TEKFA
WEIGHING & DOSING

Pneumatic conveying

Dense Phase powder transport

Gentle powder transport with continuous weighing

- **Minor breakage of the powder/product even on a long transport distance.**
- **Gentle transport avoiding problems with dust.**
- **Using significantly less air compared to vacuum transport or other pneumatic transport forms.**
- **Fully control of process by continuous weighing.**
- **Significantly reduced segregation of powder.**
- **Large transport capacity – up to 100 tons pr. hour.**
- **Reduced maintenance costs**

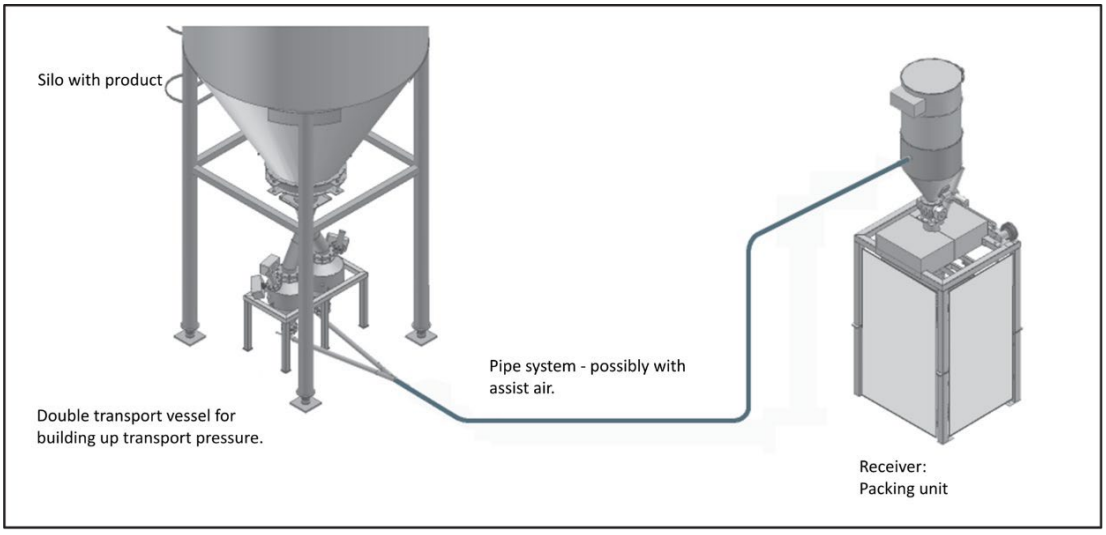
Why Dense Phase?

If there is a need for a gentle transport of your powder the dense phase method gives you several benefits. Unlike traditional pneumatic transport forms where the powder is blown or sucked as single particles at high speed through the piping systems, the dense-phase transport is moving the powder in portions.

On both occasions transportation is based on pressure or vacuum; but Dense Phase requires much less air than used during normal pneumatic transport. Transport velocity is significantly lower – down to a tenth or less compared to traditional pneumatic transport. As a result, powder particles are not damaged or broken, so the powder quality is maintained during transport, a very important requirement for many industries. Another important advantage about the dense-phase method is the avoidance of segregation of the powder surely this is a significant problem with pneumatic transport.

Continuous weighing

TEKFA A/S supplies dense-phase systems, that are characterized by including continuous weighing. TEKFA A/S has several years of experience with continuous weighing. Hereby you achieve at the same time a controlled transport capacity and controlled amount of powder.



Dense-phase transport plant for continuous transport – example:

1. Transport vessel is filled with powder from a silo.
2. When the vessel is full, pressure is built up in the vessel.
3. The vessel is emptied; the powder is transported through the pipe systems in portions.
4. To assure safe transport assist air is used on long pipeline systems.
5. When the emptying of vessel 1 is completed, automatically there is a change to vessel 2, where in the meantime a transport pressure has been build.
6. Vessel 1 is filled, while vessel 2 is emptied and the process continues if there is material in the silo above the pressure vessel.

Description

Plant description: Frame with one or two pressure vessels and butterfly valves to control in- and outlet.

Material: Depending on product e.g., AISI 304, AISI 316

Capacity: Depending on product up to 100 t/h

Air consumption: Up to 1 kg air for 150 kg product (for traditional pneumatic transport the ratio is 1:10).

Test of products

With TEKFA's test equipment we can conduct transport trials with your product and product mixes. We can test whether this type of powder or granulate is suitable for dense-phase transport.

The test equipment is sending product through a pipeline back to the test vessel, so only a few kg is needed for test purposes.

Figure 1 Test unit with pressure vessel