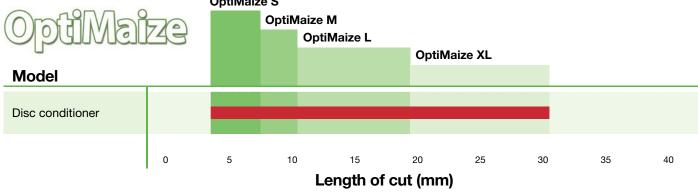
The roll gap is adjusted steplessly from the cab to the current conditions. The operator can view the current setting on the display.













Great flexibilityThe operator can adjust the gap between the discs to individual needs to achieve perfect treatment in all chop lengths - from OptiMaize S to XL.



# The KRONE disc conditioner is the perfect solution for OptiMaize

The KRONE disc conditioner delivers perfect results at a low input power, which is attributed to the special V-form of the discs which increases the friction surface area and makes for enormous throughputs, optimally fractured leaves and stalks, and thoroughly damaged kernels.

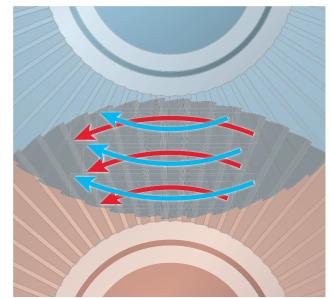
#### The optimum treatment

The disc conditioner has its teeth arranged so they form V-shaped gaps which increase the friction surface 2.5 times over the friction area on a roller conditioner. This makes for an enormous throughput and optimum conditioning.



#### **Cracking every kernel**

With the discs on the outer rotor measuring 265 mm (10.4") in diameter and those on the inner rotor 135 mm (5.3"), the discs are rotating towards each other at identical speeds but at different circumference speeds. This results in an enormous frictional effect that not only grinds all kernels but also fractures all stalks – even long chops – in an optimum way.



#### Variable disc gap

The operator can control the disc gap from the cab, adjusting it steplessly to the current conditions. The operator can view the current setting on the display.







#### Fitting and removing the corn conditioner

The corn conditioner is easy to fit and remove. After the corn conditioner is separated from the grass duct it slides down and out of the way. Two hydraulic cylinders ensure this is an easy and very fast job.

## Sliding like a drawer

VariQuick allows operators to convert BiG X from maize to grass at short notice and extremely fast. The slide has made it possible to handle the grass duct and the corn conditioner as one unit by operating a manual pump that moves either unit into the crop flow. If the corn conditioner is not used for longer periods of time, it slides down and out of the crop flow and

is then removed from the machine by pulling it out from the side.



#### Using the grass duct

Grass, late grass cuts and legumes flow through the grass duct directly to the accelerator. In this configuration the corn conditioner is not used and slides hydraulically to the rear and out of the crop flow.



#### Corn Conditioner in use

Corn and whole grain silage are treated by the corn conditioner which slides hydraulically into the crop flow, grounding and damaging the kernels and grains to make the nutrients available.

#### As easy as it can get

After the transport wheels are fitted without tools, the lowered corn conditioner pulls out to the side and is conveniently rolled to the shed.



## VariStream

### A KRONE exclusive!

- Consistent performance in inconsistent crop flows
- Extremely smooth running also in lumpy swaths
- High throughputs
- Top quality chop
- Operator comfort to perfection



#### Springs make the difference

Every forage harvester operator is familiar with this: lumps in uneven swaths absorb operator attention, reduce the overall performance level and can cause blockages in the spout. On BiG X, the chopping drum floor and the accelerator backplate are both springloaded to move momentarily out of the crop flow when the volume surges temporarily. The flexible cross section of the duct helps reduce the load on the engine and the chopping assemblies, and makes for quieter running and higher outputs.

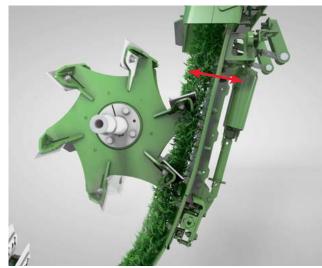


# VariStream – the variable-diameter duct

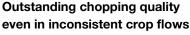


When you're looking to maximize throughputs with a top-quality chop, the technology must be up to the job. Consisting of a spring-loaded floor beneath the chopping cylinder and a spring-loaded plate behind the crop accelerator, VariStream ensures blockage-free and smooth operation, even when the flow of crop is not uniform. The technology allows operators to utilize the forager to its limit and reduce fuel consumption per hour.









The spring-loaded chopping drum floor is connected to the anvil of the counterblade at the front. Adjusting the counterblade does not alter the distance between the blade and the floor. The chopping quality is never affected – even not when the spring-loaded chopping drum floor is compensating for inconsistent crop flow.



A consistent and tight crop stream from the spout The spring-loaded backplate on the crop accelerator ensures maximum throws and targeted fills in all conditions.

## StreamControl

## Adjustable crop throw

- An adjustable crop throw at the touch of a button from the cab
- Tight crop stream even with a long crop throw
- The shorter the crop throw, the less power is needed
- Fills the trailer accurately without spillage



#### **Short-distance throws**

Filling trailers that are travelling alongside the forager does not require a powerful throw. Throwing the material at reduced accelerator speed frees up engine power that now available to the chopping drum.



#### Long-distance throws

With the trailer following behind, the crop stream needs to be ejected from the spout at a higher speed. A strong, tight stream is needed to cover the long distance over the tractor all the way to the tailboard of the trailer.



## Efficient fills for great power economy

To avoid spillage while filling the trailer, the crop stream must be tight and the crop throw must be set to the exact distance. The operator can adjust the crop throw from the cab quickly and easily by adjusting a hinged flap in the backplate of the crop accelerator.

As the accelerator needs less power with a short crop throw, the freed-up engine output can be used for chopping, thus increasing throughput.



#### Crop accelerator

The paddles are designed for powerful throws and guide the crop flow to the middle.



#### Setting the throw width

The crop throw is controlled via the hinged flap on the backplate of the accelerator. For a short throw, the flap moves out of the crop flow, so there is little contact between the crop and the accelerator. For a long throw, the flap moves into the crop flow, so there is more contact between the crop and the accelerator.

#### Joystick control

The crop throw is quick and easy to control from the buttons on the joystick control panel.

#### **Armrest control**

The additional crop throw control in the armrest offers operator comfort to the max

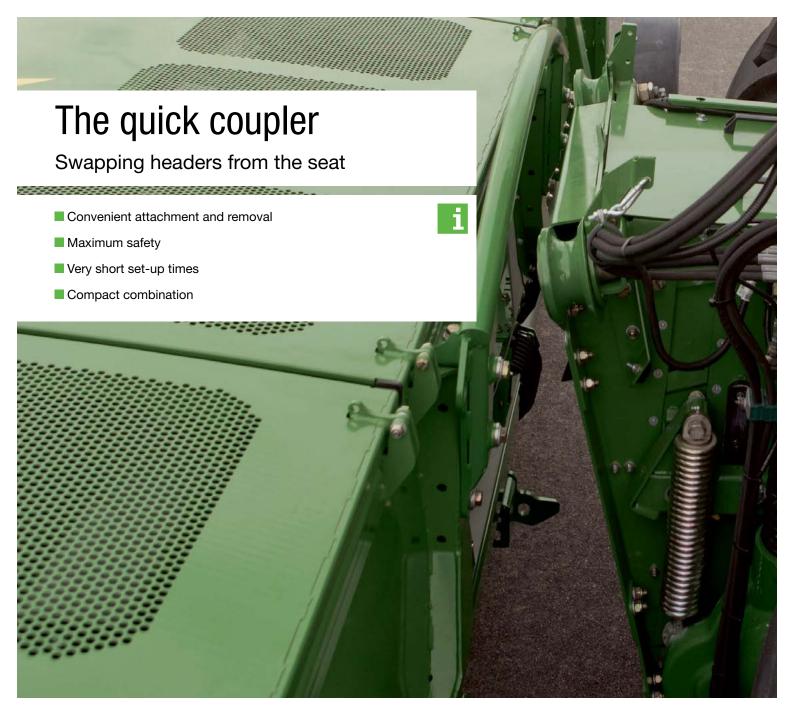
#### Stepless electric motor control

The hinged flap on the backplate of the accelerator is adjusted steplessly via an electric servomotor.









#### Perfect fit

The robust intake system features guide rolls at the top and a supporting base at the bottom with locking pins (hydraulic as an option) which make attachment and removal easy and convenient and give accurate control to the header.



#### Very adaptable

The header pivots freely to follow the ground contours as it suspends on hydraulic cylinders on either side of the pivoting base which are made pressureless to give free pivoting.



## Greater productivity

Headers are attached and removed or swapped daily during the season to prepare for road travel and convert for harvesting different crops. BiG X 480, 530, 580 and 630 feature a quick coupler system that allows operators to attach and remove headers from the seat for convenient and fast changeovers and greater productivity.



#### As easy as it can get

The two guide rolls on the base machine trap the tube hoop on the header. Attaching the header to the base machine is as simple as that.



#### A unique pivoting system

The header pivots laterally on the steel tubes that are trapped in the guide rolls. This type of attachment is easy and straightforward and makes for a large pivoting range.

#### Convenient

Pins down on the frame lock the header in place. These pin can be operated hydraulically as an option from the seat for convenient header attachment.



#### **Automatic**

The multi-coupler, which can be spring-loaded as an option, couples the header conveniently and reliably and couples the driveline automatically. The frictional connection copes with the highest loads.



# EasyFlow 300 S, 380 S

## The camless pick-up

- Superior performance, quiet running, reduced wear
- Constantly variable speed control from the operator seat
- Automatic pick-up speed adjustment to the current forward speed
- Quick coupler and tube hoop for easy attachment/removal and superior contouring
- Six rows of tines arranged in W line



#### Two work widths

Working at widths of 3 m (9'10") or 3.8 m (12'6"), the camless KRONE EasyFlow 300 S and 380 S pick-ups have their tines arranged in a W-line for efficient gathering. Depending on the swath width and work rate, you can vary EasyFlow rpm steplessly from the cab or have it

adjusted automatically to the current forward speed without the operator having to interfere. The tube hoop allows the header to pivot through a large angle and makes for easy attachment and removal.





## EasyFlow – a KRONE exclusive!

The camless EasyFlow 300 S and 380 S pick-ups have neither guide rollers nor cam tracks. Compared with conventional pick-ups, EasyFlow has up to 58 % fewer moving parts, which makes it impressively smooth running, low-wear and therefore inexpensive in service and maintenance. EasyFlow operates 30 % faster for cleaner gathering and increased productivity.



#### Great comfort for easy work

When the machine reverses the cross auger and the large crop press roller are raised automatically giving easy access to the intake system so foreign objects that were detected by the metal detector can be removed conveniently. When work is resumed, the press roller and the auger automatically return to their working position.



#### W-lines

The 6 rows of double tines are arranged in a W-pattern that ensures uniform gathering and reduces peak loads and input power. Not only does this pick-up gather the crop effectively but it also maintains a consistent flow in lumpy swaths for an excellent quality of chop.

#### The crop press roller

The large-diameter and adjustable crop press roller is standard specification on the EasyFlow pick-up ensuring a uniform flow into the machine at high work rates.

#### Adapting all the time

Its stepless height adjustment function and adjustable spring-loaded suspension allows the crop press roller to roll smoothly and adapt easily to varying swath widths.





# EasyFlow 300 S, 380 S

## Professional and carefully designed

- EasyFlow 300 S 3 m transport width
- Outer gauge wheels swing into place hydraulically
- One or two rolls in the middle for perfect ground contouring
- Replaceable wear plates from stainless steel in intake area
- Massive adjustable crop press roller



#### Rapid travel between fields

The unsteered and height-adjustable gauge wheels on the sides move hydraulically into transport position simply upon a touch of button.

#### **Excellent ground tracking**

One or two rolls, depending on work width, run at the rear of the unit for optimum ground tracking. The rolls are height-adjustable.

#### **High throughputs**

The large, 600 mm (1'12") diameter auger performs impressively even in dense, over-long crops.







## Top class comfort and performance

The EasyFlow 300 S and 380 S headers with tube hoop for fast attachment/removal are top-quality products that cope with any conditions and offer maximum operator comfort.

To meet the ever tougher demands of the working farmer, we tap into our global experience to come up with products that improve your bottom line and make your work more enjoyable.





#### Hardox wear plates

Replaceable Hardox wear plates increase the life span of the trough in the intake area. Hardox is extremely hardwearing and the perfect material for the toughest field conditions.

#### Adjustable infeed plates

The serrated infeed plates can be set to one of two positions to provide different levels of aggressiveness, giving you the flexibility to respond to all conditions.

#### Strong drive shafts

The drives for the pick-up and the auger are robust enough to handle even the toughest loads. They are fitted with automatic clutches for overload protection.











### **Cutting and chopping in one pass**

KRONE XDisc is the versatile specialist mower for whole crop silage that cuts the crop cleanly and without wastage. The huge 900 mm (2'11") diameter auger makes the unit enormously powerful and has no trouble picking up very long, bulky material.



# XDisc – your cutting edge

Whole crop silage is becoming more and more important in agriculture, both as animal feed and as raw material in the bioenergy industry. The 6.2 m (20'4") wide XDisc cuts and chops the crop in one pass. The XDisc 620 is powerful and harvests without wastage and with an outstanding quality cut.





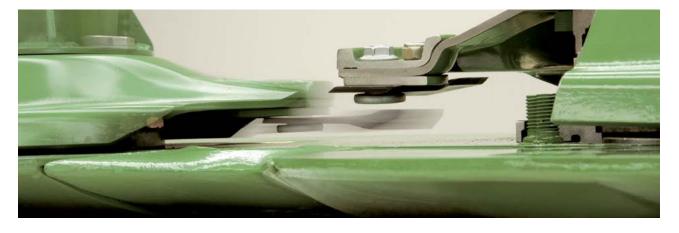
### SafeCut – only from KRONE

You know it too well – foreign objects can cause great damage and costly repairs. Not so if the KRONE SafeCut is in place, with its unique design that protects the mower discs against foreign objects. The XDisc comes with SafeCut as standard.

#### Safe as houses

If the system is suddenly overloaded, the impact is not directed to the spur gears in the driveline, instead a roll pin in the sprocket driveshaft shears off.

The pinion shaft continues spinning, jacking up the disc in question, moving it out of the risk zone and the orbit of the neighbouring discs. As a result, SafeCut protects the spur gear driveshaft and the neighbouring discs against damage. The roll pins can be replaced in just a few minutes and cost next to nothing.



## **XDisc**

### The over-achiever

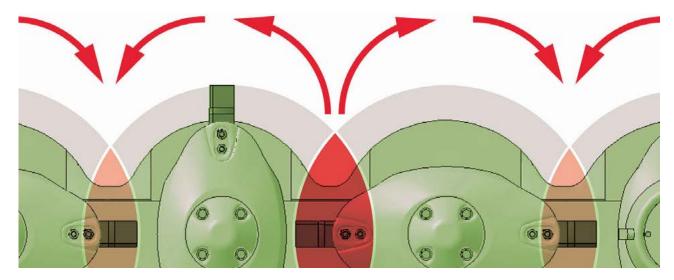
- SmartCut for a clean cut
- Quick-change blades
- Rugged tube hoop for fast attachment/removal and superior contouring
- Trailer for 40 km/h (25 mph)



### **SmartCut Stripe-free mowing**

Because the mower discs turn in both directions, the individual orbits must overlap precisely to ensure stripeless cuts. Therefore we increased the overlap between those discs that turn outwards - for stripeless cuts.

In addition, the blades turning to the rear are set further apart to encourage a smooth flow of large volumes of crop.



### Proven in the field

The XDisc direct cutting system features the cutterbar technology of the EasyCut disc mower – a system that has proven its worth time and again the world over. SafeCut, SmartCut and the quick-change blades are just some of the outstanding features that make the XDisc indispensable. The XDisc works economically and produces a clean cutting pattern.



### Clean cut

The hydraulic side knives (option) sever tangled crops effectively reducing losses in whole crop mixes.



### Safe on the road at up to 40 km/h (25 mph)

XDisc stores quickly and easily on the bespoke trailer. The integral brake system gives you true peace of mind.



### Changing blades in an instant

Quick-change blades are a must for many farmers and contractors, The blades are quick and easy to change in situ.



#### Strong throughput

The powerful, massive 900 mm (2'11") diameter auger works trouble-free even in dense and tall crops.

The pivoting unit has a reversing mechanism and the auger flights have replaceable Hardox steel wear plates.



### **Fast changeovers**

Fitting/removing the XDisc is quick and easy. The guide rolls on the base machine trap the tube hoop on the XDisc. The spring-loaded quick driveline coupler and the hydraulic locking system are options for enhanced operator comfort.





### High-power & high-efficiency

Offering work widths from 4.5 m to 9 m (14'9" to 29'6"), BiG X 480, 530, 580 and 630 are available with various headers - two-section, three-section or variable-row models. The endless collectors feed the stalks to the middle of the machine, where they are pulled in lengthwise - ideal for a top quality chop with fewer overlengths.



# EasyCollect – quality of chop starts at the header

The variable-row EasyCollect header is a versatile unit that feeds the stalks lengthwise into the machine, which translates into an unsurpassed quality of chop, as a coarse chop is the last thing livestock farmers or biogas producers want. The unique collector principle cuts labour costs and has proved its worth time and again the world over.



Compact transport width:
The three-section EasyCollect model



#### Pulling the crop over the blades

Rigid multi-section blades and endlessly moving blades combine to sever the stalks with scissor-like cuts. The blades are self-sharpening and easy to replace.

Model	Work width	No. of rows	Design	
EasyCollect 450-2	4.5 m (14'9")	6	2 sections	
EasyCollect 600-2	6.0 m (19'8")	8	2 sections	
EasyCollect 600-3	6.0 m (19'8")	8	3 sections	
EasyCollect 750-2	7.5 m (24'7")	10	2 sections	
EasyCollect 750-3	7.5 m (24'7")	10	3 sections	
EasyCollect 900-3	9.0 m (29'6")	12	3 sections	



### Straightforward and good

The 2-piece maize headers stand out for their straightforward design and uncluttered build. Its narrow transport width, its slim design and excellent visibility translate into safe travel between fields.

### Central drive

The drive power flows efficiently from the central gearbox down auto-coupling driveshafts to the folding collectors.







### Ingeniously simple - simply ingenious

EasyCollect maize headers have a simple, modular design with endlessly moving collectors. This design leads to a much lighter weight, less maintenance and a long service life.



### **Effective collection**

EasyCollect does an impressive job in any situation. Even single rows of maize are no problem: it cuts them cleanly, feeds the stalks towards the middle and on to the chopping drum. It is this smooth and lengthwise feed that accounts for the outstanding quality of the chop.



### Uniform stubble height

The distance sensors on either end of EasyCollect help maintain a uniform stubble height even in undulating terrain. They signal EasyCollect to adjust the depth both across the width and in the direction of travel.





### **Optimum crop flow**

The crop divider adjusts its height hydraulically to different stalk lengths, grabs the stalks at the top and pulls them into the machine.



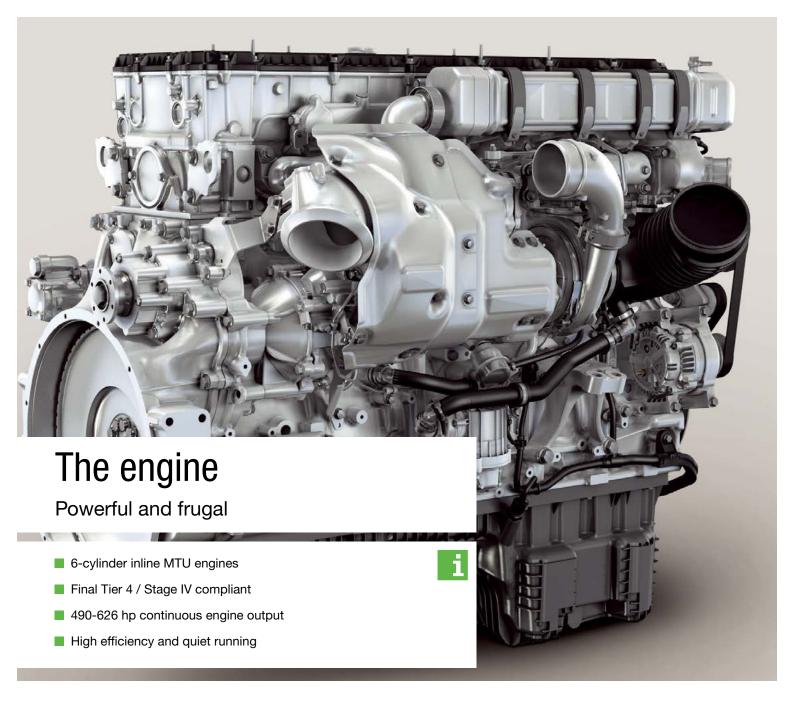
### Perfect guidance

When Autopilot is enabled, the sensor arms on the central cone scan the distance between two crop rows. Then BiG X is guided automatically along that row, which helps reduce operator fatigue.



### Widest intake system

The EasyCollect intake channel dimensions match the width of the chopping drum and ensure maximum throughput and a top quality chop. The inline flow of the crop and the large intake combine to provide a steady and very tidy crop feed.



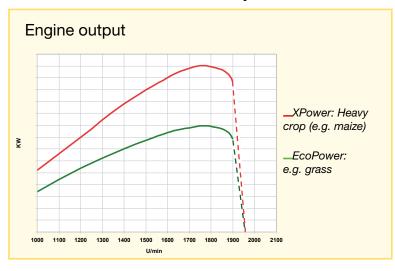
Model	Engine (Emission stand Stage IV / Fin Tier 4)		Engine capacity (I)	Constant engine output in kW/hp	Constant X Power output during chopping in kW/hp	Constant Eco Power output during chopping in kW/hp	Tank volumes Litres		es
							Fuel	SCR	Silage additives
BiG X 480	MTU 6R 1300	R6	12.8	360/490*	338/460	-	1,220 (+230 Option)	115	275 (Option)
BiG X 530	MTU 6R 1300	R6	12.8	390/530*	368/500	-	1,220 (+230 Option)	115	275 (Option)
BiG X 580	MTU 6R 1500	R6	15.6	430/585**	408/555	338/460	1,220 (+230 Option)	115	275 (Option)
BiG X 630	MTU 6R 1500	R6	15.6	460/626**	438/596	338/460	1,220 (+230 Option)	115	275 (Option)

<sup>\*</sup> Certified engine output to ECE R120 in kW/hp: 390/530 \*\* Certified engine output to ECE R120 in kW/hp: 460/626

# How much power do you need?

State-of-the-art MTU engine technology delivers premium performance and economy. Common Rail injection and optimal torque synchronization translate into smooth running, low fuel consumption, high efficiency and minimal maintenance. The innovative KRONE Power-Management system ensures ultimate efficiency and maximum throughputs.

### BiG X 580 and 630 PowerSplit





PowerSplit adapts the continuous engine output automatically to the current harvest conditions. Eco Power is used in situations that do not require full engine power. XPower mode, the engine delivers maximum output to deal with tough conditions. This technology gives operators greater flexibility and saves fuel.

### Transverse inline engines

The engine is mounted sideways and far at the rear for optimum weight distribution. The direct driveline to the crop flow components translates into great fuel economy. MTU inline engines are extremely fuel-efficient.

### Cooling

The cooling system has a rotating screen and an active exhaustion which ensures effective engine cooling in very dusty conditions. The exhauster is active when the drum is chopping, the screen when the engine is started.





### The driveline

### Strong and dependable

- Simple design
- Direct driveline made up of extra-strong poly V-belts
- Long service life
- Separate drive for the intake rollers and the headers: Rollers and headers are reversible if the chopping drum suddenly stops
- Separate and dependable hydraulic ground drive



i

### Clever design

The header and intake system are driven via oil pumps. Flange mounted to a gearbox, these pumps are driven by a separated poly V-belt that transmits engine power directly to the pumps. This driveline allows operators to set the header and intake speeds infinitely variable.

### **Ground drive**

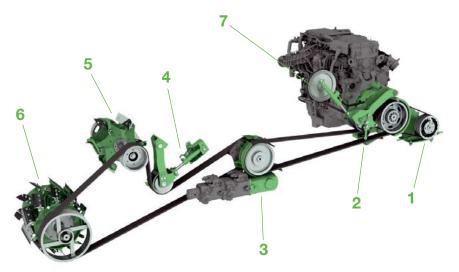
The ground drive pump is powered by a 5-groove poly V-belt. This belt starts off automatically when the engine is started, providing a direct and separate driveline to the wheels. The direct powertrain guarantees maximum reliability.





### Direct driveline – full throttle

The transversely mounted engine sends its power directly to the drive pump, the chopping drum, the crop accelerator, and the pumps that drive the header and the poly-V intake belt. This eliminates a power take-off gearbox. All components in the crop flow system are activated by a belt clutch.



- 1 Drive pump
- 2 Belt tensioner for all components in the crop flow
- 3 Hydraulic pumps for intake system and header
- 4 Poly V-belt tensioner for chopping drum and accelerator
- 5 Crop accelerator
- 6 Chopping drum
- 7 Fan drive

#### Powering the crop flow components

The crop flow components are powered by two 6-groove poly V-belts. The hydro pumps for header and intake system are located in the middle of the machine and can be engaged separately from the components in the crop flow.

This design allows operators to reverse the intake and header while the chopping drum is not working. The brake of the chopping drum is integrated in the drive and offers maximum reliability.



# The running gear

### Innovative technology

- Front-wheel drive is standard; four-wheel drive is an option
- Powerful wheel motors from Bosch-Rexroth
- Traction control with three travel modes
- Infinitely variable 0-40 km/h (0 25 mph) speed range

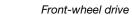




### Front-wheel drive - four-wheel drive

BiG X 480, BiG X 530, BiG X 580 and BiG X 630 are available with hydraulic wheel motors on all four wheels as an option. If specified with front-wheel drive, the wheel motors on the rear axle replaced by hubs. Both drive versions allow 40 km/h (25 mph).







4WD

### **Economical and comfortable**

Right from day one, KRONE has fitted BiG X with a hydrostatic driveline which offers greater productivity and the potential for a higher level of automation along with enhanced operator comfort. This type of powertrain dispenses with complex mechanical drivelines, reduces service and maintenance, and frees valuable space to fit a bigger and more powerful chopping assembly and moves this further to the rear of the machine. Infinitely variable forward speed control is essential for automatic engine top speed control.

#### An ideal system

The use of hydraulic wheel motors increases ground clearance and frees room on the machine for a larger diameter chopping drum and also leads to a more uniform weight distribution. The spring-loaded rear wheel suspension system ensures maximum operator comfort.



#### The infinitely variable driveline

The hydro pump driven wheels move smoothly on difficult terrain, thanks to standard independent wheel monitoring and traction control.



#### Planetary gearbox

The wheel drives are planetary gearboxes from Bosch-Rexroth. These offer the advantage of distributing the load to several planetary wheels which are compact and enable high torques.

#### Traction control with three selectable travel modes

The operator decides which of the three travel modes to use. The mode that reduces wheel slip is usually selected when the focus is on protecting the sward. Maize foraging usually takes place in a mode that admits more wheel slip or even with traction control deactivated.

# The running gear

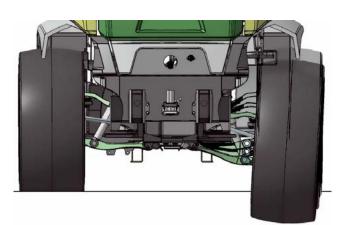
### Delivering to your needs

- Extremely agile: great manoeuvrability from independent wheel suspension
- Sprung steering axle
- 3 m (9'10") transport width depending on tyres
- Large choice of tyre options
- Height adjustable wheel motors



### Independent wheel suspension

The independent wheel suspension system suggests great manoeuvrability. Even when clad with massive tyres BiG X remains a very nimble machine in undulating terrain. The spring-loaded independent wheel suspension offers maximum operator comfort.



### A KRONE exclusive!

The wheel motors are mounted eccentrically on the front axle which allows you to fit small or large tyres and still retain the position of the pick-up, the intake system and chopping drum floor relative to the downstream crop flow. This detail warrants an optimum and consistent crop flow at all times.



# Managing tight headlands and narrow lanes

Narrow lanes and field tracks but also awkward fields are a challenge to man and machine. Therefore, BiG X features a compact build, hydrostatic drives and independent wheel suspension that make it agile enough to manage any corner and turn on tight headlands. Specified with appropriate tyres, it will not exceed the statutory 3 m (9'10") transport width – ideal on narrow farm roads.



### 3 m (9'10") machine width

Fitted with 710/70 R42 and 800/65 R32 tyres, the machine width does not exceed 3 m (9'10") for safe travel on narrow lanes and field tracks.

### **Fully manoeuvrable**

Using wheel motors increases the steering angle to a generous  $50^{\circ}$  – ideal for tightest turns and exact matchups with an 8-row corn head.

### **Custom-fit tyres**

The BiG X 430,480, 580 and 630 can be fitted with up to 900/60 R 42 front tyres. Using large tyres ensures maximum ground clearance, minimum compaction and exceptional operator comfort.



# Kitted out perfectly

Down to the very last detail

■ Best visibility at night: Optional LED lights

■ Multiple fuel tanks store up to 1,450 litres



### Turning night into day

16 headlights ensure there is always plenty of light for good vision and safe work at night. Those who want even more ligth can opt for the LED lighting kit.



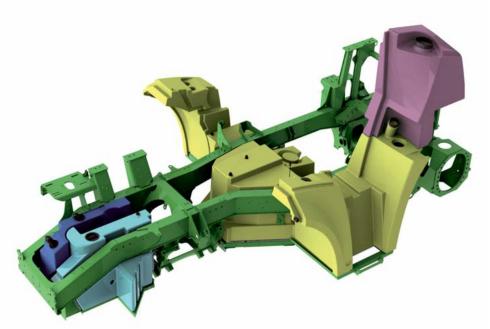
### Clear view behind

The machine's low profile at the rear offers excellent view behind - ideal for shunting and headland turns.



## Boosted productivity from boosted comfort

Working through long, hard days and often late into the night, operators must concentrate on the job at hand for hours on end. This obviously requires excellent all-round visibility and full illumination at night. 1,450 I fuel tanks reduce the amount of top-outs and increase your productivity. Service and maintenance is straightforward and all service points are easily accessed.



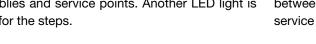
### Up to 1,450I of fuel on board

The huge fuel tank holds up to 1,220 I of diesel in base specification and is supplemented by a 1151 urea tank for long working days without stops for refill. In addition to that, you can also opt for a 2301 fuel tank and a 2751 silage additive tank.



### Perfect visibility

The optional LED service light ensures best visibility on all assemblies and service points. Another LED light is available for the steps.

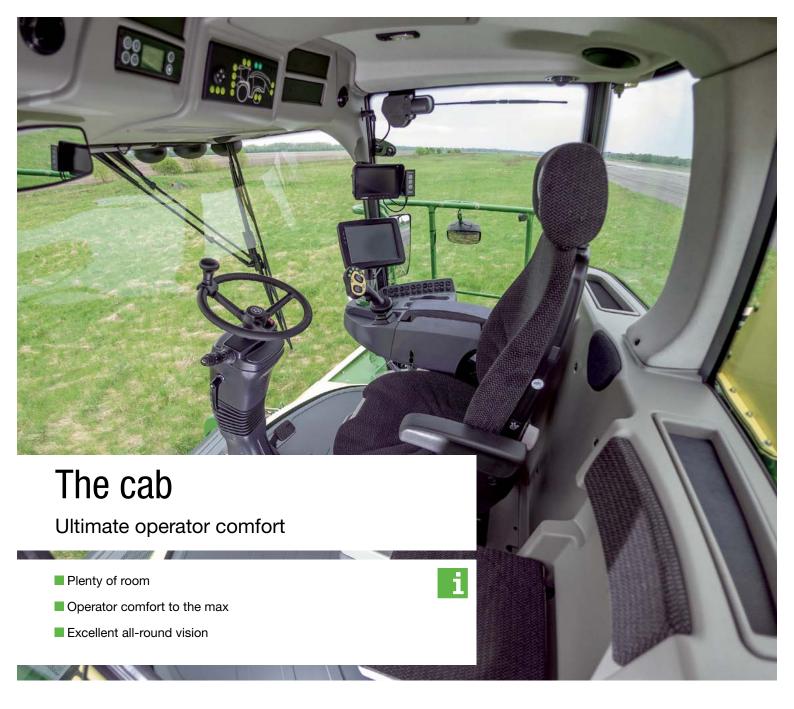




### Plenty of room

BiG X 480, 530, 580 and 630 offer plenty of room between the cooling system and the crop flow for service and maintenance.





### Wider, quieter and brighter

The wide and slim posted cab offers plenty of space and best view on wide corn headers and the double floor ensures noise levels are reduced in the cab. 16 H9 lights give perfect illumination and LED lights available as an option.



### Perfect visibility

High side windows and slim posts give the operator an unobstructed view of the spout even at 6m filling heights, making overloading safer and more efficient.



## A milestone in advanced ergonomics

Working days are long and often last deep into the night. So a comfortable workplace is a must. The big, new Silent Space cab is designed to the very latest ergonomic standards. Providing generous space and an extra seat, it offers a fully air-conditioned and absolutely functional working place, where the operator feels at home and has full command of all controls.



#### Clear concept

The controls for lights, heating and air conditioning are arranged on a panel above the front window. The Follow-Home function lights your way as you get down from the cab. After you shut off the engine some headlights stay switched on for several minutes, allowing you to find your way safely.

### Ergonomic, convenient and easy to use

The ergonomic joystick with user-friendly icons gives the operator fingertip control of multiple machine functions. Designed specifically for BiG X, the slim stick falls easily to hand. With more than 20 programmed functions, it not only controls ground speed and direction of travel but also the header and spout.

### Keeping you informed

The big 10" operator terminal records all machine data and displays them on the high-definition colour screen. Here you enter various settings, such stepless LOC control. The uncluttered console on the right houses all controls that operate the various machine functions, including ground drive and chopping drum drive.





# Simply more BiG X

DigitalSystems is the electronic control system from KRONE that optimizes machine utilization and operator comfort. It gives peace of mind in tough conditions and displays all relevant harvest data.





### AutoScan

The photo-optical sensor in the middle of the maize header measures the maturity of the plant and automatically adjusts the LOC. Green maize is cut to longer lengths for a better structure and to reduce silage effluent in the clamp. When harvesting dry maize, the material is cut to shorter lengths for more effective compaction in the clamp. AutoScan reduces operator effort and saves fuel, because the stalks are only cut as short as necessary and not as short as possible. AutoScan comes as standard with all KRONE machines and is not an expensive extra.

### ConstantPower

ConstantPower automatically adjusts the machine's ground speed to the engine loading. Select the desired engine loading at a touch of a button and the machine will adapt its ground speed fully automatically to the crop and material being harvested. This feature reduces operator stress and ensures maximum throughputs with minimum fuel consumption. In combination with AutoScan, the system takes the overall quality of chop and machine performance to a whole new level.





### **ForageCam**

As an optional extra, a CCTV camera on the spout remotely transmits footage to the forager's in-cab terminal and to the terminal on the trailer. The wireless camera captures the filling process and assists operators in utilizing the full trailer capacity and reduces fatigue at the same time. The system can be expanded to communicate with multiple receivers on all the trailers in the haulage chain.



### **RockProtect**

The 6 pre-compression rollers are powerful and soft at the same time. The optional system provides intelligent protection from damage by stones as it fully automatically halts the pre-compression rollers within milliseconds after the RockProtect system detects a stone. The sensitivity of the system is customizable to your needs for peace of mind.





# ISOBUS autoguidance

The guide to maximum work widths



### ISOBUS autoguidance

As an optional extra, BiG X can be supplied compatible with ISOBUS guidance systems from various manufacturers. On the move, the operator activates autoguidance from the KRONE joystick simply by pressing a button and then watches how the system guides BiG X down the bout. Autoguidance reduces operator fatigue, boosts work rates also in broadcast seeded crops and increases efficiency.



### **CropControl**

The optional KRONE CropControl yield metering system measures the volume of harvested crop quickly and accurately at the touch of a button. With CropControl you document all yield data from all fields harvested.

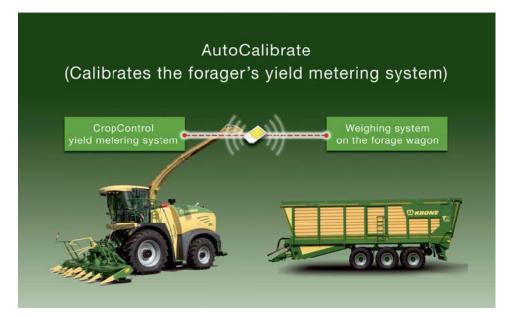




### NIR crop moisture sensing

The optional NIR sensor provides exact information on crop moisture levels. The information can be allocated to the area harvested in the customer memory. The NIR sensor is easy to install on the BiG X spout and is protected from damage by a cover.





### **AutoCalibrate**

AutoCalibrate is the remote calibration tool for the BiG X's yield metering system. It operates via a weighing system installed on one of the trailers in the harvest chain. Both the trailer and BiG X are equipped with data loggers that communicate via a mobile network. Calibration takes place while the 'calibrating machine' is being filled. AutoCalibrate is highly accurate and is the first system of its kind to eliminate the trip to the weighbridge.

# Technical data

### BiG X

ы х						
		BiG X 480	BiG X 530	BiG X 580	BiG X 630	
Engine						
Brand		MTU 6R 1300	MTU 6R 1300	MTU 6R 1500	MTU 6R 1500	
No. of cylinders		6	6	6	6	
Engine capacity	Litres	12.8	12.8	15.6	15.6	
Sustained engine power	kW/hp	360/490*	390/530*	430/585**	460/626**	
Max. Sustained X Power chopping output	kW/hp	338/460	368/500	408/555	438/596	
Max. Sustained Eco Power chopping output	kW/hp	_	_	338/460	338/460	
Fuel tank capacity / auxiliary tank	Litres		1.220 / 230	as an option		
SCR tank capacity	Litres			15		
Silage additive tank	Litres			an option		
Ground drive				•		
Model		Infinitely varia	ble hydrostatic drive	with wheel motors for	up to 40km/h	
Speed in field mode	km/h	•	-	15 mph)	•	
Speed in road mode	km/h			·25 mph)		
Selectable anti slip control			,	idard		
4WD			Opi	tion		
Axles						
Steering angle on rear axle	Degrees	50				
Rear axle suspension			Hydr	aulic		
Drives						
Header			Infinitely	variable		
Pre-compression rollers		Infinitely variable				
Pre-compression rollers						
Pre-compression roller throat volume			Funnel	shaped		
Service position		Quick attach system (also with header attached)				
No. of rollers/metal detector/no. of magnet coils			6 / Sei	ries / 6		
Metal detector - counterblade distance	mm	mm 820 (2'8")				
Chop length adjustment			Steplessly f	rom the cab		
The chopping drums						
Drum width/diameter	mm		630/660 (	(2'1"/2'2")		
Arrangement of blades			Chevron style, at 1	1° to counterblade		
No. of blades			20, 28,	, 36, 40		
LOC range	mm	5-31/4-22/3-17/2.5-15				
Cuts per minute			11,300/15,820	/20,340/22,600		
Stepless chopping drum floor adjustment/ chopping drum floor suspension		Standard				
Corn conditioner						
105 teeth: Standard profile / chrome-plated sawtooth profi	ile		Option	/Option		
123 teeth: Standard profile / chrome-plated sawtooth profi	ile		Option	/Option		
144 teeth: Standard profile / chrome-plated sawtooth profi	ile		Option	/Option		
166 teeth: Sawtooth profile			Opt	tion		
Speed differential	%	20/Option: 30 or 40				
Distance control from the cab in combination with auto lubrication		Standard				
Roller diameter/clearance	mm		250 / 0.5 / 7 (10	)"/0.002" - 0.3")		

<sup>\*</sup> Certified engine output to ECE R120 in kW/hp: 390/530\*\* Certified engine output to ECE R120 in kW/hp: 460/626

		BiG X 480	BiG X 530	BiG X 580	BiG X 630	
Crop accelerator						
Rotor diameter/width/no. of paddles	560 / 480 / 6					
Discharge accelerator scoop		Arranged chevron-style				
Speed	rpm		-	980		
Steplessly adjustable backplate / spring-loaded backplate		Standard				
Spout						
Angle of rotation	Degrees		21	0°		
Unloading height	mm		6,000	(19'8")		
Cross-section dimensions	mm		340 x 230	(1'1" x 9")		
Automatic mirror function/parking position			Stan	idard		
Rotary drive system			Gear	boxes		
Spout lined with wear plates throughout			Stan	ıdard		
Service & maintenance						
Auto lubricator with compressor		Standard				
Self diagnostic system via operator terminal		Standard				
Cab <sup>1)</sup>						
Air seat and buddy seat		Standard				
Comfort air seat and buddy seat			Op	tion		
Climate control with mobile cool box		Standard				
Wipers on front and side windows		Standard				
Dimensions						
Length/width*/height*	mm			-3,300/3,915-3,980 10'10"/12'10"-13'1		
Base machine weight (without header)**	Approx. kg	13,900 (60,644)	13,900 (30,644)	14,100 (31,085)	14,100 (31,085)	
Weight distribution with EasyFlow 300 pick-up	F/R %		57	/ 43		
Weight distribution with EasyCollect 750-3 (7.5 m ww)	F/R %		60	/ 40		
Tyres***						
Front axle	Standard**** Option Option Option Option Option Option Option Option		710/7 710/7 800/6 800/7 900/6	85 R32 75 R34 70 R42 85 R32 70 R38 80 R38 80 R42		
Rear axle	Standard**** Option Option Option		600/6 600/7	65 R30 60-30 70 R30 60 R30		
Headers						
EasyFlow: Pick-up	mm		3,000 - 3,800	(9'10" - 12'6")		
EasyCollect variable row width header	mm	4,500/6	5,000/7,500/9,000	(14'9"/19'8"/24'7'	'/29'6")	
Autopilot and active ground contouring for EasyCollect			Op	tion		

<sup>\*</sup> Depending on tyre configuration \*\* Depending on level of specification \*\*\* Does not combine with every tyre \*\*\*\* Limited use depending on header used

1) Further options on request











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, 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



### Maschinenfabrik Bernard KRONE GmbH & Co. KG

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