ENGINEERING TOMORROW

Case story | VACON® 100

VACON® 100 units keep waste treatment process running in Salzburg

Salzburg Waste Management Ltd. (SAB*) in Austria faced serious problems in June 2013 when severe floods damaged their organic waste treatment plant and block heating station. A very quick response was required and emergency operation, otherwise the bacterial strain that is needed for the biological treatment would die. If that happened, SAB would suffer a complete standstill in this section of their plant for a further 6 months.

Vacon Austria – located in Leobersdorf – was able to promptly deliver a few multi-purpose VACON® 100 AC drives to keep the process up and running. Since rebuilding was necessary, SAB decided to modernize the plant at the same time, and selected Vacon as their preferred AC drives supplier. Vacon will also be the preferred supplier in future projects. "We are very happy about our new partnership with SAB and look forward to extended cooperation," says Johann Goldfuss, Managing Director, Vacon Austria.

Versatile VACON® 100 for wide range of uses

The plant was restarted in November 2013. Vacon has supplied a total of 21 VACON® 100 drives to the whole treatment plant, in the power range of 1.5 kW up to 55 kW. VACON® 100 is a multipurpose drive that can be used in hundreds of different applications and its features are designed to make it easy to run and maintain. At SAB's treatment plant, VACON® 100 drives control centrifugal pumps, fans, conveyors and squeezing machines. SAB decided to use VACON® 100 drives in all applications, even though the VACON® 100 FLOW would also have been an ideal choice for the pumps and fans. SAB keeps a few VACON® 100 units in stock in case of sudden replacement needs, so having just one type of drive for all applications makes life simpler.

All drives are provided with the Safe Torque Off option, which significantly improves safety at work by preventing the motor from generating torque on the motor shaft and preventing unintentional start-ups. The function also corresponds to an uncontrolled stop in accordance with stop category 0 of EN 60204-1. The integrated Profibus interface is used for communication with the upper-level (PLC) system.

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Robust and user- and environment-friendly

With the VACON® 100 drives controlling the speed of the motors of the pumps, fans, conveyors and squeezing machines, this significantly improved process control and reliability. For instance, starting the pumps smoothly decreases the stress on the electrical network and mechanical parts and reduces pressure spikes in the pipeline. Reduced mechanical stress results in lower maintenance costs.
SAB is happy with the features of the VACON® 100, especially with its user friendliness and robust design, which makes it suitable for industrial applications. The VACON® 100 is fitted with varnished boards, which have a longer lifetime in demanding environments, and the power capacitors use environmentally friendly thin film technology.

"Thanks to the quick delivery and extensive support provided by Vacon, we were able to keep the process in the biological treatment plant alive and running and therefore saved a lot of time," *says Christian Aigner (DI, FH), plant manager at SAB.*

VACON® 100 – features and benefits

- Wide power range 0.55 kW to 160 kW
- Built-in Modbus TCP and Modbus RTU. Profinet I/O or Ethernet/IP as software option
- Integrated Safe Torque Off (STO) option, Safe Stop and ATEX thermistor protection
- EMC compliance with integrated RFI filter
- Integrated DC chokes
- Conformal coating
- Compact IP54/UL Type 12 with same footprint as IP21/UL Type 1
- Flange mounting
- Side by side mounting for IP54/UL Type 12
- Standard I/O + 3 free slots
- High efficiency >97% + energy optimization
- Energy counter
- Real time clock with calendar based functions
- Optimized control of cooling fan
- Drive Optimizer for adapting functionality
- Compliance with global standards and approvals
- Easy integration into plant automation
- All-in-one package – no additional accessories required
- Easy and cost effective commissioning, installation and monitoring

**SAB: Salzburg Waste Management Ltd. is the contractual partner of 51 municipalities in the provinces of Salzburg, and manages the waste of approximately 400,000 people and 3,000 commercial and industrial enterprises. More than 100 employees handle the treatment and disposal of over 200,000 tonnes of waste a year in this state-of-the-art facility.*

At SAB's mechanical-biological treatment plant in Salzburg, VACON® 100 drives control centrifugal pumps, fans, conveyors and squeezing machines. The first VACON® 100 drives were delivered after the flood at the end of June 2013, and the second batch in September. The plant was restarted after the modernization in mid-November 2013. Photos courtesy of SAB.

This case story was originally released before the merger of Vacon and Danfoss Power Electronics was fully completed on 15 May 2015. As a result, Vacon as a company brand no longer exists and contact persons mentioned in the story may have changed. Future case stories on VACON® products will be released on behalf of the new organization – Danfoss Drives – which is part of the Danfoss Group.

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