

TUBULAR DRAG CHAIN CONVEYOR

Product Introduction | Xinxiang Liyou Machinery Co., Ltd.

1. Product Overview

The tubular drag chain conveyor is a fully enclosed conveying system designed for powders and granular materials. It consists of conveying tubes, a circulating chain, conveying discs, a drive unit, and a tensioning mechanism. The system supports horizontal, vertical, and multi-bend three-dimensional conveying, with multiple inlet and discharge points on a single machine. It is widely used in the chemical, building materials, grain, feed, pharmaceutical, and lithium battery industries, helping address dust emissions, material breakage, and space limitations associated with conventional conveying equipment.

2. Key Equipment Advantages

- Fully enclosed conveying minimizes dust leakage and material loss, supporting environmental compliance.
- Flexible routing accommodates inclines and bends, requires little floor space, and reduces the need for major plant modifications.
- The discs move material as a bulk mass, reducing breakage of fragile products such as grain and activated carbon.
- Suitable for a wide range of materials; carbon steel and 304/316L stainless steel options are available to meet corrosion-resistance and food-hygiene requirements.
- Low energy consumption and noise, fewer wear parts, and quick-opening inspection ports simplify maintenance.
- Explosion-proof, anti-static, and high-temperature configurations can be customized for hazardous materials such as aluminum powder and coal powder.

3. Material Conveying Principle

The chain drives the conveying discs through a continuous closed loop inside the enclosed tubes:

- Horizontal section:** The discs steadily push the material forward as a bulk mass, while internal friction helps the material move together.
- Vertical section:** The discs support and lift the material upward; a reduced filling level helps prevent material fallback.
- Bend section:** Large-radius elbows provide smooth changes of direction, reducing material impact and tube-wall wear.
- Return section:** The unloaded chain travels back to the drive end through the lower return tube, enabling continuous conveying.

4. Technical Specifications

Model	Tube OD	Capacity (m³/h)	Fill Factor	Max. Horizontal	Max. Vertical Lift	Motor Power (kW)	Typical Applications
GL89	Φ89	3	0.5	45 m	15 m	1.1–11	Laboratories, pilot-scale equipment, small-volume

							pharmaceutical and food samples
GL108/133	Φ108	5–7	0.5	60 m	20 m	3–15	Small-scale batching, starch, fine chemical ingredients
GL159	Φ159	10	0.5	60 m	30 m	3–22	Calcium powder, grain, plastic pellets, resin powder
GL219	Φ219	17	0.5	60 m	35 m	5.5–28	Mineral powder, cement, fertilizer, lithium battery raw materials, bulk powders
GL273	Φ273	30	0.5	60 m	45 m	5.5–30	Mineral powder, cement, fertilizer, lithium battery raw materials, bulk powders
GL325	Φ325	50	0.5	60 m	45 m	5.5–30	Mineral powder, cement, fertilizer, lithium battery raw materials, bulk powders

Standard operating conditions: material bulk density 1 t/m³; chain speed 0.3 m/s; filling factor 0.5; conventional dry powder materials.

5. Equipment Selection

For accurate equipment selection, please provide the material name, bulk density, required hourly throughput, conveying distance, lifting height, and number of elbows. We will recommend a suitable model and motor power configuration based on your requirements.

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