Conveying, feeding, mixing, size reduction, sifting...

Systems and components for the bulk materials processing industry
Over 120 years of expertise.

Gericke bulk materials processing technology can be found throughout the world in many sectors including the food, chemical, pharmaceutical, plastics and construction materials industries.

Experience

Gericke was founded by Walter H. Gericke, Milling Engineer, in Zurich (Switzerland) in 1894. The company has been designing and manufacturing equipment and systems for modern bulk material processes and providing design and consultation services ever since.

Customer proximity

The head office of the Gericke Group is in Switzerland. We do however have subsidiaries in many countries and maintain close contact with our customers with a network of well trained representatives, all specialists in their field. Our 300 committed members of staff have implemented projects in virtually all countries of the world and have a wide range of international experience.

Only the very best bulk materials technology

"Made by Gericke" means: effective return on investment, low maintenance costs and high availability of plants.

Our process stages include:

- Unloading of tanker vehicle and emptying of big bags and sacks
- Sifting and size reduction of agglomerates
- Pneumatic conveying
- Storing and discharging
- Conveying and feeding
- Mixing processes
- Filling
- Automation

Wherever you are, Gericke is there to assist you!

The properties of the bulk material in question are the most important factor. The modular construction and adaptability of our range of products offer the process designer a considerable number of options.

Examples include:

Food Industry
- Baking mixes
- Spices
- Mill powder products
- Meats
- Beverages

Chemistry
- Aromatics
- Base elements
- Paints, lacquers
- Fine chemicals
- Detergents
- Insecticides and plant protecting agents

Pharmaceutical Industry
- Pharmaceutical products
- Cosmetic
- Vitamins

Building Material Industry
- Plasters
- Adhesives
- Plasterboards

Automotive
- Particle filters
- Catalytic converters
- Linkages for brakes and clutches

Pet Food Industry
- Concentrated feeding stuffs
- Vitamin additives
- Fish feed

Plastics Industry
- Water bath
- Extruder feeding
- Storage and feed systems

Public Utilities
- Filter dust conveying
- Conveying of sewage granules
- Water processing

Plastics Industry
- Master batch
- Stop

Customised Systems

Gericke’s operative principle is the planning, manufacturing, installing and commissioning of whole systems, specially designed to meet the requirements of the customer and the bulk material processing process. Product trials in our Test Centre are carried out to support selection of components and process design. Consistent project management and scheduling procedures combined with comprehensive documentation are essential components for Gericke in connection with the successful handling of projects.

Controllers

Machine and system controllers provide improved process control and form the basis for the automation of production systems, the planning of logistics, quality control and traceability of manufacturing processes.

The STP and Easydos controllers are designed for pneumatic conveying systems and feeders. They can operate independently of master controllers and, if required, be integrated in a PLC system controller via one of the numerous interfaces.

Gericke plans and realises complex system controllers in collaboration with partner companies which can then provide a high level of on-going support locally.
Preparation of raw material and intermediate products

Acceptance and storage of raw materials:
1. Unloading of raw materials from road vehicle into silos
2. Sack emptying station with compactor for empty sacks
3. Discharging of raw materials from silos or containers
4. Pneumatic conveying from silos to storage silos
5. Storage silos for large components
6. Pneumatic conveying from storage silos to day bins
7. Pneumatic discharge of material into process line

Loading of silos (on site or on trailer):
8. Dairymix emptying of silos
9. Mixing into reactor vessel with inert gas blanket

Continuous blending, mixing and filling:
10. Electronic intermediate storage
11. Continuous single fluidic and intermediate storage
12. Liquid components, sprayed into the continuous mixer
13. Automatic filling and packing

Grinding of rework in the GCN (Gericke Cone Nibbler/Cone Mill):
14. Gentle mixing in the GMS (Multiflux® Batch Mixer)
15. Automatic sack filling unit and palletising

Dust removal:
16. Centralised or local dust filters

Continuous weigh feeders and continuous mixers:
17. Automatic controllers and process control

Automatic controllers and process control:
18. Central control room with process control system
19. Local control units

Slam shot valve (explosion protection):
20. Slam shot valve (explosion protection)

Safety
ATEX (ATmosphère EXplosible), explosion protection in accordance with Directive 94/9/EC and Directive 99/92/EC
ISO 9001:2000
ISO 9001:2000 guarantees consistent quality
Gericke is member of EHEDG
Receiving and discharging (of raw materials)...

Big bag emptying and filling station
There are various options for the reliable filling, emptying and handling of big bags. Filling and discharge stations with integrated weigh hoppers and conveying equipment transport the bags once they have been filled to the right stage of the process.

Sack tipping and feeding station
 Ergonomically designed bag feeding with integrated lifting equipment, magnets and ribbons for accurate positioning of material. The integrated or centrally positioned filters ensure a clean and safe working environment.

Unloading from tanker vehicles
Mobile discharge systems for gentle and energy-efficient unloading of tankers.

Discharge
 Turbo vibrating bin activators, RA or KAD discharge agitators reliably remove product from silos and tanks, including bulk solids with poor-flowing properties.

Conveying...

Package vacuum conveying systems
Compact modular conveying system for dust-free conveying from drums, big bags and sacks to loss-in-weight feeders and process equipment. Integral weighing can also be incorporated. Rotary valve
Conveying systems with rotary valves can be turned into pressure or suction systems. They are shock pressure resistant and ensure flame containment.

Diverter valves
Plug diverter, rotating tube and flap diverter valves.

Dust-free infeed of products in processing lines is mandatory for hygiene, reduced contamination and effective protective measures. Gericke supplies ergonomically designed bag chutes and big bag discharge stations which include transportation of the sacks to and from storage.

Customer support during the planning, implementation and commissioning of a system is of great importance to Gericke. It is essential in achieving highest possible efficiency, change production and to increase the cost-effectiveness of an investment in this upgrade. Our processes undergo regular checking in accordance with the ISO 9001:2000 standard.

Key components are developed and manufactured by Gericke.
Feeding ...

Volumetric feeders
The bulk material is metered volumetrically with a feeding helix or screw. Intromitters prevent the formation of bridges and ensure homogeneous conveying of the bulk solids into the feeding tool.

Loss-in-weight feeders
For continuous gravimetrically controlled loading of extruders, kneaders or continuous mixers. As a batch feeder for the weighing of products. The Easysdes controller can be used as a flexible solution for all feeders and metering applications.

All powders, granules and fibres behave differently. Feeders supplied by Gericke can be customised to ideally suit the product in question.

- Feeding of currants, cherries and dried fruits
- Feeding in tumbler for coating applications
- Feeding in kilns with long helices
- Feeding SAP (Super Absorber Polymers)
- Feeding of powdered egg yolk
- Feeding of liquids (with pump or helix)

Gericke feeders are available for outputs ranging from 0.2 - 50,000 l/h.

Weigh belt feeders
Weigh belt feeder for continuous weighing (weigh belt feeder) or registration (registering weigh belt feeder) of bulk solids. The bulk material conveyed on the belt is weighed within a defined section of the belt while the controller calculates and controls the feed rate.

Mixing ...

GCM continuous mixer
Mixer for continuous processes. The mixer is suitable for mixing a wide range of powders, flakes, granules and viscous products. Spraying with liquids and thermal processes are very effective. Easy to clean. The GCM is suitable for very demanding mixing tasks.

Our mixers produce high-quality intermediate or final products with maximum homogeneity. As a specialist in the field Gericke has expertise in related processes such as agglomeration, granulation, coating and heating transfer, which are essential for innovative products. The process can be run continuously and in batches.

GMS Multiflux® batch mixer
Batch mixer. Horizontally designed double-shaft mixer with optimum product flow in the fluidised zone. Low energy input resulting in gentle blending of delicate products with maximum blending homogeneity. Batch sizes from 80 - 4000 l.

GBM single shaft mixer
Batch mixer with horizontally designed blending tool. Universal mixer for low to medium energy input for batch sizes from 40 - 4000 l.

GDM drum mixer (Mixomat)
Batch mixer. Drum mixer for simple mixing tasks for use in a laboratory and production process. Drum sizes from 30 - 400 l.

GBM single shaft mixer
Batch mixer with horizontally designed blending tool. Universal mixer for low to medium energy input for batch sizes from 40 - 4000 l.

Volumetric feeding
The feed rate depends on the volume of product transported per time unit.

Gravimetric feeding
The feed rate or batch weight is regulated by the process controller.
Size reduction and sifting...

**NBS nibbler**
Nibblers effectively break up lumps and agglomerates with rotating paddles and screen assemblies. Screen sizes vary from 1 - 25 mm. Throughputs are up to 20 m³/h.

**Gerbcke cone mill**
Gericke cone mills are equipped with a vertically rotating paddle blade assembly. The holes in the conical screen vary from 150 - 2000 μm.

**CSM centrifugal sifter**
For sifting, screening and removal of foreign material. CSM sifters are either positioned directly downstream from where the raw materials are received in the system or directly before the filling systems. Inline sifters can be integrated into pneumatic conveying systems. Mesh sizes between 50 and 4000 μm. Depending on the type of machine, outputs of up to 100 m³/h are possible.

The Gerbcke Test Centre...

Customer service taken literally. We have got Test Centres in Switzerland, France, England and Singapore where large scale testing can be carried out in order to achieve optimum customising when planning a system. These centers are equipped with full-scale machines with experienced specialists on site who not only design tests to meet the customers requirements but also carry them out. Test reports are written for each test series and provide the customer with information which enables him to:

- Check the performance range of plant components
- Develop and test product innovations
- Confirm quality characteristics
- Determine product modifications
- Design processes
- Compare several machines

This allows comparisons between continuous and batch mixing processes or measuring of the increase in bulk density during a conveying process over a distance of 250 m.

A test run with a nibbler or cone mill is often the first step to improving a process.

Before carrying out tests, the exact objectives of the test run are agreed upon with the customer and measures to be taken are specified.

Safety measures for ATEX zones can also be specified during tests. The results of tests carried out in the Test Centre are used in the development of innovative or improved end products and significantly speed up the evaluation process in connection with the planning of systems. They provide increased security of investments.
Gericke guarantees smooth running of production processes
We provide our customers with a comprehensive range of services. In addition to the Test Centres, these include the following:

**Hire units**
Hire machines can be integrated into existing production processes and effectiveness can be monitored.

**Assembly and its monitoring**
Fast and correct installation of individual machines to form an effective system requires expert knowledge and careful execution. Our assembly team supervises and coordinates the complex monitoring functions and installation work for you.

**Commissioning**
Our specialists carry out the commissioning of the plant in various stages. After mechanical and electrical tests have been carried out, the systems are run without product and the controller is tested. Then the start-up with product takes place. Optimisation of the system continues even after initiation of the production process.

**Training**
Operators are trained to operate the system correctly during or after commissioning. Training includes maintenance and upkeep of the system as well as accident prevention.

**Service and maintenance**
Provision of efficient advisory service and consulting, if problems occur, is a high priority at Gericke. The Gericke Group has more than 20 Service Engineers in action around the world.

**Spare parts**
Many machines have been operating for more than 30 years. Our target is to be able to procure all parts within a reasonable period of time in order to keep storing to a minimum.

Gericke products are renowned for long-life and robust technology that ensures operational reliability and efficient production processes.