



Impulse

VEM SACHSENWERK

• VEM MOTORS

• VEM MOTORS THURM

• KEULAHÜTTE

Dear readers,



Over the past weeks, we have all been flooded with press and media reports of varying quality and seriousness on economic developments and the most varied repercussions of the global financial crisis. Among these reports, there have been numerous mentions of companies operating under the VEM trademark.

As this has resulted in a certain perplexity and misinterpretations among employees, customers and partners alike, I would like to take this opportunity to put the picture right:

The fact that some media representatives have failed to properly distinguish the two companies VEM Vermögensverwaltung GmbH and VEM Holding GmbH has given rise to unfounded irritation among the public.

The portrayed liquidity problems affect exclusively the company VEM Vermögensverwaltung GmbH. The second entity, VEM Holding GmbH, the owner of the operating companies

VEM Sachsenwerk GmbH, Dresden
VEM motors GmbH, Wernigerode
VEM motors GmbH, Thurm and
Keulahütte GmbH, Krauschwitz

is under no obligations to VEM Vermögensverwaltung GmbH. Thus, neither VEM Holding GmbH nor the affiliated companies are in any way affected or at risk.

These companies have been growing for several years and are returning profits which flow exclusively into own capital resources. The companies use cash discounts and will continue to do so. Investments are only approved in case of a high share of own funding.

In 2008, the workforce of 1,639 employees will return a turnover of € 331 million. As the orders for 2009 are to a large extent already clear, VEM motors GmbH, VEM Sachsenwerk GmbH and the Keulahütte foundry are planning a turnover of at least € 360 million and a corresponding profit for 2009.

The orders in hand vary significantly between the individual VEM companies. Whereas VEM Sachsenwerk in Dresden is fully occupied through to mid-2010 and Keulahütte in Krauschwitz will also be entering the new year with well-filled order books, VEM motors in Wernigerode will have cleared its backlog of orders by the end of the year and, like VEM motors in Thurm, can then pursue the planned revenues and returns with fast delivery times and a high level of customer service.

On this note, I wish you all a peaceful Advent, a pleasant Christmas and a healthy and happy new year.

Yours,
Freiherr von Rothkirch und Panthen

Set up for the future

Growth branches can rely on a complete range of drives from VEM

Three major exhibitions in three important branches - that ably sums up the most recent entries in the VEM trade fair diary. In Hamburg, for example, exhibitors and customers met at SMM, the most international of a series of fairs for the shipbuilding industry. InnoTrans in Berlin, on the other hand, addressed industry experts and all those involved with transport technologies, and HUSUM WindEnergy is the most important trade gathering for the wind energy branch.

VEM was naturally represented at such key events with various new products and developments. Customers also honoured the performance capabilities of the VEM group companies, and this was reflected in good business and full order books. "Wind energy and shipbuilding, in particular,

are growth industries with potential tailored ideally to the VEM product range," says managing director Dr. Dietmar Puschkeit. The same applies also to the chemicals industry, for which the Ex series of low-voltage motors already meet all requirements of the new IEC explosion protection standards.

In the field of wind turbines, the markets are booming, especially in the USA and China. In the meantime, VEM wind turbine generators from 1.5 to 6 MW are already in service around the world, alongside diverse auxiliary drives for hydraulic, lubrication and cooling systems. The more than 4,000 generators installed worldwide are guarantees for the individually tailored solutions which VEM offers its customers.



Water-cooled 6 MW wind turbine generator following successful type testing in the newly erected logistics centre at Sachsenwerk. VEM has concluded a framework contract for 600 generators for 2 MW wind turbines (right) for 2009.

Great response and heated discussions

Energy efficiency at the focus of the 7th VEM Technical Conference

Some 200 participants took up the invitation from the VEM Group to attend this year's 7th Technical Conference in Wernigerode. The great response was no doubt in part attributable to the two central topics on the agenda: "Changes in the standardisation of dust and explosion protection for electrical equipment" and "Current development trends in energy efficiency". In 15 individual presentations, speakers from several European countries, companies and institutions explained their experience and viewpoints.

New on the agenda was an open discussion on the consequences of developments pertaining to energy efficiency. In his summary, Jürgen Sander, chairman of the Working Group LV Motors at CEMEP, pointed out that the debate with the European Commission on the introduction of statutory minimum efficiency levels would continue. This refers not only to the use of motors of efficiency class IE2, but also to the

efficiency class IE3 (Premium Efficiency) defined in IEC 60034-30. The topic of energy efficiency will thus remain a key aspect of the next Technical Conference.

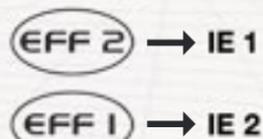
Read more on page 3.

| 8TH TECHNICAL CONFERENCE 2009 |

The 8th Technical Conference of the VEM Group is to be held in Wernigerode on 29th and 30th September 2009. International specialists will again be coming together to discuss the future of drive technologies.

The conference venue is once more the "Kultur- und Kongresshotel Wernigerode".

Efficiency classes



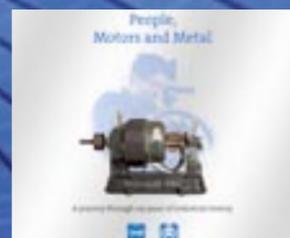
The future for the development of energy-saving motors

Page 3



Environment-friendly drive technology for transport applications

Page 4



A journey through 125 years of industrial history

Page 6

Ideal conditions for custom castings

New hand moulding shop to be inaugurated at Keulahütte in December

After long months of preparation, the time has come at last: The new hand moulding shop at Keulahütte in Krauschwitz will be starting up production in December. Incorporating part of the old hand moulding shop, the new hall will then permit a significant increase in the capacity for hand-moulded castings, and the foundry will be able to accommodate even more of the growing market demand for custom castings, pressure pipe parts and fittings.

The installation of a new storage system for 150 t of reclaimed sand and 50 t of new quartz sand in March was a decisive prerequisite for partial demolition of the old moulding shop and erection of a new hall for mould production. Following successful demolition, work on the new 1,320 m² building began in May. The semi-portal crane system arranged under the two main gantry cranes is an important basis for significantly greater flexibility in organisation of the moulding processes. In the mould workshop, there are now four rather than the previous two mixers to produce the actual mould material. These mixers are linked up to the new sand silos and the tank system for furan resin and activating agent in the adjoining annex. An enlarged flood basin for the finishing of the moulds and two transport trolleys round off the basic equipment of the hand moulding shop and connect the old and new sections of the hall.

Thanks to the circumspect process organisation, the reduction in the production area after partial demolition of the old building has not affected the output capacity. In fact, the production tonnage has risen by 13 %, and is set to increase by a further 42 % in the hand moulding shop in 2009. At the same time, the investment has vastly improved the working conditions and social facilities for the employees in hand moulding.



Photo: Udo Müller

The new 1,320 m² hall has been designed as an extension to the old hand moulding shop. Keulahütte has thus significantly increased its capacity for hand-moulded castings, and can now accommodate even more of the growing market demand for custom castings, pressure pipe parts and fittings.



Successful prototype test

Wind turbine generators to be manufactured in China under a VEM licence

The first prototype of a wind turbine generator has successfully completed testing to VEM specifications on the test stand at NTC Nanjing in China, and is thereby released for series manufacture. This cooperation began a year ago with the signing of a licence agreement between VEM Sachsenwerk and the Chinese manufacturer NTC covering four types of

wind turbine generators. NTC is to commence series production of approx. 150 generators of type Ming Yang (1.5 MW, 50 Hz) in 2009.

An intensive training programme was organised for the Chinese partners in Dresden last summer. Further generators are to be manufactured as individual samples up to the end of the year.

Arnd Türke (centre) accompanied the final assembly and testing of the first prototype as VEM consultant and trainer, and gave training for the manufacturing of coils and windings for further generator types in October.

145-tonne drive for “flying shears”

VEM supplies giant direct shear drive for hot strip rolling mill in Russia

At the beginning of 2009, Sachsenwerk will be supplying not only two twin-drives with scale-breaker motors for the hot strip line of the largest steel producer in Russia, but also a roll stand drive and a direct shear drive. The latter is characterised by high acceleration and braking torques and by the high impact loads. With so-called “flying shears”, the cutting is done at the strip running speed. It is not necessary to halt the strip for cutting, which reduces the technology-related production losses. Strip up to 2,200 mm wide and 80 mm thick can be cut.

These shears are used mainly between the roughing and finishing trains, where they cut the strip at its head and tail, and eliminate the need for an additional gearbox. The directly coupled motor for the “flying shears” is designed with a very high rated torque of 956 kNm. The rated output is 4,000 kW at a speed of 40 rpm, and the cutout power is 11,000 kW. The acceleration and braking time in stop-

start operation is specified at approx. 200 ms for a speed delta of 40 rpm and with a mass moment of inertia of 43,000 kgm².

The demands placed on the dynamic response of the motor are met through specific matching of the parameters for the machine and the feeding medium-voltage frequency converter. A special rotor design serves to take up the high forces arising from acceleration and from the impacts of cutting. The stator and rotor cores with former windings are vacuum pressure impregnated.

View of the production process in a rolling mill. VEM is supplying line twin-drives and a roll stand drive to the largest steel producer in Russia.



Photo: gettyimages

Introduction of new efficiency classes planned for 2009

Further developments in energy-saving motors – part 2

Efficiency classifications are today a subject of widespread discussion. It can be assumed that the draft standard IEC 2/1518/FDIS "IEC 60034-30 Ed. 1: Rotating electrical machines – Part 30: Efficiency classes of single-speed, three-phase, cage-induction motors (IE Code)" will come into force at the beginning of 2009. At the last CEMEP meeting, the working group of German low-voltage motor manufacturers proposed commencing the use of the IE codes at the Hanover Fair 2009. The VEM exhibits will there for the first time be marked with their corresponding IE classification. The following efficiency classes are defined in IEC 60034-30:

- IE 1 Standard efficiency
(comparable to today's EFF2)
- IE 2 High efficiency
(comparable to today's EFF1)
- IE 3 Premium efficiency.

Extending the currently applicable CEMEP Voluntary Agreement, these efficiency classes apply to mains-operated squirrel-cage motors with a rated voltage up to 1,000 V in 2-, 4- and 6-pole versions for continuous duty in the output range 0.75 to 375 kW. The classification is now applicable also for geared motors, brake motors and explosion-protected motors, insofar as they fall under the specified criteria. The CEMEP Voluntary Agreement addressed only 2- and 4-pole motors for the output range 1.1 to 90 kW. Geared, brake and explosion-protected motors were originally excluded.

Statutory regulation expected in 2011

It is expected that the market will initially be offered motors of efficiency classes IE 1 and IE 2 to IEC 60034-30, corresponding to the previous efficiency classes EFF2 and EFF1. Statutory regulations specifying a minimum efficiency performance requirement of IE 2 to IEC 60034-30 will probably follow from 2011.

This goal is already being supported and implemented by the European manufacturers working together within the framework of the CEMEP. In other words, all new motors brought onto the market must conform to this efficiency class. The minimum efficiency requirements apply for the following motor versions:

- Mains-operated three-phase asynchronous motors (50 Hz, 60 Hz)
- Rated outputs between 0.75 and 200 kW
- 2-, 4- and 6-pole versions
- Continuous duty S1

- Rated voltages up to 1,000 V
- Degree of protection IP4x and higher.

Motors for converter-fed operation, motors for short-time or intermittent duty, roll stand motors, slipping motors, explosion-protected motors, permanent-magnet motors and built-in motors are excluded from the marking. The manufacturers are still able to specify the efficiency class for such motors, but classification and marking on the rating plate is not permissible.

Independent monitoring

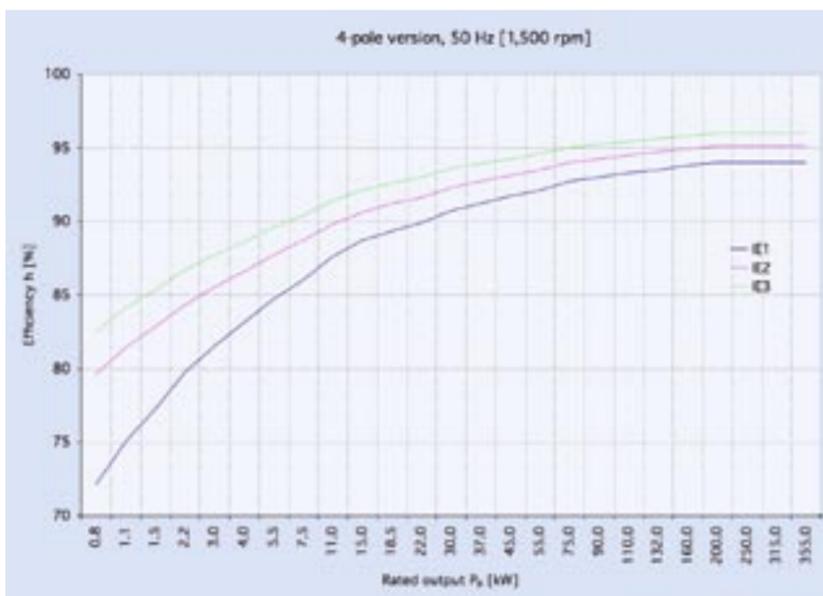
With the CE mark, the manufacturers guarantee the customer compliance with the minimum efficiency class and warrant the accuracy of the efficiency specifications on the rating plate. Monitoring is to be placed in the hands of an independent body, to ensure that only motors meeting the statutory minimum efficiency requirements reach the market.

The European Commission is hoping to introduce the statutory minimum efficiency stipulation of IE 2 from 2011, and then IE 3 (for outputs > 7.5 kW) from 2015. For the manufacturers, this means a disproportionate investment outlay and costs for the development and testing of the new motors, for implementation in the production process, for procurement of the necessary manufacturing equipment and for the higher material input. Depending on the out-

put range served by the manufacturer, the additional costs for realisation of efficiency class IE 2 amount to between € 5 million and € 50 million. The costs for IE 3 are expected to be twice as high.

Users must be aware that motors of the minimum efficiency classes IE 2 and IE 3 will not comply unconditionally with the shaft heights and foot dimensions defined in EN 50347. They could well be significantly larger than today's motors in terms of installed length and shaft height. This will not only result in price increases to cover the higher material costs compared to IE 2 motors. Significant problems will also arise with regard to the replacement of motors in fields where extensive contingency stores are maintained to guarantee availability and fast reactions in case of breakdowns.

Against this background, the European manufacturers reject the introduction of a statutory minimum efficiency requirement for motors of efficiency class IE 3. They are of the opinion that market launches of IE 3 motors could be regulated on the basis of voluntary undertakings and accompanying monitoring. The manufacturers believe that the users could be recommended to use variable-speed drive systems as a significantly more effective approach to reducing energy consumption, as this would permit noticeably greater energy savings and greater progress in the reduction of emissions.



Above: Energy-saving motor of the VEM series WE1R (EFF1). From 2009, these motors will be replaced by motors of efficiency class IE 2. Left: Efficiency limit values as dependent on rated output

PEOPLE

Dr. Peter Stupin goes into retirement

After more than 35 years with VEM Sachsenwerk, Dr. Peter Stupin will be taking his well-earned retirement at the end of the year. He occupied various positions in the calculation department, and was group head in research and development. As an engineer for electric machines, he developed the successful series of VEM wind turbine generators. His duties are to be taken over by Dr. Henri Arnold.



Dr. Stupin (right) is making preparations for a smooth transfer to Dr. Arnold (left).

Standardisation remains an explosive topic

What legislators, manufacturers and users think about efficiency classes and explosion protection

If everything is left to the European Commission, now that new efficiency classes have been defined in IEC 60034-30, the use of IE 2 motors will become a binding minimum requirement from 2011, with further tightening of the rules to demand efficiency class IE 3 from 2015. The background to this standpoint is to be seen in the agreed targets on climate protection and the reduction of CO₂ emissions. The discussion at the 7th Technical Conference in Wernigerode in September also confirmed that the European manufacturers are indeed prepared to shoulder the investments and development outlay necessary to meet demands for motors of efficiency class IE 2.

As far as the legal requirement of efficiency class IE 3 is concerned, however, there is currently significant need for further debate. The increased outlay to achieve efficiency class IE 3 is not adequately taken into account by the European Commission in its overall considerations of life-cycle costs. The manufacturers are of the opinion that much faster and greater contributions to reduced energy consumption and thus attainment of the government environment targets can be achieved through the transition to complete drive systems.

Users describe the planned obligatory introduction of efficiency class IE 3 as unrealistic. Their reservations concern above all the availability and reliability of supplies of motors for their plants. Particularly high risk is seen in the fact

that they would no longer be permitted to use the motors currently held in their contingency stores.

New concepts and standards

In the field of explosion protection, changes affecting standardisation are being driven above all by globalisation and the ensuing demands for harmonisation. For Europe, too, standardisation will in future be processed increasingly at IEC level, with standards being mirrored and harmonised at European level following verification of their conformance with fundamental safety requirements. Compromises will always need to be found at international level. The standardisation at IEC level results in a 5-year development rhythm. This forces manufacturers to adapt their products more frequently, if they want to offer the market motors which always correspond to the latest state of technology.

The new testing and certification concept for converter-fed drives today permits the use of motors with "increased safety" protection in connection with a free choice of frequency converter, instead of requiring a flameproof enclosure. The development of motor protection and monitoring devices will in future allow the use of frequency converters without variable current limitation. PTC thermistors in the motors will also become superfluous. In the field of dust-explosion-protected electrical equipment, new equipment protection levels will be introduced.

ENVIRONMENT-FRIENDLY DRIVES – TRACT

A modern and well-appointed traffic infrastructure is in every country a basic prerequisite for a functioning economy. The transport medium “railway” is able to play out its strengths above all for transport over long distances. Its environment-friendly operations will no doubt raise this importance further in future in the context of debates on energy supply reliability and CO₂ emissions.

The world market for rail technology will increase to approx. € 70 billion by 2011. The highest growth is expected in the regional markets Asia/Australia and America, which alongside Europe (including Germany), represent the largest market segments. Locomotives, train sets and vehicle components cover the overwhelming majority of the orders.

VEM concentrates on providing a full range of electric machines for trams, locomotives, multiple units, metros and even mining trucks. A wide diversity of motors and generators is supplied, matched to the individual performance and functionality demands. These include traction motors as main drives, wheel hub motors, fan motors, auxiliary drives for pumps, pressure compensation compressors or air-conditioning systems, and main and auxiliary generators for the rail vehicle power supplies.

We would like to present a few examples of drives for modern transport concepts here.

InnoTrans 2008 – Superlative transport technology

VEM caught attention at the international trade fair in Berlin with new designs for traction motors

From high-speed multiple units and modern cross-system locomotives to low-floor urban trams, from passenger services to freight transport and maintenance vehicles – InnoTrans 2008 gathered all the new developments which will be setting trends on the booming rail transport market in the coming years. Six of these vehicles also had VEM technology on board (see box on the right).

A low-floor tram bogie designed specifically for the East European market and incorporating our DKCBZ 0211-4 traction motor was presented as a joint development of renowned German manufacturers on the stand of Transtec Vetschau. Similar bogies in a modified version were recently put into service in Minsk.

On the VEM fair stand, our new design for an externally ventilated trolleybus traction motor, type DKLBZ 0315-4, and the water-cooled traction motor DKWBZ 1606-4 for the low-floor tram “FLEXITY Berlin” attracted particular attention.

The compact design and comprehensive sensor technology impressed visitors on the traction motor DKCBZ 0212-4, which was developed for the Rhône-Express in France, among others. With the DKOBZ 0310-4, which was shown for the first time in Berlin, VEM can now also serve the market for low-floor urban light-rail systems. Furthermore, examples of auxiliary motors from the range of low-voltage machines demonstrate that the VEM Group offers a similarly broad spectrum of rail-specific products as drives for auxiliary systems such as fans, pumps and compressors.



Photo: Hans-Georg Becker

1,912 exhibitors from 41 countries offered products covering the whole field of rail transport. Among the highlights were 91 rail vehicles of the latest generation, which were presented on some 3,500 metres of track. Our photo shows the urban light-rail system “Tango” manufactured by Stadler Pankow GmbH, Berlin with VEM motors of type DKCBZ 0212-4, 125 kW.

| TRACTION MACHINES |

Fair exhibits with VEM technology on board

Urban light rail U5 Frankfurt/Main
High-floor urban light rail Tango Bochum
Low-floor tram FLEXITY Berlin
City tram Bydgoszcz
Diesel-electric locomotive TRAXX DE
CarGoTram VW/DVB

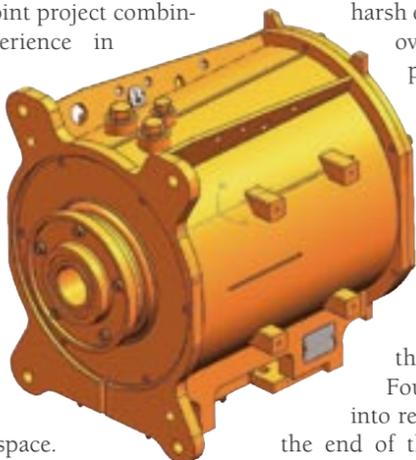
Traction motors DKOBZ 0610-4
Traction motors DKCBZ 0212-4
Traction motors DKWBZ 1606-4
Traction motors DKCBZ 0211-4
Main generator DREBZ 4514-6
Traction motors DKABZ 0305-4

Water-cooled traction motor

Joint project of the VEM Group for “FLEXITY Berlin”

The traction motors for the 8 or 12 dedicated wheel drives on the vehicles of the “FLEXITY Berlin” pilot series were supplied by VEM. To this end, a joint project combined Sachsenwerk’s experience in the designing, specification and final assembly of rail traction drives with the efficient series manufacturing competence of VEM motors Thurm.

The outcome is a water-jacket-cooled traction motor to meet the demanding specifications of high performance from the smallest possible installation space. The motor weighs just 148 kg for a drive output of 50 kW. By comparison: A conventional surface-cooled standard asynchronous motor with equivalent output would weigh around 375 kg and would be twice the size.



As the motors are mounted under the vehicle, directly on the bogie wheels, they must be able to withstand all manner of harsh environmental conditions over many years, for example dirt, salt, snow and temperatures from -30 °C to +45 °C. Nevertheless, it was still possible to realise full compatibility with the low-floor design concept, guaranteeing not only disabled access, but also enhanced comfort and space for the passengers.

Four trams are to be taken into regular service in Berlin by the end of the year: Two 30.8-metre trams with five modules and two 40-metre trams with seven modules, in each case in unidirectional and bidirectional versions. Following successful testing, around 200 of these new low-floor trams are to join the fleet in the coming years.



Photo: Karin Wagner

This diesel-electric locomotive TRAXX DE (right) is equipped with a main generator Typ DREBZ 4514-6 from VEM (small photo above).



ION MACHINES FROM VEM

“FLEXITY Berlin” – the new super tram for the capital

Environment-friendly transport system with traction drives from VEM



The German capital is testing a new low-floor tram named “FLEXITY Berlin”. Representatives from politics, manufacturers and the supply industry were guests at the ceremonial roll-out at the Berlin-Lichtenberg depot on 19th September. Already days before, fans and journalists shied no hardships to gain a few snapshots before the official unveiling.

After two years of planning, the prototype of this high-tech rail system could at last be presented to the general public. The traction drive was developed and manufactured by VEM. The roll-out event began with a film on the development and subsequent transport to Berlin. Even for the longest single vehicle ever to take to the tracks on the streets of Berlin, the capacity of almost 250 passengers was still hardly enough to cater for all those hoping to join the inaugural journey.

Thanks to the water-cooled VEM motors, the tram is pleasantly quiet in operation.

With their ultimate safety and environment protection standards, the new low-floor trams for Berlin define new benchmarks.

Photo: Sabine Hartenstein

DRIVES FOR URBAN LIGHT RAILWAYS AND METROS

One motor for three light-rail systems

The compact air-cooled 130 kW drive DKOBZ 0610-4 for urban light railways and metros is in service in three European cities in modern local trains from Bombardier:

- Frankfurt am Main, VGF transport corporation
- Rotterdam, Randstadt Rail
- London, Docklands Light Railway.

The drive has been designed such that the electrical motor parameters can be adapted with a minimum of outlay to different traction power systems between 600 and 1,500 V DC. There are thus practically no restrictions for further applications also outside Europe.



Traction motor DKOBZ 0610-4 with axle gearbox and output coupling



Above left: VGF transport corporation, Frankfurt am Main; below left: Randstadt Rail, Rotterdam; below right: Docklands Light Railway, London

Photo: Bombardier

Photos: Bombardier

Carbon fibre – Materials technology of the future

Winding frames already running with VEM machines

Carbon-fibre-reinforced polymer (CRP), or carbon fibre for short, is thanks to its high strength one of the most valuable material for the future. There is already enormous demand for industrial production methods for composite parts in the aerospace sector. The automobile industry, mechanical engineering, the wind energy branch and sports equipment manufacturers are also choosing carbon fibre.

When it comes to technical textiles, Georg Sahn GmbH & Co. KG is one of the world's leading manufacturers of precision cross winders, parallel winders and other high-speed winding machines. VEM supplies drives for a machine developed by SAHM specially for the winding of carbon fibres. Only five companies in the world operate such machines to produce carbon fibre bobbins, which can then be used in the most varied applications. The frequency-con-

CRP stands for carbon-fibre-reinforced polymer.

trolled VEM drives power each winding point separately. Up to 960 drives in a non-ventilated 6-pole version, size K200 63, are installed on a single machine. With this special motor variant, VEM has been contributing reliably to the production of this versatile and highly sought-after material for well over two years.

Carbon-fibre materials produced with the aid of such winders are used, for example, in the latest generations of airliners, such as the Airbus A380, Boeing

Dreamliner 787 or Airbus A350. Wind turbine manufacturers represent another growing market for carbon fibres, with their new rotor designs with blade lengths of up to 60 metres. Indeed, the demand for carbon fibres outstrips global supplies at the moment, and will no doubt continue to rise further in the coming years.



This winding machine for carbon fibres is equipped with frequency-controlled drives from VEM. Its manufacturer, Georg Sahn GmbH & Co. KG, is one of the world's leaders in the field of precision cross winders, parallel winders and other high-speed winding machines.



Photos: Sabine Hartenstein

Each winding point is driven separately. Up to 960 motors may be installed on a single machine.

| FOUNDRY PRODUCT RANGE |

Platform for contacts: Fairs at home and abroad

The presentation of the latest products from Keulahütte at this year's International Trade Fair for Water, Sewage, Refuse and Recycling (IFAT) in Munich was an all-round success. The extended range of shut-off valves with a nominal diameter of 1,400 mm proved an excellent means to further expand European export business. Munich was as always an especially valuable platform for meetings with international business partners.

Alongside this exhibition highlight, numerous house fairs organised by partners in the civil engineering wholesale trade are important opportunities to address a regional public. It is already a tradition that Keulahütte attends the "Oldenburg Pipeline Forum" in February and the "Watermaster Conference" in Travemünde in December. Both events provide a convenient setting for discussions of the latest market developments.

Extensive trade fair activities were geared to further expanding export revenue in 2008. Keulahütte presented a stand of its own at Ecwatech in Moscow, APA Expo in Bucharest and Aqua Ukraine in Kiev. Together with partners, the company was also represented at fairs in Brno (Czech Republic), Bydgoszcz (Poland), Trencin (Slovakia), Szekesfeharvar (Hungary), Coventry (GB), Göteborg (Sweden), Vilnius (Lithuania) and Turku (Finland).

One of the exhibition highlights for the VEM foundry in the coming year will be its participation at "Water Berlin" from 30th March to 3rd April 2009.

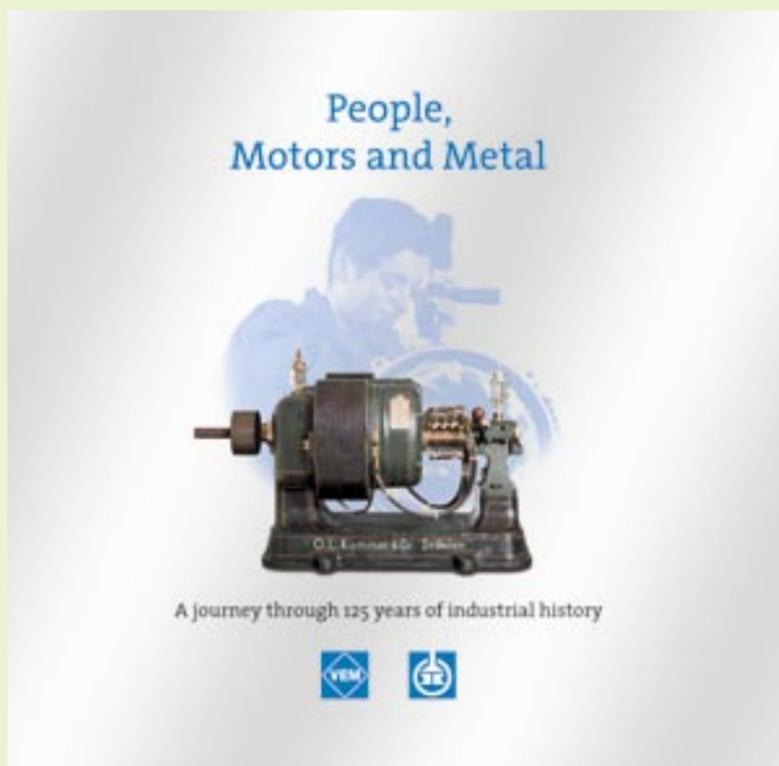


Photo: Udo Müller

The Keulahütte fair team at IFAT 2008

| ON OUR OWN BEHALF |

A journey through 125 years of industrial history



A new illustrated book relates the turbulent past of the four companies which have formed the VEM Group since 1997. "People, Motors and Metal" is the title under which the long traditions of the VEM locations Dresden, Wernigerode, Zwickau and Krauschwitz are documented. The book describes the enterprising spirit and pioneering deeds of the founders, as well as engineering achievements from the GDR years. But this is more than just a history book in the normal sense. Important milestones are presented from the personal viewpoints of those involved. For example, the time after 1989: The drastic upheavals, the threats of closure, a courageous new beginning and the involvement of the Merckle family from Blaubeuren, who acquired the companies from the government privatisation agency on 1st January 1997. With numerous eye-witness accounts, the book seeks to provide an answer to questions regarding the secret of today's success story.

Orders via:
www.amalia-verlag.de
or high-street bookstores

The new illustrated book has been published in German and English by Amalia Verlag Dresden. It contains 160 pages and costs 24.90 EUR.

Promoting new generations of skilled workers – An investment in the future

Commendations for the companies of the VEM Group for their work with young trainees.

If a company wants to supply top-quality products, then it must possess a highly qualified workforce. With this in mind, the companies of the VEM Group have for many years attached particular importance to training of the next generations of skilled workers – as an investment in the future.

New training facility at Sachsenwerk

The currently 29 trainees at Sachsenwerk were able to move into a new modern training centre at the end of September. With this new building of 770 m² floor space, the training opportunities for young skilled workers in Dresden have become even more attractive.

A spacious, well-appointed workshop offers every opportunity to practise the handling of tools and machines. CNC programming is now also part of the training curriculum. The trainees with the specialisations machine and drive electronics, tool mechanic for punching and stamping, and machining fitter can thus become acquainted with modern working methods from the very beginning. Since privatisation in 1997, all 73 trainees have received a permanent employment contract after successfully completing their training.

Recognition for vocational training

VEM motors in Wernigerode is one of 26 com-

panies in the Harz Rural District with in-house vocational training programmes. In 2008, the company was commended by the local Chamber of Commerce and Industry for its work over the past 15 years. There are currently 38 trainees at the company, in the fields machine and drive electronics, industrial fitter, industrial clerk and machining fitter. Twelve of them began their training this autumn.

VEM motors Thurm has also received a certificate from the Chamber of Commerce and Industry for its achievements as a recognised training company. The certificate was presented during the official ceremony celebrating

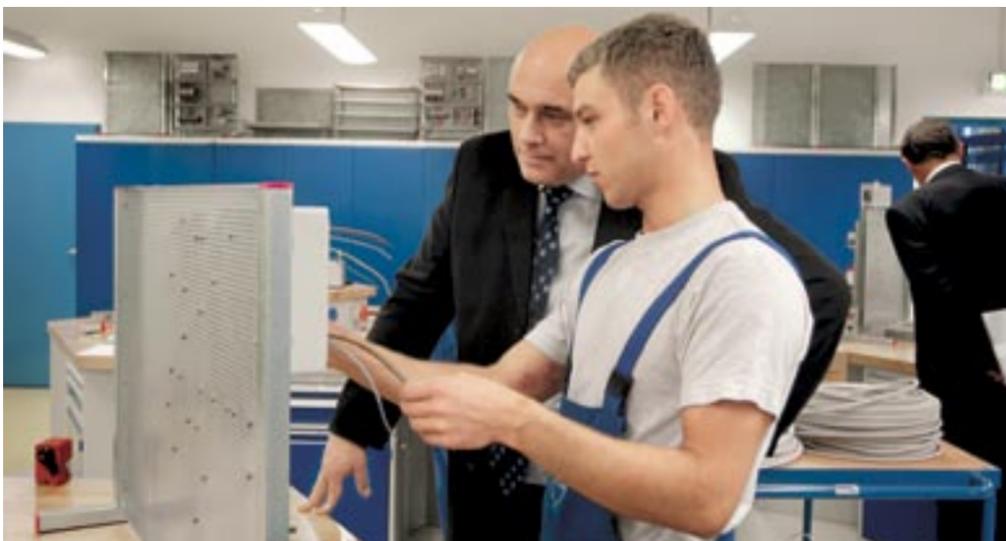
the company's 100th anniversary. Of the 14 trainees at the company, three machining fitters, one production fitter and one technician for machine and drive electronics commenced their training this year.

Keulahütte in Krauschwitz is similarly preparing the ground for new generations of skilled employees. Partnerships with two schools in the region serve to introduce the branch and to inform the pupils about relevant career demands and opportunities.

There are presently 25 trainees at the company. Two foundry mechanics, two machine tool operators and a mechatronics technician joined their number last September.



Photos: Karin Wagner



The new Sachsenwerk training centre in Dresden. Thomas Jurk (photo left), Saxon Minister of Economics, joined management representatives at the official opening of the new building on 30th September. Sachsenwerk has invested € 1.9 million in the training complex, which also includes classrooms and social facilities.

| VOCATIONAL TRAINING |

Saxony's best trainee comes from VEM

“When I see this great new training centre, it's almost a pity that I have already finished my training,” says tooling mechanic Lars Pilz from VEM Sachsenwerk. In 2008, he completed his training as the best trainee in Saxony. His hard work and commitment were honoured with a corresponding award from the Chamber of Commerce and Industry in October. At the same time, Sachsenwerk received a special certificate as an “outstanding training company”.

Lars Pilz (right) talking to trainee toolmaker Norman Barthel on a visit to the new Sachsenwerk training centre.

| PEOPLE |

Gerhard Freymuth elected to ZVEI board

At its extraordinary meeting on 17th November 2008, the ZVEI board elected Gerhard Freymuth, managing director of VEM Sachsenwerk GmbH, as chairman of the ZVEI regional committee for Saxony, Saxony-Anhalt and Thuringia. The ZVEI, as the central association of the electrical engineering and electronics industry, represents the economic, technology and environmental policy interests of the German electrical engineering industry at national, European and international level. It provides targeted information on the economic, technical and legal frameworks for the branch, and promotes the development and use of new technologies by elaborating proposals relating to research, technology, environment protection, education and science policy.

Further orders from shipbuilding

The product range of the VEM Group is perfectly aligned to this booming branch of industry

At the most important trade fair for the maritime industry, the SMM in Hamburg in September, the VEM Group presented a whole range of new and further developments for marine main and auxiliary drives. One such product was the highly successful SCHOTTEL Combi Drive series (photo) – a water-jacket-cooled asynchronous motor which is integrated vertically into the suspension tube of a rudder propeller. The high power-for-size ratio ensures minimum space requirements.

The strategic importance of the booming shipbuilding branch, also for the VEM companies, is reflected in an increasing volume of orders and good references. VEM Sachsenwerk can point to comprehensive experience and excellent manufacturing facilities for large machines. VEM motors also offers an extensive product range for marine applications. In 2008 alone, 32 VEM drive machines were supplied for five medium-size passenger ships and a variety of special-purpose vessels.



Photo: Karin Wagner

“A foundry is not a chocolate factory”

Jens-Ulrich Hundro: Foundry manager at Keulahütte in Krauschwitz

Jens-Ulrich Hundro has remained loyal to Keulahütte every since his time as a trainee. He took up an apprenticeship at the foundry in Krauschwitz in 1978. A diversity of responsibilities, successful qualification as a master tradesman in 1989, and then management positions in various departments were the next stages of his career development. Since 2001, he has been foundry manager at Keulahütte. In this capacity, Jens-Ulrich Hundro is in charge of more than 100 employees in the core-making, hand moulding, machine moulding and cleaning shops. A supervisor assists him in each of these separate departments.

“The employees must understand that quality is the ultimate priority.”

Anyone who has followed the developments of the branch over the past 30 years, as Jens-Ulrich Hundro has done, automatically acquires a fine feeling for change. “Foundries are quite busy at the moment. At the same time, the customers want their orders to be handled as quickly as possible, and that naturally in flawless quality,” he says, describing the central challenge of his work. “But we have prepared ourselves for such developments by investing in machines and equipment. And we are already planning the next steps.” The latest example which he can mention is the new hand moulding shop, which is to be officially inaugurated in the next few days. It not only expands production capacities, but also

optimises the conditions for custom castings. Similarly important investments have in the past been realised in the core-making and cleaning departments. Keulahütte can thus offer its customers a wide range of hand and machine moulded hydrants and pipe fittings, and even one-off castings of individually designed products.

“Even so, a foundry is not a chocolate factory, especially in the summer,” as Jens-Ulrich Hundro admits. In future, too, the branch will be characterised by physically demanding work, heat and dust. Consequently, the tone among the employees is sometimes just as rough. It is certainly good, not to be over-sensitive. But the foundry manager has gathered enough experience to know how to handle his team and how to get his criticism across. He is a man for fast decisions - but nevertheless manages to keep his calm: “It is important for me that the employees understand the importance of their work, and that quality is the ultimate priority.” And that, after all, benefits not only the customers, but also the employees themselves.

Jens-Ulrich Hundro (47) was born in one of the neighbouring villages to Krauschwitz. He is married with two grown-up children.



Photo: Udo Müller

| ELECTRIC MACHINES AND DRIVES |

VDE working group meets in Zwickau



Photo: Sabine Hartenstein

The members of VDE working group no. 19 “Electric Machines and Drives” came together at VEM in Zwickau on 8th October for their 8th meeting.

After outlining the 100-year history of VEM motors Thurm GmbH, Prof. U. Beckert from the Freiberg University of Mining and Technology gave a presentation on “Stationary and non-stationary eddy current problems in three-phase drives”. The latest VEM development topics were also discussed, for example new approaches for energy-saving motors and the use of converter-fed explosion-protected motors.

The next meeting is to be held at Baumüller in Kamenz next spring.

Remembering O. L. Kummer

Scientific colloquium at Sachsenwerk

Entrepreneur Oskar Ludwig Kummer set up a factory for electrical apparatus and machinery in Dresden-Niedersedlitz in 1886. Seventeen years later, it was to become the birthplace of today’s Sachsenwerk. The 160th anniversary of his birth was for the Dresden University of Technology and Sachsenwerk a fitting occasion for a colloquium devoted to Kummer’s work and achievements. The ongoing cooperation between VEM, the University of Technology and the Dresden University of Applied Sciences was also an important topic. In this connection, a framework agreement was signed to define future relationships between Sachsenwerk and the Chair for Electrical Machines and Drives at the TU Dresden. Those attending the event also took the opportunity to visit Sachsenwerk, Oskar Ludwig Kummer’s legacy.



Dresden entrepreneur Oskar Ludwig Kummer. The factory for electrical apparatus and machinery which he founded in 1886 can be considered the birthplace of today’s Sachsenwerk. The original business was incorporated into “Sachsenwerk, Licht- und Kraft-Aktiengesellschaft” in 1903.

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