



# ZOLLERN

Solid metals. Fine solutions.

Drive Technology  
For Recycling  
Applications

# ZOLLERN Gearboxes for Recycling Applications

ZOLLERN gearboxes meet the requirements for maximum torque, compact design and dynamic operations. They are the perfect match for recycling applications like Shredder, Jaw and Impact Crushers where shock loads are expected. The product portfolio ranges from the smallest to the largest gear units with dynamic torques of more than 400.000 Nm and have been proven over many years in different applications and conditions. Customization and flexibility in ratio, input and output design are the reasons why ZOLLERN gearboxes are the first choice.

## Features and advantages

- Up to 400 kW
- Gear ratio from 16,7 to 177,2
- Hydraulic and electric drive variants
- Different output options (shamrock solid output, splined shaft, shrink disc and others on request)
- Protection of the gearbox through integrated coupling (type depending on the installed power)
- Complete drive train with ZOLLERN synchronous motor



# ZOLLERN

## Synchronous Motors for Recycling Applications

The permanent-magnet synchronous motors offer very high torques, which are available across a wide speed range. Project planning, electrical design, engineering, production and assembly as well as initial operation of the direct drives all occurs in-house at ZOLLERN. Customer-specific requirements, such as the motor design and connection geometry can be taken into consideration.

### Technical Data

- Ambient temperature from  $-20^{\circ}\text{C}$  to  $+50^{\circ}\text{C}$
- Vibration resistance  $< 5,9\text{ g}$
- Impact resistance  $< 50\text{ g}$
- Class rating IP65
- Water-cooled housing
- High overload capacity  
(200% of the  $T_{\text{rated}}$  in the short term)
- Customer-specific winding adjustment  
for optimal power and torque performance

### Optional

- Encoder/resolver according to customer request
- Hollow shaft
- Electrically-insulated bearings
- Shaft earthing
- Stationary heater
- Customer-specific mechanical and electrical interfaces



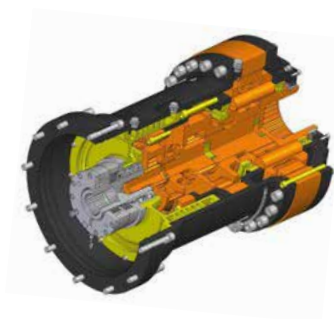
**Flange drive planetary gearbox**  
with synchronous motor



**Plug on planetary gearbox**  
with output shaft  
and synchronous motor



**Double planetary gearbox**  
with output shaft  
and synchronous motor  
for 2-shaft shredder



**Service concepts**  
**condition monitoring**

Downtimes can be reduced with the predictive maintenance concepts for gearboxes. The condition monitoring system »ZDG« also makes it possible to continuously monitor the condition and to calculate the gearbox's remaining service life.

# Installation sizes

## Overview

### Planetary gearbox

Type	kW power	Max. drive torque	Max. static drive torque
5.29	75 kW - 250 kW	125 kNm	185 kNm
5.31	200 kW - 300 kW	175 kNm	225 kNm
5.32	300 kW - 400 kW	280 kNm	345 kNm
5.33	350 kW	300 kNm	450 kNm
5.34	400 kW	390 kNm	550 kNm

Other sizes on request

### Synchronous motor

Type	Rated torque (S1) / Rated speed	Rated power	Speed limit
SM 300	350 Nm / 3.000 rpm to 750 Nm / 2.930 rpm	110 kW to 230 kW	5.200 rpm
SM 400	550 Nm / 3.000 rpm to 2.200 Nm / 1.500 rpm	170 kW to 350 kW	5.000 rpm
SM 500	1.700 Nm / 1.400 rpm to 3.750 Nm / 1.200 rpm	250 kW to 400 kW	4.600 rpm
SM 720	4.000 Nm / 980 rpm to 8.800 Nm / 650 rpm	410 kW to 600 kW	1.200 rpm



Gearboxes



Electric motors



ZOLLERN-Products



ZOLLERN-worldwide

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