



THE HOME OF SIZE REDUCTION

PRODUCT CATALOGUE

ZERMA

GRANULATORS



SHREDDERS



PULVERISERS



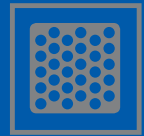
SPECIALISED MACHINES




ACCESSORIES



SPARE PARTS





THE NAME ZERMA COMES
FROM THE GERMAN WORD
ZERKLEINERUNGSMASCHINEN,
MEANING “SIZE REDUCTION MACHINE”.
SINCE THE COMPANY WAS
FOUNDED IN 1943, THIS HAS
REMAINED OUR MISSION.

With more than 70 years of experience ZERMA is a leading manufacturer of size reduction machinery. ZERMA has traditionally focused on the development and production of size reduction machinery for the plastics industry. However, today ZERMA has expanded into the related

industries of tyre, wood, e-waste and MSW/RDF recycling. Our core strength is as a machinery and component producer. As such we are an ideal partner for systems integrators and OEM projects. We remain committed to the improvement and development of size reduction machinery.

ZERMA



GSL

8-13GSL 180
GSL 200
GSL 300

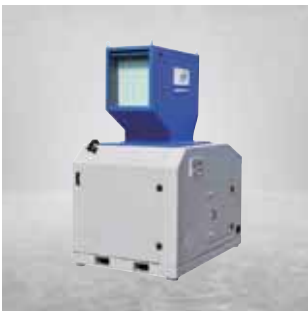
The slow speed granulators in the GSL range are mainly used in injection and blow moulding processes as beside the press machines to grind runners and sprues. The machines can be used for rejected products in the inline recycling process as well. Different hopper and base frame designs make it possible to integrate the machine with most types of injection moulding machines and robots.



GSE

14-19GSE 300
GSE 500
GSE 700

The GSE series of machines are designed as economical granulators for in-house recycling. The aggressive tangential infeed and advanced cutting geometry of the GSE series allows bulky hollow parts to be ground. The GSE granulator series achieves a high quality regrind independent of the material type or form such as injection moulded parts, blow moulded parts, profiles, sheets, film, etc.



GSC / GST

20-27GSC 300
GSC 500
GSC 700GST 250
GST 400

The GSC series compact soundproofed machines are mainly used in inline operations or central granulators for processing of thin-walled products, or runners and sprues. With different rotor designs and a wide variety of options the machines can be tailored for many different applications. The GST series with extremely tangential cutterhouse and aggressive rotor design is purpose-built to accept and reduce large volume containers without "bouncing" or bridging.



GSH

28-35GSH 350 & 500
GSH 600 & 700
GSH 800
GSH 1100

The wide range of rotors and hopper styles allow the GSH machines to be tailored to almost every application in the plastic recycling field. The GSH heavy duty granulators are mainly used as central granulators for in-house recycling applications to process thick walled parts in one step or as a second step granulator after a shredder to reach higher throughput rates.



GSP

36-37

Conventional granulators have substantial problems handling long pipes and profiles. Therefore Zerma developed the GSP range. Thanks to the almost level feeding hopper, long pieces can be fed easily. While the machine is operating there is no risk of blocking, in case of congestion no more material will be accepted by the machine. Once the grinding chamber is empty the machine will accept material again.



PRODUCT OVERVIEW

SHREDDERS



ZBS

38-39

ZBS 600
ZBS 850

The ZBS shredders have been designed for in-house recycling of small lumps and purges from injection and blow moulding processes. The typical input materials are small and medium sized lumps such as head waste. The material can be shred to reduce the volume or processed further in a granulator to be reintroduced into the production process immediately.



ZSS

40-41

ZSS 850
ZSS 850+
ZSS 1200
ZSS 1500
ZSS 2000

The ZSS shredders have been designed for a wide array of applications and industries such as in-house and general recycling, electronic waste and post-consumer waste handling with a wide variety of input materials. Depending on input material and the following process the shredded material can be used directly or go into the next step of size reduction for example in a GSH granulator.



ZIS

42-43

ZIS 1200
ZIS 1500
ZIS 2000

The ZIS shredders have been designed with big volume parts such as IBCs, pallets and big barrels in mind. While it can be used for in-house recycling in big volume blow moulding operations it is also versatile enough to be used for general recycling in the plastic and wood industry. Like all ZERMA shredders the ZIS can be equipped with a wear package for processing of highly abrasive or filled materials.



ZXS

44-45

ZXS 1500
ZXS 2000
ZXS 3000

The ZXS shredders have been designed for the most demanding and high throughput applications in recycling industries. The input materials can be all kinds of plastics, wood, paper, cardboard, e-waste, post-consumer waste, rubber, etc. in various shapes and sizes. Typical input materials are: fridges, purges, tyres, pallets, bales, drums and barrels, pipes, film and so on...



ZRS

46-47

ZRS 800
ZRS 1000
ZRS 1500

The main focus of the ZRS shredders is the shredding of large diameter pipes or bundles of smaller pipes and profiles made from HDPE, PP and all kinds of PVC. Further the machines can be used for recycling of other plastic parts, such as large lumps, stacked wheelie bins and pallets. In combination with other ZERMA size reduction equipment such as granulators and pulverisers we are able to provide a complete turn key recycling solution.

SPECIALISED MACHINES



ZTS / ZTTS

48-49

ZTS 1500
ZTS 2000
ZTS 3000

The ZTS with its single row of stator knives is used to pre shred complete car tyres or large chunks of pre processed tyres down to a size of about 150 mm. The twin rows of stator knives and screen in the ZTTS enable it to take the tyre shreds down to any required size > 20 mm. The unique machine design combined with the variable cutting gap create an optimal separation of rubber and steel fractions.



ZWS

50-53

ZWS 600
ZWS 850
ZWS 1100
ZWS 1400
ZWS 1700
ZWS 2000
ZWS 2600

The ZWS light duty wood shredders are single shaft shredders specifically designed for the wood industry. They can be used to grind small quantities of off-cuts in a joinery or to create sawdust from all kinds of waste wood to be used as fuel directly or further processed in a briquetting press to create heating pellets.



ZHM

54-55

ZHM 600/800
ZHM 800/1200

The main purpose for the ZERMA ZHM hammer mill is the processing of electronic waste, such as whole computers, white goods and ICBs. The main advantage in these processes lies in its insensitivity to contamination and abrasive materials while being able to achieve a rather small output material. Through the high degree of disintegration it is possible to achieve good separation results in the following processes.



PM

56-57

PM 300
PM 500
PM 800
PM 500H
PM 800H

One of the main fields of use for the ZERMA PM Pulverisers is the pulverization of PVC regrind in pipe and profile recycling. Working in line with a shredder and granulator to have a balanced and efficient system to handle in-house production waste. Another application is the grinding of PE for Rotational moulding applications, here the PM Pulveriser is used in the production process to create the powder needed in the process.



APPLICATIONS

INJECTION MOULDING

BLOW MOULDING

EXTRUSION

THERMOFORMING

FILM

ROTATIONAL MOULDING

GENERAL RECYCLING

POST-CONSUMER RECYCLING

RUBBER

WOOD

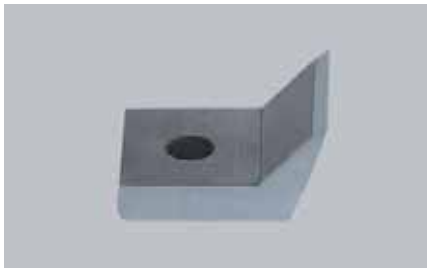
E-WASTE

MSW / RDF

GSL 180

BESIDE THE PRESS GRANULATOR

- **Direct driven staggered rotor**
- **Special knife design makes adjustment unnecessary**
- **Easy access for maintenance and cleaning**
- **Slow rotor speed creates less noise and dust**
- **Easily customizable to suit different applications**



The curvature of the specially profiled rotor knives ensures a constant cutting radius after re-sharpening thus maintaining the original cutting gap. Awkward knife adjustment is no longer necessary.



Staggered rotor blades creates an individual blade cut thus increasing the cutting torque. All of the machines in this series are therefore suitable for grinding more solid materials and thicker walled sprues.



The ZERMA Quick Snap System allows the lower front plate section to be easily removed for granulator cleaning. The lower front plate section is held in position by two sturdy lever clamps.

GENERAL DESCRIPTION

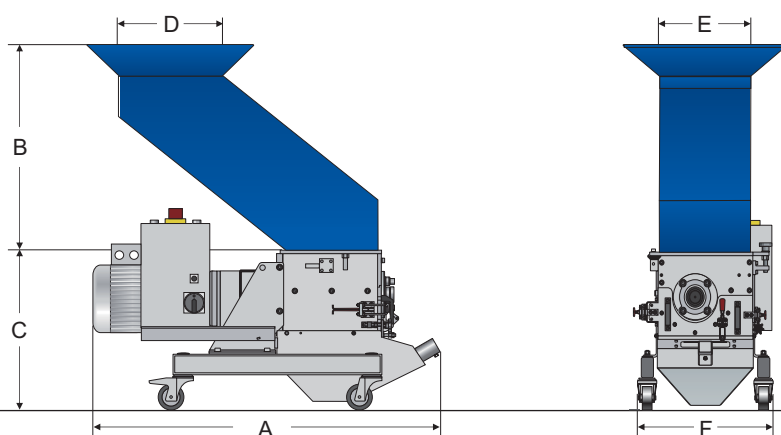
The slow speed granulators in the GSL 180 range feature a staggered 180 mm diameter rotor with widths ranging from 180 to 430 mm. The rotor is directly driven by a geared motor. The low rotor speed reduces the noise level of the machine and creates less dust while grinding. The special design knives of the GSL series can be sharpened easily and do not need adjustment afterwards.

The material is fed via a sound absorbing feed hopper that can be tailored to fit various applications and feeding ways. Depending on the requirements the machines can be fitted with a wide variety of hoppers, they are mounted on either low or high level base frames with matching suction bins or bag filling adapters. Quick snap fasteners and hand screws make access to the machine for cleaning and maintenance fast and easy.

APPLICATIONS

The GSL slow speed granulators of the 180 series are mainly used in injection and blow molding processes as beside the press machines to grind runners and sprues. The resulting granules are then immediately reintroduced into the production process. The machines can be used for rejected products in the inline recycling process as well.

Different hopper and base frame designs make it possible to integrate the machine with most types of injection molding machines and robots.



GSL 180

TECHNICAL SPECIFICATIONS & DIMENSIONS

MODEL	180/120	180/180	180/300	180/430
Rotor diameter (mm)	180	180	180	180
Rotor width (mm)	120	180	300	430
Rotor speed (rpm)	150	150	150	150
Drive capacity (kW)	2.2	3	4	4
Rotor knives (pcs)	12	18	30	45
Stator blades (rows)	2	2	2	2
Screen size (mm)	>5	>5	>5	>5
Weight approx (kg)	130	140	180	250
A (mm)	835	895	1100	1240
B (mm)	760	760	760	820
C (mm)	470	470	470	560
D (mm)	315	315	345	525
E (mm)	270	270	270	270
F (mm)	440	440	440	540

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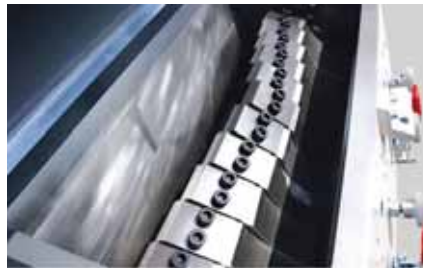
GSL 200

BESIDE THE PRESS GRANULATOR

- **Direct driven staggered rotor**
- **Special knife design makes adjustment unnecessary**
- **Easy access for maintenance and cleaning**
- **Slow rotor speed creates less noise and dust**
- **Easily customizable to suit different applications**



The curvature of the specially profiled rotor knives ensures a constant cutting radius after re-sharpening thus maintaining the original cutting gap. Awkward knife adjustment is no longer necessary.



The staggered rotor design creates an individual blade cut. The aggressive open rotor of the 200 series GSL makes it well suited for bigger volume parts such as bottles.



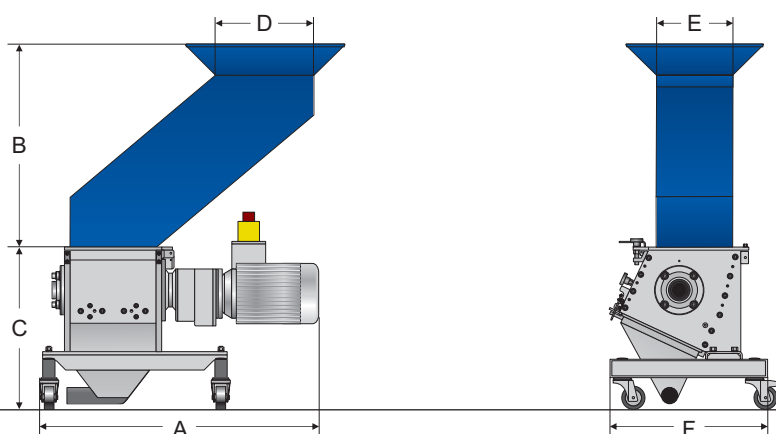
The quick snap system makes access to the cutting chamber, suction trough and screen area fast and easy. The hinged screen holder simplifies screen installation.

GENERAL DESCRIPTION

The slow speed granulators in the GSL 200 range feature a staggered 200 mm diameter rotor with widths ranging from 180 to 500 mm. The rotor is directly driven by a geared motor. The low rotor speed reduces the noise level of the machine and creates less dust while grinding. The special design knives of the GSL series can be sharpened easily and do not need adjustment afterwards. The material is fed via a sound absorbing feed hopper that can be tailored to fit various applications and feeding ways. Depending on the requirements the machines can be fitted with a wide variety of hoppers, they are mounted on either low or high level base frames with matching suction bins or bag filling adapters. Quick snap fasteners and hand screws make access to the machine for cleaning and maintenance fast and easy.

APPLICATIONS

The GSL slow speed granulators of the 180 series are mainly used in injection and blow molding processes as beside the press machines to grind runners and sprues. The resulting granules are then immediately reintroduced into the production process. The GSL 200 series machines are more aggressive than the smaller 180 series and thus better suited for larger thin walled parts. The machines can be used for rejected products in the inline recycling process as well. Different hopper and base frame designs make it possible to integrate the machine with most types of injection molding machines and robots.



GSL 200

TECHNICAL SPECIFICATIONS & DIMENSIONS

MODEL	200/180	200/270	200/360	200/500
Rotor diameter (mm)	200	200	200	200
Rotor width (mm)	180	270	360	500
Rotor speed (rpm)	150	150	150	150
Drive capacity (kW)	3	3	4	4
Rotor knives (pcs)	12	18	24	33
Stator blades (rows)	2	2	2	2
Screen size (mm)	>5	>5	>5	>5
Weight approx (kg)	180	200	230	280
A (mm)	800	890	1080	1220
B (mm)	740	770	815	835
C (mm)	520	520	520	520
D (mm)	230	310	470	545
E (mm)	245	245	245	245
F (mm)	510	510	510	510

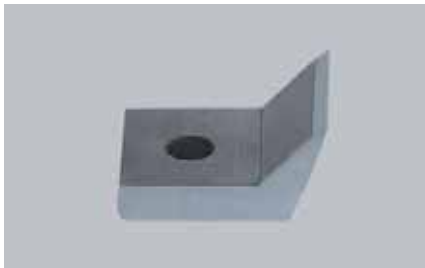
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GSL 300

BESIDE THE PRESS GRANULATOR

- **Direct driven staggered rotor**
- **Special knife design makes adjustment unnecessary**
- **Easy access for maintenance and cleaning**
- **Slow rotor speed creates less noise and dust**
- **Easily customizable to suit different applications**



The curvature of the specially profiled rotor knives ensures a constant cutting radius after re-sharpening thus maintaining the original cutting gap. Awkward knife adjustment is no longer necessary.



Staggered rotor blades creates an individual blade cut thus increasing the cutting torque. All of the machines in this series are therefore suitable for grinding more solid materials and thicker walled sprues.



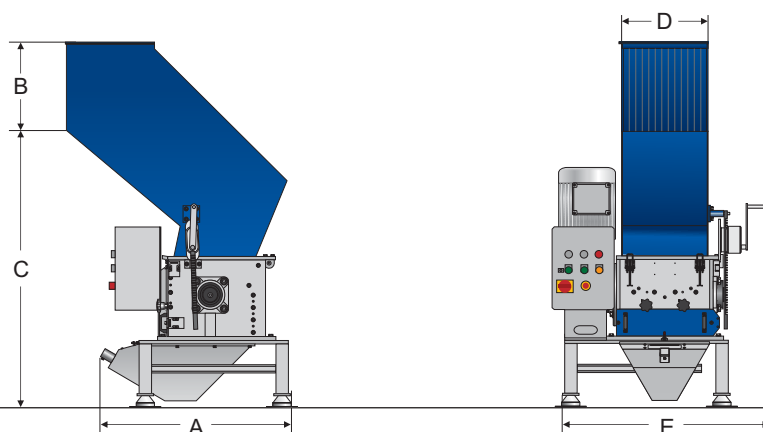
Due to the Quick snap fasteners used on the GSL series machines, the machines can be opened for cleaning and maintenance quickly without the need for special tools.

GENERAL DESCRIPTION

The slow speed granulators in the GSL 300 range feature a staggered 300 mm diameter rotor with widths ranging from 400 to 800 mm. The rotor is directly driven by a geared motor. The low rotor speed reduces the noise level of the machine and creates less dust while grinding. The special design knives of the GSL series can be sharpened easily and do not need adjustment afterwards. The material is fed via a sound absorbing feed hopper that can be tailored to fit various applications and feeding ways. Depending on the requirements the machines can be fitted with a wide variety of hoppers, they are mounted on either low or high level base frames with matching suction bins or bag filling adapters. Quick snap fasteners and hand screws make access to the machine for cleaning and maintenance fast and easy.

APPLICATIONS

The GSL slow speed granulators of the 300 series are mainly used in injection and blow molding processes as beside the press machines to grind runners and sprues. But they can be used as low noise central granulators for small throughput requirements as well. The stronger design of the 300 series GSLs allow them to be used for stronger and thicker materials while offering the same advantages regarding low noise and dust as the smaller GSL machines. All GSL models can be equipped with a built in blower system in case a vacuum loading system is not available, or to transport the ground material to bags for storage.



GSL 300

TECHNICAL SPECIFICATIONS & DIMENSIONS

MODEL	300/400	300/600	300/800
Rotor diameter (mm)	300	300	300
Rotor width (mm)	400	600	800
Rotor speed (rpm)	150	150	150
Drive capacity (kW)	7.5	11	18.5
Rotor knives (pcs)	33	48	66
Stator blades (rows)	2	2	2
Screen size (mm)	>5	>5	>5
Weight approx (kg)	550	950	1100
A (mm)	950	1125	820
B (mm)	400	400	400
C (mm)	1335	1335	1340
D (mm)	405	600	830
E (mm)	1035	1230	1635

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GSE 300

ECONOMICAL GRANULATOR

- **Knives are adjusted outside of the machine**
- **Mobile Compact design**
- **Different rotor types available**
- **Easy accessibility**
- **Aggressive tangential infeed**



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



The GSE granulators are available with different rotor options to fit different applications, all rotors feature the V-cut technology creating a high quality regrind.



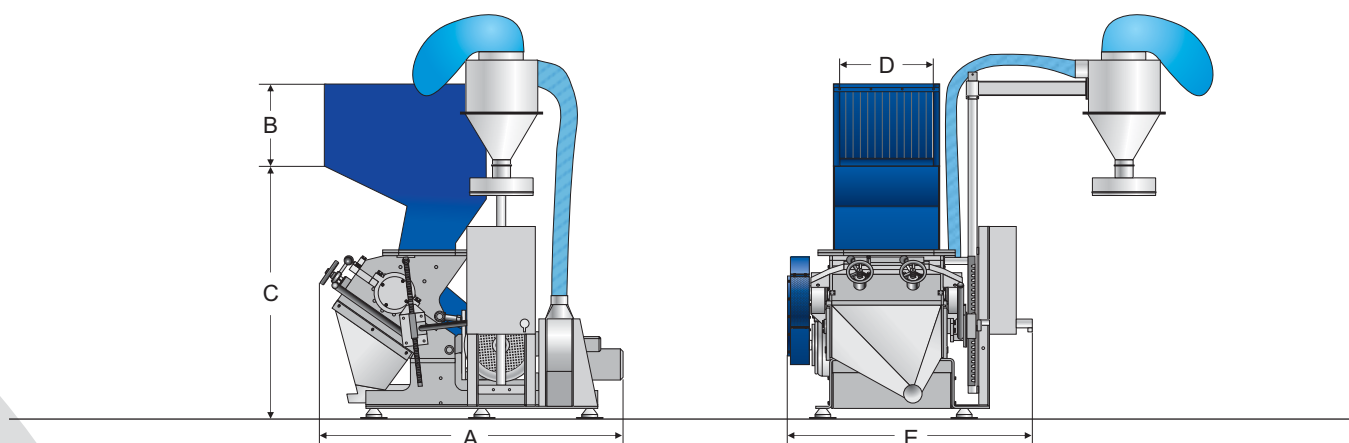
The user friendly design of the GSE series granulators allows quick and easy access to the cutting chamber for maintenance and cleaning.

GENERAL DESCRIPTION

For the GSE 300 series different rotor designs are available in widths ranging from 300 mm to 1000 mm with a diameter of 300 mm. The completely welded cutting chamber in conjunction with the "V" type rotor design ensures dependability in operation and universal application use. The housing design offers easy and quick access to the cutting chamber during rotor and stator knife changes, servicing or screen changes.

APPLICATIONS

The GSE series of machines are designed as economical granulators for use in in house recycling. The cutting geometry of the GSE 300 series makes it ideal for the grinding of small thin walled hollow parts. The complete GSE granulator line achieves a high quality regrind independent of the material type or form such as injection moulded parts, blow moulded parts, profiles, sheets, film, etc.



GSE 300

TECHNICAL SPECIFICATIONS & DIMENSIONS

MODEL	300/300	300/600	300/1000
Rotor diameter (mm)	300	300	300
Rotor width (mm)	300	600	1000
Drive capacity (kW)	7.5	11	18.5
Rotor knives (rows)	3	3	3
Stator blades (rows)	2	2	2
Screen size (mm)	>6	>6	>6
Effective working area (mm)	400 x 290	400 x 590	400 x 990
Weight approx (kg)	900	1000	1350
A (mm)	1760	1810	1370
B (mm)	460	460	460
C (mm)	1420	1420	1420
D (mm)	300	590	990
E (mm)	1085	1350	1540

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GSE 500

ECONOMICAL GRANULATOR

- **Knives are adjusted outside of the machine**
- **Mobile Compact design**
- **Different rotor types available**
- **Easy accessibility**
- **Aggressive tangential infeed**



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



The GSE granulators are available with different rotor options to fit different applications, all rotors feature the V-cut technology creating a high quality regrind.



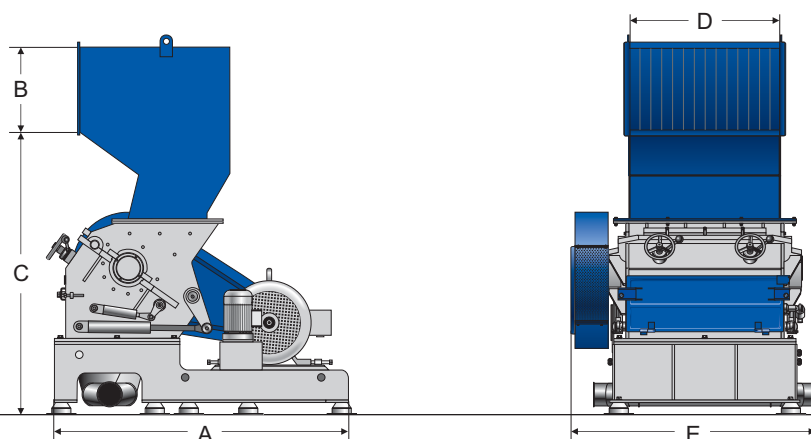
The user friendly design of the GSE series granulators allows quick and easy access to the cutting chamber for maintenance and cleaning.

GENERAL DESCRIPTION

For the GSE 500 series different rotor designs are available in widths ranging from 500 mm to 1400 mm with a diameter of 500 mm. The completely welded cutting chamber in conjunction with the "V" type rotor design ensures dependability in operation and universal application use. The housing design offers easy and quick access to the cutting chamber during rotor and stator knife changes, servicing or screen changes.

APPLICATIONS

The GSE series of machines are designed as economical granulators for use in medium volume in-house recycling applications. The cutting geometry of the GSE 500 series allows even bigger hollow parts to be ground. The whole GSE granulator line achieves a high quality regrind independent of the material type or form such as injection moulded parts, blow moulded parts, profiles, sheets, film, etc.



GSE 500

TECHNICAL SPECIFICATIONS & DIMENSIONS

MODEL	500/500	500/700	500/1000	500/1400
Rotor diameter (mm)	500	500	500	500
Rotor width (mm)	500	700	1000	1400
Drive capacity (kW)	30	37	45	55
Rotor knives (rows)	3 or 5	3 or 5	3 or 5	3 or 5
Stator blades (rows)	2 or 3	2 or 3	2 or 3	2 or 3
Screen size (mm)	>6	>6	>6	>6
Effective working area (mm)	500 x 500	500 x 700	500 x 990	500 x 1400
Weight approx (kg)	1500	1750	3100	3900
A (mm)	1675	1675	1900	1900
B (mm)	580	580	580	580
C (mm)	1840	1840	1840	1840
D (mm)	515	715	985	1430
E (mm)	1130	1330	1645	2120

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GSE 700

ECONOMICAL GRANULATOR

- **Knives are adjusted outside of the machine**
- **Mobile Compact design**
- **Different rotor types available**
- **Easy accessibility**
- **Aggressive tangential infeed**



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



The GSE granulators are available with different rotor options to fit different applications, all rotors feature the V-cut technology creating a high quality regrind.



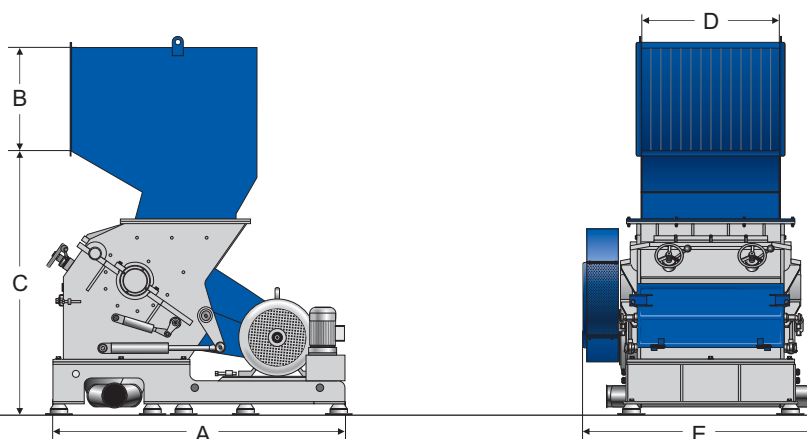
The redesigned base of the GSE 700 series makes the machine very sturdy, while maintaining the easy accessibility for maintenance and cleaning.

GENERAL DESCRIPTION

For the GSE 700 series different rotor designs are available in widths ranging from 700 mm to 1400 mm with a diameter of 700 mm. The completely welded cutting chamber in conjunction with the "V" type rotor design ensures dependability in operation and universal application use. The housing design offers easy and quick access to the cutting chamber during rotor and stator knife changes, servicing or screen changes.

APPLICATIONS

The GSE series of machines are designed as economical granulators for use as central granulator in house recycling. The cutting geometry of the GSE 700 series allows even voluminous materials to be ground. The complete GSE series line achieves a high quality regrind independent of the material type or form such as injection moulded parts, blow moulded parts, profiles, sheets, film, etc.



GSE 700

TECHNICAL SPECIFICATIONS & DIMENSIONS

MODEL	700/700	700/1000	700/1400
Rotor diameter (mm)	700	700	700
Rotor width (mm)	700	1000	1400
Drive capacity (kW)	45	55	55
Rotor knives (rows)	5 or 7	5 or 7	5 or 7
Stator blades (rows)	2 or 3	2 or 3	2 or 3
Screen size (mm)	>6	>6	>6
Effective working area (mm)	720 x 700	720 x 990	720 x 1400
Weight approx (kg)	2840	3530	4500
A (mm)	2050	2050	2050
B (mm)	780	780	780
C (mm)	2040	2040	2040
D (mm)	715	985	1430
E (mm)	1400	1670	2120

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GSC 300

COMPACT SOUND-PROOFED GRANULATOR

- **Knives are adjusted outside of the machine**
- **Compact design**
- **Different rotor types available**
- **Soundproofed housing**
- **Aggressive tangential infeed**



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



The GSC granulators are available with different rotor options to fit different applications, all rotors feature the V-cut technology creating a high quality regrind.



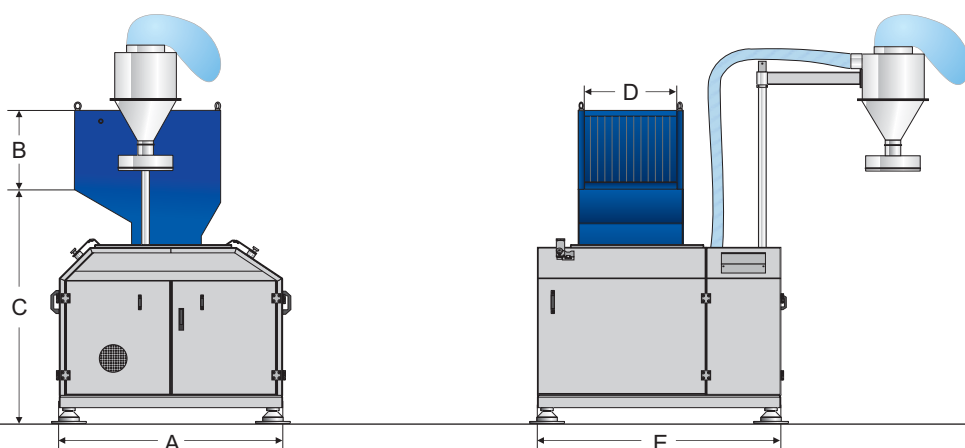
To minimize the needed floor space and make the machine easy to move, machine controls and electrical cabinet are integrated into the machines soundproof housing.

GENERAL DESCRIPTION

The GSC compact/sound proof granulators are designed with a complete sound proof enclosure resulting in an extremely quiet operation. Different rotor designs are available in widths ranging from 300 mm to 1000 mm with a diameter of 300 mm. The completely welded cutting chamber in conjunction with the "V" type rotor design ensures dependability in operation and universal application use. While it delivers excellent sound proofing capabilities, it still offers easy and quick access to the cutting chamber during rotor and stator knife changes, servicing or screen changes. The sound dampening material used in these machines is based on the latest technological research.

APPLICATIONS

The cutting geometry of the GSC series allows even voluminous materials to be ground. The complete GSC series line achieves a high quality regrind independent of the material type or form such as injection moulded parts, blow moulded parts, profiles, sheets, film, etc. The 300 series GSC machines are mainly used in inline operations for processing of rejected products, or runners and sprues. The small footprint and easy movability make the machines very easy to place in existing operations.



GSC 300

TECHNICAL SPECIFICATIONS & DIMENSIONS

MODEL	300/300	300/600	300/1000
Rotor diameter (mm)	300	300	300
Rotor width (mm)	300	600	1000
Drive capacity (kW)	7.5	11	18.5
Rotor knives (rows)	3	3	3
Stator blades (rows)	2	2	2
Screen size (mm)	>6	>6	>6
Effective working area (mm)	400 x 290	400 x 590	400 x 990
Weight approx (kg)	1200	1400	1850
A (mm)	1550	1550	1550
B (mm)	420	420	420
C (mm)	1570	1570	1570
D (mm)	300	590	990
E (mm)	1300	1600	1900

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GSC 500

COMPACT SOUND-PROOFED GRANULATOR

- Knives are adjusted outside of the machine
- Compact design
- Different rotor types available
- Soundproofed housing
- Aggressive tangential infeed



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



To ensure a safe operation and quick and easy access for cleaning and maintenance the GSC 500 machines cutting chamber is opened hydraulically.



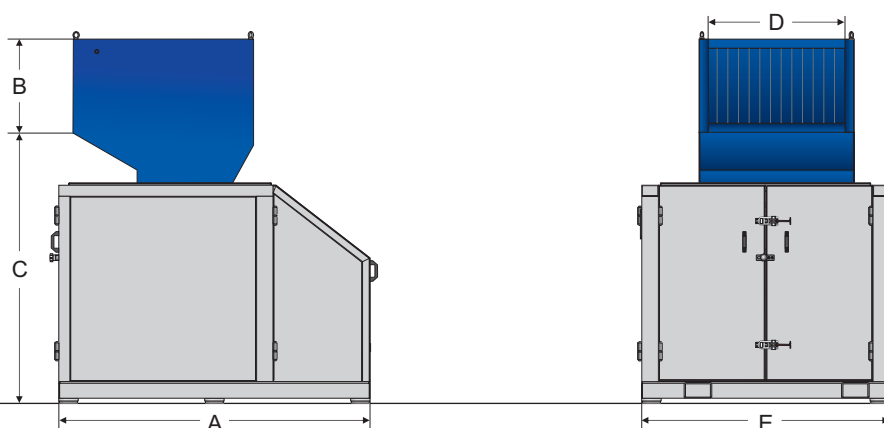
To minimize the needed floor space and make the machine easy to move the control cabinet is integrated into the machines soundproof housing.

GENERAL DESCRIPTION

The GSC compact/sound proof granulators are designed with a complete sound proof enclosure resulting in an extremely quiet operation. Different rotor designs are available in widths ranging from 500 mm to 1400 mm with a diameter of 500 mm. The completely welded cutting chamber in conjunction with the "V" type rotor design ensures dependability in operation and universal application use. While it delivers excellent sound proofing capabilities, it still offers easy and quick access to the cutting chamber during rotor and stator knife changes, servicing or screen changes. The sound dampening material used in these machines is based on the latest technological research.

APPLICATIONS

The cutting geometry of the GSC series allows even voluminous materials to be ground. The complete GSC series line achieves a high quality regrind independent of the material type or form such as injection moulded parts, blow moulded parts, profiles, sheets, film, etc. The 500 series GSC machines are mainly used in inline operations or small central granulators for processing of medium sized hollow thin walled products, or runners and sprues. The integrated sound proofing makes it possible to easily place the machine in existing operations. With different rotor designs and a wide variety of options the machines can be tailored for many different applications.



GSC 500

TECHNICAL SPECIFICATIONS & DIMENSIONS

MODEL	500/500	500/700	500/1000	500/1400
Rotor diameter (mm)	500	500	500	500
Rotor width (mm)	500	700	1000	1400
Drive capacity (kW)	30	37	45	55
Rotor knives (rows)	3 or 5	3 or 5	3 or 5	3 or 5
Stator blades (rows)	2 or 3	2 or 3	2 or 3	2 or 3
Screen size (mm)	>6	>6	>6	>6
Effective working area (mm)	560 x 500	560 x 700	560 x 990	560 x 1400
Weight approx (kg)	2200	2500	3000	5500
A (mm)	1930	1930	2160	2160
B (mm)	580	580	580	580
C (mm)	1870	1870	1930	1930
D (mm)	515	715	985	1430
E (mm)	1550	1750	2100	2600

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GSC 700

COMPACT SOUND-PROOFED GRANULATOR

- **Knives are adjusted outside of the machine**
- **Compact design**
- **Different rotor types available**
- **Soundproofed housing**
- **Aggressive tangential infeed**



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



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



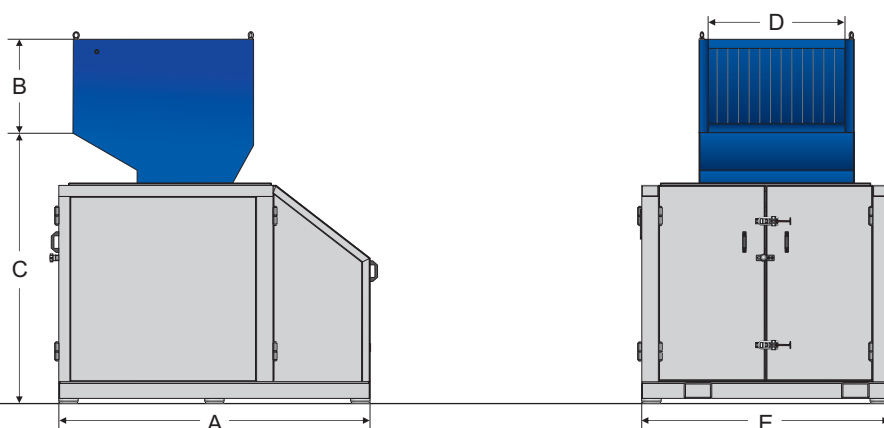
The user friendly design of the GSC series granulators allows quick and easy access to the cutting chamber for maintenance and cleaning.

GENERAL DESCRIPTION

The GSC compact/sound proof granulators are designed with a complete sound proof enclosure resulting in an extremely quiet operation. Different rotor designs are available in widths ranging from 700 mm to 1400 mm with a diameter of 700 mm. The completely welded cutting chamber in conjunction with the "V" type rotor design ensures dependability in operation and universal application use. While it delivers excellent sound proofing capabilities, it still offers easy and quick access to the cutting chamber during rotor and stator knife changes, servicing or screen changes. The sound dampening material used in these machines is based on the latest technological research.

APPLICATIONS

The cutting geometry of the GSC series allows even voluminous materials to be ground. The complete GSC series line achieves a high quality regrind independent of the material type or form such as injection moulded parts, blow moulded parts, profiles, sheets, film, etc. The 700 series GSC machines are mainly used as central granulators for processing of large injected or blow moulded products as well as film. The integrated sound proofing makes it possible to easily place the machine in existing operations. With different rotor designs and a wide variety of options the machines can be tailored for many different applications.



GSC 700

TECHNICAL SPECIFICATIONS & DIMENSIONS

MODEL	700/700	700/1000	700/1400
Rotor diameter (mm)	700	700	700
Rotor width (mm)	700	1000	1400
Drive capacity (kW)	45	55	55
Rotor knives (rows)	5 or 7	5 or 7	5 or 7
Stator blades (rows)	2 or 3	2 or 3	2 or 3
Screen size (mm)	>6	>6	>6
Effective working area (mm)	720 x 700	720 x 990	720 x 1400
Weight approx (kg)	4200	5100	6200
A (mm)	2260	2260	2260
B (mm)	780	780	780
C (mm)	2240	2240	2240
D (mm)	715	915	1430
E (mm)	1830	2100	2600

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GST

COMPACT GRANULATOR



- **Compact design**
- **Soundproofed chamber and hopper**
- **Aggressive infeed and curved back wall**
- **Large screen area**
- **Knives are adjusted outside the machine**



The GST granulators are designed for the inline recycling of voluminous parts such as bottles and canisters in blowmoulding applications.



The tangential cutting chamber paired with the aggressive open rotor design ensures reliable ingestion of voluminous parts. The curved cutting chamber backwall reduces the risk of parts getting stuck.



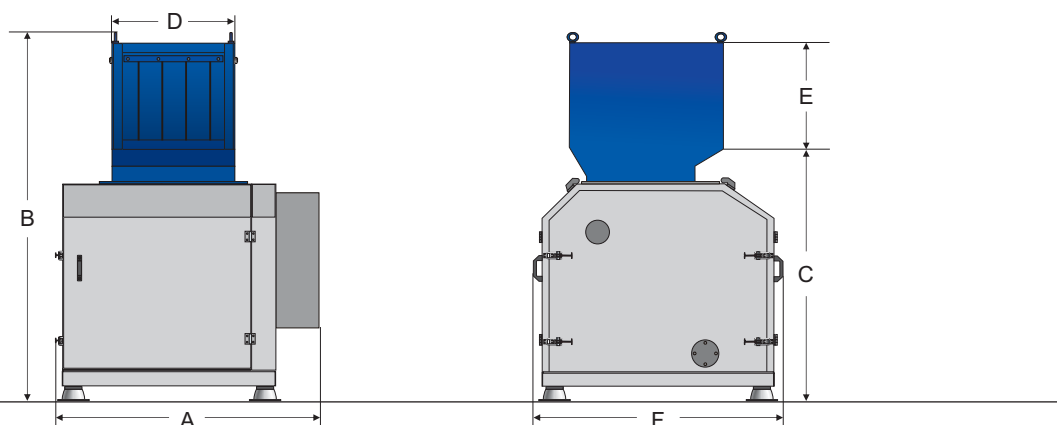
The cutting chamber sits in a soundproofed enclosure to ensure quiet inline operation. The rotor and screen area are easily accessible without for cleaning and maintenance.

GENERAL DESCRIPTION

All machines in the GST series feature a compact soundproofed enclosure and sound dampening hoppers. The granulators 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 bigger machines rely on a heavier S rotor. The curved backwall of the cutting chamber ensures an aggressive ingestion while also avoiding blockages. The rigid design makes them dependable units and includes advanced standard features such as replaceable wear plates. As on all ZERMA granulators the rotor and stator knives are adjusted outside of the machine to reduce downtime for maintenance.

APPLICATIONS

The compact inline granulators of the GST series are primarily designed for use in blow moulding applications to recycle voluminous parts such as bottles, canisters and crates, as well as blow moulding flush and injection sprues. The low feeding height makes them suitable for both hand and conveyor feeding of these parts. The low noise level and small footprint makes them the perfect fit for inline recycling operations.



GST

TECHNICAL SPECIFICATIONS & DIMENSIONS

MODEL	250/300	250/450	250/600	400/600	400/1000
Rotor diameter (mm)	250	250	250	400	400
Rotor width (mm)	300	450	600	600	1000
Drive capacity (kW)	7.5	11	18.5	22	30
Rotor knives (rows)	3	3	3	3	3
Stator blades (rows)	2	2	2	2	2
Screen size (mm)	>6	>6	>6	>6	>6
Effective working area (mm)	250 x 300	250 x 450	250 x 600	400 x 600	400 x 1000
Weight approx (kg)	1200	1400	1850	3300	3300
A (mm)	1350	1600	1750	1550	1950
B (mm)	1880	1880	1880	2180	2180
C (mm)	1380	1380	1380	1540	1540
D (mm)	300	450	600	590	990
E (mm)	370	370	370	490	490
F (mm)	1220	1220	1220	1460	1460

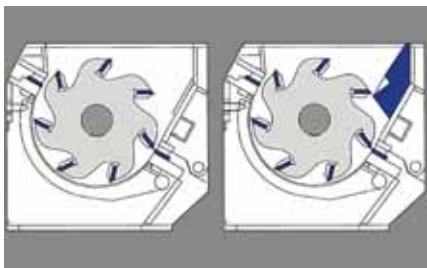
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GSH 350-500

HEAVY DUTY GRANULATOR

- Knives are adjusted outside of the machine
- Specially developed deflector wedge
- Wide choice of rotors
- Well thought out housing design
- Strong Welded Steel construction
- Oversized outboard bearings



The easily removable deflector wedge acts as a third stator blade and can be used to adjust the aggressiveness of the rotor at the first cutting point.



The GSH granulators are available with different rotor options to fit different applications, all rotors feature the V-cut technology creating a high quality regrind.



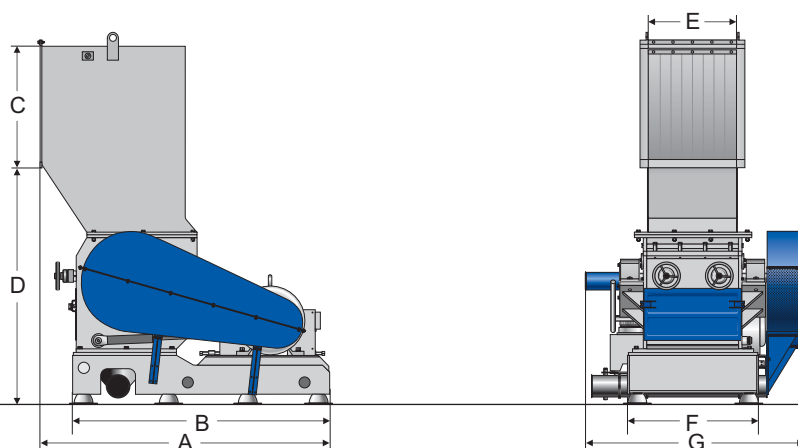
The heavy duty bearings are separated from the cutting chamber to avoid lubricants entering the cutting chamber and bearing failure due to material contamination in the bearings.

GENERAL DESCRIPTION

The heavy duty granulators of the GSH 350 and 500 series offer a wide array of different rotor designs with widths ranging from 500 mm to 1000 mm with a diameter of 350 and 500 mm respectively. The completely welded heavy steel construction is designed to withstand the most demanding and universal applications. Rotor bearings, knife mounts and rotor shaft are oversized. The standard V-cut creates a high quality regrind with a very low percentage of fines in the output material. The removable third stator blade is acting as a deflector wedge and allows the machine to be quickly adjusted to different application scenarios. Other standard features include easily replaceable wear plates in the cutting chamber as well as outboard bearings reducing the risk of contamination.

APPLICATIONS

The wide range of rotors and hopper styles allow the GSH machines to be tailored to almost every application in the plastic recycling field. The GSH 350 and 500 granulators are mainly used as central granulators for in house recycling applications to process thick walled parts in one step or as a second step granulator after a shredder to reach higher throughput rates. When used to grind light materials, such as bottles the throughput can be greatly increased with the addition of a ZERMA force feeding device. For abrasive, contaminated or highly filled materials the machines can be equipped with special wear protections, such as hard facing of the rotor and housing and key parts manufactured from highly wear resistant steels.



GSH 350-500

TECHNICAL SPECIFICATIONS & DIMENSIONS

MODEL	350/500	500/600	500/1000
Rotor diameter (mm)	350	500	500
Rotor width (mm)	500	600	1000
Drive capacity (kW)	22	55	75
Rotor knives (rows)	3 or 5	3 or 5	3 or 5
Stator blades (rows)	2 or 3	2 or 3	2 or 3
Screen size (mm)	>6	>6	>6
Effective working area (mm)	516 x 460	590 x 636	590 x 985
Weight approx (kg)	1800	3100	4200
A (mm)	1820	2130	2320
B (mm)	1620	2020	2220
C (mm)	740	800	900
D (mm)	1610	1765	1870
E (mm)	515	635	985
F (mm)	775	1090	1540
G (mm)	1290	1570	1915

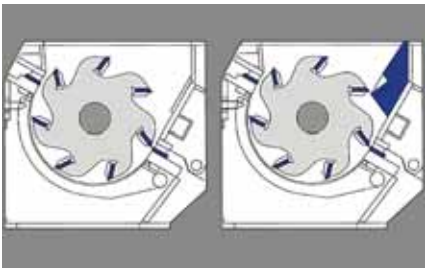
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GSH 600-700

HEAVY DUTY GRANULATOR

- Knives are adjusted outside of the machine
- Specially developed deflector wedge
- Wide choice of rotors
- Well thought out housing design
- Strong Welded Steel construction
- Oversized outboard bearings



The easily removable deflector wedge acts as a third stator blade and can be used to adjust the aggressiveness of the rotor at the first cutting point.



The GSH granulators are available with different rotor options to fit different applications, all rotors feature the V-cut technology creating a high quality regrind.



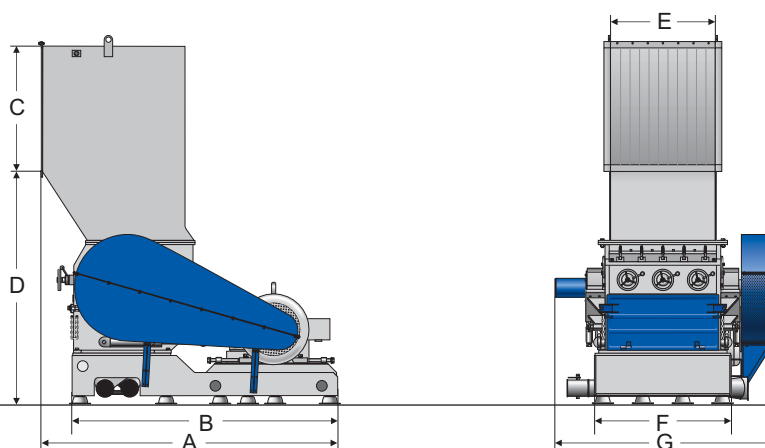
The heavy duty bearings are separated from the cutting chamber to avoid lubricants entering the cutting chamber and bearing failure due to material contamination in the bearings.

GENERAL DESCRIPTION

The heavy duty granulators of the GSH 600 and 700 series offer a wide array of different rotor designs with widths ranging from 800 mm to 1000 mm with a diameter of 600 and 700 mm. The completely welded heavy steel construction is designed to withstand the most demanding and universal applications. Rotor bearings, knife mounts and rotor shaft are oversized. The standard V-cut creates a high quality regrind with a very low percentage of fines in the output material. The removable third stator blade is acting as a deflector wedge and allows the machine to be quickly adjusted to different application scenarios. Other standard features include easily replaceable wear plates in the cutting chamber as well as outboard bearings reducing the risk of contamination.

APPLICATIONS

The wide range of rotors and hopper styles allow the GSH machines to be tailored to almost every application in the plastic recycling field. The GSH 600 and 700 granulators are mainly used as large central granulators for in house recycling applications to process large thick walled parts in one step or as a second step granulator after a shredder to reach higher throughput rates. When used to grind light materials, such as bottles the throughput can be greatly increased with the addition of a ZERMA force feeding device. For abrasive, contaminated or highly filled materials the machines can be equipped with special wear protections, such as hard facing of the rotor and housing and key parts manufactured from highly wear resistant steels.



GSH 600-700

TECHNICAL SPECIFICATIONS & DIMENSIONS

MODEL	600/800	600/1600	700/1000
Rotor diameter (mm)	600	600	700
Rotor width (mm)	800	1600	1000
Drive capacity (kW)	75	132	90
Rotor knives (rows)	5 or 7	5 or 7	5 or 7 or 9
Stator blades (rows)	2 or 3	2 or 3	2 or 3
Screen size (mm)	>6	>6	>8
Effective working area (mm)	695 x 790	1500 x 790	800 x 900
Weight approx (kg)	4500	695	7100
A (mm)	2350	2535	2830
B (mm)	2220	2390	2550
C (mm)	1000	1000	1100
D (mm)	1940	1940	2250
E (mm)	788	1560	985
F (mm)	1270	1980	1290
G (mm)	1820	2360	2060

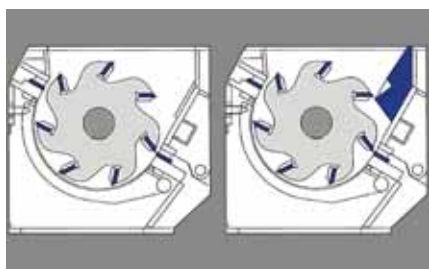
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GSH 800

HEAVY DUTY GRANULATOR

- **Knives are adjusted outside of the machine**
- **Specially developed deflector wedge**
- **Wide choice of rotors**
- **Well thought out housing design**
- **Strong Welded Steel construction**
- **Oversized outboard bearings**



The easily removable deflector wedge acts as a third stator blade and can be used to adjust the aggressiveness of the rotor at the first cutting point.



The GSH granulators are available with different rotor options to fit different applications, all rotors feature the V-cut technology creating a high quality regrind.



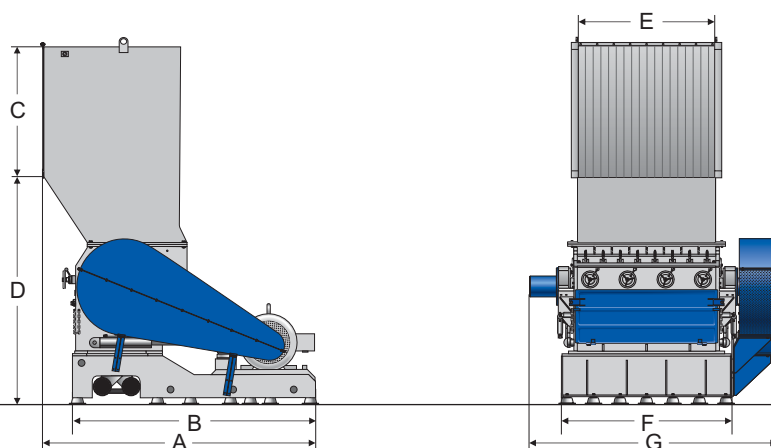
For abrasive applications the GSH granulators can be equipped with rotors with key parts manufactured from highly wear resistant steel as well as weld on hard facing.

GENERAL DESCRIPTION

The heavy duty granulators of the GSH 800 series offer a wide array of different rotor designs with widths ranging from 1200 mm to 2000 mm with a diameter of 800 mm. The completely welded heavy steel construction is designed to withstand the most demanding and universal applications. Rotor bearings, knife mounts and rotor shaft are oversized. The standard V-cut creates a high quality regrind with a very low percentage of fines in the output material. The removable third stator blade is acting as a deflector wedge and allows the machine to be quickly adjusted to different application scenarios. Other standard features include easily replaceable wear plates in the cutting chamber as well as outboard bearings reducing the risk of contamination.

APPLICATIONS

The wide range of rotors and hopper styles allow the GSH machines to be tailored to almost every application in the plastic recycling field, mainly with high throughput requirements. The GSH 800 series can be used to grind large thick walled parts down to a granule in one step, or be used as a second step granulator after a ZXS shredder to reach very high throughput rates. When used to grind light materials, such as bottles the throughput can be greatly increased with the addition of a ZERMA force feeding device. For abrasive, contaminated or highly filled materials the machines can be equipped with special wear protections, such as hard facing of the rotor and housing and key parts manufactured from highly wear resistant steels.



GSH 800

TECHNICAL SPECIFICATIONS & DIMENSIONS

MODEL	800/1200	800/1600	800/2000
Rotor diameter (mm)	800	800	800
Rotor width (mm)	1200	1600	2000
Drive capacity (kW)	132	160	2 x 160
Rotor knives (rows)	5 or 7 or 9	5 or 7 or 9	7 or 9
Stator blades (rows)	2 or 3	2 or 3	2 or 3
Screen size (mm)	>8	>8	>8
Effective working area (mm)	915 x 1150	915 x 1570	915 x 1960
Weight approx (kg)	10400	12500	13500
A (mm)	3100	3175	2755
B (mm)	2885	2800	2600
C (mm)	1200	1400	1600
D (mm)	2250	2600	3055
E (mm)	1150	1570	1965
F (mm)	1535	1970	2250
G (mm)	2400	2860	3465

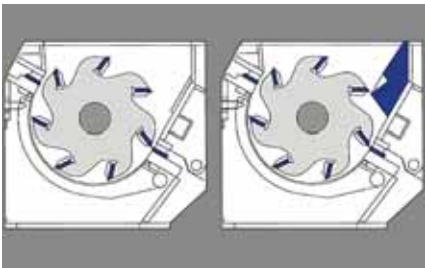
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GSH 1100

HEAVY DUTY GRANULATOR

- **Knives are adjusted outside of the machine**
- **Specially developed deflector wedge**
- **Wide choice of rotors**
- **Well thought out housing design**
- **Strong Welded Steel construction**
- **Oversized outboard bearings**



The easily removable deflector wedge acts as a third stator blade and can be used to adjust the aggressiveness of the rotor at the first cutting point.



The granulators can be tailored to fit various applications, for example with oversized suction troughs in order to achieve a very high output.



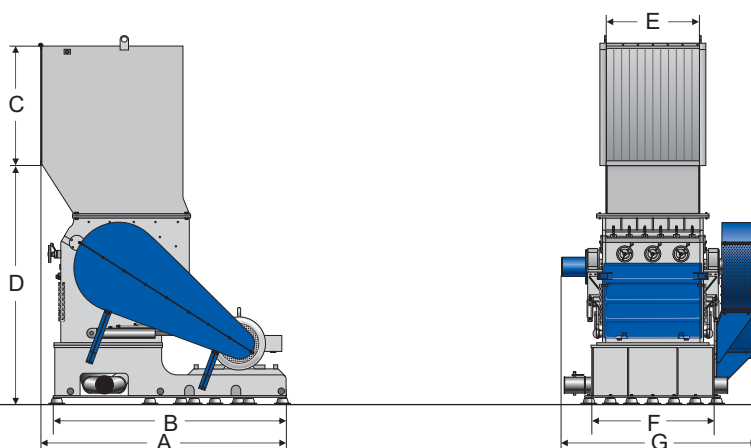
The GSH 1100 series comes standard with wide H-style rotors available with 9, 11 or 13 rows of rotor blades ensuring a high quality output.

GENERAL DESCRIPTION

The heavy duty granulators of the GSH 1100 series offer a different rotor configurations with widths ranging from 1200 mm to 2400 mm with a diameter of 1100 mm. The completely welded heavy steel construction is designed to withstand the most demanding and universal applications. Rotor bearings, knife mounts and rotor shaft are oversized. The standard V-cut creates a high quality regrind with a very low percentage of fines in the output material. The removable third stator blade is acting as a deflector wedge and allows the machine to be quickly adjusted to different application scenarios. Other standard features include easily replaceable wear plates in the cutting chamber as well as outboard bearings reducing the risk of contamination.

APPLICATIONS

The GSH 1100 series of heavy duty granulators is a dependable machine engineered for demanding high throughput applications. The GSH 1100 series can be used to grind large thick walled parts down to a granule in one step, or be used as a second step granulator after a ZXS shredder to reach very high throughput rates. The large diameter rotors are available with a choice of 9, 11 or 13 rows of rotor knives. The V-cut design ensures a high quality granule with a low percentage of fines. For abrasive, contaminated or highly filled materials the machines can be equipped with special wear protections, such as hard facing of the rotor and housing and key parts manufactured from highly wear resistant steels.



GSH 1100

TECHNICAL SPECIFICATIONS & DIMENSIONS

MODEL	1100/1200	1100/2400
Rotor diameter (mm)	1100	1100
Rotor width (mm)	1200	2400
Drive capacity (kW)	200	2 x 200
Rotor knives (rows)	7 or 9 or 11	7 or 9 or 11
Stator blades (rows)	2 or 3	2 or 3
Screen size (mm)	>8	>8
Effective working area (mm)	1210 x 1150	1210 x 1960
Weight approx (kg)	14000	22000
A (mm)	3115	3060
B (mm)	3010	3000
C (mm)	1400	1400
D (mm)	3030	3030
E (mm)	1150	2300
F (mm)	1680	2760
G (mm)	2440	3830

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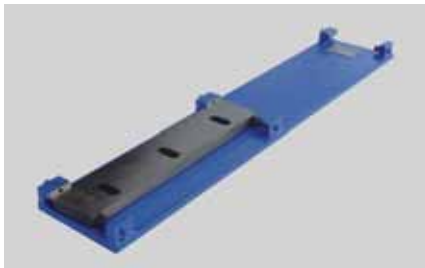


GSP

PIPE/PROFILE GRANULATOR



- Knives are adjusted outside of the machine
- Specially developed deflector wedge
- Wide choice of rotors
- Well thought out housing design
- Strong Welded Steel construction
- Oversized outboard bearings



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



The specially angled rotor automatically pulls the fed pipes or profiles into the cutting chamber, this design also regulates the amount of material.



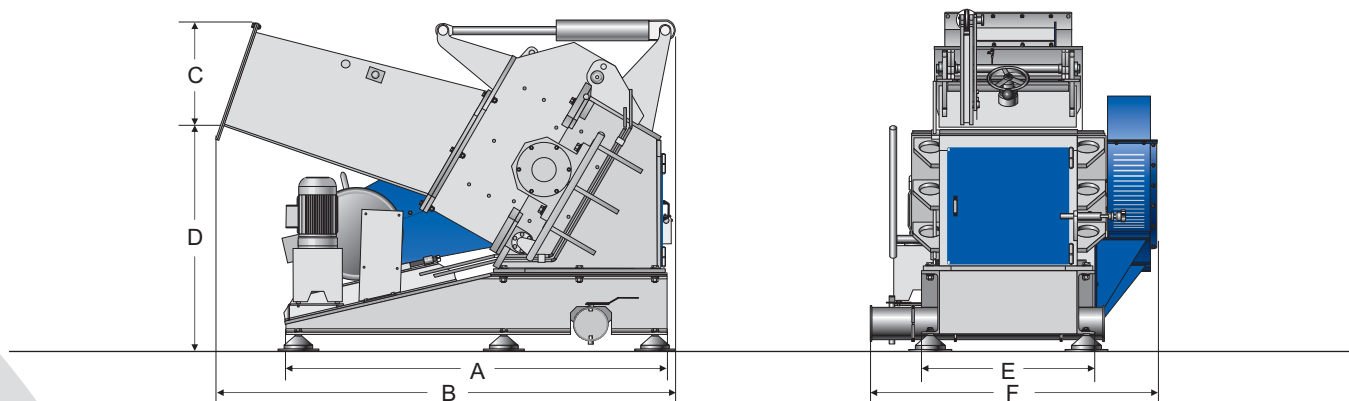
The heavy duty bearings are separated from the cutting chamber to avoid lubricants entering the cutting chamber and bearing failure due to material contamination in the bearings.

GENERAL DESCRIPTION

The Pipe and Profile Granulators of the GSP series are available in rotor widths of up to 1400mm and diameters ranging from 560 to 700 mm. The completely welded heavy steel cutting chamber is angled and fitted with an extended hopper to allow easy feeding of parts. The standard V-cut creates a high quality regrind with a very low percentage of fines in the output material. Other standard features include an hydraulically opened hopper for outboard bearings reducing the risk of contamination.

APPLICATIONS

Conventional granulators have substantial problems handling long pipes and profiles. To feed large and bulky parts in most cases cavities or platforms are needed. Therefore Zerma developed the GSP range. Thanks to the almost level feeding hopper, long pieces can be fed easily. While the machine is operating there is no risk of blocking, in case of congestion no more material will be accepted by the machine until the grinding chamber is empty and the machine will accept material again, and work continues.



GSP

TECHNICAL SPECIFICATIONS & DIMENSIONS

MODEL	600/500	560/700	560/1000	700/1400
Rotor diameter (mm)	600	560	560	700
Rotor width (mm)	500	700	1000	1400
Drive capacity (kW)	45	55	75	90
Rotor knives (rows)	5	5	5	5
Stator blades (rows)	2	2	2	2
Screen size (mm)	>8	>8	>8	>8
Effective working area (mm)	440 x 530	290 x 740	290 x 1010	320 x 1440
Weight approx (kg)	4000	5000	6400	9000
A (mm)	1940	2290	2290	2420
B (mm)	2245	2400	2450	2580
C (mm)	440	220	220	300
D (mm)	1040	1250	1250	1255
E (mm)	940	1170	1380	1840
F (mm)	1350	1785	2060	2400

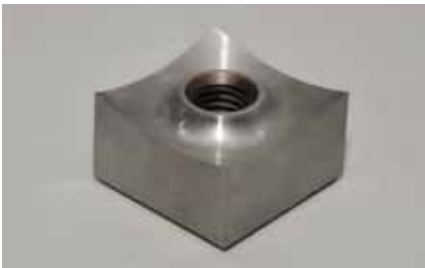
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ZBS

AFFORDABLE SHREDDER FOR LUMPS & PURGINGS

- **Affordable solution for small lumps**
- **Simple upgrade for existing granulation system**
- **Easy to move and place**
- **Tangential infeed avoids the need for a hydraulic pusher**
- **Small footprint**
- **Low energy consumption**



The shredders use concave ground square knives, producing high quality output. The cutters can be turned after a side is worn out.



All ZERMA shredders are equipped with our E-style flat rotor. The knives are fixed in special knife holders fitted in machined pockets.



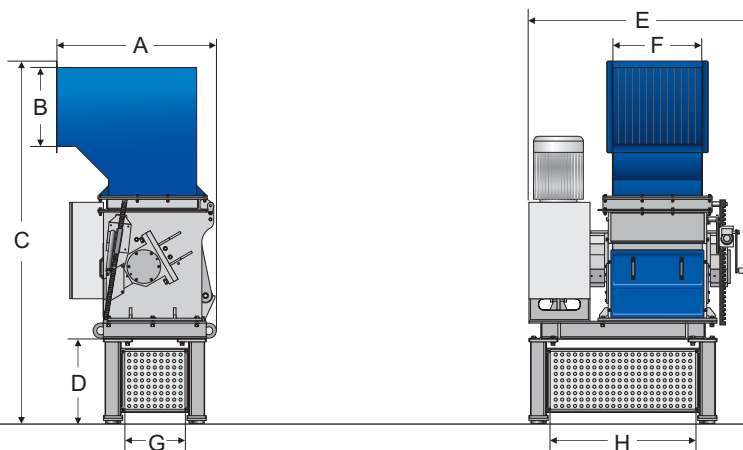
The ZBS shredders feature an aggressive tangential infeed for easy feeding without the need for a hydraulic system. Lumps of up to 400 mm diameter can be processed easily in this machine series.

GENERAL DESCRIPTION

The ZBS series shredders are single shaft shredders with tangential infeed thus eliminating the need for a hydraulic feeding system. The compact and manoeuvrable design combined with the 'plug and play' controls give this machine total flexibility and ease of use. Like the bigger brothers in the ZS series, the ZBS are equipped with outboard bearings, 310 mm diameter flat E rotors with 600 mm or 850 mm width, driven by an oversized geared motor, and incorporate the proven ZERMA knife holder and knife design. The user friendly design allows for simple and efficient cleaning and maintenance. The low rotor speed of 60 rpm combined with the compact design of the ZBS shredders makes it possible to shred lumps at a relatively low noise level. The machines can be fed manually or by conveyor. Material discharge can be done via conveyor or into a drop box.

APPLICATIONS

The ZBS shredders have been designed for in house recycling of small lumps and purges from injection and blow molding processes. The typical input materials are small and medium sized cakes such as head waste. The material can be shred to reduce the volume or processed further in a granulator to be re introduced into the production process immediately. The machine also can be used to destroy sensitive products or to recycle small batches of low volume products to avoid contamination of the main product line.



ZBS

TECHNICAL SPECIFICATIONS & DIMENSIONS

MODEL	600	850
Rotor diameter (mm)	310	310
Rotor width (mm)	560	840
Rotor speed (rpm)	61	61
Drive capacity (kW)	11	18.5
Rotor knives (pcs)	26	40
Stator blades (rows)	1	1
Screen size (mm)	>16	>16
Effective working area (mm)	490 x 550	490 x 830
Weight approx (kg)	1400	1500
A (mm)	995	1045
B (mm)	490	490
C (mm)	2255	2255
D (mm)	525	525
E (mm)	1400	2080
F (mm)	550	830
G (mm)	420	470
H (mm)	950	1200

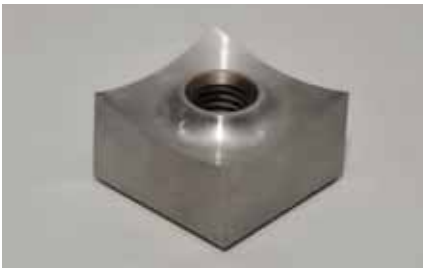
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ZSS

GENERAL PURPOSE SHREDDER

- Multiple rotor designs and materials
- Low speed, high torque geared drive
- Powerful hydraulic swing type pusher (ram)
- Proven well engineered design
- Smaller footprint compared to traditional horizontal pusher style shredders
- Bolt-in drive shafts
- Two speed hydraulic system as standard



The shredders use concave ground square knives, producing high quality output. The cutters can be turned after a side is worn out.



All ZERMA shredders are equipped with a large diameter flat rotor. The knives are fixed in special knife holders fitted in machined pockets. Optional weld on hard facing is available for abrasive applications.



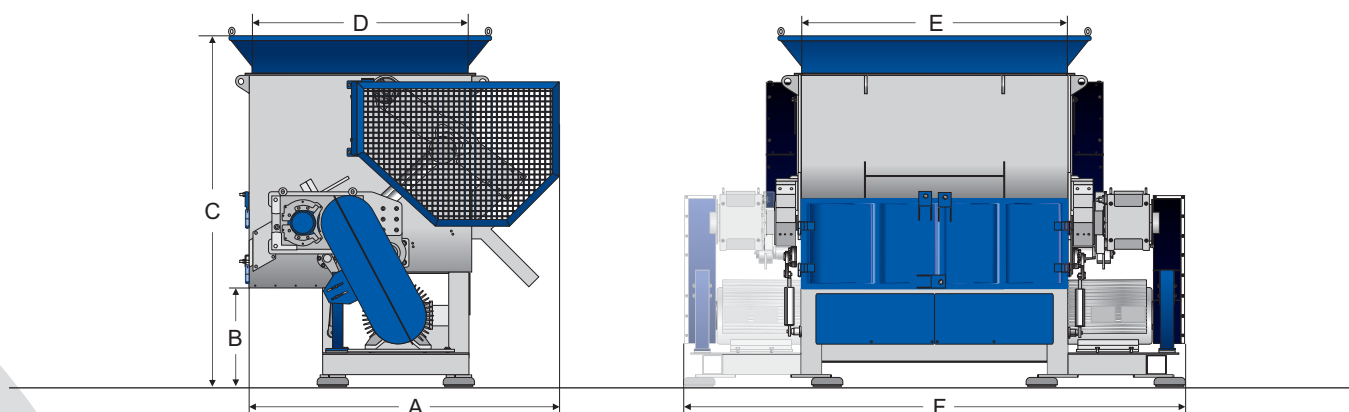
The ZSS series shredders benefit from sturdy ram construction incorporating heavy duty guide bearings and universal couplings for reliable operation.

GENERAL DESCRIPTION

The ZSS shredders are single shaft shredders with a powerful two speed swing ram design eliminating the risk of blocking and wearing out of internal guide rails. The machine is very versatile and can be used for shredding of all kinds of input materials and is well suited for different industries. The 457 mm diameter rotors ranging from 850mm to 2000 mm width are driven by either one or two oversized gearboxes. The hydraulic power pack is well integrated into the machine housing to save space and protect it from damage but is still easy to access or remove for maintenance. The standard E rotor features the proven ZERMA knife and knife holder design, as well as outboard bearings and a hydraulically operated screen cradle. The machines can be tailored to various applications and is offered with rotor cooling, hard facing and other wear options.

APPLICATIONS

The ZSS shredders have been designed for a wide range of applications and industries such as in-house and general recycling, electronic waste and post consumer waste handling. Input materials can be all types and forms of plastics such as lumps, pipes, film, bales, woven bags; electronic waste like cables and ICBs, paper, wood and other organic materials. Depending on downstream requirements, the shredded material, with size defined by the fitted screen size, can be used directly or can pass to the next stage of size reduction, for example a GSH granulator.



ZSS

TECHNICAL SPECIFICATIONS & DIMENSIONS

MODEL	850	850+	1200	1500	2000
Rotor diameter (mm)	387	457	457	457	457
Rotor width (mm)	850	850	1130	1410	1970
Rotor speed (rpm)	74	74	74	74	74
Drive capacity (kW)	37	55	55	75	2 x 55
Rotor knives (pcs)	40/60	40/60	54/81	68/102	96/144
Stator blades (rows)	1 or 2	1 or 2	1 or 2	1 or 2	1 or 2
Ram feeder drive (kW)	3.75	3.75	5.6	5.6	5.6
Screen size (mm)	>40	>40	>40	>40	>40
Cutting chamber volume (m3)	1.16	1.37	1.82	2.27	3.16
Effective working area (mm)	690 x 730	800 x 730	800 x 1010	800 x 1290	800 x 1850
Weight approx (kg)	4200	4800	5500	6500	8500
A (mm)	2085	2300	2300	2300	2300
B (mm)	625	725	725	725	725
C (mm)	2435	2600	2600	2600	2600
D (mm)	1360	1590	1590	1590	1590
E (mm)	840	840	1120	1400	1960
F (mm)	1940	1985	2265	2590	3710

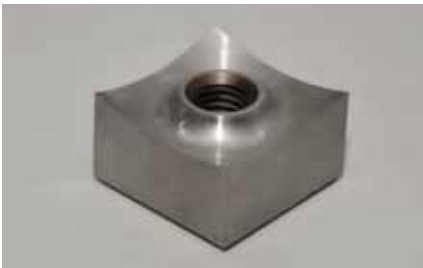
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ZIS

SHREDDER FOR VOLUMINOUS PARTS

- **35% more internal volume compared to the ZSS series**
- **Internal hydraulic pusher (ram)**
- **Variable speed, faster pusher movement**
- **Smaller footprint compared to traditional horizontal pusher style shredders**
- **All advantages of the conventional ZSS series**



The shredders use concave ground square knives, producing high quality output. The cutters can be turned after a side is worn out.



All ZERMA shredders are equipped with a large diameter flat rotor. The knives are fixed in special knife holders fitted in machined pockets. Optional weld on hard facing is available for abrasive applications.



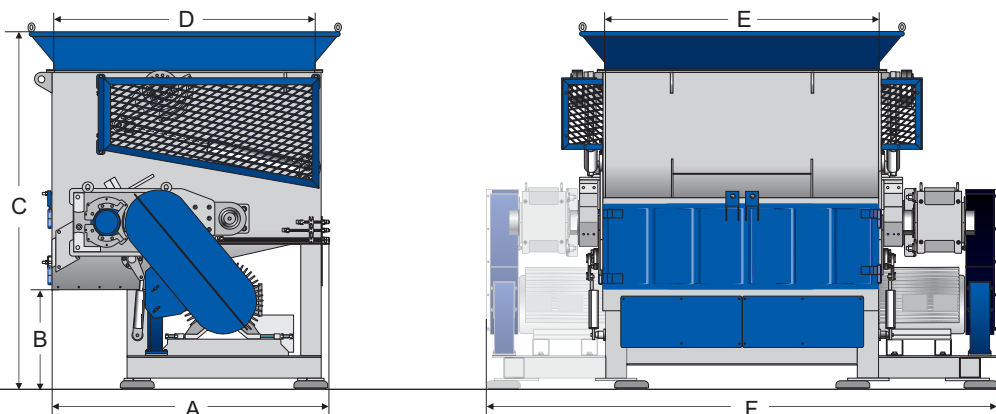
The internal ram design on the ZIS series allows the cutting chamber volume to be increased while keeping a small footprint. Making the ZIS ideal for shredding of big volume parts.

GENERAL DESCRIPTION

The ZIS series shredders are single shaft shredders with a large internal volume. The redesigned hydraulic pusher system creates approx 35% more space in the cutting chamber while increasing the power and speed of the ram itself. The machines are equipped with a 457 mm diameter ZERMA E rotor with widths ranging from 1200mm to 2000 mm. As on the ZSS machines, the rotor is driven via an oversized gearbox. The completely enclosed welded steel housing increases the stability and avoids material spillage. The ZIS incorporates all the traditional advantages of the ZERMA knife and knife holder design as well as standard features such as outboard bearings, hydraulic screen cradle, easy maintainability and advanced controls.

APPLICATIONS

The ZIS shredders have been designed to handle voluminous parts such as IBCs, wheelie bins, pallets, large drums etc but also retain the versatility and flexibility to be used for general recycling in the plastic and wood industry. As with all ZERMA shredders, the ZIS range can be equipped with a wear package for the processing of highly abrasive, filled materials.



ZIS

TECHNICAL SPECIFICATIONS & DIMENSIONS

MODEL	1200	1500	2000
Rotor diameter (mm)	457	457	457
Rotor width (mm)	1130	1410	1970
Rotor speed (rpm)	74	74	74
Drive capacity (kW)	55	75	2 x 55
Rotor knives (pcs)	54/81	68/102	96/144
Stator blades (rows)	1	1	1
Ram feeder drive (kW)	5.6	5.6	5.6
Screen size (mm)	>40	>40	>40
Cutting chamber volume (m3)	2.15	2.7	3.75
Effective working area (mm)	1400 x 1010	1400 x 1290	1400 x 1850
Weight approx (kg)	5000	6400	8800
A (mm)	2070	2070	2070
B (mm)	725	725	725
C (mm)	2600	2600	2600
D (mm)	1880	1880	1880
E (mm)	1140	1420	1980
F (mm)	2320	2635	3710

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ZXS

HEAVY DUTY SHREDDER

- **Low speed, high torque gear drive**
- **Powerful two speed hydraulic swing type ram**
- **Heavy Duty design**
- **High throughput rates**
- **Suitable for very large and heavy parts**
- **Large diameter rotor (750 mm)**



The shredders use concave ground square knives, producing high quality output. The cutters can be turned after a side is worn out.



All ZERMA shredders are equipped with a large diameter flat rotor. The knives are fixed in special knife holders fitted in machined pockets. Optional weld on hard facing is available for abrasive applications.



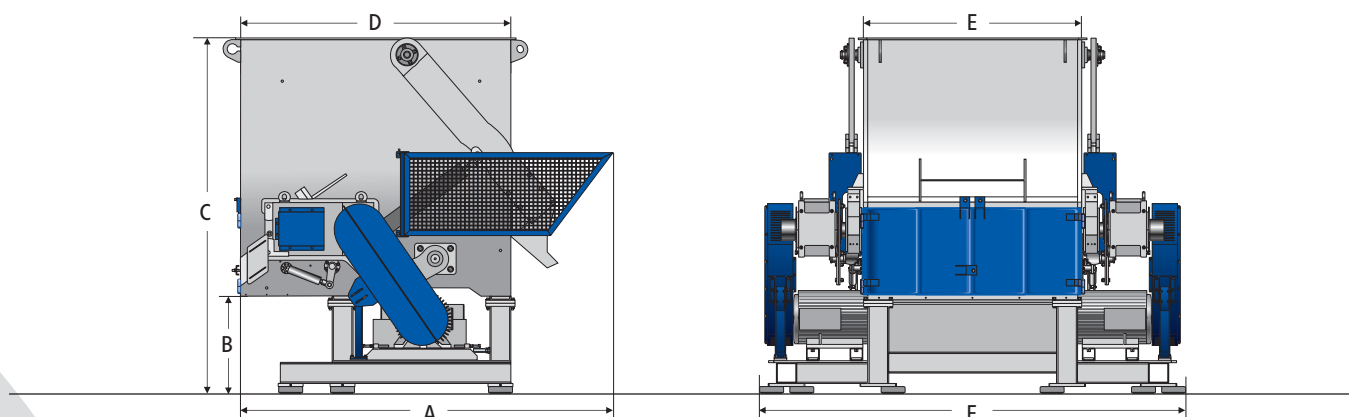
The ZXS shredders feature a high powered twin speed hydraulic system. This system ensures maximum pressure when feeding material into the rotor and high speeds on the backstroke.

GENERAL DESCRIPTION

The ZXS shredders are single shaft shredders with a powerful two speed swing ram design eliminating the risk of blocking and wearing out of internal guide rails. The machine is very versatile and can be used for shredding of all kinds of input materials and is well suited for different industries. The 750 mm diameter rotors ranging from 1500 to 3000 mm width are driven by two oversized gearboxes. The low speed of 45 rpm guarantees a high torque and smooth operation. The hydraulic power pack is well integrated into the machine housing to save space and protect it from damage but still easy to access or remove for maintenance. The proven E rotor, knife holder and knife designs are taken to new dimensions to conquer the most demanding applications and challenges. The machines can be tailored to various applications with advanced controls and hydraulics, hard facing and other wear options.

APPLICATIONS

The ZXS shredders have been designed for the most demanding and high throughput applications in recycling industries. The input materials can be all types of plastics, wood, paper, cardboard, e-waste, post consumer waste, rubber, etc. in various shapes and sizes. Typical input materials are: fridges, purges, tires, pallets, bales, drums and barrels, pipes, film etc... The output material size is determined by the installed screen size and, except in some RDF (refuse derived fuels) and wood applications, the output material may need to be processed further to achieve the desired final size. For the recycling of complete truck and tractor tires the ZXS T model is configured with special wear protection and knives.



ZXS

TECHNICAL SPECIFICATIONS & DIMENSIONS

MODEL	1500	2000	3000
Rotor diameter (mm)	750	750	750
Rotor width (mm)	1600	2000	2800
Rotor speed (rpm)	46	46	46
Drive capacity (kW)	2 x 75	2 x 90	2 x 132
Rotor knives (pcs)	76	96	136
Stator blades (rows)	1	1	1
Ram feeder drive (kW)	11	11	11
Screen size (mm)	>60	>60	>60
Cutting chamber volume (m3)	7.75	9.67	13.5
Effective working area (mm)	1500 x 1490	1500 x 1900	1500 x 2600
Weight approx (kg)	17000	20200	27000
A (mm)	3750	3750	3750
B (mm)	935	935	1015
C (mm)	3420	3420	3500
D (mm)	2540	2540	2540
E (mm)	1620	2020	2820
F (mm)	3560	4190	5070

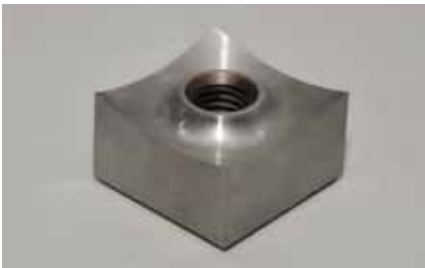
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ZRS

PIPE/PROFILE SHREDDER

- **Allows feeding of bundles or nested pipes and profiles**
- **No pre cutting of pipe lengths necessary**
- **Process pipes up to 1200 mm diameter**
- **Automatic control giving virtually risk free operation**
- **Elimination of amperage peaks**
- **High throughput rates**
- **Large diameter rotor (up to 1500 mm)**



The shredders use concave ground square knives, producing high quality output. The cutters can be turned after a side is worn out.



The ZRS shredders use very large diameter flat E-style rotors. The knives are fixed in special knife holders fitted in machined pockets.



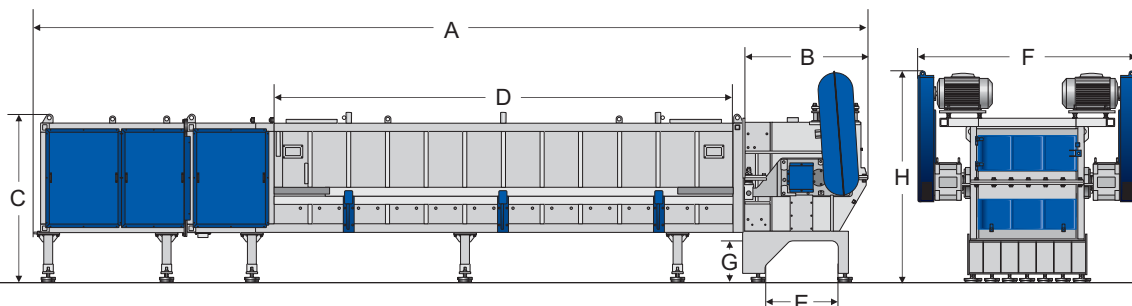
The ZRS shredders use very large diameter flat E-style rotors. The knives are fixed in special knife holders fitted in machined pockets.

GENERAL DESCRIPTION

The ZRS shredder is the world's first single shaft shredder capable of handling large diameter pipes (up to 1200mm dia) without the need for pre cutting. Since their introduction they have become the per se standard for pipe shredding and are used world-wide by leading pipe manufacturers. More than 200 installations demonstrate our technological leadership in this market and our continuing innovation is based on market demands and customer feedback. Dependent on pipe diameter, the ZRS rotor diameters and widths range from 800mm up to 1500 mm. The standard hopper accepts pipe lengths of up to 6 m. The combination of advanced controls, low rotor speed and smooth hydraulics create a reliable and easy to use system.

APPLICATIONS

The main focus of the ZRS shredders is the shredding of large diameter pipes or bundles of smaller pipes and profiles made from HDPE, PP and PVC. The machines can also be used for recycling of other plastic materials such as large lumps, stacked wheelie bins and pallets etc. In combination with other ZERMA size reduction equipment such as granulators and pulverizers we are able to provide a complete turn-key recycling solution.



ZRS

TECHNICAL SPECIFICATIONS & DIMENSIONS

MODEL	800	1000	1500
Rotor diameter (mm)	852	1033	1482
Rotor width (mm)	850	1130	1410
Rotor speed (rpm)	40	36	23
Drive capacity (kW)	2 x 37	2 x 45	2 x 55
Rotor knives (pcs)	60	81	136
Stator blades (rows)	1	1	1
Ram feeder drive (kW)	11	15	15
Feeding trough volume (m3)	2.7	6.7	12.6
Biggest pipe (mm)	3500 x Ø630	6500 x Ø850	6500 x Ø1200
Weight approx (kg)	11000	16000	25000
A (mm)	7695	11940	12180
B (mm)	1420	1580	1820
C (mm)	1830	1965	2320
D (mm)	3860	6720	6720
E (mm)	975	1080	1080
F (mm)	2545	2965	3250
G (mm)	590	590	590
H (mm)	2565	2660	3160

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ZTTS

SHREDDER FOR CAR TYRES

- **Single large diameter rotor (750 mm)**
- **Proprietary knife design and material**
- **Variable knife gap to improve separation of steel and rubber**
- **Compact Heavy Duty design**
- **High throughput rates**
- **Fast and easy tool change and maintenance**



The ZERMA tyre shredders use special highly wear resistant tungsten carbide flat knives, these knives ensure a long lifetime working with abrasive and contaminated materials.



The ZTS and ZTTS shredders are equipped with a large diameter flat rotors with weld on hard facing. The knives are fixed in special knife holders fitted in machined pockets.



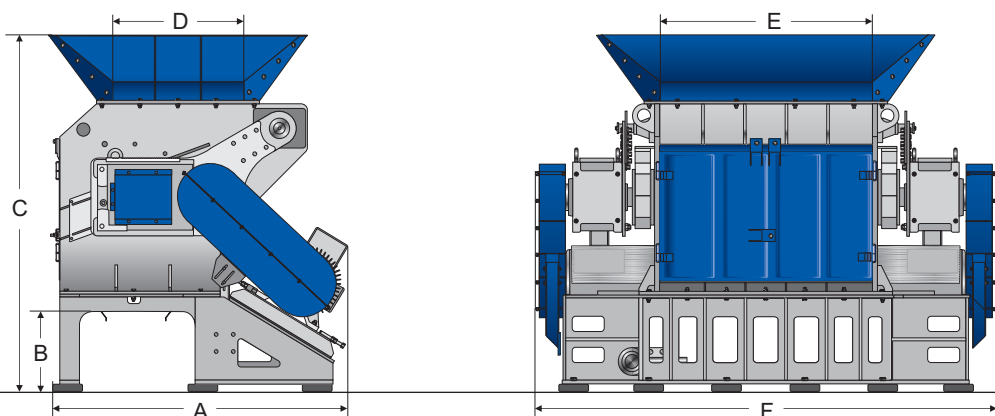
The oversized gearbox driving the rotor is supported by a very sturdy torque arm cushioning the shocks created while grinding.

GENERAL DESCRIPTION

The ZTS and ZTTS single shaft shredders are specially designed for the processing of complete or pre-shred tyres. Both machines feature a 750 mm diameter rotor with width options 1500mm to 3000 mm with oversized outboard bearings and twin gear drives. The tangential infeed ensures optimal feeding of the input materials while eliminating the need for a hydraulic feeding system. All tyre shredders are equipped with a complete wear package including rotor hard facing plus special knives and wear plates made from highly wear resistant steel. The ZTS and ZTTS ranges differ in the number of stator knives and the screen sizes used. The modular design makes it easy to integrate either machine into existing installations.

APPLICATIONS

The ZTS with its single row of stator knives is used to pre-shred complete car tyres or large pieces of pre-reduced truck tyres down to a size of approx 150 mm. The twin rows of stator knives and screen in the ZTTS enable it to process the tyre shreds down to any required size > 20 mm. The unique machine design combined with the variable cutting gap create an optimal separation of rubber and steel fractions when the machine is used with 20 mm screen. Therefore steel can be removed easily in the following process with magnetic separation equipment. The machines are also used in the processing of RDF and other alternative fuel applications.



ZTTS

TECHNICAL SPECIFICATIONS & DIMENSIONS

MODEL	1500	2000	3000
Rotor diameter (mm)	760	760	760
Rotor width (mm)	1560	1960	2760
Rotor speed (rpm)	41	41	41
Drive capacity (kW)	2 x 90	2 x 110	on request
Rotor knives (pcs)	76	96	136
Stator blades (rows)	2	2	2
Screen size (mm)	80mm screen bars >16	80mm screen bars >16	80mm screen bars >16
Effective working area (mm)	1005 x 1620	1005 x 2020	1005 x 2820
Weight approx (kg)	12800	16500	21500
A (mm)	2300	2300	2300
B (mm)	605	605	605
C (mm)	2700	2700	2700
D (mm)	1000	1000	1000
E (mm)	1620	2020	2820
F (mm)	3800	4240	5040

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ZWS 600-1100

WOOD SHREDDER



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



Robust oversized bearings ensure long lifetime and high service intervals.



The shredders use square knives, producing high quality output. The cutters can be turned after a side is worn out.



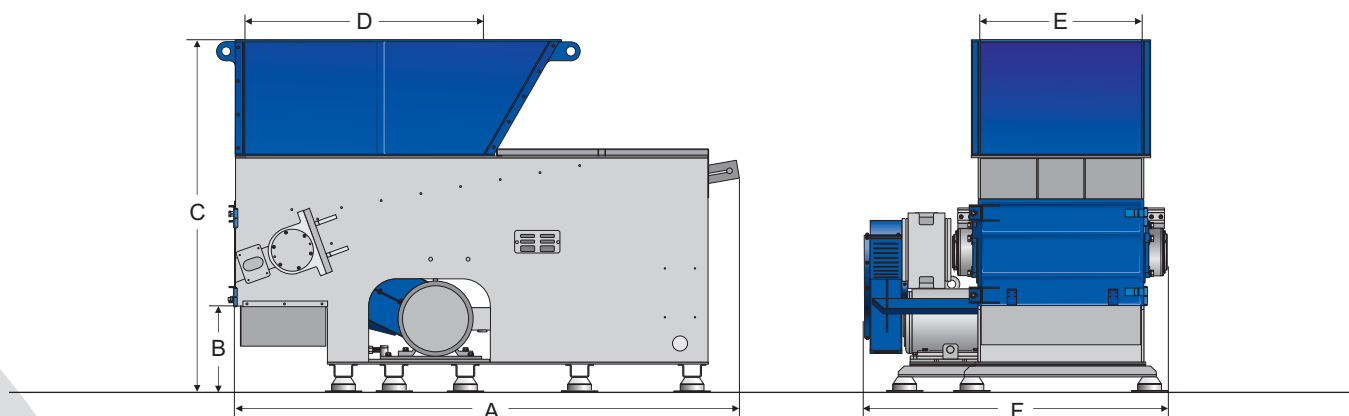
Angled hydraulic pusher to ensure optimal material feeding and ingestion.

GENERAL DESCRIPTION

ZERMA ZWS wood shredders are single shaft shredders featuring an angled hydraulic ram suitable for a wide range of material shapes and sizes. The ZWS shredders are equipped with a ZERMA E style rotor and knife and knife holder fixing system. The final size of the material is determined by the screen which can easily be changed based on requirements. The ZWS shredder can be tailored to individual requirements, this includes different drive powers, knife configurations as well as discharge options.

APPLICATIONS

The ZWS series of single shaft shredders are mainly used in the wood industry to achieve a economic recycling of wood off cuts, pallets or other waste. The machines have been engineered for strength and reliability in daily operation. These shredders can easily be integrated into complete lines with other ZERMA products and accessories such as belts, granulators, etc.



ZWS 600-1100

TECHNICAL SPECIFICATIONS & DIMENSIONS

MODEL	600	850	1100
Rotor diameter (mm)	400	400	400
Rotor width (mm)	560	840	1120
Rotor speed (rpm)	100	100	100
Drive capacity (kW)	15	18.5	22
Rotor knives (pcs)	13/26	20/40	27/54
Stator blades (rows)	1	1	1
Ram feeder drive (kW)	1.5	3.75	3.75
Screen size (mm)	>40	>40	>40
Cutting chamber volume (m3)	0.6	1.25	2
Effective working area (mm)	520 x 470	800 x 820	1080 x 1040
A (mm)	2060	2725	3235
B (mm)	455	455	455
C (mm)	1790	1880	1985
D (mm)	925	1285	1540
E (mm)	580	860	1140
F (mm)	1335	1620	1900

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ZWS 1400-2600

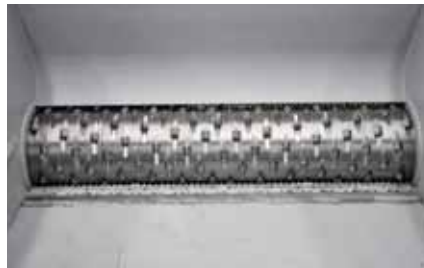
WOOD SHREDDER



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



The large feeding hopper allows the machine to be used for a variety of materials.



The rotors are equipped with square knives, producing high quality output. The cutters can be turned after they are worn.



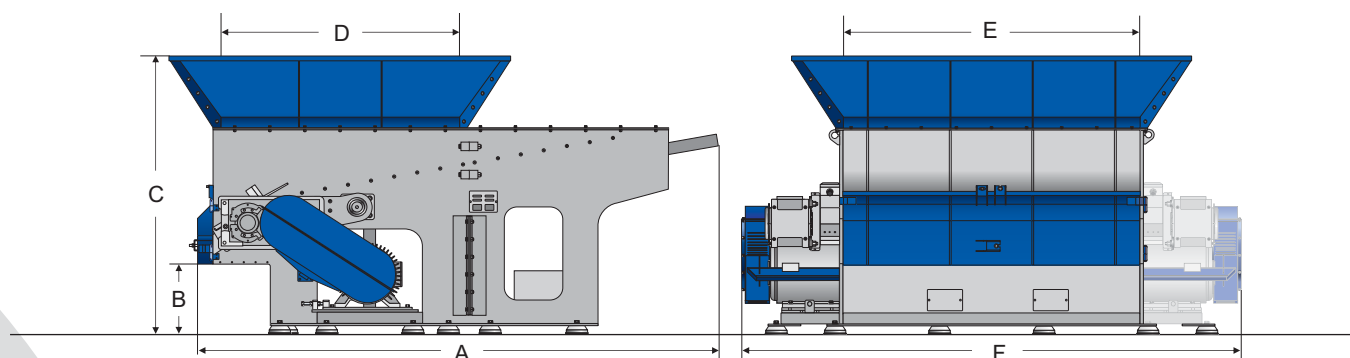
Angled hydraulic pusher to ensure optimal material feeding and ingestion.

GENERAL DESCRIPTION

ZERMA ZWS wood shredders are single shaft shredders featuring an angled hydraulic ram suitable for a wide range of material shapes and sizes. The ZWS shredders are equipped with a ZERMA E style rotor and knife holder fixing system. The final size of the material is determined by the screen which can easily be changed based on requirements. The ZWS shredder can be tailored to individual requirements, this includes different drive powers, knife configurations as well as discharge options.

APPLICATIONS

The ZWS series of single shaft shredders are mainly used in the wood industry to achieve a economic recycling of wood off cuts, pallets or other waste. The machines have been engineered for strength and reliability in daily operation. These shredders can easily be integrated into complete lines with other ZERMA products and accessories such as belts, granulators, etc.



ZWS 1400-2600

TECHNICAL SPECIFICATIONS & DIMENSIONS

MODEL	1400	1700	2000	2600	2600/600
Rotor diameter (mm)	400	400	400	400	600
Rotor width (mm)	1400	1680	1960	2520	2520
Rotor speed (rpm)	104	104	104	104	104
Drive capacity (kW)	45	55	90	2 x 75	2 x 90
Rotor knives (pcs)	34/68	41/82	48/96	62/124	124/248
Stator blades (rows)	1	1	1	1	1
Ram feeder drive (kW)	3.75	3.75	3.75	5.6	5.6
Screen size (mm)	>40	>40	>40	>40	>40
Cutting chamber volume (m3)	3.6	4.7	5.5	7.2	8.9
Effective working area (mm)	1360 x 1430	1640 x 1550	1920 x 1550	2480 x 1550	2480 x 1550
A (mm)	4000	4405	4405	4350	4550
B (mm)	455	455	455	595	695
C (mm)	2170	2240	2240	2380	2725
D (mm)	1885	2050	2050	2040	2040
E (mm)	1420	1700	1980	2540	2540
F (mm)	2415	2735	3080	4270	4270

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ZHM

HAMMER MILL FOR ABRASIVE MATERIALS

- Suitable for highly contaminated or abrasive materials
- Fixed hammer style
- Heavy Duty design
- High throughput rates
- Easy tool change and maintenance
- Good disintegration of mixed input materials



The single piece tools used in the ZHM hammer mill are made from highly wear resistant steel, this increases their lifetime during heavy applications and makes changes quick and easy.



The ZHM hammer mill features a flat rotor with innovative welded tool holders. This heavy duty rotor design ensures a smooth operation on various materials.



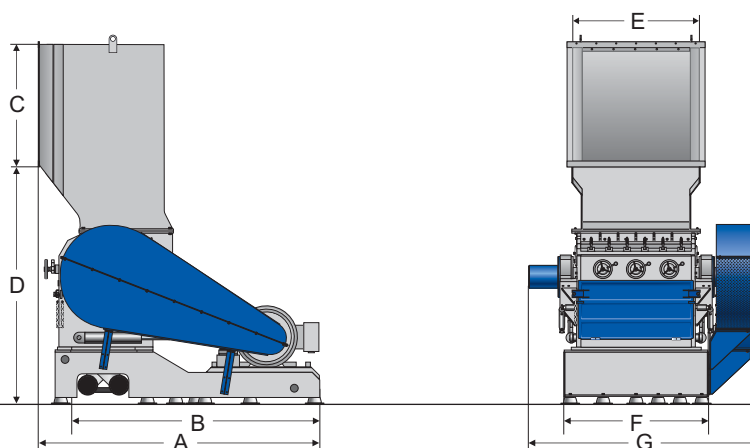
The combination of pre breakers and counter knives create a high impact powers resulting in a high degree of disintegration and high throughput rates.

GENERAL DESCRIPTION

The ZHM series of hammer mills feature heavy duty rotors ranging from 600mm to 800 mm diameter and widths between 800mm and 1200 mm and with V-belt drive. The fixed rotor hammers acting against heavy duty fixed combs plus several rows of pre-breaker combs create high impact powers and hence high throughput rates. Tool changes are fast and easy. All tools and wear parts are manufactured from highly wear resistant steel. The housing inherits all the advantages of the proven GSH granulator design, such as the diagonally divided cutting chamber and hydraulic screen cradle for easy maintenance and servicing. Choice of screen sizes allows for a wide range of applications and degrees of disintegration.

APPLICATIONS

Traditionally hammer mills were used in the wood industry to generate sawdust, but also proved useful in other industries as a size reduction solution for brittle materials such as glass, glass fibre, thermosets (Bakelite etc) and more recently on plastics such as PVC, for example for the size reduction and separation of post consumer window profiles from their metallic reinforcement and fittings. The current main application of the ZERMA ZHM is the processing of electronic waste, such as whole computers, white goods and ICBs. The main advantage of the ZHM in such processes lies in its tolerance of contamination and abrasive materials while being able to achieve relatively small sized output material thus allowing for efficient separation in downstream processes.



ZHM

TECHNICAL SPECIFICATIONS & DIMENSIONS

MODEL	600/800	800/1200
Rotor diameter (mm)	600	800
Rotor width (mm)	800	1200
Drive capacity (kW)	75	132
Rotor knives (pcs)	18	18
Stator blades (rows)	2	2
Screen size (mm)	>6	>8
Effective working area (mm)	788 x 555	1150 x 740
Weight approx (kg)	4500	8200
A (mm)	2350	3025
B (mm)	2100	2800
C (mm)	1000	1200
D (mm)	1940	2570
E (mm)	788	1140
F (mm)	1125	1535
G (mm)	1840	2430

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PM

HIGH SPEED PRECISION PULVERISER

- **Simple adjustment of cutting gap**
- **Choice of discs or segments**
- **Low drive power - High throughput**
- **Innovative efficient design**
- **Wide range of accessories**
- **Easy temperature control**



The ZERMA PM Pulverizers can be equipped with either one piece or segmented grinding discs, both are made from high quality tool steel and can be treated to withstand wear longer.



The material temperature is monitored in the process, an automated cooling system will ensure the temperature is kept at a defined level.



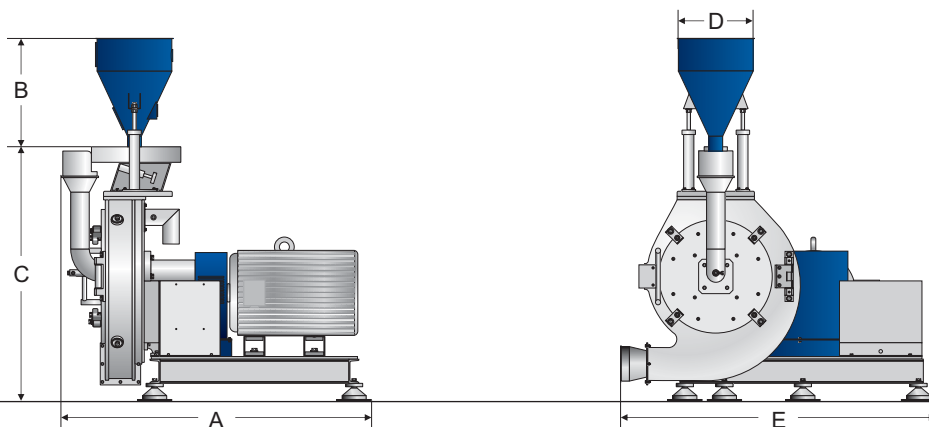
The material is fed into the Pulverizer by a vibrating dosing channel, the feeding rate is automatically adjusted based on the motors amperage and material temperature.

GENERAL DESCRIPTION

The disc pulverizers of the PM series are available with disc diameter from 300 to 800 mm. These pulverizers are high speed, precision grinders for the processing of medium hard, impact resistant and friable materials. The material to be pulverized is introduced through the centre of a vertically fixed grinding disc which is mounted concentrically with an identical high speed rotating disc. Centrifugal force carries the material through the grinding area and the resulting powder is collected with a blower and cyclone system. Depending on the application the machines can be equipped with one piece grinding discs or grinding segments.

APPLICATIONS

One of the main fields of use for the ZERMA PM Pulverizers is the pulverization of PVC regrind in pipe and profile recycling. Working in line with a shredder and granulator to have a balanced and efficient system to handle in house production waste. Another application is the grinding of PE for Rotomolding applications, here the PM Pulverizer is used in the production process to create the powder needed in the process. In this process a screening machine is necessary to ensure the right output size, distribution and flow properties of the ground material.



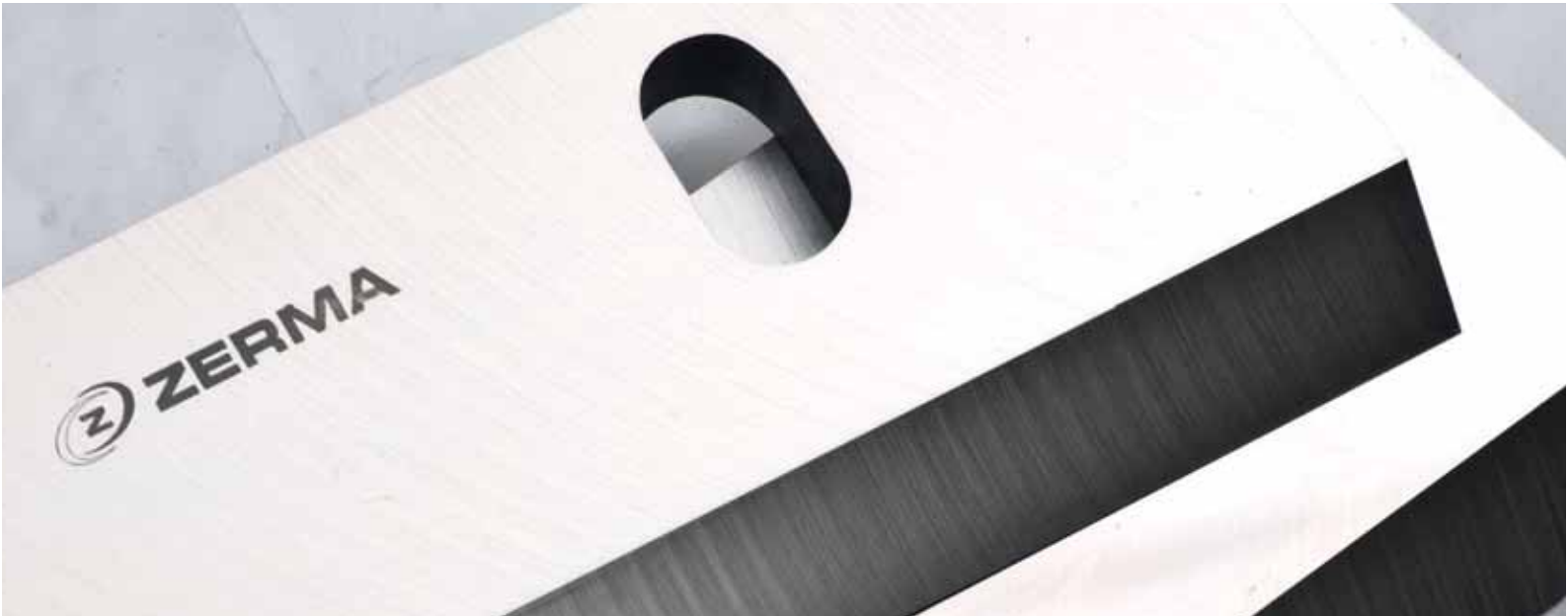
PM

TECHNICAL SPECIFICATIONS & DIMENSIONS

MODEL	300	500	800
Discs diameter (mm)	300	500	800
Drive capacity (kW)	22	55	90
Weight approx (kg)	900	1800	2500
Throughput approx (kg/h)	50-500	100-1000	200-1500
A (mm)	1365	1800	2085
B (mm)	640	640	640
C (mm)	1190	1470	1800
D (mm)	435	435	435
E (mm)	1515	1840	1680

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ACCESSORIES

CONVEYORS

ZERMA offers a large variety of conveyor belts, either as feeding belts for shredders and granulators, or as discharge belts to move material from the first step of shredding to a granulator in a twostep recycling process.

BLOWER & DE-DUSTING SYSTEMS

ZERMA offers a complete program of suction systems to discharge material from the machines. These systems include blowers, piping, cyclones and bag filling stations.

METAL DETECTION & SEPARATION

In order to create the best output material it is important to make sure the material is free from contamination such as metal. ZERMA offers a wide range of products to detect and remove various kinds of metal contamination.

SCREENING

It is always important to achieve a well defined output size. ZERMA offers a range of screening solutions for different materials and throughputs.

FORCE FEEDING

Increasing the throughput of the ZERMA GSH granulators when used with loose materials. This system forces the material into the cutting chamber and avoids the problem of material 'dancing' on the rotor.

SPARE PARTS

BLADES

A granulator performs best and most economical when the blade is sharp. Regular knife changes and correct setting of the cutting gap help ensure a good final result and reduced power consumption.

SHREDDER KNIVES

The ZERMA shredder knives can be turned once one side is worn out, this helps increase the blades lifetime. For new blades, contact Zerma Africa.

PULVERISER TOOLS

The Pulverisers can be equipped with either segments or one piece grinding discs, both can be resharpened. If you need help resharpening or replacing them contact Zerma Africa.

SCREENS

The right screen size can make a big difference in the performance of a machine, and sometimes you just need a new screen fast.

OTHER STANDARD PARTS

From bolts to V-belts, there are many more parts to a ZERMA machine than knives, screens and rotors, but the spare part service is the same. We keep most standard parts in stock available for a fast delivery.



zerma.com

We reserve the right to make technical changes and measurement adjustments.
Images shown in this brochure may also contain optional equipment variations.