

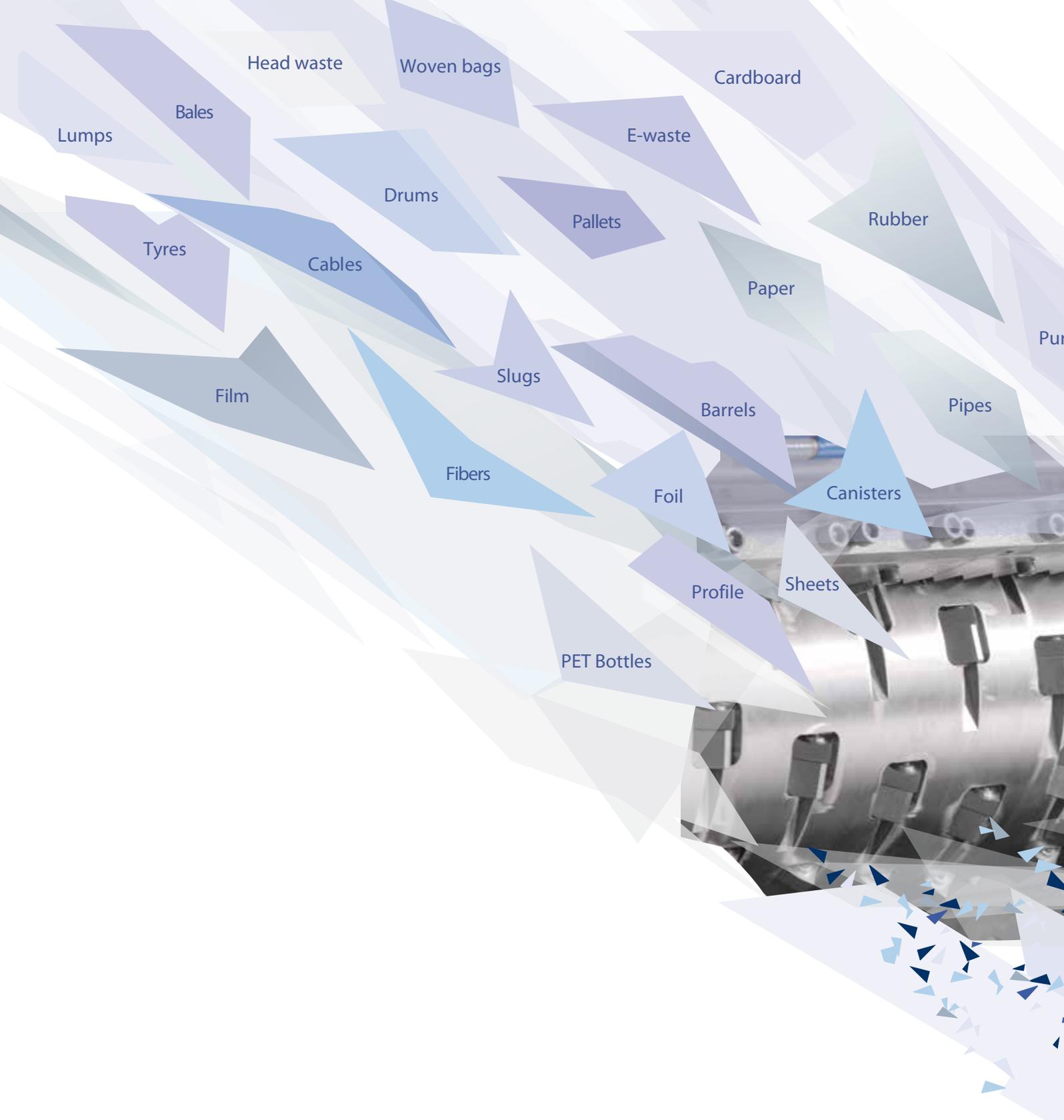


## Single Shaft Shredders



**ZERMA**

The Home of Size Reduction



Head waste

Woven bags

Cardboard

Lumps

Bales

E-waste

Drums

Pallets

Rubber

Tyres

Cables

Paper

Film

Slugs

Barrels

Pipes

Fibers

Foil

Canisters

Profile

Sheets

PET Bottles

Shredders can be used to process a wide variety of materials, from plastics to wood, paper, and general waste streams. Mostly they are used together with a granulator to achieve a smaller output size.

# The Home of Size Reduction

**ZERMA** has long been a leading supplier of size reduction equipment for the plastic industry mainly focusing on in house and central granulators. Adding single shaft shredders to the portfolio to supply a complete range of size reduction machinery to handle any task in plastics recycling and designing a system where each component is matched perfectly to the application and works hand in hand.

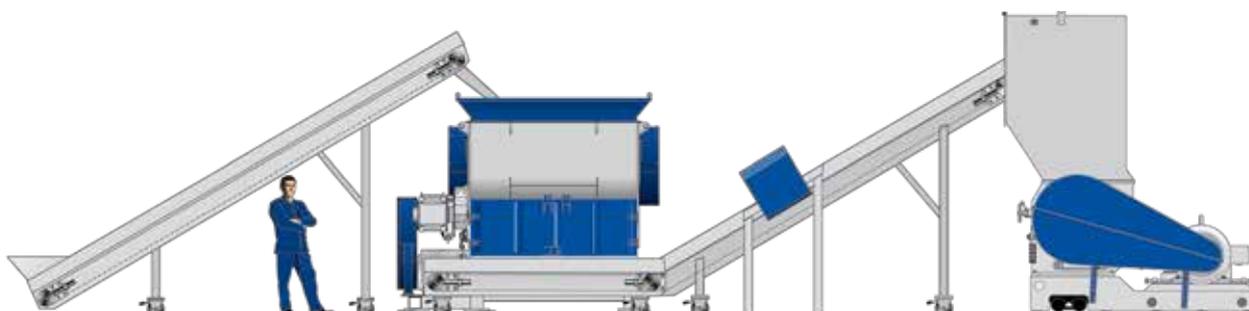
gings

Scrap

# Typical applications of single-shaft shredders

## Applications

**ZERMA** single shaft shredders have been designed as dependable machines to be used in a wide variety of applications. They can achieve high outputs while being able to handle larger and stronger input materials. Combining a heavy rotor with a slow speed and high torque drive also helps reduce energy costs by avoiding amperage peaks.

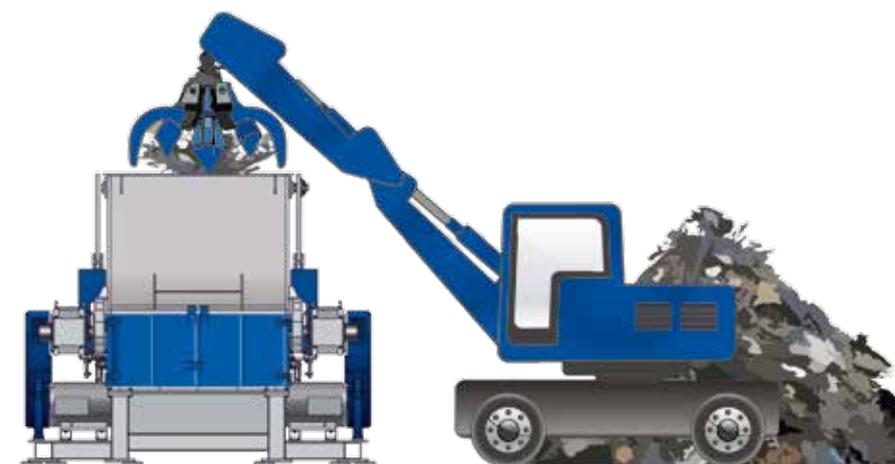


## ZSS / ZPS / ZIS Single Shaft Shredder

The ZSS / ZPS and ZIS shredders have been designed for a wide variety of applications. Depending on input material and the recycling process, the shredded material will be used directly or will be further reduced, for example in a GSH granulator.

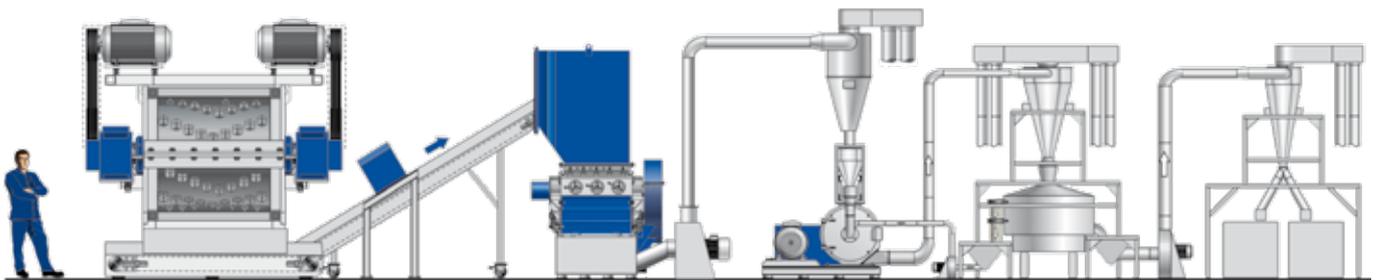
## ZXS Single Shaft Shredder

The ZXS shredders are built for the most demanding and high throughput applications in recycling, ranging from recycling of large petrochemical lumps to MSW waste streams.



## ZRS - Pipe / Profile Shredders

The main focus of the ZRS shredders lies on the shredding of long lengths of large diameter plastic pipes or bundles of smaller pipes and profiles. The unique design of the machine allows easy feeding and safe processing of these long pipes. Adding **ZERMA** granulators and pulverizers offers a complete recycling system tuned to deliver the best performance.



# Advanced engineering – great results

# The right machine for today's recycling requirements



ZSS / ZPS / ZIS

ZHS

Like all **ZERMA** machines the shredders are engineered to handle heavy use and continuous operation, easy to service and ensure performance and great results.



ZXS

ZRS

- Sturdy design
- Low rotor speed – high torque
- Potent hydraulic feeder
- Advanced controls – easy integration with other ZERMA equipment.

# ZSS / ZPS and ZIS – the sturdy allrounder

The ZSS / ZPS and ZIS shredders feature a powerful two speed swing ram design, eliminating the risk of blocking and wearing out of guide rails.

The large diameter **ZERMA** rotor with its unique knife and knife holder design are able to handle various types of input material with ease. Oversized outboard bearings and a hydraulic screen cradle are standard and ensure dependable performance and easy maintenance. The shredders can be tailored to specific applications with rotor cooling, hard facing, and other wear options.

Optionally the ZSS shredders can be equipped with heavier and taller hydraulic ram. This ZPS style ram improves the handling of heavy parts such as pipes or heavy purgings.

The ZIS shredders are designed with a larger internal volume to handle large bulky objects such as IBCs, barrels and pallets.





- Oversized gearboxes with high torque
- Sturdy welded steel construction
- Hydraulic feeders without guide rails
- Bolted knife and knife holders
- 35 % more space in the cutting chamber / ZIS Series

# ZHS – affordable performance

**ZERMA** ZHS shredders are single shaft shredders featuring an angled hydraulic ram suitable for a wide range of material shapes and sizes. The ZHS shredders are equipped with a **ZERMA** E style rotor and knife holder system. The final size of the material is determined by the screen which can easily be changed based on requirements.

The ZHS shredder can be tailored to individual requirements, which includes different drive powers, knife configurations as well as discharge options.





- Large feeding hopper
- Robust welded steel construction
- Low speed operation
- Advanced rotor / knife mounting system

# ZXS – for high throughput applications

The ZXS shredders feature large 750 mm diameter rotors driven by heavy industrial gearboxes. As all **ZERMA** shredders they feature a unique bolted knife and knife holder design to ensure easy maintenance and flexibility. The heavy swing ram combined with 11 kW two speed hydraulic system guarantee high outputs even on the heaviest materials.

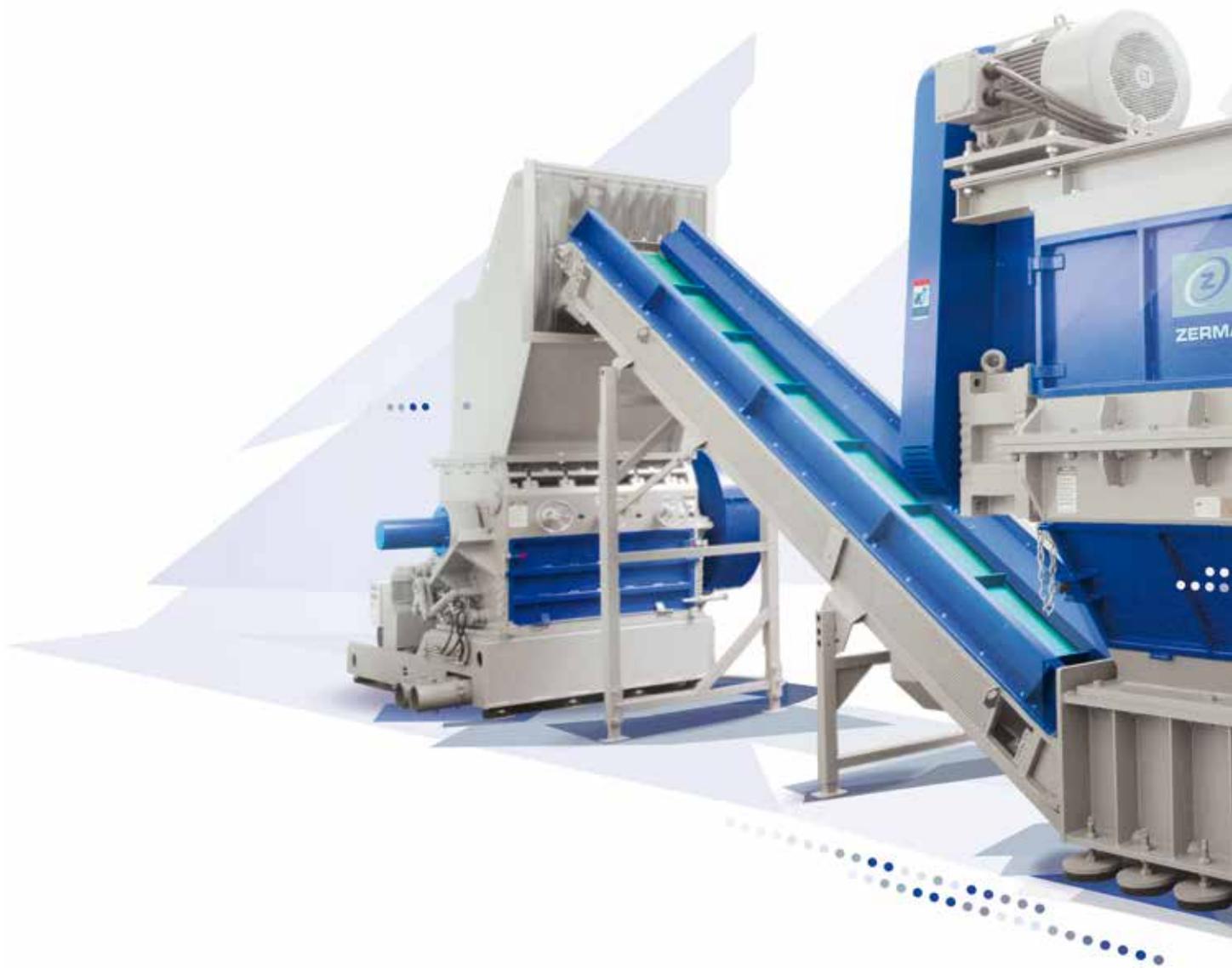
The ZXS-T models come with larger drives and complete wear protection to process multiple tons per hour of waste, tires, or MSW streams.





- Large diameter rotor (750 mm)
- Low speed, high torque twin gear drive
- Powerful two speed hydraulic
- Heavy welded design
- Designed for high throughput rates and very large heavy parts

# ZRS – for large pipes and profiles



The ZRS shredders are the world's first single shaft shredders specifically designed to handle large diameter pipes without the need for pre cutting. Since their introduction they became the per se standard for pipe shredding and are used by the leading pipe manufacturers all over the world. More than 200 installations demonstrate our technological leadership in this industry and continuing innovation based on market demands and customer feedback.



- Large diameter rotor
- Safe feeding of long (6 m) pipes
- Ability to process mixed diameter pipes with a wide range of thicknesses
- Integrates with ZERMA granulator and pulverizer to create a turn key pipe recycling solution

# Technical details – well thought out and efficient



All shredders are equipped with a flat E-style rotor featuring machined pockets for the bolt-in knife holders and knives. The hydraulically lowered screen cradle ensures easy knife maintenance and screen changes.



**ZERMA** shredders are available with different knife designs to fit specific applications. All knives are square and can be turned once one side is worn down.



Rotor shafts and knife holders are bolted into the rotor to ensure easy reparability in case of accidents as well as acting as a safety braking point to prevent further damage to the machine.



For heavy wear applications or abrasive materials weld on hard facing can be applied to the rotors and knife holders. Specially designed Tungsten Carbide blades can be used to extend the knife life when processing tires, MSW, or other contaminated materials.





The ZSS / ZPS and ZXS shredders benefit from the sturdy swing ram. The design works without the need for guide rails avoiding the risk of clogging and wear. Two powerful hydraulic cylinders combined with the serrated ram plate ensure a secure grip and good ingestion on all materials.



The internal ram design on the ZIS series allows the cutting chamber volume to be increased while keeping a small footprint. This makes the ZIS ideal for shredding big volume parts.



The ZRS pipe shredders are equipped with a special feeding trough sized to take pipes up to 6 m length. A powerful hydraulic ram forces the pipes into the rotor.



All ZERMA single shaft shredders are equipped with a serrated plate at the front of the hydraulic pusher. This helps ensure constant feeding of the material into the rotor with a variety of materials.

## Advanced engineering – great results

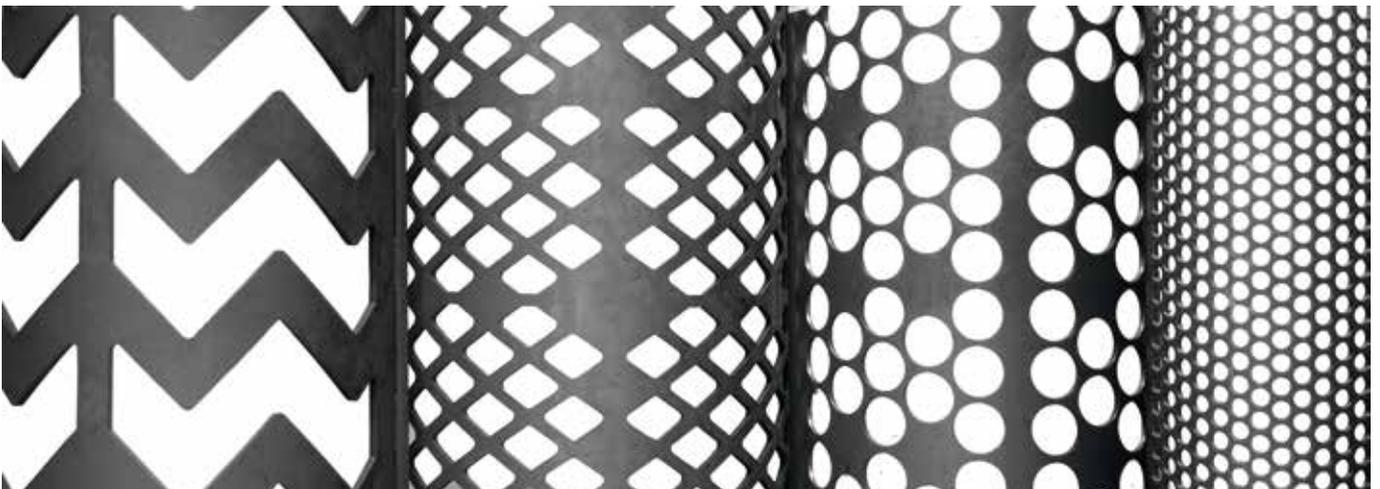
# Technical details



All shredders are equipped with a powerful two speed hydraulic system. This system ensures maximum pressure when feeding material into the rotor and high speeds on the backstroke and running under low load.



The hydraulic rams in the ZHS and ZRS series shredders are guided by steel rails and large oversized steel rollers. This ensures dependable performance reduced risk of jams and low wear.



The shredders can be equipped with a variety of screen designs to tailor the machine to different materials. Common designs include round holes, square, diamond and zig-zag.

When processing contaminated or abrasive materials the screens can be manufactured from highly wear resistant materials.



For the processing of thin or fibrous material the segmented floor and pusher on the ZHS series shredders can prevent material from getting lodged under the hydraulic ram, avoiding jams and excessive wear.

# Technical specifications

All shredders have a single row of stator blades.  
Screens are available with different holes designs in sizes > 25 mms

All dimensions are in mm

**H** = length  
**I** = height  
**J** = width

**A** = Rotor width in mm  
**B** = Rotor diameter in mm  
**C** = Drive capacity in kW  
**D** = Rotor knives in pcs  
**ExF** = Effective working area in mm x mm  
**G** = Weight approx. kg

## ZIS Series

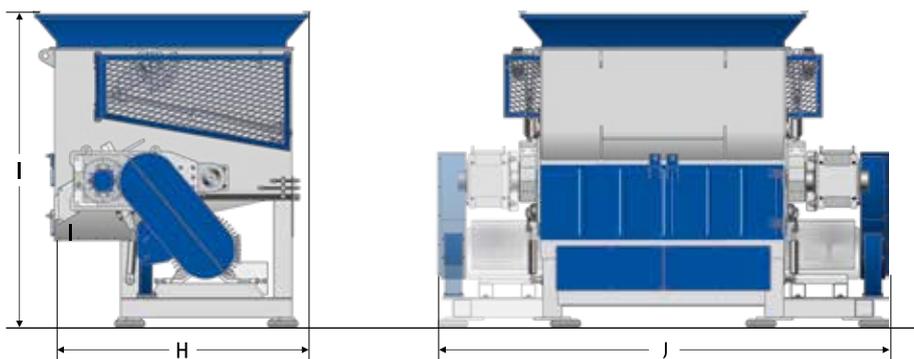
Typ	1200	1500	2000
A / B	1200 / 457	1500 / 457	2000 / 457
C	55	75	2 x 55
D	54 / 81	68 / 102	96 / 144
E x F	1300 x 1050	1300 x 1330	1300 x 1890
G	5800	6400	8800

H	2090	2090	2090
I	2595	2595	2595
J	2350	2670	3760

## ZSS/ZPS-Series

Typ	850	1200	1500	2000
A / B	850 / 457	1200 / 457	1500 / 457	2000 / 457
C	37 / 55	55 / 75	75 / 90	2 x 55 / 2 x 75
D	40 / 60	54 / 81	68 / 102	96 / 144
E x F	800 x 770	800 x 1050	800 x 1330	800 x 1890
G	5100	5900	6600	8600

H	2300	2300	2300	2300
I	2795	2795	2795	2795
J	2010	2290	2610	3760



# Technical specifications

## ZHS Series

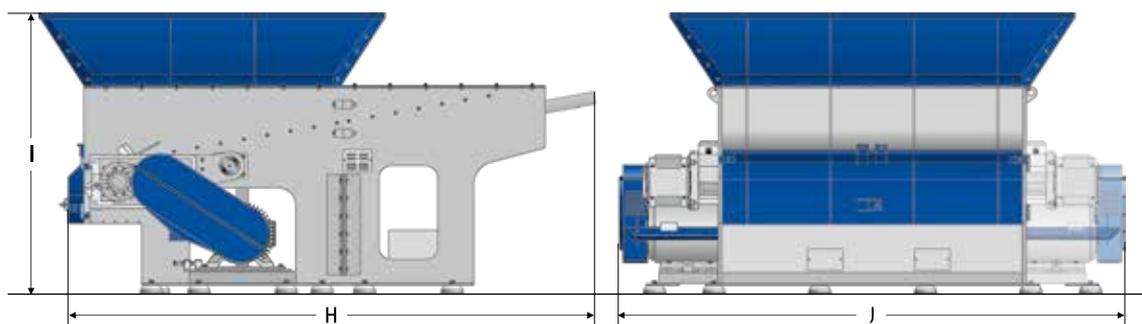
Typ ZHS	850	1100	1400	1700	2000
A / B	850 / 404	1100 / 404	1400 / 404	1700 / 404	1960 / 404
C	22 / 30	30 / 37	45 / 55	55 / 75	75 / 90
D (34 x 34 mm)	20 / 40	27 / 54	34 / 68	41 / 82	48 / 96
E x F	820 x 770	1095 x 1050	1440 x 1330	1640 x 1610	1620 x 1910
G	3000	3700	6000	7000	8500

H	2690	3160	3990	4325	4205
I	2025	2135	2320	2370	2420
J	1565	2085	2370	2730	3075

## ZHS+ -Series

Typ ZHS+	1500	2000	2600
A / B	1400 / 600	1960 / 600	2520 / 600
C	90 / 110	110 / 2 x 75	2 x 90 / 2 x 110
D (34 x 34 mm)	68 / 102	96 / 144	124 / 186
D (50 x 50 mm)	38 / 57	54 / 81	70 / 105
E x F	1400 x 1340	1880 x 1550	2440 x 1159
G	12000	14000	16000

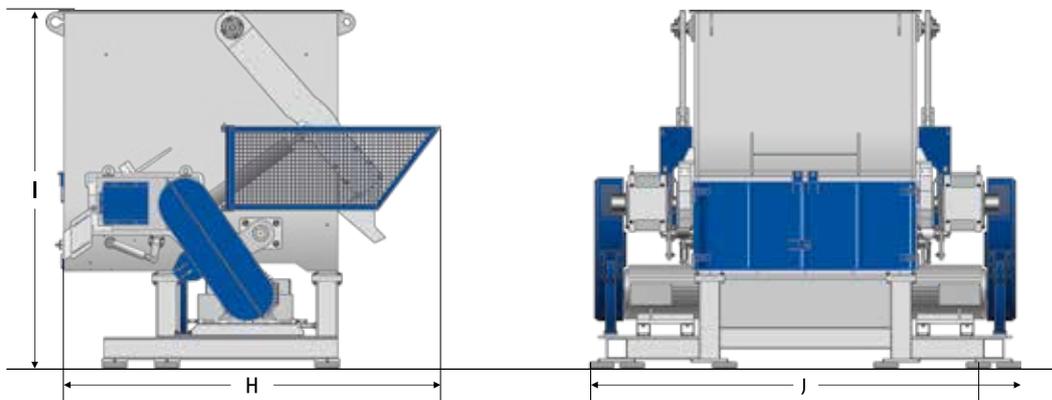
H	4420	4650	4650
I	2700	2740	2740
J	2840	3870	4425



## ZXS Series

Typ	1500	2000	3000
A / B	1500 / 750	2000 / 750	3000 / 750
C	2 x 75	2 x 90	2 x 132
D	76	96	136
E x F	1500 x 1440	1500 x 1840	1500 x 2640
G	17500	20000	25000

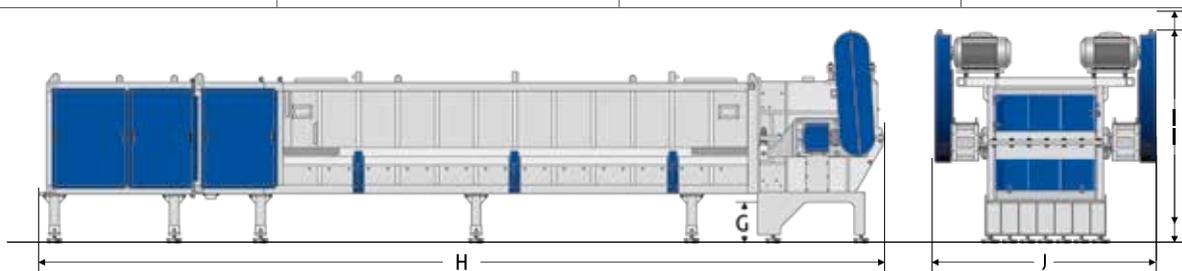
H	3580	3580	3580
I	3420	3420	3670
J	3560	4100	5070



## ZRS-Series

Typ	800	1000	1500
A / B	800 / 850	1000 / 1050	1500 / 1450
C	2 x 37	2 x 45	2 x 55
D	60	81	136
G	12800	17500	24000
Max. Rohrgröße	3500/6500 x Ø 630	6500 x Ø 850	6500 x Ø 1200

H	11840	11940	12180
I	2565	2660	3160
J	2545	2975	3290



# The product range – the right solution for any application



**GSL** - Slow Speed Granulators

**GSE** - Compact granulators

**GSC/GST** - Soundproofed Granulators

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.



**GSH** - Heavy Duty Granulator

**PM** - Disc Pulverizers

# ZERMA – The Home of Size Reduction



## Close to our customers

The global ZERMA network of branches and distributors



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