

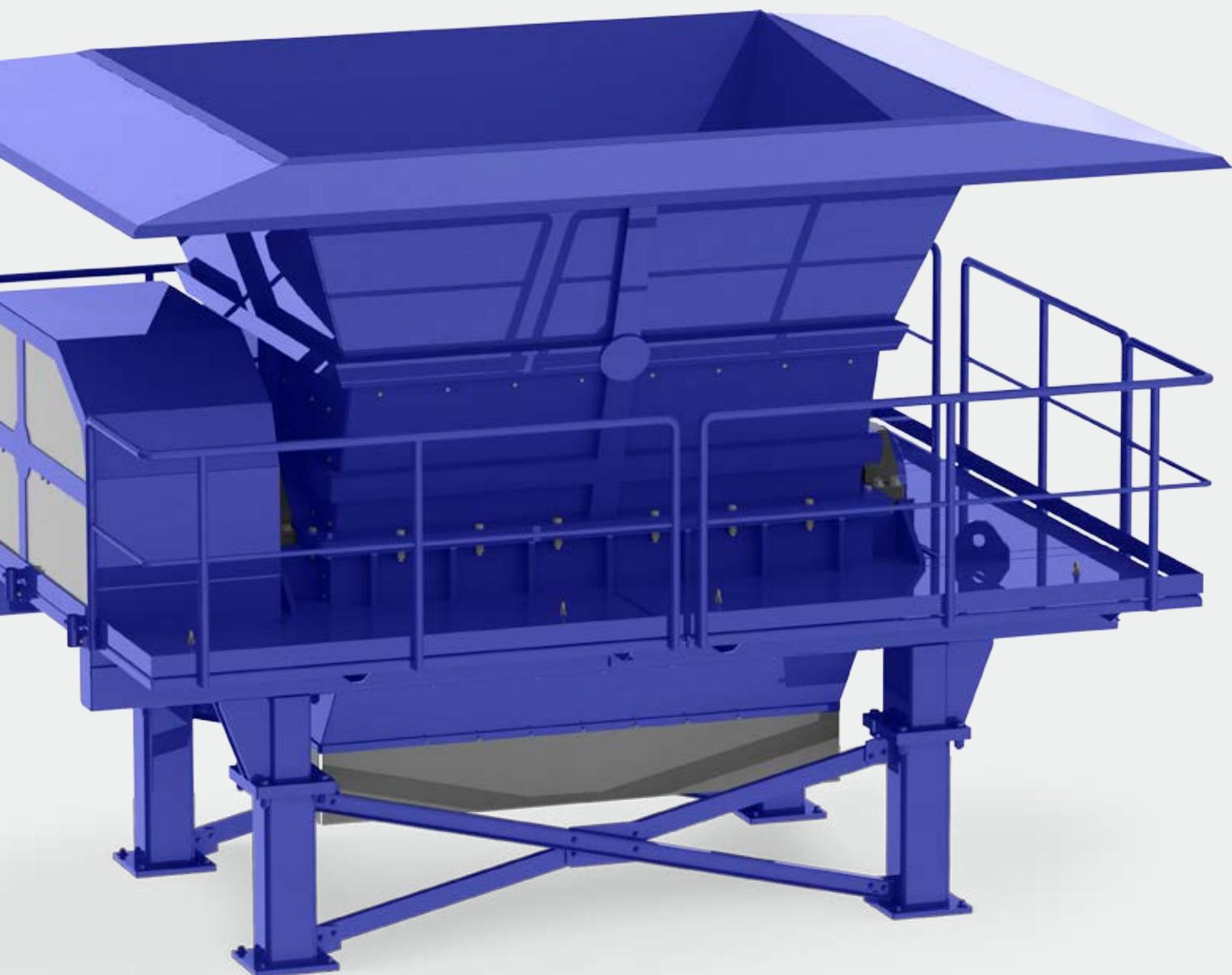
# VSR

## Pre-Shredder

The machine for tough tasks

**BHS**  
SONTHOFEN

TRANSFORMING  
MATERIALS  
INTO VALUE



Headquarters of BHS-Sonthofen



TRANSFORMING MATERIALS INTO VALUE

**BHS**  
SONTHOFEN



### BHS-Sonthofen

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

### Over 100 years of experience in crushing technology

We built our first crushers for the aggregates industry over 100 years ago. For the past 20 years, we have been manufacturing innovative crushing machines designed for the recycling industry. The acquisition of the products of AMNI Maschinenbau GmbH further enhances our portfolio to include shredding technology. AMNI's machine technology is founded on many years of experience and extensive practical applications. Today, we are the technologically innovative problem solver and experienced system supplier for recycling applications of all types.

### Worldwide service

We offer quick and reliable service worldwide with our technical customer support and a large stock of spare parts for all standard machine types and also for older machines.

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

## BHS Pre-Shredder

The Pre-Shredder is a low-speed, high-torque, twin-shaft shredder. Each shaft is equipped with rotating shredding tools which reliably shred the input material. The machine is suitable for the pre-shredding of particularly bulky or large-volume materials (e.g. domestic, industrial, commercial and bulky waste, not to mention wood waste and building rubble).



### Targeted shredding results

The first process step in the mechanical treatment or thermal utilization of waste materials is to reduce and homogenize the particle size of the input material. The Pre-Shredder reduces the input material to the desired particle size to ensure that subsequent process steps are trouble-free.

### Doubly effective shredding capability

The shredding takes place between the rotating shredding tools and the stationary shredding table. This means that even a partial rotation of the shaft results in very intensive shredding.

### Forward-reverse sequence

During operation, the machine automatically executes a sequence of different rotations, with alternating clockwise and counterclockwise partial rotations of the shafts. This produces intensive shredding results, even with very bulky coarse material.

### Low operating costs

As the shredding tools are spaced evenly along the shaft length, material loads are evenly distributed maximising the shredding tools shredding effect and evenly spreading wear. In many cases both the rotor blades and shredding table can be refurbished by hard face welding.

### High availability

The Pre-Shredder is designed to maximise up-time and ensure the long life of wear parts. The rotor shaft can be exchanged in just four hours due to the proven quick-change system and the patented shredding table.

### High throughput rates

The machine is designed with a sturdy, high-torque drive, allowing for high throughput rates. The machine can be used in three-shift operation without difficulty.

### Flexibility

The Pre-Shredder is capable of processing a broad range of input materials. Due to the relatively large shaft diameters, the shredding tools can safely process large-volume or bulky input materials.

### One-piece machine housing

The machine housing consists of an extremely robust, one-piece welded steel fabrication. There are no bolted connections which are susceptible to malfunctions. Furthermore, this design ensures a long service life for the machine.



## 1 Feed hopper

The input material is fed into the machine through a large, central hopper. In addition to standard solutions, customer-specific hoppers are also available.

## 2 Machine housing

The machine housing consists of an extremely robust, one-piece welded steel fabrication. This allows the machine to absorb extremely high forces without difficulty.

## 3 Shredding tools

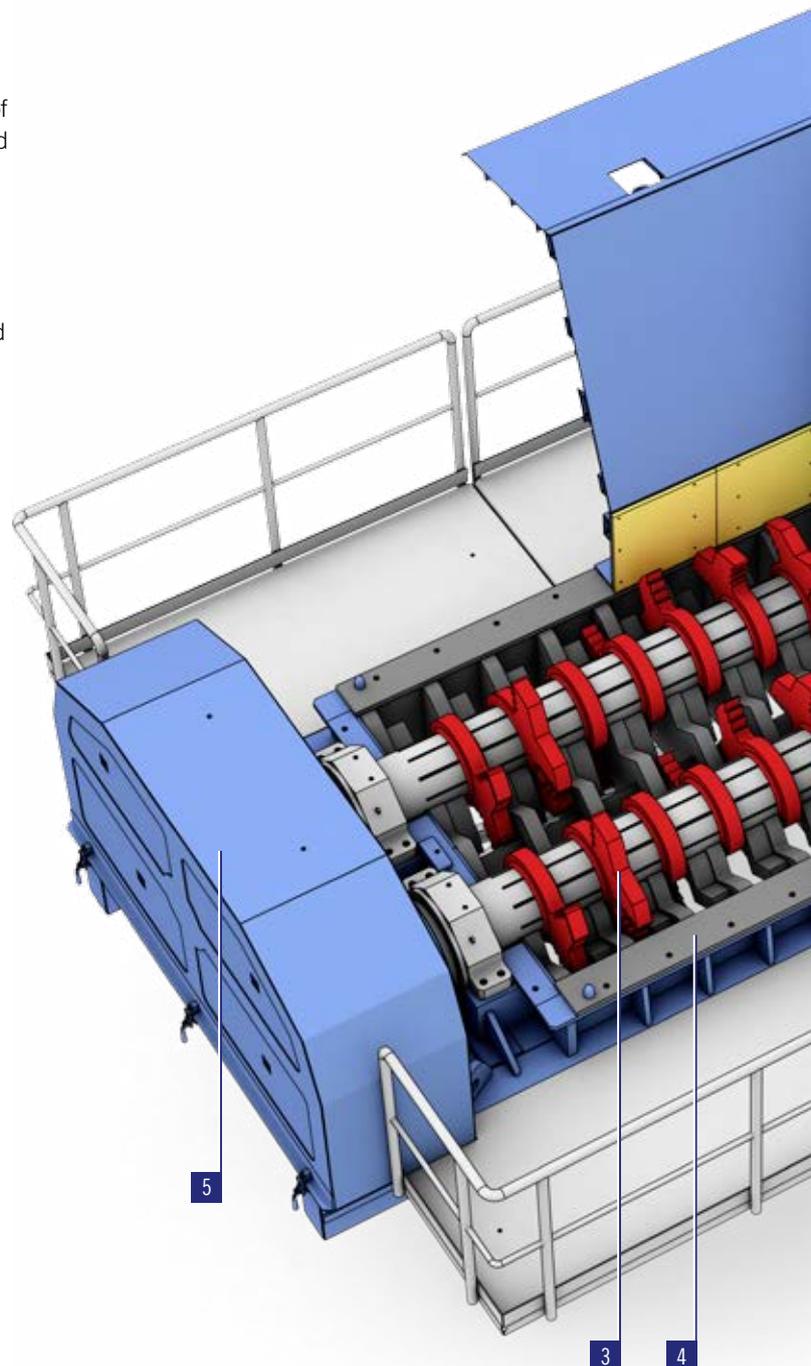
Shredding takes place between the shafts equipped with shredding tools and on the shredding table. The tools on the shaft are mirror-symmetrical, allowing them to be used in both directions of rotation. Depending on the input material, the machine is equipped with specially designed shredding tools of varying diameters and shapes. The shredding table is designed to accommodate these.

## 4 Shredding table

Designed as a one-piece unit, the shredding table is located below the two rotor shafts. The unit can be easily removed and replaced when the shafts are exchanged.

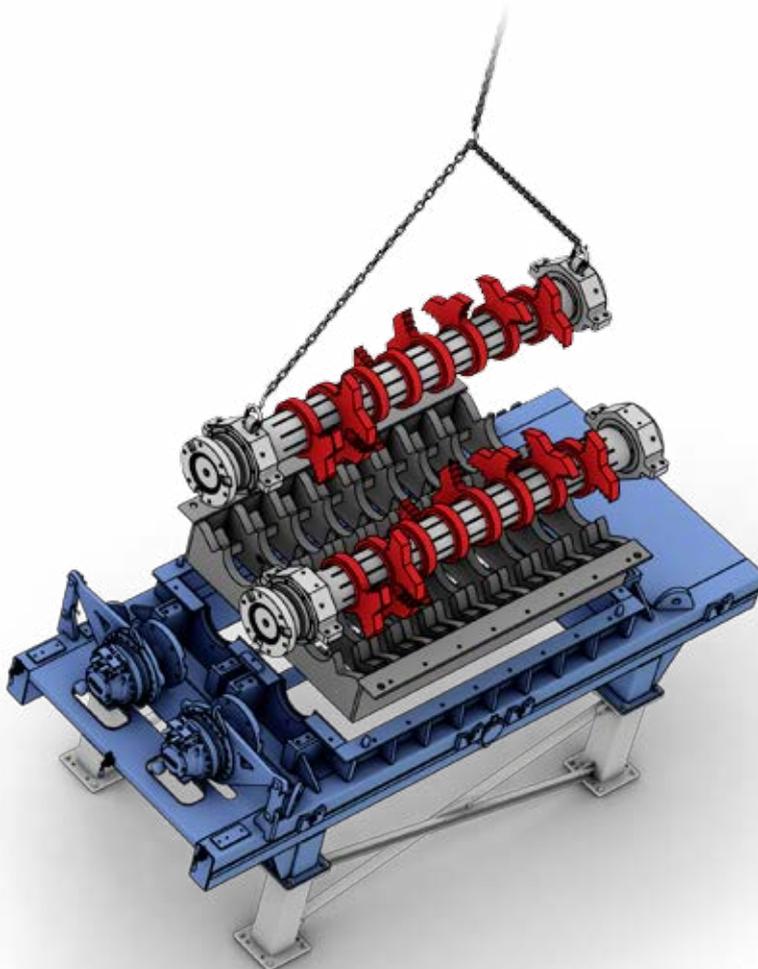
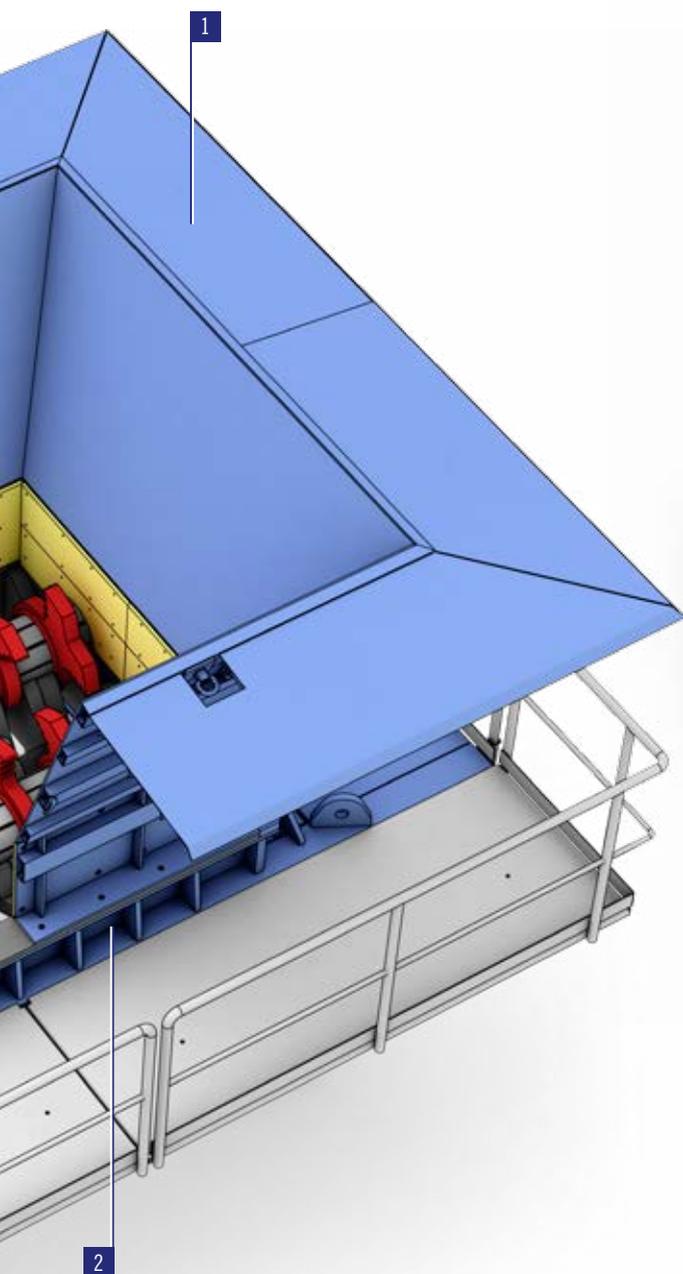
## 5 Drive system

Each shaft is powered independently. The machine can be driven hydraulically or electromechanically. In both cases, the drive system consists of standard industrial gear units and variable speed control. The control and drive function alternate the rotor direction optimising the shredding action on the feed materials.



### Shaft exchange

When the feed hopper is removed, the rotor shafts with their quick-action coupling are exposed. The quick-action coupling is bolted in place, making it possible to exchange the shafts without dismantling the gearbox. The rotor shafts are easy to remove. The shredding table unit is then exposed.



## Functional description

The two rotor shafts take hold of the input material. The shafts alternately rotate clockwise and counterclockwise. Each shaft is equipped with a row of shredding tools. The rotating shredding shaft assembly is embedded in a stationary shredding table. The shredding takes place between the rotating shredding tools as well as on the stationary shredding table. In the process, the machine automatically carries out a sequence involving different directions of rotation. As soon as the input material has reached the desired size, it exits the machine through the bottom.





Pre-Shredder VSR 1826 as the centerpiece of a plant for the pre-shredding of domestic and commercial waste in southern France



View of the shredding tools in the shredding of wood waste

Domestic & commercial waste



Bulky waste



Wood waste



Building rubble



Refuse-derived fuels (RDF)



Aluminum



Performance data (standard designs)

Type	Drive power	Rotor speed (max.)	Rotor diameter x length	Number of shredding tools	Width of shredding tools
VSR 1215	2 x 90 kW <sup>1)</sup>	18 rpm	580 x 1,500 mm	6 per shaft	80 mm
VSR 1826	2 x 160 kW <sup>2)</sup>	38 rpm	870 x 2,600 mm	6 per shaft	80 mm
VSR 2236	2 x 250 kW <sup>2)</sup>	40 rpm	960 x 3,600 mm	12 per shaft	100 mm

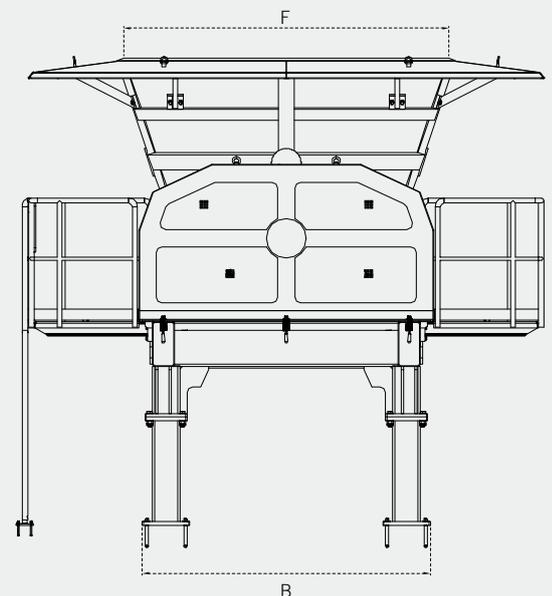
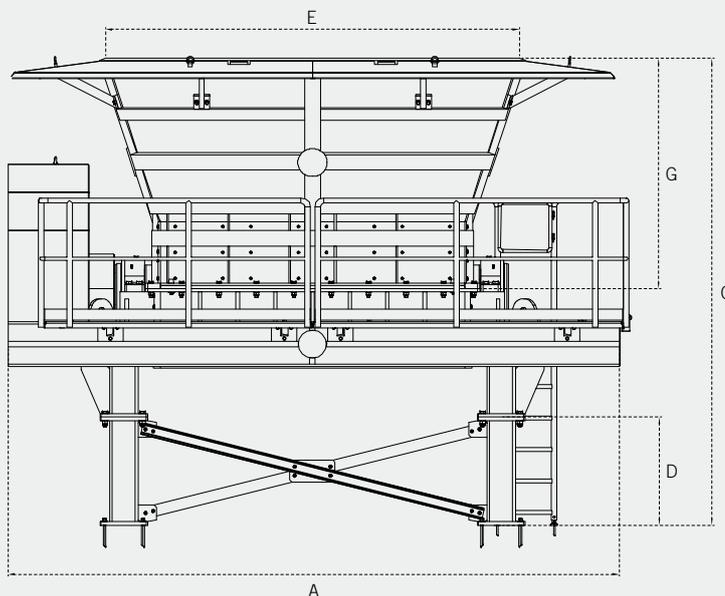
Dimensions and weights (standard designs)

Type	A	B	C	D	E	F	G	Shredding chamber length x width	Weight
VSR 1215	5,500 mm	2,500 mm	4,200 mm	1,500 mm	2,800 mm	2,500 mm	1,500 mm	1,500 x 1,200 mm	20 t
VSR 1826	5,600 mm	2,500 mm	4,500 mm	1,500 mm	3,700 mm	2,900 mm	1,500 mm	2,600 x 1,800 mm	26 t
VSR 2236	6,600 mm	5,400 mm	4,800 mm	1,500 mm	4,400 mm	3,400 mm	1,500 mm	3,600 x 2,200 mm	35 t

<sup>1)</sup> Electric drive system

<sup>2)</sup> Hydraulic drive system

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.



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### Germany

BHS-Sonthofen GmbH  
An der Eisenschmelze 47  
87527 Sonthofen  
Phone +49 8321 6099-0  
Fax +49 8321 6099-220  
info@bhs-sonthofen.de

### USA

BHS-Sonthofen Inc.  
14300 South Lakes Drive  
Charlotte, N.C. 28273  
Phone +1 704 845 1190  
Fax +1 704 845 1902  
info@bhs-sonthofen.com

### China

BHS-Sonthofen (Tianjin)  
Machinery Co., Ltd.  
Laiyuan Road 3  
Wuqing Development Zone  
Tianjin 301700  
Phone +86 22 82126263  
Fax +86 22 82107095  
info@bhs-sonthofen.cn

### India

BHS-Sonthofen (India)  
Pvt. Ltd.  
6-3-252/1/7/B  
3rd floor, Opp. IIPM  
Erramanzil / Banjara Hills  
Hyderabad 500 034  
Phone +91 40 23315341  
info@bhs-sonthofen.in

### Russia

BHS-Sonthofen  
Prishvina St. 8  
Bldg. 2, office 404  
127549 Moscow  
Phone +7 916 9411553  
info@bhs-sonthofen.ru