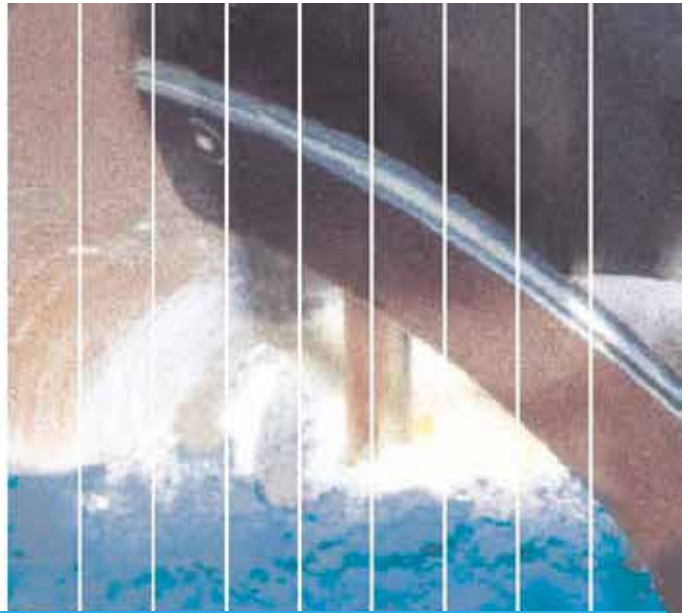


# GARDNER

by  
kemutec



## MIXERS AND BLENDERS

**POWDER MIXING  
TECHNOLOGY FOR THE  
FOOD, PHARMACEUTICAL  
AND CHEMICAL  
INDUSTRIES**



## EASY CLEAN CANTILEVER DESIGN MIXERS

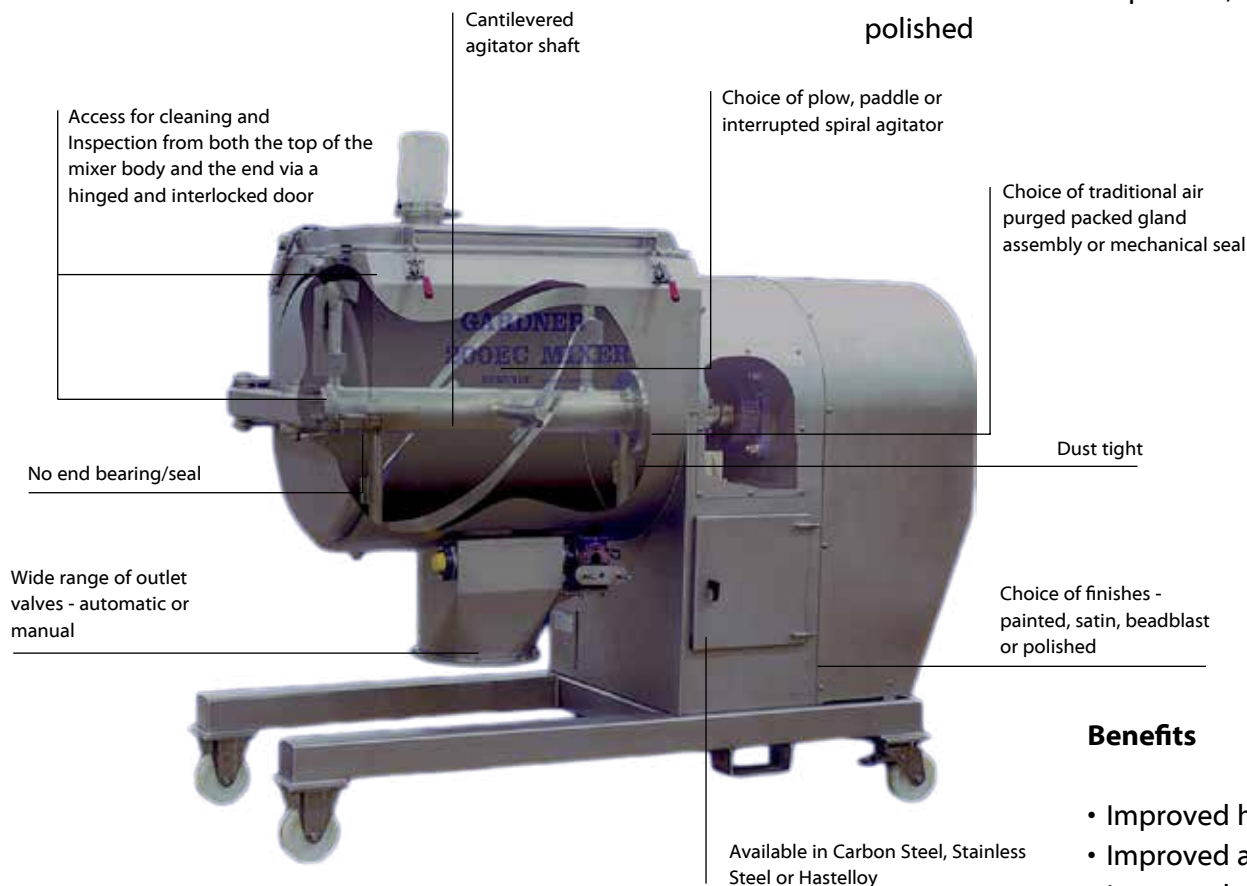
### New Cantilever Design Mixer

Kemutec have developed an exciting new range of cantilevered mixers in parallel with their highly successful range of KEK cantilevered sifters.

With this new mixer design concept, one set of bearings and seals at the non drive end are eliminated. This arrangement of cantilevered agitator and mixer body, together with much improved access for cleaning via a full diameter hinged and safety interlocked door at the non drive end of the mixer vessel, offers significantly improved access for cleaning and hygiene.

### Features

- Cantilevered agitator shaft
- No non drive end bearings / seal
- Choice of plow, paddle or interrupted spiral agitator
- Choice of traditional air purged packed gland assembly or mechanical seal
- Access for cleaning and inspection from both the top of the mixer body and the end via a hinged and interlocked end door
- Dust tight
- Wide range of outlet valves - automatic or manual
- Available in Carbon steel, Stainless steel or Hastelloy
- Choice of finishes - painted, satin, bead blast or polished



### Benefits

- Improved hygiene
- Improved access for cleaning
- Improved access for inspection
- Total containment



The reputation of GARDNER mixing technology and manufacturing quality is founded on practical experience gained through long service to the food, pharmaceutical and chemical industries. Extensive resources and proven expertise enable Kemutec to produce a whole range of mixing equipment - from a standard powder mixer to custom built processors. This experience enables a wide array of diverse process applications and operating conditions to be addressed.

KEMUTEC engineers specialize in powder process technology and combine this knowledge with their vast applications experience to design the most suitable mixer for any particular application. Manufacturing practices are accredited to ISO 9001, meeting the standards imposed by customers.



## THE GARDNER MIXER RANGE

### 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 litres. A large, hinged lid and all-round access to the outlet makes for easy filling and emptying.



#### HE Series U Trough Ribbon Mixers

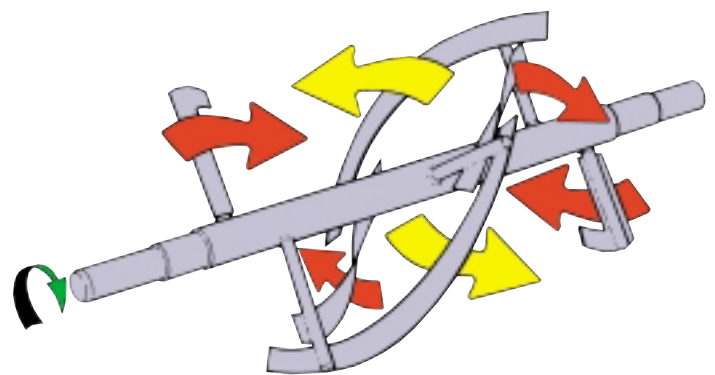
Capacities range from 100 to 20,000 litres. HE Series U-trough Ribbon mixers have unconventional short aspect ratio (length to diameter) mixing troughs. Short mixing times combined with low energy, gentle action and high efficiency ensures that minor ingredients are dispersed homogeneously without the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



#### H Series U Trough Ribbon Mixers

The large surface area to volume ratio of these traditional U-trough mixers makes them well suited to applications where the mixture has to be heated or cooled. Trough capacities range from 600 to 3,200 litres.

Trough Jackets can be specified for cold water, hot water, steam or oil. Alternatively, electric surface heaters can be applied.



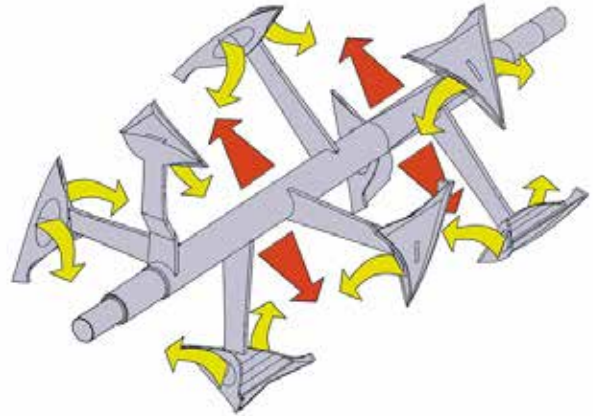
#### Typical Applications for Ribbon Mixers

- Dry powder mixing
- Liquid addition into powders
- Live storage of sticky powders
- Granulation

## 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 litres.

### Typical Applications for plow Mixers

- Ideal for powder and semi-dried solids mixing
- Ideal for cutting fat into flour
- Addition of oils or other liquids into powders
- Mixing soap
- Extending colors
- Breaking down agglomerates



## THE GARDNER MIXER RANGE Continued

### RE Series Processors and Reactors

A custom-built range of Processors and Reactors, 50 - 5,000 litres capacities based on the range of horizontal mixers with either ribbon or plow type agitators. Suitable for chemical reactions, sterilizing, drying, heating and cooling; each unit is designed and manufactured to meet specific process requirements.



Heating and cooling jackets can be applied to trough exteriors. Processors built to withstand high pressures and vacuum applications will be constructed in accordance with BS 5500.

### Typical Applications for Processors and Reactors

- Chemical reactions
- Sterilizing
- Drying filter cakes
- Slurry mixes

### Stirred Bunkers

Essentially, a ribbon mixer whose agitator rotates at just a few rpm to keep premixed material alive. Topping up from a batch mixer and continuously taking away product from a stirred bunker is an alternative means of providing a continuous supply of mixed product. It also allows checking of each batch before it is discharged into the bunker guaranteeing consistent product quality.

### Continuous Mixers

Based upon the tried and tested agitator designs of batch mixers, GARDNER offer a range of continuous mixers custom-built to meet individual process requirements, typically having capacities of 50 - 20,000 liters per hour. These mixers have aspect ratios of 4:1 or more. An adjustable overflow weir plate is fitted at the discharge end and the agitator is biased so as to promote flow towards the weir while ensuring 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. Ideal for mixing very heavy and abrasive products.

Hygienic and easy to clean, each blender features our unique multi-shear deflector plates for the improved blending efficiency of free-flowing powders and granules.

Double Cone Blenders can also be designed and built as processors for sterilizing and drying from 2 to 100,000 litres capacity.

### Typical Applications

- Pharmaceuticals
- Tea
- Metal powders
- Ceramics
- Cement

# CUSTOMIZED MIXERS

## The Complete Package

Kemutec are happy to discuss, design and manufacture a specific mixer to suit any given application. The technical team specialize in non-standard designs and will supply the mixer you want - whatever that may be.

### Specialized Applications

Every type of GARDNER mixer can be tailored to the specific application requirements of our customers, including;

#### Loading Arrangements

- Full-length access lids
- Additive feed hatches
- Gridded loading ports
- Sack tip loading units

#### Construction Materials

- Carbon steels
- Stainless steels
- Abrasion resistant steels
- Sophisticated alloys

#### Optional Extras

- Heating and cooling jackets
- Spray systems for liquid addition
- Special drive arrangements
- High intensity side cutters
- Air-purged seals
- Variable speed drives
- Soft start packages
- Hastelloy



### Surface Finishes

- Acrylic and epoxy resin lining
- Crack and crevice free welds
- Bead blast satin finish for Stainless Steels
- Mirror polish finish for Stainless Steels
- Abrasion resistant rubber or ceramic lining



### Discharge Valves

- Contour-fit plug valves
- MUCON Iris Diaphragm Valves
- Bomb doors
- Slide valves

KEMUTEC has a wealth of experience and expertise in designing, building, installing and commissioning complete processing packages.

GARDNER Mixers are manufactured alongside other well-known KEMUTEC products including MUCON Iris Diaphragm Valves, and KEK Mills and Centrifugal Sifters. Our team of process, mechanical and electrical engineers use this experience and knowledge to determine the individual needs of each application and to produce a complete package proposal. We have the resources to progress each

contract through site surveys, design, manufacture, installation and commissioning.





### KEK CENTRIFUGAL SIFTERS

Compact, high-efficiency cantilever sifters with throughputs up to 100 tph.



### GKM FLAT DECK SCREENERS

Controlled multi-deck classification and screening.



### KEK KIBBLER PRE-BREAKER

Heavy duty lump-breaker and pre-breaker for solids up to 10" dia.



### KEK CONE MILLS

A low-energy intermediate mill for gentle size reduction and de-agglomeration.



### KEK UNIVERSAL MILLS

High energy one-pass fine powder mill with interchangeable grinding media.



### PPS AIR CLASSIFIER MILLS

Controlled ultra-fine powder milling with integral classifier.



### GARDNER MIXERS & BLENDERS

A range of Ribbon and Plow Mixers, Double Cone Blenders and Laboratory Mixers.



### MUCON VALVES & COMPONENTS

A full range of powder flow control and isolation valves and discharge aids.

### TEST FACILITIES AND RENTALS

In support of the process development needs of our customers, Kemutec offers our range of services for material testing using our range of Powder Processing Equipment. We offer Material Testing in our Technical Center, Laboratory Analysis, Rental Equipment and Toll Processing.

### AFTER SALES SERVICE

At Kemutec, we want to ensure the smooth operation of our customers' production. Therefore, not only is our equipment designed for longevity, we offer planned maintenance schedules and hold a comprehensive inventory of spare parts and other key components.