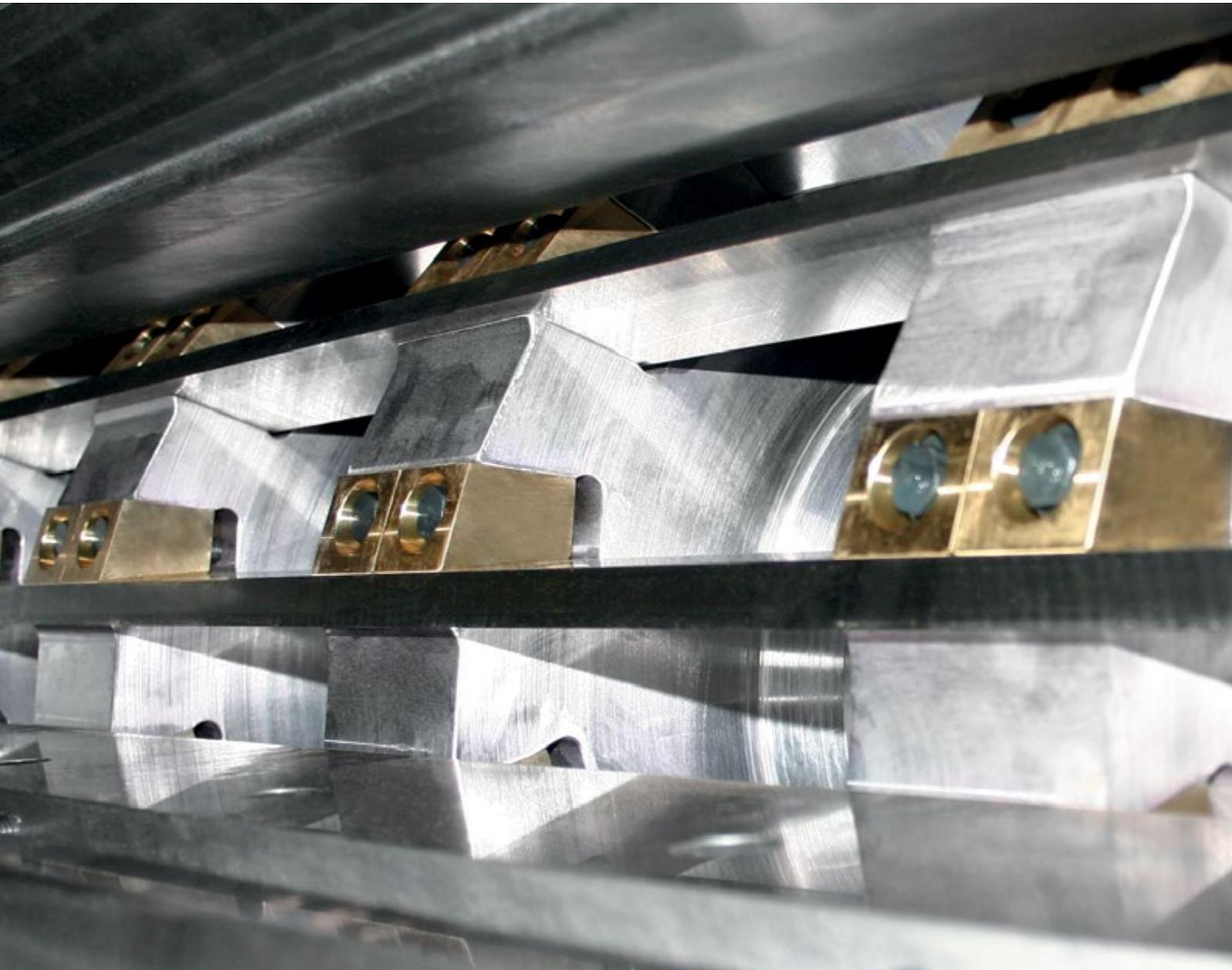


# NETZSCH

Proven Excellence.



## NETZSCH Fine Cutting Mills CS-Z

Fine grinding through high-frequency cutting strokes

Business Unit  
GRINDING & DISPERSING

# Size-reduction and pulverizing with high speed cutting mills

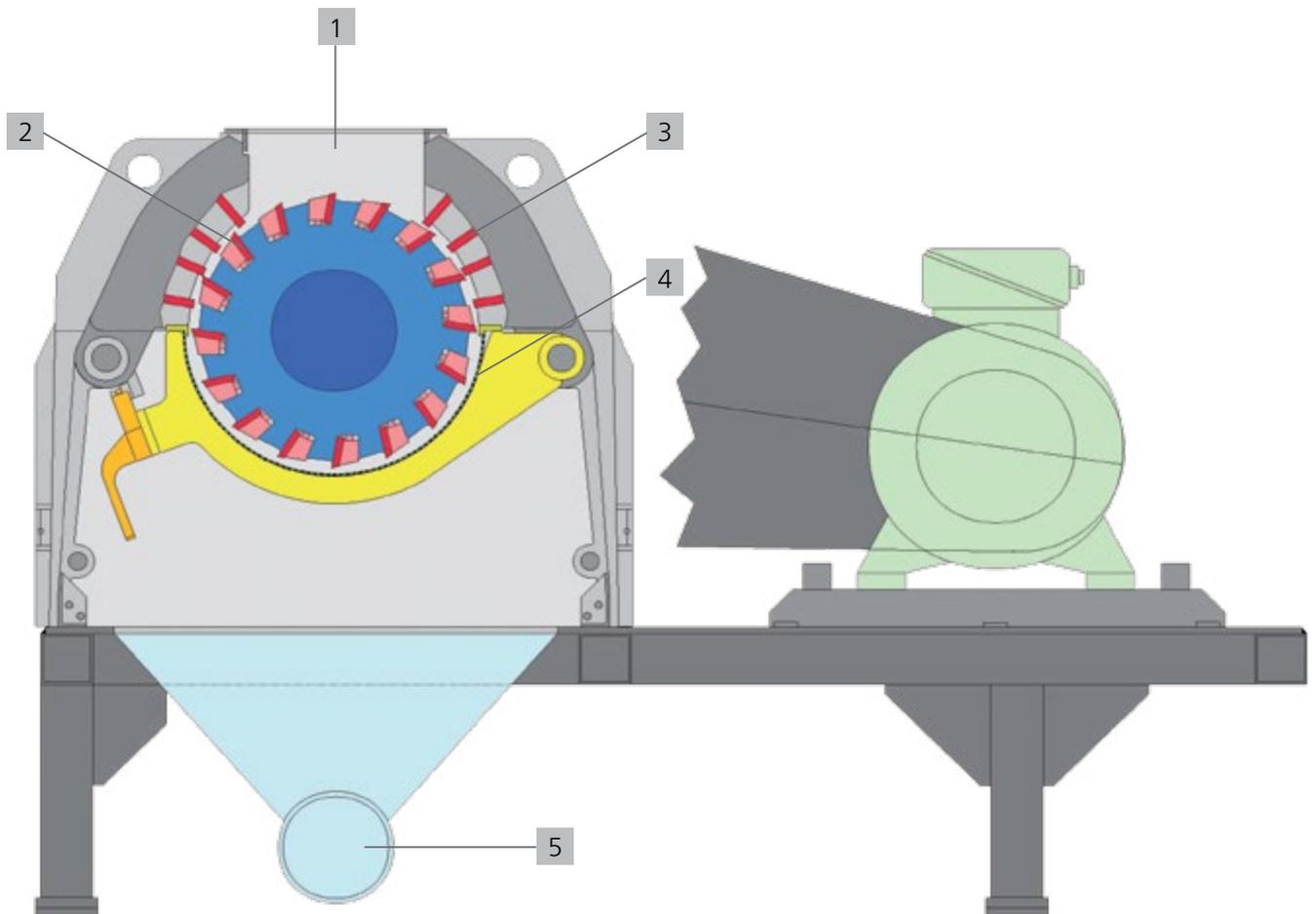
NETZSCH Fine Cutting Mills of type CS-Z are high speed mills with high frequency cutting strokes for the coarse- and fine grinding of cuttable materials. Application areas include materials that must be finely ground by means of cutting action, such as temperature sensitive materials, as well as materials for which good flowability, high density and gentle grinding are required.



NETZSCH Fine Cutting Mill CS 500/1000-7Z

## Functional description

The feed material is fed into the cutting chamber (1) either by gravity or via a nip roll system. The material is cut repeatedly between the rotor knives (2) and stator knives (3) working against each other at a high-frequency and with a narrow gap, until the material can pass through the screen insert (4) which closes off the bottom of the cutting chamber. The rotor is supported by precision bearings that are separated from the chamber by special seals. The product is discharged pneumatically via a suction trough (5). This simultaneously cools the product and the cutting chamber.



# Precise and robust

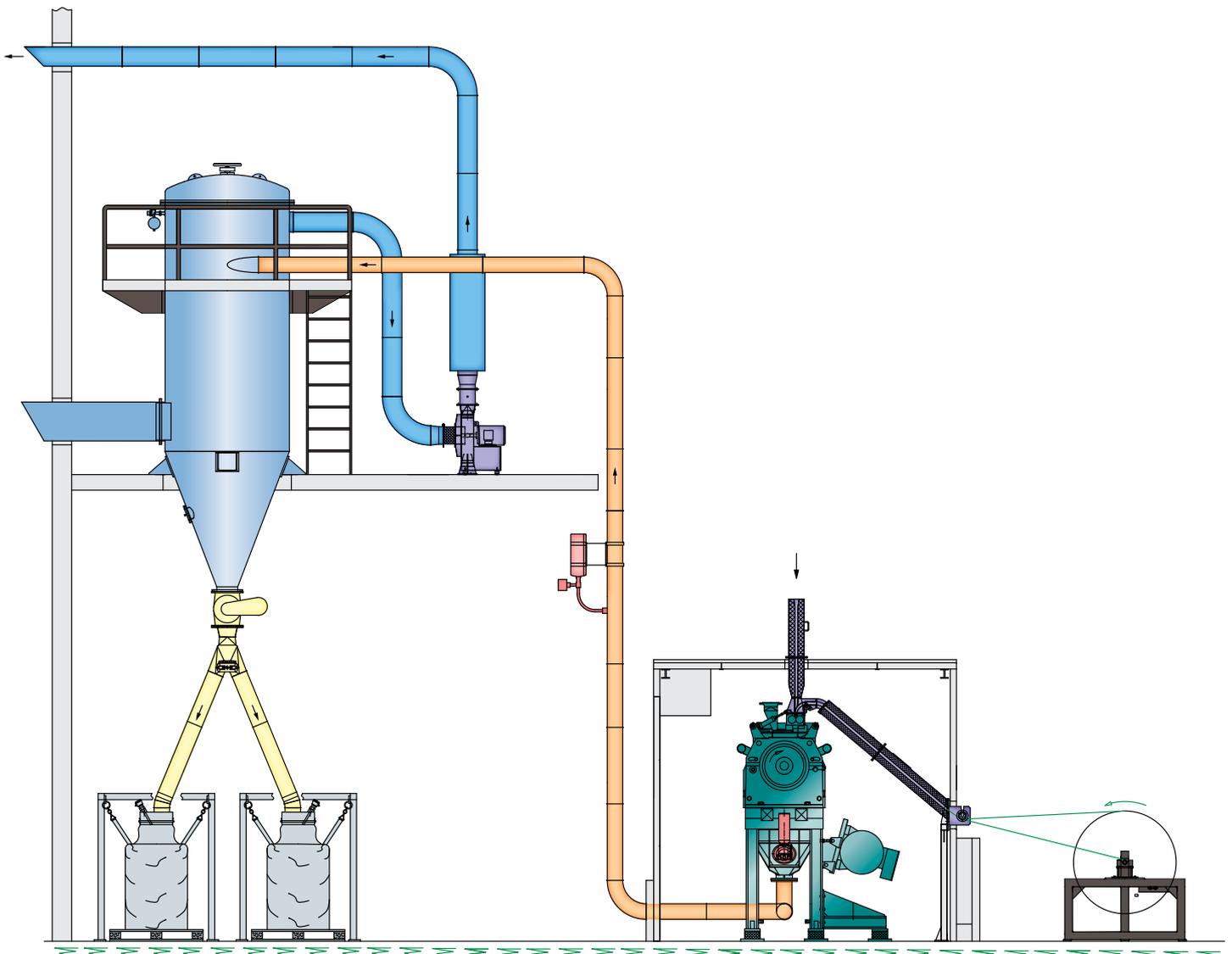
The execution of the machine and assembly of the appropriately selected grinding plant is based on the product properties. For the assembly of the complete grinding plant nip-roll systems, suction systems with dust filters as well as noise- and explosion protection components are available. An inerting is possible with a gas-tight construction design. With this design an installation compliant with ATEX is ensured for dust-explosive products.

## ATEX conformity

EU-TYPE EXAMINATION CERTIFICATE  
acc. to directive 2014/34/EU



Ex II 1/2 D Ex h III C T120 °C Da/Db  
IBExU04ATEX1097 X



Schematic layout of an explosion protected installation with Fine Cutting Mill CS 500/1000-7Z

## Details and Options

The fundamental feature of the NETZSCH Fine Cutting Mills CS-Z is the open rotor design. This increases the flow of air, as the rotor does not create a barrier. Higher throughputs and a good quality of the powder produced are the results of this feature.

Options include water-cooled machine parts, special bearing seals, temperature monitoring, special screen inserts, hard metal knives as well as pneumatically operated screen cages.



Stator knife assembly in housing side part

## Focus on Your Advantages

- Narrow particle size distribution
- Low temperatures
- Smoothly cut edges
- High throughput
- High efficiency
- Long life expectancy
- Long lifetime for wear parts
- Robust construction
- Product specific executions



Special Sandwich-Screen insert

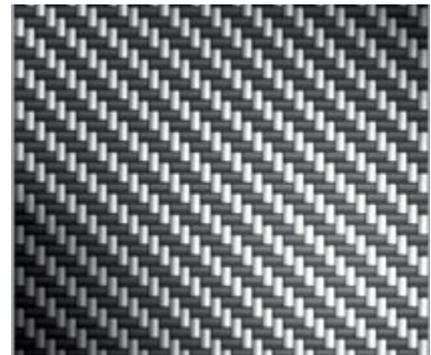
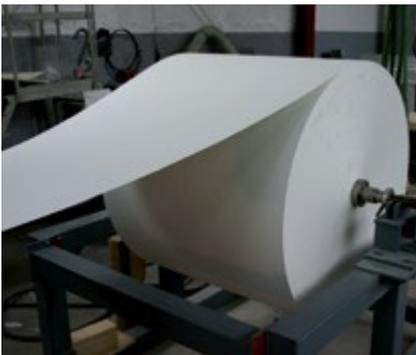
# Technical Data and Applications

Technical Data	CS	300/600-Z	500/1000-Z
Rotor diameter	mm	300	500
Working width	mm	600	1 000
Max speed	min <sup>-1</sup>	1 300	1 070
Rotor knife rows	pcs.	3/5	9/16
Stator knife rows	pcs.	4	6 - 9
Drive power	kW	22 - 30	55 - 110
Inlet opening	mm	190 x 650	300 x 1 000
Air volume (nom)	m <sup>3</sup> h <sup>-1</sup>	1 080	2 800
Weight (approx.)	kg	2 200	6 500



NETZSCH Fine Cutting Mill CS 500/1000-7Z with nip-roll system

Product examples	Feed shape	Fineness	Size	Capacity [kg h <sup>-1</sup> ]
Aramide fibers	Pieces < 30 mm	< 1.5 mm	CS 500/1000-Z	150 - 200
Brake lining mass	Lumps < 15 mm	< 2 mm	CS 300/600-Z	400
Brake lining mass	Lumps < 50 mm	< 2 mm	CS 500/1000-Z	1 200
Brake lining mass	Lumps < 50 mm	< 4 mm	CS 300/600-Z	400
Caoutchouc	Lumps < 50 mm	< 1.5 mm	CS 300/600-Z	150
Carbon fibers	Pieces < 50 mm	d <sub>97</sub> = 100 μm	CS 500/1000-Z	200 - 300
Carpets	Pieces < 25 mm	d <sub>90</sub> = 250 μm	CS 500/1000-Z	250
Cellular foam	Pieces waste	< 6 mm	CS 500/1000-Z	600
Cellulose	Sheet goods	< 25 mm	CS 500/1000-Z	1 500 - 2 000
Cellulose	Sheet goods	< 6 mm	CS 500/1000-Z	800 - 1 200
Cellulose (linters)	Rolls	d <sub>90</sub> = 100 μm	CS 500/1000-Z	190 - 230
Cellulose (linters)	Rolls	d <sub>90</sub> = 200 μm	CS 500/1000-Z	240 - 280
Cellulose (linters)	Pre-cut from bales	d <sub>90</sub> = 200 μm	CS 500/1000-Z	180 - 250
Cellulose (linters)	Rolls	d <sub>90</sub> = 350 μm	CS 500/1000-Z	300 - 420
Cellulose (wood)	Rolls	d <sub>90</sub> = 100 μm	CS 500/1000-Z	240 - 290
Cellulose (wood)	Rolls	d <sub>90</sub> = 200 μm	CS 500/1000-Z	280 - 330
Cellulose (wood)	Rolls	d <sub>90</sub> = 250 μm	CS 300/600-Z	130
Cellulose (wood)	Chips < 15 mm	d <sub>90</sub> = 250 μm	CS 500/1000-Z	320 - 450
Cellulose (wood)	Rolls	d <sub>90</sub> = 350 μm	CS 500/1000-Z	350 - 550
Cellulose derivatives	Granulate < 8 mm	< 500 μm	CS 500/1000-Z	300 - 500
Leather	Granulate	< 500 μm	CS 500/1000-Z	150 - 250
Leather	Skeletons	< 6 mm	CS 500/1000-Z	800
PES film	Film layers	< 4 mm	CS 500/1000-Z	800
Recovered paper	Chips < 30 mm	d <sub>97</sub> = 150 μm	CS 500/1000-Z	250
Recovered paper	Chips < 30 mm	d <sub>97</sub> = 500 μm	CS 500/1000-Z	400 - 500
Rubber	Granulate < 25 mm	< 2.5 mm	CS 500/1000-Z	500 - 600
Textiles	Chips < 30 mm	< 250 μm	CS 500/1000-Z	250 - 350
TPU	Sheets	< 6 mm	CS 300/600-Z	150
UHMWPE	Turnings-/and millings	< 500 μm	CS 500/1000-Z	500
Wood fibers	Fluffy material < 200 mm	< 500 μm	CS 500/1000-Z	800 - 1 000





The NETZSCH Group is an owner-managed, international technology company with headquarters in Germany. The Business Units Analyzing & Testing, Grinding & Dispersing and Pumps & Systems represent customized solutions at the highest level. More than 4,000 employees in 36 countries and a worldwide sales and service network ensure customer proximity and competent service.

Our performance standards are high. We promise our customers Proven Excellence – exceptional performance in everything we do, proven time and again since 1873.

## Proven Excellence. ■

### Business Unit Grinding & Dispersing – The World's Leading Grinding Technology

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