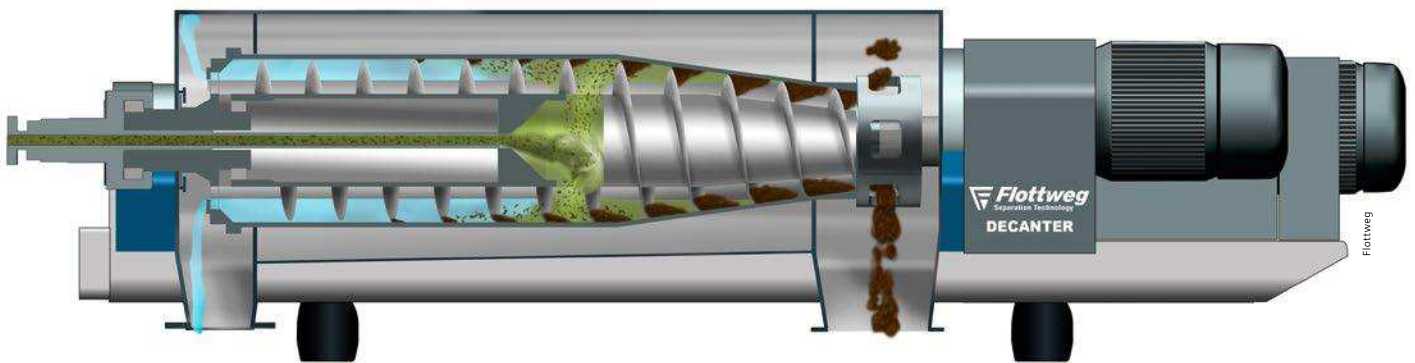


Safe separation

Machine building: The Simatic S7-1200 with Safety Integrated is enhancing the separation technology options for Flottweg SE in Vilsbiburg, Germany.



Decanter centrifuges play an important role in many industry sectors – whether in the production of chemicals or for waste separation

Whether in food technology, the chemical industry, or the disposal of everyday items – centrifuges play an important role. “We were looking for a control solution that is compact and economical, but offers enough functional options for us to adapt our systems to any filtration process optimally and without committing excessive time and effort,” reports Bernhard Niedermeier, one member of the management team responsible for upgrading the automation systems at Flottweg SE in Vilsbiburg. Simplicity, intelligence, modularity, and efficiency were the requirements which the company specified for a controller to handle decanters used in the separation of liquids and solids. That is why its new generation of controllers for standard systems is

called SIMP Control® – safe, intelligent, modular, and high performance.

This highly compact solution is based on the Simatic S7-1200. It can be used both for standard automation and for safety systems. “That alone is a major benefit for us,” Niedermeier explains, “because we were previously employing a solution with separate safety switching devices, which meant that customizing systems was more complex.” Safety is key when operating the horizontally rotating decanters, and even more so for the much faster vertically rotating separators. Due to the heavy intrinsic and process weights, combined with radial acceleration reaching as much as 10,000 g, any faults can have disastrous consequences.

Integrated safety solutions in a compact design

Most conventional process controllers are unable to efficiently handle the complex separation processes. With the Simatic S7-1200, Flottweg’s automation experience is available to any user. Defined interfaces are provided for integrated communication with the complete plant. Bernhard Niedermeier comments, “The controller’s diagnostic routines immediately detect and diagnose wiring faults.” With SIMP Control®, the company is committed to intelligent performance and flexible safety. The new, modular, compact controller reduces component variance and makes installation less complex. It is smaller, more cost-efficient, and easier to integrate than other solutions.



The decanter centrifuges at Flottweg in Vilsbiburg have been equipped with the Simatic S7-1200 fail-safe Basic Controller since the end of 2016

Fail-safe control optimizes safety systems

Fail-safe speed and vibration monitoring is vital for the safe operation of centrifuges. To be able to shut down individual machine components in a fail-safe manner, the compact controller integrates a module with fail-safe relay outputs. It immediately cuts the power to the drum and worm drives. "The market demands such plug-and-play solutions – for both standard automation and safety systems," the product management department emphasizes. It is not just the programming complexity that is reduced by such a flexible solution; the likelihood of faults occurring is also much less.

Different operator control levels

The three different operator control levels are for operators, service personnel, and programmers. The

same applies to the safety systems. Depending on the machine, the operator can set safety limits directly on the display, whereas only the responsible programmer has access to the safety program.

The icons on the color display of the KTP 400 HMI panel, perfectly matched to the controller, support



Safe, intelligent, modular, and high-performance – Flottweg developed its own controller on the basis of the Simatic S7-1200

Fail-safe compact controller offers great benefits

The Simatic S7-1200 features an SD card slot in addition to its internal memory. When a CPU is replaced, the SD card is slotted into the new device, and everything runs as before. Programs can be updated and data transferred in the same way. When Flottweg sends a user updated program components, all the user has to do is save the files to the SD card and slot it back in the machine. This also assures copyright and intellectual property protection, because the programs can be linked to the card's serial number. ■

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»With our new SIMP Control® we have combined standard automation and safety technology on a shared platform.«

Bernhard Niedermeier, Flottweg – ATE Development