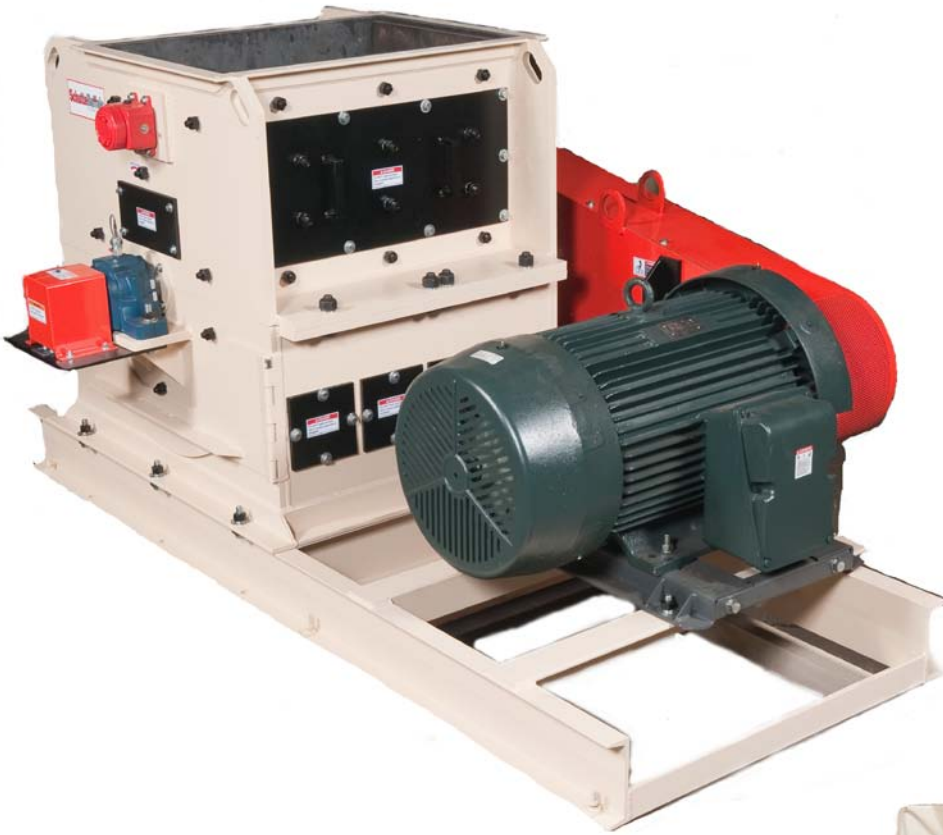


SchutteBuffalo

HAMMER MILL



The Industrial
Hammer Mill: A
Versatile Workhorse



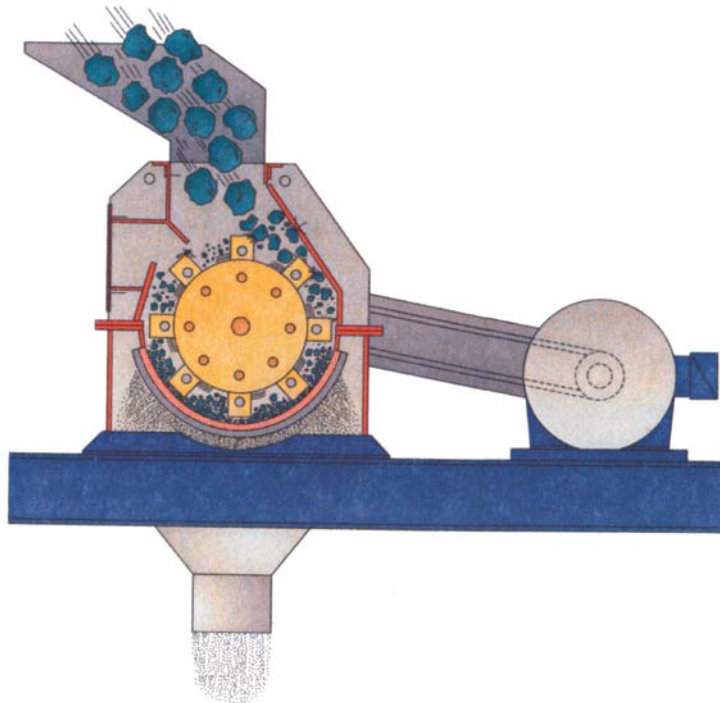
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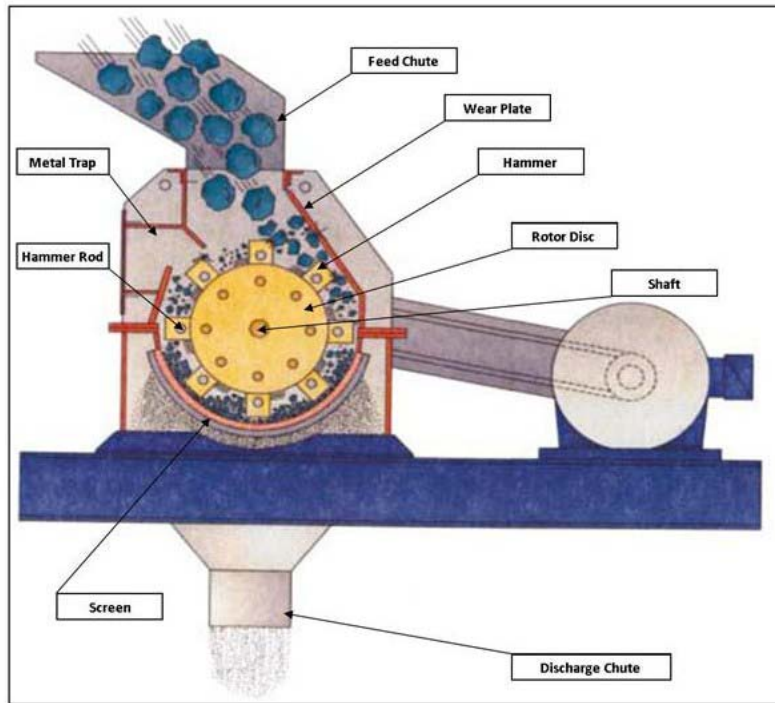
One Design, Many Applications

The basic design of the industrial hammer mill is really quite simple:

- A steel chamber containing a shaft to which rectangular steel hammers are affixed.
- Replaceable plates lining the mill's interior to reduce wear caused from grinding abrasive materials.
- Steel screens or bar grates cover the mill's discharge opening.



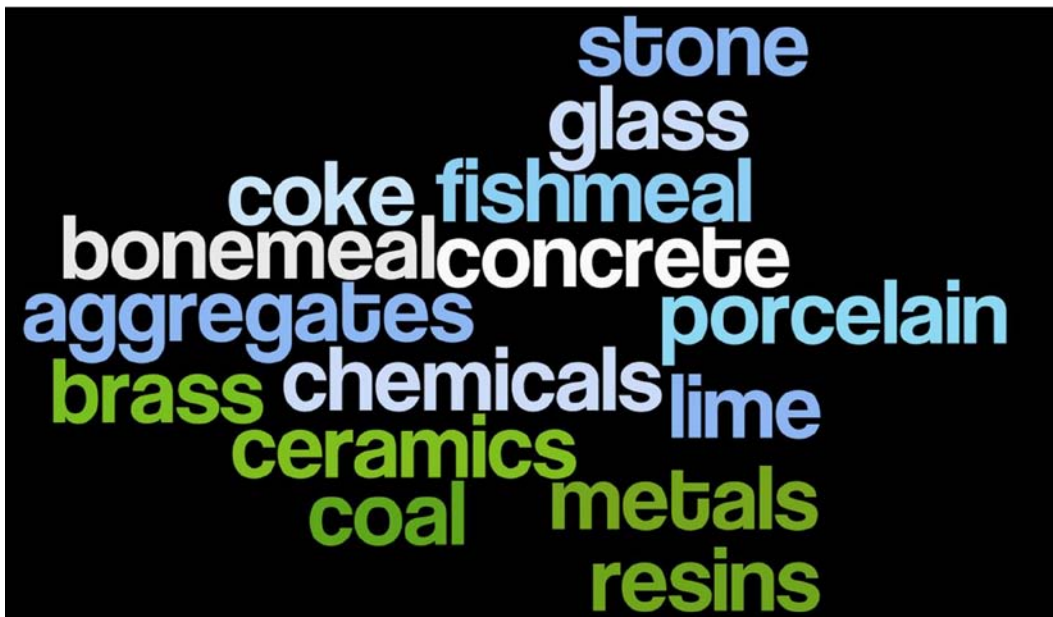
“How does a hammer mill work?”



- When material enters the grinding chamber, it is repeatedly struck by hammers that flail out as the shaft spins.
- A combination of these hammer blows, particle on particle impact, and impact with the walls of the grinding chamber all work together to break the material down.
- The material remains in the grinding chamber until it is reduced to a size that will pass through the screen.

Applications

The flexibility and design simplicity of the industrial hammer mill lends itself well to processing a wide variety of materials, including:



...just to name a few.

Questions to Ask

The same hammer mill for fishmeal *and* coal? Well, yes and no. The basic framework of the mill is the same. However, **the configuration of the variable components is how they differ.** That determination is based on the following criteria:

- ❑ **Material being processed** - Material characteristics such as: friability, flowability, moisture content, and infeed size
- ❑ **Desired finished particle size** - Gravel, granules, powder?
- ❑ **Desired production rate** - 10 lbs/hr, 10 tph, etc.



Hammer Mill Configuration



With this information, the following can then be determined:

- ❑ **Hammer mill size** - Rotor diameters between 6" and 44", and internal mill widths of 6" to 72".
- ❑ **Hammer size and style** - Number of hammers, size, style and metallurgy.
- ❑ **Screens or bar grates** - Style and thickness of screen or bar grates, and size of openings.
- ❑ **Choice of proper RPM**

It's Optional...

Finally, once the mill is configured, the last determination is whether or not any optional peripheral equipment is needed. Answers to these questions will help to determine the best types of optional equipment such as belt conveyors, augers, rotary feeders, and dust collection, as well as the most efficient design of the infeed and discharge chutes

Is dust a concern?

How will the material be fed into the mill? By hand, auger, or belt conveyor?

How will the material be taken from the mill? Heavy materials such as stone or metal may evacuate via gravity, while light or low density materials will require pneumatic suction.

Appendix

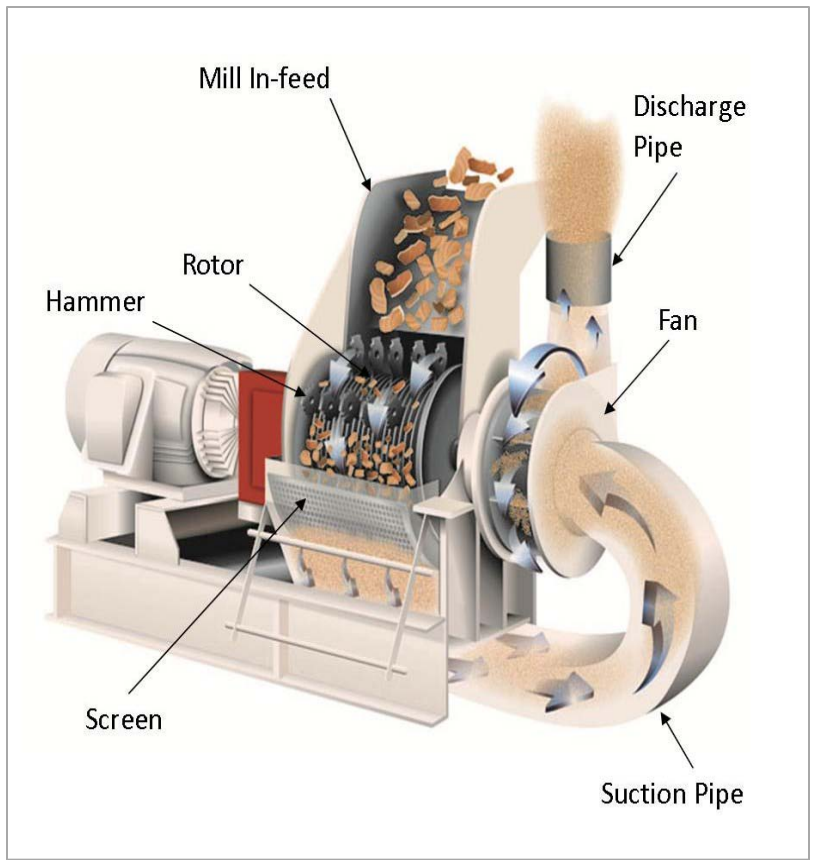
How Does a Pneumatic Discharge Hammer Mill Work?

It's all about the fan.

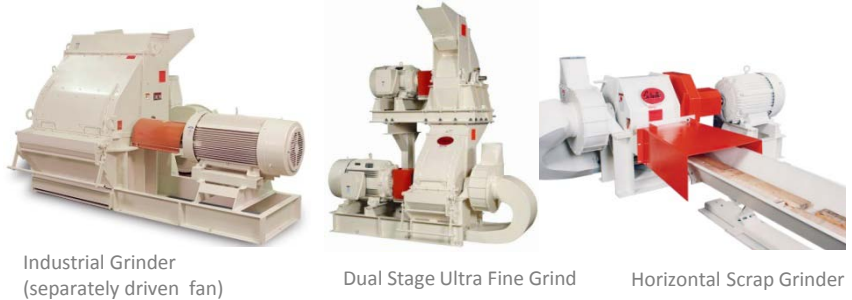
➤ Air swept mills are used primarily when grinding **light, fibrous or relatively non-abrasive** materials to a mid range to fine particle size because lighter particles require suction to overcome the rotor airflow, and pass through the smaller screen openings.

➤ The fan pulls the material from the mill in-feed, through the grinding chamber and the screen.

➤ The finished product is then pulled through the suction pipe, into the fan; and then finally out the discharge pipe either to storage or next stage processing.



Additional pneumatic discharge hammer mill styles:



Why Choose Pneumatic?

Three key benefits:

1. A properly designed pneumatic discharge system **can increase production 300-400% over gravity discharge mills** when grinding light materials to a fine particle size.
2. Without air, dusty material will take the path of least resistance, often out the feed chute. In a pneumatic system, dust is controlled and contained because all material is pulled in a common direction.
3. Whether integral or separately driven, the fan aids in material transport to storage or next stage processing.

Bonus advantage:

The ability of the fan to pull the material through the screen often allows processing of materials with slightly higher moisture content than can be effectively processed via gravity discharge.

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Process difficult materials **with ease.**

WA Series

Gravity Discharge

Hammer Mill

SchutteBuffalo
HAMMERMILL

America's fastest growing hammermill company



Electrolytic iron



Coal



Iron shot



Spray foam insulation



Epoxy resin



Asphalt-shingles



Cellulosic fiberboard

Your **custom made** worker.

Our extensive experience gives us the ability to uniquely **custom configure our size reduction mills to suit you**, your application, and your production goals. The **WA Series** is a conventional gravity discharge hammer mill that can be constructed with a wide variety of grinding rotors and screen configurations to guarantee unmatched performance. Available in **more than 20 sizes** ranging from 6" to 60", each mill features replaceable liner plates to protect the mill housing from wear. Custom in-feed and discharge chutes are designed to accommodate any method of feeding and take-away, ensuring a clean and safe operating environment.



Cutlery



Cement



Lathe turnings



Glass syringes



Porcelain



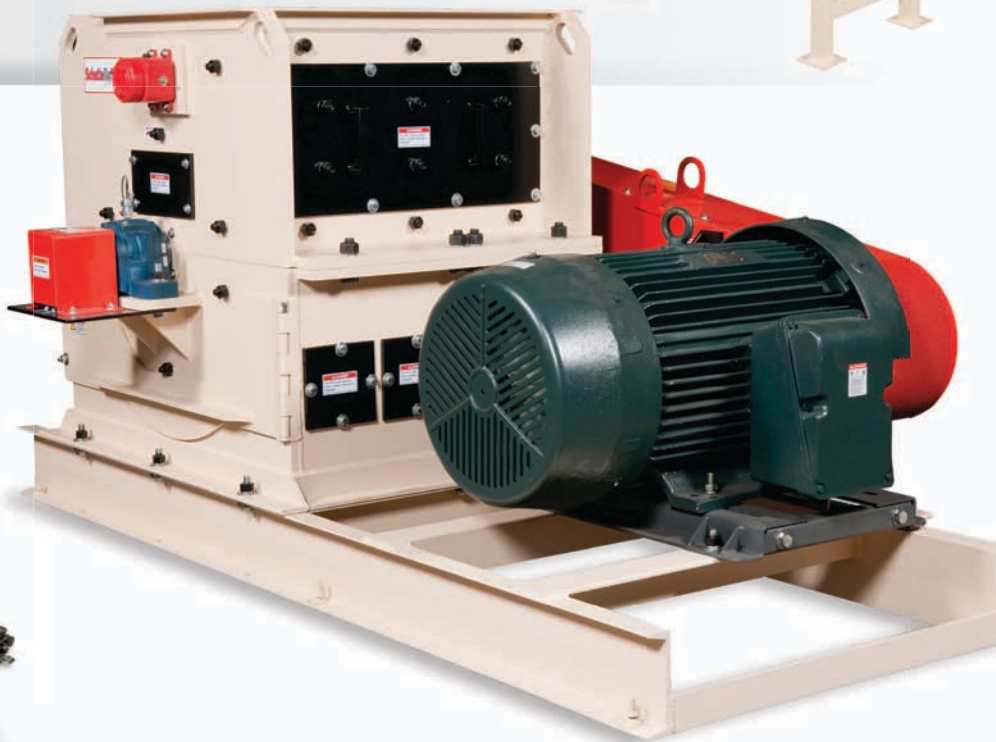
Pressed grape hulls



Metal screws

The advantages are all yours.

- Available in over 20 sizes with widths from 6" to 60"
- Rotor diameters from 9" to 40"
- Choice of carbon or stainless steel construction
- Multiple hammer styles and sizes available in a variety of materials
- Hammers are reversible for maximum wear life
- Replaceable interior liner plates offer wear protection when processing abrasive materials
- Interchangeable, heavy-duty bar grates or perforated screens made from abrasion-resistant steel
- Custom feed and discharge chutes designed for any feeding/collecting method



For rugged durability, this is the one.

If you grind materials that are difficult or abrasive, you know how important mill durability is.

The WA Series handles it all with **rugged construction through and through**. Due to its simplicity and flexibility the WA Series can be highly customized, meaning your mill will perform optimally and with longer life because it's made for your specific application.

Typical Applications:

- Aggregates
- Coal and coke
- Hard surface products
- Batteries
- E-scrap
- Lathe turnings
- Bone meal
- Fish meal
- Metals
- Cement
- Glass
- Miscellaneous chemicals
- Ceramics
- Hard resins
- Stone

WA Series Industrial Hammer Mills Technical Specifications

Models	Housing	Shaft Diameter	Rotor Diameter	Bearing Size	Wear Plate Thickness	RPM Range	Horsepower Range
WA-6-H WA-8-L	3/8" (10mm)	1 3/8" (35mm)	9" (230mm)	1 3/16" (30mm)	3/8" (10mm)	1500-5000 rpm	2-3 hp (1-2 kW)
WA-8-H WA-12-L WA-16-L	3/8" (10mm)	2 1/2" (60mm)	16" (410mm)	1 7/16" (40mm)	3/8" (10mm)	700-3600 rpm	10-25 hp (7-20 kW)
WA-12-H WA-16-H WA-20-L WA-25-L	1/2" (12mm)	2 1/2" (60mm)	18" (460mm)	1 15/16" (50mm)	1/2" (12mm)	600-3000 rpm	15-50 hp (10-40 kW)
WA-20-H WA-25-H	5/8" (15mm)	3 3/8" (85mm)	24" (610mm)	2 7/16" (60mm)	5/8" (15mm)	500-2800 rpm	25-75 hp (20-60 kW)
WA-30-L WA-36-L	3/4" (20mm)	4 3/8" (110mm)	26" (660mm)	2 15/16" (70mm)	3/4" (20mm)	500-2400 rpm	50-100 hp (40-70 kW)
WA-30-H WA-36-H WA-40-L WA-50-L WA-60-L	1" (25mm)	5 1/2" (140mm)	30" (760mm)	3 1/2" (90mm)	1" (25mm)	500-1800 rpm	75-200 hp (60-150 kW)
WA-40-H WA-50-H WA-60-H	1 1/4" (32mm)	6 11/16" (170mm)	40" (1015mm)	4 3/4" (120mm)	3/4" (20mm)	500-1200 rpm	125-300 hp (90-220 kW)

Terra cotta

Pasta

Brake pads

Glass

Zinc

Coconut shells

Radiators

Palm kernel shells

Quality, since 1928.

85 years of expertise. Designed, custom engineered and manufactured for customers worldwide. We've been the trusted leader for size reduction equipment since 1928.

At work, with more than 16,000 installations, in 54 countries around the globe. It's durability through quality and more productivity through efficiency. The perfect blend of time-proven technology with cutting-edge innovation for today's rapidly-changing applications.

Schutte-Buffalo Hammermill.



Aggregates

Epoxy Resin

PORCELAIN

COAL

GLASS

Metal

CERAMIC

Lathe Turnings

CEMENT

Iron Shot

ZINC

Fiberboard

SHELLS/HUSKS

Batteries

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