

Grinding & Dispersing

## Product Program

NETZSCH Grinding & Dispersing



our technology  
**YOUR SUCCESS**

# Business Unit Grinding & Dispersing



## our technology - YOUR SUCCESS

Paints and dyes make our lives more colorful, chocolate melts in your mouth and the perfect make-up provides for a radiant appearance – the Business Unit Grinding & Dispersing, as one of three business units within the globally active NETZSCH Group, offers a comprehensive program for the many challenges in mechanical process engineering.

For your specific grinding or mixing requirements, you will profit from our many years of experience and logical development work. NETZSCH-Feinmahltechnik GmbH offers mixing, kneading and dispersing machines for low- to high-viscosity products as well as

a variety of wet-grinding units for reduction into the nanometer range, tailor-made for each application. When it comes to the processing of dry products by cutting, fine grinding or fine classification, you will find a wealth of experience and an equally varied program of fine-impact mills, classifier and jet mills as well as fine-cutting mills and high-performance fine classifiers.

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## Our focus is on you

We are geared to your wishes and ideas and we design and construct our machines and plants with the flexibility of a mid-sized, customer-oriented company.

A worldwide sales and service network guarantees you reliable on-site support and direct after-sales service. Our manufacturing facilities with individually coordinated production programs

in Germany, Brazil, Russia and China shorten delivery times and transport routes.



NETZSCH-Feinmahltechnik GmbH, Selb, Germany



NETZSCH-CONDUX Mahltechnik GmbH, Hanau, Germany



NETZSCH Premier Technologies, LLC., USA



NETZSCH Indústria e Comércio de Equipamentos de Moagem Ltda., Brazil



NETZSCH (Shanghai) Machinery and Instruments Co., Ltd., China



NETZSCH Mastermix Ltd., UK



NETZSCH España, S.A., Spain



ZAO NETZSCH Tula, Russia

# Wet grinding for the laboratory of today and your product of tomorrow

## Agitator Bead Mills for the lab and R&D

Nanotechnology is gaining increasing importance in many areas of application. Today, only those who have the possibility to make use of nanotechnology can capitalize on future opportunities. Due to the well-proven centrifugal separation system, the use of very small grinding media is possible in the *MICRO-* and *MINISERIES* laboratory agitator bead mills as well as the universally

applicable *LABSTAR*. This guarantees wet grinding into the nanometer range and is your investment in the future.

For simpler grinding tasks and initial principle testing, you will also find a suitable machine in our laboratory program.



### NETZSCH *LABSTAR* Laboratory Agitator Bead Mill



- The smallest laboratory mill with the *TRI/NEX*® and *ZETA*® grinding system, full scale-up capable
- Use of very small grinding media from 0.1 mm for nano grinding
- Many different grinding chamber materials available

### NETZSCH *MICROSERIES* and *MINISERIES* Laboratory Mills



- Agitator bead mills for grinding very small batches (70 ml to 500 ml) down into the nanometer range
- Highly effective rotor-slotted pipe centrifugal separator system for reliable use of the smallest grinding media from 0.05 mm
- Available in three different material designs and for metal-free grinding



## NETZSCH *MINIZETA* Laboratory Circulation Mill



- Universally applicable, self-pumping laboratory circulation mill for principle testing of batch sizes from 200 ml to 500 ml
- Use of very small grinding media  $\geq 0.5$  mm possible
- Grinding tank swivels to simplify handling

## NETZSCH *LABTOPMILL*® Laboratory Basket Mill



- Laboratory immersion mill with rotating grinding basket for batch operation
- Easy operation with pneumatically actuated hoist for the coolable batch tank
- Batch sizes from 1 l to 12 l

## NETZSCH PE 075 Laboratory Batch Mill



- Cyclically operating batch mill for simple grinding and dispersing tasks
- Coolable grinding tank for batch sizes of 0.15 l to 0.3 l
- Various easily-exchangeable agitators in different materials

# Mixers and De-aerators for the laboratory of today and your product of tomorrow

## Mixers and De-aerators for your laboratory

Before a newly-developed product can go into large-scale production and mixers with a useful volume of several thousand liters come into operation, several stages of development must be completed.

For the development of new formulations and initial principle testing, laboratory-scale machines play a decisive role.



### NETZSCH *SHEARMASTER* Laboratory Dissolver



- High-speed mixing aggregate for intensive, time-saving mixing and dispersing 1.1 kW electric drive
- Batch sizes from 1 l to 10 l
- Infinite speed adjustment from 500 min<sup>-1</sup> to 6 000 min<sup>-1</sup>

### NETZSCH PMH 1 / PML 1 Laboratory Planetary Mixer



- Kneading and mixing of small batches of high-viscosity products up to 3 000 000 mPas
- Conventional tin cans can be used as mixing vessels
- Various mixing tools
- Vacuum operation and temperature control of the vessel possible

## NETZSCH *MICRO* $\Psi$ -*MIX*® Laboratory Inline Dispenser



- Inline dispenser for optimal wetting of finely-powdered solids in liquid components for the production of homogeneous, fine dispersions with exactly reproducible quality
- Pilot plant and production machines for small batches from 3 l to 300 l suspensions
- Reliable scale-up of the required

operating parameters to the production machine for a high degree of safety and flexibility

## NETZSCH *MiniVac* Laboratory De-aerator



- Machine for continuous de-aeration of products of varied viscosities
- Extreme ease of operation with ergonomic design and swiveling vacuum chamber
- Throughput capacity from 25 kg/h to 250 kg/h

# Dry Mills for the laboratory of today and your product of tomorrow

## CONDUX Laboratory Fine-grinding Mills

You need small laboratory mills for principle testing or development of new formulations? No problem! For grinding small batches we offer a comprehensive program of efficient and universal laboratory mills for many different applications – even yours!

With the variety of designs, the operation of these machines is comparable

in every way with our large (production) machines. So the product qualities achieved with our laboratory mills can be reproduced with correspondingly sized production scale machines! These machines can be delivered as fully- operational complete plant modules.



### CONDUX *LabPILOTPlant*



- Efficient plant system as an operating module in two power levels
- Can be combined with different machine modules and easily modified in a few simple steps:
  - CGS Fluidized Bed Jet Mill
  - *CONJET*® High-density Bed Jet Mill
  - CFS/HD-S High-performance Fine Classifier
  - CFS Fine Classifier
  - CSM Classifier Mill
- End finenesses from  $d_{97}$  1.0  $\mu\text{m}$  to 150  $\mu\text{m}$  depending on machine module used

### CONDUX *LabCOMPACTPlant*



- Compact plant system in various machine versions:
  - CGS Fluidized Bed Jet Mill
  - *CONJET*® High-density Bed Jet Mill
  - CFS/HD-S High-performance Fine Classifier
  - CFS Fine Classifier
  - CUM Universal Mill
- End finenesses from  $d_{97}$  1.0  $\mu\text{m}$  to 150  $\mu\text{m}$  depending on machine version used
- Simple and straightforward operation with minimal space requirement



## CONDUX CGS Fluidized Bed Jet Mill



- Small jet mills with integrated air classifier for ultra-fine grinding with minimal contaminants
- Also suitable for extremely hard products (to a hardness of 10 on the Mohs scale)
- Finenesses from  $d_{97}$  2  $\mu\text{m}$  to 120  $\mu\text{m}$
- Continuous adjustment of grinding fineness with variable speed classifier wheel

## CONDUX CONJET® High-density Bed Jet Mill



- The only lab spiral jet mills with adjustable grinding fineness via the integrated air classifier
- For the steepest particle size distributions
- Finenesses from  $d_{97}$  2.5  $\mu\text{m}$  to 70  $\mu\text{m}$
- Grinding with no product residue

## CONDUX CUM Universal Mill



- Centrifugal mill with high peripheral speed
- Easily exchangeable grinding tools for use as
  - wing beater mill
  - blast mill
  - pin mill
- Finenesses from  $d_{97}$  30  $\mu\text{m}$  to 800  $\mu\text{m}$
- Very quick and easy cleaning guaranteed

# Classifiers for the laboratory of today and your product of tomorrow

## CONDUX Lab Air Classifiers

The installation of a large, production-scale plant is not usually efficient for dry fine classification of smaller amounts of product! Often only a few kilograms of a product is required in clean, dust-free quality or without undesirable coarse grains.

Laboratory classifiers of various designs and sizes are available, depending on the required fineness and product amounts.

Of course, the lab classifier can also be delivered as a complete, ready-to-operate system in our *LABCOMPACT*- and *LABPILOTPLANTS*.



## CONDUX CFS Fine Classifiers



- Air classifiers for the classification of fine powder into two fractions (fine and coarse product)
- Conformation to the desired cut point through adjustable control of the classifier wheel speed.
- Finenesses from  $d_{97}$  20  $\mu\text{m}$  to 250  $\mu\text{m}$
- Good accessibility guaranteed

## CONDUX CFS/HD-S High-efficiency Fine Classifier



- High-efficiency air classifier for accurate separation of ultrafine powder
- The best possible product dispersion via integrated guide vane basket
- Finenesses from  $d_{97}$  2  $\mu\text{m}$  to 120  $\mu\text{m}$
- Extremely high cutting precision and maximum extraction of fines

## Mixing, Dispersing, Kneading and De-aeration

Mixing is one of the basic operations in mechanical processing engineering. In this way, at least two starting substances are combined into one substance that should be as homogeneous as possible. The mixing process is commonly followed by de-aeration since, during the processing of liquid to highly-viscous products, pockets of air or gas often

cause problems. Pockets of air, hence oxygen, can have negative effects on the product (oxidation). In contrast, de-aerated products are usually more chemically stable and more durable.



### NETZSCH *MASTERMIX*® Dissolver



- Dispersing units with high-speed dispersion disk used for dispersing, fine distribution and mixing of solids in liquids
- Ease of operation reduces costs and expenditure of time
- Large selection of optional equipment for great process reliability
- Various easily-exchangeable dispersing tools for increased efficiency

### NETZSCH $\Psi$ -*MIX*® Inline Disperser



- Revolutionary inline mixing system that wets finely-powders solids with liquid components within a controlled, emission-free process under vacuum and microcavitation
- Ideal for processing both low- and high-viscosity suspensions, covering the entire spectrum of applications for dispersion technology
- Easy integration into fully-automatic production plants

# Mixing, Dispersing, Kneading and De-aeration

## NETZSCH PML and PMH Planetary Mixers



- Planetary mixing and kneading machines for processing high-viscosity (up to 10 000 Pas) thick or pasty products

### Model PML

- Two slowly rotating cross-beam agitators
- Efficient and very gentle mixing

### Model PMH

- Slowly rotating cross-beam agitators and separately driven, high-speed dispersing elements
- Process temperature control via coordinated variable speed tools in conjunction with optimized processing vessel

## NETZSCH PMD-VC Intensive Mixer



- Stationary mixing/dispersing units for processing large batches up to 10 000 l
- Separation of the mixing and dispersing operations provides for an extremely energy-efficient process
- Compact, enclosed design allows for integration into fully-automatic plant concepts and prevents contamination from gases and dust

## Premier Vertical Max-Shear Rotor/Stator Mixer VMS



- Precision high-speed rotor, which creates a vigorous pumping action as it draws liquid at high velocity into the stator inlet resulting in a powerful combination of mechanical and hydraulic shear
- Large rotor blade surface area and shearing edge for high pumping action and intensive mechanical shearing at the rotor/stator interface
- Large internal stator shearing surface area with fine slot openings for efficient homogenizing and emulsification



## Premier Max-Shear Inline Disperser



- Extremely high shear performance and powerful dispersing action generates the best premix possible
- An efficient, low maintenance, low cost unit compact enough to be used at any point in your process
- Self-contained pressure reservoir for mechanical seal with integral pumping ring for special applications



## NETZSCH Vacuum De-aerator



- Vacuum de-aerator for the removal of micronized gases from liquids and masses of various viscosities.
- The VTR principle (vacuum – thin-film – rotary process) enables de-aeration of almost all free-flowing and pasty products
- The throughput is dependent on product and viscosity and can vary between 25 kg/h and 4 000 kg/h depending on the model size
- Batch operation with small quantities from interchangeable tanks as well as continuous operation with large batches



# Wet Grinding

## Wet Grinding Technology

NETZSCH-Feinmahltechnik GmbH is one of the market leaders in wet grinding technology. The bundling of process-related know-how and the extensive machine program from laboratory to production machines to complete production lines is our strength.

Numerous wet grinding units, customized for each application, are available for grinding down into the nanometer range.



### NETZSCH ZETA® Type LMZ High-performance Mill System



- Continuously operating, horizontal high-performance agitator bead mill with intensive peg grinding system
- The small ratio of grinding chamber length to diameter in combination with the highly-effective centrifugal separator system and the large cooling surface predestines this grinding system for circulation and multi-pass operation into the nanometer range
- Wear and corrosion-resistant materials are available to suit the application
- Safe use of various grinding media from 0.09 mm to 3 mm in diameter

### NETZSCH ZETA® RS Nano Mill



- Logical advancement of the ZETA® RS high performance mill system
- Specifically designed for wet grinding and dispersing processes in the nanometer range
- Highly-effective, dynamic centrifugal separator system for the use of extremely small grinding media with diameters ranging from 50 µm to 300 µm ensures reliable product separation

## NETZSCH LME/LMK Horizontal Disk Mill



- The continuously operating, horizontal agitator disk grinding system sets new standards with respect to flexibility and range of applications
- The disk agitator activates the grinding beads with high intensity and affects a uniform grinding media distribution over the entire length of the narrow grinding chamber
- Various grinding disk geometries and highly-effective separator systems made of different materials
- Grinding media with diameters from 0.1 mm to 6.35 mm are suitable
- Models available with grinding chamber volume from 0.6 l to 10 000 l

## NETZSCH KE Vertical Disk Mill



- Vertical, continuous disk agitator bead mill in a version for the...
- ...preparation of cocoa masses:
  - Closed, wear-resistant design
  - Product inlet via check valve
  - Grinding media separation via screen plate
- ...preparation of minerals:
  - Wear-resistant PU-coated or rubberized design
  - Product inlet via rotor/immersion tube system
  - Centrifugal force separation of grinding media without screen
  - Recharging of grinding media possible during operation, depending on capacity

## NETZSCH TopMILL Type TM Basket Mill



- Batch operation immersion mill with grinding media filled rotating grinding basket for processing paints and pigment compositions
- Simple, user-friendly design and low grinding media requirement
- Dead zone free product circulation during the easily monitored grinding/ dispersing process which requires no pumps and pipelines
- Easy to clean with minimal product loss during product changeover

# Wet Grinding

## NETZSCH-BEADS®

### Premier *MASTERMILL* Basket Mill



- Basket mill that incorporates a milling chamber with independently powered variable speed milling and mixing shafts providing exceptional flexibility in production
- Due to independent variable speed mixing shafts, the *MASTERMILL* can process a wide range of batch sizes and product viscosity
- Side walls and bottom of the processing tank are jacketed along with the top of the milling chamber for efficient control of product temperature



### Premier Colloid Mill PCM



- Colloid mill that works by hydraulic shear, bringing to bear a tremendous amount of energy on a small portion of material in the form of a thick film
- Clearance between the rotor and stator can be adjusted and locked in seconds with no tools needed – even while the mill is operating
- An almost limitless variety of materials with viscosities from water to thin to paste thick can be processed



## NETZSCH-BEADS® - always the right choice

The selection of suitable grinding media is an excellent optimization feature for dispersing and wet-grinding processes with agitator mills. You will achieve optimal results when you use NETZSCH-BEADS®.

- Grinding media ideally suited for NETZSCH agitator bead mills
- All important qualities available in the desired sizes
- Optimal combination of machine, grinding tool and application
- Optimization of the process and heightened performance
- Improvement in energy efficiency
- Global NETZSCH Service from a single source



### Steel Grinding media

- STEELBEADS HQ*      hardened steel grinding media, made of carbon chromium steel
- STEELBEADS Q*      food-grade chromium steel grinding media, W 1.3505
- STEELBEADS MICRO*      cast steel grinding media made of tempered C-steel



### Glass Grinding Media

- GLASSBEADS*      glass grinding media with a density of 2.5 kg/l



### Ceramic Grinding Media

- ZETABEADS®*      yttrium-stabilized zirconia grinding media (standard quality)
- ZETABEADS® Plus*      yttrium-stabilized zirconia grinding media (high-end quality)
- ZETABEADS® Nano*      yttrium-stabilized zirconia grinding media (high-end quality) for nano applications
- CERABEADS*      cerium-stabilized zirconia grinding media (standard quality)
- ZsBEADS*      zirconium silicate grinding media

# Dry Grinding and Classifying

## Dry Grinding and Classifying

When it comes to grinding or classifying dry products, you've come to the right place with NETZSCH-CONDUX Mahltechnik GmbH! From A (activated carbon) to Z (zinc) - we offer the right machine for your product.

We offer extensive experience and a wide range of mills for the fine cutting, fine grinding and ultra-fine grinding of dry products of all desired finenesses.

High-performance classifiers for the finest of products, round off our program.



### CONDUX CGS Fluidized Bed Jet Mill



- Jet mill with integrated dynamic air classifier for maximum particle size limitation
- Size reduction via air blast, for the hardest products (up to 10 on the Mohs scale)
- Finenesses from  $d_{97}$  2.0  $\mu\text{m}$  to 120  $\mu\text{m}$  possible (dependent on density)

### CONDUX s-Jet® Steam Jet Mill



- Jet mill for dry grinding with superheated steam into the submicron range
- Maximum kinetic impact energy via considerably higher jet speeds (as compared to air)
- Finenesses from  $d_{50}$  0.2  $\mu\text{m}$  to 10  $\mu\text{m}$  possible (dependent on density)



## CONDUX ConJET® High-density Bed Jet Mill



- Spiral jet mill with integrated dynamic air classifier to achieve the desired end fineness
- Size reduction via gas blasted from grinding jets in an annular arrangement
- End finenesses from  $d_{97}$  2.0  $\mu\text{m}$  to 40  $\mu\text{m}$  (dependent on density)

## CONDUX CSM Classifier Mill



- Rotor impact mill with integrated dynamic wind classifier with two separate drives for grinding disk and classifier wheel
- Grinding between a rotating grinding disk and a peripheral grinding track
- Finenesses from  $d_{97}$  10  $\mu\text{m}$  to 300  $\mu\text{m}$

## CONDUX CP Impact Mill



- Simple design of a classifier mill with only one drive for grinding disk and classifier wheel
- Attainable end finenesses of  $d_{97}$  30  $\mu\text{m}$  to 150  $\mu\text{m}$
- Adjustment of product finenesses via speed modification and by mechanical adjustment of the height of the classifier wheel

# Dry Grinding and Classifying

## CONDUX CUM Universal Mill



- High-speed rotor impact mill for grinding various products up to a Mohs hardness of 3 to 3.5
- Grinding takes place between rotor and stator in various designs such as wing beater, blast rotor, pin disks and attrition disks
- Possible end finenesses from  $d_{97}$  30  $\mu\text{m}$  to 1 500  $\mu\text{m}$

## CONDUX CS-Z and *SECOMY*™ Fine Cutting Mills



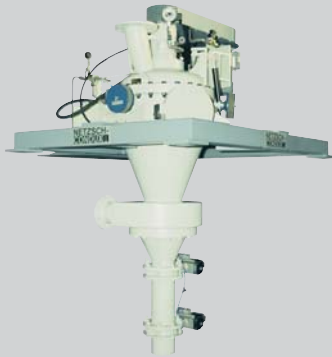
- Precision cutting mill with rapid cutting sequence for size reduction of cuttable and soft products
- Size reduction between rotating cutting knives built into the housing and an integrated screen for determination of the final fineness
- Possible end finenesses in the range of  $d_{97}$  90  $\mu\text{m}$  to 2 000  $\mu\text{m}$

## CONDUX CHM Hammer Mill



- Impact mill for grinding brittle or fibrous products with a Mohs hardness of 3 to 3.5
- Possible end finenesses of approx.  $d_{97}$  0.5 mm to 2 mm
- Inert gas and pressure-shock resistant models available in different materials

## CONDUX CFS Ultra-fine Classifier



- Air classifier for the classification of fine powder
- Carrier gas and a rotating classifier wheel separate the product into fine and coarse material.
- Finenesses from  $d_{97}$  20  $\mu\text{m}$  to 250  $\mu\text{m}$

## CONDUX CFS/HD-S High-performance Fine Classifier



- High-performance air classifier for the finest cut points with optimal dispersion via integrated guide vane basket
- Cut limits from  $d_{97}$  2.0  $\mu\text{m}$  to 120  $\mu\text{m}$  (dependent on density)
- Extremely high cutting precision results in improved yield

## CONDUX *INLINESTAR*™ High-performance Ultra-fine Classifier



- Inline classifier for direct downstream integration with a fine grinding mill for the finest cut points
- Cut limits from  $d_{97}$  2.5  $\mu\text{m}$  to 120  $\mu\text{m}$  (dependent on density)
- Clear system assembly with fewer plant components and reduced space requirement

# Plant Engineering

## Process and Plant Engineering Services

- We plan, construct and deliver plants for your applications
- Our comprehensive range of machines offer the advantage of single-source plant design
- The modular construction of our plants enables easy expansion of production within a minimal amount of space
- Expensive on-site installations are eliminated
- Depending on requirements, the degree of automation of conventional or modular plants can range from manually operated production lines to a fully-automatic, monitored design
- From design to start-up and beyond – we'll be at your side



Plant for manufacturing NC- or PU-based packaging inks



Grinding and classifying systems for toner



Plant for manufacturing heat-set ink



Plant for processing  $\text{CaCO}_3$

## CHOCO<sup>EASY</sup>® plant concept



- CHOCO<sup>EASY</sup>® - a new, innovative manufacturing process for chocolate
- Integration of a dry and a liquid conching step within the CHOCO<sup>EASY</sup>® process
- Ultra-fine grinding of the chocolate with a specially-equipped agitator bead mill
- Narrow particle size distribution
- Uncomplicated operation and easy process control
- Batch sizes of 25 kg to 6 000 kg
- Totally temperature-controlled
- Completely enclosed process



# Applications Laboratories

## Fine Grinding Service

### Applications laboratories for testing with your product

Our applications laboratories, which have been expanded and upgraded with the latest technology, are part of our comprehensive range of services. The NETZSCH wet grinding and mixing laboratory is located in Selb. Our dry grinding and classifying test lab is located in Hanau.

In these laboratories we test the product you provide for grinding or processing in order to obtain the maximum grinding efficiency according to your specifications. Grinding tests can be run on both laboratory scale and production sized machines. After testing is complete, we prepare a comprehensive test report for you.

You are welcome to take part in these in-house tests. By working together, we can guarantee that the tests are run exactly according to your wishes and specifications. During the trials, you can also gain an impression about our company.

Additional applications laboratories can be found at our locations in the USA, Brazil, Russia, China and India.

#### NETZSCH Service

- Experimental laboratory
- Product development
- Technical support
- Scale-up to your production requirements
- Project planning and management / Commissioning / Customer Service / On-site Service
- Training at NETZSCH and on site



Our pilot plant in Selb has a separate area set up and equipped exclusively for testing for the chocolate industry.

## Fine Grinding Service

NETZSCH offers you services on the most modern machines and plants with appropriate monitoring of the process sequence and support by our trained specialists.



Toll Grinding Plant with CONDUX CGS 71 Fluidized Bed Jet Mill

### Fine Grinding – Dry

Reproducible grinding finenesses from the millimeter range down to  $1\ \mu\text{m}$  ( $d_{97}$ ) can be achieved with our grinding systems!

### Separating / Classifying

With the CONDUX High-performance Ultra-fine Classifiers, clean air classification of dry powders is possible down into the range of  $d_{97}\ 2\ \mu\text{m}$ !

### Analysis / Quality Assurance

Particle size determination by means of laser diffraction instruments, screen analyses with air jet- or vibrating screens and moisture determination are all services we provide for you!

### Packing

As required, we pack your product in big bags, barrels, drums or tanks, paper or plastic bags

## Our Equipment

- Classifier Mills
- Universal Mills
- Fine-cutting Mills
- Fluidized Bed Jet Mills
- High-performance Ultra-fine Classifiers
- Well-equipped analysis laboratories
- Available for inert gas
- Low wear
- Low contamination
- Stainless-steel models
- Pressure-shock resistant to 10 bar (overpressure)
- Latest control technology

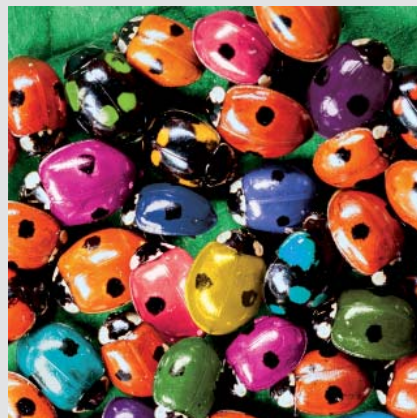
# Applications

## NETZSCH machines and plants for a variety of industrial sectors and applications

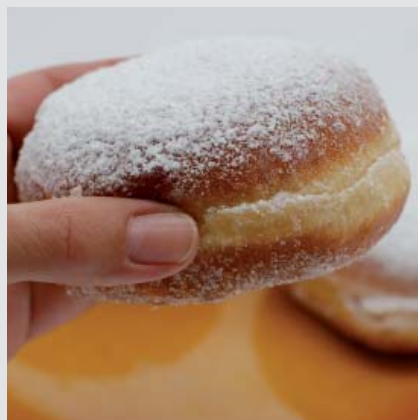
The machines and plants manufactured by the Grinding & Dispersing Business Unit of the NETZSCH Group are used primarily in the following areas of application: chemicals, paint, pigments, inorganic matter/minerals, sealants and adhesives, ceramics and in the life science field for pharmaceuticals, food and cosmetic applications. The demands placed on machines and technology in these different industries are extremely

varied. They must be reliable, have a long service life and be easy to operate and custom tailored for the particular application.

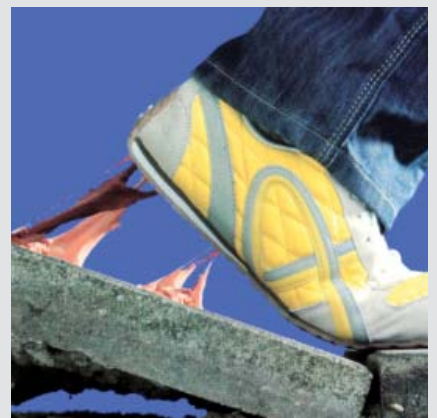
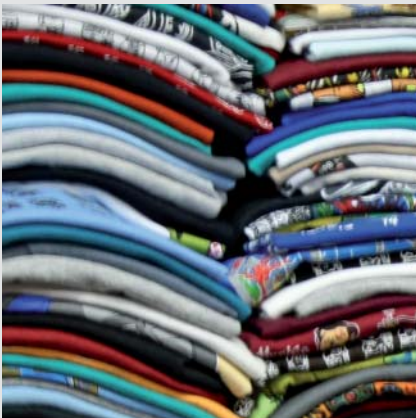
That is our strength and you can rely on it. We will work with you to develop the right solution for your processing task.



- Research & Development, Teaching
- Ores / Minerals / Metals
- Paint
- Pigments / Dyes
- Printing Inks
- Life Science
- Food
- Ceramics / Glass
- Agrochemistry
- Nano Applications
- Adhesives / Sealants
- Cellulose / Pulp







## The World's Leading Grinding Technology

### The Companies of the Business Unit Grinding & Dispersing

NETZSCH-Feinmahltechnik GmbH, Selb, Germany

NETZSCH-CONDUX Mahltechnik GmbH, Hanau, Germany

NETZSCH Premier Technologies, LLC., Exton PA, USA

NETZSCH Indústria e Comércio de Equipamentos de Moagem Ltda., Pomerode, Brazil

NETZSCH (Shanghai) Machinery and Instruments Co., Ltd., Shanghai, China

NETZSCH Mastermix Ltd., Lichfield, Great Britain

NETZSCH-España, S.A., Terrassa/Barcelona, Spain

ZAO NETZSCH Tula, Tula, Russia

The Business Unit Grinding & Dispersing is part of the NETZSCH Group.

The NETZSCH Group is an owner-managed, internationally operating technology company headquartered in Germany. Three Business Units – Analyzing & Testing, Grinding & Dispersing, and Pumps & Systems – provide tailored solutions for highest-level needs. Over 2200 employees at 125 sales and production centers in 23 countries across the globe guarantee that expert service is never far from our customers.

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