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Treatment and recycling of biomass



Sustainability and protection of resources are particularly important for **MEBA Biogas**. Energy is generated by our plant technology from waste materials that would need to be recycled.

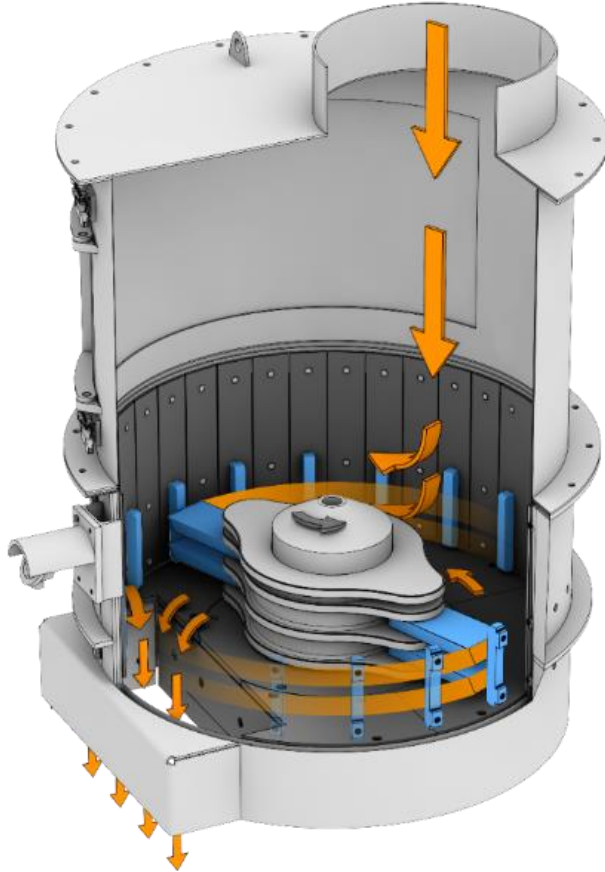
- ✓ Reusability of valuable waste materials
- ✓ Increase of the surface of the biomass
- ✓ Faster and more efficient digestion

Mechanical treatment is profitable!



- ✓ Higher and faster gas output
- ✓ Easy integration
- ✓ Avoiding of floating layers
- ✓ Resistant to disruption
- ✓ Handling with difficult materials
- ✓ Low abrasion
- ✓ Stable system management

The working principle



- ✓ Rotor-mounted hammers in the machine break down the material in seconds (defibration)
- ✓ The knifeless mechanism is resistant to stones and pieces of metal
- ✓ The material is digested before it enters the fermenter
- ✓ Easy to upgrade with existing plant

The renewable raw materials

Increase the surface area by a factor 1000 in a fraction of a second with **the Biogrinder**.

- **Manure**



Before:



After:

- **Maize straw**



- **Sugar beet**



Other materials used - examples

- **Biowaste**

Before:



After:



Remaining field crops:

- ✓ Maize straw
- ✓ Rice straw
- ✓ Maintenance grass, greenery
- ✓ Straw in manure
- ✓ Palm oil fruit peel waste
- ✓ Pineapple leftovers

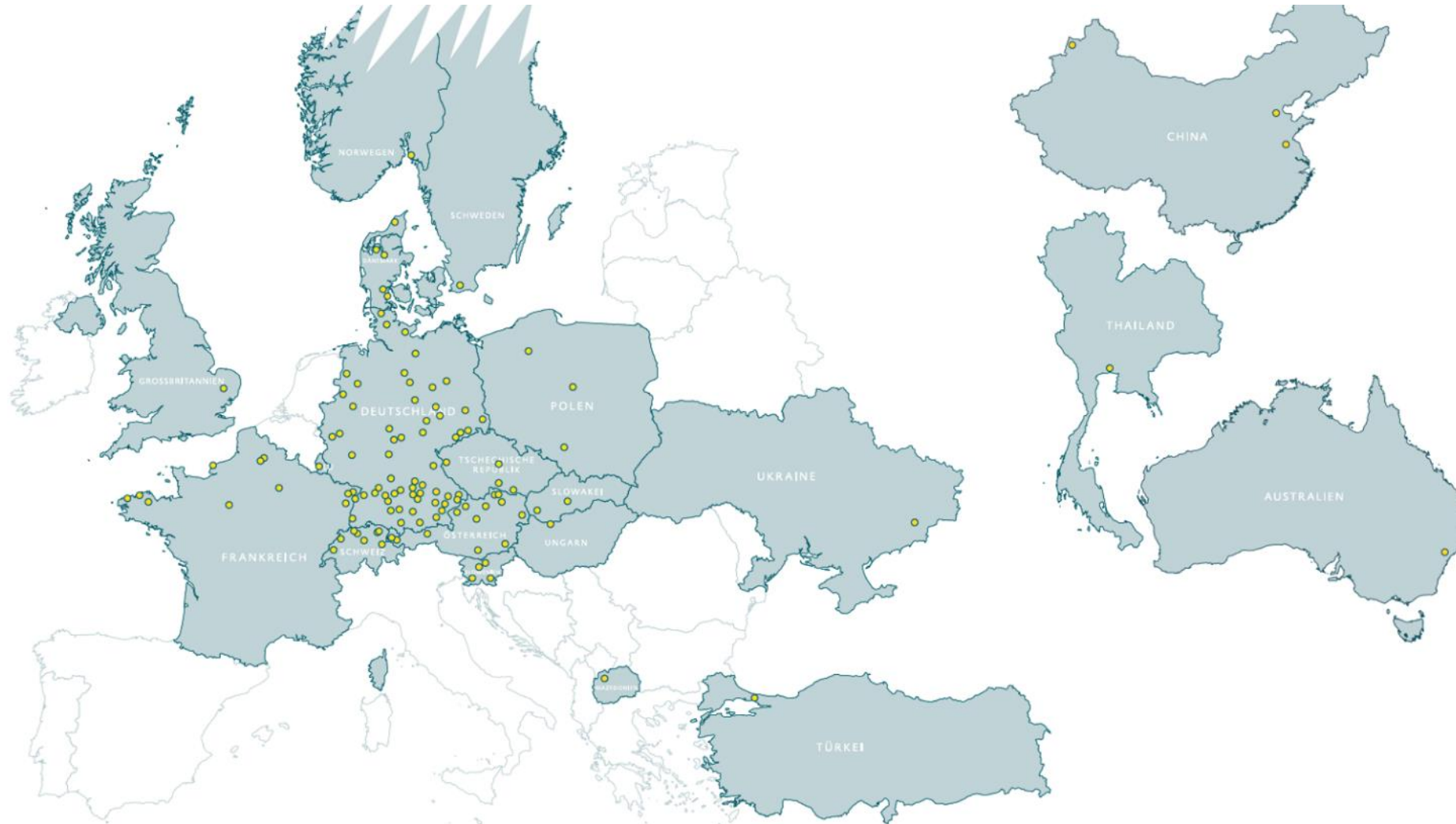
Industrial waste:

- ✓ Package food
- ✓ Food leftovers
- ✓ Slaughterhouse waste

Other waste:

- ✓ Sieve overflow from composting

Over 200 reference plants worldwide



- Examples of biogas plant with mechanical treatment

Our reference plants



Before



After



- Treatment plant for corn silage and horse manure (Germany)



Before



After



- Treatment plant for maize, manure and whole crop silage (Germany)



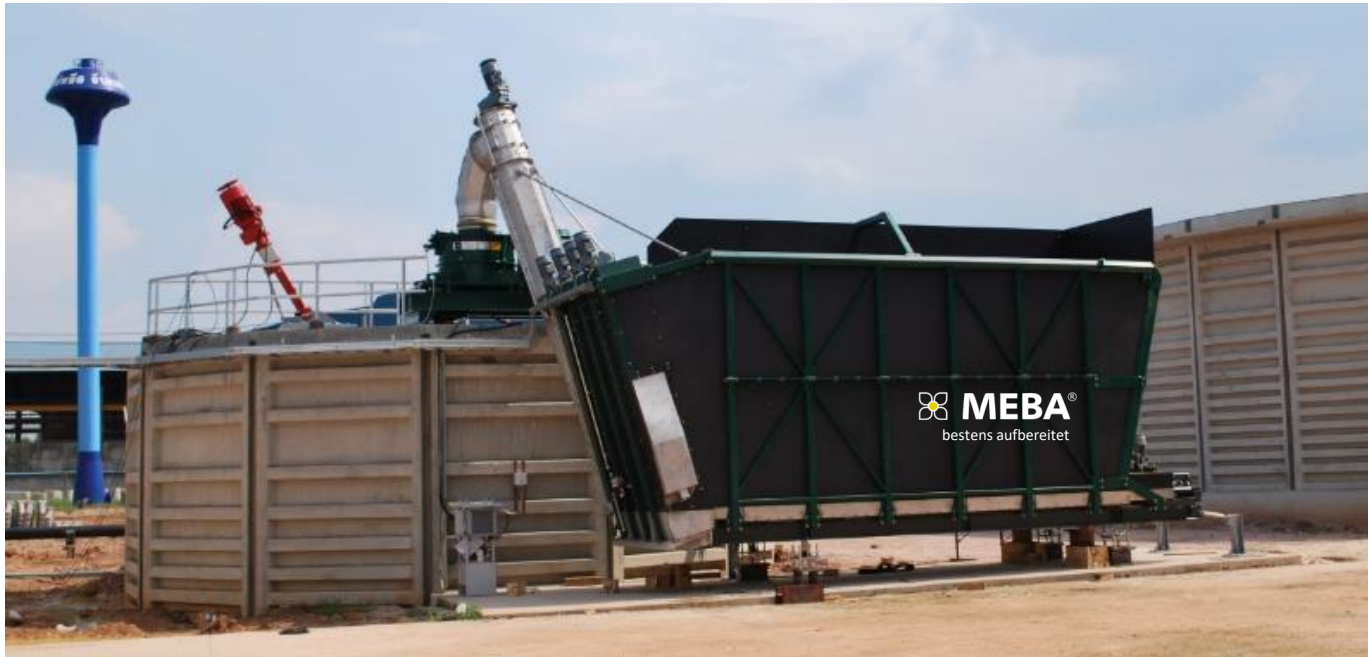
Before



After



- Treatment plant for chicken manure, whole crop silage and horse manure (Germany)



Before



After



- Treatment plant for fruit peels of the oil palm (Thailand)



Before



After



- Treatment plant for pineapple (Philippines)



Before



After



- Treatment plant for sheep, cow and horse manure (France)



Before



After



- Treatment plant for straw and manure (Switzerland)



- Treatment plant for sweet corn, celeriac, vegetables and corn straw (Germany)



- Treatment plant for chicory (France)



- Treatment plant for GPS, pedal manure & dry chicken manure (Germany)



- Treatment plant for Potatoes, sugar beets, manure & corn straw (Germany)



- Mobile Treatment plant for sieve overflows from compost (Germany)

Treated sieve overflow from composting plant

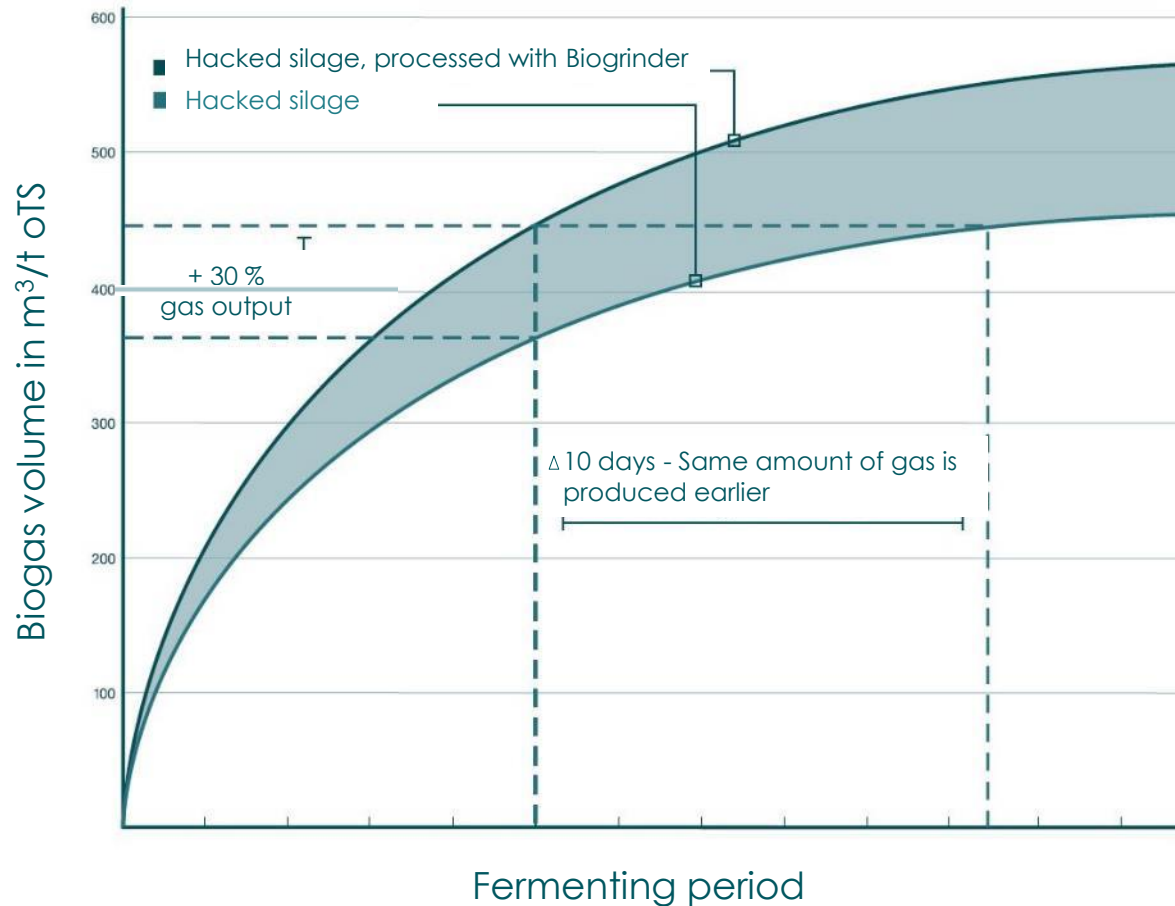


Before



After

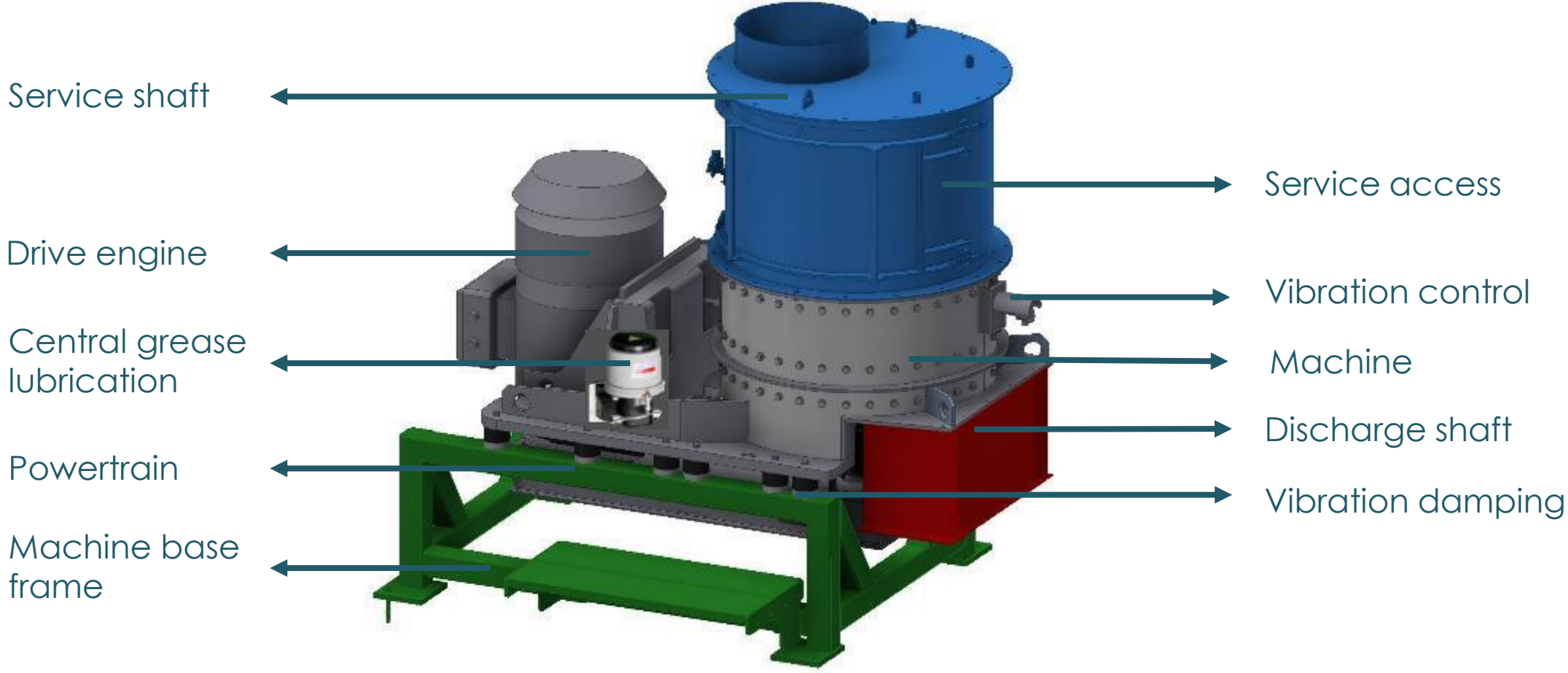
Faster and better gas output



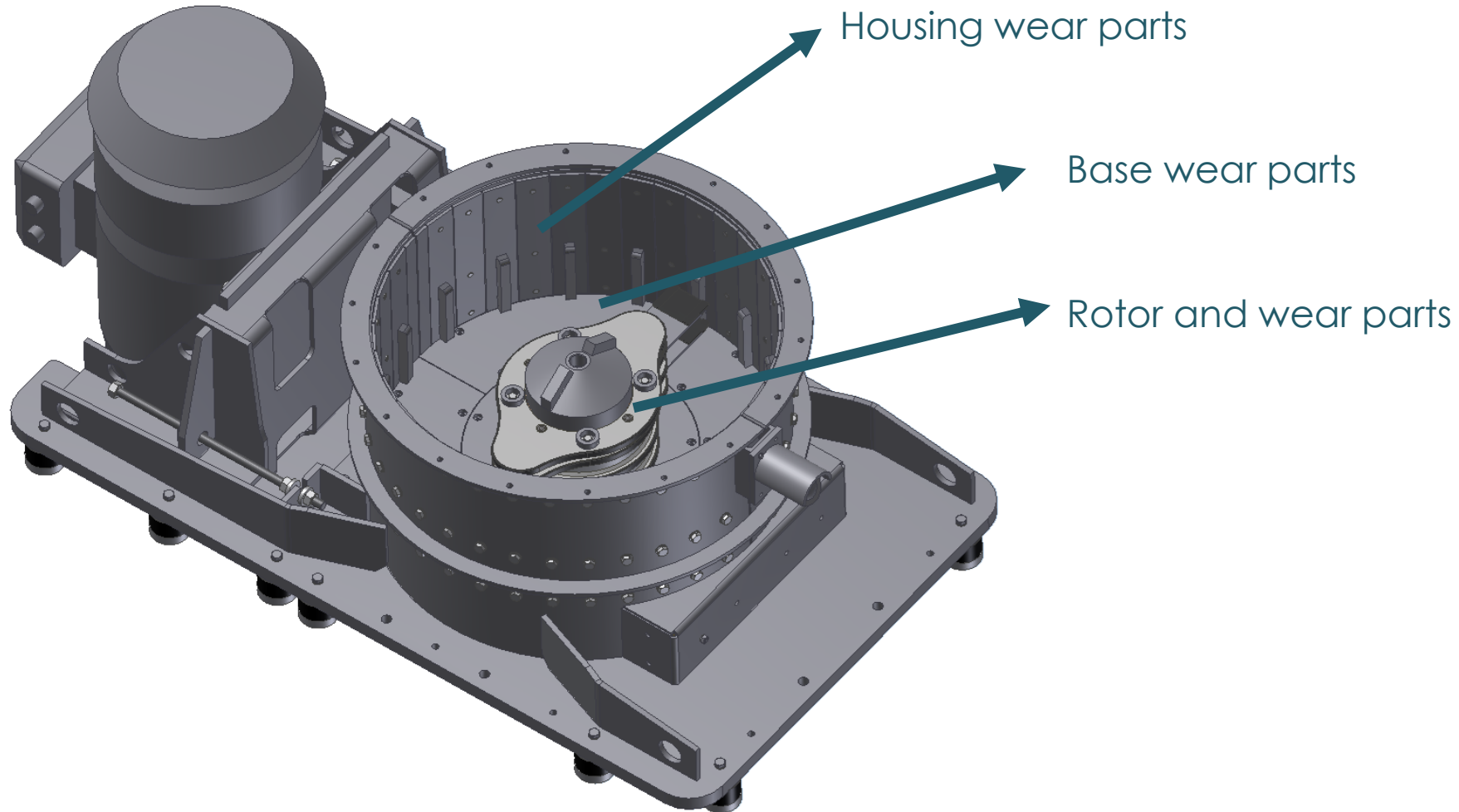
Practical test at the experimental biogas plant at University of Hohenheim (Germany) with horse manure:

- ✓ Increasing the gas output more than 30% by mechanical treatment of horse manure
- ✓ A mechanical pre-treatment of straw in manure is necessary
- ✓ Safe plant management due to stable fermenter

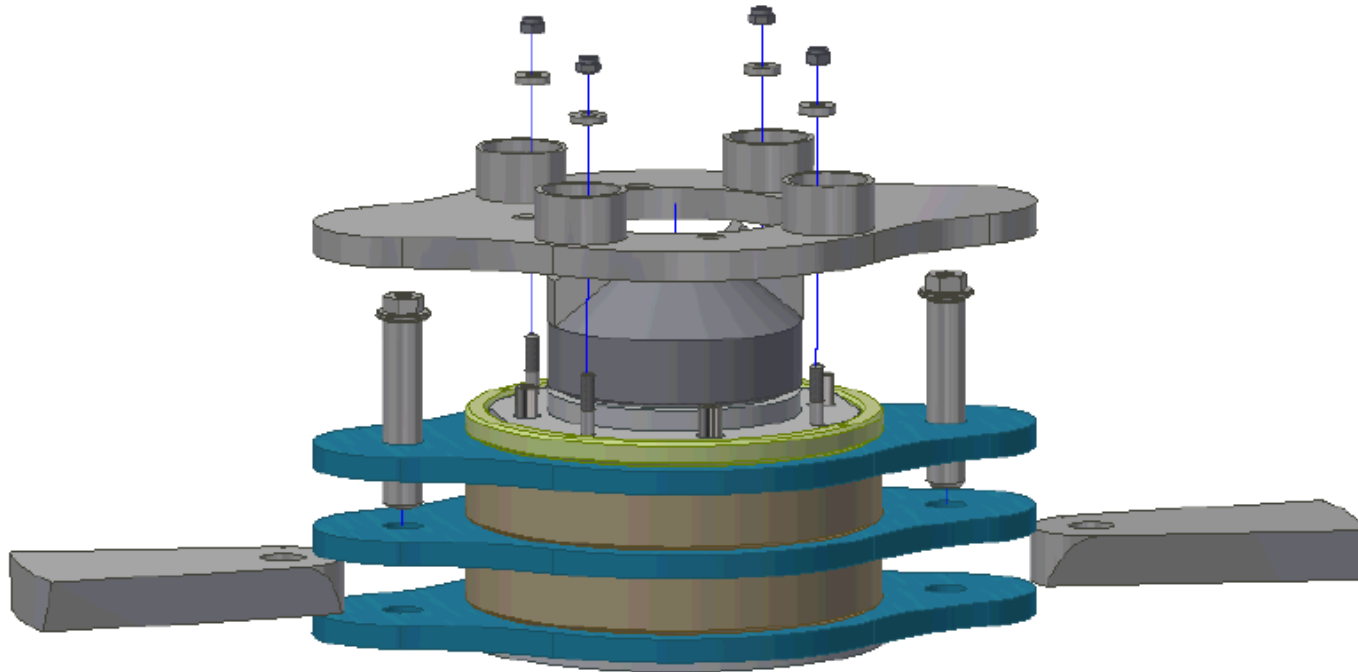
Structure of BHS Biogrinder RBG 08



Rotor RBG 08 – Overview wear parts



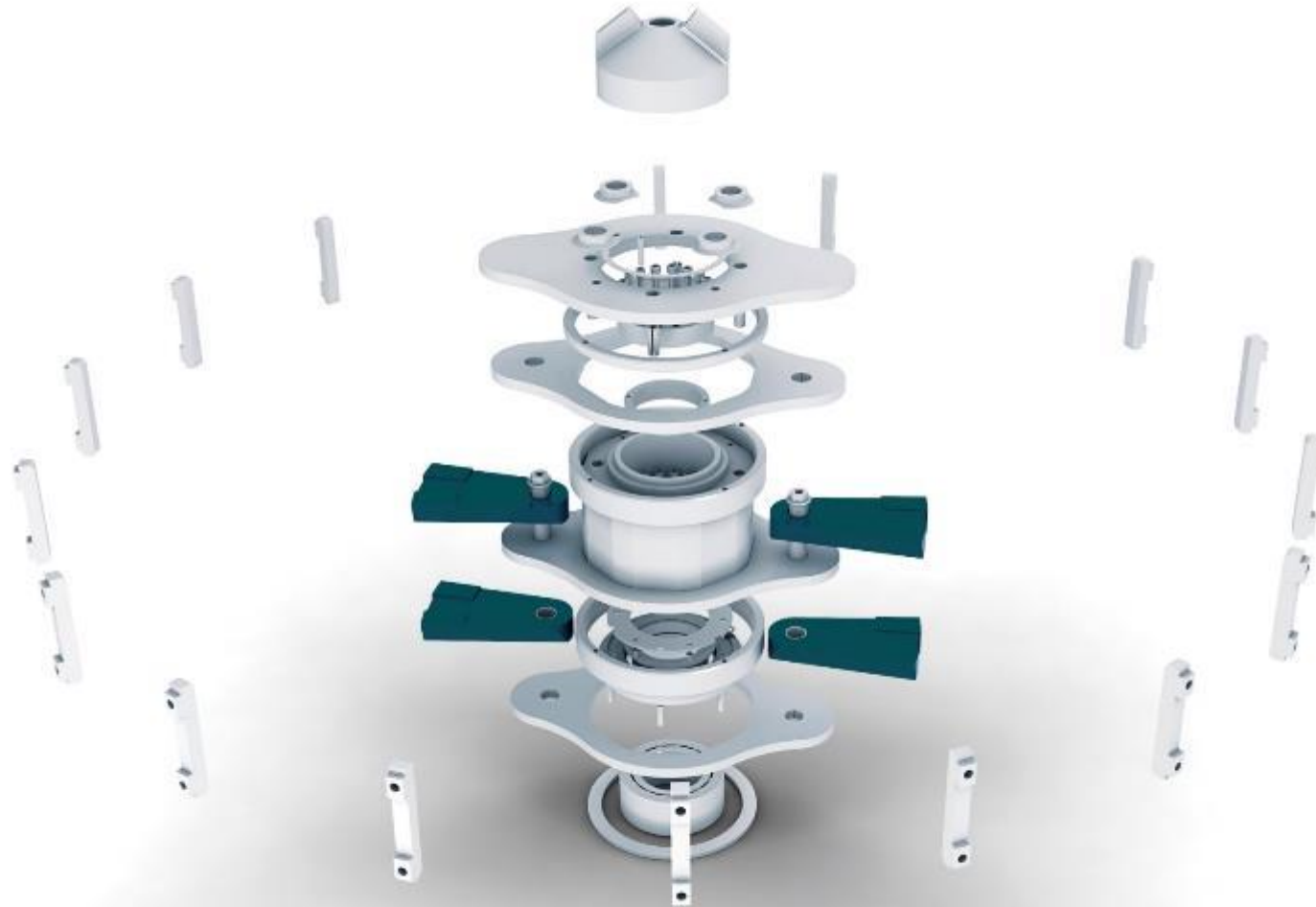
Rotor RBG 08 - Update



NEW: Stainless steel as wall cover instead of Hardox!

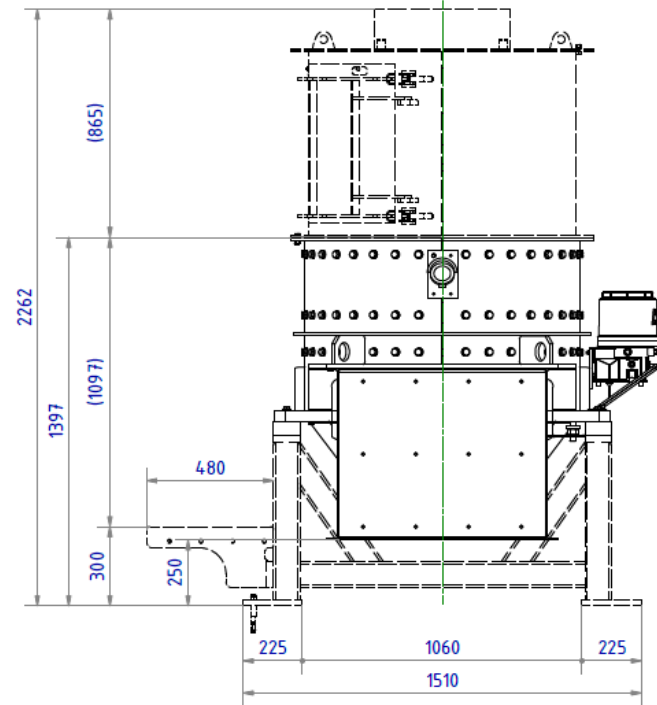
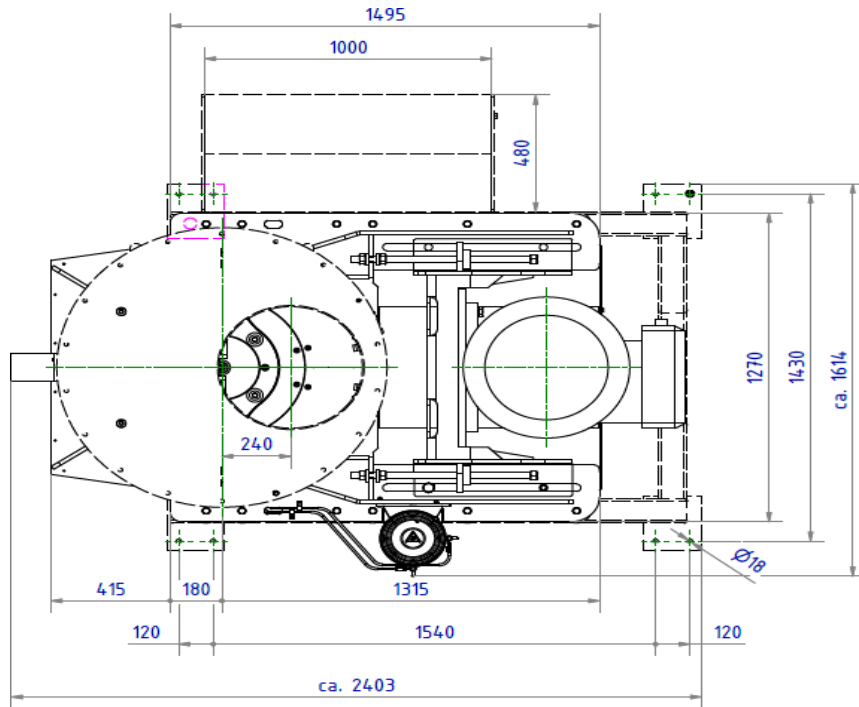
- ✓ Significantly less abrasion
- ✓ Longer service life
- ✓ Less weight per component
- ✓ No crane necessary for exchange
- ✓ Lower cost in case of reparation

Head – hammers - ribs



BHS Biogrinder RBG 08 (55 – 90 kW)

Dimensions and installation space requirements



Your benefits with the Biogrinder

By defibrating you reduce your retention time in the fermenter and increase the output of your biogas plant at the same time.



- ✓ Higher and faster gas output
- ✓ High throughputs with same fermenter volume
- ✓ Substrates with low market value become usable (Field residues and manure)
- ✓ Less energy consumption during stirring and pumping
- ✓ Stable plant handling



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www.meba-biogas.de

**We do not cut,
we defiber!**