Building Materials Machinery
Mixing & Crushing

The benchmark in mixing and crushing technology

BHS SONTHOFEN

TRANSFORMING
MATERIALS
INTO VALUE

The BHS-Sonthofen head office at the company headquarters in Germany

About BHS.

BHS-Sonthofen is an owner-operated group of companies specializing in machinery and plant engineering with headquarters in Sonthofen, Germany. In keeping with our mission “Transforming Materials into Value”, we offer innovative process solutions, technologies and consulting services in the business areas Process Technology, Building Material Machinery, as well as Recycling Technology.
Our experts in the field of mechanical and thermal process technology with a focus on filtration, drying, mixing, crushing and recycling form the basis for our success.
The group of companies includes BHS-Sonthofen GmbH and nine subsidiaries and employs around 600 people at four production sites worldwide.

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www.bhs-sonthofen.com

TRANSFORMING MATERIALS INTO VALUE

A pioneer and expert in mixing and crushing technology with a tradition reaching back over 130 years.

The Mixing Technology division produces batch and continuous mixers and offers the full range of process technology services for mixing applications. The twin-shaft batch mixer, which is considered a global benchmark in the concrete industry, is a key product. The portfolio is complemented by planetary mixers, which are ideal for special applications such as the production of high-quality precast concrete parts. In the construction industry the mixers first and foremost are used to produce transport, precast, high-performance and hydro dam concrete, asphalt or concrete paving blocks. BHS mixers are also highly suited for mixing dry mortar, cement and sand-lime products, or for processing clay-and-rock mixtures or for handling various mixing jobs relating to waste disposal and environmental applications. This ensures that BHS has the broadest know-how and portfolio for almost every building material application.
The Crushing Technology division produces impact crushers and impact mills with vertical and horizontal shafts. Here, BHS uses its comprehensive know-how to support customers process mineral industry, for instance, at quarries and gravel plants for the production of high-quality chippings or in mining applications. The rotor impact mills and rotor centrifugal crushers have created leading standards for producing top-grade sands for the dry mortar industry across the globe.

Concrete industry

Road construction

Dry building materials

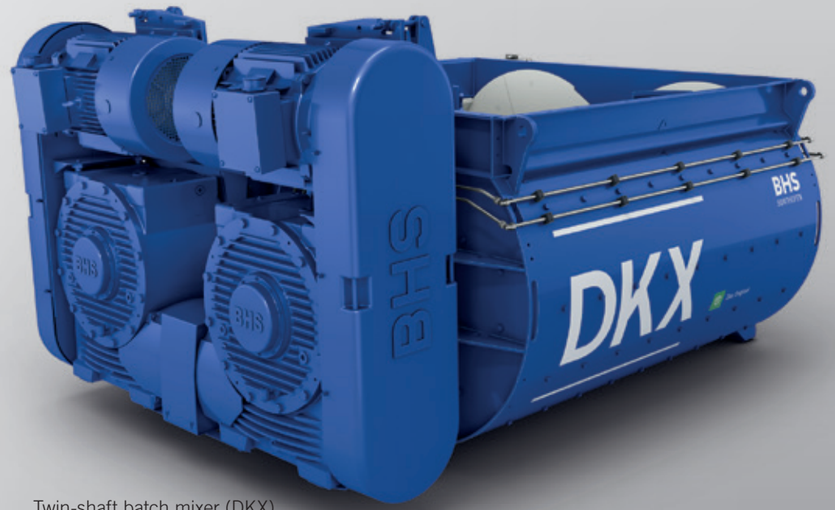
Sand and gravel

Waste disposal and landfill sites

Mining and minerals

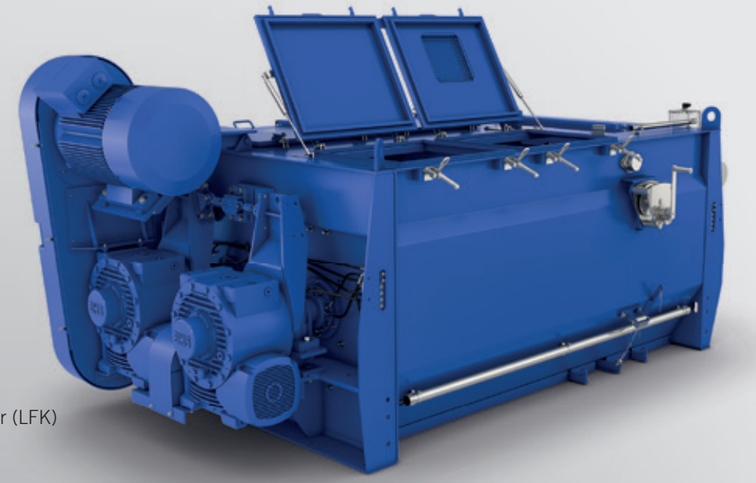
BHS mixers

Batch and continuous mixer

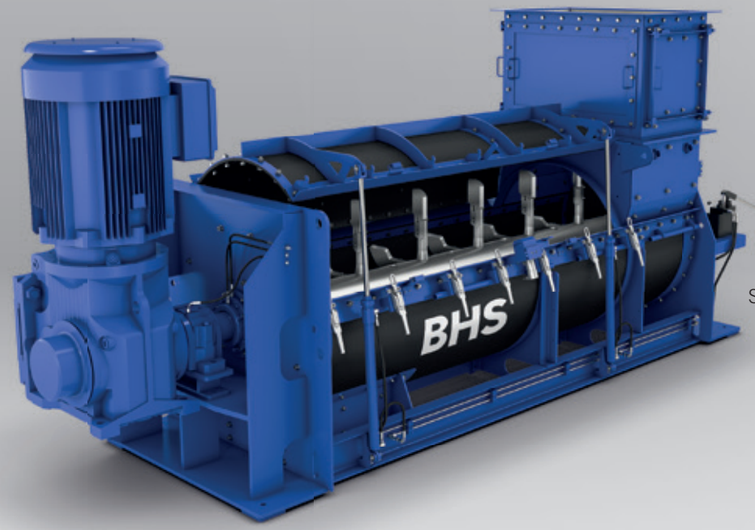


Twin-shaft batch mixer (DKX)

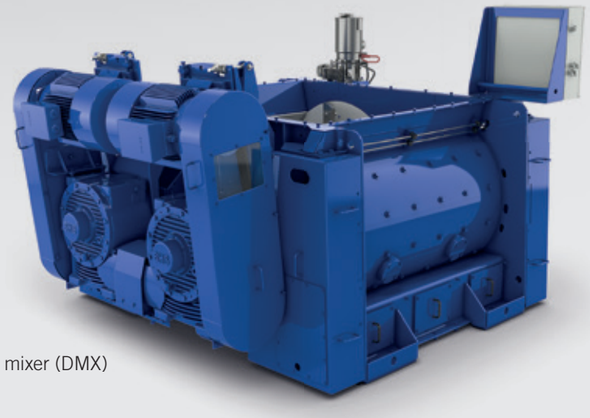
Planetary mixer (BPX)



Twin-shaft continuous mixer (LFK)



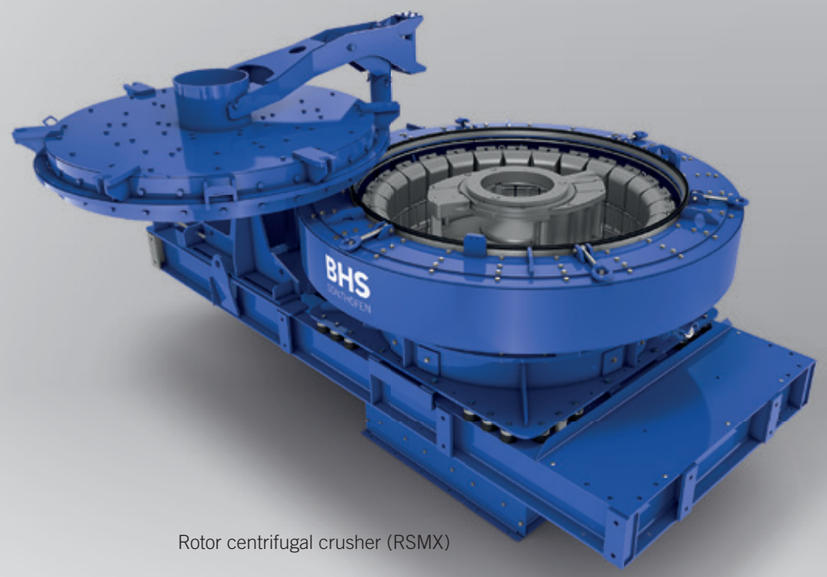
Single-shaft continuous mixer (MFKG)



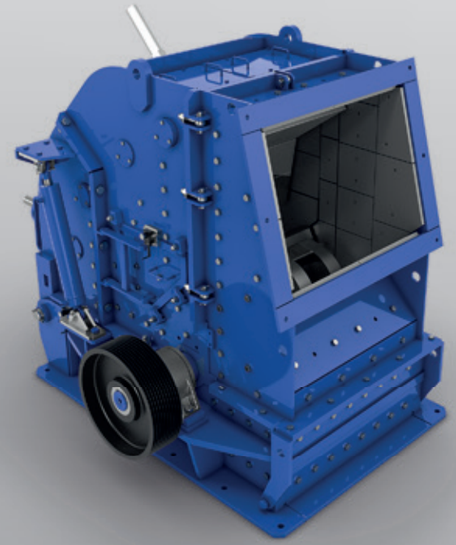
Dry powder batch mixer (DMX)

BHS crushers

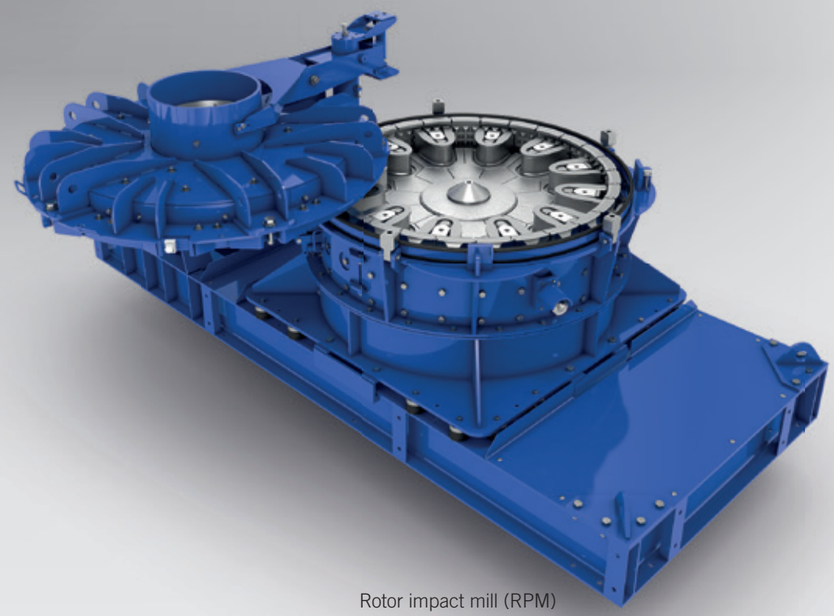
Vertical and horizontal impact crushers



Rotor centrifugal crusher (RSMX)



Impact crusher & impact mill (PB & PM)



Rotor impact mill (RPM)

Retrofitting of mixing plants.
Turning old into new.

BHS is your reliable partner for the retrofitting and modernization of mixing plants – individual, efficient and future-oriented. Our experienced engineers are developing customized solutions to bring existing plants up to the state of the art and ensure maximum performance.
From engineering to implementation, BHS provides you with everything from a single source. Thanks to comprehensive engineering expertise and in-depth process know-how, we make your mixing plant fit for the requirements of tomorrow – and thus secure you a decisive competitive advantage.

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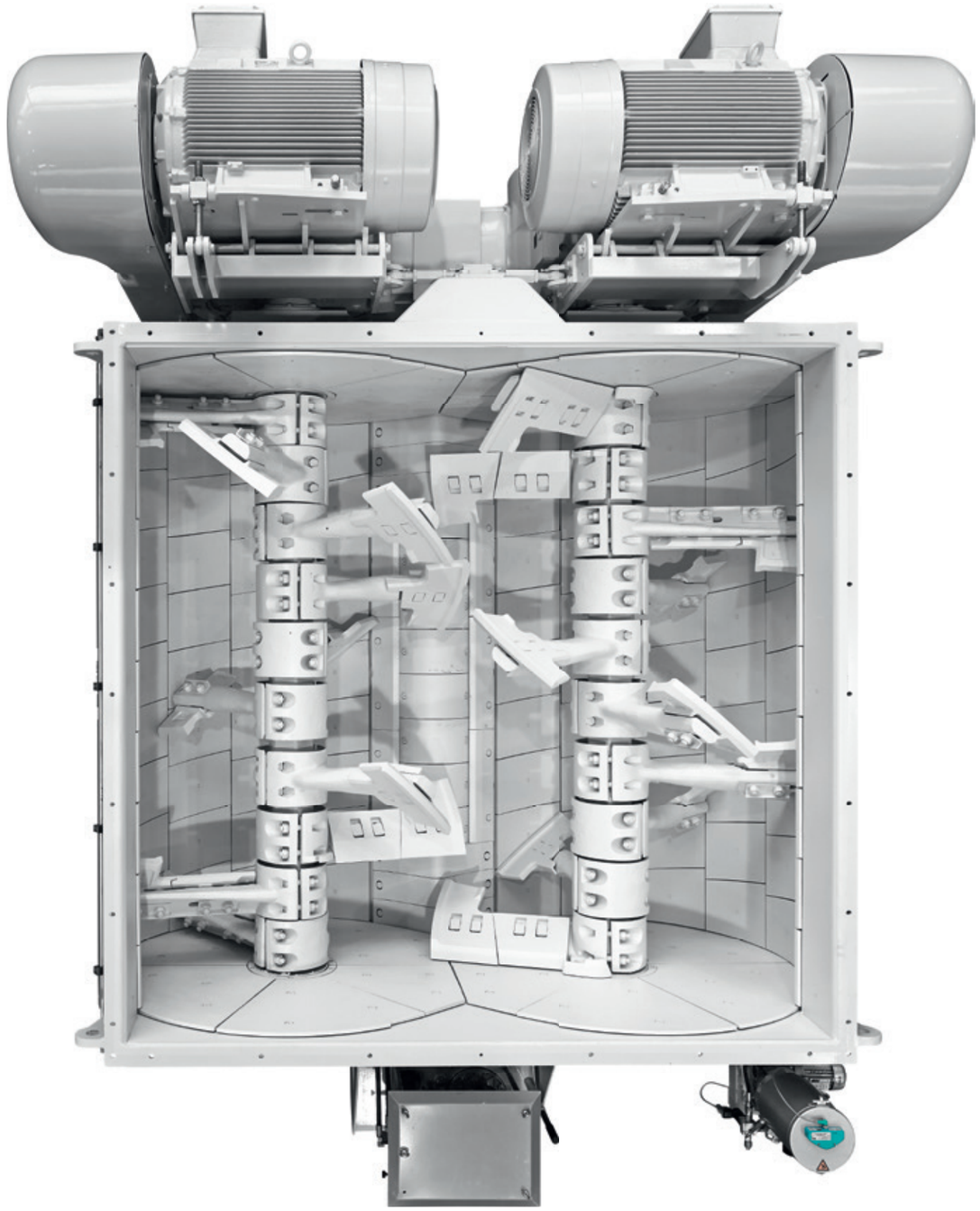
www.bhs-sonthofen.com/retrofitting-mixing-plants



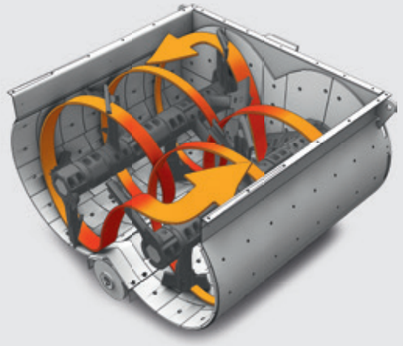
Twin-shaft batch mixer (DKX)

Twin-shaft mixing technology is suitable for all formulas and offers a wide range of benefits. The mixing procedure has a significant effect on the quality of the mixture produced and the economic efficiency of the production process.

Applications

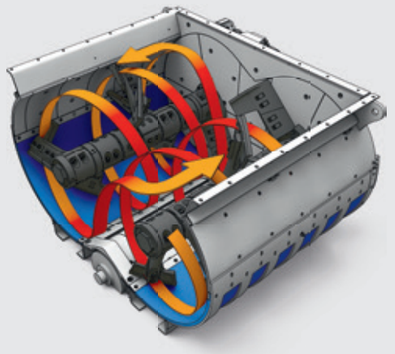
Ready-mixed concrete, precast concrete, high-performance concrete, hydro dam concrete, asphalt, sand-lime bricks, concrete paving blocks, landfill construction materials, backfilling and overburden, clay-and-rock mixtures, waste disposal and environmental applications, etc.

- **Delivers a high level of mixture homogeneity in a short time**
- **Batch after batch, the mixing results are of consistently high quality**
- **Intensive relative movements throughout the mixture**
- **Optimum energy efficiency**
- **Low wear by design**
- **Easy maintenance**
- **Future-proof**

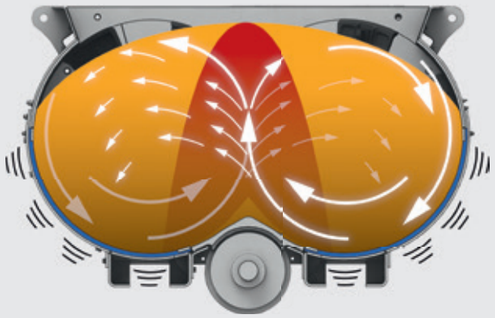


Mixing concept

Movement of the mixture



Mixing concept with rubber mixing trough



Movement of the mixture in the pulsating rubber trough

Planetary mixer (BPX)

The planetary mixer enables intensive mixing of of demanding building materials and ensures a homogeneous mixing result in the shortest possible time. Thanks to its innovative mixing process, it not only guarantees the highest quality of the mixture, but also increases the efficiency and costeffectiveness of the entire production process.

Applications
Ready-mixed concrete, pumped concrete, face and core concrete, lightweight concrete, wet mortar, screed, precast concrete, SCC, special concretes, UHPC, concrete for precast products, glass batching, dry material, etc.

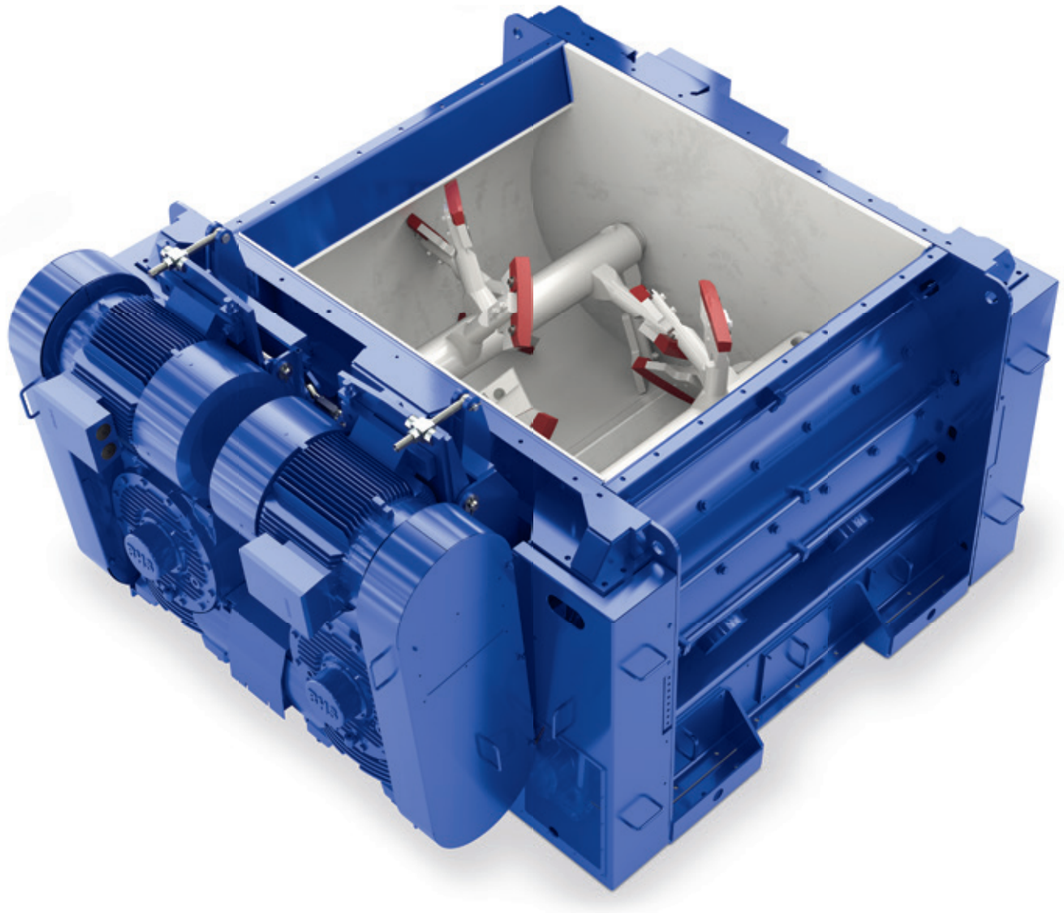
- **High resolution**
- **Reproducible high mixing results**
- **Precise, robust construction**
- **High availability**
- **Wide range of configuration options matching its application**
- **Robust drive from our own production**
- **Maintenance-friendly**

Mixing principle


Optimized mixing tools


Skip hoist


Sophisticated drive technology



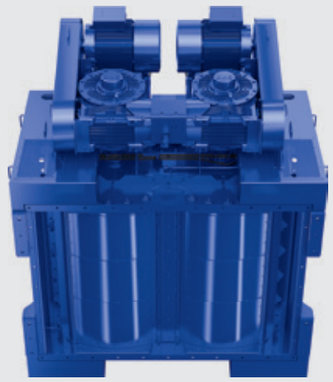
Dry powder batch mixer (DMX)

The dry powder batch mixers of the DMX series are specially adapted to the needs of building material manufacturers. The special spiral-blade mixing mechanism with guided material transport alongside both shafts and the highly turbulent mixing zone in the region where the mixing tools overlap ensures intense three-dimensional mixing, even at low rotational speeds. This makes it possible to gently blend in delicate or very light components.

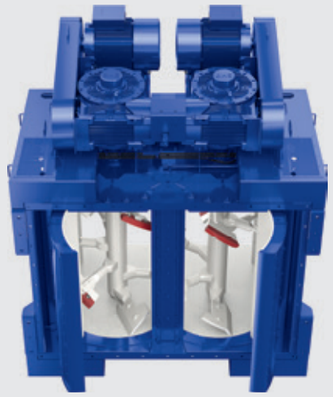
Applications

Dry mortar, cement mixtures, lime, gypsum, refractory mixes, etc.

- **Superior twin-shaft mixing technology**
- **Intensive relative movements throughout the mixture**
- **Gentle processing of the mixture**
- **Residue-free emptying**
- **Low wear**
- **Maintenance-friendly and robust design**
- **Compact dimensions**
- **Efficient energy consumption**
- **Durable drive system**



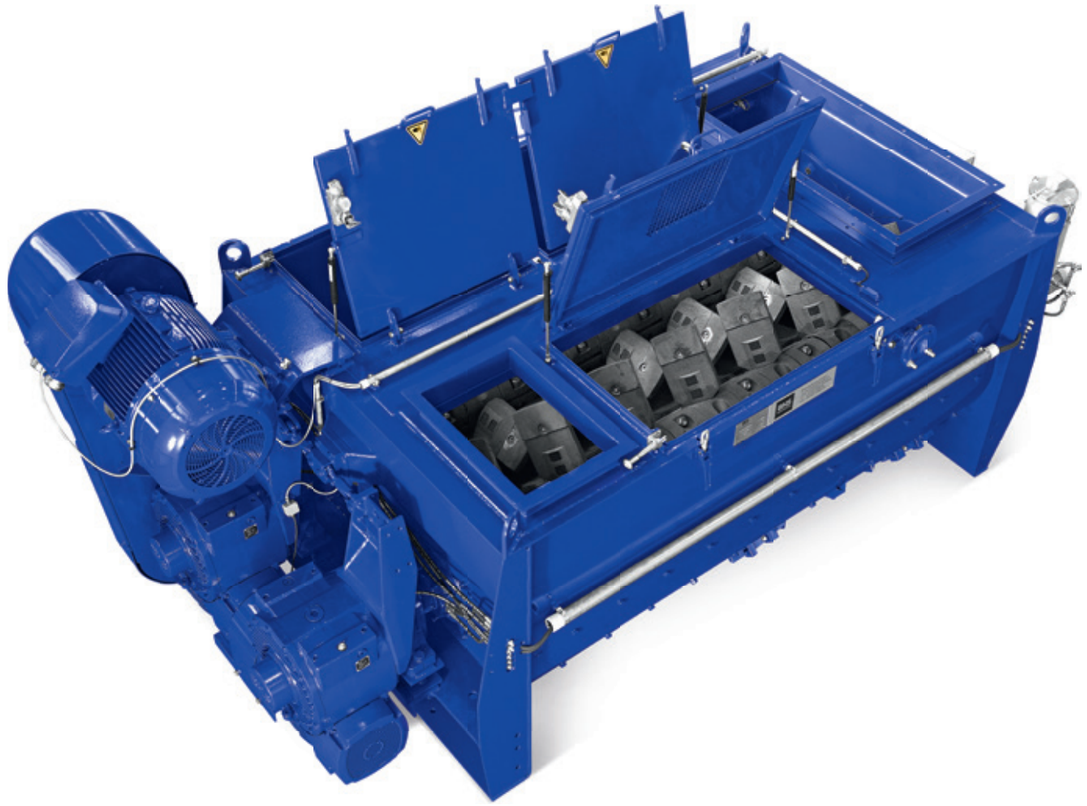
Dual flaps closed



Dual flaps open

Monogate discharge gate closed

Monogate discharge gate open



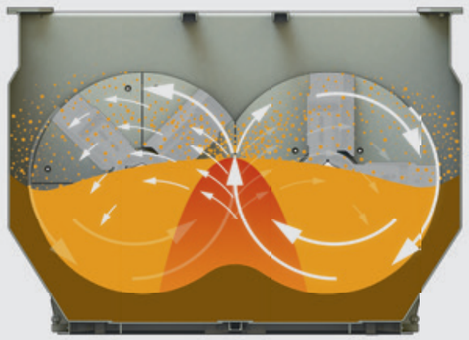
Twin-shaft continuous mixer (LFK)

The BHS twin-shaft continuous mixer is an efficient, reliable solution for continuous mixing processes, especially when handling coarser grain content.
Two trough designs – square and round – are available to address different requirements. When mixing coarse materials, a square trough has proven most suitable. The natural material bed offers optimum wear protection. The round trough design is used for fine materials or when products are changed frequently to avoid material carry-over.
BHS also offers loading stations mixing plants including sophisticated weighing and dosing technology as well as individual plant components.

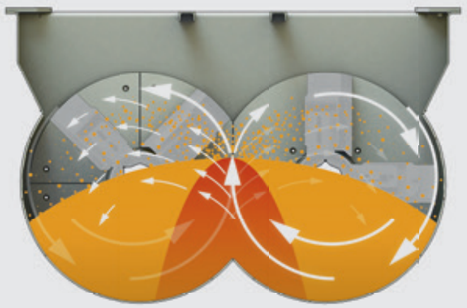
Applications

Gravel mixtures, rolled concrete (hydraulically bound base layer concrete), sludge conditioning, disposal tasks, humidification of dusts and ashes, blended cement, continuously fine dry mixtures, etc.

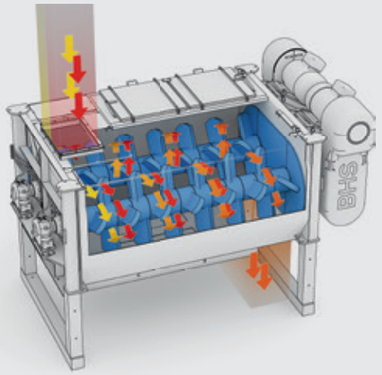
- **Consistently superior mixture quality**
- **Material bed offers wear protection**
- **Easy maintenance**
- **Sturdy and robust design**
- **Secure investment thanks to high operational reliability**
- **Sophisticated and proven drive technology**



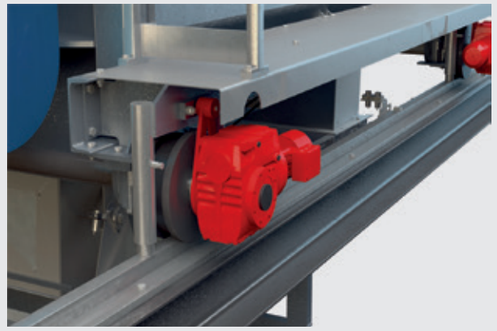
Twin-shaft continuous mixer (LFK) for coarse material



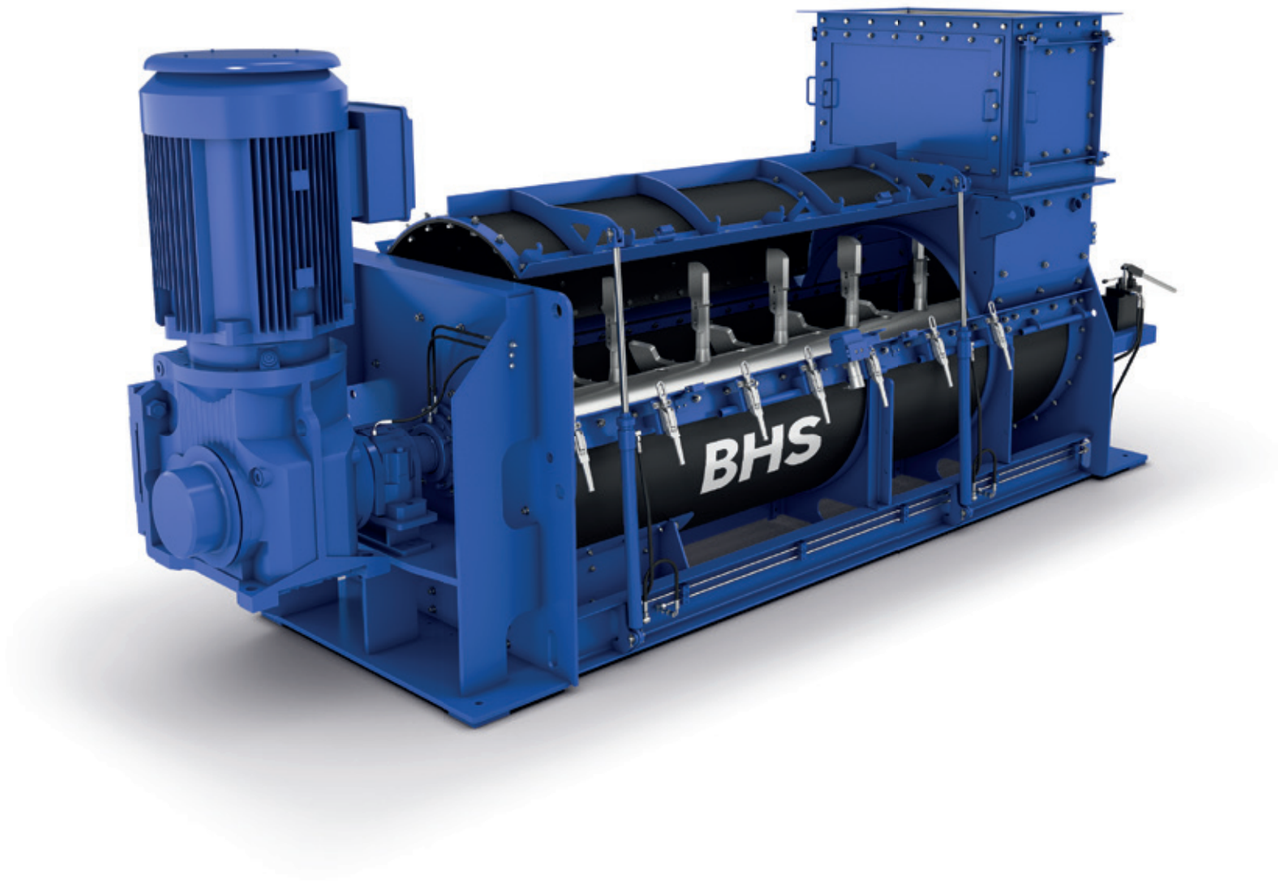
Twin-shaft continuous mixer (LFKR) for fine material



Operating principle



Mixer on mobile frame



Single-shaft continuous mixer (MFKG)

The BHS single-shaft continuous mixer is a continuous mixing system which was developed for the intensive mixing of fine materials. Dry and moist, pasty as well as suspension-like mixtures can be produced continuously with the single-shaft continuous mixer. The special shape and arrangement of the mixing tools ensures an intensive mixing process.
What sets the BHS single-shaft continuous mixer apart is the self-cleaning, flexible rubber trough, which prevents build ups on the inner trough wall. Liquids are added through nozzles in the inlet area, which facilitates early and extensive moistening of the entire feed material.
BHS also offers complete continuous mixing plants including sophisticated weighing, dosing and control technology as well as individual plant components.

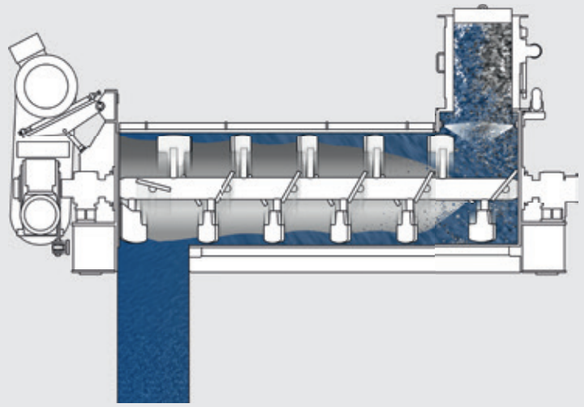
Applications

Sludge conditioning, humidification of dusts and ashes, production of suspensions, etc.

- **» Consistently superior mixture quality**
- **» Self-cleaning rubber trough**
- **» Low wear**
- **» Easy maintenance**
- **» Sturdy robust design**

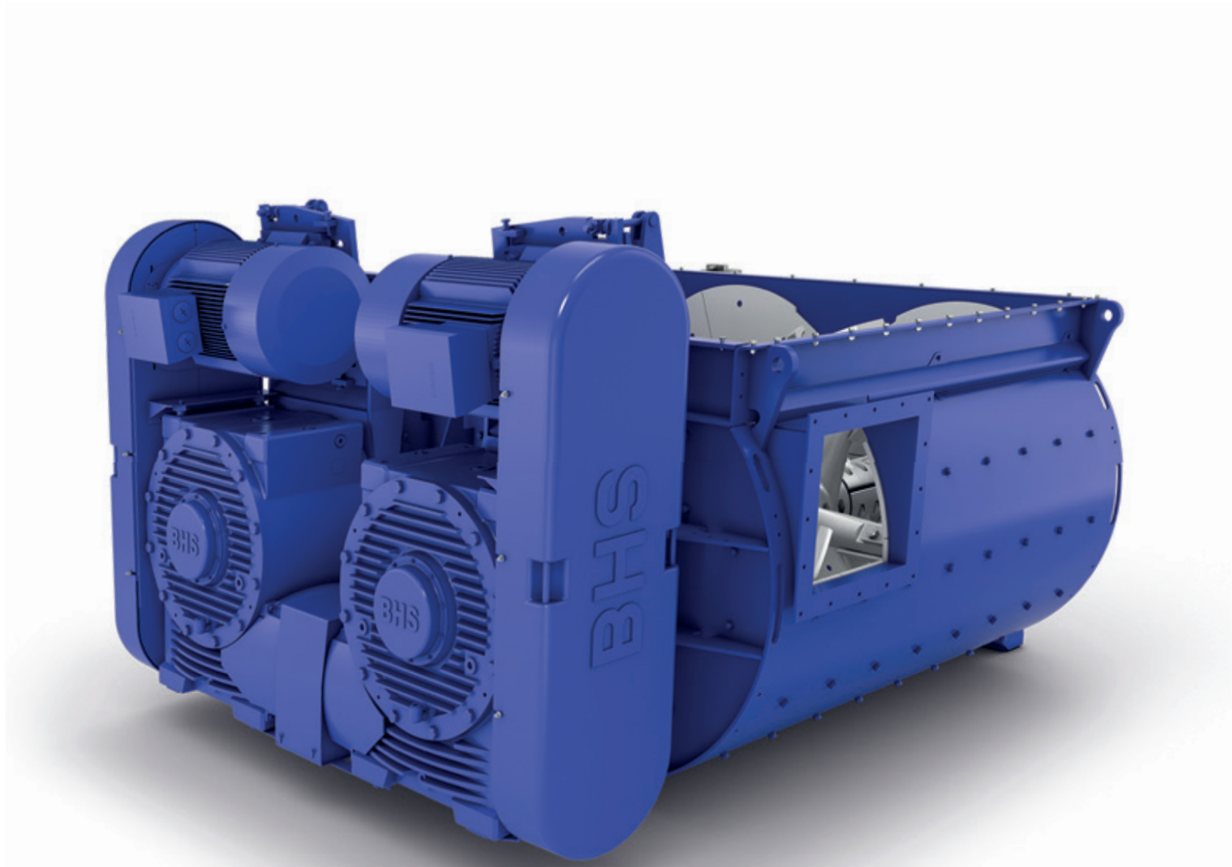
Continuous mixing plant for moisturizing waste materials

Continuous mixing plant for moisturizing fly ash



Mixing principle

Cross-section



Combimix System (DKXC)

The patented Combimix system transforms the twin-shaft batch mixer (DKX) into a mixer that operates continuously according to the proven three-dimensional mixing principle. This results in a more intense mixing effect and a significantly longer average retention time compared with conventional continuous mixers. The material is extracted at the same rate as the input material is fed into the system.

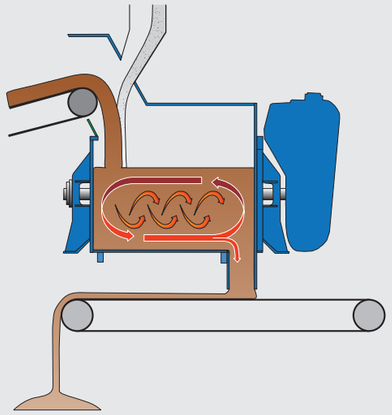
Applications

Quality concrete for highway and airport construction, environmental and waste disposal tasks, clay-and-rock mixtures

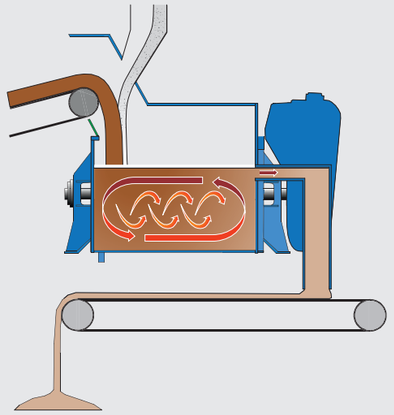
- **Continuous mixing process**
- **Three-dimensional mixing principle**
- **Consistently high mixture homogeneity**
- **High throughput rates**
- **Low wear**
- **Intensive relative movements throughout the mixture**
- **Adjustable retention time (bottom discharger)**
- **Easy maintenance**
- **Future-proof**

Combimix system with bottom discharge

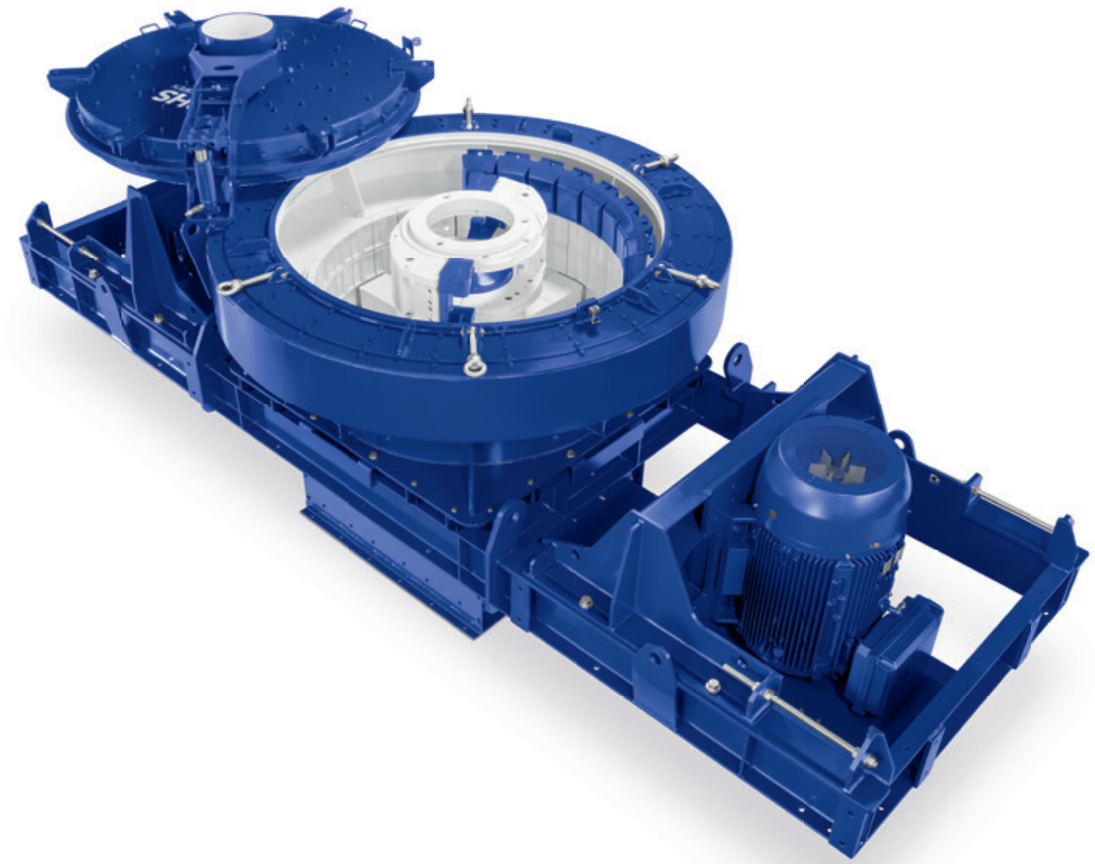
Combimix system with overflow



Bottom discharger



Overflow



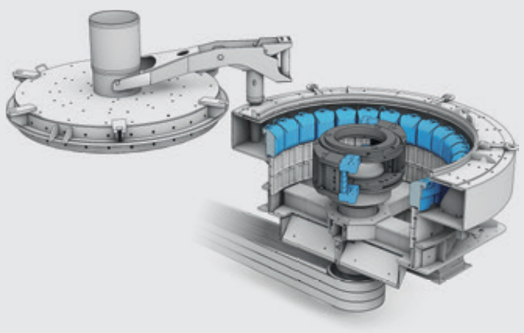
Rotor centrifugal crusher (RSMX)

The rotor centrifugal crusher is a high-performance crusher with a vertical shaft. Every single particle of the input material undergoes extreme acceleration due to the centrifugal force in the rotor and is hurled against the impact wall. The crusher is suitable for all types of minerals, including highly abrasive feed materials.
The impact wall can either consist of an anvil ring or alternatively of a material bed. Clogging is avoided through the generous dimensioning of the rotor and housing. The crushing results can be substantially controlled and optimized by selecting a suitable speed.

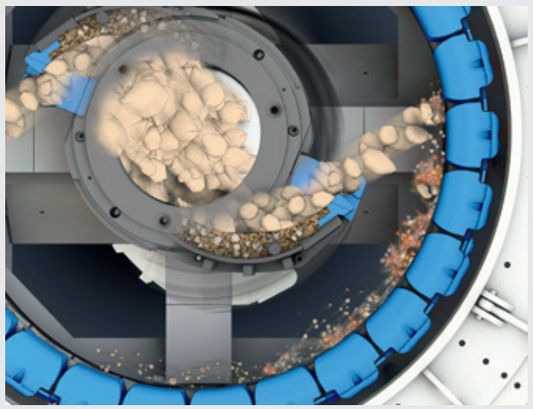
Applications

Aggregates, gravel, sand, slags and ashes, milled asphalt, aluminum oxide, ferrosilicon, glass, cement clinkers, broken bricks, selective crushing, etc.

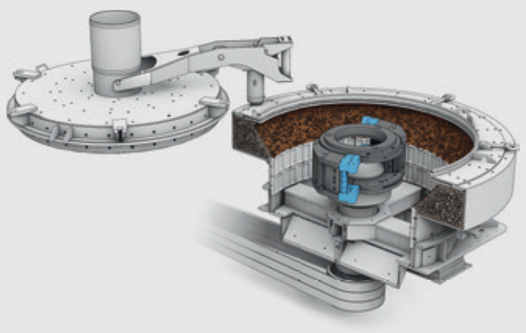
- **Generating valuable end products**
- **Targeted, selective size reduction**
- **Globally proven twin-chamber rotor**
- **Unit ready for operation**
- **Easy maintenance and high availability**
- **Reliable lubrication**
- **Stress is applied to every single particle**
- **Improved cubicity**
- **Highly flexible operation: anvil ring or material bed**



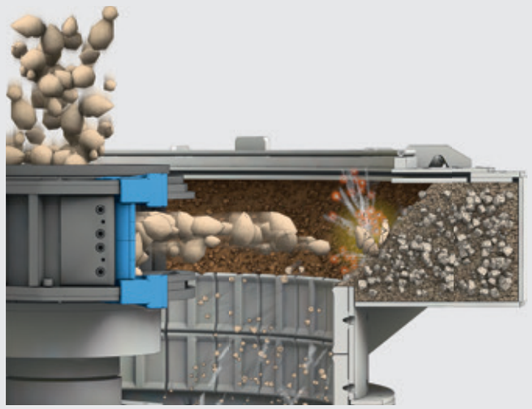
Configuration with anvil ring



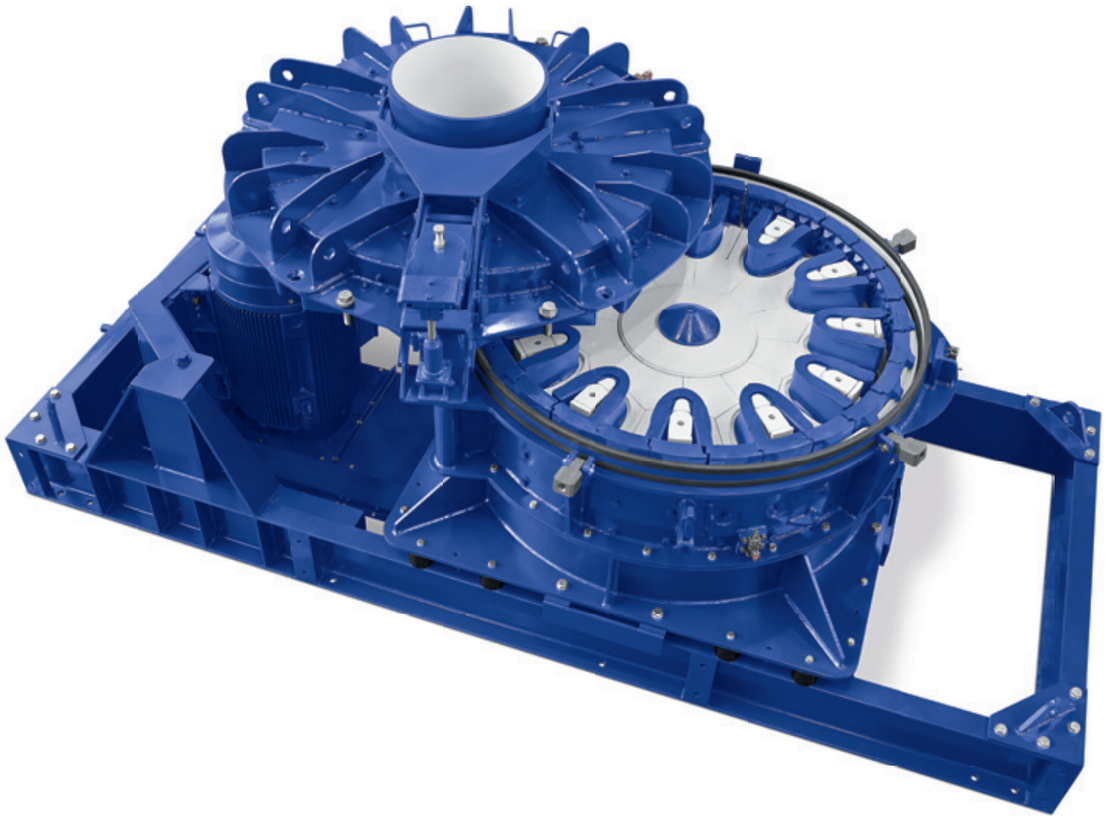
Operating principle with anvil ring



Configuration with material bed



Operating principle with material bed



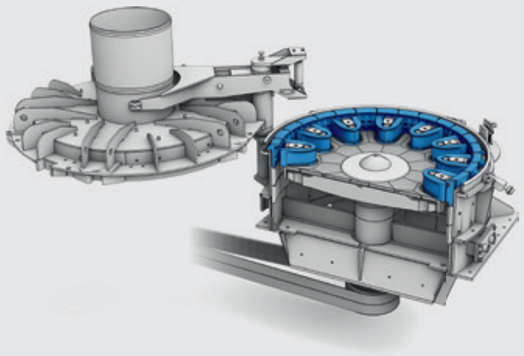
Rotor impact mill (RPM)

The rotor impact mill is a high-performance crusher with a vertical shaft. The rotor impact mill enables you to achieve a high reduction ratio and excellent particle shape The mill is suitable for crushing all low to moderately abrasive minerals and is therefore used predominantly in the production of sand for the concrete, asphalt and dry mortar industries. The crushing results can be substantially controlled and optimized by selecting a suitable rotation speed and manually adjusting the gap between hammer and anvil ring.

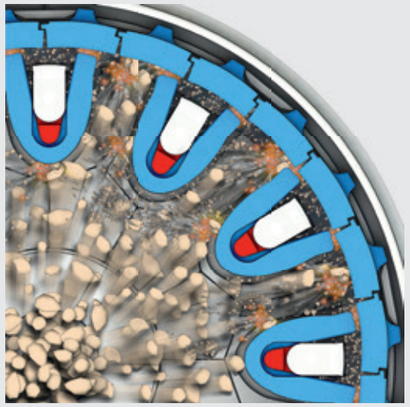
Applications

Sand, dry mortar, quicklime, fertilizer lime, etc.

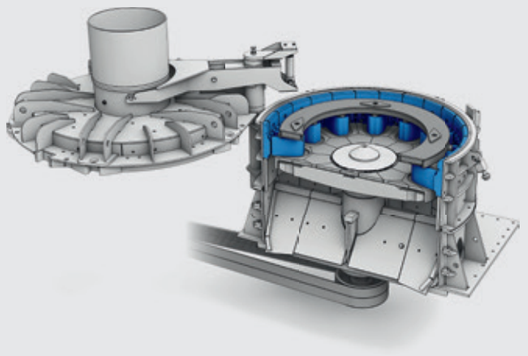
- **Unique operating principle**
- **High reduction ratio**
- **Reliable lubrication**
- **Unit ready for operation**
- **Easy maintenance**
- **Stress is applied to every single particle**
- **Effective crushing of excess components to sand**



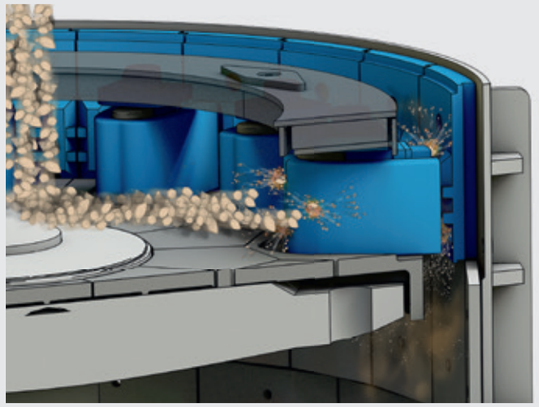
Design of the RPM



Operating principle of the RPM



Design of the RPMF



Operating principle of the RPMF

Impact crusher & impact mill (PB & PM)

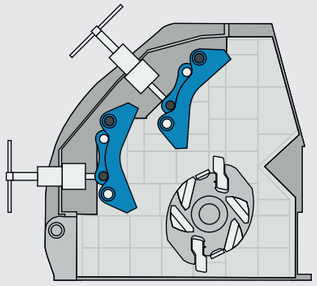
Impact Crushers and Impact Mills are a universal and, at the same time, economical solution. The impact crusher reaches a very high reduction ratio in the first as well as the second stage. The BHS Impact Crusher achieves very high crushing ratios in both the first and second stage. This already results in a broad range of saleable cubical final products. The impact crusher can be repurposed into an impact mill for manufacturing finer grains by inserting a higher machine base and an additional grinding track. This flexible solution allows you to benefit from excellent crushing results and respond to changing project requirements at any time.

Applications

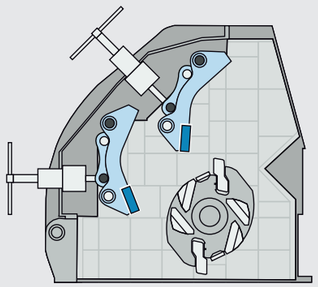
Aggregates, gravel, slag, demolotion waste, bricks and fireclay, glass, ash from waste incineration, etc.

- **» Superior crushing performance**
- **» Powerful rotors**
- **» Robust impact plates**
- **» Quick and simple blow bar replacement**
- **» Large feed opening**
- **» Maintenance-friendly design**
- **» Optimized wear parts**

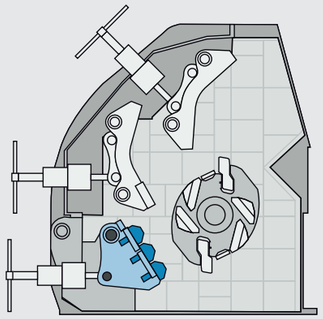
Flexible solution for any crushing application



Impact crusher design with impact plates as monoblock casting.



Impact crusher configuration as monoblock casting with screw-fastened wear strips made of white cast iron.



The impact mill is equipped with impact plates and an additional grinding track beneath the rotor shaft.

Our tests. Your investment security.

BHS-Sonthofen operates a technical center at its headquarters in Sonthofen for individual testing. All of our crushing machines are installed there on an industrial scale. Batch and continuous mixers are available for mixing trials, which can also be operated on-site at the customer's premises. Based on our technological expertise, we are able to create optimal machine configurations. We are happy to do this in collaboration with interested parties.

Register for a trial now
www.bhs-sonthofen.com/tests

The BHS-Sonthofen technology center at the company headquarters in Germany

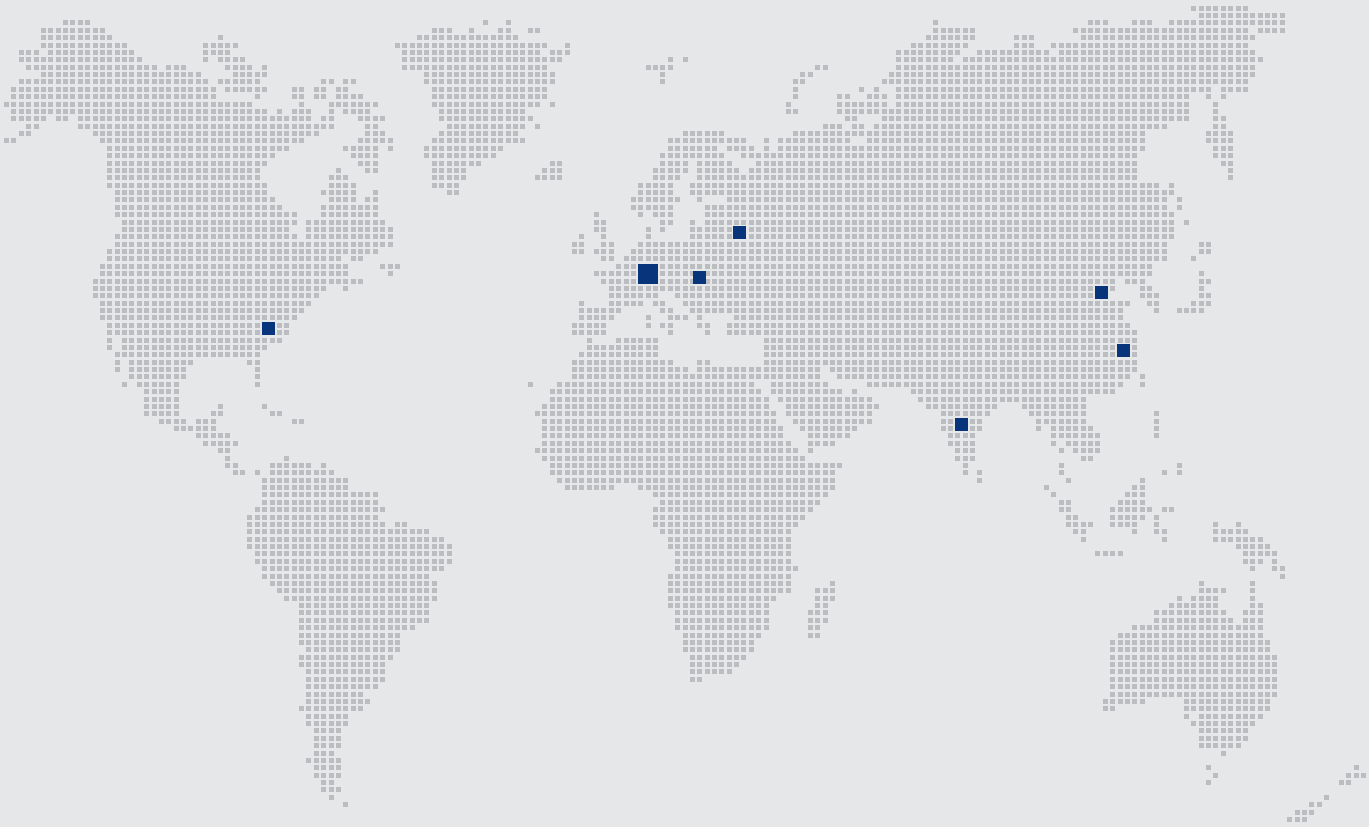
BHS AREAS OF EXPERTISE

MIXING TECHNOLOGY

CRUSHING TECHNOLOGY

RECYCLING TECHNOLOGY

FILTRATION TECHNOLOGY



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