



ARP

ALUMINIUM CHIP RECYCLING



**CUTTING
CONVEYING
PROCESSING
MELTING**

ARP GmbH & Co. KG · Industriestr. 37 · D-72275 Alpirsbach-Peterzell
Telefon: +49-7444 - 9515-0 · Fax 9515-60 · www.arp-mb.de · info@arp-mb.de



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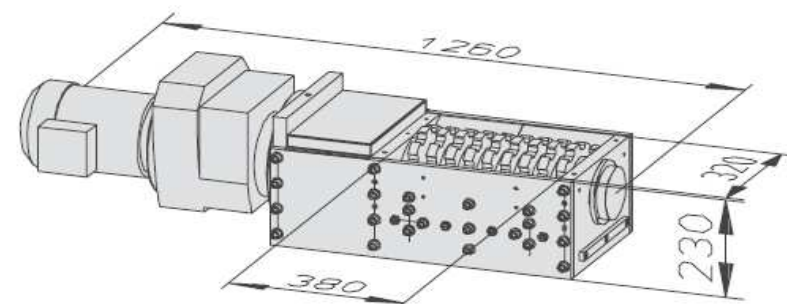
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Chips shredder

Single-Shaft Chip Crusher EZ 4



New - EZ6 !!!
5,5 kW Motor / 600 mm width



Capacity: Steel ~ 35 kg/hr
 AL ~ 25 kg/hr
(depends on material and density)

Properties:

Cutters: 9 exchangeable ten-tooth, four-tooth or two-tooth, also combinable depending on the volume of chips.

Application: Breaking up of steel chips, aluminium chips, non-ferrous metals

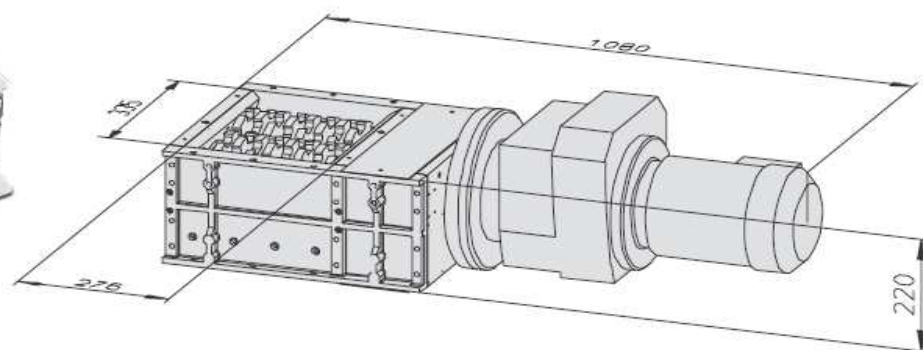
Pumpable or transportable by suction (max.1.5 kg/min)

Drive power: 2.2 kW

Weight: approx. 270 kg

Chips shredder

Double-Shaft Chip Crusher ZW 300



Capacity: Steel ~ 60 kg/hr
 AL ~ 30 kg/hr
 (depends on material and density)

Properties:

Cutters: 16 exchangeable nine-tooth janus-faced cutters+ 2 toothless discs

Application: breaking up of steel chips, aluminium chips, non-ferrous metals

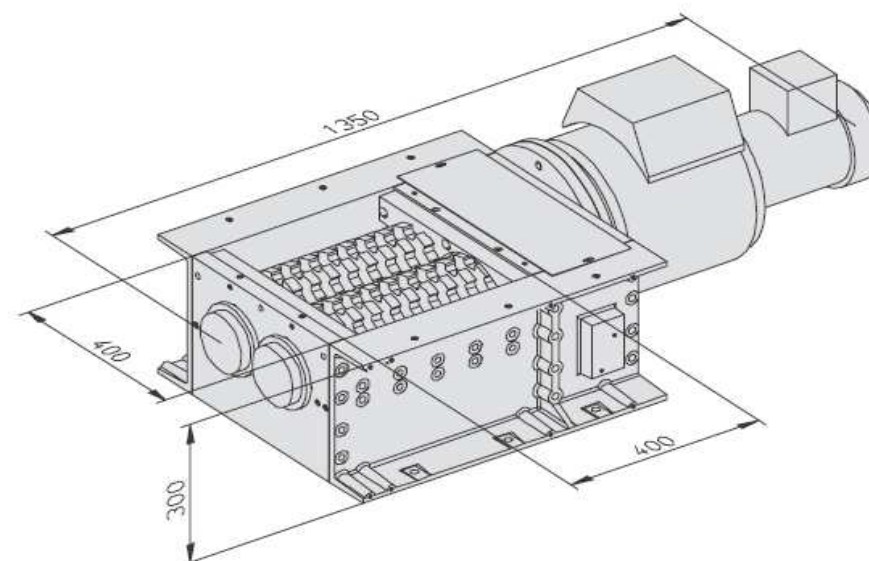
Pumpable or transportable by suction (max.1.2 kg/min)

Drive power: 1.5 kW

Weight: approx. 250 kg

Chips shredder

Double-Shaft Chip Crusher ZW 400



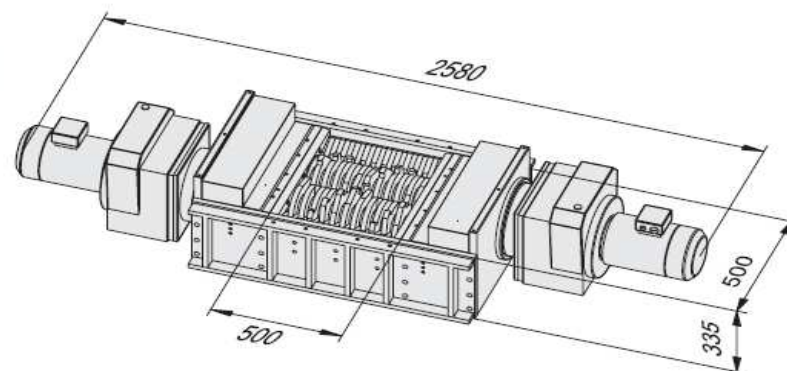
Capacity: Steel ~ 100 kg/hr
 AL ~ 75 kg/hr
 (depends on material and density)

Properties:

Cutters: 18 exchangeable ten-tooth or four-tooth janus-faced cutters
 Application: breaking up of steel chips, aluminium chips, non-ferrous metals
 Pumpable or transportable by suction (max. 3.5 kg/min)
 Drive power: 3.0 kW
 Weight: approx. 500 kg

Chips shredder

Double-Shaft Chip Crusher ZW 500



Properties:

Cutters: 22 exchangeable ten-tooth janus-faced cutters or four-tooth cutters + 2 toothless discs

Application: breaking up of steel chips, aluminium chips, non-ferrous metals

Pumpable or transportable by suction

Drive power:

Single-motor : 1 x 5.5 kW

Double-motor : 2 x 5.5 kW

Spur wheel back-gearred motors

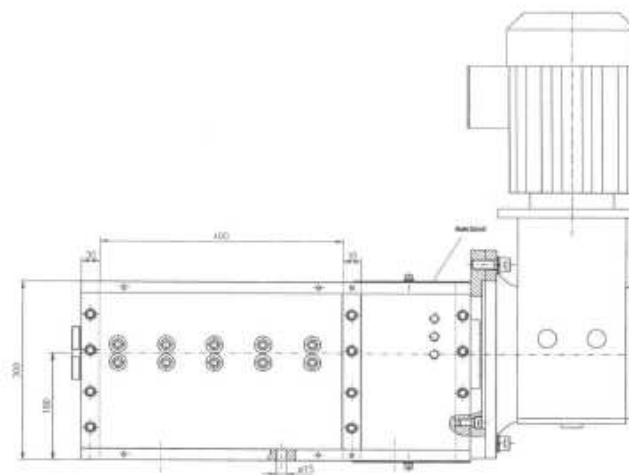
Weight with single-motor: approx. 1.200 kg

Weight with double-motor: approx. 1.500 kg

Capacity: Steel ~ 250 kg/hr
AL ~ 150 kg/hr
(depends on material and density)

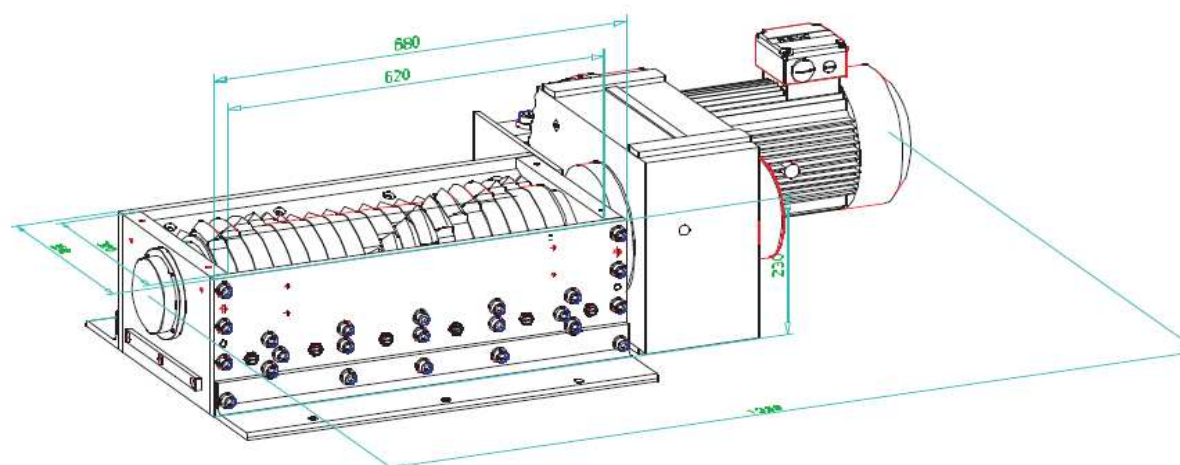
Chips shredder

- **Options:**
- Electronic control box
- Bevel geared motor
- Screens in different sizes of \varnothing
- Permanent greasing systems
- PLC (Siemens Logo) for self installation
- Hydraulic pressure device
- Different types of knives and teeth



Chips shredder

New - Singleshaft shredder WZ6



Technical data:

length:	1333 mm
width:	578 mm
height:	220 mm without gear
orifice:	580 x 320 mm
driving power:	5,5 kW
electric connection:	3 x 400 V, 50 Hz
rotation speed:	25 rpm
weight:	450 kg

Chips shredder

The EZ 100 singleshaft shredder for breaking up aluminium and copper chips



Technical data:

Application area:	Shredding and granulating of aluminium chips, light metals, non-ferrous metals, thin sheets up to 1mm
Throughput	up to 2 t/hr.
Drive power	33 kW
Weight	approx. 3,500 kg
Length x width x height	2,553x1,897x2,096 mm
Hopper aperture	1,000x980 mm
Hopper capacity	approx. 1,100 litres
Pressurizing mechanism	hydraulic
Material offtake	screw conveyor, vacuum extraction, conveyor belt
Replaceable inserts	68 on rotor, rotatable and individually exchangeable 70 on counterrotator, rotatable and individually exchangeable
Rotor speed	97 rpm
Screen size	10,12,15,20 or 30mm (special sizes on inquiry)
Connection load	3 N / 400 V/50 Hz
Control system	PLC control
Control cabinet	with control panel, flexible configuration possible, as it is separate

Capacity Aluminium chips ~ 2 to/hr



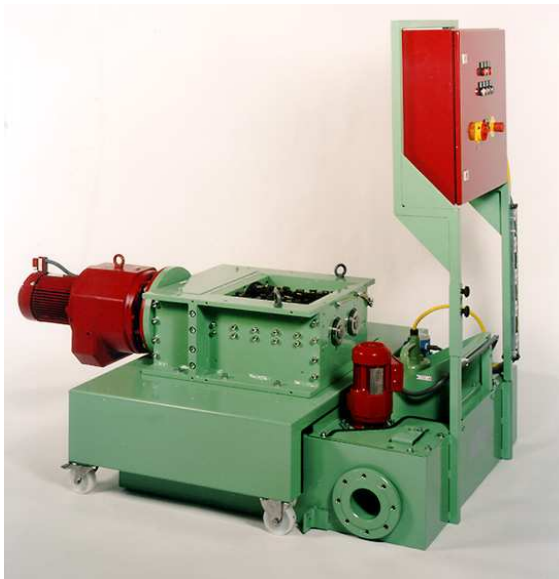
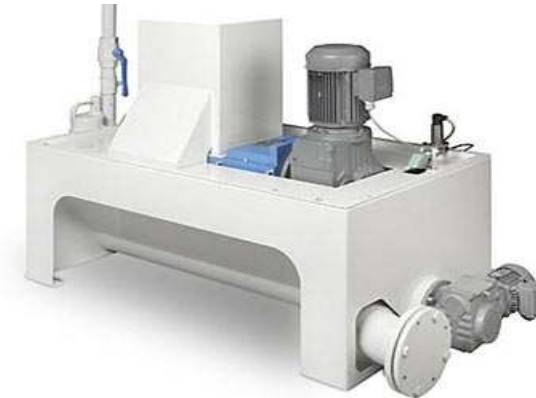
Extremely rugged: heavy cutting rotor with replaceable inserts



„Woolly“ chips are also reliably shredded with a high throughput

Chips transportation

- **Pump-backs**
 - Chip-transportation incl. coolant
 - Capacity: 250 ltr. – 4000 ltr. / min.
 - Applicable for grinding debris as well



Plug-in Chip Pump stations

Kombinierte Pump-Förderstation

FÖRDERN - ZERKLEINERN - PUMPEN

ARP



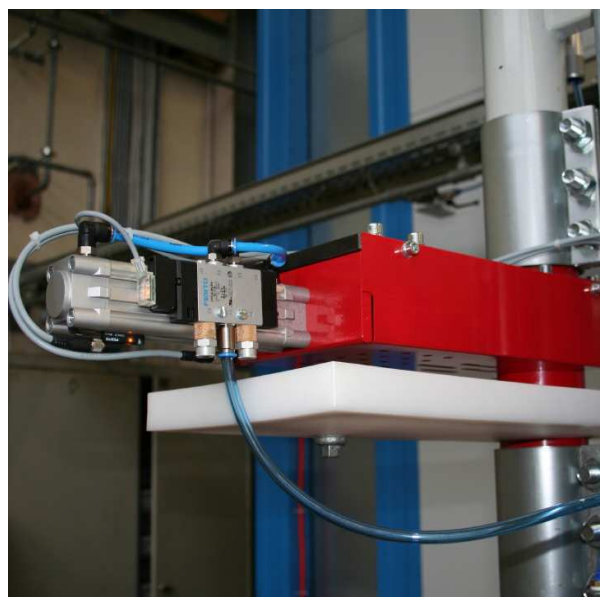
Chip centrifuge

- **Centrifuge AZ250**
 - For continuous feeding of chips < 25mm
 - Motor power 3,0 kW, 2800 rpm
 - Speed of drum 1555 rpm
 - Screenø 0,2 mm
 - Weight 380 kg

- Capacity:
- Steel chips ~ 250 kg/hr
- Aluminium chips ~ 200 kg/hr



Vacuum-chip-transportation



- **Vacuum technology**
- Up to 30 machines can be connected to one system
- Distance to transport with one system ~ 400 mtr.
- Transportation of dry or wet chips

Vacuum-chip-transportation

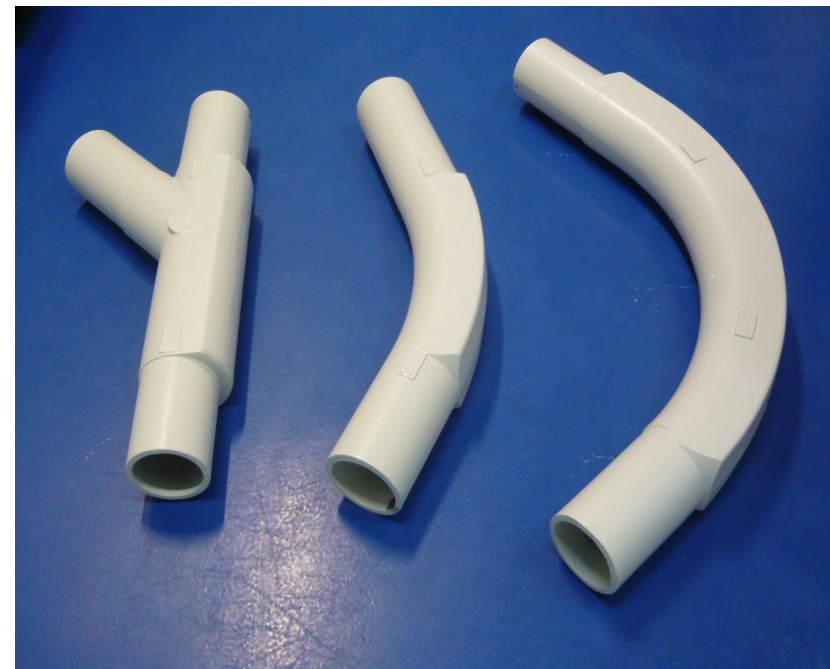
- Suction unit without shredder
- Suction unit with shredder above



Vacuum-chip-transportation

■ Piping-system

- Transportation speed up to 50 m/sec.
- Transportation of wet or dry Aluminium chips up to 3 to/hr
- Flexible in modification and upgrading
- High live cycles of bows due to hardened Mangan steel materials
- Handling of different types of materials
- Hardened robust components
- Very low space required
- Complete automatically running process



Vacuum-chip-transportation

- Handling of different types of material



Vacuum-chip-transportation



Silo technology



Silo technology

- Up to 20 to or 10 m³ per chamber
- Level controlled chambers
- Automatic notice of logistics provider
- Waterproofed chambers
- Handling of different types of materials
- Very low space required
- Flexible in positioning
- Better price for high quality raw material
- Applicable for chips, punching scrap or other materials

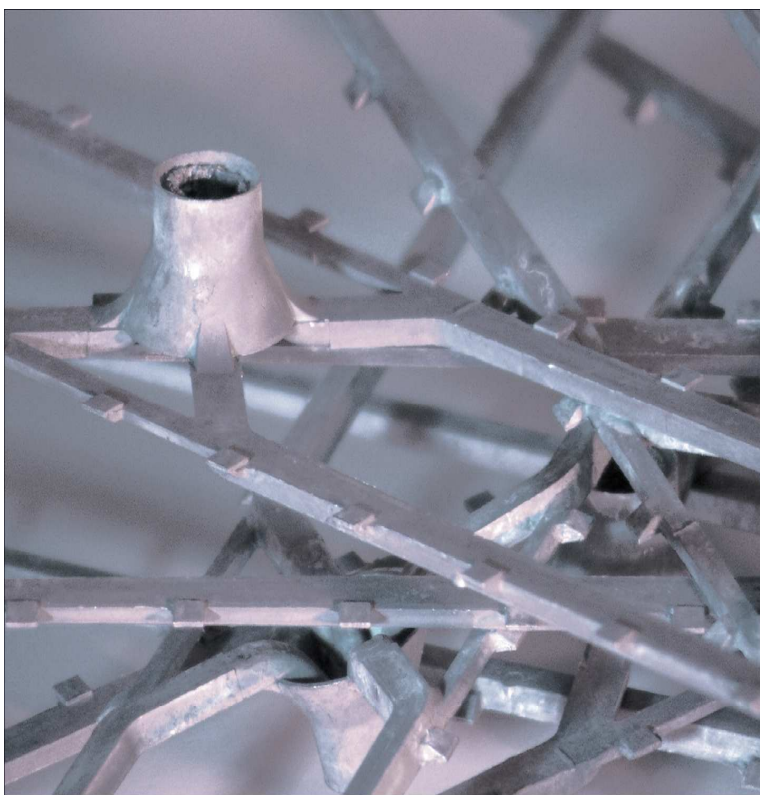


Container distribution



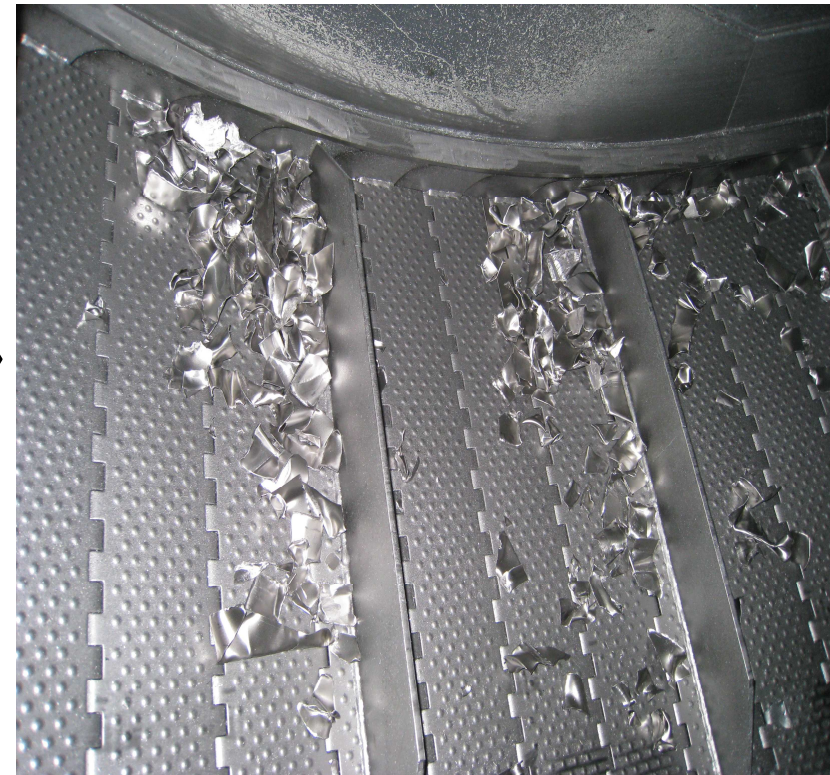
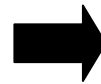
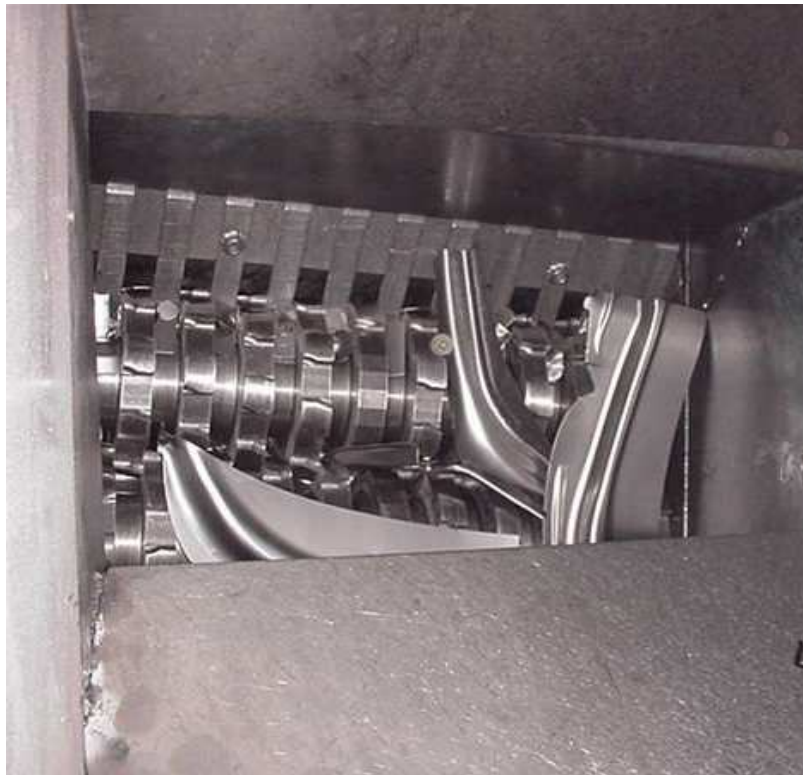
Sprue parts shredding

- Also applicable for sprue parts in die-casting

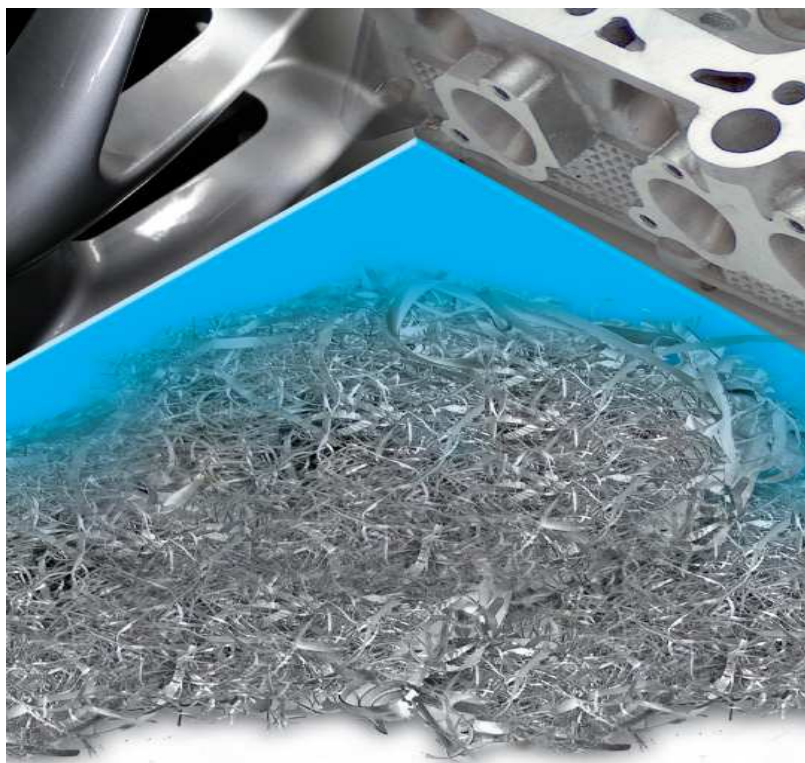


Shredding of punching waste

- Shredding of car body punching waste

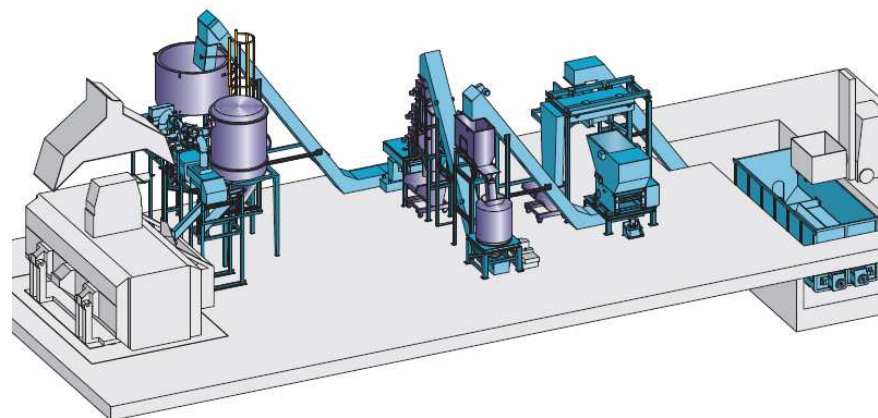


Aluminium chip recycling systems



We develop and build high-efficient processing plants for recycling of aluminium for the melting process. We increase the economic efficiency of the material-recirculation with lowest melting loss.

Our cost-effective plants are already in operation in large foundries and can be combined with the furnaces of different manufacturers. The capacity is 500 to 3000 kg per hour.



Our know-how is your advantage: high-quality aluminium with lowest melting loss

The plant will be feeded by forklift or automatic hoisting and tipping unit for small quantities, but also with shovel dozer and chip bunker in case of large quantities. The entire process goes automatically. The main component of the chip processing is the shredder EZ 100, which was developed specifically for aluminium and prepares chips always with the same size with lowest rate of fine particles for

the further processing. A centrifuge, which is easy to maintain and wear-resistant, now dries the chips to a minimal residual moisture. The centrifuged coolant can be reused after the processing by a filter. Through different steps the chips are transported to a large volume chip bunker, which stores the chips. Transported by a screw conveyor with an exactly dosed material-

stream, the chips are fully automatically conveyed to the furnaces. High-quality aluminium is the result of our process. Very suitable for wheels, pistons, engine-blocks...



Chips shredding

- **Shredder EZ100**
- Designed for non-ferrous chips
- Capacity up to 2 to/hr
- Long life replaceable knives and countercutter inserts
- Uniform of shredded material due to an integrated screen
- Excellent shredding quality without creating fine particles
- Extremely easy to maintain

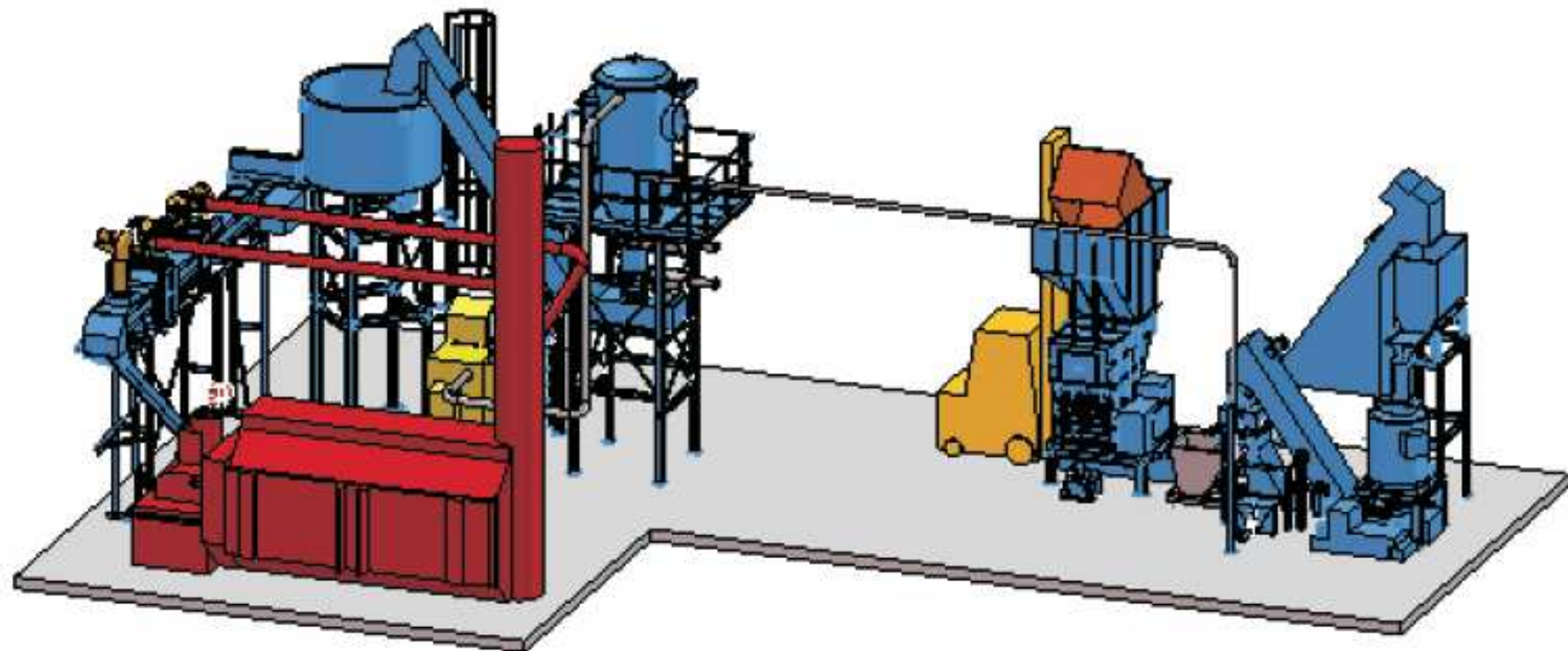


Chips preparation for melting process



Chips preparation for melting process

Fa. Hayes Lemmerz Türkei



Chips preparation for melting process



- Complete automatic processing of chips
- Recycling of coolant or oil
- Automatic selection of steel parts
- Flexible adaption to customers location
- Robust quality machinery
- Very low burning loss: lower than 3%
- Very short ROI - return of investment period

References

- **AEZ**
- **Airbus**
- **Alcan**
- **ATS**
- **Audi**
- **BBS**
- **BMW**
- **Borbet**
- **Bosch**
- **Brock**
- **Cevher Wheels**
- **Continental**
- **Daimler**
- **Federal Mogul**
- **Grob**
- **Hayes-Lemmerz**
- **Honsel**
- **Kolbenschmidt**
- **MAG**
- **Mahle**
- **MTU**
- **Oerlikon**
- **Ronal**
- **Ruag**
- **Siemens**
- **Textron**
- **Uniwheels**
- **VW**
- **Weisser**
- **ZF**