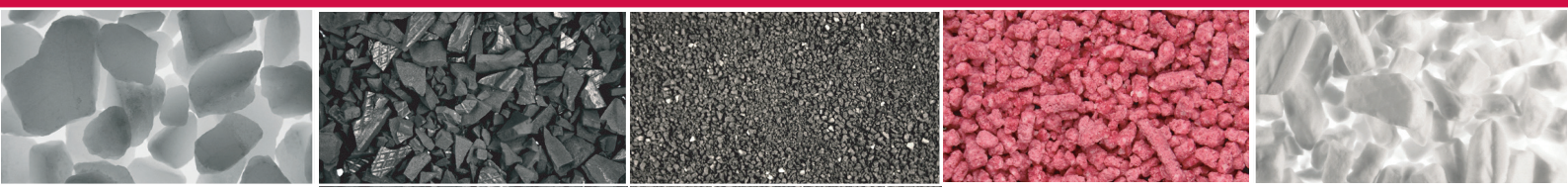
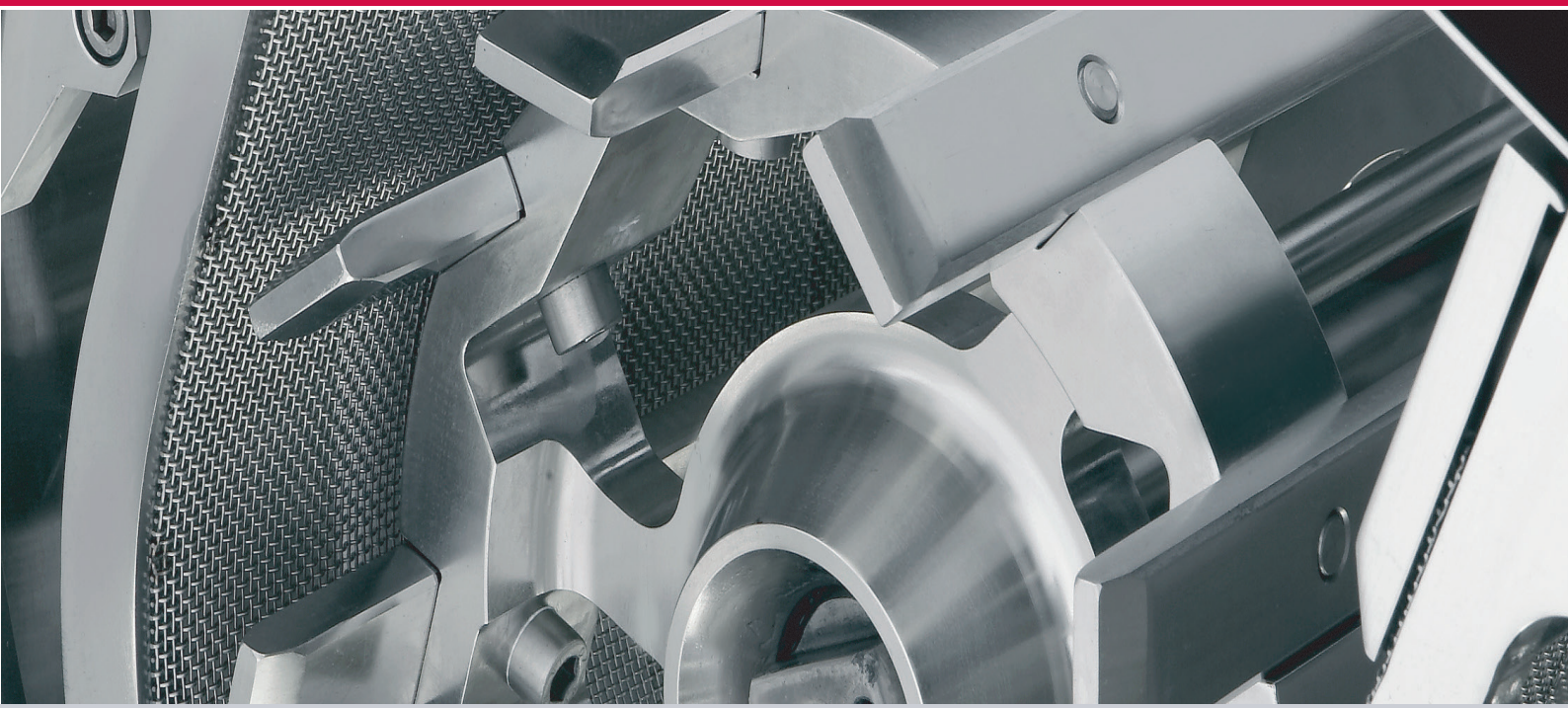
Rotor Fine Granulators

for the Chemical and Pharmaceutical Industry





Alexanderwerk

Rotor Fine Granulators made by Alexanderwerk

Type RFG 150 DA Rotor Fine Granulator

The RFG 150 DA has been developed by Alexanderwerk as a slip-on attachment to the universal drive motor SKM/NR. The motor has an integrated quick release coupling via which a variety of slip-on attachments can be mounted. Such attachments may be optionally rotor fine granulators, grater/shredders or moist granulators. The picture shows the RFG 150 DA with a universal drive motor and optional trolley.

Technical Data:
Throughput, continuous operation: up to 400 kg/h rotor diameter: 150 mm working / operation length: approx. 220 mm mesh size: 0.63 – 3.15 mm dimensions (HxWxD): approx. 1,300 mm x 900 mm x 1,000 mm weight: approx. 90 kg

Type RFG 150 DS Rotor Fine Granulator

Technical Data:
Throughput, continuous operation: up to 400 kg/h rotor diameter: 150 mm working / operation length: approx. 220 mm mesh size: 0.63 – 3.15 mm dimensions (HxWxD): approx. 400 mm x 700 mm x 460 mm weight: approx. 60 kg

Type RFG 250 D Rotor Fine Granulator

Technical Data:
Throughput, continuous operation: up to 1,500 kg/h rotor diameter: 250 mm working / operation length: approx. 300 mm mesh size: 0.63 – 3.15 mm dimensions (HxWxD): approx. 500 mm x 500 mm x 950 mm weight: approx. 250 kg

Type RFG 250 DL Rotor Fine Granulator

Technical Data:
Throughput, continuous operation: up to 3,000 kg/h rotor diameter: 250 mm working / operation length: approx. 600 mm mesh size: 0.63 – 3.15 mm dimensions (HxWxD): approx. 500 mm x 500 mm x 1,250 mm weight: approx. 370 kg

Type RFG 250 DDL Rotor Fine Granulator

Technical Data:
Throughput, continuous operation: up to 4,500 kg/h rotor diameter: 250 mm working / operation length: approx. 900 mm mesh size: 0.63 – 3.15 mm dimensions (HxWxD): approx. 500 mm x 500 mm x 1,550 mm weight: approx. 450 kg

Numerous special or customized designs are available upon request.
Due to technical changes or modifications, some details of the machines may deviate from what is shown here.

Rotor Fine Granulators

The rotor fine granulators of the RFG series were specifically designed and developed for use in the chemical, pharmaceutical, food processing and life science industries. With these machines, Alexanderwerk offers a range of powerful units for the granulation of dry or slightly moist materials. The machines have a maximum throughput of between 600 kg/hr and 4,500 kg/hr.

Granulation by means of rotor fine granulators is mechanical crushing of material to produce granules of a defined particle size. Typically, rotor fine granulation does not generate any oversize (i. e. granules the size of which is beyond the upper admissible limit). At the same time, this type of size reduction minimizes the fines content in the finished product. Rotor fine granulation is a very gentle process.

Unlike the conventional U-shaped screen basket arrangement, the Alexanderwerk granulators feature the 'D' design. The 'D' design, patented by Alexanderwerk, yields an increase in throughput by up to 100% when compared to conventional designs.

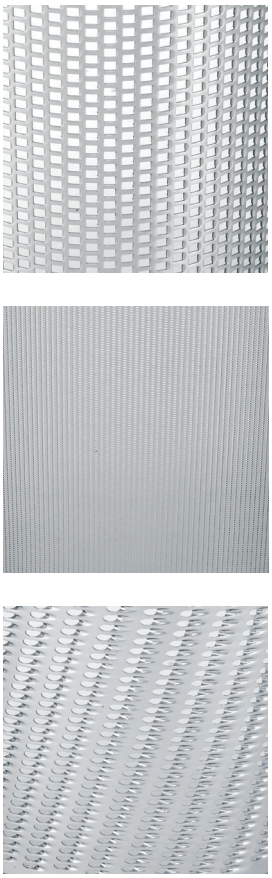
The desired granule size has an upper limit set by using screens of an appropriate mesh size. Here, Alexanderwerk offers a range with perforations between 0.5mm and 10mm. When using perforated plate or Conidur plate, the desired granulate size is defined by the geometry of the perforation.

Special mesh sizes, square wire mesh or perforated plates are available upon request.

In addition to standard designs, Alexanderwerk offers a number of options and special designs to meet specific requirements:

- machine completely made of medical grade stainless steel
- compact design
- patented diagonal design
- working gap adjustment reproducible from outside via eccentric
- front door easily opens for removal of the rotor and revolving screen
- replaceable rotor strips of different geometries (RFG 250 DL, RFG 250 DDL)
- rotor with bolted rotor bars for rotating operation
- combination of several rotor fine granulators for multi-stage crushing
- integration into existing production lines
- optional: pharmaceutical design
- optional: gas-tight design
- optional: explosion-proof acc. to ATEX
- optional: WIP design (Wash In Place)
- optional: trolley
- optional: control (including or excluding speed adjustment)

Typical features of machines made by Alexanderwerk: modular and compact design. The screen basket and rotor are easily replaceable for cleaning or batch change.



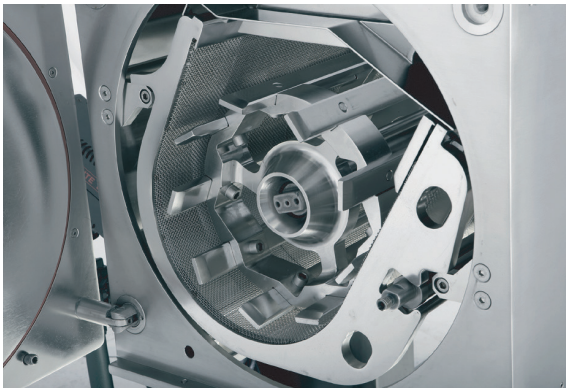
Different screens are available to obtain different granule qualities.

Rotor Fine Granulation

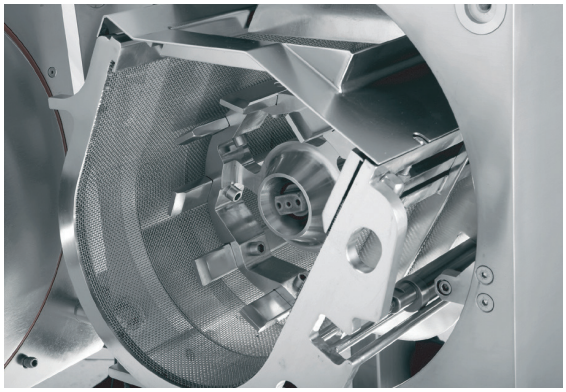
Size reduction by means of rotor fine granulation is a continuous process. Dry agglomerated or slightly moist material is processed to granules. Owing to their defined particle size, granules lead to improved processing when compared to raw material in powder form. In fine granulation, a rotor runs in a diagonal positioned screen. Crushing is effected by the rotor bars and compression. The rotor pulls the product into the working gap and crushes it allowing the material to pass through the mesh.

The particle size and particle-size distribution are a function of:

- the mesh size or plate geometry
- the work gap
- the rotor speed
- the geometry and angle of attack of the rotor bars
- uniform and well distributed material feed



With fine granulation, a rotor runs in a screen. Rotor fine granulators made by Alexanderwerk are constructed in diagonal design. This tilted arrangement of the screen facilitates higher throughput rates as compared to conventional designs of a similar size.



The screen basket and rotor are designed for easy removal.

The rotor fine granulator is sealed by means of a bolted front door.