

BIOMASS

THE TASK
COMPETENCE
PROCESS FLOW
KEY COMPONENTS





Komptech GmbH

Komptech is a leading international manufacturer of machines and systems for the mechanical and mechanical-biological treatment of solid waste and biomass, and the processing of woody biomass for use as a renewable fuel.

Our product range comprises over 30 different types of machines, which cover the key steps in waste handling and biomass processing.

All share a practical focus and pioneering spirit. Practical focus means that they are designed around our customers' needs, not our own. Pioneering spirit means working towards the future, by further cultivating our accustomed high development expertise.



THE TASK

Solid biomass is intended to make a major contribution to the transition from fossil fuels to renewable energies. However, to reach the ambitious goals for heating and energy generation from woody biomass, it will need to be made available in large amounts.

In keeping with our slogan, „Technology for a better environment“, we have taken up the challenge of finding ways to do this. With the right processing, generally involving shredding, screening and separating, marketable fuel can be extracted from a variety of materials.

In addition to woody biomass from forestry, such as forestry chippings, other material streams can be economically viable and sustainable sources of fuel. These include green cuttings from gardening and landscaping, rootstocks, driftwood and untreated waste wood – all materials which are collected by municipalities.

Our role is to develop the right concepts and most cost-effective machinery for this dynamic market.



01

Fuel from municipal green waste, root stocks, untreated waste wood

High torque, low speed shredders, flexible star screens and high performance turners for fast composting are key machines for the efficient production of renewable fuel. This can be marketed to biomass heat and power plants, as a cost-effective fuel with the calorific value and particle size they need.



02

Processing of forest residues

Forest residue is the collective name for treetops and branches that accumulate when harvesting timber and for rootstocks that accumulate during clearing. Depending on the material, the logistics and the customer requirements, forest residue can be processed by low or high-speed shredders, often in combination with screening machines.



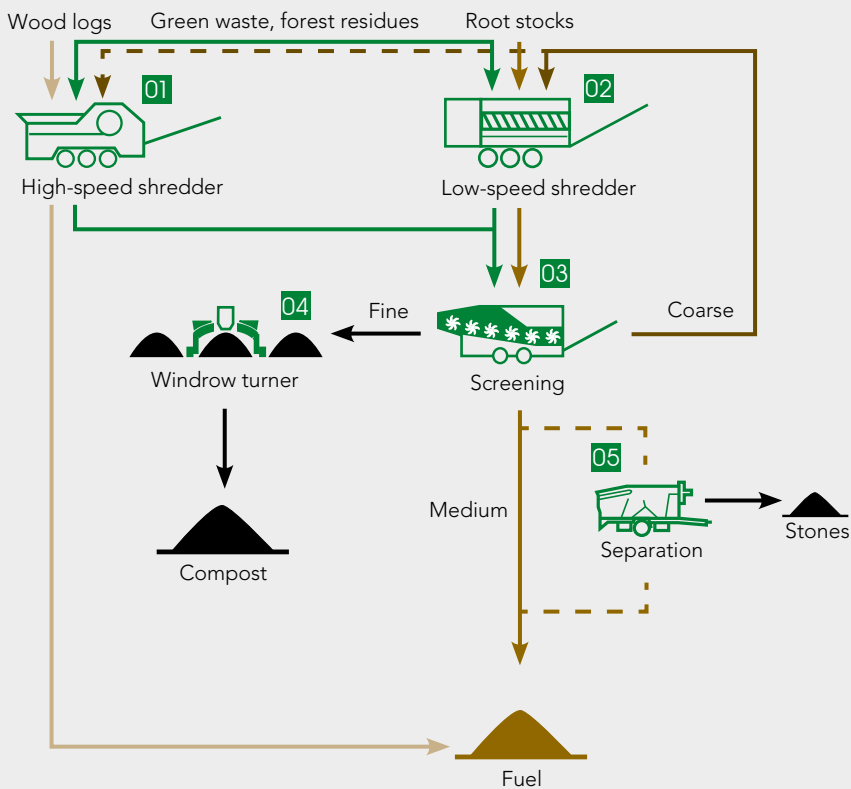
03

Production of wood chippings

Wood trunks not suitable for recycling can be processed into high-quality wood chippings by a Axtor high-speed shredder.



Green cuttings, trunks, rootstocks – Komptech has the right machines to turn any raw material into fuel.



SHREDDING
LOW-SPEED

- 01 Axtor
- 02 Crambo
- 03 Multistar / Drum screen
- 04 Topturn
- 05 Stonefex / Hurrifex



Pre-shredding with a low speed shredder

When producing biofuel from green cuttings, the coarsest possible shred is important, so that woody fractions pass through the composting process largely unaltered, except for drying, and can then be screened out. The Crambo, a tough all-purpose shredder, is ideal for this, as its large screen basket sizes give the right particle size for further processing. Its high resistance to contraries also makes it a good choice for rootstocks and forestry residue.

KEY COMPONENTS

All components shown are available in many different performance ranges, to permit configurations for any desired plant capacity.



SHREDDER
HIGH-SPEED

Shredding / Chipping

A fuel with a coarser structure can be generated from forestry residue and clean waste wood by shredding with the general-purpose Axtor wood shredder, working in shredder or chipper mode depending on the input material. The output can be used as fuel without further processing. For more exacting requirements, the material can be further conditioned by screening and separation.



SCREENING

Screening

A fine fraction, a medium fraction and a coarse fraction can be produced in one pass with Komptech star screeners. The medium fraction is generally the usable fuel fraction. The input material is freed of any caked dirt, ensuring high quality of the usable fraction from forestry residue and rootstocks in particular. The fines are processed as compost, and the coarse particles are returned to shredding and shred with low or high speed shredders. Drum screens can also be used for this task: They provide robust design and universal application.



SEPARATION

Separation of stones

Forest residues and municipal green waste are often contaminated with stones during collection and storage. But stones are undesirable contaminants that reduce the quality and price of biofuels. The Stonefex improves fuel quality by removing up to more than 90 percent of stones and inert materials. If required, lightweight materials (plastic foils) can be separated by windsifting with the Hurrikan. The Hurrifex does both tasks in one step.



- Long feed area, open to the front, with filling capability on both sides
- Active feed with pre-compression and extremely large feed opening
- 2 shredding concepts: shredder mode or chipper mode
- Ideal servicing access to the motor (underfloor engine) and to the shredding area



AXTOR

Shredding and chipping in one machine

The range of products in the field of biomass treatment is now complete with the Axtor. As a fast-running shredder, material for composting is produced - at reduced speed in chipper mode, fuel for heating plants is produced. The input material determines whether the material is chipped or shredded with shredder blades.

Power is provided by a sturdy power band. This power is transferred to the drum via a manual gearbox and comes from a Caterpillar engine in the underfloor mounting position. The product line comprises the high-performance Axtor 8012 and the 6010/5010 models for the middle to high performance range. The machine can be mounted on a 3-axle trailer, a semi-trailer or a self-propelled tracked chassis.



CRAMBO

Robust universal shredder

The Crambo is capable of shredding of wood in all of its various guises - from branch and shrub prunings with a high leaf fraction to rootstocks weighing several tonnes, from untreated pallets to waste wood intermingled with contraries – everything is shredded to the set particle size. Slow-running screws with shredding tools minimize fine particle and noise/dust emissions, and resist contamination.

The particle size is configurable by simply exchanging screen baskets. An important advantage – the Crambo can output exactly the particle size range best suited for the intended application. The hook lift platform, trailer chassis and steel tracks with hydraulic drive options provide excellent mobility. On stationary models, the option of separating the shredding unit from the drive simplifies integration into a larger system.

- High throughput with general-purpose use
- Aggressive feed with long, counter-rotating shredding drums
- Variable particle sizes through simple screen basket change
- Insensitive to contraries
- Slow-running operation minimises noise and dust emissions
- Crambo direct: Efficient mechanical drum drive for top economy



- Separation into 2 or 3 fractions with one machine, in one pass
- High throughput with precise selectivity using the CLEANSTAR system
- High flexibility, with particle size changes in seconds
- Ease of operation and simple servicing with intelligent machine design
- Multi-functional with numerous options



MULTISTAR

Star screens

Up to three fractions can be produced in one pass with Komptech star screens. As the material passes over a bed of rotating sprocket-shaped "stars" they knock any impurities off the material, giving a high quality output. The screen units are continually cleaned by the patented CLEANSTAR cleaning system. To change the particle size, the operator need only press a button – the machine does the rest. The electrical drive gives quiet, efficient and economical operation.

Magnet separation, wind sifting and removal of rolling fraction make star screens multi-functional - anything is possible. Mobile machines range from simple hook-lift models One and S3 to the high performance XXL class. The modular design of stationary star screens allows configuration of feed hopper, screen decks, wind sifter and magnet separation to the separation job at hand.



DRUM SCREENS

Mobile and stationary drum screens

Komptech has a broad range of drum screens for virtually any application, with a choice of diesel-hydraulic or electric drive, from mains power or an on-board generator.

The hydraulic machines feature tough, proven technology, in size classes starting with the Primus and Maxx machines for medium to large composting operations, and ending with the Nemus for meeting the highest requirements.

On the Cribus series, the focus is on operating costs. Everything on the Cribus is driven electrically, from the hopper to the discharge belts. This, together with numerous innovations, minimizes the energy, wear and servicing costs of the whole machine.

For the stationary drum screens, variable substructure, service access, housing and drive configurations simplify adaptation to on-site conditions.

- A wide product range for any need
- Extensive options for individual configurations
- Hydraulic machines with tough, proven technology
- Cribus series with electric drive for the lowest operating costs
- Stationary machines with variable configurations for optimum adaptation to location and application



- Dependable removal of up to more than 90 percent of stones and inert items (depending on input material)
- Throughput up to 100 m³/h with configuration for input particle size of 10-150 mm
- Wide range of application due to simple modification of separation limits
- Low energy costs due to electrical drive of all components
- Compatible with almost all mobile screening machines



STONEFEX

Stone separator

The Stonefex 3000 stone separator reliably and very effectively removes stones and inert items from biomass fuels. The input material is the usable biofuel fraction from a screener, for example woody green cuttings, screen residue from compost, or forestry chips. A patented system of pressure and suction blowers generates exactly the

right air flow in the separation chamber to remove stones and heavy objects from the wood. Fractions that were previously difficult to use due to their high amount of stones can now be processed into fuel. Biomass processors profit from better customer demand for their fuels and higher sale prices.



- Combination machine: Savings in space, materials and transportation logistics compared to two separate machines
- Very broad range of uses, with simple operation and high availability
- Separation efficiency up to more than 90 percent with a throughput of 60 m³/h (depending on material and loading)

HURRIFEX

Stone and light material separator

The Hurriflex combines a stone separator and wind sifter in a single machine. This makes it possible to clean compost and biomass fractions of stones and light materials - primarily plastic film - in one pass. Easily adjustable separation parameters give the Hurriflex a wide range of applications, and a separation efficiency of up to more than 90 percent.

All components are electrically powered, using grid power or the onboard diesel generator. Maintenance doors in the cladding provide full access to all maintenance points. In addition to the stationary version, there are mobile centre axle trailer and semitrailer versions.

TECHNOLOGY FOR A BETTER **ENVIRONMENT**



Komptech GmbH
Kühau 37, A-8130 Frohnleiten
[t] +43 3126 505-0
[f] +43 3126 505-505
[e] info@komptech.com

www.komptech.com

We reserve the right to make technical changes
in the course of ongoing development.

E2017