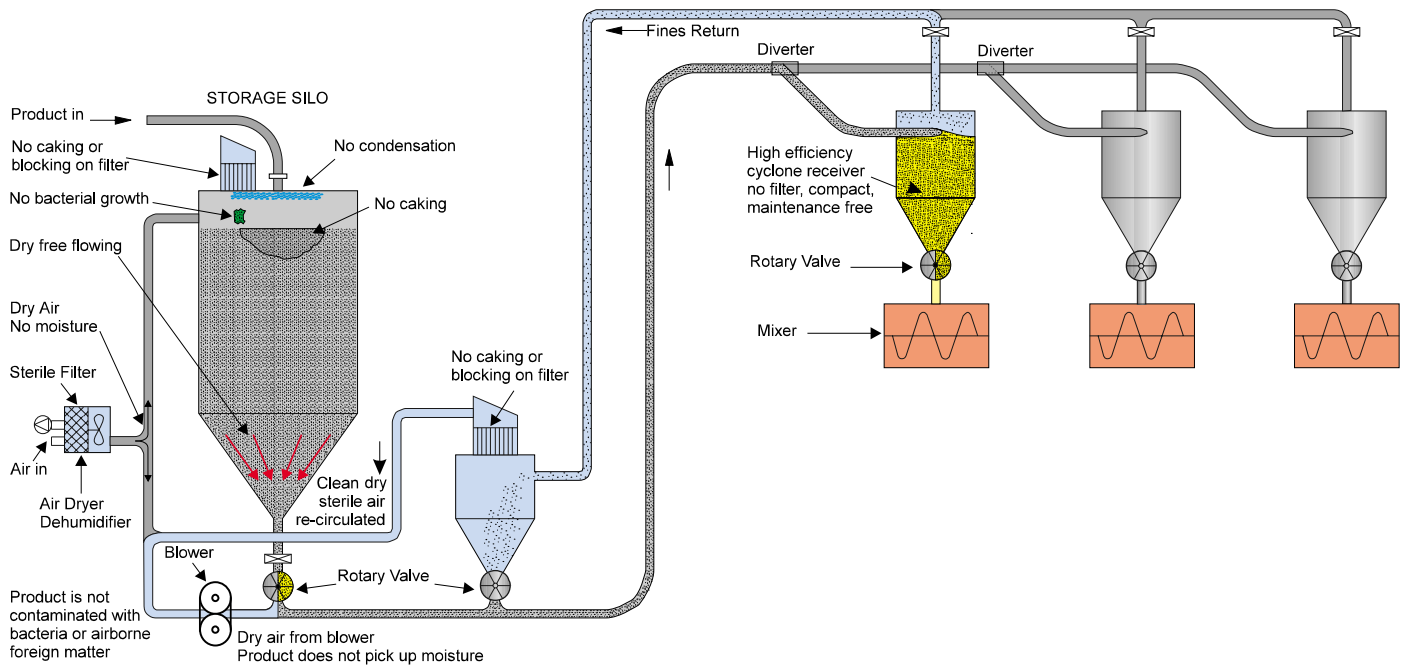




MAKING A MARK IN CLOSED LOOP CONVEYING

The Clean Enclosed Method of Pneumatically Conveying Hygroscopic and Hazardous Products



A brief look at the benefits

Closed Loop Conveying Using Dried Air

- Ideal for hygroscopic products.
- Economical - same dried air continually circulates.
- No caking or agglomerating - product stays in good condition.
- Reduced maintenance and cleaning.
- Hygienic - mould & microbiological growth inhibited.
- Sealed system – clean, enclosed, no emissions.
- Suitable for - sugar, potato powder, skimmed milk powder, absorbents.

Closed Loop Conveying Using Nitrogen

- Ideal for hazardous products or explosive dusts.
- Economical – the gas is re-circulated.
- Sealed system – clean, enclosed, no emissions.
- Dust explosion risk eliminated, no explosion venting or suppression required.
- Pressure or vacuum conveying options.
- Suitable for – chemical and pharmaceutical powders & granules.



The diagram illustrates a closed-loop pneumatic conveying system. On the left, a motor (M) is connected to a control system that includes a pressure sensor (P) and a flow sensor (F). These sensors are linked to a control unit (CU) which manages the air speed. The conveying line starts with a feeder at the bottom left, leading into a vertical riser. The riser is equipped with a pressure sensor (P) and a flow sensor (F). The air speed control system measures actual air speed and automatically maintains velocities to pre-set limits. The riser is connected to a horizontal conveying line. This line features a 3-way diverter valve that directs material to two different storage hoppers. The system is designed for constant velocity for all conveying rates and distances. The material is then collected in storage hoppers. A return line, labeled 'Fines Return', leads from the storage hoppers back to the feeder, completing the closed loop. The system is designed to handle two types of products: Product 'A' (larger, light fragile particles which damage easily require low velocity) and Product 'B' (smaller dense particles more durable require higher conveying velocity).

Air speed control system measures actual air speed and automatically maintains velocities to pre set limits

Constant Velocity For All Conveying Rates & Distances

Product 'A' larger, light fragile particles which damage easily require low velocity

Product 'B' smaller dense particles more durable require higher conveying velocity

Fines Return

3 Way Diverter Valve

Storage Hoppers

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