

# DKXC

## Combimix System

The cost-effective alternative to wet processing of clay-and-rock mixtures

**BHS**  
SONTHOFEN

TRANSFORMING  
MATERIALS  
INTO VALUE



Headquarter of BHS-Sonthofen



TRANSFORMING MATERIALS INTO VALUE

**BHS**  
SONTHOFEN



### The company

BHS-Sonthofen, headquartered in Sonthofen, Germany, is an owner-operated group of companies in the field of machine and plant engineering. We offer technical solutions in the field of mechanical process engineering, with a focus on mixing, crushing, recycling and filtration. With over 300 employees and a number of subsidiaries, BHS-Sonthofen has a global presence.

### Over 125 years of experience in mixing technology

BHS-Sonthofen invented the first twin-shaft batch mixer back in 1888 and has been systematically upgrading the design ever since. Today, BHS mixers are the benchmark in mixing technology. Thousands of BHS mixers are in operation throughout the world, providing reliable service day after day.

### Mixing tests in the BHS technical center

BHS offers customers the opportunity to run mixing tests with their own specific materials at the BHS technical center in Sonthofen. Furthermore, laboratory mixers can also be operated directly at the customer's location to develop solutions to challenging problems.

### Worldwide service

BHS offers quick and reliable service worldwide with its technical customer support and stocks of spare parts on three continents for all machine types, including older mixers.

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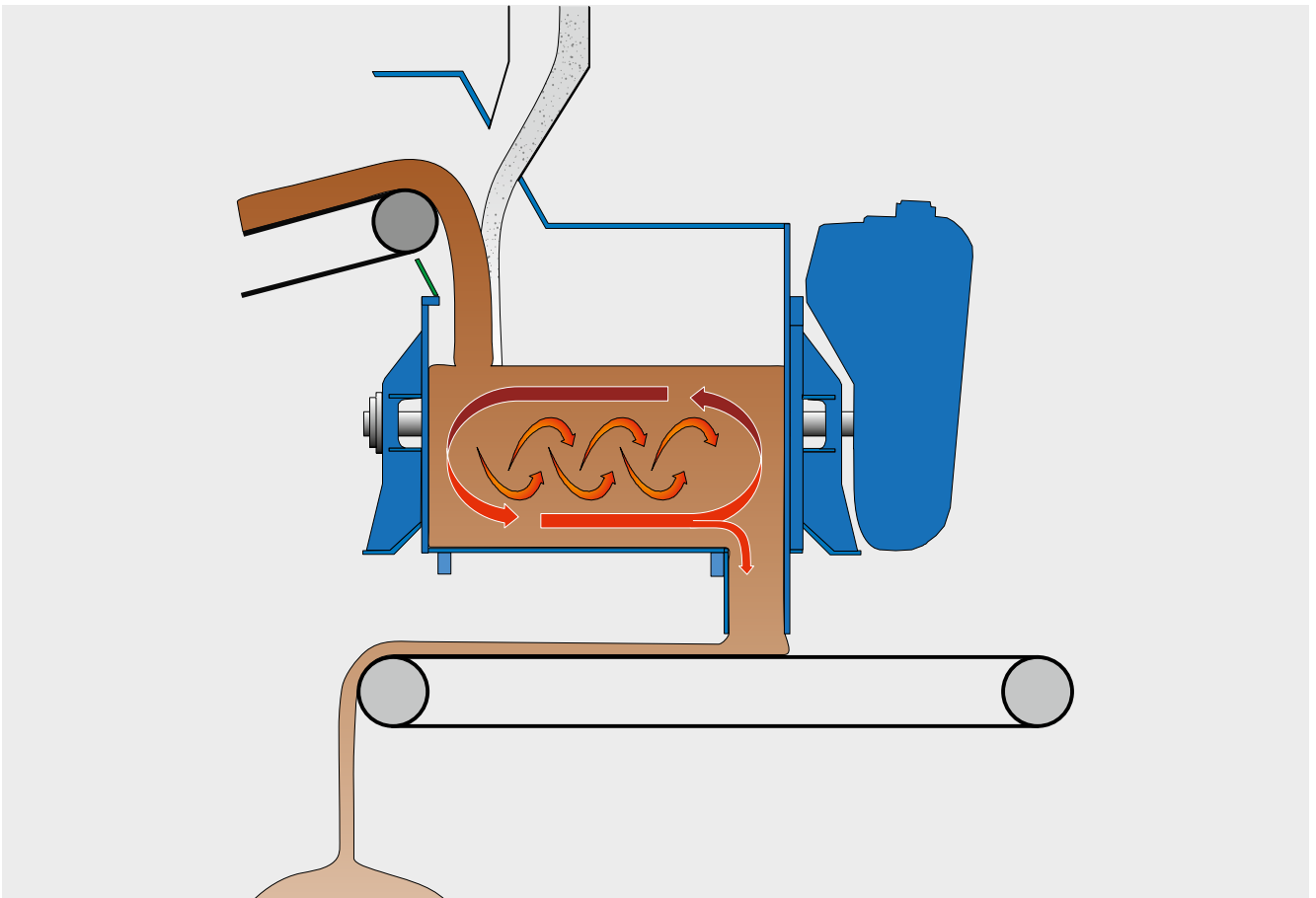
[www.bhs-sonthofen.com](http://www.bhs-sonthofen.com)

## Function and application

Previously, cost-intensive wet processing was necessary in order to extract valuable rock grade from contaminated input material. Dry processing with the addition of quick lime is not possible with conventional continuous mixers due to the extremely short processing time and poor mixing effect. An economical alternative has now been developed in the form of the patented BHS Combimix system.

The Combimix system transforms the twin-shaft batch mixer into a continuously operating mixer with its proven three-dimensional mixing concept.

This enables a significantly improved mixing effect to be achieved, compared with conventional continuous mixers. The processing time is dependent on the input material and can be varied steplessly from 30 to more than 100 seconds. The filling level is kept constant over the entire production time by means of weight sensing in the mixer. The material is extracted at the same rate as the input material is fed into the system. This procedure enables the recovery of usable rock, while also saving on water, energy and material costs.



### Advantages compared with wet processing

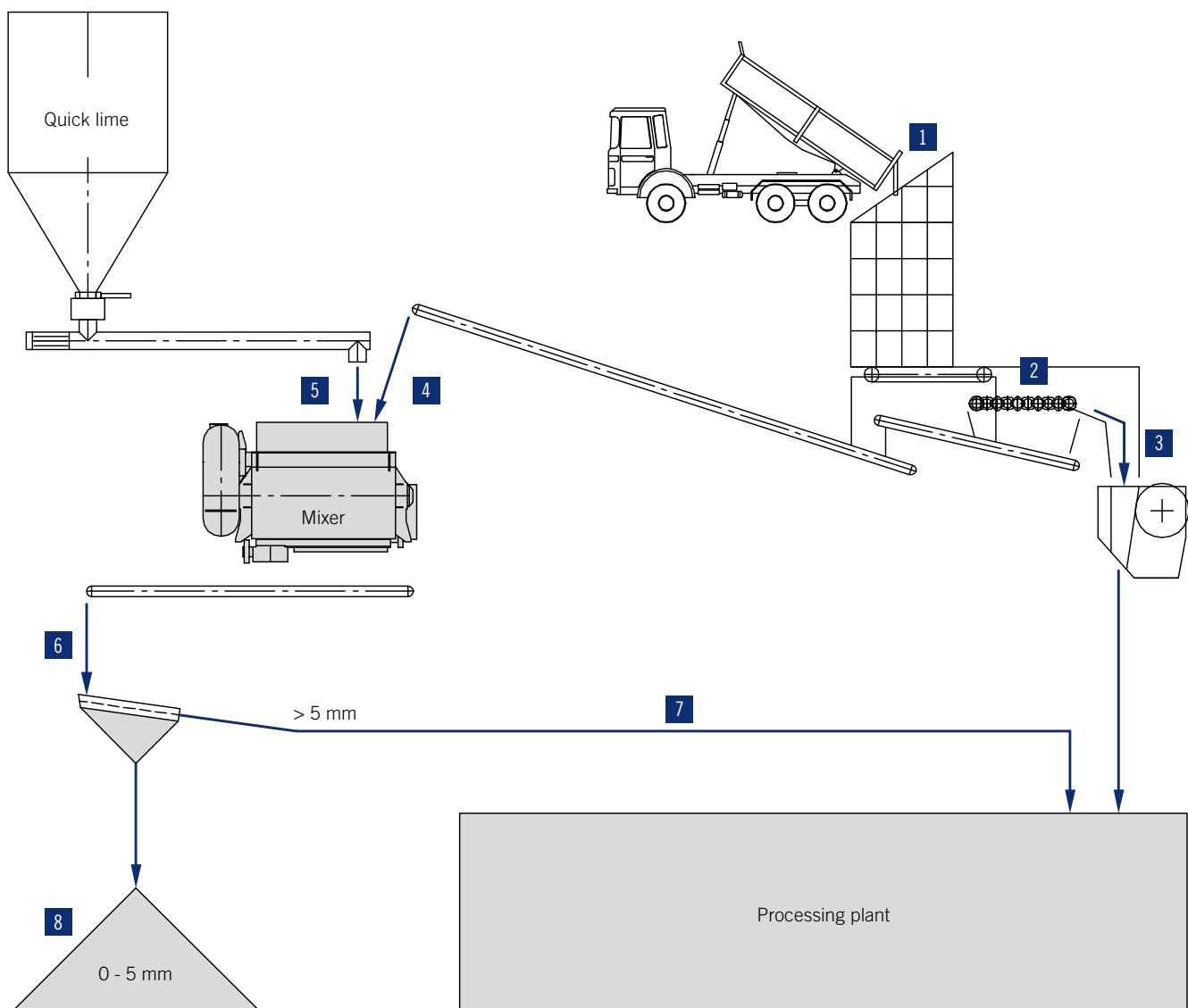
- » No introduction of moisture into the aggregates
- » No wet sieving
- » No treatment of sludge water
- » Processing of the entire material without landfill disposal
- » Compact plant, also possible as a semi-mobile model
- » High recovery rate of usable rock
- » Sieving at less than 5 mm possible

### Advantages compared with conventional continuous mixers

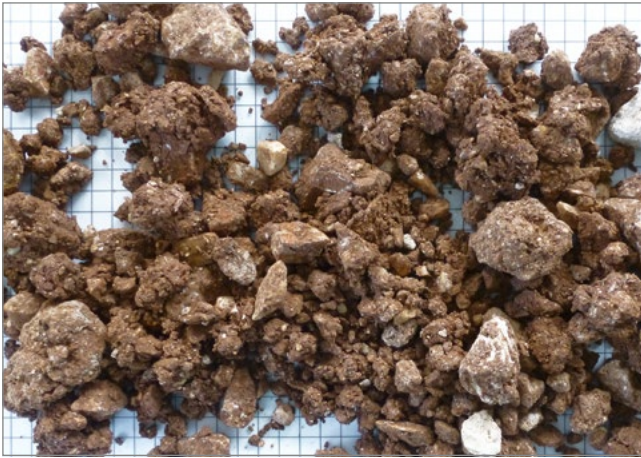
- » Continuous mixing process with defined mixing time, resulting in low consumption of costly quick lime
- » Three-dimensional mixing concept
- » Consistently outstanding mixture homogeneity
- » High throughput rates
- » Low wear

## Process steps

- 1 Feeding of the raw material
- 2 Initial separation via roller screen
- 3 Coarse grade goes directly to jaw crusher and then to gravel plant
- 4 Clay-contaminated material is fed into the BHS Combimix system and mixed with quick lime
- 5 Quick lime is dispensed from the silo into the mixer via a screw conveyor with volumetric dosing (between 1 and 5%, depending on the clay content of the input material). On request, weight-dependent control can be implemented.
- 6 Mixed material is fed to the sieving process
- 7 Material bigger than 5 mm is transferred for further processing
- 8 If suitable, material smaller than 5 mm can be used as fertilizer, for example



## Input material



Input material 0 - 40 mm: sticky, clayey, considered as waste

## Saleable final products



Screened products > 5 mm after Combimix mixing process



Clayey screened products < 5 mm with quick lime

## A look into the mixer



Mixed products with quick lime

## Performance data and weights (standard designs)

Type	Throughput <sup>1)</sup>	Max. particle size	Weight <sup>2)</sup>
DKXC 1200	85 t/h	42 mm	3,900 kg
DKXC 2600	180 t/h	64 mm	5,900 kg
DKXC 4900	350 t/h	120 mm	10,400 kg
DKXC 7300	520 t/h	120 mm	18,500 kg
DKXC 10800	770 t/h	150 mm	28,000 kg
DKXC 12900	920 t/h	150 mm	37,000 kg

<sup>1)</sup> 60 s mixing time and density of 1.7 t/m<sup>3</sup>

<sup>2)</sup> Weight for standard design without accessories

Performance data for other materials available on request.

All specifications apply to the standard design.

Technical data for customized designs may differ from the specified data.


All technical data may change due to development.

Subject to modification without notice.

# BHS FIELDS OF COMPETENCE



MIXING  
TECHNOLOGY



CRUSHING  
TECHNOLOGY



RECYCLING  
TECHNOLOGY



FILTRATION  
TECHNOLOGY

