



Package Vacuum Conveying Systems

Simple & modular packages for dust free
conveying of powders, granules & most
bulk solids

Gericke

Powder Processing Equipment and Systems



Modular Solutions for Reliable Conveying

Gericke's range of package vacuum conveying systems have been designed to transport powders, granules and most bulk solids.

The modular design provides the opportunity to adapt the components to many different process applications, including: sack & FIBC unloading and transport to feeders, mixers, mills and packaging lines.

Benefits of vacuum conveying systems

Vacuum conveying is a simple dust free method of conveying with few moving parts for ease of maintenance and maximum reliability.

The range of components have been designed for quick and easy access without the use of special equipment or tools.

The units dismantle into component form for cleaning and validation.

Process integration

Inline sifters and magnets can be integrated into the vacuum line to remove tramp materials and particle size reduction achieved using inline nibblers and cone mills.

Low velocity conveying

If the product or granules are fragile then Gericke's low velocity vacuum system will reduce particle breakdown by conveying the material slowly through the pipeline in plug form. This technology also reduces segregation after blending.

Sequence of operation

Operation of the system depends upon the introduction of the product into an air stream which conveys the material into a filtered hopper loader.

When high level in the hopper loader is reached the vacuum is removed via a vacuum vent valve and the product is discharged under atmospheric conditions. The cycle is then repeated.

Complete discharge of the product from sack tip units and hopper loaders can be achieved using fluidisation or vibration.



Feeder Loading



Modular Design



Sack Tip Units



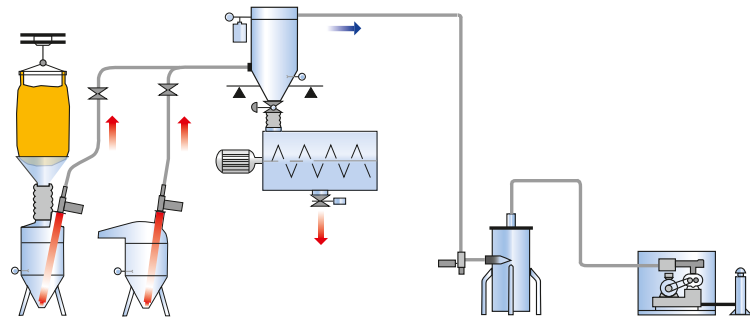
Inline Application



Typical Vacuum Conveying Applications

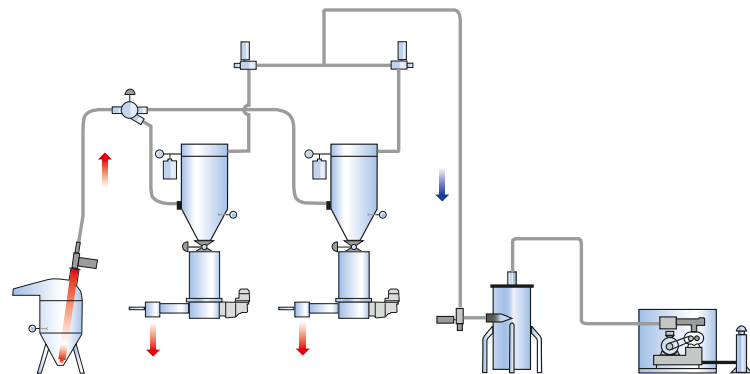
Multiple pickup single destination

Big Bag emptying for base product and sack tipping of minor ingredients.



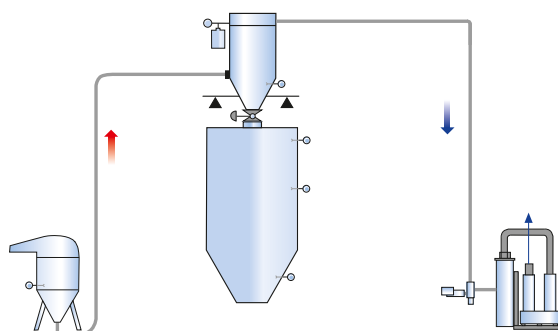
Single pickup multiple destinations

Loading of loss-in-weight feeders.



Low velocity conveying

Gentle conveying of fragile products with high loading of pipeline.

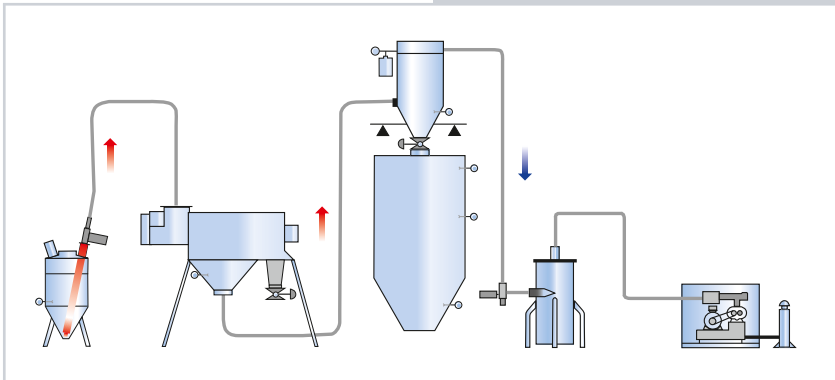


Applications:

- Material discharge from FIBC's, hoppers, drums, bags, driers, granulators, coatiers etc.
- Feeding of materials into reactors, mixers, mills, filling and packaging machines, sieves, FIBC's, conditioning stations, tablet presses
- Suction weighing systems for automatic recipe preparation
- Dust free conveying and feeding of different powders, pellets, prills, flakes
- Safe handling of toxic and hazardous materials
- Fully contained transportation of active ingredients

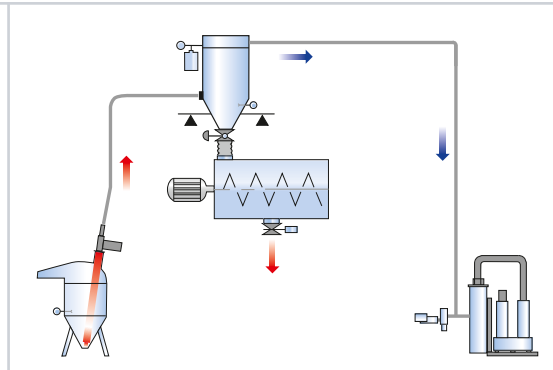


Integrated Systems



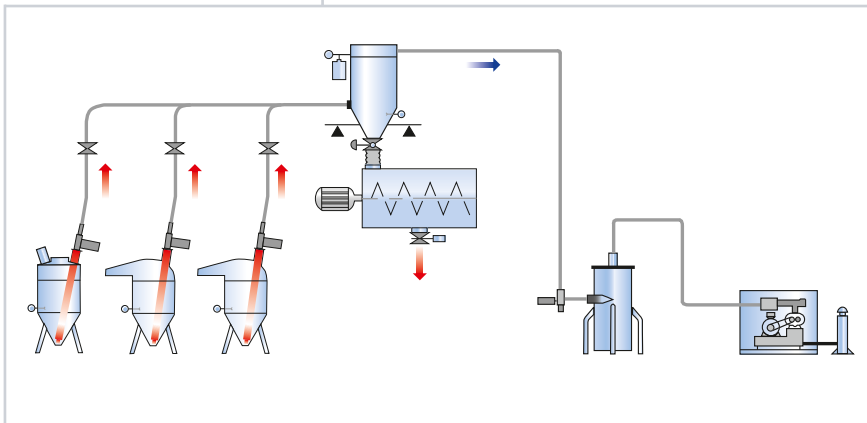
Inline processing

Vacuum conveying of bulk materials with inline security sieving.



Single pickup with weighing system

Sack tipping and batch weighing for mixer loading.



Multiple pickup with weighing system

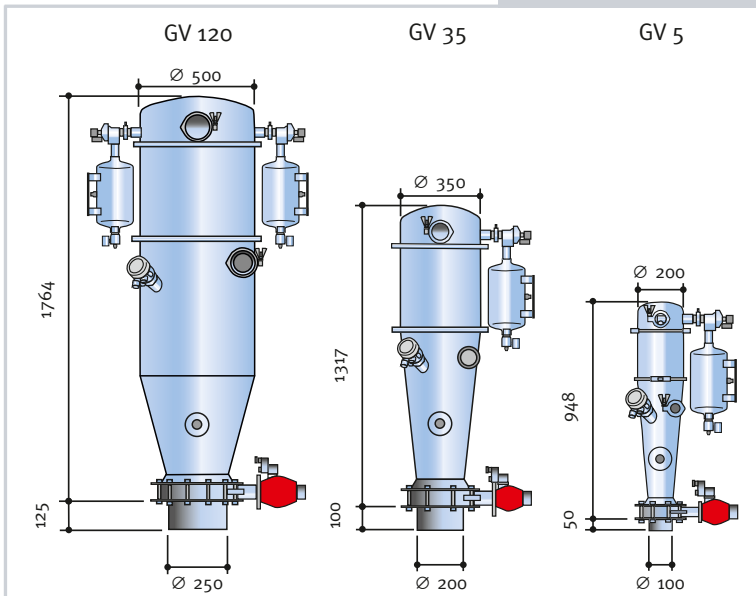
Dedicated sack tipping of each raw material. Weighing of batches in the receiving hopper. Filling of mixers or reaction vessels.

Package vacuum systems form a part of the complete Gericke range of pneumatic conveying systems. This includes low velocity, extra gentle pressure conveying systems for high throughput rates (2-40 t/h) and long distances up to 400 metres.

Package vacuum systems are used for small to medium throughput ranges (up to 3,6 t/h), conveying distances up to 40 metres and suction weighing applications. ATEX options available on request.



Technical Information



Range of throughputs

GV-5 up to 500 kg/h over 40 metres
 GV-35 up to 1200 kg/h over 40 metres
 GV-120 up to 3600 kg/h over 40 metres

1,5 inch pipe 2 kW vacuum pump
 2 inch pipe 4 kW vacuum pump
 3 inch pipe 11 kW vacuum pump

Controllers

The operating sequences can be controlled through a pneumatic timer system, PLC option or incorporated into the plants host control system.

High quality filter elements and seals

Standard filter cartridges are manufactured from Polyester with coated fabrics and special elements available on request. Seals are manufactured from food grade conductive silicon.

Materials of construction

Standard equipment is manufactured from 304 stainless steel glass bead blasted inside and out. Options for 316 stainless steel and special finishes are also available.

A package vacuum system is made up of 3 crucial elements:

1. The material pick up point or entrainment hopper, where the product is conditioned, prior to being introduced into the conveying line.
2. The hopper loader, where separation of product from the conveying air occurs, with only dust free air passing through the filter element.
3. The vacuum pump and secondary filter, which produce the airflow required to drive the system. Various types of pump are available depending upon the product characteristics, the conveying rate and the conveying distance.



The Gericke Test Centre

Gericke's test facility provides the opportunity to conduct full scale trials on our clients own products.

Trials can also include many other processes including sack tipping, FIBC discharging, sieving, size reduction, feeding, continuous mixing and batch mixing.

Gericke's package vacuum conveying systems can be purchased as a single system which are easy to use and quick to install.

Gericke also offer a turnkey engineering service where vacuum systems can be engineered into a full production line.

Gericke Customer Service

Gericke guarantees efficient running of production processes

We provide our customers with a comprehensive range of services to ensure efficient start up of the plant.

Hire units

Hire machines can be installed into existing production processes and effectiveness proved.

Commissioning

Our specialist commissioning engineers carry out stringent tests to ensure successful and optimum running of the equipment.

Dry running and sequencing trials are completed before commissioning with the product to fine tune the systems. Operation and maintenance staff can attend for training purposes.

Service and maintenance

Gericke offer a comprehensive back up service from their local engineering teams. Gericke have over 20 service engineers based around the world and service contracts are available.

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