

Precision Fertilizer Spreader



www.KuhnNorthAmerica.com

AXENT™
100.1



Invest in Quality®

UNEQUALED SPREADING PRECISION!

REDUCED COSTS, INCREASED YIELDS

Controlling your application rate helps you maximize crop yield while minimizing your expenses. KUHN's Electronic Mass Flow Control (EMC) system is the key for adapting to different needs and optimizing your yield under all possible circumstances. This well-established and proven system measures and continuously adjusts the application rate on each disc independently.

SIMPLE ADJUSTMENTS

Ensuring even spreading can be complicated. KUHN provides electronic solutions to simplify and automate this process. Our focus is on easy adjustments to save you time and avoid errors.

MAXIMUM EFFICIENCY

Unique KUHN solutions provide absolute spreading precision: CDA system, GPS control, scale sensors and EMC technology for automatic application control during spreading are unrivaled in the industry.

PRECISION FERTILIZER SPREADER

Axent™
in brief

| Model | Working Width | Min / Max Capacity | Control Terminal |
|-------------|---------------|--------------------|------------------|
| Axent 100.1 | 60' - 164' | 335 cu. ft. | ISOBUS |



SPREAD WIDE

| Variables | | Results | |
|--|---------------------------------|---------|-----------------------------------|
| 2000 | Number of acres per Application | | |
| KUHN AXENT Spreading Common Fertilizers | | | |
| 120 | Spreading Width (feet) | 139.6 | Acres per hour |
| 12 | Speed (mph) | 14.3 | Hours to spread 2000 acres |
| 80% | Efficiency factor * | | |
| * Efficiency factor takes into account time lost on headlands, refilling, etc. | | | |

| Competitor Spreading Common Fertilizers | | | |
|--|------------------------|-------|-----------------------------------|
| 90 | Spreading Width (feet) | 104.7 | Acres per hour |
| 12 | Speed (mph) | 19.1 | Hours to spread 2000 acres |
| 80% | Efficiency factor * | | |
| * Efficiency factor takes into account time lost on headlands, refilling, etc. | | | |

Example shows common competitor max spread width.

Through the experience of decades of research and development, the Axent has the capability of spreading fertilizer and seeds wider than any other machine on the market. This results in more acres spread per hour and reduced fuel and labor costs. The patented triangular spread pattern ensures complete coverage even in high winds and at widths above 120 feet unlike other competitive spreaders.

As shown in the example to the left, the additional efficiencies gained are substantial. If custom spreading, this equates to almost 350 acres more per day or \$2,100 more income per day at \$6 per acre.

SPREAD PRECISE

| Application Rate Control | | | 9% Common Spreader Error Rate |
|--|--------|-----------------|------------------------------------|
| Total cost of dry fertilizer per acre per year | \$ 100 | | 5% Weigh Scale Spreader Error Rate |
| Number of acres | 2000 | | 2% KUHN Axent Maximum Error Rate |
| | | Per Acre | Total per Year |
| Potential extra application cost incurred using a standard Spreader | | \$9.00 | \$18,000 |
| Potential extra application cost incurred using a weigh scale spreader | | \$5.00 | \$10,000 |
| Potential <u>Maximum</u> extra application cost incurred using a AXENT | | \$2.00 | \$4,000 |

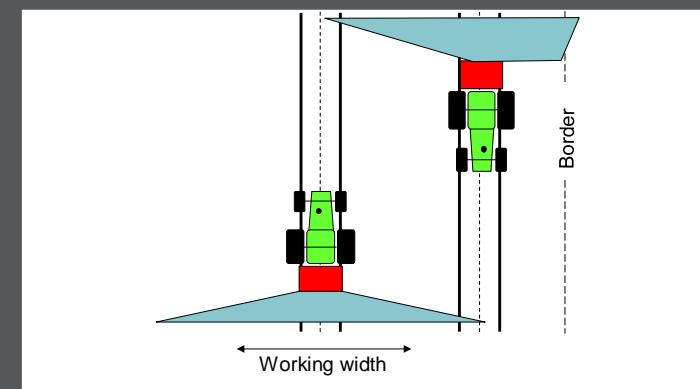
Cost per acre is average of Iowa Farmland (2015).

Typical spinner spreaders adjust application rate via feed gate height and/or conveyor belt speed. Feedback from growers shows this can lead to at least a 9% application rate error (typically overspreading). Machines with weigh scales can improve upon this. However, when the Axent weigh scales are combined with the exclusive EMC system, it results in a **maximum of only 2%** error. As seen in the calculation to the left, it doesn't take long to realize a Return on Investment (ROI). Additionally, with section control and border spreading, the total dollars per acre can be reduced even further.

PRECISION FERTILIZER SPREADERS AXENT™ 100.1

REDUCE FERTILIZER COST & MAXIMIZE YIELD POTENTIAL

Some may consider dry fertilizer spreaders as simple machines and look to buy the cheapest option out there. These operators are inadvertently limiting themselves from a higher profit per acre. The Axent is unique in the industry, giving you a high-capacity machine with unparalleled application rate control to reduce over-or under-spreading. The ultra-wide working widths decrease field time and reduce overall compaction. This is a "smart" spreader featuring ISOBUS compatibility with standard variable rate, weigh cells and section control giving this machine unparalleled precision and payback.



BORDER SPREADING

KUHN's innovative border spreading function slows the disc speed and changes the drop point to keep fertilizer where it belongs—in the field. Border spreading can be engaged on either the left- or right-hand side via the control terminal. Yield border spreading delivers the full amount right up to the field edge to help every last acre perform to its full potential.



VARISPREAD DYNAMIC

One of the biggest barriers to profitability is over-application – wasted fertilizer or seed. KUHN's industry-unique Vari-Spread Dynamic system breaks through that barrier. Using a section control activation from the controlling terminal, two modes are available. Manual mode features four selectable sections per side (eight total) that can be switched on or off. Automatic GPS mode constantly adjusts the disc speed and drop point for a continuously variable spread width. The result is outstanding overlap control, even in oddly shaped fields.

PREMIUM FEATURES BUILT INTO EVERY MACHINE

The Axent comes standard with a variety of equipment to assist in day-to-day operations and maximize efficiency.



EASILY FOLDABLE LADDER

A ladder to easily view the hopper contents is located on the front side of the spreader. The ladder is easily folded to reduce overhang and increase the users safety.



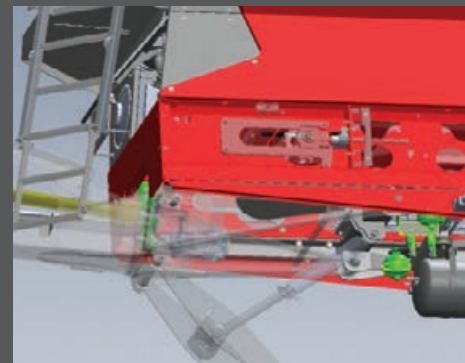
HYDRAULIC STAND

Attaching and detaching is fast and painless, thanks to the standard hydraulic parking stand.



INTEGRATED HYDRAULIC SYSTEM

Other spreaders require a tractor with big hydraulic capacity, not the Axent. Its PTO-driven integrated hydraulic system frees you to use a smaller tractor for reduced operating cost.



INTEGRATED DRAWBAR SUSPENSION

KUHN's integrated drawbar suspension utilizes multiple accumulators to cushion shock and keep the operator comfortable.

WIDE, HEAVY-DUTY CONVEYOR BELT

The thick (8 mm) and wide (31 1/2") endless belt is made of a special high-endurance fabric. It is mounted at a slight angle for better weight balance with the tractor and more steady supply to the PowerPacks in the rear. Removable shielding affords quick access to the sealed bearing rollers and belt tensioner should adjustments become necessary.



WEIGH SCALES

Four integrated scale sensors allow the operator to keep track of material and acreage left before reloading. They also simplify record-keeping for nutrient management plans.



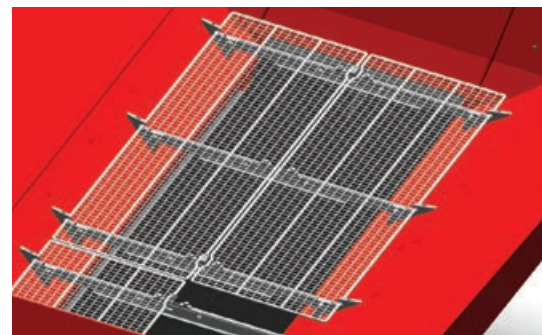
BACKUP CAMERA

The backup camera (integrated into the rear cover) allows for safer maneuvering into barns and sheds.



HYDRAULIC HOPPER COVER

The main hopper cover is hydraulically opened and closed from the tractor cab. Coupled with the standard weigh scales, you can expect dramatically shorter refill times and less fatigue.



HOPPER GRATES / MAIN AGITATOR

Hopper grates are used with the Axis® PowerPack to prevent foreign material from damaging the belt or other components. They can be removed quickly for lime spreading. The main hopper agitator breaks up sticky clumps of lime or fertilizer for more uniform spreading.





PRECISION FERTILIZER SPREADERS | AXENT™ 100.1

TWO MACHINES IN ONE

Typical large-trailed spreaders are either not capable of spreading lime or to do so greatly reduces fertilizer spread patterns and working widths. The Axent™ solves this problem with a removable spreading system. For granular fertilizer and cover crop seeding, the Axis® PowerPack can be equipped for maximum results. If your spreading needs include ag lime or organic fertilizers, the available lime PowerPack can be installed in less than an hour for optimal performance.



AXIS POWERPACK STANDARD

The Axis PowerPack is the hydraulically driven module for high-precision spreading of granulated fertilizer. Based off our well-proven Axis H-EMC model design, the fertilizer system allows granulated fertilizer and seeds to be spread with ultimate precision from 60' to 164'. Standard identification guides and spreading charts simplify setup and increase spreading pattern precision. The rear shield hinges up and out of the way for convenient access.



LIME POWERPACK OPTIONAL

The Lime PowerPack was the conveyor belt for accurate, variable rate spreading of ag lime or organic material. It contains larger and heavier spinning discs to spread heavy, wet material up to 60'.

Note: EMC, Vari-Spread Dynamic and Opti-Point are not compatible with this option.

AXIS® POWERPACK



SIMPLE AND PRECISE

COMPLETE FLEXIBILITY OF APPLICATION

Different fertilizers, variable application rates, multiple working widths – your spreader must quickly adapt to many needs. The Coaxial Distribution Adjustment (CDA) system helps meet these challenges while providing ultra-easy adjustments.

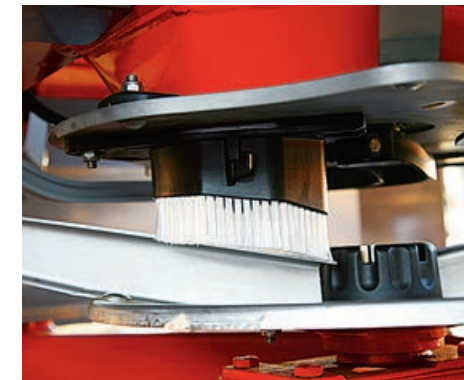
CONSISTENT SPREADING

It is critical to ensure even spreading across the entire working width even when changing the application rate, working width or ground speed. The CDA system provides the solution to ensure optimum distribution patterns.



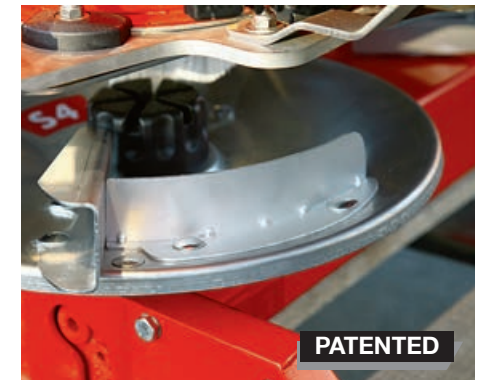
EXTRA-SLOW AGITATOR

The agitator regulates the supply and promotes fertilizer flow. Rotating at only 17 rpm, it handles the granules gently to significantly reduce damage and prevent powder formation.



MORE ACCURACY WITH DROP GUIDE

To ensure an accurate drop point of the fertilizer on the disc, a brush drop guide follows the fertilizer flow until it is caught by the paddles.



REDUCED TURBULENCE

Airfin deflectors reduce turbulence generated by the rotating discs and side winds to ensure even fertilizer flow.

PATENTED



EMC: INDEPENDENT DISC BY DISC

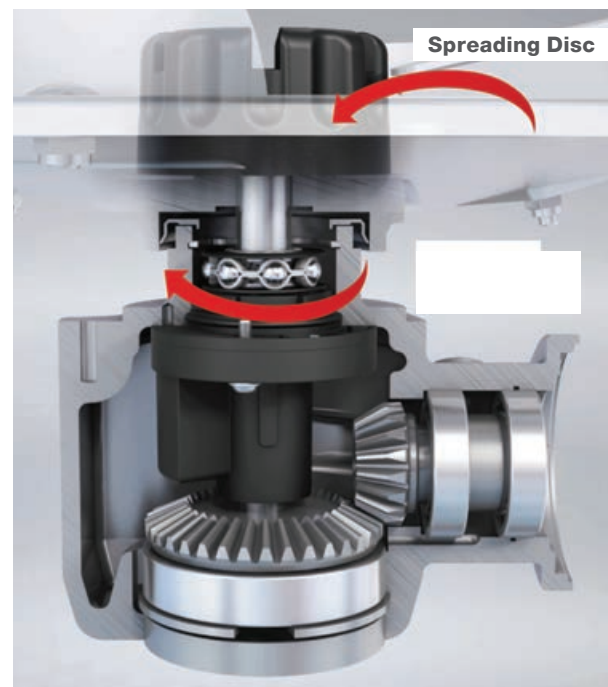
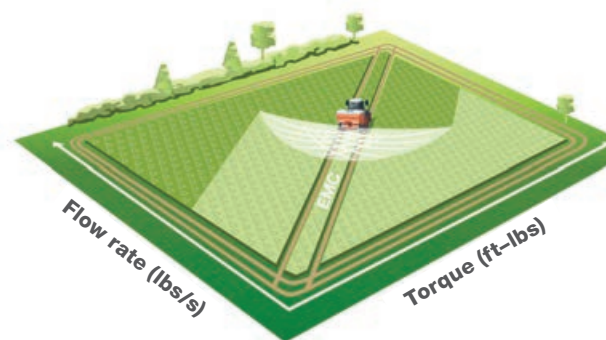
Electronic Mass Flow Control (EMC) is a unique technology, well-established and proven after over a decade of experience. It measures and continuously adjusts the application rate on each disc separately to give you complete flexibility and ultimate precision. The machine incorporates a simple torque measurement system that provides fast calibration. Variable rate capability is standard without needing a separate rate controller. *Each disc is capable of differing variable rates.

(*JD Greenstar is the only precision ag system capable of differing variable rates per disc as of fall 2016).

ULTIMATE RATE CONTROL

Pressure differences at the hydraulic disc motors are proportional to the fertilizer flow rate at its metering outlets. This is independent of the type or size of fertilizer. The EMC system uses this information and carries out the following steps:

1. Current flow rate (application rate) is read via the torque sensor
2. Pressure is adjusted when deviating from desired flow rate separately for each disc
3. Metering outlets are corrected automatically according to new data



The electro-magnetic torque sensor system significantly shortens the calibration process to get you spreading sooner.

MORE ADVANTAGES

1. Individual adjustment of left and right disc every second for at least 98% application rate accuracy
2. Insensitive to slopes or changes in forward speed
3. No flow tests required, automatically done from an operator's standpoint

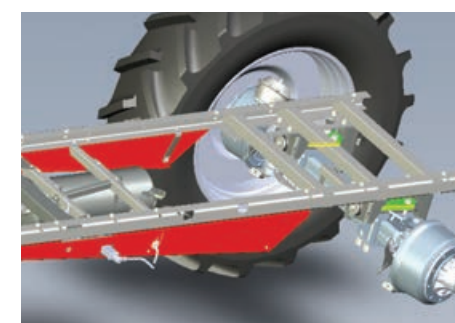
CUSTOMIZED TO FIT YOUR OPERATION

OPTIONAL EQUIPMENT



STEERABLE AXLE

KUHN's steering axle closely follows the tractor's tires to limit compaction and give you extra stability on side hills. The system uses a small gyroscope that is easily moved from tractor to tractor. The steering angle ranges from 11° to 17° based on your chosen tire size.



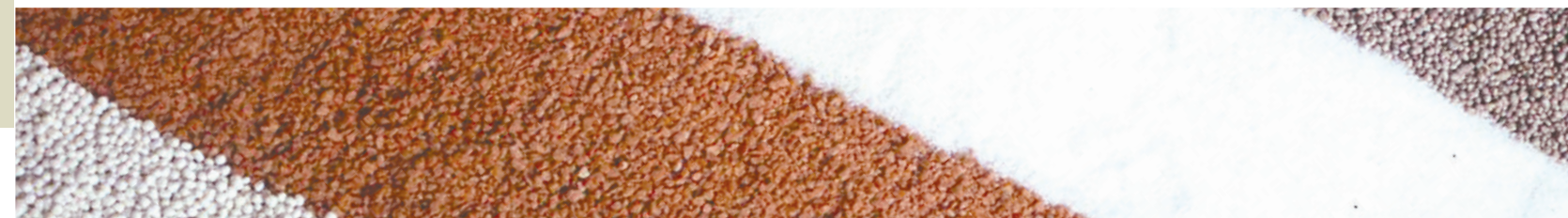
HYDRAULIC BRAKES

Hydraulic brakes can be ordered to give you extra stopping power for safer road transport.



TIRE OPTIONS

Machines come standard with 650/65 R42 floater tires. However, if your application plans call for in-row spreading, the optional 480/80 R46 s are the perfect match for the fixed 90" axle.



Model Specifications

| | AXENT™ 100.1 | AXENT™ 100.1 (with steering) |
|---|--|------------------------------|
| Max Capacity (Struck) | 335 cu. ft. (9,500 L) | |
| Hitch Type | Cat. 3 & 4 drawbar | |
| PTO Speed | 1,000 rpm | |
| PTO Type | 1 3/8" 21-Spline (1 3/4" 20-spline optional) | |
| Minimum Tractor Horsepower | 180 hp (134 kw) | |
| Required Hydraulic Connections | 2 DA (Main spreader functions are via integrated hydraulic system) | |
| Conveyor Belt Type | High-endurance rubber fabric | |
| Conveyor Belt Width | 31 1/2" (0.8 m) | |
| Filling Height | 9'8" (2.7 m) | |
| Hopper Cover | Standard hydraulic folding from cab | |
| Weighing System | Standard (4 scale sensors total) | |
| Application Rate Adjustment – Fertilizer | 2.7 lbs/acre – 447 lbs/acre with ultra high precision (Up to 1,000 lbs/acre with slightly lower precision) | |
| Application Rate Adjustment – Optional Lime Pack | 10 lbs/acre – 6,000 lbs/acre depending on material | |
| Spreading Width | 60' – 164' depending on material (18 m – 50 m) | |
| Standard Spreading Discs | S6 VxR | |
| Fertilizer ID Cards and Spread Charts | Standard in imperial and metric | |
| Virtual Terminal | ISOBUS compatible (optional terminal available) | |
| Section Control Capability | Standard (requires activation on terminal used) | |
| Standard Axle Width | 90" fixed (2.9 m) | |
| Steering Axle | - | Yes |
| Standard Tire | 650/65 R42 (floater-style tire) | |
| Empty Weight | 9,350 lbs (4,241 kg) | |
| Maximum Material Payload Recommended for Road Transport | 19,000 lbs (8,618 kg) | |
| Maximum Material Payload for Field Operations | 28,000 lbs (12,701 kg) | |

COMPLEMENTARY PRODUCTS

MORE PRODUCTS TO MEET YOUR NEEDS

With over 700 models of equipment, we have the most complete implement line in the industry. Whether you have a small or large operation, we have a broad range of models and options to help fit your diverse needs.




1. Rollover Plows
2. Primary Tillage
3. Vertical Tillage
4. Secondary Tillage
5. Strip-Till
6. Mounted Fertilizer Spreaders

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