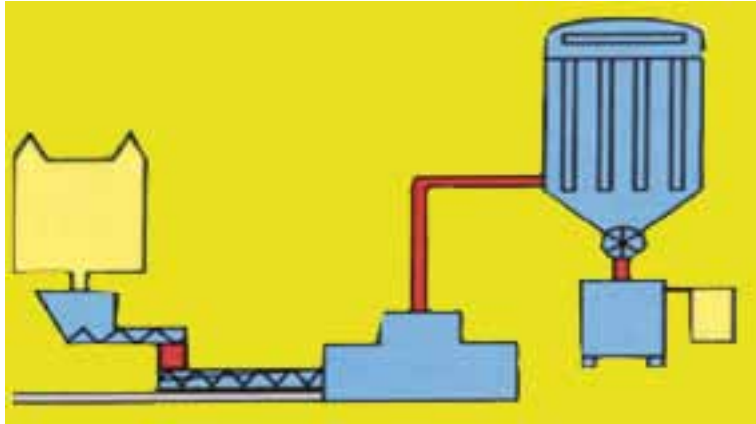


Milling | Size Reduction

Custom Powders has a reputation for being Europe's Centre of Excellence in the area of milling services. This reputation is based on more than 25 years of experience with the milling of a wide variety of products on a broad range of equipment. Next to the availability of a wide range of types of milling equipment and the experience with hundreds of powders and granules we distinguish ourselves in that we employ highly technical skilled and experienced operators. By means of an intensive training program of at least 20 weeks in the first 5 years the experience and skills that we have acquired is transferred and kept up to date. The knowledge, experience and motivation of our operators are valued by our customers. A solid and reliable level of service for our customers is what we strive for and this value is carried by

all our employees. When designing our facilities we have ensured that there is a strict separation between the different process areas so that the chances of cross contamination are minimized and that our requirements for hygiene and the environment are strictly met. The equipment we have available is typically designed to produce about 1 ton per hour. The option of specialist milling is described in another section.



Types of milling techniques:

- Continuous milling of bulk materials
- Continuous co-milling of mixed additives
- High precision milling with air classifier mills
- Micronizing/Jet milling/ Fluid Energy milling
- Crude milling / hammer mills
- Cryogenic and controlled temperature milling
- Quality and Hygiene Standards



Milling | Size Reduction

Continuous milling of bulk materials

Custom Powders has set up a number of units specifically for the efficient milling of powders and granules that are being supplied in bulk. In these units you will find silo's for the delivery of product and from these it can be fed directly to the milling process. After the material has been milled, it can be delivered in bulk or be packed to specific packing units.



Continuous co-milling of mixed additives

Custom Powders offers the option to add additives to the mainstream product in line with the milling process. These additives are added accurately and consistently to the product and then the mixture is milled to the required specification. This is a continuous process with considerable flexibility to choose different types of end-packaging.

The dosing process is accurately controlled and analysed during the milling progress.

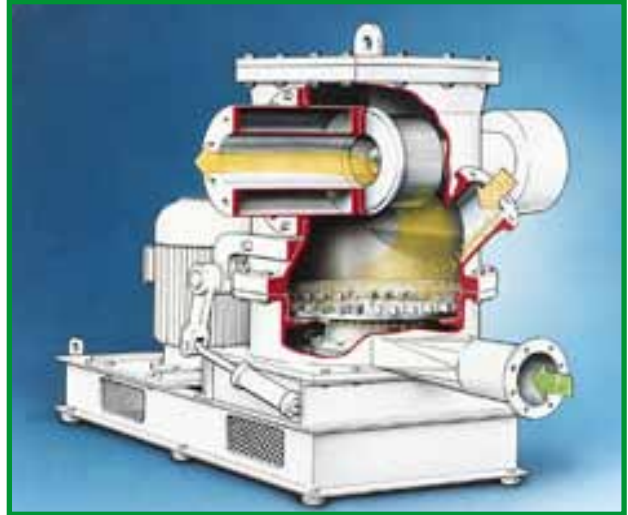


Milling | Size Reduction

High precision milling with air classifier mills

If you are searching for a milling process that can provide you with a very accurate and narrow specification than you are looking for air classification milling. These types of mills have been specifically designed for milling a wide variety of raw material sizes tight specifications. By careful selection from a broad range of mills in combination with a strict control of the process conditions it is possible to efficiently mill even difficult to handle products. Difficult products could be hygroscopic, soft or relatively hard materials.

Due to the combination of a milling action with an integrated classifier, these mills can mill very finely and accurately with clear limits at both sides of the Particle Size Distribution. These mills are suited to mill product with hardness's up to about 3 Mohr's.



Depending on the characteristics of the product, finished product down to a D50 of 2 – 3 micron are achievable.

Cryogenic and controlled temperature milling

For further information on this subject please see the section for specialist fine milling



Milling | Size Reduction

Crude milling / hammer mills

For the milling of products with large size distributions we have special milling equipment available. This includes hammer mills, crushers, kibblers or nibblers. These types of mills are specially designed for the milling or breaking down of larger granules or even blocks or lumps of materials. If required several of these mills could even be combined in order to give you the specification you are looking for.



Micronizing/Jet milling/ Fluid Energy milling

These kinds of mills (Air micronization / Jet mills) are used for the very fine milling of a broad range of specialist products that cannot be milled by any other type of mill. They are often used when the raw material is already relatively fine or when really hard products are involved.

In these types of mills air is forced under pressure into the milling chamber where the individual particles of the material are then banged into each other with very high speed. In this manner even very hard products can be milled rather finely.

The jet mills we use are very suitable for the super fine milling of a broad range of soft to rather hard products and ranges from 1 – 80 micron are achievable.



Milling | Size Reduction

Quality and Hygiene Standards

Custom Powders has specialized in the processing of products from a wide variety of industries. We process, among others, products for the pharmaceutical, the food, and feed and care industry but also for the chemical speciality -, fine chemical -, detergent- and plastic additives industry.

Due to many years experience with these industries we are extremely well familiar with the different quality standards that apply to each of them. We have designed processing units that are set up to enable us to work to the highest level of standards required within these industries. For two of our units we have medical licences in place and for others we apply the required food grade standards. We are not set up to work to clean room standards because we don't process active human pharmaceutical ingredients.



As a company we were one of the first in our sector to become ISO certified (ISO 9002 en ISO 14001). We work strictly to the principles of the well known GMP, HACCP and Environmental Care systems and continuously strive for further improvements and progress in these areas.



The process units we work in are all strictly separated from each other and there is further separation between the processing area and the warehousing area. The equipment we use is virtually all built up from stainless steel and after each job the used equipment is completely dismantled and thoroughly and efficiently cleaned. All processes are closely monitored, maintained and analysed.

This whole quality system is fully depending on the level of knowledge, skills and experience of our employees. This is an area that is constantly being given a lot of attention. We employ motivated people that follow an intensive training program of at least 20 weeks in the first 5 years of employment followed by specific targeted training during the rest of their career within our company. This way we ensure that the knowledge and experience that we have built up over many years is maintained and transferred throughout the company.

Our philosophy is that by giving responsibility to our employees this ensures they stay motivated and committed to the work they do. This is what differentiates us from our competitors and keeps us in the pole position.

