



## Pressure transmitter with ceramic CERTEC® measuring cell meets the stringent demands of the pharmaceutical industry

With headquarters in Bubendorf, a Swiss town of less than four and a half thousand inhabitants, CARBOGEN AMCIS AG is located right in the middle of the so-called Swiss Pharmaceutical Cluster. The company specializes in exclusive intermediate products for the big players in the industry. Here, VEGABAR 82 pressure transmitters greatly simplify things: in the production processes as well as their qualification.

The demand for personalized medicines and seamlessly quality validation is increasing. Drivers of the needed innovations are often the smaller, research-oriented companies that make their processes and approval procedures flexible and reduce both effort and costs through standardization. A good example of this can be found at CARBOGEN AMCIS AG, where VEGABAR Series 80 is used for pressure measurement. Thanks to their wide measuring range and ceramic CERTEC® measuring cell, these high-performance pressure transmitters meet the requirements of bioprocesses, from fermentation and filtration to purification.

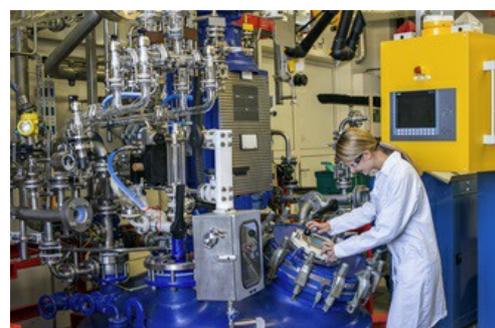


Headquarters of CARBOGEN AMCIS AG in Bubendorf, Switzerland.

Using fewer types of measuring instruments means less planning effort, material risk, storage costs and time expenditure. Whether pharmaceutical companies are prepared for the future, or whether they lag behind the competition due to high costs and process models that are too complex, depends on, among other things, their degree of production standardization. In view of the high level of validation required in the pharma industry, Heiko Kaiser, Senior Manager of Engineering & Maintenance at CARBOGEN AMCIS AG, is absolutely committed to reducing instrument variance. He is convinced that the level of performance required of the sensors depends on the most demanding process present in the plant. "At the end of the day, any kind of variety creates more work," he explains. "The more we consolidate, the greater our savings. This also helps us save manpower, which is a rare commodity in our pharmaceutical region. It's easier to handle measuring instruments when there are only a small number of different types." It was particularly important to Heiko Kaiser's engineers to dramatically reduce the number and variety of all sensors and components involved in their processes. They endeavor to install platforms that are as standardized as possible and help them keep their development and qualification costs in check.



Ensuring simplified qualification: CARBOGEN AMCIS AG uses mostly identical, standardized pressure transmitters.



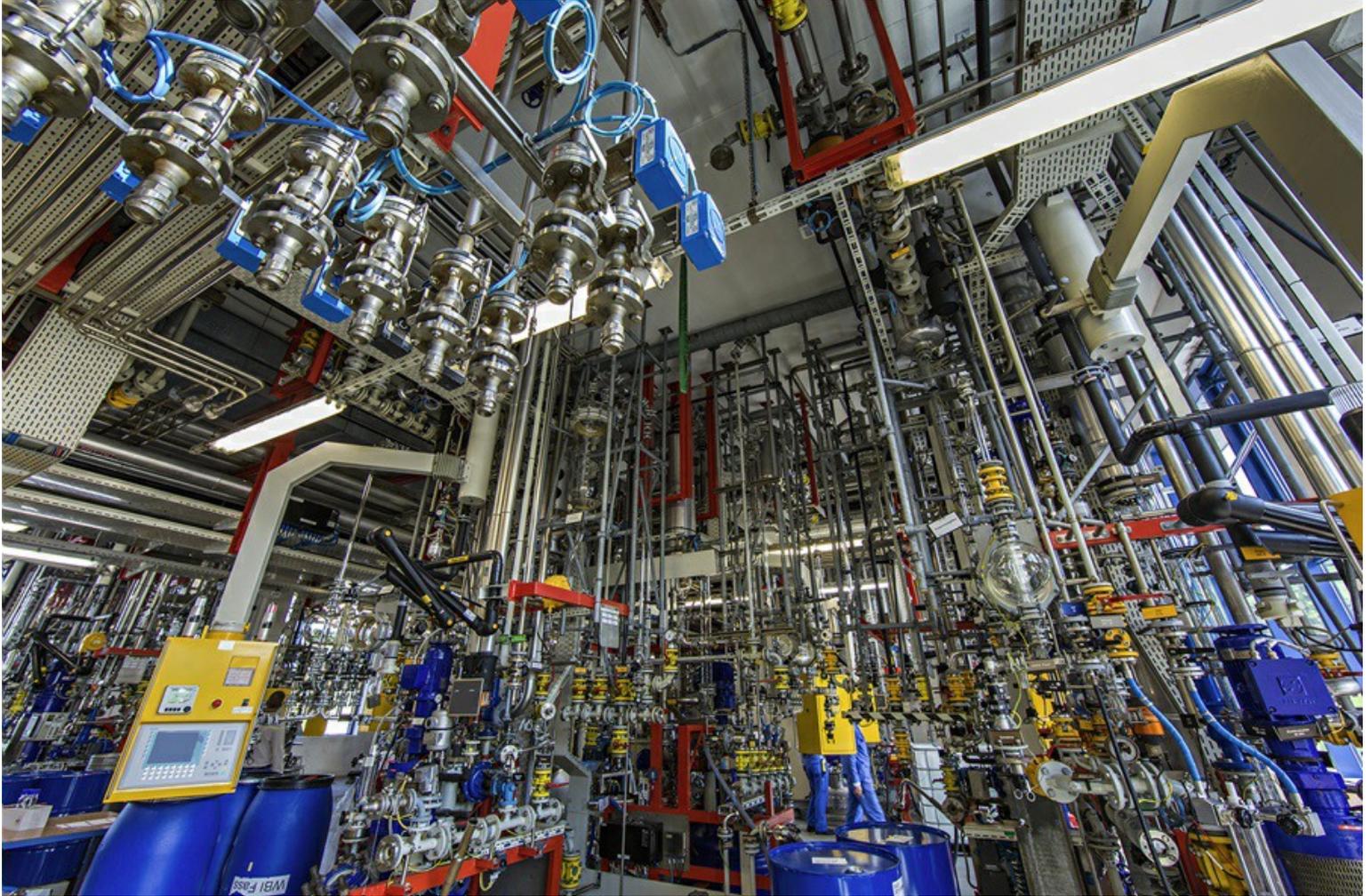
Double is better: the process can be observed through the viewing glass.

The especially wide measuring range of VEGABAR 82 pressure transmitters was decisive in CARBOGEN AMCIS AG's decision to establish as them as the standard. This versatile sensor with the oil-free, ceramic CERTEC® measuring cell can handle two thirds of all conceivable applications in the process industry. A single sensor has replaced the sensor pairs that were previously required on a number of process apparatuses at CARBOGEN AMCIS AG. The previous measurement solution covered the required measuring range only by means of two sensors installed next to each other. This involved more material, "which caused a lot of unnecessary work," says Kaiser, summing up the earlier situation.

All VEGABAR 82 pressure transmitters in use at CARBOGEN AMCIS AG are equipped with a ceramic CERTEC® measuring cell. With these cells, pharmaceutical customers can now be absolutely certain that even rapid temperature changes will not affect the pressure measurement. The ceramic diaphragm was coated with a highly durable gold film on its inside face, making it extremely sensitive and able to register temperature changes with an accuracy of  $\pm 2$  K at lightning speed.



Concentration changes of the reacting solutions take place in milliseconds in many pharmaceutical processes.



Anyone operating a pharmaceuticals plant today must take care not to fall by the wayside when it comes to standardization.

Recent studies suggest that modularization and standardization will lead to pronounced differences in the operating models of pharmaceutical companies in the future. CARBOGEN AMCIS AG has clearly recognized the signs of the times: "We're improving and planning very extensively, with the goal of operating more and more efficiently in the future," says Kaiser. "The big companies outsource the calibration of their instruments wherever possible. But that's one thing smaller companies usually can't do – they have to perform such tasks themselves." Consequently, he won't run out of assignments as he keeps pace with the constant changes in the pharmaceuticals market.

## Products



VEGABAR 82

## Industrial sectors

