

## MRF Equipment Product Focus



**Autobaler**  
Waste & Recycling Systems

**ECS Limited**

A2 Varis Business Park, Challenge Way, Blackburn, Lancs BB1 5QB  
Tel: 01254 699200 [www.autobaler.co.uk](http://www.autobaler.co.uk)

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## A Complete Package of Products and Services for the Waste Industry

During the current economic climate it makes sense to source reliable and efficient bulk handling equipment for waste processing. Canning Conveyor has supplied many solutions for waste processing sites in the UK, consistently providing top quality equipment backed by top class service, which as MD - Andrew Canning says, "In this economic client it is important to offer a full package to the client" This package includes being able to offer customers a single component part to full turnkey packages, from design concept to full installation and commissioning of a complete plant.

With the expertise and experience from over 45 years in the bulk handling industry Canning Conveyor Canning has successfully adapted to customer requirements as the industry changes. "Customers want products that work efficiently in arduous conditions at a very competitive price, he says. "At Canning we have successfully installed an extensive amount of plant and equipment to the full satisfaction of the client. Furthermore we also offer the back-up of a full after sales service supplied by our skilled engineers, including site surveys of existing plant to cover belts, idlers, rollers and drums.

### Viridor Waste Management

Designed, installed and commissioned at Century Wharf in early 2007 Canning installed a fully integrated conveyor system across the 10 acre site which are part of the paper and plastic line of the MRF

With an initial order for three transfer conveyors and a screen feed conveyor Canning subsequently supplied two quality assurance stations complete with structures to carry the new conveyors which included picking chutes, floors, stairs and hand railing. A third contract



involved the supply of two troughed belt conveyors and a 90 metre feed conveyor which handles mixed plastics at a height of six metres which runs parallel to an existing building discharging directly into the new sorting plant feed hoppers.

To complete the project a further supply of seven conveyors included Canning 'SuperDrive' motorised drums and modifications to three existing conveyors. All the 'SuperDrive' drums are fitted with extra, external non-regreasable steel labyrinth seals to eliminate the ingress of cassette tape, glass, plastic thread and steel or copper wires that can become trapped and wind themselves around critical areas such as shafts and seals. These seals ensure that the pulley can operate without constant attention consequently fulfilling its life potential.

### Reuse Glass UK Ltd

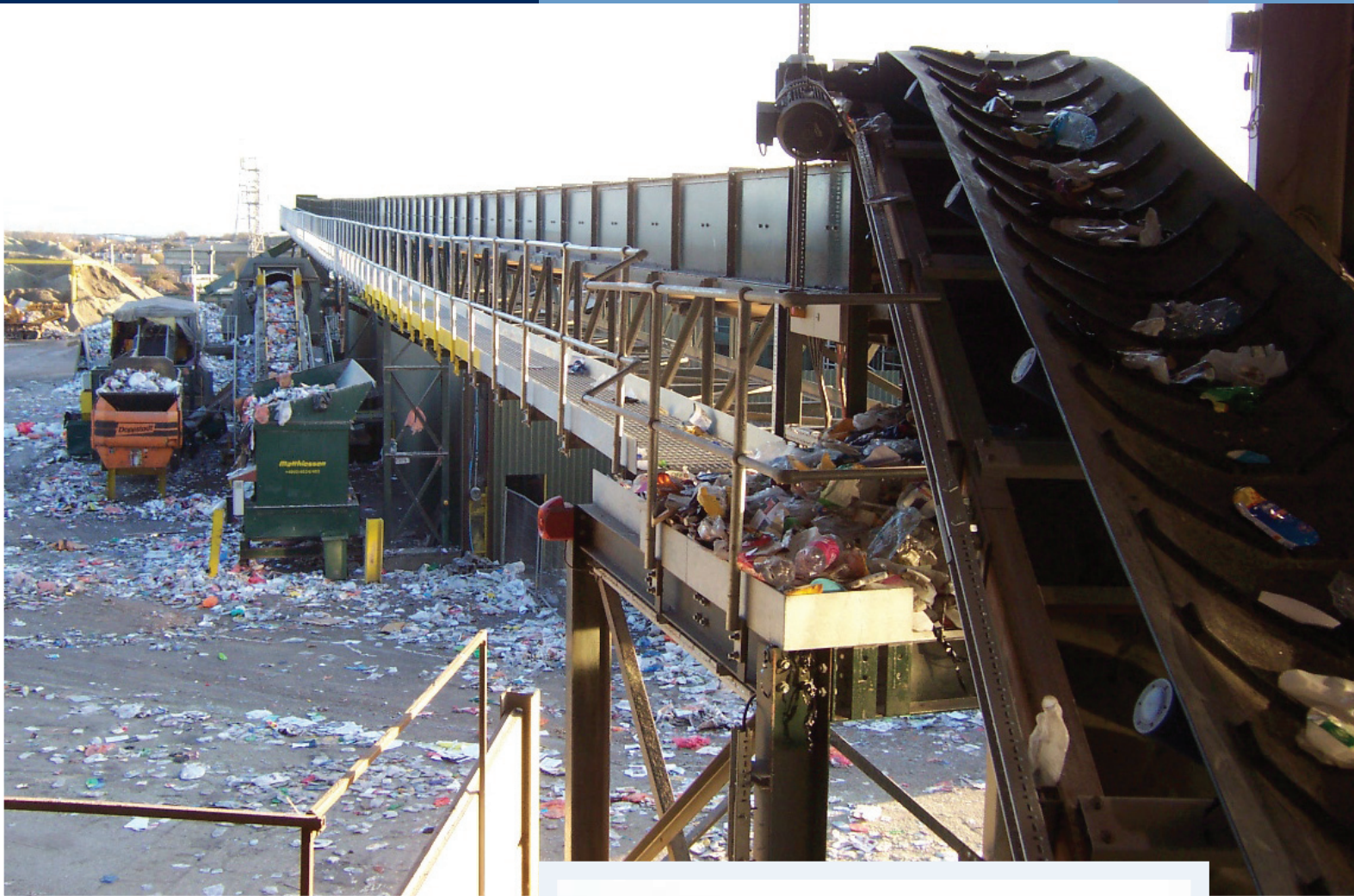
A recently completed project in the recycling Industry for Reuse Glass UK Ltd at Knottingley, West Yorkshire involved the supply and installation of a new transfer conveyor and associated equipment. Reuse Glass are glass recyclers who manage a daily incoming mixed stream of waste glass. Needing to upgrade and modify their existing processing system the company contacted Canning Conveyor to supply a new transfer conveyor.

Canning Conveyor were tasked with the supply of a 3.5 metre long transfer conveyor which was supplied with a crown and lagged drive drum with scraper, tail drum and adjustable 3-roll idlers. Canning also designed manufactured and supplied a new two way head chute complete with hood and associated chutes.

Further work involved modifications to an existing elevated conveyor which involved splitting and then raising the back of the conveyor. Canning then fitted a new discharge end (complete with magnetic drive drum) to feed onto a repositioned 'eddy current' separator. The existing eddy current discharge chute was then modified to feed the glass stream onto a new tail end/feed unit which was fitted onto the other half of the split conveyor allowing any non-ferrous metals to be fed by chute into an existing mobile skip. To ensure the ferrous removal the back end of the conveyor was fitted with a chevron belt, and the front end fitted with a wide plain belt.

The equipment for the whole project was subsequently installed on-site by Canning engineers.





John Witheford - Production Manager of Reuse Glass, commented, "The Canning team were very professional and completed the project within the allotted time frame which left no room for error due to tight production schedules. Furthermore they were also very competitive with their pricing."

## Magna Engineering

A third project in the Waste Industry involved the supply and installation of a conveyor system at the laminated glass recycling site at Burn near Selby. Magna Engineering who are based in Wakefield are a member of the MAGNA Group plc. who are specialists in recycling. The group has developed an effective system to handle laminated glass and separate the glass from the PVB, to enable recycling of both glass and PVB for commercial use. The project has included the supply of conveyors for the laminated glass processing and recovery line with the first phase involving the supply of modular feed and discharge conveyors for the first MAGNA separator. Five more modular conveyors were supplied for the second stage of separation into



different product streams. Further modular conveyors will be supplied to fulfil the need as the process and the plant expands to achieve its full potential.

As one of the country's leading specialists in the supply of bulk materials handling technology Canning expertise covers a diverse range of industries including: Power, Waste, Marine, Quarrying, Food and Agriculture.

**Canning Conveyor Ltd.**

**T: 01909 486166**

**E: [sales@canningconveyor.co.uk](mailto:sales@canningconveyor.co.uk)**

**W: [www.canningconveyor.co.uk](http://www.canningconveyor.co.uk)**

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## A DUO MRF was an 'Easy' decision

Dartford based waste and recycling company Easy Load are now operating a new waste sorting plant manufactured and supplied by DUO Manufacturing, part of the DUO (Europe) plc group.

Easy Load is a family run business that has been working in the waste industry since 1968, have upgraded their facilities to increase the efficiency of their waste sorting. Receiving waste through their skip business which operates across Kent, South London and Essex, Easy Load provide their waste removal services to individual householders, schools, government contracts, local builders and national construction companies.

The new waste sorting plant, which is designed to handle up to 50 tph, will be processing a variety of material types, although a sizable portion will be construction and demolition waste. Prior to the commercial and domestic skip waste being fed to the MRF it is pre-sorted to remove the +600mm material, +25kg material and any combustible or corrosive materials.



It is after this pre-sorting stage that the business reaps the reward of their investment. Once separated the waste material is sold to local business which reduces the waste to landfill. Prior to the installation this was a time consuming exercise that, apart from the use of a mobile screen to remove oversize, was done entirely by hand.

### The Plant

The process is very simple with incoming waste materials being fed by wheeled loader into a feed hopper, which was designed and manufactured in-house by DUO. Materials then pass through a vibrating feeder and onto an inclined conveyor which subsequently feeds into a 6 bay trommel screen, which was also



designed and manufactured in-house by DUO. The heavy-duty, 9.4m x 2.4m trommel mechanically grades the fines fraction into two sizes by further screening. DUO Director - Dudley Lloyd commented on the trommel selection *"The right size trommel is key to the efficiency of any installation; we looked at Easy Loads application and rather than trying to compete purely on price we've made sure they have the right equipment for the job"*.

All oversize material exits the trommel and is fed onto a link conveyor to the 10 man picking station. This link conveyor is fitted with an air knife blower, situated just below the head drum this blower separates any oversize lightweight materials which are then transferred to a lights cage through a totally enclosed steel duct.

All heavy materials then move onto a 1200mm wide picking belt within the picking station which conveys the material past a team of operators, each operator manually selecting and rejecting specific materials not required in the end product via discharge chutes into the bays below. Any unpicked material then passes under an overband magnet to remove any ferrous metals before going on to be stockpiled via a discharge chute at the end of the belt.

The picking belt is enclosed within a 17.5m cabin and is equipped with a continuous, centrally positioned tensioned pull wire above the belt for emergency stop situations creating a safe and hospitable environment for sorting waste.

### An 'Easy' Decision

For Easy Load, DUO Manufacturing stood out in what is a highly competitive market.

*"We've developed a good relationship with DUO, they have helped us a great deal from our initial discussions through to the support they continue to provide."* commented Easy Load Owner - Tommy Lee. He added *"We've been looking to invest in this type of facility for a couple of years now and in that time we've visited several sites to view similar operations and the specification and build quality of all of DUO Manufacturing's plants has been very impressive"*

Tommy commented further *"Every element has been designed to last and the maintenance requirements are very simple."*

**Tel: 01373 836451, [www.duopl.com](http://www.duopl.com)**

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## Impact's Zig-Zag separation system - Seeing is believing!



Impact Air Systems' recycling solutions are slowly becoming a global phenomenon within the recycling industry.

Impact offer a number of air based solutions to separate, clean and transport recyclables including air knives, glass cleaning systems, plastic granule cleaners and film handling systems as well as solutions to improve the working environment and cleanliness of materials such as dust control and LEV thorough examination and testing.



Impact Air Systems' most recent success has been their Zig-Zag separation system. The simple but highly effective system pulled crowds onto the stand at the Recycling & Waste Management exhibition in Birmingham and at the Recycling exhibition in Poland. They used a demonstration unit to show how they could remove lightweight contaminants from recyclable materials thus improving their quality and value.

Although they showed how they could separate paper from ping pong, golf and tennis balls, it was the glass, rubber and plastics samples that really wowed the visitors.

Since the exhibitions they have had requests for over 30 samples to be put through their test facility at their headquarters in Leicester in the Midlands and are now processing many of those samples so that potential customers can see the results for themselves.

Customers have been so impressed by the improvement in quality that they have even asked Impact not to tell their competitors about their solutions!

The most recent installations include removing paper, label, wood and dust from shredded and granulated rigid plastic, removing paper and dust from plasterboard nuggets and also systems within various glass processing plants.

Due to unprecedented demand, Impact have established trade partners in USA, Canada, Mexico, Poland, Russia and Japan.

Impact Air Systems' solutions come with the benefit of support from their sister company Impact Technical Services who have a team of highly skilled engineers who pride themselves on their technical knowledge and reputation for a quality service. Impact Technical Services provide everything from contract maintenance, breakdown response and spare parts through to specialist on-site services such as LEV testing, noise and air quality monitoring.

**For more information about how Impact can help you, call the sales team on +44 (0)116 2448855, visit the website [www.impactair.co.uk](http://www.impactair.co.uk) or look at their videos on YouTube.**

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## Mogensen in the recycling industry



Most recycling plants find it essential to use vibratory equipment somewhere in the process to loosen, carry out a preliminary separation on, spread and/or size the incoming materials. Examples of processes, which would not be able to operate effectively without this

sort of assistance, include magnetic, eddy current, ballistic, optical-electronic and air separation, all of which are to be found in the recycling industry. Mogensen, as a specialist manufacturer of vibratory screens, feeders, conveyors, Sizers and the open-ended, non-clogging grizzlies known as Divergators™, has experienced a steady increase in business from the recycling sector over the past decade. This development was recently confirmed at this year's RWM show, which was marked by an encouraging improvement in the volume and quality of enquiries compared with the two previous exhibitions. Within the recycling sector the processing of waste materials from the construction industry has shown the most marked increase in recent years. This includes not only the dewatering and sizing of sand and recycled aggregates, the sizing of wood products and glass but also, notably, the screening of waste plasterboard following upon the banning in the EU of consigning such material to landfill.

Mogensen has supplied numerous machines for processing shredded plasterboard, ranging from small single deck screens to 3-metre wide, 5-deck Mogensen Sizer/spreader feeder combinations. These units have been used to perform simple duties such as the removal of paper and production of coarse grade recycled gypsum, and also the more demanding duties such as the production of multiple fine-grade fractions compliant with British Standard PAS109:2008. Mogensen equipment is used, for example, to process shredded plaster board at rates of up to 80TPH performing separations down to below 1mm.

When it is considered that more than 500,000 tonnes of scrap plasterboard are already recycled annually in the UK alone, the environmental benefit is very clear, especially as clean, recycled board is about 97% re-usable in the manufacture of new plasterboard, cement manufacture, the production of bricks and building blocks for internal use and for soil improvement.



## Axion Consulting launches new analysis service for MRFs

Axion Consulting, one of the UK's leading resource and recovery specialists, has expanded its range of services for Materials Recovery Facilities with a new Material Analysis and Sampling Service (MASS) for mixed material streams.

MASS has been developed by Axion's process engineers to combine common-sense, practical measuring methods with the correct application of statistical formulae. The collected composition data is processed on-the-job, so exactly the right sample size can be taken to remove background variability.

This means that optimum sampling can be carried out in the minimum required time, yet still gives the customer high confidence in the validity of the results obtained.

Providing a rapid and factual analysis of mixed material streams, the MASS service can be accessed as a standalone package; or it can follow on from the more comprehensive MRF Health Check that helps managers get the best from their waste sorting operations.

Axion's extensive experience over the past decade encompasses sampling and analysis techniques covering diverse waste streams, from plastic pots and trays to mixed bread, cakes and doughnuts.

*"We believe many MRF operators and owners are not carrying out statistically valid sampling and analyses of their infeed and output streams,"* explained Axion Director Keith Freegard. *"As their main task is to recover valuable materials at high purity from comingled waste, it is essential to know exactly what they're dealing with to gauge precisely their plant's overall performance."*

*"The composition and volumes of these complex material waste streams changes over time. That's why accurate and representative measurement is vital to identify any necessary responses to optimise operational efficiency - and maximise profits,"* he added.

Axion Consulting, part of the Axion Group, develops and optimises processing and collection methods to recover value from waste resources for a wide range of clients within the recycling and process industries.

Axion designs and builds innovative process plants for companies in the recycling sector, advising on plant design and equipment selection. Its specialist teams have particular expertise in mixed waste plastics and biofuels.

**For more information, contact Axion Consulting on 0161 426 7731 or visit the website - [www.axionconsulting.co.uk](http://www.axionconsulting.co.uk).**

## Getting to know the UNTHA VR series shredder

After 40 years in the industry, many organisations would find it difficult to maintain an innovative edge. Yet renowned for pioneering developments within the shredding technology marketplace, UNTHA has managed to continuously design and manufacture new and exciting machinery throughout the decades.

The key driving force behind the invention of all UNTHA shredders is, 'what do clients want'? This was certainly the case when UNTHA introduced the TR series for RDF shredding in 2009. Yet the beauty behind this most recent innovation - the VR series shredder - is that UNTHA has not only listened to industry requirements. The team has also created a piece of engineering that some clients would have never even considered, simply because they didn't think it was possible.

UNTHA UK managing director Chris Oldfield explains: *"Designed purposefully to satisfy the need for high-quality precision shredding, the VR is able to achieve incredibly accurately-sized particle reduction thanks to a number of configurable screens. Suitable for low-volume RDF, clean and dirty wood, plastics, film, mixed rigid plastics and even carpets, the VR can handle large volumes of waste that can be reduced to a particle size of 15-80mm depending upon application requirements.*

*"Consistency of particle sizing is incredibly important if the shredded waste is to be used in alternative fuel production, as biomass burners or gasification plants need small yet equally sized particles to get the best charge."*

With five models available from a VR60 through to a VR160, the shredder is capable of achieving throughput of two to eight tonnes per hour depending upon the application and required particle size.

Such impressive throughput is possible due to the VR's unparalleled new drive mechanism. This has not been used in a shredder before but is more commonly seen in heavy-duty applications such as mining and road-planning machines.

UNTHA's head of engineering management Christian Lanner explains: *"The gearbox sits neatly inside the shredder's rotor - what is now the largest in the UK's marketplace - and drives through the full 700mm diameter as opposed to only a small diameter stub shaft. Because the rotor diameter is so great, the rotor speed can be reduced without compromising the cutter tip speed. Even with reduced RPM there is an unparalleled rate of throughput. Clients could expect to shred up to 7 tonnes of plastic bottles per hour, or 5 tonnes of wooden pallets per hour for example."*

Operational simplicity is achieved by using touch screens, plus all clients' shredding data can now be digitally logged and sent to UNTHA's Austrian headquarters for interrogation. Ongoing assessment of running conditions not only prevents things going wrong but it also helps to ensure continuous efficiencies for the client long after the initial installation.



Other features include better foreign object detection, a maintenance-free ram device and interchangeable and indexable cutters. All of this combines to ensure outstanding reliability and consistently high results even under the most difficult conditions.

Considering its positioning in the marketplace, Chris believes that the VR really does represent the next generation of shredding technology, commenting: *"It illustrates the evermore intelligent nature of waste management solutions. Clients continually want more and more from their machinery. The VR has therefore been developed to closely fit the requirements of modern waste applications - to achieve greater efficiencies and encourage smarter working."*

Whilst not essential, the VR looks the part too. It's somewhat ironic that a machine which deals with materials that other people and organisations discard as rubbish, is so technically and aesthetically so sophisticated.

**Contact UNTHA UK on T: 0845 450 5388 or visit [www.untha.co.uk](http://www.untha.co.uk) for more information.**



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## Blue Group Presses On With The New Marathon Gemini-Xtreme Baler!



Bridgend, Glamorgan said "Our new baler has exceeded all expectations. It is extremely versatile, enabling us to bale a wide range of materials including cardboard, paper, polythene, hard plastics, bottles and cans." James added "The quality of bale produced is fantastic, especially those of the rigid plastics which weigh around 460kg, enabling us to transport this awkward material more easily, thus opening new doors for our recyclables back into the market."

Blue Group is the appointed European distributor for the successful range of Marathon 2 RAM, horizontal and channel balers. Having launched the new Gemini-Xtreme model at this year's RWM Show, the company reports considerable success with this versatile closed end horizontal baler, confirming eight models sold, seven of which are already installed. Blue Group is so confident of the continuing success of this machine that they have placed stock orders with USA based Marathon to ensure off-the-shelf availability throughout next year.

New owners of the Gemini-Xtreme baling presses cover a broad spectrum of waste management expertise from waste processing to demolition and baling a wide variety of recyclable materials.

Commenting on their recently purchased Marathon Gemini-Xtreme baler, James Nolan, owner of Nolan Recycling,

Tom Paterson, Managing Director of Patersons Waste in Glasgow, stated, "To supplement our recent MRF installation, we purchased the Marathon Gemini-Xtreme baler to enable us to handle and transport our recyclables more efficiently. We are delighted with the baler's performance both in terms of throughput and versatility. All products recovered from our MRF are now baled including papers, films, cardboard and rigid plastics, ensuring a more efficient and profitable operation".

Other Gemini-Xtreme baler installations in the past two months include specialist companies such as F. D. O'Dell & Sons and Hawes in London, Armstrong based in Bolton, DRS Demolition in Cornwall and TOM Waste in Scotland.

The Gemini-Xtreme is a mid-capacity, closed-end, multi-material baler with a vertical tie system, which is ideal for baling light alloys, paper, plastics, PET and similar waste stream materials, producing a standard 762mm X 1219mm X 1524mm bale with an average cycle time of 34 seconds. The full penetration ram ensures optimum compaction and full bale ejection. The programmable controller allows both manual and semi-automatic operation and the twin cross cylinders have power to spare from the 20HP motor. Wire guides ensure quick and efficient bale tying and the guide design allows easy clean-out. The Gemini-Xtreme also features a reversible and adjustable bolt-on shear blade and is also available with an optional hydraulic bale door release system and variable speed conveyor. The Gemini-Xtreme can be installed with an above floor or pit conveyor as required.

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## Kenburn installs fully automatic baler in third Shred-it branch

Kenburn Waste Management Ltd has recently completed the installation of a fully automatic Avermann Horizontal Baler and Conveyor system at the Leeds branch of Shred-it, a world leading on site document destruction company. Kenburn has previously supplied the Glasgow and Bristol branches of Shred-it with similar equipment to meet their waste handling requirements.

Leeds General Manager, Doug Badger said that the decision to use Avermann equipment was based on the success of the previous installations, where the quality of the equipment and the after sales support offered by Kenburn had already been proven. Shred-it invests heavily in the security of customer information, and baling shredded documents so they are sent straight to the mill for pulping is part of this secure process.



Kenburn has been the UK distributor for Avermann Baler and Conveyor systems since 1997. Many solutions, including fully automatic and semi-automatic balers with bin-lift or conveyor feed options have been installed within the UK.

The company is totally committed to provide bespoke customer solutions to specification, on time and at a competitive price. Key Account Manager, Martin Slough, believes that this commitment explains why a significant proportion of sales come from existing customers.

Kenburn has a National Service Team, with the capacity to install and support all the supplied systems. Additionally, Kenburn can repair and maintain any make of baler or compactor and supply a full range of consumables. They are also UK distributor for the Bramidan and Bergmann ranges of waste handling equipment.

**For more information, visit Kenburn at [www.kenburn.co.uk](http://www.kenburn.co.uk), email [info@kenburn.co.uk](mailto:info@kenburn.co.uk) or call 01727 844988**

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## SPLITTER - wide range spiral shaft separator

### Powerful recycling technology with individual solutions from Anlagenbau Günther

Wartenberg. Whether residual waste, compost, bulky waste, organic waste, old wood, woody biomass or stones, soils as well as mixed building waste - the SPLITTER handles almost everything. The unique, patented spiral shaft separator for separating extremely difficult materials is always at hand, even for treating mono charges such as old tyres and scrap steel. It ensures perfect screening without blockages and wrappers. "The secret of such extreme screening performance over a minimum area is the simultaneous axial and lateral spread of waste materials", says Bernd Günther, owner of Anlagenbau Günther GmbH in Wartenberg, the company which developed and successfully sells this innovative screening system on the international markets.

Mr. Günther explains that the wear resistant SPLITTER with its low energy consumption is available in mobile and stationary configurations, because *"last but not least, flexible customized solutions are our field of expertise"*. The particularly powerful receiving dosing unit TAKER for forwarding and dosing material onto downstream conveyor units surely also belongs to the range of best-sellers from Anlagenbau Günther. "This system convinces with large capacity and application related flexibility", the owner of the company explains. No question: With its comprehensive product portfolio and its own sales activities covering the fields of receiving - dosing - conveying - separating Anlagenbau Günther is the ideal partner for the entire process.

And this for a good reason, because this German machine and plant manufacturer already looks back on 25 years of experience - last but not least also in the development and production of star screening machines with self-cleaning system. At Anlagenbau Günther 120 employees stand up for our customers, work out individual and economical recycling technologies to suit man and environment. *"We are your self-reliant partner from A to Z"*, Bernd Günther emphasizes, *"from consultation through planning, execution and assembly, all the way to our highly professional After Sales Service - worldwide."*

Private independent disposers, local authorities, waste management companies and energy producers and heating plant operators are among the clients of this third generation family enterprise. *"They appreciate our modular concept plants, which seamlessly fit into their existing production processes"*, says Günther. The high number of possible modifications also convinces the customers. The screen gap sizes on the SPLITTER can e.g. be matched to the actual requirements *"and thus ensures highest efficiency"*.

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# A fast and Efficient Way to Recycle

As the price of raw materials continues to rise and energy costs remain unpredictable, recycling in all areas of industry is becoming more important. Mike Redmond of Bosch Rexroth discusses the machines and hydraulic systems that are providing a fast and energy efficient way to make the most of the materials that are available now.

In the last few years, the price of raw materials and the cost of energy have risen significantly due to the continued imbalance of supply and demand. The rapid development of technology and the standard of living in Asia, Eastern Europe and South America has also undoubtedly contributed to this situation and is not expected to change. We must therefore use the resources we do have more efficiently, not only reusing raw materials but avoiding waste. Recycling technology is already becoming a more readily accepted way of cutting costs and making processes more efficient. The demand for machines, such as Fragmentizers, scrap shears and presses continues. The need to keep improving the efficiency and the performance of this technology is where hydraulic systems offer such powerful and attractive solutions.

There are many applications in metal recycling that take advantage of the shear force and flexibility of hydraulics to handle the moving, cutting, squashing and lifting needed. From simple shears that cut metal into shorter lengths to massive shears and presses.

There are numerous hydraulic products on the market and each one differs in terms of performance, quality and function. One such piece of technology is a scrap press, which is used to compress scrap into the smallest possible volume, forming a single block for ease of transport. In order to compress the scrap as uniformly as possible it is pressed from the side, from each end and from above. After pressing, the gate is opened and the compressed scrap is pushed out. Typically four hydraulic cylinder axes are used. In order to reduce the total cycle time these machine are often fitted with a 'skip'. During compression of the material, a crane fills the skip with the next charge of scrap. At the beginning of the next cycle the previously prepared charge is simply tipped into the press. The skip also functions as a measuring device so that the press is always filled with the optimum amount of scrap. By employing this process, transport, storage and disposal are made easier and more efficient.

Another option is a scrap shear. This is where the scrap is first compressed as in a scrap press, but rather than being formed







into a block, the material is pushed out in small steps by means of an end pusher and cut into sections. In order for this cutting process to be as efficient as possible, the scrap is pre-compressed directly at the shear blade and firmly held by a 'hold down cylinder'. Cutting scrap into small equally sized pieces makes it suitable for further recycling processes.

The need for high forces, robustness, reliability and short cycle times means that scrap shears must use hydraulics. The hydraulic system is key to the overall efficiency of the shear and it is the hydraulics that makes the difference in performance.. A high performance scrap shear requires hydraulics that allows shock-free switching of large flows and shock-free decompression. Cutting shocks must be avoided with low energy consumption and first procurement costs ensured.

Hydraulic systems are also used in pre-shredder Fragmentiser technology which further improves productivity, efficiency and safety.. A pre-shredder uses low power and speed to pull pressed materials to pieces, effectively 'unbaling' them to produce a lighter material that is ready for fragmentation. This makes the hammermill more productive and reliable, not just in the shredding operation but also in the feeding process stream where the conveyor can be fully loaded. Also, further down the process line, it enables better sorting efficiency due to the better fragmentation. The hammers and other parts will also have less wear providing longer life savings on maintenance costs. By using a pre-shredder, capacity can be increased, allowing transport journeys of feedstock to be reduced to ultimately save fuel costs and reduce emissions.

A pre-shredder works by simply dropping the material, whether a car or bale, into the top where two rotors pull them in and then pull them apart. The loose material that has been created then drops out at the bottom ready for the fragmentation process. The two horizontal rotors with direct hydraulic drive can be geared together or independently driven and the speed is controlled and if necessary reversed. A hydraulic push plate is added to press the material against the rotors, preventing slippage. The direct hydraulic drives produce full driving force (torque) in forward and reverse and no gearboxes are needed to keep the drive arrangement simple and effective. Although it's a low speed process, the force needed for this type of operation is incredibly high, making a direct hydraulic drive system an advantage..

The use of a pre-shredder can also be useful in exposing fraudulent attempts to increase the weight of feedstock bales. Should there be any fuel in a flattened car, the slow process of a pre-shredder will expose the problem and by tearing the tanks apart carefully, will virtually eliminate the threat of explosions.

The fragmentiser where all our cars, light scrap and white goods end up usually has

an inclined steel belt conveyor driven hydraulically which is fully loaded with scrap metal. The scrap drops down a chute to the roll feeder, also driven hydraulically, which feeds the scrap into the hammermill at the optimum rate, holding it so as not to get pulled in too quickly to ensure the best production in relation to the power of the mill.

Other functions of the mill are also hydraulically operated such as the raise/lower of the feed rolls, the reject door and maintenance functions like hood lift, pin puller etc. The main rotor lubrication system is also hydraulic.



Whilst all hydraulic systems need to be designed properly with reference to pressures, temperatures, filtration and oil grade issues, environmental concerns are an increasing concern. The larger the plant and hydraulic components, the more consideration is needed in regards to the massive forces involved and the power of the fluid forces and how to control them. Most products are designed for a specific application and it also needs to be remembered that using it outside these areas might not be appropriate. This is true for instance, in the case of mobile equipment as opposed to industrial equipment. The best way to ensure the products used are well matched and fit for purpose is to order the complete system from a well-respected manufacturer which can provide a complete system design, including controls. This will give you an efficient, workable solution which meets the appropriate standards.

The larger hydraulic companies have been addressing these issues for many years. Rexroth, the market leader in hydraulics has the knowledge and experience to draw on when supplying hydraulic systems as well as rules and procedures to control inherent risks. My advice is that all customers need to be able to satisfy themselves as to the reliability and security of the technology including its efficiency. All round performance is required short term, but the reassurance of quality service and ongoing support will be needed in the long run.

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## Recycle Direct wins creative design award at the Inaugural Made in Wales Awards 2011

The first Made in Wales Awards were held at the Mercure Holland House in Cardiff on 20th October and we are delighted to have been amongst the winners picking up the Creative Design award for the development and manufacture of our new BM60 fully automatic baler.

Established over 12 years ago, the company has been refurbishing, servicing, repairing and supplying parts for all kinds of recycling machinery, but despite moving into mainstream equipment design and manufacture for the first time, such is the innovative nature of the design, we fought off challengers including global multi-national GE Aviation to secure the honours. The main feature that makes the new baler so impressive is that the baling capacity of the machine can be increased without changing the chassis, by way of adding more cylinders and motors.

With recyclers and waste management companies often uncertain of the eventual volumes of waste to be recycled when purchasing the necessary equipment, more often than not, levels are exceeded well before they had budgeted for, with the result that the baler has

to be replaced. Clearly a very costly situation, but with our new baler, we can increase capacity on the existing chassis, taking the capacity up to 80 tonne, then 100 tonne, if required. There is nothing like this in the market, hence we are particularly proud of the research and development that has taken us to this level.

Commenting on the Award, Managing Director Nigel Davies said "to have beaten off so many excellent entries from some of the world's leading manufacturers is testament to the hard work and determination from all our staff. It is a fantastic achievement and we are naturally very proud of the achievement.

The company is now embarking on a significant growth programme and is in the process of identifying new markets where this technology will be sought after. We are already servicing clients in the UK/Ireland, as well as New Zealand and the US, but we are only scratching the surface in this growing sector. We are also pursuing India as a potential, so clearly these are exciting times".

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### Turnkey Waste Systems

Bespoke Engineering Projects for the Waste Recycling Industries

#### DESIGN - MANUFACTURE - INSTALL - SUPPORT

MRFs, RDFs, Feeders, Trommels, Picking Stations - static & mobile, Screening, Air Separation Systems, Conveyor Systems, Waste Transfer Stations, C&D Waste Crushing & Washing.



## DUO Manufacturing



#### DUO Manufacturing

Mendip Works, Leigh Road, Chantry, Nr. Frome, Somset, BA11 3LR

T: 01373 836 451

F: 01373 836451

E: [sales@duomanufacturing.com](mailto:sales@duomanufacturing.com)

W: [www.duomanufacturing.com](http://www.duomanufacturing.com)



## Ultra Flexibility now required for Automatic balers



Almost gone are the days where a baler is bought to process a certain tonnage of a certain material for a specific number of shifts per day. Nowadays customers are requiring far more flexibility, of variable tonnage, variable materials and not only the ability to scale up tonnage but also the ability to scale 'up' or 'down' according to the season or even the time of day and remain efficient.

Jeff Jones, MD, of the UK company. Autobaler looks at this new trend and discusses how they have changed to cater for this new model.

Whether in normal times or current, businesses should be looking at ensuring the best return on their investment when considering any purchase of capital equipment. At Autobaler we have found that clients seldom have a constant volume of material to process and often have considerable seasonal changes to manage.

Whereas previously an automatic baler might be purchased for doing a specific job, we're getting more and more enquiries about balers being able to swap material grades and types with minimal disruption.

### **The important factors are scalability and energy efficiency.**

The vast majority of our clients have peaks and troughs in their business and need equipment to be as flexible in meeting these demands. With ever increasing operating costs (e.g. electricity and labour) energy efficiency and machine capability are in the forefront of our clients minds. Often Clients need to process higher 'on demand' volumes in the same time frame as they would the lower volumes. Thus, having the ability for the machine to detect an increase or decrease in throughput required and automatically adjust it's capacity, has been invaluable to our clients.

As the markets strive for better and better quality our clients also require flexibility in being able to change from one material grade to another, on a bale by bale basis. This is being driven by their aim to maintain or improve the saleability of the baled material. (e.g. 'white office' is valued more than 'mixed office' paper).

When selecting an automatic baler, it is also vitally important to understand how the client intends to operate their plant. This simple but vital step is often overlooked but is essential to ensure a robust and flexible solution.

### **Flexibility = Efficiency = ROI**

As economic times get tough, flexibility and creativity are paramount. Being able to provide better utilisation of equipment has never been more necessary. The old saying 'Use it or lose it' has never been more prevalent and baler manufacturers will need to maximise utilisation for their customers in order to grow. It may be a tough time but such times encourage us to be more creative and flexible.

 [www.hub-4.com/directory/14899](http://www.hub-4.com/directory/14899)

## Profit from Waste

Minimising the volume of material sent to landfill makes good environmental sense but local authorities are reluctant to spend more than is absolutely necessary on recycling, especially in the present economic climate. Fortunately, technology is coming to the rescue by reducing the cost of processing waste and, in some instances, turning a cost into a profit.

The key to making money from waste is to sort the incoming waste stream into separate fractions as economically as possible. Sorting technology from S+S Inspection Limited, part of the German based, S+S Separation and Sorting Technology Group, covers the whole gamut from simple, permanent magnetic devices for removing ferrous material to sophisticated equipment using a range of sensing technologies to sort on the basis of colour or material type. Typically, this approach is being used to sort plastics, metals and glass, which, once sorted, can be sold for reuse or further processing, converting a liability into an asset. Many UK commercial recycling companies already use S+S sorting technology to profitably sort and recycle waste from a variety of sources. For example, the Biffa Polymers plant on Teesside is using a combination of S+S VARISORT bulk sorters to separate plastics from the stream of mixed materials, such as metal, card paper, etc. and Flake Purifiers to process 15,000 tonnes per annum of mixed plastics into high grade, reusable material.

Similar technology can be used to profitably recycle other materials including glass, plastics and metals to meet the demands of a wide variety of recycling challenges, including the WEEE Directive, cost effectively and, in many cases, profitably.

One of the most widely used sorting systems is the S+S VARISORT COMPACT which can be fitted with a range of sensing systems to handle a wide variety of material. In operation, this machine requires little, if any operator input once set-up for a particular material and can be easily reset as the needs of the recycling plant develop.



The input stage at the Biffa Polymers plant where unwanted materials, such as paper, metal and glass are removed to leave a stream of mixed plastics for further processing.

The VARISORT COMPACT can sort a wide variety of materials, but the input stream does need to be pre-sort to remove non-compatible materials, such as paper, card and similar materials. With its extensive experience of sorting waste for recycling, S+S Inspection Limited has the capability to design and supply a combination of technologies to convert an input stream of mixed waste into high purity, high value output streams for sale to the manufacturing sector.



The S+S VARISORT COMPACT which can be fitted with a range of sensing systems to sort a wide of variety of materials.

This approach doubles the environmental benefit by reducing the pressure on landfill and replacing virgin raw materials, often hydrocarbon based, with less costly and less energy consuming recycled materials; a real win-win situation.