



*Kersten Maschinenfabrik*

# *Product Catalogue*

## *Agricultural technology*



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In order to tailor our machines to our customers' needs, we are constantly expanding our product range and developing our existing machines further. As the manufacturer, we therefore reserve the right to make technical changes and further developments. For this reason, the photos and illustrations shown here may differ from the actual designs. Errors excepted.

## History

### **1918**

Founded in 1918 as an agricultural machinery company

### **1965**

Specialisation in sales and service for municipal equipment  
Start of welding and contract work

### **1972**

Expansion of sheet-metal forming operations  
Production of complete assemblies for industry

### **From 1986**

Development and construction of attachments to complete the sales programme  
Development of hand-guided carrier vehicles

### **2010**

Licensing of production to Kersten Maschinen GmbH

### **2013**

Insolvency of Kersten Maschinen GmbH  
Division of the business units

### **2014**

New Development department established with extensive CNC machine tool park

### **2018 - Kersten's 100th anniversary**

Takeover of production and distribution of double-blade mowing technology from the Kunzelmann company based in Vogtsburg, Germany  
Our family business celebrates its 100th anniversary

### **2019**

Product maintenance of the F and H series  
Presentation of the FK series for municipal applications

### **2020**

Introduction of the front butterfly mower FX with working widths up to 9.65 m

### **2021**

Expansion and extension of the production area for double-blade mowing technology to over 1,850 m<sup>2</sup>  
Introduction of the FKL and FSR series





## KEMA - This is what sets us apart

Since the takeover of Kunzelmann, we have adapted our production to the manufacture of double-blade mowers and have expanded continuously.

"Made in Germany", a special feature of our machines is their high percentage of in-house production of over 80%.



Our extensive CNC machinery includes turning, milling, bending and welding. The high percentage of in-house production allows us to meet our high demands on quality and short delivery times. For sheet-metal laser cutting and surface finishing, we work closely with specialised regional partners.

In order to achieve the shortest possible delivery times, we pre-produce the individual components and assemblies throughout the year. These are then assembled according to your configuration. This enables us to implement a wide range of different working widths and configurations. This is particularly important in order to adapt the mowers exactly to your requirements.



Our high level of in-house expertise gives us a measure of flexibility when it comes to responding to product changes and further developments.

Especially for the further development of our machinery, we work in close contact with the end user to create practical solutions.

## Advantages of double-blade mowing technology

With a double-blade mower, two blades run in opposite directions to each other. The cutter bar with an unequal blade pitch 70 / 84 mm and CARBODUX blades guarantees a high-quality cut and long blade life.

The combination of a comparatively low power requirement and a high mowing speed enable a high area coverage with low fuel consumption. The engine size of the carrier vehicles can be significantly reduced and mowing can be carried out at low engine speeds.

All our mowers are equipped with the latest **BiduxX system** as standard. Details of the difference between the old Bidux system and the new **BiduxX system** can be found on our website at [www.kersten-maschinenfabrik.de](http://www.kersten-maschinenfabrik.de).

### *Economical*

- improved regrowth due to clean cut
- low power requirement of 2-2.5 kW per metre of working width
- mowing speeds up to 12 km/h
- even and smooth placement of mown crop and therefore improved drying behaviour

### *Ecological*

- strong protection of meadow fauna
- low soil pollution due to low dead weight of the mowers and smaller carrier vehicles
- ecologically acknowledged mowing technology

### *Oscillating*

- no stone chipping, as there are no rotating blades
- clean forage, heaps of soil, etc. are not dispersed in the mown crop
- suitable for special applications in water, etc.





## Optimum use of the double blades

### *Correct cutting height:*

- Cutting height adjustment between 5-15 cm via different skids mounted under the bars
- Higher cutting heights (over 8 cm) ensure longer blade life and greater protection of insects and amphibians



### *Regular maintenance of the blades:*

- The blades must be re-sharpened regularly
- The sooner the blades are sharpened, the less they need to be sharpened to be sharp again; regular sharpening increases the life of the blades
- Regular greasing of the drives and the pots of the guide arms
- Before fitting the blades, check that they are aligned so that there are no gaps between them.



### *Correct blade and motor speed*

- Rule of thumb:  $\text{Speed (km/h)} \times 100 = \text{appropriate blade speed}$ .
- Maximum blade speed 1100 rpm (limited by a valve in the mowers as standard)
- Example of a standard front PTO:  

With a 1000 PTO at 680 rpm, the blade speed is already 1000 rpm and the engine speed of the carrier vehicle is approx. 1300-1400 rpm.
- If the mower is driven by the tractor's hydraulic system, the engine speed must be adjusted to the oil flow rate; in this case, the mower can be adapted to the carrier vehicle in advance.
- A reduced engine speed leads to longer blade life and reduced fuel consumption by the carrier vehicle.

## Comparison of Bidux and BiduxX systems

Due to positive experiences in the past, we have decided to change our mowers from the previously known Bidux to the new BiduxX system of cutter bars.

### Advantages of BiduxX compared to Bidux:

- Significantly more area coverage
- Blade allows 100% geometrical re-sharpening
- Blade 100% as sharp as new - after every sharpening
- Blade with 70% greater re-sharpening surface = longer useful life
- Blade can be re-sharpened 100% by machine

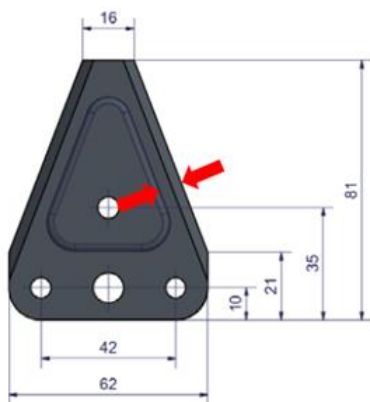
In the following, we will show you the most important differences between the two systems:

#### Bidux system

bidux<sup>SYSTEM</sup>



Bidux series blade

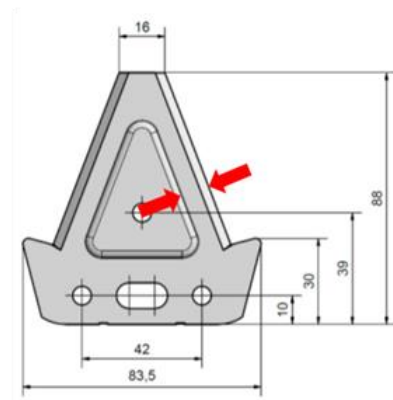


#### BiduxX system

bidux<sup>SYSTEM</sup>



BiduxX lower cutter blade,  
maintenance and surface-optimised



Regrinding area Bidux = 5 mm BiduxX = 9 mm (red arrows).





## Front mowers — Rear mowers — Front butterfly mower

### F series front mowers

Page 10-12

- working widths 2.00 m - 3.60 m, from 230 kg
- large passage height for high material throughput
- extensive swathing possibilities
- for tractors starting at 50 HP



### H series rear mowers

Page 14-17

- working widths 1.70 m - 3.60 m, from 315 kg
- suitable for both small and large carrier vehicles

### FX series front butterfly mower

Page 18-21

- working widths 7.15 m - 9.65 m, from 840 kg
- Compact design
- X-folding
- Hydraulic carrying device





## Service equipment



Riveting press AAP300  
Page 22

- For blade maintenance
- Riveting and unriveting of individual blades
- Manually operated
- For nearly all mower blades

Grinding machines  
Page 23

- MSR100
- MSA300
- MSA400









## F series front mowers

Our F series front mowers are driven hydraulically by the carrier vehicle or a separate oil supply and PTO drive. The mowers are suspended in the front hydraulics of the carrier vehicle and mechanically relieved via springs or via a hydraulic carrying device of the front hydraulics.

In addition to an efficient oil guide and high-quality hydraulic components, this mower series has the following special features:

- working widths from 2 m to 3.6 m (BiduxX cutter bars)
- hydraulic overload protection
- speed limiting
- large passage of approx. 107 cm (diagonal)
- grass cutting discs that cut the crop and ensure a clean crop flow
- mowing height adjustment via different skids between 5-15 cm
- pendulum suspension for horizontal contour adjustment



Designation - Weight				Working width	Outer width
Hydraulically driven		PTO-driven			
F-200-H	230 kg	F-200-Z	260 kg	2.00 m	2.25 m
F-235-H	240 kg	F-235-Z	290 kg	2.35 m	2.60 m
F-275-H	290 kg	F-275-Z	325 kg	2.75 m	3.00 m
F-320-H	315 kg	F-320-Z	350 kg	3.20 m	3.45 m
F360-H	335 kg	F-360-Z	390 kg	3.60 m	3.85 m

When driven by the hydraulics of the carrier vehicle, approx. 30 l/min of circulating oil and a pressure-free return flow are required.

With the PTO-driven version, an operating speed of 650 rpm is required for full mowing performance with a 1000 front PTO. Other speeds can also be realised, as well as left-turning or right-turning PTOs.



## Additional equipment

Our F series front mowers are already fully operational in series production. Depending on requirements, the mower can be equipped with various additional equipment. For better visibility in road traffic, warning signs with or without navigation lights can be fitted. If the crop is to be placed directly on the swath, there are various options for this.

### Swathing equipment:

- Swath plates or swath wheels (adjustable).

Additional equipment Swath wheels	Clearing width	F-200-H/Z	F-235-H/Z	F-275-H/Z	F-320-H/Z	F-360-H/Z
Swath plates	60 cm	√	√	√	√	√
Set of 2 swath wheels	up to 115 cm	√	√	√	√	√
Set of 3 swath wheels	up to 170 cm	-	-	√	√	√
Set of 4 swath wheels	up to 225 cm	-	-	-	√	√

The swath width can be calculated from the working width minus the clearing width.

### Warning signs:

- better visibility
- Optionally including navigation lights

### Pressure gauge:

- Wear indicator
- Indicates the power consumption of the drive

### Pipe bracket:

- For extremely high crops starting at 1.50 m
- Pushes the crop forward so that it does not fall onto the carrier frame or the carrier vehicle

### Serrated upper blade:

- For coarse, structured cuttings, such as reeds, annual addition etc.







at your location!

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In-house exhibitions

Deliveries

Contact us for more information!









## H series rear mowers

Our H series rear mowers boast a sturdy design and an adjustable three-point hitch attachment.

Like our front mowers, our rear mowers are driven hydraulically by the carrier vehicle or a separate oil supply and PTO drive.

Our rear mowers have the following special features:

- working widths from 1.7 m to 3.6 m (BiduxX cutter bars)
- Cat 1 and Cat 2 attachment frames
- hydraulic overload protection
- mechanical collision protection
- speed limiting
- bar back reinforcement
- mowing height adjustment via different skids between 5-15 cm
- sliding base frame for adjustment to the vehicle width



When driven by the hydraulics of the carrier vehicle, approx. 30 l/min of circulating oil and a pressure-free return flow are required.

With the PTO-driven version, both the speed and the direction of rotation of the PTO shaft can be configured.

Designation - Weight				Working width	Transport height (road travel)
Hydraulically driven		PTO-driven			
H-170-H	315 kg	H-170-Z	345 kg	1.70 m	2.20 m
H-200-H	320 kg	H-200-Z	350 kg	2.00 m	2.50 m
H-235-H	330 kg	H-235-Z	360 kg	2.35 m	2.85 m
H-275-H	340 kg	H-275-Z	370 kg	2.75 m	3.25 m
H-320-H	350 kg	H-320-Z	380 kg	3.20 m	3.70 m
H-360-H	360 kg	H-360-Z	390 kg	3.60 m	<b>4.10 m</b>



### Additional equipment

#### *Swathing equipment:*

- Swath plates

#### *Pressure gauge:*

- Wear indicator
- Indicates the power consumption of the drive

#### *Serrated upper blade:*

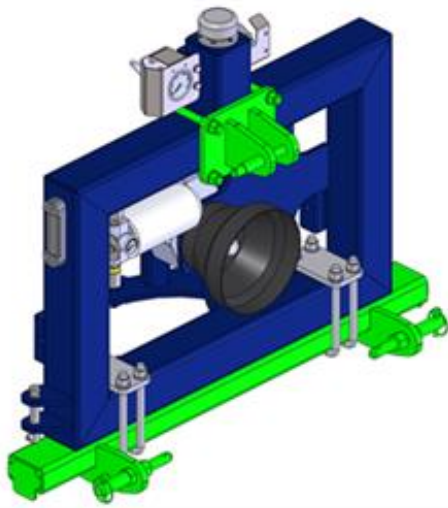
- For coarse, structured cuttings, such as reeds, annual addition etc.



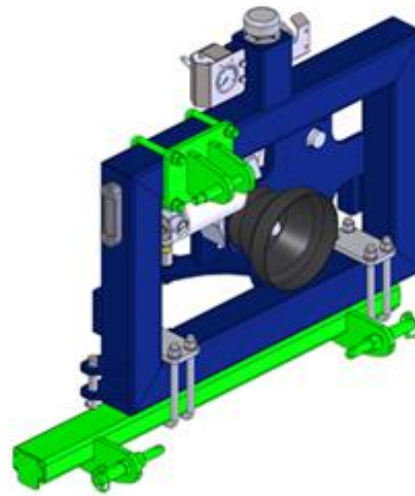


### Special features of KEMA rear mowers

A special feature of our rear mowers is the adjustment rail used to mount the base body of the mower. This allows the mower to be individually adjusted to the width of the carrier vehicle or the front mower. This makes the mower suitable for wide tractors with additional tyres, but it can also be used for smaller municipal vehicles.

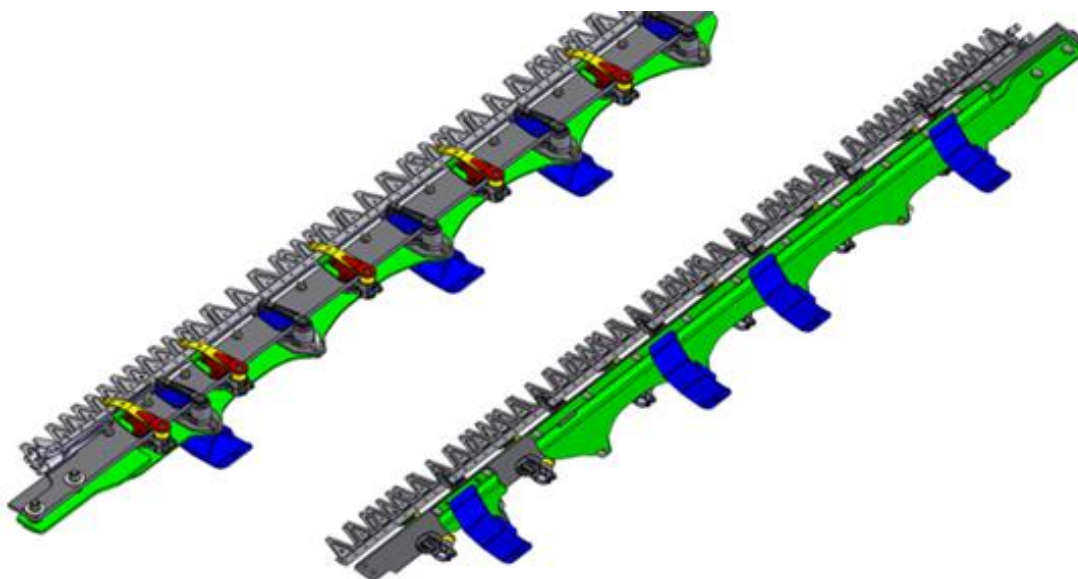


Rail centred



Rail adjusted

Another important feature of our rear mowers is the standard bar back reinforcement (green in the photo below). Particularly when the cutter bar is lifted, the back of the bar is subjected to a great deal of stress, which is absorbed by the reinforcement bar. In addition, the mounts for the skids are integrated into the reinforcement.









## FX series front butterfly mower

Our FX series front butterfly mower is operated via its own oil supply with PTO drive. In addition to a robust design, our front butterfly mower boasts a high impact force and great ease of operation.

Advantages at a glance:

- BiduxX cutter bars
- Compact design
- Hydraulic carrying device
- X-folding
- Convenient electrical control
- Collision protection for all cutter bars



Designation - Weight		Working width	Transport width	Cutter bars
PTO-driven				
FX-715-Z	840 kg	7.15 m	3.00 m	2.75 m centre, 2.35 m left + right
FX-795-Z	865 kg	7.95 m	3.00 m	2.75 m centre, 2.75 m left + right
F-885-Z	880 kg	8.85 m	3.00 m	2.75 m centre, 3.20 m left + right
FX-965-Z	900 kg	9.65 m	3.00 m	2.75 m centre, 3.60 m left + right



## FX series front butterfly mower

Impressive details:

Compact design:

- Transport width 3.00 m, transport height under 4.00 m (mounted and lifted 50 cm)
- Attachment length of 1.40 m (from coupling point)
- Weight up to approx. 900 kg

Hydraulic carrying device:

- hydraulic relief of the central carrier frame
- the support pressure of the cutter bars is continuously monitored and automatically adjusted
- the support pressure is manually adjustable

X-folding:

- automatic interlocking of the cutter bars
- compact transport dimensions for road travel, avenues and forest paths
- No additional mechanical transport lock required for the lateral cutter bars

Convenient electrical control

- Automatic headland control (1-lever operation on headland)
- Automatic shut-off of the lateral cutter bars after lifting
- Individual lifting of the lateral cutter bars possible

Safety:

- Lateral collision protection, lateral cutter bars fold away to the rear
- Central cutter bar deflects backwards and upwards on contact
- Hydraulic overload protection (overpressure if a foreign object gets between the blades)
- Speed limitation of the blade drives





## Additional equipment

The standard front butterfly mower is equipped with a tine wheel on the left and right to clear the area of the side drive shoes. In addition, a set of two or three swath wheels can be retrofitted to use the butterfly mower for fresh forage harvesting. In this case, the side cutter bars remain folded in and switched off.







If the blades of the mower cutter bar are worn and can no longer be re-sharpened, or if individual blades are damaged or loose, it is possible to refit the cutter bar with new blades. It is important for blades to be riveted properly. When riveting by hand, the back of the cutter bar on which the blades are mounted may be damaged and deformed. For a good cutting result, it is essential that the back of the cutter bar remains completely straight.

Our hand-operated riveting and unriveting press is the ideal accessory for your double-blade mowers. It enables the simple replacement of individual blades on almost all commercially available finger bar and double-blade cutter bars. The blades can be replaced in the following four steps:

1st step: Shear off the old blade

2nd step: Press out the sheared rivets

3rd step: Rivet on the new blade

4th step: Smooth the rivet curve on the underside of the blade



An important issue with the double-blade mowing technique is blade sharpening. To ensure the long life and durability of the blades and a good cutting quality, the blades must be sharpened properly. When grinding by hand and with an angle grinder, it is difficult to get the correct angle of the cutting edge. It is also important not to damage the back of the blade.

## MSA300 / MSA 400

The blade sharpener MSA boasts a sturdy design. The basic body is a galvanised trough that is either 3 meters (MSA300) or 4 meters (MSA400) in length. A speed-adjustable angle grinder is guided on this body. The angles and end stops are both adjustable, making the sharpener suitable not only for double blades, but also for other blades, such as hedge trimmers.

Key features:

- Adjustable blade holders, 4/5 pieces
- Continuous adjustment of all grinding angles, including scales
- Quick changer for 2 grinding angles
- Special ceramic grinding wheel
- Speed-adjustable angle grinder



## MSH100

Our grinding device MSH100 is a retrofit kit for standard speed-adjustable angle grinders with a grinding wheel diameter of 125 mm.

In addition to our double blades, other blades with a blade cutting angle of up to 40° can also be re-sharpened.

By adjusting the grinding angle and using the depth stop, the grinding results can be significantly improved compared to free-hand grinding.







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