Conveying, feeding, mixing, size reduction, sieving.

Equipment and systems for the bulk materials processing industry
Over 100 years of expertise.

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

**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. However, we have subsidiaries in many countries and maintain close contact with our customers with a network of trained and specialised representatives. The 250 enthusiastic employees of our group have implemented projects in virtually all countries of the world and have a wide range of international experience.

**The best bulk materials technology**

„Made by Gericke“ means effective return on investment, lower maintenance costs and high availability of plant.

Our process stages include:
- Raw material receipt and bulk storage
- Security sieving, size reduction of agglomerates
- Conveying
- Feeding
- Mixing processes
- Filling
- Automation
The characteristics of the bulk material is the most important factor!
The modular construction and adaptability of our range offers many options for the process designer. Examples include:

**Food industry**
- Baking mixes
- Spices
- Milk powder products
- Muesli
- Beverages

**Chemistry**
- Aromas
- Base chemical substances
- Paints, lacquers
- Fine chemicals
- Detergents

**Pharmaceutical industry**
- Active ingredients
- Cosmetics
- Vitamins

**Chemical components**
- Cleaning agents
- Adhesives
- Plasterboards

**Automotive**
- Particulate filters
- Catalytic converters
- Brake and clutch linings

**Animal nutrition**
- Fortified feed
- Vitamin additives
- Fish food

**Utilities**
- Filter dust conveying
- Conveying sewage granulate
- Water processing

**Plastic materials**
- Master batch
- Extruder feeding
- Storage and feed systems

*Everywhere you are, Gericke is there for you!*
Customised systems
Planning, manufacture, installation and commissioning of complete systems specially designed for the requirements of customers and the processed bulk materials is a standard operating principle for Gericke. Product trials in our test facilities are used to select components and to design the process. Consistent project management and scheduling procedures combined with comprehensive documentation are essential components for a successful project.

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

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

Gericke plan and implement complex system controllers in collaboration with partner companies who can provide local support.
Preparation of raw material and intermediate products

**Receiving and storage of raw materials**

1. Unloading road vehicles into external or internal silos
2. Sack discharge station with compactor for empty sacks
3. Discharge of raw materials from solid or flexible Big Bags
4. Lean phase conveying to security screen (left) or delumper (right) into storage silos
5. Storage silos for large usage materials
6. RA discharge and metering feeders for poor-flowing materials
7. Pneumatic dense-phase conveying into day bins

**Loading reactors**

8. Dustfree Container discharge
9. Metering into reactor (with inert gas blanket)

**Continuous feeding, mixing and filling**

10. Day bins for intermediate storage
11. Continuous metering scales and continuous mixers
12. Liquid constituents, sprayed into the continuous mixer
13. Automatic filling and packing
Storage, discharge, size reduction, sieving, feeding and mixing, dust control. Only perfectly integrated interface of all components of the system, including the controller, will provide a competitive advantage and a successful company.
Weighing and mixing recipes in batches, filling and packing

14 Day bins with metering feeders and weigh vessels
15 Grinding rework in the GCN (Gericke Cone Mill)
16 Gentle mixing in the GMS multiflux batch mixer
17 Automatic sack filling unit with empty feed, filling, closing, palletting, shrink-wrapping

Dust exhaust

18 Centralised or local dust filters

Automatic controllers and process control

19 Central control station with PLC mimic display, data input and operator HMI
20 Local control stations
21 Slam shot valve (explosion protection)

Safety

ATEX (ATmosphère EXplosible), explosion protection in accordance with Directive 94/9 EC and Directive 1999/92/EC

ISO 9001:2000 guarantees of consistent quality

Gericke is a sponsor of EHEDG
Customer consultation during the planning, implementation and commissioning of a system is very important to Gericke. It is essential to achieve the highest possible efficiency during production and to make the investment more economical. Our processes are continuously checked in accordance with the ISO 9001:2000 standard.

Key components are developed and manufactured by Gericke.
Raw materials receipt and discharge ...

**Big Bag discharge- and filling station**
Various options for filling or discharge and management of big bags. Loading stations with integrated scales and roller conveyors for transport of loaded bags.

**Sack tipping and feeding station**
Ergonomically designed bag feeding with integrated sifting equipment, magnets and nibblers for deagglomeration. The integrated or centrally positioned filters ensure a clean and safe working environment.

Dust-free infeed of products in processing lines is mandatory for hygiene, reduced contamination and explosion protection. Gericke supplies ergonomically designed bag chutes and big bag discharge stations with appropriate loading and removal of drums.

**Tanker vehicle discharge**
Mobile discharge systems for gentle and energy-efficient unloading of tanker vehicles.

**Discharger**
Turbex vibrating bin activators, RA or KAD discharge agitators reliably remove from silos and tanks, including poor flowing bulk materials.
Conveyor
Gentle conveying prevents abrasion, increases bulk density and degradation of particles. Slow conveying speeds between 3–15 m/s. Pulse-line system with automatic control of conveying air. Up to 80 m³/h and conveying distances up to 400 m.

**Distinctive features of pneumatic conveying systems:**
- Concentration (μ): indicator of the loading efficiency in the pipe
- Speed: stress on the conveyed material is higher with the increase in conveying speed
- Suction or pressure: types of process design of a pneumatic conveyor
- Product feed in piping: pressure or metering for optimum infeed of bulk materials into the piping and differential pressure barrier

**Rotary valve**
Conveying systems with rotary valves can be designed into pressure or suction systems. Flame containment.

**Pneumatic suction**
Compact system for short conveying distances and lifts. Conveying of products from drums, big bags or bag chutes. Filling of differential metering scales. Can be used as a vacuum scale.

**Diverter valves**
Plug diverter, rotating tube and flap diverter valves.
Diameters up to 300 mm.

**Elbow**
Significant reduction of abrasion of conveyed material and prevention of angel hair formation with the patented return chamber, which reduces turbulence and friction.
Feeding ...

**Volumetric metering feeders**
The bulk material is metered volumetrically with a metering spiral or screw. Homogenisers prevent the formation of bridges and a homogenous bulk materials feed into the metering unit.

![Volumetric feeding](image)

**Differential metering scales**
For continuous gravimetrically controlled loading of extruders, kneaders or continuous mixers. As batch scale for weighing products. The Easydos controller can be used as a flexible solution for all metering feeders and metering applications.

![Gravimetric feeding](image)

No powder, granulate and fibre behaves in the same way. Metering feeders supplied by Gericke can be adjusted precisely for the properties. For example:
- Metering currants, cherries and dried fruits
- Metering in tumblers for coating applications
- Metering in kilns with long helices
- Metering SAP (super absorber polymers)
- Metering powdered egg yolk
- Metering liquids (with pump or helix)

Gericke metering feeders are available for outputs ranging from 0.2 to 50 000 l/h.

**Belt Weighers**
Belt weigher for continuous weighing (metering conveyor scale) or registration (registration conveyor scale) of bulk materials. The bulk material passing over the conveyor belt is weighed for a defined distance and calculated and regulated by the process controller.
Mixing ...

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

**GBM single-shaft mixer**
Batch mixer. Horizontally designed mixing device. Universal mixer for low to medium energy input. Batch sizes from 40 to 4000 litres.

**GMS multiflux batch mixer**
Batch mixer. Horizontally designed double-shaft mixer with optimum blending in the fluidised zone. Low energy input resulting in gentle blending of fragile products with maximum blending homogeneity. Batch sizes from 80 to 4000 litres.

**GDM drum mixer (Mixomat)**
Batch mixer. Drum mixer for simple mixing tasks in the laboratory and production. Drum sizes from 30 litres to 400 litres.

Our mixers prepare 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.
Size reduction and sieving...

**NBS nibbler**
Nibblers effectively break up lump and agglomerates with riffles and rotating paddles. Screen size vary from 1 to 25 mm. Throughputs are up to 20 m³/h.

**CSM centrifugal sifter**
Control sifting, classification and removal of tramp material. CSM sifters are positioned either after receipt of raw materials or immediately at the inlet of filling plants. Inline sifters can be integrated into pneumatic conveying systems. The mesh size is 50 to 6000 μm. Depending on the type of machine outputs of up to 100 m³/h are possible.

**GCN cone mill**
Gericke cone mills have a vertically rotating beater. The holes in the conical screen vary from 150 to 10,000 μm.

Safety and reliability in the process by removal of foreign matter with sifters and final products without lumps with the nibbler.

Correct and efficient preparation of raw materials improves production reliability and ensures consistent quality.
Customer service taken literally. We have test labs in Switzerland, France, England and Singapore to conduct large scale testing for our customers. They are equipped with full scale machines with experienced technicians on hand to design tests to meet your requirements and to conduct the tests. Test reports are prepared for each trial including:

- Testing the capacity of plant components
- Development and testing of product innovations
- Confirmation of quality characteristics
- Determining product changes
- Designing processes
- Comparing different machines

This allows comparisons between continuous and batch mixing processes, or determines the increase in bulk density during conveying over 250 m.

A test with a nibbler or cone mill is often the first stage of improving a process.

Before running a test the exact objectives of the test are agreed with the customer and the nature of the test is specified.

Safety measures for ATEX zones can also be specified during tests. The results of laboratory tests are used in the development of innovative or improved end products and to significantly speed up the evaluation process in system planning. They provide increased investment security.
Gericke Service...

Guarantee for seamless production
As a Gericke customer you receive professional project management and a comprehensive range of services. Our service structure includes not only the test labs but also:

Hired machines
Hired machines can be integrated into an existing production process and performance can be monitored.

Assembly and assembly monitoring
Timely and correct installation of machines to form an effective system requires broad knowledge and accurate work. We take over the complex monitoring functions for you and manage the installation work.

Initial startup
Our specialists conduct the initial startup in stages. After mechanical and electrical inspection and comprehensive testing, the systems are run without product and the controller is tested. Then the system is started up for the first time in stages with product. Once production has started the system is further optimised.

Training
Operators are trained to operate the system correctly during or after commissioning. Training also includes care and maintenance of the system and accident prevention.

Service and maintenance
Immediate report, consulting and services are very important for us. The Gericke Group has more than 20 service engineers working around the world.

Spare parts service
Many machines have been operating reliably for more than 30 years. Our target is to be able to procure all parts for the duration of the service life of a machine to keep spare parts holding costs to a minimum.

Gericke are renowned for long-life and robust technology that ensures that your systems will continue to operate economically. For a very long time.