

NOTICES

People buy from people

THE PEOPLE | There are many automated processes at the Leine & Linde factory. It's the people that lie behind errors, but also behind repeated successes. The reason we succeed in making market-leading encoders, products that outlive the systems they are installed in, is that we who work at Leine & Linde make a point of doing a good job.

Your first contact with us is with our sales staff. Behind the salespeople stand others responsible for planning, designing, marketing, manufacturing, assembly and inspection, and seeing that the encoder is sent to you on time. We know that we will get new orders if you think we do a good job.

Leine & Linde is the plant, a patent, and a trademark, but above all 110 employees whose efforts are oriented to building your encoder with comfortable margins to your requirements. It has taken 40 years to build up our culture and our trademark. We take care of it together with satisfied customers. ▶



Cat hair in the encoder

ANECDOT | There are many stories in Leine & Linde's history.

Lars Erik Flordal, a long-time employee, relates a funny incident from the company's beginnings in the 1970s.

"Our customer Retab wondered once why there was cat hair in an industrial counter we had delivered. It turned out that Henrik Linde's cat had taken a nap in a less than recommendable location."

"That's a far cry from today, when the clean room has to be completely particle-free", points out Lars Erik. ▶

40 years at the customer's service!

Ready for the future with new, modern facilities



The white building in the background is the latest addition. The box on the roof contains the air and water cleaning equipment. The water is pure H₂O. It is ultraclean and is used during manufacture for washing and humidifying the air.

This year Leine & Linde celebrates our 40th anniversary. To be prepared for the future we have built a 1300m² ultramodern production facility. Now we're inaugurating the new plant! In this jubilee issue of Impulse you can read about the company's history, where we are today and about our visions for the future.

In 1967 **P-O Leine** and **Henrik Linde** founded Leine & Linde.

At the outset the workforce consisted solely of the two partners.

Today, 40 years later, Leine & Linde has 110 employees.

In 40 years Leine & Linde has developed into a global company, selling encoders to 164 different countries and with a 2006 turnover of € 19 million.

To be prepared for the future Leine & Linde has built an ultramodern production facility which will be in operation after

the inauguration in June.

The company now has a total surface area of 3 530 m² at Strängnäs.

An important part of the new facility is the clean room.

It is always particle-free and always has the same humidity and temperature.

By constantly maintaining the same production conditions we have eliminated the "Friday afternoon encoder". ▶

Read more about the new facility on pages 4-5.



In the clean room all the air is changed out 55 times per hour. Here it is always 21°C with a relative humidity of 45%.

40 years – and more expansive than ever!

FROM 0 TO 175 MSEK IN 40 YEARS | In the last ten years Leine & Linde's growth has been several times larger than the rest of the market. Expansion is necessary to maintain our competitiveness.

GROWTH TO BE STRONGER | Our size means that we can cut costs and be even more interesting for our suppliers. At present we therefore focus on India and the USA. We are naturally also on the lookout for new market segments in our existing markets in Europe and now also in China.

THE FUTURE | Our customer's need for robust and dependable speed or position feedback will only increase in the future. With fast serial communication interfaces such as ProfiNet and DriveCliq, new doors will be opened for optimised automation solutions. We see preparation for future challenges as a matter of course. Strategic research, state-of-the-art techniques in production and not least our market-driven organisation will guarantee Leine & Linde's strong growth in the coming decades.

UNDERSTANDING THE CUSTOMER | We win the confidence of more and more customers, while at the same time retaining our old customers. The most important reason for

this is that we understand the customer's needs and demands and have the ability to live up to expectations.

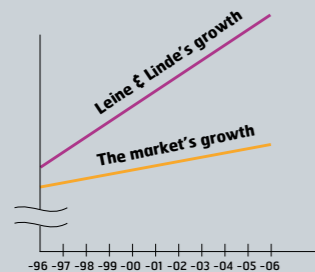
OUR KEYWORDS

- **QUALITY** – throughout the production chain
- **ON TIME** – the customer shall have his encoder when he needs it
- **COST** – an encoder from Leine & Linde is always worth it's price

The right personnel allow us to live up to our keywords. It is one thing to formulate keywords, another thing to live up to them. Even if we have a high degree of automation in manufacturing, it is always the human factor that determines if the encoder is of the right quality, and is delivered at the right time and at the right price.

To succeed in what we have set out to do requires goals, commitment and the will of all employees to live up to the goals. We had never reached our overall goals and high expansion tempo without a competent and committed staff in the entire chain, from customer contact to delivery through design, production techniques, planning, manufacturing, inspection and packaging.

THE NEXT 40 YEARS | We seem to have found the key to success: close customer contact and the will to do a good job. So we definitely look forward to the future with confidence! ▶



In the last ten years we have taken market shares. Our growth has been several times larger than rest of the market.

BJÖRN ZETTERLUND
Managing Director



New production facility

WE CELEBRATE THE 40TH ANNIVERSARY of Leine & Linde as a company by inaugurating a new production facility. It meets our demands for precision to produce high quality products. This facility is where we will develop the encoders of the future. It also gives us more production area to meet volume increases. ▶

This is where encoders are used!



The pictures above show three examples of encoders telling the control system what to do: in the elevator exactly where it is located; in the escalator the exact speed and in the excavator exactly how much the joystick is moved by the operator to control the scoop.

Pulsgivare finns överallt omkring oss. Vi ser dem inte, men de finns där i våra liv. De finns i hissar, grävskopor och rulltrappor och nästan överallt där det finns motorer.

There are all sorts of applications in both industry and around us in the everyday world.

What is an encoder and what does it do?

Magnus Johnson, Marketing and Sales Manager at Leine & Linde, sheds some light on the subject.

"An encoder is a sensor that measures and converts rotation speed to an electric frequency or position. An example where the encoder is used for feedback of a physical movement is in an elevator, where every floor has an absolute position. In this application the encoder is used to ensure the elevator stops at exactly the same place every time."

Where are encoders installed?

"They can be wherever it is necessary to regulate rotation

speed or positions in something that moves. For the most part they are connected to some form of motor. There are all sorts of applications in both industry and around us in the everyday world. You can find them in packaging machines, rolling mills or on the extensible ladder of a fire engine."

How many are there in each application?

"That differs depending on what the entire application looks like. But usually there is one on each motor."

How long does it take to make an encoder?

"That depends on the degree of complexity and accuracy.

It takes from a few hours to several weeks. Most important are the results and that it does what is expected.

We regard quality control as part of the production time."

What are the largest and smallest encoders you make?

"We named the largest Dunderklumpen, after a giant in a children's tale. It was robust and heavy with a total weight of five kilos, for use in the steel industry.

The smallest was Model 14, weighing 48 grams."

The most peculiar applications?

"There are two that are a little offbeat.

One encoder was ordered by Olsson's chicken and pig farm for their pig feeding machine. Another was used for sorting fish. If the fish weighed more than five kilos it would go into the right-hand tub; if it weighed less it would go into the one on the left."

How fast does an encoder spin?

"An encoder can spin up to 12,000 rpm."

Who is your typical customer?

You can say that our customer segment stretches from small companies that order a few encoders to large multinational concerns that order up to several thousand encoders at a time," concludes Magnus. ▶



1967-1977 THE INVENTOR EPOCH

1967 Henrik Linde and P-O Leine start Leine & Linde HB at Bangatan 5 in the Stockholm district of Solna. The first encoder model was the M35.
1971 Leine & Linde move to the bathhouse at Strängnäs.
1973 A rotary indexing table is purchased for 9170 SEK. 10 arch sections, pulse count up to 2500.
1975 A general agent is established in France.
1976 Big order: ASEA orders 95 encoders for forestry machines.

1977-1987 THE TIME OF THE ENTREPRENEUR

1977 The company is bought by Ulf Hedlund. Half of sales go to export.
1978 Market leaders in Scandinavia.
1980 Turnover € 2.7 million.
1982 The first delivery of Model 800 encoders to ASEA.
1984 The first PC is purchased.
1985 The first expansion of facilities.

1987-2007 THE EXPANSION PHASE

1987 Euroventure buys 40% of the company.
1988-89 Production: 23.500 encoders.
1990 The Incentive Group acquires L&L.
1991 Turnover € 4.3 million.
1992 Heidenhain becomes owner.
1994 Björn Zetterlund becomes Managing Director.
1995 Sales offices open in Germany.
1996 Our encoders become self-diagnosing.
1997 ISO 9001 certification.
1998 Sales offices open in Finland.
2000 Sales offices open in Denmark.
2000 Turnover € 8 million.
2004 Encoder platform G4 for 58 mm incremental and absolute encoders is introduced.
2002 ISO14001 environmental certification.
2004 Sales offices open in Italy.
2006 Sales offices open in China.
2006 Turnover € 19 million.
2007 A new ultramodern production facility is inaugurated.