

Jubilee celebrations

50th year for steel and refractories partner

VELCO was established in 1971 by Kurt Wolf, father of today's owner Christian Wolf, in the city of Velbert located at the border of the Ruhr industrial area. Velbert was once an important centre of the foundry industry. VELCO's first Rotamat rotor gunning machine was launched in 1971 and is still manufactured there today. There are almost 1300 in use around the world. The Rotamat is small and flexible and can be used for repairs in the steel industry.

Over the decades VELCO improved and broadened its machines, respecting demand for cost savings, improved efficiencies and rising safety. Besides the rotor gunning machine, VELCO's delivery programme now comprises pressure vessel gunning machines and gunning robots for the refractory repair of different aggregates. These installations allow the automatic repair of furnaces and other aggregates in hot conditions, saving costs for re-heating, refractory material and manpower as well as improving worker safety.

Based on its machinery knowledge and its use in steel plants, VELCO built up a second business line: the pneumatic transport of dry bulk materials. In steel plants this is mainly the injection of carbon or lime for slag foaming in the EAF. Other areas are secondary metallurgy or the injection into the blast furnace. Project highlights are a pneumatic transport line of 1000m distance and approvals for different ATEX zones.

The lowest achieved feed rate for an application was 20g/h and the highest was up to 500kg/min. As environmental demands became more important, VELCO began developing equipment for the pneumatic transport of filter dusts and other residues for injection into furnaces. By injecting the filter dust into the EAF the total filter dust amount will be reduced as part of the dust is converted into slag. The Zn content vaporises and is transferred to the next melt. Hence customers can reduce their costs for waste deposit, by reducing the total amount of dust and producing a more valuable dust filter with a higher Zn share.

VELCO has been headquartered in Velbert for over half a century and developments continue in terms of improving dry gunning in respect of quality and dust creation, as well as implementing industry 4.0 technologies to its machinery. A remote access module, which allows for worldwide connection using only a smartphone is available for all machines and can access data, such as operation hours, flow rates, water pressure, operational conditions, fault messages and even the location of the machine.

www.velco.de



Minimising wastewater

WATER TREATMENT

Siltbuster provides turnkey solution for UK's largest steel manufacturer

Siltbuster Process Solutions (SPS), the water treatment specialist, has designed and mobilised a bespoke solution for Celsa Manufacturing UK, the largest manufacturer of steel reinforcement in the UK, to treat the wastewater it generates as part of the mechanical separation process with scrap metal.

Each year Celsa Manufacturing UK produces around 1.2 million tonnes of finished product, destined for an array of applications within the automotive, naval, construction, agriculture and mining industries.

A mechanical separation process is involved, which is applied through a vibrating deck with water passed through it to avoid any solid material sticking or plugging. The water is circulated in a closed loop system and over time it accumulates fine and particulate solid material.



SPS developed a bespoke solution, including a Lamella Clairfier HB40R, which has the built-in mechanism to be raised, eliminating the need for any water to be pumped, saving significantly on costs. The system is highly effective, removing around 80% of all suspended solids in the wastewater; all while processing 15m³ of water per hour.

This system also enables the treated water to be reused in a closed loop process, minimising water consumption and associated bills. Initially, Celsa Manufacturing UK opted to trial SPS' modular system at its facility in Cardiff, before deciding on a permanent solution.

A project engineer at Celsa Manufacturing UK, said, "We're passionate about making sure we work to the highest environmental standards and are constantly looking for ways to improve. We already do a lot in terms of our sustainability but wanted to see whether we could do more to implement an effective solution for our wastewater management. We'd heard about the difference SPS was making, so turned to them."

SPS said, "This project perfectly demonstrates how valuable our 'try before you buy' hire options are. Our approach allowed Celsa Manufacturing UK to gauge what was possible, assess how easy it was to accommodate our kit onsite, see the difference it made, and how easy it was to operate. The project also shines a light on how effective our approach to offsite manufacturing can be. We were able to design and build the solution at our HQ in Monmouth, transport it to Celsa Manufacturing UK's facility in Cardiff for a quick and efficient installation, keeping any operational disturbances to a minimum."

www.siltbuster.co.uk