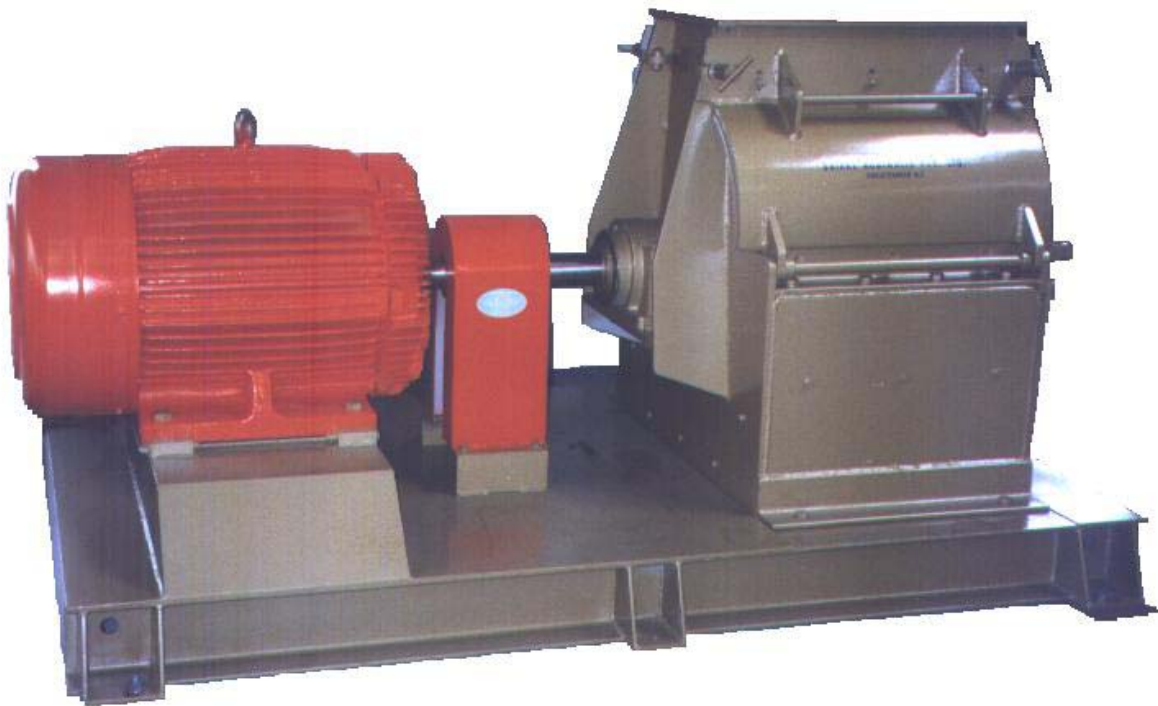


Hammer Mill Type FHMA



APPLICATION

Satake hammer mills are widely used throughout the process industries for particle reduction applications requiring high capacities, power efficiency and uniform particle size. G series hammer mills are suitable for grinding a range of products processed in the agricultural, stockfeed and flour milling, food and pharmaceutical industries. The design of the G series mill allows for fast screen changes, making it well suited to producing different products.

There are numerous G series hammer mills in operation in Australia, New Zealand and the US (over 12,000) and we have extensive field experience of their application. The capacity of the hammer mill is dependent on the size

and type of the incoming product, the hammer configuration and the finished product specification to be achieved. The grind is also very dependent on the hole size and open area of the screen, the tip speed of the hammers the distance between hammers and screen and the total screen area.

We have extensive experience of their use and can advise on the best hammer mill and process flow for your application.

OPERATING PRINCIPLE

The grinding action of the hammer mill is caused by a combination of impact from the high tip speed of the free swinging hammers on the product, particle to particle impact and the cutting edge of the screens and breaker bars.

The product enters at the top centre of the machine and falls into the grinding area. The centre feed distributes the product across the full width of the screen area giving even hammer wear. Initially the product is impacted by the hammer and is then immediately conveyed to the area between the hammer tips and the screen by a combination of hammer impact, air flow and centrifugal force. In this zone the final grinding action is achieved and the ground product exits through the apertures in the screen.

The fast rotation of the hammers also creates a fan effect within the machine and air is drawn in through the inlet with the incoming material and exits through the screen.

FEATURES

The hammer mill features a top centre feed and fully symmetrical screen assembly, allowing the rotor to be reversed so both edges of the hammers can be used before replacement.

The screens are “full”, giving the maximum possible screen area. They are located where extensive tests show that most of the grinding takes place. They are mounted in heavy duty frames which maintain correct clearance between hammers and screens. The rotor is wide, to allow adjustment of hammer configuration and a wide variety of product to be ground, and is supported between two heavy duty outboard bearings.

The hinge mounted covers that enclose the grinding chamber can be quickly released for easy maintenance and screen changing.

The hammer mill motor size and speed are selected for the application. Motors can be mounted with a vee belt or direct drive arrangement.



PRODUCT TESTING

Satake manufacture hammer mills under licence to Prater, a leading US process machinery company. Satake has adapted Prater designs specifically for use in Australasia. Together Satake and Prater have a wealth of technical data for a wide range of grinding applications with test facilities available both in Sydney and in the US.



TECHNICAL DETAILS						
TYPE FHMA	G5	G6	G7	G8	G18	G24
SCREEN AREA	434 x 652	840 x 400	970 x 480	970 x 550	1680 x 506	1680 x 635
No. OF SCREENS	1 - HS	1 - HS	1 - HS	1 - HS	2 - FS	2 - FS
TOTAL SCREEN AREA	0.283m ²	0.336m ²	0.465m ²	0.530m ²	1.700m ²	2.135m ²
Kw	11	22	37/55	37/90	110/180	150/220
MOTOR SPEED	2880	2880	2880	2880	1440	1440
TIP DIAMETER	0.376	0.527	0.65	0.65	1.304	1.304
TIP SPEED	3400 m/min	4770 m/min	5880 m/min	5880 m/min	5900 m/min	5900 m/min