



Impulse

VEM SACHSENWERK

• VEM MOTORS

• VEM MOTORS THURM

• KEULAHÜTTE

Dear readers, dear VEM colleagues,



With the acquisition of transresch Antriebssysteme Berlin GmbH, we have taken the first step towards becoming a system supplier for electric drives. For the customers, this will mean an end to the complicated coordination between different suppliers, and in future a single source for purchases of their desired drive system, comprising motor, converter and application software.

But this first step must still be followed by many others. Sales activities, project management, engineering and order processing must be synchronised, and the many supporting departments involved, such as human resources, finance, purchasing, stores, IT, public relations and customer service, must also be brought into line. This demanding task has been placed in the dependable hands of Dr. Torsten Kuntze. To grant him the necessary freedoms, he has been appointed managing director of transresch, alongside his duties as works manager in Dresden. I wish him every success and the rapid implementation of his ideas together with the whole staff team.

Numerous customers and friends joined us earlier in the year to officially inaugurate our new test stand at VEM Sachsenwerk in Dresden. One of the many tasks now facing the sales department is to bring in external commissions to supplement our own testing activities, and hopefully to achieve three-shift operation of this €14-million investment. A very promising start has been made. At the end of the summer, the new canteen is to be opened, together with rooms for quality control and the works council. Once the road areas and the memorial for Dr. Adolf Merckle are finished, the restructuring in Dresden will be complete.

In Wernigerode and Thurm, we are currently investigating new technologies for the manufacturing of next-generation IE3 motors. It could well soon be possible to base external investments on the results. Major repair work has been approved for Piestany, as has likewise a study on expansion of the impregnation shop. And the construction of a new production hall, with an option for later further expansion, can now begin in Most. Increased capacities will thus be available from 2012. All these investments are only possible because the Merckle family has since 1997 refrained from drawing financial means out of the group companies, and because the company pay agreement, with its system of profit-related salaries, enables us to limit the depletion of our equity capital in lean years. With our training undertakings and the promise to safeguard jobs, this is above all for the employees and their families a guarantee of sustainability, which is decisive for the future and is to be preserved. That was the philosophy of Adolf Merckle – and the same ideas are upheld today by his son Ludwig Merckle and myself.

On the way to a system supplier

VEM acquires transresch Antriebssysteme Berlin GmbH

The VEM Holding has taken over the company transresch Antriebssysteme Berlin GmbH with effect from 31st March 2011. With this acquisition, VEM has laid further foundations for its plans to serve the market as a system supplier for drive solu-

tions, and thereby to further strengthen the brand name VEM. An important step has been taken on the way to this future role, namely to offer and realise not only the motor component, but increasing also user-specific solutions for complex drive tasks.



VEM presented its products in Halls 14 and 27 at the Hannover Fair in 2011

The Berlin-based company transresch, with its 50 employees, including 35 engineers, and worldwide customer contacts, is an innovative partner in the field of controlled electric drive technologies. Its key activities are to be seen in automated equipment and electric drive systems for rolling mills, power stations, chemical plants and cement works. transresch expects to record sales totalling €12.5 million this year. The turnover of the whole VEM Group amounted to some €260 million in 2010. VEM counts more than 1,700 employees worldwide.

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2011 – A year of anniversaries

Dresden and Wernigerode have three occasions to celebrate VEM traditions

125 – 50 – 10 are pointers to three anniversaries which VEM is celebrating this year. The largest of these numbers, and thus the longest tradition within the VEM Group, honours Sachsenwerk in Dresden. The founding of a “factory for electrical apparatus and machines” in 1886 was a start signal for electric motor engineering in Europe. Today, under the three letters of the VEM trademark, the company develops and manufactures high-voltage machines for the most diverse industrial applications, alongside wind-power generators with ratings up to 7 MW and specialised machines for the shipbuilding and transport branches. Protection and cultivation of this valuable label

is the responsibility of the VEM Trademark Association, which was officially formed 50 years ago. The whole VEM Group will be paying tribute to both occasions with a festive event in Wernigerode on 26th September 2011, the eve of this year's Technical Conference.

It was the 40th anniversary of the trademark association which gave birth to the third and youngest VEM tradition. A programme of scientific presentations flanked the celebrations in 1991 – the origin of the Technical Conference. In the meantime a renowned and independent event, it will be taking place for the 10th time in 2011.

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Three strong letters

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Global presence with complex drive solutions

Seite 5



Ideal test conditions in great demand

Seite 7

Start signal sounds for the three-stage plan

Stricter EU-wide standards for the energy efficiency of electric motors – End of the line for IE1 motors

It finally came into effect on 16th June 2011 – Commission Regulation (EC) No. 640/2009, adopted by the European Commission to implement the EU directive 2005/32/EC on ecodesign requirements for energy-using products. A three-stage plan defines so-called Minimum Efficiency Performance Standards, or MEPS for short. They are applicable for 2, 4 and 6-pole motors with outputs in the range from 0.75 to 375 kW.

Since 16th June 2011, it has only been permissible to bring such motors into circulation under certain conditions: They must achieve the efficiency specified in the MEPS for efficiency class IE2 and must bear a corresponding CE marking.

Stages 2 and 3 are to follow with further tightening of the minimum requirement to IE3 for the output range 7.5 to 375 kW from 1st January 2015, and extension of the applicable range to include motors with outputs below 7.5 kW from 1st January 2017. As an alternative, however, it will also be acceptable to use IE2 motors in combination with a frequency converter.

IE2 and IE3 as basic product range

As a manufacturer of special motors, VEM motors must comply with IEC/EN 60034-30 and EC regulation 640/2009. Consequently, IE1 motors and motors without classification will in future only be manufactured insofar as they are not

covered by the scope of the EC regulation, but nevertheless comply with IEC/EN 60034-30. The CE marking remains unaffected. Put another way: VEM motors will no longer be manufacturing IE1 standard motors.

In the future, IE2 and IE3 motors – and to a limited extent even IE4 versions – will constitute the basic product range from VEM motors. Motors satisfying the requirements for IE2 have been available from stock since 15th June.

Since the beginning of the year, around 20% of the electric motors leaving the factories in Wernigerode and Zwickau have been IE2 motors. And this proportion continues to grow – thanks to an increasing number of motor variants at the level of the VEM series K21 and the ever greater acceptance of the new regulations by the customers.

The designers are currently developing a series of IE3 motors for a 50 Hz mains frequency. Many sizes are already available for the medium output range from 4 kW, and the rest of the series is scheduled

for launch by the end of 2011. Corresponding stocks of IE3 motors will have been established in the meantime. VEM is also developing a 60 Hz series for the North American market. These motors naturally comply with the EISA standards applicable since the end of 2010.

Implementation of the EuP directive

Graduated introduction of minimum efficiency performance standards (MEPS)

Reg. (EC) 640/2009	Commission Regulation (EC) No. 640/2009 dated 22 nd July 2009 implementing EU directive 2005/32/EC
IE2 since 16 th June 2011	• Stage 1: Minimum efficiency class IE2 from 16 th June 2011
IE3 7.5...375 kW from 01.01.2015	• Stage 2: Further tightening to IE3 [premium efficiency] for motors of the output range 7.5 to 375 kW from 1 st January 2015 Optional possibility: IE2 + converter
IE3 0.75...375 kW from 01.01.2017	• Stage 3: Extension of the output range for IE3 motors down to 0.75 kW from 1 st January 2017 Optional possibility: IE2 + converter

How far will this road take us?

Manufacturers, users and legislators should weigh up the possibilities and limitations of energy efficiency very carefully

It is already evident that the topic of efficiency classifications will not be coming to an end when stage 3 of the MEPS implementation takes effect on 1st January 2017. The IEC draft 2/1501/CD:2008, which has been circulating for some time now, contains first definitions for a future efficiency class IE4. VEM motors already possesses a series of permanent magnet synchronous motors in 2, 4 and 6-pole versions which comply with

this draft across the torque range from 2.5 and 250 Nm. Larger motors for higher torques up to 1,600 Nm can be supplied by request.

On-going discussion

Various new proposals have been tabled on further development of the efficiency classes. The IEC, for example, has presented the draft 2/1632/CD:2011-05, which speci-

fies efficiency classes for fixed- or variable-speed motors for operation on a sinusoidal supply, including converter-fed motors. The rated outputs covered range from 0.12 to 800 kW, and the ambient temperatures from -20 to +60 °C. The presented standard includes motors with flanges, feet and/or shaft ends whose mechanical dimensions deviate from the specifications of the standard IEC 60072-1, but excludes motors which are fully integrated into machines such as pumps and fans or else cannot be tested separately from the drive electronics. The draft is currently being discussed by motor manufacturers and the responsible bodies. VEM motors has already submitted its statement on the draft to the branch association ZVEI and to the European manufacturers' committee CEMEP.

EU preparatory studies

At practically the same time, the IEC issued a further draft 2/1626/CDV:2011-04 concerning standardisation of the methods used to determine the efficiency of variable-speed, converter-fed AC machines. The European Union, furthermore, has commissioned new preparatory studies on drive system products for the output range from 200 to 1,000 kW which are not yet covered by the EC regulation 640/2009. This expressly includes motors with outputs from 750 to 1,000 kW for applications within the scope of the regulation. The corresponding work began in mid-2011.

An additional study is to address products for drive systems outside the scope of Lot 30 and the EC regulation 640/2009 on electric motors, in particular compressors, including small compressors and their drives.

Alternative technical solution

Faced with these new proposals, motor manufacturers and users are asking themselves how much further the efficiency class definitions for energy-saving motors are to be extended.

The questions as to the true impact for ecologically compatible raw materials use and

for appreciable reductions in CO₂ emissions are likewise on the agenda. Each percentage point of efficiency improvement serves to further increase the quantity and quality of the materials used. To raise the efficiency by 1 %, the material input must increase by 6 %! That has a significant effect on the price and further hampers the competitiveness of an export-oriented country like Germany. On the other hand, the alternative is already there – electronic speed control. It is technically mature and there is still enormous potential for further use in industry.

Exchange and market observation

Another issue is perhaps even more important. Many of the motors already in use have no minimum efficiency classification. The users could here be persuaded to replace such motors with high-efficiency alternatives. This would achieve fast and substantial progress with regard to the reduction of energy consumption, but also calls for corresponding incentives to be offered to users and planners within the framework of an overall realignment of energy policies.

One critical aspect is monitoring of the compliance with the efficiency regulations, both in the interest of the users and to ensure fair competition for the manufacturers. There are still no effective instruments in place in Europe, however. At the same time, the introduction of the new regulations means that the numbers of energy-saving motors in use will increase sharply. VEM motors thus holds the view that effective market observation and control mechanisms are more important than ever before. Given the increasing numbers of motors worldwide, the manufacturers' voluntary undertaking to have their testing facilities certified by recognised test agencies is no longer sufficient.

The future direction of the topic of energy efficiency will also be a subject of discussion at the forthcoming Technical Conference of the VEM Group in Wernigerode on 27th and 28th September 2011.

	Class of energy efficiency			
	without	IE1	IE2	IE3
Standard three-phase asynchronous motor 0.75 – 375 kW; 2, 4, 6 – pole, continuous duty S1 (note: is also valid, if the motor is inserted in another machine)		x	x	x
Standard three-phase asynchronous motor with auxiliary devices (Shaft sealing rings, return stops, encoders, external fans and others) 0.75 – 375 kW, 2, 4, 6 – pole, continuous duty S1 (note: measurement of efficiency without auxiliary devices)		x	x	x
Gear motors, motor for gear mounting		x	x	x
Explosion-protected motors		x	x	(x)
Water-cooled motors			x	x
Brake motors (a motor with an electromechanical braking device that acts directly on the driven shaft without couplings)		x	x	x
Marine motors		x	x	(x)
Roller table motors (Duty types S4, S7, S9)	x			
Non-ventilated motors (IC 410)		x	x	
Compact drives		x	x	
Motors with slip-ring rotors	x			
Motors, which are completely integrated into another machine i.e. pumps, ventilators (IC 418), gears and compressors, and where the efficiency can not be determined separately from this machine	x			
Other motors types (i.e. 8-poles and more and pole-changing motors, Motors < 0.75 kW or > 375 kW, permanent magnet motors, Motors for duty types S2 – S10 and others)	x			



Product range compliant with Commission Regulation (EC) 640/2009 – Minimum Efficiency Performance Standards



Photo: René Gaens

Explosion-protected VEM drives are in worldwide use in the chemicals industry, for example at BASF (Photo).

Certification confirms high standards

Successful completion of surveillance audits at VEM

In connection with the company's IRIS certification, the standard for suppliers to the railway engineering industry, a surveillance audit has been performed at VEM Sachsenwerk by Bureau Veritas. The equivalent to the ISO/TS 16949 standard for the automobile industry places demands far beyond those of the ISO 9001 procedures. Sachsenwerk is certified under the second revision of the IRIS standard for the components energy system (generators), drive (motors) and individual components (spare parts). At the same time, the Dresden factory has received certification to ISO 9001 for all other fields, and is furthermore certified in accordance with the environmental standard ISO 14001. The certificates

are valid until 2013. Renewal of the individual certificates is already firmly planned.

As a manufacturer of machines for use in areas subject to explosion hazards, above all in the oil and gas industries, Sachsenwerk supplies almost exclusively one-off solutions. These machines must each be certified separately by an accredited agency. The same applies to the approvals for motors and generators for marine use. VEM machines from Dresden have so far been approved by seven of the eleven most important international certification bodies.

Re-certification to ISO 9001:2008 has also been completed successfully at VEM motors. Auditor GLC Hamburg visited

the works in Wernigerode and Thurm, as well as the Competence Centres North and East. In the subsequent audit report, it was determined that all the employees questioned were well acquainted with their job duties and all technical and organisational aspects of the relevant processes. Overall, the results confirmed a high level of quality awareness on the part of employees and management. The new certificate is valid until June 2014.

The re-certification of VEM motors Thurm GmbH and VEM motors GmbH to 94/9/EC, finally, has been completed with similar success by the notified body IBExU Institut für Sicherheitstechnik GmbH.

Brake motors with IP65 protection

Suited for numerous applications in combination with sealed spring-operated brakes



Photo: Intorq

Brake motors are used above all in lifting applications of all kinds – here a construction crane. It was such new technologies in crane engineering, alongside advances in skeleton construction, foundation design, lifts and escalators, which actually made high-rise buildings possible.

The product engineers in Zwickau have chosen the spring-applied brake BFK461 in sealed design from the company Intorq to complement brake motors with IP65 protection. In contrast to conventional IP54 built-on brakes, the BFK461 has been developed specifically for applications which place high protection demands. With its IP65 rating, the brake motor is dust-tight and resistant to water jets. It is thus ideally suited for use in demanding environments, e.g. textile machines, hoist systems, car washes or cranes.

All electrical and mechanical data, including the brake torque assignments and mounting dimensions, correspond to those of the basic series B21R/B20R ...MLN.

The axial seal between the enclosed brake and the motor end shield is achieved with an O ring, and the radial seal to the rotor by way of a shaft seal with dust lip. The brake cable is introduced via a dust-tight gland M12x1.5 on the terminal box. This leaves only two glands (M32+M20, M25+M20 or 2xM20) for the customer's individual use. Mechanical manual release of the brake cannot be realised with this series. When the maximum air gap is reached, furthermore, re-adjustment is not possible and the friction lining must be replaced. The manufacturer, however, specifically emphasises the long maintenance intervals for the brake.

| WIND FARM IN SOUTHERN ITALY |

Order at short notice – Fast reaction

VEM is to supply 13 generators of the 3.6 MW output class for the Italian wind farm San Marco in Lamis. This additional order was awarded to Sachsenwerk at short notice by REpower Systems SE. The installation of the first turbines for the 44 MW wind farm is to commence in autumn 2011. VEM had already been contracted to supply some generators to the wind turbine manufacturer over the period up to March 2012.



Photo: REpower Systems SE, Jan Oelker

VEM supplies generators for these wind turbines

50 Jahre

Trademark Association

Three strong letters

The VEM Trademark Association has been serving the internationally famous blue logo for 50 years

On 13th December 2011, it will be exactly 50 years ago that the VEM Trademark Association was founded. Some 70 trademark registrations in 90 countries pay witness to how the international reputation of the VEM name has grown over the past five decades. This development can be attributed to both the prominent standing of the VEM companies in their individual markets and the manifold activities of the trademark association. The latter is responsible for cultivation, protection and registration of the trademark, for further strengthening of its international position and continued enhancement of its general acceptance in trade.

Brief retrospective

Trademarks have been used to lend products a unique identity for well over 100 years. From 1948 onwards, 24 electrical engineering enterprises in East and Central Germany pooled resources under the umbrella "VEM Vereinigung Volkseigener Betriebe des Elektromaschinenbaus" (VVB VEM). At this time, VEM was still not a trademark, but rather an element in the names of the individual enterprises. The three letters have stood ever since for "Vereinigung Elektro-Maschinenbau", meaning the Association of Electrical Machine Engineering. The component "Association" signified that the 24 enterprises had come together on a voluntary basis to market their products. With the founding of a trademark association in 1961, the individual members assigned organisational and financial duties in connection with maintenance of the trademark to a joint central body. At the end of the 1980s, the association counted 66 members.

The international presence of the trademark and the excellent reputation of the member companies and their products were reason to pass new statutes in October 1991. The amendments enabled the trademark association to complete its adaptation to the conditions of a market economy. A further milestone followed in 1997, when the association general meeting decided to register VEM as a European community trademark. The registration was recorded by the Harmonisation Office in Alicante on 14th April 2000, with the result that trademark protection is now extended automatically whenever further countries join the European trademark convention.

More and more responsibilities have been assigned to the trademark association over the years. The late Dr. Adolf Merckle recognised its most important functions from the very beginning, namely the registration of new trademarks, cultivation of an awareness for those trademarks and monitoring of the compliance with arising obligations. When he took over the companies of today's VEM Group, he immediately advocated further strengthening of the VEM name, and above all of the member companies of the trademark association. This legacy is being upheld by his heirs and receives decisive support through the work of Freiherr von Rothkirch.

Looking to the future

The trademark VEM today stands for quality, technical expertise and innovation strength, for continuity, reliability and dependability, and for flexibility, proximity and customer care. The members of the association drive the further development of the trademark with new products, technologies and pat-

ents, and not least also through their contributions to countless technical committees and branch associations at national and international level.

The search for innovative solutions to the new challenges facing customers repeatedly spawns cutting-edge developments under the label VEM. Wind-power generators for outputs up to 7 MW and modern energy-saving motors compliant with the latest international efficiency standards are just two examples. The diversity of business contacts to companies at home and abroad is growing incessantly. Products bearing the VEM trademark are today in use in more than 90 countries around the world.

The integration of new members helps to secure further qualitative growth in the future. In 2011, the company transresch Antriebssysteme Berlin GmbH was welcomed into the association. The number of companies who have been granted licences to use the VEM trademark has also increased over the past 10 years. These partners demonstrate confidence in the company and products identified by the three-letter logo, and at the same time gain a weighty argument to support their own business activities.

On the occasion of the 50th anniversary of the trademark association, we would like to thank all the member companies and their business partners for their cooperation and support. Without them, such an anniversary would be unthinkable. As representatives for the countless supporters and promoters of the VEM trademark, numerous achievements and merits in connection with the VEM trademark are to be honoured at the festive event commemorating the golden jubilee in Wernigerode on 26th September 2011.

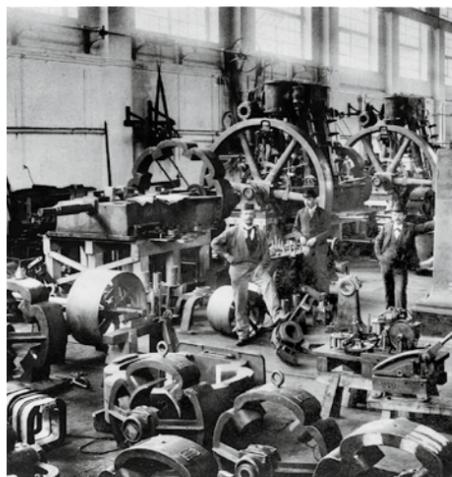
Cradle of industrial electrical engineering in Europe

Sachsenwerk celebrates 125 years of electrical engineering in Dresden

Dresden-born engineer Oskar Ludwig Kummer opened a new chapter of industrial history in 1886 when he obtained building permission for a factory to produce electrical apparatus and machines in the Dresden suburb Niedersiedlitz. The purpose of the company he founded 125 years ago was recorded in the local register as "all forms of the industrial exploitation of electric light and power and their associated branches, in particular the erection, operation and utilisation of electrical installations and the manufacturing and distribution of the necessary machines, apparatus and equipment."

The industrial production of electrical machines began shortly afterwards and defined Dresden as a cradle of industrial electrical engineering in Europe. At the turn of the 20th century, the company already employed over 2,000 people. Via the intermediate joint-stock company Actien-Gesellschaft Elektrizitätswerke, Kummer's factory was renamed Sachsenwerk Licht- und Kraft AG in 1903.

"We are today one of the few globally active industrial companies which can look back over more than 100 years of traditions in the manufacturing of large electrical machines," says Gerhard Freymuth, managing director of VEM Sachsenwerk GmbH. "Our company has written engineering history on numerous occasions. It supplied the hydro-electric generators for Germany's first pumped-storage



View into the engineering workshop in 1898

power stations. And in 1936, we developed and manufactured the world's first standard motor series," he continues. "Without these motors, which were originally positioned as a super series, the manufacturing of standard motors as we know them today would be unthinkable, not only for VEM motors, but also for our competitors."

In the meantime, the Dresden factory supplies technically mature drive solutions with outputs up to 35 MW for all kinds of industrial application, for shipbuilding, power generation and vehicle engineering.



Dispatch hall today

Global demand for complete drive solutions

VEM sharpens its profile with the acquisition of transresch Antriebssysteme Berlin GmbH

Motors, converters and transformers from a single supplier – customers are increasingly demanding controlled electric drive systems as complete packages. Such system solutions enable them to consolidate their engineering, simplify logistics and guarantee the functional quality of their products. With the acquisition of transresch Antriebssysteme Berlin GmbH, VEM is furthering plans to position the group as a global supplier of complete drive solutions.

transresch has gathered over five decades of experience in the planning, manufacture, delivery and commissioning of controlled DC and three-phase drives and complete system solutions for the metallurgical industry. "As a specialist for tailored automation and drive systems, we choose the individual components specifically with optimum customer benefit in mind," says Dr. Thomas Sadowski from the development and technology department. Complete electric

drive systems are supplied to customers all over the world. They typically comprise transformers, frequency and power converters, and motors with outputs ranging from 10 kW to 25 MW for low and medium-voltage applications. For more complex modernisation projects in rolling and tube mills, transresch not only provides the automation and drive systems, but also takes care of power supplies and distribution.

The list of references includes steel and rolling mills, power and water utilities and cement works. Drives for sugar centrifuges and for test stands, above all in the automobile industry, are also inherent to the product portfolio. The company is certified to DIN EN ISO 9001:2000.

Projects around the world

VEM can already look back to numerous instances of fruitful cooperation with transresch Antriebssysteme. Earlier projects have included supplies of various low-voltage drives with outputs between 200 and 1700 kW for a new kiln line from ThyssenKrupp Polysius for a cement works in Senegal. Mention can also be made of 3 MW medium-voltage drives for the primary and secondary dedusting of a blast furnace at a steelworks in Kazakhstan, and 2 MW low-voltage drives for the process gas cleaning system of a sinter plant at Salzgitter Flachstahl GmbH. Medium-voltage drives with ratings of 7 and 23 MW are currently being built for the hyper-compressors of an LDPE plant in the Middle East. All these projects incorporate high-performance VEM motors with frequency converters from leading European manufacturers. The engineering and commissioning services are provided by transresch.



The new VEM group member in Berlin

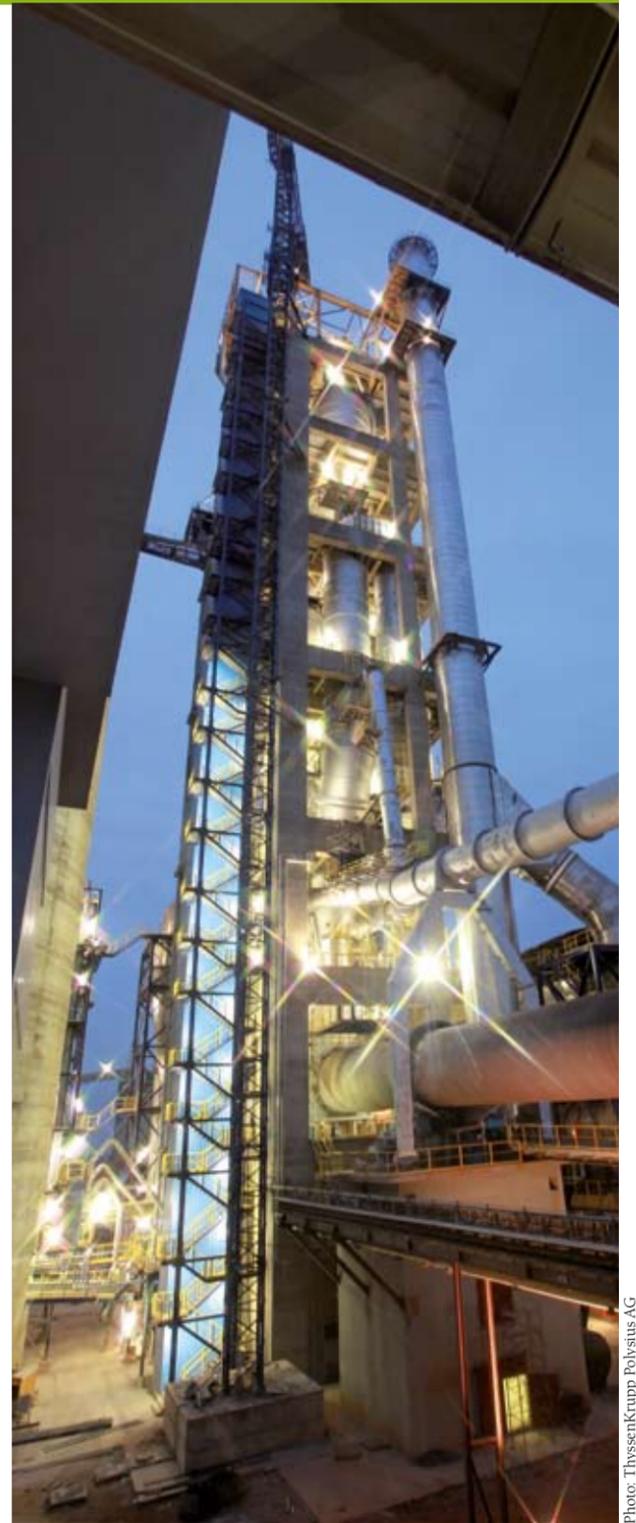


Photo: ThyssenKrupp Polysius AG

Cement works in Senegal. VEM supplied the low-voltage motors and transresch the converters and engineering for a new kiln line from ThyssenKrupp Polysius.

| TRANSRESCH HIGHLIGHTS |

1945	"Rectifier Bureau" in Berlin-Schöneeweide, development of mercury-arc converters for electric drives and traction power supplies		
1949	Integration into Elektro-Apparate-Werk EAW		
/1950	Berlin-Treptow; start of series production of rectifier vessels	1979	New factory building for the manufacturing of drive and control system switch cabinets
1951	Central design office for electric drives within EAW and at the location Berlin-Ostkreuz (later VEB Elektroprojekt Berlin)	from	Delivery and production of three-phase drives with standard asynchronous motors for pumps, centrifuges, textile machinery and rolling mills
1964	Registration of the trademark "transresch" (in German an acronym for transistorised control circuits) for modular data and control electronics	1984	
1968	Series production of the compact thyristor converter EGG for low-power DC drives; registration of the trademark "thyresch" (acronym for thyristorised control circuits)	1992	Transfer into state trust ownership and privatisation as Elpro AG
1969	Founding of VEB Elektroprojekt und Anlagenbau EAB through a merger of several power engineering enterprises; delivery and produc-	1995	Move to a new location in Berlin-Hohenschönhausen
		1997	Drive systems division of Elpro AG sold to Lloyd Dynamowerke Bremen
		1999	Founding of the independent company transresch Antriebssysteme Berlin GmbH
		2011	Acquisition of transresch Antriebssysteme Berlin GmbH by VEM Holding

Three questions for Falk Lehmann, managing director of VEM Holding GmbH



What persuaded VEM to acquire the Berlin-based company transresch Antriebssysteme?

In a nutshell: The demands of the market. Over the past years, the VEM Group has built up a reputation as a reliable supplier of long-lasting, high-quality drive machines. More and more customers, however, are demanding

complete drive solutions. In the past, we covered such needs by way of corresponding cooperation agreements. With transresch, its specialised staff and its 50 years of experience, we can now be even more successful in this respect in future.

How will the acquisition influence the future strategic development of the VEM Group?

Over the next three to five years, we will be working consistently to position ourselves as a one-stop system house for electric drive solutions, and will be offering our customers not only high-quality motors, but also converters and the necessary application software. The objective is first and foremost to better satisfy customer demands, and of course to further strengthen the brand name VEM.

Which concrete steps are already planned in this connection?

First of all, it is important to integrate the new member of our VEM Group as quickly as possible. Various measures have already been taken, including the appointment of Dr. Kuntze, the works manager at Sachsenwerk in Dresden, as new managing director.

The new focus of VEM must be communicated and the sales department must be restructured accordingly. All these things will be demanding our close attention for the next few months.

| PEOPLE |

New director for transresch

Dr. Torsten Kuntze (46) is the new man at the helm of transresch Antriebssysteme Berlin GmbH. He was appointed sole managing director by VEM Holding with effect from 8th April 2011, and will be serving the company parallel to his duties as works manager of VEM Sachsenwerk GmbH.



Dr. Torsten Kuntze

Photos: Stefan Kreisig (2)

OUR SALES PARTNERS



Headquarters of R. Frimodt Pedersen in Jutland/Denmark

Third-generation family company

R. Frimodt Pedersen from Jutland is responsible for sales of VEM motors on the Danish market

The company R. Frimodt Pedersen will be celebrating its 75th anniversary this year. Jan and John Frimodt Pedersen represent the third generation to run the family business, which was founded as a machine factory by Rud Frimodt Pedersen in 1936. The first products were mills for agricultural use, for example for grain and coffee. Exports of these mills increased constantly, and in the early 1960s, the first orders for deliveries of electric motors were received from Pakistan. The production of mills was eventually discontinued at the end of the 1980s, and the company has since concentrated on electric motors and the associated accessories, such as brakes, clutches, forced ventilation fans and frequency converters, as well as gearboxes and geared motors.

The cooperation with VEM goes back to 1963. After a modest start, a continuous upward trend was established in the 1970s. "We have always been able to rely on very constructive and serious cooperation, and we are looking ahead confidently to the 50th anniversary of our partnership in 2013,"

says John Frimodt Pedersen. "Over the past decades, we have seen VEM develop from a manufacturer of standard motors to a supplier of top-class drive solutions." For the Danish partners, this is also demonstrated by new developments such as IE3 and PM motors or compact drives.

There are numerous reasons for R. Frimodt Pedersen's firm standing on the Danish market. Longstanding relationships to its suppliers, an experienced workforce and its comprehensive stores are three of the most important. With these prerequisites, the company is able to satisfy practically every wish expressed by its customers, who include leading pump and fan manufacturers, the wind energy sector and a national dealer network of over 40 electromechanical workshops. The customers honour the company philosophy of fair and correct relationships with all partners and suppliers. R. Frimodt Pedersen can thus tackle the challenges of the coming years with optimism, unaffected by the transfer of whole sections of Danish industry to the Far East.

New service partners in the Baltics

Companies in Estonia and Lithuania now sell also VEM motors on their domestic markets

In response to the increased demand for electric drive components since the Baltic states joined the EU, VEM motors has signed cooperation agreements with companies in Estonia and Lithuania. Customers in these countries, too, are now able to rely on the advice and support of local VEM partners.

In Estonia, VEM will be working together with Alas-Kuul AS. The latter was founded in 1993 and operates as a distributor for leading manufacturers of electrical and mechanical drive components. To this end, the company possesses its own network of resellers throughout the country.

UAB Narvija in Lithuania sells and provides service for electrical and mechanical drive products. Business is conducted through a chain of branch offices in Lithuania. The new partnership with VEM has added a further brand name to the company's portfolio.



10th TECHNICAL CONFERENCE

Overview of presentations

As a participant of the 10th Technical Conference in Wernigerode on 27th and 28th September 2011, you can look forward to the following presentations and speakers:

Prof. Dr. Anibal de Almeida, University of Coimbra
New developments concerning energy efficiency in the EU

Prof. Dr.-Ing. Martin Doppelbauer, Karlsruhe Institute of Technology (KIT)
IE4 and IE5 – the future direction for the efficiency of electric motors

Milton Oscar Castella, WEG Motores (Brazil)
Technologies for energy-efficient electric motors

Prof. Dr.-Ing. habil. Prof. E. h. Dr. h. c. Michael Schenk, Fraunhofer Institute IFF
Manufacturing in the future

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Dr.-Ing. Stefan Beckmöller, ESSEX Germany GmbH, Bad Arolsen
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Dipl.-Ing. Manfred Lueg, DuPont Performance Coatings GmbH, Wuppertal
Thermal conductivity of impregnation resins; improved cooling of electric machines through use of suitable impregnation technologies

Dipl.-Phys. Gerhard Herdt, EPHY-MESS GmbH, Wiesbaden
Temperature measurements in electric machines – Why? How? With which devices?

Weitere Informationen: www.vem-group.com

From shipbuilding to conveyors

Roland Zänger is head of the Leipzig Competence Centre, which takes care of product sales for VEM motors.



Photo: Karin Wagner

Roland Zänger completed an apprenticeship at VEM motors and later worked as a training supervisor for electrical engineers and fitters at the vocational school in Wernigerode, before furthering his technical sales experience with two global players. He returned to the company at which his career began in 1999.

Roland Zänger (43) was until recently most often to be found on the road for VEM in Northern Germany, having specialised on the sales and distribution of electric motors for the shipbuilding industry. Last September, however, he shifted his focus to Saxony. Sales promotion, however, remains his special discipline: He is now head of the VEM motors Competence Centre in Leipzig.

“There is a lot of open-cast lignite mining in the region, with all the associated conveyor systems,” he says. It is not least for that reason that his competence centre specialises in this field. “And because VEM has already been manufacturing the relevant motors for decades, the customer can be certain to receive not merely the maximum, but indeed the optimum level of know-how.” Each of the five competence centres concentrates on a different technical field. That brings benefits for the customer, but not at the cost of exclusive specialisation. “We naturally provide all the necessary advice on drive solutions for any other branch of industry,” as Roland Zänger adds. It goes without saying that his team of five has received comprehensive training on all new products from VEM

motors and on all newly applicable national and international standards.

One of the most frequent topics at the moment is energy efficiency. The customers would like to know how they are affected by implementation of the European ecodesign directive, the first phase of which began in June 2011. Typical questions: To what extent is the directive actually relevant for the company, or does one of the specified exceptions apply? The staff of the Competence Centre are able to say which specific energy-saving motors are prescribed for the individual ambient conditions.

Roland Zänger considers it especially important to establish partnerships. The customer should have full confidence in his team as problem-solvers. And his experience in sales has taught him one thing: First-hand insights are more convincing than even the best argumentation. He is thus more than happy to show new customers around the factories in Wernigerode or Zwickau and to enable them to see the manufacturing of the electric motors with their own eyes. Roland Zänger has the perfect comparison to describe this offer: “Such visits are like a test drive with a new car.”

Twin as replacement motor for Salzgitter rolling mill

Specially developed manufacturing technology for identical drives

Sachsenwerk is currently building a synchronous motor DM-MYZ 3765-14Y for the Salzgitter steelworks and rolling mill. This drive is to serve as a replacement motor for the existing twin drive on the roll stand of a hot-strip line. Both the electrical parameters – 9,775 kW, 1,575 V, 50 min⁻¹ – and mechanical realisation must thus be absolutely identical to those of the present machines.

With its weight of some 180 tonnes, this special machine places particularly high demands on the manufacturing processes, not least in respect of the rotor coils. As the usual production methods could not be used, it was necessary to develop a special technology. The high loads require the rotor windings to be produced with extreme geometrical accuracy, a method which demands perfectly dimensioned winding components for each individual turn. With this solution, VEM, as a specialist for special machines, is again able to demonstrate its ability to satisfy very specific drive demands. The motor is to be delivered in November 2011.

Preparing the impregnated stator for the setting process



Photo: Karin Wagner

ABB tests pump station

Sachsenwerk offers customers ideal conditions on its 6 MW test stand for large machines



Photo: Steffen Liebhich

View of the 6 MW test stand at VEM Sachsenwerk with the ABB drive system

Manufacturer ABB chose the 6MW test stand at VEM Sachsenwerk for a comprehensive performance test with final customer acceptance of the drive system for a new pump station. The Dresden test stand for large electric machines is one of the most modern of its kind in Europe.

In addition to the usual measurements regarding different load points, full-load temperature rise and overload, ABB requested also the simulation of special operating conditions with phase interruptions. “Both ABB and the final customer were impressed by the technical possibilities and by the smooth realisation of the tests,” says test stand manager Thomas Richter. ABB representatives explicitly praised the cooperation with the VEM team.

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The securing of jobs within the group, and at present especially at Keulahütte, has always been one of my main concerns. The framework conditions forced upon us by our often seemingly headless politicians have worsened further. The decision to close down eight nuclear power plants before substitute energy sources are available is typical for the sense of responsibility of the present government: First continue conscription, and only then realise that the hospitals, old people's homes and emergency services have no replacements for the previous objectors to military service.

The safety argument is not really plausible, as France alone operates 58 nuclear plants along our western border. The CO₂ hysteria already drove energy prices to new heights. And now the same all over again. It is our good fortune that the group has the financial strength to support the restructuring processes at Keulahütte. You can continue to rely on the Merckle family and myself. There is only one prerequisite: We continue to trust you and you continue to trust us. That has proved the right path to take since 1997 and we will be staying on that road, despite all the unpredictable politics to the detriment of German industry and the working population.

I wish you all a few more pleasant summer days.

Yours, Freiherr von Rothkirch

Combining theory and practice

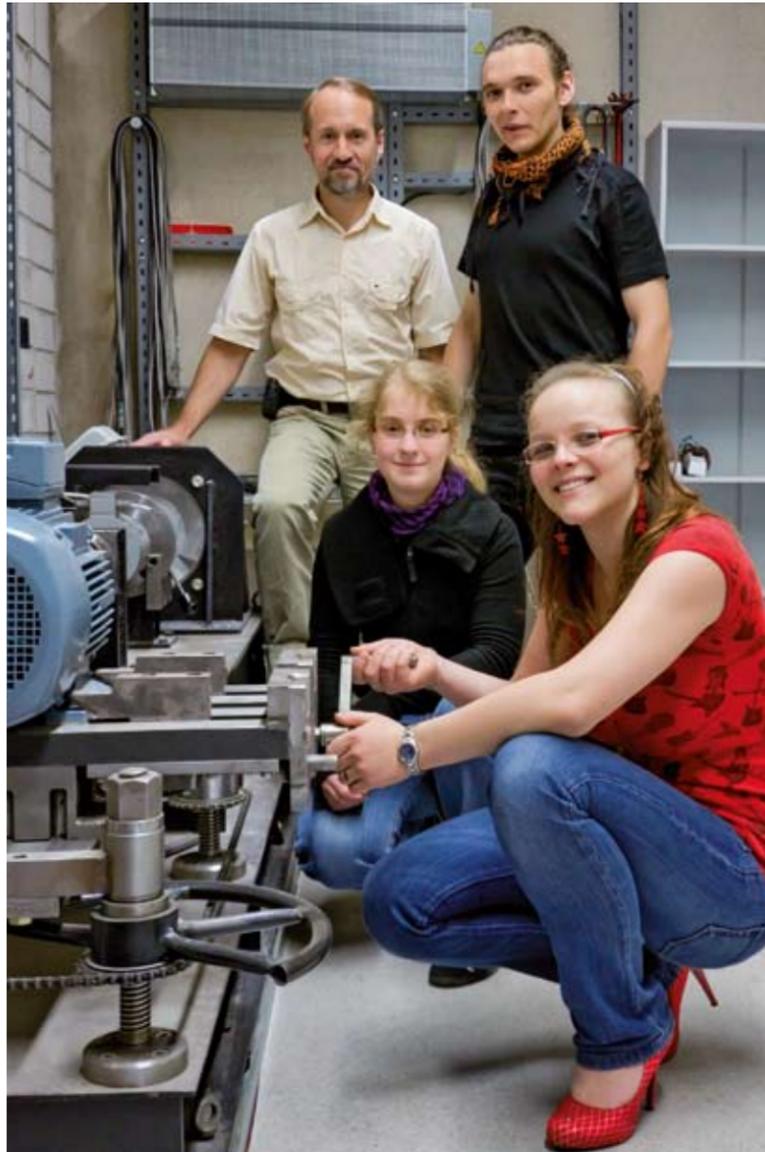
VEM motors supports Harz University of Applied Sciences with an endowed professorship

Justina Kieselbach, Anja Bergemann and Lucas Bornschein are forthcoming graduates of the Bachelor course in automation systems and computational engineering at the Harz University of Applied Sciences. Over the past three years, they have at the same time gathered extensive practical experience at VEM motors. The company also supports them financially with a grant. That is all made possible by an endowed professorship in electrical machine design installed at the university in cooperation with VEM.

"It was a conscious decision for VEM motors, and thus also for the local region," says Lucas Bornschein (21). "I admit that I had mixed feelings at first, but it was great to be able to test our newly acquired knowledge on real machines." Justina Kieselbach adds that she was able to experience the various processes at close quarters in the VEM study laboratory, from mechanical and electrical work to temperature measurements. "As soon as I receive my Bachelor degree, my career can get off to a secure start with a permanent job at VEM motors," says mathematics fan Anja Bergemann. "It is especially useful that I already know my future colleagues, and that I am already acquainted with the work processes."

The VEM professorship in electrical machine design, which was originally endowed in December 2007, has been held by Prof. Dr.-Ing. Günter Bühler since the summer term 2010. It enables students of the Department of Automation and Computer Science to work in a special research laboratory on the company site. In this way, the young engineers gain first practical experience in the technologies and calculation of electric motors, and are furthermore introduced to the development of customer-specific designs for special applications. "Motors must become ever more energy-efficient and meet special requirements, and that calls for constantly new design approaches," as Prof. Bühler explains.

VEM motors has now signed contracts to extend its funding for the professorship to 2015. At the same time, interested school-leavers are to be supported through a programme of study grants. University rector Prof. Dr. Armin Willingmann: "The funding



Justina Kieselbach, Anja Bergemann and Lucas Bornschein working together with Prof. Dr. Günter Bühler (right to left) in the special laboratory set up at the company by VEM motors.

of what was at the time our first endowed professorship, and the offer of grants to students of the engineering sciences by VEM motors, are particularly good examples for the close cooperation between science and industry in the region, and a sign of exemplary, future-oriented human resources planning, especially in the technical careers."

(This article was based on a previous publication of the Harz University of Applied Sciences.)

| INTERNATIONAL |

Jürgen Sander remains chair of CEMEP working group

The managing director of VEM motors GmbH, Jürgen Sander, is to continue in his function as chairman of the CEMEP working group for low-voltage AC motors. That was the recent decision of the European motor manufacturers who are members of the working group.

His term of office to date has been dominated above all by the introduction of new international standards and European regulations for the efficiency of three-phase low-voltage motors. It is now a matter of discussing appropriate corrections to the Commission Regulation (EC) 640/2009 to ensure effective monitoring of compliance with the market regulations and to determine means to stimulate end-user interest in energy-saving motors on an EU-wide basis.

"The energy efficiency reforms are continuing. The latest EU proposals are already on the table," says Jürgen Sander. "We must now study and discuss the implications with experts, manufacturers and the various associations and committees. One important thing is not to lose sight of the manufacturers' justified interests."

VEM motors certified by GAZPROM

To further strengthen its market position, especially in Eastern Europe, VEM has had its range of low-voltage motors certified by the company Gazprom.

The successful acceptance was performed on 17th and 18th August by representatives of GAZPROM ENERGO-DIAGNOSTICA, in cooperation with ALPHA GmbH. VEM is thus one of the first manufacturers whose motors guarantee compliance with the GAZPROM product and manufacturing process guidelines.

| ENGINEERING |

New assembly press also for roll table motors



The new assembly press operates in Hall 5 at VEM motors in Wernigerode.

To support the pending extension of its product range, VEM motors has purchased a new hydraulic assembly press. This investment multiplies the available manufacturing capacity and will permit even more flexible reaction to changes on the market.

The assembly press is capable of forces up to 2,000 kN. It accommodates significantly larger components, for example housings up to 1.5 metres in length, and the practically doubled pressure offers adequate reserves for handling of the particularly stable welded steel constructions of water-cooled and roll table motors. The modern Siemens control technology with network interface, furthermore, guarantees further options in respect of the displaying, documentation and evaluation of important process parameters.

Type-specific programs are stored in the control to enable monitoring of the assembly dimensions by way of a displacement measuring system. This serves to eliminate time-consuming reworking. At the same time, work sequences can be parallelised thanks to the semi-automatic operation of the press table.



Exhibitions in three countries

VEM will be attending three more fairs in 2011

The VEM Group will be presenting exhibits from its extensive product range at three more fairs this year.

Metallurgy 2011 in Donetsk is one of the largest metal and metalworking fairs in Ukraine and will be taking place from 6th to 9th September 2011. In Gdansk (Poland), VEM will subsequently be showing its wares at the most important

trade fair of the East and Central European rail vehicle branch from 11th to 14th October 2011. The exhibition calendar closes with the international fair for electrical automation SPS/IPC/DRIVES in Nürnberg from 22nd to 24th November. VEM will for the first time be participating as a system supplier for complete drive solutions.

A poster designed for the Donetsk fair

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