Your Web-Based Design Program for Pneumatic Conveying Systems

Plan efficiently. Design reliably.
Calculate with confidence.

Our web-based design program is a powerful tool that simplifies the dimensioning and optimization of pneumatic conveying systems – based on proven calculation methods from scientific literature.

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Four Scientifically Proven Calculation Approaches

1. Dense-Phase Pressure Drop Calculation acc. to Muschelknautz and Krambock (CIT, 1969) for conventional, non-adhesive, dry, free-flowing plastic granules.

2. Fine Bulk Materials (< 150 µm) acc. to Stegmaier (fördern + heben, 1978) for dilute- and strand-flow conveying as overpressure or vacuum conveying. The plugging limit is determined according to Muschelknautz and Krambock.

3. Dilute- & Strand-Flow Conveying According to Siegel (Pneumatic Conveying, Vogel Verlag 1991). The approach considers a wide range of more than 50 bulk solids – from beans to sugar as overpressure or vacuum conveying.

4. Dilute- & Strand and Dense-Phase Conveying to Hilgraf´s scale up model (ZKG 42/11, Bauverlag 1989) for bulk solids from the Cement-, Lime-, Gypsum-, Alumina- & Powerplant industry.

Your Benefits at a Glance

Our program covers all key design fundamentals:

- Determination of specific pressure losses (acceleration, lift, pipe friction, bends)
- Consideration of plant altitude, counterpressure, and bulk material and air temperature
- Precise results including:
  - Initial and final conveying gas velocity
  - Pressure drop
  - Gas flow rate
  - Loading ratio and mixing temperature

Results export: directly into a **PDF report**.

Additional included Modules

Enhance your program with practical, application-oriented modules:

- Module 1:
  Settling velocity of single particles
- Module 2:
  Thermal expansion of pipelines
- Module 3:
  Conversion of volumes / volume flows using Boyle-Mariotte's law. Calculation of the air density and air pressure depending on the altitude
- Module 4:
  Velocity calculations in air ducts
- Module 5:
  Fluidization velocity
- Module 6:
  Rotary feeder design acc. ISO 3922 including filling degree recommendation depending on the bulk solid density and back pressure of the conveying line

Web-Based & User-Friendly

- Runs platform-independently in your browser
- Intuitive input and clear result interface
- The program is accompanied by a detailed manual with many interpretation notes.

Conclusion

Our web-based design program combines **scientific accuracy, practical functionality**, and **user-friendly operation**. This enables you to design pneumatic conveying systems faster, safer, and more efficiently.

If you would like to know more about the Pneumatic program and its scope, please refer to the comprehensive manual at *https://www.schwedes-und-schulze.de/en*.

Flexible Pricing Options

Our pricing is designed to adapt to your needs.

- For occasional use, you can choose packages of 10 or 100 calculations, valid for 3 months.
- If you require unlimited access, we offer a 1-year license with no restriction on the number of calculations.
- For long-term use, a permanent license is available, which also includes upcoming modules such as pressure vessel conveying and cyclone design.

Scope	Description	Price
10 calculations	Valid for 3 month	49 Euro excl. VAT
100 calculations	Valid for 3 month	399 Euro excl. VAT
1-year licence	Valid for 12 month, no calculation limit	2,995 Euro excl. VAT
Endless licence	unlimited	2,995 Euro + 490 Euro/year maintenance fee excl. VAT

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