

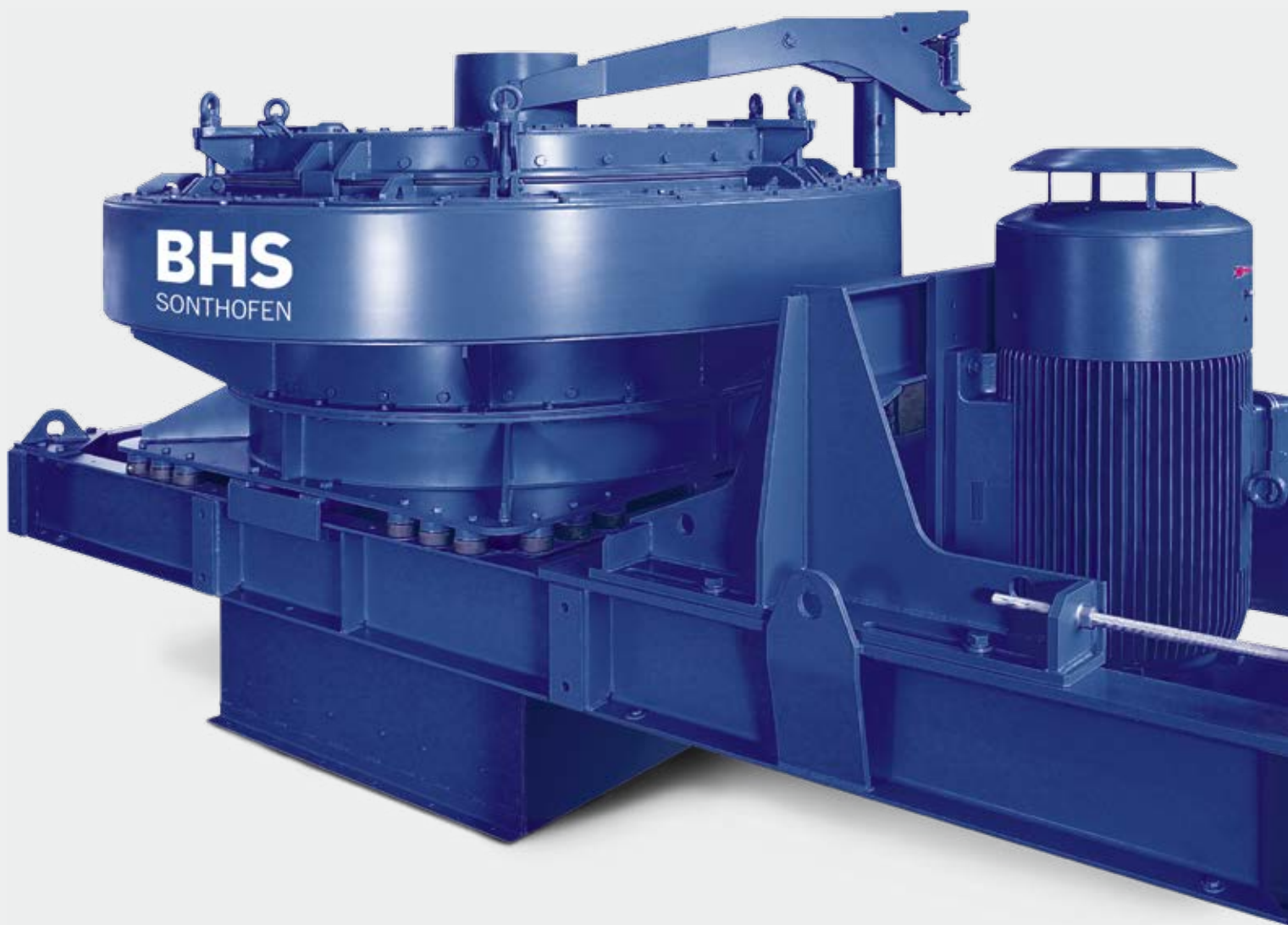
RSMX

VSI Rotor Centrifugal Crusher

The cubicator for crushing and shaping

BHS
SONTHOFEN

TRANSFORMING
MATERIALS
INTO VALUE



Headquarter of BHS-Sonthofen in Germany



TRANSFORMING MATERIALS INTO VALUE

BHS
SONTHOFEN



BHS-Sonthofen

We are a mid-sized independent group of companies with over 300 employees. We are passionate about technology, innovative, and place a premium on quality. The group of companies is based in Sonthofen, Germany, and has subsidiaries in the US, China and India. We are a successful global player in the fields of mixing, crushing, recycling and filtration technology. We provide our customers with reliable, well-engineered, state-of-the-art solutions.

Experience

We have been manufacturing crushers and mills for more than 100 years. About 50 years ago, we specialized in impact crushing. The primary focus of our technical development and application expertise is on our vertical-shaft impact crushers.

Crushing trials in the BHS test center

BHS offers customers the opportunity of conducting crushing trials with their own materials at the test center in Sonthofen. These test provide valuable information about the quality of the final products and give guidance for decisions on the planned upstream and downstream processes. Even in challenging cases, these trials and our expertise can be used to develop demanding solutions.

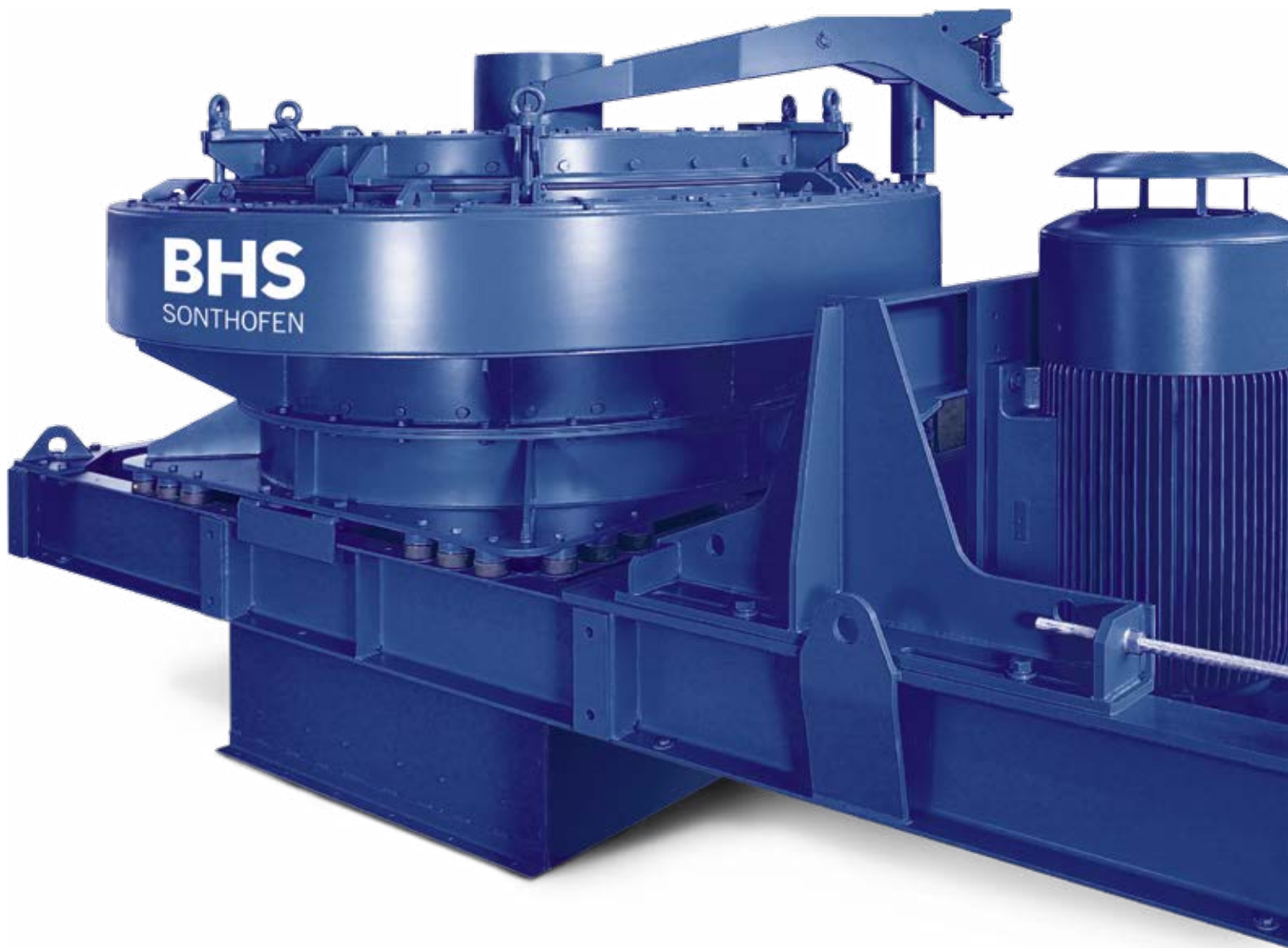
Worldwide service

BHS provides quick and reliable service worldwide with its technical customer support and its extensive stock of spare parts for all standard machine types, also including older machines.

www.bhs-sonthofen.com

BHS Rotor Centrifugal Crusher

The BHS rotor centrifugal crusher RSMX is used for crushing and shaping all types of minerals – soft or hard, moderately or extremely abrasive.



Generating valuable products

Production of high-quality cubical products

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 high impact stress results in a very high cubicity of the final product.

Consistent quality of final products

The crushing results remain completely unchanged, even in the course of the life time of the crushing tools. Any random effects during material processing are systematically precluded. This is yet another feature that distinguishes the BHS rotor centrifugal crusher from other conventional crushing technologies.

Selective size reduction

As a result of the precisely directed impact the comminution of any individual particle containing less resistant components than the rest will be achieved to a greater extent. This allows crushing of friable rock components in a targeted manner and, as a result, significantly enhancing the quality of the products (Los Angeles values, frost resistance). In case of ores or other conglomerate raw minerals containing components of different hardness the final product can be enriched easily.

Superior machine technology

Worldwide proven twin-chamber rotor

With decades of experience, BHS-Sonthofen is the specialist for VSI crushers. The patented twin-chamber rotor is yet another milestone in the on-going development of the VSI principle.

Plug and play

Machine and drive train are completely mounted on a single base frame, ready for installation. A large hydraulically liftable cover, slewable by 360° allows unimpeded access.

Reliable lubrication

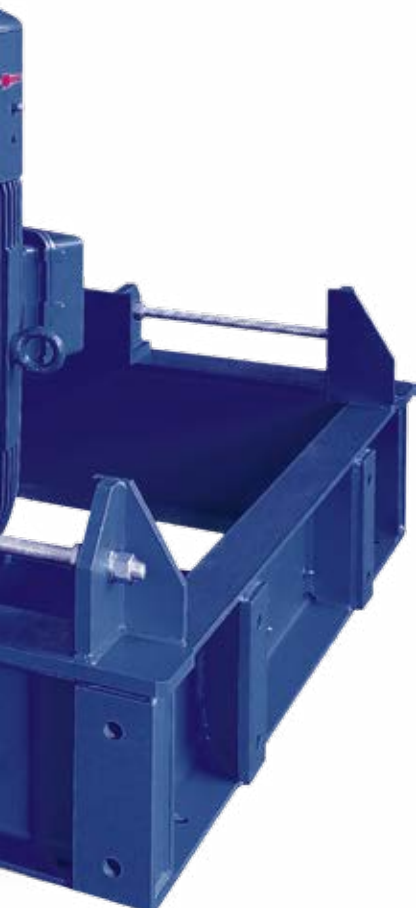
The BHS rotor centrifugal crusher is supplied with a recirculating oil lubrication system with cooling and integrated monitoring. This allows low-maintenance and reliable operation.

Easy maintenance and high availability

All areas of the machine that are subjected to heavy stress are protected by wearing parts which are easy to exchange and made of materials that can be optimized for the specific application. Neither hardfacing nor storing a spare rotor is required.

Anti-vibration mounting

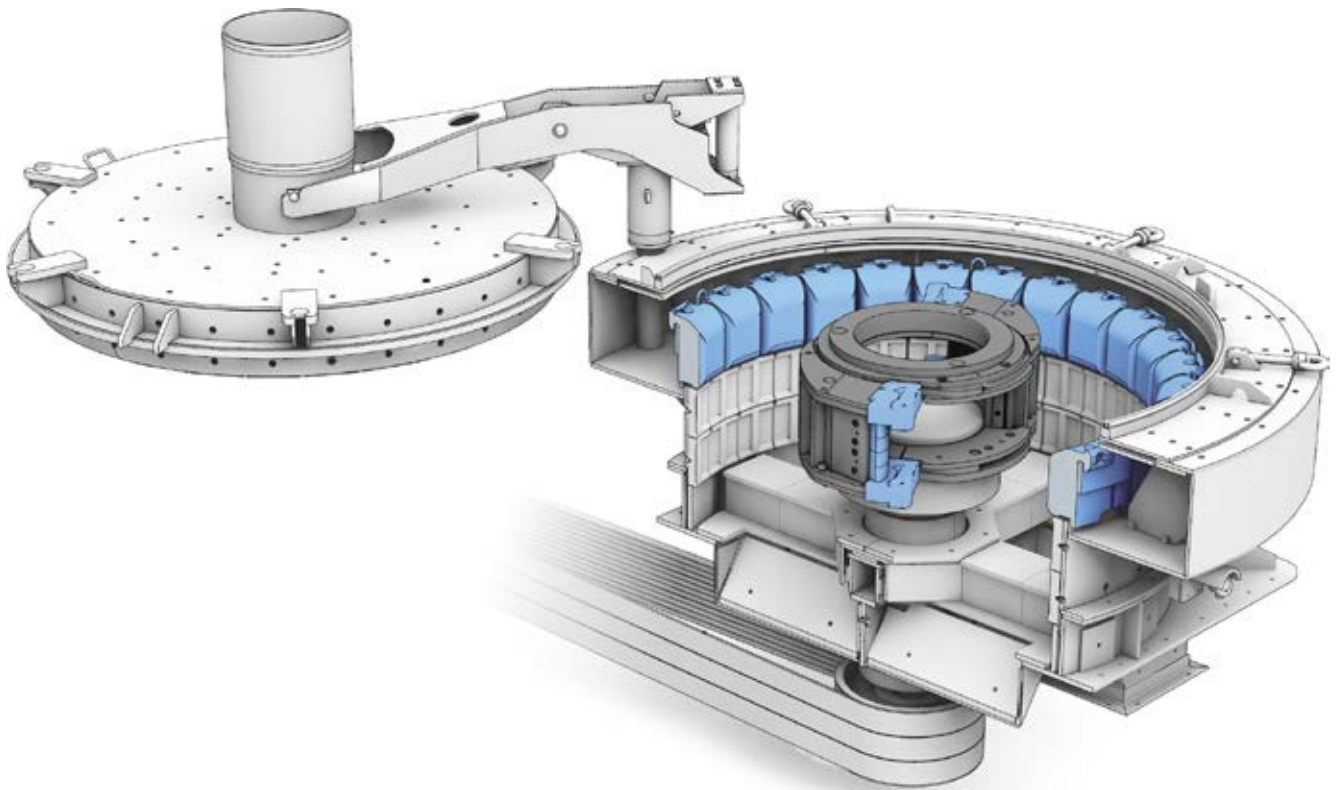
The rubber spring elements installed between the base frame and machine absorb all vibrations generated during operation, thus keeping them away from the supporting steel structure. Excessive vibrations are registered by an electronic vibration detector and cause the machine to be shut down.



OUTSTANDING FLEXIBILITY

Depending on the input material and desired crushing results, the BHS rotor centrifugal crusher can be operated with either an anvil ring or a rock shelf as the impact wall.

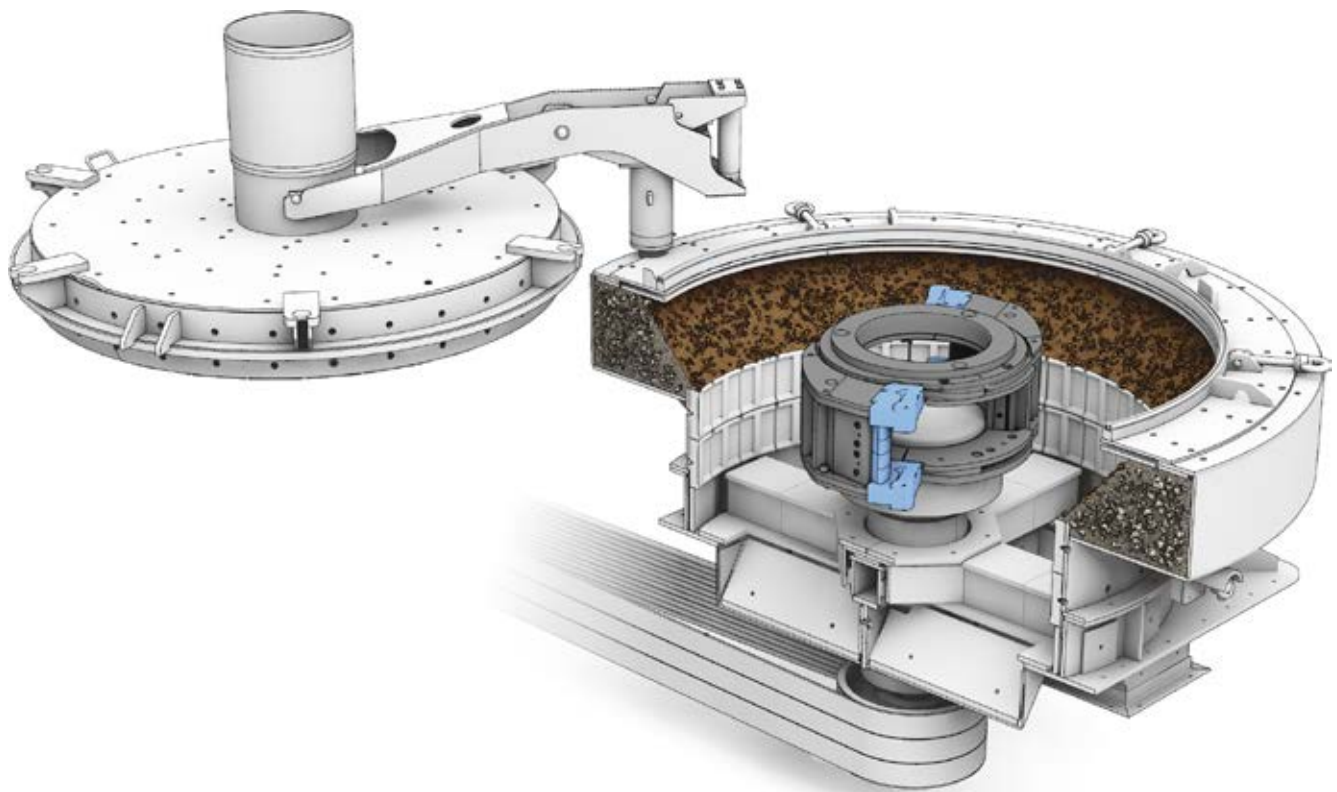
RSMX with anvil ring



Typical applications with anvil ring

- » Production of cubical high-quality aggregates and sand from medium-hard, moderately abrasive input materials, such as gravel, limestone, dolomite, diabase, basalt, andesite, broken bricks, cement clinker etc.
- » Selective crushing of conglomerates, moderately abrasive slags, industrial minerals, mining overburden etc.
- » Recycling of asphalt and unreinforced concrete waste

RSMX with rock shelf



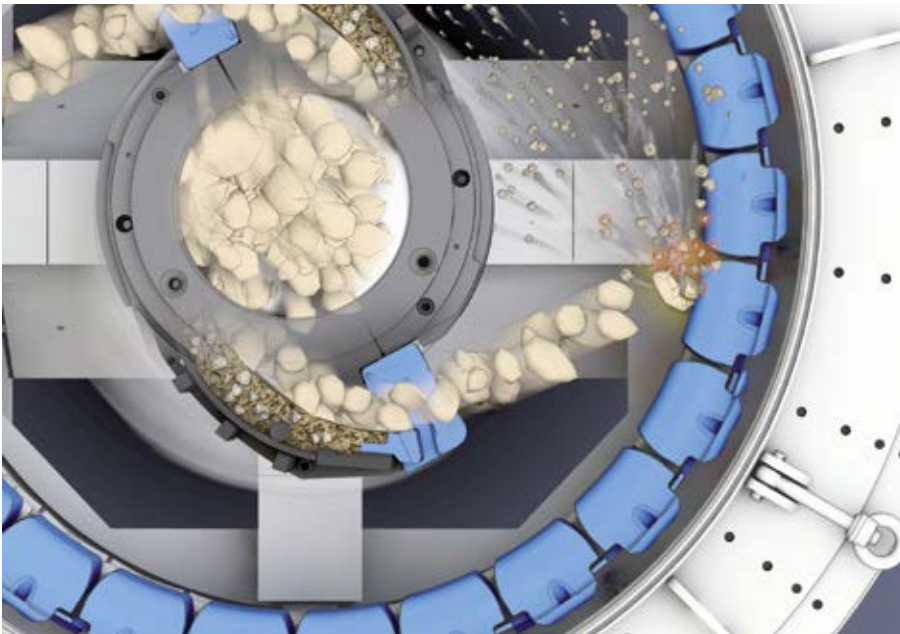
Typical applications with rock shelf

- » Production of cubical high-quality aggregates and sand from highly abrasive input materials, such as gravel, granite, porphyry, gneiss, greywacke, quartzite etc.
- » Crushing of highly abrasive materials, such as aluminum oxide, ferrosilicon, abrasives, glass etc.
- » Selective crushing of slags from steel mills, waste incineration plants etc.

Functional principle

The input material is fed from above into the center of the rotor centrifugal crusher. In the rotor, it is taken up by the two generously dimensioned centrifugal chambers. They eliminate the risk of clogging and allow high throughput rates.

The input material is accelerated outward at high speed. This leads to an optimized impact on the fixed impact wall or rock shelf, resulting in a cubical particle shape.



Functional principle with anvil ring (top view)



Functional principle with rock shelf (side view)

Advantages of the twin-chamber rotor

Compared with the multi-chamber design, less air is carried by the patented twin-chamber rotor. This has a positive effect on energy consumption, and the energy thus saved is available for higher throughput rates. Furthermore, the capacity of the de-dusting system can be reduced.

The open design of the patented rotor with two chambers allows the maximum possible material outlet size (89° per side of the rotor). This significantly reduces the risk of clogging.

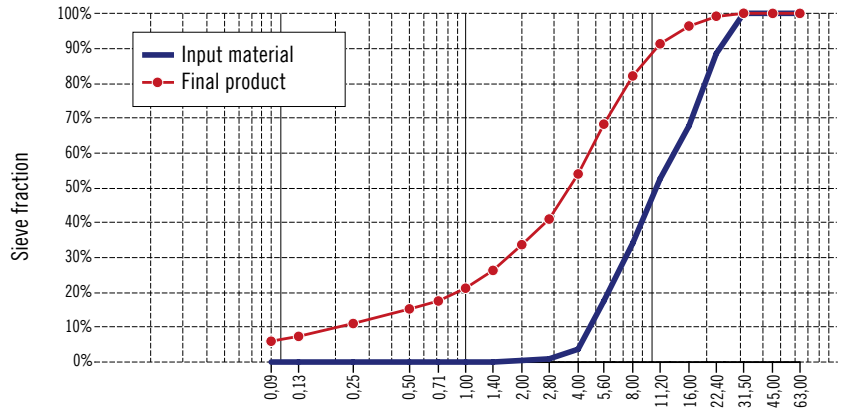
In the BHS twin-chamber rotor, a material bed forms along the centrifugal chambers, resulting in an autogenous wear protection layer. Compared with conventional rotors, the number of wearing parts required is reduced to a minimum.

- » **High throughput rates**
- » **Significantly reduced risk of clogging**
- » **Directed material acceleration**
- » **Optimal energy efficiency**
- » **Reduced wear**

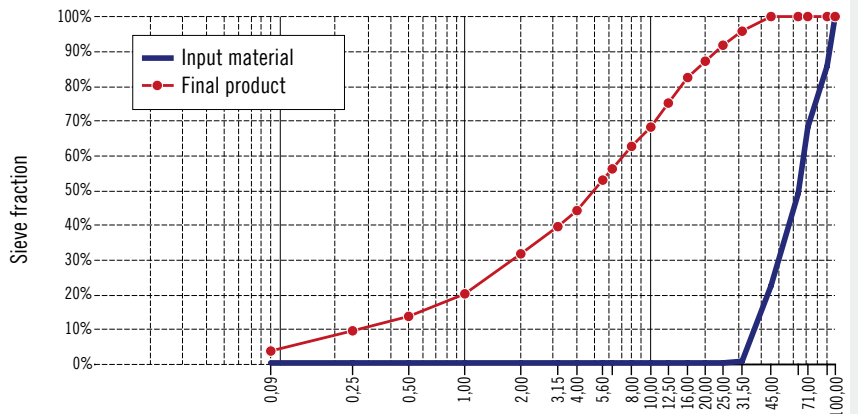


Application examples with anvil ring

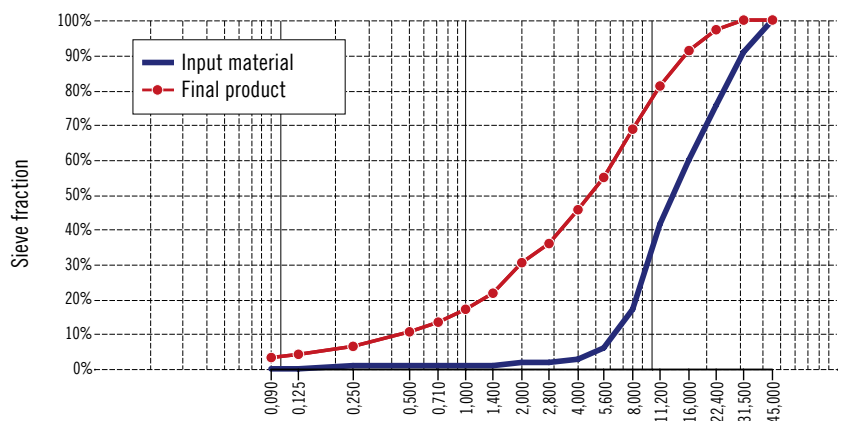
RSMX 1222 with anvil ring for producing crushed sand from 4 - 32 mm gravel



RSMX 1222 with anvil ring for cubication of crushed 32 - 90 mm limestone

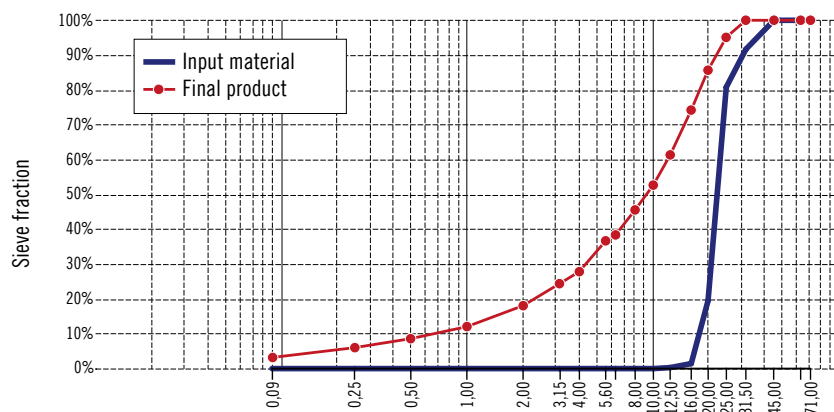


RSMX 1222 with anvil ring for producing high-quality aggregates from 0 - 45 mm steel mill slag

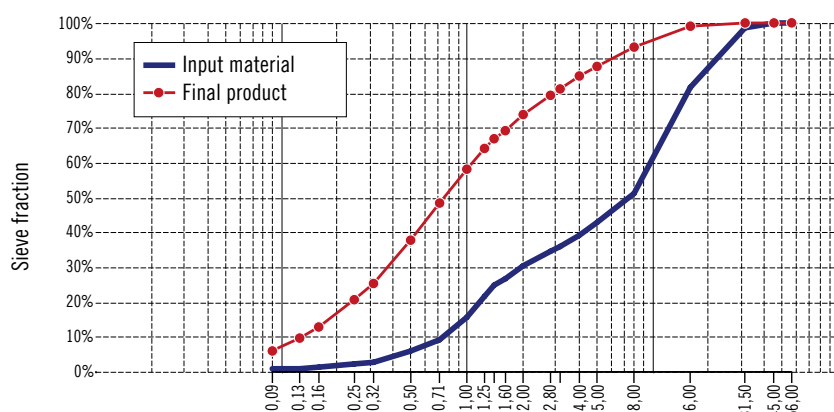


Application examples with rock shelf

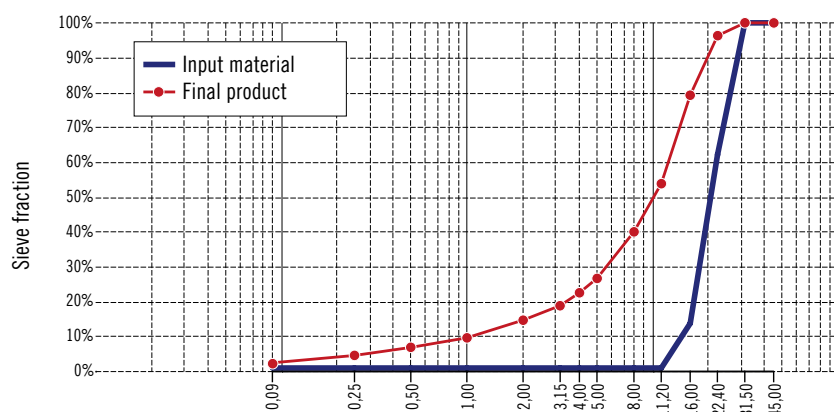
RSMX 1222 with rock shelf for producing cubical shaped aggregates from round 16 - 45 mm quartz gravel



RSMX 0922 with rock shelf for crushing 0 - 32 mm recycling glass



RSMX 1222 with rock shelf for cubication of 16 - 32 mm gravel



Reinforced cover lining **1**

In order to increase the service life, a cover with a reinforced lining can optionally be selected.

Electro-hydraulic cover opening **2**

For even faster opening of the machine cover for maintenance and inspection, an optional electro-hydraulic actuation mechanism is available.

Quick-change system **3**

To reduce the set-up time, the quick-change system can be used – space permitting – to exchange the complete anvil ring set with the support of a lifting device.

Electrical terminal box **4**

All the cabling can optionally be connected to a terminal box for easier installation.

Intensive cooling **5**

In the case of higher ambient temperatures or increased temperatures of the input material, a lubricating oil system with increased oil storage volume and cooling performance can be provided.

Air cannon **6**

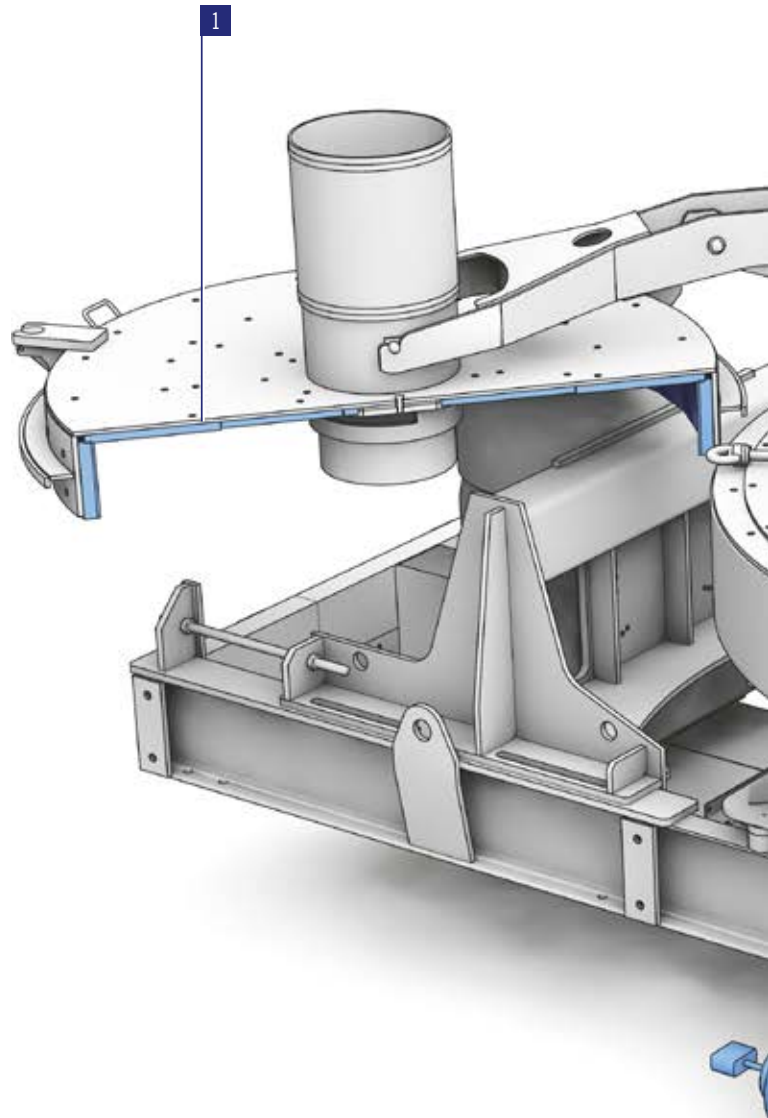
To reduce caking in the discharge outlet area, the crusher can be equipped with air cannons if required.

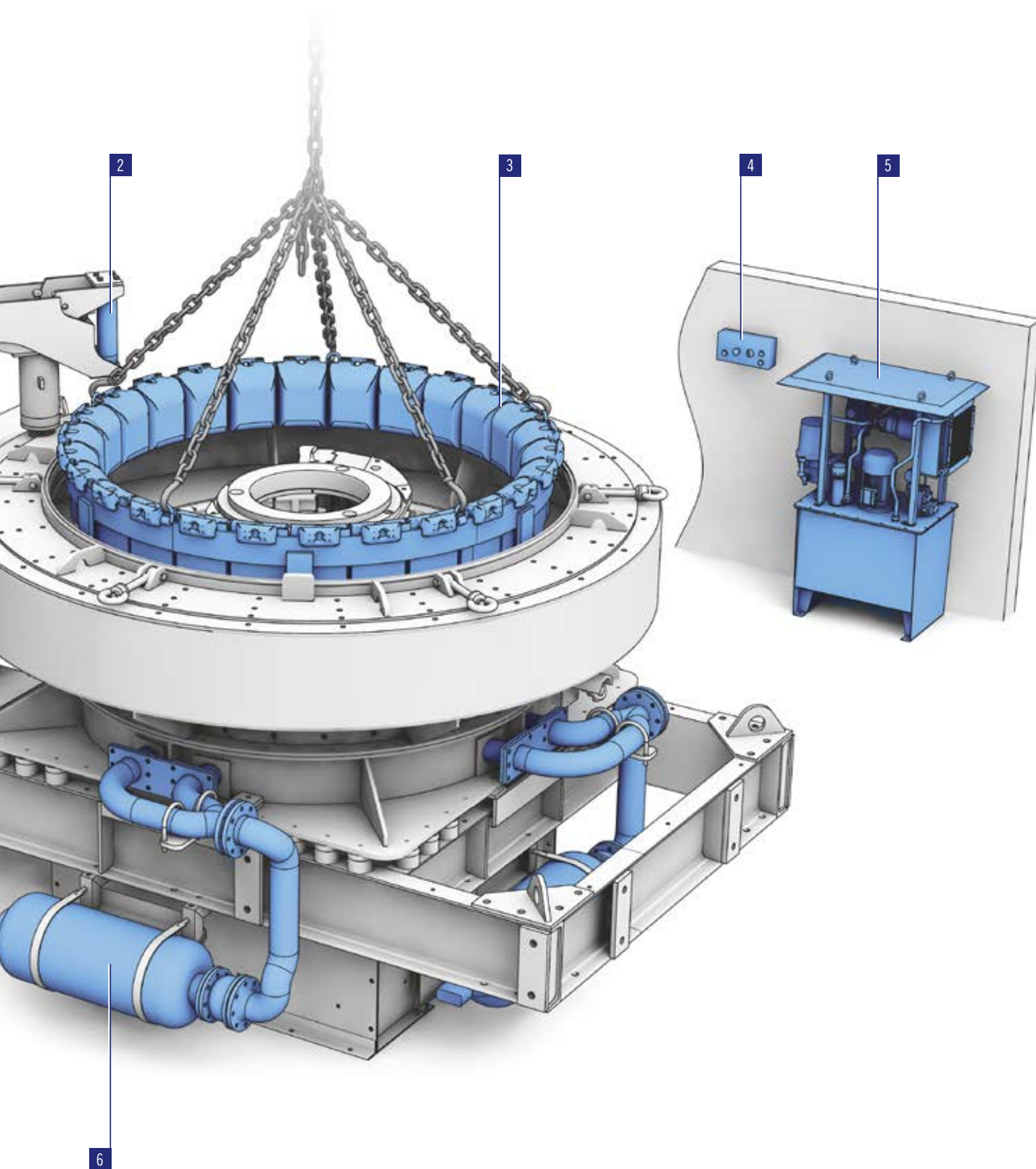
Control system

As separat PLC (including touch panel), if necessary also equipped with frequency converter, can be supplied to ensure self-sufficient operation and monitoring of the machine functions. Such a unit is only required as an alternative to an integration into the central plant control system.

Periphery

We can also provide the steel construction, storage bunkers, dosing equipment, conveyor belts and dedusting systems – all adapted to your specific applications.





Tests give certainty

We operate an all-weather processing plant on our premises in Sonthofen. All our crushing machines are installed as production size machines in this facility.

We can perform crushing tests with your input material. A variety of machine parameters can be intensively tested. This is followed by detailed evaluation of the data and a grain-size analysis which serve as the basis for the creation of an optimal machine configuration.



Performance data (standard designs)

Type	Rotor diameter x height	Circumferential speed	Drive power	Throughput rate ²⁾	Input size ³⁾
RSMX 0913	930 x 135 mm	70 m/s	75 - 160 kW	30 - 75 t/h	45 - 56 mm
RSMX 0922	930 x 220 mm	70 m/s	90 - 160 kW	30 - 90 t/h	56 - 70 mm
RSMX 1222	1,200 x 220 mm	70 m/s	160 - 400 kW ¹⁾	100 - 400 t/h	80 - 100 mm
RSMX 1233	1,200 x 330 mm	70 m/s	200 - 400 kW ¹⁾	200 - 400 t/h	80 - 150 mm

1) Drive power bigger than 400 kW available on request as a twin drive.

2) The throughput rate depends on the circumferential speed of the rotor and the grading curve of the input material.

3) The input size depends on the type of rock, the circumferential speed of the rotor and the percentage of maximum particle size in the grading curve (screened through square mesh).

Dimensions and weights (standard designs)

Type	A	B	C	D	E	F	Weight ⁴⁾
RSMX 0913	3,950 mm	2,400 mm	2,355 mm	318 mm	990 mm	2,380 mm	7,500 kg
RSMX 0922	3,950 mm	2,400 mm	2,355 mm	318 mm	990 mm	2,380 mm	7,800 kg
RSMX 1222	5,080 mm	2,860 mm	2,675 mm	457 mm	1,468 mm	2,720 mm	12,100 kg
RSMX 1233	5,080 mm	2,980 mm	2,825 mm	457 mm	1,468 mm	2,870 mm	13,500 kg

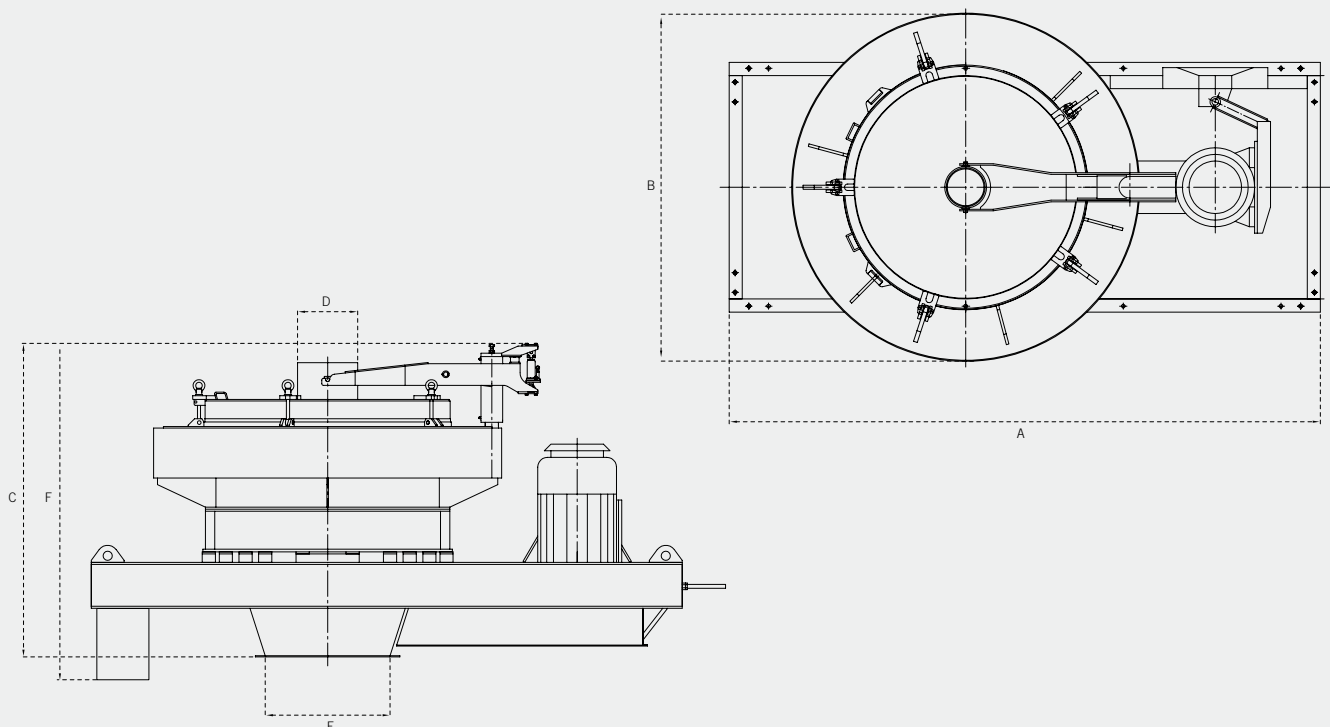
4) Weight for standard design without motor and accessories.

All specifications apply to the standard version.

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



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