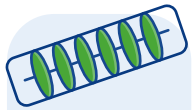
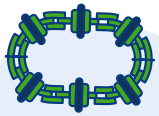
Conveying Systems Comparison *Essential Considerations*

Cablevey CONVEYORS
The Gentle Way to Convey®

	 CABLE CONVEYORS	 ROUND-LINK CHAIN CONVEYORS	 PNEUMATIC CONVEYORS	 BUCKET ELEVATORS	 VACUUM CONVEYORS	 AERO MECHANICAL CONVEYORS	 SCREW AUGERS
Product Integrity Maintaining the integrity and homogeneity of materials is critical in the conveying process, and some systems aren't up for the challenge.	Cable systems provide reduced possibility of trapping food residue and minimize direct contact with food	High breakage of materials, plus chain links have accumulate food and materials that pass through, becoming a breeding ground for bacteria.	Managing material flow to reduce breakage is possible, but requires an enormous amount of energy.	Design may result in a high rate of damage to products and blends being compromised.	The high speeds at which products are moved causes damage on turns and endpoints.	Managing material flow requires a reduction of production speed to reduce breakage at sweeps.	As materials and blends move along the pathway from start to finish, breakage can occur and blends can be compromised.
Facility Requirements Certain types of conveying systems can't accommodate some workspaces and facility requirements.	Cable conveyors move material vertically, horizontally, around corners, and angles at conveying speeds of up to approx 42.4 m3/h.	Bulky equipment creates routing restrictions in some situations.	A flexible design accommodates for multiple infeed and discharge points and longer distances, but large motors are required.	The elevator mechanism lends to vertical operation only and the buckets must be overheight for the discharge of materials.	Noisy and not ideal for certain extreme situations such as long-distance runs and facilities located at certain altitudes.	Flexible design means they can operate at any angle, vertically and horizontally.	An upward "screw" design and motion limits the ability to be used in spaces that require multiple planes.
Maintenance & Downtime A system that requires frequent maintenance and part replacements will affect production throughput and cost of operation.	Fewer moving components and less frictions means more system uptime while removable parts and equipment makes for easy cleaning.	Chains are difficult to clean and sprockets often need to be replaced resulting in excessive maintenance and prolonged downtime.	Fewer moving parts typically require less maintenance.	Design features components that require high maintenance expenses and make the equipment difficult to clean.	Vacuum conveyors have a very high cost to operate and maintain.	Rope-tensioning is required and results in a high level of maintenance, but these conveyors are easy to clean.	Minimal moving parts results in low maintenance costs and reduced cleaning time required.
Energy & Efficiency The size of the motor and amount of horsepower required to run a conveying system can have a major impact on production costs.	Cable systems run on a 5hp or less motors resulting in lower energy costs.	Chain equipment is up to 2.5x heavier than cable and require up to 12.5hp motors to run, expending more energy to operate.	Controlling the flow of materials means up to 10X more energy cost than a cable conveyor system.	Low driving power makes bucket elevators more efficient.	In order to maintain air pressure, a large motor is needed leading to more energy being used.	Efficiently conveys materials at high capacity, depending on application.	Efficiency is reduced as incline increases while elevating materials.
Overall Rating Conveyor systems have unique characteristics that may not be obvious until it is installed.	 **The trifecta:** Dust-free environment, consistent blending, while practically eliminating product degradation.	 **Red Flag:** Round-link chain conveyors tear up sprockets, resulting in excessive maintanence and prolonged downtime.	 **Proceed with caution:** In some cases, more than 10% of delicate product can be damaged by air-powered systems.	 **Design limitations:** Materials are thrown between buckets which may compromise blends, cause breakage of material, and limit where they can be used.	 **Efficiency warning:** Energy usage, excessive noise, and potential for damage of materials at turns and endpoints are drawbacks.	 **One catch:** If a slow and steady movement (like that of cable conveyors) can be achieved, breakage rates are reduced.	 **Design flaw:** Damage, grinding, and separation can occur while the screw move the materials upwards from start to finish.

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