

VEGA Journal

INTERVIEW: “Fault analysis should be the responsibility of the manufacturer.” **TECHNOLOGY:** DYKA and VEGA: Full commitment for perfect level measurement. **FIELD REPORT:** Blockage alarm with VEGAMIP. **CUSTOMER SERVICE:** Event storage for an integral service approach. **FOR THE LONG RUN:** Innovation is a lived sense of responsibility.

Issue 2/10



Full stores and fresh
goods – assured daily
with VMI

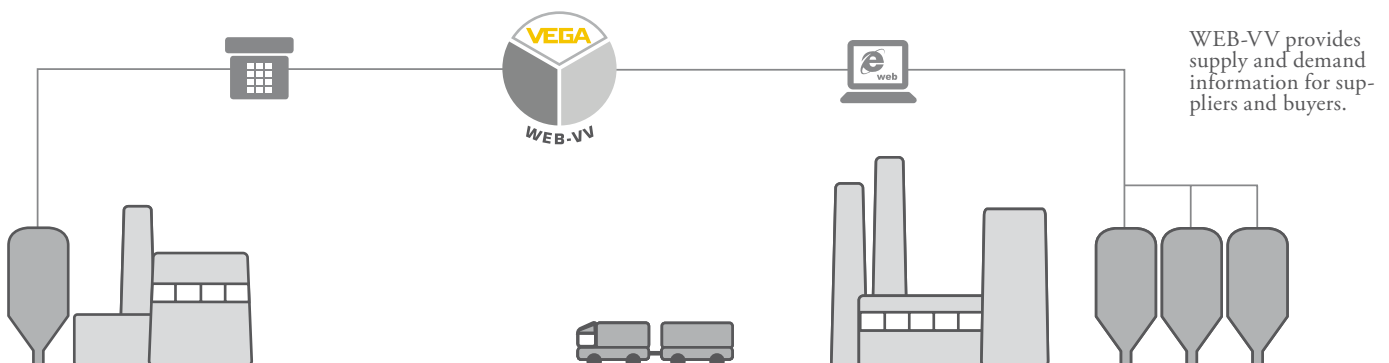


Full stores and fresh goods – assured daily with VMI

With VEGA as an “information broker”, storage silos never run empty and suppliers can plan delivery tours precisely – a triangle relationship that everyone profits from. As a level specialist, VEGA offers an integrated system of sensors, communication components, software and IT infrastructure for VMI projects.

Production is ensured

A large supplier, numerous sites with tanks or silos that must never run empty: that’s the stuff Vendor Managed Inventory (VMI for short), is made of. VMI with VEGA WEB-VV makes sure that bakeries always have enough flour for baking. Or it prevents chocolatiers from waiting for the next sugar delivery. Plastics processors and paint and varnish manufacturers, too, can rest assured that they’ll always have sufficient quantities of their raw materials (from solvents and lignin to urea solution) in stock.





Vendor Managed Inventory with WEB-VV ensures replenishments for every production process.

The supplier as partner with an active role

A bakery, who couldn't even bake the smallest buns without sufficient flour stocks, relies ordering their own flour to take care of the supplies. However, if the flour mill proactively takes on the responsibility of making sure the bakeries' silos are always sufficiently full, it relieves them of the burden of ordering for themselves. With a good overview of the bakeries requirements, the flour mill can in turn plan its own stock-holding, production and delivery routes efficiently and cost effectively. In order for this to work, the supplier must have accurate, reliable information about the inventories of the customers.

WEB-VV brings the information together

Information exchange between supplier and buyer is much simpler now, because everything that's needed is available from a single source. VEGA can provide an integrated solution for the level measurement, the data transmission to a central system, as well as the software for managing the inventory. At the heart of this is WEB-VV, because it presents level data clearly and accurately – as a table, bar graph or data trend. WEB-VV monitors inventory limits and delivers time or event driven alarms and messages when defined limits are passed. WEB-VV can be hosted by a supplier, who can build up a practicable VMI solution of their own with it. However, a much more convenient solution can be achieved with the supplier using VEGA as an information broker. With this arrangement, VEGA host servers provide the specialist level data, alarms and messages both for the supplier and his customers via 'bespoke' portals on the internet.

Data transmission also via the mobile telephone network

Radio transmission via GSM/GPRS is not a prerequisite for operating VMI, but is often the icing on the cake, when it comes to practical use. Particularly when it's as simple as the latest addition to the VEGA product portfolio.

"With GSM/GPRS, technology we can kill several birds with one stone; no searching for connections in the telephone or IT network, cost-effective data transmission and – with GSM, its a two way communication for servicing purposes", explains Juan Garcia, product manager at VEGA. The VEGA service department can thus access the instrument directly and diagnose any problems with PACTware adjustment software.

PLICSMOBILE makes VMI simple

PLICSMOBILE operates with a standard SIM card. It can be integrated into the double-chamber housing of the new plics®plus series, or connected separately to any plics® or plics®plus sensor. The new PLICSMOBILE module saves users the costs of purchasing and installing data collecting and signal conditioning instruments, modem and a control cabinet. "The costs can be reduced by around 1,000 euros per measuring point, when you take into account the simpler installation" continues Garcia. VMI is at its simplest in this format; with an instrument only requiring a PLICSMOBILE component to send information to the WEB-VV server. "Really high availability is guaranteed" promises Günter Kech, executive director of VEGA: "We rely on two computer centres with separate Internet connections and UPS (Uninterruptible Power Supply) in separate buildings." In the foreseeable future, be additional asset management functions that track the diagnostic information from every instrument – another component for optimized logistics and assured production with VEGA.

WEB-VV presents level data in different ways, e.g. as a bar graph or as an informative table.



More about VMI

The technology brochure "Inventory Management with WEB-VV" shows you VEGA services and the advantages of Vendor Managed Inventory in detail. We would be glad to send you a copy.



“Fault analysis should be the responsibility of the manufacturer”

VEGA managing director Günter Kech on services and instrument diagnosis.

VEGA Journal: Mr Kech, as an information broker in VMI projects, VEGA becomes an IT service provider. Does this have something to do with the new self-image of the instrumentation supplier VEGA?

Kech: In the core area we will always be an instrumentation supplier, supplemented by component-related services. We are merely adding a new line of business.

Very different companies offer support in the area of VMI. What predestines a component supplier to do this as well?

Kech: IT companies that seek to establish themselves in this area have, a certain competence with modems and software, but they have no expertise in the measurement technology. Other offers that are similar to ours are not really comparable when it comes to the data security requirements.

Users choosing VEGA will have the advantage of one supplier for an integrated solution for software, instrumentation, information distribution and support for all the components in their system. We take responsibility to ensure everything runs smoothly in a long term partnership.

PLICSMOBILE will complement the VMI offer as of June. What do you expect to achieve with it?

Kech: Besides the modularity, the cost savings per measuring point, simplicity in commissioning and operation with the new plics®plus devices, I also see good chances for additional field of applications for WEB-VV in municipal monitoring. For example, groundwater levels can be monitored with self-contained measuring points equipped with our new low power sensors and solar panels. Authorities can profit greatly if they use our WEB-VV system, which saves them the expense of owning and maintaining their own IT equipment.

Not only will error messages be more comprehensive for users in VMI projects, with plics®plus you also comply with the new NE 107 for the self-monitoring and diagnosis of field instruments, so is still more feasible? Such as clear action instructions, depending on the type of malfunction, which some users would like to see?

Kech: The traffic light is at once self-explanatory. This is great progress, because the many diverse error messages of different manufacturers and instrument types would never have been standardized. In this respect we very much welcome NE 107.

However, there is still the problem of frequent ambiguous error messages, which usually prevents decisive action from



being automatically initiated. Many things would still be technically feasible, but they would be very costly and hardly affordable from the point of view of most users. I'm convinced that it makes more sense to ensure transparency in field instruments, so that one can leave the actual fault analysis to the manufacturer.

In conclusion, Mr Kech, please give us some insight into your future strategy. What is planned for 2010?

Kech: We will move the large future markets, like energy and water/sewage, into focus. To this end, we plan to make the nucleonic measuring principle as a “plics” version, accessible throughout the entire VEGA organization in all markets. We also intend to establish our radar level measurement technology in the water/sewage sector more firmly than it has been up to now.

DYKA and VEGA: Full commitment for perfect level measurement



As a manufacturer of plastic pipe systems, DYKA is dependent on reliable level information from its material silos for smooth production. Many different technologies were used in the past but not one of them could fulfil the requirements of the production processes. But then VEGA came along.

The challenge: a demanding measuring task

For the production of PVC products, different raw materials, such as lime, stabilizers, lubricants and plastic granular material (PVC), are needed. The medium is very strongly adhesive due to its mineral components and hard to measure due to its low DK value and the shifting material cones. Moreover, the narrow, high containers are a measurement challenge: the storage silos are between 12 and 22 m high and have diameters between 2.5 and 4 metres.

The plant in Steenwijk, Holland, encompasses 83 storage and process silos altogether. The majority of them is out in the open. The distance between the measuring points and the control room can be up to 120 m.

The history: measurement with all sorts of instruments

In the 1980s, the silos were monitored with rotary paddle level switches as well as proximity switches. Strong dust adhesion, however, made them very maintenance intensive. Malfunctions often led to production stoppages, so eventually the silos were retrofitted with strain gauges. But the low measuring precision of this continuous level measurement was not acceptable.

The silos were then equipped with ultrasonic sensors in the 1990s. However, these instruments frequently displayed extreme deviations during filling and emptying of the silos. In addition, strong signal distortions resulted from the use of coaxial cable and the large distances between the sensors and the signal processing facilities. So a truly reliable measurement technology was still urgently needed here.

With VEGAPULS 68, DYKA has the levels of all silos under control.



The solution: VEGA radar technology

In 2005 DYKA, together with VEGA, tested VEGAPULS 68, an instrument specialized for bulk solids level measurement, and, to the immense satisfaction of the people at DYKA, the test results were very good. The measurements were both stable and reliable, during filling and emptying of the silos. After the one-year test phase, their performance was optimized with antenna covers and a reduction of the antenna size from 95 mm to 75 mm.

The implemented VEGAPULS 68 sensors are connected to the VEGASCAN 693 in HART multidrop mode and can be centrally read out with VEGA visualization software. During the test phase, the sensors could be also dialed into and operated by VEGA specialists directly from the local VEGA office via modem with GSM connection.

The finale: all's well that ends well

DYKA considers it extremely important to invest in future-proof, problem-free technology. Decisive advantages were the simple adjustment as well as the option of carrying out installation and commissioning while production was running. After the instruments were successfully put into operation, an action plan for technical training was worked out which also included production employees.

The possibility to test the new technology without risk made the decision very easy for DYKA. The convincing results delivered by VEGAPULS 68 in the pilot phase were the decisive factor that led to the replacement of the ultrasonic sensors. Since then, the VEGAPULS 68 radar sensors have ensured a reliable, disturbance and maintenance-free production flow at DYKA.

Reliability on a broad front: every raw material silo at DYKA is monitored by a VEGAPULS 68.

DYKA – the specialist for plastic pipes

The company DYKA Plastic Pipe Systems in the Dutch town of Steenwijk is a leading manufacturer of PVC pipe systems and fittings. These are used mainly in houses and supply buildings as well as in public civil engineering, e.g. in drainage systems, rain water installations, water pipes or electrical installations.

The company is part of the Belgian Tessenderlo Group. Within the group, several companies are consolidated in the corporate division Plastic Pipe Systems. DYKA, John Davidson Pipes and Sotra-Seperef belong to that corporate division. Together, the Tessenderlo PPP companies belong to Europe's leading experts for plastic pipe systems. The three companies in this area of enterprise employ altogether 1,300 employees.

SCHWENK Zement: Blockage alarm with VEGAMIP



Cement is an important raw material for the construction industry. But production involves many complex processes and must be constantly monitored. SCHWENK Zement uses the microwave barrier VEGAMIP as a robust and reliable solution for reporting material blockages.

Clinker production

In the cement plant, a furnace burns the raw meal (usually composed of the raw materials limestone, clay, sand and iron ore) into clinker at approx. 1350 °C. The hot clinker powder is discharged from the furnace into the clinker cooler, which cools the material down to 150 °C to 350 °C. At the end of the cooler, the clinker falls through a hopper, onto a plate conveyor

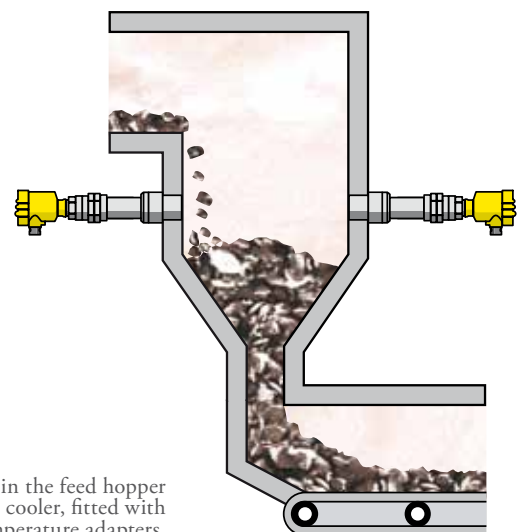
belt, which transports it to the clinker silo. In this hopper, the microwave barrier VEGAMIP immediately reports any blockage that might occur, so that the clinker cooling can be stopped in time. If production was stopped too late, the clinker cooler would become completely blocked and require expensive and time-consuming cleaning. This would lead to a shut-down of the entire plant with a corresponding loss of production.

VEGAMIP as blockage alarm system

The volume flow at the clinker discharge amounts to approx. 250 t/h during normal operation. Falling material should not be detected by the blockage sensor. The sensors should only respond and stop the material flow when blockage occurs in the hopper – an ideal task for the robust microwave barrier VEGAMIP. Transmitter and receiver are mounted with a high temperature adapter directly on the hopper at a distance of approx. 1.5 m apart. The mounting adapter has a ceramic window cover that protects VEGAMIP from abrasion and temperatures up to 450 °C, yet allows the microwaves to pass through.

The “trick” in setup and commissioning

The empty adjustment of VEGAMIP is carried out during normal volume flow, i.e. when material is falling through at a normal rate. When blockage occurs, the material density in the funnel increases, causing VEGAMIP to output a full signal. The switching signal of VEGAMIP is passed on to the PLC (Programmable Logic Controller) of the system and immediately evaluated. In-contact detection techniques would be physically damaged in this environment. The radar waves of VEGAMIP, effortlessly penetrate the falling material and the excellent electronics sensitivity reliably trigger the switch output when a blockage occurs.



VEGAMIP in the feed hopper of the clinker cooler, fitted with temperature adapters.

SCHWENK Zement in Ulm

SCHWENK Zement has been a pioneer of the cement industry for more than 160 years and is recognized as one of the most innovative companies in the sector. The cement works in Allmendingen was founded in 1889 and is the oldest manufacturing location of SCHWENK Zement KG today. Large deposits of high-quality limestone were – and are still today – the basis for the site.



A water-spouting giant guards the entrance to the Swarovski Crystal Worlds.

CERTEC® ceramic in the magic world of crystals

Swarovski is the worldwide leading manufacturer of cut crystal products. Its self-developed glass process is the best-kept trade secret to this day – and the reason for the unique crystal quality with the special “Swarovski fire”.

Independent and creative

Since its founding in 1895 in Wattens, Tyrol, the company has maintained its independence. Swarovski has made trailblazing innovations and inspired creative trends in areas as different as jewelry, fashion, accessories, illumination, interior design, culture as well as industrial research and development.

Adventure world and exhibitions

Installations and exhibitions of well-known artists like André Heller and Brian Eno await the visitor in the underground Swarovski crystal worlds in Wattens, Tyrol. A crystal theater carries off children and adults alike into a breathtaking world of scintillating fantasy. At the entrance of this rewarding excursion destination there is a giant head spouting a waterfall into a crystal-clear pond.

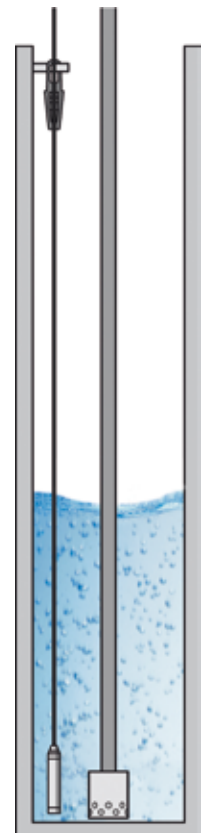
Clear and pure thanks to VEGA

Hidden from the visitors view are the sophisticated water treatment and water level regulation systems of the pond. VEGAWELL 52 suspension pressure transmitters with their robust, front-flush CERTEC® ceramic measuring cell are deployed here.

A VEGAMET 381 signal conditioning instrument enables simple adjustment of the switching points as well as direct pump control.

Water treatment for production

The cooling and lubricating water used in the glass grinding shop must be free from contamination by glass particles, which are only a few microns in diameter. This is achieved by a series of flocculation, filtering and clarification processes. The level measurement in the sedimentation and storage reservoirs is carried out with VEGABAR 66 suspension pressure transmitters, while pressure measurement in the pressure lines is handled by VEGABAR 54 and 64 sensors. Here the front-flush ceramic measuring cell CERTEC® can really pit its durability against the highly abrasive glass particles.



VEGAWELL 52 in the well shaft.




Why we installed an event memory for our customers

“At first glance, it looks like we’ve only optimized the technical parameters of the new instrument electronics. But because our partnership with customers is really important to us, we had their needs quite specifically in mind while developing plics®plus. So during the design phase of the electronics modules, we selected the latest state-of-the-art processor and storage technologies that, besides providing higher measuring certainty, also increase reliability and shorten the time required for servicing.”



In future, fewer and fewer service technicians will have to actually go to the customer. Trouble-shooting, fault diagnosis and fault rectification can nevertheless be carried out quickly and reliably.



Focussing on the customer – event storage for an integral service approach

You don't have to worry about transmitter event documentation any more, because VEGA will take care of this for you from now on. The event memory in the latest generation of VEGA sensors for level and pressure measurement is an absolute first. As a responsible partner of industry, VEGA is opening up new possibilities with this forward-looking solution for service and maintenance.

Faster – through the right information

When an instrument fails, time is usually of the essence. With the right information at the right place, VEGA sees to it that system standstills and production stops are kept as short as possible, when a breakdown occurs or servicing is carried out. The event memory in the new plics®plus instruments records up to 100,000 measurements and also provides valuable information about events before or during a disturbance.

Simpler – finding errors instead of searching for them

The innovative event memory in the level and pressure sensors provides exact information for an error search: Was the container overfilled at the instant of failure? Were any parameter settings changed? Was there a blackout? This puts us on the fast track to finding the cause.

Farsighted – asset management functionality for preventive maintenance

With the standardized status messages “Device failure”, “Maintenance required”, “Outside the specification” and “Function check”, plics®plus sensors provide the basis for asset management functionality in compliance with VDI/VDE 2650 and NAMUR NE 107. The status is transmitted digitally or displayed on the indicating and adjustment module PLICSCOM.

Broader – extensive VEGA services

The new functionalities are supplemented by an extensive service package. For example, the right documentation is always available for VEGA customers in the download area of www.vega.com. The online serial number search yields all the information available on any delivered instrument. Original operating instructions manuals, approvals and certificates, instrument features as well as factory settings are convenient to access and can be downloaded any time. Furthermore, the user can easily update the sensor software to the latest version or follow the software and hardware history. The cost-free adjustment software PACTware with the associated DTMs or the new EDDs is also available in the software section of download area.

Service hotline: people make the difference

Like all business life around the globe, the VEGA 24-hour hotline moves through the time zones in 8-hour work shifts. When night falls in Germany, a competent VEGA service technician in the USA takes over the hotline. After quitting time, he in turn hands it over to VEGA Australia for another eight hours – there are no gaps.

Thus, a VEGA employee is always within reach for fast, individual help at the inexpensive local rate under +49 1805 85 85 50.

Innovation is a lived sense of responsibility



Our trend-setting products have enabled us to work our way up to the position of technology leader. However, we put each of these new technologies on the market only when we are absolutely sure that they represent real progress for users – and when there are no risks to process reliability.

Whether innovation or incremental development: our successful technologies always originate with attentiveness and a clear focus on reliability. Because we think in terms of the long run and our customer's needs, we have no use for quick promises that cannot deliver practical, lasting results.

Innovation for you and your systems:

www.vega.com/innovation

“Our company philosophy ensures that new technologies are made available to users only when we can guarantee one hundred percent reliable operation.”



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