

# PELLET MILLS

PHARMACEUTICAL INDUSTRY





# AMANDUS KAHL ACCOMPANIES YOU

on your way to the right decision



Pelleting is the ideal preparation for subsequent tableting

For decades, AMANDUS KAHL has been building pellet mills with which many powdery materials can be processed into low-dust pellets that can be easily dosed, stored and transported.

Hardly any other industry is as dependent on a homogeneous product mixture as the pharmaceutical industry, because the ratio of the individual active ingredients must not vary. Pelleting the active ingredient mixtures not only results in product stabilisation. A special feature of the flat die pellet mill is the possibility of dry granulation. It is an ideal preparation for subsequent tableting. AMANDUS KAHL flat die pellet mills are characterised by sophisticated technology, more than a century of knowledge and quality "Made in Germany".

The machine repertoire for the pharmaceutical sector currently includes 5 different pellet mill sizes, which are designed and manufactured to suit your project.



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# MEDICINES & MEDICINE MIXTURES

Ideal preparation for tablet production



↑ Pellets from ibuprofen and paracetamol

## Further application possibilities

The flat die pellet mill shows its strengths especially with temperature-sensitive products. Due to a comparatively low speed of the pan grinder rollers, the process temperatures are lower than those of other compacting processes. At the same time, the pellet properties can be adjusted to your requirements.

- Antibiotics
- Pancreatin
- Protein concentrates
- and many more



**Do you have questions regarding the KAH technology?**

We will be happy to answer them and can be reached here:

info@akahl.de  
+49 (0)40 727 71-0  
akahl.com

The pellet mill 33-600 offers a large working area on the die. The gap control between pan grinder rollers and die ensures highest process reliability and product quality.

For applications in the pharmaceutical industry, the machine is designed according to GMP guidelines. With a compact drive and dust-tight design as well as the connection option for inerting, the pellet mill can be adapted to ATEX requirements.





# PHARMACEUTICAL STARCH

Starch as a filler or binder for subsequent tablet production



↑ Pellets from pharmaceutical starch

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As a binding agent, pharmaceutical starch is an essential component in the production of tablets. Among other things, it is responsible for binding and stabilising product mixtures.

Pharmaceutical starch is also used as a filling agent in the production of medicines with a small amount of active ingredient. Pelleting the substance improves the dosability in particular, which is a key factor in the pharmaceutical industry.



# CAFFEINE

Precise dosage of caffeine extract thanks to pelleting



↑ Pellets from caffeine powder

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Porous and mealy products are difficult to store, transport and dose. This also includes caffeine extract. Pelleting of this extracted and dried product results in a precise dosage of the active ingredient.

KAHL machines can be perfectly adapted to different mixtures. In addition, different pellet hardnesses can be adjusted.





# OUR PRODUCT DIVERSITY FOR THE PHARMACEUTICAL INDUSTRY



↑ From left to bottom right: Glucose, vitamin mix, pectin, magnesium sulphate

- Antibiotics
- Caffeine
- Cellulose
- Chitin
- Dental moulding compound
- Disinfectants
- Ibuprofen
- Lactose
- Magnesium
- Paracetamol
- Pectin
- Pentol
- Protein concentrates
- Proteins
- Pharmaceutical starch
- Vitamins
- Zeolite
- Pancreatin
- Antiallergics
- and many more



# OUR PILOT PLANTS OF THE KAHL GROUP



↑ In cooperation with NEUHAUS NEOTEC, we also carry out granulation and coating processes at the highest pharmaceutical level

**Our pilot plant is looking forward to your products**

We will be happy to answer your questions and can be reached here:

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The research and development departments support you in continuously optimising your products and processes in our pilot plants of the KAHL Group, taking into account market requirements, product trends, process developments and feasibility studies.

As a matter of course, we ensure utmost confidentiality towards our customers and prospective buyers.



# PAN GRINDER ROLLERS AND DIES

Depending on the field of application, different hardening processes are required, all of which are carried out in KAHL's own hardening shop for pan grinder roller and die production



↑ Different pan grinder roller designs

↑ Pan grinder head

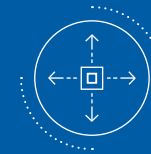


# ADVANTAGES OF KAHL FLAT DIES



## Advantages offered by the machine

- Dust-tight design
- Inerting options
- Cooled pelleting chamber
- Permanently lubricated bearings
- Long service life and low wear
- Low consumption of operating materials
- Low operating costs
- Fast and easy die change
- Low space requirement and footprint
- Low noise and low vibration
- Large pelleting chamber for products with low bulk density
- Large pan grinder rollers with low circumferential speed
- Adjustable roller gap due to hydraulic system and thus easier machine start
- Product feeding by gravity
- Low maintenance – remote diagnosis possible



## Advantages for the products to be pelleted

- Depending on the product, direct pelleting without pre-grinding
- Highest flexibility in pelleting due to large variety of pelleting tools
- High pellet quality



## Advantages offered by AMANDUS KAHL

- High vertical range of manufacture
- Long-term service also after commissioning
- 5 different pellet mill sizes
- Product-specific design adaptations

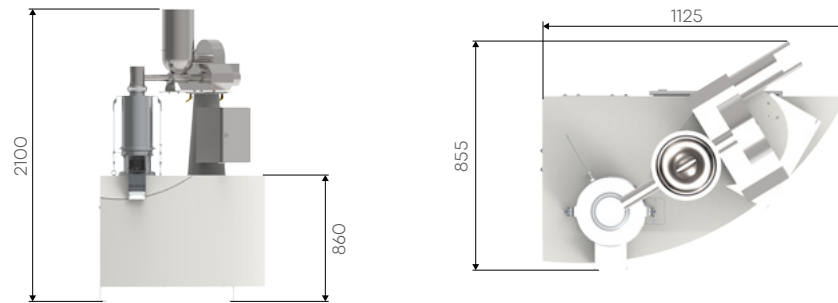




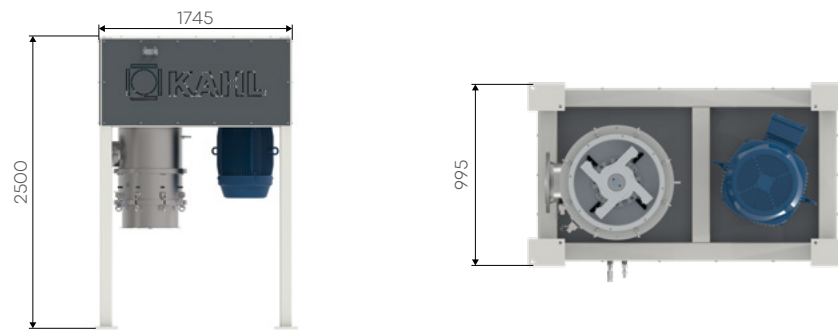
# PELLET MILLS

## Pharmaceutical industry

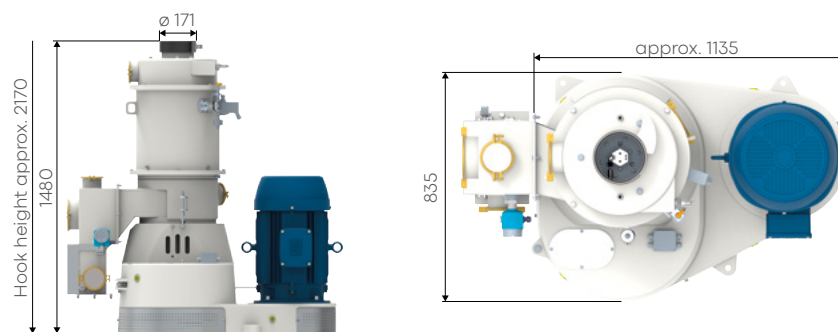
Type	14-175
Die diameter mm	175
Roller diameter/width mm	130/up to 27
Number of rollers	2
Drive motor kW/min-1	3



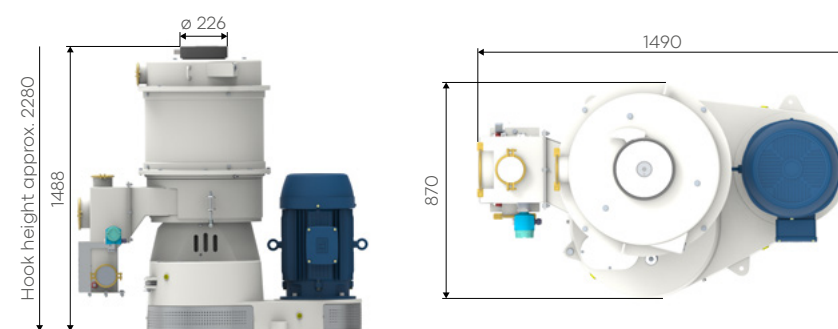
Type	25-500
Die diameter mm	500
Roller diameter/width mm	230/up to 75
Number of rollers	4
Drive motor kW/min-1	36/1500



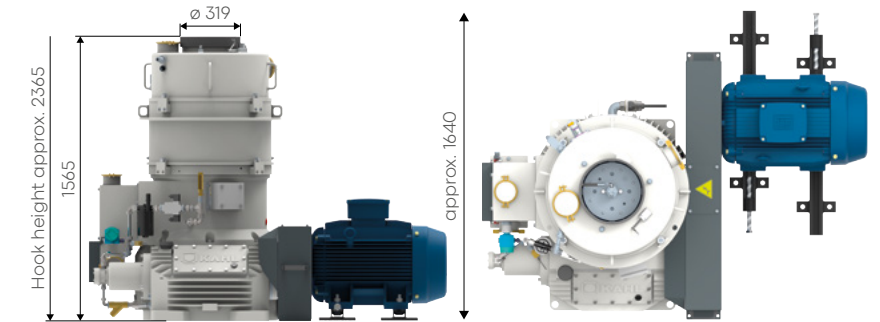
Type	33-390
Die diameter mm	390
Roller diameter/width mm	230/up to 75
Number of rollers	2
Drive motor kW/min-1	15-30/1500



Type	33-600
Die diameter mm	600
Roller diameter/width mm	230/up to 75
Number of rollers	3-5
Drive motor kW/min-1	15-30/1500



Type	38-600
Die diameter mm	600
Roller diameter/width mm	280/up to 100
Number of rollers	3-4
Drive motor kW/min-1	55-90/1500



**Do you have questions regarding the KAHL technology?**

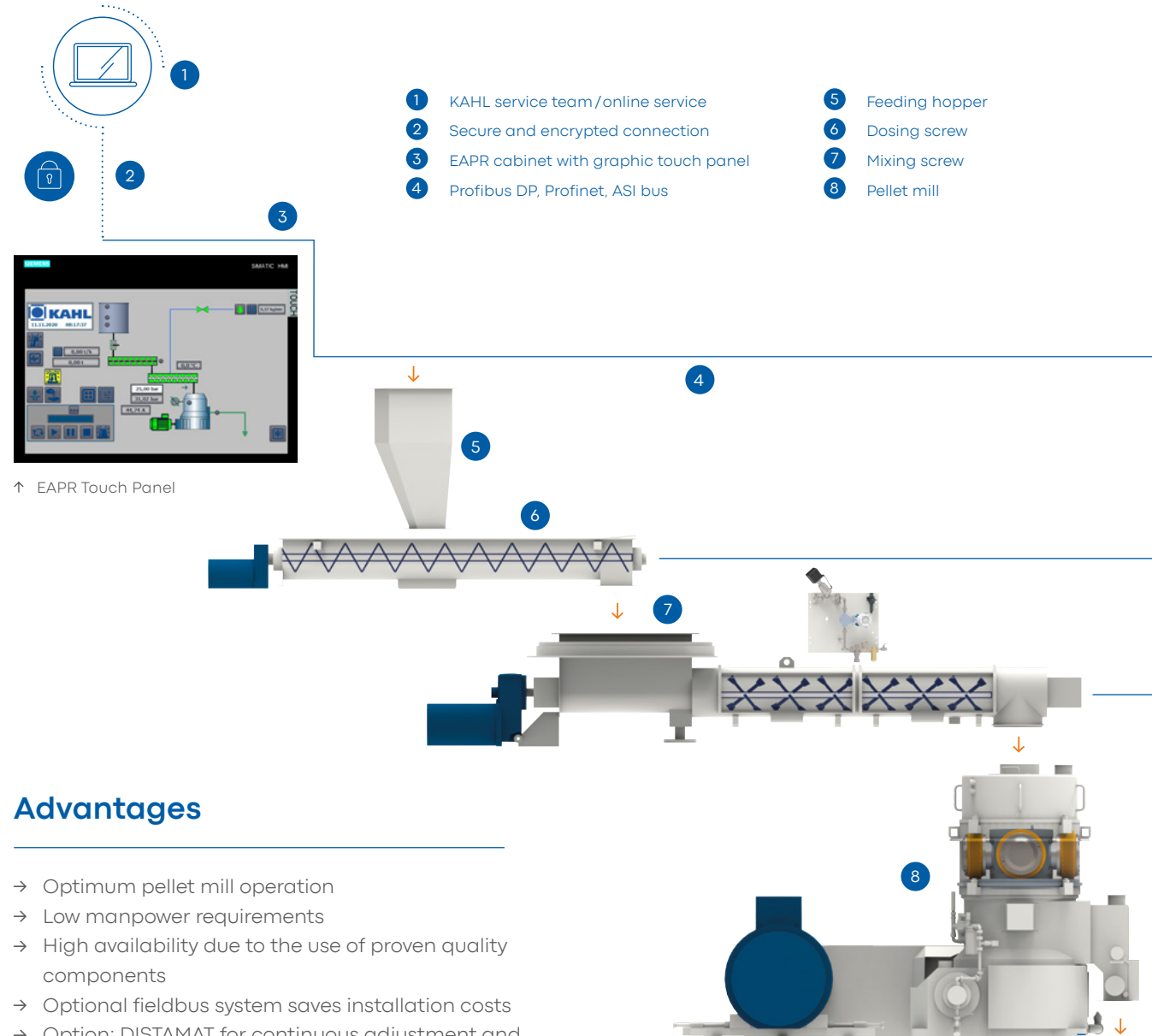
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# AUTOMATION

## Electronic automatic pellet mill regulation (EAPR)



### Advantages

- Optimum pellet mill operation
- Low manpower requirements
- High availability due to the use of proven quality components
- Optional fieldbus system saves installation costs
- Option: DISTAMAT for continuous adjustment and control of the roller gap

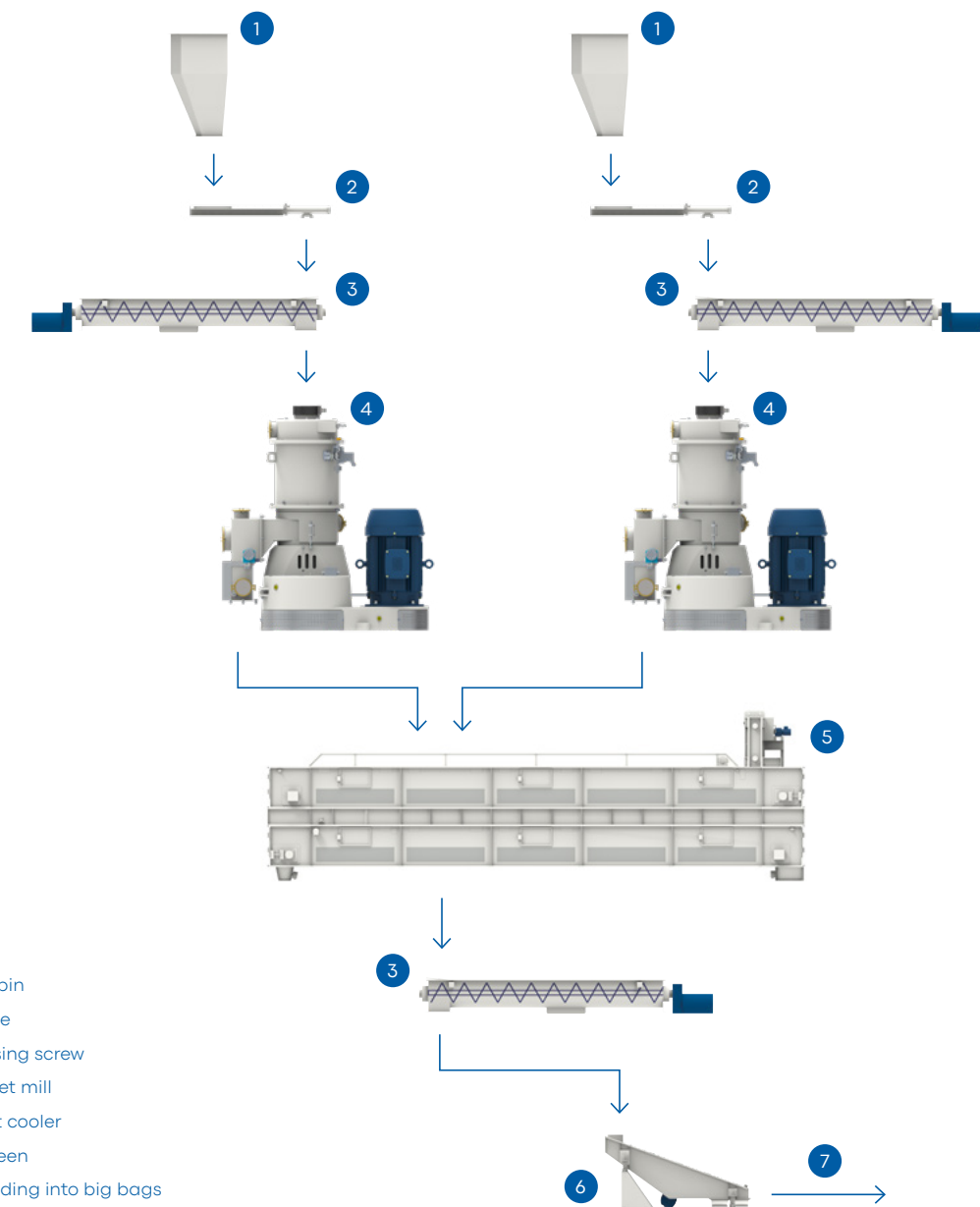
Switch and control plants for all plant sizes are programmed by AMANDUS KAHL and installed in the respective hardware product. Our electronics engineers develop customised user software to ensure a high level of operational reliability.

The control system EAPR ensures optimum, automatic operation of the flat die pellet mills made by KAHL. The EAPR controls and regulates all relevant process parameters.



# PLANTS

## Pelleting plants for the pharmaceutical industry



Further information on pharmaceutical plants from AMANDUS KAHL





Visit our online shop  
[shop.akahl.de](http://shop.akahl.de)

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