



# ZÖLDGÉPEZET

Korlátolt Felelősségű Társaság

## Bonfiglioli Drake 2000-16 Hammer Mill Specification

Specification no: Zold089-Bonfiglioli Drake



### **TECHNICAL DESCRIPTION**

The Drake 2000-16 HM is a compact hammer mill type metal shredding system.

This model is capable of efficiently shredding the following types of metal scrap:

- Light mixed scrap
- Entire mixed metal scrap bales or car bales
- Entire cars including engines, transmissions, running gear etc.
- Aluminum and other types of non-ferrous material

### **SHREDDER OPERATION**

The loading hopper is generally charged with an elevated cab type material handler using grapple or magnet. To achieve optimum production it is best if the loading hopper is constantly maintained full of scrap. This optimises the shredding operations inside the chamber. The material placed into the charge hopper does not need to be pre-sheared

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or compressed. The machine will automatically compensate and size material to the dimensions of the hopper to allow it to enter the shredding section from the feeding chamber.



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There is no risk of overloading the hopper or system. The shredding operation, including material in-feed, is electronically monitored. Machine controls will match and balance machine operation function with volume of material. The downstream is fully automatic and which makes the job of the person monitoring the overall shredder operation easier and more effective.

The mill rotor is protected from damage by a patented clutch system.

The mill plant is equipped with a conveniently located knock-out door with hydraulic access. The door is manually operated and allows the service personnel to remove obstructions as well as to perform routine maintenance such as changing hammers (approx 4-5 hrs to complete), checking the status of internal lines, and generally monitoring the condition of the unit

### **TECHNICAL DATA SHEET**

#### **With Diesel Engine**

Type: 960 HP

Fuel: gas-oil

**OR**

#### **With Electrical Motor**

Type: 750 kw

**Aspiration plant:** 5 outlets  $\varnothing$  40cm (h = 35 cm H<sub>2</sub>O)

#### **Hydraulic plant**

Working pressure: 250 bar

Oil tank capacity: ~ 30 gallons max

**Rotor:** 16 hammers

**Rotor RPM:** 950-1000

**N° of axles:** 4

**Hammer weight:**  $\cong$  168 kg

**Max Productivity**  $\cong$  up to 20-24 t/h under normal working conditions, depending on the quantity & quality of material and ability of the operator.

### **COMPLETE PLANT**

The complete plant is composed as follows:

- Loading hopper built with **high strength steel Hardox 500**
- Central body with rotor, hammers, grid and diesel engine (or electrical motor at customer choice) with WYE Delta star system for start-up
- 2 vibrating units
- 2 permanent magnets
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3 conveyors (2 of 5 meters each for the waste and one of 10 meters for the final product "shred material")

- 1 big dust aspiration plant with 5 outlets



## **OPTIONAL ITEM**

### **Eddy Current System separator (ECS) to segregate the non-ferrous metal from the waste/fluff**

The separator for non-ferrous metals ECS is based on the principle of electrical currents (Foucault currents) that a rotating magnetic field induces on the surface of metals which are very close to the field itself.

The induced currents circulating on the non-ferrous metallic part to be separated generate on it a repulsion just to create a jump which permits its separation from the flow of the inertial material

1. separation of ferrous materials
2. vibrating channel
3. ECS separator
4. additional magnetic separation
5. discharge of inertial materials
6. discharge of non-ferrous material

The material to be processed is submitted to a first magnetic separation (1) and then it is discharged on a vibrating plan (2) which enlarges the flow.

The ECS conveyors (3) carries the non-ferrous material on the magnetic rotor which induces a violent repulsive force. It happens consequently a ballistic separation among the three components of the processed material. The ferrous waste, attracted by the magnetic rotor, are discharged on the hopper and the inert waste fall down into the central hopper (5), the non-ferrous metals (aluminium, copper, bronze, brass) are thrown and discharged in the hopper (6).

### ECS APPLICATION

The ECS system is employed in the recovery plant of renewable materials such as:

- cars shredding plants
- urban solid waste plants
- glass, wood, plastic and paper recycling plants

### **SPARE PARTS**

A full standard set of Spare Parts to undertake the first maintenance of the unit is part of the supply. It includes:

- 2 sets of hammers
- 2 set of axles
- 1 hammer extractor
- 1 set of filters for hydraulic board
- 1 set of pc board
- 1 set of sensors for bumpers and clutch
- 1 water pump
- 1 rpm reader
- 1 set valves
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- 1 set of flexible hoses for aspiration plant
- 1 set of rubber ribbons for conveyors
- 1 set of gearboxes for conveyors, magnets and vibrating plans
- 1 set of plastic bags for dust aspiration plant
- 1 set of side walls for the loading charging hopper





## **ING.BONFIGLIOLI DRAKE 16 HAMMERS SHREDDER STRENGTH POINTS**

- 1) Small footprint required
- 2) Rotor: copyright patented barrel type rotor. Hammers and pins replacement easily accessible, set replacement in a few hrs
- 3) The rotor does not have to be replaced but just hard-faced every 5000 approx. 2 working years = no consumable expenses**
- 3) Engine: Diesel or Electric at customer/s choice. Low HP requirement to run the shredder = low running costs**
- 4) Interchangeable 4 grid components system which required just an hour for a replacement. Simply remove the wearied piece and replace it with the new one. The wear one can be hard-faced = **no consumable expenses.**
- 5) Extremely efficient dust filtration system included in the setup (dust analysis available on request).
- 6) Machine noise level within the international limits (noise test available on requests).
- 7) Inexpensive civil works (foundation) required. Very minimal site preparation required vs other shredders. Site preparation consists mostly in construction of a simple reinforced concrete pad.
- 8) Lowest running cost in its category
- 9) Copyright patented design makes it possible to run the shredder at very high RPM (1000) with massive heavy weight hammers using a lower HP engine. The result is the same no.1 quality density shred with unbeatable low running costs.
- 10) High degree of customization with our yard engineering support
- 11) Possibility to increased/decreased the material density/output modifying the grid components.
- 12) Low labour costs with only 3-5 man crew required to operate the system
- 13) Large spare parts kit supplied with the machine free of charge.



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Performances are subject to scrap density, feed rates, and other variables.  
All specifications are subject to change without notice