

# VEGA journal

Issue 01/09

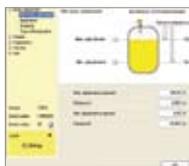
plics® plus – bursting  
with innovations



## Practice report

Trumpf ace in flexibility  
wins out

> Page 06



## Products

VEGA DTMs meet  
FDT Style Guide

> Page 10



## News

New brochures

> Page 12



## plics<sup>®</sup>plus – bursting with innovations

**The uniform instrument concept plics<sup>®</sup> has changed the world of instrumentation decisively and, due to its simplicity, has convinced the market since 2003. From ACHEMA, in May 2009, VEGA is introducing the new generation of the plics<sup>®</sup> family. New are the optimizations of existing instrument series as well as additional measuring principles.**

plics<sup>®</sup> has proved impressively that new product concepts find acceptance in the industrial sector if they make the user's day-to-day work easier. If the user had to wonder until now whether or not a certain housing version is available for the selected measuring principle, or how the instrument is set up and commissioned, he doesn't have to any longer – the situation has changed radically since the introduction of plics<sup>®</sup>. The universal instrument concept plics<sup>®</sup> provides a variety of housing versions

and electronics as well as a uniform indication and adjustment concept.

In view of the abundance of tasks that have to be done, which user today has the time to closely study the individual features of a sensor? Measuring precision is no longer the only important criterion in instrument selection. Rather, the user is also looking for the additional value offered: on the one hand, the expert assessment of the measurement loop by the instrument supplier and the right choice of measuring instrument resulting from it. On the other, the good, fast service as well as instruments that require less training expenditures.

In times where qualified workers are scarce and the time allotted for setup and commissioning is getting shorter and shorter, such features make the everyday work easier. The instruments of the plics<sup>®</sup> family fulfil exactly these requirements.

New, additional physical measuring principles and housing versions open up further areas of application for the plics<sup>®</sup> instrument series.

Users also profit from the well-thought-out service concept: VEGA archives the complete documentation of every delivered sensor. Thus, even years after delivery, the supplied ATEX certificate or the operating instructions manual of the sensor can be downloaded from the VEGA home page by simply entering the serial number. The service even includes for example the possibility of providing the customer with a replacement electronics loaded with the same adjustment data as the original sensor.

### **plics®plus – the consistent further development of a successful concept**

plics®plus stands for the continuity and compatibility of the plics® instrument series and, at the same time, for many new exciting features. To meet the demands of the market, new housing versions are: double chamber housings of stainless steel and plastic open up further areas of application for the sensors and provide more flexibility in positioning the indicating and adjustment module.



With plics®plus, VEGA takes level, switching and pressure instrumentation into a new dimension.

The double chamber plastic housing also provides room for new electronics. From mid 2009 on, PLICSMOBILE, a GSM/GPRS module for wireless transmission of measured values and parameters over long distances, can be integrated here. A separate version of PLICSMOBILE with integrated power management and the option of being supplied by either battery or solar panel will be available for all sensors, regardless of their design. PLICSMOBILE is thus an ideal solution in combination with WEB-VV, the remote inventory system featured on page 6.

Thanks to further optimization of on-site sensor adjustment with PLICSCOM and the many assistants in the new FDT Style Guide compliant DTMs, the setup and commissioning of sensors is becoming even easier. Additionally, new removable terminals enable connection to supply cables without the use of any tools.

Faster microprocessors, as the basis for improved hardware and software, make for even more efficient signal processing, faster measuring rates and higher precision.

### **New members of the plics® family**

A new differential pressure electronics module based on plics® has enabled the integration of this measuring principle into the sensor-spanning, uniform instrument and adjustment system. So all the possibilities the plics® family offers are available for VEGADIF now, too.

There is also a new product in the area of bulk solids level detection: VEGAMIP, the microwave barrier for non-contact level detection. Together with the radar sensors VEGAPULS 67 and 68, VEGAMIP offers even more solutions for the wide ranging requirements of the bulk solids sector.

A completely new instrument concept based on radiation-based measurement, PROTRAC, was developed in cooperation with Ohmart/VEGA. PROTRAC is suitable for level and density measurement in a host of different applications and is used for both liquids and bulk solids.

The year 2009 promises to be rich in innovation: a plus in housing versions, a plus in measuring principles and a plus in adjustment concepts – simply plics®plus.

## literature

Learn more about the plics® innovations in the brochure "A multitude of solutions with plics®plus – a new dimension in modularity".

We'd be glad to send you a copy.



## Thinking and acting anticyclically takes courage. Courage typical of VEGA.

**An interview with managing partner Jürgen Grieshaber and managing director Günter Kech about the decision to invest in a new annex building.**

**VEGA Journal:** *In 2009 you're investing in a new annex building in spite of the gloomy economic mood.*

**Grieshaber:** Our development team is working full steam ahead on product innovations. To make room for this continuous development, we're investing about 15 million euros in the expansion of our site in Schiltach.



Thinking and acting anticyclically – that takes courage. Courage typical of VEGA. Growth presupposes clever people, products and concepts: we have them all and do what we can to further them.

**VEGA Journal:** *What do you consider to be the success secret of your company?*

**Grieshaber:** There are two central values that make VEGA what it is.

For one thing, VEGA is a family business in the classic sense – that is, we operate without the participation of

people or organizations who are more interested in money than in people.

And for another, VEGA's goal is to create an atmosphere where every employee enjoys coming to work every day.

We have always oriented the company's policies and decisions around these two values – and will continue to do so in the future.



**VEGA Journal:** *You said your development team is working full steam on new products. What assignment is it working on now?*

**Kech:** Their job is to further develop and integrate plics°. At ACHEMA, which takes place from May 11 to 15, we will be introducing the result to the market: plics°plus.

**VEGA Journal:** *plics°plus?! Is that a new instrument series?*

**Kech:** plics°plus is the next generation of our product concept plics°.

Operating our sensors will be even easier in the future,

although they will have many new functions, such as for example an optional GSM modem and additional housing versions of stainless steel and plastic. The special feature of all plics°plus sensors is that they are generally downward compatible with the first generation of plics° sensors.

plics°plus will also add three new measuring principles to the plics° family: radiation-based measurement with ProTrac, the microwave barrier VEGAMIP and VEGA's own differential pressure transmitters.





Kruse GmbH & Co. KG ensures uninterrupted supply of AdBlue with automated inventory management.

## Trump ace in flexibility wins out

**With Vendor Managed Inventory (VMI), the supplier is solely responsible for replenishing the customer's stockpiles. Uninterrupted, reliable supply is the top priority here. The distributing firm Kruse guarantees exactly this through an automated inventory management that allows it to react quickly to unplanned consumption.**

Since 2008, only new commercial vehicles that discharge considerably smaller amounts of harmful NOx gases are permitted on the road in Europe. This performance is realized through selective catalytic reduction (SCR), an after-treatment of exhaust gases. Diesel vehicles with this system must carry on board a watery urea solution, so called AdBlue, in an auxiliary tank. To guarantee reliable supplies in the widely distributed tank facilities of customers, Kruse, the second largest chemicals dealer in Germany, relies on the user-friendly inventory visualization system from VEGA.

The long-established company currently looks after approximately 400 tank systems in all of Germany – in both commercial and public sector, with 5 to 10 new ones added every month. Besides the chemical

AdBlue itself, the company delivers in many cases the filling equipment, too. The product spectrum extends from 10-litre one-way canisters to 1000-litre IBCs (Intermediate Bulk Container) with pumping station to complete tank systems with a capacity of several 10,000 liters.

### **All stocks at the click of a mouse**

Despite their differences, all larger tank systems always consist of an approved storage container, a dispensing unit and a level measurement system. And something else is always same: thanks to the VMI solution from VEGA, the chemicals dealer can exactly follow the movements of his customers' materials. The system consists of the signal conditioning unit VEGAMET 624 plus Gateway, modem or radio transceiver as well as the VMI software WEB-VV.

WEB-VV autonomously transfers the measured values from the on-site sensors to the WEB-VV server via the Internet. Which information should be transmitted, and how often, is something the customer can decide when setting up the measurement or at a later time via remote access. “The new solution is really terrific. It makes our work in connection with tour planning, exploitation of truck capacity, etc., a lot easier” points out Wilfried Seifert, product manager for AdBlue in the automotive division of Kruse.

The user-friendly, web-based version is also appreciated greatly by Hubert Brand, technical manager at Kruse GmbH & Co. KG in Hanau: “The Internet lets me query the individual levels very quickly. I get the data on the screen within a very short time and can react promptly.”

### Smart logistics planning

For Kruse, WEB-VV is a valuable tool because it allows the company to plan simply in a well-structured manner. “We know how much is in what tank at which customers and can derive trends based on consumption, history data and experience”, explains Brand further. The company can thus optimize its delivery runs. “Carriage is not an insignificant portion of the total costs, it makes up at least 30 percent. Indeed, it is the crucial factor for economic operation of the company”, emphasizes Seifert.

Since the tank facilities are grouped into tours, the scheduler can immediately see, via the history data, to which customer the driver can deliver a slightly smaller quantity than planned without getting into trouble. Most customers don’t want to have anything to do with this issue. “What’s important to them is that the supplies don’t dry up and they don’t have to bother with anything”, explains Seifert. The company started with 4 pilot projects at one of the large oil companies; meanwhile, it supplies already 56 of the customer’s filling stations. “They rely on us completely. Dependability is the name of the game”, expounds Brand.

### Maintenance on the fly

“What you shouldn’t forget in connection with this topic is diagnosis and servicing. If there’s a malfunction, the trucks can’t refuel either”, points out Arnold Siegler, owner of the industry and planning service of the same name, which realized the new VMI solution for Kruse together with VEGA. The sensors and measured values can be accessed with PACTware (FDT/DTM technology) just like with WEB-VV.

The service provider can fault-find, commission, calibrate or restart the instruments directly from his office – no matter where the tank facility is located. Through teleservicing, much time and money can be saved and availability increased considerably.

Kruse has moved all the inventory data of its tank facilities to a server in the Black Forest. The advantage: the chemicals dealer doesn’t have to acquire a server, and needs neither the room nor the staff for it.

### Coherent overall plan

Kruse also decided in favour of VEGA because it delivers a complete package from a single source. “We compared several different systems. Both VEGA’s price and technology convinced me – and by the way, its precursor system already did, too.” And Seifert adds: “It’s about mutual trust. I could get a system from another manufacturer who is perhaps a little cheaper. But we know that this solution works perfectly. In the end, that’s worth more than money.”

When it comes to instrumentation, Kruse also prefers to use the yellow instruments from the Black Forest expert. In many of Kruse’s tank facilities, it’s VEGAWELL pressure transmitters that record the levels. This hydrostatic pressure measurement satisfies two important criteria at once: on the one hand, it is very cost-effective, and on the other, extremely reliable. Customers who prefer level technology from another manufacturer nevertheless do not have to forgo the advantages of the VMI solution from VEGA. Thanks to its universal interface, WEB-VV can be integrated into systems spanning different manufacturers.

“The tank systems do not necessarily originate from us. There are customers where we take over, i.e. fill, existing systems after other contracts have expired. We simply retrofit these with telemetry from VEGA and in nothing flat we’re able to monitor these stocks, too”, explains Brand.

The chemicals dealer wants to expand his use of automated inventory management in the future. This concept is slowly beginning to catch on in the chemical industry, too. Kruse and VEGA have already successfully realized the first projects together. Through the VMI solution, the company can optimise its logistics and make its business processes more cost-effective, which will in turn benefit customers.

## SCR-method

At the end of 1999, the EU parliament adopted strict emission standards for the diesel engines of commercial vehicles. To meet the Euro 5 standard, the harmful nitrogen oxides are converted into the air components nitrogen, water and carbon dioxide by selective catalytic reduction (SCR method).

A watery, non-toxic 32.5 % urea solution is injected into the exhaust fumes of a diesel vehicle, which releases the actual reducing agent ammonia through the influence of catalyser heat. This highly pure, synthetically-produced solution with the product name AdBlue is carried aboard the vehicles in an auxiliary tank.



## The quarry in Ambazac – operation at a high standard

**The production processes in the quarry in Ambazac have been monitored by a VEGAPULS 67 radar sensor since 2006. The sensor carries out measurement completely unaffected by strong vibration, noise, dust and mechanical loads.**

The quarry in Ambazac in the French Département Haute-Vienne is specialized in the production of building materials, for example for road construction. An integrated ready concrete plant also allows the quarry to deliver ready-to-use concrete. The plant produces a total of 400,000 t annually and employs a staff of 27.



In a quarry where virgin stone is processed, level measurement in bunkers containing different sized rocks is a basic prerequisite for a smoothly functioning logistics system.

Gravel of different grain sizes is produced from blocks that are extracted from the solid bedrock by blasting and reduced to small particles in various stone crushers, pounders and sieves.

To guarantee automatic, trouble-free process control, reliable measurement data are essential. If the crusher is overfilled, both the electricity consumption and the risk of mechanical breakdown increase. On the other hand, a continuous, sufficient stream of material must be present in the feed bunker of the crusher to prevent damage to the sieve system.

Due to heavy abrasion, medium-touching measuring principles like capacitive probes or guided microwave are not very suitable. That's why ultrasonic sensors were often used in the past. But because the ultrasonic waves are transmitted by air, these sensors quickly reach their limits when deployed in dusty environments, strong air currents and narrow vessels or vessels with internal installations.

**“Once everything's running, it's pretty quiet here ...”**

Due to the firm Ribière, a company based in nearby Limoges and specialized in automation and installation of electrical systems, there are numerous VEGAPULS 67s implemented for level measurement in the Ambazac quarry. These radar sensors, developed especially for applications in bulk solids, are independent of disturbing influences like temperature, pressure or dust.

The ultrasonic sensors employed in the past often malfunctioned in the narrow bunkers. Originally installed as surrogates on the 6 m high, sloping funnel-shaped bunkers, the radar sensors convinced management immediately, and kept on convincing. That's why the other crusher systems were also equipped with these sensors.

“Once they were set up and running, we had nothing more to do with the radar sensors. Since they were put into operation three years ago, we haven't had to so much as touch them a single time”, explains Jean-Michel Rumeau, manager of the quarry.

### **Other applications**

The radar sensor for bulk solids, VEGAPULS 67, covers all level applications in the rough production processes in the quarry and in the concrete plant: measurement on conveyor belts, in bunkers, silos, crusher and sieve systems, in the clarifier and in containers for additives.

In the long run, the use of non-contact radar sensors pays for itself because of the very minimal servicing required. Thanks to reliable radar measurement technology, plant availability and efficiency in processing and stockkeeping increase markedly.

# Waterworks carry great responsibility

**Exact river level monitoring is a vital prerequisite for the documentation of well capacity. Moreover, it allows the operator of a plant to react quickly and correctly in case of high water.**

## Level measurement on the river Mulde

When it comes to drinking water production, waterworks have to pay very careful attention to the interactions and influence of ground, surface and flowing water. A waterworks located on the river Mulde needs quick, accurate level information in order to evaluate the affects of river water level on the capacity of nearby wells. In this particular case, the official level measuring sites are too far away to deliver accurate, timely information for operating the waterworks. And this is a critical factor, because the Mulde is the fastest-flowing river in Central Europe.

The requirements on the level measurement are exactly defined. The river level must be measured with an accuracy of  $\pm 5$  mm and transmitted immediately to the waterworks so that changes can be registered as quickly as possible. The level information is used in addition to high water warnings to enable a fast switch-over to pressure drainage, for example in case of flooding.

## Radar sensors with radio transmission

The radar sensor VEGAPULS 61 is the perfect solution for precise level measurement. Because the sensor operates with a non-contact measuring principle, it cannot get soiled. The plastic-encapsulated antenna of the sensor is insensitive to weather effects like cold, rain or wind.

The measured level values are transmitted continuously via the radio module PLICSRADIO T61/R61 over a distance of about 400 m to the control room of the waterworks, where they are then evaluated.

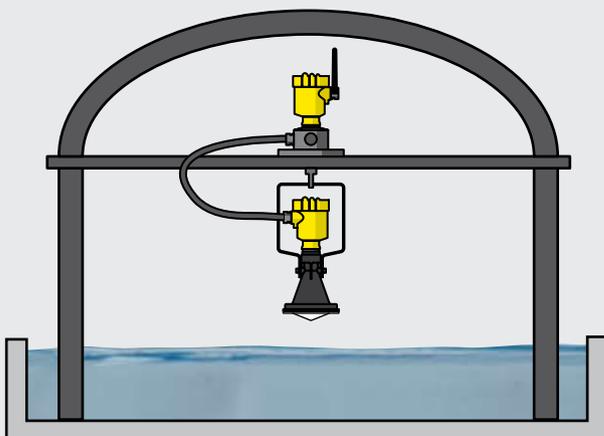


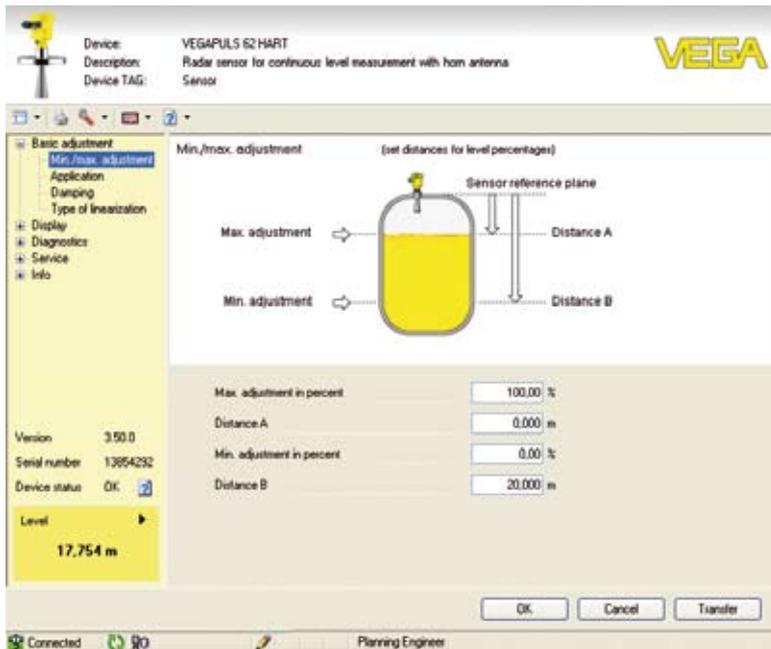
Both the radar sensor and the radio transmitter PLICSRADIO T61 are fastened under a bridge, protected from the weather and inaccessible to unauthorized persons. Power for the sensor and the radio module is obtained from the existing street lighting.

## Everything speaks in favour of radar

Due to its simple setup and commissioning, unproblematic mounting and high reliability, VEGAPULS 61 is the ideal sensor for river level measurement. It is robust as well as weather-proof and guarantees trouble-free operation through non-contact measurement. Wireless transmission of readings with the transmitting and receiving unit PLICSRADIO makes level measurement without signal line wiring feasible.

Mounted under cover, a radar sensor monitors the river level and transmits the data continuously to the control room via the radio module PLICSRADIO.





Left: DTM presentation of the min./max. adjustment of VEGAPULS 62 radar sensors according to the new FDT Style Guide.

Right: New DTM Collection 05/2009.

## DTMs meet the FDT Style Guide

### Sensor adjustment at a new level of quality and compatibility.

FDT/DTM technology for adjustment of field instruments is the state of the art. It is well established on the market for use with sensors, actuators and gateways, and is offered by many instrument manufacturers.

To obtain a better overview within the DTMs of different manufacturers, many users have for some time been requesting a standardised design for the user interface. Measured values and similar recurring information from the instruments must be found quickly and easily without a long search.

This demand has been taken into account in the FDT Style Guide created by the FDT Group. Now, the manufacturers of DTMs have at their fingertips a standard

that defines a uniform, user-friendly adjustment interface, and that without having to forego the option of individual arrangement and design. In the future, the FDT Style Guide will be the characteristic feature of a customer-oriented design and an integral part of the DTM certification.

As the first major provider of DTMs, VEGA will change over all adjustment interfaces to the new standard in May 2009. This conversion is part of the company strategy to simplify measurement technology for users. The new DTMs are being introduced within the framework of the plics<sup>®</sup>plus concept, the continuation of the successful instrument and adjustment concept plics<sup>®</sup>.

As before, the new DTMs are fully compatible with all instruments in VEGA's range of products. The new DTMs can be used for adjustment independently of the software version. No laborious fine-tuning between the DTM version and the instrument software, as is often the case with DTMs of other providers, is necessary. This means a plus in convenience and user friendliness – simply plics<sup>®</sup>plus.

## New: DTM Collection

The main component of the DTM Collection 05/2009 are the FDT Style Guide compliant DTMs for all plics<sup>®</sup> sensors. The collection is available as a standard version with print and save functions, or as a complete version with tank calculation program and VEGA MultiViewer without expensive licensing requirements.

The standard version of the new DTM Collection is available free of charge in the download area of the VEGA home page: [www.vega.com/en/Software\\_DTM.htm](http://www.vega.com/en/Software_DTM.htm)

# The next generation of VEGAPULS radar sensors

**VEGAPULS radar sensors are considered “state of the art” in the market. With more than 200,000 installed and operating, these instruments are the biggest selling radar-based level sensors in the world.**

**At ACHEMA 2009, the next generation of the tried-and-trusted pulse radar technology from VEGA made its debut. These sensors belong to the new instrument generation plics®plus.**

Through the extension of the temperature range to 450 °C and the higher chemical resistance of the antennas, this new generation of radar sensors has an even wider application spectrum.

Additional housing versions, an optimised connection concept and simplified operation, thanks to clear adjustment parameters, make setup and commissioning even easier.

As a result of the noticeably more powerful electronics, the new radar sensors are even better adapted to the requirements of the many different applications and industries.

New, ultrafast microprocessors provide more power for “higher definition” signal analysis and enable complex processing algorithms. Updated electronic components allow a never-before realised signal evaluation and a better differentiation between product level and vessel installations. Due to the considerably faster signal processing, the sensors are able to follow faster level changes. This accommodates the recent market trend of implementing smaller vessels with shorter filling and emptying cycles.

In the development process, special importance was given to ensuring



complete compatibility between existing and new instrument adjustment. Everything fits together: new sensors and existing adjustment software and vice versa, new radar electronics and existing housings and antenna systems.

plics®plus radar sensors from VEGA – state-of-the-art technology.

## Dates

### Trade fairs up to October 2009

MIOGE
go. automation technology
Elektrotechnik
Offshore Europe
MSR Südost
SMART

Date	City	Country
23. - 26.06.2009	Moscow	Russia
01. - 04.09.2009	Basel	Switzerland
02. - 05.09.2009	Dortmund	Germany
08. - 11.09.2009	Aberdeen	Great Britain
23.09.2009	Rosenheim	Germany
07. - 09.10.2009	Linz	Austria

## Fresh from the printing press

### New technology brochure **Communication**.

The new technology brochure **Communication** shows the user the concept and the advantages of data visualization from VEGA, from local networking of devices to remote inventory systems across the world. The brochure also covers multi dropping architecture, communication protocol capability in HART, Profibus and FF as well as sensor connection and I/O capabilities. Typical working examples are also shown in the booklet.



### New product brochure **plics®plus**.

The new brochure **A Multitude of Solutions with plics®plus** introduces the new products and additional application possibilities resulting from the consistent further development of the plics® instrument concept. The reader can easily find all innovations under the following categories: housing versions, instrument adjustment, level measurement, level detection, pressure measurement and radiation-based measurement.

#### Order your personal copy today:

by telephone at 0044 1444 870055

by e-mail to [info@uk.vega.com](mailto:info@uk.vega.com)

or at [www.vega.com](http://www.vega.com)

## We can bring the Training Course to you!

**“VEGA Customer Expertise” is technical training with both theory and hands-on elements for VEGA products of your choice, it is designed to raise the standard of application, installation and commissioning knowledge of customers.**

Training is delivered by qualified engineers from VEGA, with practical experience and direct knowledge.

VEGA can bring working devices, laptops and full supporting materials to you, set up a ‘classroom’ at your premises (or ‘off site’) and host a session adapted to the specific requirements of your staff.



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