Description: SMASHER

This machine is designed for initial opening of electric and electronic devices and disassembly without crushing and destroying harmful substances and components.

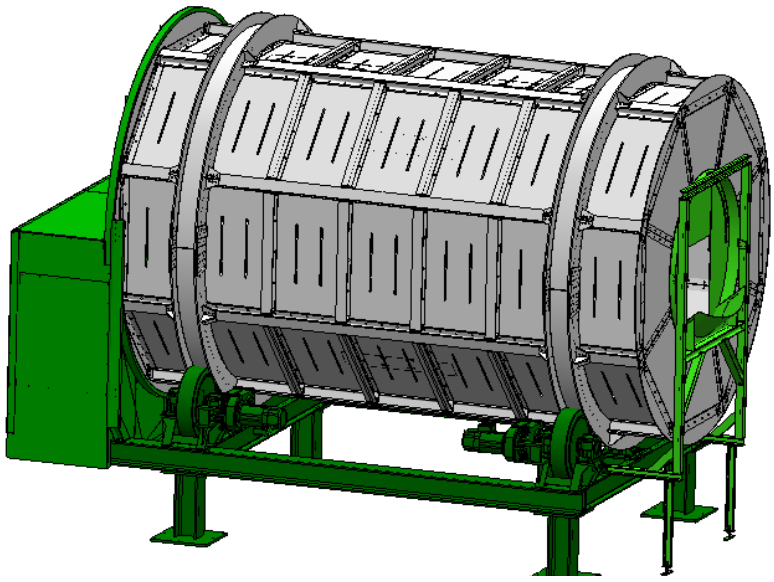

Fig. 1: Smasher – overall view

This machine was developed for processing electric and electronic waste (materials from private or municipal collection stations).
The functional design principle strictly considers the European WEEE scrap directive 2002/96/EG.

Purpose of the machine:

The SMASHER is designed for initial opening of electric and electronic devices and disassembling thereof without crushing and destroying harmful substances and components.

Principle:

After WEEE (End of Life Electric and Electronic Products) collection, all equipment containing „ecologically active“, components (i.e. mercury switches, radioactive parts and the like), which may be destroyed during crushing and are hazardous for the environment are picked for manual disassembly.

The pre-sorted WEEE are fed into the SMASHER and 'smashed'. Smashing means initial opening and disaggregating into components. In other words, the material within the SMASHER is treated by an autonomous impact process, NO cutting tools, NO shearing. Products break up into large pieces of equipment housing, subassemblies and single components.

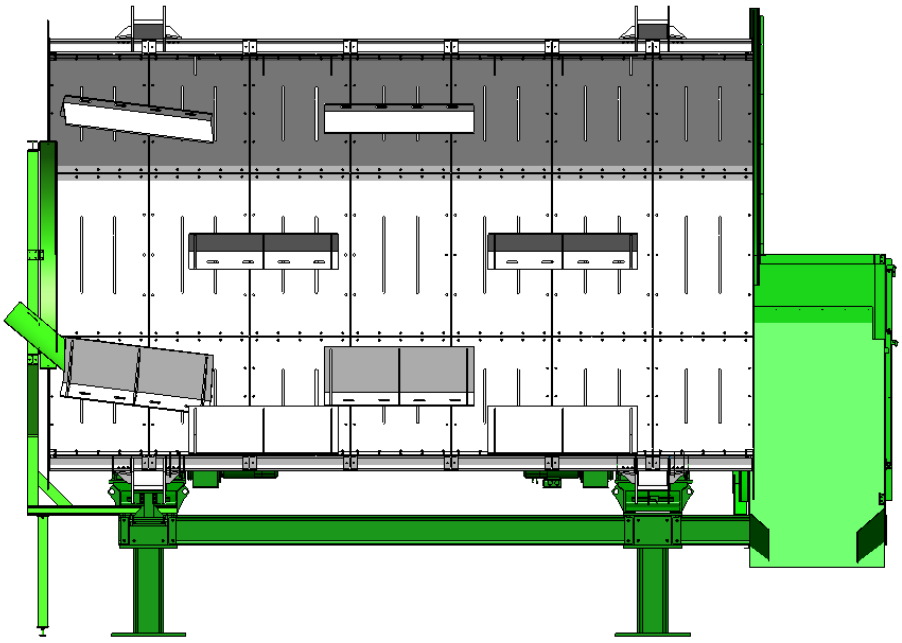

Fig. 2: Smasher – sectional representation

The material obtained by the smashing process, is fed onto conveyors for manual picking according to product categories like: batteries, button cells, condensers, large plastic parts etc. (see fig. 3)

.

Fig. 3: Example Smasher

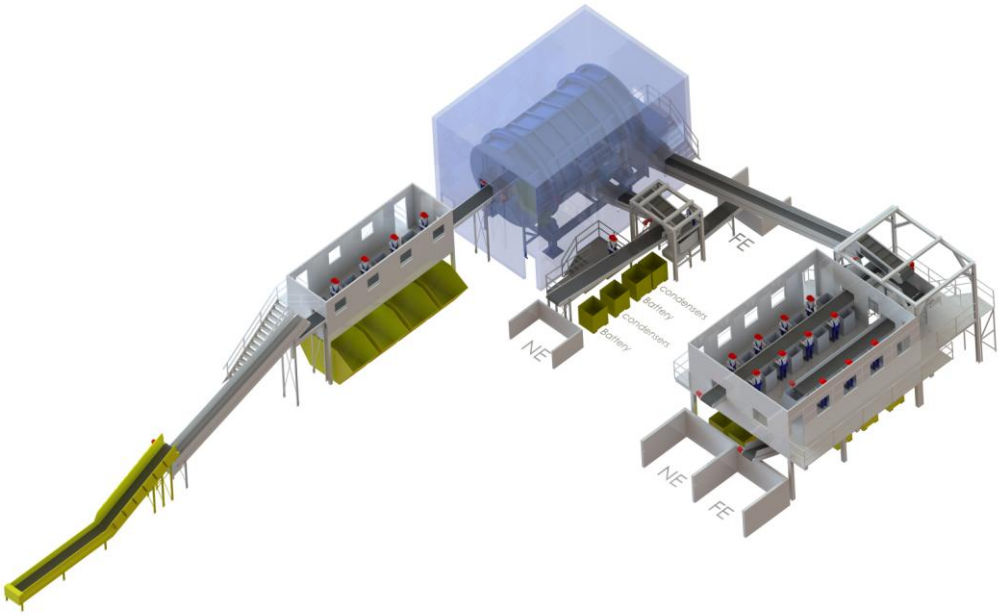

Fig. 4: Example Smasher – WEEE Separation

Equipment and parts of it, which were not reduced to the required size or dimension, may either be reintroduced into the SMASHER for another run or alternatively be disassembled manually.

Equipment or parts, not containing any harmful components, are usually reduced in size by suitable shredders, granulators or similar machines.

The non-magnetic light material and Non-Ferrous metals obtained after shredding (a mix of non-ferrous metals, plastics and rubber, different composite materials including PC-Boards, cables and minerals) can be treated in a separation plant. (see fig. 4)

Key benefits

- **No expensive dismantling operation** necessary for WEEE equipment,
- Tremendous **labor cost reduction**
- Easy **elimination of harmful components**
- Easy **manual sorting of valuable materials** (e.g. PC-Boards, electric rotors)

Material and processing results:

Based on SMASHER operation tests including manual sorting of harmful components after pre-crushing, the following distribution of the collecting categories was realized. The resulting products of these tests were taken from municipal WEEE collection (~70 %) and industrial electric / electronic waste (~30 %). according to the categories of WEEE regulations. The following mix has been treated:

approx. 70 – 75 % IT and telecommunication equipment
approx. 10 % small electric appliances
approx. 5 % big electric appliances
approx. 3 % user electronic
approx. 5 % medical equipment
approx. 2 % electric / electronic tools
approx. 2 % measurement and control instruments

Additional characteristics (specifying the type series, not a single machine)**:**

- Dimensions: length, width and height according to size type
- Maximum input particle size: 600 x 600 x 600 mm
- Weight of the machine: approx. 35 – 60 t depending on size type
- Drive: electric motor with frequency converter
- Installed motor power: approx. 22 - 44 KW
- Drum rotation speed: up to 7 rpm
- Rotation direction of the rotor: non reversible
- Dedusting system: required

Machine characteristics are subject to change without notice.

Contact:

KM Key Machinery GmbH
Wachsenegg 3
87477 Sulzberg Germany
Fon: +49 8376-921828-0
Fax: +49 8376-921828-99
Email:info@kmrecycling.de
Web: www.km-recycling.de