

COMPETENCE IN FEEDING AND DOSING

High-precision volumetric and gravimetric feeding of powders and granules, state-of-the-art controllers, integrated with your process, for all types of bulk materials, consistently meeting your accuracy requirements: That is feeding technology from Gericke.



FEEDING AND DOSING SOLUTIONS FOR BULK MATERIALS FROM GERICKE

Accurate and reliable feeding of bulk materials is at the heart of many processes. Whether feeding into a continuous mixer, an extruder, mills, reactor, rotary kiln or any other process, accurate metering of bulk solids is key to process control and ensures highest product quality standards.

With more than 125 years of experience in powder processing, Gericke offers a complete range of volumetric and gravimetric feeders for the smallest up to higher feed rates. From "A" to "Z", from activated carbon to zirconium oxide – in thousands of installations, worldwide. Gericke feeders have been used to feed the whole variety of bulk materials both accurately and reliably.



Easy to access, easy to clean

Cleanability is key to your process? You often change ingredients?

The EasyClean versions of our feeders fulfill high-end requirements in the chemical, the food and the pharmaceutical industry with a focus on a hygienic and easy-to-clean design.

Special execution for toxic or polluting materials, make sure that the powders are contained within the process.

Volumetric Feeding

High-precision volumetric feeding of bulk materials requires a well-designed feeder with an optimised geometry of feeding chamber and feeding screw. From sticky, cohesive powders to flushing powders – Gericke volumetric feeders are perfectly adapted to deal with even the most challenging bulk materials.



FEEDOS S Feeder



GUC-F Feeding Controller

Fully implemented with your automation

The Gericke Controllers simplify the configuration of your process tasks and integrate easily with any automation concept. You benefit from the combined experience of Gericke in machine design and process and automation competence!

Gravimetric Feeding

Gravimetric feeding combines volumetric feeding, advanced weighing technology and control. It delivers either a requested quantity as a batch (e.g. kg) or a constant mass flow (e.g. kg/h) continuously over time. In order to achieve a controlled feed rate the weight loss is continuously monitored by high-accuracy load cells and the speed of the feeding tool is adjusted accordingly. Besides an optimised mechanical design this also requires sophisticated load measurement and control technologies, which are an integral part of all Gericke gravimetric feeders.



High precision load cell



Process Integration

In many installations, feeders operate closely interconnected with up- and downstream equipment. Process integration as well as setup conditions, thus play an essential role, especially for the performance of gravimetric feeders. Based on our extensive experience in powder handling our engineers consider these factors already during the design and engineering phase to maximize the performance of Gericke feeders.

GERICKE HIGH-PRECISION VOLUMETRIC FEEDERS – FOR MAXIMUM PROCESS FLEXIBILITY

Gericke volumetric feeders combine a precise volumetric material flow and a high degree of flexibility. Often, they are the most economic choice for applications which do not require the exceptional accuracy of loss-in-weight feeders.

Why volumetric feeding solutions from Gericke?

- Highly precise metering tools, proven in many industries
- Suitable even for the most difficult to feed products
- Easy to clean where needed

FEEDOS Series

The FEEDOS Series combines high-accuracy volumetric screw feeding with a modular and compact design that allows for quick disassembly and easy cleaning. Its optimised geometry guarantees stable and reliable product flow - even for bulk materials which are difficult to handle, such as cohesive or easily fluidisable powders.

GDU Series

Gericke's GDU Series combines high-precision volumetric feeding with excellent residue removal. GDU feeders cover a broad range of applications in numerous industries due to their versatility. Whether it's about feeding free-flowing pellets or fine, cohesive powders – GDU feeders have proven their capabilities in thousands of installations.

GAC Series

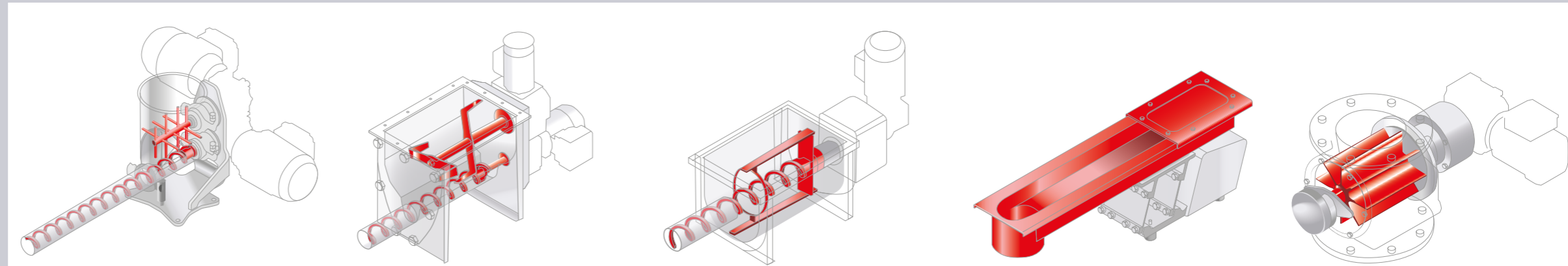
The GAC Series features a unique design with intromitter and feeding screw being concentrically aligned. Thus, even powders with the most challenging flow properties can be fed accurately and reliably. GAC feeders are especially suited for heavy-duty applications, for example, in the chemical and minerals industries.

Vibro Feeders

Vibro feeders use a combination of vibration and gravity to feed material. They are perfectly suited for light, coarse and fragile products such as tablets, dragees, granulates and flakes. They are easy to clean, and have no rotating parts.

Rotary Valves

A rotary valve consists of a cellular wheel with typically 8 - 10 pockets. This wheel rotates in a housing, feeding the bulk material. They are a common product in many powder handling applications, e.g. for feeding into a pneumatic conveying line or metering below a big bag station.

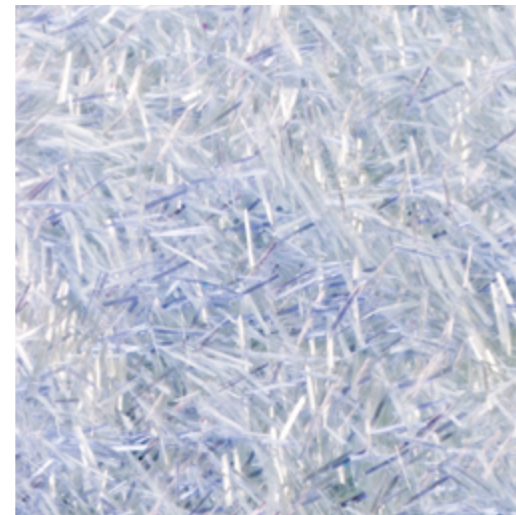


FEEDOS	GDU	GAC	Vibro	Rotary Valves
Feeding range: 0.5 – 3'000 dm³/h	Feeding range: 20 – 54'000 dm³/h	Feeding range: 3 – 37'000 dm³/h	Feeding range: 1 – 10'000 dm³/h	Feeding range: 100 – 50'000 dm³/h
Superior feeding accuracy, even for poorly flowing bulk materials	Optimised feeding chamber geometry ensures high feeding accuracy and low product residues	Feeding range can be easily adapted without changing the feeding chamber	High dynamic range	Works against pressure differences
Modular design – simple to dismantle and easy to clean	Robust and hygienic design	Intromitter and feeding screw concentrically aligned	No rotating parts, minimal component wear	Available in modular and extractable versions
Special versions for high containment, WIP or for use in isolators	Available with or without horizontal intromitter	High feeding accuracy	Gentle operation	Can be used as airlock, explosion containment, flame barrier and system isolation
Available with or without a horizontal intromitter	EasyClean version for fast and easy cleaning optionally available	Especially suited for heavy-duty applications	Easy cleaning	Very compact
High-end versions specifically designed to meet the demands of the food and pharmaceutical industry	Special version for feeding fruits and raisins	EasyClean version for fast and easy cleaning optionally available	Energy efficient	Also available in heavy duty execution for very abrasive products

FIT FOR ALL YOUR DOSING TASKS

By carefully analyzing your demands, Gericke offers feeding solutions which perfectly suit your process and your product, no matter whether it is powders, pellets or flakes. Our application experts have successfully realised solutions for the feeding of many types of bulk materials:

- free flowing (salt, corn, sugar, pellets)
- flushing (fly ash, gypsum, aerosil)
- fluidizable (cocoa, graphite, activated carbon)
- cohesive (titanium dioxide, tricalcium citrate, stearates)
- adhesive (pigments, carbon black)
- abrasive (quartz sand, silicon carbide, tungsten carbide)
- compressible (chalk)
- fragile (flakes, instant coffee)
- sticky (dry fruits)



MEETING ALL YOUR PROCESS REQUIREMENTS

Besides the product properties the process and environmental requirements vary from application to application. Among many others, Gericke feeders are successfully used

- for feeding into continuous mixers, mills and extruders
- for applications with high hygienic demands
- in the pharmaceutical industry
- in wastewater treatment plants
- for high-temperature feeding into rotary kilns
- to dose toxic, harmful or pollutant material contained and dustfree into the next process step



Gericke RotaVal Rotary Valves

For hygienic to extra heavy duty, our rotary valves are used in many bulk handling applications:

- Feed into a conveying line
- Safety and flame barrier
- Metering device

Our RotaVal range covers all the needs of these tasks. With modular heavy duty designs for very abrasive media all the way to the highest demands in food and pharmaceutical industries.

For more information, please visit gerickegroup.com/rotary-valves



GERICKE GRAVIMETRIC FEEDERS – DESIGNED FOR HIGHEST ACCURACY

Gericke's gravimetric feeders combine advanced volumetric feeders with precise load detection and sophisticated controls to guarantee the highest accuracy for all loss-in-weight applications. Special executions of our loss-in-weight feeders are available which consider the demands of the food, chemical and pharmaceutical industry.

WEIGHING SYSTEMS WITH DIRECT LOAD MEASUREMENT

A universal and compact weighing and feeding design does not need to come at the cost of reduced accuracy. Gericke's loss-in-weight feeders with direct load measurement present the most economic and efficient way to gravimetrically feed bulk materials.

PLATFORM-BASED WEIGHING SYSTEMS WITH DIRECT LOAD MEASUREMENT

Where high accuracy meets low feeding rates: In platform-based systems, the feeder is mounted on a high resolution weighing platform. The compact systems are easy to clean and built for industrial environments. The main applications are in the food and pharma industries, but can be adapted to any application where highest accuracy is a must.

HYBRID WEIGHING SYSTEMS WITH TARE-COMPENSATED LOAD MEASUREMENT

Gericke's gravimetric feeders with a tare-compensated weighing system are perfectly suited for applications where the emphasis is put on both high accuracy and exceptional robustness. Because the dead load of the feeder is mechanically compensated, the whole load cell range is available for measuring the weight of the bulk material only. Due to our unique spring-damper system, vibrations are filtered before they even reach the load cell. Thus, Gericke's hybrid loss-in-weight feeders are especially suited to feeding bulk materials with a low bulk density in challenging environments.



Why gravimetric feeding solutions from Gericke?

- Save money with accurate feeding!
- Different weighing principles always give you the perfect fit
- Perfect integration with your process and automation



Continuous Manufacturing of oral solid dosage pharmaceutical products

Our modular Gericke Formulation Skid GF Scombines high precision loss-in-weight feeders with a scientifically designed compact blender and integrated PAT solutions. The feeders use single or double screw feeding tools, depending on the application.

Gericke GFS continuous mixing process technologies are ideally suited to the new era of efficient solid dose pharmaceutical manufacturing. Our systems are fully developed, and in use at various sites and have been approved by customers and the FDA.

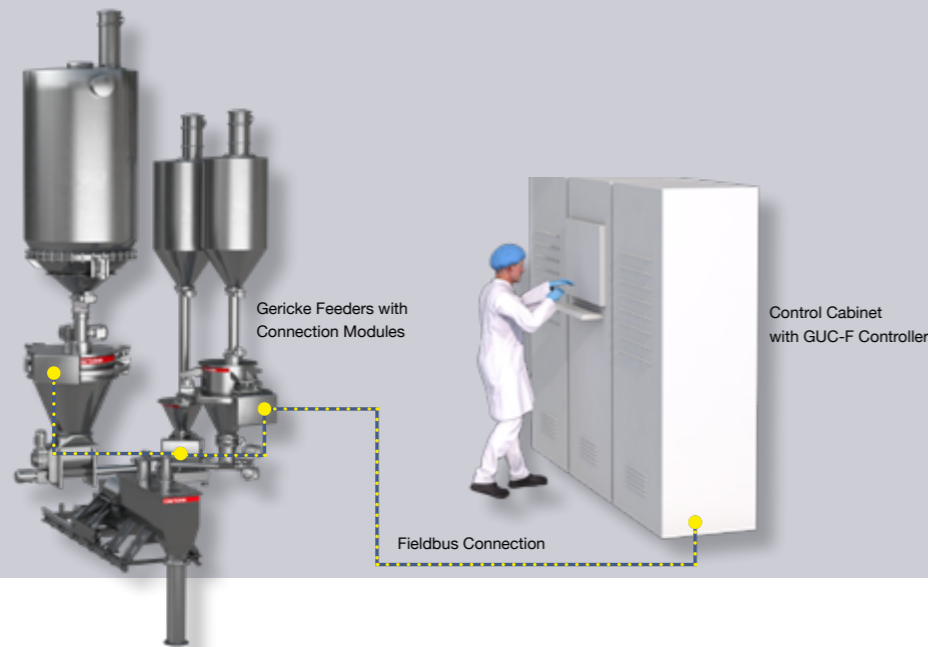
For more information, please see the separate brochure or visit www.gerickegroup.com/continuousmanufacturing

GUC-F – THE NEXT GENERATION OF FEEDING AND DOSING CONTROL

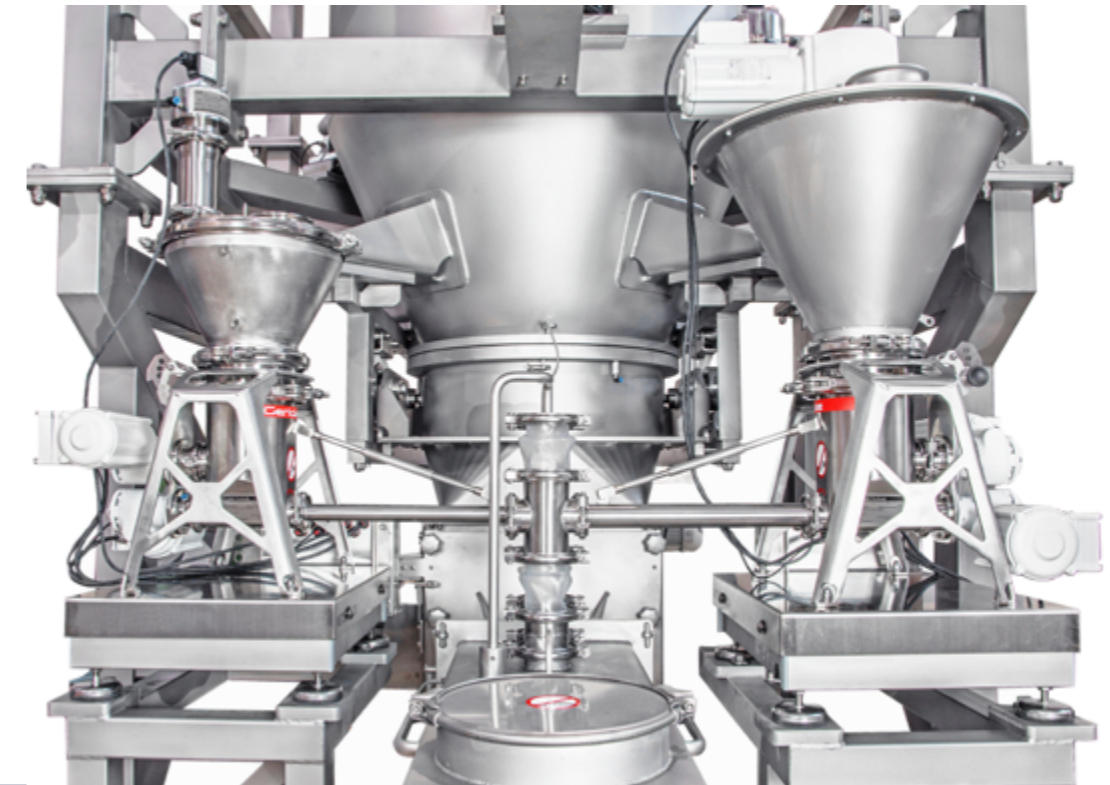


With the GUC controller family, Gericke moves the automation of powder handling processes to a new level.

- Capability: One control solution for dosing, feeding and weighing in all types of gravimetric and volumetric feeding applications, in continuous or batch production modes
- Savings: Control up to four feeders with one GUC controller
- Flexible: Buy one feeder complete with the new GUC-F controller and add up to three additional feeders at any time without the need to buy additional individual controllers
- Connectivity: Fully integrates with all state-of-the-art automation networks, supporting IoT functionality and predictive maintenance
- Full control: All aspects of feeding processes are combined in one unit, including refilling, greatly simplifying and reducing the time for automation setup
- Ultrafast processing and transmission of signals to closely follow our process (17 million internal weight divisions)
- Self-optimizing control algorithm (TrendTec) to achieve maximum accuracy even under demanding process conditions or during refill



TCM TURBO COMPACT MIXING



INTEGRATED FEEDING AND MIXING SOLUTIONS PERFECT FOR LATE PRODUCT DIFFERENTIATION

GERICKE's unique experience in continuous mixing and feeding has led to a new level of mixing solutions. With the TCM Turbo Compact Mixing it is possible to continuously feed gravimetrically and mix up to four streams with minimal space requirement and high feed precision.

Specifications and typical applications

- Continuous inline mixing of a principal component stream with up to 3 minor streams
- High capacity for up to 20,000 l/h
- End of line addition of critical products to upstream filling or extrusion line ; e.g. flavor, colorants
- Inline operation with downstream filling lines (bag, sachet, can, capsule) or compaction lines; recipe precision is proven even for frequent start-stop operation
- Fully automated with high precision gravimetric loss-in-weight feeders

Advantages

- Space (height) savings thanks to the very compact integration of feeding and mixing equipment
- Fast and gentle mixing
- Minimal equipment to clean, excellently suited to products which have to guarantee zero cross contamination allergen handling. Downtime due to dry cleaning is reduced by 90 %
- Complete disassembly allows for easy and fast cleaning. Even the mixing chamber is removable



TEST CENTRE

Tests on an industrial scale reduce planning time and increase process safety!

Test centers in Europe, Asia and the Americas are available for customer tests under near-production conditions with original machines. It is possible to test all types of volumetric and gravimetric feeders under real-life conditions. Experienced specialists design the test layout according to your wishes and perform the tests.

- Testing of machines and prototypes with your powders, flakes or granules
- Checking of performance ranges and accuracies according to NAMUR NA40
- Testing of the interaction of multiple machines
- Gaining of experience and know-how
- Sampling for laboratory tests and market response
- Customer training
- Remote test monitoring available, including video streaming

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