

Precision Fertilizer Spreader



www.KuhnNorthAmerica.com

AXENT™ 100.1



Invest in Quality®



PRECISION FERTILIZER SPREADERS AXENT™ 100.1

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 separately.

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 distribution, GPS control, Kuhn's weighing system and EMC technology for automatic adaptation of the application rate 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



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REDUCE FERTILIZER COST & MAXIMIZE YIELD POTENTIAL

Some may consider dry fertilizer spreaders 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 that has 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.

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.

SPREAD PRECISE

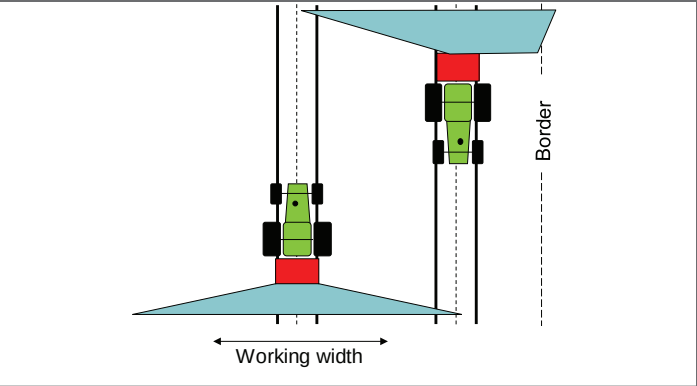
Application Rate Control		9% Common Spreader Error Rate 5% Weigh Scale Spreader Error Rate 2% KUNN Axent Maximum Error Rate	
Total cost of dry fertilizer per acre per year	\$ 100		
Number of acres	2000		
		Per Acre	Total per Year
Potential extra application cost incurred using a standard Spreader		\$9.00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

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

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 \$2,000 more income per day at \$6 per acre.

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 see the Return on Investment (ROI). Additionally, with section control and border spreading, the total dollars per acre can be reduced even further.



BORDER SPREADING

Border spreading is accomplished on the Axent by reducing disc speed and or/drop point so fertilizer is not spread beyond the border. Generally borders will have to be estimated in a non-mapped field and this sets the boundary for automatic spreading. Border spreading can be engaged on either the left- or right-hand side via the control terminal in a similar manner to the Kuhn Axis® fertilizer spreader. Most operators will want to use full (yield) border spreading as it provides a full amount of fertilizer to the field edge. With the Lime PowerPack, border spreading is not possible, but it is capable of single side spreading.



VARISPREAD DYNAMIC

As standard, the machine is capable of section control for reduced fertilizer waste and over application. The VariSpread Dynamic system is unique in the industry. In manual mode, four sections per side are selectable (eight total). In automatic GPS mode, the system adjusts the drop point and disc speed constantly, resulting in a continuously variable spread width. This allows for better overlap control in odd shaped fields and wedges. Vari-Spread Dynamic requires Section Control activation from the controlling terminal.

PREMIUM FEATURES BUILT INTO EVERY MACHINE

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



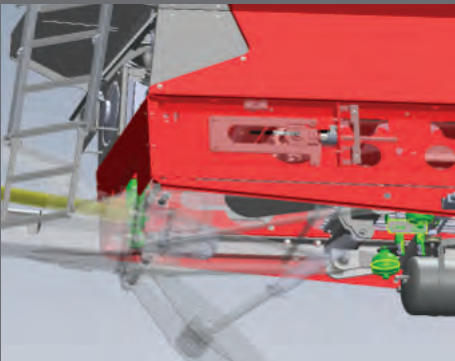
HYDRAULIC STAND

The integrated hydraulic stand allows for faster and simpler attaching/detaching and can be easily operated from the control terminal.



INTEGRATED HYDRAULIC SYSTEM

The integrated hydraulic system allows you to use the machine on smaller tractors that do not have the hydraulic capacities of the larger tractors needed for competitive models.

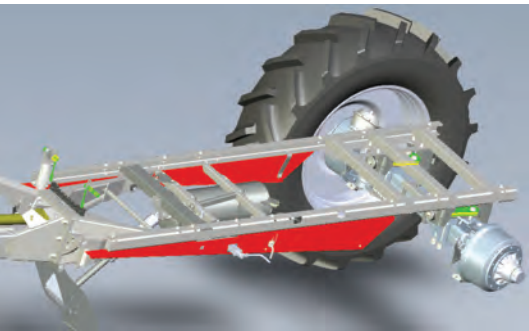


INTEGRATED DRAWBAR SUSPENSION

Integrated drawbar suspension utilizes multiple accumulators to cushion shock on the drawbar (and subsequently the operator) for more comfortable operation even at higher field speeds and in rough field conditions.

WIDE, HEAVY-DUTY CONVEYOR BELT

The thick (8 mm) and wide (31 1/2") endless belt is made of a special high-endurance fabric. The belt is mounted at a slight angle for better weight balance with the tractor and more steady supply to the PowerPacks in the rear. Rollers are of a sealed bearing design and can be easily accessed through the side doors. Via the front doors the belt's tension can be easily adjusted if needed.



WEIGH SCALES

For precise documentation and improved operator comfort, four integrated weigh scales allow you to see total remaining material load and area left before needing to reload.



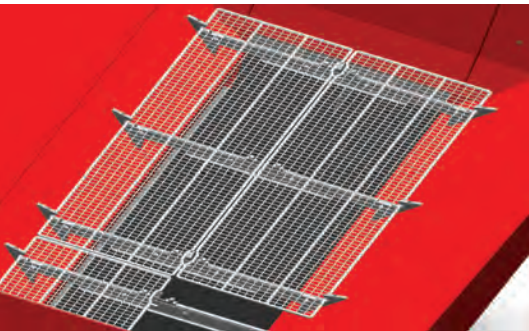
BACKUP CAMERA

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



HYDRAULIC HOPPER COVER

For increased operator comfort and faster loading, the hopper cover is hydraulically opened and closed from the cab. Coupled with the standard weighing scales, an operation can see dramatically shorter refilling times and subsequently less operator fatigue.



PROTECTIVE GUARDS / MAIN AGITATOR

Hopper protective guards can be used with the Axis® PowerPack to help prevent foreign material from damaging the belt or other components. They can be removed quickly for lime spreading with the quick-lock system. The main hopper agitator allows for sticky clumps of fertilizer or lime to be broken apart 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 wanting to spread ag lime or organic fertilizers, the optional lime PowerPack can be installed in less than an hour for optimal spreading.



AXIS POWERPACK | STANDARD

The Axis PowerPack is the hydraulically driven module for high-precision spreading of granulated fertilizer. Based off the 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 can be lifted if needing to service.



LIME POWERPACK | OPTIONAL

The Lime PowerPack allows for accurate spreading of ag lime as well as organic material. The lime pack contains larger and heavier spinning discs to spread the heavy and wet material up to 60'. The conveyor belt is used exclusively to meter the material based off of the selected rate and ground speed. The Lime PowerPack can be used for variable rate lime application as standard.

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 different needs. The Coaxial Distribution Adjustment (CDA) system, helps meet these challenges while providing ultra-easy adjustments.

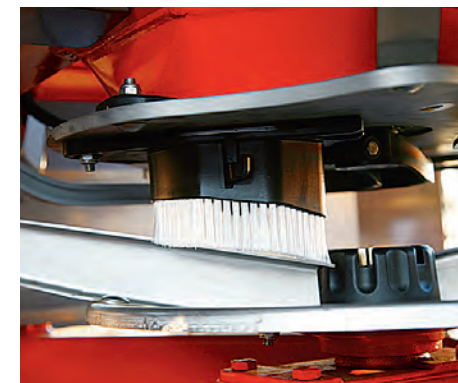
CONSISTENT SPREADING

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.



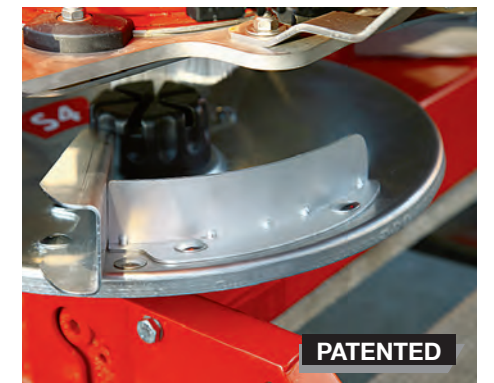
EXTRA-SLOW AGITATOR

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



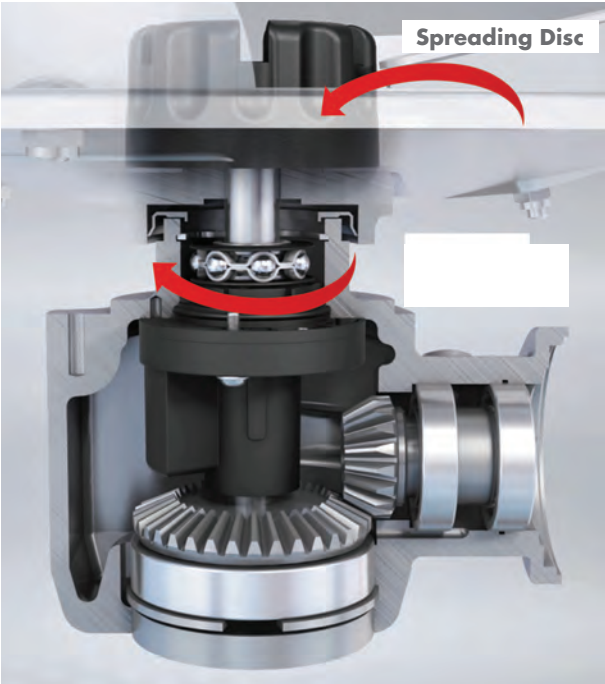
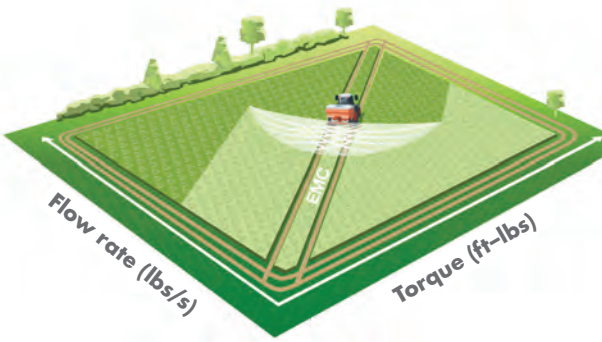
EMC: INDEPENDENT DISC BY DISC

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 for those seeking 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 torsional 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 and allows operators complete peace of mind.

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

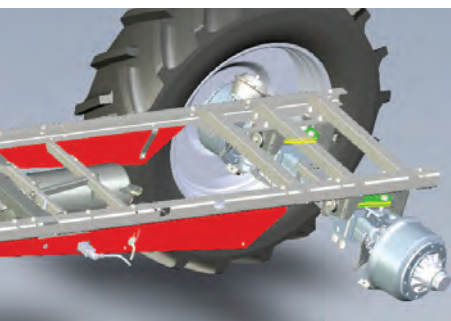
CUSTOMIZED TO FIT YOUR OPERATION

OPTIONAL EQUIPMENT



STEERABLE AXLE

The Axent™ can be ordered from the factory with a steerable axle to more closely follow the tractors tires and limit areas compacted or run over. The system uses a small gyroscope mounted on the tractor and is easily moved from tractor to tractor. The steering angle ranges between 11 to 17 degrees based on the tire size selected.



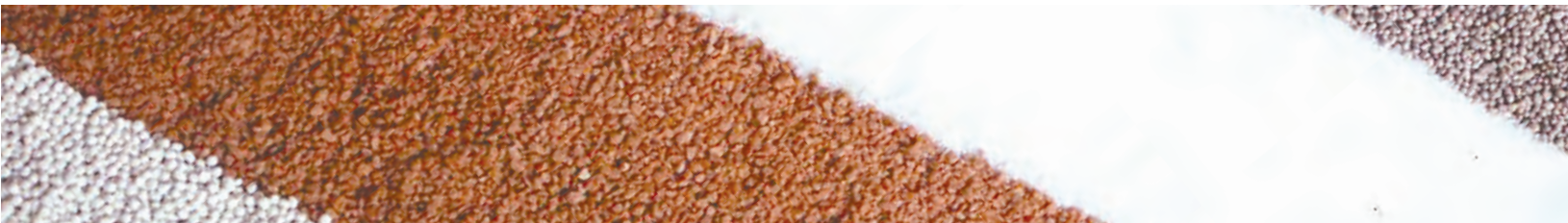
HYDRAULIC BRAKES

Hydraulic brakes can be ordered if desired.



TIRE OPTIONS

Machines come standard with 650/65 R42 floater tires. However, 480/80 R46 tires can be ordered as an option for in-row application. Axle width (90") is fixed and cannot be adjusted.



Model Specifications

	AXENT™ 100.1	AXENT™ 100.1 (with steering)
Max Capacity (Struck)	335 cu. ft. (9,500 l)	
Hitch Type	Cat. 3 & 4 bull pull hitch	
PTO Speed	1,000 rpm	
PTO Type	1 3/8" 21-Spline (1 1/4" 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	2.7 lbs. to the acre to 447 lbs./acre with ultra high precision (Up to 1,000 lbs./acre with slightly lower precision)	
Spreading Width	60' – 164' depending on material (18 m – 50 m)	
Spreading Discs as Standard	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	N/A	Yes
Standard Tire	650/65 R42 (floater-style tire)	
Empty Weight	9,350 lbs (4,241 kg)	
Maximum Payload	19,000 lbs (8,618 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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Your Kuhn dealer

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