

ZS

Single Shaft Shredder



ZERMA
The Home of Size Reduction

Wood crushing in the ZWS and ZSS machines:

The single shaft shredders of the ZWS and ZSS series can be used for a wide variety of applications. Depending on throughput and material the machines can be tailored to your exact needs.



ZWS 550 for reduction of wood scrap, e.g. in a joinery



ZSS series machines crushing pallets



Grinding of scrap wood to be used as heating material or briquettes

Plastic size reduction in ZSS and ZXS machines:

The single shaft shredders of the ZSS and ZXS series are ideally suited for crushing of refuse or for recycling systems. By modifying some aspects of the machines, like hoppers, knives, or rotors, the machines can fit almost any plastic size reduction application.



Grinding of plastic drums

Crushing of purgings



Pre-size reducing or bale opening



Processing of irrigation pipes



Pipe application, pre-grinding of pipes, for continued processing in a granulator.



Countless applications for ZS series shredders:

Numerous materials can be size reduced in the ZS machines for the purpose of recycling.

e.g. Electronic waste, PET-bottles, paper and cardboard, etc. Let us consult you how to grind and recycle your specific material!



The ZWS and the ZSS Single Shaft Shredder

The Zerma ZS single shaft shredders have been developed as extremely rugged machines suitable for heavy duty applications. They can be used to grind various materials such as lumps, large hollow parts, film, fiber and paper down to a final particle size of 20 mm. The ZS series of single shaft shredders comes with

numerous features, innovative controls and different choices of rotors specifically designed for various material types. All shredders operate at a low speed, thus operating at lower noise levels. A newly developed and patented ram feeder is only one of the unique features of the Zerma shredder product line.

ZWS Series:

The affordable single shaft shredder for small to medium applications, mainly in the wood industry.



ZSS Series:

The multi purpose machine for almost all applications in the size reduction field.



The ZSS and the ZXS Single Shaft Shredder

ZSS 2000 with dual drives
for big volume parts and
high throughputs (> 1t/h)



ZXS Series:

Single shaft shredders for demanding applications. The machines are very rugged and can achieve high throughputs. Machines are available up to 3000 mm rotor width and rotor diameter with 750 mm.



ZXS 2000



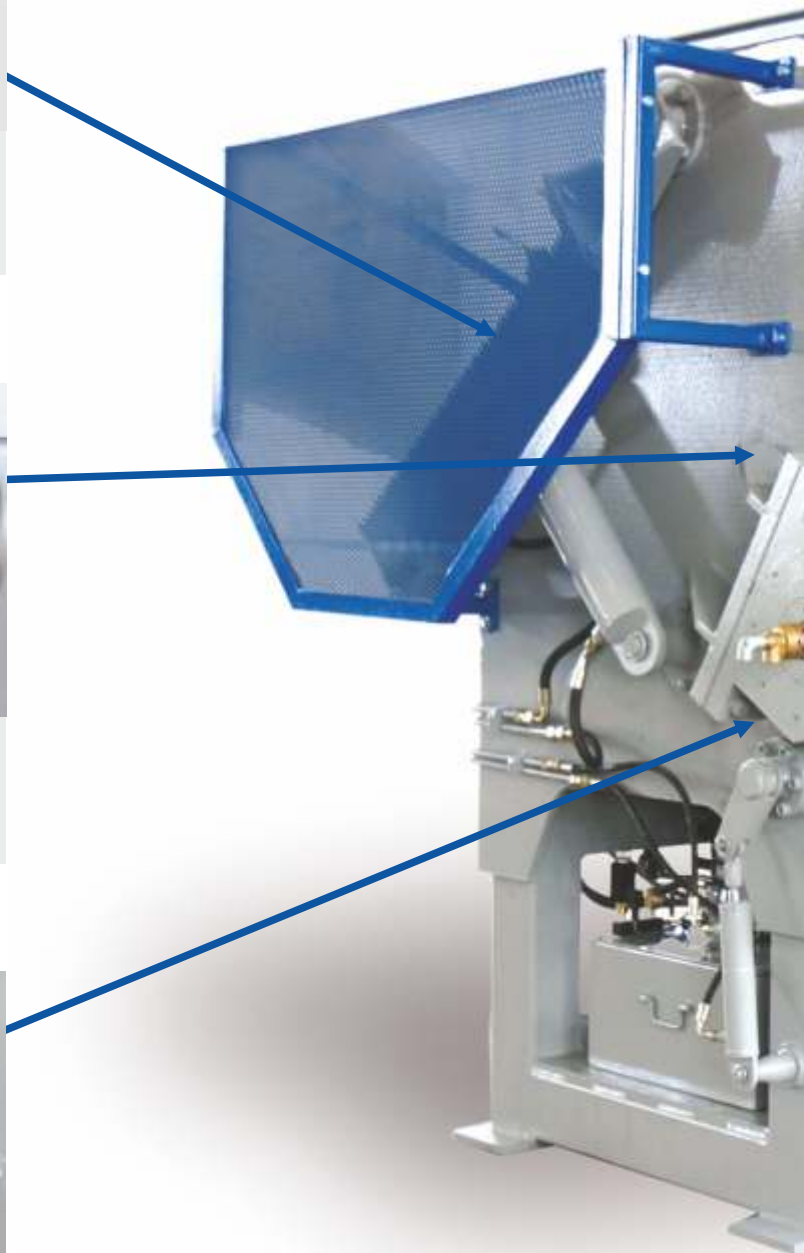
The ZSS series shredders benefit from sturdy ram construction incorporating heavy duty guide bearings and universal couplings for reliable operation.



All ZSS machines feature a serrated ram plate as standard, to allow easy processing of large awkward pieces such as large purgings blocks and pallets.



The heavy duty outboard bearings mounted on the ZSS shredders minimize the risk of contamination and make a rotor change easier. An optional water cooling system for the rotor and bearings can be installed as well.





Feed hoppers of the ZSS machines can be tailored to suit various applications. However, the standard hopper is of a suitable design to allow bulk feeding via tipping skip as well as manual feeding of large bulky barrels.

The bulk feeding hopper will optimize production since the ram feeder will always have material to direct toward the rotor. The machine is fully automatic therefore it is not possible to over-feed the machine.

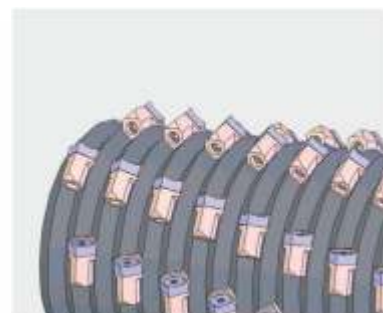


The ZSS shredder can be equipped with various rotor designs. The flexibility of design facilitates processing of all types of materials. The rotors can be modified to suit special applications.



The rotors in the ZSS shredder are equipped with square cutter blocks. These cutters make light work of the heaviest pieces. Importantly, the design allows efficient cutting of material, rather than hammering and reduces heat built-up and degradation of material. The cutter blocks have four corners so they can be easily rotated when the cutting edge is worn away.

The ZSS single shaft series is available with two different rotor choices to tailor the machine to your application.



The ZSS A-rotor choices is very well suited for light materials such as cardboard, paper, wood as well as food. The rotor features are jagged rotor design with knife holders welded into position for more aggressiveness.



The ZSS E-rotor is the most versatile rotor available for the ZSS machines, it can be used for the almost everything from hollow parts to large materials. The removable knife holders and knives make it easy to maintain and service.

Further advantages of the ZS series rotors:

- specialized hardened alloys for demanding applications available
- knife height can be adjusted to fine tune the machine for the material
- bolt in knife holders make maintenance work easier and faster

Accessories and Peripherals

For specialized applications ZERMA single shaft shredders can be modified in many ways, from special hopper designs to complex system setups and modifications ZERMA can cater to your needs and possibilities. Only rarely is a shredder used as a stand alone

machine, thus ZERMA offers the whole spectrum of peripheral equipment needed.

We can supply all needed accessories, such as belt-conveyors, metal detectors, etc.



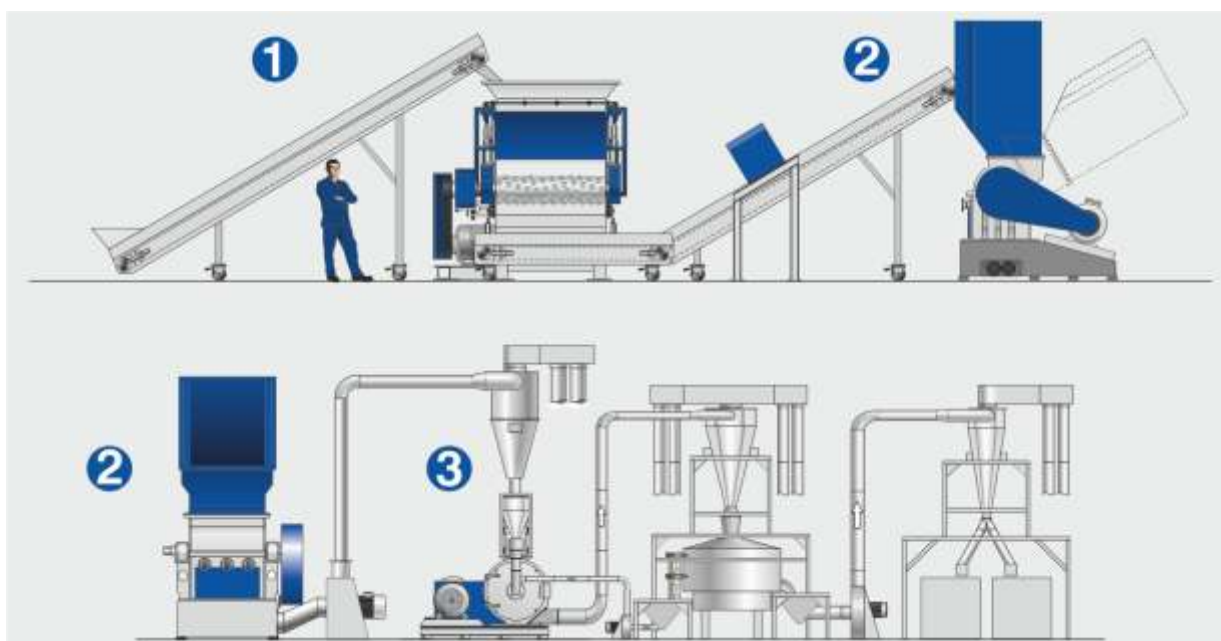
Particles > 20mm ?

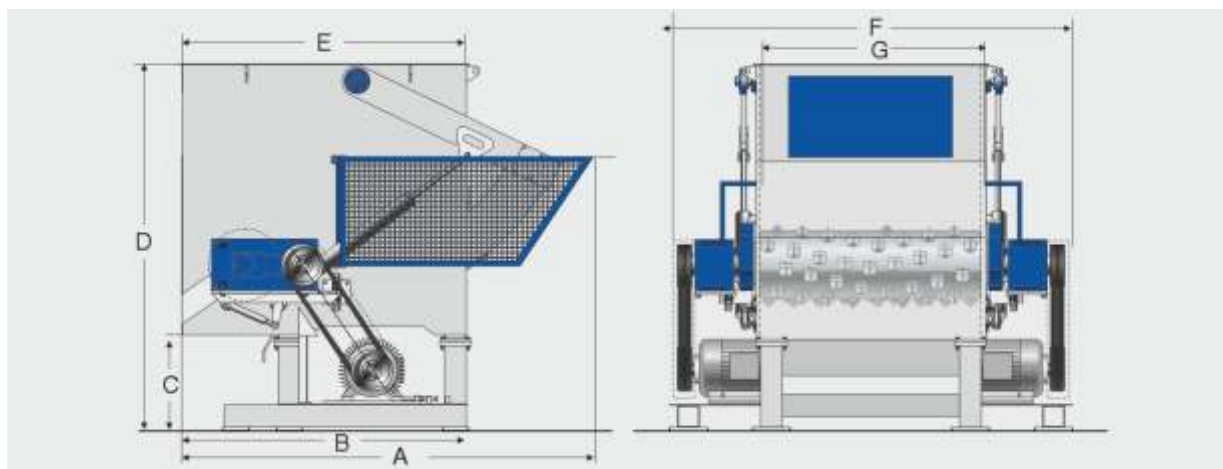
Achieving particles of < 1 mm using a three step process!

Specific applications require a final particle size of > 3 mm for the purpose of recycling. A two step system consisting of a ZS series shredder (1) and either a GS or GSH series granulator (2) is perfectly suitable for such applications.

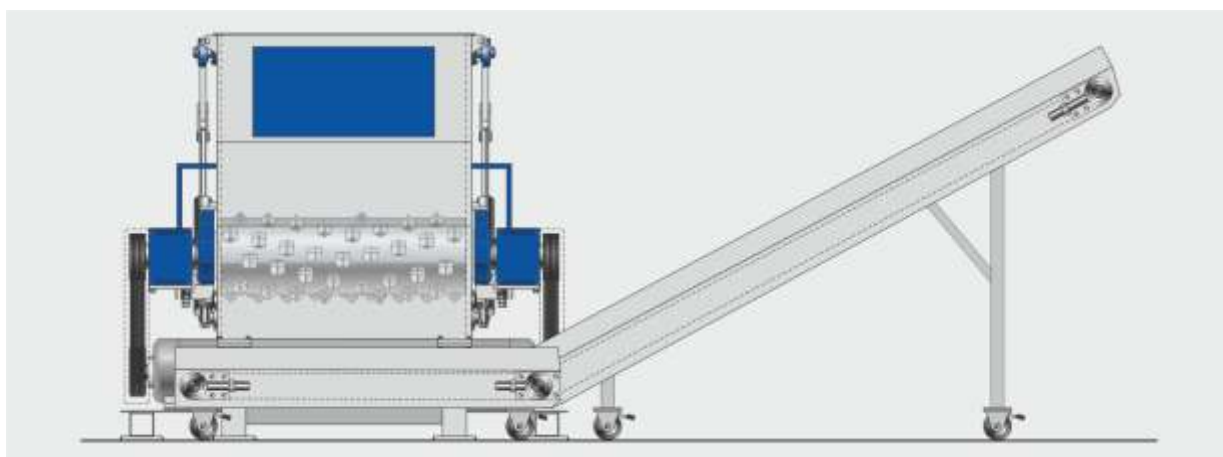
ZERMA can supply all necessary equipment from one source to ensure ultimate compatibility.

If a smaller final particle size is required, the PM series pulverizer (3) for particles < 1 mm. will be required.



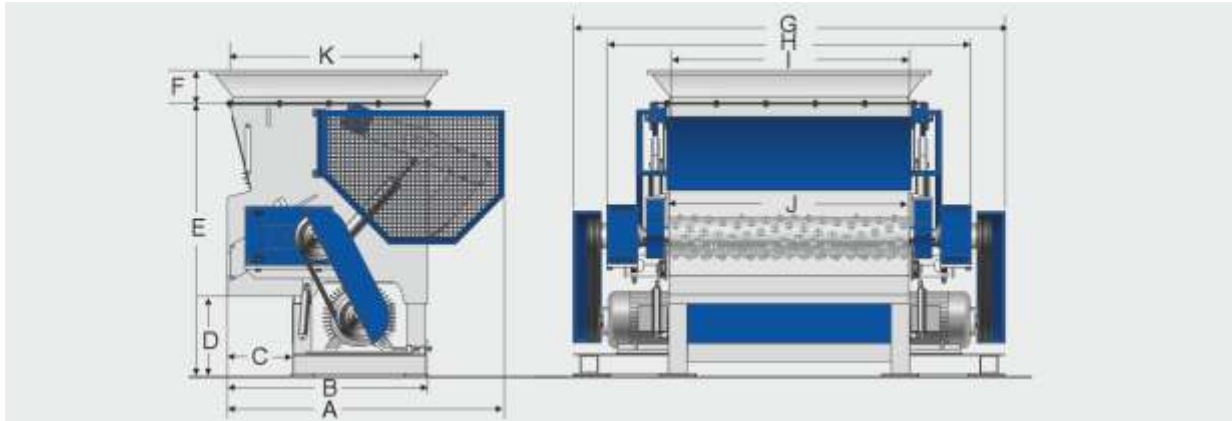


Type		ZXS 1500	ZXS 2000	ZXS 3000
Feed opening	(mm)	2540 x 1620	2540 x 2020	2540 x 2820
Rotor diameter	(mm)	750	750	750
Rotor speed	(rpm)	45	45	45
Drive capacity	(kW)	2 x 75	2 x 75 / 2 x 90	2 x 110
Rotor knives	(pieces)	76	96	136
Stator Blades	(pieces)	4	5	7
Ram feed drive	(kW)	11	11	11
Screen size	(mm)	20 - 100	20 - 100	20 - 100
Biggest space of chamber	(mm)	1500 x 1490	1500 x 1900	1500 x 2700
Length A	(mm)	3600	3600	3600
Length B	(mm)	2600	2600	2600
Height C	(mm)	870	870	870
Height D	(mm)	3350	3350	3350
Length E	(mm)	2540	2540	2540
Width F	(mm)	3200	3920	4900
Width G	(mm)	1620	2020	2820



System example ZXS 2000 with conveyer feed belt

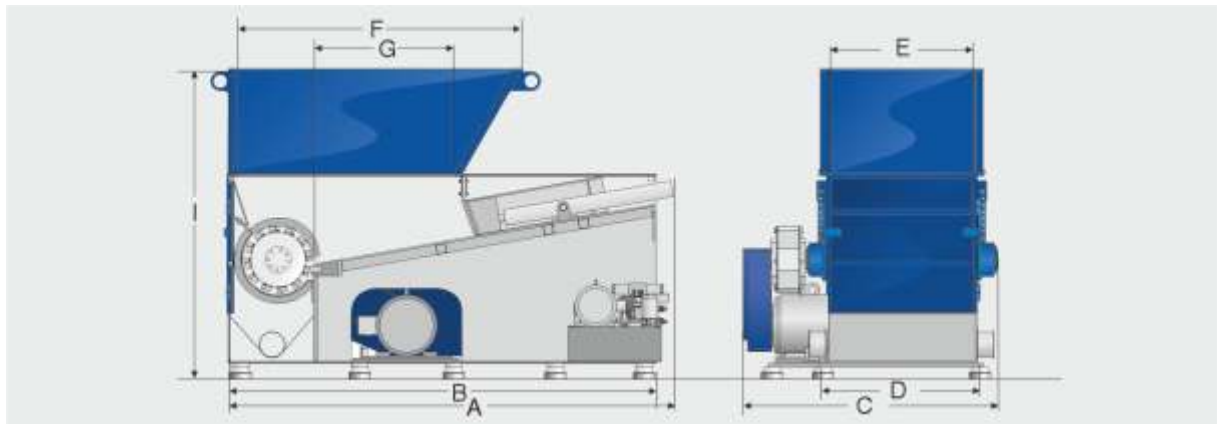
Technical Data ZSS-Range



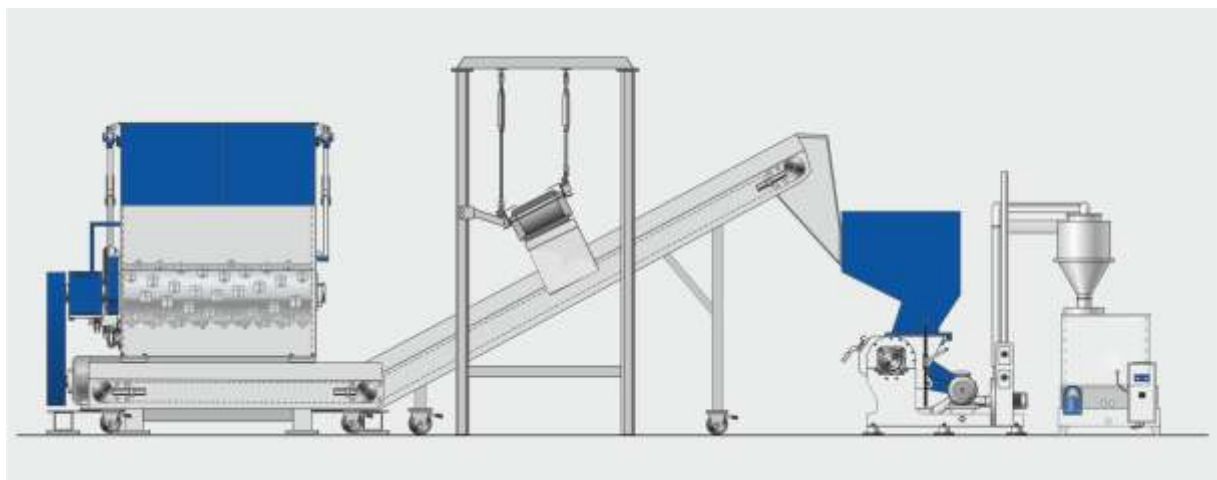
Type		ZSS 850	ZSS 850 Plus	ZSS 1200	ZSS 1500	ZSS 2000
Feed opening	(mm)	1700 x 1180	1700 x 1180	1470 x 1920	1745 x 1920	2300 x 1920
Rotor diameter	(mm)	387	4587	457	457	457
Rotor speed	(rpm)	80	80	80	80	80
Drive capacity	(kW)	37	55	55	75	2 x 55
Rotor knives	(pieces)	80 / 85 / 60	80 / 85 / 60	108 / 110 / 81	136 / 140 / 102	192 / 195 / 144
Stator Blades	(pieces)	3 x 2	3 x 2	4 x 2	5 x 2	7 x 2
Ram feed drive	(kW)	3,75	3,75	5,6	5,6	5,6
Screen size	(mm)	20 - 100	20 x 100	20 - 100	20 - 100	20 - 100
Biggest space of chamber	(mm)	700 x 730	700 x 730	800 x 1010	800 x 1290	800 x 1850
Length A	(mm)	2070	2228	2280	2280	2280
Length B	(mm)	1445	1650	1650	1650	1650
Length C	(mm)	485	540	540	540	540
Height D	(mm)	560	660	660	660	660
Height E	(mm)	2100	2250	2250	2250	2250
Height F	(mm)	260	260	260	260	260
Width G	(mm)	1830	1830	2190	2700	3560
Width H	(mm)	1550	1850	1960	2340	3050
Width I	(mm)	840	860	1120	1400	1960
Width J	(mm)	860	880	1140	1420	1980
Width K	(mm)	1360	1360	1570	1570	1570



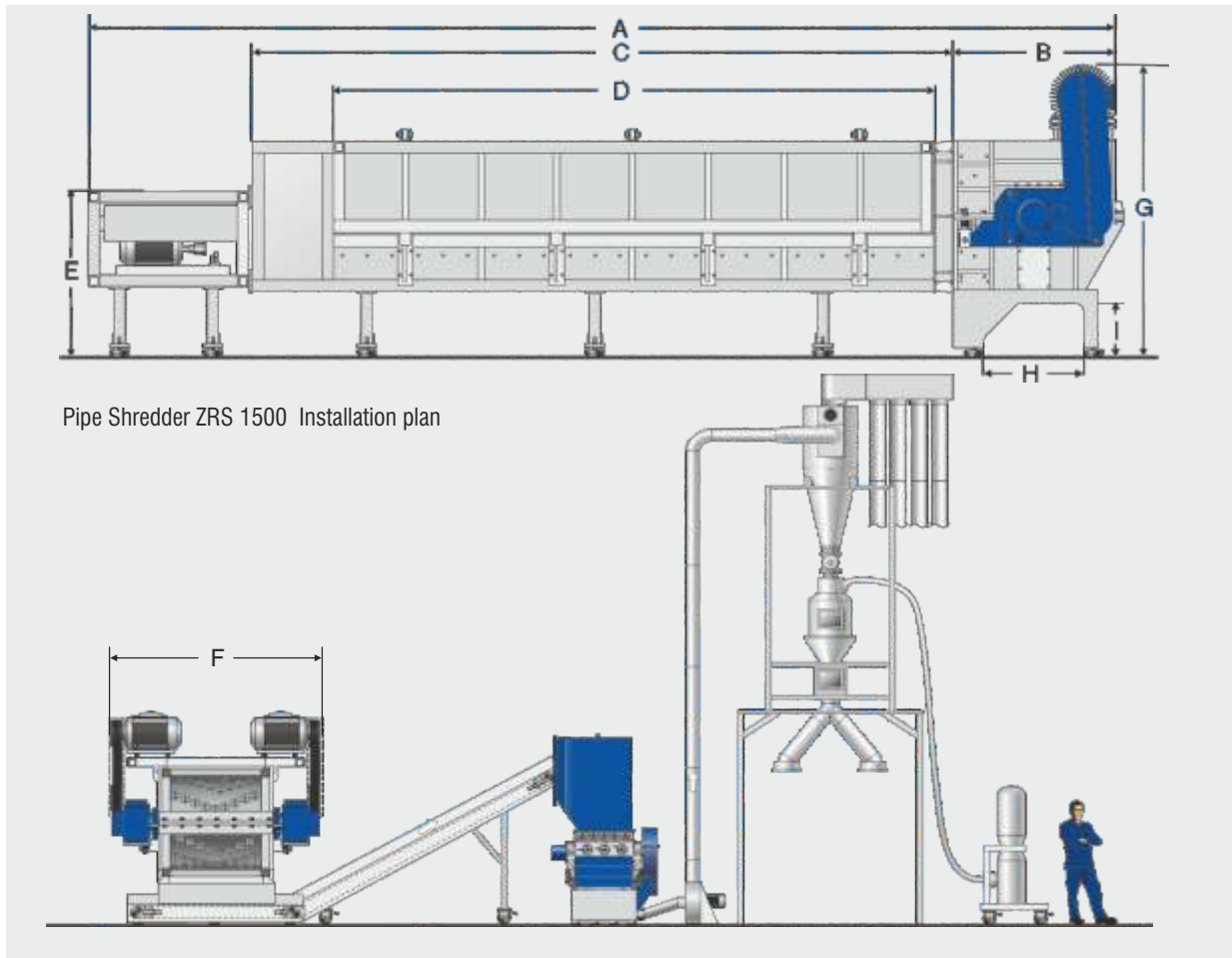
System example for a Two-Stage Recycling Plant with a ZSS 1500, one conveyor feed belt and a GSH Granulator



Type		ZWS 600	ZWS 850	ZWS 1100	ZWS 1400	ZWS 1700
Feed opening	(mm)	1280 x 580	1620 x 860	1830 x 1140	2195 x 1420	2380 x 1700
Rotor diameter	(mm)	400	400	400	400	400
Rotor speed	(rpm)	100	100	100	104	104
Drive capacity	(kW)	18,5	22	30	45	55
Rotor knives	(pieces)	13	20	27	34	41
Stator Blades	(pieces)	1 x 2	1 x 3	1 x 4	1 x 5	1 x 6
Ram feed drive	(kW)	1,5	3,75	3,75	3,75	3,75
Screen size	(mm)	20 - 100	20 - 100	20 - 100	20 - 100	20 - 100
Biggest space of chamber	(mm)	540 x 480	820 x 830	1040 x 1100	1400 x 1380	1600 x 1660
Length A	(mm)	2060	2640	3110	4000	4330
Width B	(mm)	2000	2510	2900	3700	4000
Width C	(mm)	1190	1490	1850	2300	2580
Length D	(mm)	680	960	1240	1520	1800
Length E	(mm)	580	860	1140	1420	1700
Width F	(mm)	1280	1620	1830	2195	2380
Width G	(mm)	480	830	1040	1400	1600
Width I	(mm)	1736	1825	1920	2080	2130



Technical Data ZRS-Range



Pipe Shredder ZRS 1500 Installation plan

Type		ZRS 1000	ZRS 1500
Feed opening	(m)	6,42 x 0,84	6,42 x 1,30
Biggest Pipe	(m)	6 x 0,80	6 x 1
Rotor diameter	(mm)	980	1430
Rotor speed	(rpm)	36	23
Drive capacity	(kW)	2 x 45	2 x 55
Rotor knives	(pieces)	108	206
Stator Blades	(pieces)	4	5
Pusher drive	(kW)	15	15
Total Weight	(t)	20	25
Length A	(mm)	11770	12120
Length B	(mm)	1480	1800
Length C	(mm)	8140	8140
Length D	(mm)	6720	6720
Length E	(mm)	2000	2280
Length F	(mm)	2820	3270
Length G	(mm)	2590	3040
Length H	(mm)	730	730
Length I	(mm)	580	580

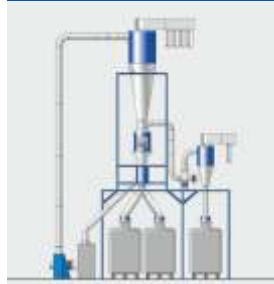
Horizontal feeding trough:

The ZRS series machines has been developed to archive high throughputs when crushing very large and long pipes.



**ZERMA**

ZERMA Recycling & Granulator Technology

GSL**GS****GSH****GSE****GSC****GSP****PM****ZS****Accessories**

ZERMA, with more than 60 years of experience, is one of the leading manufacturers of high quality granulators. Our product range begins with the small slow, speed granulators and reaches the large high performance granulators, including special machines such as the front entry granulators for pipes and profiles or the pulveriser systems for fine grinding applications. Using drive motors ranging from 2,2 kW to 200 kW, the ZERMA line of machines covers the complete spectrum of plastics size reduction applications.

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ULTIMATE SIZE REDUCTION TECHNOLOGY