

Mixing & Crushing Machines & Complete Systems

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 GmbH is an internationally operating company in the field of mechanical process technology. Day in, day out, around 400 employees ensure that we remain a leading provider of intelligent recycling, mixing, crushing and filtration solutions – both at our headquarters in Sonthofen, Germany, and around the world. Our international customers hail from the building materials, recycling, chemical, pharmaceutical, food and feed industries as well as the energy and environmental sectors. At BHS, customers can get everything from a single source: from individual machines through to complete systems.

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. 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.

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.



Ready-mixed concrete



Road construction



Sand and gravel



Waste disposal and landfill sites



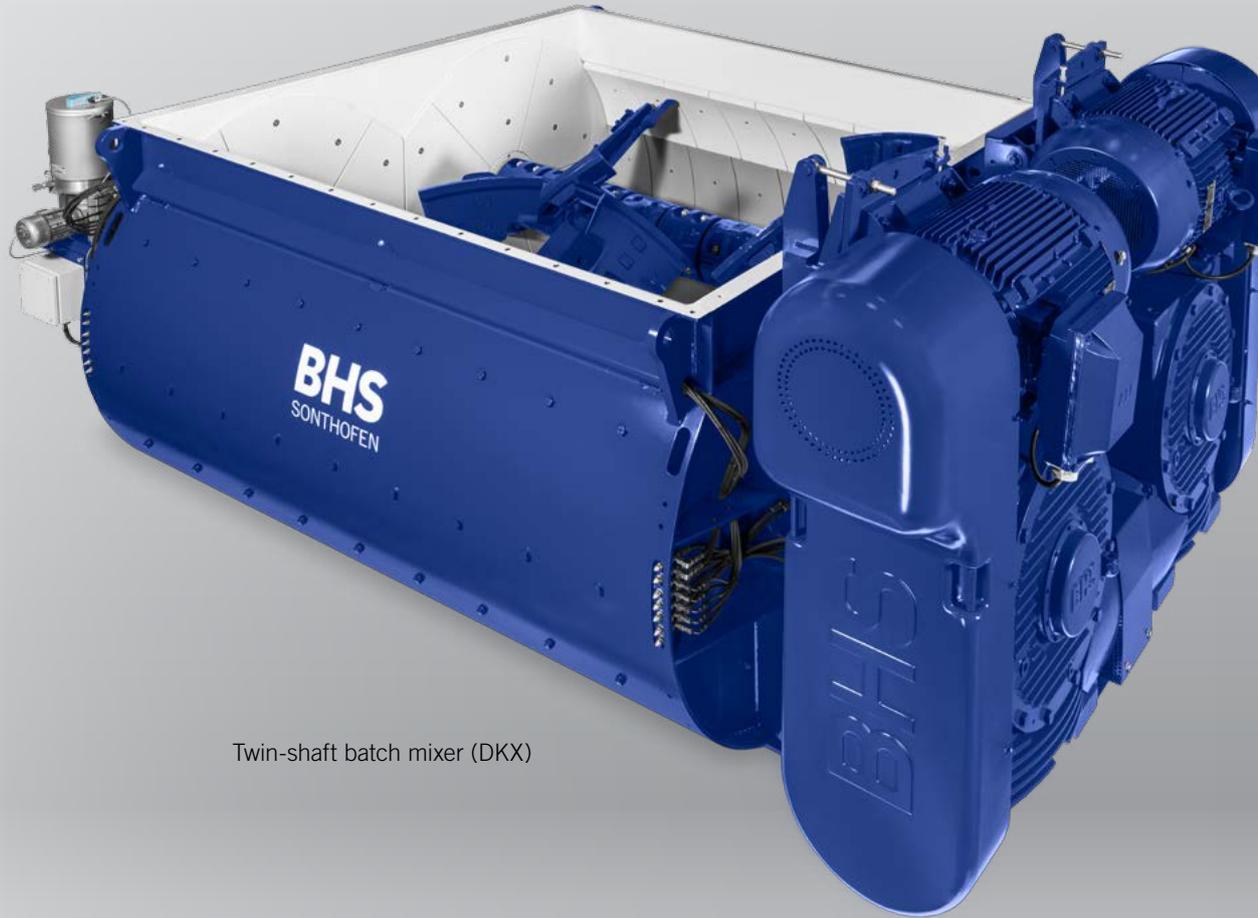
Dry building materials



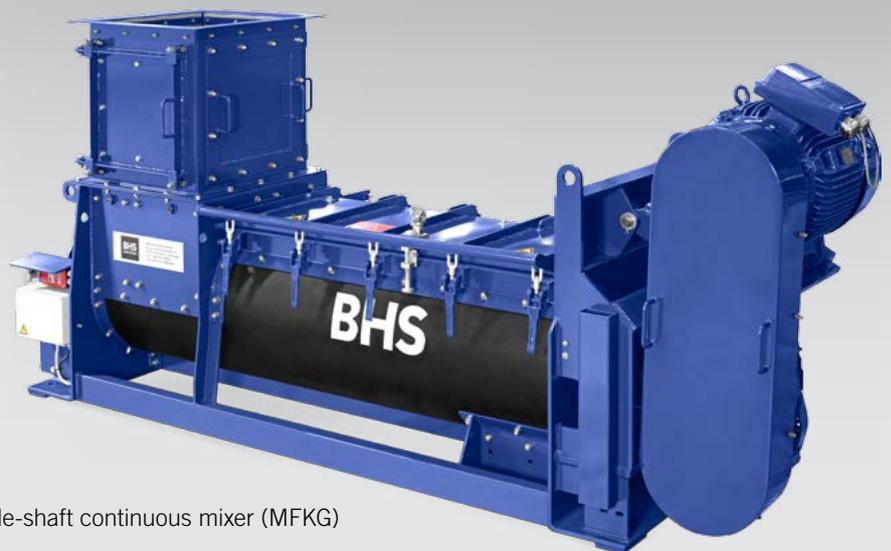
Mining and minerals

BHS mixers

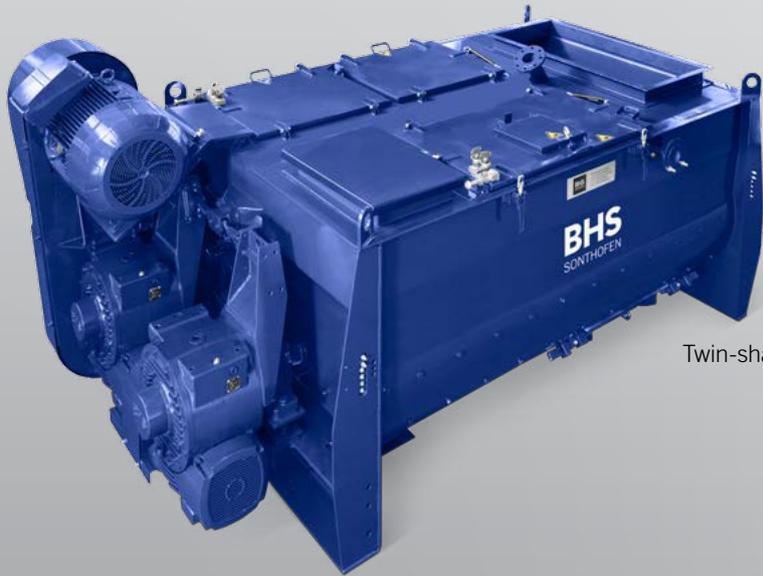
Batch and continuous mixer



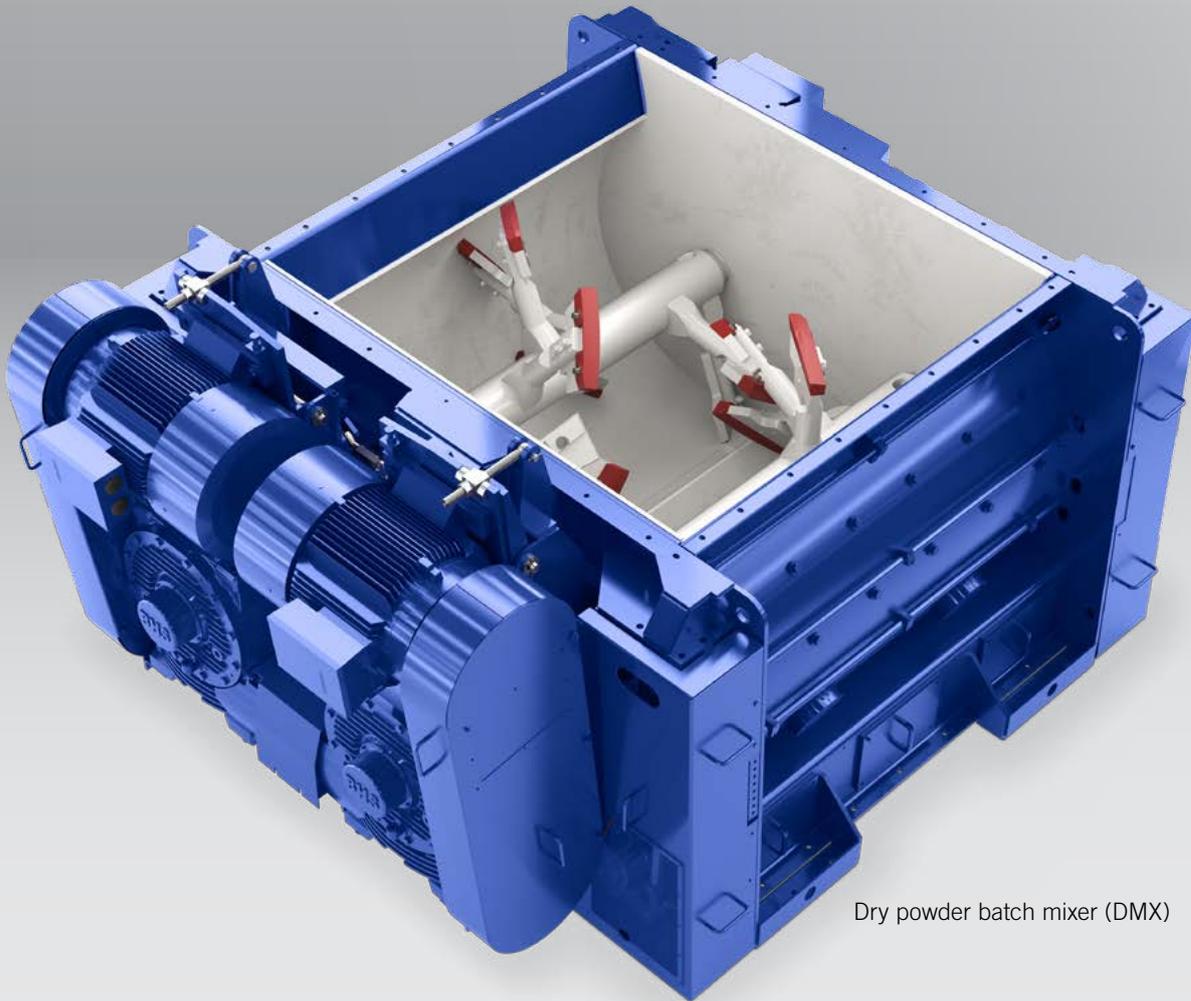
Twin-shaft batch mixer (DKX)



Single-shaft continuous mixer (MFKG)



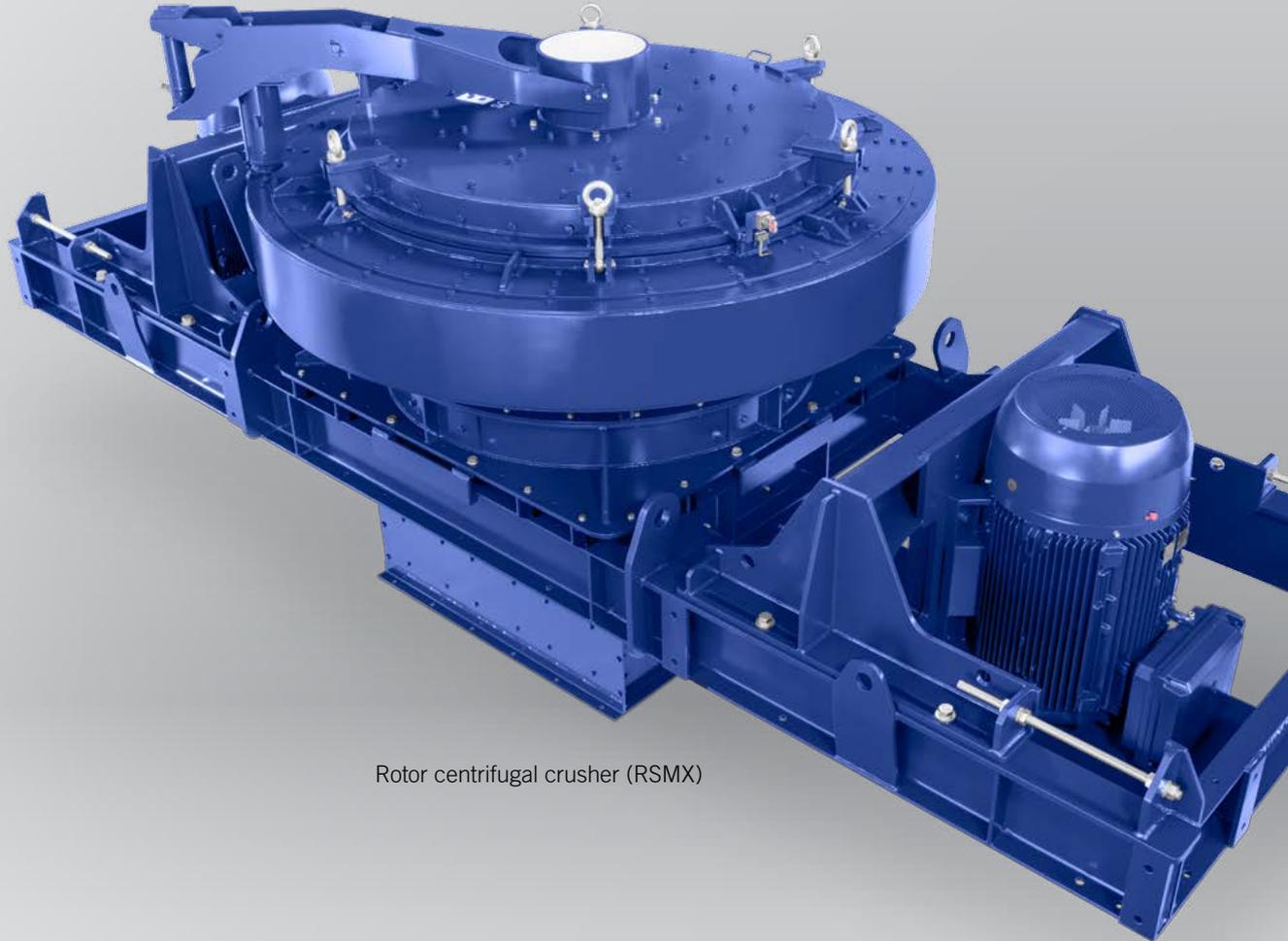
Twin-shaft continuous mixer (LFK)



Dry powder batch mixer (DMX)

BHS crushers

Vertical and horizontal impact crushers

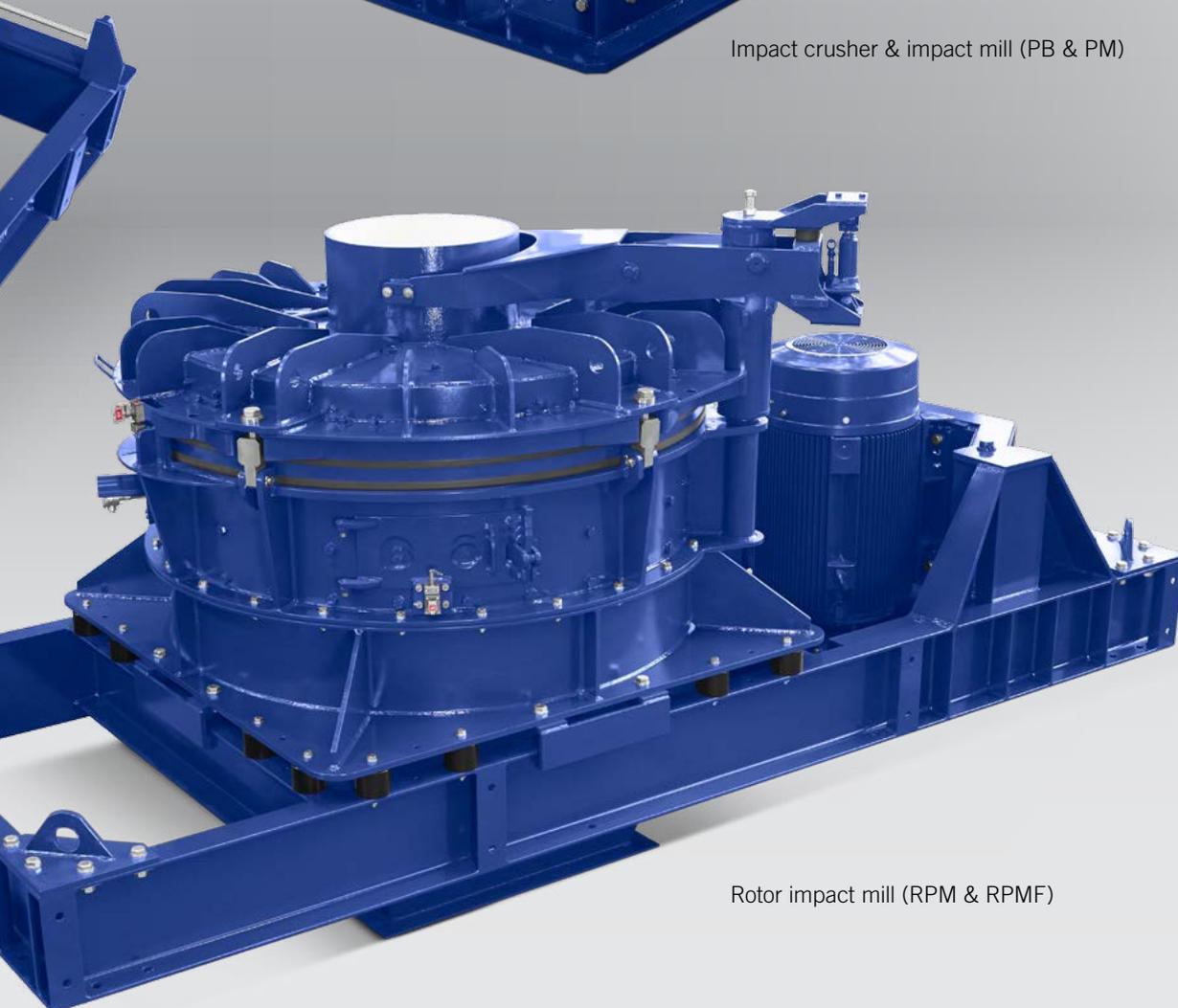


Rotor centrifugal crusher (RSMX)





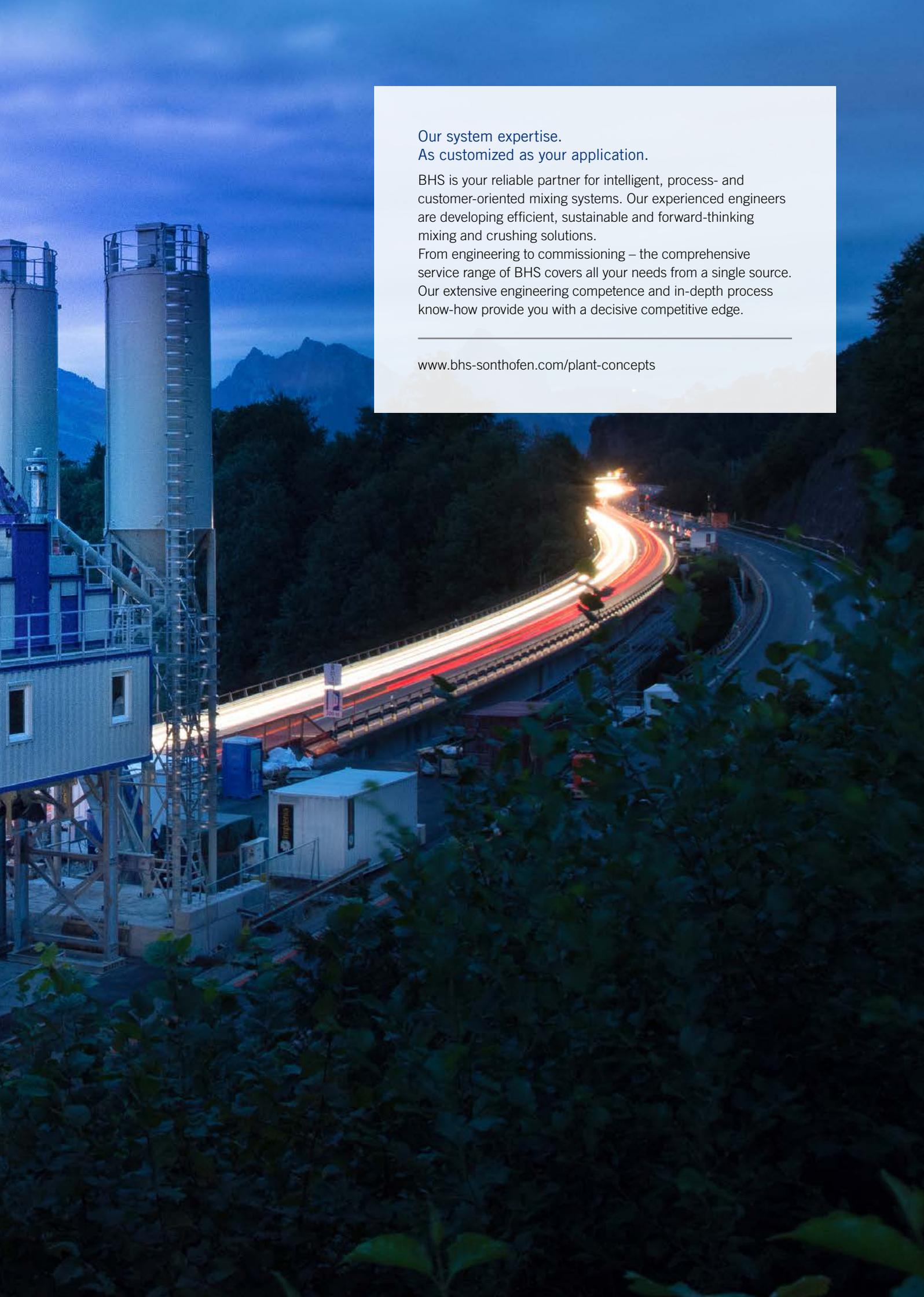
Impact crusher & impact mill (PB & PM)



Rotor impact mill (RPM & RPMF)



Turnkey TWINMIX mixing plant for the production of special concrete (UHPC). It operates with two twin-shaft batch mixers of type DKX.

The background image is a night-time photograph. On the left, there are two tall, cylindrical industrial silos with metal ladders and walkways. Below them is a smaller building with windows. In the center and right, a highway curves through a dark, wooded area. The lights from the highway create long, bright streaks of white and red, indicating traffic moving away from the viewer. The sky is a deep blue, suggesting twilight or early night. The overall scene is industrial and dynamic.

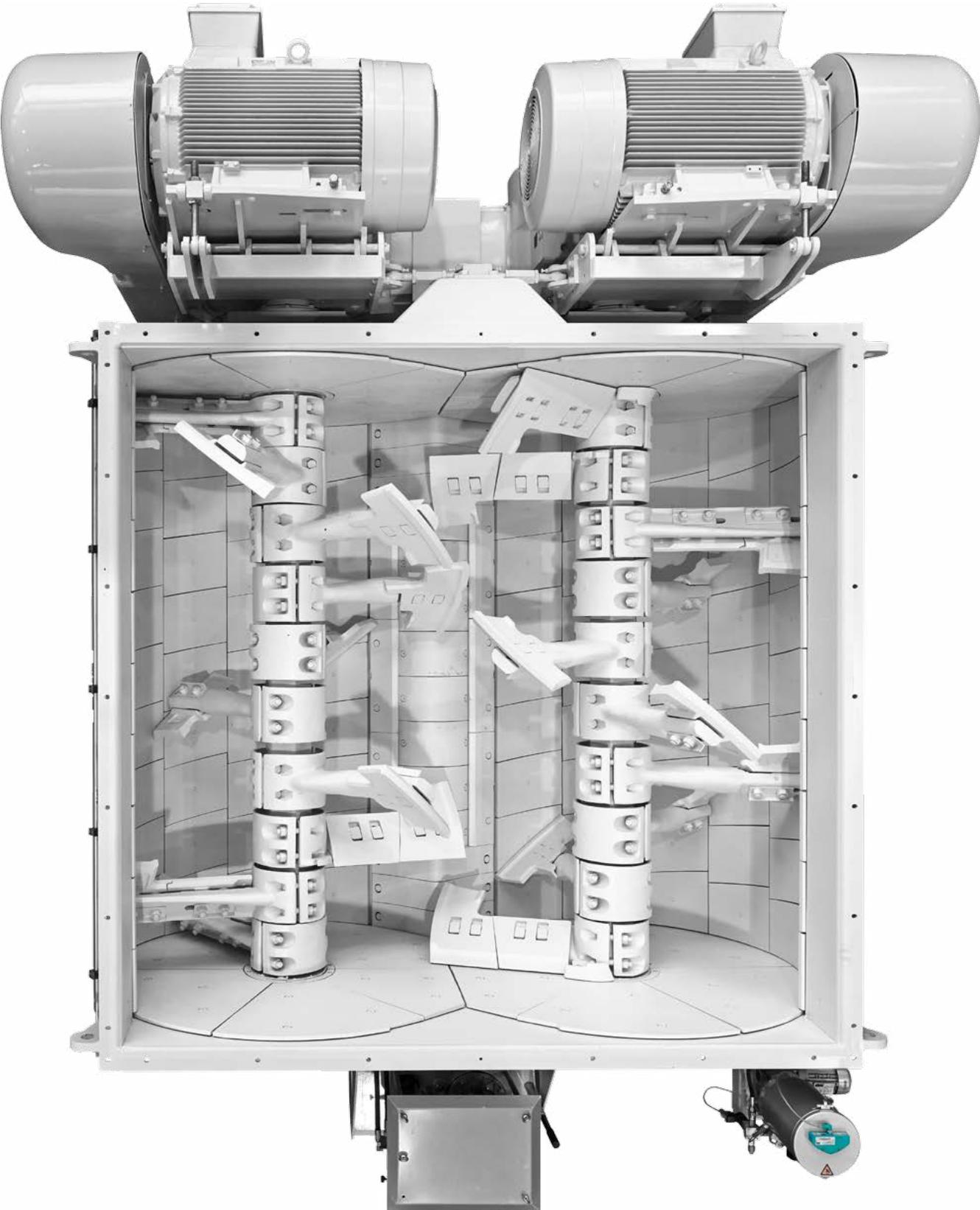
Our system expertise.
As customized as your application.

BHS is your reliable partner for intelligent, process- and customer-oriented mixing systems. Our experienced engineers are developing efficient, sustainable and forward-thinking mixing and crushing solutions.

From engineering to commissioning – the comprehensive service range of BHS covers all your needs from a single source. Our extensive engineering competence and in-depth process know-how provide you with a decisive competitive edge.

www.bhs-sonthofen.com/plant-concepts

TWIN-SHAFT BATCH MIXER (DKX)



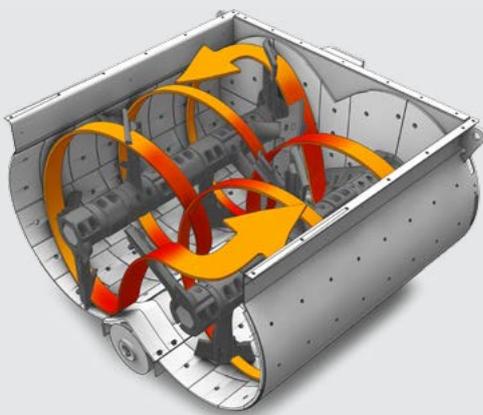
Twin-shaft batch mixer (DKX)

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.

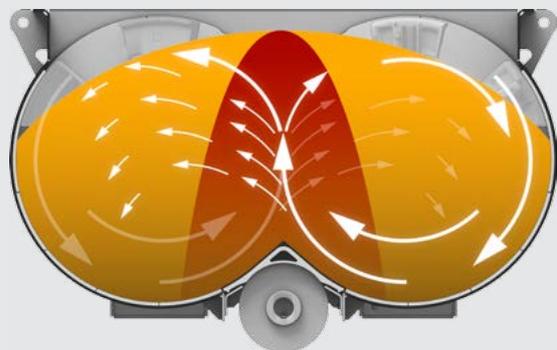
Applications

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.

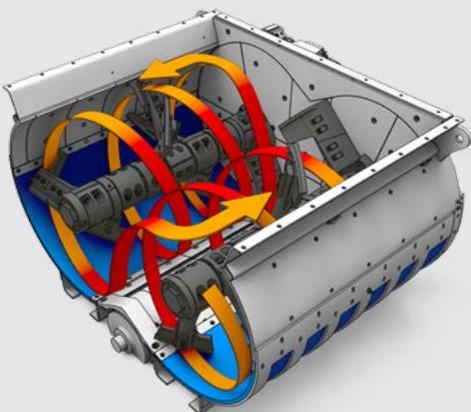
- » **Delivers a high level of mixture homogeneity in a short time**
- » **Batch after batch, the mixing results are of consistently high quality**
- » **Intensive relative movements throughout the mixture**
- » **Optimum energy efficiency**
- » **Low wear by design**
- » **Easy maintenance**
- » **Future-proof**



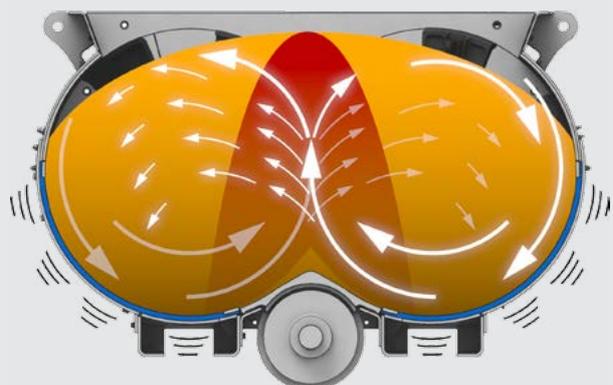
Mixing concept



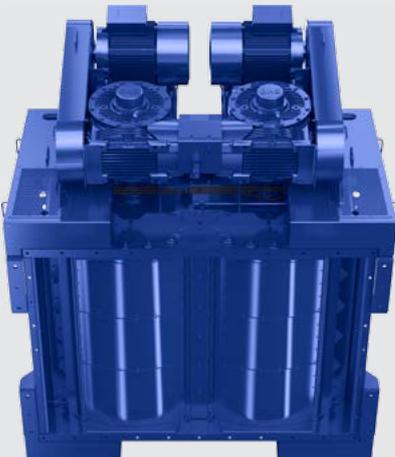
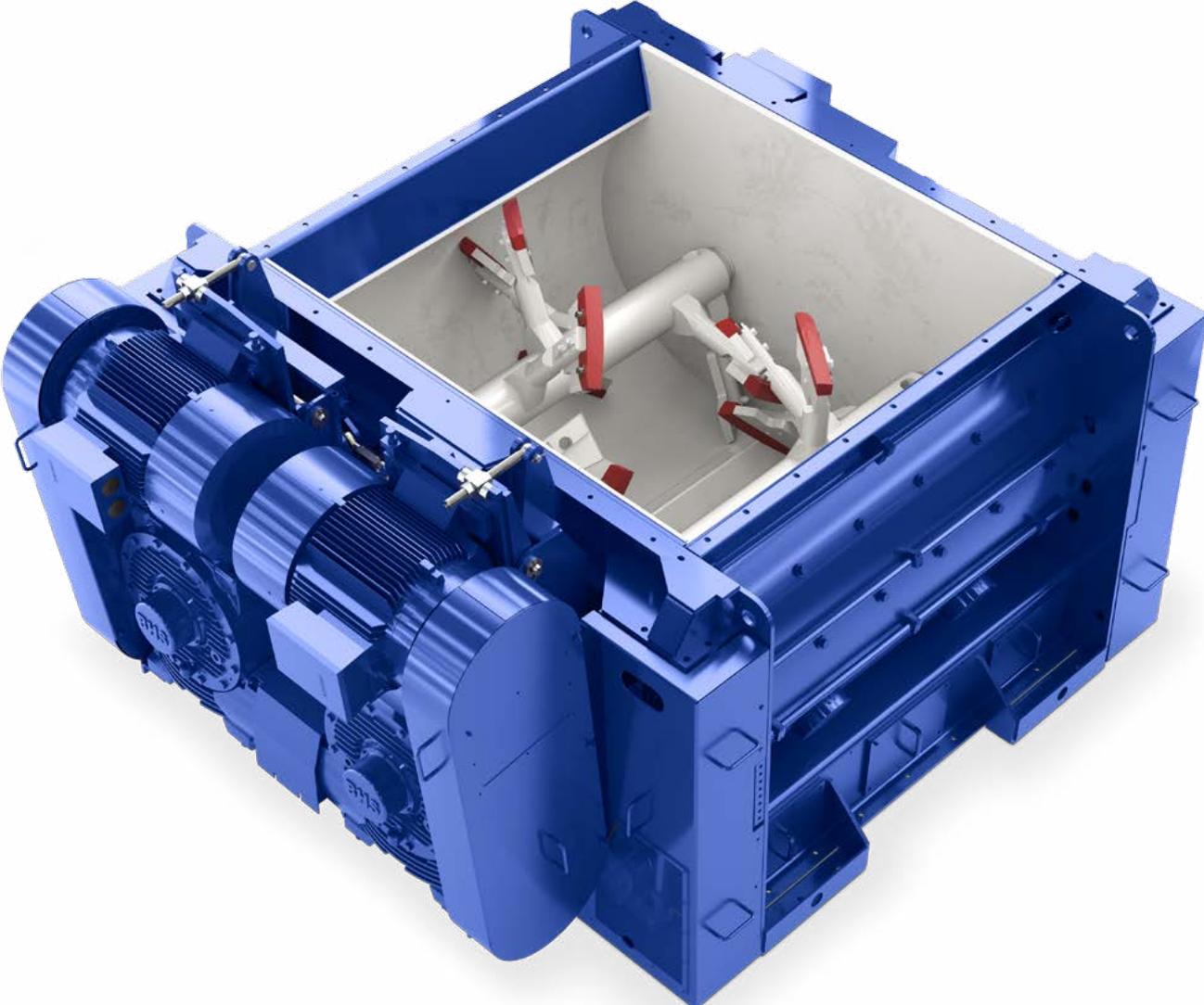
Movement of the mixture



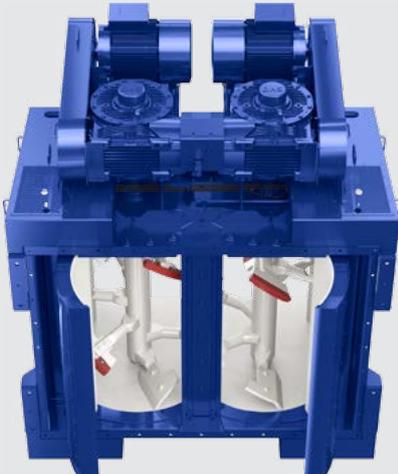
Mixing concept with rubber mixing trough



Movement of the mixture in the pulsating rubber trough



Dual flaps closed



Dual flaps open

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.

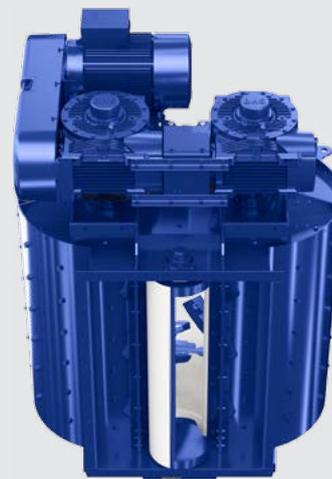
Applications

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

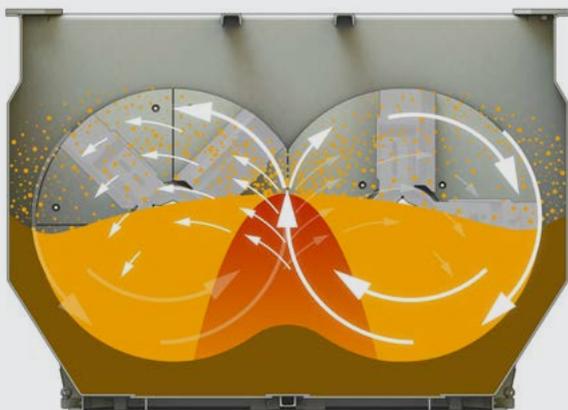
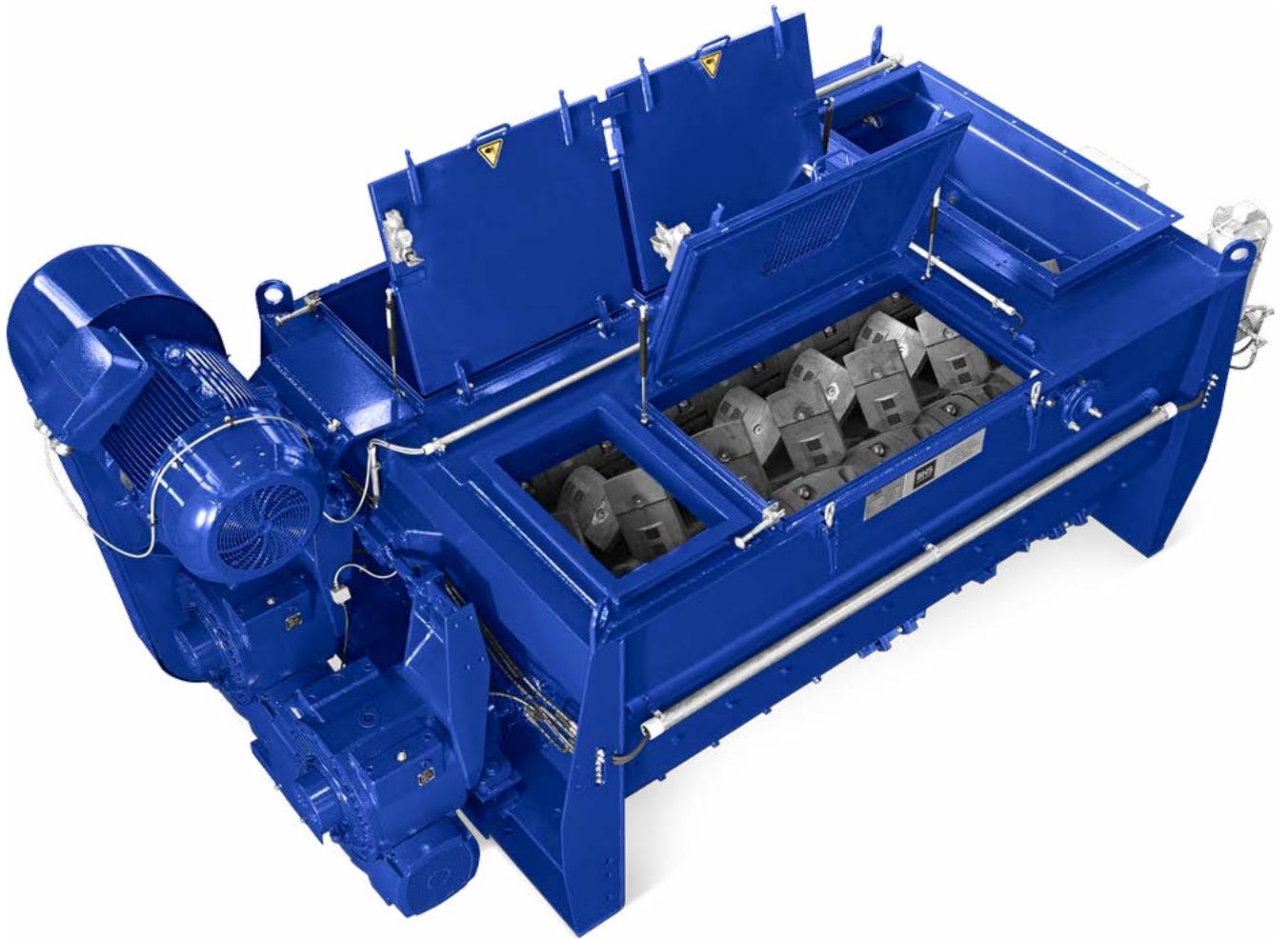
- » **Superior twin-shaft mixing technology**
- » **Intensive relative movements throughout the mixture**
- » **Gentle processing of the mixture**
- » **Residue-free emptying**
- » **Low wear**
- » **Maintenance-friendly and robust design**
- » **Compact dimensions**
- » **Efficient energy consumption**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



Monogate discharge gate closed



Monogate discharge gate open



Twin-shaft continuous mixer (LFK) for coarse material



Twin-shaft continuous mixer (LFKR) for fine material

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.

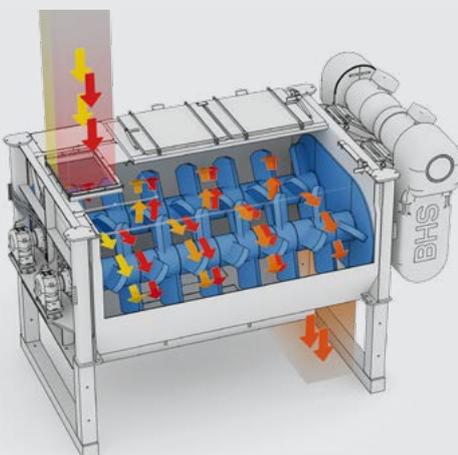
Two trough designs – square and round – are available to address different requirements. When mixing coarse materials, a square trough has proven most suitable. The natural material bed offers optimum wear protection. The round trough design is used for fine materials or when products are changed frequently to avoid material carry-over.

BHS also offers complete continuous mixing plants including sophisticated weighing, dosing and control technology as well as individual plant components.

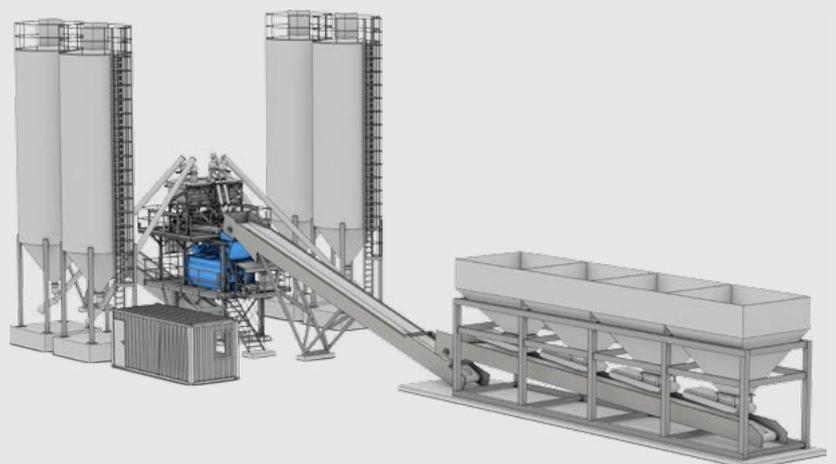
- » **Consistently superior mixture quality**
- » **Material bed offers wear protection**
- » **Easy maintenance**
- » **Sturdy and robust design**
- » **Secure investment thanks to high operational reliability**
- » **Sophisticated and proven drive technology**

Applications

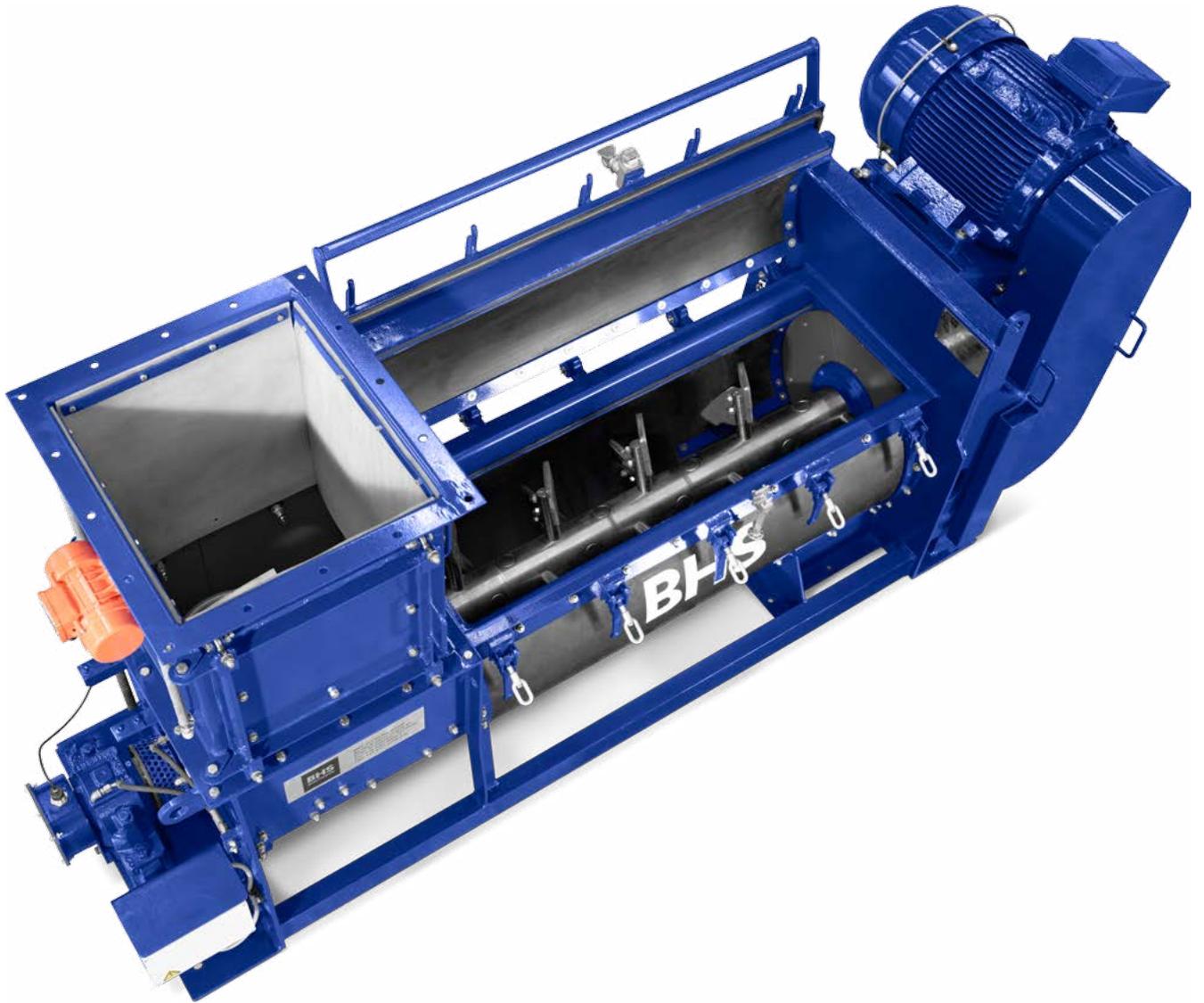
Gravel mixtures, rolled concrete (hydraulically bound base layer concrete), sludge conditioning, disposal tasks, humidification of dusts and ashes, blended cement, continuously fine dry mixtures, etc.



Operating principle



Continuous RCC mixing plant



Continuous mixing plant for moisturing waste materials



Continuous mixing plant for moisturing fly ash

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.

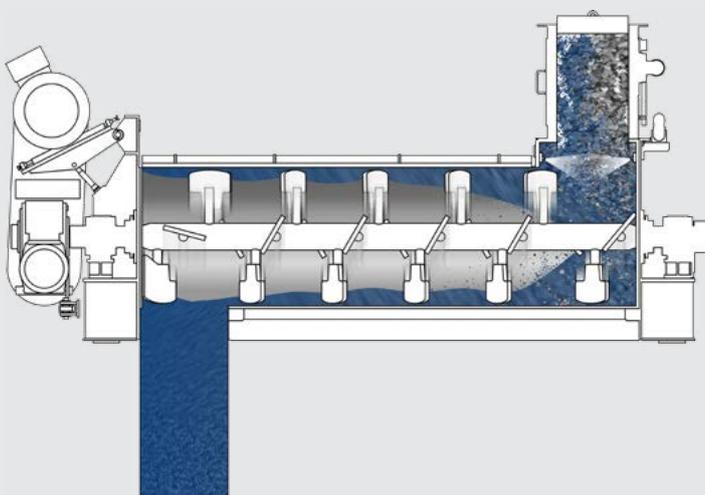
What sets the BHS single-shaft continuous mixer apart is the self-cleaning, flexible rubber trough, which prevents build ups on the inner trough wall. Liquids are added through nozzles in the inlet area, which facilitates early and extensive moistening of the entire feed material.

BHS also offers complete continuous mixing plants including sophisticated weighing, dosing and control technology as well as individual plant components.

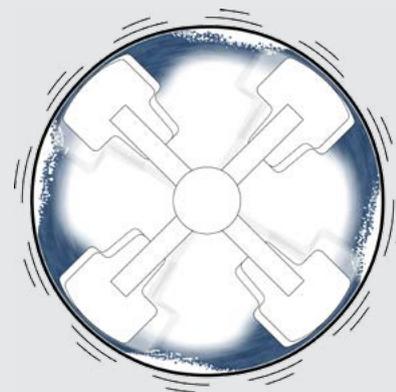
Applications

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**



Mixing principle



Cross-section



Combimix system with bottom discharge



Combimix system with overflow

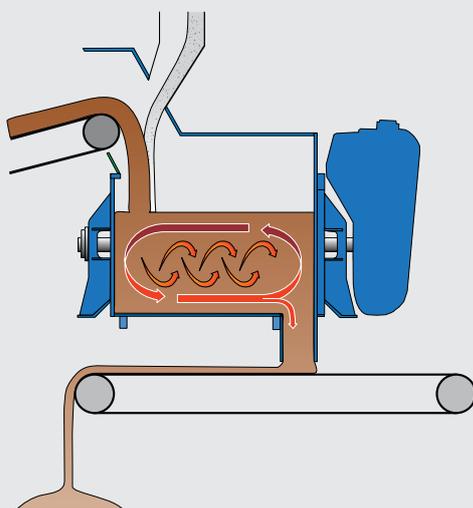
Combimix System (DKXC)

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.

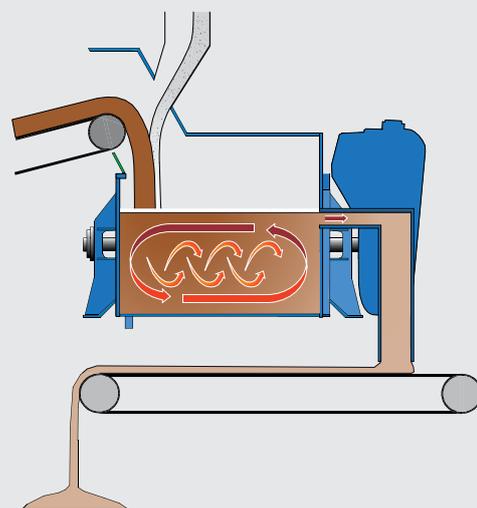
Applications

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**



Bottom discharger

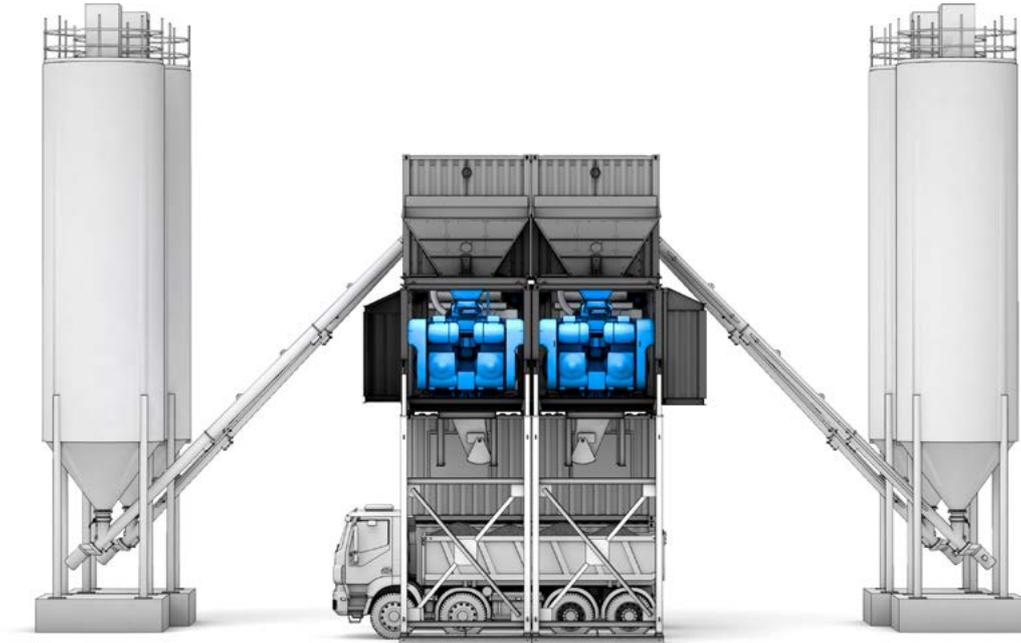


Overflow

BHS MONOMIX



BHS TWINMIX



Concrete Mixing Systems (MONOMIX & TWINMIX)

The highly mobile BHS concrete mixing plants stand up to adverse ambient conditions, frequent changes of location and permanent operation at maximum load in the harshest of construction conditions. Both the MONOMIX variant with one mixer and the TWINMIX as a dual plant are thus an investment that offers value stability and high availability. At the heart of every plant is the BHS twin-shaft batch mixer that has proven its worth thousands of times over. The system is suitable for rapid relocation within 1.5 days. The fully electrically and pneumatically pre-installed mobile concrete mixing plants are linked up with ease using plug-in connections.

Applications

Concrete road construction, airport construction, new railway lines, nuclear power plants, port construction, canal construction, dam construction, etc.

- » Quick installation without a foundation
- » High performance
- » Excellent mixture quality
- » Robust overall construction in container form
- » Transport width of all modules does not exceed 3 m
- » Short setup and dismantling times
- » Reliable even after many changes of location
- » Electrical and pneumatic coupling using plug-in connections
- » Winter-proof housing as an option



MONOMIX 3.00
for the production of ready-mixed and precast concrete



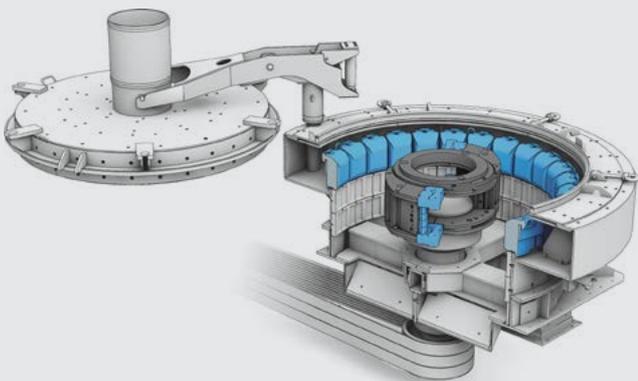
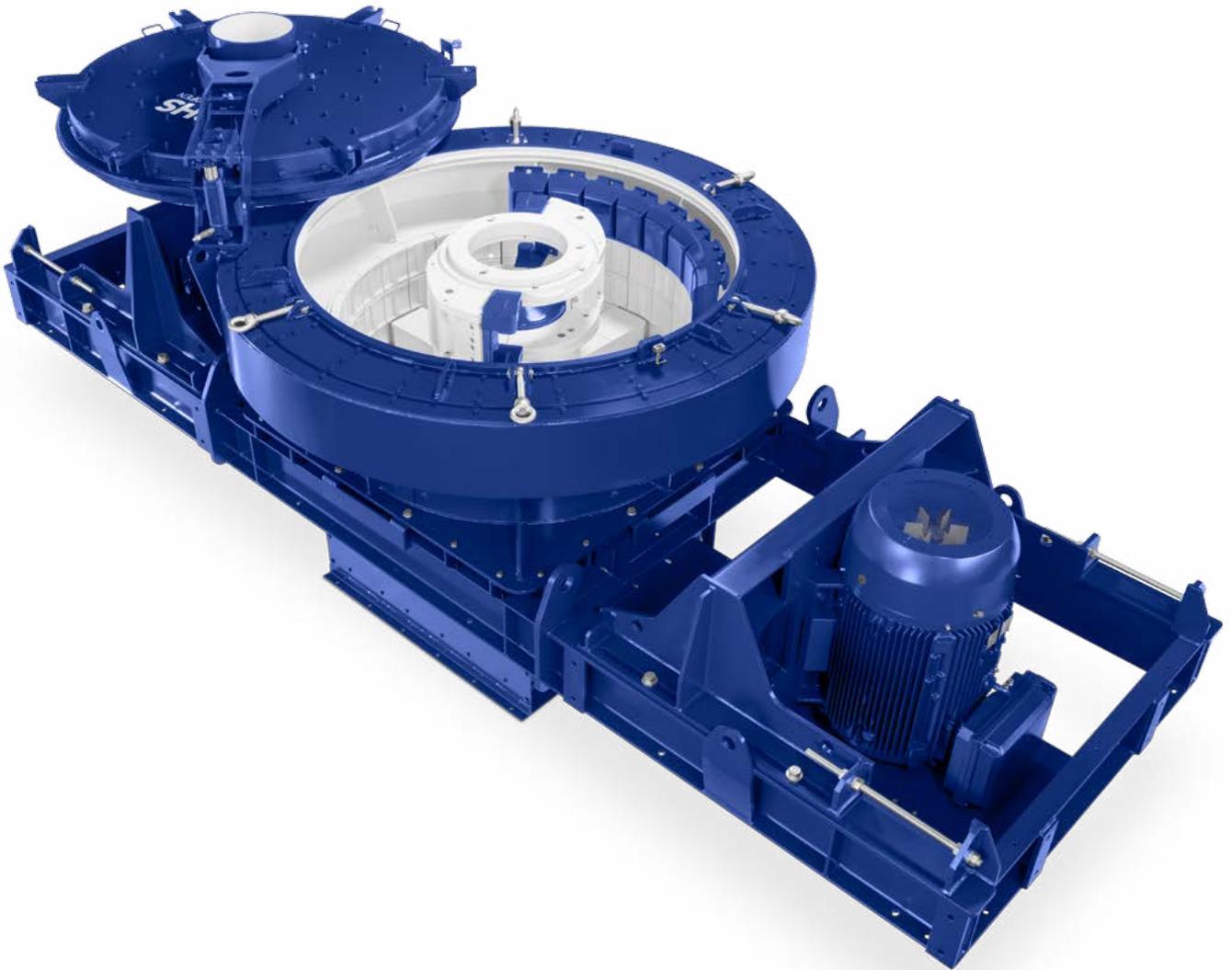
TWINMIX 3.00
in use at an airport construction project



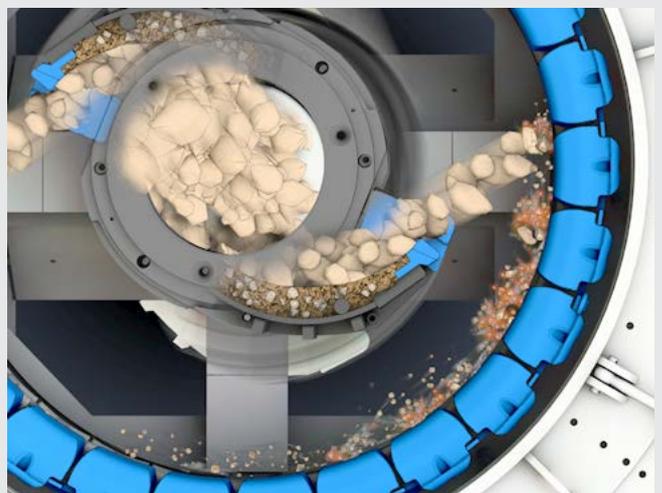
TWINMIX 3.00
in use at a road construction project



TWINMIX 4.00
in use at a traffic route engineering project



Configuration with anvil ring



Operating principle with anvil ring

Rotor centrifugal crusher (RSMX)

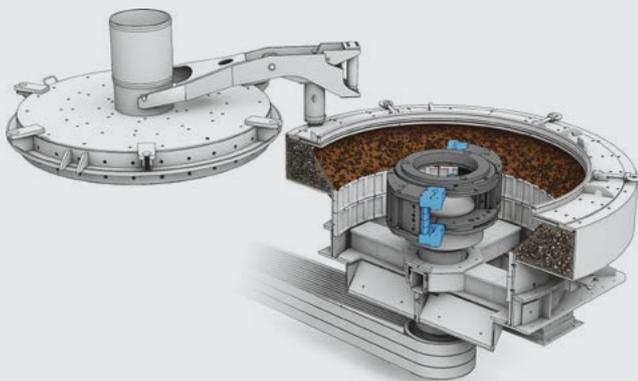
The rotor centrifugal crusher is a high-performance crusher with a vertical shaft. Every single particle of the input material undergoes extreme acceleration due to the centrifugal force in the rotor and is hurled against the impact wall. The crusher is suitable for all types of minerals, including highly 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.

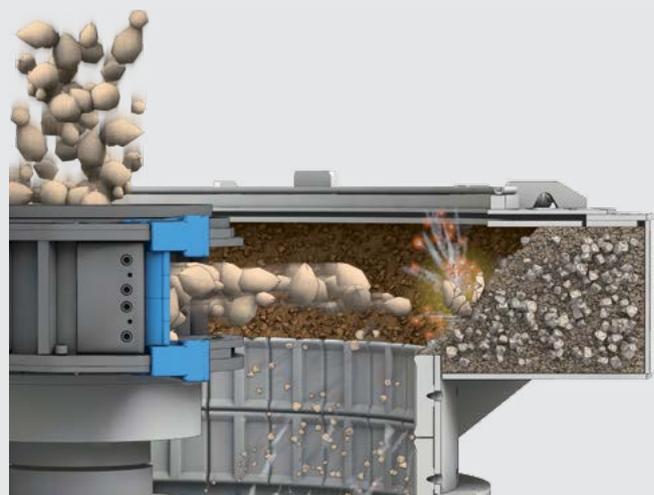
Applications

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

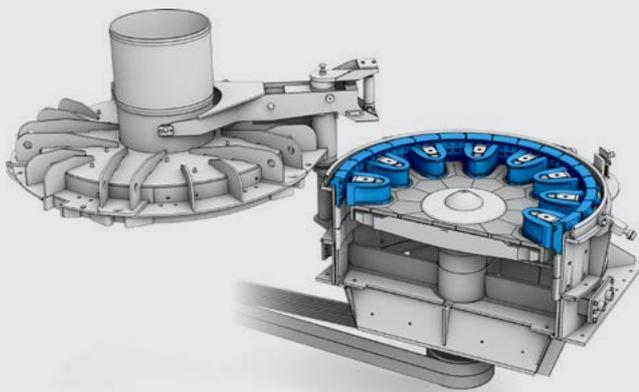
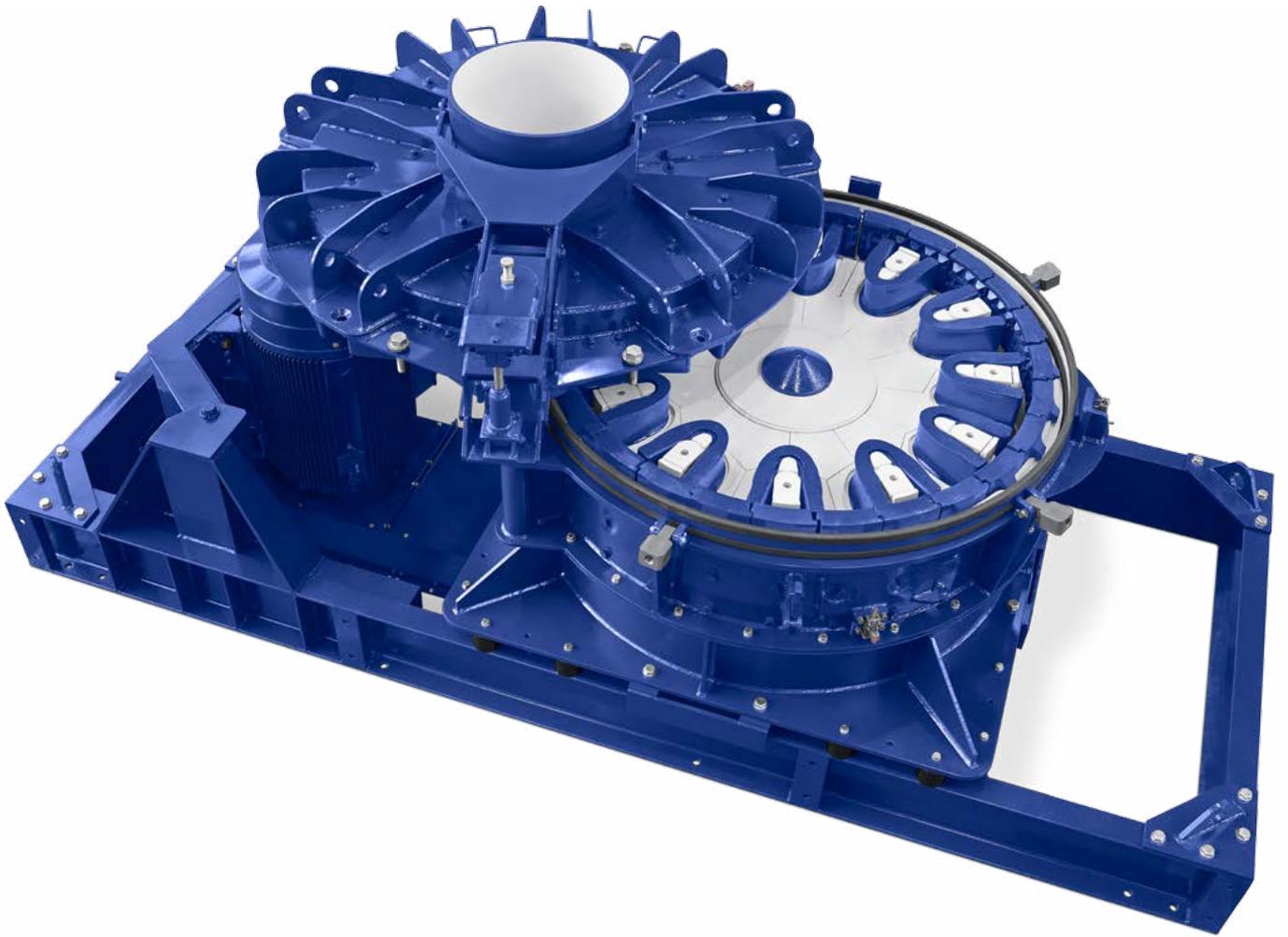
- » **Generating valuable end products**
- » **Targeted, selective size reduction**
- » **Globally proven twin-chamber rotor**
- » **Unit ready for operation**
- » **Easy maintenance and high availability**
- » **Reliable lubrication**
- » **Stress is applied to every single particle**
- » **Improved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



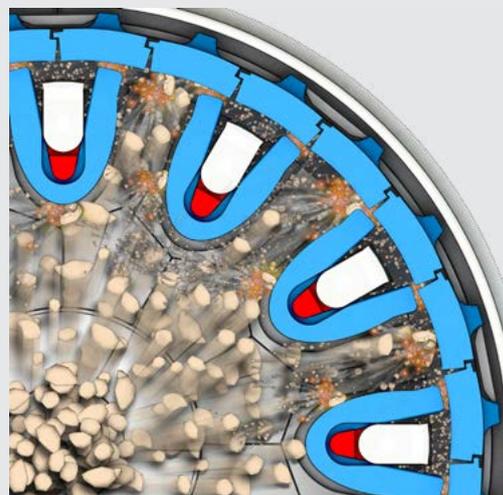
Configuration with material bed



Operating principle with material bed



Design of the RPM



Operating principle of the RPM

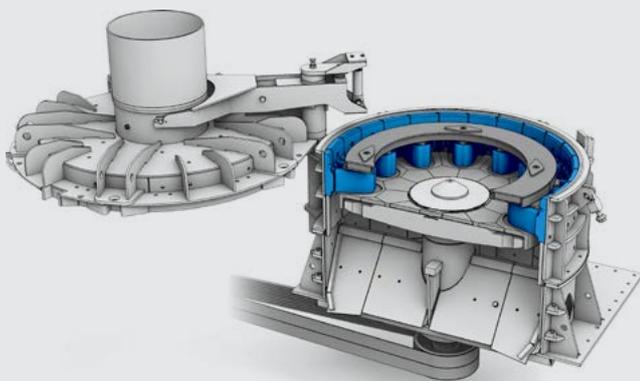
Rotor impact mill (RPM & RPMF)

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.

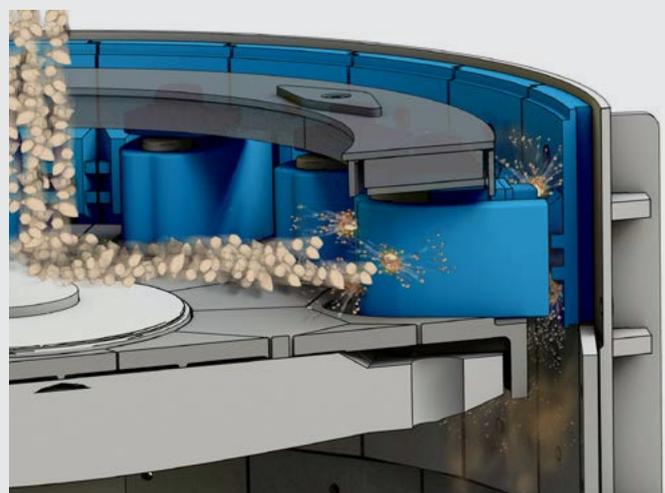
Applications

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

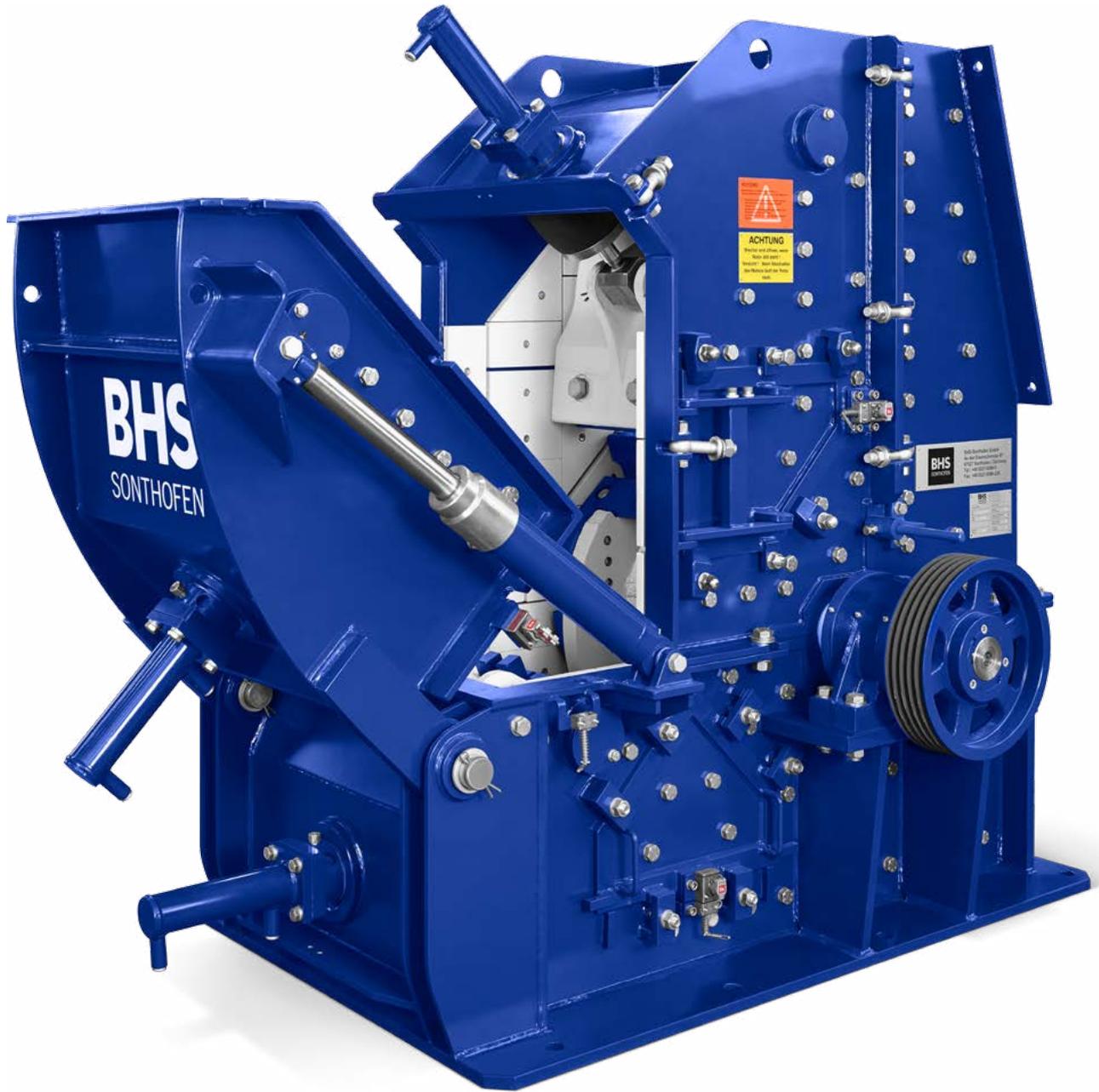
- » **Unique operating principle**
- » **High reduction ratio**
- » **Reliable lubrication**
- » **Unit ready for operation**
- » **Easy maintenance**
- » **Stress is applied to every single particle**
- » **Effective crushing of excess components to sand**



Design of the RPMF



Operating principle of the RPMF



Impact crusher & impact mill (PB & PM)

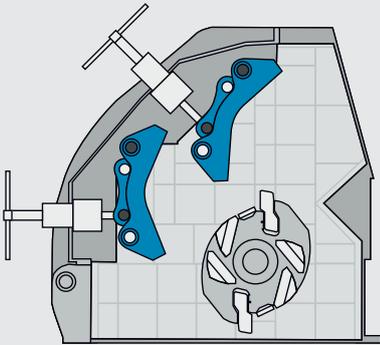
Impact Crushers and Impact Mills are a universal and, at the same time, economical solution. The impact crusher reaches a very high reduction ratio in the first as well as the second stage. The BHS Impact Crusher achieves very high crushing ratios in both the first and second stage. This already results 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

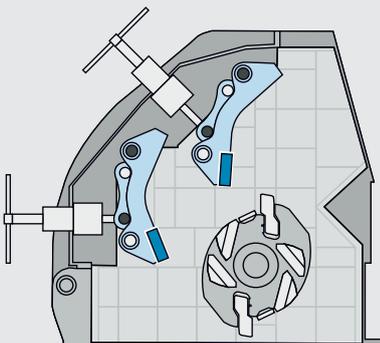
Aggregates, gravel, slag, demolition waste, bricks and fireclay, glass, ash from waste incineration, etc.

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

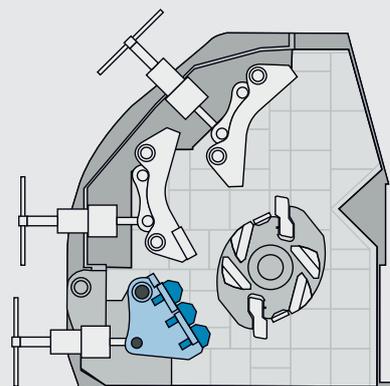
Flexible solution for any crushing application



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

