

SIMPLE RADAR FORMULA FOR BETTER PROCESSES

VEGA ushers in a new level era with the radar level sensor VEGAPULS 6X



With VEGAPULS 6X, VEGA has turned the traditional way of choosing an instrument inside out: There is now only one radar sensor – but it is suitable for all applications.

How do you optimise a level sensor that already has everything: The best focusing, highest accuracy, simple operation, universal communication? What sounds like an obvious question has led VEGA to create much more than just an even better sensor. When using the new VEGAPULS 6X, it's not just the sensor that counts, but what can be achieved with it in the application: Simply better processes.

Traditionally, the search for a suitable radar sensor begins with the question, which frequency would work best for this particular application? 26 GHz, 80 GHz? Or perhaps 6 GHz would be better? This is followed by thoughts about the properties of the media and how it could influence the measurement, as well as the specific installation environment. Furthermore, the temperature range or the presence of aggressive chemicals may give cause for concern. Will a standard process fitting be sufficient, or would special materials that meet the highest requirements be the right choice, if only because the user is not completely sure and wants to be on the safe side? And what else should be considered if the sensor is to measure great distances or be exposed to wind and weather all year round?

These and countless other questions make one thing clear: With such a wide choice, you also have to select the right choice. Customers have to choose from the large variety of radar sensors that are currently on offer. Because the areas of application are

becoming more multi-faceted and processes more complex, the buyer needs a good understanding and overview of what's on offer on the market. It takes the right know-how, experience and time to avoid making costly bad investments and get a reliable measuring system.

A new certainty: "One for everything"

Until now, choosing an instrument was a laborious process and often involved a lot of questions and product research. VEGA is now turning this process inside out with its new VEGAPULS 6X. "Ultimately, it's not the sensor that counts, but what the users can achieve with it in their individual applications", says Florian Burgert, one of the product managers who has been closely involved in the development from the very beginning. "Just knowing that they've chosen the best possible instrument solution, and that they'll reach their goal faster with it, makes a big difference in their everyday operations." VEGA now offers one sensor for all applications: VEGAPULS 6X. Selecting the right frequency or determining the DK value of the medium are no longer obstacles, because choosing the right sensor specifications has become much easier. The new configurator asks for the type of application and then quickly determines which sensor version is required. The entire procedure now consists of just a few mouse clicks. Of course, an advisory discussion with a VEGA radar specialist is still a good alternative to the configurator. In any case, the result is unprecedented simplicity for users and a measurement solution that delivers perfect results independently of the media properties, process conditions, vessel shapes and internal installations.

Over 1 million instruments in use worldwide

The radar success story of today's world market leader in radar level measurement began over 30 years ago. It includes milestones such as the world's first two-wire radar instrument and the first 80-GHz radar sensor for liquids on the market. In total, there are now well over 1 million radar instruments from VEGA in use worldwide – in industries such as chemical, energy, food, oil and gas and many others. With each new instrument generation, the company has been able to set new standards and develop new features that have made the products even more reliable, accurate, robust and flexible. And the focus is always on high sensor quality.



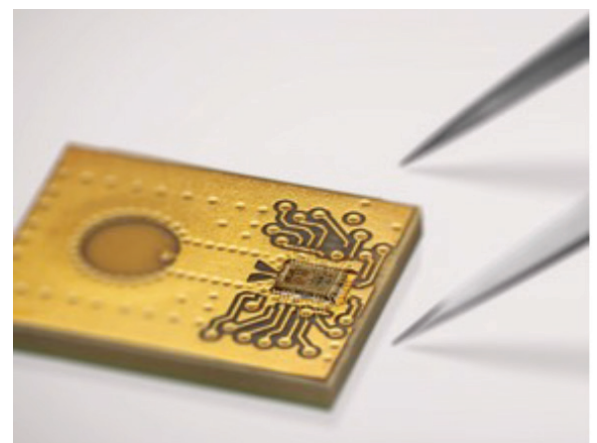
The new radar level sensor VEGAPULS 6X is the result of more than 30 years of experience and over 1 million sensors in use worldwide.

Four-stage, all-round protection

VEGAPULS 6X also offers decisive technical innovations: It is equipped with a comprehensive safety concept. Functional safety is guaranteed, as it conforms with all the requirements of Safety Integrity Level. The certified sensor has exceptional SIL characteristics and provides the necessary operational safety to minimise risks in safety-related applications. Another increasingly important focus is "cybersecurity". In this regard the VEGAPULS 6X conforms to IEC 62443, which fulfils the strictest requirements for security of system access and communication control. It thus guarantees comprehensive process security, right through to the control system.

An important third aspect of its extensive safety features is its self-diagnosis system. It continuously monitors the function of the sensor and recognises if it has been impaired in any way, thus contributing significantly to higher plant availability and sensor performance.

Central to these important features is a new, second generation radar chip directly from VEGA. Because there was no chip available on the market that would have met all requirements, the research and development team set to work to design one themselves, from scratch. "The result pretty much consolidates our entire radar experience from three decades", says VEGA product manager Jürgen Skowaisa, praising this achievement. "In its scope and functionality, the chip is unique in the whole world." It is especially characterised by its low energy consumption, high sensitivity, scalable architecture and universal applicability. The radar antenna system and the chip are connected directly to each other, without any cable, for maximum performance.



VEGA is especially proud of the inner values of VEGAPULS 6X: The level specialist introduces a second generation of in house developed radar chip, one that sets new standards in performance and safety.

New in a different way: Innovation of values

Beside the technical highlights, the VEGA radar team addressed questions that, from the very beginning, went far beyond product design: What will be the long-term impact of this technology on the people who use it? How can their work be simplified?



The safety concept of VEGAPULS 6X is a complete package: Functional safety (SIL), a system for self-diagnosis, was developed according to the latest IT security standard IEC 62443-4-2 for effective protection against cyberattacks.

What future goals of industry can be realised with the new technology?

This new approach gave rise to the impulses that make VEGAPULS 6X different. By carefully considering the users and the process conditions of their applications, other points came into focus. These include the challenges in using measuring instruments, such as complicated adjustment procedures, the constant pressure to increase efficiency, and time constraints in general.

Focusing on the application

The actual task of level sensors is to help users and make it easier for them to monitor their industrial processes. They often make processes more controllable and efficient, but even if they are basically easy to use, the process of selecting the right one for an application can still be difficult. Product manager Jürgen Skowaisa sums up in two words the strategy VEGA is pursuing with VEGAPULS 6X: "Maximum simplification." He makes a comparison: "Until now, there were many different sensors that could be used for an application, but today, with VEGAPULS

6X, there is one sensor for all applications." Even setup and commissioning, he says, has been reduced to a minimum, requiring now just a few clicks and the input of basic data. "Our customers can even order a sensor that has been factory calibrated, customer-specific down to the last detail, that only has to be installed and connected. It doesn't get any easier than that", says Skowaisa.



Performance – no matter what the application involves – liquids or bulk solids, high temperatures or pressures, dust or extreme noise: VEGAPULS 6X delivers perfect measured values under all process conditions.



Standardised and unbeatably simple over the course of years: The display and adjustment module is clear, concise and easy to understand. The sensor can be adjusted wirelessly via Bluetooth with the VEGA Tools app.

Radar made for people

With VEGAPULS 6X, VEGA has rounded out its radar measurement technology with four important innovations: More safety and self-diagnosis, new radar chip technology, new application possibilities and simpler adjustment. "Furthermore", says Jürgen Skowaisa with emphasis, "our technology has reached such a high level today that reliable function is no longer the issue. The only risk now is choosing the wrong sensor." Thanks to the new approach with VEGAPULS 6X, VEGA now provides the tools to get right sensor version for the application in the vast majority of all cases, while keeping experienced application engineers on standby to help with the special, more difficult applications. "In the future, the user will no longer have to worry about the technology, frequency or instrument version – the measurement will simply work."



The customer simply orders a VEGAPULS 6X. The exact appearance and configuration of the finished measuring instrument is determined by the application. The radar sensor is custom-assembled at VEGA on the basis of the specified parameters and process conditions.

For more information,
please go to www.vega.com/radar

Read, Print, Share or Comment on this Article at: envirotech-online.com/article



Author Contact Details

Nadine Deck, VEGA Grieshaber KG • Am Hohenstein 113, 77761 Schiltach, Germany • Tel: +49 7836 50-0 • Email: n.deck@vega.com • Web: www.vega.com

