

Car wreck a piece of cake for Zato's Blue Devil

Tough enough to shred cars, pick up trucks and bales - yet flexible enough to operate as a standalone shredder. Since its introduction, recyclers have quickly recognised the many advantages of the Zato Blue Devil rotary shear compared to traditional pre-shredders.

For those lucky enough to own one, it has become their favourite piece of scrap processing equipment, claims Italian recycling equipment manufacturer Zato Recycling Solutions. Several well-known yards in Asia and, in particular, Australia and Northern America were early adopters of the Blue Devil and are now reaping the benefits.

'Already we have quite a loyal following from satisfied customers around the world,' explains Zato's commercial manager Luigi Cominetti. 'This is not just because the Blue Devil works so well but also because we make sure that wherever we sell one we also provide after sales servicing with fast and efficient spare parts back up. Our new augmented reality servicing capabilities can only improve on the customers' experience.'

SLOW SPEED/HIGH TORQUE

The Blue Devil is a new twin shaft shredder (also known as a rotary shear) that works at low speed to maximize torque delivery. The

shredder's standard speed is set at six rotations per minute (rpm) but can automatically reduce to 3 rpm when required. This massively increases the torque delivery to enable bales, whole cars and plate steel to be shredded with ease.

The benefits of the slow speed/high torque rotary shear were quickly recognised by recyclers on its introduction in 2006 and, as a result, sales have increased considerably giving Zato a position among 'the most experienced and trusted' manufacturers of rotary shears.

A Blue Devil rotary shear:

- increases the density of the scrap by up to a factor of four
- removes impurities from the scrap
- virtually eliminates the risk of explosions from gas bottles, fuel tanks and similar
- prevent large elements damaging the hammer mill
- pre-shreds bales and cars

WANTED: 'ZATO GRADE'

According to Zato, steel mills in several countries are now actively looking and paying higher rates for a new grade of scrap which is not frag (proler, E40) nor HMS: they are looking for 'Zato grade' scrap and paying a premium for it.

Unlike with a shear baler, scrap in a twin shaft rotary shear is 'largely free from dirt and impurities while the density of the scrap is also higher,' the company claims. Because the blades rotate slowly, very little dust is produced and there is no need for an expensive aspiration system.

The Zato Blue Devil has grown a loyal international following around the world because:

- expensive foundations or complicated civil works are not required
- delivery and installation is quick: Zato pre-builds the shredders so customers can start operations within a few days
- of exceptionally low operating costs per tonne
- of its high output (25-35 tonnes per hour)
- no external operators are needed
- of Zato's experience of more than 15 years

SAVING DANGER, DAMAGE AND DOWNTIME

Compared to traditional pre-shredders, the Blue Devil offers several advantages. Firstly, the hammer mill should be fed uniformly sized scrap, free from unshredables such as large solid chunks that could cause expensive damage if they reach the hammer mill. Secondly, explosive material such as partially filled fuel tanks or gas bottles must be removed or rendered safe before reaching the shredder. The slow rotating close-cutting blades on the Blue Devil safely open gas and fuel tanks without explosion. Should a large item enter the shredder, the rotors automatically reverse direction before any damage can be done.

Conventional 'toothed' pre-shredders with large gaps between the teeth are not as effective at:

- segregating unwanted objects which fall through between the toothed rotors and potentially fed into the main hammer mill
- releasing gas from CNG and LPG gas bottles which tend to fall unopened between the teeth, again creating a potentially dangerous problem if fed to the shredder
- opening bales fully: partially opened bales processed by traditional toothed pre-shredders can mean expensive power peaks in the hammer mill

COST-EFFECTIVE ALTERNATIVE

Taking scrap from smaller yards to a single large shredder is not the most cost-effective solution. Running a mega shredder involves higher operating costs and higher bills for transporting the scrap, while prices paid for processed frag (proler, E40) are not as attractive as they were. Furthermore, the largest shredders need to run continuously to recoup big investment costs.

Zato's Blue Devil offers a fast and more cost-effective alternative for processing light to medium gauge scrap with:

- a high throughput of 25-35 tonnes per hour
- load volumes of up to 30 tonnes per trailer (based on a trailer with a load volume of 34m3 / 1 200ft3)

- contaminants removed by adding a cleaning line (screen and drum magnet).
- low initial investment and running costs
- reduced labour costs as Blue Devils run autonomously and do not require an operator.
- extra source of income from collected Zorba when using a 'Blue Clean' cleaning and separation line downstream

Additionally, the Blue Devil does not generate dust so does not require dust suppression or an expensive air filtration system. No impact from hammers means soundproofing is not required.

BLUE DEVIL FOR STEEL MILLS

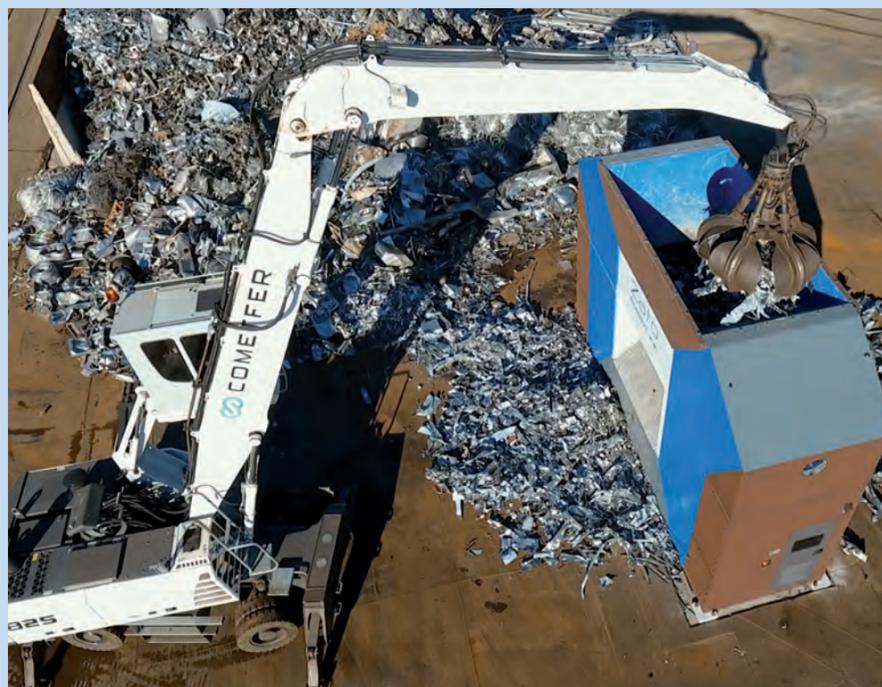
Low-grade, low-cost bulky scrap is the perfect material for the Blue Devil. Several major steel mill groups have already adopted it as the perfect solution to process light gauge scrap at their feeder yards. Because material processed by the Blue Devil is denser, fewer buckets are required for a melt cycle at the steel mill. Fewer buckets significantly reduces heat and energy loss, offering large cost savings. Light gauge scrap makes excellent, easy-to-melt feedstock when contamination is removed and density is increased. 

MADE IN ITALY – DELIVERED TO THE WORLD

With more than 20 years' experience as a manufacturer of high-quality scrap processing equipment, Zato's mission is to provide its customers with the very latest technology and most reliable, efficient machinery for specific solutions in shredding and recycling. Zato products incorporate advanced technologies such as artificial intelligence, predictive maintenance and remote servicing. This means machinery is always running at an optimal level to maximize efficiency and reduce down times while minimising emissions and energy consumption.

Zato's service team use the latest augmented reality solutions to maximize and speed up customer support in all areas. This year, customers will also benefit from the Zato app that allows real-time control and monitoring of shredders from any IOS or Android mobile device, wherever the customer happens to be.

www.zato.it



The Blue Devil in operation.

Modern technology with a Latin design flair

Zato Recycling Solutions' headquarters and factory is in the heart of northern Italy, close to the shores of Lake Garda. Established in 1998, it is a relatively young company employing around 40 staff, each with a typical Italian passion for design and functionality. The 4 000 square metre factory is situated on an 11 000 square metre site.

'When we started the company, we already had a global vision to design and manufacture the best performing recycling machinery, not only for our Italian customers but also for the global market,' explains Zato's ceo Alessandra Bresciani. 'Our founders already had great experience in the metal recycling market and, consequently, knew very well the requirements of yard managers and how scrap had to be processed to get the most out of it. Combining the best available technologies with our special know-how and original ideas, led Zato to develop superbly functional and reliable equipment that has some of the best ROI values in the industry.'

SMART GLASSES

Zato's international presence took off from the start and today accounts for over 80% of turnover. 'We insist on having decent spare part availability and reliable service back up in every country in which we are actively selling,' says marketing manager Luigi Cominetti. 'Our relationship with customers does not stop after the sale: it is only just beginning.' The company was among the first manufacturers to offer remote servicing and in 2020 upped its own game by offering artificial intelligence, smart glasses and augmented reality

to customers and the service team. 'Our service technicians wear smart glasses with integrated video cameras, microphones and speakers,' says Cominetti. 'Now, when a service technician is on site and wearing the smart glasses we can actively see what he or she is repairing. Our engineers at head office can send useful and relevant information directly to them in real time using the display integrated in their glasses. We can also talk them throughout.'

AS LONG AS THERE'S A CONNECTION

The new smart glasses are a real revolution. 'No need to wait for a technician to drive or fly in from afar before a repair can take place,' says Cominetti. 'The yard's technician can simply put on the smart glasses and be talked through the required repair or service procedure step by step by our own experienced engineers. As long as they have a stable internet connection, it doesn't matter if they are in the Peruvian rainforest or on the edges of the Iraqi desert.'

MAKING WAVES ACROSS THE GLOBE

In 2020 Zato sold its fifth Blue Devil to a customer in eastern Australia and Australians in particular have come to appreciate the rela-



Installation of the Blue Devil.

tively low initial investment and total running cost of a Blue Devil when compared to a hammer mill. No foundations are required, the rotary shear operates autonomously without an external operator and operating costs are considerably lower. Zato also pre manufactures Blue Devils which means, in many cases, companies can have one up and running around two months after ordering. The reality of the current situation is that collected scrap is getting lighter and this trend is set to continue. Processing light to medium gauge scrap in a hammer mill has a relatively high cost per tonne. Doing the same job with a shear baler is less expensive than using a hammer mill but

the volumes and the density of the processed scrap are lower and the product's not as clean.

HELPING HAND AT KOREAN YARD

Hat Bit Jung, ceo of Daehan Steel & Recycling in South Korea, found the Blue Devil to be the perfect solution for his yard. 'I am processing around 25-35 tonnes per hour and the result is a nice dense scrap which is relatively free of contaminants,' he says. 'Because the Blue Devil's blades rotate slowly and with high torque, very little dust is produced. I can even process whole cars without the need to remove engines, axles or gearboxes.' Foundries in particular are very fond of receiving 'Zato' grade scrap that is free of dirt, is dense and is easy to melt. Adding Zato grade scrap reduces the loads required in the furnace, thereby cutting energy costs.

NEW FRONTIER AMERICA

Zato is not resting on its laurels. Its ethic of always doing things better means that continuous improvements based on feedback from international users is keeping its shears, shredders and hammer mills amongst the top performing recycling equipment on the market. For 2021 Zato intends to further increase market share in the Asian market as well as expanding its activities in USA, Canada and Latin America. 



Zato's service technicians wear smart glasses with integrated video cameras, microphones and speakers.



Inside the production hall.



Another Blue Devil is being prepared for shipment.