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*Fourteen companies are successfully using the new Vecoplan VEZ 3200 pre-shredder for the production of refuse-derived fuels (RDF) – **and with convincing benefits too!***

Vecoplan presented the VEZ 3200 (Vecoplan refuse-derived fuel shredder) to the specialist public for the first time at the IFAT 2018. Since then, the customer feedback has been outstanding – and 14 users are already using the pre-shredder successfully. The VEZ 3200 was specially developed to produce RDF (refuse-derived fuels). The shredder can process and handle materials such as household, industrial and production waste, and even bulky waste in either one or two stages. Two of the many excellent features of the VEZ are its throughput capacity and low operating costs, but which features make the pre-shredder *really* stand out from the rest?

Why did Vecoplan decide to develop the VEZ 3200? “We must always react to the requirements of our customers and support them in the best possible way,” explains Martina Schmidt, Head of the Recycling I Waste Division at the Westerwald machine manufacturing company. She is very familiar with the market and knows what drives it; for example, more and more cement plants are relying on RDF for particularly energy-intensive production. This reduces the use of expensive primary fuels such as coal and oil – and also reduces environmentally harmful CO₂ emissions. In the past, RDF processed from household, industrial and commercial waste were usually only fed into main burners. “In this procedure, the material is pre-shredded and re-shredded in a two-stage process, and that enables the required quality to be achieved,” explains Vecoplan application engineer Heiko Kessler. To increase the substitution rate even more, however, an increasing number of operators are also using the processed RDF at the calciner. Here the material must have a high degree of homogeneity, but not the very fine grain size that is required for the main burner. “Our customers want to reduce their investment costs and minimise the system’s footprint,” says Martina Schmidt. “Our aim in developing the VEZ 3200 was therefore to create a high-performance machine that produces output material with a specific particle size in a single-

stage process. The material can then be directly fed to the calciner, so the user only needs one shredder.”

Ergonomics are also of key importance

Vecoplan presented the new VEZ 3200 with a contemporary appearance at the IFAT 2018. Design is much more than just colour and shape – user benefits are also of key importance. “For us, the VEZ 3200’s design wasn’t just about appearance, ergonomics was also very important,” reports Martina Schmidt. The design impacts on the machine construction and makes the shredder easier to handle for the operator. “We also wanted to combine maintenance accessibility with customer benefits to increase the availability of the machine,” explains the Head of the responsible Vecoplan Division. For example, thanks to the V-shaped centering seat, the service technician can easily and quickly change the hardened individual knives, which can be used up to four times – and that’s perfectly integrated ergonomics. The flanged shaft ends enable the rotor to be changed quickly without removing bearings and drive – and thanks to the closed design, all the danger points outside the machine are inaccessible, and the sensors and all the cable lines of the various media are protected against coarse dirt, falling input material and other mechanical influences. With this new design, Vecoplan has also specifically reinforced all the areas that are subject to particularly high forces and loads.

Material can now be fed directly into the shredder with a wheel loader

“In the past, more and more customers were coming to us with requests to feed shredders with a wheel loader or forklift truck,” says Heiko Kessler. “So we designed the new machine with a low loading edge.” Now users no longer need any additional conveyor technology for the feeding process. Yet another special feature: Bales with an edge length of 1,200 mm can be fed directly to this powerhouse of a shredder. To achieve this, the Vecoplan engineers installed an improved orbital ram, which can be adapted to the different input materials – and thanks to the machine’s infinitely adjustable ram speed, the best possible shredding process is achieved, even in the case of difficult or very light input materials.

Convincing flexibility

Since its market launch, Vecoplan has already successfully delivered several VEZ 3200s to customers all over the world. The Zimmermann recycling company in Lahnstein, a Vecoplan customer for many years now, is one of the 14 companies using the new shredder. The main

argument for the company investing in the new VEZ was its high degree of flexibility, thanks to which a wide range of very different materials can be processed, from conventional industrial and production waste to old tyres or even waste wood for thermal recycling. “Bulky waste, for example, is an issue that not only we, but the industry in general, have often found more difficult to deal with in the past,” says Martina Schmidt. “Our holding pressure device in the new shredder can now feed even bulky materials to the rotor efficiently, so we see great potential here.”

Facility operators can use the VEZ in a variety of ways – as a pre-shredder to produce material that can be sorted and conveyed from production residues with a grain size of less than 250 mm, and as a single-stage shredder for the production of grain sizes smaller than 50 mm. The operator can equip the machine with the appropriate screen for this purpose. The particle size is of particular interest for thermal recycling, because oversized particles can lead to technical problems during incineration – and the sheer flexibility of the VEZ is particularly attractive for many customers, since not only different materials are involved, but different output qualities also have to be produced to exactly match the requirements.

Powerful and low-maintenance drive technology

The decisive factor for most customers, however, was the electric HiTorc with an output of 2x155 kilowatts installed in the VEZ. “It drives the rotors directly,” says Kessler. Mechanical drive components such as gears, belt drive, clutch and hydraulics are no longer required, significantly reducing maintenance costs, and operators also save up to 60% energy compared to conventional drives. The very high torque enables a problem-free start-up under load, and the reversing processes at overload are very dynamic. “Even when the machine is fully loaded, as soon as I press the start button, the force is transferred directly to the shaft, and the VEZ starts working within milliseconds,” explains Martina Schmidt. The machine also stops again at the same speed if, for example, there are impurities or non-shreddable materials in the mass. “This prevents damage to important components such as the rotor shaft, clutch or gear box and thus eliminates any unscheduled stoppages. That’s yet another unique selling point in the market,” says Ms Schmidt.

Especially quiet operation

The HiTorc drive can deliver up to 110,000 Newton metres to the 3.2 metre-long rotor, allowing even bulky and particularly difficult materials to be safely processed. The high-

performance cutting unit ensures a homogeneous grain structure, maximum throughput and reduced heat generation. The knives on the W-rotor patented by Vecoplan are also uniformly arranged and this results in very quiet operation in combination with the HiTorc drive.

Application engineer Kessler: “The quiet running of the VEZ makes daily operation much more pleasant for the operator and for nearby residents: depending on where the facility is located, a noise permit from the regional council would usually be required, because residents would be disturbed by the noise from conventional shredders.” The VEZ eliminates all the problems associated with overloud operation.

“The extremely smooth running also creates a very high level of investment security for customers,” emphasises Martina Schmidt. That is because quiet running means little or no vibration – and if machine parts vibrate constantly, they’re going to break down sooner or later. This is yet another unique selling point of the new Vecoplan machine, because market competitors are constantly faced with challenges in this regard. “With our VEZ 3200, we also score over the competition with a high degree of robustness,” she says.

The companies using the VEZ have certainly not regretted the decision to make this investment. The machine can process widely differing materials very efficiently and with a high degree of process reliability – and thanks to its high level of availability, the VEZ 3200 will quickly pay for itself.

Meta title: Vecoplan gets gratifying customer feedback with its powerful single-shaft pre-shredder

Meta description: Fourteen companies are successfully using the Vecoplan VEZ 3200 pre-shredder to produce refuse-derived fuels

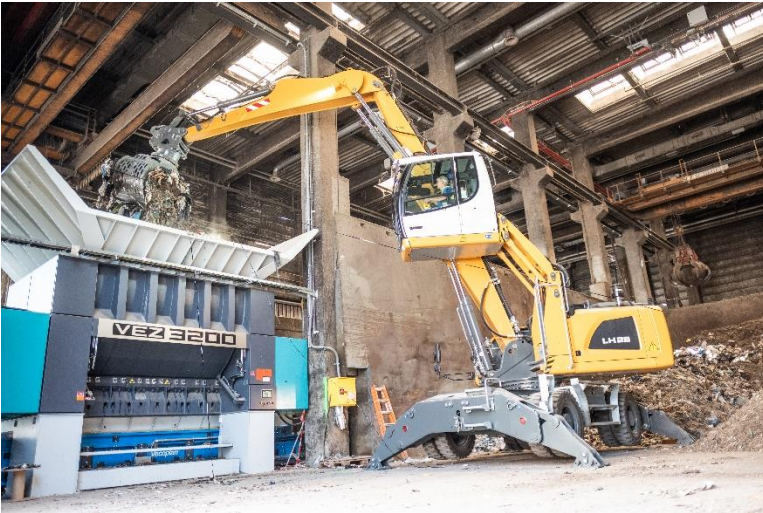
Keywords: Vecoplan; Shredder; Refuse-derived fuels; VEZ 3200; Single-shaft pre-shredder

Captions:



Image 1: Vecoplan has developed the VEZ 3200, a powerful single-shaft pre-shredder with high throughput.





Images 2 + 3: The shredder can be loaded directly with a wheel loader or forklift truck



Image 4: 14 users are already using the pre-shredder successfully.



Image 5: The "little brother" of the new VEZ 3200



Images 6 + 7: The new shredder can process and handle materials such as household, industrial and production waste, and even bulky waste in either one or two stages.



Images 8: Martina Schmidt: “Our customers want to reduce their investment costs and minimise the system’s footprint.”

Photography credits: Vecoplan AG

Vecoplan AG is a leading manufacturer of machines and systems for the resources and recycling industry for shredding, conveying and reprocessing wood, biomass, plastics, paper and other recyclable materials such as domestic and industrial waste. Vecoplan® develops and manufactures the systems and components, and sells them worldwide in the wood reprocessing and waste processing industries. It currently has around 380 employees at its locations in Germany, the USA, Great Britain, Spain and Poland.

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