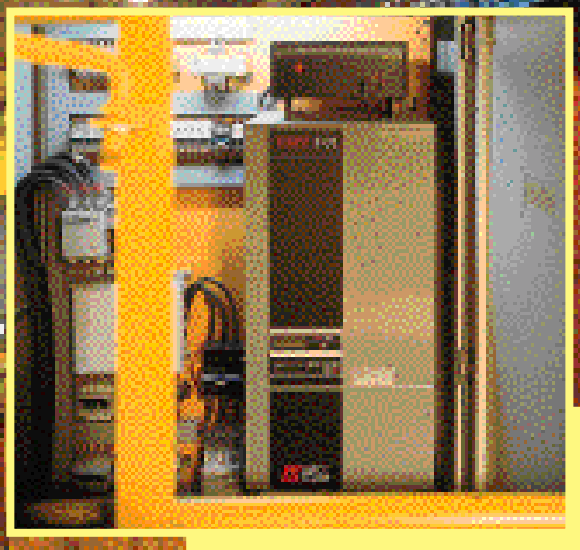
AT news

APRIL 97



SPECIAL REPORT
UMV 3301 and 4301

Euromoney, money in the 21st century
Swift, a new type of fork lift

Contents

Editor :
Patrick Lesueur
Leroy-Somer
Bld Marcellin Leroy
F-16015 Angoulême
Coordination and Page setting :
Corporate Communication
Editorial Committee :
R. Barondeau, C. Candel, A. Galloway, J. Laureys, P. Lesueur, G. Oostendorp, M. Oosterlynck, O. Powis, V. Viccaro.

Leroy Somer Exhibitions for 1997

HANNOVER MESSE	Germany	Hannover	14/04 to 19/04
FRENCH EXHIBITION IN CHINA	China	Shanghai	17/05 to 21/05
TECHNOLOGY '97	Israel	Tel Aviv	19/05 to 22/05
M.S.V.	Slovakia	Nitra	20/05 to 23/05
INTEL	Italy	Milano	22/05 to 26/05
POWER TRANSMISSION CONTROL	China	Beijing	15/09 to 19/09
MSV	Chechoslovakia	Brno	22/09 to 27/09
AANDRIJFTECHNIEK	Holland	Utrecht	29/09 to 03/10
KORMARINE	Korea	Pusan	21/10 to 24/10
INTERCLIMA	France	Paris	03/11 to 06/11

Euromoney, money in the 21st century

In less than two years, for the countries which comply with the criteria of convergence, monetary union will become a reality. What changes will monetary union bring? How will we adapt to this new environment?

To find out we met with **Jean-Jacques SCHUL**, Director of the European Investment Bank (BEI) and President of the Association of Citizens for the Promotion of European Money (PROMEURO).

Before talking of adaptation, are we able to confirm that that market is irreversibly progressing towards monetary union?

We need to understand that the emergence of a single currency is no coincidence. Monetary union is the result of processes which first started at the beginning of the 1960s. Monetary union responds to the specific objectives which are not questioned today - monetary stability, political co-ordination, economies at a European level,.....The treaty of Maastricht, ratified in 1993, demonstrated the political will of the member countries to participate in this process. In fact, this treaty stipulates that monetary union must come. This is how it has happened....

In reality, with the economic crisis that we find today, the loss of popular support certainly puts at risk the ability to put in place the Euro.

What is, in a few words, the value of the Euro?

Monetary integration is integration, social, economic and political. A single currency is the natural consequence of a single market and allows us to remove anomalies in the market: free circulation of staff, of goods and capital with monetary zones partitioned. Finally the Euro will be the symbol of our single community and the role of Europe in the global market.

Concretely, when will we move towards monetary union?

At the beginning of 1998 the participating countries will be designated and the central European bank will be formed.

On 1st January, 1999, individual European currencies will end, at least partly. Parity

between the national currencies and the Euro will be fixed irrevocably for each participating country. After this date, public debts will be stated in Euros. During this transitory phase the Euro will not be imposed neither will it be stopped from being used.

From 1st January, 2002 at the latest, coins and banknotes in Euros will be introduced. During a period of six months the local currencies and the Euro will exist in parallel. People who hold local currencies will be able to exchange these coins and bank notes for Euros without commission for exchange. Credits in bank accounts will be converted to Euros at the same tariff, also pensions and letters of credit, etc.
In June 2002 at the latest, the Euro will become the sole means of payment with value liberated.

What are the advantages of the Euro for businesses?
We can state two main advantages. For an enterprise which trades with partners in a state which has already adopted monetary union, the risk of currency loss disappears. Their treasury knows exactly the amount that they will pay and the amount that they will receive, at the moment the transaction is made.

Another example is that companies will be able to simplify control of treasury and reduce costs. A single account in Euros will replace the various currency accounts which they hold.

So how should we prepare for this currency union?
All projections which are greater than two years in advance must be studied in conjunction with monetary union. To take advantage of the opportunities in sectors previously ignored. Monetary union will allow us to take advantage of new opportunities. By contrast, many adaptations will be necessary, notably in the area of computing and accounting: purchases of specific software capable of dealing with two currencies,....

Training of personnel concerned will be extremely useful. A small example - today the only exchange rate which we know with certainty is that one ECU will be exchanged equally for another ECU and will be equal to a Euro. Why not print on salary slips or invoices the equivalent value in ECU's, to familiarise staff and customers with the equivalent Euro amount. A good exercise for the accounting department!

The Euro - is it the money of the 21st century?
Of course, the change to Euro will be defined by the future. Banks and businesses must undertake great efforts to adapt to it. But the potential of the Euro is remarkable. The elimination of costs and distortions linked to national markets and monetary systems and to the risks of exchange will allow the unique European market to realise its full potential.

Finally, a new world.
Euro will become, with the dollar and the yen, one of the three most important international currencies. It will reflect the best economic equilibrium and commercial practices today. In fact, one often forgets that Europe is already the greatest part of world trade and will finally become a money of its dimension.

PROMEURO organises conferences and seminars on the Euro. The association also publishes useful information Euro, European money at the money unique European.

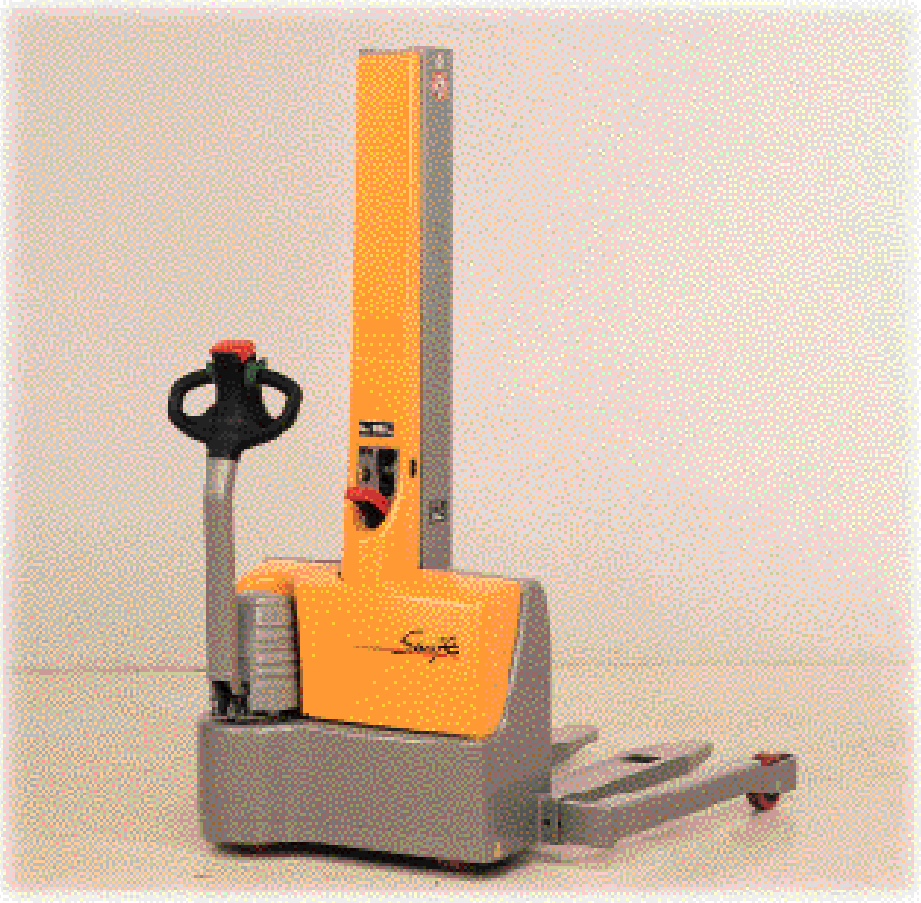
For more information :

Dr. Robert L. JENKINS
6, Langham House Close
Ham Common
Ricmond
Surrey TW10 7JE
England

Information on the European Community :
internet : http://europa.eu.int

ONE FOR ALL - from JUNGHEINRICH

From conception to completion - in one year, the Jungheinrich company has developed with the highest security, a new type of fork lift.
The objective was clear ; increase the options available for handling machines by creating a less expensive, more manageable, high specification fork lift in order to open new markets.



The reception was entusiast... Banks, garden centres, local councils, retails, transport companies and hotels have accepted the new machine. Weither in Europe, USA or Australia, sales have taken off.

Jungheinrich is one of the leaders in its market sector. The company has an annual turnover of 2300 Million Deutch Marks and employs 8000 people.

In collaboration with Leroy Somer it was necessary to rapidly develop a new type of drive. The diversity of their products, their flexibility and the reduced development time tipped the scales.

The drive train consists of a gearbox adapted to the customers needs with a DC motor and brake. An electronic speed controller guarantees a smooth handling and operation.

The Swift, which it has become known, has a load capacity of 1000 kg with a drive speed of 3.5Km/h and a lifting height of 1.6 mtrs. It's width is reduced to 800mm.

The integral charger allows a rapid recharge of the batteries without maintenance of 60Ah at 24 volts.
For a small supplement, a personalised livery with a choice from a large range of colours and a company logo is available.

The Swift has a large range of accessories, lifting beam, lifting platform, bulk material bag or other customer lifting requirements and is available with wide forks (for chap pallets).

Leroy Somer wishes a successful sales campaign for a fork lift unlike any other which will take an important position in the large range of Jungheinrich products.

The new headquarters of Leroy Somer UK

It was a cold and wet November morning when Tom Emmett, the depot warehouse manager, decided that unless the Financial Director moved his car, it was in serious risk of having the wing removed by yet another lorry delivering goods from France. It was becoming all too clear, for those working in the UK head office of Leroy Somer in West Drayton, that the writing was on the wall - new and larger premises were needed - and quickly!

Leroy Somer UK first moved into the premises at West Drayton in January of 1988 and these served them well during a period until sales growth leapt by 500%.
In 1988 one large pantechnicon lorry from France arrived each week - in 1995 this grew to at least one pantechnicon each day sometimes more. In 1988 moving one or two cars so that a lorry could have access to the warehouse once a week was acceptable but the situation in1995 was too disruptive.

With the lease for the West Drayton premises due to expire in the march of 1996, the opportunity to acquire new premises suitable for taking Leroy Somer UK into the next millennium was seized.

Despite the property market being a buyers market with many properties standing vacant, the process of finding suitable premises proved to be problematic. The requirement was for a combined head office and warehouse facility, reflecting the fact that Leroy Somer in the UK is a significant company dealing with many national and international manufacturing organisations.

The target area was a triangle, with its apex in the Heathrow area, spreading out to the north as far as Oxford and to the south as far as Basingstoke.

After spending several months searching a property, somewhat miraculously, appeared on the horizon for Leroy Somer and is now the new UK head office. The facility now provides the base of support for all the customer needs.

The new premises now incorporates :
- The Gearbox assembly centre for the UK, capable of assembling any combination of output speed and torque requirement from a complete range of Helical , Helical bevel and Worm drive, geared motor units.
- Stock of AC and DC electric motors, fixed, Cast iron and Aluminium in IP23 and IP55 protection. Incorporating the new range of LSMV inverter rated motor stock.
- Stock range of Alternators.
- The Quality control department and After sales management centre which monitors the customer and ISO 9000 requirements.
- The Southern Regional Area office with it's dedicated sales team.

The operation was successfully completed over the weekend of 7th/8th December with business as usual on Monday, 9th December 1996.

For more information :

LEROY SOMER UK

Heathrow Interchange, Bullsbrook Road,
Hayes, Middlesex , UB4 0JR

U K I N F O R M A T I O N

SUMMARY

Fur further information contact :

Leroy-Somer UK
Ashley Galloway
Unit 8, Amherst Business Centre, Budbrook Road
Warwick CV 34 4XH
Tel 01926 493333
E-Mail: Ashgall@aol.com

Leroy Somer, Skelmersdale - All the

When Freddie Lemaire left school in 1975, Harold Wilson was Prime Minister, Liverpool FC were about to win the UEFA CUP, Queens “Bohemian Rhapsody” was at the top of the hit parade and the first Personal Computer was marketed in the USA.

Sixteen year old Freddie joined Leroy Somer as an apprentice winder just at the time they were setting up a rewind shop in the UK for the first time. This expanded into a fitting shop, adapting the products to the customers' needs and he spent five years on this activity until the shop closed.

Leroy Somer were making good progress in the UK, though, and a major contract was signed with a world renowned manufacturer of leisure pool pumps that required motors to be fitted to their pumps. Although the motors came from France, this was effectively a production line involving assembly, test, paint, packing and despatch. Freddie was happy in this work until the contract was completed in full in 1986.

Not wishing to lose his experience Leroy Somer UK offered Freddie an opportunity to take over the after sales and spares department from Kenny Haughton who had moved on to sales. This is the job Freddie has to this day and his 22 years with Leroy Somer UK make him one of the longest serving members of staff.

The Skelmersdale site deals with all the spares for Leroy Somer UK, except for the alternator section in Stamford. As a team of one, Freddie has to deal with customers' enquiries, quotations, order processing, stores, packing and despatch. It is this variety that keeps him interested and gives him most satisfaction.

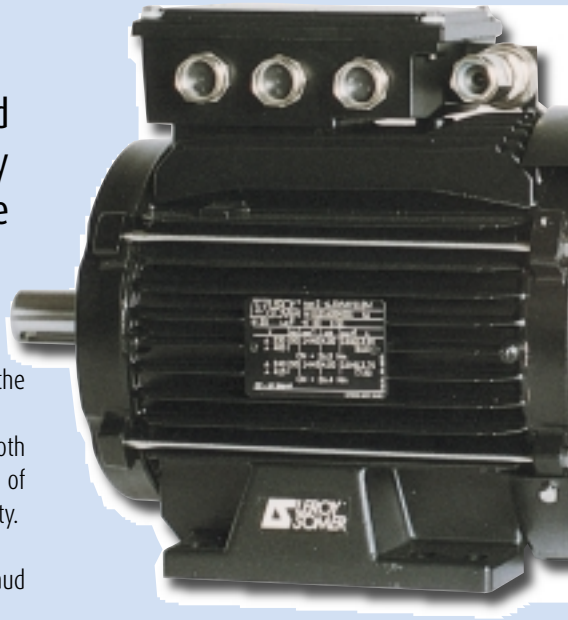
The major change over the years has been the expansion in the range of equipment and the increase in volume. If things get much busier, he will need some assistance, but as Freddie says, "nothing would give me greater pleasure than to pass on my experience and train somebody else". Don't get the impression that he wants to move on, though, Freddie is very happy with his lot and looks forward to another 22 years, when he will still only be 60.

Outside work, it is his family that is important to Freddie. Wife Jeanette, son Garry and daughter Joanne like to go for bike rides in the surrounding countryside. Holidays are

MV motors launched at Press Conference

PRESS

There is a very strong and informed technical press in England, so when launching any new product, it is important to keep the editors up to date with developments.



Over the last few years much has been written about inverters and variable speed drives in general; rather less about motors. As the MV motors are specifically designed to work with any inverter manufacturers technology, we felt that it was time to tell the press.

The search for a good venue led us to the Institution of Electrical Engineers. It has some excellent rooms for presentations both large and small and also carries the aura of professional standing and technical authority.

So on the 21 November 1996, Regis Giraud

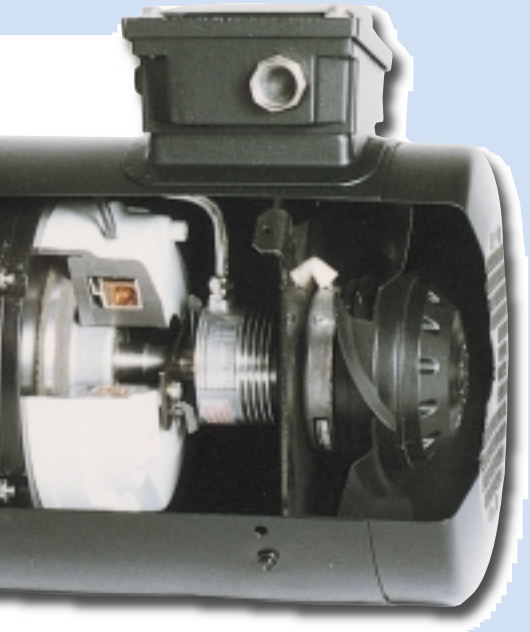
variety Freddie needs

often in sunnier climes, such as Spain or the Canary Isles, but up to now, never in France. Freddie has been to France twice on business, the last time in 1982 when the pump assembly contract was in full swing.

Who can tell what the future will bring, but Freddie Lemaire is delighted to be working for Leroy Somer and Leroy Somer are delighted to have experienced and long serving staff like Freddie.
Spare parts are essential for maintaining customer satisfaction and it would be difficult to imagine Freddie failing to identify any part from the immense variety of products that Leroy Somer manufactures.

Long may it continue, Freddie, and here's to 2019.

in London



and Charles Raballand from Leroy Somer with Peter Waldock and Ashley Galloway from LSUK carried sample motors and the presentation material to the Blumlein Room on the third floor. Eleven editors from such magazines as Industrial Technology, Drives & Controls, Processing, The Engineer and Electrical Products were in attendance.

The presentation outlined the need for special motors that are designed to work at variable speed. It then explained the shortfalls of other motors and how the MV overcomes the problems. From the number of questions at the end it was already clear that the launch was a success and subsequent results have confirmed it and warranted an excellent coverage from most of those who attended.

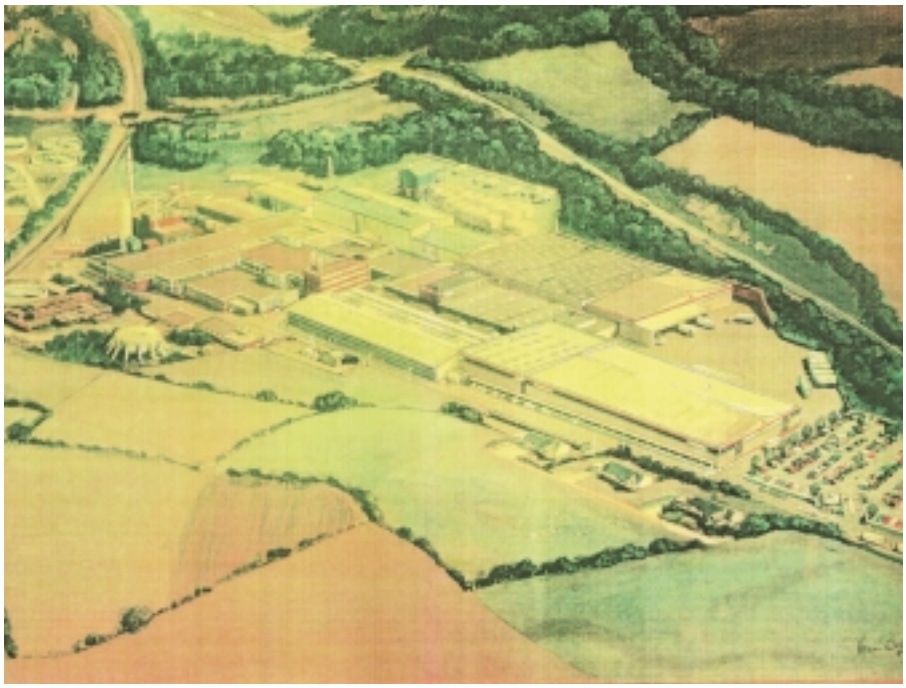
As is the custom after such a conference, we then retired for lunch. In this case, a short walk through the Savoy Hotel into the Strand took us to Rules restaurant in Maiden Lane, the oldest restaurant in London. An excellent lunch was served in the Edward VII room after which one of the editors said he would like to use the MV for a special feature in a Drives supplement in his magazine in May.

This is now in preparation and should result in several pages of high profile coverage of our motors in general and aspects of variable speed with the MV and Varmeca products in particular.

The new headquarters in Hayes is fully stocked with the new MV Inverter motor and sales are increasing steadily.

JAMONT chooses LEROY SOMER cast iron AC inverter rated motors in major machine upgrade

Leading tissue producer Jamont - part of the James River Corporation of the USA - has chosen Leroy Somer Cast Iron FLSC AC motors as part of a major machine rebuild at its largest UK site in Bridgend.



The tissue machine rebuild is being carried out at Jamont's Bridgend facility, its the largest in the UK. The buildings occupy 4.56 hectares of the 30.34 hectare site.

With existing drives up to 30 years old maintenance and down time were eating into production targets so Jamont faced an option to replace the DC drives or change to AC. Electrical Engineering Manager John Williams, responsible for overseeing the upgrade, says that from an engineering point of view, AC drives were the answer.

Jamont chose Allen Bradley to manufacture the drives and having looked at various motor manufacturers, John Williams says "Leroy Somer was as good as we could see". Apart from being more cost effective than the competition, "there were no technical reasons not to go with them", he adds.

Impressive for Jamont was Leroy Somer's ability to give a two-year guarantee on the motors and a five-year guarantee on insulation failure that might be due to high speed switching transistors. They were prepared to raise their normal guarantees across the whole range up to 600kW, said John Williams, and a site visit to the manufacturing plant in France, near Belfort, clinched the deal.

The first part of the job is now complete on the reel-up end of the tissue machine - the slowest part of the production process, where the paper product is actually creped. The reel up is running at a consistent 1200 metres/min with plenty of room for increasing performance to their specification level of 1570 metre/min.

Output specification for this, Jamontís biggest UK machine, is a massive 1830 metres/min with a sheet width of 5 metres.

There are particular benefits in using Leroy Somer FLSC Cast Iron AC motors, with it's internal protection and external three coat protection, in the aggressive environment that typifies tissue and paper production.
Excessive dust, humidity and moisture levels pose quite a challenge to DC motors that need substantial venting.
The FLSC AC motor on the other hand can be designed not to require separate electrical fans on the back end, just an ordinary fan blade on the motor shaft - so with increased environmental tolerance also comes an energy saving.
John Williams points to motor performance which is more than satisfactory. Since installation in August 1996, there have been absolutely no problems, he says.
Including mechanical and civil work, the installation took ten days in all; itself quite impressive if you consider that this was not a mere remove and replace task.
The reel-up was completely replaced with a state of the art unit, being the first of its type in the world. Extensive maintenance and Yankee cylinder regrind was also undertaken.

The next phase of the upgrade which involves the machine and fan pumps drives up to 630kW, will take place towards the end of the year.

Belfort

Belfort

Belfort

Off the beaten track, Belfort a territory, a town, abounds in opportunities. An ideal place for a short stay.

Photo : Office de tourisme de Belfort (F. Dumas)

History
Belfort was officially born in 1871 with the signature of Treaty of Frankfurt, bringing an end to the Franco-Prussian war.

The Lion of Belfort, carved out of pink sandstone which lies alongside the Castle, is the work of an alsacien sculptor, Bartholdi (his most recognised work being the Statue of Liberty). This work symbolises the "Heroic Resistance" of the Belfortians at the time of the sieges of 1814, 1815 and 1871.

It was several years before the inhabitants recognised the "Lion", the tourist impact of the Lion was not expected. From 1880, Belfort became "The City of the Lion" and each traveller came to the Citadelle to admire the Lion.

Link between Rhone and Rhin
The region of Belfort benefits from, by virtue of it's position, a natural sense of large open space. The space, enables an immediate appreciation of colours in blue, white or green according to the season: water sports and bathing in the Malsaucy lake, hot air ballooning and hang-gliding from the Vosges au Jura, ski-ing at the "ballon d'Alsace" or hiking in the 540 kilometres of public footpaths.

Industrial Region
The economic activity is dominated principally by industries such as mechanical, electro-mechanical and specialist subcontracting.

Leroy Somer has a major factory at Beaucourt, CEB. This factory designs and manufactures high power AC and DC motors up to 900KW.
Over a number of years, huge efforts have been undertaken with training and education to bring this region to a very high level of competence.
It is rare that an industrial region, the birthplace of the automobile industry (Peugeot) and of the TGV (Alsthom), could offer a standard of living of such quality, thanks to others, an inheritance of great natural wealth.
This is why, Belfort has become an ideal destination for business tourism.

For more information :

Belfort Tourist Information Office

2 bis rue Clémenceau
F - 90000 Belfort
Tél. : 03 84 55 90 90

UMV 4301 : adaptable according to the performance required

OPEN LOOP VECTOR CONTROL

Without feedback controls the flux current of the motor.

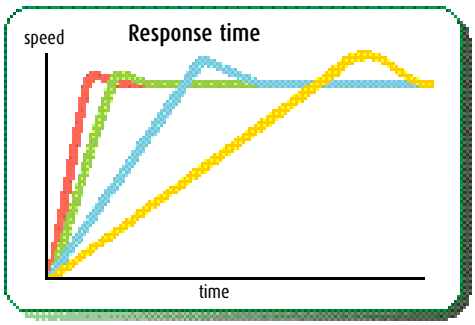
Auto tuning of the characteristics of the motor:

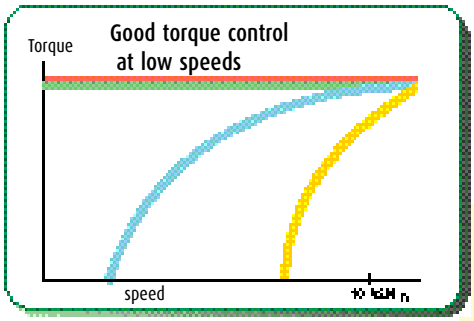
- Nominal torque of the motor is maintained down to 30 rpm
- Possibility to overload up to 2 times the nominal torque of the motor
- Precision of speed control is better than 1% on the nominal speed irrespective of the load

OPEN LOOP CONTROL CLASSIC V/F

The voltage and frequency is independant of the characteristics of the motor. For those applications where motor characteristics change significantly during operation.

For example: Special motors or a number of motors not mechanically linked but supplied by the same controller.





VECTOR CONTROL CLOSED LOOP

For the encoder input, a supply of 5 or 15v is incorporated in the controller or for an external supply up to 24v.

- 256 to 4096 pulses per revolution adjustable

The position and speed of the motor rotor is controlled:

- Nominal torque of the rotor is maintained at zero speed
- Precision of speed control is better than 0.01% of the nominal speed

SERVO MODE

Without options, controls a brushless motor

Allows the use of motors with small dimensions but offering a very high level of dynamic performance.

- Band width = 1000Hz
- Large range of associated motors:
  - 1 - 70 Nm with or without brake
  - Incremental encoder or resolver

CMT

The company CMT, a subsidiary of FAFER (steelworks of Charleroi), in Belgium, gives us a good example of an application where two types of inverters are utilised in perfect harmony.

The new warehouse, which is 240m long, is to handle special sheets of steel. CMT are putting into service 3 travelling cranes which will be used intensively. Each crane has a capacity of 15 tonnes over a width of 18.2m. Each crane has a 55KW hoist motor controlled by the UMV3301 inverter. Transfer motions both direction and giration will be controlled by the UMV4301 inverters.

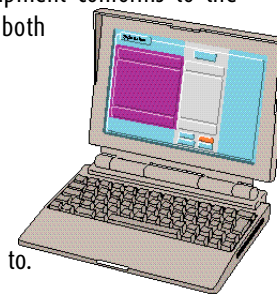
UMV 3301 : The universal high power controller

This frequency controller is designed for extremely arduous industrial applications, and allows the control of motors with powers varying from 55 to 500KW.

There are three modes of control possible:
- Speed control
- Torque control
- PID (proportional integration derivitive) feedback control.

The range of UMV 3301 controllers have been developed in collaboration with the research department of the French electricity Authority, EDF.
The controllers incorporate a special command which compensates for a supply undervoltage and continues to supply the necessary power to the motor in this event.
The 3301 is thus protected from a drop in voltage of up tp 30% on the three phases.
For all applications the controllers protect against the effects of fluctuation of the supply, limiting the effect on the speed control and avoids untimely shut down of the motor.

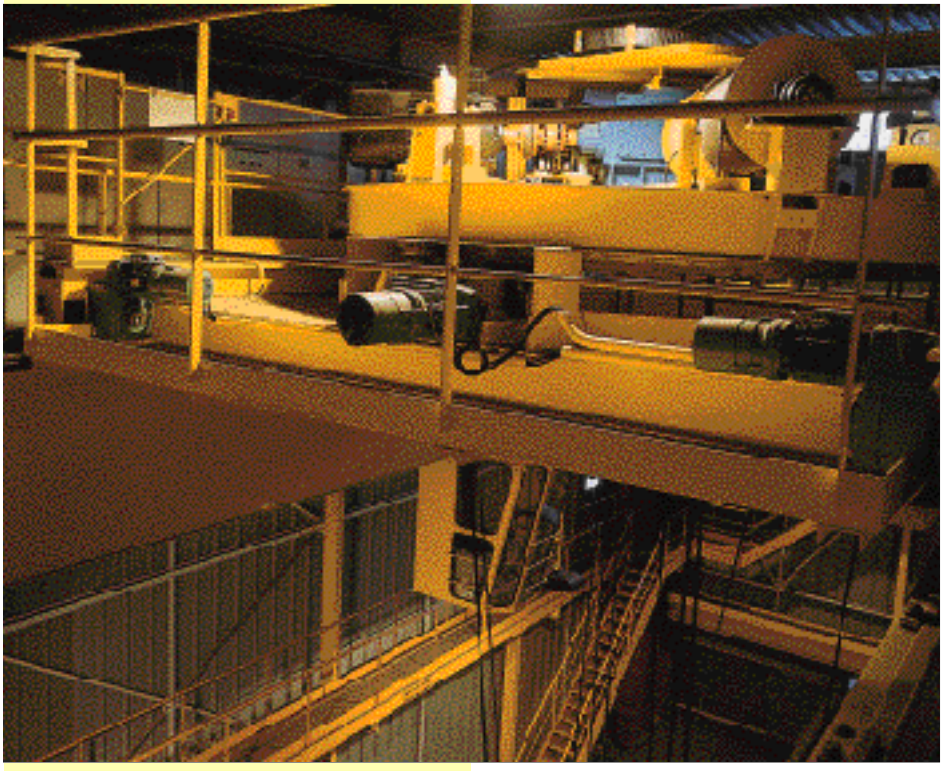
Of course, the equipment conforms to the European Directives both Low Voltage and Electromagnetic Compatibility providing the instructions given in the installation manual are adhered to.



Speed control is achieved by either of 3 modes:
- Open Loop Vector Control without speed feedback
- Closed Loop Vector Control with encoder speed feedback
- Classic control by Voltage/Frequency

The speed control system is able to be easily adapted for each application. The use of a portable PC makes the programming particularly straight forward and fast.

For the most common applications such as pumps, fans and compressors a simplified programme is already incorporated in the controllers memory, consisting of a limited number of parameters which can be modified. In total the UMV 3301 makes available 15 different menus allowing the adaptation for other types of application.



VARMECA

THE ELECTRONIC INTEGRATED CONTROLLER

- ranges from 0.75 to 2.2KW
- speed range 1 : 7
- supply voltage 3phase 400v +/- 10% 50 or 60Hz
- automatic short circuit protection
- Inputs 0 - 10v for external control
- CE marking to comply with the low voltage directive
- RFI filtration integrated to comply with the directive for electromagnetic compatibility.
- can be configured for standard motors and gearboxes, Compablocs and Multiblocs