



VIRTUS OVERVIEW

Virtus Manufacturing Plant in Shanghai China





Virtus Machine Series Overview

Granulators

Shredders

Briquette

A Series

E Series

H Series

W Series

G Series

X Series

L Series

T Series

U Series

A Series:

The slow speed granulators in the A Series features a staggered 180 mm and 300 mm diameter rotor with widths ranging from 180 to 800 mm. The rotor is directly driven by a geared motor. The low rotor speed reduces the noise level of the machine and creates less dust while grinding. The specially designed knives of the A series can be sharpened easily and do not need adjustment afterwards. The material is fed via a sound absorbing feed hopper that can be tailored to fit various applications and feeding needs. Depending on the requirements, the machines can be fitted with a wide variety of hoppers, which are mounted on either low or high level base frames with matching suction bins or bag filling adapters. Quick snap fasteners and hand screws make access to the machine for cleaning and maintenance fast and easy.

Applications:

The A Series slow speed granulators are mainly used for injection and blow molding processes as beside the press machines to grind runners and sprues. The resulting granules are then immediately reintroduced into the production process. The machines can be used for rejected products in the inline recycling process as well. Different hopper and base frame designs make it possible to integrate the machine with most types of injection molding machines and robots.

Advantages:

- Direct driven staggered rotor
- Special knife design makes adjustment unnecessary
- Easy access for maintenance and cleaning
- Slow rotor speed creates less noise and dust
- Easily customizable to suit different applications



E Series:

For the E30, E50 and E70 Series different rotor designs are available in widths ranging from 300 mm to 1400 mm with diameters of 300 mm, 500 mm and 700 mm. The completely welded cutting chamber in conjunction with the "V" type rotor design ensures dependability in operation and universal application use. The housing design offers quick and easy access to the cutting chamber during rotor and stator knife changes, servicing or screen changes.



E30 Series

Applications:

The K series of machines are designed as economical granulators for use in medium volume in-house recycling applications. The cutting geometry of the K series allows even bigger hollow parts to be ground. The whole K Series granulator line achieves a high quality regrind independent of the material type or form such as injection molded parts, blow molded parts, profiles, sheets, film, etc.



E50 Series

Advantages:

- Knives are adjusted outside of the machine
- Mobile compact design
- Different rotor types available
- Easy accessibility
- Strong tangential in feed



E70 Series



Harness the Power of Nature

Applications:

The wide range of rotors and hopper styles allow the H machines to be tailored to almost every application in the recycling field. The H35, H50, H60, H70, H80, and H110 granulators are mainly used as central granulators for in house recycling applications to process thick walled parts in one step or as a second step granulator after a shredder to reach higher throughput rates. When used to grind light materials, such as bottles, the throughput can be greatly increased with the addition of a force feeding device. For abrasive, contaminated, or highly filled materials the machines can be equipped with special wear protections, such as hard facing of the rotor, housing and key parts manufactured from highly wear-resistant steels.

Advantages:

- Knives are adjusted outside of the machine
- Specially developed deflector wedge
- Wide choice of rotor types
- Easy accessibility
- Strong welded steel construction
- Oversized outboard bearings
- Special ware protection

H Series

The heavy duty granulators of the H 60 and 70 series offer a wide array of different rotor designs with widths ranging from 800mm to 1600mm with a diameter of 600mm. The completely welded heavy steel construction is designed to withstand the most demanding and universal applications. Rotor bearings, knife mounts and rotor shaft are oversized. The standard V-cut creates a high quality chip with a very low percentage of dust in the output material. The removable third stator blade is acting as a deflector wedge and allows the machine to be quickly adjusted to different application scenarios. Other standard features include easily replaceable wear plates in the cutting chamber as well as outboard bearings reducing the risk of contamination.



H35 Series



H60 Series



H80 Series



H110 Series

W 40 Series small/light shredders

The W 40 Series light duty wood shredders are single shaft shredders specifically designed for the wood industry. They can be used to grind small quantities of off-cuts in a joinery or to create sawdust from all kinds of waste wood to be used as fuel directly or further processed in a briquetting press to create heating pellets. W40 Single-shaft shredders operate quietly and produce very little dust. The material to be shredded is introduced (by hand, forklift etc.) into a large hopper. Then the material is fed towards the rotor by the slightly forward-tilted horizontal hydraulic ram, where it is shredded between the rotor and stator knives. The hydraulic ram is load-sensitive and controlled by the current consumption of the drive motor. The screen, which determines the final particle size, is securely bolted into place below the rotor. The shredded material can be discharged optionally via a discharge screw, suction system, and conveyor belt or conveyor chain.

Applications:

Typical material applications for size reduction are:

- Large panels and board cut offs
- Wood pallets
- Production waste from carpentry
- Wood from packing
- Waste wood from construction and renovation
- Sheet, MDF- and plywood board production



Advantages:

- Large Hopper
- Rugged welded steel construction
- Quiet, smooth running
- Rotor with knife holders bolted into machine pockets
- Affordable
- Low drive power
- Small footprint



G Series All Purpose Shredders

The G Series shredders are single shaft shredders with a powerful two speed swing ram design eliminating the risk of blocking and wearing out of internal guide rails. The machine is very versatile and can be used for shredding of all kinds of input materials and is well suited for different industries. The 457 mm diameter rotors ranging from 850 to 2000 mm width are driven by one or two oversized gearboxes. The hydraulic power pack is well integrated into the machine housing to save space and protect it from damage but still easy to access or remove for maintenance. The standard E rotor features the proven knife and knife holder design, as well as outboard bearings and a hydraulically operated screen cradle. The machines can be tailored to various applications with cooling or hard facing and other wear options.

Applications:

The G Series shredders have been designed for a wide array of applications and industries like in house and general recycling, electronic waste and post consumer waste handling. Input materials can be all kinds of plastics like lumps, pipes, film, woven bags; electronic waste like cables and ICBs, paper, wood and other organic materials. Depending on input material and the following process the shredded material as defined by the used screen size can be directly used or go into the next step of size reduction for example in a H Series granulator.

Advantages:

- Low speed, high torque gear drive
- Powerful hydraulic swing type pusher
- Proven well engineered design
- Smaller footprint compared to traditional shredders with horizontal pushers
- Bolted in drive shafts
- Multiple rotor designs and materials
- Two speed hydraulic comes standard



P Series Heavy Duty Shredders

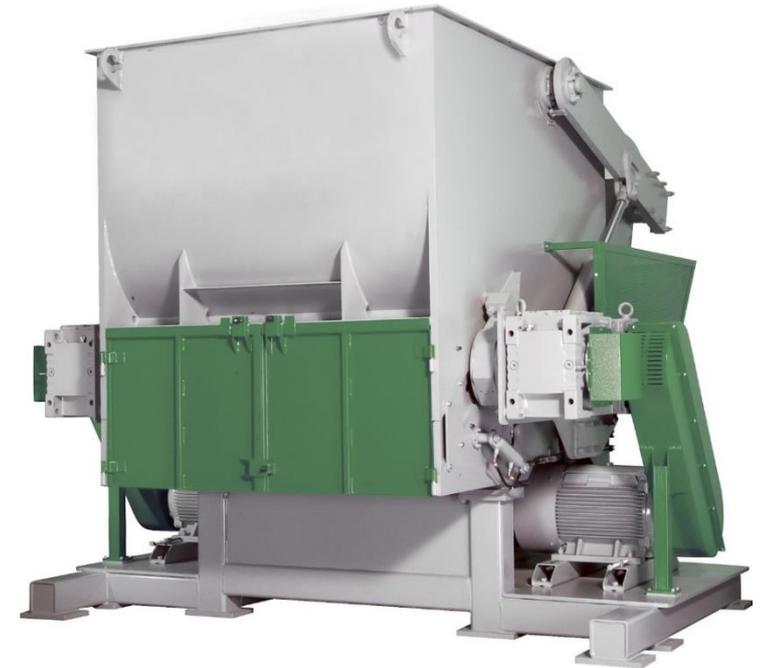
The X Series shredders are single shaft shredders with a powerful two speed swing ram design eliminating the risk of blocking and wearing out of internal guide rails. The machine is very versatile and can be used for shredding of all kinds of input materials and is well suited for different industries. The 750 mm diameter rotors ranging from 1500 to 3000 mm width are driven by two oversized gearboxes. The low speed of 45 rpm guarantees a high torque and smooth operation. The hydraulic power pack is well integrated into the machine housing to save space and protect it from damage but still easy to access or remove for maintenance. The proven E rotor, knife holder and knife designs are taken to new dimensions to conquer the most demanding applications and challenges. The machines can be tailored to various applications advanced controls and hydraulics, hard facing and other wear options.

Applications:

The X Series shredders have been designed for the most demanding and high throughput applications in recycling industries. The input materials can be all kinds of plastics, wood, paper, cardboard, e-waste, post consumer waste, rubber, etc. in various shapes and sizes. Typical input materials are: fridges, purges, tires, pallets, bales, drums and barrels, pipes, film and so on...The output material size is defined by the installed screen and except in RDF (refuse derived fuels) applications the output material has to be processed further to achieve the desired final size. For the recycling of complete truck and tractor tires the P Series T model is configured with special wear protection and knives.

Advantages:

- Low speed, high torque gear drive
- Powerful two speed hydraulic swing type pusher
- Heavy duty design+ High throughput rates
- Suitable for very large and heavy parts
- Big diameter rotor (750 mm)



L Series Single Shaft Shredder

The T Series shredders are single shaft shredders with a tangential in feed to eliminate the need for a hydraulic feeding system. The Space saving and maneuverable design combined with the *plug and play* controls make this machine very flexible and ready to go in no time. Like its bigger brothers in the G and X series they are equipped with outboard bearings, 310 mm diameter flat E rotors, 600 or 850 mm width, driven by an oversized geared motor. Utilizing the proven crushmaster knife holder and knife design. The user friendly design makes cleaning and maintenance work a breeze. The low speed of 60 rpm combined with the compact design of the L Series shredders makes it possible to shred lumps at a relatively low noise level. The machines can be fed manually or by conveyor, material discharge can be done via conveyor or into a drop box.

Applications:

The L Series shredders have been designed for in house recycling of small lumps and purges from injection and blow molding processes. The typical input materials are small and medium sized cakes such as head waste. The material can be shred to reduce the volume or processed further in a granulator to be re introduced into the production process immediately. The machine also can be used to destroy sensitive products or to recycle small batches of low volume products to avoid contamination of the main product line.

Advantages:

- Affordable solution for small lumps
- Simple upgrade for existing granulation system
- Easy to move and place
- Tangential in feed avoids the need for a hydraulic pusher
- Small footprint
- Low energy consumption



T Tire Shredders

The T single shaft shredders are specially designed for the processing of complete or pre shredded tires. Both machines feature a 750 mm diameter rotor ranging in width from 1500 to 3000 mm with oversized outboard bearings and twin gear drives. The tangential in feed ensures an optimal feeding of the input materials while eliminating the need for a hydraulic feeding system. All tire shredders are equipped with a complete wear package including hard facing, special knives and wear plates made from highly wear resistant steel. The two model ranges differ in the amount of stator knives and the screen sizes used. The modular design makes it easy to integrate either machine into existing installations.

Applications:

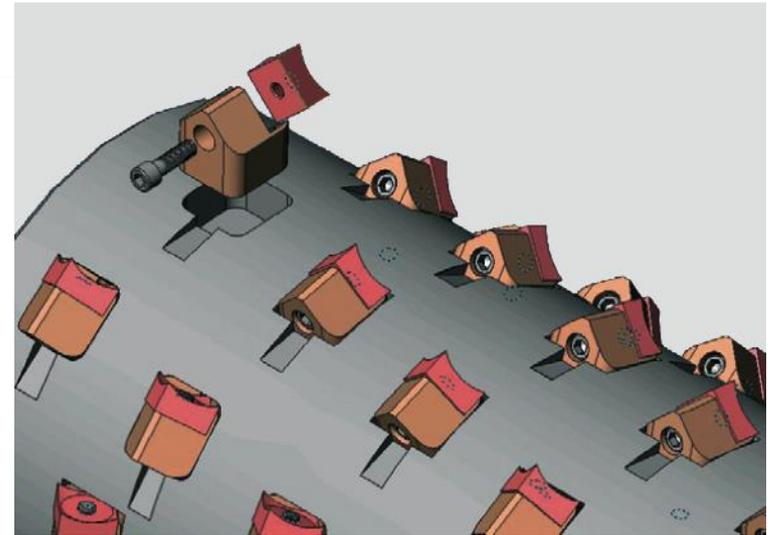
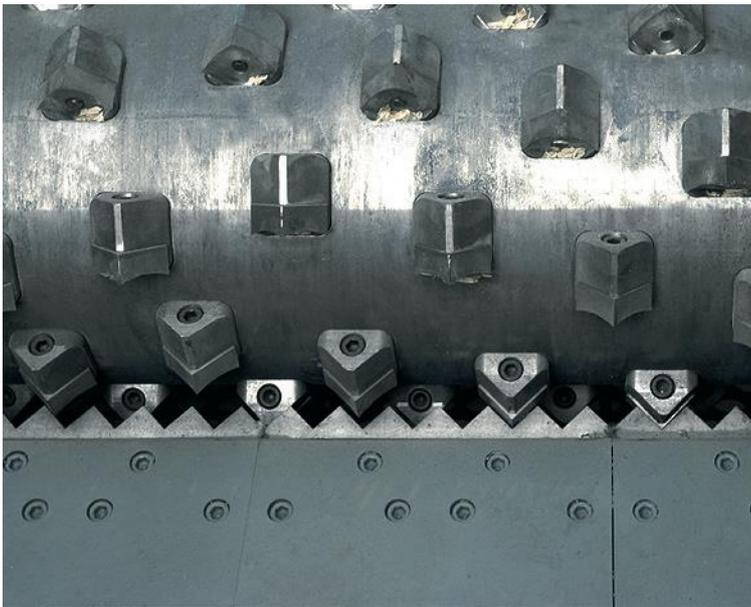
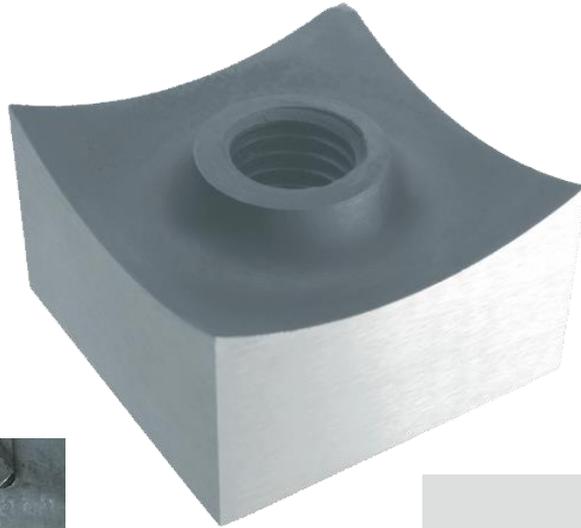
The twin rows of stator knives and screen in the T enable it to take the tire shreds down to any required size > 20 mm. The unique machine design combined with the variable cutting gap creates an optimal separation of rubber and steel fractions when the machine is used with a 20 mm screen. Therefore steel can be removed easily in the following process with magnetic separation equipment. Besides tires, the machines are also used in the conditioning of RDF and other alternative fuel applications.

Advantages:

- Single large diameter rotor (750 mm)
- Proprietary knife design and material
- Variable knife gap to improve separation of steel and rubber
- Compact Heavy Duty design+ High throughput rates
- Fast and easy tool change and maintenance



Virtus Shredders – Rotor and Knives



U Series Briquetter

U Series briquetting presses are designed for briquetting wood shavings, saw dust and other waste. Through this operation not only will storage and transport costs be reduced, but the final product-briquettes become a valuable fuel. Depending on the throughput and material, the briquetting presses can be individually adapted to various tasks. Optional briquette length monitoring. Hydraulic unit. Programmable logic controller (PLC). Dustproof filling chute with sensors. Optional oil cooling for hydraulic system. Wood chips, shavings, sawdust, etc. occur in all workshops and industrial enterprises in the wood processing industry. Everyday, enormous storage and transport costs are incurred as a result. These briquetting presses offer an ideal solution as briquettes, in contrast, save space and are easy to store and transport. In addition, the risk of spontaneous combustion is greatly reduced. The briquetting presses do not require much space, are solidly built, and utilize low-maintenance technology. Whether wood, paper biomass, foam, or polystyrene, U Series machines can briquette any suitable material. With throughput of up to 35-130 kg/h, they are particularly suited to small and medium sized businesses. Can be installed in a wide variety of spaces as left-hand and right-hand models are available.

Applications:

Briquetting for wood and other waste materials

Advantages:

- Variable container sizes (on request)
- Left-hand and right-hand versions
- Advanced design
- Hydraulics with a separate oil tank
- All types can also be equipped as "DUO" versions

