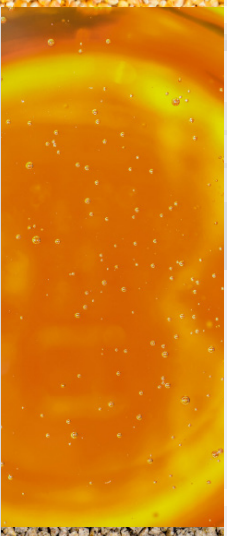
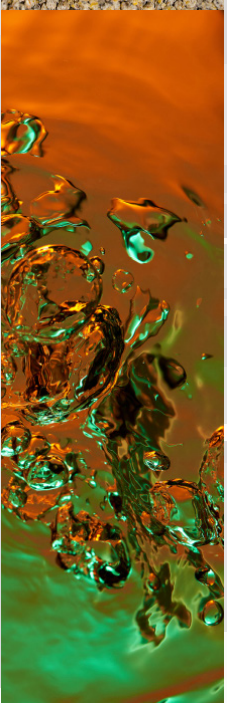




Martin

ETHANOL
CAPABILITIES

Receiving

Storage

Reclaim

Corn Milling

Ethanol Processing

Wet Cake Production

Wet Cake Drying

DDGS Load out

Martin

Inventory

We maintain large inventories to ensure superior service to all customers.

Customer Service

When you call Martin a person answers your call every time.

Complete Manufacturer

We manufacture what we sell, which means we control the quality, inventory levels, delivery and cost of our products.

Point-of-Sale Service

We build our inventories, services and capabilities to meet the market demands of each area our manufacturing locations serve.

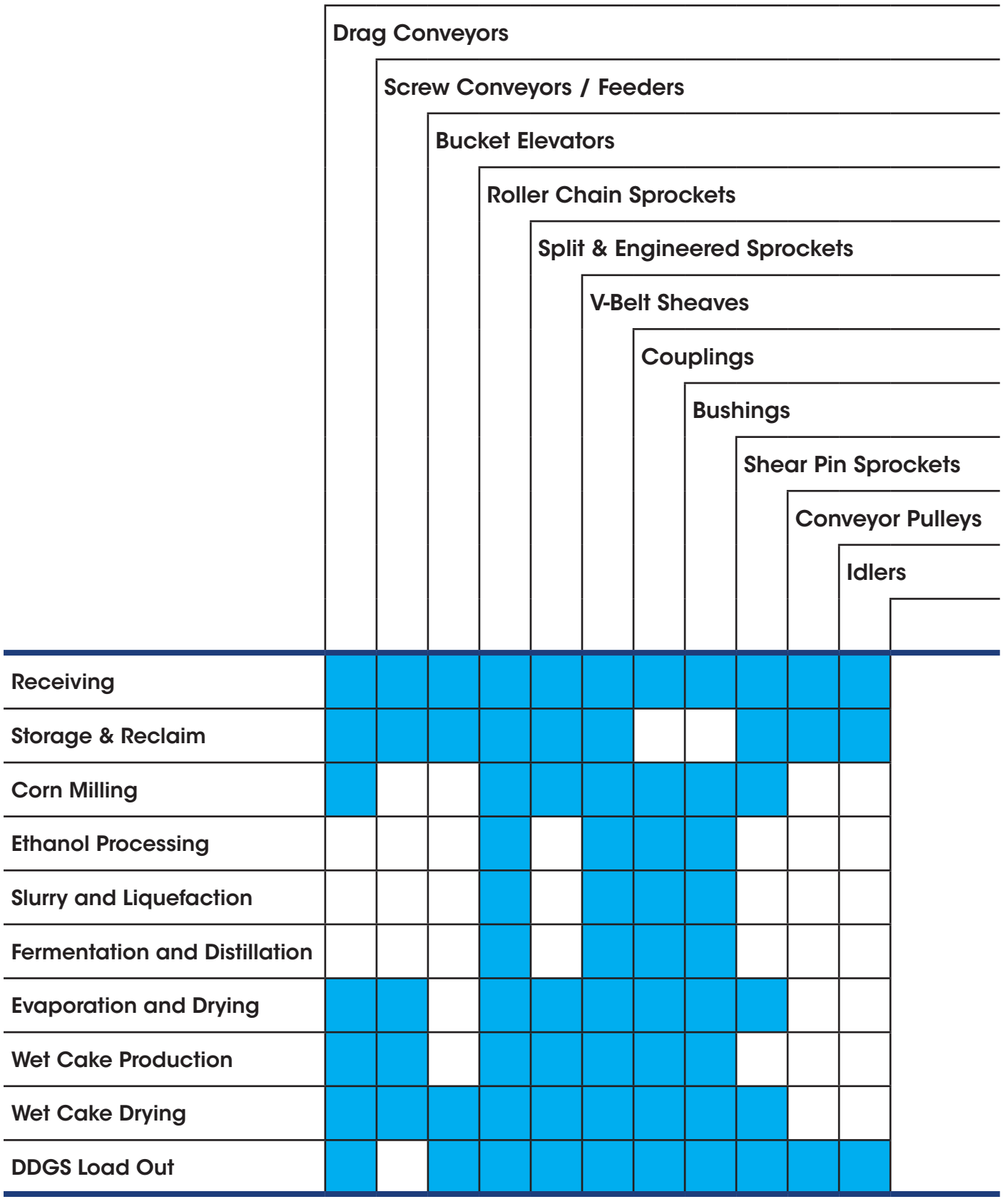
After-Hour Emergencies

Each of our locations have people on call for stock, altered, and made-to-order products, 24 hours a day, 7 days a week, 365 days a year.

Superior Field Support

We have field professionals who understand our products, processes and services, and are available to help better match our offerings with your specific needs.

PRODUCTS


Drag Conveyors
Screw Conveyors / Feeders
Bucket Elevators
Roller Chain Sprockets
Split & Engineered Sprockets
V-Belt Sheaves
Couplings
Bushings
Shear Pin Sprockets
Conveyor Pulleys
Idlers
APPLICATIONS
Receiving
Storage & Reclaim
Corn Milling
Ethanol Processing
Slurry and Liquefaction
Fermentation and Distillation
Evaporation and Drying
Wet Cake Production
Wet Cake Drying
DDGS Load Out

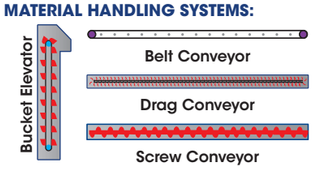
MARTIN ETHANOL MANUFACTURING PLANT FLOW DIAGRAM

CONVEYING

Ethanol plants use a variety of conveyors for wet and dry product, typically you would see Belt Conveyors, Screw Conveyors, Drag Conveyors and Bucket Elevators depending on the plant's needs and layout.

Martin products used:
Conveyor Pulleys and Components, Idlers and Components, Screw Conveyors, Drag Conveyors, Bucket Elevators, Engineering Class Sprockets, Sprockets, Sheaves, Bushings and Couplings

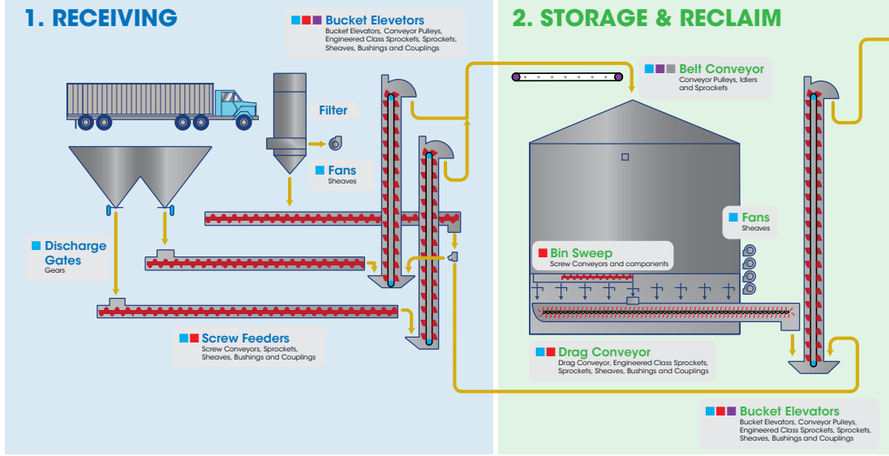
MATERIAL HANDLING SYSTEMS:



All colored arrows represent product being conveyed by a:
Belt Conveyor, Screw Conveyor, Drag Conveyor and/or Bucket Elevator

TYPE OF PRODUCTS USED IN PROCESS:

- Power Transmission Components
- Conveyor Pulleys and Components
- Material Handling Conveyors
- Idlers and Components



1. RECEIVING

Receiving: Corn arrives at the plant via truck. It is tested for moisture and quality, it is then weighed, off loaded and either processed or stored.

Martin products used: ***Drag Conveyors, Bucket Elevators, Screw Conveyors, Sheaves, Sprockets, Couplings and Bushings.***

2. STORAGE & RECLAIM

Storage & Reclaim: The corn that is not immediately processed, passes over a very strong magnet to remove any foreign debris and is stored until needed for processing.

Martin products used: ***Conveyor Pulleys, Idlers, Drag Conveyors, Bucket Elevator, Sheaves, Sprockets and Gears.***

3. CORN MILLING

Corn Milling: The first step in preparing the corn for fermentation is to feed it into a rotary scalper to remove any nonmagnetic debris such as pieces of cob or stalk that might be in the grain. The corn passes through a hammermill where it is crushed into a fine powder called meal.

Martin products used: ***Drag Conveyors, Bucket Elevators, Screw Feeders, Sheaves, Sprockets, Couplings and Bushings.***

4. ETHANOL PROCESSING

Slurry and Liquefaction: Meal passes into the slurry tank and is combined with water in the presence of enzymes to form a thick liquid slurry called mash. The mash leaves the slurry tank and is pumped into liquefaction tanks. These tanks maintain the high temperature needed to allow the enzymes time to efficiently break down the starch in the flour.

Martin products used: ***Sheaves, Sprockets, Couplings and Bushings.***

Fermentation and Distillation: The high temperature mash is pumped into fermentation tanks. During this part of the process, the mash is cooled and yeast is added. From here the mash is moved to distillation tanks where it is distilled. Alcohol is separated from the mash and sent to molecular sieves for further processing and water removal to achieve 200 proof denatured ethanol.

Martin products used: ***Sheaves, Sprockets, Couplings and Bushings.***

5. WET CAKE PRODUCTION

Centrifuges: The mash that goes into distillation is only partly ethanol. The rest is a mixture of the corn solids that are unfermentable, water, and dead yeast cells. This solution it termed whole stillage and is sent from the distillation tanks to a centrifuge, where the solid material is separated from the liquid. The resulting liquid is called thin stillage and is added back to the solids that were removed from the whole stillage at the centrifuge, resulting in a product called wet cake. Wet cake can be stored, sold or it can go through the drying process.

Martin products used: ***Drag Conveyors, Sheaves, Sprockets, Couplings and Bushings.***

6. WET CAKE DRYING

Evaporation: Additional water is evaporated from the thin stillage using various heat or energy sources. Resulting in the creation of syrup.

Martin products used: ***Drag Conveyors, Bucket Elevators, Sheaves, Sprockets, Couplings and Bushings.***

Drying: The syrup is sent to dryers, combined with wet cake and then heated in a combustion chamber to create distillers dried grain solubles or DDGS.

Martin products used: ***Drag Conveyors, Bucket Elevators, Sheaves, Sprockets, Couplings and Bushings.***

7. DDGS LOAD OUT

Distillers Dried Grain Solubles Load Out: DDGS is conveyed out to the DDGS and wet cake storage area where it can be loaded onto trucks or rail cars to be used world wide as animal feed.

Martin products used: ***Conveyor Pulleys, Idlers, Drag conveyors, Bucket Elevator, Sheaves, Sprockets, Couplings and Bushings.***

**This diagram shows a simplified typical ethanol process for illustration purposes.*

Martin Products at Work in the Ethanol Industry

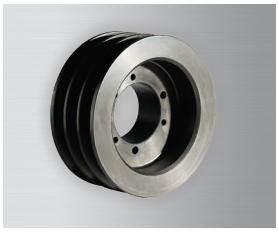
Roller Chain Sprockets

Engineering Class Sprockets

Gears

MTO Gears

Bushings



Sheaves

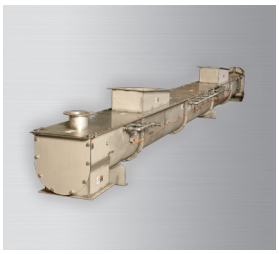
MTO Sheaves

Couplings

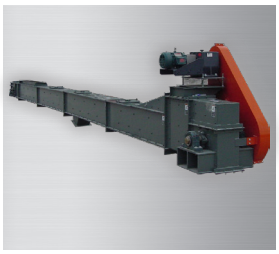
Steel & Stainless Steel Bucket Elevators

Clean Flight® Wing Pulleys

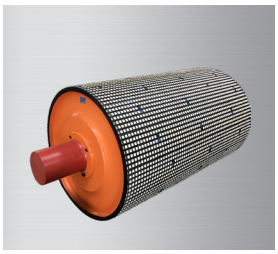
Screw Conveyors



Shaftless Screw Conveyors



Drag Conveyors



Conveyor Pulleys

Idlers

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Manufacturing Only: Abilene, TX • Clarksville, TX • Dallas, TX Mansfield, TX • Paragould, AR
Branch Manufacturing Plants: Boston, MA • Charlotte, NC • Chicago, IL • Denver, CO • Houston, TX • Kansas City, MO • Los Angeles, CA • Minneapolis, MN • Nashville, TN • Pittsburgh, PA • Portland, OR • Tampa, FL

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