TIETJEN
DAS ORIGINAL

Efficient Grinding Technology for Your Biogas Plant

BIOMASS SHREDDER BMS

The biomass shredder BMS was developed from the outset specifically for shredding substrates for biogas production and perfectly meets the needs of biogas plant operators.

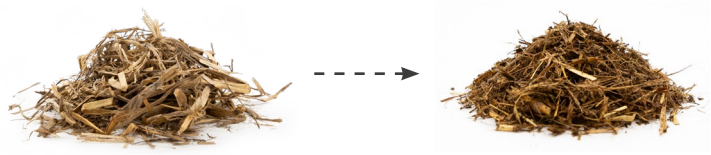
The biomass shredder BMS is a vertical shredder that processes biomass efficiently and homogeneously. The BMS optimally meets the requirements of biogas plant operators for high availability, low maintenance costs and high throughput.

Wear parts such as the beaters and rotor are made of wear-resistant material, can be used from both sides and are easy to change thanks to the large door opening.

The outlet in the base ensures reliable operation without blockages. The substrate is discharged either by a screw or a pump.

Solid Manure

Horse Manure



Your Advantages

- Optimal preparation through defibering of the substrate
  - Increases the biogas yield
  - Prevents floating layers
  - Improves sand discharge
- Throughput from 8 t/h to >15 t/h, depending on model and motorization
- High availability and low maintenance costs
- Smooth process: no blockages or bridging

The BMS processes:

- Livestock manure from chickens, cattle, horses, turkeys or pigs
- Crop residues like corn and grass silage, grass cuttings and sugar beet
- Wood, straw, and other fibrous materials
- Agricultural residues as well as other types of biomasses

MADE IN GERMANY

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Your Advantages

Problem Solver for Biogas Plants

- Efficient particle size reduction of even the most difficult substrates
- Flexibility and economy using alternative raw materials
- High throughput rates of up to 15 t/h (depends on substrate)
- Process optimisation through better pumping and agitating properties, minimisation of the floating layers

Reliable Operation and Long Durability

- Robust welded construction for continuous industrial operation (24/7)
- Impact parts and beaters made of wear-resistant materials such as Hardox and tungsten carbide
- Clog-free operation due to discharge in the bottom of the impact chamber
- Resistant to impurities, as no sharp tools are used

High Availability and Easy Maintenance

- Large maintenance door with platform ensures maximum accessibility
- Position of the maintenance door can be adjusted in 90° steps to suit the conditions on site
- Minimal wear costs due to replaceable shredding tools on the beater
- Easy to change wear plates due to outside screw connection
- Easy removal of heavy parts by crane traverse with chain hoist (option)

High Safety of Personnel and Plant

- Door securing with key transfer system
- Monitoring of unbalance, contaminant ingress and vibrations by means of vibration sensor
- Sensors for monitoring the bearing temperature

Technical Data

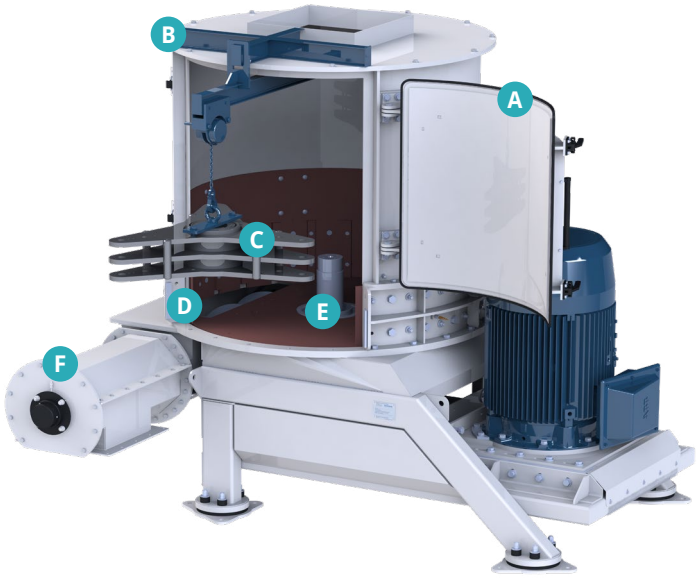
Type	BMS 1200	BMS 1500	BMS 1500-L
Throughput capacity (t/h)	up to 10	> 15	> 15
Rotor speed (rpm)	1000 – 1200	750 – 900	750 – 900
Number of beaters (pieces)	4	6	6
Dimensions and Weight			
Diameter housing (mm)	1200	1500	1500
Height housing (mm)	1290	1210	1510
Length x width x height (mm)	2535 x 1546 x 2440	2700 x 1730 x 2360	2700 x 1730 x 2660
Weight incl. motor (approx. kg)	3600	4800	4900
Drive			
Three-phase motor (kW)	55/75/90	110/132	110/132

Find more information about the Biomass Shredder BMS at:
tietjen-original.com/en

Standard Supply and Options

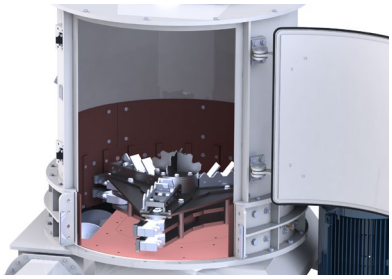
Standard Scope of Supply

- Door locking with key transfer system
- Belt drive with protective cover
- Base frame with antivibration mountings
- Bearing temperature monitoring
- Sensor for vibration monitoring
- Electrical components completely wired on terminal boxes
- Drive motor
- 1 set of beaters, fully assembled
- 1 set of impact parts, fully assembled
- Maintenance platform
- Maintenance opening can be varied in 90° steps
- Multi-coat painting

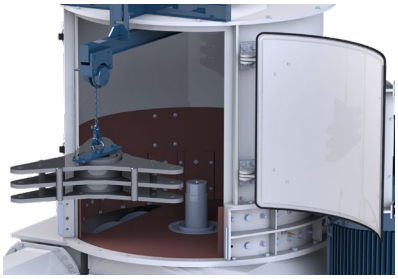


Option

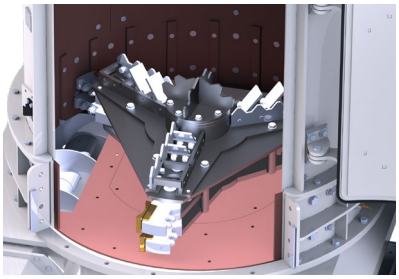
- Crane traverse for installation in the housing with chain hoist for the exchange of heavy parts such as the rotor



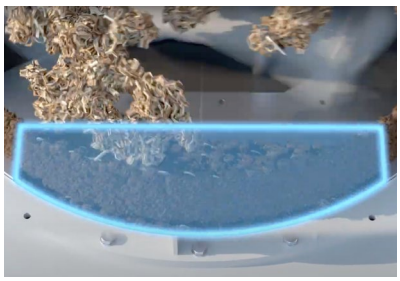
A Large maintenance door for optimal accessibility



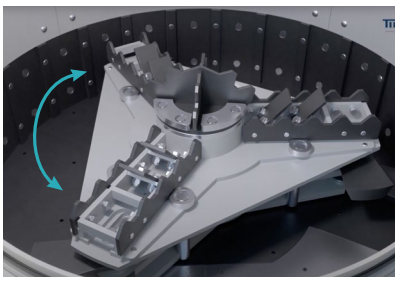
B Crane traverse



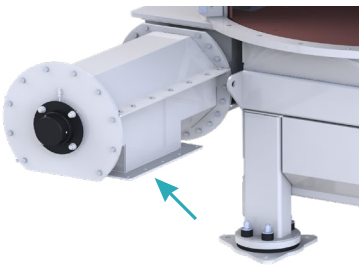
C Easy to change beaters and impact parts



D Large discharge opening prevents blockages and bridging



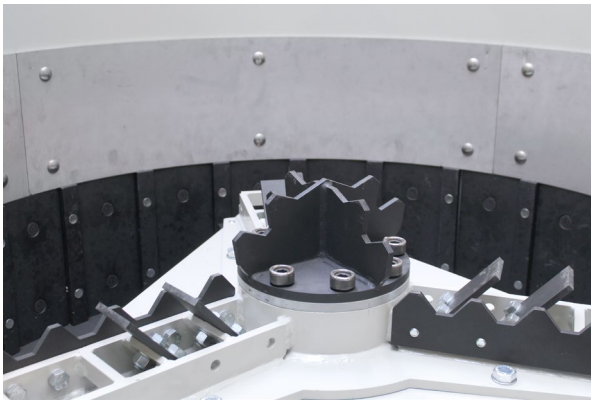
E Rotor rotates in both directions for optimum utilization of the beaters



F Discharge screw for conveying the substrate from the BMS to the fermenter

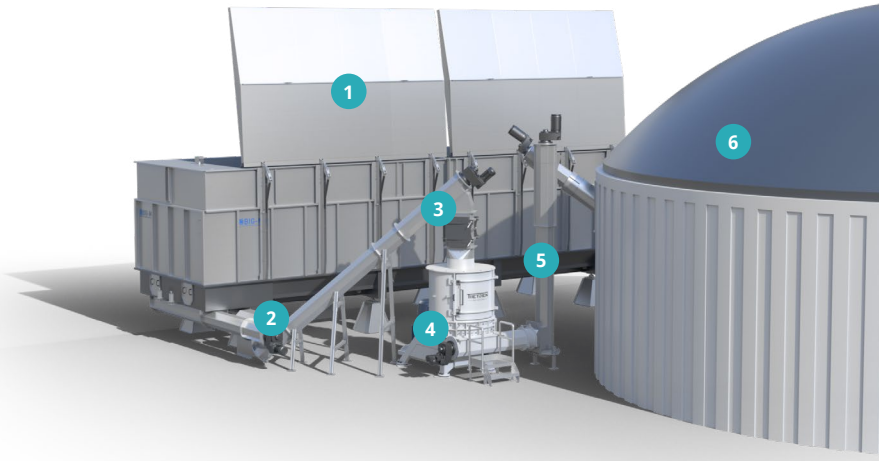
Optimally Adapted to the Dosing and Conveying Units

Well-coordinated interfaces and smooth processes are preconditions for a successful biogas production, which is why Tietjen developed the biomass shredder BMS together with a manufacturer of solid dosing units and experts from the biogas industry.



Typical Setup of the Biomass Shredder BMS Combined with a Dosing Unit

1. Dosing unit for loading by wheel loader, weight recording and automatic feeding of material into the BMS
2. Conveying unit to the biomass shredder BMS
3. Magnetic separator for sorting out metallic foreign matter
4. Biomass shredder BMS for grinding the biomass
5. Screw conveyor or pump to the fermenter
6. Fermenter



Good to Know
Breaking of Fibers

Why breaking of fibers instead of cutting the biomass achieves a higher biogas yield?
When simply cutting stalks, the protective lignin layers on the outside remain largely intact. This layer is only interrupted at the cutting edges. As a result, the attack surfaces for microbacterial degradation are much smaller than with defibering, where the entire lignin structure is largely destroyed. The specific surface area on which microorganisms can be broken down is significantly larger during defibration. This leads to a faster and more complete decomposition of the organic matter contained and thus to an increase in the biogas yield. At the same time, stirring energy is saved and the risk of floating layers is minimized.

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