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LANDWIRTSCHAFT AUF DEN PUNKT GEBRACHT



The rear mowers cut at a combined width of up to 10.45m while extra punch comes from the 4m front unit with outer discs folding back for road travel.

YES, YOU CAN CUT WIDER

With customers asking for larger work widths, Krone introduces this **10.45m butterfly mower with the license to play in the big league.** The extra punch comes from the front mower which offers a 4m working width and is yet permitted to travel on public roads.



With the belts up and out of work, the mowers produce three full-width swaths.



Compact swaths are produced by varying the belt speed.

The EasyCut B 1050 CV Collect butterfly mower is Krone's new flagship which grants all wishes regards conditioning and merging. In fact, if specified with the BigSwathSystem auger instead of the merger belt, this high-capacity mower performs like the company's self-propelled BiG M mower. Our test machine was the EasyCut B 1050 CV Collect with V-steel tine conditioner and merger belt for 9.30-10.45m work widths.

Such a monster width is the feat of the front-mounted EasyCut F 400 CV Fold. This front mower has a working width of 4.04m and yet doesn't exceed the statutory 3.00m transport width, courtesy of its patented slewing drives on the sides which swing the two side units hydraulically behind the mower bed. This design enables users to operate the mower also on wide, high-horse-power tractors.

CUTTING 4 METRES UP FRONT

The conditioner on the front mower is a 64cm diameter rotor with pivoting V-type steel tines which are mounted at steep angles and kitted out with stops for quieter running. The rotor speed is either 600rpm or 900rpm and changed by re-coupling the pto shaft to the gearbox, with the higher rpm being ideal for green rye and wet silage. Apart from this, you can fine-tune the conditioning intensity by adjusting the hood infinitely variably.

The conditioner width is 2.55m – like the conditioner on the familiar F 320 CV mowers. From here, two swath boards feed the

IN A NUTSHELL

- The foldable front mower with a 4m cutting width also increases the cutting width of the rear mowers.
- The EasyCut B 1050 with a 10.45m cutting width is the widest butterfly mower from Krone.
- The conditioner and belt merger boost efficiencies.

material to the middle so the tractor wheels can straddle the swath. If you don't want swathing, you can remove the boards and store them on the mower. With this option, the spreading width ranges from 2.70m to down to 1.30m, so that any tractor can straddle swaths formed by this machine.

Mounted in the front linkage in push-type configuration, the unit has hydraulic suspension with integral raise/lower function. This means the tractor's front linkage serves just for attachment while raise/lower is controlled by a single-acting service. A double-acting service is required for swinging the outer disc elements backwards and folding up the end curtains.

Provided the combination has ISOBUS Comfort controls, you can integrate the front



The Comfort control system requires an ISOBUS terminal and an ISOBUS joystick. We used the tractor's ISOBUS-compatible terminal.



The SmartConnect Solar is a digital vibration data logger which is used for implementing telemetry on attachments.



1 The front mower cuts at a width of 4.04 metres, the rear mowers at up to 10.45 metres. When the merger belts swing out of work, the material is spread at full width. When the belts lower into work, the material is swathed. Alternatively, one rear mower is swathing, one is not swathing.

2 The DuoGrip system consists of two links that maintain the mowers parallel to the ground. The correct attachment height is indicated by an arrow.

3 The mowers boast a large side-shifting range – courtesy of the slim T-gearbox and the drive shaft with three telescopic sections.

4 The new headstock offers impact protection and has integral stands which fold hydraulically as an option.



mower into the system – after you route an extra oil line from the rear linkage to the front. Once this is in place, you can automatically raise/lower the front unit on the headland via Section Control.

PLENTY OF WIDTH, PLENTY OF OUTPUT

Our mower at the rear was the EasyCut B 1050 CV, which has the same 3.60m mower bed as the familiar EasyCut B 1000 CV Collect. Like the latter, it folds to vertical but has a 35cm larger working width – a fact that seems to suggest that Krone is planning to take the smaller model out of production. For the 4m work width, the Krone engineers had to develop a new headstock. This is based on the headstock of the B 950 model that has a merger auger instead of a conditioner.

The challenge was to transmit up to 430hp from the tractor to the mower, implement infinitely adjustable 38-94cm overlaps on each side and yet meet the statutory 3.00m transport width and 4.00m height.

Included in the new headstock's standard specification is the mechanical non-stop breakback system which swings the unit up and to the rear to avoid obstacles and then back into work position. What's new is that it enables operators to adjust the distance between the two rear mowers hydraulically from 2.10m to 3.25m. This means, the B 1050 is a good match for the F 320 CV, F 360 CV and F 400 CV Fold front mower models, with the 4m Fold model overlapping 40cm at maximum width.

This should be enough to eliminate any striping in normal conditions. The rule of thumb is a 20cm overlap when using an autoguidance system and about 35cm for combinations that are not autoguided and 45cm+ for working on slopes.

LARGE SETTING RANGE

The engineers had to employ a number of tricks to implement such a wide range of setting options. One is the new T-gearbox which splits the powerflow from the tractor and sends it down the two drive shafts that power the two mowers. These drive shafts have three telescoping sections so they can execute the nearly 60cm sideshift on each side. Drawback of this design though is that the shaft needs greasing every 250 hours.

Speaking of lubrication, all mowers have the familiar oil immersed SmartCut discs

with quick-change blades and 360° rotation. The SafeCut system has a pin shear off when the disc hits an obstacle, with the disc moving up a threading and out of the orbit of its neighbouring discs.

The rear mowers mount in ball sockets that carry them in their centre of gravity and are controlled by parallel links that keep them parallel to the ground at all times. In addition to that, 28° up and 13° downward travel make for good ground following along ditches and on slopes.

A novelty is the fact that the tractor's load-sensing system provides a constant flow of oil to the hydro-pneumatic suspension system, ensuring the ground pressure is maintained also when working in undulating terrain. The operator can read the current pressure on a gauge and adjust it infinitely variably from the terminal. The higher the suspension pressure, the more are the mowers floating on the ground.

BELTS FOR SWATHING

The EasyCut B 1050 CV has 91cm wide merger belts as an option which group even 10.45m worth of high-yielding grass or whole crop silage into one swath. The swath boards are adjustable to get the drop-on point right and the belt speed is altered hydraulically to adapt the swath width to the following harvesters.

There is also a crop accelerating roller which adjusts in speed and height for optimised swaths. The oil for the belts is not supplied by the tractor but comes from a separate on-board pump that is flanged to the T-gearbox.

THREE MODES OF SWATHING

The Collect merger belt has three modes of swathing: no swathing, for which the belts are raised out of work; full width swathing, for which they are lowered into the crop flow; grouping all material away from the boundary, for which one belt is turned off. Those who have a four-rotor rake like the Swadro TC 1370 for 13.70m working widths can group two cutting widths into one swath in up and down operation, always matching up with the previous pass and with the outside belt feeding material to the swath. Such a combination groups 20.50m worth of grass into one swath.

For more operator comfort, the B 1050 boasts the so-called Comfort controls, an



5 The EasyCut F 400 CV Fold is attached to a headstock with an integral lifting mechanism and has hydro-pneumatic suspension.



6 You'll have to route an oil line to the front linkage to use this for raising the mower. The pictured setup is a make-shift solution on our demonstrator tractor.

7 The outer elements of the mower bed swing backwards on a slewing ring. The solution maintains the position and timing of the discs so that you can cut at a width of 4.04 metres and still have a transport width of less 3.00 metres.



ISOBUS-terminal and an ISOBUS-compatible joystick. These are either the existing tractor controls or CCI terminals. Comfort control also switches four optional LED worklights and has a digital vibration data logger, the SmartConnect Solar, which implements telemetry on machines that have no electronic control. Telemetry is useful for machine positioning, recording speeds and engine hours as well as area covered and evaluating all these data.



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The hydraulic functions on the Butterfly mower require a tractor with load-sensing system. Provided an oil line is routed from rear to front, the mowers lift and lower with the touch of a button either by timed control or distance covered. Or Section Control takes over, which frees the operator from all machine operations so they can concentrate on obstacles. All this translates into relaxed mowing and highest work rates so that rates of 15ha/h are no longer out of reach. ●

KRONE EASYCUT MOWER

EasyCut F 400 CV Fold - technical data

Manufacturer	Krone
Model	EasyCut F 400 CV Fold
Type	Push-type front mower conditioner
Working width	4.04m
Transport width	3.00m
No. of discs	5
No. of drums	4
Swath width	1.30-2.70m
Conditioner type	V-type steel tines
Mower suspension	hydro-pneumatic
Weight	approx. 1,750kg
Tractor power	approx. 74kW (100hp)
Price	€44,510

Source: Manufacturer, base specification price excl. VAT.

EasyCut B 1050 CV Collect - technical data

Model	EasyCut B 1050 CV Collect
Type	Rear butterfly disc mower with conditioner
Working width per mower / combination	3.60m / 9.30-10.45m
Distance between the rear mowers	infinitely variably from 2.10m to 3.25m
No. of discs	6 per mower
No. of drums	2 per mower
Conditioner type / diameter	V-type steel tines / 64cm
Swathing equipment	Merger belts
Mower suspension	hydro-pneumatic
Weight	approx. 3,990kg
Tractor power	approx. 150kW (200hp)
Hydraulic spools	load-sensing
Price	€108,785

Source: Manufacturer, base specification price excl. VAT.

Minimum use 929ha/year

$$MU = \frac{fc}{rc - vc} = \frac{€15,330/\text{year}}{€19.50/\text{ha} - €3.00/\text{ha}} = 929\text{ha}/\text{year}$$

Explanation

MU	Minimum use
fc	fixed costs: €15,330/year (= 10% of the purchase price)
Vc	variable costs/ha: €3.00/ha (wear, maintenance)
RC	Rental costs: €19.50/ha

PLUS & MINUS

- + Large working width of up to 10.45m
- + The 4m front mower improves overlapping
- + Tine conditioners offer flexibility and cut drying times
- + Merger belts offer flexible changeovers from swathing to no swathing and vice versa
- + Comfort control integrates the operation of the front and rear mowers
- The tractor requires load-sensing hydraulics