



Impulse

VEM SACHSENWERK

• VEM MOTORS

• VEM MOTORS THURM

• KEULAHÜTTE

Dear readers, dear VEM colleagues,



If we take the economic development forecasts for the plant and mechanical engineering industry as our yardstick, it can be said that the VEM Group followed the general trend with regard to incoming orders and capacity utilisation in 2009. Our precautionary cost adjustment measures have been effective and,

together with the outstanding commitment of our employees, have enabled the group to achieve a positive, sustainable result. A considerable proportion of this success is yet again attributable to VEM Sachsenwerk. But the employees of all our factories have earned my particular thanks for their efforts and for their determination to further the successful development of the VEM Group. The planning for 2010 has now been completed and shows that we can also expect a positive overall result for the group for the current business year. We are assuming an average of 20 % short-time working and Dresden will be closing for a factory holiday for the first time in summer 2010. Cost discipline and further reductions in stock levels serve to maintain our liquidity, in the context of which provisions have been made for adequate reserves. As we embark on the 13th year of our cooperation, the core workforces in the factories are secure. We expect a further tightening of public spending and a significant increase in general unemployment levels in the coming months. This will be accompanied by a prolongation of the financial and economic crisis. At strategy meetings at the various VEM locations in the next few weeks, therefore, the management will be discussing whether any further amendments to the already determined measures are necessary. This notwithstanding, it is important also to think about the time after the crisis. All investments which have been planned and are currently in the realisation phase are to be completed as scheduled. Our vocational training and study grant programmes are to be continued without cut-backs. New and further developments are to be strengthened so as to further improve our competition standing, and all sales and marketing strategies are to be adapted accordingly. I expect the incoming orders for all our factories to return to normal over the years 2011 to 2013. When the period of upswing comes, our customers will find us well prepared to handle even an rapid expansion in order volumes without delays and to a high quality standard. It is now one year since the sad death of our honoured friend Dr. Adolf Merckle. On 05.01.2010, at the invitation of the Merckle family, Dr. Puschkeit, Mr. Büttner and I represented the workforce at a remembrance ceremony at the cemetery in Blaubeuren. At the beginning of 2009, it was the press and certain banks who maliciously hounded Dr. Merckle and drove him to suicide. They wanted to deprive him of his honour. But the yowling mob has dishonoured itself. No-one talks about this mob any more. But the employees of all his factories will always speak of Dr. Adolf Merckle with gratitude, respect and pride.

Yours, Freiherr von Rothkirch

A World Full of Motion

VEM presents energy-efficient solutions on a new stand at the Hannover Fair 2010



The VEM fair stand has moved to a new hall this year. VEM is now to be found Hall 15, Stand F20.

Energy, automation and industrial subcontracting are to be the key topics at the Hannover Fair 2010 from 19th to 23rd April. The subject of energy efficiency is a central theme of all nine flagship exhibitions and special events. "Our customers and visitors can look forward to a strong presentation of drive solutions at our new fair stand F20 in Hall 15," promises Sabine Michel, public relations spokeswoman for the VEM Group. True to the motto of this year's fair - "Efficiency - Innovation - Sustainability" - the VEM Group, too, is concentrating its attention on the latest product developments. Visitors will for the first time find "A World Full of Motion - Energy-efficient

drive solutions" in Hall 15. With energy-efficient IE2 and IE3 motors for the chemicals and machine engineering industries, VEM will be underlining its innovation strengths in the field of drive technology. Special motors for steel and rolling mills, environment-friendly energy generation and shipbuilding round off the range of individual drive solutions.

"Our focus is placed on energy efficiency, and thus on drive technologies for a sustainable ecological future," says Sabine Michel. The panel discussions planned for 20th and 22nd April will similarly be addressing energy-saving motors and their market launch.

New spotlight on energy efficiency

Peter-Michael Synek, head of the Mechatronics Forum at VDMA, looks ahead to the Hannover Fair 2010

What is for you the most important focus?

The subject of energy efficiency in industrial processes remains one of the top themes for the plant and mechanical engineering branch. The VDMA views the Hannover Fair 2010 as an excellent platform for the German manufacturers, in particular, to demonstrate their competence in the field of energy efficiency to an international audience.

Which topics will your federation be addressing?

Following the very successful presentations of the past two years, the German Engineering Federation (VDMA) and the German Electrical and Electronic Manufacturers' Association

(ZVEI) have teamed up with fair organiser Deutsche Messe AG to establish a new spotlight topic "Energy efficiency in industrial processes".

What exactly can visitors look forward to at the Hannover Fair 2010?

The core element of this year's presentation is the so-called "Efficiency Arena" in Hall 15, Stand D40. A whole series of lectures will serve to introduce corresponding concepts and solutions for outstanding efficiency improvements and thus concrete savings potential. The VDMA and ZVEI are jointly responsible for the programme of the "Efficiency Arena".



Stages
en route to a
new products

Page 2



Keulahütte
uses materials
with a future

Page 3



VEM with new
efficiency class
markings

Page 4

On route to a new product

These four men accompanied the motors for the Flexity Berlin tram through VEM from order receipt to manufacturing

The first four trams of the new Flexity series are in the meantime on the streets of Berlin. A rating of 1.6 in a recent passenger survey was the best result ever received by a Berlin tram. Delivery contracts have already been signed for 103 such trams, the traction motors for which are manufactured by VEM. Overall, the project embraces a total of some 1,000 motors. With this article, "VEM Impulse" would like to introduce the specialists who have contributed to this success.

Wernfried Kühnel (56), head of transport engineering sales, VEM Sachsenwerk:

All queries and orders regarding traction machines land in our department. Before an order is entered into the internal SAP system, we check the technical and commercial terms together with the relevant specialist departments to ensure that everything is correct.

Besides VEM, there were two competitors with a good chance of clinching the Flexity Berlin order. After almost three years of preparations, we were invited to contracting negotiations. It turned out that our offer was just what the customer was looking for.

The special thing about this order was that it entailed a number of new technical challenges. VEM Sachsenwerk is best known as a specialist for large motors, but now we suddenly had to develop a small-volume traction motor. It was not permitted to weigh more than 150 kg for an output of 50 kW.

In the end, VEM was awarded the contract, which is testimony to the confidence Bombardier Transportation places in the reliability and quality of our motors. We have already supplied several thousand motors for Flexity trams to this important rail business customer.

Jens Proske (42), head of calculations, VEM Sachsenwerk:

Once we held the order in our hands, we sat down in the VEM Group to discuss how to share out the coming tasks. The guiding principle was to decide who at Sachsenwerk or VEM motors Thurm would best be able to handle the individual points. I myself specified the necessary drive power for the motors on the basis of dynamic simulations of the required vehicle properties. Subsequently, we determined the electrical and magnetic design for the motor together with the suppliers of the inverters and gearboxes. The idea was to use only as much iron, copper and insulation material as was absolutely essential to achieve the intended performance.

To reduce the risk involved in a new development, we designed and manufactured a prototype in advance of the actual production order. That was done in cooperation with the relevant specialists from Thurm under my management. The results of the motor tests, which were performed as a type test at Sachsenwerk and then as a system test in the customer's works, were incorporated into the preparations for series production. It was also specified that the painting, final testing and shipping of the manufactured prototype were to be handled in Dresden.



Photo: René Gaeens

Wernfried Kühnel (right) and Jens Proske (left) were responsible for the Flexity motors at VEM Sachsenwerk in Dresden – from signing of the contract to completion of the calculations.

Michael Gruner (34), head of research and development, VEM motors Thurm:

Traction drives for trams are new for our factory in Zwickau, whereas Sachsenwerk already possesses over 100 years of experience in that field. On the other hand, we have the know-how when it comes to manufacturing small sizes and large series. If Sachsenwerk had handled the order alone, the motor would have been much more expensive; if we had received the order, it would have become a different motor. The expertise which is bundled across the VEM Group enables us to operate as a system supplier – the whole spectrum of electric motors with fast and flexible deliveries from a single partner.

For me as a designer, it was quite a demanding task. The technical innovation which the Flexity motors embody for both the manufacturer and the customer must be implemented to the highest quality standard, but nevertheless at a favourable price and with reasonable outlay. Together with my colleagues in the technology and manufacturing departments, I created 3D design models of the tools and manufacturing fixtures for the motors. All the factories are able to access these designs directly and can incorporate any modifications which may become necessary. Interfaces between the various programs, for example, permit the teams in Zwickau to draw information on the specified components from Sach-

senwerk without delays or further ado. A total of 15 colleagues in design, technology, the mechanical and winding shops and assembly contributed to the manufacturing of the prototype and pilot series.

Gunter Seidel (52), assembly department, VEM motors Thurm:

Before I came to VEM motors Thurm six years ago, I spent 20 years out in the field as a machine and plant installation engineer in power station construction. During that time, I soon learned to make decisions independently and to develop technical imagination. That is now especially useful when working with prototypes. We had to decide whether the Flexity motor could actually be built the way the designer wanted. He cannot possibly allow for every eventuality, but we maintained direct contact to clarify any problems. That functions well in our factory, and it was already a great help for this project, because the work procedures for a prototype cannot be as detailed as for later series production. As the assembly engineer, I need a feeling for the ideal tightening torque of a particular screw, for example, or where a drop of oil is needed. After all, I want the customer to be satisfied, so that he will gladly come to us again. And as far as the Flexity motors are concerned, I also know that I need have no worries about riding by tram in Berlin!



Photo: Mirko Hertel

Michael Gruner (right) and Gunter Seidel (left) took charge of design and assembly at VEM motors Thurm in Zwickau.

| WHEEL-SET BEARING HOUSINGS |

Keulahütte casts parts for the German Railways

Wheel-set bearing housings, which represent the connection between the wheel axles and the bodywork, are manufactured for the German Railways (Deutsche Bahn AG) at Keulahütte in Krauschwitz. They weigh 85 kg and are designed for axle loads of 25 tonnes each. The manufacturing approval of Deutsche Bahn also qualifies Keulahütte to supply wheel-set bearings to other European railways.



Stable order situation for traction drives



The locomotive HLD 77 in service

While many branches of industry continued to suffer the effects of the worldwide economic crisis, business in the rail vehicle sector could almost be described as normal in 2009. VEM Sachsenwerk, for example, prevailed over the strong competition in several major tenders for tram motors. Cities such as Linz, Bielefeld, Warsaw, Berlin and Toronto will be taking fleets of ultramodern low-floor trams into service over the coming years. They are all to be equipped with our DKCBZ... or DKWBZ... traction motors in output classes from 50 kW to 105 kW. The aforementioned contracts alone represent an order volume of approx. 3,200 motors. If all the granted options are taken up, this figure could even be doubled.

Another important milestone for the future of our rail business is the full equipping of diesel-electric locomotives with VEM technology. Sachsenwerk is developing and supplying the traction motors and traction generators with excitation system, while VEM motors is contributing the auxiliary geared motors. A corresponding contract has been signed with an internationally active system supplier - renewed proof that a high level of reliability and quality, paired with innovative technical concepts, is the recipe which convinces customers.

We would like to introduce a few project examples here.

Desiro MainLine

The Desiro MainLine is a single-coach train on the basis of the Desiro platform developed by Siemens Mobility. The modularity of the system enables adaptation of the Desiro ML to the most varied needs of regional transit.

MittelrheinBahn today operates 17 three-coach electric units. VEM supplied K21O 90 motors in 4 and 6-pole versions for the air-conditioning.



A single-coach train based on the Siemens Mobility platform



The regional trains operating around Augsburg can carry more than 450 passengers.

CORADIA Continental

A total of 37 four-coach trains have been put into service on the electrified regional network around Augsburg since December 2008, operating the routes Munich-Augsburg-Ulm and Augsburg-Donauwörth-Aalen/Treuchtlingen. Each train is 71 m long and carries more than 450 passengers. VEM supplied a railway version of its K21O 90 motors for the air-conditioning.



VEM is supplying motors for the air-conditioning of Norway's first express train Flytoget

FLYTOGET

Flytoget is Norway's first high-speed train service (with a maximum permitted speed of 210 km/h) and provides for modern and comfortable transportation from Oslo Airport at Gardermoen to Oslo Central Station and Asker/Drammen.

Oslo Metro

A K21O 71 motor takes care of the air-conditioning for the driver's cab. A total of 63 trains with a maximum capacity of 678 passengers each have been delivered so far.



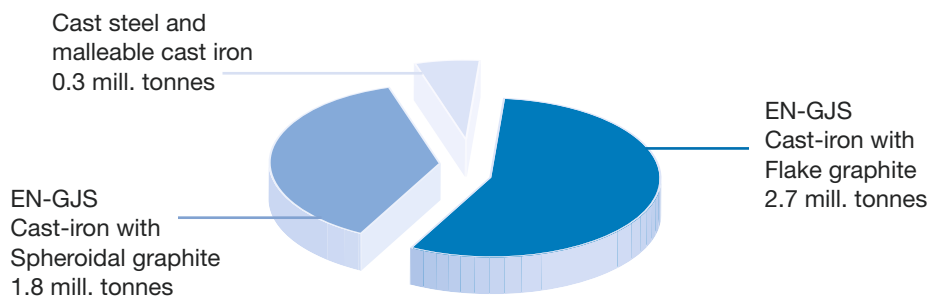
The trains of the Oslo Metro can carry up to 678 passengers.

Cast-iron Materials with a future

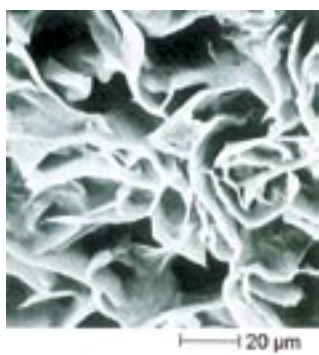
Keulahütte tailors ductile cast iron grades to customer needs

Cast-iron materials represent by far the largest category of cast engineering materials. They cover a broad spectrum of material properties, and at the same time stand out by way of their extremely favourable processing characteristics. Of all cast iron grades, grey iron-carbon alloys with flake graphite (EN-GJL) and with spheroidal graphite (EN-GJS) hold the major share.

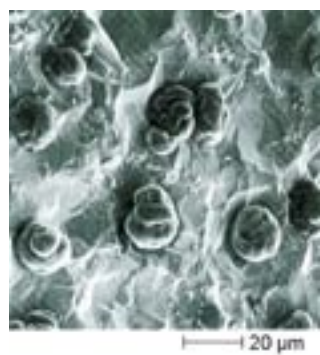
If one takes a closer look at the production of cast iron in Germany, as the largest manufacturer of cast parts in Europe, the following picture of the sector emerges for the year 2008:



Particularly remarkable in this context is the development of the relatively young material cast iron with spheroidal graphite, or ductile cast iron as it is also known. In 1970, it still accounted for just 9 % of the total German cast iron production; by 2008, on the other hand, it was already a material of choice with 38 %. The decisive distinction is immediately visible from a comparison under a scanning electron microscope.



Flake graphite

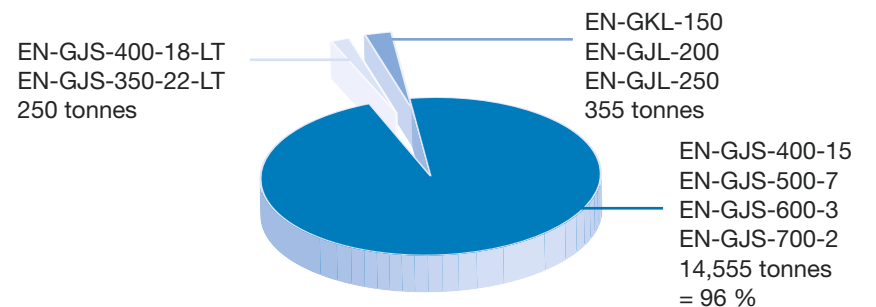


Spheroidal graphite

After the metallic matrix has been etched away, different graphite structures remain. The graphite flakes weaken the supporting cross-section, as graphite is unable to transfer tensile loads. The flake tips have the effect of internal notches. These two facts are together the reason for the relatively low strength and the lack of any kind of deformability, but by way of compensation also for the excellent damping properties.

The spheroidal graphite nodules result in significantly reduced stress peaks when compared to sharp-edged flakes. This translates into substantially greater strength and fracture strain values which are similar to those of classic steel castings. As the use of high-quality raw materials achieves a relatively high impact strength even without heat treatment, there are considerable additional cost benefits over non-alloy cast steel.

Over the past few years, Keulahütte has concentrated predominantly on the development of the most varied cast iron qualities with spheroidal graphite. An analysis of the production mix in 2008 reveals the following situation:



The production output at Keulahütte includes a mere 355 tonnes (= 1.5 %) of castings in cast iron grades with flake graphite.

The share of ferritic cast iron with spheroidal graphite was still small in 2008, at 250 tonnes, but is nevertheless of particular strategic importance. This grade of cast iron maintains its good fracture toughness and fracture strain properties even at low temperatures. The temperature sensitivity is significantly less than is the case with cast steel.

Safety-relevant parts such as wheel-set bearings housings, for example, should ideally indicate a critical abuse load by way of plastic deformation well in advance of actual failure.

There will be no appreciable shift in the ratio of cast iron with spheroidal graphite to cast iron with flake graphite in 2010. The proportion of ferritic qualities for use in low temperatures has more than doubled between 2008 and 2009. A further double-digit percentage increase is expected in 2010.

Gate valves also for use in waste water applications

Precise specifications elaborated and proposed together with the planning office

Keulahütte is active across Europe as a supplier of products for drinking water supply systems and works constantly to broaden its production portfolio. These development efforts have now been extended into the adjoining field of waste water transport. Gate valves, in particular, are offered for all application conditions. Three variants are available, depending on the classification of the waste water:

- Gate valve with NBR-coated wedge
- Gate valve with NBR-coated wedge and V4A spindle
- Gate valve with NBR-coated wedge, V4A spindle and bronze nut.

These three basic variants are naturally supplied in both in GR14 and GR15 lengths, with a choice of epoxy powder coating or full enamelling. As in the case of valves for drinking water systems, the operating elements can take the form of a handwheel, the Keula installation kit or even a drive module.

The individual gate valve configuration is determined in cooperation with the planning office in accordance with the requirements of an application. That guarantees the unity of technical consultation, specimen provision, practical testing and evaluation leading to the elaboration of tender documents. It was on the basis of this service package, for example, that the district environmental services provider GKU in Altentreptow chose to use the high-quality gate valve with NBR wedge, V4A spindle and bronze nut in its waste water network.

Even though the system of classifications means that the demand quantities for each variant are lower in waste water disposal than in the field of water supplies, the topic of technically expedient waste water planning and realisation is gaining ever greater importance. Consequently, the construction trade is gradually building up targeted stores.

Field of application

Materials, surface protection, temperature, testing and acceptance

	Waste water I	Waste water II	Waste water III / Sewage
Material - Housing, hood, wedge	EN-GJS-400-15		
Coating - Housing, hood	Epoxy powder coating or enamel		
Rubber coating - Wedge, seals	NBR		
Material - Spindle	X20Cr13 1.4021	X6CrNi-Mo-Ti17122 1.4571	X6CrNi-Mo-Ti17122 1.4571
Material - Spindle nut	Brass CuZn40Pb2 2.0402.10	Brass CuZn40Pb2 2.0402.10	Bronze CuSn12Ni2 2.1060.01
Operating temperature °C	bis 50 °C		
Testing and acceptance	to DIN EN 1074-1/2 and DIN EN 12266-1 with water or air		
	Leakage rate A		
Permissible torque	Max. operating torque MOT = 1 x DN in Nm Min. strength torque = 2 x DN in Nm corresponding to Category 2 to DIN EN 1171		

| WATER SUPPLY SYSTEMS |

Overground hydrants with advantages in winter

The very long winter this year, and above all the heavy snowfall, served to demonstrate the advantages of overground hydrants. Accessibility is always guaranteed in case of a fire, whereas an underground hydrant often enough becomes the objective of a time-consuming search in wintery conditions. In addition, the diversity of designs for overground hydrants from Keulahütte adds a touch of colour to the winter landscape.



A world full of motion



VEM introduces new efficiency class markings

Energy efficiency (part 5) - Transitional arrangement facilitates a systematic adaptation of orders for the customer

Climate change has triggered corresponding efforts at international level, with the aim of reducing CO₂ emissions and thereby of placing a brake on the processes of global warming.

In Europe, an essential foundation was laid with the directive 2005/32/EC "Ecodesign requirements for energy-using products" (EuP directive). This directive specifies the basic rules to be taken into account when developing any such products. The scope of application of the EuP directive thus covers also electric drive systems; in other words, electric motors must also comply with its requirements.

In Germany, the EuP directive has been transposed into national legislation by way of the "Energy-Using Products Act" (EBPG).

Harmonisation of regulations

Commission Regulation (EC) No. 640/2009 of 22nd July 2009, which was adopted to implement the previous directive 2005/32/EC, finalised the definition of new minimum efficiency classifications (minimum efficiency performance standards) for certain types of electric motors and their graduated introduction. It is specified that energy-saving motors in 2, 4 and 6-pole versions which are brought onto the market or put into service from 16th June 2011 must comply with the requirements of efficiency class IE2. This regulation is to be tightened further from 1st January 2015, after which date efficiency class IE3 becomes mandatory for motors with a rated output between 7.5 and 375 kW. From 1st January 2017, this requirement is also to apply to motors in the output range 0.75 to 7.5 kW.

In the past, manufacturers of energy-saving motors worldwide were only obliged to comply with national or continental legislation and standards. Within the framework of the CEMEP Voluntary Agreement, however, the European motor manufacturers themselves gave an undertaking to halve their production of energy-saving motors with efficiency rating EFF3 and to increase the share of EFF2 and EFF1 motors. The classification for the motors was based on the determination of efficiency levels according to EN 60034-2:1996+A1:1996+A2:1996.

For particularly export-oriented countries like Germany, this gave rise to discrepancies in respect of the regulations applicable in other countries outside Europe.

In the USA, Canada and Mexico, for example, efficiency levels were determined in

accordance with the NEMA regulations using the test method IEEE 112B. In Brazil, it was the ABNT standards which applied. Efficiency was determined to GOST in Russia, and according to the CCC regulations in China. Different standards were similarly applicable in Japan, Taiwan and Korea, as well as in Australia, India and South Africa.

The individual test methods were not comparable, as each method was founded on a different set of assumptions. An attempt to comply with all the different regulations would have meant manufacturing a scarcely manageable assortment of energy-saving motors, and thus a level of expenditure which could never have been justified from a business point of view.

The European manufacturers consequently argued from the very beginning in favour of a harmonisation of the efficiency regulations at international level. They advocated an international standard to define the test methods to be used to determine efficiency levels, as was then implemented in IEC 60034-2-1:2008. Building upon this initial specification, the efficiency classes were restructured and laid down in IEC 60034-30. Both standards have been in force worldwide since 2008.

The standard IEC 60034-30 contains definitions for the efficiency classes IE1 (standard efficiency), IE2 (high efficiency) and IE3 (premium efficiency). An even higher class IE4 (super premium) is currently just an idea for the future.

The methods currently used to determine efficiency are described in IEC 60034-2-1:2008. Each method is assigned a permissible degree of measuring uncertainty. In the case of asynchronous machines, the preferred calculation procedure is the segregated-loss method, with determination of the stray losses by way of the residual-loss method, as the measuring uncertainty is here classified as "low" and the test results are furthermore compliant with the specifications of IEEE 112B and the CSA. VEM has also implemented this test procedure.

Minimum efficiency requirements are already applicable as binding standards in a number of countries. These countries include China, Taiwan, Israel and Costa Rica, where efficiency class IE1 (standard efficiency) applies. Efficiency class IE2 (high efficiency) is currently already the requirement in the USA, Canada, Mexico, Brazil, Australia, New Zealand and Korea, and is scheduled to become mandatory in Europe and China from 2011. An ever stricter definition of minimum efficiency is already on the horizon in the USA. The Energy Independence and Security Act (EISA) is set to come into force on 19th Decem-

ber 2010. The parameters of corresponding motors must then satisfy at least the requirements for efficiency class IE3 (premium efficiency). The regula-

tions divide motors into the subtypes I and II. VEM motors are expected to be categorised as subtype I, namely motors from 0.75 to 150 kW for general-purpose use.

In Europe, the manufacturers are already today permitted to classify their energy-saving motors in accordance with the Commission Regulation (EC) No. 640/2009 of 22nd July 2009 on Implementation of the EuP Directive 2005/32/EC. Compliance with the minimum efficiency levels is not to become mandatory, however, until 16th June 2011.

Licence extended

The European market was originally bound by the CEMEP Voluntary Agreement, but this has in the meantime expired. At the beginning of December 2009, the CEMEP Working Group L.V.-A.C. Motors declared that the previous markings EFF3, EFF2 and EFF1 were no longer to be used after 10th February 2010. Instead, it was to be permissible (but not mandatory) to mark energy-saving motors as compliant with class IE1, IE2 or IE3 in accordance with IEC/EN 60034-30.

This stipulation, however, resulted in considerable problems for manufacturers and customers alike, especially in the way existing contracts were affected. The CEMEP Working Group L.V.-A.C. Motors thus deemed it neces-

sary to review its earlier intention. The outcome was a decision to extend the licences granted for use of the EFF marking. It is thus now possible to attach the previously applicable EFF logo to energy-saving motors up to 15th June 2011. The specification of 16th June 2011 as the date for the introduction of minimum efficiency standards in accordance with EC regulation 640/2009 remains unaffected.

Reorganisation of the product range begins

This new arrangement has defined a transitional period during which customers and manufacturers will be able to plan and realise the implementation of the new product markings systematically. VEM has signed a corresponding licence extension agreement to support its customers with their own reorganisation measures.

This notwithstanding, VEM has already begun to update the previous EFF classifications of its individual products to IE efficiency classifications in accordance with IEC/EN 60034-30. It is thus already today possible to order motors on the basis of the new IE efficiency classes.

Energy-saving motors which fall under the EuP directive, and thus EC regulation 640/2009, can be supplied for the output range 0.75 to 375 kW (2, 4 and 6-pole versions for 50 Hz) for efficiency classes IE1 and IE2. With regard to 60 Hz versions, VEM asks that enquiries be submitted via the known contact partners.

It goes without saying that VEM is equally a reliable partner for energy-saving motors of efficiency class IE3. In such cases, however, it is always advisable to consult a VEM sales representative in advance. Depending on the intended application, it is often better to choose a drive system comprising an IE2 energy-saving motor and a frequency converter. This combination holds potential for significantly greater savings than a solution with only an IE3 motor.

Further information on VEM activities in connection with energy-saving motors can be found on the company website at www.vem-group.com. A separate catalogue and a type selector for motors of efficiency classes IE1 and IE2 are available to help you determine the motor types which will be relevant for your future needs. Both can be requested by sending an e-mail to haase@vem-group.com.

9th TECHNICAL CONFERENCE IN WERNIGERODE |

Our Topic: Offshore, marine and port systems
Energy efficiency – Challenges for drive technology

Dates: 22nd/23rd June 2010

Venue: Kultur- und Kongresshotel Wernigerode

Registrations: E-mail: margila@vem-group.com

Phone: +49-(0)3943-68-3297

Solid foundation for the future

Martin Reinhardt takes over the post of works manager at VEM motors



Photo: Wolfgang Koglin

“Made in Germany” is a slogan with a particular charm. Martin Reinhardt (39) makes no secret of that: “I am continually impressed by the vertical range of manufacture and the diversity of applied technologies with which VEM motors are produced in Germany.” Alongside the private wishes which brought him to the Harz region, this was a key factor in the decision to give his career a new turn. He gave up a job with considerable responsibility with an international lighting manufacturer to join VEM motors in Wernigerode in 2009.

As works manager, Martin Reinhardt is responsible for the organisation of work pro-

Martin Reinhardt is married and the father of a small daughter. In his spare time, he plays the trumpet in several brass bands.

cesses within the company. During his daily coordination rounds, the foremen and heads of department are able to experience his management style as open and cooperative. He believes it to be important that everyone understands the background to their particular tasks and the objectives pursued by the company as a whole. “The decisive criterion is the strong customer orientation which has characterised our development away from standard series production to become a supplier of special motors,” he says. It may happen that a major pump manufacturer orders a highly demanding system solution which can by all means be viewed as a challenge to the company’s performance capabilities. Martin Reinhardt: “We gladly take on and master such challenges.”

It is also no secret that the framework conditions have become more difficult for many branches in the course of the current economic crisis. Many a customer waits until the last minute to order his machines, for example, and there is consequently less time left for technical preparations and manufacturing. For the works manager, that means: “No compromises in quality, but increasing flexibility in our work organisation.” VEM motors integrated new manufacturing systems into its production department in 2009, giving a further boost to its technology options. A solid foundation for the future, says Martin Reinhardt. “And when the customer orders start to flow more freely once more, we are ideally prepared to answer the demands of the market.”

COOPERATION

Joint project for wind turbines

VEM Sachsenwerk and Woodward SEG GmbH & Co. KG from Kempten in the South of Germany are currently processing a joint project in the field of wind turbines. A modern generator concept is being developed to better satisfy the demands of the market. The system is to comprise a PM generator and full inverter for wind turbines of the 2.7 MW output class.

The joint project is also to be the subject of a panel discussion entitled “Power Quality Systems 2.7” during the forthcoming Hannover Fair. Interested fair visitors can obtain the full scope of information by coming to the VEM stand - Hall 15/Stand F20 - at 11.00 a.m. on 21st April 2010.

CAREERSTART 2010

Good trainees are in demand

Following an initial period of basic training, the trainees at VEM are integrated into the production process. They assume significant responsibilities in the manufacturing of high-quality electric machines and drives from the very beginning. “We are constantly on the look-out for motivated young people, and so we naturally also took part in the vocational training fair ‘CareerStart 2010’ in Dresden,” says Sabine Michel, head of public relations for VEM. Within the framework of this fair, the Saxon metalworking and electrical engineering industry organises so-called “M+E future days”. Michel: “Under this banner, we were able to present our opportunities for training in the various occupations in a very comprehensive, practice-oriented and competent manner.”

PEOPLE

Udo Müller is works manager at Keulahütte

Udo Müller, formerly the head of quality control, has served as works manager at Keulahütte since 1st June 2008 and possesses signatory powers for the company. His main duty is the coordination of all manufacturing departments within the company. At the same time, he is responsible for purchasing, design, quality control and the internal factory services.

Stand drives for cold-rolling mill

Sachsenwerk involved in a follow-up order to modernise the mill installations

VEM Sachsenwerk has received a follow-up order in connection with the cold-rolling mill project for Rasselstein GmbH. Parent company Thyssen Krupp Steel AG is currently modernising the mill in the German state of Rheinland-Pfalz. Sachsenwerk already supplied a number of large machines in 2009, including four stand motors for a tandem and a parallel drive for stands 4+5, as well as a coiling drive. This enabled 50-year-old DC equipment to be replaced with modern three-phase machines.

The conversion is to continue in 2010 with tandem train 1. The VEM specialists in Dresden must now deliver three more stand drives with an output rating of 5,000 kW each for stands 1, 2 and 3 in November 2010 - and they must arrive precisely on the scheduled date. Any delay would mean standstill and high costs for the mill operator. A great challenge to be met by the production department at Sachsenwerk, but at the same time successful continuation of its series of main drives for the steel and rolling mill sector.

The stand drives for the Rasselstein cold-rolling mill are designed for an output of 5,000 kW each.



Photo: Bernd Streding

Major order in wind power generation

Successful debut in the largest megawatt class in the world to date



Photo: Karin Wagner

From November 2010, VEM Sachsenwerk will be supplying four wind turbine generators of its 6 MW series every month to turbine manufacturer REpower. It is planned to install a total output capacity of 295 MW for the offshore wind farm “Nordsee Ost” by 2012. Sachsenwerk has gained a contract for 48 machines for offshore installation in the North Sea. Following a successful test phase, VEM has thus made an impressive series debut in what is currently the largest megawatt turbine class in the world.

The offshore wind farm “Nordsee Ost” lies 30 km to the north of Helgoland and 30 km west of Amrun. It spreads over an area of 50 km² and stands in an average water depth of 22 metres.

Sachsenwerk will have supplied 48 of these 6 MW wind turbine generators for the “Nordsee Ost” offshore wind farm by 2012.

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