



# Mixed Flow

## GRAIN DRYER



**PATENT**  
**— NO. —**  
**10,378,820**

- Low Maintenance Cleaning
- Energy Efficient Vacuum Cooling
- Simple Single-Conveyor Unloading
- QuadraTouch Pro™ Control System



# Mixed-Flow

## VACUUM-COOLING

SUKUP EXCLUSIVE

*Sukup Manufacturing is the only company using this method in Mixed-Flow Dryers.*



Drying occurs in the top tiers of Sukup Mixed-Flow Dryers. Vacuum-cooling is accomplished in the bottom screened sections. Vacuum-cooling recovers heat during the cooling process, so Sukup Mixed-Flow Dryers are more fuel-efficient than traditional pressure cool dryers.

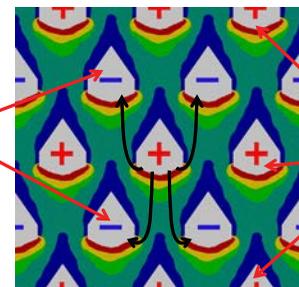
Sukup Mixed-Flow Dryers use approximately half the airflow per bushel and hold almost twice as many bushels than traditional cross-flow dryers. This results in improved grain quality and fuel efficiency.

The triangular ducts provide even heat throughout the column drying each kernel more evenly which is extremely gentle on grain.

**NOTE:** Because tiers are used for drying and screens are used for cooling, drying capacity of a 6-tier Sukup Mixed Flow Dryer is comparable to competitors' 8-tier models.



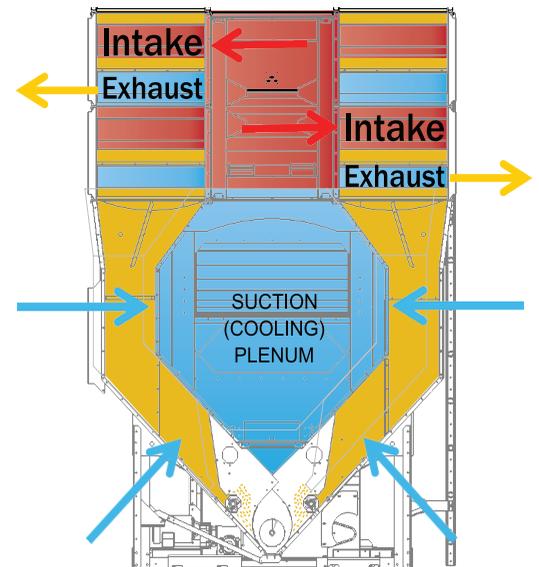
TM1606



Exhaust Ducts

Intake Ducts

Ducts provide even heat distribution to every kernel, whether near the inside or outside of column.



| Legend |  |
|--------|--|
|        | Saturated discharge air.   |
|        | Drying air from heater inside upper plenum.                                  |
|        | Outside air for cooling. Cooling air warmed by the grain inside lower plenum |
|        | Cooling air warmed by the grain inside lower plenum.                         |

# Grain Dryers

## SCREEN CLEANING NO LONGER NECESSARY

With the large, triangle ducts along the sides of the Mixed-Flow Dryers, saturated air flows through with ease without plugging up with fines and bee's wings. This eliminates any losses in capacity or efficiency due to debris build-up on conventional screen dryers. Also greatly reduces cleaning labor and time.



Screen Dryer



TM2405

## SINGLE CONVEYOR UNLOADING SYSTEM

SUKUP EXCLUSIVE

The patent pending design of Sukup Mixed-Flow Dryers allows for a single conveyor unloading system. Which minimizes moving parts as compared to competing units requiring two or three conveyors.

Auger or Drag-Chain conveyors available.

Drag-Chain conveyors use our **Static Moisture Sampler** (optional on auger-unloads) that catches a sample of discharged grain, tests the moisture, and releases it, making it more accurate than testing moving grain.



Gravity Loading System



Auger Loading System

Auger Unloading Conveyor



ABOVE:  
Static Moisture Sampler  
and Sample Chute

RIGHT:  
Drag-Chain Unloading Conveyor



## Loading Systems

Auger or Gravity loading systems are available. Service platform is standard on both options.

# QUADRATOUCH PRO™

## UNMATCHED PERFORMANCE



The QuadraTouch Pro™ control system is featured on all Sukup Dryers and was designed to be easy to use while eliminating around-the-clock monitoring and increasing productivity and efficiency.

### Simple, Menu-Driven System

The QuadraTouch Pro™ control system featured on all Sukup Dryers is extremely easy to use.

- Simple menus guide you through dryer functions for easy start-up and operation.
- Operator inputs are easy with a pop-up keypad for entering drying temps or discharge moisture set-points.
- PLC-based system is built to withstand harsh environments and has superior electrical noise protection, eliminating nuisance trips and providing a dependable system.

### ■ Optional Remote Monitoring

Sukup offers two options for remote monitoring of your Sukup Dryer.

**DOWNLOADING THE APP** available for iPhone or Android, allows you to monitor and control your Sukup Dryer from a smart phone, tablet or PC. Must have internet access to use.



### S.M.A.R.T. LOOP (Simultaneous Monitoring And Reaction Technology)

- Uses incoming (if equipped) and outgoing moisture sensors with the advanced algorithm programming to increase dryer efficiency, reduce large swings in temperature and discharge moisture, and help the dryer run more efficiently.

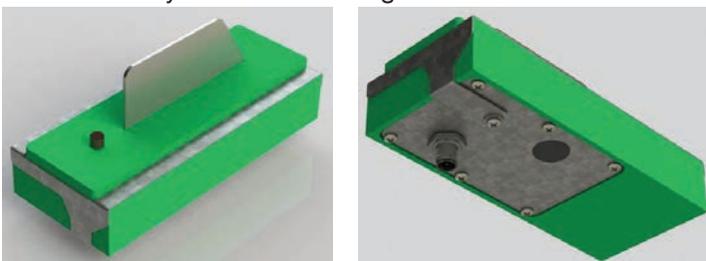


The **GSM PHONE MODEM** works with QuadraTouch Pro™ controls and operates through GSM cell phone service. If the dryer shuts down, the GSM service sends a text message to a predetermined cell phone number, noting what the fault was. You can also text message the dryer and it will reply with current status, moisture, unload speed and temperature. Desired moisture content, plenum temperature and manual unload speed can also be adjusted from your cell phone.

### Automatic Moisture Control is Standard

Sukup was the first company to make true moisture sensing standard on its dryers. Sampling the grain moisture, rather than temperature, gives a more accurate measure of drying progress and results in more consistent final moisture content.

- Moisture content information is collected from standard incoming and outgoing sensors.
- Critical adjustments are made to the metering roll speeds to maintain your desired discharge moisture content.
- Sukup modular moisture sensors are easily removed from the dryer for indoor storage in the off season.



# MIXED FLOW DRYER SPECIFICATIONS

|            | Model         | # Tiers Mixed Flow | Height <sup>(a)</sup> Level Auger | Height <sup>(a)</sup> Gravity Fill | Heating Vol. (Bu) | Total Holding (Bu) | Max Burner Output <sup>(b)</sup> (MMBtu) | Avg Burner Output <sup>(b)</sup> (MMBtu) | Lower Fan | Upper Fan | Est. Cap <sup>(c)</sup> 20%-15% | Est Cap <sup>(c)</sup> 25%-15% | Transport Loads |
|------------|---------------|--------------------|-----------------------------------|------------------------------------|-------------------|--------------------|--|--|-----------|-----------|---------------------------------|--------------------------------|-----------------|
| 16' Dryers | TM1606 (e)(f) | 6                  | 26' 11"                           | 29' 2"                             | 584               | 976                | 5  | 4  | 30 HP     | None      | 709                             | 367                            | 2               |
|            | TM1608 (d)(f) | 8                  | 30' 11"                           | 33' 2"                             | 778               | 1170               | 7  | 5  | 40 HP     | None      | 945                             | 489                            | 3               |
|            | TM1609 (d)(f) | 9                  | 32' 11"                           | 35' 2"                             | 875               | 1267               | 8  | 6  | 50 HP     | None      | 1063                            | 551                            | 3               |
|            | TM1610 (d)    | 10                 | 34' 11"                           | 37' 2"                             | 973               | 1365               | 9  | 7  | 30 HP     | (1)15 HP  | 1182                            | 612                            | 3               |
|            | TM1612 (d)    | 12                 | 40' 11"                           | 43' 2"                             | 1167              | 1619               | 10                                       | 8  | 40 HP     | (1)15 HP  | 1418                            | 734                            | 3 (d)           |
|            | TM1613 (d)    | 13                 | 42' 11"                           | 45' 2"                             | 1264              | 1716               | 11                                       | 9  | 50 HP     | (1)15 HP  | 1536                            | 795                            | 3 (d)           |
|            | TM1614        | 14                 | 44' 11"                           | 47' 2"                             | 1362              | 1813               | 12                                       | 9  | 30 HP     | (2)15 HP  | 1654                            | 856                            | 4               |
|            | TM1616        | 16                 | 50' 11"                           | 53' 2"                             | 1556              | 206                | 14                                       | 11                                       | 40 HP     | (2)15 HP  | 1891                            | 979                            | 4               |
|            | TM1617        | 17                 | 52' 11"                           | 55' 2"                             | 1653              | 2164               | 15                                       | 11                                       | 50 HP     | (2)15 HP  | 2009                            | 1040                           | 4               |
| 24' Dryers | TM2405 (e)(f) | 5                  | 24' 11"                           | 30' 2"                             | 729               | 1325               | 6.5                                      | 5  | 40 HP     | None      | 886                             | 459                            | 3               |
|            | TM2406 (e)(f) | 6                  | 26' 11"                           | 32' 2"                             | 875               | 1471               | 8  | 6  | 50 HP     | None      | 1063                            | 551                            | 3               |
|            | TM2409 (d)    | 9                  | 32' 11"                           | 38' 2"                             | 1313              | 1908               | 12                                       | 9  | 40 HP     | (1)20 HP  | 1595                            | 826                            | 4               |
|            | TM2410 (d)(f) | 10                 | 34' 11"                           | 40' 2"                             | 1459              | 2054               | 13                                       | 10                                       | 50 HP     | (1)20 HP  | 1772                            | 918                            | 4 (f)           |
|            | TM2413        | 13                 | 42' 11"                           | 48' 2"                             | 1896              | 2581               | 17                                       | 13                                       | 40 HP     | (2)20 HP  | 2304                            | 1193                           | 5               |
|            | TM2414 (d)    | 14                 | 44' 11"                           | 50' 2"                             | 2042              | 2727               | 18                                       | 14                                       | 50 HP     | (2)20 HP  | 2481                            | 1285                           | 5 (d)           |
|            | TM2418        | 18                 | 54' 11"                           | 60' 2"                             | 2626              | 3399               | 24                                       | 18                                       | 50 HP     | (3)20 HP  | 3190                            | 1652                           | 7               |
| 32' Dryers | TM3209 (d)(f) | 9                  | 32' 11"                           | 41' 2"                             | 1751              | 2549               | 16                                       | 12                                       | (2)50 HP  | None      | 2127                            | 1101                           | 4 (f)           |
|            | TM3210 (d)    | 10                 | 34' 11"                           | 43' 2"                             | 1945              | 2743               | 17                                       | 13                                       | (2)30 HP  | (1)30 HP  | 2363                            | 1223                           | 4               |
|            | TM3212 (d)    | 12                 | 40' 11"                           | 49' 2"                             | 2334              | 3251               | 21                                       | 16                                       | (2)40 HP  | (1)30 HP  | 2836                            | 1468                           | 5 (d)           |
|            | TM3213 (d)    | 13                 | 42' 11"                           | 51' 2"                             | 2529              | 3446               | 23                                       | 17                                       | (2)50 HP  | (1)30 HP  | 3072                            | 1590                           | 5 (d)           |
|            | TM3214        | 14                 | 44' 11"                           | 53' 2"                             | 2723              | 3640               | 24                                       | 19                                       | (2)30 HP  | (2)30 HP  | 3309                            | 1713                           | 5               |
|            | TM3216        | 16                 | 50' 11"                           | 59' 2"                             | 3112              | 4148               | 28                                       | 21                                       | (2)40 HP  | (2)30 HP  | 3781                            | 1958                           | 7               |
|            | TM3217        | 17                 | 52' 11"                           | 61' 2"                             | 3307              | 4343               | 30                                       | 22                                       | (2)50 HP  | (2)30 HP  | 4018                            | 2080                           | 7               |



TM2414 Expandable

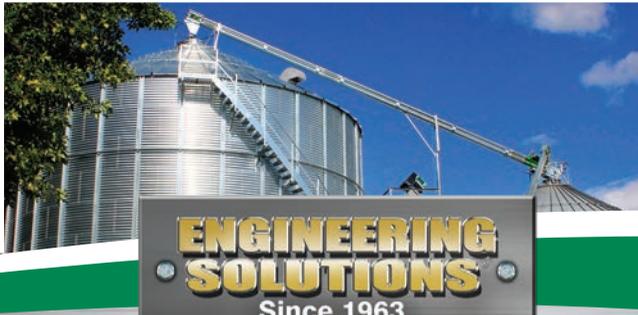
- (a) Height is frame to fill, legs not included. 3', 4' or 5' legs available, see previous page. NOTE: Expandable option adds 2' to height, double expandable option adds 4'.
- (b) Maximum burner output based on 200°F temperature rise. Average burner output is 150°F temperature rise.
- (c) Capacities are wet holding bushels based on computer estimates, drying principles and field results drying US #2 yellow corn. Variations may occur due to grain kernel size, cleanliness, variety, maturity levels, weather conditions, growing season, etc.
- (d) Models may be ordered with Expandable Option, specify at order. NOTE: add 1 transport load where indicated, see chart above.
- (e) Models are expandable as standard, heights reflect this.



TM2410

- (f) Models may be ordered with Double Expandable Option, specify at order. NOTE: add 1 transport load where indicated, see chart above.
- NOTE:** 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 dryer 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 advancing Sukup products, changes may occur that may not be reflected in the specifications.

# COMPLETE YOUR SYSTEM WITH QUALITY **Sukup** PRODUCTS



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SOLUTIONS**  
Since 1963

## DRYING, STORAGE and HANDLING SOLUTIONS®

As a family-owned business, we've spent over 50 years developing innovative, efficient, and reliable products to meet the ever-expanding needs of grain producers. With a full line of product Solutions®, you need look no further than Sukup for your grain handling, storage, drying, and steel building needs.



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