A REVOLUTION IN SPRAY DRYING

ANDRITZ Dedert air bearing atomizer

ANDRITZ

A new era in spray drying

The ANDRITZ Dedert air bearing atomizer is the heart of our spray dryer and enables precise and consistent droplet formation, which leads to uniform particle size distribution in the final powder – critical for product quality in spray drying. Air bearing atomizer is a breakthrough in the spray drying industry.

ATOMIZER CONTROL MODULE

The air bearing atomizer is equipped with a fully integrated control and monitoring module with an intuitive graphical user interface that allows the user to monitor critical parameters such as real-time temperature, vibration, powerload, and status diagnostics data.

All atomizers and control modules are assembled and load-tested at our facility according to our robust testing protocols.

UPGRADE YOUR SPRAY DRYER

The air bearing atomizer is our standard for new spray dryers and can be applied as an upgrade to all spray dryer models worldwide.

OIL-FREE & NON-CONTACT

- The atomizer bearings run on instrument air which eliminates the possibility of any oil or grease contamination finding its way to your product.
- This air bearing technology eliminates any wear and tear on the unit's single moving part.

RELIABILITY

- A robust atomizer design, with one moving part, results in minimal maintenance of the machine.
- The PLC-based control and monitoring system alerts operators and protects the system in the case of any abnormal machine behavior.

EFFICIENT & SIMPLE DESIGN

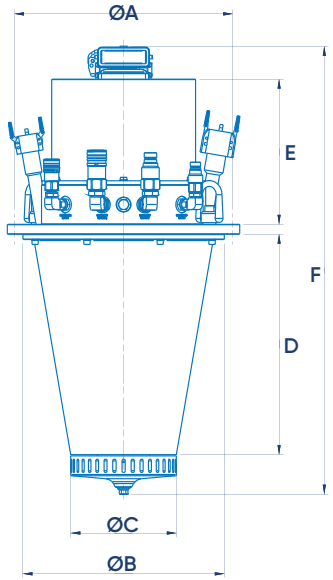
- The use of permanent magnet motor technology results in efficiencies of up to 95% as well as reduced cooling requirements.
- High-maintenance gear boxes, belts, complex bearings, and lubrication systems have all been eliminated.

SUSTAINABILITY

- The high-efficiency atomizer motor reduces energy consumption from the grid.
- With no lubricants, and the wear and tear on parts eliminated, this design keeps parts and pollutants from entering the waste stream while reducing operating expenses.

From left to right: ABA-50, ABA-225, ABA-400

PARAMETER	ABA-50	ABA-225	ABA-400
Max. power	50 kW	225 kW	400 kW
Feed rate	Max. 5 tons/hr.	Max. 24 tons/hr.	Max 36 tons/hr.
Disc speed range	2,000 rpm to 22,000 rpm max.	2,000 rpm to 18,000 rpm max.	2,000 rpm to 15,000 rpm max.
Materials of construction	SS-304 for most of the parts; SS-316 for parts which come in contact with process; Disc is made of titanium		
Disc size standard	Ø203 mm (up to Ø254 mm available)	Ø241 mm (up to Ø324 mm available)	Ø324 mm (up to Ø406 mm available)
Wheel tip speed	Up to 250 m/sec	Up to 300 m/sec	Up to 300 m/sec
Total weight (atomizer + disc + stand)	Approx. 295 kg	Approx. 700 kg	Approx. 1,150 kg
Motor technology	Permanent magnet motor		
Bearing technology	Passive air bearings (no lubrication needed)		
Bearing air flow consumption	~284 slpm @ 5 bar	~567 slpm @ 5 bar	~567 slpm @ 5 bar
Motor cooling air flow consumption for max. kW	~570 slpm @ 5 bar	~850 slpm @ 5 bar	~850 slpm @ 5 bar
Required motor and drive coolant flow for max. kW	Min. 11.4 lpm @ 3.5 bar (closed loop water or glycol)		
Utility panel current consumption	~3 A @ 230 VAC to ~6 A @ 120 VAC		
VSD current consumption at maximum power	65 A Input rated current @ 480 VAC mains input	304 A Input rated current @ 480 VAC mainsinput	517 A Input rated current @ 480 VAC mains input



MODEL (in [mm])	A	B	C	D	E	F
ABA-50	16.54 [420]	15.25 [387]	8 [203]	16.69 [424]	11 [279]	34.85 [885]
ABA-225	27.56 [700]	23.00 [584]	9.5 [241]	31.50 [800]	9.51 [242]	49.50 [1257]
ABA-400	27.56 [700]	30 [762]	12.75 [324]	23.27 [591]	17.25 [438]	48.91 [1242]

A WORLD OF SEPARATION SOLUTIONS

ANDRITZ provides mechanical and thermal solid/liquid separation technologies, complemented by comprehensive services, automation, and digitalization solutions for the chemicals, environment, food and beverage, as well as mining and minerals industries. Our customized, innovative solutions focus on minimizing resource consumption and maximizing process efficiency, thus making a substantial contribution towards sustainable environmental protection. With over 150 years of experience and more than 2,700 separation specialists around the globe, we are a driving force in the evolution of separation solutions – enabling industries to meet tomorrow's demands responsibly. **ANDRITZ. FOR GROWTH THAT MATTERS.**

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