Chip reducer Z

KNOLL
.It works

Version 08-2019



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Provided chip reducer with vertical chip feed

Properties	Benefits
Suitable for different types of chips	Many application possibilities
Wide, insensitive cutter	Great durability
Intake behavior regardless of the chip form	Many application possibilities
Flexible, changeable toolbox system	Easy modification
Easy, robust, and service-friendly layout	Easy maintenance
Intelligent control	Great process reliability
Multiple sealing of the bearing units	Great stability
Low energy requirement	Low energy costs

Areas of application

KNOLL chip reducers ZV, ZVD and ZVDD are machines for reducing metal and plastic chips. The chip feed is done vertically from above.

- Decentralized use on processing machines (retrofittable)
- Central use thanks to provision at collection points
- For volume reduction for improved bearing and transport properties of wool and winding chips
- For pre-treatment of the chips as pre-requisite for centrifuging, briquetting, melting, pumping, suction, etc.

Description

Main functions

1. Feeding of the chips in the feed hopper
2. Pulling in of the chips between the rotating cutter shaft and the angled infeed slide or fixed cutter
3. Crushing of the chips between the rotating and fixed cutter
4. Limitation of the chip lengths with screen insert with different hole sizes or without screen insert

Variants

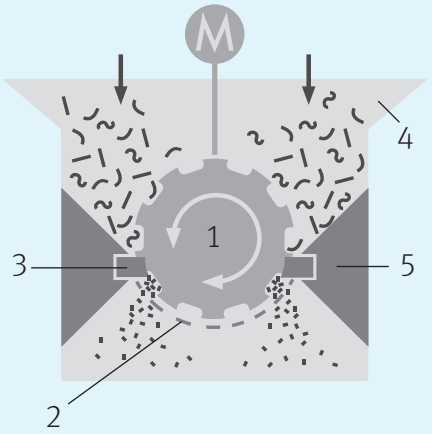
- Double-faced blades (-J): for large quantities of chips and high reducing quality
- Two-headed blades (-Z): with occurrence of problem parts and different types of chips
- Single shaft: for small bunches of chips and low to medium throughput
- Double shaft: for large or compressed bunches of chips and high throughput

Combination possibilities

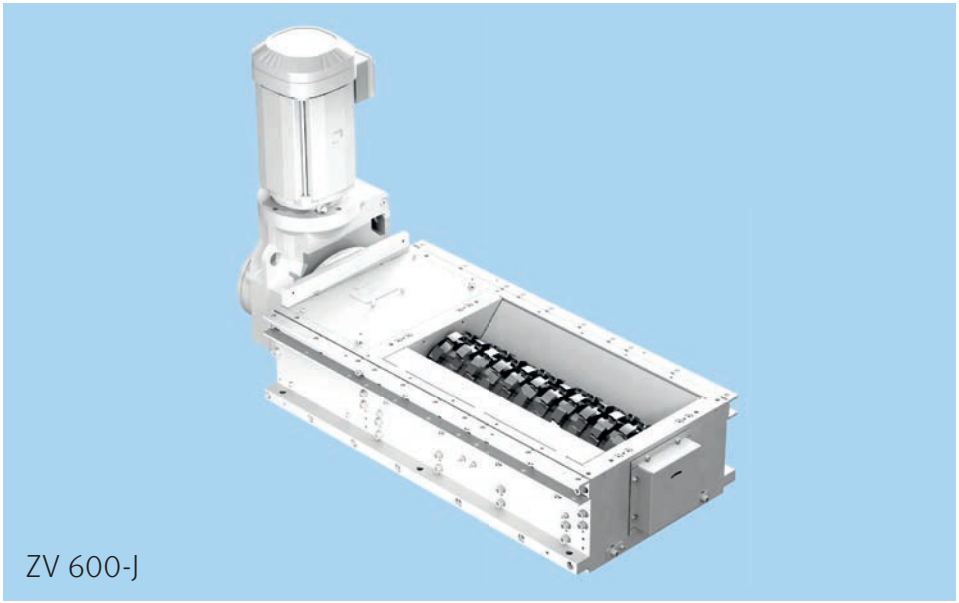
For other requirements, on request we can combine the chip reducers with

- Chip conveyors for feeding and removing the chips
- Frames for holding chip wagons
- Return pumping stations of chips and coolant lubricants to the central plant
- Extraction stations for transport of chips to the central plant
- Centrifuges and briquetting systems for further treatment of the chips
- Lift-tip devices for feeding the chips to central collection points

Chip reducer
ZV-J
Single shaft with
double-faced blades

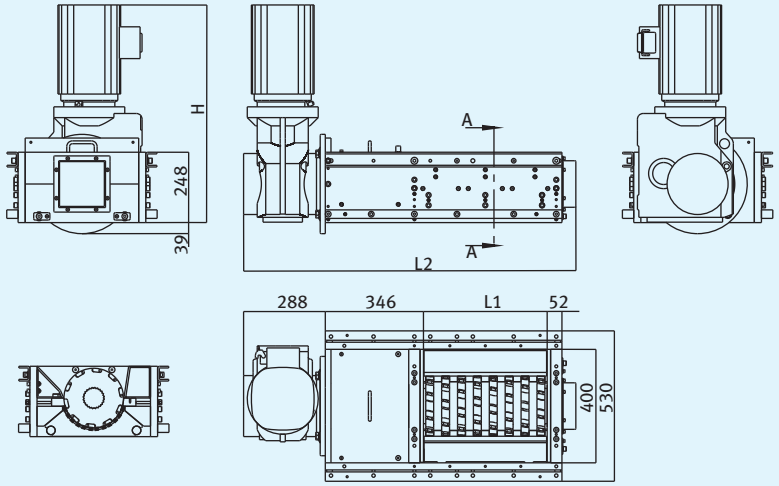


1. Rotating knife (double-faced blades)
2. Screen insert
3. Fixed cutter
4. Feed hopper
5. Angled infeed slide



ZV 600-J

Technical data



Equipment

1 shaft	●
Double-faced blades (-J): 10-, 7- or 5-teeth	●
Fixed cutter	●
Drive 4.0 kW	●
Drive 5.5 kW	○
Screen insert with round holes Ø 8-20	○

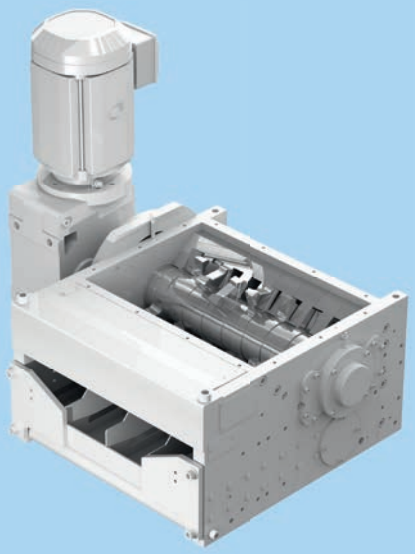
● Standard equipment
○ Option

Type	Length L1	Length L2	Height H 4 kW / 5.5 kW	Max. throughput steel/ aluminum [kg/h][1]	Max. bunch size
ZV 400-J	436	1176	770/820	100/50	250
ZV 600-J	636	1376	770/820	140/70	250

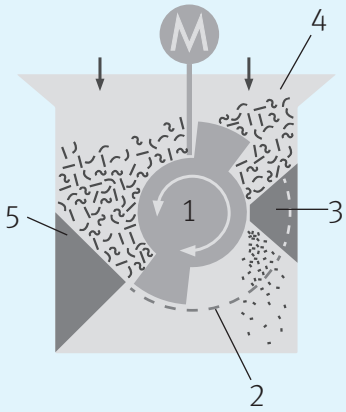
Dimensions without specification of units in mm | [1] Rough reference values for machines with sieve insert ø 14 mm for steel chips. The throughputs depend largely on the base material. We will be glad to perform cutting experiments.

Chip reducer ZV-Z

Single shaft with two-headed blades

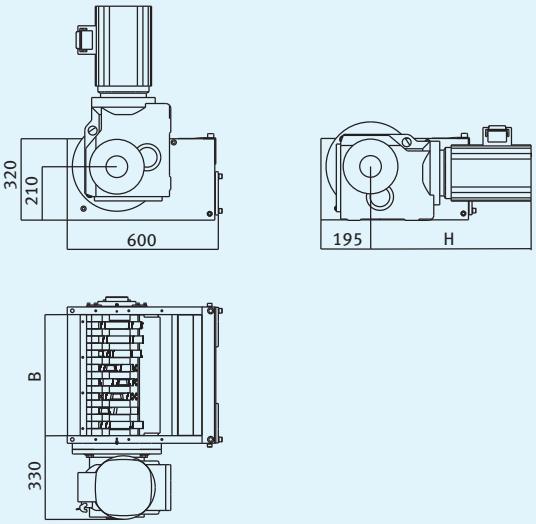


ZV 470-Z



1. Rotating knife (two-headed blades)
2. Screen insert
3. Fixed cutter
4. Feed hopper
5. Angled infeed slide

Technical data



Equipment

1 shaft	●
Two-headed blades (-Z)	●
Fixed cutter	●
Screen insert with round holes Ø 8-25	●
Drive 2.2 kW	●
Drive 4.0 kW	○

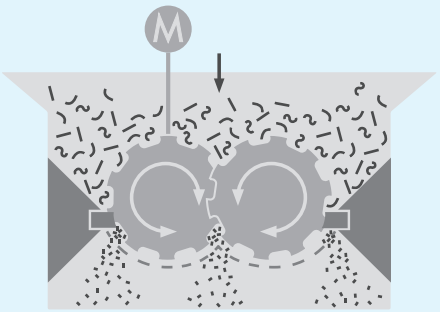
● Standard equipment
○ Option

Type	Width B	Height H 2.2 kW / 4 kW	Max. throughput steel/ aluminum [kg/h][1]	Max. bunch size
ZV 470-Z	476	555/635	60/30	300
ZV 600-Z	588	555/635	80/40	300

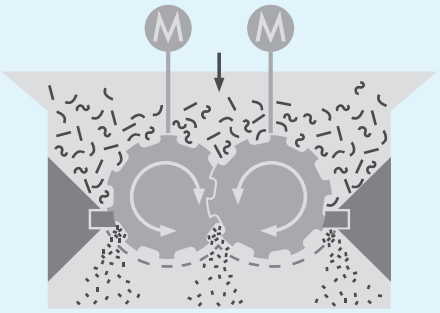
Dimensions without specification of units in mm | [1] Rough reference values for machines with sieve insert ø 14 mm for steel chips. The throughputs depend largely on the base material. We will be glad to perform cutting experiments.

Chip reducer
ZVD-J and ZVDD-J

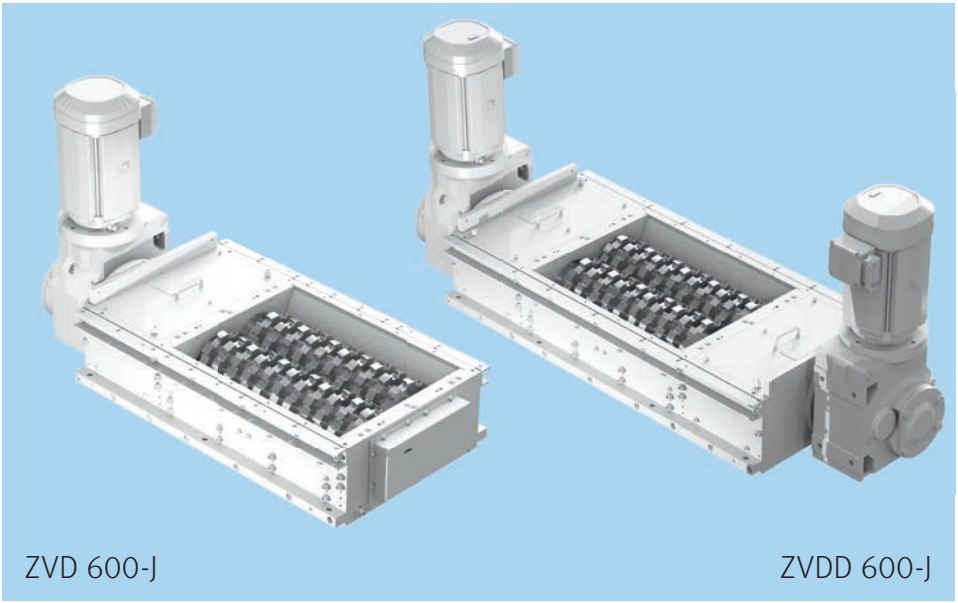
Double shaft with
double-faced blades



ZVD-J

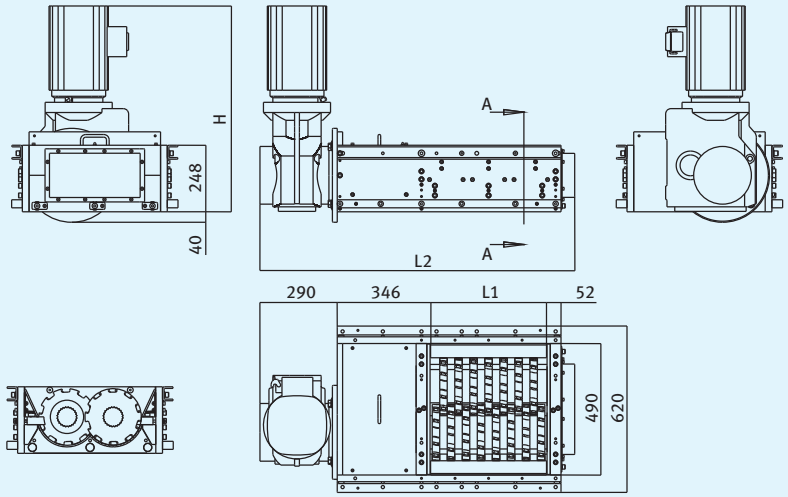


ZVDD-J



ZVD 600-J ZVDD 600-J

Technical data



Equipment

ZVD-J	
2 shafts, 1 drive	●
Double-faced blades (-J): 10-, 7- or 5-teeth	●
Fixed cutter	●
Drive 4.0 kW	●
Drive 5.5 kW	○
Screen insert with round holes Ø 8-20	○
Filler piece (without fixed cutter)	○

ZVDD-J	
2 shafts, 2 drives	●
Double-faced blades (-J): 10-, 7- or 5-teeth	●
Fixed cutter	●
Drive 4.0 kW (2x)	●
Drive 5.5 kW (2x)	○
Screen insert with round holes Ø 8-20	○
Filler piece (without fixed cutter)	○

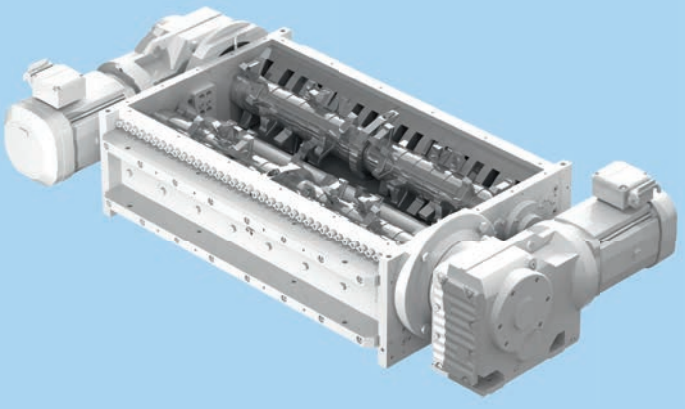
● Standard equipment
○ Option

Type	Length L1	Length L2	Height H 4 kW / 5.5 kW	Max. throughput steel/ aluminum [kg/h][1]	Max. bunch size
ZVD 400-J	436	1176	770/820	120/60	350
ZVD 600-J	636	1376	770/820	160/80	350
ZVDD 600-J	636	1912	770/820	250/125	350

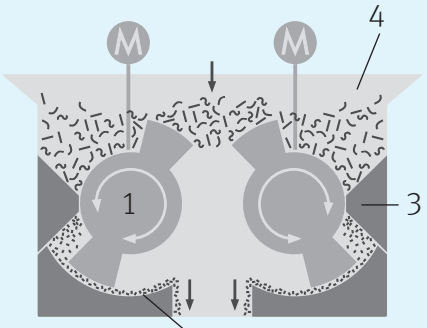
Dimensions without specification of units in mm | [1] Rough reference values for machines with sieve insert ø 14 mm for steel chips. The throughputs depend largely on the base material. We will be glad to perform cutting experiments.

Chip reducer ZVDD-Z

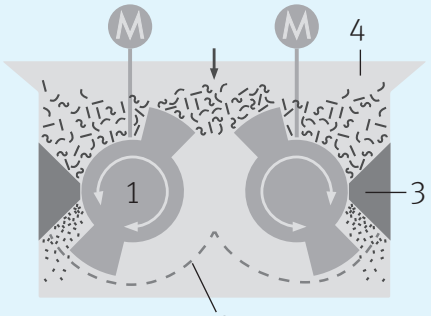
Double shaft with two-headed blades



ZVDD 1000-Z

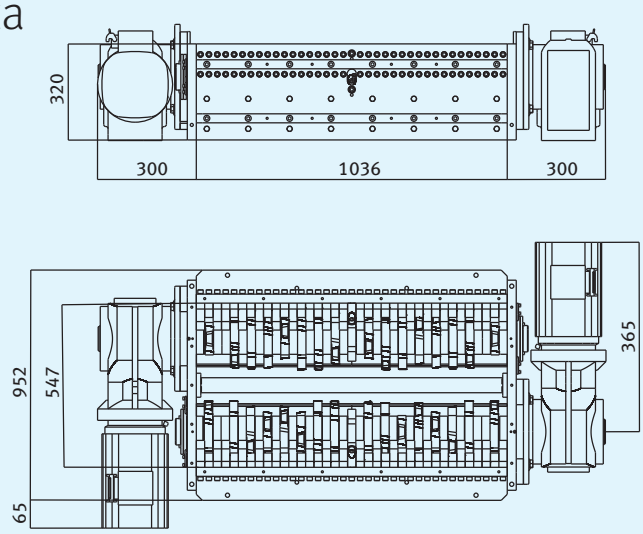


ZVDD-Z-F



ZVDD-Z-G

Technical data



Equipment

2 shafts, 2 drives	●
Two-headed blades (-Z)	●
Fixed cutter	●
Drive 4.0 kW (2x)	●
Central lubrication	●
Optional screen insert with round holes Ø 12, 16, 20, long hole (-G) or form shell (open version; -F)	●

● Standard equipment
○ Option

1. Rotating knife (two-headed blades)
2. Screen insert
3. Fixed cutter with integrated angled infeed slide
4. Feed hopper
5. Shell mould

Type	Max. throughput steel/ aluminum [kg/h][1]	Max. bunch size
ZVDD 1000-Z-G	600/300	500
ZVDD 1000-Z-F	1200/600	500

Dimensions without specification of units in mm | [1] Rough reference values for machines with sieve insert ø 16 mm for steel chips. The throughputs depend largely on the base material. We will be glad to perform cutting experiments.

Integrated chip reducer with horizontal chip feed

Properties	Benefits
Suitable for different types of chips	Many application possibilities
Robust cutter	Great durability
Intake behavior regardless of the chip form	Many application possibilities
Can be integrated compactly into return pumping stations	Space-saving
Easy, robust, and service-friendly layout	Easy maintenance
Intelligent control	Great process reliability
Multiple sealing of the bearing units	Great stability
Low energy requirement	Low energy costs

Areas of application

KNOLL chip reducers ZH-J and ZHV-J are machines for the reduction of metal and plastic chips. Chip feed is done horizontally.

- Especially as integrated component of the return pump station RIK
- Decentralized use on processing machines with close-to-floor chip feed via screw conveyor
- For volume reduction for improved bearing and transport properties of wool and winding chips
- For pre-treatment of the chips as pre-requisite for centrifuging, briquetting, melting, pumping, suction, etc.

Description

Main functions

1. Feed of the chips horizontally via screw conveyor
2. Pulling in of the chips by the rotating cutter shaft
3. Crushing between the chips between the rotating and fixed cutter
4. Limitation of the chip lengths by the perforated plate with different hole sizes and the chip holding back classifier disk

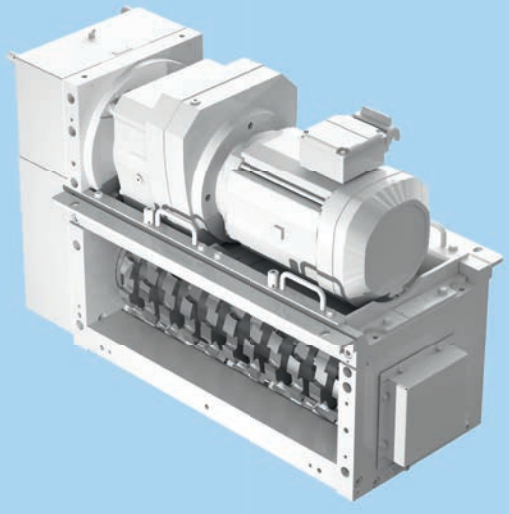
Combination possibilities

For other requirements, on request we can combine the chip reducers with

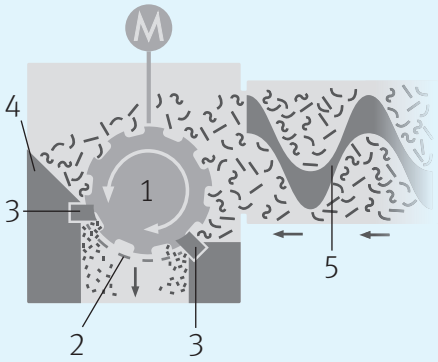
- Return pumping station RIK for transport of chips to the central plant
- Screw conveyor for feeding of the chips
- Chip conveyor for removing the chips

Chip reducer
ZH-J

Double shaft horizontal with double-faced blades



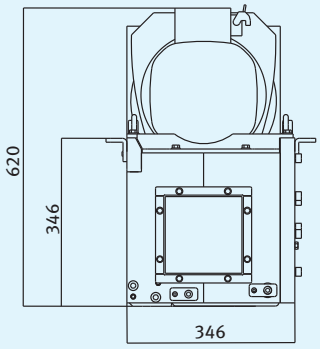
ZH 600-J

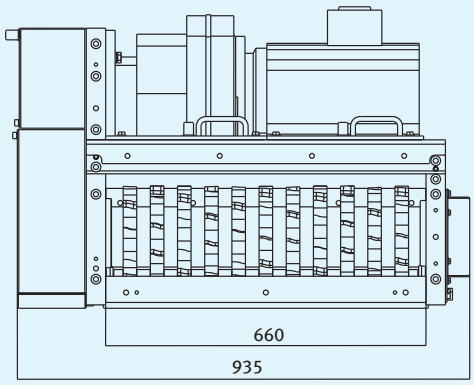


ZH-J

1. Rotating knife (double-faced blades)
2. Screen insert
3. Fixed cutter
4. Angled infeed slide
5. Feeding via screw (not integrated)

Technical data





Equipment

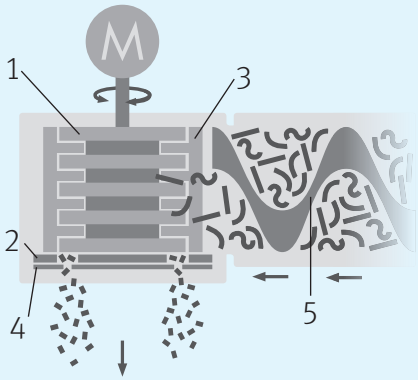
1 horizontal shaft	●
Double-faced blades (-J): 10-, 7- or 5-teeth	●
Fixed cutter	●
Drive 4.0 kW	●
Screen insert with round holes Ø 8, 10, 12 or 16	○

● Standard equipment
○ Option

Type	Max. throughput steel/ aluminum [kg/h][1]	Max. bunch size
ZH 600-J	120/60	200

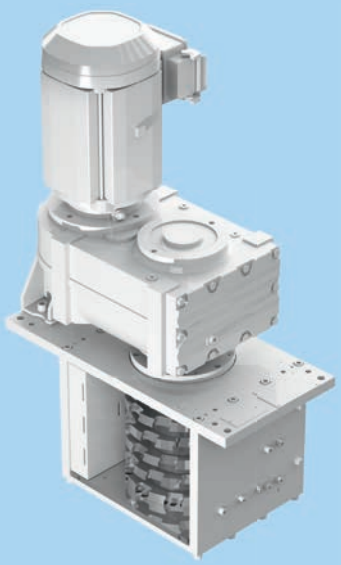
Dimensions without specification of units in mm | [1] Rough reference values for machines with sieve insert ø 10 mm for steel chips. The throughputs depend largely on the base material. We will be glad to perform cutting experiments.

Chip reducer
ZHV-J
Single shaft vertical with double-faced blades



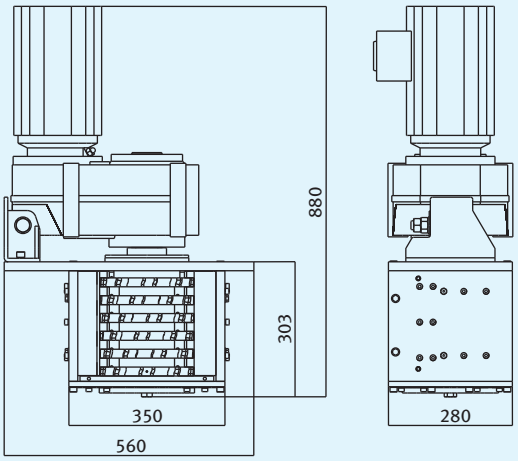
ZHV-J

1. Rotating knife (double-faced blades)
2. Perforated plate
3. Fixed cutter
4. Separator disc
5. Feeding via screw (not integrated)



ZHV 350-J

Technical data



Equipment

Double-faced blades (-J): 10-, 7- or 5-teeth	●
Fixed cutter	●
Drive 3.0 kW	●
Perforated plate with long holes 10 x 14, 12.5 x 20 or 17 x 32	●

● Standard equipment
○ Option

Type	Max. throughput steel/ aluminum [kg/h][1]	Max. bunch size
ZHV 350-J	60 / 30	200

Dimensions without specification of units in mm | [1] Rough reference values for machines with perforated plate 12.5 x 20 mm for steel chips. The throughputs depend largely on the base material. We will be glad to perform cutting experiments.

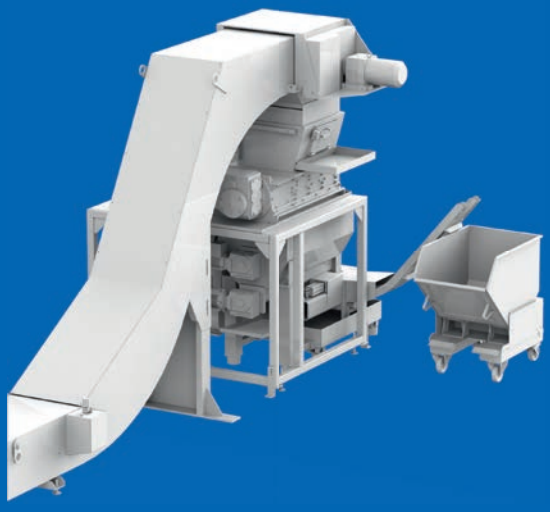
Design examples



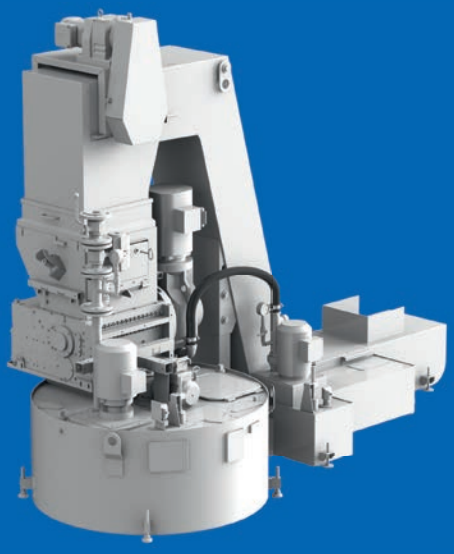
Chip reducer ZVD 400-J
on a frame for volume reduction



Chip reducer ZH 600-J in a
return pumping station RIK



Chip reducer ZVD 600-J in a chip
treatment system with briquetting
system



Chip reducer ZV 470-Z in a return
pumping station RKR

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Chip reducer Z

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