

Process Equipment



POWDER PROCESSING EQUIPMENT
FOR THE PHARMACEUTICAL, CHEMICAL
FOOD AND ENVIRONMENTAL INDUSTRIES

About Kemutec

Kemutec is part of the [Schenck Process Group](#), supplying custom engineered process solutions for powders used in the Food, Chemical, Pharmaceutical and Environmental Industries.

Industries Served

Kemutec provides Powder Processing Solutions across many industry applications including:

Food

- Flour Sifting
- Sugar Grinding
- Dairy Powder Deagglomeration
- Cocoa Mixing
- Cookie Rework

Chemical

- Clay & Mineral Screening
- Metal Powder Blending
- Classifying of EPS (Expanded Polystyrene Beads)
- Classifying of SAP (Super Absorbent Polymers)

Pharmaceutical

- Dry & Wet Granulation
- Tablet Reclaim & Rework
- Dry Ingredient Blending
- Ingredient Check Sifting

Environmental

- Sorbent Grinding
- Frac Sand Screening
- Recycling of Glass Beads
- Reclaiming of Gypsum Board



Kemutec Technology Centres

We back up our solutions with process guarantees, confirmed through years of experience and product proving trials in the Kemutec Technology Centre.

Located just outside of Philadelphia, PA, and Poynton, UK, the Kemutec Technology Centres offer customers an opportunity for process development and proving trials with principle processes including:

- Sifting & Screening
- Milling & Grinding
- Mixing & Blending



Supporting the testing services, Kemutec has a laser particle size analyzer to facilitate accurate size determination of both the feed and processed test materials.

Rental Equipment

Kemutec offers a range of rental equipment to enable you to test at your site. This is particularly desirable when the process application needs to take place while the product is in a specific condition or when it requires a high degree of containment.



After Sales

Our service knowledge stretches beyond the nuts and bolts of the machine and into the process parameters needed to fully understand your maintenance and service requirements.

We have many years of experience in repairing and servicing many types of process equipment including:

- Universal and Air Classifier Mills
- Mixers
- Centrifugal Sifters
- Valves

We have recommended spares lists for most equipment or we can assess your needs on a case-by-case basis. Our range of Kek, Gardner, and PPS replacement parts are manufactured to our highest standards and to the original specifications.

We carry extensive records of all our machines supplied, as well as historic information on previous spares requirements.



Kek Centrifugal Sifters

The Kek Centrifugal Sifter is recognized as the leading industry high capacity sifter, providing unparalleled performance and user benefits to customers who expect the best.

Fitted with a standard Cantilever Shaft, the Kek Centrifugal Sifter delivers not only the best standards of hygiene and cleanliness but also unsurpassed reliability with minimal maintenance requirements.



Features and Benefits

- Cantilever Shaft
- 30 Second Screen Change
- No Oversized End Bearings or Seals
- Hinged Oversized End Door
- Easy Access for Cleaning and Maintenance
- Hygienic Design

High Efficiency Sifting

Principle Processes

- **Policing** - removal of extraneous material
- **Scalping** - removal of small percentage of oversize product
- **Classification** - separation by size
- **De-dusting** - removal of fines
- **Conditioning** - provides uniform density for easy flow
- **De-agglomeration** - breaking of soft lumps and agglomerates
- **Liquid Straining** - Removal of excess liquid from solid products

Typical Optional Design Features

- Drive arrangement
- Hazardous area electrics
- Pressure rated design
- Gas inerting
- CIP capability
- Special metals and alloys for construction
- High containment machines
- Screen protection or trash traps
- High containment and dust-tight connections



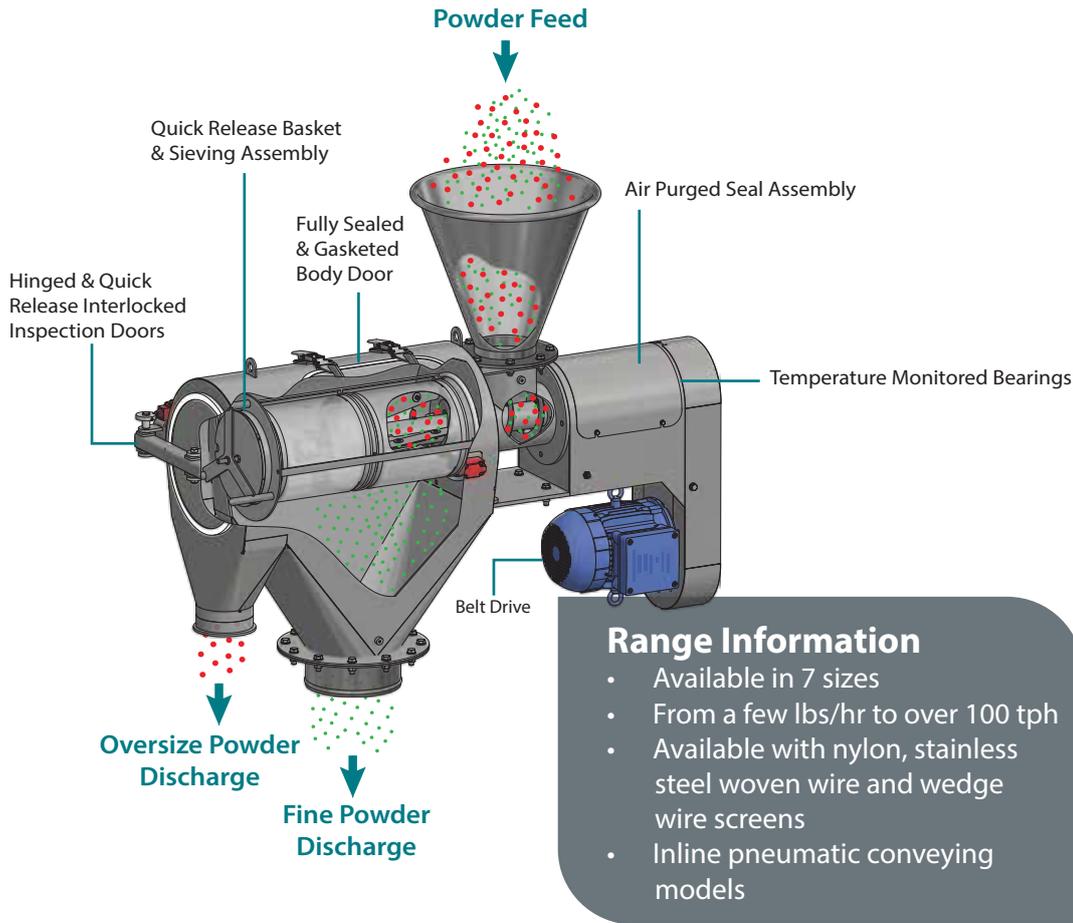
Kek K1350 Sifter for High Capacity Continuous Processing



Kek K300 Sifter with Integral Control Panel



Kek K300C Sifter for Lower Capacity Applications



30 SECOND SCREEN CHANGE

Special Applications and Designs

- Recovery of Products from Packaging
- De-Agglomeration of Raisins and Other Dried Fruits
- In-Line Vacuum Conveying Centrifugal Sifters
- In-Line Positive Pressure Pneumatic Conveying Centrifugal Sifters
- Powder Paint Spray Booth Recovery
- Flour Sieving Using Kek Centrifugal Sifters
- Kek 'Insertable' Mini Sifter
- Extruder Protection

Please request Data Sheet for full details

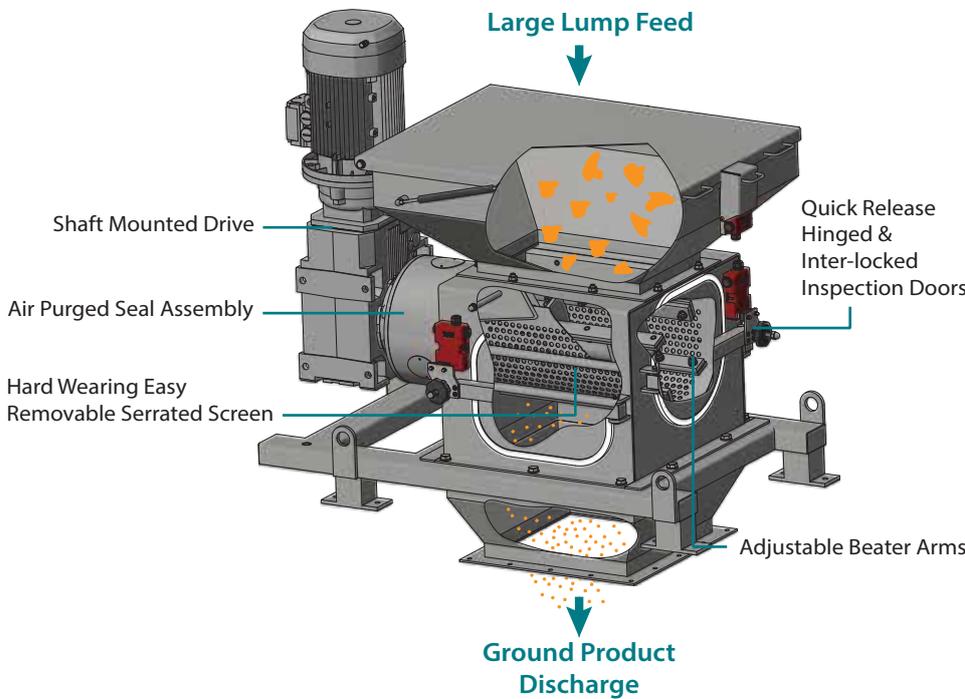


Kek Kibblers

Strong and robust, the Kek Kibbler is designed to grind large lumps of up to 6" (150 mm) and reduce them to 1/8" (2-3 mm) in preparation for further processing. The Kek Kibbler pre-breaker mills are designed to work in conjunction with other Kek mills or as stand-alone mills. Size reduction takes place through a combination of impact, crushing, cutting and abrasion as the slow speed, heavy-duty beater sweeps product against the contoured grinding screen. Available with cantilever shaft grinding beaters, the Kibbler is ideal for food, pharmaceutical, and fine chemical applications.

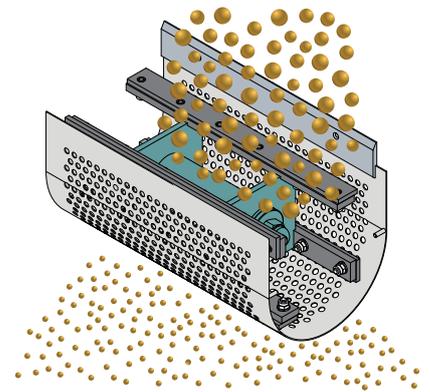


Coarse Grinding and Pre-Breakers



Features and Benefits

- Heavy Duty Lump Breaker & Pre-Breaker
- Slow-Speed, High Torque Size Reduction
- Cantilever Shaft Design Available
- Easy Access for Cleaning
- Quick Screen Changes
- Minimal 'Fines' Generation
- Strong and Robust Construction
- Minimal Heat Generation
- Control of Milled Particle Size Through Screen Selection
- Quiet Operation



Range Information

- Available in 4 sizes
- Grinds from approx. 6" to 1/8" (150 mm to 2-3 mm)
- Screens range from 1-1/4" to 1/8" (30 mm to 3 mm)
- Wide range of grinding screen size/type and interchangeable beaters to suit a variety of process requirements



View of Cantilever Shaft and Hinged End Door

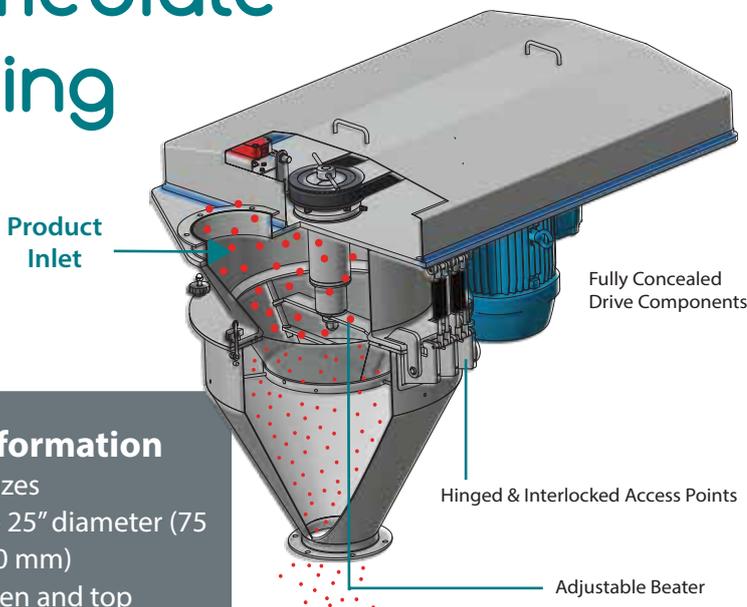


M303C Kibbler with Hinged Side and End Doors

The Kek Cone Mill is recognized as an intermediate energy mill and one of the most versatile size reduction machines in the powder processing industry. Its ability to process a wide range of feed material and produce an equally wide range of product make it ideal for sizing in both wet and dry granulation processes. The Kek Cone Mill provides a gentle, low energy form of size reduction and eliminates traditional milling problems including noise, dust and heat generation. The gentle grinding action is capable of control within fine limits while maintaining a close particle size distribution with minimal fines generation.



Versatile Intermediate Grinding



Range Information

- 7 model sizes
- From 3" to 25" diameter (75 mm to 640 mm)
- Underdriven and top driven models available
- Belt, gearbox and direct motor models available

Features and Benefits

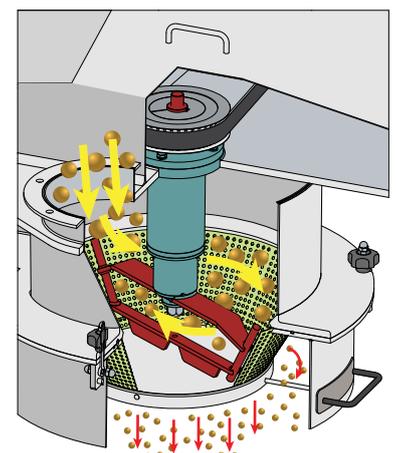
- **Process Versatility:** Through variable speed, cone hole shape and size, and rotor gap
- **Patented Rotor Gap Adjustment:** No loose spare washers
- **High Efficiency:** Virtually all energy input is utilized in the size reduction process
- **Gentle Grinding Action:** Allows uniform size distribution with minimal fines
- **Low Heat Generation:** Essential when milling fatty, sticky or heat sensitive products
- **Low Dust Levels:** No need for air filtration and reduces installation costs
- **Particle Size Range:** D50 from 500 μ to < 250 μ



680 Delumping Cone Mill



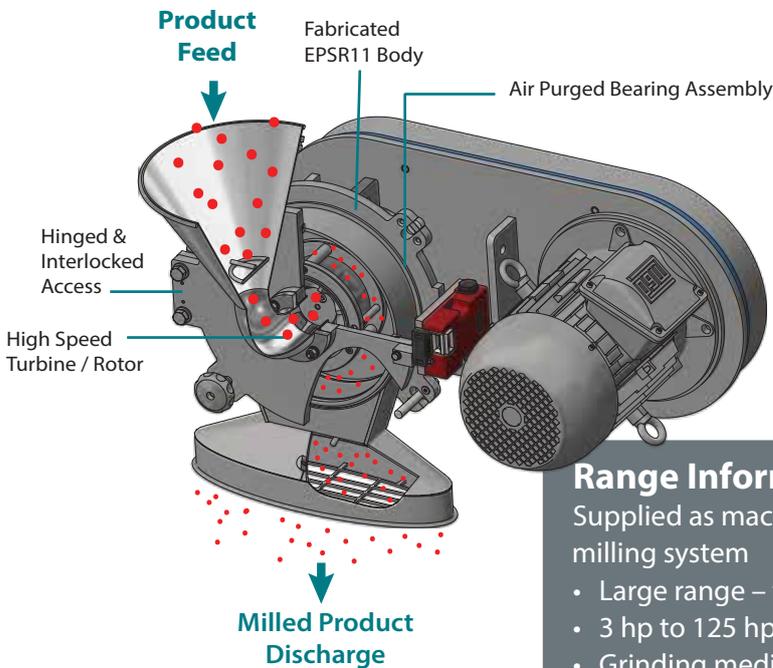
Kek 120 Cone Mill



The Kek Universal Mill is designed for high- performance fine grinding, versatility and safety. Available with various interchangeable grinding media, this mill offers unsurpassed high energy, one-pass size reduction. It ensures a controlled size reduction with a high degree of fineness, typically grinding with a milled particle size range D50 of 100µ to 20µ. A full range of models is available to suit a variety of processes and throughput requirements. The superior design allows for versatility of integration, easy access, trouble free maintenance and effective cleaning.



High Energy One-Pass Fine Grinding



Features and Benefits

- Interchangeable grinding media for maximum process performance
- High energy for superior fine grinding
- Milled particle size range down to a D50 of 100 to 20µ
- Can be custom integrated into systems for maximum design flexibility
- Closed-loop "Airless" milling for minimal moisture absorption
- Temperature controlled and cryogenic grinding available

Range Information

- Supplied as machine only or complete milling system
- Large range – from lab to production
 - 3 hp to 125 hp
 - Grinding media options include turbine and screen, pinned disc, and rib track



Kek Closed Loop Sugar Milling System



Pilot Plant Universal Mill

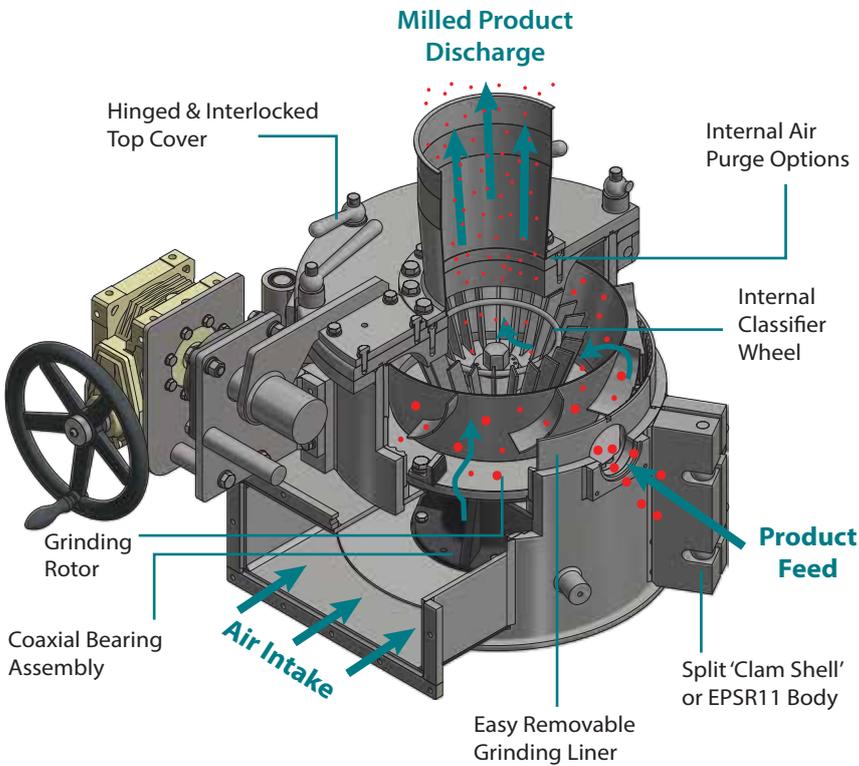


Kek 2H Mill in Carbon Steel

The PPS Air Classifier Mill incorporates an internal air-classifying wheel with an independent drive giving precise control over “particle cut point” selection. Suitable for batch processing or continuous operation. This range of mills serves all industries producing fine powders where control of grinding temperature and particle size distribution are of primary importance.



Controlled Ultra Fine Grinding



Features and Benefits

- High energy controlled grinding
- Temperature controlled grinding
- Tight particle size distribution
- Easy to clean with unique side opening design
- Easy to adjust particle size output
- Integral classifier for a fine powder

Range Information

PPS Air Classifier Mills cover extensive sizes and options:

- 11 model size range, from lab thru large production mills
- 5 hp to 400 hp main drives
- Typical milled particle size range down to a D50 of 5 to 10 μ



PPS 7 CMT Air Classifier Mill



Top Mounted Classifier



PPS 10 CMT Air Classifier Mill

Kemutec offers an extensive range of Gardner Mixers and Blenders. With over 150 years of experience, we can provide solutions for all powder blending applications.

Gentle to High Intensity Powder Blending

Ribbon Mixers

L Series U-Trough Ribbon Mixers

Designed with hygiene in mind, the L Series U-trough Ribbon Mixer is perfect for small batch applications. This neat and compact range of mixers is supplied with working capacities of 35-400 liters. A large, hinged lid and all-around access to the outlet makes for easy filling and emptying.

HE Series U-Trough Ribbon Mixers

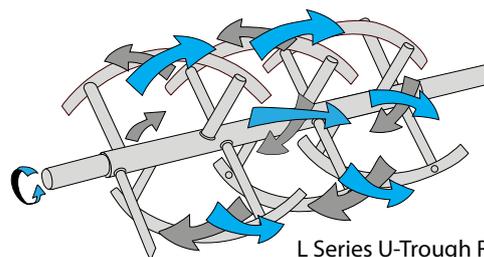
Capacities range from 100 to 20,000 liters. HE Series U-Trough mixers have an unconventional short aspect ratio (length to diameter) mixing troughs. Short mixing times combined with low energy, gentle action, and high efficiency ensure that minor ingredients are dispersed homogeneously without the need for pre-mixing.



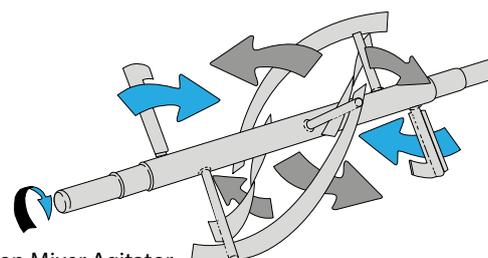
Range Information and Customization

Gardner Mixers and Blenders cover extensive sizes and options:

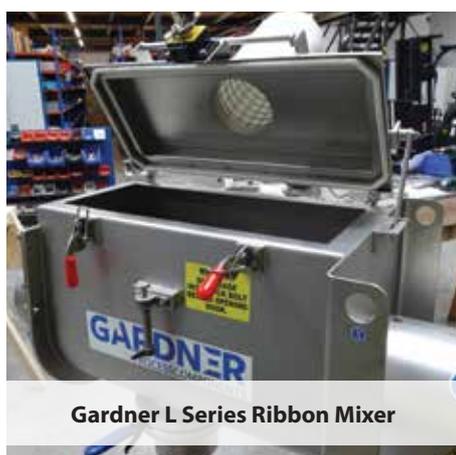
- Batch processing
- Continuous processing
- Jacketed vessels for heating and cooling
- Liquid addition option available
- Variety of discharge valves, including "no dead-pocket"
- High-shear choppers and intensifiers
- Cantilever shaft option for hygiene



L Series U-Trough Ribbon Mixer Agitator



HE Series U-Trough Ribbon Mixer Agitator



Gardner L Series Ribbon Mixer



Range of Gardner HE Ribbon Mixers



Gardner 18,000 Liter HE Ribbon Mixer

Plow Mixers

PE Series High Intensity Plow Mixers

High energy, high shear, high speed plow type mixers with cylindrical short aspect ratio mixing chambers.

Extra shear can be achieved by adding side cutters or intensifiers. Alternative trough shapes are available to suit specific application requirements. Capacities range from 50 to 50,000 liters

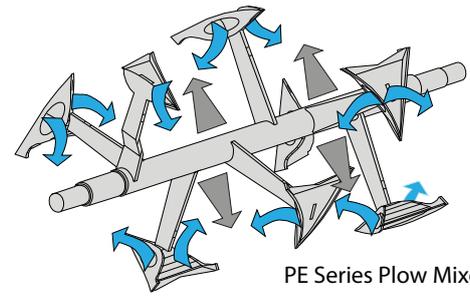
Continuous Mixers

Based upon the tried and tested agitator designs of batch Mixers, Kemutec offers a range of continuous Gardner Mixers, custom built to meet individual process requirements.

Typical capacities are 50 to 20,000 liters per hour with aspect ratios of 4:1 or more. An adjustable overflow weir plate is fitted at the discharge end and the agitator is biased to promote flow towards this end while ensuring that the dwell time is adequate for the process.

Double Cone Blenders

The gentle, low energy tumbling action of the Double Cone Blender is ideal for blending the most delicate and fragile products and for mixing very heavy and abrasive products. Typical capacities are 2 to 10,000 liters per hour, the Double Cone Blenders feature our unique multi-shear deflector plates in the centre of the vessel. They can also be designed and built as processors for sterilizing and drying.



PE Series Plow Mixer Agitator

Vertical Mixers

The Gardner Vertical Mixer is fast, accurate and versatile and is particularly suited to the mixing of free flowing, heat sensitive or fragile products.

Features

- Easy access for cleaning and maintenance
- Available in a range of sizes from 100 to 25,000 liter capacity
- Low energy, gentle mixing action with minimal heat generation
- Rapid mixing with fast and full discharge guaranteed
- Minimum wear even when processing highly abrasive materials



Gardner Vertical Mixer



Gardner Plow Mixer



Gardner Continuous Mixer



Gardner Double Cone Blender



Schenck Process UK Ltd
Rupert House
London Road South
Poynton
Cheshire
SK12 1PQ
United Kingdom

T: +44 (0) 1625 412000
F: +44 (0) 1625 412001

sales@kemutec.com
www.kemutec.com

Kemutec B.V.
The Netherlands

T: +31 (0) 653 86 77 06

sales@kemutec.com
www.kemutec.com