

AGRONIC®

Made in Finland

**NEW PRODUCTS:
AGRONIC ROCK TORNADO STONE PICKER
AGRONIC WR 700 WINDROWER
AGRONIC TSR 12000H WITH TWO DIVIDERS**



AGRONIC Rock Tornado Stone Picker



Mechanical Transmission

The mechanical transmission provides good efficiency, as well as a straightforward, durable, design. The power is transmitted via articulated drivelines and robust drive chains. Overload protection is handled by four ratchet clutches, one for each rake and one for the chain conveyor. Owing to the use of a mechanical drive, the rakes have a large amount of available power and are able “dig” stones from beneath the field surface.

Working Depth Adjustment

The hydraulic height adjustment of the drawbar controls the working depth and bringing the machine into the transport position. The working height of each of the side rakes is handled independently of each other and is controlled by adjusting the support wheels.

Durability

The wearing parts, those in contact with the stones and the soil, are manufactured from wear resistant steel. This guarantees a long operational life of the machine.

Chain Conveyor and Sieve Screen

The sieve runs the entire length of the screen conveyor, the large and long conveyor surface allows for better separation of stones and soil. The hopper is filled from the top, so the entire available capacity of the stone hopper is used. Stones are dropped, not thrown, into the tank. Creating less noise and less strain on the machinery, tractor, and the operator.

Decreased Driving Time

The machine features three large rotors, eliminating the need for an overlapped driving pattern. The entire width is worked in a single pass. No need for extra passes that create additional soil compaction.



Picking Stones Since the since the 1980s

Developed nearly 40 years ago, on the farm in Haukivuori (southern Savonia region of eastern Finland), where rock picking had been done for many years. The machine available at that time began to wear out, and much thought was given towards finding a replacement. The result was a new machine, developed and built in the farm workshop, incorporating the experience gained.

In the end the machine made in their own workshop, to their own requirements, worked so well that it could even handle contracting. As the demand increased, the decision was made to start producing more units for sale to customers. The machines proved to be durable, reliable, and buyers were easy to find. Thus, series production of the Stone Tornado was started.

In 2010 a comprehensive update was undertaken. The working width was increased, the power transmission was upgraded to handle larger tractors and the larger working area. The operating principle remained the same.

The new model can effectively handle larger stones, and unlike the competition, the three rotors ensure that there is no need for overlapping. The entire width is worked in a single pass, and all parts in contact with the stones are made from wear steel.

In 2017 the name was changed to Rock Tornado. At the beginning of 2023 Agronic Oy acquired the rights, from which the Stone Tornado will continue to provide efficient rock picking worldwide!

Glorifying the Country's Growth



Mikko Elovaara Oy is a beef producer from Kiuruvesi (northern Savonia region, of eastern Finland) was in the market for a new slurry tanker for their operation last summer. After careful consideration, the choice was made for an Agronic HXA II equipped with a trailing shoe spreading ramp. A good match for their white Fendt 942 at the front.

In addition to spreading slurry from Mikko Elovaara oy., the equipment is also used to spread manure from Elovassikka Oy, as well as Maatila Antti Elovaara Oy. There will be a total of 23 000m³ (812,237 ft³) to be spread over the course of the year, of which slightly less than half is flexible effluent (discharge water) from the biogas plant and the rest is raw slurry.

Cattle arrive at the Elovaara farm for the final 6 months of rearing and depart at 20 months. The average body weight of the heifers has been around 400 kg (9.680 lbs), showing good professionalism on the part of the breeder as well.



Antti Elovaara emphasizes the importance of improving the growing conditions of the land in farming operations.

At the start of the 2000s, some 390 ha (964 acres) of new land were created on the farm. With the new land crop rotation is now 4 with grass, 1 with grain. The grass has also been renewed.

As growth conditions improve, it is planned to switch to a 3+1 rotation.

Seamless Cooperation with the Manufacturer.

When choosing a slurry tanker, close cooperation with the manufacturer is important, but the proximity of the factory and its immediate availability assistance are at least as important selection criteria. Agronic was not the cheapest, but the price-quality ratio was impressive when compared to the competition.

"Last summer, due to an error of the tractor driver, the tanker broke down and the spreading of the slurry was interrupted. But only nine hours after the accident, spreading resumed. This indicates incredible flexibility in the aftermarket operation." as Mikko Elovaara praises.

A significant reason for purchasing the Agronic HXA II was also the crab steering and the tire pressure control system. By adjusting the pressure, the tire pressure can be kept ideal in all situations and the field can be compacted as little as possible. "Quick adjustment of tire pressure together with crab steering..." according to Elovaara, "they form an unbeatable combination in maintaining the growth condition of the field and with the germination". Elovaara states that the tractor pulling the wagon has 900mm (35") rear tires and when spreading the slurry, always has duals all the way around. By lifting the front axle of the tanker more weight is added to the ramp when it is needed.

"In the field, the tire pressure of the tanker is reduced from 1.8 bar (26 PSI) for road driving to 0.8 bar (11 PSI) for field driving. The pressure the drop takes as much time as it takes to open the spreader to the working position. When the tanker is empty, raising the pressure for road driving takes a couple of minutes", Elovaara says.

Electronic Forced Steering

On Elovaara's farm the longest transfer distance is 7km (4½ miles), while the average distance is 2km (around 4 miles).

The HXA II slurry tankers have forced steering and hydraulic suspension as standard.

The slurry tanker's steering is electronically controlled, which means there are no pushrods or cables on the side of the slurry tanker to hinder work. This innovative solution from Agronic allows the tractor to turn sharply on slopes. In road transport the axles are centered automatically and locked directly, so that any swaying from the tractor or slurry tanker does not unwantedly steer the tires. The combination is very stable and does not cause excessive tire wear.

The 7" color touchscreen has proven to be easy-to-use when controlling the slurry tanker. The display shows all adjustments necessary for precise application of slurry. The ease of use is further enhanced by the automatic increase in application rate when the ground speed is increased.

Effluent and Slurry

The TSR trailing shoe ramp, with its two dividers, places the slurry at the correct depth regardless of the soil type. On Elovaara's farm the soil type is mostly sandy loam. The spreading ramp's 22.5-cm (8¾") intercouler spacing has guaranteed an even application on both stubble and grasslands. The spreading ramp's frame is articulated in the middle, so the ramp can steer and tilt regardless of the slurry tank's position, even with the crab steering engaged.

"In the spring we fertilize all grain fields with slurry, and the rest of the effluent spread on the grasslands. Over the course of the summer, we continue to fertilize the grassland with the solid and the fresh slurry produced during the summer. The dry matter yield of the grassland has gradually increased, to point where the soil's growth yield is almost 8 ton/ha. (17 tonne/acre)." Mikko says.



AGRONIC S Series with Pendular Bogie



The AGRONIC S-series, with its pendular bogie, has formed the basis of every slurry tanker we have manufactured since 2001. Over the years the tanker's structure, feature, and usability have been refined into a seamless unit.

The slurry tanker can be delivered with equipment desired or retrofitted later. **The attachment points for the spreading ramps are integrated and are standard equipment.**

Fully equipped as standard, for example: steerable suspended axles, monitoring for undercarriage locking pressure, with a switch and indicator light, hydraulic brakes, LED lights, fenders, filling funnel, wide angle PTO shaft with shearbolt, ball coupling ready, man hatch, fill indicator, and a ladder.



The AGRONIC S-series are equipped as standard with friction-controlled axles sourced from ADR, with parabolic spring suspension. Hydraulic brakes are also standard. The load carrying capacity of 24 metric tons (52,910 lbs) is always present.

As optional equipment, for example: pneumatic brakes, crab steering with forced steering.

Nokian ELS SB radial tires are standard.



Hydraulically Suspended 3rd Axle

The 17 and 20 m³ AGRONIC- S-series can be equipped with a separate third lifting axle. The third axle combines the bogie's full range of motion, and the stability of the hydraulic suspension. Approx. 5,000 kg (12,125 lbs) of weight can be carried by the third axle. It correspondingly reduces the axles weights, so (for example) a 20m³ (5,283 US gal.) is kept below 10,000 kg (22,046 lbs.) per axle

Even a large slurry tanker can be driven fully loaded on a public road. The front axle is hydraulically suspended, braked, fully steerable and the pressure can be infinitely adjusted.

The bogie axle of the slurry tanker is located further to the rear than normal, when the front axle is lifted during transport with an empty tank, the weight is shifted to the tractor drawbar. During field operation with a full load, the axle is lowered and weight to driving wheels is increased. Handling, off-road performance, and fuel economy are all improved.



AGRONIC HS series: For Field and Transport



Agronic HS series: Hydraulically suspended, friction-controlled, tandem and tridem axle slurry tankers with a low center of gravity. The structure, piping, agility, and power remain the same as found in the HXA II series. The only difference being a more basic standard equipment specification and lower overall price. The hydraulic suspension balances the weight on each wheel, so offroad performance and handling are improved, along with increased stability when compared the mechanical chassis. With capability to hydraulically lift the front axle, the weight can be transferred from the slurry tanker to the tractor drawbar in an instant. When empty and on the road, the front axle remains lifted, providing increased drawbar weight and improved handling.



Agronic HS-series: As featured in the photo, an HS tanker configured for transport and equipped with road tires. Owing to the tanker's low center of gravity, proper weight distribution, and hydraulic suspension, transport driving is fast and smooth. With tridem axle models, the front lift axle is standard.



AGRONIC HXA II system: Slurry Tankers with Crab Steering & Hydraulic Suspension



Agronic HXA II system is the standard to which all slurry tankers are measured!! The most advanced hydraulic and electronic controls available on the market!

The 7" colour touch-screen display also features physical buttons.

The main control is a single joystick lever.

The colour-coded joysticks directly control certain buttons on the screen. There is no need to change the grip and the work is smooth.

Two cameras, on the back and on the loading arm, with an automatic change of the viewing angle depending on the function mode in use.

Very accurate speed and reversing information is obtained from the tractor's path, this way the tanker accurately calculates the speed and direction.

Softly proportional and without gestures, the analog joystick provides precise control of movements for the pumping arm.

The function specific LS-hydraulics do not cause pressure shocks, do not unnecessarily overheat the oil, which in turn eliminates power losses.



When shifting, the automatic system always focuses in the center. During road transport, swaying of the tractor does not affect the position of the tanker. The combination remains safe and stable.

Patented electronic forced steering control is standard. There are no push rods or cables on the sides of the drawbar. The tractor can turn freely. The lever of the sensor is connected to where the topline is normally installed on the tractor.

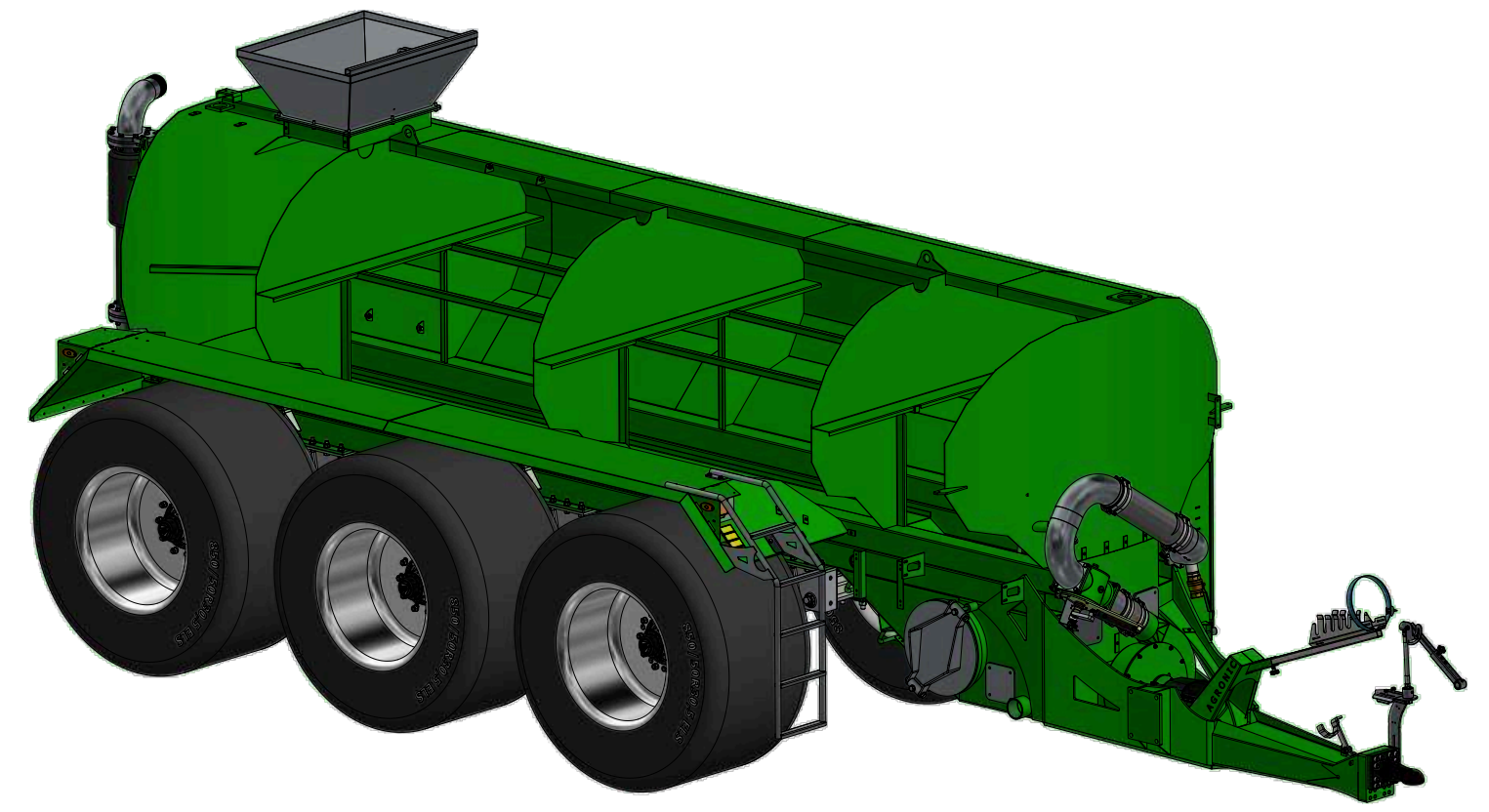
Thanks to load-sensing proportional hydraulics, movements are smooth and precise.



Very Efficient, Accurate, and Easy-to-Use.

The tanker features draining and mixing pipes with a diameter of 168mm (6 1/2") Emptying speed is up to 50% greater than normal.

The standard automatic control system controls the position of the slurry tanker's drain valve based on an accurate flow rate, obtained by a flow sensor, in relation to the actual driving speed.



Solid anti-slosh baffles all the way up to the ceiling.

A stable ride, free of jolts at all speeds, thanks to the lowered tank front. No need to compartmentalize during unloading, as the slurry tanker always empties completely from the front frist and the pump works at high power until the end of the load.



AGRONIC TSR Series Trailing Shoe Ramps



AGRONIC -TSR 9000 trailing shoe spreading ramps allow for the slurry to be directly applied to the plant's roots during the growing season, with low nutrient losses and reduced odors

.Spring loaded knives with a spacing of 23cm (9") cut grooves 5-40mm (0.9 to 1½") deep, into which the slurry is precisely dosed by the distributor.

The trailing shoe works great also on light soils and grain/soy stubble.

Thanks to the ramp's articulated frame, working in curves is also possible.



A unique swiveling attachment, the spreading ramp can steer with the tanker.

Can be operated with the crab steering system engaged, and in curves.

Spreading with crab steering engaged significantly reduces soil compaction and improves yield.

When working on odd shaped fields, the work efficiency increases, as you do not have to look for straight driving lines, instead you can have the spreading ramp engaged more often. Improved surface following and a reduced footprint.

The spreading ramp follows the ground independent of the slurry tanker, with coulters also having better ground following and the working footprint remains good.

AGRONIC HXA II with In-Control: Programmable weight reduction, down pressure, and flotation.

Also, with Two Vertical Dividers



The TSR12000 is available with two eccentric-type distributors from Harsø of Denmark. This enables halving of the working width, shorter supply hoses, and a tighter row spacing.

The standard distributor used on the TSR series is now even more efficient and easier to maintain. This **AGRONIC** distributor has two-phase shredding, is highly permeable, and precise. The frame and dividing beam are made from hot dip galvanized steel, cutting surfaces are machined, and the wearing parts as well as the screws are made from stainless steel.

Open 4-prong, distribution beam even provides for accurate distribution of foamy slurry at high speeds.

30% better throughput: The 150-mm (6") feed hoses, a larger shredder, and a 3-prong blade in practice deliver more than 7m³ (247 ft³)/min. The powerful OT-315 features a 40-mm (1½") shaft for distributor head drive.

Easy and safe maintenance work, thanks to a hinged cover and anti-slip surfaces



HD vanes are standard. They have a long service life, and have affordable replacement costs.



Technical Specifications

Model	TSR 9000	TSR 12000	TSR 12000H
Working Width	9 m	12 m	12 m
Folding Position of Wings	Telescopic	Folding	Folding
Divider		4 section	2 pc Harsø
No. of Hoses		40	54
Application rate		5-80 t/ha.	
Spacing	23 cm	30 cm	23 cm
Surface pressure		15 kg/shoe	
HD Elements with replaceable wear blade		Standard	
Spreading Plate		Optional	
Hydraulically operated Stone trap		Standard	
Automatic working depth control Agronic HXA In-Control: With programmable weight reduction, surface pressure ctrl., and flotation			

Agronic AMC Combination Balers

Decades of experience can be seen in the capacity, reliability, ease of use, and in a decisively lower power requirement – which translates into more affordable operational costs.

Compact size, sturdy construction, large radial tires, and walking bogie undercarriage guarantee success in the field. Even in wet autumn conditions.

A powerful pick-up, a large 25-knife cassette – that can be hydraulically lowered, makes for a short and efficient length of chop.

The AMC's unique chamber design, with a precise roller profile, allows for even more efficient compression and baling of straw and hay.

The AGRONIC AMC has an additive/preservative application system that is integrated into the baler's operating system. The system applies additive directly into the bale chamber. An optional bale scale and moisture (humidity) meter provides valuable information about bale composition, which makes feeding easier.

The low power consumption saves on fuel!



AGRONIC AMC: Bale Binding with Net or Film!

We have the experience with film binding technology since 2009, so we have the knowledge needed to ensure we have a proven reliable system. The advantages of using film binding are undeniable: improved feed quality, bales that are easier to open, and to feed-out. When baling hay or straw that will not be wrapped, film binding makes for tighter bales, that are better protected against weather. Changing from film to net binding is an easy process.



Just about 400,000 Bales Worth of Experience

Round baling of fresh fodder has held its ground, despite other trends in harvesting. Heikki Korpi, living in Oksava (Haapajärvi region, Northern Ostrobothnia, Finland) has been undertaking contract round baling since the early 1990s. Between Heikki and his son Tomi, they produce 10-15,000 round bales annually. So, they have some experience!

Heikki considers one of the major advantages of round baling to be its flexibility. Even small feed lots are capable of being accommodated with round bales. The use of round bales also becomes a secondary source of income.

Both in the Silo and in the Bale

"We have customer farms that do their first and second cut as silage in silos. For the third cut, it's round bales" according to Tomi. Another advantage to round baling is that it is easier to move the bales from the field to another customer or point of sale. Also, when relying on a contractor to perform the baling, additional time is available to further plan long-term investments. Heikki tends to mow and rake the hay themselves. When the stubble is long enough, a height of at least 7cm (2¾") mechanical weeding can be done to remove the dead grass and weeds. Ensuring that the feed quality remains excellent. "Clean feed, tightly baled, with the correct preservative, and careful plastic guarantee quality. The transition from net binding to plastic binding has further improved the quality of the feed. Most farmers no longer accept taking bales tied with net" Heikki says.



Layers of plastic over layers of film binding, can be added as needed. In using film binding over net, the bales are much tighter, improving durability and creating an oxygen barrier against spoilage.

Opening a film bound bale is also smoother, particularly in cold weather, and the waste plastic does not need to be sorted from the wrap.

"We always use preservative chosen by the farmer. In recent years the use of organic preservatives has slowly increased. Currently half of the bales produced are treated with acid, and the other half is with organic preservatives. However, a small number of bales are made without preservatives." says Heikki Korpi.

Top-Notch Aftermarket

Koneurakointi Korpi (Korpi Contracting) has used round balers from Agronic since their launch on the market. "Experiences have been so positive, that no thought has been given towards changing brands. A 24/7 parts service, in the neighboring municipality, is an excellent advantage when you are contracting." "We have a small stock of Agronic parts in stock for sale. If necessary, we can go in the field, on site, to service Agronic equipment in our vicinity." Says Tomi. Currently Koneurakointi Korpi has two Agronic combi machines working. The newer AMC unit was received directly from the Okra show and put right to use baling. By mid-September it had already clocked-up some 7,000 bales.

Farmers want bales with a short chop length, and the Agronic AMC with its 25 knives and robust rotor ensure that is possible. The AMC's length of cut is significantly less than its predecessor, making feeding the bales produced much easier, particularly with TMR. With the AMC's process automation, it is possible to get bales with longer crop on the outside, ensuring the bale stays together longer after being opened.

New Features Bring Added Value.

"New features make the baler easier to use. The bale scale is there, the older one too, but this new one also has a humidity meter. When the weight of the bale and it's moisture are known, the amount of dry matter in the feed is known exactly at feeding. Several farmers know the value of this feature." Tomi says.



The clear operating monitor, with a color display, shows everything the machine has to offer. The information and adjustment options needed for operation, and the integrated system for preservative dosing directly into the bale chamber. This results in very well-preserved bales.



Tomi ja Heikki

The Agronic (AMC's) 710mm (27") tires do not compact the field's surface. The baler tires run a wider track than those of the tractor, reducing the risk of forming ruts. The automatic chain lubrication and standardized central lubrication facilitate maintenance during the busy season.

AGRONIC MidiFix II Combination Balers

For efficient baling of silage, dry hay, and bedding material.

The MidiFix II balers produce bales with a width of 85-cm (33½") and diameter of 90-cm (35½"), with a bale volume of approx. 550-liters (132 US gal.)

The machines are easy-to-use and feature a wide-angle camera integrated into the operating system!

The Agronic Midifix II features net binding as standard, with a film binding system available as an optional accessory. The film bin ding system can also function with net.

The pick-up features a working width of 1.7-m (5½'), the cutting system features with a 7-knife cassette – that can be lowered.



The easy-to-use operating system includes baler management, additive/preservative application quantity control, as well as comprehensive nameable locations for customer/field info.

The operating system features a choice of languages.

The camera is standard equipment. The operating and net binding systems are standard equipment.

As an optional accessory, bale moisture and

Quality Fodder in Small Bales



The Agronic MidiFix II pick-ups the crop, bales, and wraps the bales quickly and reliably. The maximum capacity is up to 70 bales per hour, in optimum conditions. The operation of the baler is automatic, with monitoring systems providing alert in case events such as low wrapping plastic or blockages. The standard rear-view camera provides added operator comfort and security.



AGRONIC WR 500, 600 evo, and 700 Series Windrowers

Agronic windrowers are designed for mounting directly on the front linkage, on the front loader by means of a mounting bracket. The coupling between linkage/loader provides flotation, and the rake rides on its own wheels during operation.

WR 500 is front only, while WR 600 evo and WR 700 can be used front and rear operation.

Maximum working widths are 5.1-m (16'), 6.1-m (20'), and 7.1-m (23').

Clean Fodder
Crop flow works over top of the tines, minimizing the transfer of dirt and impurities into the swath. The stones stay in the field where they should, and should a tine break, it will not damage the harvesting machinery following behind.

Excellent Windrowing
Thanks to the operating principle of the WR series, the windrow is left light airy. Well-formed and never twisted or roped. The form and width are hydraulically adjustable.

Increased Efficiency and Reduced Soil Compaction
Windrowing at the same time as harvesting reduces field travel, It also maximizes the capacity of the harvesting machine following, significantly reduces fuel consumption, and also reduces the operating hours of expensive machinery such as balers and self-loading wagons.

Uncomplicated and Effective Design
The tines are made from polyamide, making them very flexible and resistant wear. The design of the rotor and the tines eliminates the need for complicated mechanical drives. The rotors feature direct drive by hydraulic motors, requiring 20-35 liters/min. (6-9 US gal/min.), with rotor speed being controlled by the oil flow.



WR600 evo



WR500



WR700

AGRONIC Multibalers for Loose Material



AGRONIC Multibaler 820 and 1220

AGRONIC Multibaler 820 ja 1220 –models are suitable for baling maize, saw shavings, compost, and peat for example.

Multibaler 820 produced bales with a width of 85-cm (33½”) and diameters ranging from 80-90 cm (31½-35½”). Depending on the material to be baled, weights can range from 250-450kg (551 to 992 lbs).

The MultiBaler 1220 produces larger bales than the smaller 820 model. With a bale width of 100 cm (3') and bale diameters ranging from 100-120-cm (3-4'), with bale weights (depending on the material to be baled) ranging from 600-1000kg (1323-2200 lbs).

Bales can be bound with either net or plastic and can also be wrapped in plastic to ensure conservation and protection against the elements.

The dense bales are formed using 50-70% compression, with balers equipped with return conveyors, so there is low material loss during baling.

Stationary or On-The-Move Baling



AGRONIC MultibalerXL

AGRONIC Multibaler XL is a machine for professionals in both agriculture and industry. The operation of the machine can be easily adjusted to suit baling requirements.

Compared to the smaller Agronic 820/1220 Multibaler models, the Multibaler XL's bale chamber concept is totally different. At the heart of the machine, the bale chamber, has been developed with years of experience gained from industrial use. The bale chamber is designed for hard use and is made from wear resistant materials. This ensures a long, reliable, operating lifespan.

The Multibaler XL can produce bales varying in diameter from 100 to 115-cm (3-3¾'), and width of 120-cm (4'). Depending on the material being bale, bale weights can range from 500-1350 kg (1100-2976 lbs).

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30 Years of Quality for green fields all over the world!

In the interest of improving our products, we reserve the right to make changes. Photos feature machines equipped with optional equipment.