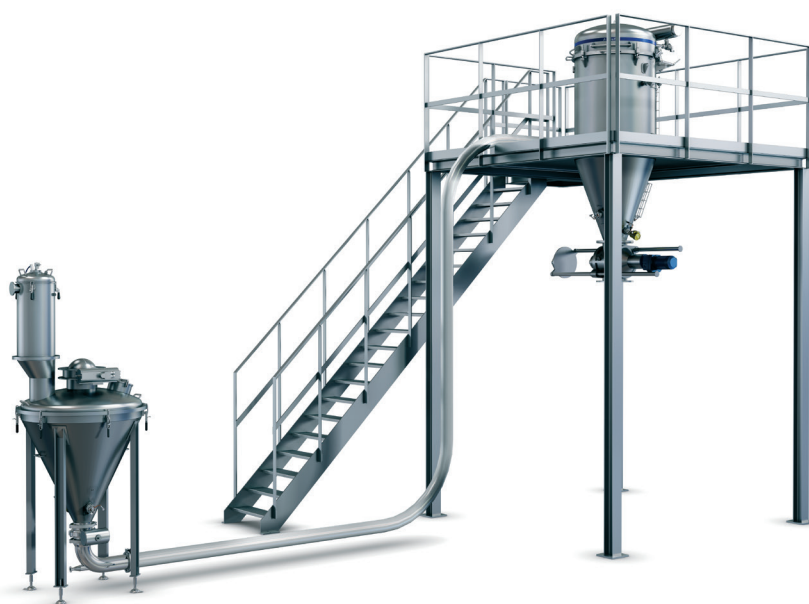




Tetra Pak® Pneumatic Conveyor VDP FD

Gentle conveying system



Highlights

- Very low speed
- High product concentration
- Explosion-proof
- High hygiene
- High negative pressure
- Handles fragile and very fragile products gently
- Low consumption of compressed air
- Low height requested at product starting point

Application

Vacuum dense-phase pneumatic conveying offers a number of significant advantages in powder handling applications. It is specifically designed to handle fragile powders and granulated ingredients gently with its very low conveying speed.

The low velocity ensures minimal product breakdown, reduces fat migration and prevents loss of shininess in ingredients. It also enables producers to maintain homogeneity while conveying mixed products.

Its design allows smooth air/product separation, preventing de-mixing and jolts.

The high negative pressure enables high capacity and a high product concentration at a very low consumption of compressed air. It is also designed to be ergonomic and – for maximum safety – meet requirements that prevent explosions. Further, it is highly hygienic since no moving parts come into contact with the product.

Tetra Pak® Pneumatic Conveyor VDP FD

Working principle

Pneumatic conveying systems work by generating gas flow in a pipeline in combination with a pressure difference between the pick up point and the receiving point. In vacuum dense-phase pneumatic conveying, this is generated by a vacuum pump.

The powders and granules are conveyed with airflow from the point with higher atmospheric pressure to the point with lower pressure, under vacuum conditions. Conveying lines may be either horizontal or vertical and often begin at a pick up hopper and end in a reception hopper designed to withstand a high level of vacuum.

Vacuum dense-phase pneumatic conveying – continuous and batch

In continuous conveying, the starting hopper empties while the reception hopper simultaneously and continuously discharges the powder/granule mix to downstream equipment through a rotary valve.

In batch conveying, the starting hopper empties first. Then the reception hopper discharges the powder/granule mix through a butterfly valve only once a set level of powder is reached.



Technology and components

Starting hopper

The starting hopper may be located under Tetra Pak® Spray Dryer, Tetra Pak® Paddle Mixer, Tetra Pak® Big Bag Tipping unit, silo, etc.

Dense Phase Receiving Hopper

- Covers a wider range of process needs in terms of filtrating flow rates and hopper volumes up to 2 m³
- High capacity
- Design allows smooth air/product separation
- Integrated reverse jet filter
- Level sensor
- Hygienic and completely dismountable filter for cleaning
- Ergonomic design for easy operator access
- Meets food safety regulations EC1935/2004
- Specially designed to withstand absolute vacuum and be airtight in vacuum conditions
- Opening of base plate of filter for access to hopper
- Optional integrated weighing system available

Rotary valve

- Downstream process feeding
- Tightness between the dense phase receiving hopper and downstream process

Pressure sensor

Vacuum Pump

- Oil-free technology