

Sukup Solutions™



Drying

Axial & Centrifugal Dryers, Tower Dryers, Airway® Tubes,
Axial & Centrifugal Fans & Heaters, Fastir™ Stirring Machines

Storage

Farm & Commercial Grain Bins, Heavy-Duty & Medium-Duty Hopper Bins, Floors & Supports, Aeration Fans, Pre-Engineered Metal Buildings

Handling

Sweepway™ Power Sweep, Cyclone Pneumatic Systems, Drag & Hy-Flight Conveyors, Chain Loop & Double Run Conveyors, Bucket Elevators, Drive-Over Hoppers



The Innovative Spirit of the American Farmer

In 1962, Eugene Sukup, a young, innovative farmer, bought his first grain bin to dry and store shelled corn. Unfortunately, he had problems with crusting and hot spots. So, Eugene developed a hand-held stirring device that solved the problems.

After selling only three units (for \$29 each) through a local grain bin dealer, he determined that, for the device to be successful, it had to be automatic. He came up with an automatic design, patented his idea and, in 1963, Sukup Manufacturing Co. was born.



Sukup Manufacturing Co. Headquarters, Sheffield, Iowa, USA. Over 550,000 sq. ft. of manufacturing space, housing computer-controlled lasers (right), welding robots (far right), computer-controlled punching centers, CNC lathes and machining centers. Sukup is also home to the most advanced bin production equipment in the industry (below).



Eugene Sukup has been inducted into the Iowa Inventors Hall of Fame, where he joins the likes of George Washington Carver and John Atanasoff, the inventor of the digital computer. The innovative spirit that earned Eugene that honor is what drives Sukup Manufacturing Co. to be the leader in grain handling innovations. The company holds over 80 patents that have helped to improve grain drying and storage processes.



Over the past 50 years, Eugene and his sons, Charles and Steve, and their talented employees have grown Sukup Manufacturing Co. into a worldwide leader in grain drying, handling and storage equipment.

About 30% of Sukup employees have been with the company for more than 10 years. That adds up to centuries of experience that you won't find with any other grain handling equipment manufacturer.



Sukup Farm Bins - Strong, Innovative, Top-Quality

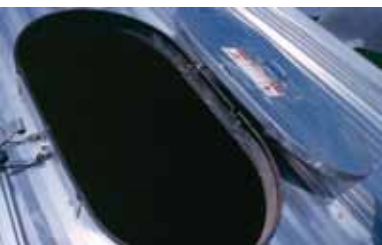
After looking at bins from the inside out for nearly 40 years, Sukup started building bins to complete our line of grain handling, drying and storage equipment. We gathered input from bin dealers and erectors and designed our bins from scratch, unhindered by years of "we've always done it that way." We then invested in new bin manufacturing equipment that is the most advanced, most efficient and most accurate in the world.

The result is the most advanced, best-fitting bin from the leader in grain drying, handling and storage.

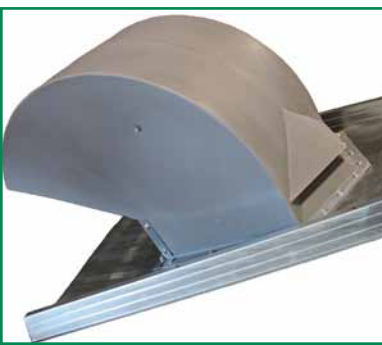
Sukup Bins were the first with a 5000 lb. roof standard. They feature precision-engineered, 4" wide corrugated, high-strength - 50,000 psi yield strength, 70,000 psi tensile strength - galvanized steel sidewall sheets to provide better vertical load carrying capacity.



- Sukup Farm Bins are available in sizes from 15' diameter, 3-rings to 60' diameter, 12-rings.
- Farm bin capacities up to 118,000 bu.
- 5-Year limited warranty.
- Sukup has designed our 15' - 48' diameter bins with a peak load rating of 5000 lbs.*
- 3" ribs serve as rafters for the roof structure, strengthening the sheets.
- Roof rings are standard on all Sukup Bins 18' and larger.
- The patented roof ring bracket with u-bolt adds strength and rigidity to the roof. (Patent # 7,654,048)
- Double-tab roof clips support roof sheets every 9-3/8" at the eave.



- The large manhole on Sukup Bins measures 20" x 35.5". When open, the door lays flat against the roof, eliminating the mess of water and soggy beeswings.



- Exclusive (patent pending) poly roof vents are virtually indestructible and feature a debris deflector to prevent fines and dirt from accumulating on the upper side of the vent and causing corrosion of the roof sheet. Poly roof vents are covered by a 5-year limited warranty.

- Patented Sukup anchor brackets are 22" high to extend above the plenum area, which reduces the stresses caused by vertical loads on the sidewall sheets at the bottom ring. (Patent #6,941,712)

- All bolts on a Sukup Grain Bin are SAE Grade 8.2 (the highest in the industry) with JS 500 plating for ultimate corrosion protection.



Quality Super-Sized - Sukup Commercial Bins

Outstanding Roof Strength

Sukup Commercial Tanks are available in sizes from 43,000 bushel, 42' dia. up to 1,200,000 bushel, 135' dia., with a variety of roof options. The Sukup 30,000 lb.* roof features an internal rafter system and external roof rings. The external roof rings are standard on all Sukup Commercial Tanks.

Stronger Stiffeners

Sukup commercial stiffeners are made from 70,000 psi tensile strength steel and were computer-engineered specifically to make them extra-strong.

Commercial Bin Sizes				
Dia.	Peak Heights Avail.	Max. Capacities Available (Bu.)	Standard Roof Peak Load (Lbs.)*	Optional Roof Peak Load (Lbs.)*
42'	45'11" - 100'11"	42,969 - 107,213	5000	8,000; 15,000 or 30,000
48'	47'8" - 102'8"	56,929 - 140,840	8000	15,000 or 30,000
54'	49'8" - 104'8"	73,000 - 179,272	15,000	30,000
60'	51'6" - 106'6"	91,473 - 225,585	15,000	30,000
72'	54'8" - 109'8"	135,353 - 324,153	30,000	15,000
75'	55'7" - 110'7"	147,852 - 352,713	30,000	15,000
78'	56'6" - 111'6"	160,982 - 382,560	30,000	15,000
90'	60'3" - 115'3"	219,999 - 514,999	30,000	15,000 or 50,000
105'	64'8" - 119'8"	309,096 - 710,624	30,000	50,000
135'	70'11" - 125'11"	542,868 - 1,202,618	50,000	-

* Throughout this brochure, bin peak load rating is pounds evenly distributed on peak ring as pure vertical peak load with uniformly distributed roof snow load calculated from 40 psf ground snow zone or 90 mph wind zone as defined by ASCE7-05 Code.



Sukup offers both Medium-Duty and Heavy-Duty Hopper Bins.

- Medium-Duty Hopper Bins are available in 15'-21' diameter, 3-6 rings.
- Legs on the Medium-Duty Hopper Bins are formed in our extra-strong stiffener profile and extend to the bottom two rings, providing additional support for the sidewalls.
- Sukup Heavy-Duty Hopper Bins are available in 15'-36' diameter, 3-12 rings.
- Heavy-Duty Hopper Bins may be mounted on overhead super structures, used as working bins and used to store cool, dry grain for extended periods.



Solid Support - Excellent Airflow

Hawk Cut™ Bin Floors

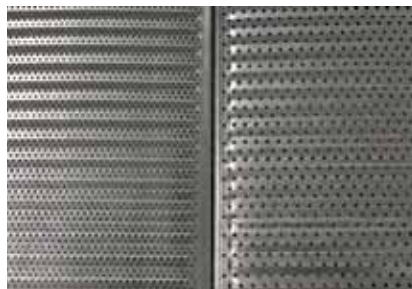
- Sukup Hawk Cut™ Flooring, the first of its kind, is twice as strong as other smooth floors to prevent cupping.
- Sukup's exclusive Hawk Cut™ process does not remove any steel in forming the large open area in the plank.



**Hawk Cut™
Floors
Stand
Above the
Rest!**

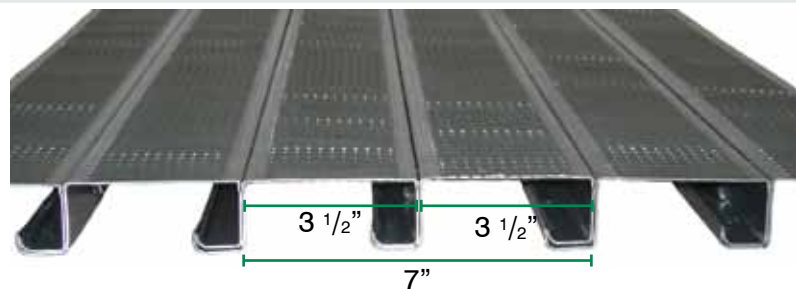
Sukup Perforated Flooring

- Sukup Perforated Flooring is available as standard 7" planks or Heavy-Duty Perforated Planks
- Both styles are available with either standard 0.0945" dia. holes or 0.050" dia. holes. 0.050" is ideal for canola or other very small grains.



Heavy-Duty Perforated Flooring

- Sukup Heavy-Duty Perforated Floors were designed for situations where perforated floors are preferred but higher grain depths are needed.
- Sukup Heavy-Duty Perforated Floor planks have weight-bearing support every 3 1/2", rather than the normal 7", so they are able to withstand deeper grain depths.



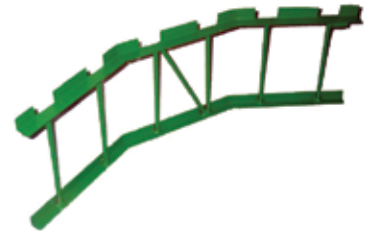
Z-Post Supports

- Sukup Z-Post Supports cover a larger area, giving a wider, more solid base.
- Z-Posts are fast and easy to install.
- Notched sides and the self-tightening spring action lock the supports in place and help prevent shifting.



Super Supports

- The welded-rod frame support lets air flow freely throughout the bin plenum area.
- Tabs provide support under the crown of the floor plank.



Flat Top Super Supports

- Flat Top Super Supports are used with Sukup Heavy-Duty Perforated Flooring.



Super Wave Supports

- Stamped metal supports work with all Sukup floor planks, but they are particularly well-suited to our Heavy-Duty Perforated Floors.
- Unique wave design provides excellent support and stability at an economical price.
- Tabs provide support under the crown of the floor plank.
- Can be used with the deepest grain depths.



Sukup - The Leader in Fans & Heaters

When Sukup began building stirring machines for in-bin drying, we were surprised to learn how much difference there was in the drying rates of different brands of fans with the same motor horsepower. We determined that for in-bin drying to be successful, an excellent fan was needed.

So, we set out to design and build the best fan on the market. Today, Sukup is the leader in fans. We have the reputation of giving the highest airflow, along with quality and reliability. Just ask our customers - performance has made Sukup fans #1.

Centrifugal Fans

- 1750 RPM single inlet fans from 3 to 40 hp. Dual inlet fans from 30 to 50 hp.
- Centrifugal fans offer quiet operation.
- Sukup was the first in the industry to offer adjustable legs for easy leveling and support.
- Exclusive lip on fans forms a tight air seal with the transition.
- Hi-Speed (3500 RPM) and in-line centrifugal fans are available for higher static pressure conditions found with small grains and tall depths.

Axial Fans

- Patented, built-in venturi on 24" or larger axial fans increases airflow (US Patent #5,615,999).
- Sukup pioneered the use of square end plates to maintain accurate roundness of the housing and give uniform support all around.
- Sturdy, convenient handles on 24" and 28" fans make it easier to install and move fans.
- Two-year limited warranty.
- All Sukup fans feature all-galvanized construction.



Centrifugal Heaters

- Special vanes obtain the critical fan and air mixture necessary for efficient burning.
- Large service door for easy access to burner area.
- Three-year warranty on solid state circuit boards.

Axial Heaters

- Starfire-type burners provide the critical gas and air mixture necessary for higher efficiency and even heat distribution.
- Two-way adjustment on vaporizer allows operation over a wider range of outside temperatures.
- Three-year warranty on solid state circuit board.
- Large service door for easy access to burner area.



Heater Temperature Rise*	
High-Temp	50°-180°F
Lo-Temp	25°-75°F
Super Lo-Temp	10°-30°F

*Figures are estimates and may vary. Figures apply to both centrifugal and axial heaters.

Efficient In-Bin Drying - Sukup Fastir™

A heater can dramatically increase your drying speed. As shown below, you can dry 6.5 times faster by adding 40°F. However, the bottom layers will

be overdried. The invention of the stirring machine solved this problem and made in-bin drying very successful.

For Every 20°F temperature rise, relative humidity (RH) is cut by 1/2.

Drying Basics

Outside Air	Heated To	RH	Bottom Layer Dried To	Drying Ratio*
50°F 70% RH	No heat added	70%	15%	1.0
50°F 70% RH	70°F	35%	9%	3.5
50°F 70% RH	90°F	15%	6%	6.5

*Drying Ratio refers to how many times faster grain will dry with heat as compared to drying with natural air.

- Patented mechanical reversing drive on the Fastir™ (US Patent #5,570,954) makes other stirring machines with cable or chain drives obsolete.
- Sukup track mounts higher in the bin than competing units, giving up to 680 bu. of extra storage in a 36' diameter bin.
- Constant pitch augers move more grain than graduated pitch augers.
- Stabilizer bar is standard to prevent augers lagging behind.
- Exclusive design allows you to add down augers at any time.

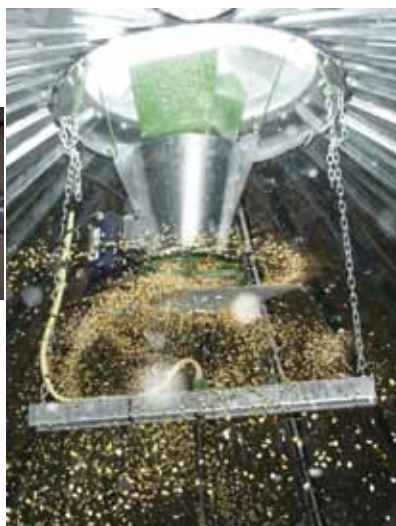


Spredway®

- The pre-spread disc and inner ring, standard on all Spredways®, combine to create a uniform flow of grain to the spread pan for even distribution. The optional pre-spread funnel further enhances even spreading.



- Three sizes to choose from:
 - Standard Spredway® - 3000 bph
 - High-Capacity Spredway® 3000 - 5000 bph
 - Super High Capacity Spredway® 5000 - 7000 bph



Sukup Airways®

Perforated, triangular-shaped tubes pipe drying air along the bin wall to remove excess moisture and prevent grain spoilage on the bin walls.



Need a Fast and Easy Way to Move



Sweepway™ Power Sweep Bin Unloading

- Sweepway™ Power Sweeps are equipped with a galvanized backboard which keeps the sweep close to the floor as it propels itself around the bin. The tall backboard prevents grain flow over the top.
- A patented, galvanized scraper (US Patent #6,254,329) is attached to the backboard to clear the optimum amount of grain off the floor. The scraper is adjustable to different heights to meet your needs.
- Exclusive reduction drive, standard on all Sweepway™ Power Sweeps, decreases drive wheel speed to reduce wheel slippage and prolong wheel life.



- 8" center sump is 1- 1/2 times larger than a traditional 8" sump. 8" and 10" center sumps have a larger bearing mount and a thicker bearing housing for greater durability.

- All 8" and 10" Sweepway powerheads are equipped with rack and pinion sump openers.
- Powerhead design makes belt adjustments easier.
- Sukup Unload Systems are available with a choice of horizontal, vertical or incline powerhead.
- Optional Grain Buster (patent pending) breaks up grain clumps around the center sump that block the flow of grain.
- Sukup also offers a tube and well system with carry-in sweep.



Unloading Capacities				
	6"	8"	10"	12"
Horizontal	1500 bph	2600 bph	4000 bph	6000 bph
Vertical	1250 bph	2500 bph	3750 bph	NA
Incline	1000 bph	2000 bph	3400 bph	NA



Need Grain? Sukup Has Your Solution



Chain Loop Conveyors

- Fill, unload, blend and transfer grain in one complete system.
- Require less power and are gentle on grain.
- Can be added to existing grain storage facilities or included as part of a new site configuration.
- UHMW paddles are pre-attached to the chain, saving assembly time and labor expenses.



Double Run Conveyors

- Can replace a roof auger, transfer auger, dryer take-away auger and even a permanently installed transport auger.
- Grain flows on bottom tube, chain returns on top tube.



Sukup Bucket Elevators

- Sukup invested a lot of engineering time in their low-impact elevator head shape, which is an instrumental part of minimizing cracking and damaging of grain.
- Heavy-duty angle iron framework at the head and boot sections add strength, so Sukup Bucket Elevators will stand strong for years to come.



Sukup Drag Conveyors

- Heavy-gauge, galvanized steel construction for years of dependable service.
- Shaft, sprocket and bearings can be removed as one piece.
- Hy-Flight conveyors are also available.



Drive-Over Hoppers

- Fast, convenient, portable unloading
- Capacities up to 7000 bph
- Permanently installed units also available.



Easy Operation, Higher Quality Grain

- Sukup Dryers feature easy-to-use QuadraTouch™ Controls that lead you through start-up and all dryer functions.
- Our patented Quad Metering Roll System (US Patent #5,992,044) and actual moisture sensing produce higher quality dried grain.
- Sukup was the first to include actual moisture sensing as a standard feature on their dryers.

Dryer Size	Total Holding Capacity	Full Heat Dryer Capacity* 25% - 15%
Single Plenum Axial		
8'	220 bu	210 bph
12'	330 bu	350 bph
16'	440 bu	450 bph
20'	550 bu	575 bph
24'	660 bu	660 bph
Single Plenum Centrifugal		
16'	440 bu	450 bph
20'	550 bu	600 bph
24'	660 bu	710 bph
Dual Plenum Axial		
20'	550 bu	620 bph
24'	660 bu	740 bph
Dual Plenum 2/3-1/3 Split		
16'	440 bu	500 bph
20'	550 bu	600 bph
24'	660 bu	710 bph
28'	770 bu	775 bph
Dual Plenum Centrifugal 2/3-1/3 Split		
16'	440 bu	450 bph
20'	550 bu	600 bph
24'	660 bu	710 bph



- Split plenum Centrifugal Dryers can be equipped to function in pressure heat/vacuum cool mode.
- Pressure heat/vacuum cool is more efficient because heat from the cooling grain is cycled back into the drying process, so less fuel is required to raise the drying air temperature.



- Sukup Quad Metering Rolls, Grain Cross-Over™, QuadraTouch™ controls and Single Phase Centrifugal Dryer all received AE50 Awards from American Society of Agricultural and Biological Engineers, recognizing outstanding engineering innovations in agriculture.



- The Quad Metering Roll System moves the hotter, drier grain next to the inner wall down the column faster for more even moisture content, higher test weights and better overall quality.

- Sukup QuadraTouch™ controls use advanced algorithms and calculus to increase dryer efficiency and reduce large swings in temperature and discharge moisture.



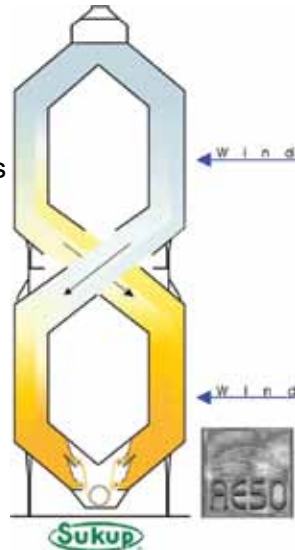
- The touch screen is quick to respond and easy to operate.
- For single phase sites, Sukup has designed a special built-in power converter, making even large dryers single-phase compatible.

Sukup Dryers Provide High-Capacity Drying

Sukup Stacked Dryers

Sukup Stacked Dryers feature the patented Grain Cross-Over™ system, which reduces variation in moisture content within the columns, as well as between the two sides of the dryer.

- Switching the grain from one side of the dryer to the other balances the exposure that each portion of the grain has to cold fall winds.
- The inner, hotter layer of grain in the top module becomes the outer, cooler grain in the bottom module, preventing the grain from overdrying and giving more consistent moisture content.



Commercial Tower Dryers

- Sukup Tower Dryers provide fast, efficient drying for large farms and commercial elevators.
- Heat/cool capacities range from 1200 bph to 7000 bph with 5 point removal.
- Sukup QuadraTouch™ controls provide unmatched dryer efficiency and moisture content accuracy.
- 12', 18' and 24' dia.
- 48' - 120' heights.

Modular Tower Dryers

- 10.5' modular tower dryer is specially-designed for quick assembly on-site.
- 45' & 61' heights.
- 1000 & 1500 bph.



Dryer Size	Total Holding Capacity	Full Heat Drying Capacity* 25%-15%
Two Module Axial Dryers		
16'	850 bu	1000 bph
20'	1050 bu	1250 bph
24'	1250 bu	1525 bph
Two Module Centrifugal Dryers		
16'	850 bu	1000 bph
20'	1050 bu	1250 bph
24'	1250 bu	1525 bph
Three Module Axial Dryers		
16'	1200 bu	1475 bph
20'	1525 bu	1830 bph
24'	1810 bu	2250 bph

* Throughout this brochure, Bu/Hr. (bushels/hour) listed are wet bushels, No. 2 shelled yellow corn at listed moisture content with grain discharged hot at 17%, resulting in about 15% moisture after steeping and cooling, and are estimates based on drying principles, field results and computer simulation.

Cyclone Pneumatic Systems

- Flexibility to move grain to multiple bins and adapt to difficult site layouts.
- An ideal way to move grain from your portable dryer into storage bins.
- High-quality, industrial-grade components.
- 4", 5" and 6" systems are available.
- Best accessories in the industry.
- Sukup offers the most advanced velocity compensator valve available.



Pre-Engineered Metal Buildings

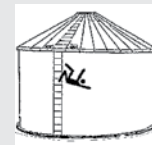


- Customizable to meet your storage, shop and/or office needs
- Clear Span for large open areas

- Straight or tapered columns
- Eight exterior and trim colors to choose from.
- Standing seam or screw-down roof styles.

Sukup Manufacturing Co. provides the information contained within this brochure to assist you in choosing the optimal equipment for your situation. Many factors, such as grain variety, maturity levels, grain cleanliness, weather conditions, and operation/management can affect the performance of your Sukup equipment and results may vary. This information is calculated and is not a guarantee of product specifications or performance. Based on these factors, Sukup specifications should only be used as estimates, and not as a warranty, express or implied, of how a particular Sukup unit will perform under your operating conditions. Because we are continually improving Sukup products, changes may occur that may not be reflected in the specifications.

DANGER! DO NOT ENTER BIN!
Keep clear of all augers.



Your safety is important to us.

Please heed these warnings and follow all applicable safety procedures.

If you must enter the bin:

- Shut off and lock out all power.
- Use a safety harness and safety line.
- Station another person outside the bin.
- Avoid the center of the bin.
- Wear proper breathing equipment or respirator.

Purchase ladder and safety cages and use a safety harness

Metal is slippery when wet.

Maintain secure hand and foot hold when climbing.

To avoid falls, never carry items when climbing on bin.

Failure to heed these warnings may result in serious injury or death.



Sukup Manufacturing Co ■ www.sukup.com

Box 677 ■ 1555 255th St. ■ Sheffield, IA 50475-0677 ■ Phone: 641-892-4222
Fax: 641-892-4629 ■ Email: info@sukup.com

Six Distribution Centers To Serve You Better

Arcola, IL 61910
980 E. State Rte. 133
Phone: 217-268-3026
Fax: 217-268-3522

Aurora, NE 68818
1705 Hwy. 34 E
Phone: 402-694-5922
Fax: 402-694-5921

Cameron, MO 64429
7426 NE 352nd St.
Phone: 816-649-2226
Fax: 816-649-2225

Defiance, OH 43512
7724 Rte. 66 N.
Phone: 419-784-9871
Fax: 419-784-9872

Jonesboro, AR 72403
5917 E. Johnson Ave.
Phone: 870-932-7547
Fax: 870-933-8946

Watertown, SD 57201
2701 Piper Ave.
Phone: 605-882-6697
Fax: 605-884-0467