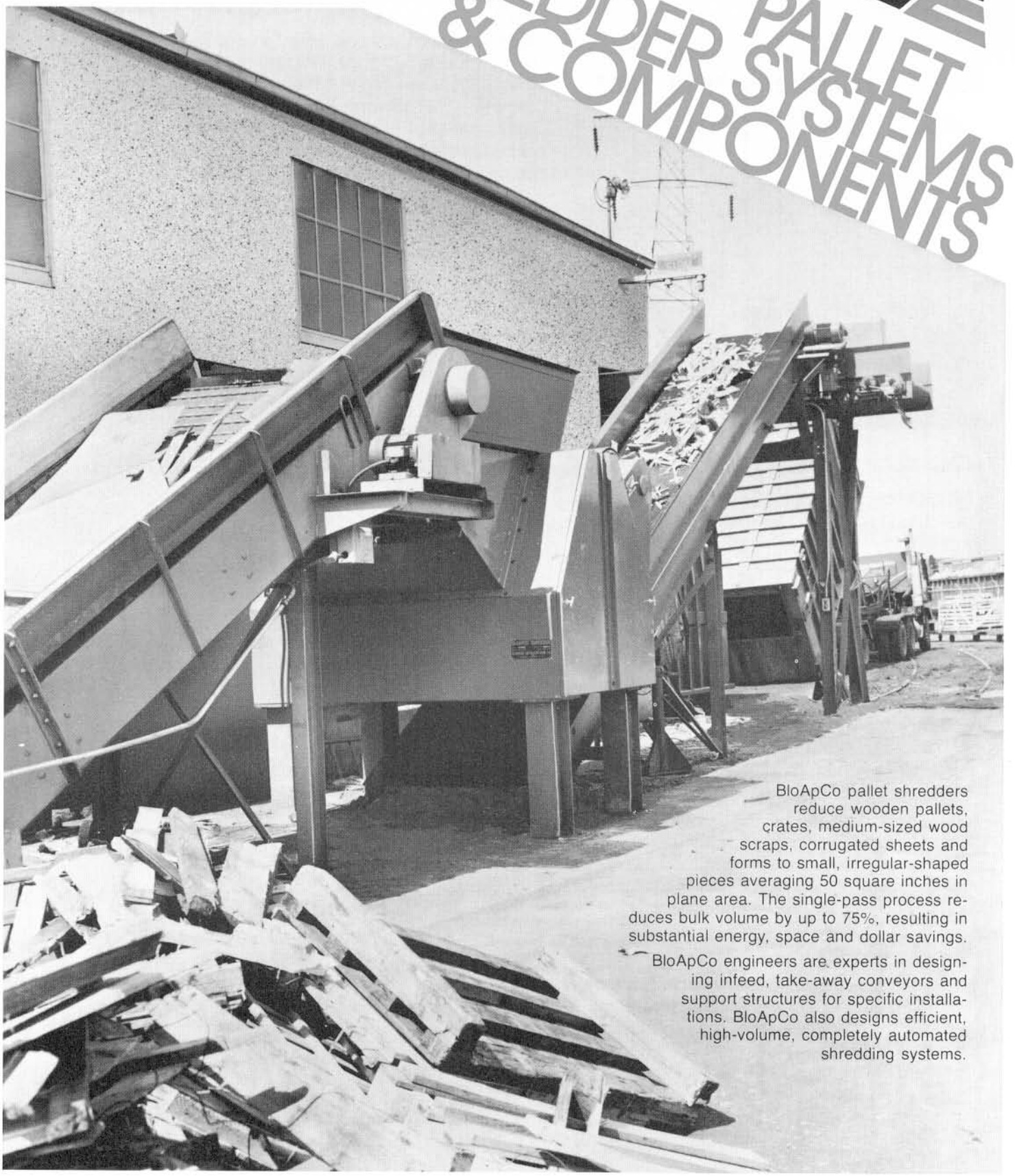
Bulletin No. 801

SHREDDER PALLET SYSTEMS & COMPONENTS



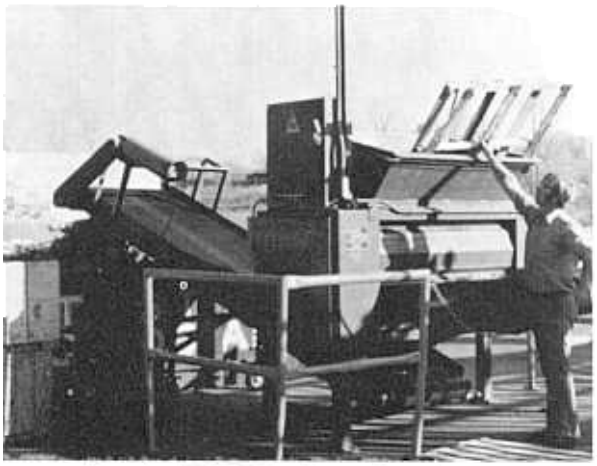
BloApCo pallet shredders reduce wooden pallets, crates, medium-sized wood scraps, corrugated sheets and forms to small, irregular-shaped pieces averaging 50 square inches in plane area. The single-pass process reduces bulk volume by up to 75%, resulting in substantial energy, space and dollar savings.

BloApCo engineers are experts in designing infeed, take-away conveyors and support structures for specific installations. BloApCo also designs efficient, high-volume, completely automated shredding systems.

BLOW' R APPLICATION COMPANY
Germantowr Wisconsin 5302

Medium-Duty

Models 3CAX-1048/2548/2558



Capacity & Capability

BloApCo medium-duty pallet shredders are designed to shred from 30 to 60 disposable one-way or light-duty returnable pallets per hour. Unit can accommodate sizes up to 50″ wide by 60″ long and can readily digest 2″ x 4″ dry lumber, planks up to 2″ thick and ¾″ plyscore. Resultant shreds are irregular in shape and size, averaging 50 square inches in area.

Bolts, nuts, nails, wire and strapping pass through the shredder without interference. However, extremely flexible material or non-splintering, narrow green wood strips may pass through the machine without being completely shredded.

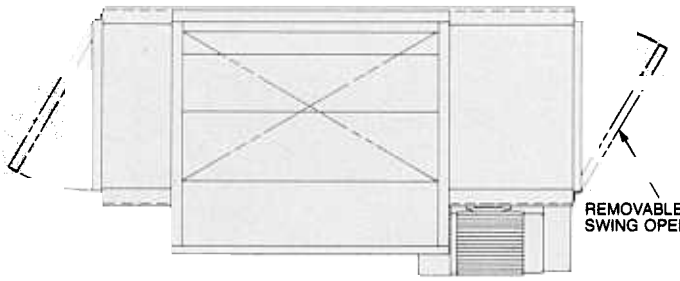
The shredder is also ideal for the destruction and/or destruction recovery of canned and bottled liquids and free-flowing solids. Plastics, light metal assemblies and parts which must be rendered inoperable or useless before discard, can also be successfully processed by the shredder.

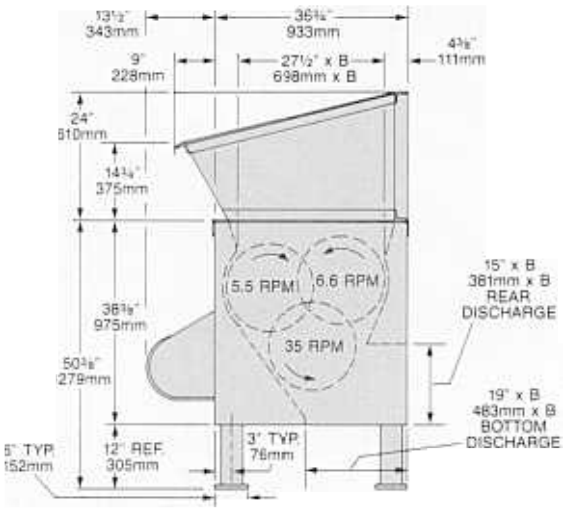
Ripper Wheels

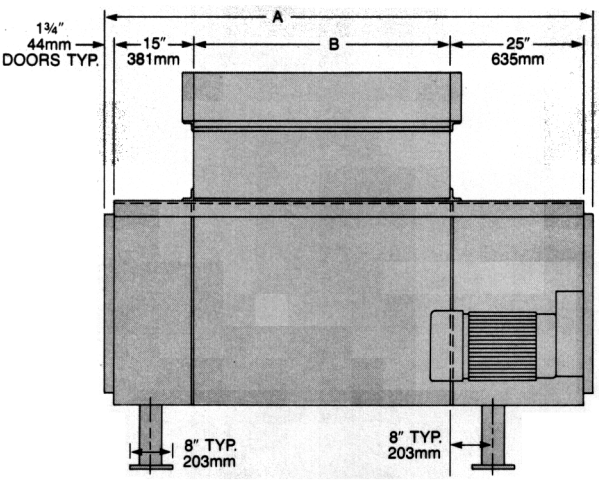
Standard cast-ductile iron, 180° in circumference and 5¼″ wide. Half sections are paired and bolted around shafts. Teeth do not require sharpening. Entire sections can be easily replaced. Teeth are double-edged so wheels can be reversed on shafts, doubling their useful life.

Drive

Equipped with standard 10 h.p. or 25 h.p. motors available in either open drip-proof or TEFC enclosure. Motor drives a shaft-mounted reducer through a V-belt drive. Drive to the other shafts is by means of heavy-duty roller chain. Shafts run in 2 15/16″ heavy-duty, self-aligning, spherical roller bearings. Bearings are set in machined housings and protected by seals. Bearings are grease lubricated through central lubrication blocks.



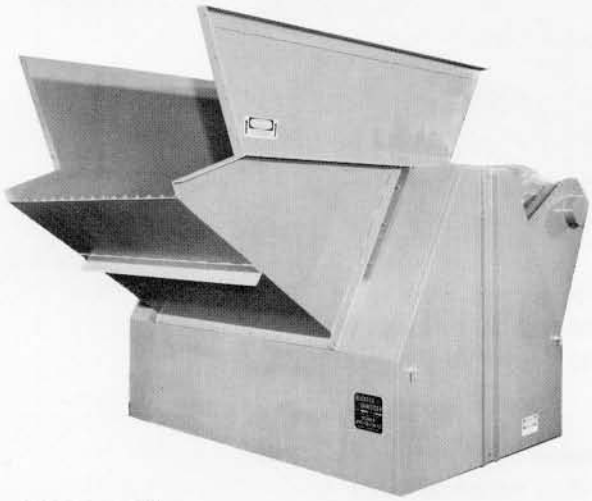




Model	"A"	"B"
58	101½″ 2578 mm	58″ 1473 mm
48	91½″ 2324 mm	48″ 1219 mm

Heavy-Duty

Models 3GFS-4066



Capacity

This BloApCo pallet shredder can handle in excess of 200 board feet of pallet material per minute or 12,000 lbs. of corrugated, paperboard packing material per hour. It will readily digest 39″ wide heavy-duty wood pallets, crates, skids and timbers up to 6″ x 6″ by any length.

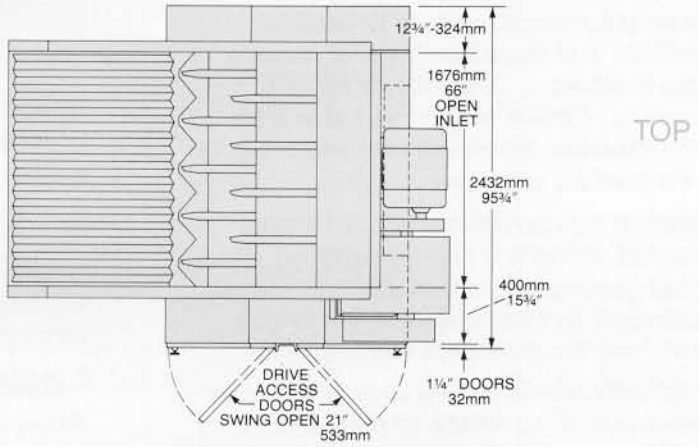
For best results and maximum capacity, material should be fed at a uniform rate. Conveyors used to feed material to the shredder inlet should be operated at approximately 15 FPM, so that the 30 FPM pull-in speed of the shredder will tend to pull material into the unit faster than it is delivered by the conveyor.

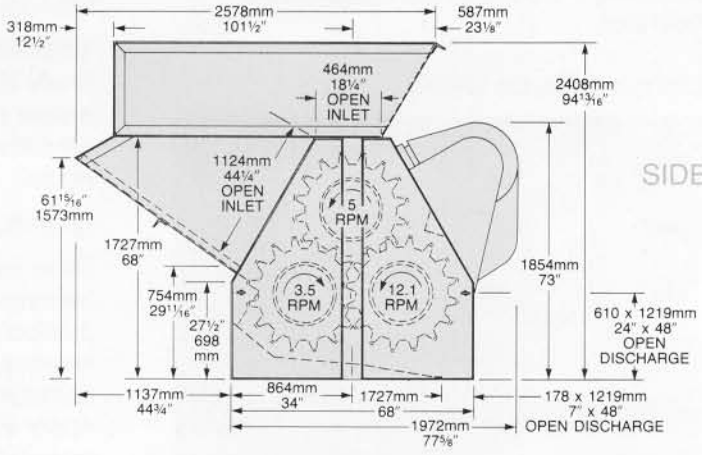
Ripper Wheels

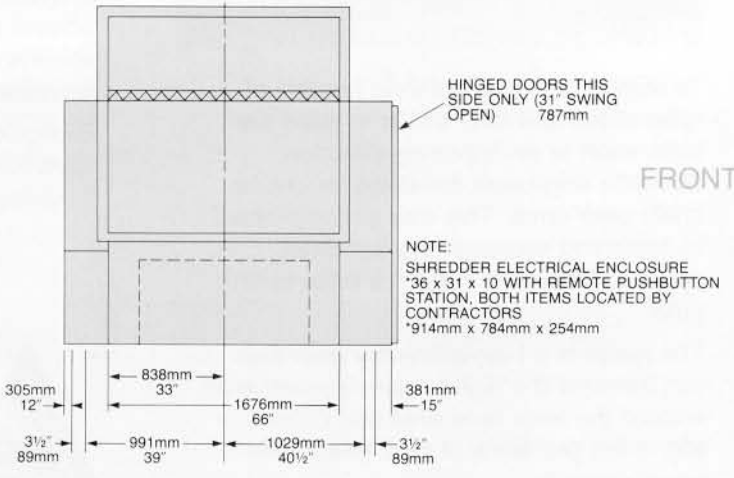
The 32¾″ diameter steel ripper wheels are furnished in 180° sections and welded together on the shaft. Wheels are removable and replaceable through the use of burnout sections. There are no snag points for wire or steel strapping to hang on. The teeth are flame-hardened for maximum life and do not ordinarily require sharpening. For special applications, the ripper wheel spacing can be arranged to obtain the desired degree of shredding. Flexible and thin materials may require more ripper wheels than standard and the machine is built for flexibility of wheel arrangements. Teeth are double-edged so wheels can be reversed on shafts, doubling their useful life.

Drive

A 40 h.p. motor is provided in either open drip-proof (standard) or TEFC enclosure (at extra cost). The motor drives a rugged, concentric shaft reducer through a V-belt drive. The drive to the ripper shafts from the reducer is through heavy-duty roller chains. Ripper shaft journals run in 5 3/16″ heavy-duty, self-aligning, spherical roller bearings. These bearings are set in a machined housing and are protected by seals. Central lubrication blocks are used to facilitate grease lubrication of the bearings.







Controls

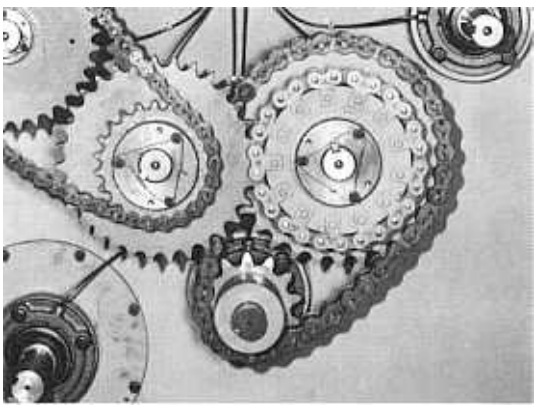
Shredders have a pre-wired control panel incorporating a reversing starter, a forward, jog-reverse and a stop button. A zero speed detector is used to sense motion between forward and reverse modes. Shafts therefore must be stopped before direction of rotation is reversed.

An instantaneous overload relay stops the shredder in event of an overload. Machine then automatically jogs in reverse to release and reposition material causing the overload . . and restarts forward. If several of these sequences fail to clear the machine, action will stop and a signal will alert the attendant.

Manual jogs can be made for additional control. Shredders may be equipped with a load-sensing control to regulate an in-feed conveyor so that it maintains the in-feed rate near the shredder's rated capacity.

120 volt controls include oil-tight, industrial push button in a NEMA 12 enclosure for mounting in a position convenient to the operator.

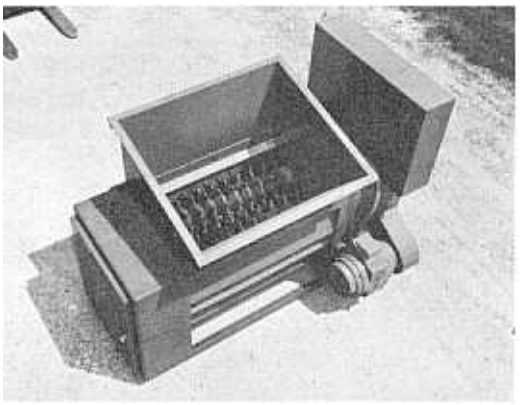
Unique Gear Drive



To eliminate the use of long lengths of roller chain and idler shafts to drive the main shaft in an opposing direction, BloApCo engineers developed a unique chain gear drive. This was accomplished by fastening sections of roller chain directly to a wheel to form a roller-tooth gear

The result is a high-efficiency gear that can transmit the high-torque requirements without the wide face area and critical alignment problems of spur gears with equal capacity.

Unobstructed feed openings



BloApCo pallet shredders have large unobstructed hoppers for efficient feed of waste material to the ripper mechanism.

Bearings:

Shafts are journaled in piloted, sealed, self-aligning, heavy-duty spherical roller bearings mounted on machined hubs.

Ripper wheel tip speed:

Below 150 FPM in normal operation.

Installation:

Shipped pre-wired and knocked down, ready for erection. Normally, two men with proper tools and equipment can install the shredder on a prepared base in about 16 hours.

General:

Drive parts, electrical components and bearings are standard components, readily available from local industrial supply sources. Tramp metal seldom causes damage; but can, on occasion, break a ripper tooth. A few broken teeth will not materially affect machine efficiency. Ripper wheels can be replaced. Slow operating speeds eliminates balancing and vibration problems.

BloApCo reserves the right to change specifications and dimensions without incurring obligation.

BLOWER APPLICATION COMPANY
N114 W19125 Clinton Drive
P.O. Box 279
Germantown, WI 53022
Phone: (414) 255-5580
FAX (414) 255-3446

Super-Duty

Models 3GFS-6066/3GFS-6080

The super-duty model is intended, as its name implies, for use where large skids with up to 4″ x 12″ timbers or 8″ x 8″ blocks are to be shredded. The unit will accommodate crates or skids of 4 x 5 x 10 feet or longer. It is available in either 66″ or 80″ wide inlet versions.

For best results, the unit should be fed at an even rate. When fed in this manner, it will destruct and shred approximately 300 pallets per hour with an average weight of 50 lbs. each.

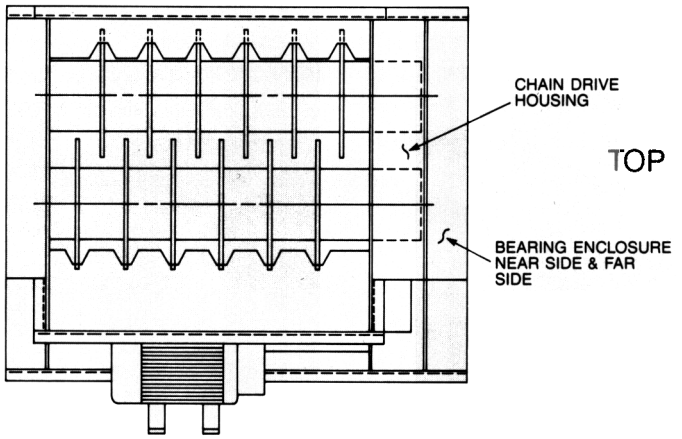
Shredder can be used for the destruction of cartons and containers of glass, metal or cardboard for recovery of product or to prevent useage after disposal. It can also be used for the destruction of some plastic and metal parts assemblies. In fact, larger shredders using the same patented BloApCo principle have been successfully used to shred entire car bodies and chassis . . . including engine blocks.

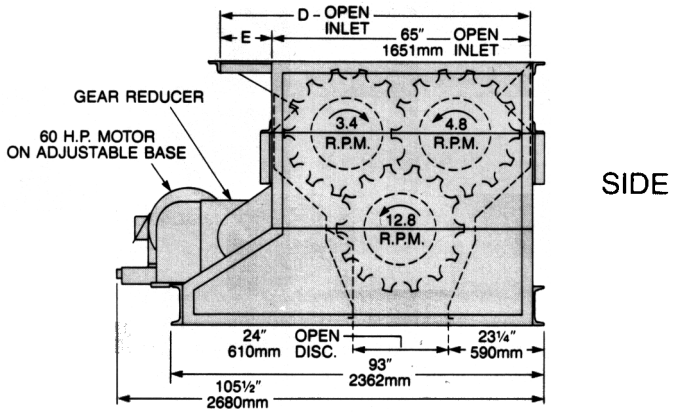
Ripper Wheels

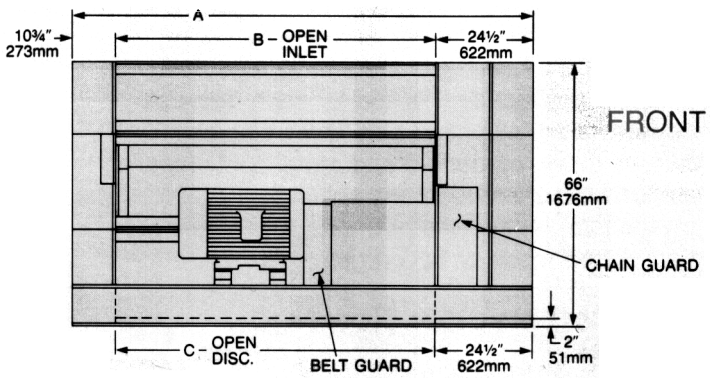
Due to the designed heavy-duty requirements, ripper wheels on the super-duty model are manufactured of flame-cut steel, and welded together on the 22″ diameter shafts for easy replacement or repair.

Drive

A 60 h.p. motor is provided in either open drip-proof (standard) or TEFC enclosure (at extra cost). The motor drives a rugged, concentric shaft reducer through a V-belt drive and the drive to the ripper shafts from the reducer is through heavy-duty roller chains. Ripper shaft journals run in 5 3/16″ heavy-duty, self-aligning, spherical roller bearings. These bearings are set in a machined housing and are protected by seals. Central lubrication blocks are used to facilitate grease lubrication of the bearings.







	A		B		C		D		E	
6080	115¼	2927	80	2032	80	2032	78	1981	13	3
6066	101¼	2572	66	1676	66	1676	78	1981	13	3302
model	in	mm	in	mm	in	mm	in	mm	in	mm

BloApCo pallet shredders reduce volume by up to 75%

Environmental concern has resulted in the closing of many landfills. Generally, those remaining in use are now farther from urban areas. Through shredding, the number of trips to the disposal area can often be reduced from 4 to 1. As a result, hauling costs are reduced 75% and energy consumed by hauling is cut to one-quarter. Where the shortage of dumping space is critical, shredding pallets is especially important, as up to three times the pallet waste can be disposed in the same area required by whole pallets.

Shredded pallets may be used as fuel for wood boilers, incinerators, etc., for both comfort and process heating. Burning shredded pallets reduces fuel costs, conserves energy, turning a costly liability into a money-and-energy-saving asset. The BloApCo shredders have also been applied to product destruction for such items as non-repairable telephone sets, over-runs or returned glass, cardboard and metal containers (with or without product) and returned newspapers, magazines or books, and cases of reject tinned foods or beverages.

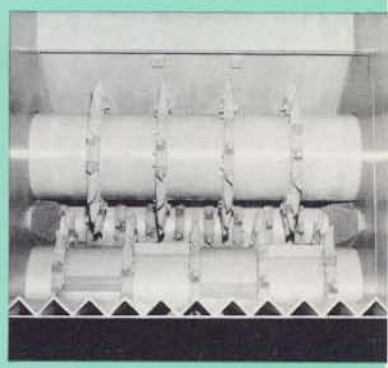
BloApCo Shredder Standard Features

Pierce and tear shredding action

BloApCo shredders use a unique pierce and tear concept to obtain a highly-efficient, single-pass shredding action.

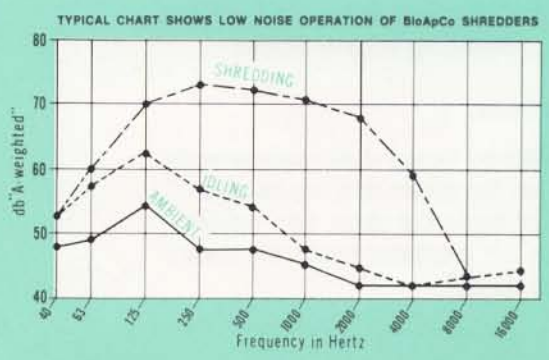
The patented pierce and tear concept is produced by a series of multi-toothed ripping wheels mounted on three counter-rotating shafts. RPM's are low (below 40 in normal use), and each shaft revolves at a different speed. Material is simultaneously pierced by the teeth of the wheels on two shafts and, due to the difference in shaft speeds, is literally torn apart. The low RPM's and extremely high torque provide three additional benefits. The low speed minimizes dust production and eliminates high velocity throw-out of shredded particles. The high torque minimizes stoppages even under full load conditions. Shreds are small and irregular in shape. They compact easily in closed or open containers.

Ripping Wheels



Ripper teeth are flame-hardened or cast-ductile iron depending on model. They do not ordinarily require sharpening. Equipment can be constructed with different wheel spacing to obtain desired degree of shredding. Flexible and thin materials might require more than the standard number of wheels. BloApCo design accommodates such special arrangements.

Less Noise . . . Less Dust



High-torque, low-speed action, combined with pierce and tear shredding, make BloApCo the quietest pallet shredder with an acceptable noise level at normal feed rates. These same factors of low-speed, high-torque action and pierce and tear shredding hold dust generation to a minimum.