

GEA NIRO® Rotary Atomizer A20D

Atomization of fluid feeds for spray drying.



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Robust, reliable performance, every day

We've designed the GEA NIRO® Rotary Atomizer A20D to give customers a hygienic, versatile atomization system that meets all requirements for handling high purity chemical, food, and dairy products in spray dryers. The A20D offers variable speed for great flexibility, so you can fine tune process parameters to meet a wide range of process requirements and achieve desired powder and particle properties. The compact design featuring integrated high-speed motor provides improved reliability and easy servicing. We expect the A20D to give you top quality results and to support confidence in your processes.

Key features:

- Direct drive with integrated high-speed motor for compact size
- Variable speed and particle size control via frequency converter
- Easy servicing to reduce down time and costs
- Bearings are greased and sealed for life to prevent contamination
- EN 1672-2-compliant design is hygienic, and easy to clean and inspect
- Easily changed atomizer wheels for either abrasive or non-abrasive feeds
- Patented wear-resistant GEA WEARSERT® wheel design
- Proprietary GEA VOLUTE feed distributor
- Internal ATEX zone 22-compliant

The A20D atomizer monitoring system comprises, as standard:

- Tachometer
- Flooding sensor
- Bearing temperature sensor
- Motor winding temperature sensor
- Spindle vibration monitor

In addition to the standard monitoring equipment, options include:

- Air to wheel monitoring
- Configuration for operating in an external ATEX zone (external ex zone 2/22)

The atomizer wheel

The A20D atomizer can be configured with different 150 mm atomizer wheels to match feed characteristics, as well as the desired properties of the finished powder and particles, and production capacity/throughput.

GEA has designed the system to be user friendly for operators. A 150 mm diameter channel type wheel (for non-abrasive feeds) or insert type wheel (for abrasive feeds) is mounted on the vertical spindle.

Straight or curved channels handle non-abrasive feeds, while bushing and pin type wheels handle abrasive feeds. Parts exposed to feed are abrasion resistant, and easily replaceable.

The channel wheel is equipped with either low or high straight channels, or with low or high curved channels. The straight channel wheels are used when there are no specific bulk density requirements for the final product. The curved channel wheels produce a higher bulk density powder than the straight channel wheels, making them ideal for organic products, for example.



The atomizer drive

The compact A20D atomizer is powered by a fully integrated, high frequency, high speed GEA motor and spindle system for improved reliability.

The lower part of the drive comprises the support for the guide bearing, feed pipe assembly and liquid distributor, all enclosed by a conical skirt. The flexible spindle design means that fluctuations in feed rate, and other imbalances, are compensated for continually, which helps to prevent damage to the spindle and the bearing. The precision-designed, high-speed bearings are greased and sealed for life to help prevent any lubricants contaminating the product.

Specifications

Wheel diameter	150 mm
Power	up to 20 kW (depending on rotational speed)
Nominal operational range	10,000 – 24,000 rpm
Nominal feed rate	up to 1.8 t/h at 24,000 rpm (wheel type dependent)
Maximum feed rate	3.5 t/h at 13,000 rpm (wheel type dependent)
Weight	150 kg (including motor)

GEA Process Engineering A/S

Gladsaxevej 305
2860 Soeborg, Denmark

Tel +45 39 54 54 54
gea.com/contact