



The shredding process of scrap metal releases vapors which have to be separated.

## Galloo trusts in Keller's separation technology with the separation of exhaust air

**Galloo is a Belgian company specializing in metal recycling. Scrap metal is shredded by huge shredders and during this process, different dusts and gases are released. A specially designed Keller separator reduces these arising emissions in so thoroughly that future, tightened limit values are fallen below considerably.**

substances such as polychlorinated biphenyls (PCB). It's especially the PCB's which will have to be separated much more careful in the future years. The recycling systems with corresponding shredding plants not yet adhere to the strict standards which shall become compulsory in the future.

### Only one separator is no longer sufficient

Shredders normally have just one wet scrubber. "This is a useful method due to the explosion risk during the shredding process. The wet separation reduces the risk of explosion spreading into subsequent system components", explains Bernd Müller, Sales Manager at Keller Lufttechnik. The pollution load in the air after the wet separation process meets the mandatory standards concerning dust emissions. In the future, reliable values – especially at gaseous components – will decrease and further systems are required, to achieve the requested degree of purity.

Around three hundred shredder plants exist throughout Europe which shred large quantities of scrap metals such as end-of-life vehicles, household appliances and electric appliances. They are separated in various sorts and are fed to recycling systems after the separation process. Inside the shredders, with up to 10.000 PS, very high temperatures can arise. This procedure not only produces a very fine dust but also gases, coming from oil and gas residues or coolants in old systems as well as transformers, condensers and old cable isolations. These are different carbonic connections, summed up as total-C but also critical



Shredder systems shred large quantities of old vehicles, household and electronic devices and then add the raw materials separated into species.

### The Galloo group annually recycles 1.6 millions of scrap metal

At the moment, Keller is installing an exemplary secondary filter level which reduces the load of purified exhaust air at gaseous components by up to 99 percent, at dust reduced to less than 1 mg each cubic meter. Galloo annually recycles 1.5 millions of tons of ferrous metals and 80,000 tons of non-ferrous metals on their sites in the Netherlands. "It is important for us to work under environmentally-friendly conditions and to meet all exhaust air values reliably. Wherever possible, we try to reduce the emission of hazardous substances considerable enough to fall below the limit values", reports Rik Debaere, General Manager of Galloo. "This is very important here in Menen since the residential houses are not far away."

### Best filtering results at different operating conditions

First of all, Galloo had Keller install a test plant. "We tested such a long time different filters and auxiliary materials to bind airborne substances, until we found the optimal combination with the ProBran filter and an adjusted sorption layer", informs Hans Boels of Keller Benelux. "The tests took more than one year and were financed by both, Galloo and Keller Lufttechnik." During that time, different scrap metal compositions went through the shredder and the meteorological conditions varied considerably. Keller experts inspected the exhaust air values in the chimney over and over on changed conditions and can now be assured that the found filter solution reaches optimal results in every application.

Even the current costs of the finished systems were figured easily due to the test. "The costs are acceptable, even if it means that our processing price increases slightly", explains Debaere, General Manager of Galloo. Therefore, Galloo is able to continue operation without any break as soon as the tightened exhaust air limit values for Shredder systems in Belgium, France and the

### „We see Keller not only as a supplier but also as a partner“

Rik Debaere, General Manager of Galloo

Netherlands are becoming obligatory. We are setting a new standard, which can be a model for other companies in this industry."



The test plant provided optimal results.

### 2012 starts the first new secondary filtration stage at Galloo

"In the meantime, we dismantled the test plant and set up the real additional separation system at a first shredder at the Galloo head office in Menen", explains Boels. "If the separator, which is considerably larger than the test plant, reaches the projected exhaust

air values, further systems will follow", informs Debaere. "The next system is ready on demand and shall be delivered to the French site Halluin." Not only the PCB emission is decreased by up to 99 percent, the entire C-load is reduced almost twenty-fold and instead of 5 – 20 mg of fine dust every cubic meter of air, less than 1 mg now reaches the atmosphere.

### Galloo has been trusting in Keller Lufttechnik for a very long time

For more than 20 years, Galloo has been trusting in Keller Lufttechnik concerning the separation of material. "We see Keller not only as a supplier but also as a partner. We sit around a table and discuss solutions. The new separation system is absolutely unique which is tailor-made on our requirements and an excellent example about how well working in a team can work", emphasizes Debaere. A tour through the company shows the long history of cooperation: The shredder's wet scrubbers are also by Keller as the so-called air classifiers and air filters. Air classifiers are adjusted downstream the shredders. The air classifier separates light parts such as foils and foam material from heavy materials such as plastics, copper and stainless steel by an airflow. "The correct separation of recycling material becomes more and more important", explains Boels, "because in the future, many base materials for the metal production will exclusively come from recycling material." <

**Contact: Bernd Müller · phone: +49 7021 574-294 · e-mail: mue@kl-direkt.de**