

Premos



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MOBILE PELLETING PRESS



Premos 5000

Mobile and stationary press for structural pellets

In presenting the Premos 5000 (Kalverkamp system), KRONE is once again making a powerful statement of its innovative performance: The Premos is at the same time a mobile pellet harvester and a stationary pelleting press which harnesses the huge potential of straw and other crop stalks which are abundantly available in the fields around the world, and presses them into top-quality, structural pellets. These make ideal bedding, animal feed and fuel.



Sieving drum

The screening drum removes dust and chaff. The material drops on to the crop conveyor (in analogy to returns systems)

Elevator

Integral auger conveyors

Internal augers feed the pellets from the pellet press rollers to the elevator

Feed rotor

800 mm wide system
No cutting system!

Retaining roller

Ensures a consistent and controlled pick-up

Pick-up

Camless

Crop conveyor / feed channel

800 mm wide system

Hopper conveyor belt

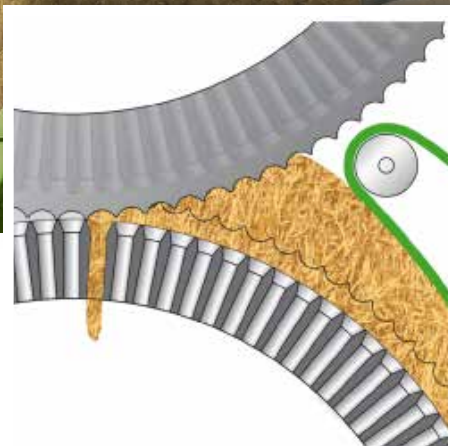
Pellet hopper

9,000 litres
approx. 5,000 kg

Two pellet press rollers

800 mm width
1000 mm diameter





Milling and pressing

The material is milled by two counter-rotating and interlocking pellet press rollers with alternating rows of teeth and holes. The teeth of one roller mesh with the holes of the other, pressing the material into the holes and depending on the crop, pressures of up to 2,000 bar and temperatures of up to 100 °C are generated.

Setting the pellet length

As the material flows between the two die rollers it is pressed into the 16 mm holes and from here into the inside of the rollers. The pellet diameter is fixed as it is determined by the diameter of the holes, but pellet length varies between 15 mm and 40 mm by adjusting the gap between the spacers and the pellet press roller.

Sieving debris

Augers inside the die rollers feed the pellets to an elevator which in turn feeds them through a sieving drum. Here, dust and debris are separated from the pellets and returned to the pellet press rollers. The results are pellets of an optimum quality that are suitable for use as bedding, feed or fuel.

Hopper and unloading elevator

The pellets are conveyed to the 9 m³ hopper. Here they are cooled by a blower after they were heated under the high pelleting pressure. As soon as the hopper, which also features a weighing system, is filled to capacity the pellets can be unloaded into a chaser bin.

Premos 5000

Pelleting on the move

Freshly pressed

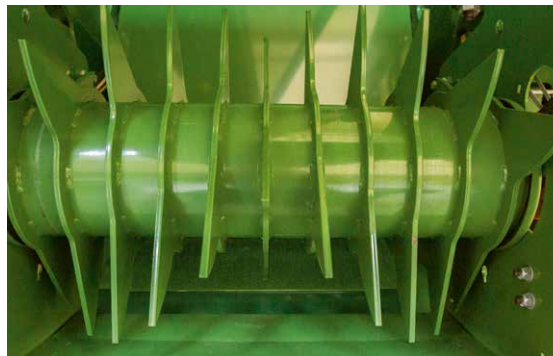
- **Production of marketable structural pellets** directly in the field
- **Up to 5,000 kg throughputs per hour**
- **Water and oil dispenser** for optimum results
- **On-board cooling** keeps pellet quality high

The Premos 5000 is the first pelleting press which picks up stalk crops such as straw, hay or lucerne directly in the field and compresses them into structural pellets. The finished product is then overloaded into a chaser bin.



Clean gathering of the material

The 2.35 m wide and camless pick-up gathers the crop and a retaining roller ahead of the pick-up ensures a very uniform flow also at low forward speeds.



Feeding rotor and feeding belt

An 800 mm wide rotor feeds the material to the feeding belt. Foreign objects drop into a stone trap that is arranged behind the rotor while the material is conveyed to the pellet press rollers.



The water/oil dispenser

A dispenser meters water or oil to a bank of jets that spray the liquid on the pellet press rollers. This feature optimizes the moisture levels and adhesion properties of the material, which is the basis for a consistently high quality.



The cooling system

Temperatures of up to 100 °C are generated during pelleting. To avoid the pellet quality deteriorates during storage, the pellets are cooled by a fan that blows air into the hopper through a double floor.

Premos 5000

Pelleting press in stationary use



The feed table

The stationary Premos has a 7.5 m long feed table with a hydraulic folding mechanism. After the bale is placed on the table, it is fed by two chains with lugs to the shredding rotors.



The twine remover

The twine is removed automatically at the end of the table while a triangular blade cuts the threads at the bottom. A bundling hook above the bale pulls the twine towards a rotating spool which winds up the threads using catch mandrels and then removes them from the bale.





Full flexibility

- The first mobile pellet press that also operates as a stationary pellet mill
- Bale shredder, integral feed table, automatic twine removal
- Fold-up feed table for convenient changeover into transport position

When used as a stationary pelleting press, the Premos can pelletise stalk-type crops all year round. The bale is removed from storage and fed into the machine via a system of shredding rollers.

To convert Premos into a stationary mill, remove the pick-up and replace this by the bale shredder which makes an integral part of the machine.



The bale shredder

This unit consists of four hydraulic rotors that have blades and guide plates. As the bale passes over them, the straw is cut by the blades and pulled out by the serrated plates. Additional deflector sheets are arranged behind the rollers to ensure an optimum distribution of the material across the working width.



Ready for road transport

To changeover into transport position, the feed table folds hydraulically up on the side of the machine for easy road transport and a transport width of less than 3 m – for fast and easy moves between sites.

Structural pellets

Practical use



Feeding pellets to animals

Pellets from hay, lucerne and straw make excellent base rations. Research shows that the structural pellets have significantly lower traces of pathogens and mould compared to straw from bales. This is proof of their high quality for use as animal feed.



Animal welfare

Structural pellets are largely dust-free and sterile and can be used, for example, in small quantities in pig husbandry as an occupational material. As such, structural pellets encourage the animals' natural exploratory behaviour and are ideal for the "Animal Welfare Initiative".



Comfortable bedding for cattle

1 kg of structural pellets can absorb up to 4 l of water. This high liquid absorbing capacity makes straw pellets the ideal bedding for housed cows. The cleaner environment leads to cleaner cows and better udder and animal health. In addition, less bedding is required when pellets are used instead of straw chops.

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Ideal for horses

Offering high liquid-absorbing capacities, straw pellets keep horse boxes dry. The disinfectant qualities can help control pathogens which account for typical fungal infections such as thrush or grapes. One further boon is that, because they contain very little dust, straw pellets reduce the risk of horses contracting breathing difficulties

Better animal hygiene

The high absorbency of straw pellets also pays off in poultry farming: As the floor is less smeared with bedding containing structural pellets, not only the feet of the laying hens remain clean, but also the nests and the eggs in them. In addition, it reduces ammonium pollution in hen houses,

A sustainable fuel

2.5 kg straw pellets substitute for 1 l fuel oil. On a global scale, about 800 million tonnes of straw are available for use as fuel. The annual amount of straw harvested in Germany is 30 million tonnes, of which 8-13 million tonnes can be used as a renewable energy resource. Straw therefore offers a huge, so far only partially exploited, potential to make a significant contribution to climate protection as a "renewable fuel" by reducing CO₂.

Versatile applications

- **Straw pellets with high bulk density** of up to 700 kg/m³ (density greatly dependent on crop)
- **Excellent absorption qualities for ideal bedding**
- **Adds structure** to the ration
- **Excellent toys** for pigs
- **Enormous potential** as a renewable energy source.
- **High gas yield in the biogas plant** due to digestion of the straw during pelleting

The KRONE Premos 5000 produces structural pellets which differ significantly from DIN pellets in terms of their composition. With a diameter of 16 mm, the structural pellets produced from unchopped crops are considerably larger. Rich in fibre, pellets add structure to the ration and offer good absorption qualities as bedding. The structural pellets also show their strengths in the biogas plant. No floating layers and digestion during the pelleting process ensure a significantly higher gas yield and a smooth-running plant.

Operation

User-friendly operating terminal



Easy & intuitive



CCI 800/1200 terminal

The CCI 800 or 1200 terminal with 8" or 12" touch display is ideal for operating the Premos 5000. The home screen shows the current level of machine utilization, the pellet density, temperature and moisture level. Tap the buttons to retrieve the menu items and access machine data and settings.



DS 500 terminal

The DS 500 with its 5.7" colour display is the standard operating terminal for the Premos 5000. It offers twelve function keys and a touch screen for easy and straightforward machine control.

- **Easy use and easy operation** via terminal
- **DS 500 – Standard operating terminal** with 5.7" colour display
- **CCI 800 – User-friendly operating terminal** with 8" touch display
- **CCI 1200 – User-friendly operating terminal** with 12" touch display

Premos is conveniently operated from a number of easy-use operator terminals. From here, operators check machine functions and enter settings.

Technical data

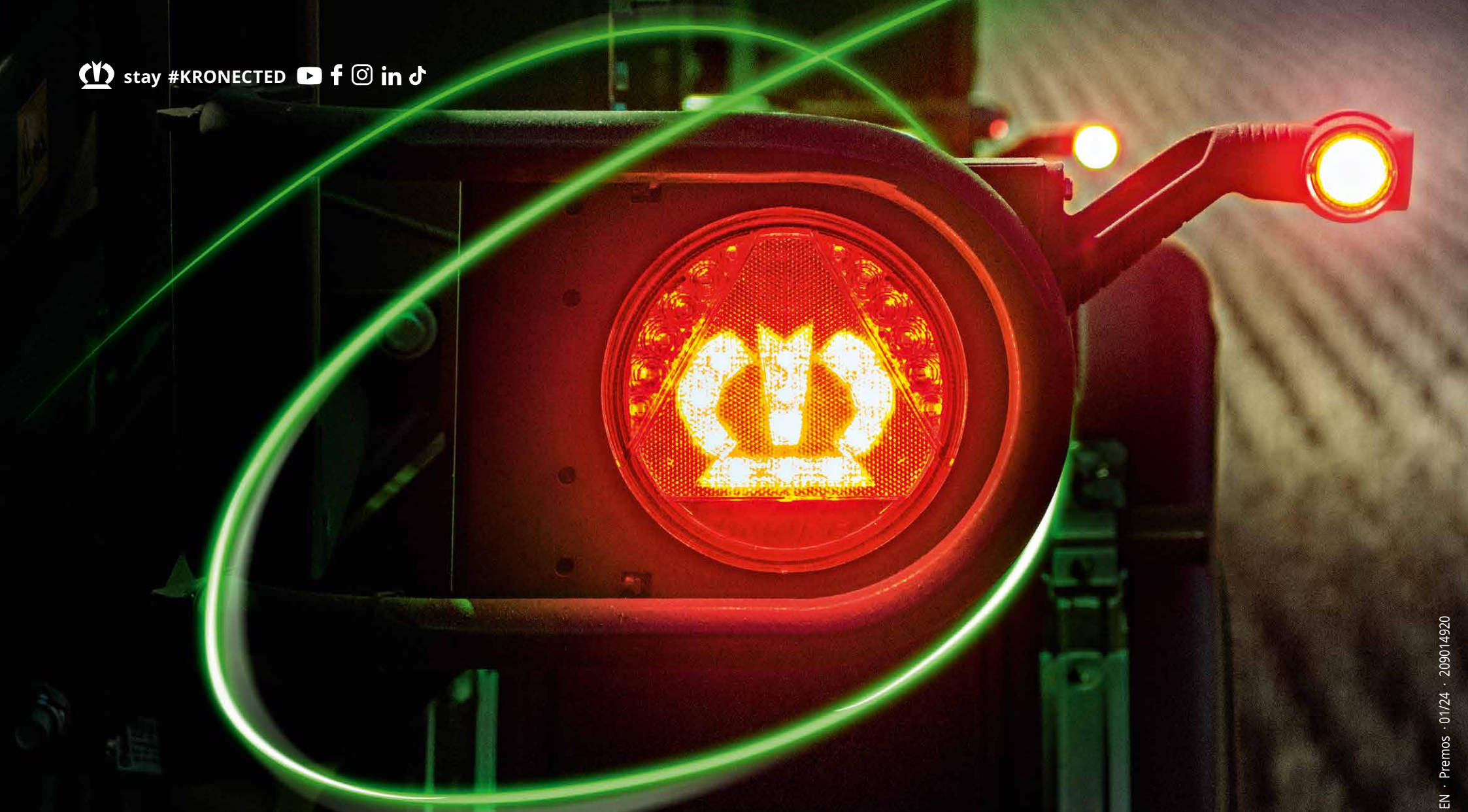
Mobile pelleting press



Premos 5000

Types of crops	Hay, lucerne, straw with less than 16% moisture		
Length	Approx. m		8.90 (29'2")
Width	Approx. m		2.99 (9'10")
Height	Approx. m		3.80 (12'6")
Pick-up work width	Approx. m		2.35 (7'9")
Bale shredder	Bale height	approx. m	0.60 to 1.00 (23.6" to 39.3")
	Bale width	approx. m	max 1.20 (3'11")
	Table length	approx. m	7.50 (24'7")
	Shredding rollers / diameter	approx. cm	40 (15.7")
Weight	Approx. t		17 (37,478)
Pellet diameter	approx. mm		16 (0.63")
Throughput	t/h		up to 5 (depending on the crops)
Hopper capacity	t		5 (11,023)
Water tank	Litres		500
Oil tank (vegetable oil)	Litres		100
The tandem axle			620/50 R 22.5
Tractor power	min. kW/hp		257 / 350





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