

BETTER PROCESSING-HIGHER ADDED VALUE

GRINDING EQUIPMENT FOR THE WOOD INDUSTRY

TIETJEN
DAS ORIGINAL

WE WILL GRIND WHAT YOU WANT!

Whether it's residual forest or industrial wood, dry or wet wood, small or large amounts, feed materials that change frequently or very rarely: TIETJEN equipment makes residual wood processing more efficient.

EXTENSIVE EXPERIENCE

Due to the fact that we've known for decades that every client has different requirements and goals, we don't settle for a fixed solution. We carry out test grindings that have been individually configured and evaluate the results.

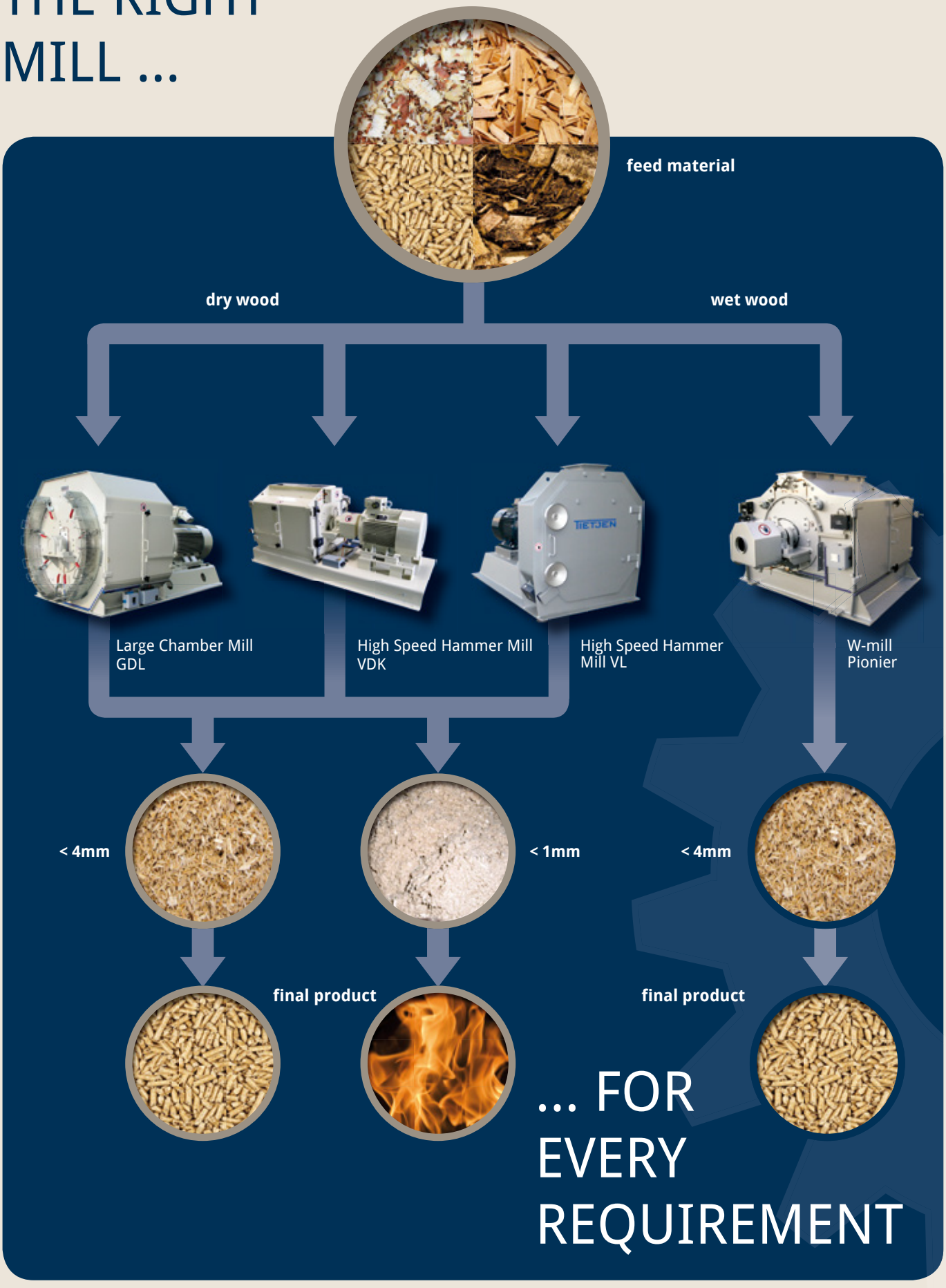
On this basis, we use our experience, innovative ideas and mature products to find the right equipment for every client that is as energy-efficient as possible. When we do this, we are supported at all levels of project processing by a quality management system that is certified according to ISO 9001 standards.

INNOVATIVE TECHNOLOGY

There is state-of-the-art processing technology at the heart of our equipment, which means robust grinding technology requiring very little maintenance. TIETJEN uses the hammer mill principle.

With four in-house product ranges and over forty model variants, we are able to meet every requirement. As specialists in complex decomposition systems, our expertise ranges from grinding and crucial mixing and conveyor technology, to fractionation of ground wood according to the latest industry standards and separation, including de-dusting and dust-explosion protection.

THE RIGHT MILL ...



TIETJEN - GRINDING TECHNOLOGY

WET WOOD OR DRY WOOD? WE GRIND BOTH!

TIETJEN W SERIES WIDE CHAMBER WET WOOD MILL

Our latest development makes short work of your costs. The W range Wide Chamber Mills were developed against the backdrop of growing cost- and competitive pressure in producing wood pellets. They enable fresh wood chips with a moisture content of up on 60% H_2O to be ground into chippings that are ready to be made into pellets in just one operation.

- This reduces investment costs because there is no need for an additional grinding machine.
- This reduces the cost of raw material due to optimum flexibility in the choice of raw materials.
- This reduces operating costs due to low energy and maintenance costs.

TIETJEN wide chamber mills are also suitable for dry raw materials due to its construction which is explosion pressure shock resistant and flameproof. The product being grinded can be added to the drying process or directly to the pelletting process via a bypass, depending on water content. A homogenous particle size is, of course, a pre-requisite for best possible drying.

Grind wet wood ready for pelletting in just one step

WIDE CHAMBER MILL

FOR WHEN YOU NEED SOMETHING EXTRA

TIETJEN GD/GDL SERIES

LARGE CHAMBER MILL

The powerhouses designed for maximum performance are equipped with up to 450 kw motors, as well as the GD standard design, while there is also the GDL model with semi-automatic screen change to prevent downtime.

Both models meet the highest requirements in product purity and equal size distribution of the ground material. The GD series comprises of four sizes and a range between 90 and 450 kw, the GDL series comprises of three sizes and a range between 132 and 450 kW for the drive.

Large grinding chambers with up to a 3.6m² screen surface and an enforced, changeable impact plates guarantee low specific load and thereby reduced wear. Its dynamic heavy-duty specially designed rotor with its unique 6-axial carrier change system stands out due to its quick run-up and shutdown time and enabling a simple beater change in a few minutes.
Its screen, which is composed of several parts, allows the respective worn screen elements to be changed, according to the amount of wear. The screens have no edgings or welded parts and are available at low-cost in accordance with perforation norms.

LARGE CHAMBER MILL TYPE GDL

The large chamber machines run very quietly and do not require any additional soundproofing.
A 2-part torsion-resistant base frame makes the mills easier to handle during transport and assembly. The GDL Series enables the screens to be changed via the front-end wall, whilst the machine is idle running. This saves time and money and is particularly advantageous when the desired grain structure of the ground product is being changed frequently.

LARGE CHAMBER MILL TYPE GD

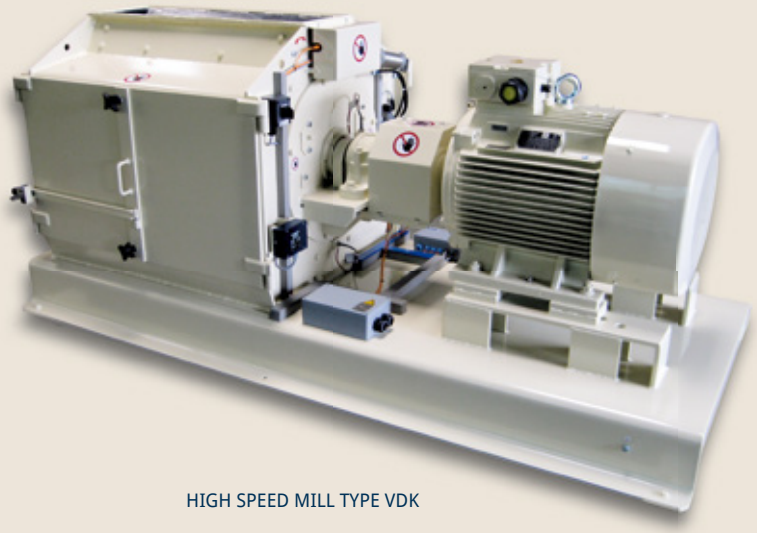
TIETJEN - GRINDING TECHNOLOGY

HOW TO DO IT MORE QUICKLY AND MORE SPECIALISED

TIETJEN VDK SERIES HIGH-SPEED MILLS

Robust standardised machines for medium throughput rates. These machines have proven their worth for decades, are built to be particularly compact and stand out because they are very easy to maintain.

The range has 5 housing sizes to be fitted with motors varying in capacity from 30 to 250 kw. Changing worn parts takes place via maintenance doors on both sides of the machine. The 2-part screen is kept free of gaps by a quick release basket. The screens have no edged or welded parts and therefore are available at low-cost. The grinding chamber has a surface of up to 1.9m^2 with enforced, changeable impact plates. Worn beaters can be quickly and easily changed thanks to a specialised beater change device. This reduces the machine's downtime which improves availability and prevents mistakes during maintenance.



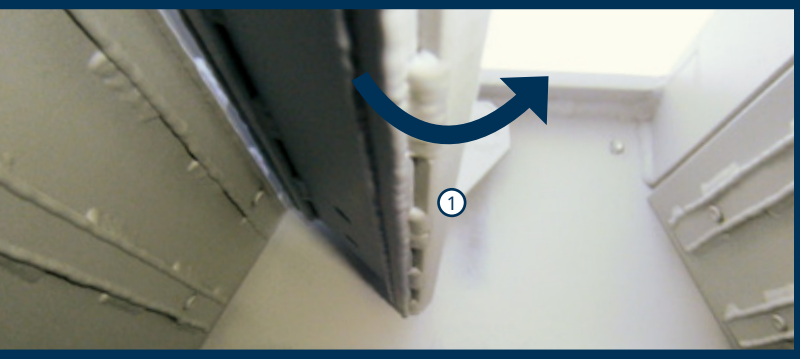
HIGH SPEED MILL TYPE VDK

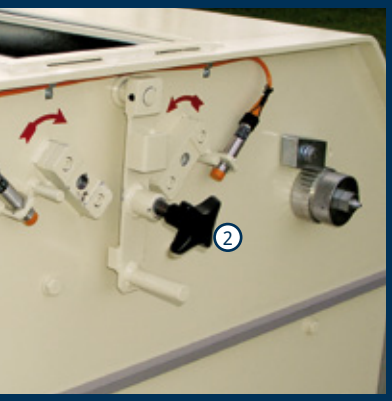
HIGH SPEED MILL TYPE VL

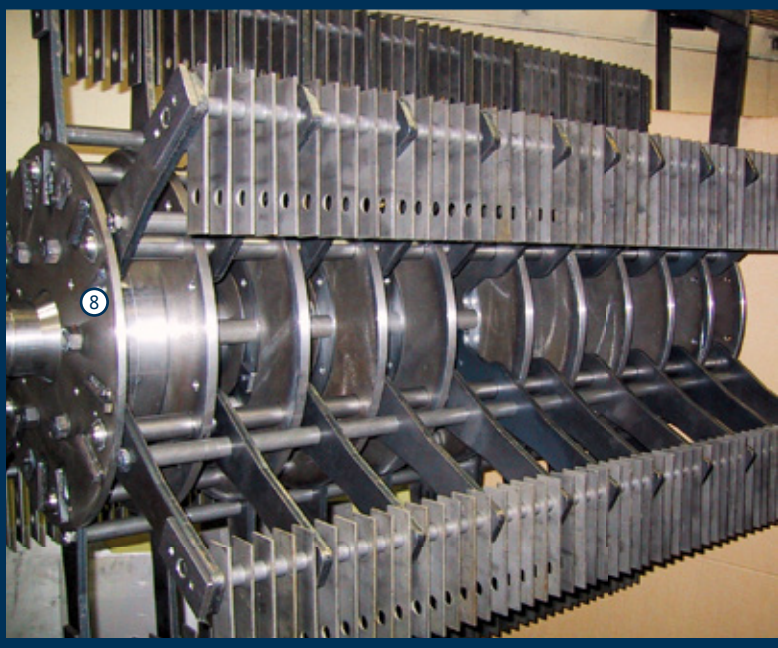
TIETJEN VL SERIES HIGH-SPEED MILLS

Simple hammer mills for small throughput rates. Ideal for specialised tasks, e.g. single-origin processing in a separat line.

The range consists of two housing sizes with motor capacities of 15 to 45 kw. Changing the screen is quick and easy, without the need for tools, after opening the maintenance door on the front side.
The dynamic, heavy-duty rotor guarantees that the machine runs particularly smoothly and thereby ensures a longer operational service life.
An integrated foreign body trap inside the grinding chamber affords additional protection to the machine. Foreign bodies of every kind are reliably separated and do not contaminate the ground material.







1. SWIVELING INLET FLAP
2. INLET FLAP WITH MANUELL ADJUSTMENT
3. INLET FLAP WITH PNEUMATIC ADJUSTMENT
4. AUTOMATIC DOOR LOCKING SYSTEM
5. TEMPERATURE GUARD TO AVOID HOT SURFACE
6. INTERIOR VIEW OF GRINDER CHAMBER SHOWING ENFORCED IMPACT PLATE
7. INLET FLAP WITH ENFORCED IMPACT FENCE
8. SPECIAL 6-SHAFT-ROTOR COMPRISING BEATER CHANGE SYSTEM

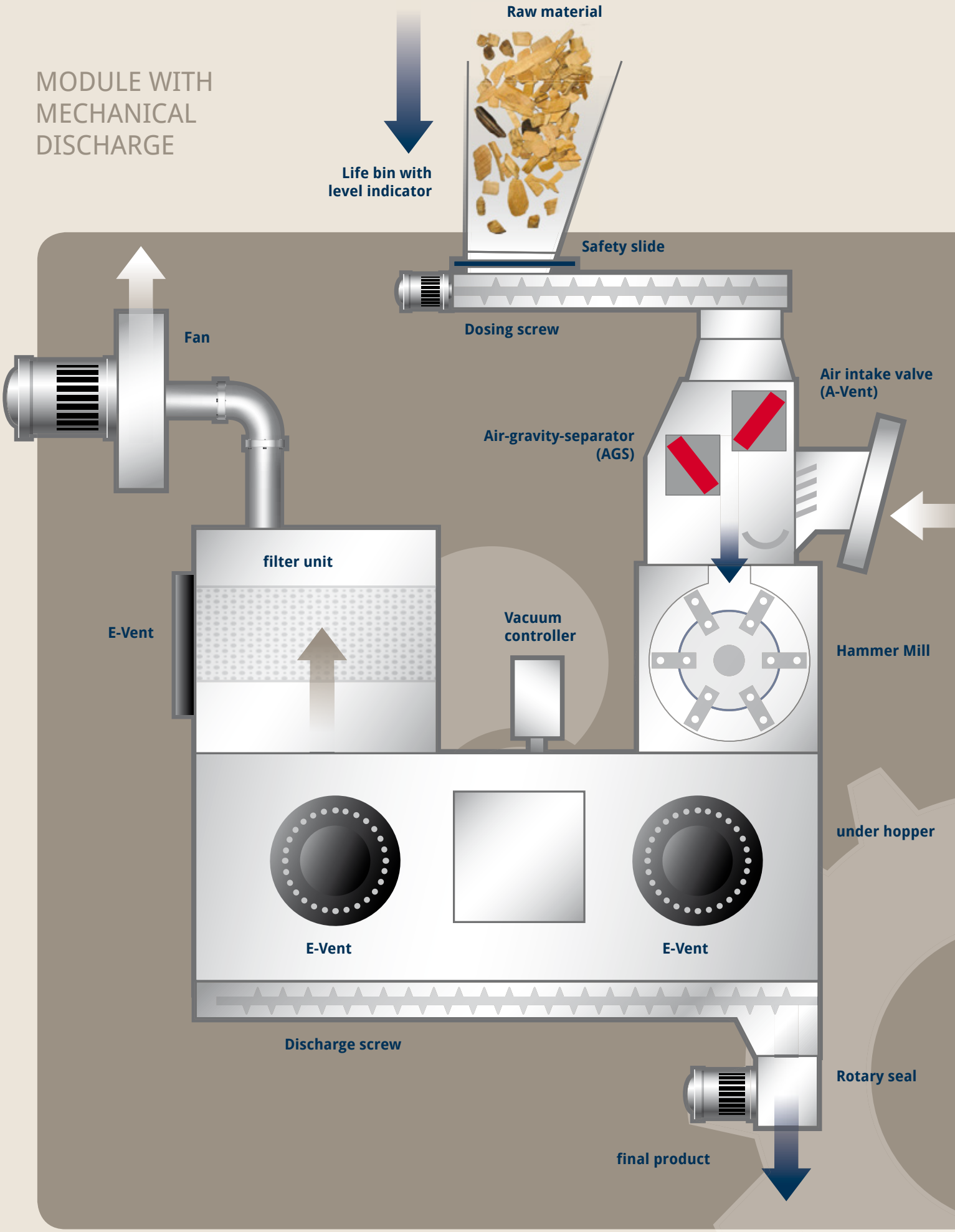
TIETJEN – PROCESSING KNOW-HOW

THE MODULE – FROM A MILL TO A SYSTEM

PERFECTLY HARMONIZED COMPONENTS

Whether large or small - the heart of all processing is grinding. However, an efficient machine can only be achieved with a suitable feeding device and a highly-efficient conveyance process. Tietjen will help you tackle these issues, for instance, exploring any transport alternatives that are available - be they mechanic or pneumatic: What materials are going to be transported now and in the future? What volumes have to be moved over what distances and hight offsets? What transport is reliable, energy-efficient, easy to maintain and has few wearing parts? What aspects of dust-explosion protection have to be considered en route and how much room is available for it?
These are multi-faceted challenges that we will help you to deal with on an individual basis. We think every installation through until the end and leave nothing to chance.

MODULE WITH MECHANICAL DISCHARGE



TIETJEN – PROCESSING KNOW HOW

THE MODULE – FROM A MILL TO A SYSTEM

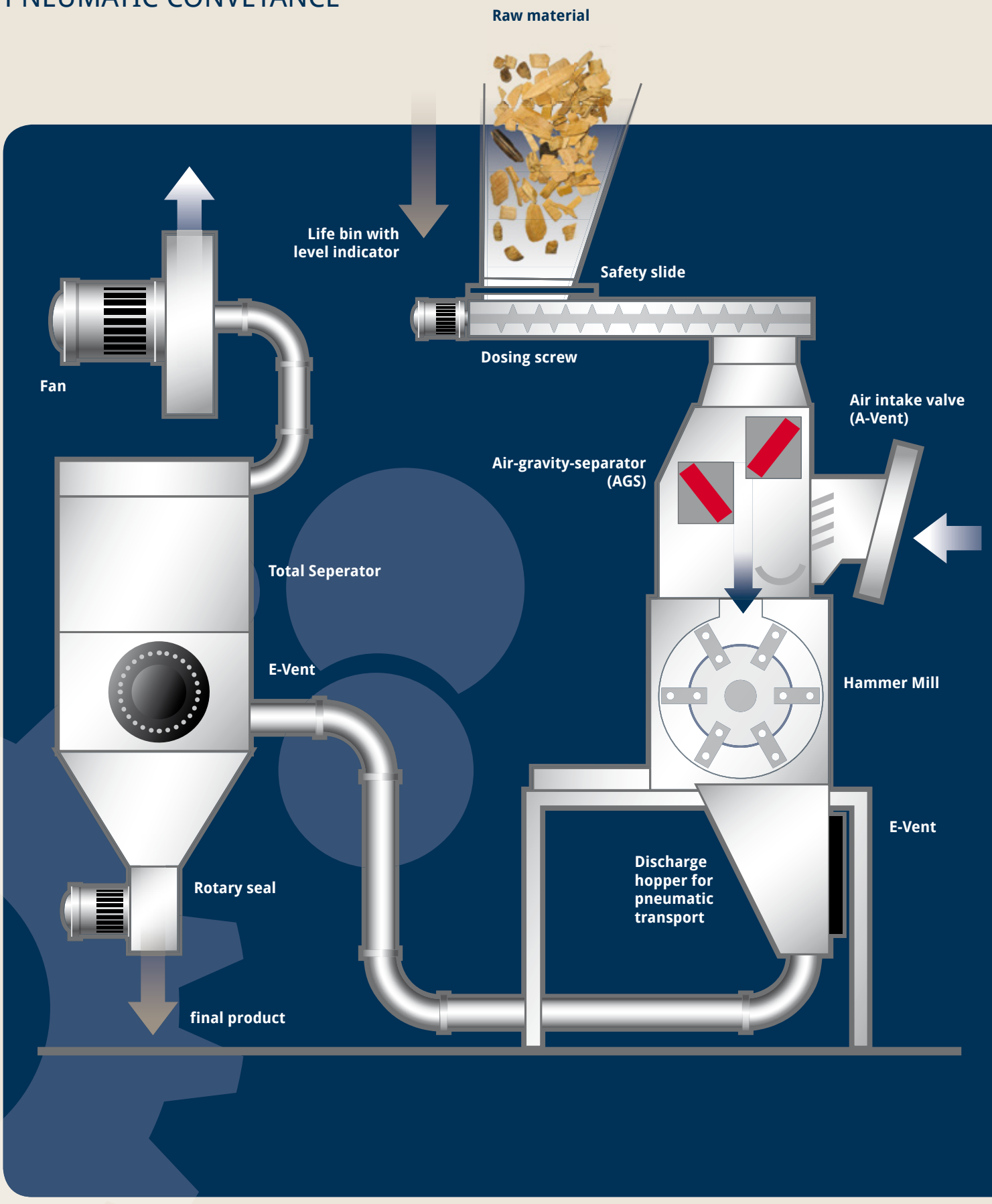
BUILT TO YOUR SPECIFICATIONS

How your equipment can be configured in detail, depends on a multitude of additional factors:

- Which raw material should be used?
- Which capacities should be reached?
- Which product quality will give you a market advantage?
- Should different products be manufactured?
- Is a product change planned in the near future?
- Legal safety requirements and guidelines on site
- Type and location of planned or available building
- Logistic prerequisites, access to roads, rail links and waterways
- Technical prerequisites, e.g. energy supply
- Water/Wastewater
- Climatic conditions for transport and machine operation

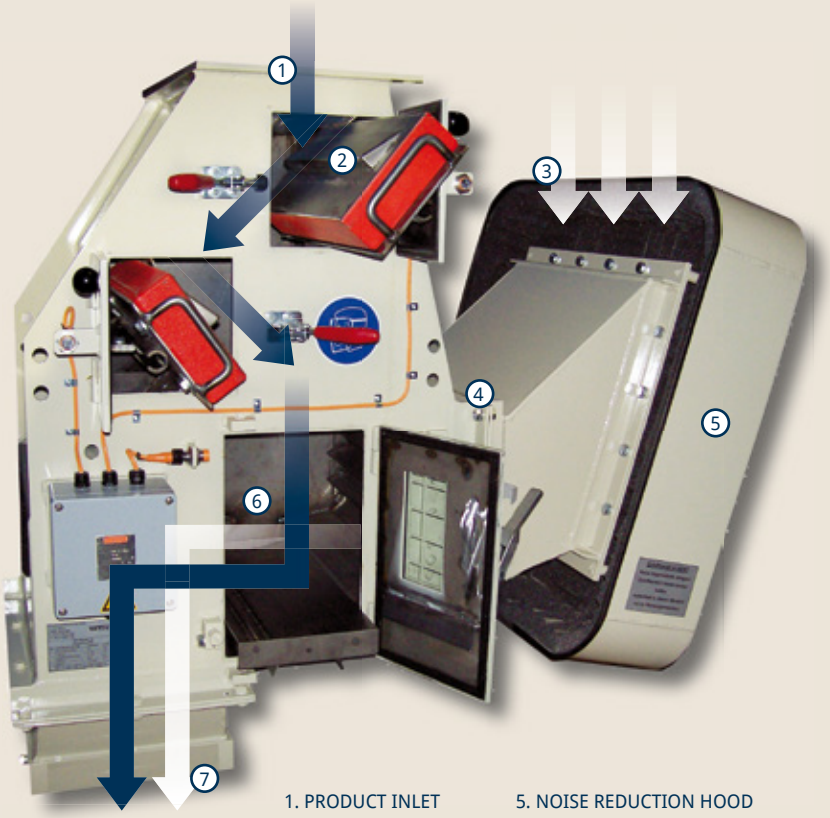
We will be happy to plan from the very first, measure up on site and then build the individual machine parts. This avoids unnecessary interfaces and is easier on your budget. We always deliver and assemble on time, bring the equipment into service, confirm compliance with authority regulations and train your staff. At the end of this process, we want you to have exactly the right equipment that you need.

MACHINE WITH PNEUMATIC CONVEYANCE



TIETJEN – PROCESSING KNOW HOW

EFFICIENT SEPARATION



1. PRODUCT INLET
2. MAGNET CASCADE
3. AIR INTAKE
4. AIR VANES
5. NOISE REDUCTION HOOD
6. FOREIGN BODY TRAP
7. PRODUCT AND ASPIRATION AIR

AGS AIR-GRAVITY-SEPERATOR

An air-gravity-seperator ensures the continuous separation of foreign bodies of any kind from free-flowing bulk solids, in particular when feeding material into grinding equipment in conjunction with the TTS dosing screw feeder.

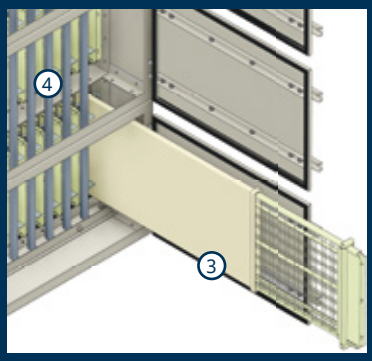
Its construction guarantees optimal double protection against foreign bodies by using cascade magnets and an air separation system for non-magnetic foreign material. The AGS's housing is built to be very compact with only 245 mm axial distance between feed in let and discharge outlet. The machine is explosion pressure shock resistant in accordance with the latest standard and has been tested and certified in practice.

FOREIGN BODY TRAP

AGS IN A WOOD PELLET MILL

AIR VANES

IT SEPERATES WHAT SHOULD NOT STAY TOGETHER



CHANGE FILTERS
TO CLEAN GAS SIDE

INTERIOR VIEW OF FILTER

1. FILTER CONTROLLER
2. COMPRESSED AIR VESSEL WITH MEMBRANE VALVES
3. CHANGE FILTER ELEMENTS TO CLEAN GAS SIDE
4. CLEANING BY COMPRESSES AIR WITH VENTURI NOZZLES
5. EXTENDED DISTANCE BETWEEN POCKETS OF 110 MM

E-VENT

FILTER TECHNOLOGY

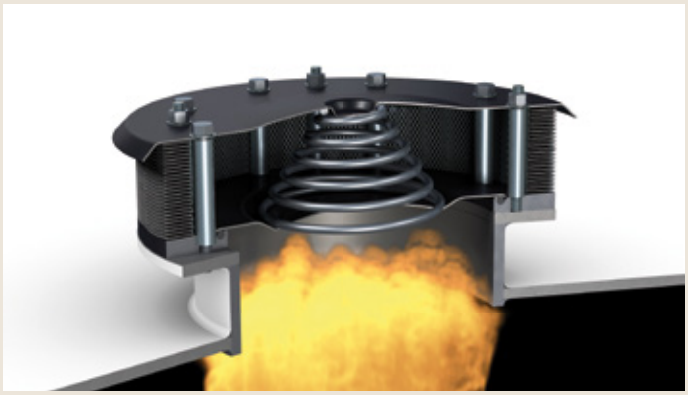
The TIETJEN bag filter/jet filter range consists of 5 sizes with a filtration surface of 14 to 63 m². This bag filter has an expanded bag distance of 110mm. As a result, an improved clean is guaranteed, particularly when dealing with fibrous products such as wood. Its compact, bolted design allows for installation in difficult to reach places and confined spaces. We deliver jet filters for various applications, as an integrated filter, bunker filter or total separator, according to your specific requirements.

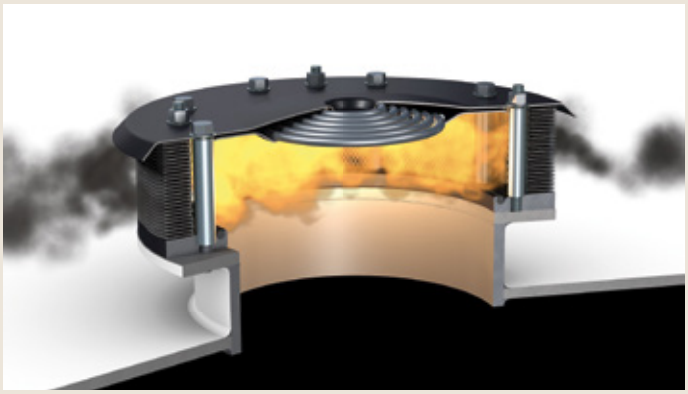
TIETJEN – DUST-EXPLOSION PROTECTION

SAFETY CAN ONLY BE ACHIEVED SYSTEMATICALLY

Dust explosions carry enormous risks. We know that, because our equipment has been used in very dusty areas for decades. Through our own research and development of pressure relief systems, we have helped to make grinding equipment safer these days.

All our machines and devices are built to explosion pressure shock resistant and flameproof, while we also check them for a reduced explosion over pressure of 0.4 bar. TIETJEN safety technology meets crucial protection requirements and is delivered with an EC conformity declaration in accordance with ATEX Directive 94/9/EG (ATEX 100A), and also with a CE declaration for the whole machine in accordance with EC Machine Directive 2006/42/EG (Appendix II B).





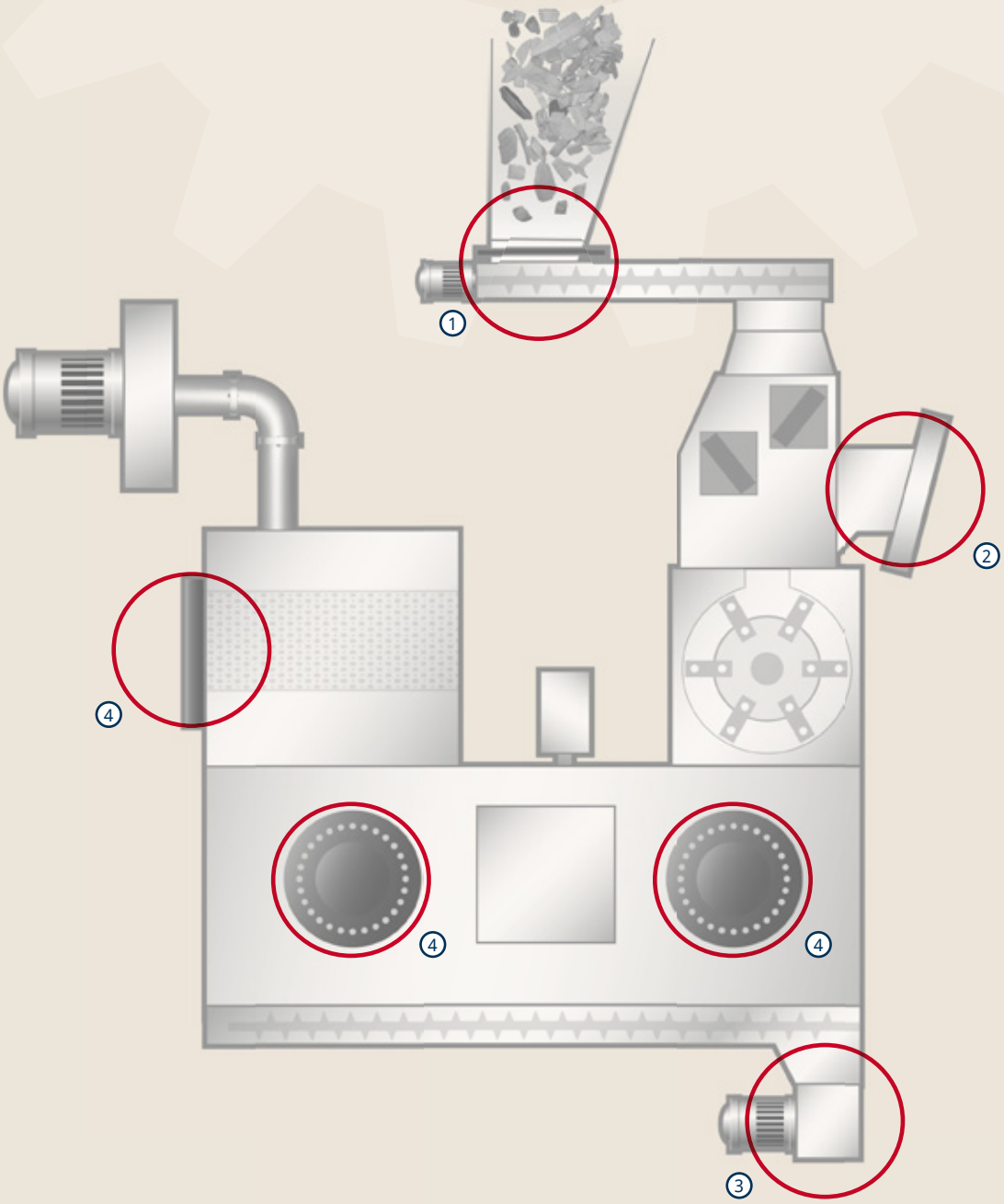
AN ECONOMICAL SOLUTION FOR EXPLOSION PROTECTION- CHECKED AND CERTIFIED

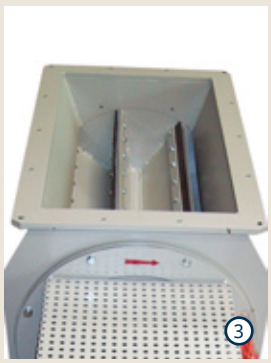
- The TIETJEN safety slide (1) decouples the grinding machine from the pre-hopper during batch processing, which is controlled by a level indicator, and during power outages.

- The TIETJEN A-Vent (2) aspiration air vent is open during normal operation and closes in an extremely short time due to a lower moving load when there is excess pressure, reliably preventing flame breakout.
  - Air throughput up to 120 m^3/min per valve
  - Lower flow resistance
  - Can be adapted to different feeders

- The TIETJEN pressure relief valve (4) opens in the bin being protected in the event of excess pressure and prevents flame breakout at the same time.
  - Quick pressure release due to its spring-loaded frictionless guided vent plate
  - Pressure release will already take place at a very low excess pressure
  - Large range of pressure relief cross-sections
  - Very short closing time
  - Suppression of flame spray inside the bin by sealing off the atmosphere of the room.
  - Low installation height

- The TIETJEN rotary seal (3) as a certified protection system prevents flames spreading between the grinding equipment and the subsequent conveyance path.





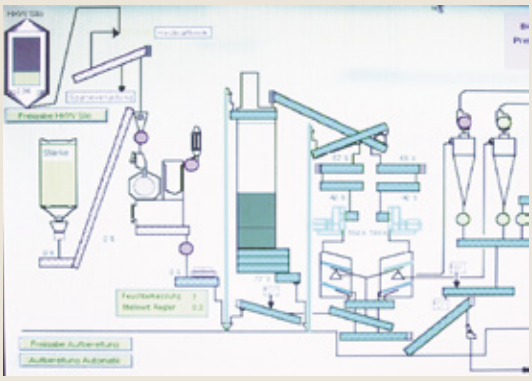
1. SAFETY SLIDE
2. A-VENT
3. ROTARY SEAL
4. E-VENT

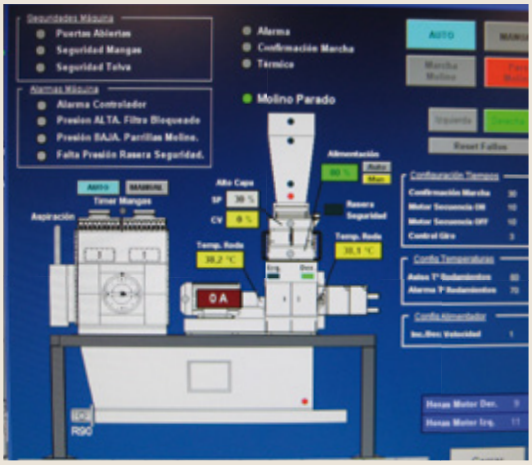
TIETJEN MEASUREMENT AND CONTROL TECHNOLOGY

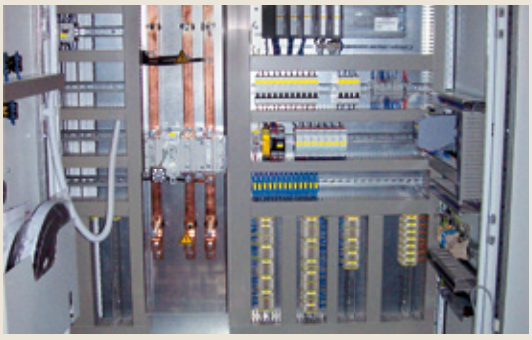
MAKING PROCESSES TRANSPARENT

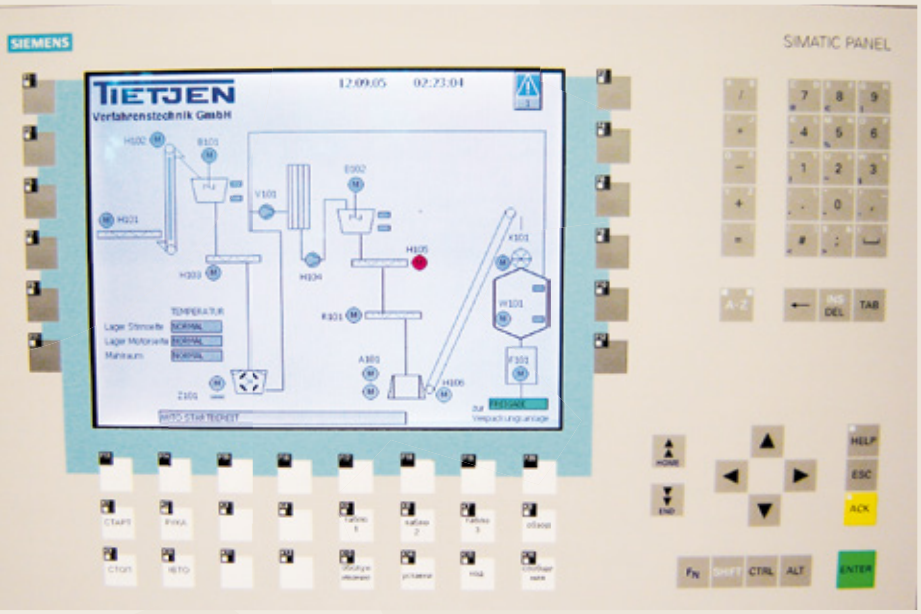
To take full advantage of a machine's performance capabilities for different products and to guarantee their optimal workload, a precision control system with a user-friendly operational interface is of crucial importance. Therefore, all essential measure and control facilities are included as part of our equipment as standard.

Our expertise in process technology can be seen in our process automation systems and we build custom control cabinets with relevant process visualisation options. Everything is from one source, so no information is lost and all processing technology is selected to get the best possible results.





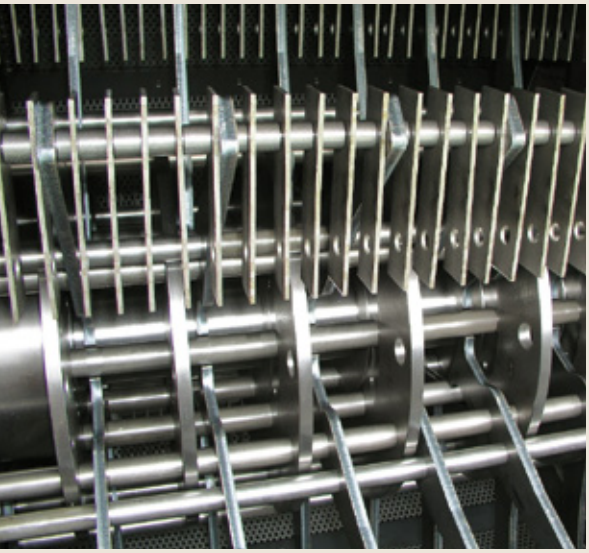




SERVICES

WE WON‘T KEEP YOU WAITING

Many years of experience and innovative thinking are the basis of our services. For individual international projects we rely on a network of reliable and powerful partners.



MAINTENANCE & REPAIRS

Our experienced installation team performs reliable and on time service and repair of your equipment on-site or in our workshops. Our aim is to keep your production downtime to a minimum. Therefore, the work will frequently take place at weekends. For long-term reliability, we offer a periodic inspection, which is contractually agreed and guarantees a reliable and robust documentation. Of course you can also count on us in case of emergencies.

SPARE PARTS SUPPLY

A significant part of our business is the supply of consumables and spare parts. Deliveries are made from our central warehouse in Schleswig-Holstein (Germany) usually within 48 hours of order, in case of an emergency even faster. We ship worldwide with selected reliable freight forwarding and courier services. We are happy to obtain for you any external parts at short notice.

We guarantee the availability of spare parts for at least 20 years.

REFERENCES

WE ARE WHERE OUR BUSINESS TAKES PLACE

GLECHNER, PFARRKIRCHEN, GERMANY

- VL3 ATEX HAMMER MILL DESIGN (ENTRY INTO SERVICE 2003)
- WOOD GRINDING: 3 T/H (8 MM FILTER) FOR PELLET PRODUCTION 99% < 4MM

PELET GRUPA, NOVSKA, CROATIA

- W 1000 WIDE CHAMBER HAMMER MILL (LEFT) (ENTRY INTO SERVICE 2014)
- WET WOOD GRINDING: 12 T/H CHIPS UP TO G50 (15MM FILTER) FOR FURTHER PROCESSING ON THE DRYING LINE
- GD 25 HAMMER MILL (RIGHT) (ENTRY INTO SERVICE)
- WOOD GRINDING AFTER DRYING: 6 T/H (6MM FILTER) FOR PELLET PRODUCTION 99% < 4 MM

ALLIGNO, MOSCOW, RUSSIA

- VDK 4.1 ATEX HAMMER MILL DESIGN (ENTRY INTO SERVICE 2007)
- WOOD GRINDING: 0.8 T/H (1.0 MM FILTER) FINE GRINDING FOR WPC PRODUCTION 99% < 0.7MM

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