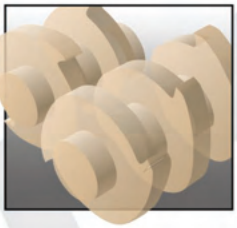
CARTER DAY

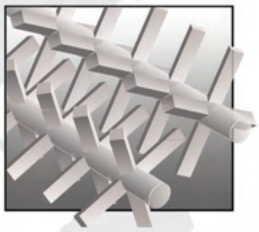
Sizing & Separating Equipment

JACOBSON

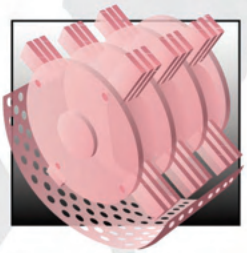


SHRED

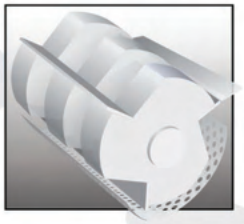
PULVERIZE



CRUSH



HAMMERMILL



GRANULATE

QUALITY SIZE REDUCTION EQUIPMENT

CARTER DAY

Hammermills

JACOBSON™ MZH Full Circle Hammermill

Jacobson's world famous standard high-capacity hammermill for medium to fine grinding of:

- Pet and aqua feeds
- General livestock feed
- Cereals
- Grain screenings
- Variety of free flowing granular in-feed materials
- Various industrial products which break upon hammer impact
- Hulls
- Husks
- Wood

Unique Features

- The Dual Rotation Multi-Zone Hammermill consist of a double radius cutting plate with staggered slotted rows and offset rotor with 3/16" hammer to cutting plate clearance.
- Patented Rotor Design

JACOBSON™ COMMANDER™ 1/2 Circle Hammermill

For high capacity fine and extra fine grinding of:

- Aquatic feeds
- Pet feeds
- Grain screenings
- Various fibrous industrial products requiring high impact and cutting plate action
- Light density bulky materials

Unique Features

- "Mono Weld™" one-piece unitized steel base for accurate alignment of motor and mill rotor, assuring minimal vibration
- Staggered head plate rotor assembly insures total screen coverage by hammers
- Serrated self-sharpening, hardened cutting plate
- Close tolerance screen to hammer clearance as close as 1/8"(3mm)
- Pneumatic discharge or gravity

JACOBSON™ CXT™ 3/4 Circle Hammermill

Combines the larger screen area and "Quick Change Screen Carriage" features of the XLT with the larger throat opening and backwall pregrinding features of the Commander.

Applications include:

- Bulky and/or light density material
- Hogging of wood scrap and other waste
- Medium grinding granulations
- Wood and bark mulch

Unique Features

- 20" inlet (500mm) by width of rotor
- Sturdy rolling doors for easy access to hammers, screen and rotor
- Heavy-duty screen carriage with breaker plate im

JACOBSON™ Hammer Hog

Unique Features

- Removable upper housing allows full, easy access to rotor, hammers, screen and screen carriage
- Heavy chisel-point hammers provide high-impact shear action
- Easy-change screen, reversible end-for-end, gives maximum screen life
- Wood edgings, rippings and end cuts

JACOBSON™ SERIES 1™ Full Circle Hammermill

Jacobson's smaller capacity version hammermills for medium to fine grinding of:

- Pet foods
- General livestock feed
- Cereals
- Grain screenings
- Variety of free flowing granular infeed materials
- Any material that breaks upon hammer impact

Unique Features

- Unique patented teardrop-shaped true 360° reversible screen for maximum grinding capacity and fast screen changes
- Patented internal air circulation can operate without fan or collector
- Force feed screw hopper available for feeding light, bulky materials
- Gravity discharge to bin or conveyor Optional mill stand available
- High production per horsepower insuring low operating

JACOBSON™ XLT™ Full Circle Hammermill

Jacobson's world famous standard high-capacity hammermill for medium to fine grinding of:

- Pet and aqua feeds
- General livestock feed
- Cereals
- Grain screenings
- Variety of free flowing granular in-feed materials
- Various industrial products which break upon hammer impact
- Hulls
- Husks
- Wood

Unique Features

- Rugged, reinforced one-piece machine planed motor base and bearing supports for accurate alignment of motor and rotor
- Low Cost Alternative

CARTER DAY

Crushers & Lump Abradors

JACOBSON

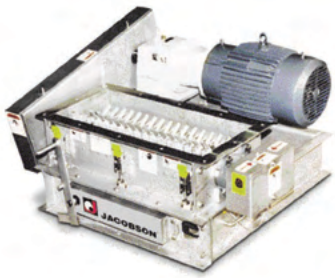
JACOBSON™ HALF NELSON CRUSHER

The "Half Nelson" Crusher (HNC) is a dual rotor machine with intermeshing pins and fixed side wall combs which work together for maximum size reduction. Designed for light to medium duty applications, this machine can accept up to 6" (150mm) size pieces. The HNC has a wide variety of available options, the most common being a perforated plate screen to produce a 4-6 mesh product. This machine is ideal for materials that can be broken apart by hand such as dextrose, calcium carbonate, sodium chloride, biscuits, crackers, filter cake, phosphates, starch, citric acid, etc…

Unique Features

- Stand off pillow block bearings
- Many options including "Quickscreen System," packing glands, zero speed switch and torque limiter
- Intermeshing pin action and reversible rotors
- Minimum head room required
- Capacities from 30 to 1200 cubic feet per hr. (1 to 35m³ per hr.)
- Typical rotor speed: 87-350 rpm
- USDA and FDA models available

"Quick Change" Screen



JACOBSON™ FULL NELSON CRUSHER

The single rotor "Full Nelson" Crusher (FNC) is specifically designed to break apart hard or friable materials using either belt or direct drive.

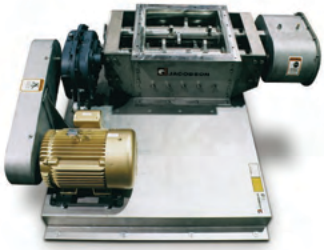
USDA Approved

Unique Features

- Large fixed staggered hammers
- 3/8" to 1.5" (10 to 40mm) openings on grid
- Hardfacing on hammers and grid
- Split grid with hinged door for ease of cleaning with unit remaining in-line
- Capacities from 50-1500 cubic feet per hr. (1 to 40m³ per hr.)
- Typical rotor speed: 600-1200 rpm
- Sanitary design available

JACOBSON™ DUAL ROTOR CRUSHER

The "Dual Rotor Full Nelson" Crusher (DRFNC) is a heavy duty crusher with staggered 1"(25mm) blunt edge hammers or hooked teeth welded on large diameter shafts.



Unique Features

- Optional sanitary design available which meets USDA and FDA requirements
- Oil tight spur gear and chain guard on all sanitary units
- Optional hook-tooth design to grab material
- Center cross bar and cl

JACOBSON™ LUMP BUSTER

The "Lump Buster" (LB) is a heavy duty dual rotor crusher with similar features to the "Half Nelson" (HNC). Excellent for hard, highly abrasive, or high temperature materials.

Unique Features

- Fabricated bearing blocks for additional support
- Breaker bar with removable cross pins
- Hardfacing on leading edge of pattern fingers
- Abrasive resistant liners
- High temperature design
- Easy access screen
- Capacities from 30 to 2300 cubic feet per hr. (1 to 65m³ per hr.)
- Typical rotor speed: 87 rpm

JACOBSON™ LUMP ABRADOR

The "Lump Abrador" (LA) has a single large diameter rotor, evenly spaced impacting fingers and fixed combs on the side wall.

Unique Features

- Optional sanitary design available which meets USDA and FDA requirements
- Large diameter drum which forces material to cutter edge
- Reversible motor
- Optional quick and easy change of screens and combs without the use of tools while the unit remains in-line
- Capacities from 60 to 1600 cubic feet per hr. (2 to 45m³ per hr.)
- Typical rotor speed: 300-1800 rpm

Hinged Top Section Available

JACOBSON™ FLAKE BREAKER

The "Flake Breaker" (FB) size reduction mill is offered in 5 sizes in both horizontal or vertical feed styles. Available in stainless or carbon steel, this fixed hammer machine works very well on:

- Spices
- Wheat starch
- Candies
- Resins
- Salt
- Dry wall
- Pasta

Changing hammer styles, screen sizes, or speed of the mill allows a precise and controlled output particle size. Straightforward design makes for easy maintenance. Pillow block bearings provide smooth, quiet operation.

CARTER DAY
Shredders & Granulators

JACOBSON

JACOBSON™ HI-TORQUE SHREDDER

Jacobson has hundreds of industrial shear shredders currently in place, processing a wide variety of materials for recycling/reclamation and size reduction. From 5 to 100 kw, Jacobson solves size reduction and waste disposal needs by providing both stand alone units and entire engineered systems for reducing:

- Off spec parts
- Film and plastics
- Wood and fiber
- Paper and cardboard
- Metal turnings
- Construction and demolition
- Medical waste
- 55 gallon drums

Newly Designed Longer Lasting Cutters

Each model features double wall construction, jam proof automatic reversing mechanism, full shaft diameters through the entire width of the machine to outside of supporting bearings.

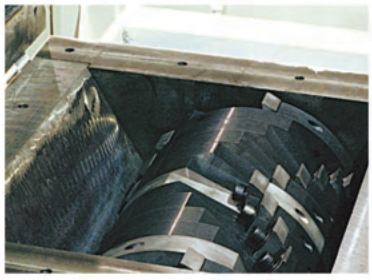
JACOBSON™ BALE GRANULATOR

This unique system accepts whole bales of synthetic or natural rubber, grinding them down as fine as 1/4"(6mm) in a single pass.

Jacobson Bale Granulator uses as little as 1/2 the power of its closest competitor. Efficient cutting design minimizes heat. Features easy access to rotor for cleanout.

JACOBSON™ PALLET SHREDDER

Jacobson Pallet Shredder handles up to 100 pallets/hour using an internal sizing screen to reduce material down to a useable product for further processing or reduction. Accepts up to 52" wide pallets. Nails and banding are no problem for this rugged machine. A system of Pallet Shredder, Magnet, and Jacobson WoodHog will produce a perfect boiler fuel or animal bedding product.



JACOBSON™ PARTICLE-IZER GRANULATOR

Not just a standard plastics granulator!

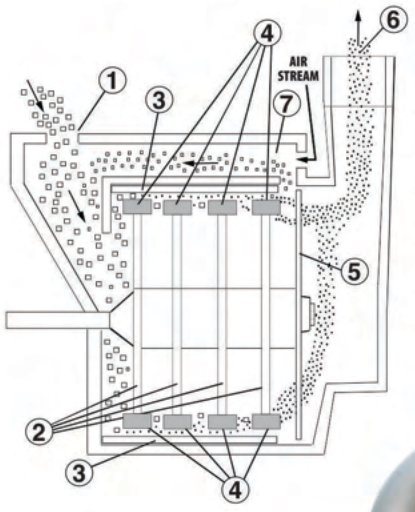
This machine features a solid rotor with staggered carbide cutting tips along with a bed knife and screen for the toughest size reduction applications with outputs down to 16 mesh.

- Wood
- Glass
- Polymers
- Elastomers

CARTER DAY

Air Swept Pulverizers

JACOBSON



How the Air Swept Pulverizer Works

The infeed material is fed into the air stream at the **mill inlet (1)** in a consistent metered fashion.

The **beater plates (2)** impact and reduce the size of the largest particles and distribute the material around the periphery of the grinding zone where product is ground against the **liner (3)** by the **hammers (4)** which are mounted on the beater plates. The beater plates rotate at between 1,600 and 7,000 rpm with tip speed velocities ranging from 19,500 to 34,000 feet per minute to achieve specific particle size distribution output.

The **classifier plate (5)** separates the finely ground product for exit through the **discharge outlet (6)** while returning oversize material back to the mill inlet through the **recycle housing (7).**

Pulverizer

The Jacobson "Air Swept Pulverizer" (ASP) grinds down as low as the 5 micron range using the maximum number of beater plates and highest speed setting. The ASP is commonly designed with heat input to grind and dry wet products, or cooling for cryogenic grinding. Simple adjustments to the machine allow a narrow distribution range of output particles on wet, dry, fibrous, or heat sensitive materials. Stearates, for example, are easily ground from 10 mesh down to 100% minus 325 mesh. A partial list of some of the products currently being ground on the AS

- Adhesives
- Cheese whey
- Dextrose
- Pigments
- Spices
- Inorganic chemicals
- Dyes
- PVC
- Wheat
- Barley
- Bran
- Sugars
- Bentonite
- Clays
- Gums
- Polyesters
- Talc
- Calcium carbonate
- Cocoa
- Herbs
- Oats
- Rice
- Plastics
- Polypropylene
- Carbon black
- Cosmetics
- Powders
- Pharmaceuticals
- Salt
- Wood flour
- Botanicals
- Aquafeeds
- Resins

Dust Free Operation

Negative air pressure design keeps dust out of the air to eliminate health and plant hazards while resulting in clean conditions around the machine.

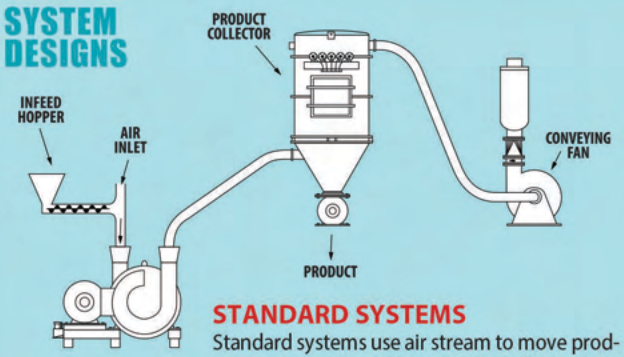
Economy of Operation

The basic efficiency of the ASP design delivers an exceptional ratio of product yield to power consumption, processing time and related production costs.

Ease of Maintenance

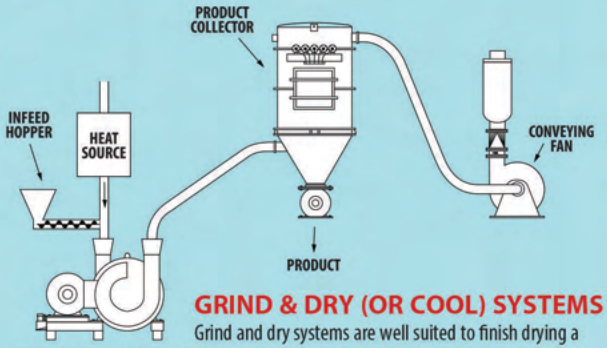
The Jacobson ASP is undoubtedly the easiest fine grinder on the market to clean, to change out wear parts, or to service the drive and bearings.

SYSTEM DESIGNS



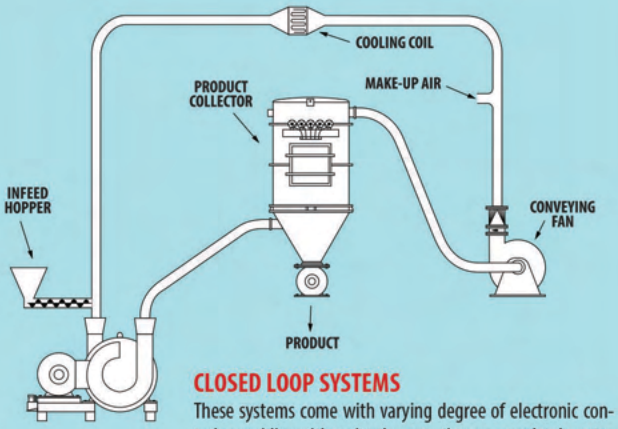
STANDARD SYSTEMS

Standard systems use air stream to move product through the mill in a simple, reliable dust-free operation. These systems are utilized in a wide range of applications and require minimal controls.



GRIND & DRY (OR COOL) SYSTEMS

Grind and dry systems are well suited to finish drying a material while at the same time reducing material size. The heated air stream, mechanical energy from the grinding process, and a ground product with greater surface area combine to efficiently reduce most moisture from a product.



CLOSED LOOP SYSTEMS

These systems come with varying degree of electronic controls providing either simple operation or completely automated and integrated PLC controlled systems.

CARTER DAY
Laboratory Testing

JACOBSON

CARTER DAY/JACOBSON

HAS THE ABILITY TO TEST YOUR UNIQUE PRODUCT ON SITE. WE HAVE NEARLY OUR FULL LINE OF EQUIPMENT AVAILABLE FOR FULL SCALE TESTING.

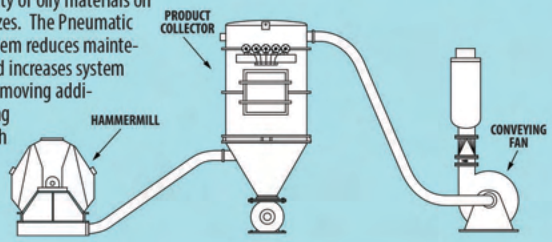
CARTER DAY/JACOBSON

PROVIDES VALUABLE INFORMATION FOR AIR SYSTEM DESIGN AND MATCHES YOU WITH OTHER MANUFACTURERS TO PROVIDE YOU THE IDEAL AIR SYSTEM FOR YOUR NEEDS.

AIR VENT SYSTEMS

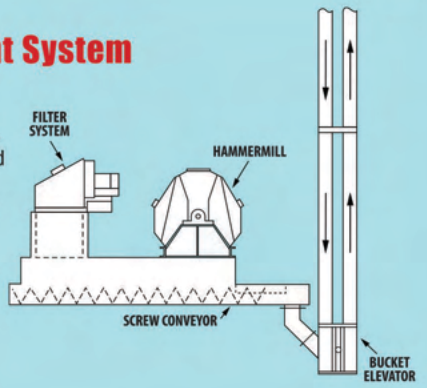
Pneumatic Conveying System

This entirely dust free method of venting the mill and conveying product uses very few moving parts and provides increased production capacities. This arrangement is very well suited for grinding fatty or oily materials on small screen sizes. The Pneumatic Conveying System reduces maintenance costs and increases system reliability by removing additional conveying equipment such as bucket elevators and screw conveyors.



Filtered Air Vent System

This filtered air assist system exhausts clean air while removing dust and heat from the hammermill grinding operation. Used where stricter environmental requirements need to be met or where a cyclone system is not practical. This is a completely self-contained, reverse-jet type unit. The Filtered Air Vent System requires compressed air supply and is available in many sizes.



JACOBSON™

CARTER DAY INTERNATIONAL, INC.
500 73rd Ave. N.E. Minneapolis, Minnesota 55432 www.carterday.com
Tel: (763) 571-1000 Fax: (763) 571-3012