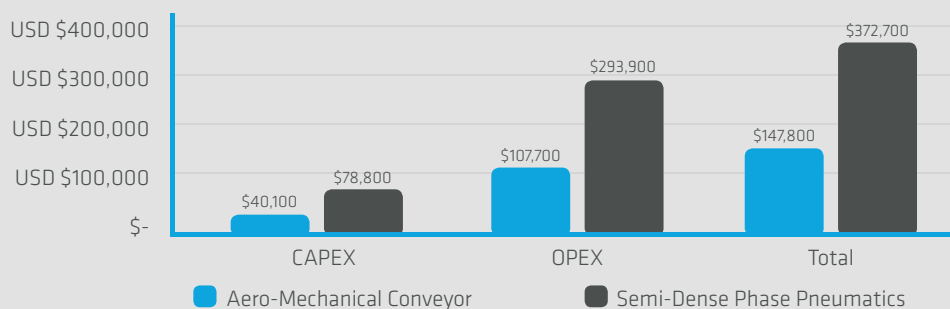


An Overview

		Aero-Mechanical	Dilute Pneumatics	Dense Pneumatics	LEGEND
Route	Vertical Routes ⁽¹⁾	+++	+++	+++	+++ Excellent
	Horizontal Routes	+++	+++	+++	++ Good
	Incline Routes ⁽¹⁾	+++	+++	+++	+ Fair
	Complex Routes	+	+++	+++	- Not Recommended
	Long Routes ⁽¹⁾	+	+++	+++	\$ Low-Cost
	Multiple Outlets	-	+++	+++	\$\$ Average
	Reversible ⁽¹⁾	++	+	-	\$\$\$ Very Expensive
Application	Batching (Total Transfer)	+++	+++	+++	
	Blending	+++	+	+++	
	Dosing	-	-	-	
	High Capacity >50TPH	+++	+	+	
	Vacuum Inlet/Outlet	-	+++	+++	
Material	Friable ⁽¹⁾	+++	+	+++	
	Dusty ⁽¹⁾	+++	+++	+++	
	Explosive (Dust) ⁽¹⁾	+++	+++	+++	
	Highly Abrasive ⁽¹⁾	+	+	++	
	Dry Powders	+++	+++	+++	
	Granulated	+++	+++	+++	
	Large Lumps	-	+	-	
	Adhesive	+	+	++	
Cost	Initial Capital Cost				
	<8t/h [22ton/h]	\$	\$\$	\$\$\$	
	<20t/h [8.8ton/h]	\$	\$\$\$	\$	
	>20t/h [8.8ton/h]	\$\$	-	\$\$\$	
	Power Consumption	\$	\$\$\$	\$\$\$	
	Availability (Uptime)	\$	\$	\$	
	Consumables	\$\$	\$\$	\$\$	

(1) May require specific criteria to be met for recommendations to apply

Figure 1: Total Cost of Ownership Comparison over a 10 Year Period [20t/h granulated sugar @ 18m lift]



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Applications and Capabilities

Aero-Mechanical Conveyors



best suit straight-line installations, including those with 90° corners. The fully-enclosed design is best suited for handling dry powders and granules up to 12mm in size. Handles friable and blended products without degradation. Ideal for batching applications due to total batch transfer. Not suited to highly adhesive products, particularly waxy, fatty or oily products which coat the tube walls. Highly abrasive materials decrease availability.

Pros

- › Low Total Cost of Ownership
- › High Availability
- › Optimal for Friable Materials
- › Optimal for Material Blends
- › Optimal for Batching
- › High Cleanability
- › Accepts multiple materials

Cons

- › Straight-Line Geometry
- › Not Suited to:
 - Large Lumps
 - Adhesive Materials
 - Cohesive Materials
- › Length Limitations
- › Single Outlet Point

Pneumatic Conveyors



are the most expensive form of powder conveying in terms of initial investment and ongoing operational costs, largely due to power and dust extraction requirements. Well suited to long, complex routes with minimal available head-room. Pneumatic Conveyors come in two common designs. Dilute Phase conveyors transport material at low-pressure and high-speed, whereas Dense Phase conveyors transport material at high-pressure and low-speed. The type of conveyor selected depends strongly on the materials conveyed.

Pros

- › High Availability
- › Optimal for Friable Materials
- › Optimal for Material Blends
- › Optimal for Batching
- › High Cleanability
- › Accepts multiple materials

Cons

- › Straight-Line Geometry
- › Not Suited to:
 - Large Lumps
 - Adhesive Materials
 - Cohesive Materials
- › Length Limitations
- › Single Outlet Point

Dense Phase Pneumatic Conveyors suit a single product inlet but can convey abrasive, friable and blended products. A Dense Phase conveyor will have a significantly lower throughput capacity compared to a similarly sized dilute phase unit. Not recommended for coarse materials.

Pros

- › Suits Abrasive Materials
- › Suits Friable Materials
- › Suits Material Blends

Cons

- › Not Suited to:
 - Coarse Materials
 - Adhesive Materials
 - Cohesive Materials
 - No Large Lumps
- › Specialist engineering knowledge required

Dilute Phase Pneumatic Conveyors easily accept multiple product inlets. Due to its high conveying speed it is not suitable for abrasive, friable, cohesive, abrasive or blended products. It is unsuitable for materials with a bulk density > 1200kg/m³ [75lb/ft³].

Pros

- › Multiple Inlets
- › Suits Coarse Materials
- › Suits Fibrous Materials

Cons

- › Degrades Product
- › Degrades Blend
- › No Adhesive Materials
- › No Large Lumps
- › Low Capacity