



# BiG M 420

SP high-performance  
mower conditioner



# BiG M 420

Ultimate efficiency



- New and high-comfort space cab
- New joystick for ultimate operator comfort
- New 420 hp MAN engine
- New radiator with active cleaning system





Close-up on the new BiG M 420

BiG M 420 –	
A master of its own class	4
BiG M – A concept proven thousands of times	6
The cab	8
The driveline	10
The engine	12
The EasyCut cutterbar/ SafeCut	14
The mowers	16
The conditioner versions	18
Swath merging	20
Service and maintenance	22
Optional equipment	24
Tire versions	26
Technical Data	27



# BiG M 420

A master of its own class

- Powerful monster working in fields all over the world
- Redesigned 'Silent Space' cab offers high operator convenience
- Swath mergers brings great versatility

i



## Time is money

Delivering more acreage in less time, BiG M is very popular in Japan, because Japanese farmers love efficiency. KRONE has the ultimate machine that meets Japan's exacting demands. The philosophy behind BiG M is the combination of ultimate productivity and excellent quality.

## In high esteem in Ireland

Irish farmers, too, appreciate BiG M, because this high-output mower keeps going even in the wettest conditions where other machines get bogged, an ability that is attributed to its excellent weight distribution between the front and rear axle (62% : 38%).



# Powerful monster tackles every job

KRONE proudly presents BiG M 420 – a versatile specialist that takes care of all your mowing applications. BiG M 420 is the machine that gears you up for every task. Just look at its high-output CV conditioner or CRi roller conditioner or take the spreading or swath merging options. Cutting at an enormous work width of up to 9.7 metres (31'10") and offering tremendous power reserves while distributing the weight uniformly, BiG M 420 produces clean and high-quality forage without affecting the re-growth of crops – in any condition and any field around the world.



## One does it all

BiG M 420 delivers total efficiency – even in small fields. The machine scores perfect on handling and fast travelling between fields. Opening up small and awkward fields is as easy as it can get – thanks to the machine's great maneuverability and the option of using the mowers separately. This machine is up and working while others are still preparing for work.

## Bigger is better:

Californian farmers harvest more than 100 tons of fresh-matter alfalfa per hectare and year. These masses are harvested in extremely small time windows and in the most arduous conditions.



## Delivering

Dutch dairy farmers are known around the world for feeding their livestock on rations that contain the highest percentage of forage. These farmers count on BiG M, because this is the machine that processes grass into high-quality forage.





# The BiG M concept

Proven thousands of time!

- Optimum weight distribution guarantees gentle treading
- Merge more than 9 metres (29'6") of crop into one swath
- 40 km/h (25 mph) road speed
- Low center of gravity translates into high stability

i



## 20 May 1996

BiG M is unveiled to the public. Using the well-proven EasyCut mowers, BiG M achieves a total work width of 9.1 metres (29'10"). This high-output mower is powered by a 300 hp engine.



## November 2001

KRONE introduces the modified BiG M II at Agritechnica show. This model marks a substantial enhancement in operator comfort and features plenty of innovations including a 9.7 m (31'10") work width, spacious cab and a 360 hp, 12-litre, six-cylinder, in-line engine. Its 40 km/h (25 mph) gearbox makes BiG M II one of the fastest self-propelled mowers.



# The chronology of a success story

Since its introduction to the international markets in 1996, KRONE BiG M has produced best results and ultimate workrates. The mid-mounted side mowers and the mid-mounted engine provide a number of advantages, including a uniform weight

distribution that translates into exemplary ride quality in the field and on the road at 40 km/h (25 mph) as well as a low centre of gravity for ultimate stability on the slope and a direct driveline to the cutterbars. In addition to offering a choice of conditioner versions, BiG M 400 features the unique auger system that merges effectively two swaths into one single swath.



## November 2009

BiG M 400 is unveiled to the public. This model features a 400 hp engine along with a number of enhanced details. The updated side panels provide more effective cooling.



## November 2011

For Agritechnica, KRONE presents the fully updated BiG M 420. The new open-plan 'Silent Space' cab with a new ergonomic joystick offers maximum operator comfort while a modern and fuel-efficient six-cylinder, inline MAN engine with SCR technology delivers appropriate power reserve. Enhanced cooling comes from a rotary screen with active dust exhaustion.





# The cab

Maximum operator comfort

- Generous glazing for perfect panoramic view
- Highest seating comfort, easiest operation
- Standard climate control
- Easy joystick operation



## Wider, quieter, brighter:

The new KRONE BiG M cab with generous glazing and slim posts offers a perfect overview on all mowers. Besides, its double floor leads to a significant reduction in noise. Powerful H3 work lights turn nights into days. The lights may be replaced by optional Xenon lights.

## EasyTouch Display

All major machine information is instantly available on the EasyTouch high-resolution color display screen. Enter the sub-menus quickly and easily from the keys next to the display screen.





# ‘Silent Space ‘– The name says it all

A generous and quiet space – that’s the new KRONE cab. Catering for all operator needs during those long working days well into the night, the interior was developed along the latest ergonomic parameters and offers such convenient features like passenger seat, climate control and electric cool box. Logically grouped, all buttons offer fingertip control and full overview.



## Functional

The switches that control the lights, the work lights, the windshield wiper as well as heating and air conditioning are located in the roof right in front of the operator. The ‘Follow Me Home Function’ delays light deactivation of two work lights for 180 seconds as the operator leaves the cab.

## Easy operation



# The driveline

## Safe and convenient

- Infinitely variable ground speed control from joystick
- Reduced engine speed in road travel
- Standard four-wheel drive
- Standard front-axle suspension

i



### Hydraulic driveline

BiG M 420 stands out for its innovative and infinitely variable transmission. Radial piston motors on all four wheels replace a complex mechanical driveline with universal joints that are prone to wear and tear. Four-wheel drive and axle separation are standard specification.

### High ground clearance

Harvesting big swaths requires plenty of clearance under the rear axle and so our BiG M 420 offers plenty of room in this area. The hydraulic driveline relies on wheel motors that drive the individual wheels separately, a design that does away with a large differential housing.



# Viable and efficient

Speed is the crucial factor in increased efficiency. In the field, our SP BiG M 420 works at a rate of more than 15 ha/h (37 acres/hr) whereas it travels at 40 km/h (25 mph) between fields. Naturally, the machine offers such features as cruise control and headland management system, which help reduce operator stress and allow the operator to concentrate on the actual harvesting operation.



## Excellent handling in all situations

Thanks to its long wheelbase, the machine gives quiet and smooth running even when travelling at 40 km/h (25 mph). Despite its long base, BiG M 420 is extremely maneuverable – thanks to its hydraulic driveline and motors on all four wheels as well as a large 53° steering angle. As a result, the machine handles headland turns without shunting and instantly matches up with the previous pass.



## Standard hydro-pneumatic suspension

The front axle gives smooth and comfortable rides also when travelling at speed and high ground clearance for field work.



## Powerful and two-speed ground drive

BiG M 420 taps into two high-output hydro pumps that deliver huge oil flows. Torque is high as long as the machine is travelling in the first travel range. After the system 'shifts up' automatically, the machine travels at a swift 40 km/h (25 mph). Thanks to the standard axle separation function, BiG M 420 masters difficult terrain without any problem.



# The engine

A lion in sheep's clothing

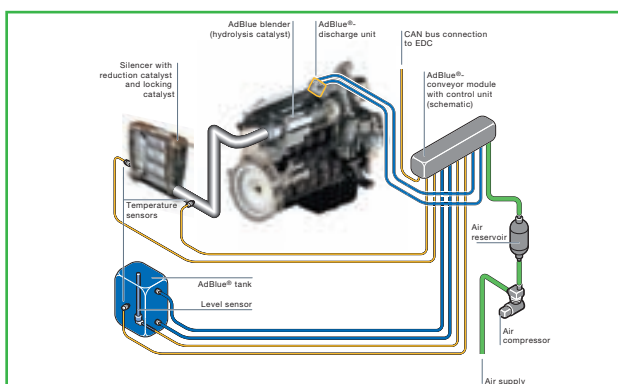
- 311 KW / 423 hp MAN D2066 engine
- More than 43 hp per meter cutting width
- Quiet running and fuel-efficient in the field and on the road
- New cooling system with active dust exhaustion



## SCR technology

SCR stands for 'Selective Catalytic Reduction'. This system injects urea into the exhaust pipe just ahead of the catalyst and relative to the current engine speed. The liquid converts the nitrogen oxides, which develop during the combustion process, into nontoxic nitrogen and water. The advantage is obvious: There is no need to recirculate the exhaust gases into the engine's suction system, a process that reduces the quantity of

oxygen to minimize the development of nitrogen oxides as combustion takes place at lower temperatures and therefore less effectively. The advantage of SCR technology is its better fuel-efficiency, because the timing of combustion is perfect. Exhaust gas recirculation technology, by comparison, is significantly less fuel-efficient while output is the same.



Source: MAN



# Powerful and soft

Despite pumping out an enormous power of up to 423 hp, this new and advanced CommonRail, inline, six-cylinder MAN engine runs even quieter than its predecessor model. Equipped with SCR Selective Catalyst Reduction technology to inject liquid urea into the exhaust fumes, the unit complies with Emission Stage IIIB / Tier 4i regulations. The advantage is obvious – there is no need for exhaust gas recirculation, so that the engine can generate its full power at greater efficiency.



## **The right arrangement**

The MAN engine is arranged centrally between the axles, a position that offers a number of benefits: Short drivelines to the mowers, an optimum distribution of the machine weight, placing 62 % on the front axle and 38 % on the rear, plus a low centre of gravity. Massive hydraulic pumps send the engine power directly to the wheel motors.



## **Easy access to all assemblies**

All side panels open conveniently from the ground, offering easy and instant access to all BiG M 420 service points for the daily visual checks and maintenance intervals.



## **New cooling system with active dust exhaustion**

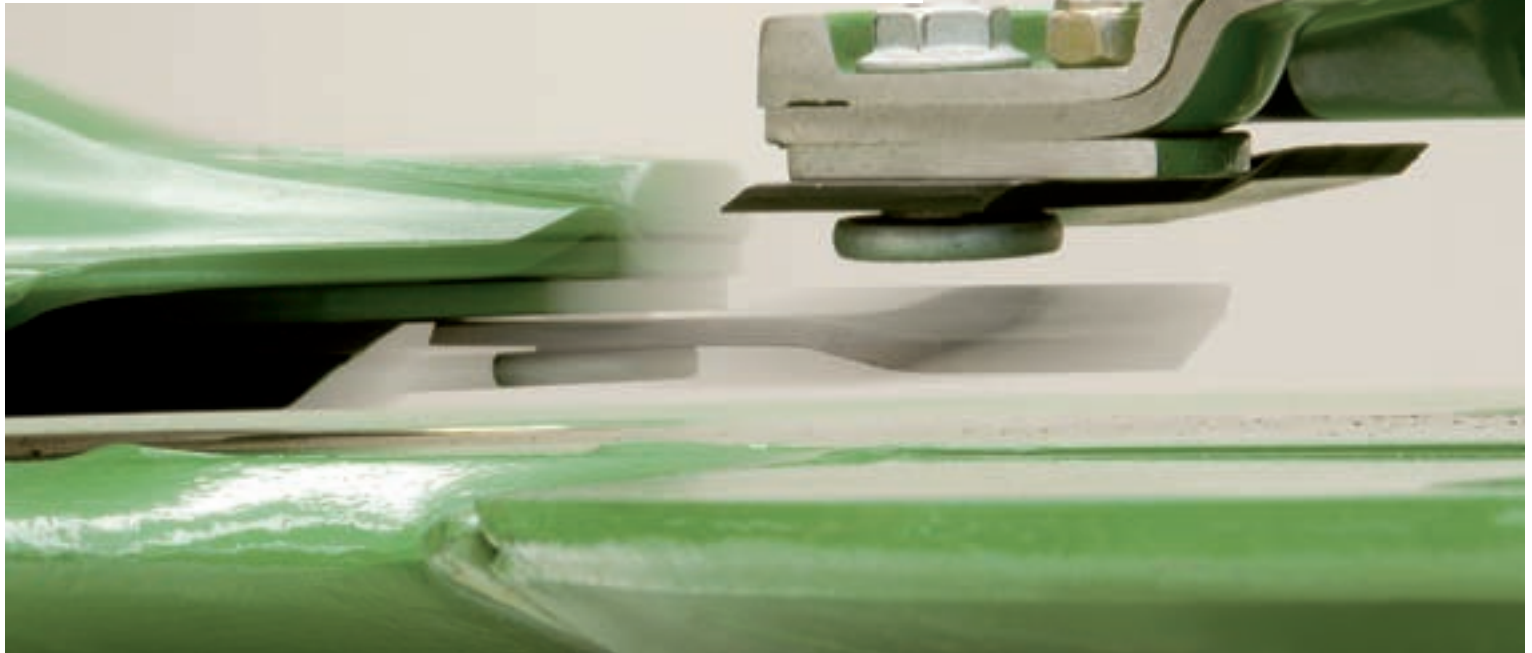
For many years, our active cooling system has proven extremely well on our BiG X forage harvester models. Now, it is also available on BiG M 420. A rotary and fine-mesh sieve keeps foreign objects out of the radiator, being cleaned by a powerful suction fan at each revolution to give efficient cooling at all times.

# SafeCut

## The EasyCut cutterbar

- Fully welded & heavy-duty
- SafeCut shear-bolt protection for each disc
- Satellite driveline smoothes the power flow inside the cutterbar
- Tried and tested in the most difficult conditions

i

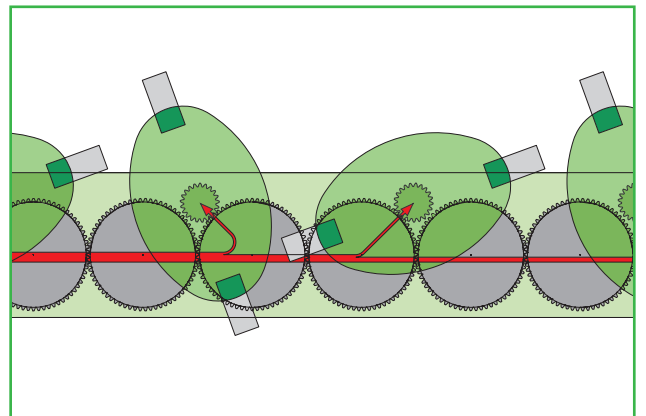


### Wide flotation skids

The extremely wide skids on the EasyCut cutterbar minimize ground pressure and provide excellent protection to the turf and the cutterbar. You can fit high-cutting skids as optional extra.

### KRONE satellite driveline

Operating at slow speed, the large KRONE spur gears inside the satellite gearbox ensure quiet running and little wear. The discs are arranged in a forward position that ensures clean cuts.





# Efficiency and safety

The three disc mowers on BiG M 420 are well-proven technology, which is sourced from our EasyCut mower range. The fully welded and heavy-duty cutterbar with satellite driveline provides maximum stability while the power flows through the rear gearbox and down massive and quiet-running spur gears to drive the satellite gears and the discs. The discs mount in a very forward position and guarantee clean cuts thanks to perfect overlapping. All BiG M 420 models feature the standard SafeCut protection system, which gives the best possible protection when the cutterbar hits a foreign object.

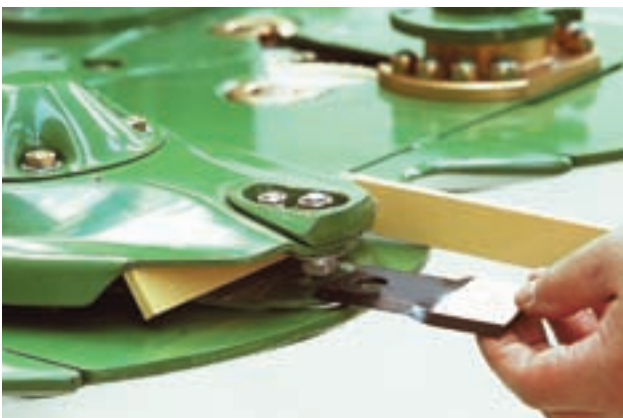


## The innovative, DLG medal awarded and world-first

The SafeCut disc protection system from KRONE offers effective protection and peace of mind. Rather than transferring the shock load of the impact to the cutterbar, the system transfers the load to a roll pin, which breaks as a result of the impact. Then the disc moves 15 mm (0.6") up on its threaded drive pin and out of the risk zone and away from the neighboring discs.

## Standard quick-change blades

All EasyCut cutterbars feature quick-change blades. The operator replaces them within seconds, using the lever supplied but without any tools.



## Minimum wear

The blades rotate through full 360° to avoid possible obstacles. Every component of the discs may be replaced separately to minimize repair costs and save your money!



# The mowers

## KRONE exclusives

- Direct driveline via 4-groove poly belt
- Coil spring suspension
- Mowers operate separately or in combination
- Mowing, conditioning, swathing – three operations in one pass



### **Fold to 3 m (9'10") transport width from 9.7 m (31'10")**

Just press a button to fold up the two side mowers and bring the high-capacity machine to a slim 3 m (9'10") transport size. Then fold up the side guards on the front mower – hydraulically if you like.

### **The mower suspension system**

A perfectly suspended mower produces higher-quality forage. The KRONE suspension system continues to use its well-proven coil springs. These hard-wearing springs respond instantly to the current drive power and therefore ensure the best possible cuts. An optional system allows adjusting the spring tension on the side mowers from the cab.



# Carefully designed for efficiency

The innovative KRONE BiG M 420 driveline allows operators to achieve work rates of more than 15 hectares (37 acres) per hour. After all, short and direct drivelines offer the best efficiency.

From the axial engine, the power flows directly to the transfer box, which in turn splits the flow and transfers it to the individual mowers. Extra strong 4-groove poly V-belts transmit the power directly to the side mowers, which suspend from massive coil springs in their center of gravity.

The design gives optimum floating and the tension of the coil springs is conveniently adjusted from the cab. The pushed front mower benefits from large travel to adapt perfectly to all ground contours.

## Direct drivelines

BiG M 420 uses short and direct drivelines to transfer the engine power to the mowers. The transfer gearbox is positioned right in front of the axial-mount engine and sends the engine power to the individual mowers – a driveline that eliminates any losses and sends the power where it is required.



## The cutting height control system

BiG M 420 offers a stepless system, which is easily adjusted on the top link. If the machine is specified with an optional hydraulic ram, the operator can adjust each mower separately to the current conditions conveniently from the in-cab terminal.

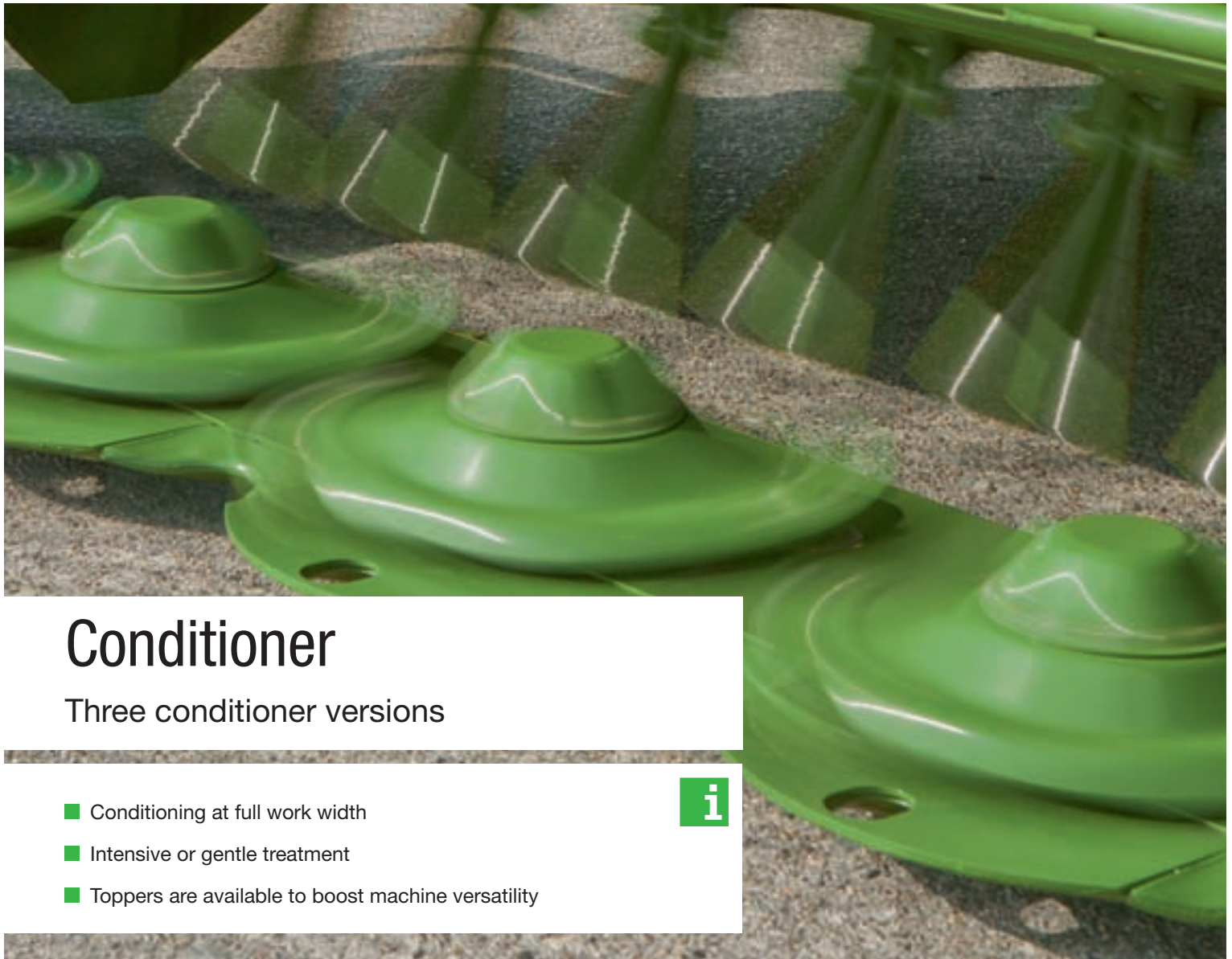


## Hydraulic sideshift

The front mower is available with a hydraulic sideshift option, which allows achieving the most uniform cuts on slopes – across the full width and without striping.



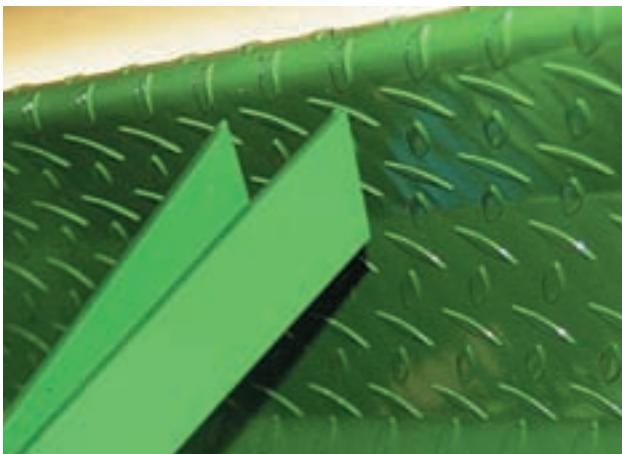




# Conditioner

Three conditioner versions

- Conditioning at full work width
- Intensive or gentle treatment
- Toppers are available to boost machine versatility



## The CV conditioner for 9.7 m (31'10") working widths

The V-type steel tines on the 66 cm (2'2") diameter rotor feed the crop past a baffle plate to provide intensive conditioning. The operator sets the rotor speed conveniently on the gearbox to 700 rpm or 1,000 rpm and adjusts the baffle plate steplessly.



## The CRi conditioner for 9.0 m (29'6") working widths

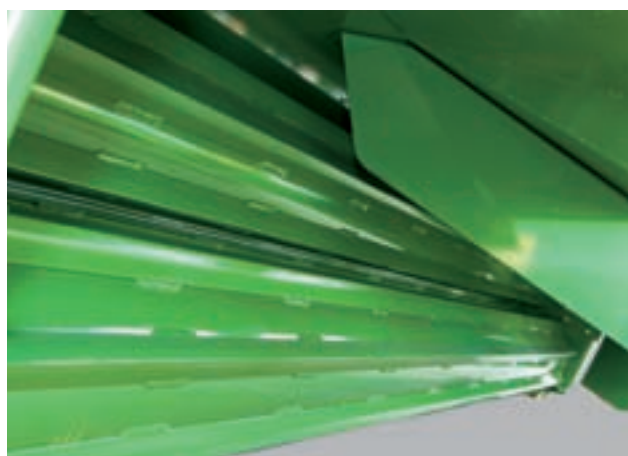
These polyurethane rollers are the preferred option when cutting leafy crops such as alfalfa and clover. The chevron profiled rotors are 25 cm (9.8") in diameter and provide gentle crop treatment. Both rollers are gearbox driven.

# The conditioner versions

Quality is as important as efficiency. To ensure the crop dries rapidly and uniformly, it is recommended to use a conditioner, which rubs off the natural wax skin for the moisture to evaporate faster. KRONE offers a choice of three conditioner versions. The CV conditioner features V-tines made from steel and offers two speeds (700 rpm and 1,000 rpm) whereas the CRi roller conditioner comes either with two profiled polyurethane rollers or with steel rollers to treat vulnerable and broad-leaved crops, such as legumes.

## The robust drive

An extremely robust gearbox transfers the power flow to the cutterbar and the conditioner. The CV conditioner version offers two selectable speeds (700 rpm and 1,000 rpm) to vary the intensity of conditioning. In addition, this version allows adjusting the clearance between baffle plate and V-steel tines steplessly and without tools. Conditioning intensity increases as this clearance increases.



## The CRi conditioner for 9.0 m (29'6") working widths

The steel rotor suggests maximum service life. Crushing and splicing the stems actively, it achieves best results in stalky crops.



## The CM conditioner for 9.0 m (29'6") working widths

A flail toppler is available as optional specification from our system partner Van Wamel B.V.. The unit will boost machine utilization and effectively fight the corn borer.



# Swath merging

Merges 9.7 metres (31'10") into one swath

- Switches to wide distribution at the touch of a button
- Controls all spreading hoods separately  
Memory function
- Crops are merged without dropping to the ground – no contamination

i



## Hydraulic swathing hoods

The hoods open conveniently and separately from the cab. Upon a touch of a button, the machine spreads the material or transfers it to the middle. In addition to that, BiG M 420 memorizes the current setting and retrieves it after the mowers fold down again.

## The swath merging system

The swath merging augers are driven by strong and dependable belts. All units are easily removed to convert the machine for wide spreading in haylage making.





# Merging more than 9 metres (29'6") of crop into one swath

This optional merging system groups all passes into one – cutting, conditioning and windrowing. Integral augers in the two side mowers feed the conditioned material directly to the swath left by the front mower. This optional system offers extraordinary benefits in harvest chains that do without tedding and swathing. The system produces excellently clean swaths in grass, alfalfa and wet silage, which are easily picked up by the following harvester.



## Swathing

When the hoods are closed, the augers transfer the conditioned material to the center of the machine and place it into one single swath. The system leads to a significant reduction in crop contamination.



## Wide spreading on one side

Open the hood on one mower only and BiG M swathes the material to one side. In one up and down operation, the machine is then cutting at widths of up to 19.4 metres (63'8") and swathes the material down to a width of only 12 metres (39'4"). These swaths are easily gathered by a Swadro 1400.



## Spreading across the full width

When the hoods are open, the machine throws the conditioned material over the rotating augers and spreads it across the working width for uniform and rapid drying. This eliminates the tedding pass.

# Service and maintenance

Maintenance is low – productivity is high

- Automatic lubrication is standard
- Large storage box is standard
- Easy access for easy servicing

i



## Well-conceived access steps

The rear guard on the left mower is designed as a ladder, which provides convenient access to the air cleaner when the mower is folded up.



## Easy access

To get at the blades, simply pull out the front guard like a drawer and complete with the curtain. Then fold it up.





# Time is money

If you spend less time on maintaining the machine, there will be more time for productive work in the field and making profit. Therefore, KRONE has built numerous features into BiG M 420 that make daily maintenance simple and easy. All tools and wearing parts such as disc blades are stored in the large cubby right under the access steps. The standard automatic lubrication system supplies oil to most of the greasing points at programmable intervals. A ladder on the left mower gives easy access to the air cleaner whereas the radiator screen is cleaned automatically thanks to the active cooling screen cleaning system.



## **The standard automatic lubrication system**

The standard automatic lubrication system attends most lubrication points automatically. The system is next to the cab door so the operator can easily check the fill level. He can set lubrication intervals to requirements. The system detects blockages and gives early warnings.



## **The wiper water reservoir**

The water tank for the wipers sits under the side panel on the right front wheel for easy access and clear vision at all times.



## **Plenty of storage space**

This compartment above the left front wheels stores tools and spare blades. So, all tools and parts are readily at hand when needed.





## Optional equipment

Multiple conditions ask for multiple setting options. Specify your machine according to your individual needs and requirements.

KRONE offers a wide range of useful optional extras, which you

can order from the factory to increase your

comfort and take all strain out of your work. We help you tailor the perfect machine to your specific needs.



### **HFlexiCut hydraulic height control**

FlexiCut allows the operator to control the cutting height steplessly within a range of 30 - 70 mm (1.18"-2.75"). Ultimate ease of operation – the operator can store two settings and retrieve them from a touch of a button.



### **Hydraulic sideshift function on the front mower**

The front unit shifts 25 cm (9.84") to either side and allows BiG M 420 to achieve an overlap of up to 50 cm (19.68") and eliminate any risk of striping, even on steep slopes.





### Automatically controlled

Do you aim to extract maximum productivity right up to the last moment of a long working day?

Then you should opt for the EasyTrack guidance system on BiG M 420. The highlight about the system is the fact that it also prepares for an ISO 11783-3 compliant auto-steering system. Then you can choose any third-party system that is best for you and use it on a wide range of machinery. For example, use it on the tractor pulling the drill in spring, on BiG M 420 in summer and on the forage harvester in autumn, saving costs and boosting productivity.



### Separate hydraulic spring suspension system

We offer a separate spring suspension system for each side mower. The hydraulic system is particularly useful in alfalfa and allows operators to alter the ground pressure on the side mower when cutting lodged crops. Innovative technology that produces best results.



### The swath merging system

You can specify BiG M 420 with an auger merger. This specification eliminates the tedding, turning and swathing passes and saves time and money, especially when working in short-stemmed crops.







#### **Compact spreading**

BiG M 420 can be specified with optional hydraulic top hats, which help you spread three uniform swaths right next to each other.

#### **Hydraulic side guards**

You can opt for hydraulic side guards, which fold into transport or work position at a touch of a button.





# Technical Data

## BiG M 420 – high-capacity SF mower conditioner

		BiG M 420 CV	BiG M 420 CRi	BiG M 420 CM*
<b>Engine type</b>		<b>MAN D2066 LE 121</b>		
No. of cylinders		6	6	6
Displacement		10.5	10.5	10.5
Max. output to ECE R120 at 1,800 rpm	kW/hp	311/423	311/423	311/423
Max. output to ECE R24 at 1,800 rpm	kW/hp	300/408	300/408	300/408
Rated speed	rpm	1,800	1,800	1,800
Fuel tank capacity	litre	700	700	700
<b>Ground drive</b>		Infinitely variable hydrostatic drive with wheel motors		
Model				
Work rate	up to km/hr	20 (12 mph)	20 (12 mph)	20 (12 mph)
Transport speed	up to km/hr	40 (25 mph)	40 (25 mph)	40 (25 mph)
4WD		standard	standard	standard
Axle separation		standard	standard	standard
<b>Axles</b>				
Steering angle	Degrees	53	53	53
Rear axle steering		Yes	Yes	Yes
Steered front axle		Yes	Yes	Yes
<b>Mowers</b>				
No. of mowers / toppers		3	3	3
Work width	mm	9,720 (31'11")	9,000 (29'6")	9,000 (29'6")
Conditioner speed	rpm	700/1.000	760	2.100
Conditioner model		V-type steel tines	rubber or steel roller	Flail topper
No. of discs		4/side mower 5 front mower	5 / mower	–
No. of top hats		4/side mower 2 front mower	2 / mower	–
Blade attachment		Quick-change blades	Quick-change blades	–
<b>Cab</b>				
Air seat		standard	standard	standard
Passenger seat		standard	standard	standard
Climatronic with cool box		standard	standard	standard
Boln-cab information system		standard	standard	standard
<b>Overall dimensions</b>				
Transport width	mm	3,000 (9'10")	3,000 (9'10")	3,000 (9'10")
Transport length	mm	8,180 (26'10")	8,180 (26'10")	8,180 (26'10")
Transport height	mm	4,000 (13'2")	4,000 (13'2")	4,000 (13'2")
Weight depending on specification	Approx. kg/lbs	14,500/31,966.7	14,500/31,966.7	14,500/31,966.7
Weight distribution front/rear axle	Approx. %	60/40	60/40	60/40
<b>Tyre size</b>				
Front: Michelin MEGAXBIB 750/65 R26		standard	standard	standard
Rear: Michelin MEGAXBIB 580/70 R26		standard	standard	standard
Front: Michelin CARGOXBIB 750/60 R30.5		option	option	option
Rear: Michelin CARGOXBIB 600/60 R30.5		option	option	option

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



Discover the world at KRONE and browse through our website pages to find facts and figures and also new developments plus a wide range of services. Explore our website and find out how versatile the KRONE world is.



## News

Click here to find up-to-the minute information about KRONE – from new product presentations to show reviews. Here you are at the pulse of KRONE life.



## Products

Find extensive information on our full product range. This section holds everything you need – from video clips to manuals.



## Sales organisation

Here you find a distributor in Japan as well as your local KRONE dealer who will be pleased to support you. This is where you find your KRONE partner who will be pleased to assist you.



## Jobs

Would you like to join our company? KRONE is often looking for diligent and motivated staff to work at our farm machinery factory as well as at our commercial trailer production plant. So, this section is always worth a visit.



## Media center

The KRONE 'database' holds thousands of documents, pictures, test reports and much more. Here you find very detailed information on KRONE products that are of special interest to you.



## Events

Are you in for a KRONE live experience? Check out for KRONE events and look at a machine on show or watch it during a demonstration. After all, there is little that is more effective than a hands-on experience.



## Service

Here you find all the service information you require – from a point of contact at the factory to finance schemes for your KRONE machine as well as training schemes for staff and users.



## Download Center

Are you looking for a KRONE calendar for your desktop or a smart picture for your presentation? Here, at the KRONE download center, you will find plenty of useful material for a wide range of projects.



## Used Machinery

KRONE often has a wide range of demonstration or exhibit machinery on offer. This is a good site to find your KRONE machine. Then contact your local KRONE dealer to arrange the details of a potential purchase.



## Parts

24/7... This service gives you the opportunity to find your KRONE part at any time and without waiting. The KRONE Agroparts Portal has an article number and exact description for every part. You can order the part instantly at your local KRONE dealer by sending an e-mail to Agroparts.



## KRONE shop

Are you looking for a gift or are you a collector of farm models? Then you should definitely shop around at our KRONE shop. We take your orders at any time of the day.

Your KRONE dealer

## Maschinenfabrik Bernard KRONE GmbH

Heinrich-Krone-Straße 10  
D-48480 Spelle

Telefon: +49 (0) 5977.935-0  
Telefax: +49 (0) 5977.935-339

info.ldm@krone.de  
www.krone.de