

PELLET MILLS

BIOMASS INDUSTRY





AMANDUS KAHL ACCOMPANIES YOU

on your way to the right decision



The production of biomass pellets is beneficial in several ways: In addition to improved storage and economical transport, pelleting particularly facilitates product dosing. Wood or long-fibre pellets are used, for example, as an alternative fuel or as an additive in compound feed production. AMANDUS KAHL has been manufacturing pellet mills since the mid-1920s and can look back on around 100 years of expertise in the design and manufacture of pellet mills for various industries. With the pellet mill 65-1500, the machine and plant manufacturer supplies the largest flat die pellet mill on the market, with a throughput capacity of up to 12 t/h in wood pellet production. The unique selling point lies in the flat die pellet mills, which are fed by gravity and press the product to be pelleted through a horizontal die. AMANDUS KAHL flat die pellet mills are characterised by sophisticated process engineering, centuries of knowledge and quality "Made in Germany". The machine repertoire for the biomass sector currently includes more than 12 different pellet mill sizes, which are designed and manufactured to suit your project.

AMANDUS KAHL supplies the largest flat die pellet mill in wood pellet production with a throughput capacity of up to 12 t/h.



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WOOD PELLETS

For thermal utilisation, environmentally friendly
and for economic optimisation of your plant



Pelleted wood offers several possibilities of utilisation, one of which being that of a CO₂-neutral fuel. Not only is large-scale industrial combustion becoming greener, but the number of pellet heating systems in private households is also increasing. When it comes to pelleting long-fibre products (40 to 100 mm), the process engineering advantage of AMANDUS KAHL also lies in the fact that there is no need for fine grinding: Uniform and energy-efficient grinding of wood is ensured by the pan grinder mill. With the KAHL flat die pellet mills, pellets are easily produced from softwoods, hardwoods and torrefied wood. With type 65 – 1500, a flat die pellet mill is available that is unrivalled in wood pellet production with a throughput rate of up to 12 t/h.



With the KAHL flat die pellet mills, pellets can be produced from softwoods, hardwoods and torrefied wood.



Do you have questions regarding the KAHL technology?

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

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



↑ Pellets from spruce wood



↑ Pellets from oak wood



↑ Pellets from acacia wood



↑ Pellets from beech wood



↑ Pellets from eucalyptus wood



↑ Pellets from torrefied wood



LONG-FIBRE PELLETS

Cellulose-containing plant products —
as a feed component or for thermal utilisation



↑ Straw bales as raw material



The successful flat die technology makes it possible to produce pellets from long-fibre products such as straw or grass cuttings.

Vegetable waste products are available worldwide, which in the past remained largely unused. These products are increasingly being recovered and passed on to further use. Pellets made from cellulosic plant products are ideal for compaction and for addition to feed mixtures. But thermal utilisation of straw pellets is also being favoured in an increasing number of large-scale industrial sectors. The successful flat die technology also makes pre-grinding of long-fibre products (40 to 100 mm) redundant.



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↑ Pellets from straw



↑ Pellets from grass cuttings



↑ Pellets from hay



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



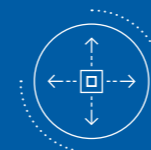
↑ Pan grinder head on flat die

ADVANTAGES OF KAHL FLAT DIES



Advantages offered by the machine

- High robustness
- Long service life and low wear
- Low consumption of operating materials
- Low lubricant requirement
- Low operating costs
- Fast and easy die change
- Low space requirement and footprint
- Low noise
- Large pelleting chamber for products with low bulk density
- Large pan grinder rollers with low circumferential speed
- Adjustable pressure 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 fine grinding
- Highest flexibility for pelleting raw materials
- High pellet quality



Advantages offered by AMANDUS KAHL

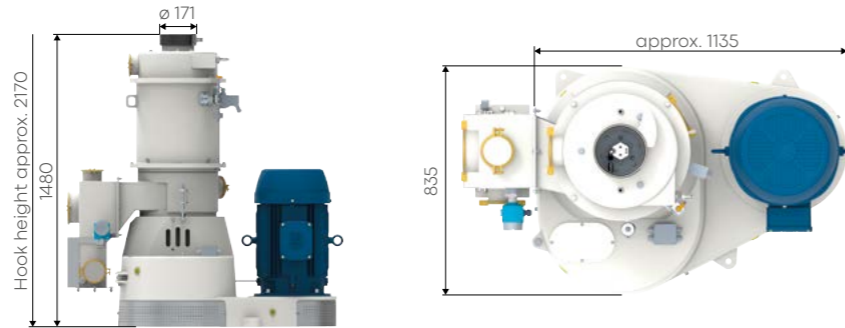
- High vertical range of manufacture
- Long-term service also after commissioning
- 12 different pellet mill sizes for biomass pelleting
- Product-specific design



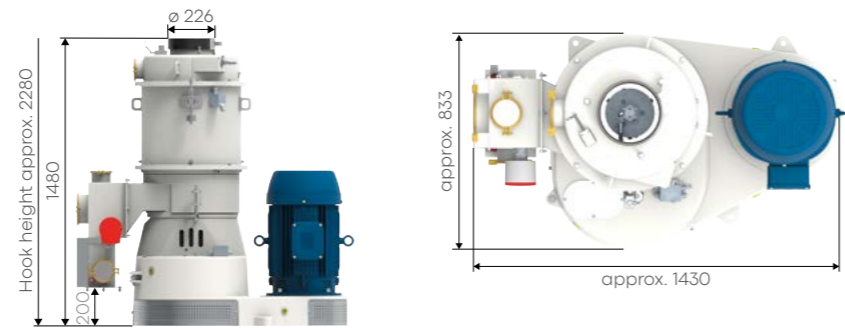


PELLET MILLS

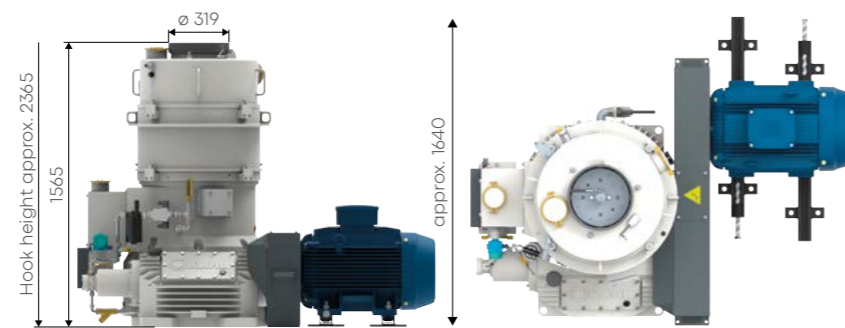
Type	33-390
Die diameter mm	390
Roller diameter/width mm	230/up to 75
No. of rollers	2
Roller speed m/s	2.5
Drive motor kW/min-1	15-30/1500



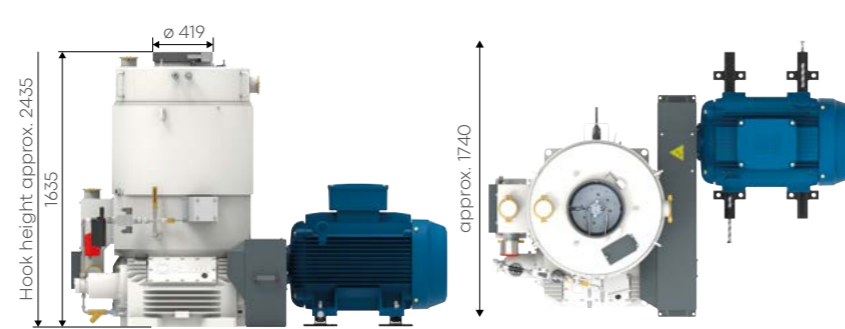
Type	33-500
Die diameter mm	500
Roller diameter/width mm	230/up to 75
No. of rollers	3
Roller speed m/s	2.4
Drive motor kW/min-1	15-30/1500



Type	38-600
Die diameter mm	600
Roller diameter/width mm	280/up to 100
No. of rollers	3-4
Roller speed m/s	2.5
Drive motor kW/min-1	55-90/1500

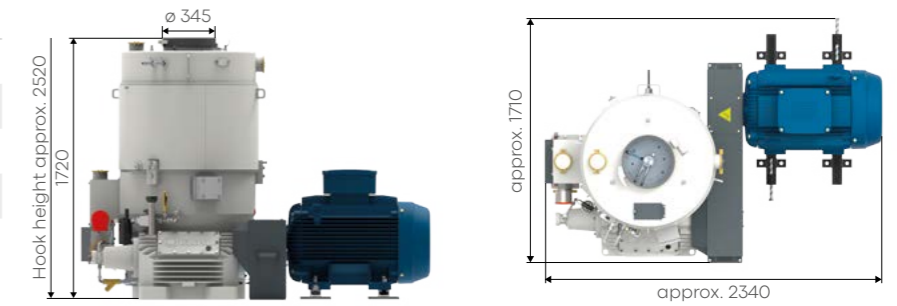


Type	38-780
Die diameter mm	780
Roller diameter/width mm	280/up to 100 or 350/up to 100
No. of rollers	3-5
Roller speed m/s	2.6
Drive motor kW/min-1	75-110/1500

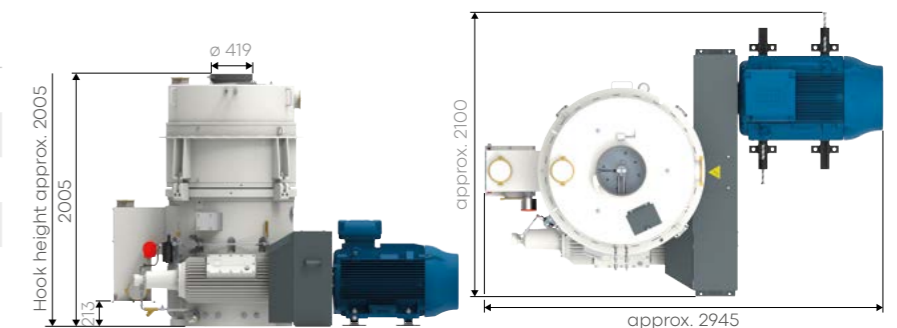


BIOMASS

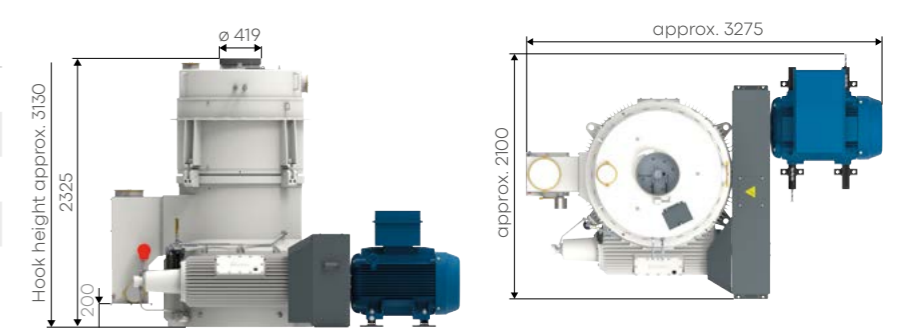
Type	37-850
Die diameter mm	850
Roller diameter/width mm	350/up to 130
No. of rollers	3-5
Roller speed m/s	2.5
Drive motor kW/min-1	132-160/1500



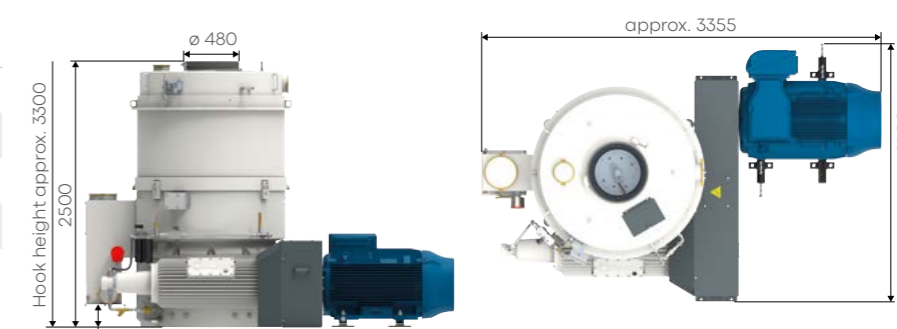
Type	39-1000
Die diameter mm	1000
Roller diameter/width mm	350/up to 154 or 450/up to 154
No. of rollers	3-5
Roller speed m/s	2.5
Drive motor kW/min-1	160-200/1500



Type	45-1000
Die diameter mm	1000
Roller diameter/width mm	350/up to 130 or 450/up to 154
No. of rollers	3-5
Roller speed m/s	2.5
Drive motor kW/min-1	200-250/1500



Type	45-1250
Die diameter mm	1250
Roller diameter/width mm	350/up to 130 or 450/up to 190
No. of rollers	3-6
Roller speed m/s	2.6
Drive motor kW/min-1	200-315/1500



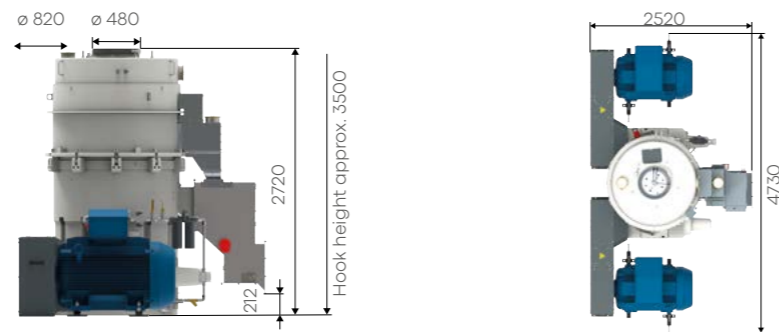


BIOMASS

Type	60-1250
Die diameter mm	1250
Roller diameter/width mm	450/up to 190
No. of rollers	4-5
Roller speed m/s	2.5
Drive motor kW/min-1	2x160-200/1500



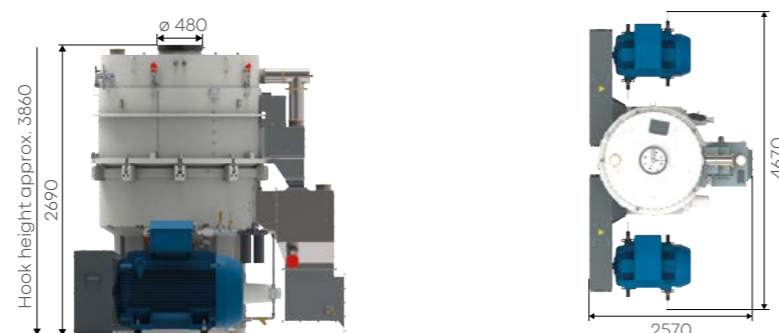
Type	65-1250
Die diameter mm	1250
Roller diameter/width mm	450/up to 190
No. of rollers	4-5
Roller speed m/s	2.5
Drive motor kW/min-1	2x250-315/1500



Type	60-1500
Die diameter mm	1500
Roller diameter/width mm	450/up to 240
No. of rollers	4-6
Roller speed m/s	2.5
Drive motor kW/min-1	2x160-220/1500

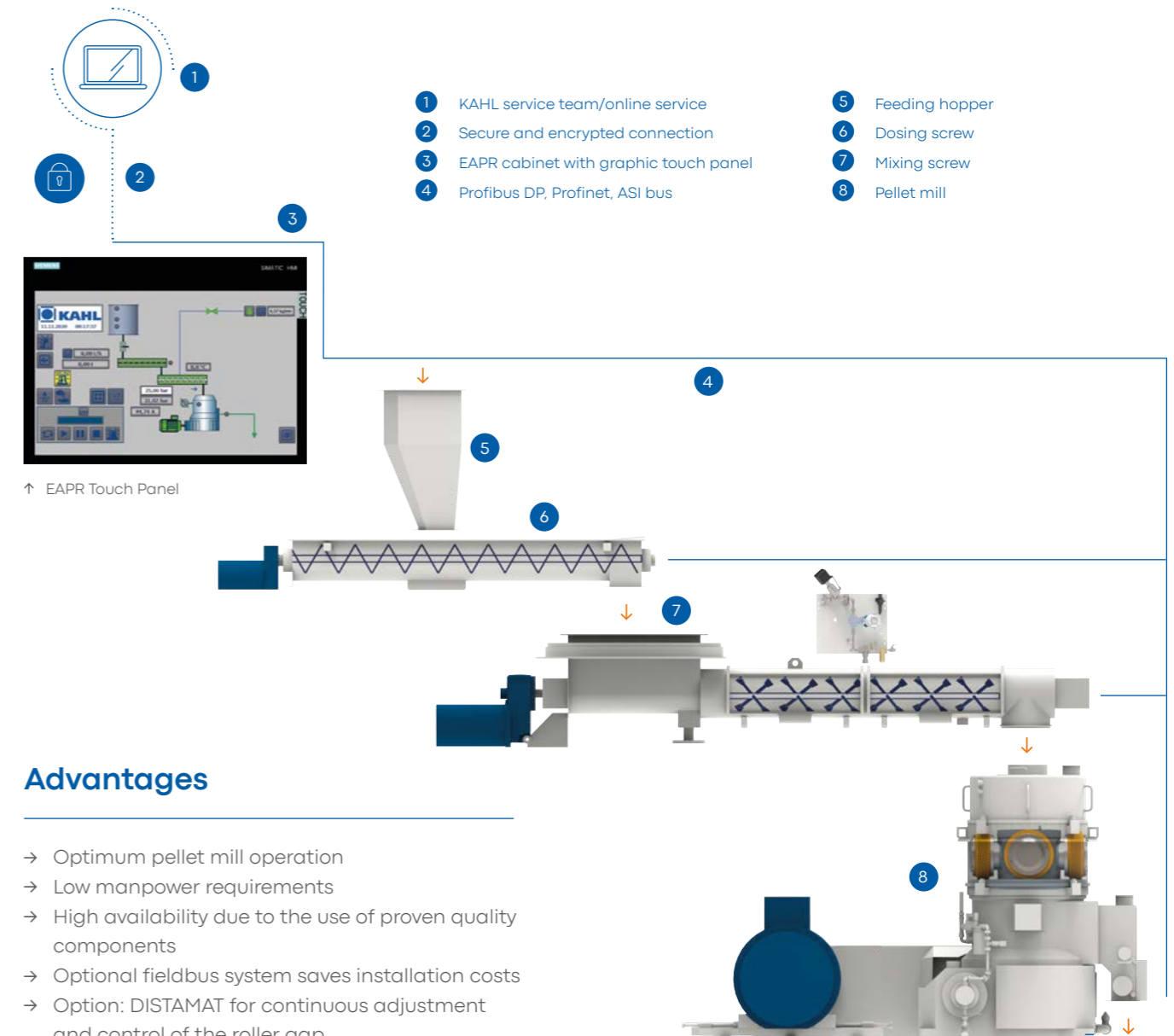


Type	65-1500
Die diameter mm	1500
Roller diameter/width mm	450/up to 240
No. of rollers	4-6
Roller speed m/s	2.5
Drive motor kW/min-1	2x250-315/1500



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

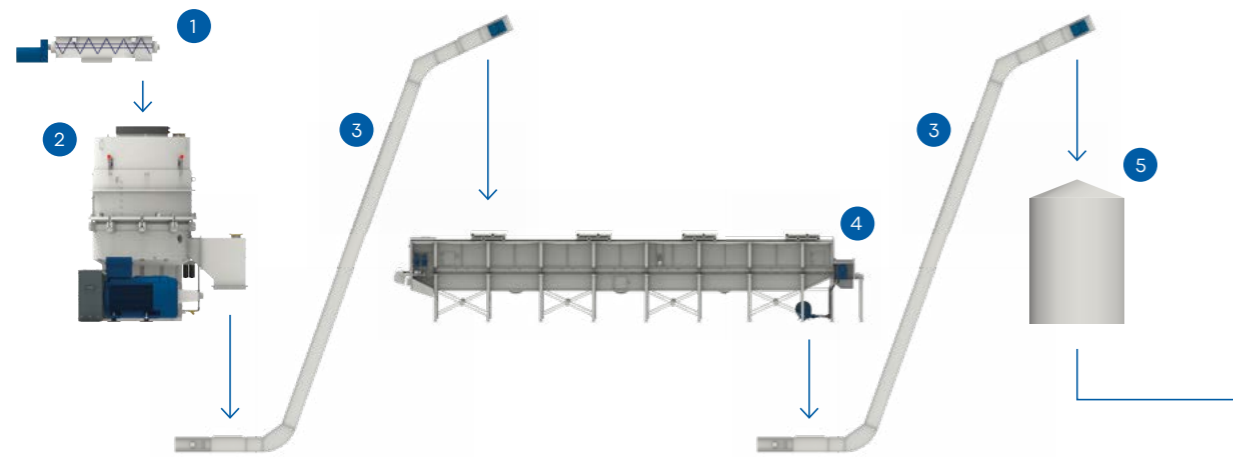
Switch and control plants for all plant sizes are programmed by AMANDUS KAHL and installed in the respective hardware product. Our electronics engineers develop customised user software to ensure a high level of operational reliability.

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 alternative fuels,
compound feed and litter

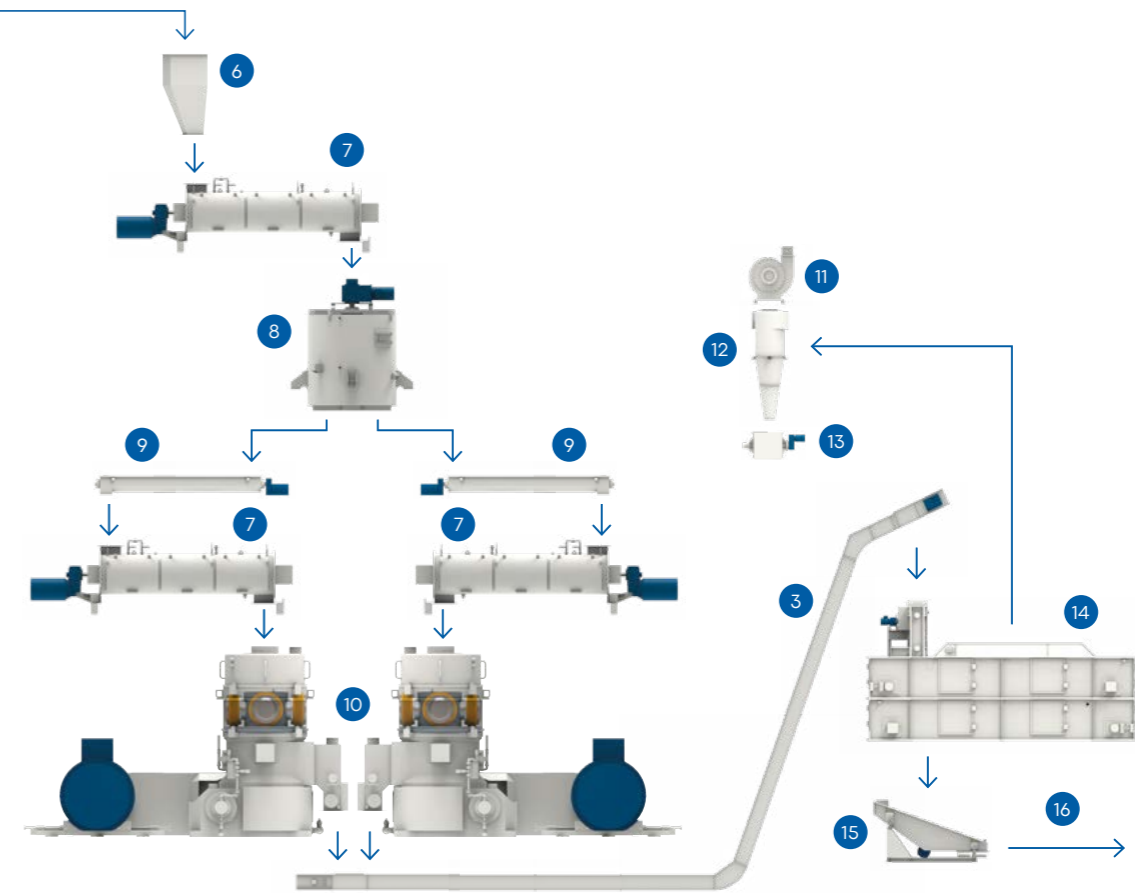


- 1 Dosing screw
- 2 Pan grinder mill
- 3 Continuous vertical conveyor
- 4 Fabric belt drier
- 5 Bin
- 6 Pre-bin with dosing system
- 7 Mixing conditioner
- 8 Agitator bin
- 9 Conveying screw
- 10 Pellet mills

References



↑
Wood pelleting plant with a
throughput of 185,000 tons
per year



- 11 Radial fan
- 12 Cyclone
- 13 Rotary valve
- 14 Belt cooler
- 15 Vibration screen
- 16 finished pellets



↑
Wood pelleting plant with
a throughput of 50,000 tons
per year



↑
Wood pelleting plant with a
throughput of 350,000 tons
per year



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