



**KRONE VARIPACK
V190XC PLUS**



Straw was the main crop we tackled with the VariPack V190XC Plus variable-chamber belt baler in our practical test.

Krone VariPack V190XC Plus round baler:

Fast and firm with belts

It's three years since Krone started offering the VariPack Plus round balers with a variable chamber that employs three belts. How are they going?

Having made its debut at Agritechnica, we had an early look at the VariPack variable-chamber belt baler in the 1/2020 issue. This was something of a pivotal moment for Krone, which up until then had relied on chains and slats.

Three seasons later, and the VariPack Plus is now firmly part of the Krone furniture. There are two chamber sizes – the V165 Plus (0.80m to 1.65m) and the V190 Plus (0.80m to 1.90m) – and both of these can also be supplied as XC models, which has either a 17- or 26-knife chopping system. The latter is around £5,000 more than the non-chop machine.

The test machine

For this practical test, Krone provided us with a VariPack V190XC Plus with the 26 knives,

which we mainly used in barley and wheat straw as well as hay, and to a lesser extent for haylage and silage.

As this test was carried out by our German colleagues, the test machine had the drawbar mounted in the upper hitch position, but the same piece of beefy metalwork can be pivoted down for use with a lower hitch as operated in the UK and Ireland. A ring end is standard, but there is a £680 K80 spoon option. Overall, the hose and cable routing is good, thanks to a neat rack with slots to hold the coupling and plugs when the machine is parked up.

The wide-angle driveshaft is sourced from Walterscheid, with an overload-protected gearbox. The default pto speed is 1,000rpm with the 26-knife option; however, you can reduce the speed to save fuel in light swaths.

KEEPING IT BRIEF

There are several tyre options: our machine had biggest option – 600/50 R22.5

The claimed 100hp is a lower limit; 160hp is better.

Is manufactured at Krone's Spelle plant in Germany.

There are only a few (albeit massive) chains in the driveline, helping to ensure reliability.



Shown here in its upper position, the drawbar can be adjusted for use with a lower hitch mounting. The hoses and cables are tidily routed through the rack.

We liked the performance of the pick-up – it gathers the material cleanly, even in difficult crops. And thanks to the helical tine layout, it's nearly impossible to bung up with a regular driving style.

Krone has come up with its version of a rotor with integrated side augers with a diameter of 530mm. The material is fed into the middle by the augers on either side. Another great feature is that you can disengage drive to the rotor by means of a dog clutch. So, if you do manage to bung up the intake with a foreign object or lump of crop, the bale can be netted and let out of the chamber. It also makes it easier to change the knives, because you can keep turning the rotor for better accessibility.

26 knives on chopping block

The baler's 26-knife chopping system can be switched in groups of 26/13/13/0. These are preselected on the in-cab terminal. The knives are actively pushed into their slots, so they should pivot even when the slots are dirty. In practice, it actually worked very well; the only exception is when the slots were caked with sticky residue.

With a full complement of knives in action, the theoretical chop length is 42mm, and our baled forage was cut to size. Each knife has individual spring protection. Both the knives and the floor can be lowered hydraulically to deal with blockages.

To swap the blades, unlock the knives and move them to their active position. They can then be removed from the bale chamber. There are storage points on the right and left of the machine for a spare set of knives (£225 each).



Threading the net is relatively straightforward, and the pivoting side chute makes loading a fresh roll a lot easier.

TEST ASSESSMENT

DESIGN

Tractor attachment	+
Stand	+
Pick-up unit	++
Rotor	++
Crop press roller	++
Cutting system	++
Overload protection	+
Net wrap system	+
Net roll storage	++
Operator terminal	++

OPERATION

Pick-up performance	++
Throughput	++
Operating the blades	+
Quality of cut	+
Inserting the net	+
Adjusting bale size	++
Maintaining bale size	++
Tractor power	○
Maintenance	+
Cleaning	+

GENERAL

Build quality	+
Handling	+
Operator's manual	++

Grading: ++ = very good; + = good; ○ = average; - = below average; -- = poor

We liked the foldable steps on both sides of the machine, so you can reach the net wrap system from the left and right. The foldable parking stand has two crank speeds. Because the stand and steps swing up well out of the way, we didn't have any issue with the crop getting caught, even in large windrows. All grand stuff so far.

Pick-up and rotor

Krone goes with its familiar EasyFlow camless pick-up, which is protected from overloading with a cam clutch unit.

The five rows of tines, arranged in a helical pattern, pick the forage off the ground cleanly, while a spring-loaded crop press roller and adjustable deflector tines provide some initial channelling of the material.

The pick-up pivots in the middle, with around 70mm of movement. This, together with the castor-steered gauge wheels, which can be adjusted without tools, ensures impressive ground tracking, and, conveniently, the gauge wheels can remain attached to the baler for travelling down the road.





The tines on the pick-up are arranged in a helical pattern, and there's an effective crop roller, too. The rotor has integrated augers on the sides.



Three rollers, three belts

The bale chamber on the VariPack Plus has two narrow and one wide central endless belt. Two rollers drive the belts that form the bale chamber with the other two rollers and the starter roller.

When used with wetter crops, the cleaning rollers for the belts genuinely pay off. One of the rollers is actively driven by the chain, the second by the moving belts.

The bale compacting action starts right from the beginning, because there's only the space between the two rollers. We didn't have any issues with starting a bale, neither in brittle barley straw nor wilted grass. The belts are tensioned hydraulically, with one tensioning cylinder and one spring on each side of the machine.

The VariPack can create three density zones that can be easily adjusted from the terminal in the cab. The respective core diameter and layer thicknesses can be freely altered. You can also assign individual baling pressures to the core and the individual layers. For a really soft core, you shouldn't compress the second layer too much, either.

The adjustment is very easy and quick to do, which is why we really liked using it. The only thing missing for maximum convenience is the capability to create two or three preset settings, which serve as a reference for all the parameters. This would be a great help

MEASUREMENTS	
Krone VariPack V190XC Plus	
Length/width/height	4.90m/2.75m/3.05m
Kerb weight	5,000kg
Tyre size	600/50 R22.5
Gauge wheels	16 x 6.50-8
No. of spools	LS/1 da
Pick-up width ¹⁾	1.95m
No. of tine rows	Five
Tine spacing	55mm
Rotor diameter ²⁾	530mm
Rotor width ²⁾	120cm
No. of knives	26
Knife spacing	42mm
Chamber width	120cm
Bale diameter	0.80m-1.90m
No. of belts	Three
Net wrap width	Up to 1.35m
Net roll storage	2 + 1
Tractor power	74kW/100hp
Base price ²⁾	£79,000
Price on test ²⁾	£91,000

1) Tine to tine width, 2) Manufacturer information; Prices = list prices without VAT.



The automatic oiler and lubrication systems are located on the left-hand side of the machine. On the right-hand side is the drive for the rotor and pick-up.



Three rollers and three belts ensure material is compressed right from the off.



The knife release and the hydraulic control are located on the left-hand side.

for operators when baling different crops on a single day.

Reliable netting

Krone relies on net wrapping as standard, and the machine can also use string if needed. Film is not an option for the VariPack Plus. The cradle holds one roll of net, with side plates used to centre the roll in the middle. Threading the net is easy and straightforward, with the feed-in system also working reliably. We really liked the pivoting net roll chute on the left side of the machine. Its inclined design has two advantages: firstly it's easy to lift the roll onto, even for shorter users; secondly, the net can be fed directly from the chute via the small roller. Another plus is that you can always see the roll from the cab and make sure all is working as it should.

Fast cycles

The automatic tailgate provides quick bale ejection. The door opens automatically after binding and closes again once the bale is out. Cleverly, it will only open the door as far as needed to release the current bale diameter, which saves on time. Fast rams with end-of-stroke cushioning ensure it opens quickly while helping protect the machine – it takes less than five seconds for the door to open and shut again.

Our positive experience was rounded off by how quickly the baler gobbled material and turned out a neat bale. In dry wheat straw and a perfectly formed swath (from a combine with a 7.50m header), we set up the V190 to produce a 1.60m diameter bale at an 80% pressure and 3.6 net layers. Average time from pulling away to closing the door was 40secs.

Ordinary bales

The bales weighed a tidy 349kg and were mostly the same weight. The set diameter was also exactly adhered to. If necessary, the driver can also calibrate using the terminal. Of course, we also set the baling pressure to 100%, and bale weights crept up to an average of 383kg, which is very good. But if you want to gain maximum performance, you will need more than the minimum 100hp, especially if operating the chopping system in forage. Overall, we can clarify that Krone's VariPack consistently ejects the bales. This is also due to the fact that the belts are always tensioned and help give the bale a good kick.

Operation and maintenance

VariPack Plus balers are ISObus-compatible as standard, and they can be operated via the tractor's terminal and lever if fitted. If not, then don't worry, as Krone also offers three control options:

- The entry-level DS500 screen, which allows operation of the baler but cannot show the camera feed.
- The CCI800 and CCI1200 terminals, which will show the footage from the camera.

We went with the tractor's own display and a CCI800 for operating the baler and got on pretty well with both. The menu navigation is intuitive, and, on the main screen, all the critical information such as baling progress, density and the left/right fill indicator as well as the moisture levels can be seen at a glance. Moisture measurement costs £1,145 extra. The display is rounded off with a bale counter and timer for the last bale.

Machine maintenance is easy thanks to an auto oiler and central lubricator. Blowing off or washing is also relatively straightforward as the machine is very tidy, especially on the sides, and, courtesy of the three large drive chains, the baler is also simple to set up. The large side panels that open wide for good accessibility also deserve a mention.

Summary

The VariPack V190XC Plus is well thought out, simply constructed and equipped with helpful automatic functions to boost output. It is a real step up for Krone in the variable chamber game. Our test work in hay/haylage crops, as well as a small amount of wilted grass, proved that the baler was just as efficient as in straw. However, the list price for the tested machine is £91,000. That's a lot of money for a round baler.

Christian Brüse