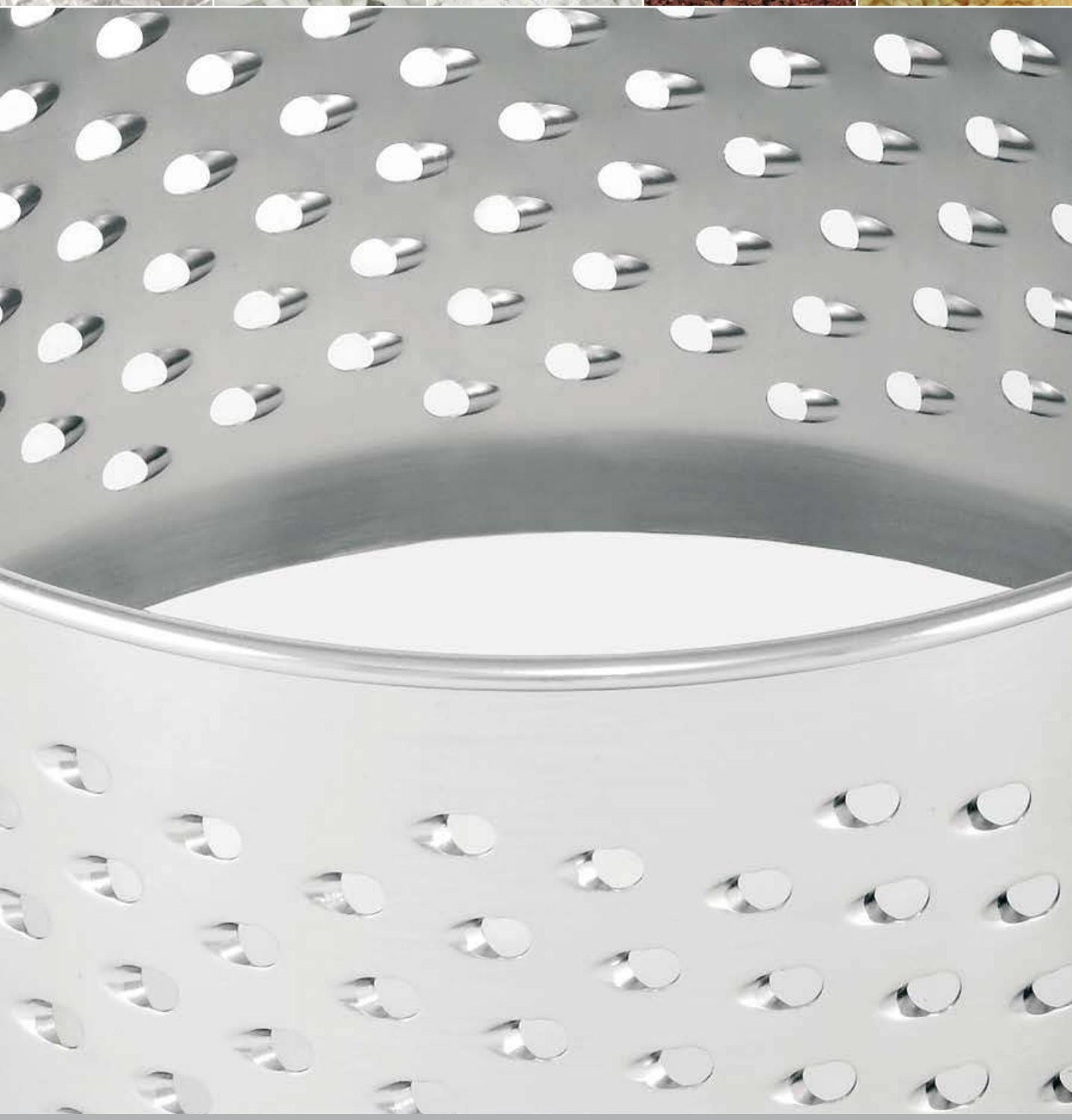
Grater/Shredders
for the Chemical and Pharmaceutical Industry



Alexanderwerk

Grater/Shredders

The grater/shredders made by Alexanderwerk are as versatile as the variety of materials they are designed to grate or shred. Many different grating or shredding cylinders are available to produce practically any grain geometry or grain size. Grater/shredders made by Alexanderwerk are designed for use in the chemical, the food-processing or pharmaceutical industries: **Grating, Shredding, Crushing, Desaglomerating, Granulating** of solid dry or humid materials.

Grating and shredding are processes commonly used in the processing or manufacturing industries, whereas (pre-)crushing of raw materials often is a requirement on downstream production stages.

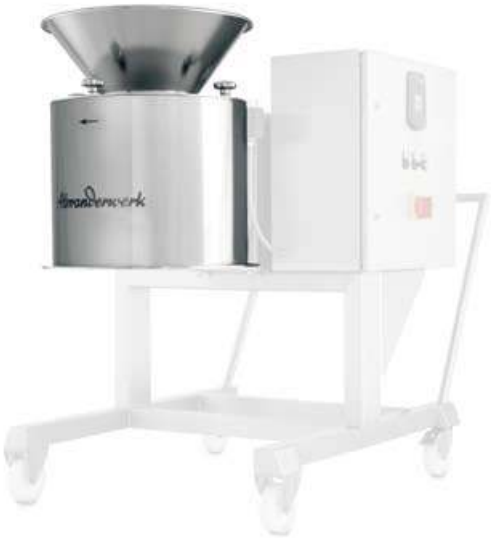
The requirement not to exceed specified maximum grain sizes, for example, may result from mechanical or geometrical conditions within the production process. In many cases, feeders or supply modules hooked up to machines will only work reliably if a certain specified grain size of the material is not exceeded.

Or else, requirements for defined maximum grain sizes may result from the properties of the final product. For example, chocolate flakes, small chunks of nuts or similar ingredients in yogurt must not exceed a certain specified size. What we want are fine splinters of these flavoring substances uniformly distributed in our yogurt. For mixtures of solid/liquid or of solid/solid components, a defined grain size of the solid components is a decisive characteristic for the product's quality.

Grating and Shredding

Grating and shredding are continuous processes. The raw material is fed into the grater/shredder and to the working space of the grating or shredding cylinder manually or via a feed system from the top. Inside the grating or shredding cylinder, a carrier wing rotates to press the material against the inside of the cylinder. The various cylinder designs define the geometry and size of the final product and have numerous holes.

Different cylinders are available for grating or shredding. The raw material is strained sideways through the holes in the cylinder wall and thus crushed, and it exits the machine in a free fall downwards.



The greater/shredder mainly consists of feed hopper, working housing, gearbox, carrier wing and working cylinder. Grater/shredders made by Alexanderwerk are available as mobile units or as inline installation (flanged design).

The geometry of the many cutting teeth formed towards inside determines the geometry of the final product.

A carrier wing rotates inside the grating or shredding cylinder, thus forcing the raw material against the cutting knives of the grating or shredding cylinder. The material is thus crushed, and the final product exits the cylinder via the perforation to outside.

Grating and Shredding Cylinder


Grating cylinder 1.0 mm


Grating cylinder 1.2 mm


Grating cylinder 1.5 mm


Grating cylinder 2.0 mm


Grating cylinder 3.0 mm


Grating cylinder 4.0 mm


Grating cylinder 6.0 mm


Shredding cylinder 2.2 mm


Shredding cylinder 3.0 mm


Shredding cylinder 4.0 mm


Shredding cylinder 6.0 mm


Shredding cylinder 8.0 mm


Shredding cylinder 10.5 mm

Applications


Grating in the food-processing industry: chocolate flakes


Grating in the food-processing industry: hazelnut chunks


Grating in the chemical industry: filter cake


Shredding in the chemical industry: paraffin

Grater/Shredders made by Alexanderwerk

	**Type PGS 165 A Grater/Shredder** The RAN 70 N has been developed as a detouchable unit for the universal drive motor of the UM series made by Alexanderwerk. The UM universal drive motor has an integral drive coupling for direct attachment of various process units to the UM. In addition to the RAN 70 N alternative process units are available (wet granulation, rotor fine granulation). (Photo shows the RAN 70 N, the universal drive motor, and an optional trolley)
	**Type PGS 165 Grater/Shredder** Grater/shredder designed for inline installation or as mobile unit with a grating or shredding cylinder diameter of 165 mm, for throughput rates through 1,000 kg/hr. (Photo shows the design version with an optional control unit)
	**Type PGS 300 Grater/Shredder** Grater/shredder designed for inline installation or as mobile unit with a grating or shredding cylinder diameter of 300 mm, for throughput rates from 1,000 through 4,000 kg/hr. (Photo shows the design version with an optional trolley and optional control unit)
	**Type PGS 300 K Grater/Shredder** Grater/shredder as special design version with a reduced working cylinder to achieve an increased wing power. This machine has been especially designed for granulating of demanding products (e. g. instant tea).
	**Type PGS 340 Grater/Shredder** Grater/shredder designed for inline installation or as mobile unit with a grating or shredding cylinder diameter of 340 mm, for throughput rates through 10,000 kg/hr.

Many special or customized design versions are available upon request, which might vary from the above photos.

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