Variable Chamber Round Balers

VB-VBP
2160, 2190 and BalePack series

www.kuhn.com



be strong, **be KUHN**





VB-VBP 2160 2190

KUHN BALERS

PERFECT BALES UNDER ALL CONDITIONS!



THE QUALITY YOU'RE LOOKING FOR

Field performance, bale quality and bale density are fundamental to the profitability of every baling operation. Every minute counts when weather conditions are uncertain. The unique innovations on the KUHN balers make a real difference in field performance.

UNMATCHED RELIABILITY

KUHN offers the most efficient and versatile range of balers available on the market. KUHN balers are not only designed to produce top quality bales but are also built for unmatched reliability.

STAYING IN FRONT WITH NEW INNOVATIONS

KUHN's Research & Development department is constantly improving the Round Balers to stay in front with innovations like: PROGRESSIVE DENSITY, INTEGRAL ROTOR Technology and INTELLIWRAP.





Models	VB 2160	VBP 2160	VB 2190	VBP 2190
Bale size	80 - 160 cm	100 - 160 cm	80 - 185 cm	100 - 160 cm*/**
Height	2.67 m	3.00 m	2.87 m	3.04 m
Width	2.46 m	2.99 m	2.46 m	2.99 m

* 185 cm with wrapper disconnected ** Small bale kit: Ø 80 - 160 cm

PROGRESSIVE DENSITY



WORK QUALITY

PROGRESSIVE DENSITY, HOW DOES IT WORK?

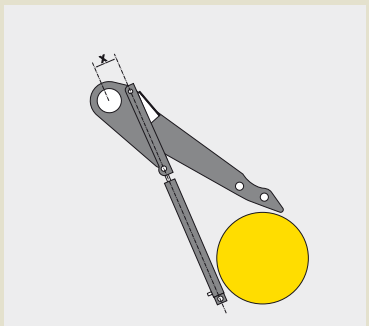
As the bale grows within the bale chamber, the belt tensioning arm is subjected to steadily increasing resistance from two hydraulic cylinders and a spring tensioner. So as the diameter grows, the bale's density does too. The result is a very firm bale with a moderate core – not too soft, not too hard. With a tougher outer layer, straw bales will be more tolerant to bad weather conditions, while silage bales will maintain their shape for improved stacking and easier handling.

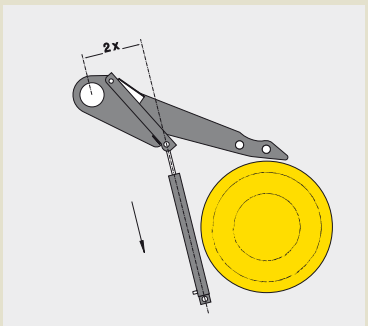
INSTANT BALE STARTING

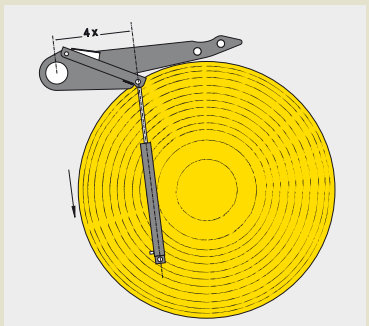
Bale formation starts in a well-designed pre-chamber, where belts and rollers provide fast, consistent core formation. In this pre-chamber, moderate or soft-cores can be chosen to meet the needs of any operation. Bale rollers and five "multi-grip", wide-section belts reduce crop losses and improve bale rotation.

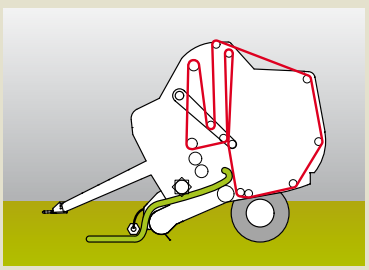


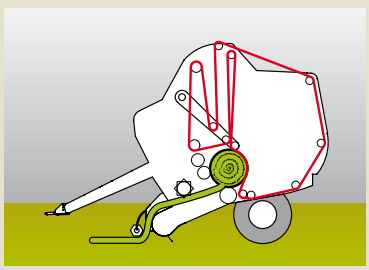


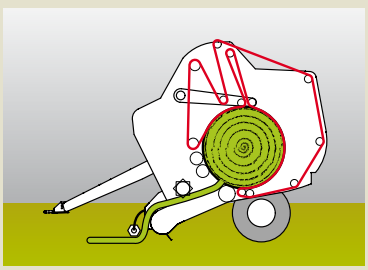


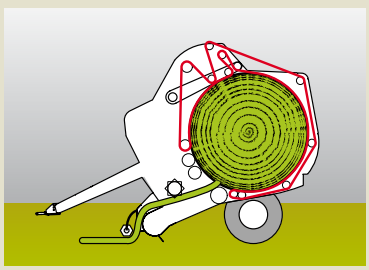














KEY FEATURES

- **New Integral rotor design** - The aggressive design provides maximum efficiency, with high performance throughput in all crop conditions.
- **OPTICUT** - The Integral feed rotor is standard combined with 14 and optional with 23 knives for maximum cutting efficiency.
- **DROP-FLOOR** - If a blockage might occur the cutting floor and knives can be lowered hydraulically from the terminal.
- **Progressive Density** - Increasing tension as the bale grows provides a firm bale with a tough outer shell.
- **Driveline** - A durable driveline with 1¼" chains. The chains offer low maintenance, reliability and long lifetime.
- **Tying** - Whether using net wrap or twine options, your bale is secured until needed.
- **BalePack** - Two operations combined in one machine provides an efficient, one-man baling and wrapping system.
- **INTELLIWRAP** - Uses sophisticated electronics and hydraulics to monitor the wrapping process and continuously controls the film overlap, allowing total flexibility (VBP Model Only).
- **AutoPlus** - Total operational control by a handy in-cab terminal (VB Models Only).
- **ISOBUS** - The KUHN VB and VBP balers are ISOBUS compatible.* ISOBUS compatible tractors will therefore not require a separate terminal for the baler. Alternatively, KUHN offers a VT 50 or a CCI 100 color terminal with touch screen.

* Excluding AutoPlus controlled balers

DIFFERENT INTAKE SYSTEMS

INTAKE

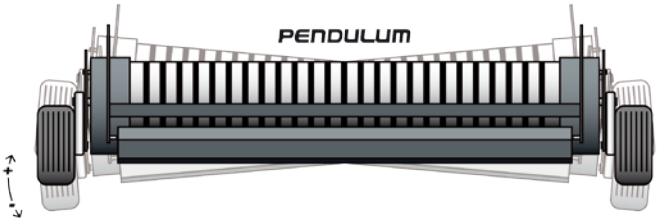


OPEN THROAT

The wide Pick-Up gives tremendous capacity for easy handling of the heaviest windrows produced by modern, high-capacity combines and mower conditioners. With the OPEN THROAT design, there is also no restriction on the crop as it feeds into the baler. These features work together to help provide high field performance.

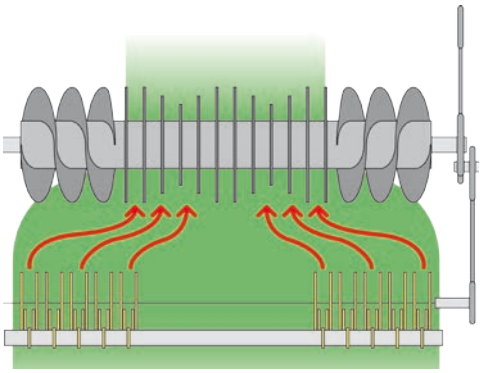
PICK-UP

The new designed Pick-Up gathers the densest of swaths even at high forward speeds. The PENDULUM system and 2.30 m wide intake with height adjustable guide wheels accurately carry the Pick-Up over every ground contour.
The Pick-Up roller helps to even out the flow of material into the integral rotor, regardless of the crop conditions.



INTEGRAL ROTOR TECHNOLOGY

The large diameter rotor has a heavy duty auger flighting which is integrated directly onto the outer sections of the rotor. This system is called Integral Rotor Technology. This maintenance free short distance intake system ensures even feeding regardless of variations in the crop. With this system even the heaviest of crops are force-fed through the short intake, resulting in higher forward speeds for outstanding productivity.











DROP-FLOOR

The intake unit is protected by the main PTO clutch. If a blockage occurs the PTO clutch is automatically activated. In addition the complete cutting floor including the knives can be lowered. First the cutting floor will be lowered automatically followed by the knives. After the blockage is cleared the cutting floor including the knives can be brought back into the working position. In extreme circumstances KUHN provides double security by rotor disengagement clutch which separates the rotor drive so the bale can be finished.

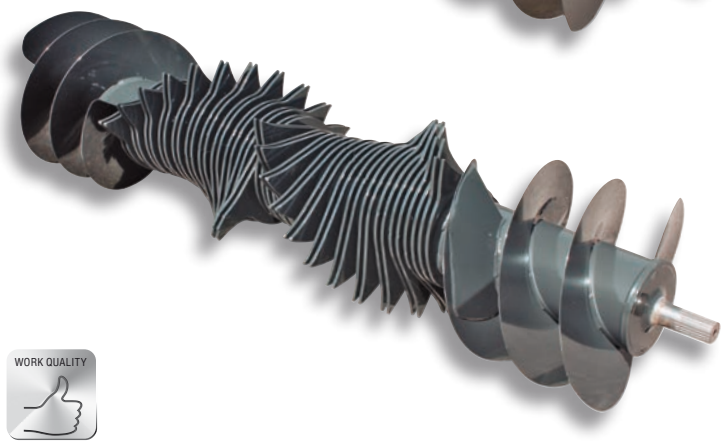




OPTIFEED ROTOR
The OPTIFEED rotor with double feeding tines and integrated augers, provide a consistent flow of crop into the bale chamber.
This rotor design helps even out windrows by moving them where needed for consistent bales every time.

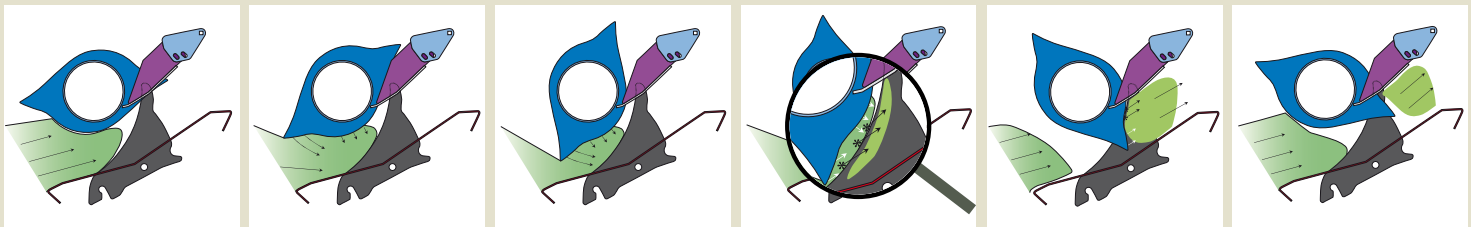


OPTICUT 14
The Integral Rotor with the 14-knife OPTICUT system is designed to even out the swath and force-feed the crop into the baler for maximum throughput. The 14-knife OPTICUT cutting system provides a theoretical cutting length of 70 mm. Each single knife is spring protected against damage from foreign objects.



OPTICUT 23
The Integral Rotor with the 23-knife OPTICUT system from KUHN has the benefits of intensive cutting and mechanical protection.
The 23-knife OPTICUT system provides a theoretical cutting length of 45 mm. Each single knife is spring protected against damage from foreign objects. With group selection the operator can choose to have 0, 7, 11, 12, or 23 knives in operation.

The OPTICUT systems from KUHN are acknowledged by users as one of the best cutting systems on the market.



The silage is guided and drawn to the knives in an early stage which improves the flow and cutting performance and is also preventing unwanted blockage. As a result of the redesigned intake unit the power requirement of the round balers is decreased.





VB | 2160 | 2190

OPTIMUM TYING PERFORMANCE

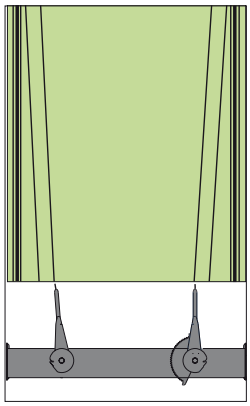
NON STOP BALING

The binding cycle is crucial during baling. Less time needed for binding means a higher output. To optimise this process, main adjustments can be done via the terminal. The number of wraps can be pre-set. On the KUHN Balers the binding is placed at the front of the machine, resulting in a perfect view on the binding process from the tractor seat. Changing the net roll can easily be done standing safely on the ground next to the machine.

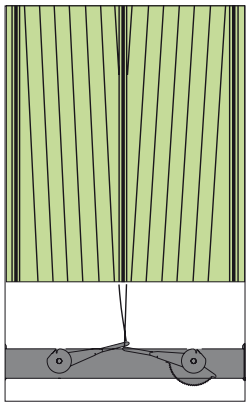
NET BINDING

The well engineered net binding provides the bale with a clean and tidy net wrap from edge to edge. The net is fed into the front of the bale chamber to secure an even and direct start. A second net roll storage guarantees enough net supply for a long working day. KUHN's innovative design allows constant tension to the net during the binding process. The net wrap system runs at 90% of the bale's rotational speed, to be able to stretch the net instead of braking. This provides an exact net tension in all crop and weather conditions. After leaving the bale chamber the bale will not expand and remains its density.

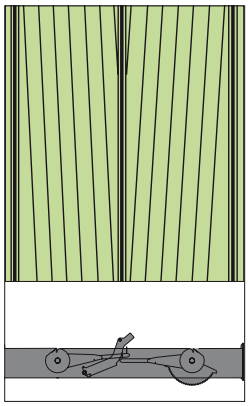
When needed, the VB and VBP also can be equipped with a combination of twine- and net binding.



Twin tubes feed twine simultaneously



Center twines overlapped



No loose ends at edge of bale



TWINE BINDING

The twine binding cycle can be monitored via the terminal and from the tractor seat there is also an excellent view on the binding process. By use of the double twine binding system the binding cycle time is reduced to a minimum. In the twine binding cycle both of the twines start at the bale centre and overlap itself and then move to the edges of the bale. Then the twines are moving gradually to the centre of the bale again. The twines are intertwining at the final stage to secure that the twines are fixed and there are no loose ends.





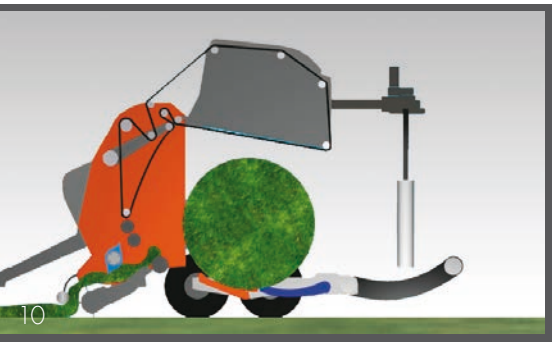
VBP | 2160 | 2190

A ONE-MAN OPERATION

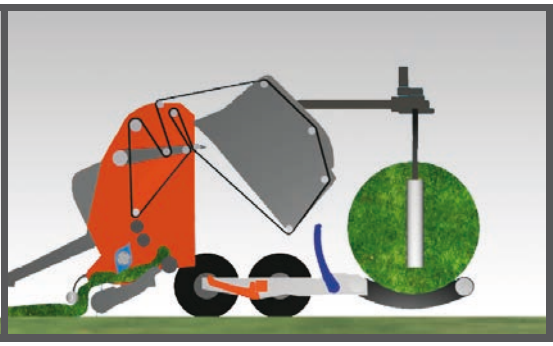
BALING AND WRAPPING

Two technologies from KUHN are combined in one machine, the VBP BalePack. This baler/wrapper combination begins with a standard VB 2160 or VB 2190 variable chamber baler with an OPTICUT Integral Rotor and unites it with an innovative wrapper system. This purpose-built machine is simple to use and capable of working on even the steepest slopes and in all crop conditions.

Fast and reliable bale transfer, combined with a high-speed, twin-satellite wrapping unit that is standard equipped with INTELLIWRAP, give the KUHN VBP BalePack the capacity to reach an output of up to 60 bales per hour.









BALE TRANSFER

TWIN LOADING FORKS PROVIDE A RAPID AND RELIABLE BALE TRANSFER
To minimize idle time and maximize output, a rapid bale transfer is required. Because of the fact that not all bales are made in perfect field conditions the VBP BalePack is designed to ensure a rapid bale transfer, even when working in steep or sloping fields.

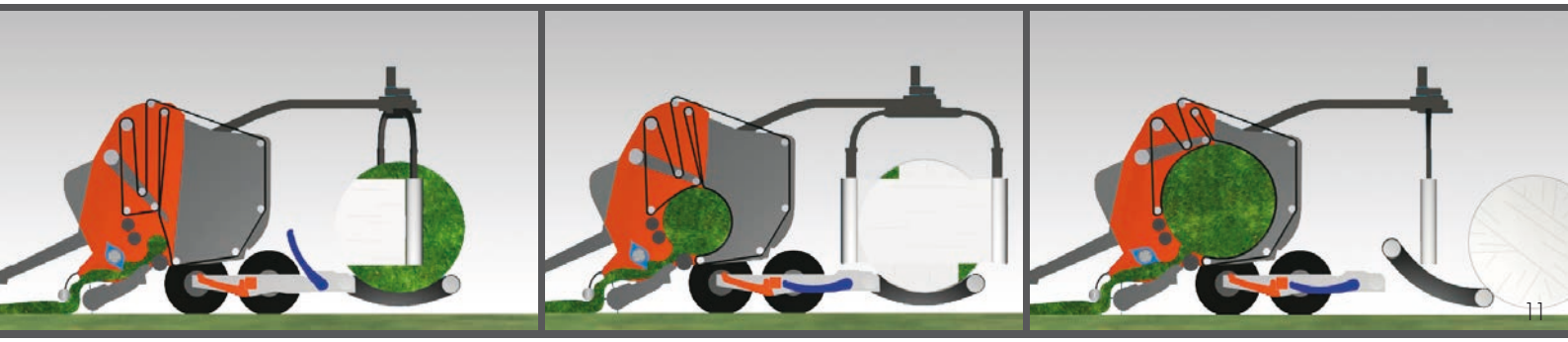
The first loading fork (in red) collects the bale as it leaves the bale chamber.
The wrapping table is tilted forward; ready to receive the bale.
Advantage: There is no possibility for the bale to roll over the rear of the wrapping table when facing up a steep slope.

The second loading fork (in blue) transfers the bale onto the wrapping table.
The tailgate shuts automatically, with the second loading fork still in raised position.
Advantage: This saves time and also prevents any chance for the bale to roll forward into the tailgate when facing downhill.

The wrapping table returns to its horizontal position and the second loading fork is lowered.
The bale sits low on the table supported by four wide belts and four lateral guide rollers.
Advantage: Regardless of the bale shape, the table offers good support and allows perfect wrapping.

The INTELLIWRAP wrapping system with close mounted pre-stretchers rapidly wraps the bale, either in conventional or (optional) 3D mode.
Advantage: Vertically mounted pre-stretch units ensure no grass is sprinkled between the layers of film during the wrapping process for effective sealing between film layers and the highest possible silage quality.

The low mounted table allows the wrapped bale to be gently discharged while driving, either automatically or manually.
Advantage: When working on sloping grounds, the wrapped bale can be discharged while the net or twine is being applied on the following bale, saving time and increasing output potential.



WRAPPING

INTELLIWRAP, THE INTELLIGENT WRAPPING TECHNOLOGY

KUHN has been a pioneer in the wrapping and baling technology, leading the way for over 25 years. The latest result of this visionary approach is a revolutionary new wrapping technique called INTELLIWRAP. This is a unique, intelligent and sophisticated system for wrapping bales.

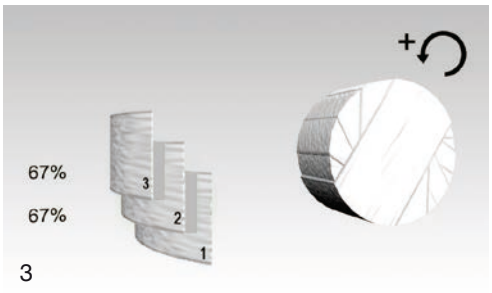


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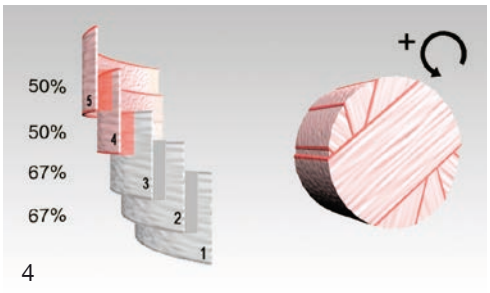


2

1. SELECTION OF 5 FILM LAYERS -
2. THE BALE IS COVERED WITH 3 LAYERS AND 67% OVERLAP -
3. INCREASING OF THE BALE ROTATION SPEED -
4. FINAL 2 LAYERS WITH 50% OVERLAP.



3



4

By introducing INTELLIWRAP, greater management and control is achieved. INTELLIWRAP uses sophisticated electronics and hydraulics to monitor the wrapping process and continuously controls the film overlap, allowing total flexibility. Depending on local circumstances, crop conditions and storage periods the amount of film layers can simply be adjusted.

Another feature of INTELLIWRAP is 3D wrapping. 3D wrapping is an intelligent and innovative way of applying stretch film to round bales. Key to the 3D wrapping process is its ability to distribute the total film quantity more uniformly and effeciently across the entire surface of the bale. By first wrapping the cylindrical surface of the bale more air is excluded and the shape of the bale maintains, even after a longer storage period.


The "scissor" film cutters assure a clean, consistent cut




With the pre-strechters in their horizontal position, only the bale is rotated on the wrapping table. After closing the cylindrical site of the bale, the pre-stretchers return in their vertical position to apply the remaining layers and close the bale.

ELECTRONICS

COMFORT

ISOBUS

All KUHN VB/VBP balers are ISOBUS compatible.*
ISOBUS compatible tractors will therefore not require a separate control box for the baler. Alternatively, the VT 50 or CCI 100 terminal can be used with tractors that are not ISOBUS compatible. Operator settings, such as bale diameter and knife activation, are accessed via the monitor. Operator warnings, such as left – right indicator, max bale size and operator information, including bale diameter and number of bales, are also provided.

* Excluding AutoPlus controlled balers



Non ISOBUS compatible

AUTOPLUS

The in-cab control box provides clear and easy to read information and gives full command of the baling process. An audible and visual alarm signals when the bale is ready. A choice of automatic or manual start of the tying process can be preselected. Adjustments like the number of netwraps are easily controlled from the tractor seat. AutoPlus also provides a daily and total bale counter.

CCI 100

The ISOBUS compatible CCI 100 terminal has a large 21,6 cm (8.5") color screen with outstanding clarity. Baling adjustments can be easily made via the touch screen or by use of the intuitive, large, soft-touch keys. The CCI 100 terminal can also be used with many other ISOBUS compatible machines on the market.





VT 50

The KUHN ISOBUS VT 50 terminal has a 14,5 cm (5.7") color screen with outstanding clarity. Adjustments can easily be done by the touch screen and the large soft-touch keys on the sides. The VT 50 terminal can be used specifically with the KUHN ISOBUS machines.



FEATURES AND OPTIONS





Pick-Up wheels in transport position



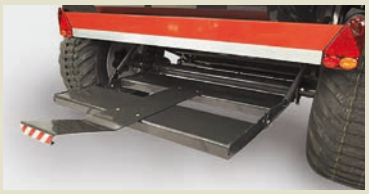
Small bale kit to be able to wrap bales with a diameter from 0,80 meter onwards



Net and/or twine tying provides flexibility



ISOBUS gives optimum control in comfort*



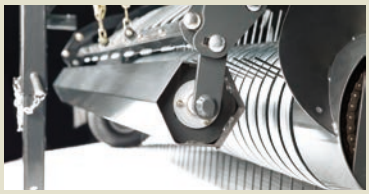
The optional bale ramp increases overall capacity**



Integral Rotor Technology ensures even, force-fed intake*



A reversible drawbar provides simple, flexible top or bottom attachment



Standard wind guard with crop roller



The second drive roller secures bale rotation even in difficult crops, standard on the VBP optional on the VB



The simple driveline, with heavy-duty 1¼" chains, is designed for minimum maintenance in the toughest conditions



An optional, automatic chain oiling system allows individual adjustment to the amount of oil on each chain



The optional proportional valve gives in-cab control of diameter, core and presure settngs

* Not available on Open Throat Balers

** Not available on VBP BalePack

Specifications

	VB 2160 OPEN THROAT	VB 2160 OPTIFEED	VB 2160 OPTICUT 14/23	VBP 2160 BalePack	VB 2190 OPEN THROAT	VB 2190 OPTIFEED	VB 2190 OPTICUT 14/23	VBP 2190 BalePack
Dimensions								
Width	2.46 m	2.46 m	2.46 m	2.99 m	2.46 m	2.46 m	2.46 m	2,99 m
Height	2.67 m	2.67 m	2.67 m	3,00 m	2.87 m	2.87 m	2.87 m	3.04 m
Length	4.02 m	4.02 m	4.02 m	6.41 m	4.12 m	4.12 m	4.12 m	6.41 m
Weight empty	2210 kg	2590 kg	2595-2895 kg	5690 kg	2260 kg	2540 kg	2655-2950 kg	5735 kg
Bale dimensions								
Diameter min.	80 cm	80 cm	80 cm	80 cm	80 cm	80 cm	80 cm	80 cm
Diameter max.	160 cm	160 cm	160 cm	160 cm	185 cm	185 cm	185 cm	160 cm**
Width	120 cm	120 cm	120 cm	120 cm	120 cm	120 cm	120 cm	120 cm
Pick-Up								
Pick-Up width	210 cm	230 cm	230 cm	230 cm	210 cm	230 cm	230 cm	230 cm
Number of tine rows	4	4/5	5	5	4	4/5	5	5
Tine spacing	61 mm	61 mm	61 mm	61 mm	61 mm	61 mm	61 mm	61 mm
Wind guard with crop roller	◆	◆	◆	◆	◆	◆	◆	◆
Pneumatic gauge wheels	◆	◆	◆	◆	◆	◆	◆	◆
Intake								
OPEN THROAT	◆	-	-	-	◆	-	-	-
OPTIFEED	-	◆	-	-	-	◆	-	-
OPTICUT 14	-	-	◆	◆	-	-	◆	◆
Knife protection	-	-	Single/Spring	Single/Spring	-	-	Single/Spring	Single/Spring
OPTICUT 23	-	-	◇	◇	-	-	◇	◇
Knife protection	-	-	Single/Spring	Single/Spring	-	-	Single/Spring	Single/Spring
Bale chamber								
Bale formation	5 Belts+3 rollers	5 Belts+3 rollers	5 Belts+3 rollers	5 Belts+3 rollers	5 Belts+3 rollers	5 Belts+3 rollers	5 Belts+3 rollers	5 Belts+3 rollers
Belt width	215 mm	215 mm	215 mm	215 mm	215 mm	215 mm	215 mm	215 mm
Lacings	Laced/Endless	Laced/Endless	Endless	Endless	Laced/Endless	Laced/Endless	Endless	Endless
Binding								
Double twine wrap/capacity	◆/8	◆/8	◆/8	◆/8	◆/8	◆/8	◆/8	◆/8
Net binding/capacity	◇/1+2	◇/1+2	◇/1+2	◇/1+2	◇/1+2	◇/1+2	◇/1+2	◇/1+2
Net and twine/capacity	◇/1+1/8	◇/1+1/8	◇/1+1/8	◇/1+1/8	◇/1+1/8	◇/1+1/8	◇/1+1/8	◇/1+1/8
Operation								
Control system	AutoPlus/VT 50/ CCI 100	AutoPlus/VT 50/ CCI 100	VT 50/CCI 100	VT 50/CCI 100	AutoPlus/VT 50/ CCI 100	AutoPlus/VT 50/ CCI 100	VT 50/CCI 100	VT 50/CCI 100
Wrapping unit								
3D wrapping	-	-	-	◇	-	-	-	◇
Film end/break sensor	-	-	-	◆	-	-	-	◆
Wheels and Axles								
Single axle 11.5/80-15.3*	◆	◆	-	-	◆	◆	-	-
Single axle 15.0/55-17	◇*/◆	◇*/◆	◆	-	◇*/◆	◇*/◆	◆	-
Single axle 500/50-17	◇	◇	◇	-	◇	◇	◇	-
Single axle 500/45-22.5	-	◇	◇	-	-	◇	◇	-
Tandem axle 400/60-22.5	-	-	-	◆	-	-	-	◆
Tandem axle 500/45-22.5	-	-	-	◇	-	-	-	◇
Hydraulic/pneumatic brakes	◇/◇	◇/◇	◇/◇	◆/◇	◇/◇	◇/◇	◇/◇	◆/◇
Others								
PTO	540	540	540	540	540	540	540	540
Min power requirement ***	40 KW (54 hp)	50 KW (67 hp)	50 KW (67 hp) - 60 KW (80 hp)	68 KW (90 hp)	40 KW (54 hp)	50 KW (67 hp)	50 KW (67 hp) - 60 KW (80 hp)	68 KW (90 hp)

◆ = standard equipment ◇ = optional equipment - = not available
* = AutoPLus ** = 185 with wrapper disconnected
*** = Horsepower requirement may vary with different crops, conditions, and options used. Consult operators manual for proper tractor sizing.

VB-VBP | 2160 | 2190

FIND THE KUHN FIXED CHAMBER ROUND BALER, WHICH IS PERFECTLY ADAPTED TO YOUR NEEDS!

VB-VBP

	VB 2160	VBP 2160	VB 2190	VBP 2190
Bale size	80 - 160 cm	100 - 160 cm	80 - 185 cm	100 - 160 cm*/**
Height	2.67 m	3.00 m	2.87 m	3.04 m
Width	2.46 m	2.99 m	2.46 m	2.99 m

* 185 cm with wrapper disconnected ** Small bale kit: Ø 80 - 160 cm

CHECK OUT THE WHOLE KUHN BALER RANGE













1. Fixed Balers - 2. Fixed BalePacks - 3. i-BIO - 4. Large Square Balers - 5. + 6. Round and Square Bale Wrappers.

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