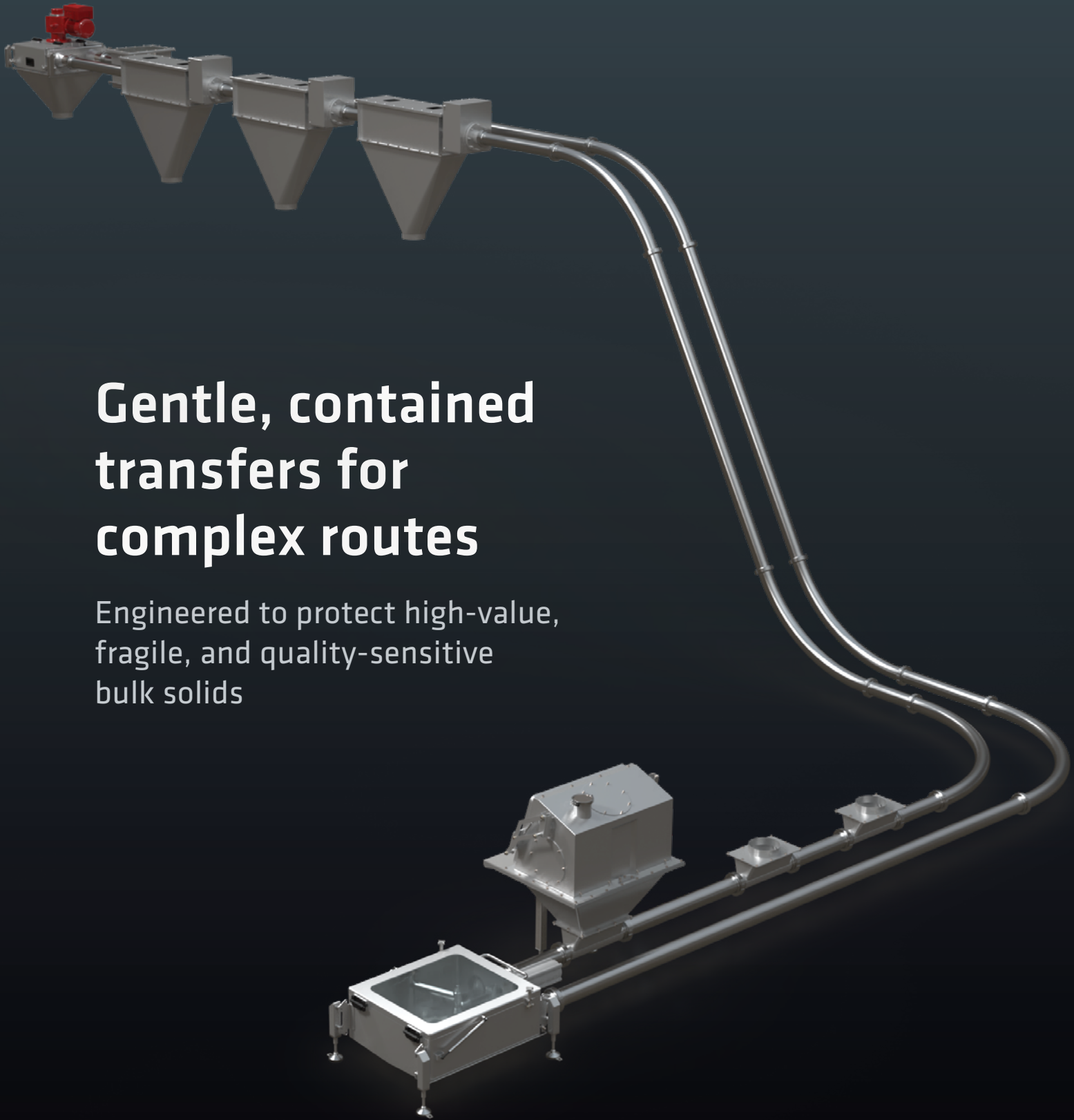


Gentle, contained transfers for complex routes

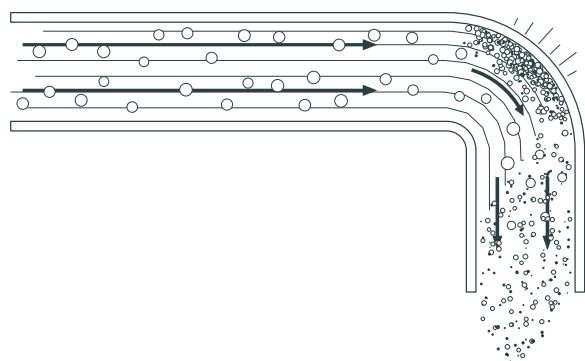
Engineered to protect high-value, fragile, and quality-sensitive bulk solids



The conveyor is the last thing to touch your product

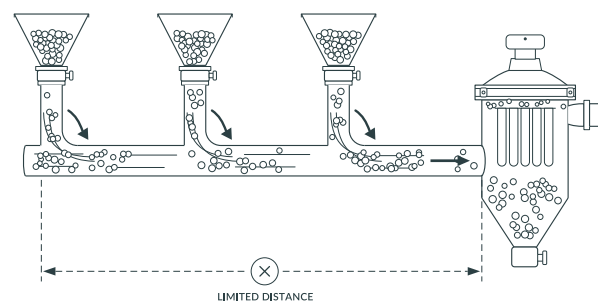
Once a product has been crystallised, dried, milled, blended, or granulated, most of its value is already built in. From there, the conveyor either protects that value or quietly erodes it, through breakage, dust, segregation, or an unsuitable route through the plant.

Tubular drag conveying (TDC) moves fragile powders, crystals and granules through an enclosed tube at controlled low speeds, helping preserve product integrity while containing dust and adapting to complex plant layouts.



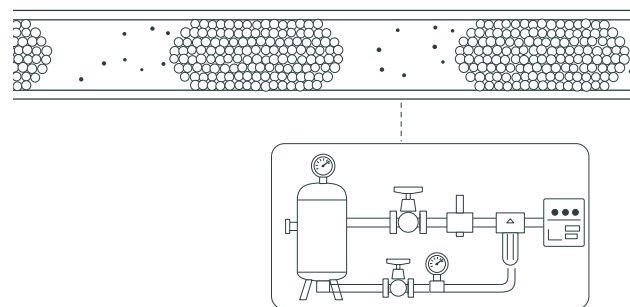
Lean phase pneumatic

High conveying velocities can increase particle impact, attrition and fines in fragile products, while accelerating pipeline wear with abrasive materials.



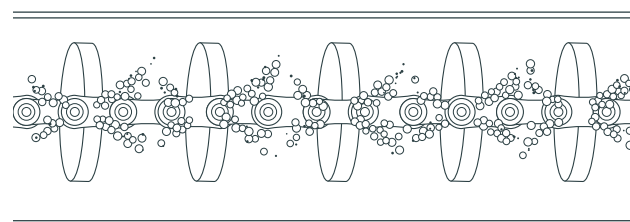
Vacuum transfer

Good containment and multiple pickup capability, but limited pressure differential can restrict conveying distance and capacity, while conveying velocities can still affect fragile products.



Dense phase pneumatic

Lower conveying velocities can better protect fragile materials, but typically require more complex pressure, gas and control infrastructure.



Chain drag systems

Low-speed, enclosed transfer, but chain links, pins and articulating joints introduce product traps, cross-contamination risks and metallic wear points.



What tubular drag conveying does well



Gentle handling

Low-speed, en-masse transfer helps protect friable powders, crystals and granules from breakage, attrition and segregation.



Fully enclosed

A sealed tubular circuit keeps product contained while helping prevent dust escape and external contamination.



Clean mechanical design

The rope-and-disc assembly avoids the chain links, pins and articulating joints that can trap product or create metallic wear points.



Complex multi-plane routing

Fixed-radius sweeps navigate around existing equipment and across multiple levels in one continuous loop.



Multiple inlets and outlets

Feed several process lines or packaging stations from a single circuit.

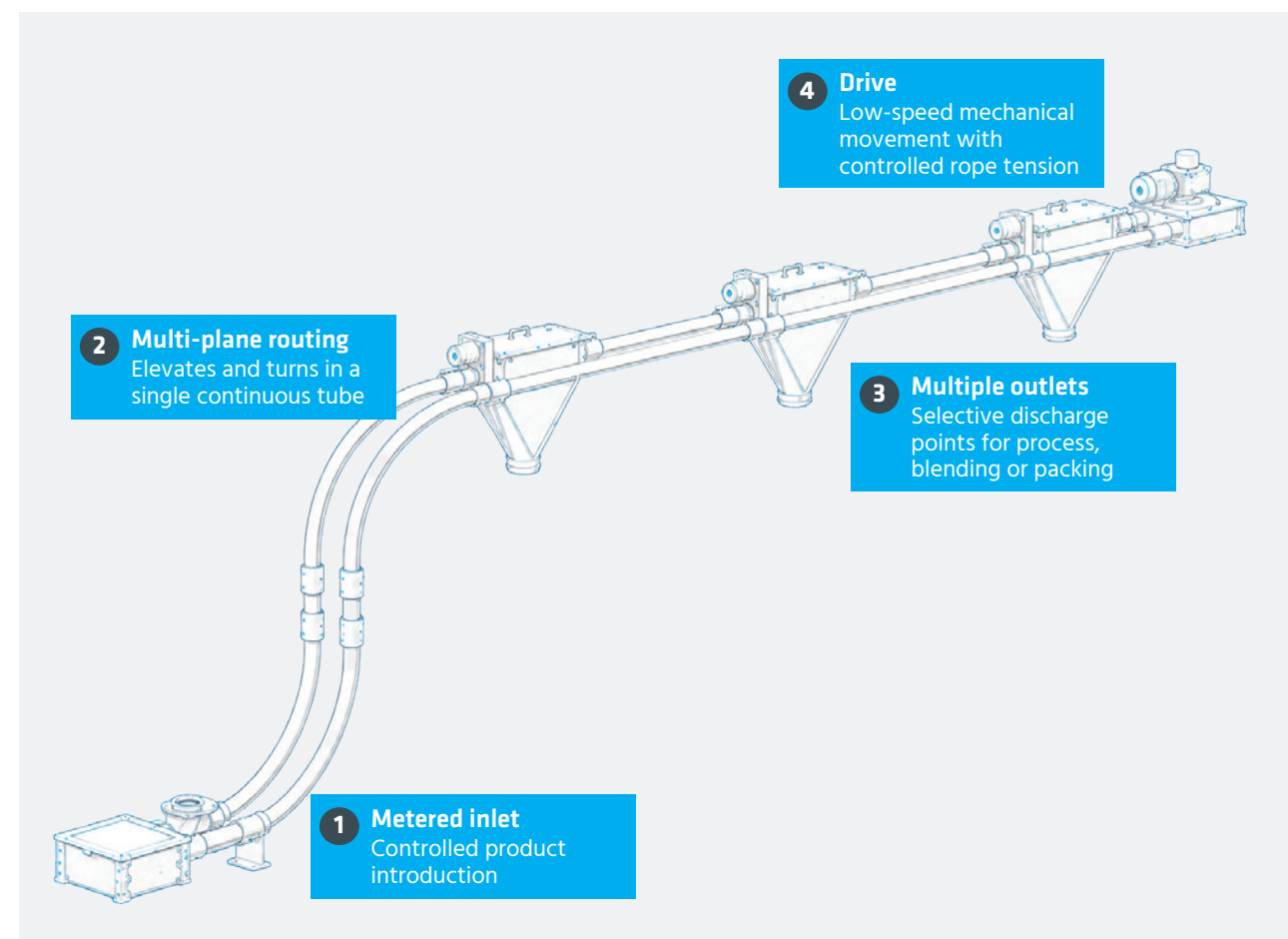


Energy efficient

Low-speed mechanical transport operates with significantly lower power demand than compressed-air systems.

Complex routes, protected product, one continuous circuit

Engineered for gentle, enclosed powder handling where process integrity cannot be compromised.



Complex routes

Connect multiple elevations, navigate around existing infrastructure, and eliminate messy transfer points with one continuous, enclosed loop.



Protected product

En-masse mechanical conveying moves product gently between discs at controlled speeds, preventing degradation, attrition, and blend segregation.

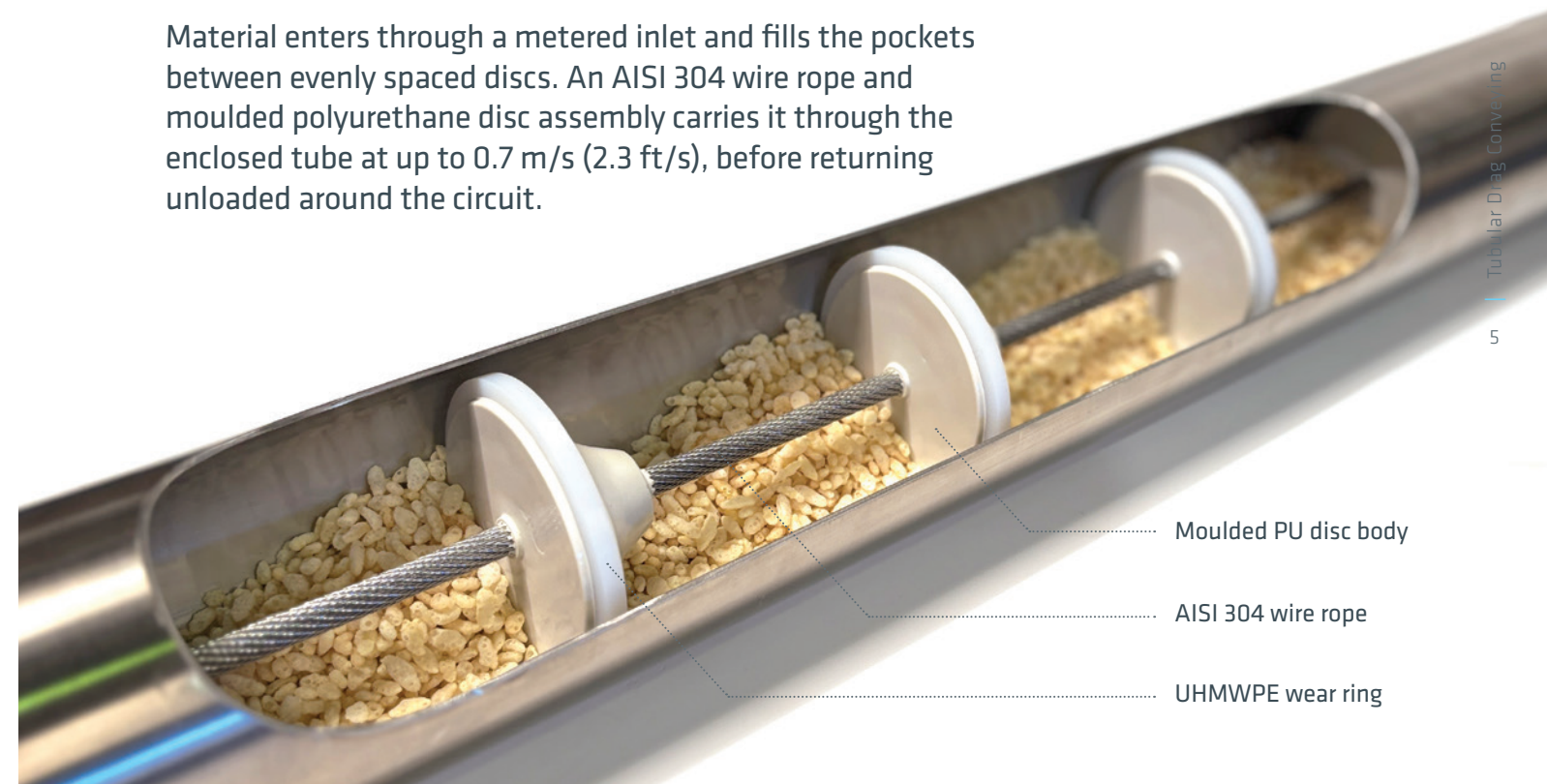


Clean and dust-free duties

Fully sealed circuit eliminates fugitive plant dust while coated wire rope construction prevents joint entrapment and cross-contamination.

The difference is inside the tube

Material enters through a metered inlet and fills the pockets between evenly spaced discs. An AISI 304 wire rope and moulded polyurethane disc assembly carries it through the enclosed tube at up to 0.7 m/s (2.3 ft/s), before returning unloaded around the circuit.



Built for wear life

UHMWPE wear rings provide a low-friction interface between the discs and tube, reducing wear on both surfaces over extended operation.

Clean product-contact design

Moulded polyurethane discs provide a smooth product-contact surface, while the wire-rope assembly avoids the chain links, pins and articulating joints that can trap product or create metallic wear. TPU-jacketed rope is available where required.

Less maintenance, reliable operation

Defined wear components, fewer articulating joints and controlled rope tension reduce maintenance requirements and support reliable long-term operation.

Maximum rope speed
0.7 m/s (2.3 ft/s)
Maximum rope assembly length
150 m (492 ft)
Maximum conveyor length (horizontal)
≈ 75 m (246 ft)
Throughput capacity at 0.7 m/s and 80% design fill
≈ 13.36 m³/hr (472 ft³/hr)

Contain the product, protect the plant

If your powder is valuable, toxic, reactive or difficult to replace, the conveyor becomes part of the containment strategy. The enclosed TDC circuit can be engineered to operate under slight negative pressure, so a breach tends to draw air inward rather than push product into the plant. Where the product atmosphere matters, an inert-gas purge can also help manage oxygen or moisture exposure.



TDC under slight negative pressure

Air is drawn towards the breach.



Pneumatic with positive pressure

Pressure can carry powder into the plant.

Inert gas purging

For oxygen- or moisture-sensitive materials, an engineered purge can help maintain the required internal atmosphere.

Valuable materials



Battery chemicals

Enclosed transfer with inert-gas purge options for atmosphere-sensitive materials.



Detergent ingredients

Contain dust during powder and granule transfer.



Catalysts and adsorbents

Limit attrition of high-value beads and granules.

Note:
Examples only; subject to material and hazardous-area review.

Cleanability is essential in food conveying

In food processing, compliant contact materials are only the starting point. Clean design considers every product-contact surface, including finish, radii, joints, fasteners, access, drainage and how the equipment will actually be inspected, cleaned and maintained. Elementa TDC applies these principles to suitable dry-food applications.

1. Open and inspect



Quick access and BFM options support planned access and swabbing.

2. Control carryback



Air-knife and knocker options reduce carryback on the returning rope and discs.

3. Wash, drain, dry



Elementa range supports defined wet-wash procedures.

Clean internal design

Smooth product-contact surfaces, specified finishes, generous radii and no exposed fasteners in the conveying circuit minimise residue and product traps.

Access and maintainability

Tri-clamp, BFM, quick access and drainage options make inspection, swabbing, washdown and routine maintenance practical.

Typical applications



Coffee

Gentle transfer to help reduce breakage and fines.



Cereals and snacks

Protect fragile shapes from process to packing.



Nutritional blends

Preserves blend uniformity during enclosed transfer.

Note:
Examples only; final suitability subject to material review.

Choose the conveyor around the route, material and duty

No conveying technology suits every application. The right choice depends on how the product moves, the route it must follow, the supporting plant required, and the throughput, wear and containment demands of the duty.

Floveyor’s TDC does not require conveying air and avoids the chain links, pins and articulating joints that can trap product.

Decision point	Floveyor tubular drag conveyor	Lean-phase pneumatic	Dense-phase pneumatic	Vacuum pneumatic	Chain tubular drag
Best suited to	Complex routes, fragile products, moderate rates	Higher rates, flexible pipe routing	Fragile powders needing lower pneumatic velocity	Multiple pickups and contained transfer	Similar routing duties to TDC
Product movement	Low-speed rope and discs	High-velocity conveying air	Lower-velocity pressurised air	Below-atmospheric conveying air	Low-speed chain and flight/discs
Route	Multi-plane loop, multiple inlets/outlets	Flexible pipe routing	Flexible pipe routing	Flexible pipe, multiple pickups	Multi-plane loop, multiple inlet/outlets
Supporting plant	No conveying air required	Blower/compressor, receiver and filtration	Pressure vessel, gas supply and controls	Vacuum source, receiver and filtration	No conveying air required
Wear/product contact	Polymer discs and wear rings, wire rope	Pipeline bends and high-end velocity product contact	Pipeline, valves and plug contact	Pipeline, receiver and filters	Chain links, pins, sprockets and flights
Throughput	Moderate	High	Moderate to high	Moderate	Moderate

One platform, three ranges

All three ranges share the same conveying mechanism and routing flexibility. They differ in construction, compliance and cleaning, so it’s important to specify the right machine the first time.

Selection starts with material behaviour. Tubular drag suits many dry powders and granules and needs review for others - knowing which comes before a quotation.



Elementa

DRY FOOD

Dry-food configuration for food-contact materials, clean access and documented washdown changeover.

Built for

Dry food lines where hygiene, allergen changeover and audit-readiness influence selection.

Construction

Endura stainless platform with FDA/EC contact materials.

Cleaning and access

Dry and wet wash; tri-clamp and BFM hygienic access.

Washdown-rated, not CIP.



Avida

GENERAL INDUSTRY

Reliable enclosed conveying for general industrial powders and granules where simplicity, cost control and routing matter.

Built for

Replacing screws, pneumatic lines or open belts in general industry.

Construction

Carbon steel, with a 304 stainless option.

Cleaning and access

Dry cleaning; standard industrial materials.

Not for food contact or hazardous-area duties.



Endura

CHEMICAL AND HIGH-INTEGRITY

Stainless configuration for contained transfer in chemical, industrial and hazardous-area duties.

Built for

Contained transfer of combustible, toxic or corrosive powders in integrated plants.

Construction

304/316 stainless, continuous welds; sensor and I/O options.

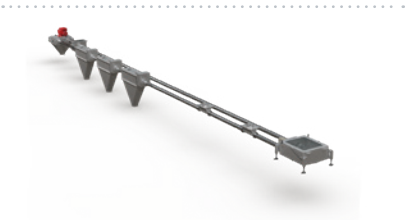
Cleaning and access

Dry and wet cleaning.

Dust Zone 21 package available, with Ex-rated components where specified; final system conformity remains with the site integrator.

Choose your plant layout requirements

The Floveyor tubular drag conveyor provides gentle material handling, an enclosed dust-free environment, easy maintenance, and low energy consumption. It also meets the needs of complex routes over multiple planes, reduced clearances and multiple outlets.



Horizontal

The easiest way to achieve a long conveying distance for distributing materials to a variety of hoppers, silos or reactors along a production environment.



Horizontal corners

Similar to the horizontal system, with the additional ability to accommodate 30°, 45°, 60°, 75°, and 90° corners as required.



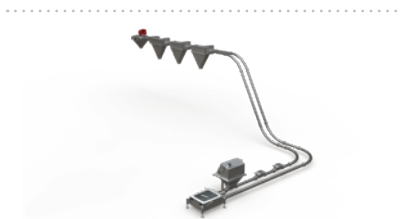
Multi-level elevation

Can transport materials across multiple planes and floors, with the addition of sweeping radius corners, needing minimal clearance requirements.



Multi-level elevation return

With the ability to use a variety of radius corners, the TDC can be installed in numerous layouts.



Complex route

Allows for installation along a variety of complex routes and paths throughout a plant, allowing minimal site requirements to accommodate the system.



Loop

Loop can be used to ensure the efficient transfer of materials through tight routes, reducing the overall rope assembly length when compared to a parallel installation.

Our bulk material handling equipment

Floveyor offers modular design for powder handling equipment to cater to every application and plant configuration. Each component seamlessly integrates with both new and existing powder handling systems for optimal bulk material handling.

CONVEYING	MATERIAL CONDITIONING
BAG UNLOADING	BATCHING AND WEIGHING
CONTAINER UNLOADING	TRUCK LOADING



About Floveyor

Floveyor has delivered conveyor machinery and equipment since 1958 when we invented aero-mechanical conveying. From our factory in Western Australia we design, engineer, manufacture, and distribute our conveyors and bulk material handling equipment. We partner with major global brands and small manufacturers alike to build efficiency and safety into their powder handling operations while ensuring product integrity and maximum yields during transfer.

The Floveyor global partner network ensures customers receive local sales and support in their own language and in their regional time zone.



RESPONSIVE TURNAROUND



MULTIPLE TIME ZONES



SPECIALIST TECHNICAL SUPPORT



Find out how to optimise your plant with a Floveyor TDC powder handling system. Book a free demonstration or consultation with our powder handling experts.

FLOVEYOR.COM



BTD C2026/10

Better powder handling