

TOPFLIGHT

MATERIAL HANDLING



The Apex Series grain spreaders™ from TopFlight® were engineered to raise the standard for performance. Apex delivers uniform, consistent spreading in all conditions and flow rates. When fines form a core in the center of a bin, airflow is restricted where it is needed most. This creates a concentrated column of heat and moisture directly above the center sump, leading to increased microbial activity and a higher risk of grain spoilage.

Grain spreaders can solve these issues, but many operations have seen limited success with traditional options. Previously available spreaders were troublesome to maintain and adjust, leaving many bins without the benefits of evenly filled layers and uniform airflow. Until now, powered spreaders were not suitable for large bins, and gravity spreaders required constant adjustment and the risk of plugged chutes.

The Apex Series combines the controlled speed and pattern consistency of a motorized spreader with the long chute and fines distribution of gravity designs. The result is a spreader that can successfully operate in a range of bin sizes, flow rates, and varying crop conditions. The beltless, gear driven system is designed for maintenance free operation year after year.

THE APEX ADVANTAGE

- Spreads at all flow rates
- Less need to center incoming grain
- Improved fines distribution without high-speed separation
- Open grain path prevents bird nests and clogs

DESIGN CHARACTERISTICS

- Completely open bucket design
- No drive-train or mounting components in grain stream
- Adjustable pitch fanboard
- Adjustable diverter fins
- Temp cable mounting options
- Lightweight design (<100 lbs on smaller models)
- Easily Retrofitted

DRIVE SYSTEM & CONTROL

- 120V single phase motor standard
- Variable speed capability (3-phase option)
- Triple-sealed aluminum C-face motor
- IP55 motor rating

EXTENDED WEAR PACKAGES

- Ceramic lining kit option for extreme duty
- UHMW lining kit option for economical wear protection



MODEL LINEUP

Model	Capacity (Bu/Hr)	Chute Length	HP	RPM	Top Opening	Weight (lbs)
AX6K60	6,000	60"	1/3	20	20"	80
AX13K90	13,000	90"	1/3	20	21"	95
AX20K120	20,000	120"	1/2	18	28"	140



APPLICATIONS

AX6K60

The AX6K60 serves farm and light commercial operations. It has been tested in bins up to 60 ft in diameter, where the spread pattern reached the floor flashing at the perimeter.

This model is well suited for farm applications requiring a dual-purpose solution. It performs effectively in drying systems at low flow rates and in receiving applications up to 6,000 bu/hr. The AX6K60 is sized for compatibility with 10" augers and 10" downspouts—configurations commonly found in farm systems.

The AX6K60 is available with mounting arms tailored to the intended bin. Temperature cable mounting can be achieved by mounting the center cable at least 60" from the bin center, or installing the optional temperature cable mounting truss. The mounting truss is designed to fit the bin's peak ring. At present, TopFlight offers a truss design for Sukup bins, with additional bin manufacturers planned for future support.

AX13K90

The AX13K90 is engineered for large farm and commercial applications. It delivers reliable spreading performance in systems loading with 13" augers or 16" spouting. The extended chute improves fines displacement away from the bin core and increases spread distance. Mounting options are similar to those offered with the AX6K60.

ENGINEERING - TESTING - DEVELOPMENT

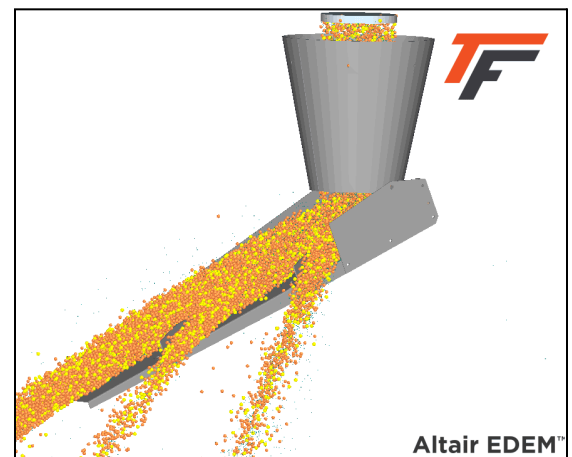
TopFlight uses advanced CAD systems and Discrete Element Method (DEM) modeling to evaluate flow behavior, and spread geometry under variable discharge conditions. Our simulation models can show fine segregation, mixing, and spread pattern.

The Apex series has been tested in corn, soybeans, wheat, and rice.

Designed and built in the USA

Patent Pending

Every unit is tested and leaves our factory with a 2-Year warranty



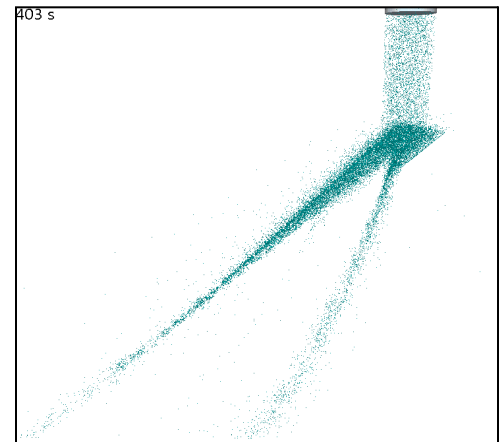
Simulation study with mixed kernel shapes

GRAIN SPREADING BENEFITS

- **Reduced fines core formation**
 - Prevents concentrated BCFM (broken corn, foreign material) in the center
 - Increased cfm/bu in the core
- **Improved airflow uniformity**
 - More consistent static pressure across the surface of the floor
 - Faster and more predictable cooling
- **Reduced cooling time in the core**
 - Modeling and field data shows up to 50–67% longer cooling times needed when grain is peaked
 - Peaked grain bins with a cone up shape have significantly reduced airflow in the core. (66-90% less cfm/bu)*
- **Aerate Sooner**
 - Floor coverage occurs faster
 - Reduces heat buildup and condensation
- **Pods and other Large FM (Foreign Material) incorporated in layers**
 - Soybean pods or bits of corn stalk will not "float" down the pile and be trapped against the wall.
 - Pods do not come off the wall in surges, risking blocked unloading equipment.
 - Concentrations of BCFM above unloading equipment can become non-flowable and block inlets
- **6-10% increase in stored capacity**
 - Spread grain consolidates into denser layers
 - Better volumetric utilization of the bin
- **A must for Natural Air Drying or Hydration**
 - Air follows the path of least resistance. As air rises through the grain column it will bypass areas of higher resistance. Leaving the grain in the core under aerated
- **Operational Safety**
 - Grain entrapment/engulfment situations often involve grain that is out of condition
 - Spreading helps keep grain in condition, greatly reducing the need for intervention, inside the bin and out
- **Grain Quality & Risk Management**
 - Even airflow promotes long term storage quality
 - Reduced dockage and inventory shrink
 - Prevention of microbial activity reduces the need to roll or core grain, saving energy and employee time
 - Blocked unloads are a costly and dangerous situation



Temp Cable Truss



Large particles hidden to show the path and direction of fines away from the center.

*Contact us for a more detailed study on the air bypass effect and the resulting airflow obstruction associated with peak-filled bins. Example cited is a 48' Diameter bin. 62.5' eve height with a 20 HP low speed centrifugal fan. Corn being cooled 50 degrees.