Daniatech

# Dilute-phase Vacuum system

Vacuum dilute phase systems operate in a vacuum under atmospheric pressure.

## Dilute-phase

The dilute-phase conveying system is generally used for conveying bulk material from multiple intakes through a pipeline to an individual destination. Here, the powder is separated from the air through a vacuum filter.

Through an intake, the powder is dosed into the airflow and transported in a continuous flow at a relatively high velocity through the pipeline to the dedicated destination. The vacuum pump includes a pressure transmitter to protect the powder to air ratio in order to avoid blockage.

Unlike the pressure conveying system, the vacuum system easily picks up bulk material from the intake and does not heat up the product. The vacuum system has superior leak containment and is often used where there is a demand for cleanliness and ATEX considerations.

Daniatech vacuum airlock hopper with breathing filter, level censor and service manway.

## Equipment

### Standard equipment

- Air intake (filter)
- Dosing system, screw feeder, rotary valve, airlock system with filter
- Stainless steel pipe transport line
- Vacuum air pump
- Pressure transmitter

### Optional equipment

- Air intake (HEPA-filter), cooling and dehumidification
- Vacuum air pump with silence damper
- Weighing and dosing equipment
- Lump-breaker
- Transport line including Stainless steel pipe, elbows, 2-way valves and flexible connection
- Reinforced bends
- Inline sifter, magnetic detection and separation
- ATEX considerations
- Vacuum filter receivers, cyclone separators and silos

## Technical data

| Pressure conveying systems | |
|---|---|
| Capacities: | 0.1 – 10 ton/h |
| Transport velocity: | 20 – 30 m/s |
| Transport distance: | up to 100 m |
| Operating pressure: | 500 mbar vacuum |

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# Dilute-phase Pressure conveying

Positive pressure dilute phase systems operate above atmospheric pressure.

## Dilute-phase

This system is used to convey bulk materials from single or multiple intakes through a pipeline to one or more destinations. Here the powder is separated from the air through a filter.

Through an airlock, the powder dosed into the airflow and transported in a continuous flow (at a relatively high velocity) through the pipeline to the dedicated destination.

The blower pump is equipped with a pressure transmitter to protect the powder to air ratio in order to avoid blockage in the pipeline.

Pressure systems typically have a higher capacity and can convey product over further distance than a vacuum system.

Daniatech pressure airlock hopper is equipped with air leakage venting, level sensor and service manway. The Daniatech airlock ensures a gentle product flow.levels sensor and service manway.

## Equipment

### Standard equipment

- Air intake (filter)
- Blower air pump
- Pressure transmitter
- Rotary valve, airlock system with filter
- Stainless steel pipe transport line

### Optional equipment

- Air intake (HEPA-filter), cooling and dehumidification
- Air pump with silence damper
- Weighing and dosing equipmet
- Lump-breaker
- Transport line including Stainless steel pipe, elbows, 2-way valves and flexible connection
- Reinforced bends
- Inline sifter, magnetic detection and separation
- ATEX considerations
- Filter receivers, cyclone separators and silos

## Technical data

| Pressure conveying systems | |
|---|---|
| Capacities: | 0.1 – 20 ton/h |
| Transport velocity: | 20 – 30 m/s |
| Transport distance: | up to 100 m |
| Operating pressure: | above 1 bar |