

NETZSCH

Proven Excellence.



NETZSCH High Density Bed Jet Mill *CONJET*®

Spiral Jet Mill with Integrated Classifier

Business Unit
GRINDING & DISPERSING

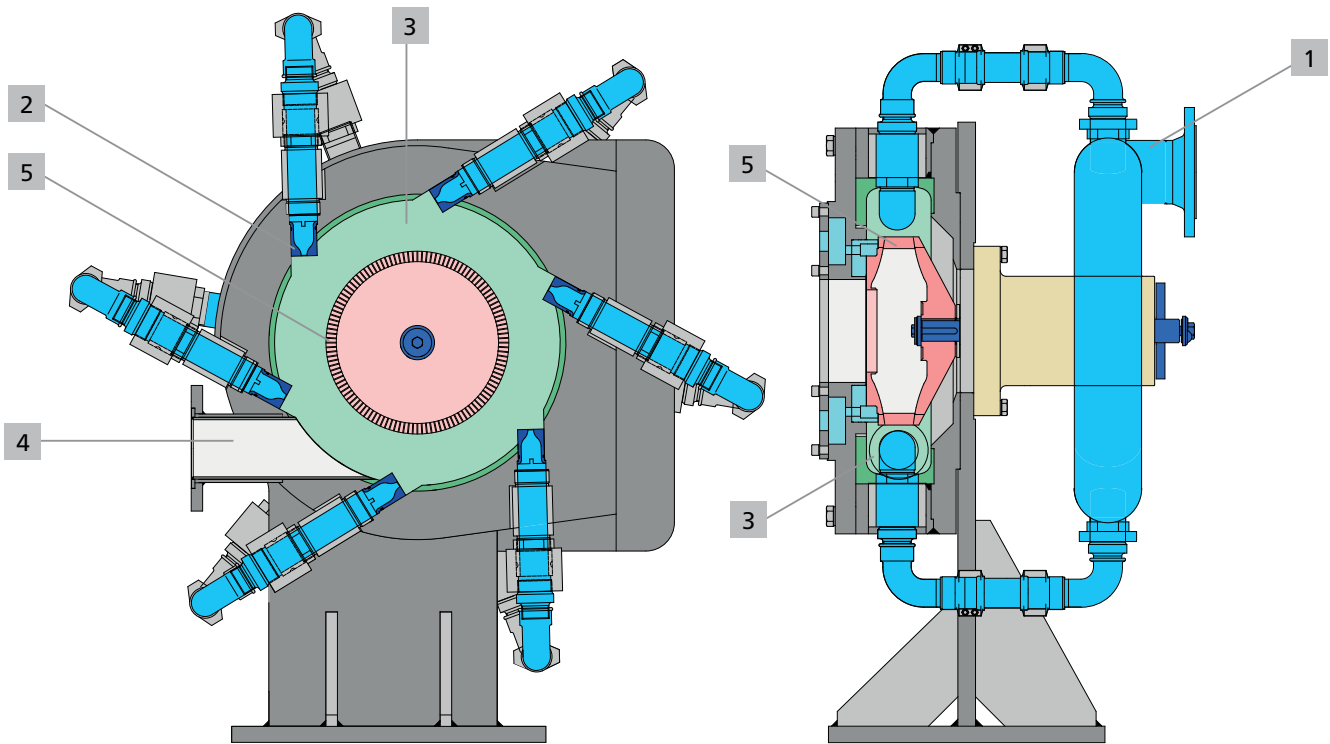
NETZSCH *CONJET*®

THE BEST SPIRAL JET MILL!

The newly developed *CONJET*® High Density Bed Jet Mill combines a spiral jet mill with a patented dynamic air classifier which enables you to achieve high degrees of fineness, independent of the load on the gas flow!



High Density Bed Jet Mill *CONJET*® 71



Operating Principle

The grinding gas is supplied through the annular grinding gas distributor (1). The gas enters the grinding chamber (3) through the nozzles (2), expands and forms jets of high velocity. The material to be ground enters the grinding chamber (3) by means of an injector or gravimetrically via a

valve tangentially through a short feed pipe (4), is picked up by the gas jets, accelerated and comminuted by particle-particle impacts. The expanded gas transports the ground particles to the classifier wheel (5), which is driven via a speed adjustable motor.

The fine material corresponding to the set parameters is discharged from the mill with the expanded gas. Oversized particles return to the jet area for regrinding. The circular motion of the material in the grinding chamber assists the loading of the jets with particles.

NETZSCH CONJET®

INNOVATIVE & EFFICIENT

The further development of a spiral jet mill means that the influence of the product load on the fineness of the final product is now a negligible parameter! As the milling process of the CONJET® is independent of the fineness, the feeding of larger amounts of product is possible, markedly increasing the efficiency and economy of the mill. The heart of this mill is our proven high-precision classifier wheel, for exact limitation of the particle range in the milled product, free of oversized particles. A cohesively rotating immersion tube and optimum design produce the highest degrees of fineness. The desired fineness is preset by adjusting the rotational speed of the classifier wheel. Fine product particles, whose size correspond to the set parameters, are removed from the machine by the classifier wheel; particles that are too large are rejected by the classifier wheel and returned to the product-laden gas to be remilled.

The choice of material is made to suit the requirements of the product to be milled. Mild steel as well as rust- and acid-proof stainless steel are our standards. Furthermore, wear-protected executions can also be delivered for the processing of very hard or abrasive materials. These ensure a low-contamination processing of the product. For example, the nozzle ring or the fines outlet pipe can be lined with ceramic material. The classifier wheel can be delivered in a hard-metal execution as well as a ceramic execution for extremely high requirements.



High Density Bed Jet Mill
CONJET® 32

ATEX conformity

EG-TYPE INSPECTION DOCUMENT
acc. to directive 94/9/EG, annex III



II 1 / 2 D c T 100°C
IBExU07ATEX1154X

The CONJET® High Density Bed Jet Mill can be designed in various executions to particularly suit the product and requirements. For the grinding of dust-explosive hazardous products, machine- and plant executions in pressure-shock resistant design (up to 10 bar (g)) or for gas-tight inert gas operation are available.

Ideal for Pharmaceutical Applications

The High Density Bed Jet Mill *CONJET*® is absolutely predestined for applications in the pharmaceutical industry. A compact, GMP-compliant construction enables a rapid and complete cleaning of the machine when products or charges are being changed. This feature and a practically residue-free product-grinding make the *CONJET*® the ideal mill for pharmaceutical products.

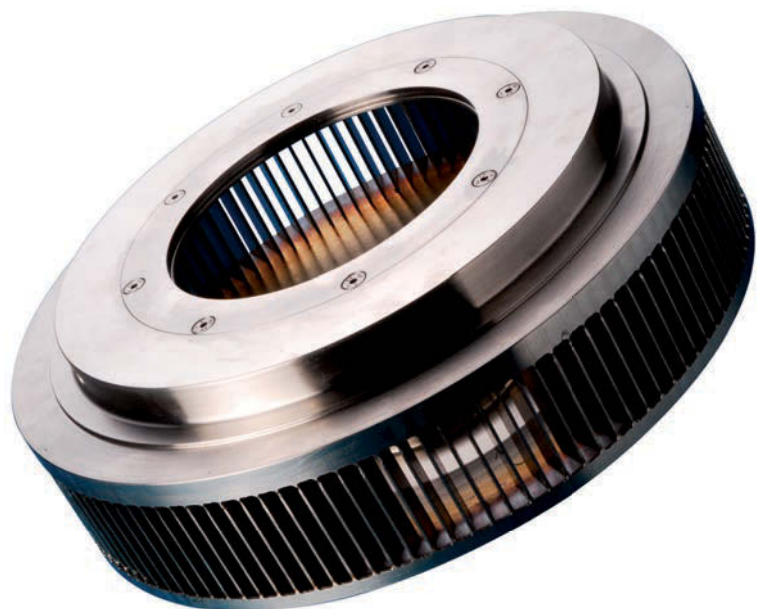
The very high quality requirements of the final products are met thanks to reproducible grinding conditions independent of the product load. With the High Density Bed Jet Mill, active ingredients and excipients as well as finished active ingredient formulations can be ground down to exactly defined, high finenesses.

The High Density Bed Jet Mill *CONJET*® is optionally available in a Pharma design to meet the high demands of these industries.

The types of stainless steel used, 1.4571 (316 Ti), 1.4435 and 1.4404 (316 L), are pretreated by grinding and finished with an electrolytic polishing to give the necessary surface finish with an average peak-to-valley height of $R_a < 0.8 \mu\text{m}$ or even higher if required.

Your Advantage is our Focus

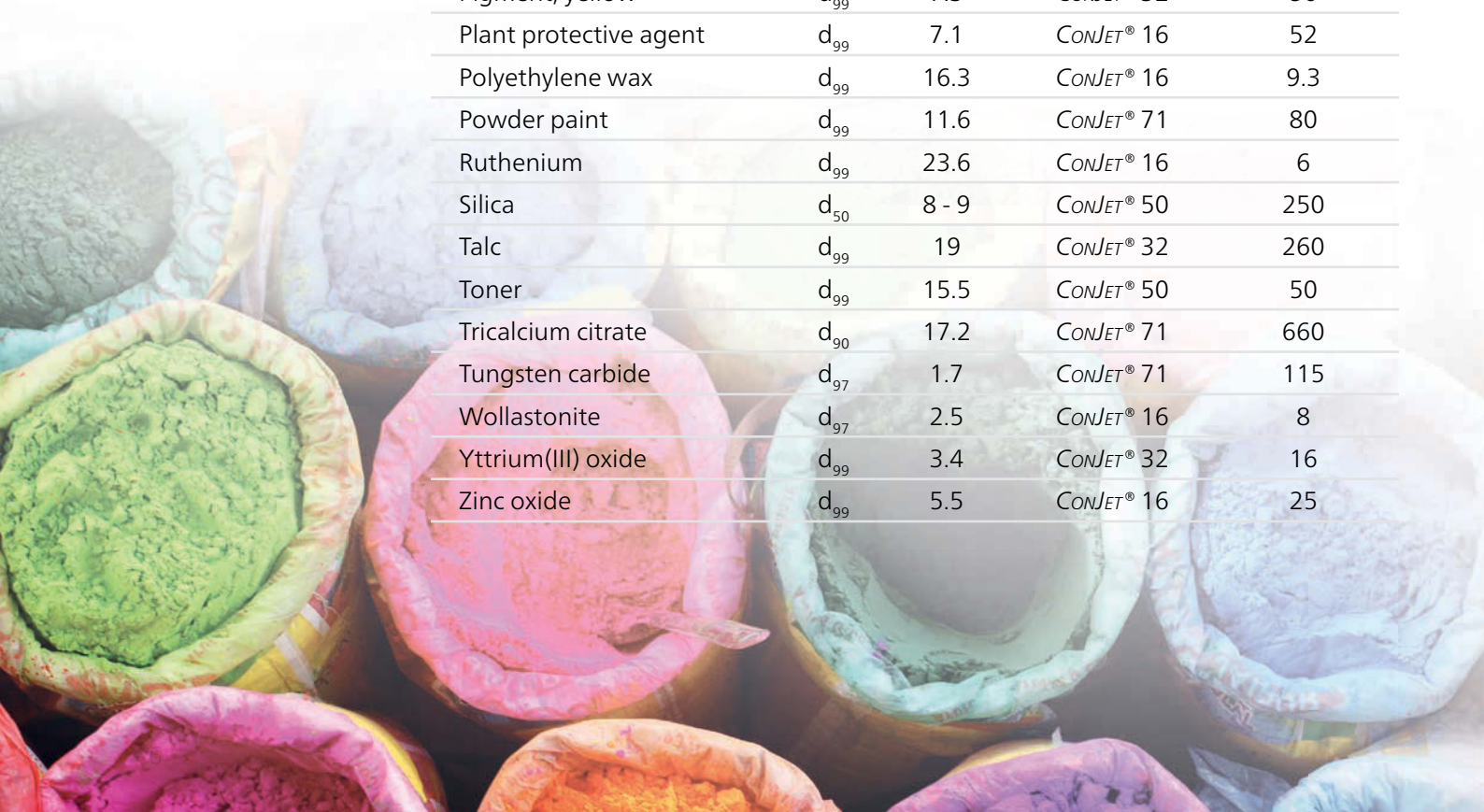
- Steep particle distribution
- Adjustable fineness
- High efficiency
- Easy cleaning
- Easy maintenance
- Compact design



Classifier wheel *CONVOR*®

Applications and Technical Data

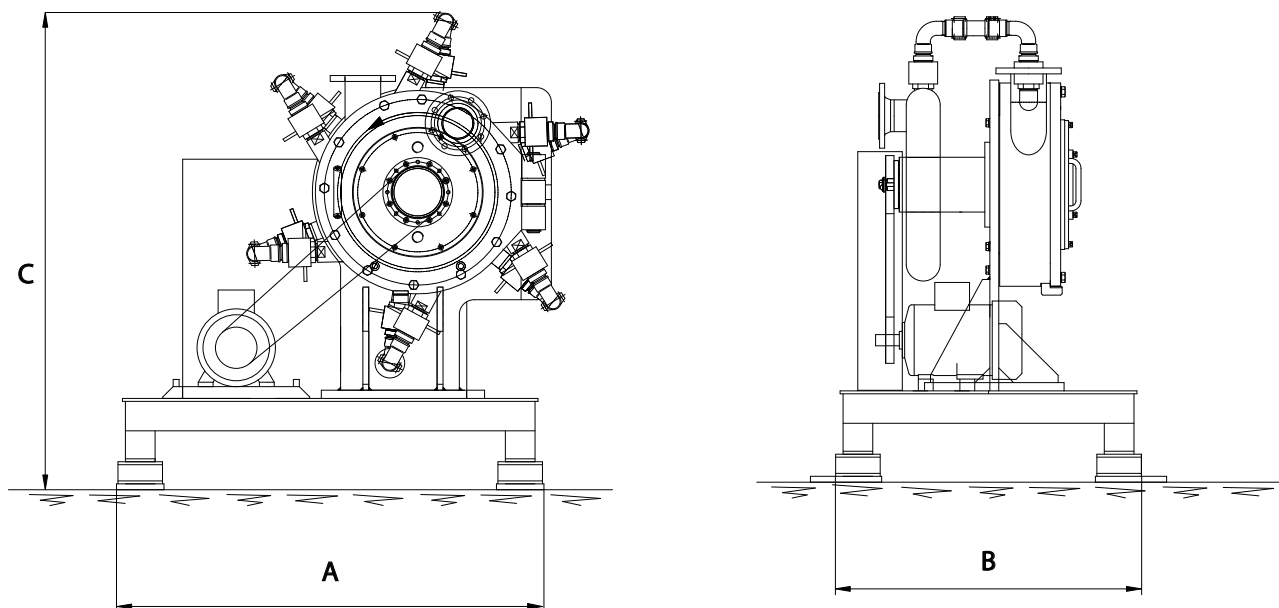
Examples of Products	Fineness [μm]	Size	Capacity [kg h^{-1}]
Aluminum oxide	d_{99} 3.7	CONJET® 16	8
Barium titanate	d_{99} 1.7	CONJET® 32	13
Ceramic pigments	d_{90} 2.6	CONJET® 16	23
Chromium carbide	d_{99} 6.0	CONJET® 16	1.5
Cosmetic powder	d_{97} 17.3	CONJET® 16	16
Dyestuffs	d_{97} 6.2	CONJET® 16	23
Graphite (natural)	d_{90} 7.7	CONJET® 32	14
Limestone	d_{90} 7.5	CONJET® 50	120
Lithiumcobaltoxide	d_{99} 17.6	CONJET® 16	20
Luminescent pigment	d_{99} 11	CONJET® 10	11
Magnesium hydroxide	d_{90} 6.3	CONJET® 16	2.5
Magnesium sulfate	d_{90} 5.6	CONJET® 32	66
Metall powder, reduced	$d_{99,9}$ 8	CONJET® 50	57
Milk sugar	d_{90} 35.7	CONJET® 32	102
Pharmaceutical product	d_{90} 10	CONJET® 32	20 - 25
Pigment, mineral	d_{99} 5 - 7	CONJET® 32	16.5 - 50
Pigment, organic	d_{99} 14.3	CONJET® 16	36
Pigment, yellow	d_{99} 7.3	CONJET® 32	56
Plant protective agent	d_{99} 7.1	CONJET® 16	52
Polyethylene wax	d_{99} 16.3	CONJET® 16	9.3
Powder paint	d_{99} 11.6	CONJET® 71	80
Ruthenium	d_{99} 23.6	CONJET® 16	6
Silica	d_{50} 8 - 9	CONJET® 50	250
Talc	d_{99} 19	CONJET® 32	260
Toner	d_{99} 15.5	CONJET® 50	50
Tricalcium citrate	d_{90} 17.2	CONJET® 71	660
Tungsten carbide	d_{97} 1.7	CONJET® 71	115
Wollastonite	d_{97} 2.5	CONJET® 16	8
Yttrium(III) oxide	d_{99} 3.4	CONJET® 32	16
Zinc oxide	d_{99} 5.5	CONJET® 16	25



Technical Data		CONJET® 10	CONJET® 16	CONJET® 32	CONJET® 50	CONJET® 71
Capacity factor		-	-	0.35	1	2
Airflow capacity *)	m ³ h ⁻¹	52	96	330	960	1 920
Number of milling nozzles	pcs.	6	6	6	6	6
Nozzle diameter	mm	1.4	1.9	3.5	6	8.5
Classifier drive capacity	kW	0.55	1.5	3	7.5	15
Speed	min ⁻¹	18 000	12 000	7 000	5 100	3 600
Fineness d ₉₇ **)	µm	3.5	3.5	3.5	3.5	3.7
Length (A)	mm	400	540	1 030	1 440	2 000
Width (B)	mm	380	500	670	1 030	1 680
Height (C)	mm	330	370	1 260	1 600	2 800
Weight (approx.)	kg	50	70	470	1 200	3 000


*) based on 8 bar (abs.) and 20 °C

**) based on limestone (density 2.7 kg/l)



Tests

The CONJET® is available in our laboratory for testing of your products. We would be delighted to reserve a date for you for milling tests and are sure that you will be impressed by this efficient method of air jet milling.



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 3,800 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

NETZSCH-Feinmahltechnik – Germany
NETZSCH Trockenmahltechnik – Germany
NETZSCH Vakumix – Germany
NETZSCH Lohnmahltechnik – Germany
NETZSCH Mastermix – Great Britain
NETZSCH FRÈRES – France
NETZSCH España – Spain
ECUTEK – Spain

NETZSCH Machinery and Instruments – China
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