



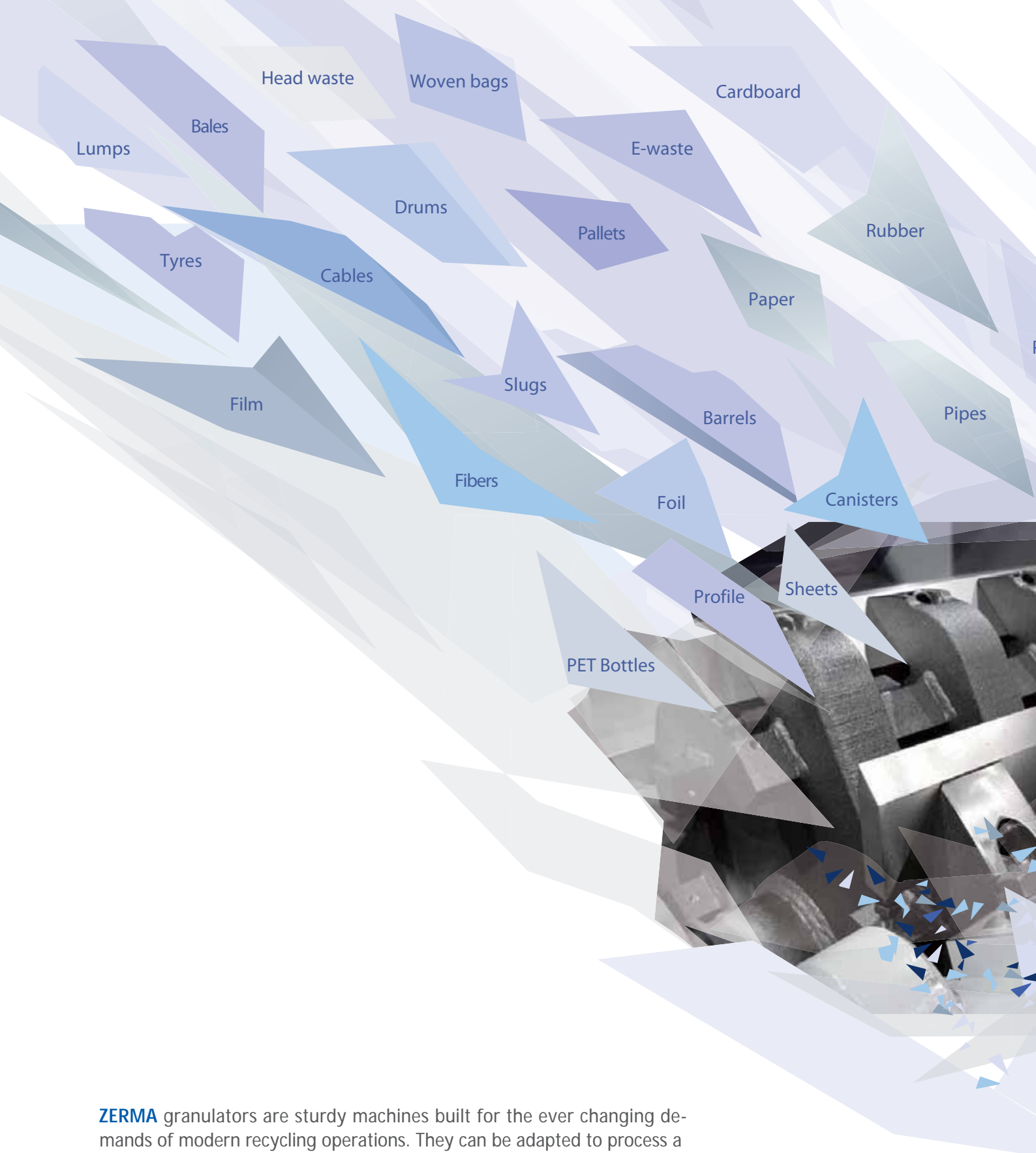
Granulators

GST · GSC · GSE · GSP · GSH



**ZERMA**

The Home of Size Reduction



**ZERMA** granulators are sturdy machines built for the ever changing demands of modern recycling operations. They can be adapted to process a wide variety of materials.

**All machines offer these benefits:**

- Consistent end product
- Reduced fine particles
- Low heat generation
- Reduced noise emission
- Small footprint and easy maintenance

# The Home of Size Reduction

**ZERMA** is a leading supplier to the plastics industry. With a strong focus on post-consumer and postindustrial recycling the granulators can be adapted to various requirements. They can be customized to withstand high levels of contamination or integrated into washing lines. In combination with **ZERMA** single shaft shredders and accessories we can custom build size reduction systems for high capacities and challenging materials.

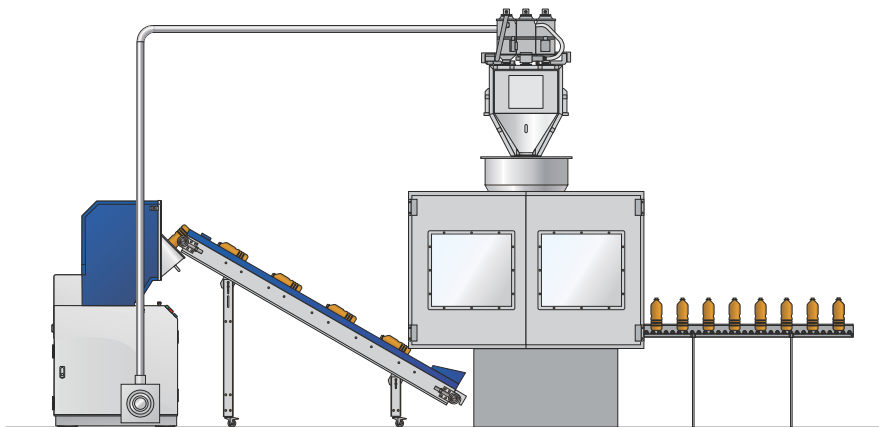
**ZERMA Granulators - A cut above**

Purgings

Scrap

# Typical applications of granulators

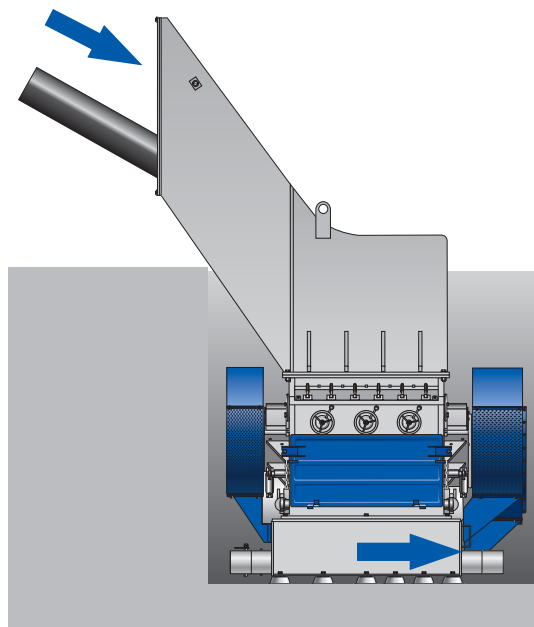
**ZERMA** granulators are designed to be dependable sturdy machines in high throughput or demanding applications. They can be used as single stage central granulators for large in house scrap as well as post-consumer and postindustrial recycling. In combination with a **ZERMA** ZSS/ZPS or ZXS single shaft shredder these granulators will ensure constant high throughput with minimal downtime.

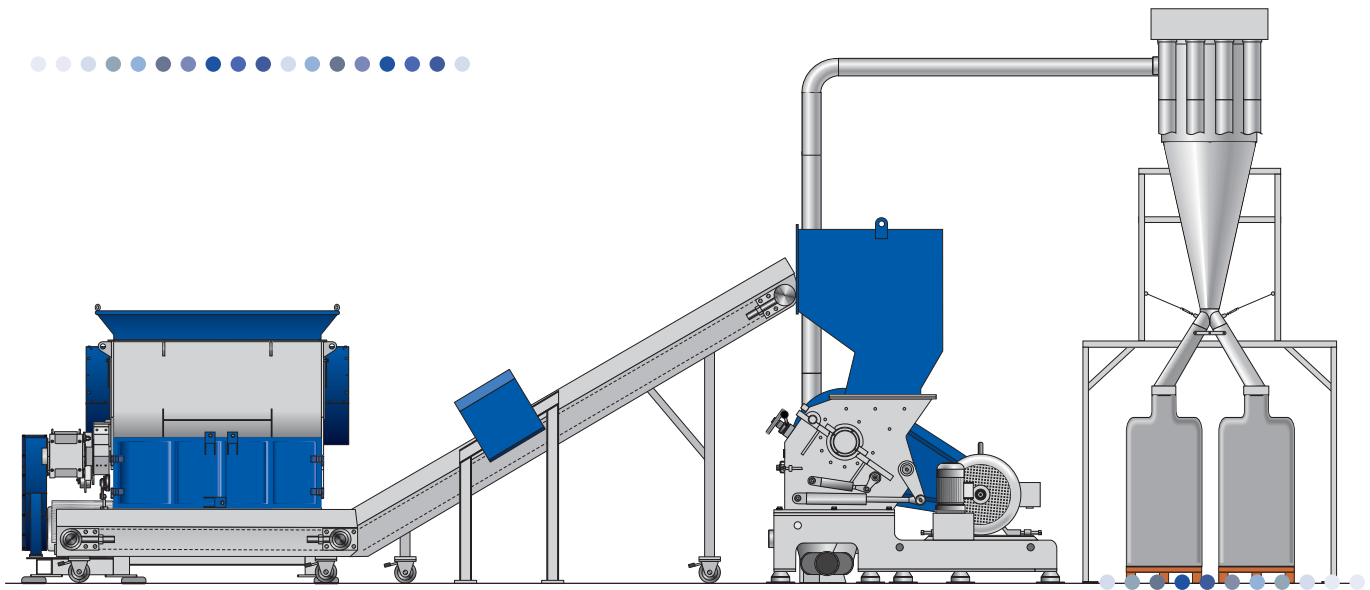


## GST granulator

In blow molding applications tops and tails as well as reject products. Tops and tails are fed to the granulator by a conveyor and the resulting material is directly fed back into the process.

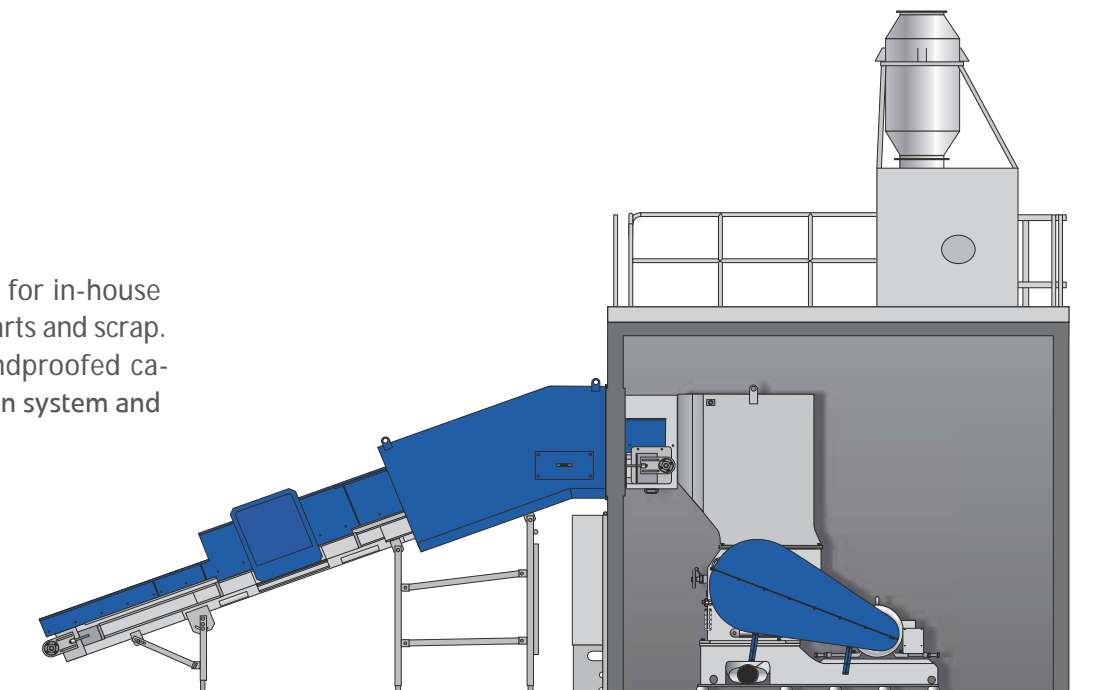
**GSH granulator** placed in a pit for easier floor level feeding of long lengths pipes.





Two stage size reduction system consisting of **ZERMA** single shaft shredder and GSE granulator.

**GSH granulator** used for in-house grinding of rejected parts and scrap. Machine in fully soundproofed cabin with fine separation system and central filter.



**A solution for every application**

# The right machine for today's recycling requirements

**ZERMA** offers a comprehensive range of granulators. The GST and GSC series are specifically designed for recycling in-house scrap such as runners, sprues, tops, tails, and reject parts directly at the production machine.

The resulting regrind can be conveniently collected in a central silo or mixed with virgin material for immediate reuse. These machines, known for their compact size and low noise levels, are an ideal solution for in-house applications.



GSC

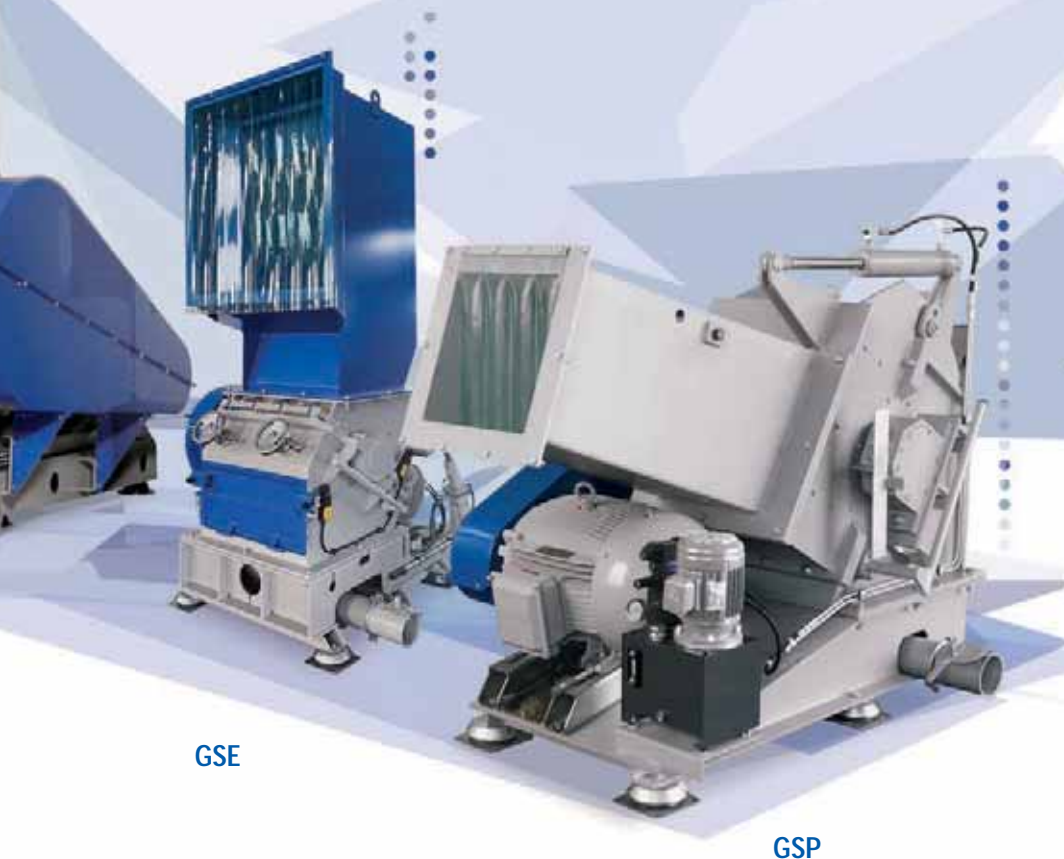
GST

GSH

- Sturdy, Recycling-Focused Design
- Variety of rotor options to adapt to your application
- Easy access for maintenance, service and knife change
- Replaceable wear parts ensure a long operational life
- Seamless Integration with other ZERMA products or into existing infrastructure
- Minimized dust and noise Emissions
- Up to date controls and safety

Additionally, **ZERMA** offers the GSE and GSH granulator series to be used as central granulators or as secondary machines after a shredder. They are available in a wide spectrum of sizes ranging from 300 to 1100 mm in diameter and 300 to 2400 mm in width.

Engineered for constant high-quality results, these granulators ensure minimal downtime for service and maintenance, providing a versatile and efficient solution across various applications.



GSE

GSP

## ZERMA range of granulators

# GST series– aggressive tangential infeed

The **ZERMA** granulators of the GST series are available in two rotor diameters, 250 and 400 mm, with widths ranging from 300 to 1000 mm. While the smaller machines feature an open F rotor, the larger machines utilize a heavier S rotor. These series are designed as quiet, compact units to perfectly fit into blow molding applications. The built-in blower system and control cabinet help to minimize the machine's footprint.





Tool-less access to the machines makes them easy to service and clean, enhancing maintenance efficiency.

The aggressive tangential cutting chamber, combined with the rotor design, ensures optimal ingestion of voluminous containers, while also being robust enough to handle tops and tails in blow molding applications.

Optional belt conveyors, as well as power-saving and current monitoring devices, are available to tailor and integrate the machine into existing setups, offering customization to meet specific operational needs.

## Small footprint – great results

# GSE series– general purpose granulators

The **ZERMA** GSE series granulators are economical solutions tailored for medium-volume central granulator applications, showcasing versatility that allows them to efficiently process a wide array of materials. This series covers a wide range of sizes with rotor diameters ranging from 300 to 700 mm and widths from 300 to 1400 mm. The completely welded cutting chamber, in combination with the „V“ type rotor design, not only ensures the machines' reliability and durability in operation but also broadens their applicability across various recycling scenarios.





Designed to facilitate ease of maintenance and operational efficiency, the housing of the GSE series granulators provides quick and straightforward access to the cutting chamber. This design consideration is particularly beneficial for tasks such as rotor and stator knife changes, servicing, or screen replacements. The cutting geometry of the GSE series ensures a high-quality regrind regardless of the material type—be it injection molded parts, blow molded parts, profiles, sheets, film, and more. This universal application use, coupled with their dependability, makes the GSE series an ideal choice for businesses seeking to optimize their recycling processes.

## The allrounder – for best results

# GSC series – the soundproofed all-rounder

The **ZERMA** compact/soundproof granulators are designed with a complete soundproof enclosure, resulting in a quieter operating environment. This series encompasses a wide range of sizes, with rotor diameters ranging from 300 to 700 mm and widths from 300 to 1400 mm. Various rotor designs are available to suit different needs. The fully welded cutting chamber, in conjunction with the V rotor design, ensures dependability in operation and universal application use. While it delivers excellent soundproofing capabilities, it still offers easy and quick access to the cutting chamber for rotor and stator knife changes, cleaning, servicing, or screen changes.



**GSC** – with optional feeding conveyor



The GSC series machines are mostly used for processing in-house scrap in injection or blow molding applications, but they can be tailored to other applications such as extrusion or thermoforming with the help of optional roller feeders. A whole range of **ZERMA** conveyor belts can be fitted to the machines as well. The use of sound-insulating tunnels further reduces the sound level, enhancing the working environment.

## Efficient cut – best final material

# GSP series – Pipe / profile granulators

The **ZERMA** GSP series granulators are specifically engineered for the efficient granulation of long lengths of pipes and profiles. The machines feature rotor widths of up to 1400 mm and diameters ranging from 560 to 700 mm. These granulators are designed with a heavy steel cutting chamber that is completely welded, angled, and equipped with an extended hopper to facilitate easy feeding of long items. The standard V-cut technology ensures a high-quality regrind with a very low percentage of fines, thereby enhancing the quality of the output material. Additionally, the series includes features such as a hydraulically opened hopper and outboard bearings, significantly reducing the risk of contamination and ensuring durability.





Addressing the challenges posed by conventional granulators in handling long pipes and profiles, the GSP series introduces an almost level feeding hopper that allows for the easy feeding of long pieces without the need for pits or platforms. This innovative design eliminates the risk of blocking; the machine automatically stops accepting material in case of congestion until the grinding chamber is cleared, after which it resumes operation smoothly. This design feature ensures continuous, efficient processing, making the GSP series an optimal solution for recycling long pipes and profiles with minimal downtime and maximum output quality.

## Specialized solution – great results

# GSH series – the allrounder

The **ZERMA** GSH Heavy-Duty granulator series offers a comprehensive range of machines designed for high-efficiency plastic recycling. Capable of handling everything from in-house recycling of thick-walled parts to high-throughput applications, either as a central granulator or after a shredder, this series is versatile and robust.

The series starts with the GSH 350 and 500 models, featuring rotor widths of 500 to 1000 mm and, making them ideal for central granulating tasks. The mid-range GSH 600 and 700 models are designed for processing materials such as thick-walled pipes and injected parts, with rotor widths from 800 to 1600 mm. The top-tier GSH 800 and 1100 models, engineered for the most demanding tasks, boast rotors up to 2400 mm wide and are capable of outputs exceeding 5 tons per hour.





Across the board, these granulators provide versatility in rotor and hopper designs to ensure optimal performance for a broad spectrum of applications, including secondary grinding post-shredding to achieve higher throughput rates. Additionally, replaceable wear parts and specialized wear-resistant steel protection for the rotor and cutting chamber are available for processing contaminated materials. This ensures longevity and consistent high-quality regrind, making the GSH series an ideal solution for a wide range of recycling challenges.

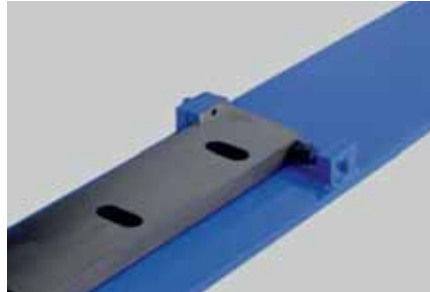
## Advanced cutting – strong performance

# Technical details – well thought out and efficient



## Wear plates:

Most **ZERMA** granulator series offer replaceable wear plates in the cutting chamber ensuring a long service life even with contaminated or filled materials.



## Knife adjustment

Rotor and stator knives are preset outside the machine prior to installation in a supplied fixture. This makes awkward adjustment inside the machine unnecessary.



## Specialized hoppers

Most machines can be tailored to specific applications by using specialized hoppers.



## Cutting chamber

The heavy duty bearings are separated from the cutting chamber to avoid lubricants from entering the cutting chamber and failure of the bearings due to material contamination.





All **ZERMA** granulators are easy to maintain and service. On the larger machines, the front screen access door can be used as a platform to ease access to the rotor during knife changes.



#### Safety requirement

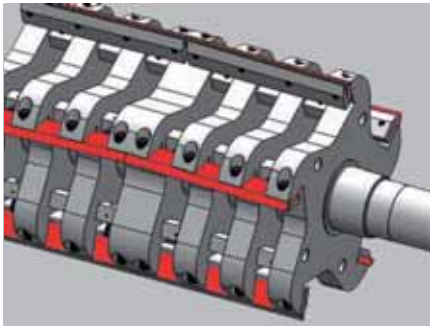
All machines are designed according to the latest mechanical and electrical safety requirement.



**ZERMA** granulators feature control and operation panels that meet all safety standards and can be customized to fit specific needs. They also offer seamless integration with peripheral devices like feed conveyors, metal detectors, and unloading systems. Plus, they come with optional intelligent energy-saving functions for improved efficiency, reducing power consumption during idle times and enabling automatic start/stop based on upstream equipment status.

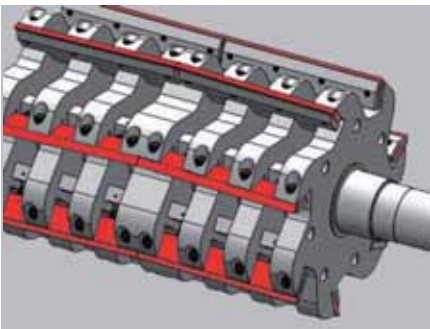
## Advanced engineering – great results

# Rotor and cutting chamber – details ensure consistent results



## S5-Rotor

This rotor is ideal for light materials as well as thick, rigid pieces such as tanks or crates. Its semi-closed design mitigates the rotor's aggressiveness, providing a balanced approach to material processing.

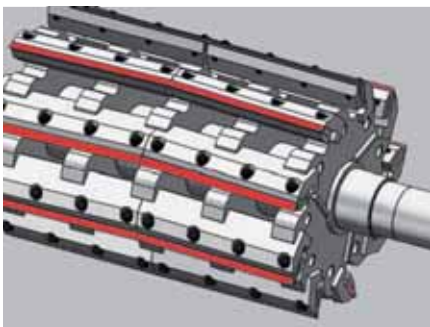


## S7-Rotor

The S7 rotor, featuring a closed 7-blade design, is tailored for heavy, thick-walled products. Its less aggressive nature prevents overloading, making it suitable for processing solid lumps or thick-walled pipes without compromising efficiency.

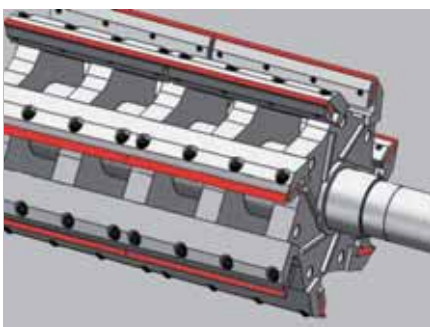
## F3-Rotor

The F3 rotor, with knives mounted on the outer part of the rotor, exhibits a more aggressive behavior. This feature renders it exceptionally suitable for processing light and bulky materials, ensuring efficient size reduction.



## H9-Rotor

Similar to the S7, the H9 rotor is a closed design tailored for heavy-duty applications. It allows for the incorporation of knife supports made from highly wear-resistant steel, ideal for handling contaminated materials and extending service life.



## L7-Rotor

The L7 rotor is distinguished by its unique single cross-cut design, making it particularly effective in high-temperature applications, such as processing car tanks. This design facilitates efficient material breakdown under challenging conditions.

## V-Cut Technology

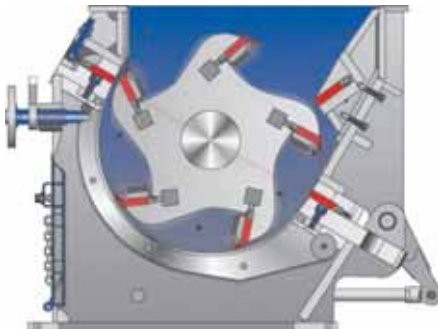
Most rotors incorporate a V-cut design, which ensures consistent output material quality and guides the material towards the center of the cutting chamber. This technology enhances the granulation process, promoting uniform size reduction and efficient material flow.





#### **GST:**

The curved back wall of the cutting chamber ensures for aggressive ingestions while also avoiding blockages.



#### **With Deflection Wedge**

The removable deflection wedge houses a third stator knife. It allows easy and fast adjustments of the machines aggressivity.

The deflection wedge alters the infeed of the machine and moves the first cut to the 2 o' clock position. Well suited for heavy thick walled parts such as lumps or pipe. Due to the added stator knife it increases the number of cuts per revolution the output on light material such as film is increased.



#### **Without Deflection Wedge**

The infeed is very strong and aggressive, the first cut will happen at the 4 o' clock position. Well suited for bulky materials, such as canisters or pales.



## A variety of options – excellent results

# Soundproofing for Inhouse installation of granulators



To ensure a safe working environment **ZERMA** offers various options to reduce the noise emitted from the granulators. All GSC models feature a sound dampening enclosure as a standard as well as sound dampening tunnels on the belt conveyors. GSH heavy duty granulators can be placed into custom sound insulating rooms which also offer enough space for the material blowers.



To minimize the needed floor space and make the machine easy to move the control cabinet is integrated into the machines soundproof housing.



### **GST, GSC:**

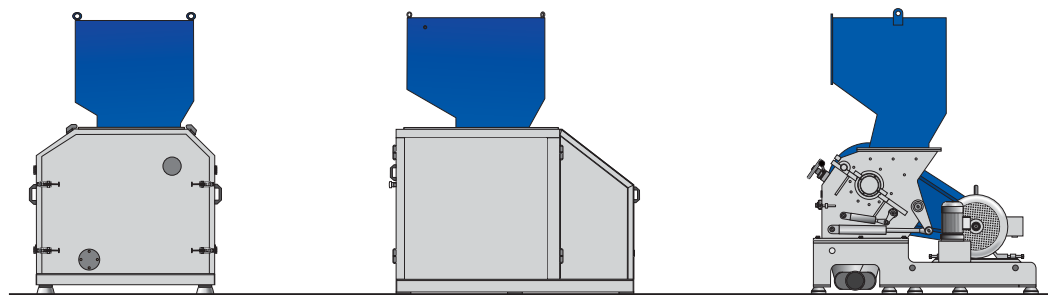
In order to keep the machines as compact as possible, the motor and opening system are integrated into the sound dampening enclosure of the machine.



## The right machine for every application

# Technical specifications – overview

	Model	Diameter	Width in mm	kW
GST	250/300	250	300	7,5
	250/450	250	450	7,5
	250/600	250	600	11
GST	400/600	400	600	22
	400/1000	400	1000	30
GSC / GSE	300/300	300	300	7,5
	300/600	300	600	11
	300/1000	300	1000	18,5
GSC / GSE	500/500	500	500	30
	500/700	500	700	37
	500/1000	500	1000	45
	500/1400	500	1400	45
GSC / GSE	700/700	700	700	45
	700/1000	700	1000	55
	700/1400	700	1400	55

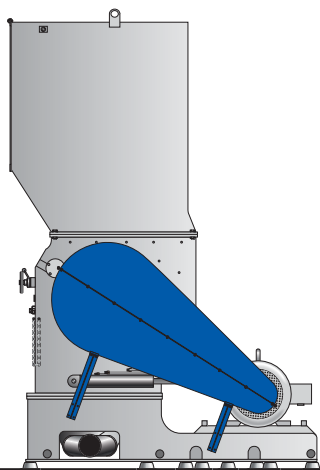


GST

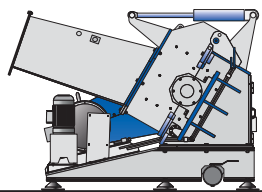
GSC

GSE

	Model	Diameter	Width in mm	kW
GSH	350/500	350	500	22
	500/600	500	600	55
	500/1000	500	1000	55
	600/800	600	800	75
	600/1600	600	1600	132
	700/1000	700	1000	90
	800/1200	800	1200	132
	800/1600	800	1600	160
	800/2000	800	2000	2 x 160
	1100/1200	1100	1200	200
	1100/2400	1100	2400	2 x 200
GSP	600/500	600	500	45
	560/700	560	700	55
	560/1000	560	1000	75
	800/800	800	800	90



GSH



GSP

Wide range – great results

# The right fit for any application



With more than 70 years of experience, **ZERMA** is one of the leading manufacturers of high quality size reduction machinery. With the wide range of machines **ZERMA** covers the whole spectrum of plastic size reduction applications.



ZERMA – The Home of Size Reduction



## Close to our customers

The global ZERMA network of branches and distributors



[zerma.com](https://zerma.com)