



Since 1883

# Hammer Mills

## CHAMPION SERIES



• HEAVY DUTY •

• HIGH TIPSPEED •

• LARGE SCREEN AREA •

• HIGH CAPACITY •

• LONG LIFE HAMMERS •

• EASY ACCES •

## *Robust* **THE CPM ADVANTAGE**

The CPM Champion hammermills have been designed extremely heavy duty to perform under the most demanding conditions. The Characteristic tear circle design in combination with the high tipspeed, makes the CPM *Champion a true winner.*

■ HIGH PERFORMANCES ■ LOW COST MAINTENANCE ■ MAXIMUM SAFETY



Since 1883

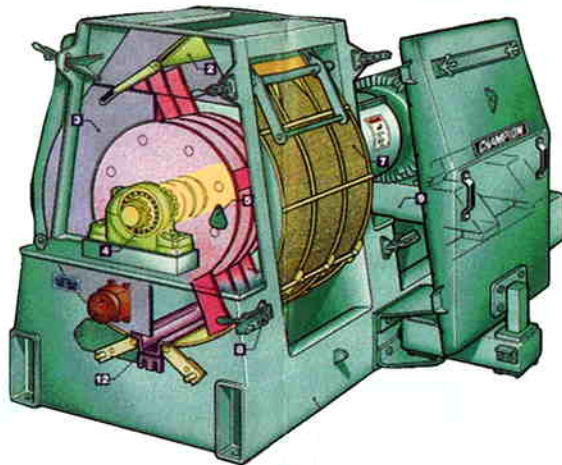
# Your partner

## CPM CHAMPION HAMMERMILLS

*A true winner*

Since many years, hammermills are used in various industries and nowadays often play an important role in production facilities. The most hammermill grinders are used in the animal feed industry, but also in other industries, hammermills are found.

Grinding of products like saw dust and wood chips for fuel purpose are nowadays very common. Grinding of tough, fibrous products require stronger and more heavy duty machinery.



For grinding pet foods and aquatic feeds also other demands apply. The ability of fine grinding at high capacity requires hammermill features like large screen area, high tip speeds and a small clearance between hammer and screen.

The hammermills of the Champion product line have been designed to suit each specific grinding requirement.



### THE ROBUST DESIGN

To withstand the heavy loading on the hammermills while grinding tough and fibrous materials like biomass, the Champion hammermills have been designed with an extremely heavy duty base frame. The mass of the hammermill absorbs any vibrations while the stiffness of the frame allows a very small clearance between hammer and screen. In combination with the very high hammer tip speeds, this hammermill assures efficient fine grinding under smooth running conditions.

### BIG SCREEN AREA

The screens encircle the grinding chamber with nearly continuous screen surface for maximum grinding action and throughput per cycle. Especially for fine grinding applications like pet foods and aquatic feeds, the champion hammermills have a wide range of screen areas available. Grinding pet foods through as small as 0,4 mm screens will reduce the effective open area dramatically. Using the enormous screen area available on the Champion hammermills will optimize the capacity even while grinding extremely fine.

### HIGH TIP SPEED

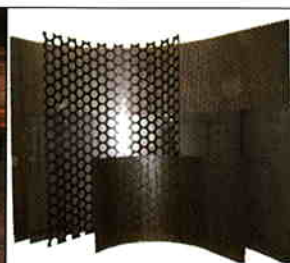
A very important parameter of hammermill grinding is the circumferential or tip speed of the hammer. High tip speeds are very suitable for fine grinding. For coarser grinding requirements, lower tip speeds can be



Champion Hammers



Rotor



Screens



Heavy Duty Split Bearings

# in productivity

applied. Champion hammermills cover a wide range of tip speeds, from low speed for efficient coarse grinding to very high speed for effective fine grinding applications.

## HAMMER TO SCREEN CLEARANCE

For some applications, the distance between the tip of the hammer and the screen is a very important parameter. For example fine grinding of fibrous products or fatty raw materials like aqua or pet foods require a very low hammer to screen clearance. This low clearance improves the sweeping of the screen and reduces the residence time of the product in the



hammermill grinding chamber, preventing heating up and moisture loss of the product. All Champion hammermills have a so called coarse and fine grinding position, which refers to the distance between hammers and screen. Because of the rigidity of the base frame, the Champion hammermills can maintain a very low hammer to screen clearance in fine grinding position. This, in combination with the high tipspeed, makes the Champion hammermill a true winner.

## TEAR DROP CIRCLE

The so called tear circle design is characteristic for the Champion hammermills and refers to the shape of the screen. In conventional hammermills, the screen

describes a full circle. The centrifugal force is causing the product to follow the screen profile while being dragged forward by the hammers. The higher the speed of the product, the more difficult it is to escape through the screen holes. Also the reduced speed difference between the hitting hammer and the product reduces the grinding efficiency. The tear circle shape actively eliminates this full circle movement. Therefore the product escapes the screen easier and increases the differential speed so that an improved efficiency is created.

## PATENTED REGRIND CHAMBERS

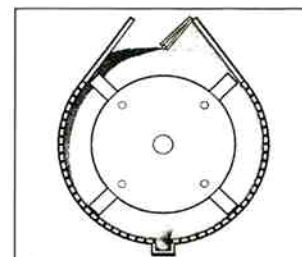
A double grinding action is created since material is forced at highspeed into the regrindchamber and quickly deflected back up into the path of the rotating hammers. This results in a greater operating efficiency and higher material throughput.

## AIR SWEEP GRINDING CHAMBER

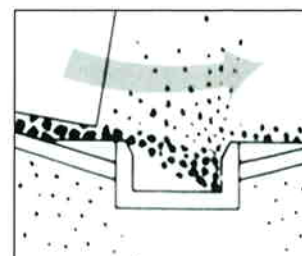
The air swept design reduces dead air space in the hammermill housing. This reduces contamination and fire risk and improves the efficiency of the air flow. For fatty or moisty products Champion hammermills are equipped with an extra air inlet on the doors to keep the interior of the mill clean.

## HARDENED HAMMER

An important wear item in a hammermill are the hammers, which are in contact with the product all the time. By applying special hard facing on the hammer tips, the hardness and the wear resistance of the hammers is increased enormously to improve the service life. Depending on the grinding application, different type of hard facing can be applied.



Tear Drop Circle



Regrind Chamber



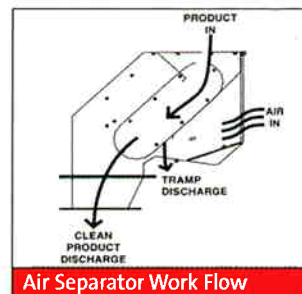
Large Diameter Rotor



Screen Carriage



Air Separator Feeder



Air Separator Work Flow