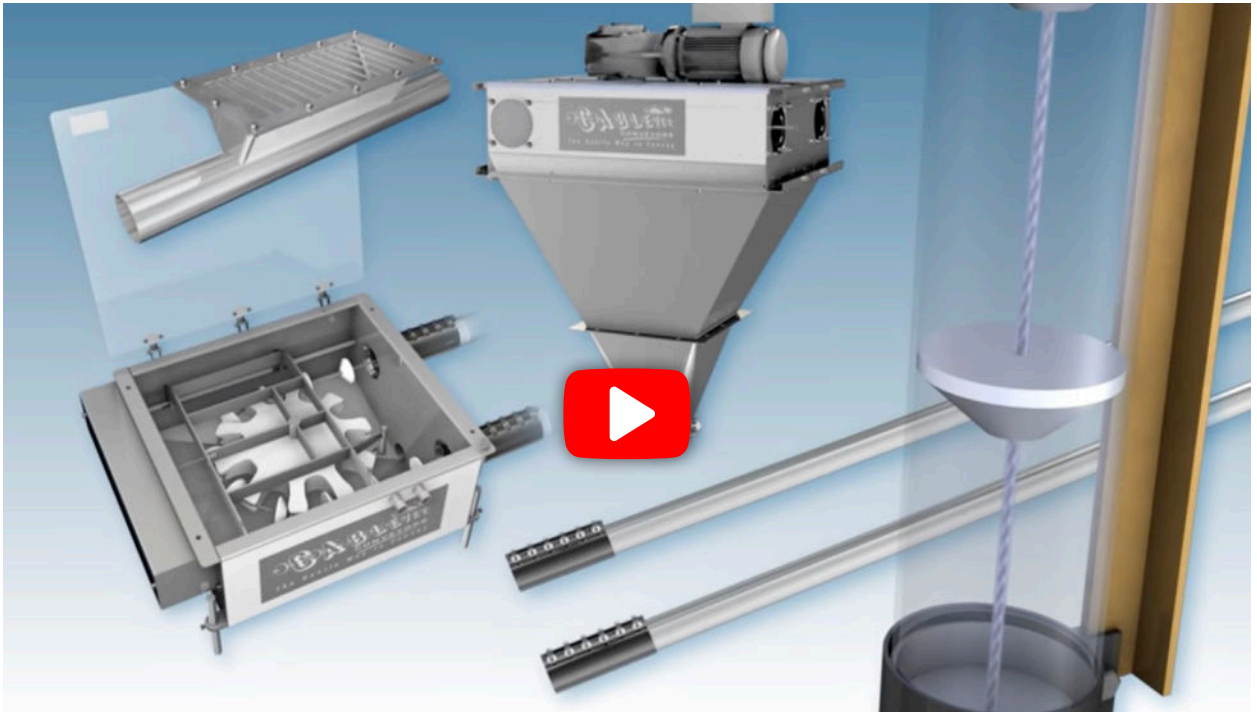




## *Maintenance Tips for* **OPTIMAL CONVEYOR PERFORMANCE**



*The Gentle Way to Convey®*



Cleanliness and predictive maintenance technology can help critical conveyance systems continue to provide uninterrupted service for efficient operations in food processing and manufacturing. Cleanliness is always part of system maintenance as systems need to accommodate stringent and frequent cleaning sessions for food processors to meet regulatory standards for food safety. It also relates to dust containment, a safety issue regardless of industry type. Predictive maintenance technologies can help determine the health and performance of internal system components. At a minimum, monthly maintenance performed by internal staff will keep the conveying system operating to its fullest potential.

### **Industry Opinions on the Importance of Maintenance**

In a comprehensive industry survey about conveying conducted by Cablevey among more than 200 professionals in the food processing industry, 54% of respondents identified cleaning and maintenance as the greatest challenge facing their operations related to conveying materials. A connected issue, downtime due to these services, was ranked second in importance, with 33% of respondents naming it as a major challenge. And more than half of those surveyed, or 56%, said that maintenance issues posed a top driver for updating their conveying processes. These findings highlight the need to address cleaning and maintenance of conveying equipment by ensuring methods are both easy to implement and minimize downtime.

This also points out the fact that these aspects of conveying systems don't exist in a vacuum and are, or should be, primary considerations during the design and installation phases. Find out how a few simple checkpoints and/or tools can supply the minimal maintenance requirements of a Cablevey system.

## The First Step

The first time the conveyor tubes themselves should be cleaned is before the cables and discs are added. For example, any minute metal fragments created or deposited during installation need to be cleared out of the tubing. If any would remain, the coefficient of friction dragging them through the tubing has the potential to create significant damage.



Where regular cleaning cycles are concerned, some conveyor systems need to be disassembled for a thorough clean. Also, it should be noted that not all conveyor systems can accommodate all types of cleaning methods. A tubular drag cable and disc system are suitable for clean in place, dry or wet cleaning methods. In terms of timing, no operator welcomes the downtime associated with sanitation cycles, however, the Cablevey system's cleaning cycle completes in a much shorter timeframe than other comparable technologies.

Sanitation methods and mandated or preferred cleaning methods should be discussed during the design phase of the system layout. If wet cleaning methods are employed for example, the position or availability of drains to dispose of the water and liquids is an important consideration.

## Pneumatic Retrofits and Tensioning Kits (Self-Tensioning Device)



One area of emphasis during service calls to current customers is a retrofit process to replace the existing stainless-steel springs using our pneumatic tensioning system. The pneumatic devices manage cable tension. Proper cable tension is a major contributing factor to the overall function, dependability, longevity, and power of the conveyor system.

Overall, tensioning extremes should be avoided. When tension is set too low, the cable can disengage from the sprocket, causing a malfunction. When the tension is too high, cables can stretch, decreasing their useful lifespan. In addition, excess friction can burn through excess energy usage contributing to higher utility costs and increased system wear and tear.

Pneumatic tensioning supplies greater safety than spring tension, as springs under a great deal of tension, released suddenly, can pose the threat of injury. Pneumatic tensioning devices are available for two-inch, four-inch, six-inch and eight-inch tube diameter conveying systems. The retrofit is simple, requiring no special tooling beyond an air compressor for operation. Pneumatic tensioning supplies multiple advantages such as:



- Accurate cable tension over its entire range of travel
- Automatic shutdown when cable tension is too loose
- Adjustable tension settings suitable for different product runs or sanitation procedures
- Less complexity with simple operations adjusted with a single knob calibrated according to the pressure gauge
- Consistent tension via the pneumatic piston
- Lower maintenance
- Improved conveyor performance

### The Importance of Accessibility

A feature related to cleaning and maintenance, not mentioned during the industry survey but during many a service call, is accessibility. A system design needs to ensure easy access for the plant's maintenance crew to conduct service checks, replace worn parts, and perform general maintenance tasks. The easier the system is to access, the more likely it is that staff will perform preventive maintenance.

Even with quality built in and highly engineered designs, there is no system and no part that will last forever. Parts are going to wear out and need replacing and accessibility to perform this task is key. Replacement parts on the tubular drag style system would include discs, cable couplings and occasionally a sprocket.

### Monthly Maintenance Recommendation (30/60/90)

A good rule of thumb is a monthly maintenance check, following the 30/60/90 philosophy, or a check at least every thirty days of operation. The same checklist for monthly maintenance should be followed and the checkups will help keep the system running more efficiently when they occur on a regular basis.

The thirty-day recommendation is suggested as a starting point. However, depending on system operations, either the abrasive nature of materials passing through the system or shift, or running 24/7; the more abrasive the material, and the more hours the system operates, the shorter the timeframe would be between maintenance checks.

Some operations check the equipment once or even twice a week. Depending on system operations, the timeline for regular maintenance checks might occur more frequently. During that monthly maintenance check, the crew or operator should examine the following:

- Connectors
- Discs
- Cable
- Springs
- Timing
- Pneumatic tensioning cylinder
- Toothpicks
- Internal sweeps



### Overall Plant Impact

Proper design, installation and maintenance of the tubular drag cable and disc conveyor will streamline production, improve product quality and sustain a better plant environment due to the following benefits:



- Less fugitive dust due to enclosed system for:
  - Greater safety
  - A more hygienic plant environment
- Decreased potential for product contamination
- Protection from ambient conditions
- Eliminate spills/breakage and product waste or loss
- Optimize lifespan of conveying equipment

### Service Agreement

Labor markets are tight, and this has a corresponding negative impact on capital equipment. Faced with a decreased labor force, many companies cannot perform significant service on the equipment or preventive maintenance. When a company operates multiple conveyor lines, a viable, economical, and sensible option is a service agreement. The service agreement brings in not just a pair of outside hands, but experienced technicians dedicated to troubleshooting and fixing issues with tubular style conveyors.

An annual service agreement can include a variety of checkpoints and services such as:

- A Cablevey technician performing an on-site audit of your system
- Staff training for preventative maintenance
- Working alongside staff for a better understanding of proper maintenance procedures
- Technical and continuous system updates
- Enhanced safety, tension and timing tips

### Impact on ROI (Return on Investment)

The Cablevey enclosed tubular drag style conveyors have provided hundreds of companies with gentle, efficient conveying that has solved some pressing challenges related to product integrity, cleaning and maintenance, and energy conservation.



Nippon Coffee Trading Co. in Osaka, Japan, sees the value in cleaning discs that help maximize food safety with technology that makes the cleaning process intuitive. This, in addition to the ability to delicately convey its green coffee beans without breakage, helps minimize the firm's financial losses from broken or degraded products and improves overall productivity and quality.

A specialty brewer in Iowa appreciated the swift installation and clear instructions for piping tolerances that helped save time, frustration and potential errors. The versatile and compact tubular conveying system is now this brewery's preferred method to transport fragile grains through the brewing process.

The premier almond producer out of Spain, Almendras Llopis, likes the enclosed system's ability to eliminate exogenous foreign matter to help maintain high standards for food safety and cleanliness. The system can be cleaned without disassembling, which saves production time. Equally

as important, product is carefully and gently transported with very little breakage compared to other systems, such as pneumatic transportation, which helps the bottom line.

And Farmina, a specialist in pet nutrition, selected the Cablevey tubular drag conveyor because the system transports its pet food with virtually no breakage or waste, is highly adaptable, consumes little energy compared to other conveyor technologies and requires little downtime due to ease of cleaning and maintenance.

Experience the advantages a Cablevey tubular drag style conveyor can supply for your plant operations, with simple, sensible, and short cleaning cycles, easy maintenance, energy savings and gentle transport of friable materials. Or, if you are an existing customer, ask about a pneumatic tensioning retrofit or service agreement package. Cablevey Conveyors continually strives for product advancement and improvements, and enhanced customer service.

## ABOUT CABLEVEY CONVEYORS

Cablevey Conveyors is a global specialty conveyor manufacturer that designs, engineers, assembles, and services tubular drag cable and disc conveyor systems. With customers in more than 66 countries, the company specializes in moving materials for food/beverage and industrial powder processors that seek food-grade conveying performance with clean, fast, energy-efficient, and cost-effective systems. Learn more at [www.cablevey.com](http://www.cablevey.com).

