

Granulex® 5 Series.
Hammer Mill
Platform.

Global markets request. **The new benchmark in grinding.**

Bühler has been a leader in the grinding industry for more than 160 years. With our continuous investment in grinding technology and customer collaboration, we enable your business success by delivering higher performance with less energy, maintenance and waste than ever before.



Hammer Mill Granulex® 5 Series.

Advanced features in the all new portfolio.

The Granulex 5 Series hammer mill enables a giant leap forward in production throughput rates, energy efficiency, an optimal granulation profile and easier maintenance and operations across a range of industries.

Applications

The Granulex 5 Series is primarily used for demanding requirements in stringent industries. Grinding of raw materials from very coarse to fine grinding for animal feed, pet food, flour milling, brewing and general pre-grinding.

Mode of operation

The feeder is mounted on top of the hammer mill to obtain continuous and even feeding of the raw material into the grinding chamber. The integrated separator and magnet removes impurities such as stones and metal parts. The mill offers excellent access for screen and hammer exchanges through two large sliding doors. For safety reasons, the doors are interlocked with the rotor, the mill cannot be started as long as the doors are opened.

Product features

New flexible platform

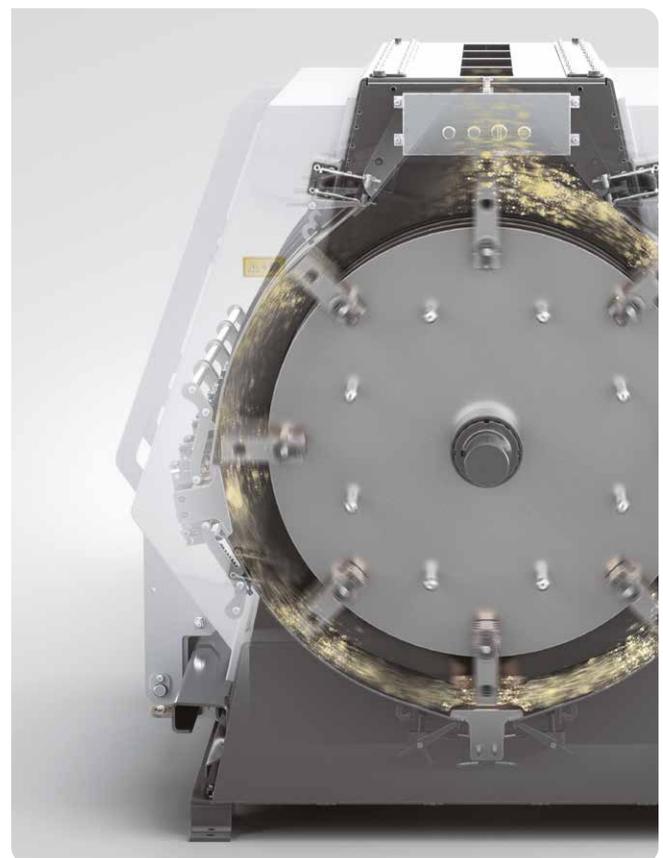
The Granulex 5 Series can be configured to precisely meet granulation needs with reduced energy consumption through optimization of modular elements.

Highest throughput ranges in Bühler world

Different machine sizes address a wide field of grinding line performances. With the Granulex 5 Series, Bühler doubles the capacity of its global grinding portfolio.

Operator-friendly design

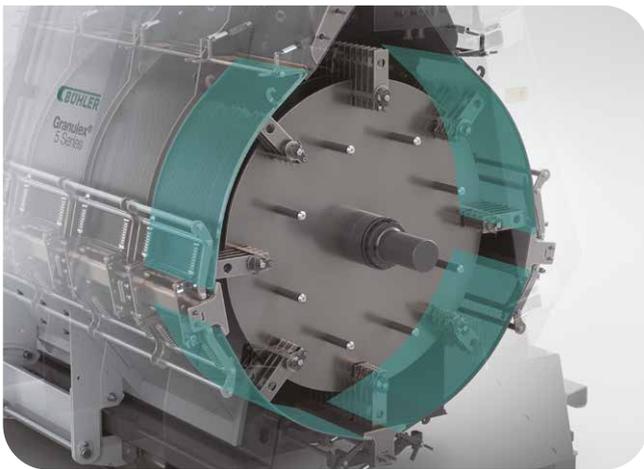
Features such as large sliding doors, simple rapid screen clamping system, and a smart hammer change process reduce maintenance efforts and downtime to an absolute minimum.



Customer benefits

- Reduced energy usage: >10% reduction in energy per ton of ground material
- Increased performance: >10% capacity increase through optimized modules
- Ease of use: 50% reduction in changeover speed – industry best

Hammer Mill Granulex® 5 Series. **Built to achieve best-in-class performance.**



A grinding chamber for top performance

The optimized design of the grinding chamber of the Granulex 5 Series hammer mills results in highly energy-efficient grinding. The newly aligned regrinding chambers ensure that the product is optimally returned to the hammers. A big plus for an optimal granulation curve. Unwanted fines are significantly reduced, and only the energy required for the desired grinding stage is fed into the process. Waste is a thing of the past.

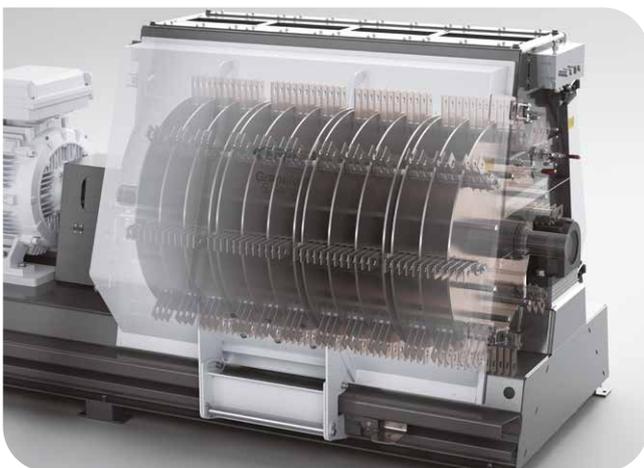
Highest throughputs with consistent quality

The concept of grinding chambers ensures quality regardless of the machine power. Through a linear increase in capacity, operators of a Granulex 5 Series hammer mill are able to achieve the same grinding result on different grinding lines with different machine sizes. Thanks to the configuration possibilities of motors up to 450 kW, the highest market demands regarding throughput capacities are satisfied.



The right setup for your application

Due to rapid changes and strong optimization pressure, higher demands are also placed on grinding lines. Accordingly, a hammer mill must be adaptable and be specifically designed for an application. A Granulex 5 Series hammer mill is configured specifically for its intended application. The many degrees of freedom in the configuration allow very detailed requirements to be met. Accordingly, no compromises are made in performance or quality.



Hammer Mill Granulex® 5 Series. The new benchmark in maintenance.



Operators need quick access to their machine

The large sliding doors guarantee unobstructed access to the grinding chamber, which can be serviced while standing at an ergonomically optimized height. All components are easily accessible, making maintenance and replacement of wear parts a breeze. Even on very large machines, the doors can be manipulated with ease by a single person. The Granulex 5 Series hammer mills are a friend to any maintenance technician.

No time to lose when changing the hammer

Replacing wear parts in continuous production processes means a standstill of the production line. This time must be kept as short as possible. Enter the Granulex 5 Series hammer mills. The patented Bühler hammer cages can be easily inserted into the machine with one hand. Packages are defined directly by the cages and can be prepared and fed into the machine in the shortest possible time.



Changing screens – a breeze

All Granulex 5 Series hammer mills have the same sieves installed. Accordingly, operators only need to manage one item. Removal and reinstallation of sieves is carried out via a specially designed quick-release device. This allows removal and installation of a screen within seconds. Access to all sieves of any machine size is first-class and at the best working height. In addition, the screens, which tend to be small, are light and very easy to handle.

Grinding is of central relevance in many process chains and has a direct impact on the final quality of products. For this purpose, we develop solutions for changing, demanding markets in our global innovation centers together with partners and customers.

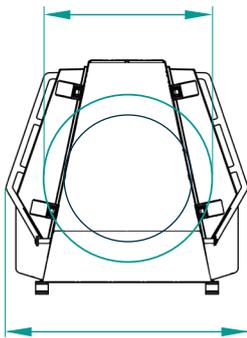


Hammer Mill Granulex® 5 Series.

Flexible configuration options by modularity.

Rotor diameter

Depends on the application such as fine or coarse grinding, as well as on the mains frequency

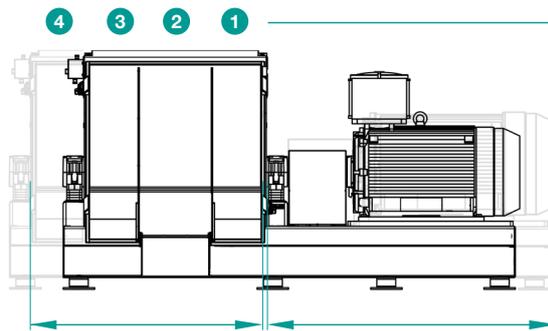


Machine width

Machine width is not variable.
Width: 2100 mm

Modular machine size

Various sizes of grinding chambers and motors according to your application



Grinding chambers

Number of chambers is defined by required machine throughput at a certain granulation

Machine base

Variable length, according to hammer mill configuration and motor size

Machine type

- 1 Chamber = Granulex 5 –1xx
- 2 Chamber = Granulex 5 –2xx
- 3 Chamber = Granulex 5 –3xx
- 4 Chamber = Granulex 5 –4xx

Hammer Mill 50 Hz – size Granulex 5 (name)

	1 Chamber (110-N) (130-F)		2 Chambers (210-N) (230-F)		3 Chambers (310-N) (330-F)		4 Chambers (410-N) (430-F)	
Diameter (mm)	1111	1328	1111	1328	1111	1328	1111	1328
Screen Area (m ²)	1.0	1.22	2.0	2.45	3.0	3.67	4.0	4.9
Motor size (kW)	55–90	75–110	132–200	160–250	200–315	250–355	315–400	355–450
Motor speed (rpm)	1500	1500	1500	1500	1500	1500	1500	1500
Throughput (t/h)*	up to 30	up to 10	up to 60	up to 20	up to 90	up to 30	up to 120	up to 40

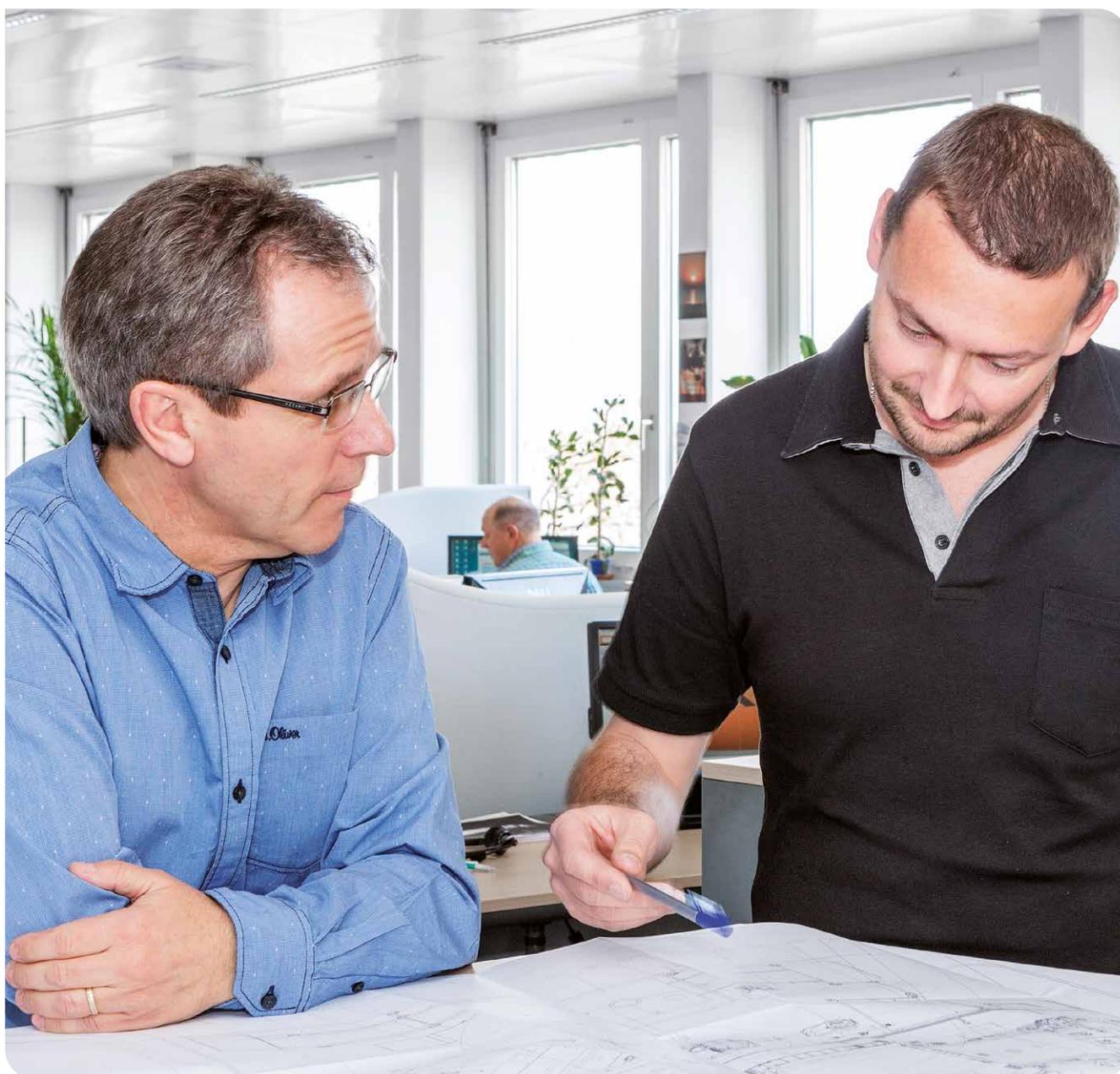
Hammer Mill 60 Hz – size Granulex 5 (name)

	1 Chamber (130-N) (110-F)		2 Chambers (230-N) (210-F)		3 Chambers (330-N) (310-F)		4 Chambers (430-N) (410-F)	
Diameter (mm)	1328	1111	1328	1111	1328	1111	1328	1111
Screen Area (m ²)	1.22	1.0	2.45	2.0	3.67	3.0	4.9	4.0
Motor size (kW)	55–110	75–110	132–250	132–200	200–355	200–315	315–450	315–400
Motor speed (rpm)	1200	1800	1200	1800	1200	1800	1200	1800
Throughput (t/h)*	up to 33	up to 8	up to 65	up to 16	up to 100	up to 24	up to 132	up to 32

* Depending on raw material and required granulation, consult with technology documentation.

Service for demanding customers. **Available worldwide, reliable and fast.**

Perfection is achieved when your production process is aligned with the best possible outcome. Enabled by an integrated approach that combines process expertise, equipment know-how and data, we at Bühler aim to get the most out of your assets.





Lab services

The laboratories offer a broad range of analyses and testing of food and technical materials in order to innovate processes and improve equipment for our customers.

Spare and wear parts

Highest standards of reliability apply to original Bühler spare and wear parts. They are perfectly adjusted and ensure performance and production safety.

Training

At Bühler training centers – or at any site worldwide – specially trained experts pass on their hands-on expertise and knowledge to customers' employees.

Revision

Bühler evaluates, over hauls, adjusts or renews customer installations, including Bühler and non-Bühler machines.

Consulting

Strategic, plant performance, or energy consulting are just some of the consulting services to improve product quality, production processes and energy efficiency.

Repairs

Dedicated to minimizing downtime in the event of an incident: Fast and reliable technical repair service via the Bühler eTicket or the Bühler Helpline – worldwide, 24/7.

Maintenance

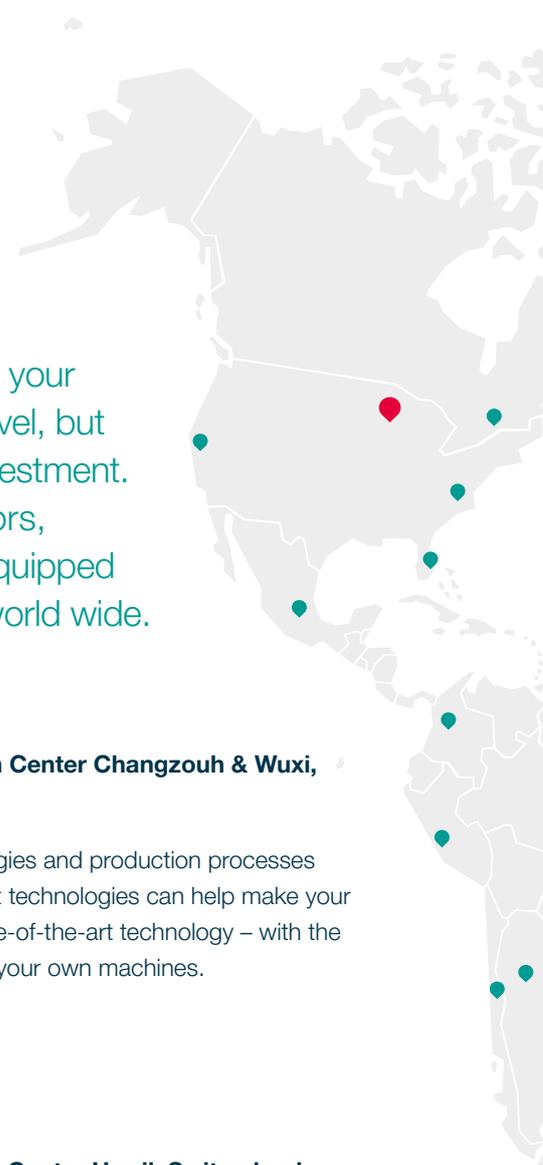
Packages are adjusted to fit production cycles to prevent downtime, loss in production efficiency or product quality, ranging from individual services to complete outsourcing of maintenance.

Retrofits

With individual upgrades and conversion kits, time-worn Bühler machines will perform to current standards of technology and efficiency.

Global expertise. Local presence. **A lifetime of customer service.**

Bühler customer service provides assistance not only to keep your machines, plants and facilities running at a high operational level, but also to prolong their service life, thus maximizing return on investment. You can test new products, shapes, recipes, textures, flavors, technologies and optimize your production process on fully equipped production lines and laboratories at our Application Centers world wide.



Nutrition Application Center Changzouh & Wuxi, China

Test our new technologies and production processes and see how our latest technologies can help make your products. We use state-of-the-art technology – with the possibility to integrate your own machines.



Grinding Application Center Uzwil, Switzerland

Our Grinding Application Center is a multi-purpose lab, where you can conduct tests on food and animal feed. In our Grinding Application Center, we have fully equipped production lines, where we run trials on a laboratory scale, but also use industrial-size equipment under real operating conditions.



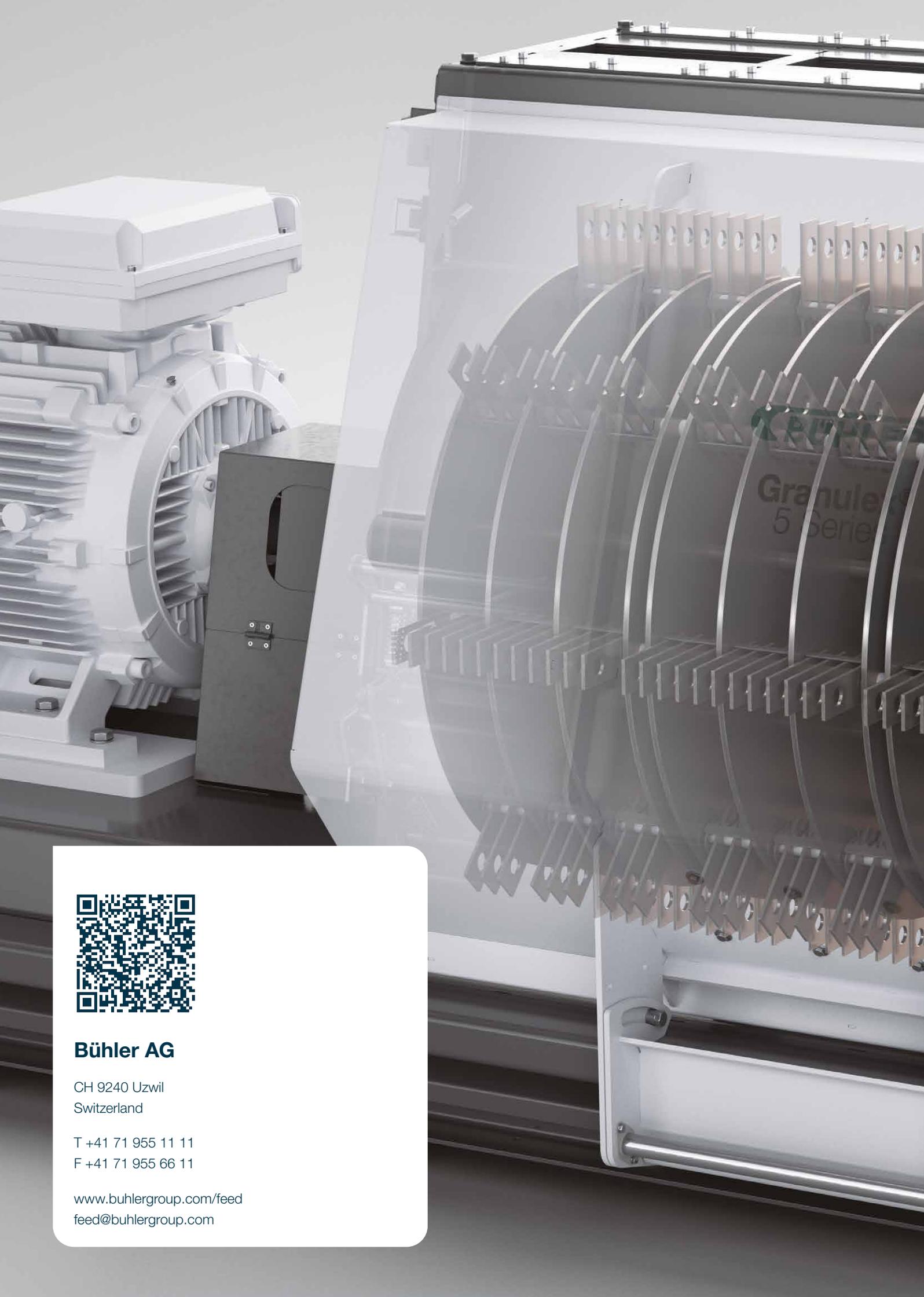
Grinding Application Center Minneapolis, USA

The Grinding Application Center (FAC) is the playground that exemplifies our vision for the Future of Food in Minneapolis. Developing new ways to transform peas, chickpeas, beans, corn, oats, special grains and many other sources of alternative proteins, into flours, flakes, snacks, pasta, breakfast cereals, meat analogs, and a myriad of extruded products together with you.



Customer advantages.

- With specialist manufacturing and service locations all around the world, our support engineers and technicians are never far away, ready to help you resolve issues or take a proactive role in improving the overall performance of your facility.
- Join a seminar or let us train you in person. We run several workshops a year for theoretical and hands-on training. These can also be conducted at the Application Centers or at your production site.
- Work across multiple application centers to optimize all processes through the production line (e.g. grain technology and milling solutions) and develop end-to-end solutions.



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