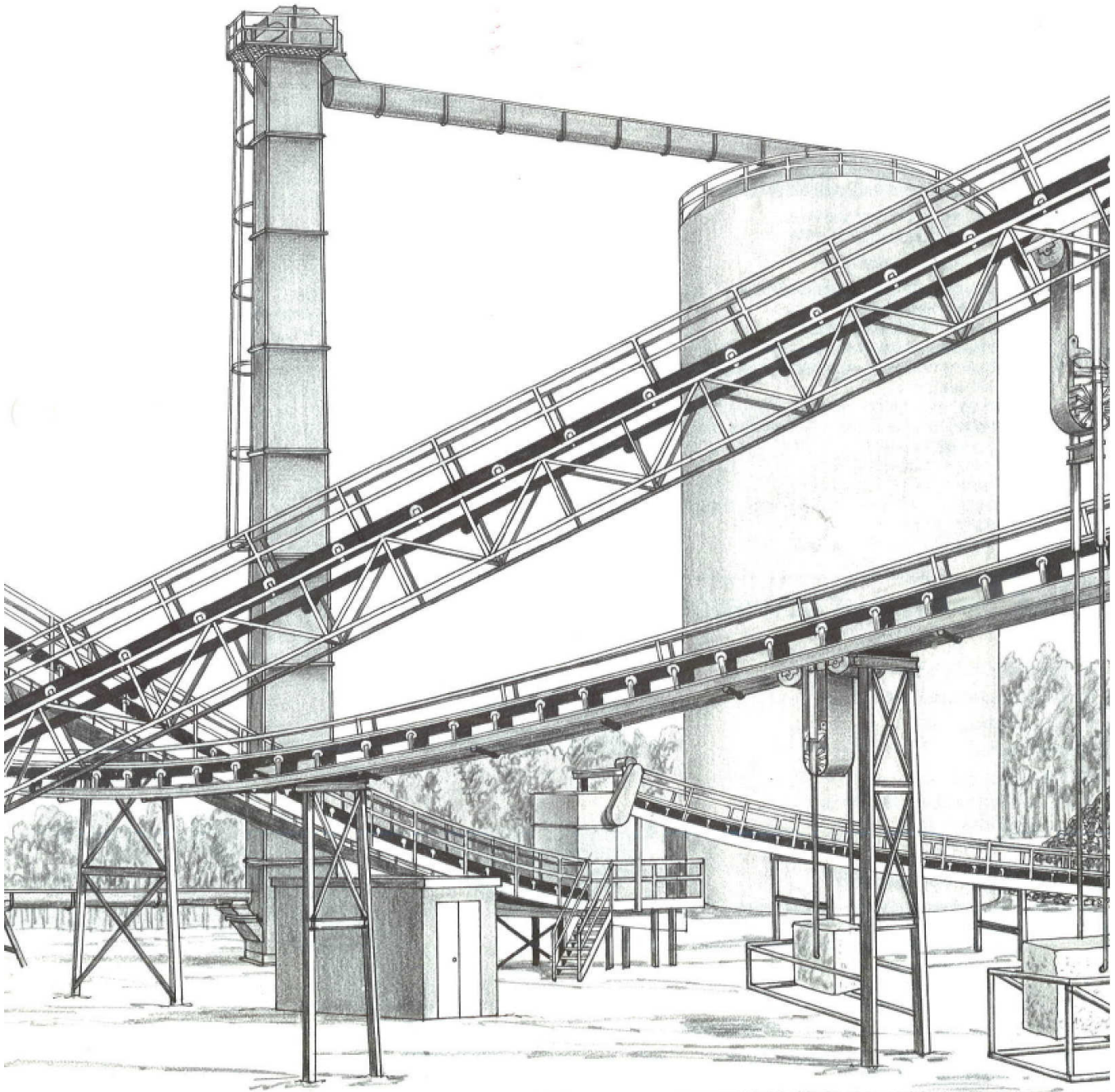


# Conveyor & Feeder Application Guide



COMPONENTS • ENGINEERING • COMPLETE CONVEYOR SYSTEMS

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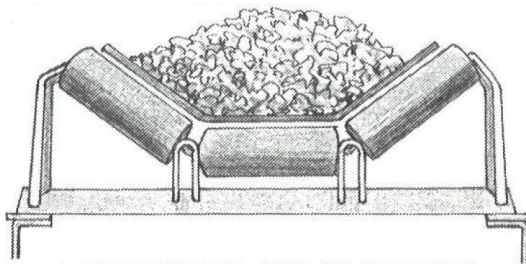


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# Belt Conveyors

## Types:

Troughed or Flat with Idlers  
Troughed or Flat Slider Bed  
Flexible Wall Flat Bed



**TROUGHED WITH IDLERS**

Range of Sizes: 18" to 96" Wide as Standards

## Features:

Handles of a Wide Variety of Bulk Materials  
No Product Degradation in Transit  
Adaptable to Path of Travel  
High Reliability  
Lowest Initial Cost  
Readily Available with Customized Features  
Low Noise & Dust Generation  
High Degree of Inherent Safety  
Low Power Consumption  
Low Maintenance  
Wide Range of Capacities and Lengths  
Many Classes of Idlers  
Many Grades of Belting

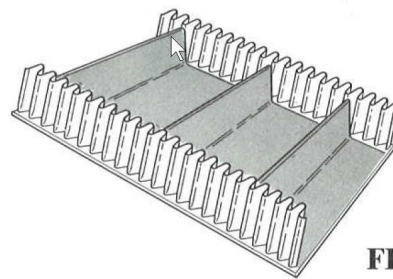
## Limitations:

400°F Max

Dust Tight Enclosure Expensive,  
Higher Housekeeping & Dust Control Costs

## Options:

Frame Up to 300' Spans  
Catwalk with Handrail  
Aluminum, Galvanized or Fiberglass Covers  
High Temperature Belting (up to 400°F)  
Fire Resistant or Static Conducting Belts  
Screw or Gravity Take-Ups  
Vulcanized or Mechanical Splices  
Drum or Wing (Self Cleaning) Pulleys  
Lagged or Plain Pulleys  
Wide Variety of Structural Materials  
Galvanized  
Special Paints  
Aluminum  
Stainless Steel  
Various Profiles  
Inclined Vertical Curves  
Belt Alignment Switches  
Emergency Shut Down Switches  
Plugged Chute Switch at Discharge  
Fire Suppression Systems  
Drip Pans Under Belts  
Belt Cleaners & Scrapers  
Inlet Hoppers & Discharge Chutes  
Rubber Disc Or Plastic Return Idlers  
Impact Idlers or Impact Bar Assemblies



**FLEXIBLE WALL**

**Flexible Wall Belt Allows for Steeper Inclines**

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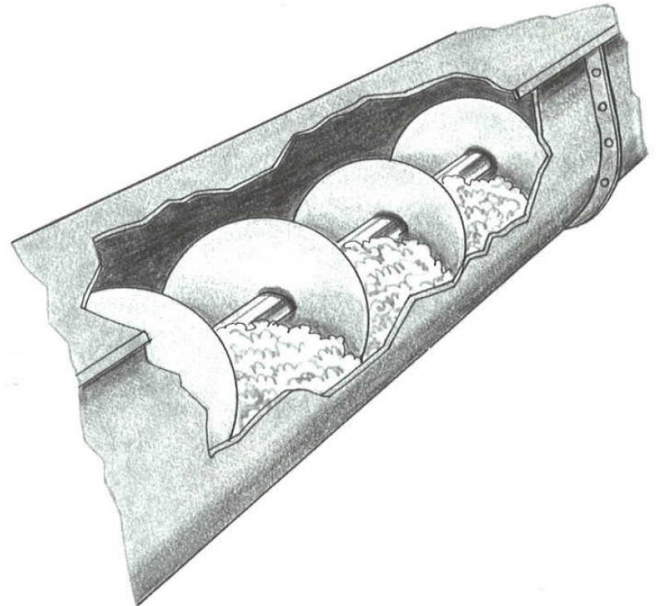
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# Screw Conveyors

Sizes From 4" to 30" are Common with Larger Sizes Available

Features:

- Dust Tight Enclosures
- Low Initial Cost
- Minimal Housekeeping  
(Fully Enclosed and Dust Tight)
- Housing Forms Own Structural Support
- Easy to Understand Operation
- Processing Available During Conveying:
  - Heating
  - Cooling
  - Mixing
  - Blending
- May Be Used as a Feeder
- Multiple Inlet and Discharges Options



Options:

- Stainless and Abrasion Resistant Steels
- Plastic Screws May be Furnished
- Ceramic Lined Housings Available
- High Temperature Applications (2,000°F, or More)
- Oversized Pipe to Economically Spans up to 25', Can Span up to 40' if Required
- Jacketed Troughs For Heating or Cooling in Transit
- Paddles and/or Cut and Folded Flights Available
- Mixing or Blending in Transit

Limitations:

<ul style="list-style-type: none"> <li>Maximum Lump Size</li> <li>High Loss of Efficiency Due to Incline</li> <li>Possible Product Degradation</li> </ul>	<ul style="list-style-type: none"> <li>High Maintenance with Hanger Bearings</li> <li>Higher HP Consumption</li> <li>Maximum Length Limitations Due to Torque</li> </ul>
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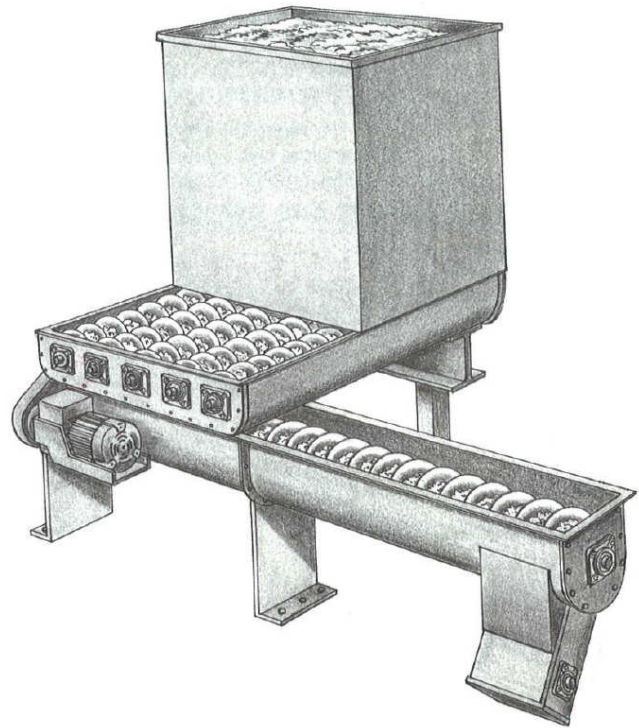
# Multiple Screw Feeders

For Large Capacity or Storage Requirements

Features:     Dust Tight Enclosures  
                  Minimizes Product "Bridging"  
                  Uniform Draw-down of the Bin  
                  Minimizes Static Material  
                  Minimal Housekeeping Required  
                  Easy to Understand Operation

Options:       Oversize Pipe For Spans Up to 25'  
                  (and Longer if Required)  
                  Stainless Steel  
                  Abrasion Resistant Steel  
                  Ceramic Lined Housings Available  
                  Ceramic Coated Screws Available  
                  Water Cooled Trough and Screws  
                  (High Temperature Applications)

Limitations:   Maximum Lump Size is Limited  
                  Sticky Materials  
                  Very High Starting Torque  
                  Higher HP Consumption  
                  Possible Product Degradation

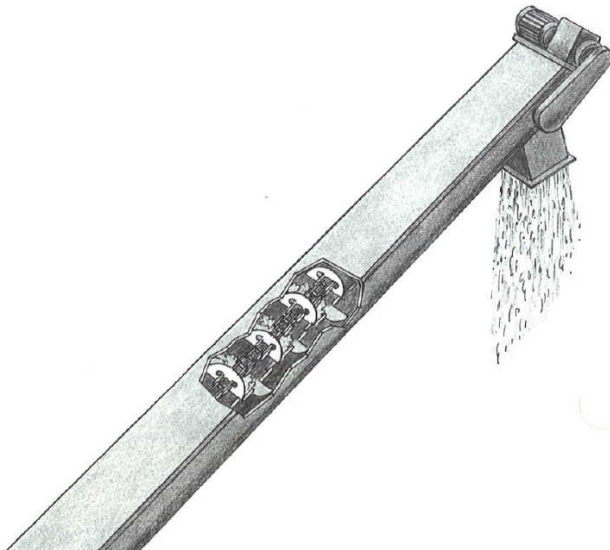
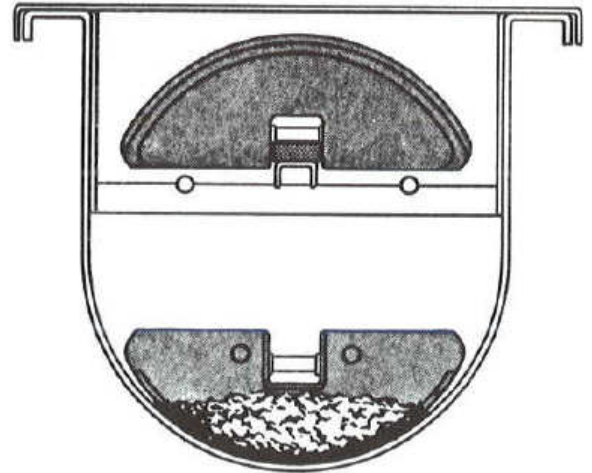


# Round Bottom Drag Conveyors

Sizes: 9" through 24" CEMA Screw Trough Sizes  
 Standard Units to Convey up to 26,000 CFH  
 Inclines up to 45 Degrees and Lengths up to 300'  
 Maximum Standard Chain Speed is 175 FPM

Features: 50% Lower HP Than Screw Conveyor  
 Inherently Dust Tight Design  
 Compact Size vs. Belt Conveyors  
 Lighter Weight to Support  
 Minimal Product Degradation  
 95% Self Cleaning

Options: Various Materials are Available for Flights  
 Intermediate Discharge Points  
 Heavy Duty Plate Troughs 3/16" or 1/4"  
 Closely Spaced Flights for Inclined Applications  
 Stainless Steel Housings  
 Horizontal to Incline ("L" Path)



## Limitations:

High Temperature Materials (250°F)  
 Sticky Materials  
 Stringy Materials  
 Food Handling  
 Higher Maintenance

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# Chain Reclaimers

Sizes: From single chain (16" wide) to 16ft wide and up to 50ft in length

## Features:

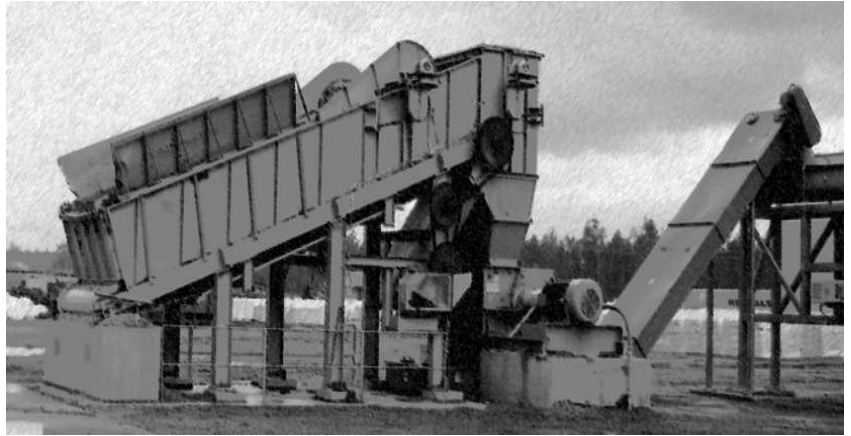
Allows for recovery of materials stored in a pile  
Typically receives feed for a large bucket loader  
May be fed directly from a truck-dump

## Options:

Manually adjustable strike-off gate  
Motorized Strike-Off Gate  
Motorized Leveling Roll (Spike Roll)

## Limitations:

Sticky Materials  
Very Stringy Materials  
Large Lump Size (>8")  
Extremely Abrasive Materials



**Bucket Loaded Reclaimer Feeding a Shredder and Then into an Inclined High-Angle Flat Bottom Drag**



**Discharge End with Spike Roll**



**Cross Section of 14ft Wide 7-Strand Reclaimer**

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# Bucket Elevators

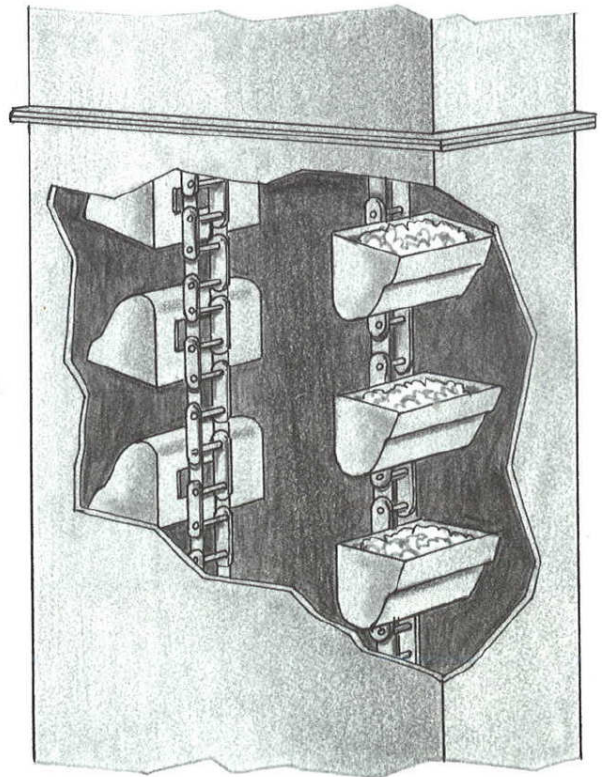
- Types:
- Centrifugal Discharge  
(Belt or Chain) 6,000 CFH\* - 120' Lift
  - Continuous Discharge  
(Belt or Chain) 6,600 CFH\* - 120' Lift
  - Super Capacity Chain  
9,400 CFH\* - 100' Lift
  - Cement Mill Chain  
9,400 CFH\* - 100' Lift

\*Capacities shown are for Standard Pre-engineered Units.  
Greater Capacities and Heights Available If Required

- Features:
- High Lift with Compact Housing
  - Dust Tight
  - Economical
  - Low HP Consumption
  - Self Supporting

- Options:
- Belt Mounted - Quite & Smooth Operation & Less Expensive  
250°F Maximum Material Temperature
  - Chain Mounted - Higher Temperatures (1,000°F or More)  
Less Tendency to Slip at Head Shaft  
More Noise and Vibration
  - Various Buckets Available - Cast Iron, Malleable Iron, Ductile Iron, Cast Nylon,  
Fabricated Steel, Light Plastics and UHMW
  - Various Housing Materials (Steel, Aluminum, Stainless, Wood or Fiberglass)
  - Machinery Platforms, Safety Ladders
  - Various Take-Ups (Head or Boot Screw, Spring Loaded Screw or Internal Gravity)

- Limitations:
- Maximum Lump Size Limited by Bucket Size
  - Sticky or Sluggish Materials
  - Some Materials Unsuitable for Elevating (Should be Relatively Free Flowing)



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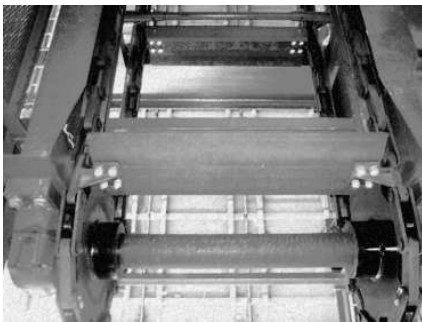
# Flat Bottom Drags

Sizes: 10" Wide to 84" Wide (or More)  
Lengths up to 200Ft (or More, Depends on Chain Pull)

Features: Dual Engineering Class Chains 24" Wide or More  
Perfect for High Volumes of Wood Chips or Shavings  
Single Engineering Class Chain on 10" thru 20" Widths  
More Efficient Than Screw Conveyors and 50% Less HP  
UHMW or AR-360 Pusher Flights  
Reinforced Backing Plates for Flights  
UHMW or AR-360 Liners on Chain Support Tracks  
Less Product Degradation than Screw Conveyors

Options: Horizontal or Inclined (up to 45°)  
"L" Path with Incline up to 75°  
"S" Path with Incline up to 75°  
Truss supported intermediates with 50Ft Spans  
Walk Way One Side or Both Sides

Limitations: Sticky Materials  
High Temperature Materials (>600° F)  
Large Lumps (>6")  
Food Handling (Not Self Cleaning)



Dual Chain Drag with Oak Flights



"S"-Path Drag

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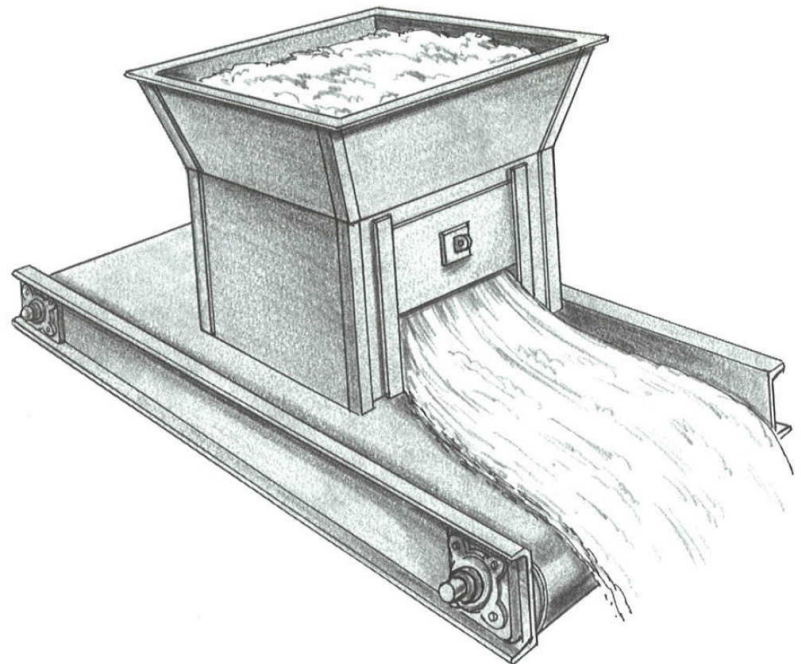
# Belt Feeders

Maximum Capacity: 400 TPH  
Maximum Width: 8 Feet  
Maximum Length: 100 Feet  
Maximum Incline: 20 Degrees  
Maximum Speed: 300 FPM

Features: Handles a Wide Variety of Materials with No Product Degradation  
Good Delivery Times With Custom Features  
Wide Range of Sizes and Materials  
High Degree of Safety  
Low Maintenance

Options: Troughed Belt  
Flat Belt  
Flat Belt with Slider Bed  
Variable Speed Drives

Limitations: 400F Max Materials  
Dust Tight Enclosure  
Is expensive

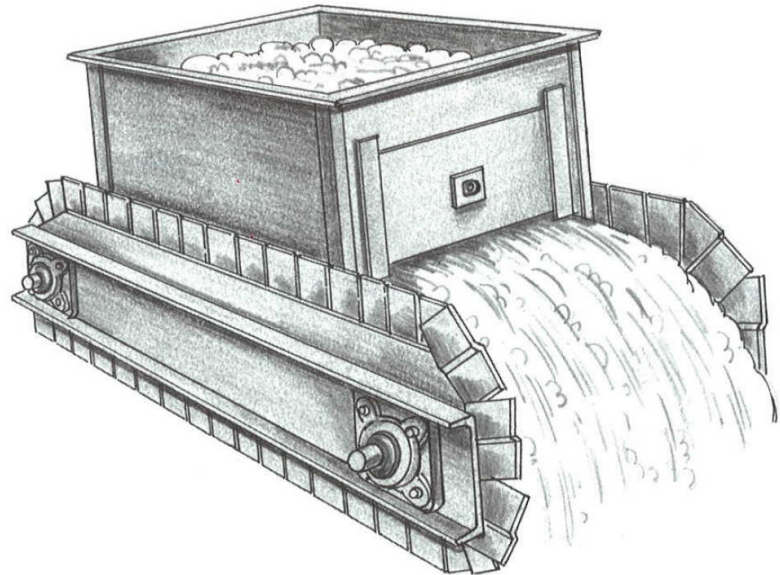


# Apron Feeders

Maximum Capacity: 400 TPH  
Maximum Width: 10 Feet  
Maximum Length: 80 Feet  
Maximum Incline: 60 Degrees  
Maximum Speed: 300 FPM

Features: Handles Large Capacities with Heavy Lump Sizes with No Product Degradation  
High Temperatures up to 2,000F  
Vertical Curves Available  
Good Range of Sizes and Materials of Construction

Options: Various Materials and Thicknesses of Decking Available  
Various Side Wall Heights Available  
Cleats and Lifting Lugs  
Perforated Decks  
Open Mesh or Solid Deck  
Plastic Chains For Corrosion Resistance  
Variable Speed Drives



Limitations: High Cost  
Limited Lengths  
Long Delivery

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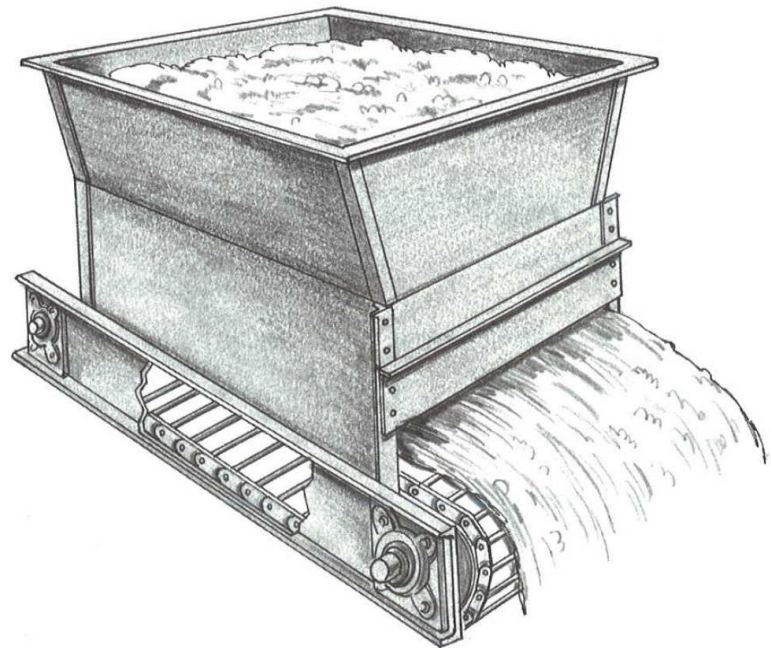
# Multiple Chain Feeders

Maximum Capacity: 550 TPH  
Maximum Width: 12 Feet  
Maximum Length: 60 Feet  
Maximum Incline: 20 Degrees  
Maximum Speed: 150 FPM

Features: Handles Wide Variety of Materials with Low Power Consumption  
High Impact Capability  
Minimizes Product "Bridging"  
Low Maintenance

Options: Various Materials and  
Thicknesses Available for  
Housing Construction  
DC, AC -or- Hydraulic  
Variable Speed Drives  
Available

Limitations: Possible Product  
Degradation  
Dust Tight Enclosure is  
Expensive  
Not Always Practical for  
Materials Weighing More  
than 30 PCF



# Vibrating Feeders

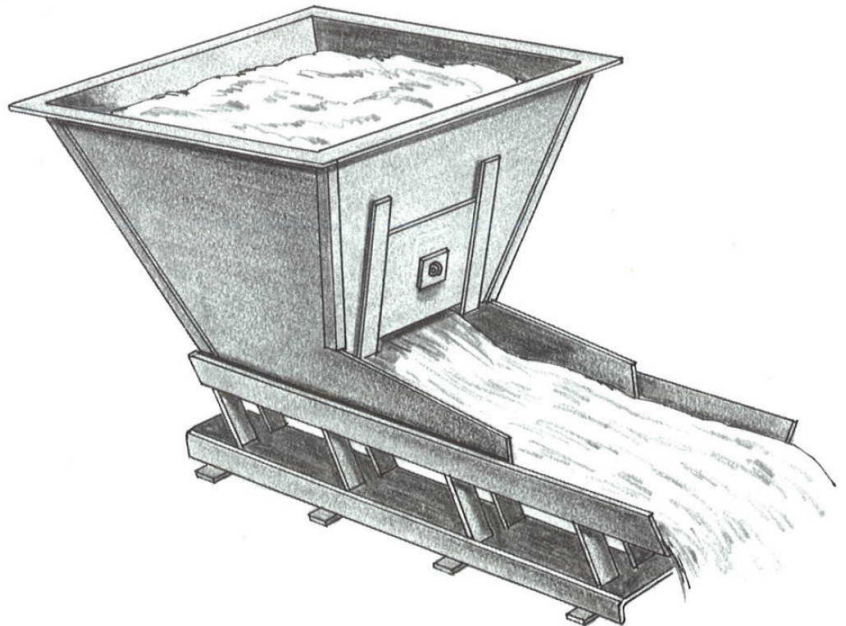
Types: Electromagnetic or Natural Frequency Mechanical Vibration

Maximum Capacity: 1,200 TPH  
Maximum Width: 6 Feet  
Maximum Length: 12 Feet  
Maximum Decline: 10 Degrees

Features: Reliable Trouble Free Operation  
Low Power Consumption  
No Moving or Rotating Parts  
Low Noise Pollution

Options: Dust Tight Power Units  
Overhead Mounting or  
Base Mounting  
Stainless or Abrasion  
Resistant Steel Liners  
Grizzly Deck Section  
Is Available

Limitations: Minimum Material Size  
is 80 Mesh  
Not recommended for Wet,  
Sticky Materials



# Engineering, Consulting & Troubleshooting Services

When you have new Bulk Material Handling requirements, contact TPI for assistance. Our vast experience will allow us to help you “Tie It All Together” and integrate the basic conveyors with other processing equipment. Do you have conveyors that are unreliable or create a housekeeping problem? We can conduct a detailed survey of your site and make specific recommendations for measurable improvements.

Need us to install what we furnish? We can handle everything including foundations and footings, bents, chutes and structural steel. TPI regularly consults on:

Budget and Layout  
 Design and Engineering (Mechanical and Electrical)  
 Fabrication, Procurement and Integration of Process Equipment  
 Supervised Installation with Total Turnkey Responsibility

Bob Berry, CEO - Bowdon, GA



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Robbie Morgan, VP of Operations - Bowdon, GA



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