

CLAAS High-Performance Knotter with Automatic Compaction Pressure Control and Active Air Ducting

18 August 2015 by CLAAS

Until now, the QUADRANT 3200 and 2200 models have handled the 120 cm x 70 cm bale category at CLAAS. Both of these square balers have now been completely redeveloped.

In doing so, CLAAS even took a new look at its oldest patent and now presents the new CLAAS high-performance knotter in the form of the new QUADRANT 5200 and 4200. During development of the QUADRANT 5200, the focus was on performance, bale density and driver comfort. In addition to its new knotter. The QUADRANT 4200 is characterised by its many different equipment options and new design.

The centrepiece of every CLAAS baler is its knotter. CLAAS has been designing and manufacturing its own knotters since 1921, and is the only baler manufacturer to do so. To date, the baler factory in Metz, France, has produced more than a million units. The CLAAS single knotter is appreciated in practice for its knotting reliability without producing unwanted twine waste.

Redefining the basics of the knotter

In order to cater to higher output rates, CLAAS has increased the overall size of the knotter and redefined every single step of the knotting process. In addition, the new high-performance knotter now features active twine finger assembly control and active air ducting for knotter cleaning. The design of the knotter bill hook and twine retaining plate has been modified to allow operation with longer twine ends and to allow twines of varying quality to be knotted even more reliably. The new active twine finger assembly control system holds the twine tight during the bale filling process so that it is subject to slight tension during the compaction stage.

To ensure effective cleaning even with very fine and brittle straw, the TURBO FAN high-performance blower for the new square balers has been equipped with an active air ducting system. With this system, oscillating pendulums ensure that the air flow is concentrated and actively controlled. The air, flowing at a speed of 140 km/h, is directed not just at the front but also at the sides of the knotter, keeping it clean and free of residual material at all times.

To simplify maintenance, the knotter frame is no longer permanently screwed in place and can instead be swivelled upwards without using any tools. When working at night, the knotter twine box and needles can optionally be equipped with LED lighting.

New automatic compaction pressure control

With the new automatic compaction pressure control system known as APC (AUTOMATIC PRESSURE CONTROL), the new balers can now always be operated at their maximum installed output. To do so, the driver simply enters the desired bale density and the quality of binding twine being used in the ISOBUS terminal before starting the baling process. Depending on these two values, which are measured using four sensors on the knotter and main frame, the baler automatically regulates the compaction pressure itself. Thanks to APC, even inexperienced drivers can now always achieve the maximum possible output for the machine and twine and can produce bales of uniform weight irrespective of the quality of the baling material.

APC sensors on three knotters are provided as standard equipment. The APC can optionally be equipped with the KCS (Knotter Control System) with six sensors for knotter monitoring. With the new KCS system, the knotting quality of each individual knotter is continuously displayed to the driver on the terminal. The interface of the terminal on the new balers can now be individually adjusted to the needs of the driver. In addition to the COMMUNICATOR II terminal, CLAAS now also offers the option of tablet-based operation together with the new "EASY on board App".

First baler with hydraulic intake

With the introduction of the QUADRANT 5200, CLAAS becomes the first baler manufacturer to add a hydraulic intake to its range of pick-ups. Thanks to the hydraulic drive of the pick-up, POWER FEEDING SYSTEM (PFS) and rear roller crop press, the speed of the intake can be regulated and can be reversed conveniently from within the tractor cab in the event of a blockage. This means that the driver can always drive at the maximum output without concern, irrespective of the swathing conditions. At the same time, the intake speed can be reduced for sensitive crops such as lucerne hay in order to minimise leaf loss.

Highest piston frequency on the market

During development of the new QUADRANT 5200, there was a major focus on increasing output and bale density. Accordingly, the packing performance was increased by 30%, the ram frequency was increased from 51 to 56 strokes per minute and the bale chamber was extended by 40 cm to 3.85 m. The result is greater

bale densities and more stable bales at a higher overall throughput.

The QUADRANT 5200 replaces the QUADRANT 3200 and will still be available without knives as the ROTO FEED variant, with 25 knives as the ROTO CUT variant and with 51 knives with the FINE CUT chopping system.

Large equipment variety

The QUADRANT 4200 replaces the QUADRANT 2200 and is available in ROTO FEED or ROTO CUT variants. In addition to the new high-performance knotter and a new design, this baler is characterised in particular by its large range of equipment options - for example, the new APC or KCS. CLAAS is also offering the SPECIAL CUT front-mounted chopper for both new balers.

Source: CLAAS

Claas Quadrant 2200 On LECTURA Specs