

The customer magazine of the ProMinent Group

KEEPING EVERYTHING FLOWING

How process technology from ProMinent secures optimal flow for industry

X-tremely clever

ProMinent presents the intelligent gamma/ X solenoid metering pump

Service generates added value

Interview with Markus Betzwieser and Rainer Weick

Cooling water disinfection for the harshest of applications

An aluminium production facility in Voerde relies on cooling water disinfection by ProMinent

Editorial

Dear Readers,

“We want our customers to return, not our pumps,” comment ProMinent Service experts Rainer Weick and Markus Betzwieser in an interview on page 12 of the new ProMinent Magazine. But what exactly do they mean by this? ProMinent always aspires to provide customers with innovative solutions and comprehensive service that offers discernible added value – whether focusing on individual products or entire plants, consulting and implementation services or fast support for application-related questions.

This also applies to our new magazine, which you are currently holding in your hands. Going beyond classic product catalogues and brochures, we will use this magazine to offer you interesting and exciting insights into various activities and departments at ProMinent, as well as to report on the challenging applications that our customers across the globe are implementing with innovative metering technology and solutions for water treatment and disinfection. A couple of examples from this current edition are the complex technical testing facility that ProMinent uses to test drag reducers in pipelines for the oil industry and the cooling water disinfection plant with which ProMinent optimises both the costs and environmental friendliness of water treatment at an aluminium foundry.

With the new magazine, we are keen to show you some of the versatile deployments facilitated by the latest metering technology, while also providing you with more information regarding ProMinent’s global activities. We hope you find the articles interesting.

Have fun reading!
Your ProMinent Magazine editorial team

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X-TREMELY CLEVER: THE NEW GAMMA/ X

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panorama

Technology to sink your teeth into

How does the filling find its way into the doughnut without it exploding?

A major bakery that uses liquid flavourings, which are dissolved in alcohol to ensure that its sweet doughnuts always have the same great taste, recently faced precisely this question. After all, metering the correct volume of flavouring is not easy. Indeed, it requires great precision – and there is a risk of explosion due to the alcohol evaporating and creating a highly flammable mixture with air.

The tailor-made solution came from ProMinent: nine Sigma/ 1 motor-driven diaphragm metering pumps, installed in force-ventilated containers, guarantee explosion protection – with well-above-average reproducibility for one delicious doughnut after the other. The only risk then is of a taste explosion.



THE QUOTE

“Nothing has ever grown out of pessimism.”

Prof. Dr. h. c. Viktor Dulger, founder of ProMinent. More than 50 personal patents have since been registered in Prof. Dulger's name in Germany and the industrial nations, forming the basis for the company's global operations.



Finding the right solution more quickly

With 80 sectors, 100,000 products and virtually endless applications, it is easy to get confused when trying to find the right metering pump.

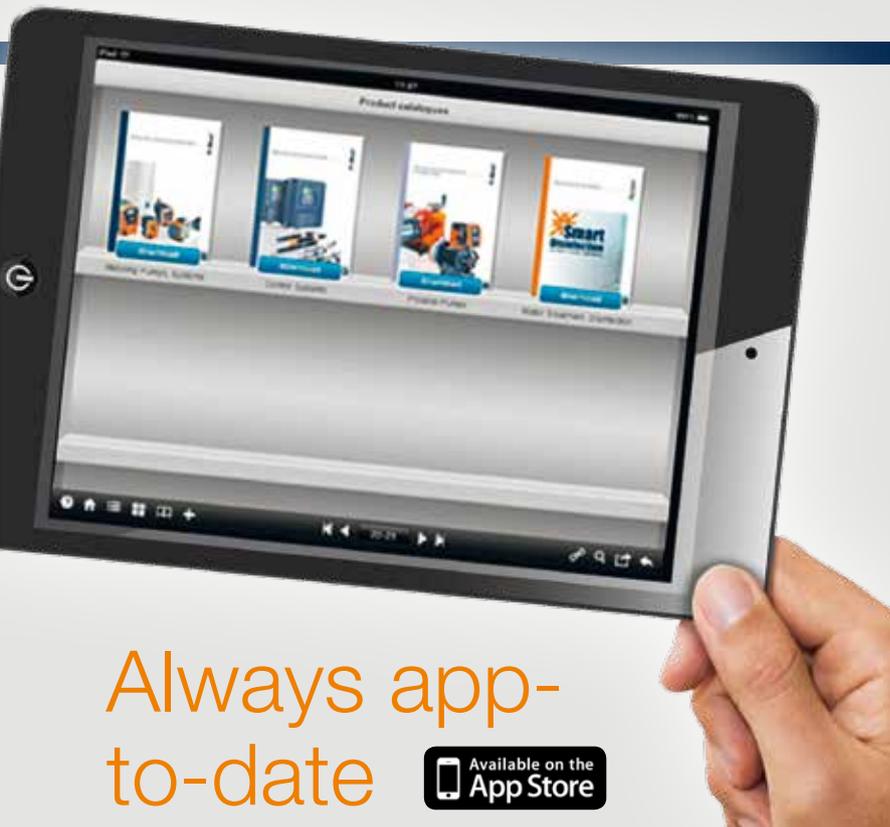
This is why ProMinent decided to launch the Pump Guide, which allows you to find your way through the veritable jungle of pumps with just a few clicks. Simply enter your basic requirements, such as delivery rate, back pressure and frequency, and the Pump Guide will immediately present you with an initial selection of suitable models. Still not sure? Then try it for yourself at www.pump-guide.com.

ProMinent's customer service is, of course, also available if you need help in selecting a specific product, setting up individual configurations or require more comprehensive advice.

Patent partners

ProMinent is a patent company. Indeed, as a leading innovator, the company holds over 100 patents worldwide in the field of metering technology, while a further 50 patents are registered in the name of company founder Viktor Dulger. When developing new technologies, ProMinent not only relies on its own innovative power, but also cooperates with universities. The most recent success from academic collaborations is the new gamma/ X solenoid-driven diaphragm-type metering pump. In collaboration with the Technical University of Kaiserslautern, the metering technology specialist has developed innovative processes for model-based and adaptive control of the solenoid in the pump. This joint development led to three new patents, which enable precise and predictive control of the gamma/ X without failure-prone sensor technology. **Read more about this on page 16.**





Always app-to-date



Which cooling water disinfection solutions does ProMinent offer? What are the specifications of the new gamma/ X solenoid-driven metering pump? Which process metering pump would be required for a metering volume of 1,000 litres per hour at 300 bar? Find the answers to these and many other questions now in the new ProMinent app for iPad and iPhone. With the practical catalogue app, you can now get instant access to the latest documentation and innovations from ProMinent while on the move.

The app can be found at www.prominent.com/app, as well as in the Apple iTunes Store.

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WORLD-
WIDE

Helping young people get started

ProMinent also assumes social responsibility, for example supporting the “Aufstiegshelfer” initiative that helps young people get their foot in the door of a career. The objective of this initiative is to help young people active in sports find their way in the world of work. Ralf Kiermaier, Vice President Sales & Marketing ProMinent Germany, took the opportunity to personally show young footballer and ProMinent intern Maximilian Kern the company. Kiermaier also supports the youngster as a mentor and even watches him play regularly.



Do you know about the flow? That warm and fuzzy feeling when everything is running perfectly? Transferred to the field of process technology, this ideal condition has been reached when all components within a processing plant interact perfectly with one another, when processes are executed efficiently, safely and economically and the system is capable of delivering its maximum productivity. To help system operators around the globe achieve this optimum flow, ProMinent develops advanced metering systems – ranging from innovative process pumps such as the brand new Orlita® Evolution, right through to highly complex processing plants.

KEEPING EVERY FLOW



NG THING ING.



Whether for refineries or chemical plants, innovative process metering systems ensure optimal flow in industry.



Kim Hvitfeldt Hansen has held the position of Head of Process Metering Technology at ProMinent since the end of 2013. His objective is to establish this business unit as one of the market leaders in the field of process technology over the next few years.

Whenever oil flows out from below the surface of the Earth at great pressure or is pumped through pipelines across entire continents, whenever aggressive chemicals need to be precisely metered or millions of litres of water need to be prepared – high-pressure process metering pumps provide the necessary additives to secure both frost and corrosion protection, to optimise viscosity or to guarantee reliable disinfection. The challenge here no longer lies in finding reliable pumps with suitable specifications and the correct metering profile: operators of processing plants today face enormous competitive and cost pressure. As such, they are increasingly looking for solutions which secure a high degree of flexibility and cost-effectiveness for their plant, alongside maximum process reliability and efficiency.

Individual solution in the pipeline

Today, ProMinent therefore offers customers in the field of process technology far more than just modern pumps. “With all our expertise and experience of our customers’ processes, we are increasingly developing into a full-scope problem solver,” explains Kim Hvitfeldt Hansen, who has held the position of Head of Process Metering Technology for around 18 months. Perhaps the best example of this is the extensive testing centre, which was established at the company’s HQ in Heidelberg for one of the world’s largest oil producers.

“Some time ago, we received an order to deliver twelve process metering systems for pipelines,” reports Hansen. “An oil producer was looking for systems to feed a drag reducer into its pipelines.” The product in question was a polymer which



Innovations in the pipeline: the valveless process pumps from ProMinent guarantee a high degree of process reliability when metering additives in pipelines.

increases the oil's flowability in the pipeline. This approach allows the flow rate, and therefore also the capacity, of the pipeline to be increased and removes the need for an oil producer to install costly additional pipes. In contrast to competitors' products, the Heidelberg-based company's process pumps do not require valves, which was why the oil company in question decided to go with ProMinent. When using conventional pumps, the company often ran into issues with the polymer-based additive clogging the valves. This in turn led to high maintenance and preventive service costs, which were necessary to keep the pipeline up and running and guarantee its safety.

Not simply dispatched into the desert

However, rather than simply "dispatching the requested systems into the desert", as

Hansen puts it, "we consulted with the client and ultimately decided to test the system in a real-world production environment in Heidelberg." After all, the oil company was also planning on using the pipeline for various other chemicals in the future based on process technology requirements and the market situation. Until that time, however, the actual chemicals suppliers had been providing precise specifications for the hardware environment and only allowing their products to be used in it.

ProMinent therefore invested a significant sum in establishing a technical test centre to develop a universal process metering system for all chemicals – whether high-viscosity or low-viscosity. The company had four manufacturers deliver chemicals to Heidelberg which it subsequently tested under various process



"With all our expertise and experience of our customers' processes, we are increasingly developing into a full-scope problem solver."

From an individual process metering pump, through application-specific standard solutions, all the way up to highly complex, customised metering systems: ProMinent can today offer solutions for all installation sizes.



conditions. The goal of the developers at ProMinent was to validate the operability and process reliability of the system with various chemicals. The solution is now almost ready for the final acceptance test by the customer.

The new Orlita® Evolution – the ultimate in reliability and flexibility

The process metering pump has been and remains the heart of all such systems. ProMinent is presenting a genuine innovation here this year, as Hansen explains: “With the Orlita® Evolution, we are offering a new generation of process pumps in the upper premium sector that has been designed to offer the greatest process reliability and flexibility. The new pumps comply with the strict ATEX standard and are therefore ideal for use in explosion-protected areas. We have developed a fail-safe design for the new Orlita® range, whose features include a fully integrated temperature monitoring system.”

Unlike conventional pumps, the new Orlita® Evolution operates without peripheral temperature monitoring sensors, which are often susceptible to errors. To this end, the ProMinent pump employs an intelligent

mechanism that automatically switches to a suitable operating mode, meaning that the temperature never increases beyond the permissible range. This has once again allowed ProMinent to get its nose ahead of the competition. Orlita® Evolution also offers many more highlights. For example, it comes with a PTFE multi-layer diaphragm with rupture indicator, as well as a completely new diaphragm position controller (patent application submitted by ProMinent), which protects the diaphragm from damage, even in the case of extreme malfunctions. The pump also possesses an integrated hydraulic overflow valve to offer protection from excessive pressure.

Early adopters

The first three Orlita® Evolution units had already been sold prior to the official market launch and, according to Hansen, have been in use in the production operations of one of the world’s largest chemical companies for several months. Further enquiries have also been received from companies in the oil industry, the fine chemicals industry, as well as manufacturers of plastics and food producers.

ProMinent offers the new Orlita® Evolution in four different versions, covering a

capacity range from three to 7,400 litres per hour at pressures of 400 to 10 bar. The pumps meter liquid media with extremely high precision; deviations are lower than 1%. Moreover, the Orlita® Evolution product range employs a modular structure, which makes it extremely flexible and versatile in terms of applications. When working with individual pumps, the motor can be used either horizontally or vertically. When working with multiple pumps, various motor sizes can be combined with one another. Alongside individual pumps, ProMinent can also supply a complex, ready-to-use processing plant created in line with customer requirements.

Major plant construction expertise

“The Orlita® Evolution is an extremely important product for us,” stresses Hansen. “However, compiling a high-grade package of solutions and services with a clear focus on customer benefits in and around our process pumps is equally important.” In many cases, the market still sees ProMinent as a pump manufacturer or vendor of straightforward modular solutions, explains Hansen. Yet the company has been developing highly complex

systems and plants of virtually all sizes for some time – both for systems operators and system builders. “We now have comprehensive skills and a great deal of process engineering expertise and application knowledge, which allow us not only to support our customers’ processes, but also make them safer, more flexible, more affordable and more energy-efficient.” Even if standard solutions still represent the lion’s share of ProMinent’s process business, Hansen is increasingly focusing on customer-specific innovations in the field of plant construction to develop this added value for customers.

The Process Technology business unit has now established competence centres in all the important markets worldwide and appointed highly trained sales, service and engineering teams to look after the needs of local customers. Due to the international character of the process business, ProMinent has created a network that will allow it to handle international projects smoothly. The realignment of the process business also involves appointing so-called sector managers, who come from the engineering and project management arena. These managers bring with them their comprehensive knowledge of the individual sectors, applications and processes, while also providing customers with eye-level consulting services and both designing and estimating the costs of associated plants.

Off-the-shelf turnkey systems

Hansen also believes that ProMinent is well prepared to face the challenges of the future from a technological perspective – and not just thanks to the new Orlita® Evolution. “Our customers require process stability and reliability. They are already battling with ever increasing complexity, as well as a need to get plants up and running more quickly and implement increasingly flexible production procedures, while at the same time cutting costs.” The company therefore took the decision to standardise and modularise entire plants in order to offer application-specific solutions that combine reliability and cost-effectiveness.

The intelligent solution

Another increasingly important aspect is something that Hansen

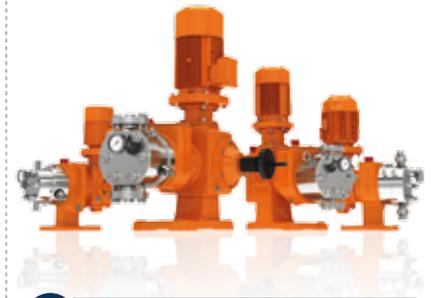
refers to as the “intelligent pump concept”. “ProMinent has a great deal of expertise in combining mechanical systems with the latest control technology. Pumps, such as the Sigma Control, offer versatile control options and can be connected to the process control system very effectively via Profibus.” Indeed, intelligent control of process pumps ultimately allows processes to be automated or made more flexible and, by making targeted changes to the metering profiles, the fluid streams within the system to be optimised. “This enables far more effective system designs and therefore more effective operations,” comments Hansen, summarising the advantages. He is also already thinking of future applications in the ‘smart factory’ environment, in which ProMinent process metering pumps could make a key contribution not only to automating the process technology, but also to making it more flexible.

The top 3 in sight

Hansen has therefore set himself ambitious goals for the next few years: “I am keen to establish ProMinent as one of the market leaders in the field of process technology. We have innovative products, comprehensive expertise and an excellent infrastructure. Together with our will to succeed and the willingness of our owner family to make the necessary investments, everything is in place for us to assume a position among the top 3 in the market over the next 3 to 5 years.



Process security is becoming ever more important in complex plants, where flexibility and cost-effectiveness are also crucial.

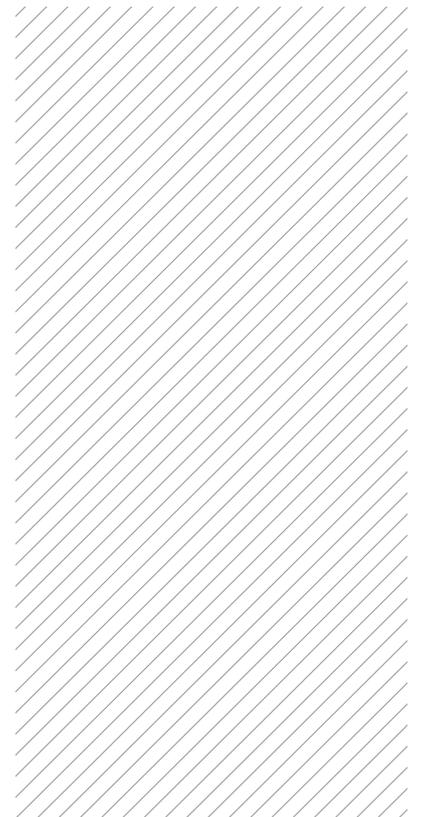


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Facts & Figures

The new Orlita® Evolution generation of process pumps offers a whole host of innovations.

- PTFE multi-layer diaphragm with integrated diaphragm rupture warning/indicator
- Integrated hydraulic overflow valve
- The new diaphragm position controller protects the system from unauthorised operating states (e.g. no damage when the suction and compression sides are blocked)
- Reproducibility of metering in defined conditions and when installed correctly better than $\pm 1\%$ in the stroke length adjustment range from 10% to 100%
- Continuous oil chamber venting secures reliable function
- The modular design, with individual and multiple pump versions, allows a broad range of applications to be covered, whereby up to 5 metering units can be combined (even with different pump capacities) when using multiple pump systems





Rainer Weick

initially completed an apprenticeship as a mechanic and subsequently attended further training to become a mechanical engineer and later a technical management specialist. Before joining ProMinent, he worked in technical sales both in Germany and abroad, where he focused on metering technology designs. Rainer Weick began his career at ProMinent in a consulting role, but today works as a technical customer advisor.

Dipl.-Ing. Markus Betzwieser

has been working at ProMinent since 1987. After completing a process engineering degree at a university of applied sciences, he began processing plant construction projects before moving to quotation preparation and ultimately the Aftersales division. Having spent many years as Deputy Head of Service, Markus Betzwieser is today responsible for ProMinent's worldwide Complaint Management division.

“WE WANT OUR CUSTOMERS TO RETURN. NOT OUR PUMPS.”

Many pump manufacturers offer modern products. Yet only when comprehensive expertise is combined with a service concept consistently aligned with customer requirements can customers really enjoy all benefits in terms of productivity, cost-effectiveness and reliability of the metering technology employed. The ProMinent Group is firmly convinced of this. Engineers Markus Betzwieser and Rainer Weick got together to discuss the added value that ProMinent offers its customers.

Mr Betzwieser, Mr Weick, you are responsible for different service areas. So what exactly do your duties entail?

Weick: I work in Technical Customer Support, where I provide second level support for our customers in Germany, as well as for our offices abroad. The ProMinent Field Service is the first point of contact for customers. Whenever our customer advisors in Sales are unable to help with complex issues, that is when my colleagues and I get involved. We actually provide both aftersales and presales support. If customer enquiries go into too much technical detail for our sales staff, for example, we support our colleagues in advising customers and selecting the right pump, collaborate on the design and selecting the right accessories or help set up the plant following installation.

Betzwieser: My job starts whenever a problem with one of our products occurs after purchase and the customer is convinced that the issue is the result of a product defect. In the vast majority of cases there is no product defect. Instead, the issue generally relates to the application being processed. However, determining and then explaining this to the customer does not really help the situation. At ProMinent, we feel a sense of responsibility for resolving the problem together with the customer and getting the system

up and running reliably – if nothing else, at least to show the customer that there is actually nothing wrong with the product. We want our customers to feel as though ProMinent always looks after them properly, regardless of the situation.

ProMinent promises an “added-value service”. What exactly does this added value involve?

Weick: We not only offer excellent products, but also comprehensive support to ensure that our solutions can deliver their maximum possible benefit. This is an important opportunity for us to make ourselves stand out from the competition.

Betzwieser: For example, many of our customers do not realise that our products are capable of far more than just pumping. They then start planning and budgeting for comprehensive measuring and control systems, despite the fact that we can actually handle their task with our pump alone. Our advisors help customers understand this and find better solutions, also with regard to cost efficiency. We offer consulting and support services throughout the entire product life-cycle. Even long after the warranty has expired, we are happy to provide our customers with individual support when needed. We are known for our cooperative attitude, which ultimately leads to a high degree of customer satisfaction and loyalty.

“We are known for our cooperative approach with our customers.”

Dipl.-Ing. Markus Betzwieser

“Our customers are not put on hold in a loop, but rather receive sound technical advice.”

Rainer Weick



“My objective is for the customer to be satisfied before I put down the phone.”

Weick: Another example is the way we handle enquiries. Our customers never end up waiting for their call to be answered at a call centre. All callers have the opportunity to address their own specific issue and receive expert advice. To this end, ProMinent employs direct contacts with excellent knowledge of our product portfolio and various applications. We not only offer this expert support in Germany, but in all important markets worldwide.

The keyword here is worldwide – so can you give us an idea of what ProMinent’s service organisation looks like?

Betzwieser: ProMinent has a network of 55 dedicated sales, production and service companies with excellent expertise that can be reached by our customers no matter where they are located. This is particularly important, since our systems are often purchased in Germany but then deployed abroad. Our offices provide first level support to local customers, but can also access second level support at our HQ in Heidelberg at any time. If a particular problem is proving highly complex, our customer advisors can also get our devel-

opers involved to provide assistance. If necessary, our specialists based in Germany can also fly out to any location worldwide. The most important thing is that customers get the support they need locally.

How would you describe the working atmosphere in ProMinent’s Service division?

Weick: You quickly get the sense that the people working here are highly motivated and also identify strongly with ProMinent. We are proud of our excellent products and being part of such a successful family company. All of our operations are closely linked, particularly here in Heidelberg, and there are many interfaces between the Development, Production and Sales divisions. This leads to a strong feeling of togetherness.

Betzwieser: Customer orientation is a common thread that runs through our entire company. All employees pull together, from order entry, through work preparation, all the way up to production and dispatch. Everyone who works here is aware of the responsibility they have in

terms of contributing to the success of the entire chain.

How do you gain the qualifications necessary for these duties?

Betzwieser: Our employees in Technical Customer Support all have a technical background and many years of experience. These are jobs that require a great deal of practice to reach expert status. Six months of familiarisation is not enough here. Our Technical Customer Support team also has real specialists, including experts in solenoid-driven pumps, motor-driven pumps, control engineering and disinfection systems. And should a particular question prove too tricky even for these experts, they can fall back on the absolute specialists in Development.

Weick: My colleagues and I have all completed technical training and have a great deal of practical experience, for example as service engineers. In fact, many are like me and have even gained higher qualifications. Aside from this, excellent English language skills are obviously important and a second foreign language is also very useful.

Alongside professional competence, what soft skills are also needed to succeed in a role like this?

Betzwieser: You need to be able to grasp things quickly, have good communication skills and sometimes also the ability to just calm everyone down. We work with people, so people skills and finding pleasure in collaboration is indispensable – as is a keen sense of ambition to solve customer issues.

Weick: It is important to be able to put yourself in your customer's situation. If he is wearing a helmet and boiler suit, standing frustrated and sweating in front of a system that is not working and the final acceptance test is scheduled for the next day, it is easy to imagine his stress level. As an advisor, I must then avoid getting lost in details and instead focus on action that will help him achieve success.

Are there also specific further training courses?

Weick: There has to be. Ultimately, we are selling products that require explanation and are subject to constant further development to offer ever more advanced

functions. As such, we have a dedicated ProMinent Academy with a systematic training programme.

Betzwieser: Internal seminars allow our employees to familiarise themselves with new products at a very early stage, ensuring that they are able to provide competent and accurate advice immediately on market launch. We also offer training courses for our customers – on request including on-site training on their premises, so that they do not need to send multiple employees to us for training and can therefore avoid the time and costs associated with this.

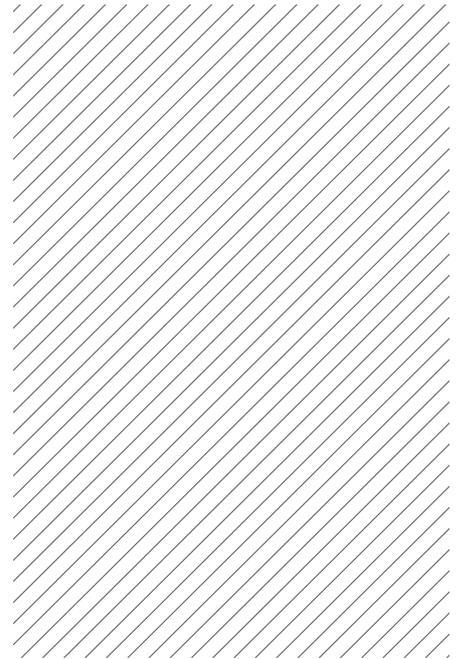
What personal objectives have you set yourselves in your own work?

Weick: In plain language: we want our customers to return, not our products. I am therefore keen to help customers find the best possible solution for their specific requirements and then provide them with tangible added value through my service.

Betzwieser: My basic approach to work is this: the customer must be satisfied before I put down the phone. This also gives me a great deal of satisfaction when I go home in the evening, as I have helped a

customer and therefore also the company. In terms of my personal duties, I try to mix things up, so I am not doing the same thing over and over again. The fact that we often face new challenges on a daily basis is also what makes this work so exciting.

Mr Betzwieser, Mr Weick, thank you for the interesting discussion.



“I am keen to offer customers tangible added value with my service.”



X-tremely clever!

Easy-to-use click wheel makes operating manuals and sub-menus a thing of the past. In combination with the LCD and four buttons, the newly developed click wheel provides for intuitive operation and programming of the new gamma/X.



According to evolutionary researchers, higher intelligence starts with self-awareness. Based on this, the gamma/ X currently represents the pinnacle of the metering pump species. The new solenoid-driven diaphragm-type metering pump from ProMinent is capable of detecting and then precisely adjusting its current effectiveness independently at any time without the need for additional sensor technology.

The gamma/ L from ProMinent has been the reliable workhorse among solenoid-driven metering pumps for around 15 years. It has been proven a million times over and is used worldwide in the most diverse of fields. However, the latest electronics have been increasingly opened up new opportunities for precise control and regulation that the engineers at ProMinent were keen to use in a pioneering product. After more than three years of intensive development work, the metering technology specialist is now ready to present the official successor to the gamma/ L. “With the new gamma/ X, we are keen to once again position ourselves as a top innovator and global market leader in the field of solenoid-driven pumps,” explains Michael Rummer, Product Manager at ProMinent.

Patented idea – adaptive solenoid control

The company is particularly proud of its pioneering solenoid control technology, which operates without any additional

sensor technology – a key benefit, since sensor systems can often be susceptible to faults. This technology is also what presented the greatest challenge for the developers. To implement a process for model-based and adaptive control of the solenoid in the gamma/ X, ProMinent therefore collaborated closely with the Technical University of Kaiserslautern. Working together, a solution was found which allowed conclusions to be drawn regarding the back pressure in the pipeline based on the current power requirement of the pump. The pump detects how much force it requires for its forward stroke and then uses this to determine the pressure in the pipeline – which is also shown in the display – and matches its output to actual pressure conditions without any time lag. ProMinent refers to this feature, which no other company can currently offer, as ‘predictive intelligence’.

The control technology is protected with three patents, which were registered specifically for the new pump. ProMinent is already conducting further research, so that the gamma/ X can also determine the viscosity of the medium in future.

The click-wheel reinvented

Another important and special feature that Rummer is keen to mention is the newly developed user interface for the gamma/ X. “We considered it so important to have a



Around two dozen mechanical, hardware and software engineers were involved in development of the gamma/ X.

i Facts & Figures

Solenoid-driven diaphragm metering pump for 1 ml to 45 l/h at back-pressure from 25 to 2 bar

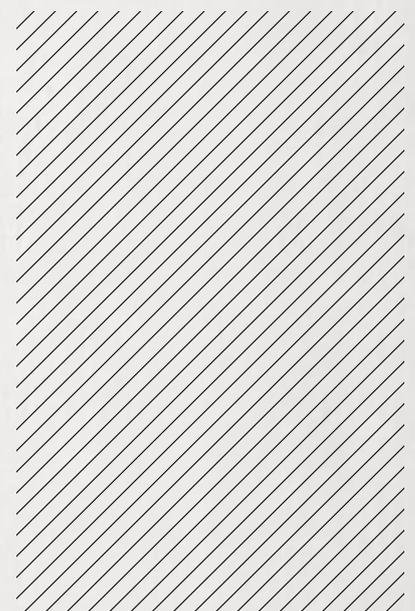
Intelligent control electronics

Without failure-prone sensors

Integrated timer for timer-controlled metering

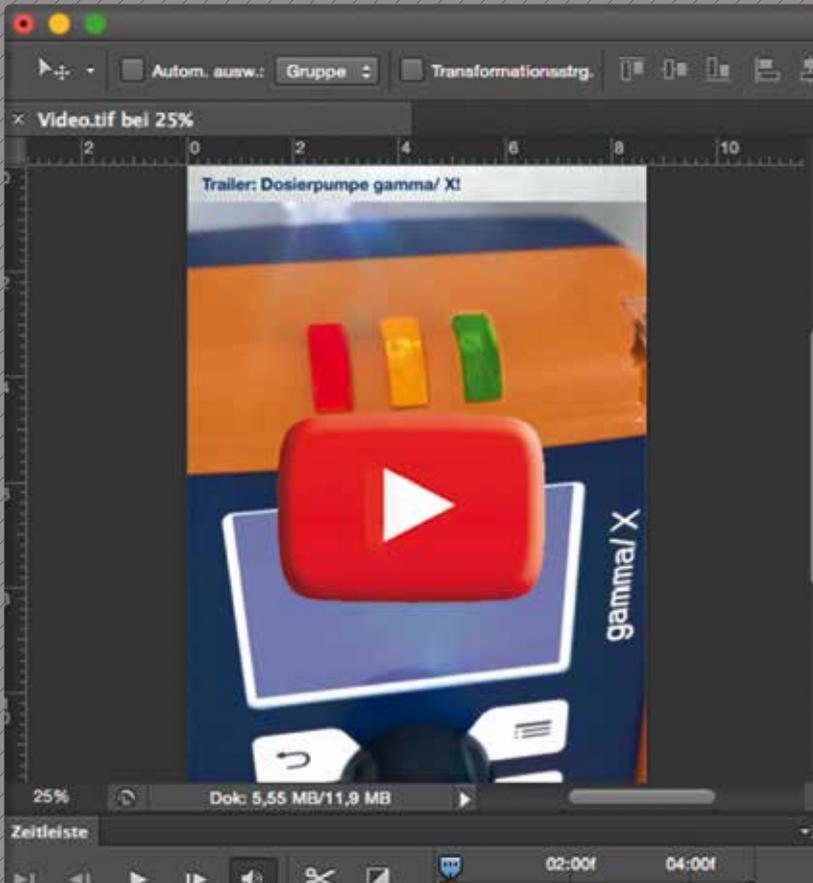
Cavitation detection

Automatic venting system



The gamma/ X in action

The high-quality product animations serve to underline the importance of the new gamma/ X for ProMinent. Film technology which, until a few years ago, was reserved for Hollywood blockbusters was also employed in their production. This not only allows the gamma/ X to be viewed from various perspectives, but also be shown in operation with interesting technical details that are otherwise hidden inside.



Click here to view the videos:
www.prominent.com/gammaX

solution tailored perfectly to operator requirements that we developed an entire catalogue of questions for customers and acted on their proposals and wishes.” The status LEDs, which are now positioned rather unusually towards the top of the front panel, are one result of this Q&A process. Their new location was chosen as it makes it easy to see them from above and behind. “This may well be a relatively minor design change, but it makes a big difference to monitoring operations,” comments Rummer with conviction.

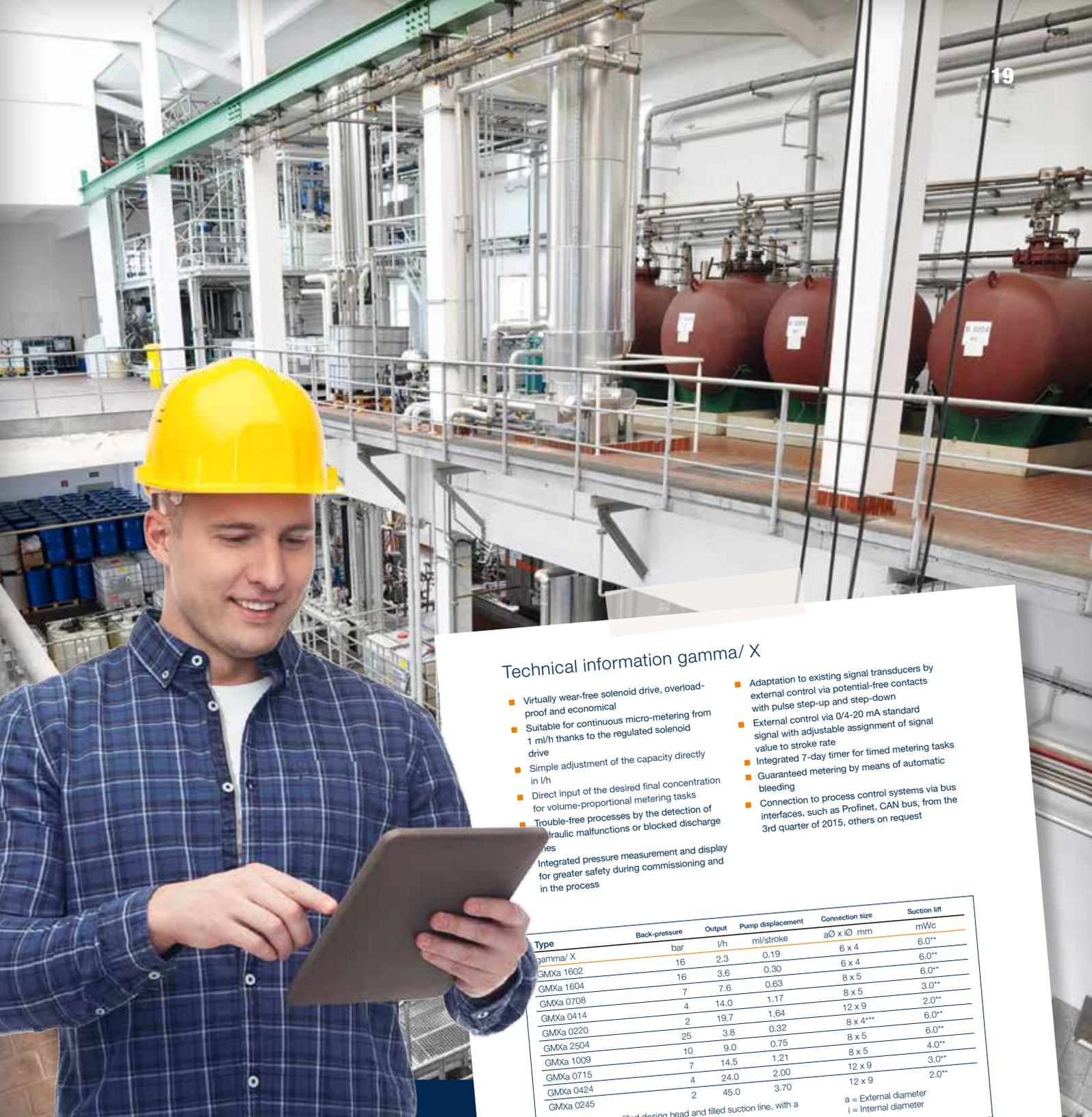
Also completely new are the large, high-resolution display, the design and layout of the operator menu and the four central buttons that offer intuitive operations and programming of the solenoid-driven metering pump in connection with the grippy click-wheel. Rummer is also keen to stress that ProMinent received a vigorous round of applause for its new operator concept when first presented to employees at one of the world’s largest chemical companies. “As it is so eager to take advantage of the new features, the company is even willing to accept the slightly larger casing dimensions over the gamma/ L.”

Wireless control for maximum convenience

One particular feature that will also be available in the gamma/ X is set to offer even greater operator convenience: wireless control of the pump via an app, which can be used on smartphones

and tablet PCs. Near-field communication makes it significantly easier for operators to control the gamma/ X, particularly when pumps are fitted in difficult-to-reach areas. However, this approach also offers advantages when pumps need to be changed. It allows settings to be exported before replacing

a pump and then transferred to the new pump once it has been installed. This not only speeds up the commissioning process of a new gamma/ X, but also offers greater process reliability, since all parameters (of which there can easily be 20 or more) are always copied over correctly.



Technical information gamma/ X

- Virtually wear-free solenoid drive, overload-proof and economical
- Suitable for continuous micro-metering from 1 ml/h thanks to the regulated solenoid drive
- Simple adjustment of the capacity directly in l/h
- Direct input of the desired final concentration for volume-proportional metering tasks
- Trouble-free processes by the detection of hydraulic malfunctions or blocked discharge lines
- Integrated pressure measurement and display for greater safety during commissioning and in the process
- Adaptation to existing signal transducers by external control via potential-free contacts with pulse step-up and step-down
- External control via 0/4-20 mA standard signal with adjustable assignment of signal value to stroke rate
- Integrated 7-day timer for timed metering tasks
- Guaranteed metering by means of automatic bleeding
- Connection to process control systems via bus interfaces, such as Profinet, CAN bus, from the 3rd quarter of 2015, others on request

Type	Back-pressure bar	Output l/h	Pump displacement ml/stroke	Connection size aØ x iØ mm	Suction lift mWc
gamma/ X	16	2.3	0.19	6 x 4	6.0**
GMXa 1602	16	3.6	0.30	6 x 4	6.0**
GMXa 1604	7	7.6	0.63	8 x 5	6.0**
GMXa 0708	4	14.0	1.17	8 x 5	3.0**
GMXa 0414	2	19.7	1.64	12 x 9	2.0**
GMXa 0220	2	19.7	1.64	8 x 4***	6.0**
GMXa 2504	25	3.8	0.32	8 x 5	6.0**
GMXa 1009	10	9.0	0.75	8 x 5	4.0**
GMXa 0715	7	14.5	1.21	12 x 9	3.0**
GMXa 0424	4	24.0	2.00	12 x 9	2.0**
GMXa 0245	2	45.0	3.70	12 x 9	2.0**

** Suction lift with a filled dosing head and filled suction line, with a self-bleeding dosing head with air in the suction line
 *** With stainless steel design 6 mm connector width

a = External diameter
 i = Internal diameter

For greater control and convenience: the new gamma/ X can also be controlled wirelessly via smartphone or tablet PC. This greatly simplifies control, particularly when pumps are fitted in difficult-to-reach areas.

Dosing head	Suction/pressure connector	Ball seat	Balls
PPE Polypropylene	Polypropylene	EPDM	Ceramic
PPB Polypropylene	Polypropylene	FKM	Ceramic
PPT Polypropylene	Polypropylene	PVDF	Ceramic
NPE Clear acrylic	PVC	EPDM	Ceramic
NPB Clear acrylic	PVC	FKM	Ceramic
NPT Clear acrylic	PVC	PVDF	Ceramic
PVT PVDF	PVDF	PVDF	Ceramic
TTT PTFE with carbon	PTFE with carbon	Ceramic	Ceramic
SST Stainless steel material no. 1.4404	Stainless steel material no. 1.4404	Ceramic	Ceramic

Self-bleeding design only in material designs PP and NP with a valve spring made of Hastelloy C and a PVDF valve insert. Diaphragm with a PTFE coating.
 FKM = fluorine rubber
 Metering reproducibility: ±2% when used according to the operating instructions
 Permissible ambient temperature: -10 °C to +45 °C
 Mean power consumption: 24/30 W
 Degree of protection: IP 65, insulation class F



An abundance of opportunities: whether for filling ink cartridges/gel capsules or disinfection at all locations throughout drinks operations – the new gamma/ X is virtually predestined for use in filling processes.

Safety, reliability and convenience play a key part in the new gamma/ X. Its completely redeveloped solenoid drive is both extremely precise and almost wear-free. The pump automatically detects whether the metered quantity deviates from the setpoint and whether hydraulic malfunctions are compromising the metering process. Alongside an automatic venting system, it is equipped with a safety diaphragm with integrated rupture indicator. Its optional modules can be plugged in from the front, which not only improves accessibility, but also removes the interfaces from the area that is most likely to come in contact with chemicals in the event of any system leakages. And if the gamma/ X ever needs to be maintained or repaired, a new foot bracket allows it to be clicked in and out of place with ease.

One for all

So which applications has the new gamma/ X been designed for? Rummer is happy to list the many deployment options, from waste water treatment, through water disinfection at swimming pools and water works, all the way up to applications in the chemicals industry. “Our new pump is at home in all processes in which small volumes need to be continuously metered with high precision.” The controlled solenoid drive guarantees a high degree of reproducibility here, which in turn leads to accurate results, excellent product quality and process reliability.

Ideal for filling processes

As its successor, the new gamma/ X can obviously also handle all applications previously mastered by the gamma/ L. Yet

Rummer also has his eyes on applications that he believes hold a great deal of further potential. “The new gamma/ X is virtually predestined for the most diverse of filling processes. In these applications, the stroke must be timed absolutely precisely, while the requisite volume must be metered extremely accurately. ProMinent is better than any other provider in these areas.

”Indeed, he sees potential applications in the filling of ink cartridges and text markers, gel capsules in the pharmaceutical sector and of course all applications for disinfection of drinks filling equipment. As such, Rummer is firmly convinced that the new gamma/ X will seamlessly continue the resounding success enjoyed by its predecessor as the absolute top model among metering pumps.

Maintain a clear overview with easily visible status LEDs

The new gamma/ X has a three-stage LED status display on the curved upper section of its front panel that allows operators to see the current operating status from all sides.



Controlled solenoid drive for extremely high precision and reliability

The new gamma/ X employs a high-precision controlled solenoid drive for metering liquid media at a rate of between 1 ml/h and 45 l/h and back-pressure of 25 to 2 bar. The solenoid drive allows a slow advance stroke, which in turn facilitates virtually continuous metering of even the smallest volume flows.

Easy-to-use click wheel

makes operating manuals and sub-menus a thing of the past. In combination with the LCD and four buttons, the newly developed click wheel provides for intuitive operation and programming of the new gamma/ X.

Separate bracket

The separate bracket allows quick and flexible installation of the pump. Easy mounting with standard tools is guaranteed, even in the tightest spaces.

High-resolution LCD display with back-pressure display

The large, high-resolution LCD display on the gamma/ X provides a clear overview of important parameters such as flow rate. The back-pressure is measured without the use of a sensor and is also included in the display at a resolution of 0.5 bar.

Easily accessible front connections

With its unusually slimline design and the fact that all of its connections are on the front panel, the new gamma/ X is virtually predestined for use in series and all applications where space is at a premium.

Predictive intelligence for maximum efficiency

The clever electronics in the new gamma/ X guarantee more precise control – without additional failure-prone components such as pressure sensors. Gas cavities, overpressure and negative pressure are all automatically detected and immediately corrected.



The Trimet aluminium facility in Voerde, Germany has been working with a ProMinent cooling water disinfection plant since 2011. The facility's summary? Perfect aluminium quality, secure compliance with water infeed limit values and chemical costs halved. Even after four years, the operators are still highly satisfied with the Bello Zon® chlorine dioxide system, which is available as a complete turnkey solution.

COOLING WATER DISINFECTION FOR THE HARSHEST OF APPLICATIONS



Things get hot in an aluminium foundry. Many thousands of cubic metres of water are required to cool the moulds, semi-finished products and machines.



Aluminium facility in Voerde

Thanks to the ProMinent solution, the cooling system in Voerde has been securing full and reliable compliance with strict new waste water limit values since 2011.

Whether foundry operations, energy generators, food producers or chemicals companies – cooling systems are required for many industrial processes. However, cooling circuits also offer ideal conditions for germs to grow and deposits to form. These can then compromise the functionality, efficiency and service life of the systems and must also not be allowed to escape. Effective cooling

water disinfection solutions are therefore required, such as those employed by Trimet Aluminium SE.

Quality through cooling

From its HQ in the Lower Rhenish town of Voerde, the company produces raw aluminium that is then processed in permanent mould castings to offer a particularly high-grade material which is easy to roll and extrude with a zero-defect guarantee.

The outstanding material properties displayed by the bars are due to their fast heat dissipation during processing. Three cooling circuits ensure that the optimum temperature is maintained at all times. One cooling circuit is responsible for cooling the moulds, while the other two spray out the semifinished products and the machines respectively. A total of 1,600 cubic metres of cooling water per hour are required for this.

Bello Zon® CDKc



High performance, low chemical costs: the Bello Zon® chlorine dioxide system (CDKc) is specially designed for treating large volumes of water

supplied a Bello Zon® chlorine dioxide system (CDVc), which passed all test runs with flying colours. The chlorine dioxide produced by the system offers a good deposit effect and can be used irrespective of the pH value. The system guarantees excellent disinfection performance – without releasing unwanted adsorbable organically combined halogens and without compromising the high aluminium quality in any way.

Since the system tested would not offer sufficient capacity for all three cooling circuits, specialists from ProMinent ultimately recommended installing the Bello Zon® chlorine dioxide system (CDKc), which has been in use at the facility in Voerde since 2011. This is a turnkey system for producing, metering and monitoring up to 12,000 g/h of chlorine dioxide from concentrated source chemicals. Employing an innovative reactor concept, the Bello Zon® guarantees a high degree of operational reliability and purity of the chlorine dioxide produced. The system was installed in a separate container, since that time it has been supplying the three cooling circuits with the necessary volume of chlorine dioxide via a total of seven metering points.

Clean solution with cost benefits

The ProMinent solution has been able to fully meet the high expectations of the plant operators. Since switching over to chlorine dioxide,

the applicable limit values for AOX, legionella and organic compounds in the cooling water have not once been exceeded. This is certified by an independent laboratory each month. The Bello Zon® chlorine dioxide system also offers one more key advantage, as it has been possible to cut the significant costs associated with chemical consumption by around 60%.

In addition to this, chlorine dioxide-based disinfection prevents deposits such as biofilms in pipes and heat exchangers. This improves the plant's operational reliability and energy efficiency. As such, the cooling water disinfection plant from ProMinent is not only kind to the environment, but also pays off economically.

New AOX limit values require switchover

Up to 2004, the facility used chlorine tablets to disinfect its cooling water and thereby protect the cooling system from corrosion, soiling and biological growth. In 2005, however, it then switched over to a measured value-based disinfection strategy with sodium hypochlorite and hypobromous acid, which allowed it to significantly reduce its chemical costs. In 2010, stricter legislation with regard to AOX limit values

for water infeed then required a new, more efficient solution to be found. Neither the current plant nor chlorine tablets were capable of reducing the adsorbable organically combined halogens (AOX) in the waste water to the prescribed level of below 0.15 mg/l per water treatment circuit.

Chlorine dioxide as the chemical of choice

The management team at Trimet therefore decided to test chlorine dioxide as a disinfectant in a cooling circuit. ProMinent



GATEWAY TO THE EAST

In January 2013, ProMinent opened a dedicated subsidiary in Turkey. The new branch is located in Istanbul, the metropolis on the Bosphorus that is home to 14 million people. From this location, the company not only caters to the local market in Turkey, but also neighbouring states. Although expectations in terms of quality and price-performance ratio are fairly similar to those of other countries, the market laws are markedly different.



The relationships of business partners to one another are very important in Turkey," reveals Huseyin Kahraman, manager of the Istanbul subsidiary, adding: "If the customer likes the company, he is generally more open and potentially even willing to pay a higher price for the respective product." Kahraman goes on to say that this Mediterranean culture is one of the challenges faced by all players on the Turkish market. Further challenges include the country's economic situation and geographical location. But we will address this in more detail later.

Kahraman and his team market the entire ProMinent product portfolio, although the primary focus in the first two years was on chlorine dioxide and ozone systems for the food and beverage industry. In 2015, ProMinent is set to expand its business and focus increasingly on swimming pool operators and chemicals companies.

Important role model

The location in the Turkish metropolis not only caters to customers in Turkey, but

increasingly also in Azerbaijan, Georgia and Turkmenistan. "These countries saw Turkey as a role model following the dissolution of the Soviet Union, which is why they are home to so many Turkish companies," explains Kahraman. This is bolstered by the historic influence enjoyed by Turkey on the so-called Turkic states, which include Turkmenistan, Kazakhstan, and Azerbaijan. "We are able to communicate in Turkish without any issues in these countries, particularly in Azerbaijan, since 90% of the words are the same as ours. All I have to do is spend maybe two days in one of the other countries and I can already understand their language."

The Turkish market offers massive potential, but is not without risk. For example, Turkey's budget deficit is high, while economic growth weakened considerably in 2014. As a result of this, the exchange rate between the euro and the Turkish lira can be fairly volatile. Perhaps the main issue, however, is that Turkey borders the crisis areas of Syria, Iraq and Iran to the south. Both of these factors, i.e. the country's geographical and economic situation,

can also have an effect on the economic performance of ProMinent's customers. It is therefore no simple task to achieve success from this starting position. However, it is a task that Kahraman has mastered with aplomb. In April 2015, Prof. Dr. rer. pol. Andreas Dulger, CEO at ProMinent, therefore presented him with the CEO Award 2014 for his excellent service. This is certainly not the last success story we will hear from the Istanbul branch.



Huseyin Kahraman, manager of the Istanbul subsidiary



ProMinent Dozaj Teknikleri

ProMinent Dozaj Teknikleri, the official name of the subsidiary, is in the Asian part of Istanbul, some 14 miles northwest of the Sabiha Gökçen Airport. "The streets of Istanbul are permanently jammed with traffic, which is why we chose the location just a stone's throw away from the highway. This allows us to offer our customers an extremely fast service," explains Kahraman, who actually established the branch on his own at first. However, he now has six employees to support him, and this number is likely to rise even further.



The successful ProMinent team led by Huseyin Kahraman (3rd from the left)



Thinking of visiting Istanbul? Then make sure you check out the **Hagia Sophia**, which was built in the 6th century and held the title of the world's largest church for 1,000 years. Less than 500 yards away from this sits the impressive **Blue Mosque**. Huseyin Kahraman recommends taking a stroll through the trendy **Beyo lu quarter**, dining at Restaurant Hamdi (www.hamdi.com.tr) and enjoying the fantastic view over the Golden Horn.

Knows what's happening ... before it even happens.

X-tremely clever: the new gamma/ X



Pressure too high or air in the pump head?
The new gamma/ X automatically detects
potential issues – and fixes them before they
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for 1 ml to 45 l/h at back-pressure from 25 to 2 bar
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