Kek-Gardner
Powder Processing Excellence

Powder Processing Equipment & Systems

Sifters

Grinding Mills

Mixers

Blenders

Powder Processing Solutions

Capabilities

Kek-Gardner's key objective is to supply solutions based equipment and systems to meet the needs of the Food, Pharmaceutical and Chemical industries. Whether the process be Sieving, Mixing, or Size Reduction, Kek-Gardner has extensive expertise gained over many years under the brand names of PPS, KEK, & GARDNER, positioning the company as a complete solutions provider.

Units & Packages

Unit Machines

Kek-Gardner's equipment range covers:

KEK	Centrifugal Sifters
KEK	Size Reduction Mills
PPS	Air Classifier Mills
GARDNER	Mixers & Blenders

Process Packages

Kek-Gardner can expand its equipment scope to include any or all of the following functions as part of a Process Package:

- Mechanical Design Engineering - Including Design Specifications, CAD and 3D modelling
- Electrical Design Engineering - Including Control & Software
- Process Design Engineering - Including Product testing
- Process Validation - Including IQ, OQ and PQ
- Instrumentation Engineering - Including P & ID's
- Factory Acceptance Tests
- Mechanical & Electrical Installation
- Commissioning and Handover to Client

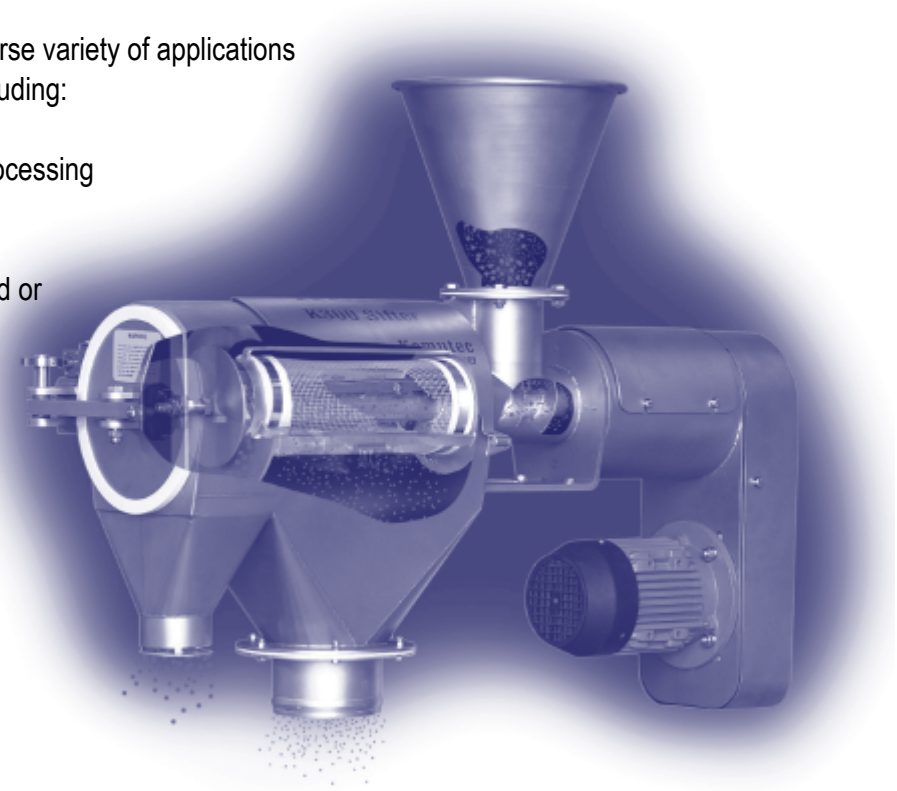
Kek Centrifugal Sifters

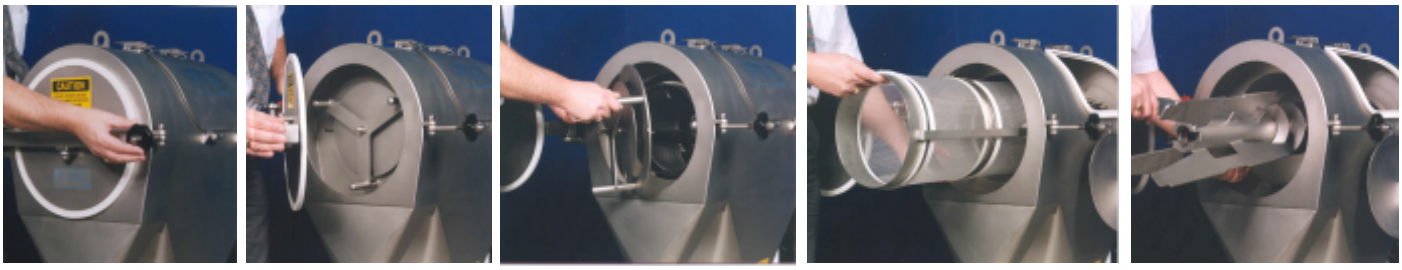
"Easy Clean" Cantilever Design Sifter

The ATEX zone 20 internal type certified Cantilever design KEK Centrifugal Sifter is based on the tried and tested KEK Centrifugal Sifter range. The Cantilever design offers users high standards of hygiene and ease of operation.

Centrifugal Sifters are suited to a diverse variety of applications throughout the process industries including:

- Policing raw materials prior to processing
- De-dusting of re-ground product
- De-watering / liquid removal
- Reclaim of product from damaged or out-of-specification packages
- Classification
- De-agglomeration
- Bulk conditioning
- Scalping
- In-line sifting





Typical Applications

Albumen	Icing Sugar	Alginate	Insecticides	Rice
Aluminium Hydrate	Iron Powder	Ammonium	Lactose	Soap
Apple Powder	Lavender	Aspirin	Colours	uPVC
Barium Sulphate	Limestone	Barley	Maize	Bran
Bentonite	Metallic Salts	Bone Meal	Milk Powder	Oats
Bread mix	Oxides	Carbonates	Phosphates	Egg Powder
Casein	Pigments	Cellulose Powder	Potato Granules	Nitrates
Ceramic Powder	Chlorides	Salt	Citric Acid	Whey Powder
Flour	Clay	Soya	Cocoa Cake	Spices
Borax	Stearates	Copper Powder	Sulphates	Cornflour
Chlorates	Talc	Detergents	Titanium	Resins
Dyes	Wheat	Yeast	Food Additives	Gravy Powder

Kek Kibblers

KEK Kibbler Pre-breakers are designed to work in conjunction with other KEK mills or as stand alone coarse grinding mills in their own right.

KEK Kibblers accept lumps up to 150mm dia. and reduce them to 2 – 3mm within a narrow particle size distribution and with minimal fines.

Typical rates range from 2 to 25 tonnes/hour dependant upon the materials concerned.

Typical Applications

Rusk	Liquorice Blocks
Gum Karaya	Chocolate
Nuts	Digestive Biscuits
Gum Arabic	Agglomerated Sugar
Sodium	Ammonium Chloride
Charcoal	China Clay
Titanium Dioxide	Coal / Coke
Resin	Pitch
Detergent Lumps	Wax
Soap	Citric Acid

Kek Cone Mills

KEK Cone Mills are specifically designed to meet the needs of today's Food, Dairy and Pharmaceutical Industries.

Cone milling is a gentle, low energy form of size reduction, ideal for fatty, heat sensitive, sticky, moist or fragile products.

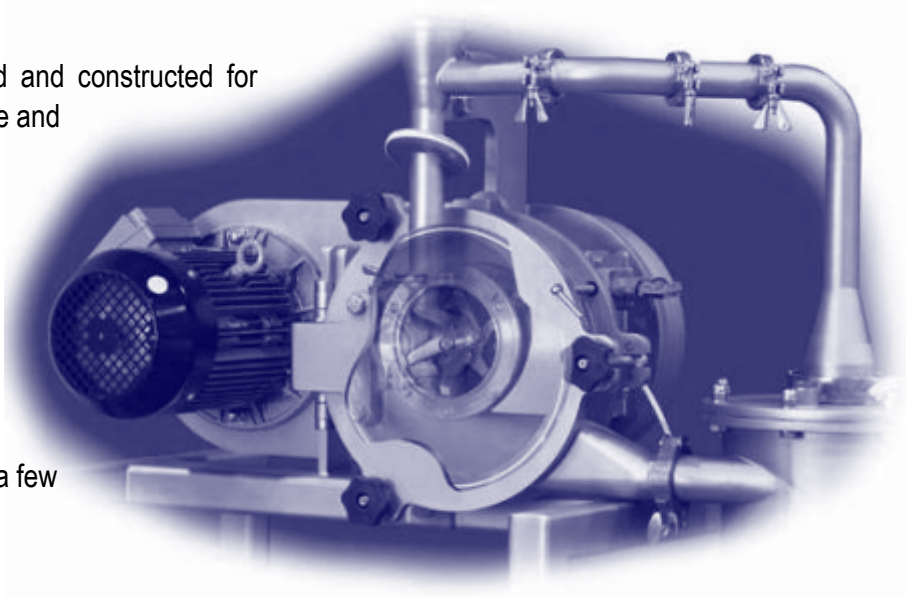
It alleviates traditional milling problems of noise, dust and heat generation.

The gentle grinding action of KEK Cone Mills, capable of control within fine limits, maintains a close particle size distribution with minimal fines generation, typically grinding from 25mm to 250µm.

Typical Applications

Reclaim of damaged biscuits	De-agglomeration of milk powder	Wet & Dry granulations
Size reduction of extruded bran	Breaking of filter press cake	Dispersion of soap granules
Coarse breaking of hazelnuts	Breaking agglomerated detergents	Size reduction of breakfast cereals
Crumbling of fresh bread	Pre-dispersion of pigments	Homogenized sizing of flakes
De-agglomeration of brown sugar	Tablet Reclaim	

Kek Universal Mills



KEK fine grinding Universal Mills are designed and constructed for high performance, robustness, easy maintenance and safety in use.

Construction can be of cast iron, cast steel or stainless steel and, where required, can be designed to withstand over pressure situations of up to 10 bar g.

A range of models are available to suit a variety of processes and throughput requirements from a few kgs to several tons per hour.

Typical requirements are to grind materials of up to 3 Moh hardness to 30 – 500µm mean particle size.

Features

- Fine Grinding to average particle size of 15µm
- Easily accessible and interchangeable grinding medium (pin disc, turbine and screen)
- Adjustable mill speed
- Choice of bottom or involute discharge
- Option of explosion proof design

Benefits

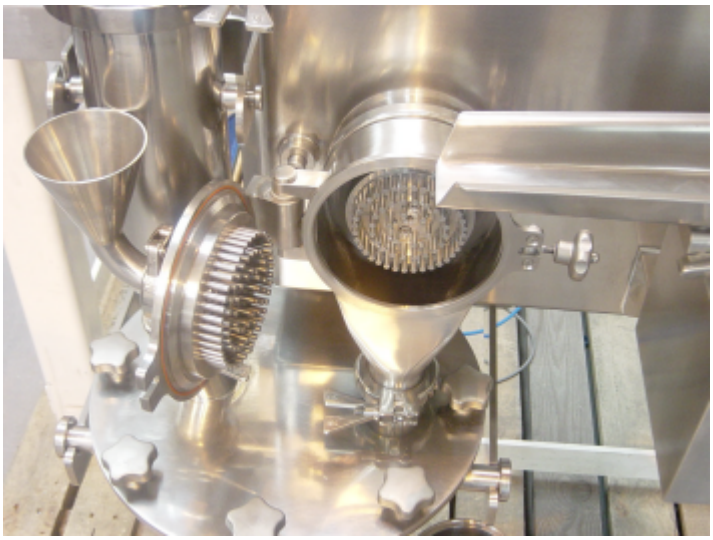
- Flexibility - caters for differing products and particle size requirements
- Easy and efficient cleaning between batches
- Choice of discharge arrangement overcomes limitations of plant size or layout

Mill designs can be customised to accommodate any process requirement. From milling potentially explosive or toxic materials effectively and safely to cryogenic operation for difficult to mill materials, Kek-Gardner have the experience and the solution.

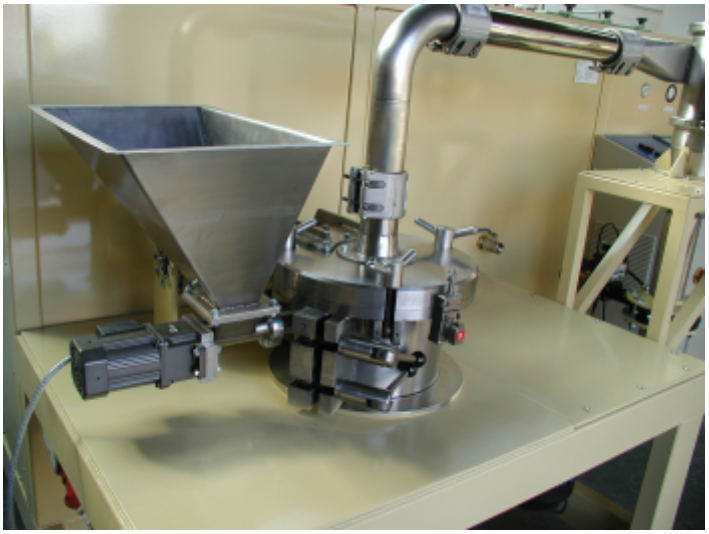
Most materials that are milled have the potential to ignite during the milling process and this must be accounted for in the mill design. As well as the traditional vented systems, Kek-Gardner specialise in Inerted and 10 bar PSR designs to protect against potential dust explosion.

Operational extras include sound insulation, dust filtration and systems to vent, suppress or contain risks of explosion and excess pressure of up to 10 bar g.

With the ever increasing toxicity levels of active ingredients, the need to protect operators from hazardous materials becomes more critical. At Kek-Gardner, equipment is designed to provide the highest levels of primary containment and protection within our core equipment.



PPS Air Classifier Mills



The PPS Air Classifier Mill offers finer grinding capability plus greater control over particle size distribution.

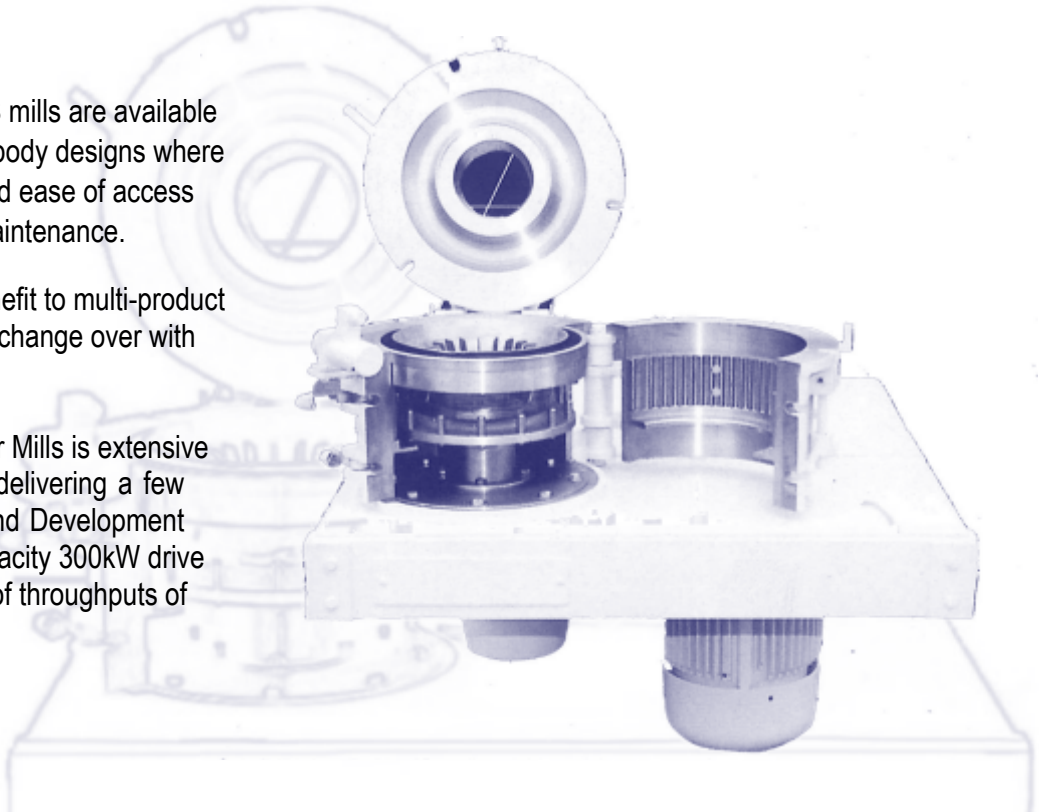
Typically grinding to a particle size in the region of tens of microns, the PPS Air Classifier Mill serves all industries producing fine powders where control of grinding temperature and particle size distribution is of prime importance.

Particle size is controlled by fully adjustable rotor speed, classifier speed, airflow rate and feed rate.

For operational efficiency, PPS mills are available with fully opening “clam shell” body designs where process considerations demand ease of access for inspection, cleaning and maintenance.

This feature is of particular benefit to multi-product users who need quick product change over with no cross contamination.

The PPS range of Air Classifier Mills is extensive from the Laboratory size mill delivering a few kilos per hour for Research and Development purposes, through to large capacity 300kW drive production machines capable of throughputs of several tons per hour.



Features

- Grinding to 5 - 100µm mean particle size
- Grinding and Classifying in one machine
- Internals easily removed
- Temperature controlled grinding
- Constant output
- Controlled particle size distribution
- Easily accessible and changeable grinding media
- Unique Clam Shell opening
- Easy to adjust particle size capability

Benefits

- Easy to access for cleaning and maintenance
- No need for separate classification equipment
- Caters for a wide spectrum of applications
- Downtime between products is minimised

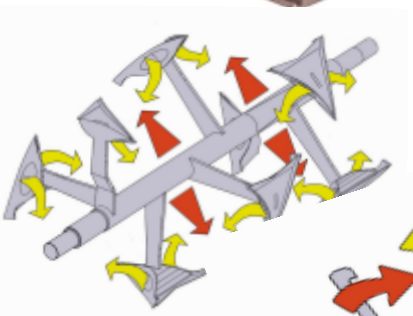
Gardner Mixers & Blenders

Under the GARDNER brand name, Kek-Gardner offers an extensive range of mixers and blenders comprising of:

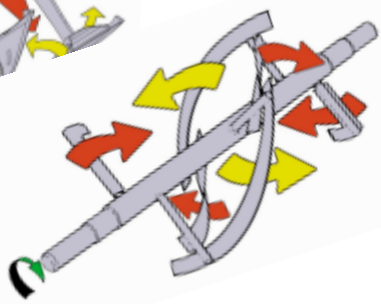
- Ribbon Mixers
- Ploughshare Mixers
- Continuous Mixers
- Reactors / Processors
- Double Cone Blenders

Typical Applications

Powder soup mixes	Spices
Flour	Flavours
Batter mixes	Jelly crystals
Instant drink mixes	Polymer homogenisation
Chocolate drinks	Biscuits
Muesli	Tea
Bakery ingredients	Burgers
Custard powder	Coffee
Metal powder	Extending colours
Animal feeds	Ceramics



Plough Agitator



Ribbon Agitator

"Easy Clean" Cantilever Design Mixer

Kek-Gardner have a range of cantilevered mixers in parallel with the highly successful range of KEK cantilevered sifters.

With this new mixer design, one set of bearings and seals at the non drive end are eliminated.

This combination offers significantly improved access for cleaning and maintenance.

Test Facilities

Kek-Gardner have a comprehensively equipped Technology Centre where trials are conducted and fully documented. This facility ensures that a realistic assessment can be made of the equipment's suitability to meet particular needs.

Process equipment and packages can also be tailored to meet specific requirements e.g. under cryogenic / controlled temperature or pressure and vacuum conditions.

Contract Processing

Whether you have a one-off R&D project, or need to increase your own production capacity, we can assist you with your processing requirement. We can replicate most production processes and have the flexibility to offer our full range of equipment to suit specific requirements i.e. temperature controlled and cryogenic milling, pressure and vacuum or jacketed mixers for heating and cooling. Product quality is strictly controlled as well as particle size analysis from our in-house lab facility.

After-sales Site Support

At Kek-Gardner, we pride ourselves in achieving the right result for our customers. That requires a team of highly skilled process engineers capable of commissioning, optimising and maintaining your equipment once it is on site.

From simple process review through to service contracts, we're here to help.

Contact us to find out how we can provide solutions to your powder processing requirements.
Visit our website for more details on each product in the Kek-Gardner range.

www.kekgardner.com

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