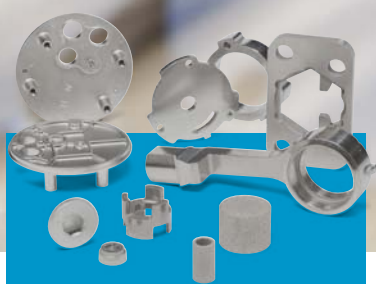
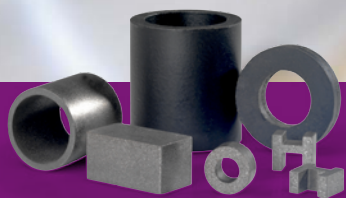


High-tech, bespoke products within the field of powder-based solutions





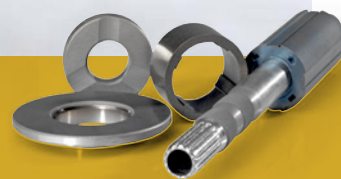
**Sintex®
Sintered Parts**



**Sintex®
Permanent Magnets**



**Sintex®
Magnetic Systems**



**Sintex®
Wear Resistant Coatings**



Your technology... your dream!

At Sintex we are experts at understanding the fields of activity of our technology partners, and as your competence centre we are always eager to enter into open collaboration in order to optimise elements such as product, material know-how, processes and production. We aim to boost your development by contributing to a quantum leap in terms of technology!

If we have not described your particular technology or field of application in this brochure, then it is our mission to work to help you achieve your dream!

Our focus on innovation and creativity often pulls us in new directions in which challenging questions are asked of our knowledge and skills as we encounter new and interesting technologies. This is an everyday occurrence for us – it is what makes the daily routine interesting and challenging for our employees – it ensures that Sintex is constantly able to renew itself and create enhanced and optimised solutions, as well as adding value for the benefit of all involved parties.

We look forward to taking on a challenge...but at the same time we attach great importance to our set of values concerning credibility – if we come across an area of technology in which we are unable to manage the process, we will not take on the task. Honesty and open collaboration are of great importance to us.

dreams • challenges • new ideas

Your technology partner

Over the years we at Sintex have moved away from working as a traditional supplier and gravitated towards the role of what we today call technology partner.

As a competence centre, we aim to represent your interests with respect to new technologies. In our experience, close collaboration between our development departments and greater sharing of knowledge ensure better results in terms of creating intelligent solutions.

We weave your technologies into our own and are happy to involve even more partners. We have our own patented technologies, but also apply for patents alongside and on behalf of our partners.

For us, applying our knowledge and skills to create innovative and intelligent solutions in interaction with our technology partners is a matter of course – and we strive to do this on the basis of our values credibility and sustainability.

We keep
our word, generate
openness and mutual trust
with respect to our employees
and our business partners, thereby
gaining recognition and respect.



competence centre • high-tech • true
to our word • sustainable • open

innovative • developing
knowledge-sharing • creative

Innovation as a culture...



For us at Sintex, sustainability is about how we work in the smartest possible way with technology, culture and the environment today, without it having a negative impact on tomorrow.



The innovative mindset has become a fundamental element of Sintex a/s. This is based not only on the extensive internal sharing of knowledge throughout the company, but also externally with our technology partners.

We are always looking to renew ourselves and to create enhanced and optimised solutions together. Our approach to the task at hand is to be able to secure Sintex' position as a high-tech enterprise that generates added value for you, for ourselves and for the society around us.

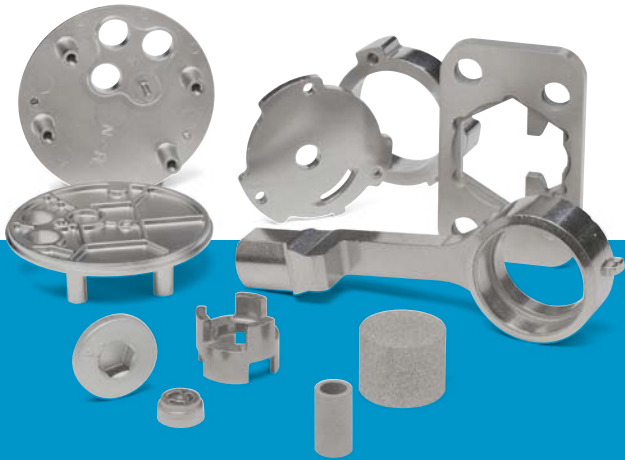
A key element in our way of thinking is sustainability. This can come in the form of the developers' focus on the reuse of product materials; the development of new, more environmentally-friendly material qualities; the development of new, more efficient and energy-saving systems; enhancement of existing production processes, etc.

Products

& areas of
technology



Sintex® Sintered Parts



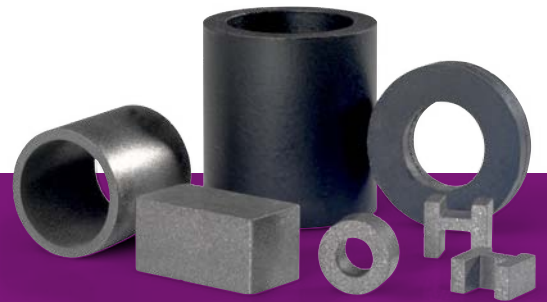
Sintex sintered parts covers stainless steel sintered components and filters, as well as MIM (Metal Injection Moulding), which represents the next generation in powder metallurgy.

Traditional components and filters are pressed into a predefined geometry, which is subsequently sintered such that the component attains its strength, corrosion resistance, density and weldability.

MIM components represent a newer technology which, with the mixture of the "powder" in plastic, combines the geometric versatility of plastic injection moulding with the benefits of sintering technology. In terms of design, this results in endless possibilities and renders finishing unnecessary.

Powder metallurgy is a green technology that enables geometrically complex components to be manufactured in a single process without machining. Advantages include the ability to combine several components into one, the ability to make material and weight savings due to carefully controlled porosity, minimal waste during manufacture, in addition to which fewer processes mean lower energy consumption per kilogram of component produced.

Sintex® Permanent Magnets

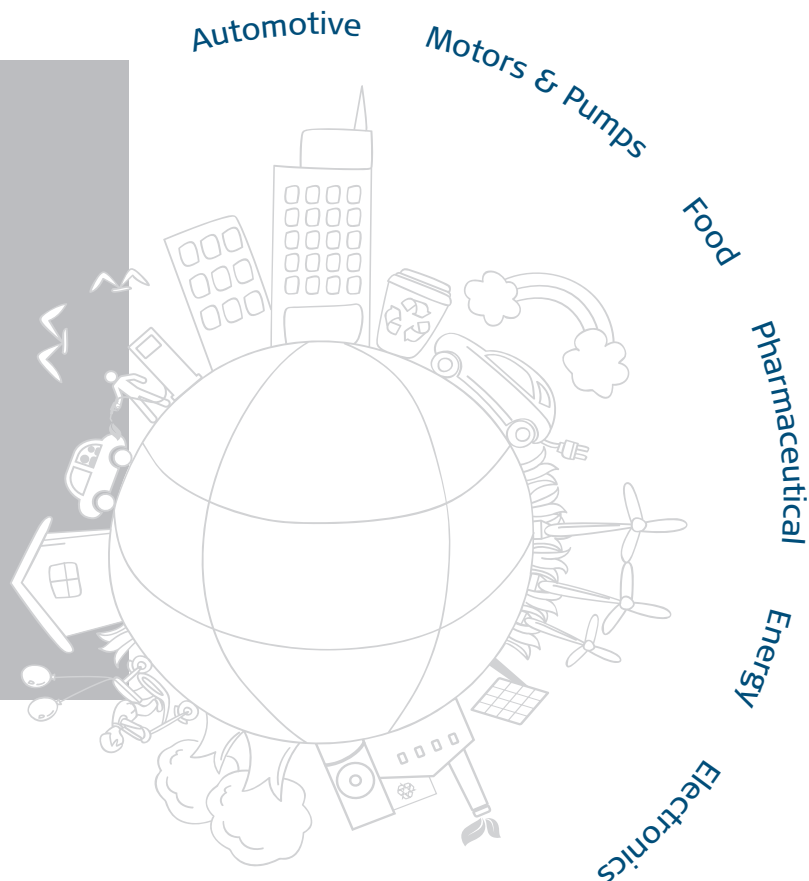


Sintex permanent magnets can include magnets for technically complex systems or simple retaining magnets. Regardless of the solution, we have the requisite experience and can provide advice on design, dimensioning and further treatment and machining, if required. Our manufacturing process and many years of experience ensure optimum magnetic properties.

We are experts in the development of bespoke products within sintered parts, permanent magnets, magnetic systems and wear-resistant coatings.

The complex technologies are applied in a large number of different industries and sectors. Common for these sectors is that they are looking for long-term, development-oriented technological collaboration.

In the following we will present extracts from our range of solutions within the various areas of technology.



Sintex® Magnetic Systems

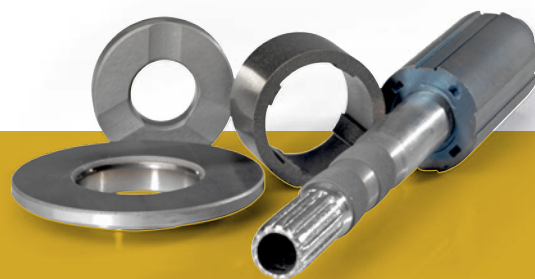


We develop and manufacture several different types of complete magnetic systems, such as magnetic couplings and clutches, magnetic rotors, components produced in soft magnetic composites (SMC) and other magnet-based sub-components.

Magnetic systems are innovative, cost-efficient and environmentally-friendly solutions. The latest patent in this product area thus comprises unique processes which ensure greater magnetic strength, greater efficiency in the system, reductions in the number of steps in the process and make the use of epoxy in production redundant.

This thus represents yet another innovative and sustainable initiative at Sintex a/s.

Sintex® Wear Resistant Coatings



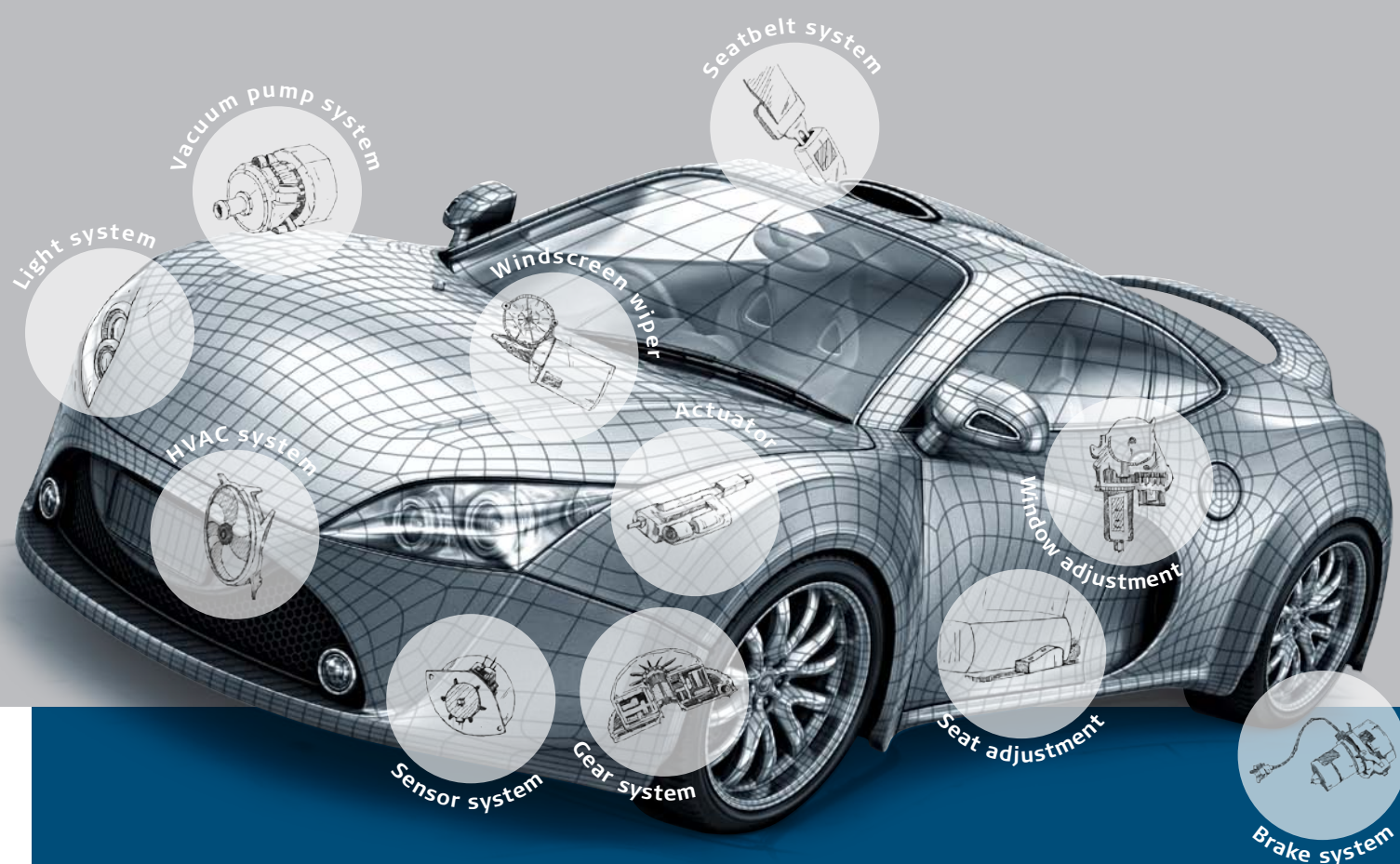
Wear and corrosion protection are achieved by spraying the component with heated metal powder at extremely high speed. Numerous business partners have found that this method is able to alleviate specific wear problems, and the lifetime of the component has been shown to be up to 10 times longer!

Lifetime is extended due to the very high carbide content: Wolfram carbide has a hardness of approx. 2200 Hv5; typical wearing particles such as quartz/sand have a hardness of around 1200-1500 Hv5.

Drive units • Electro-motors • Heating • Brake systems •
Gears • Ventilation • Air-conditioning • Safety components

Technologies

Automotive industry



The automotive industry is characterised by requirements focusing on high volumes, zero-defect philosophy, certification and cost optimisation. These are all requirements that we at Sintex a/s are used to fulfilling.

We operate according to the zero-defect philosophy – both in the form of implemented improvements and via the introduction of high quality standards. The high quality standards and our cross-organisational quality management underline the fact that Sintex a/s is a high-tech enterprise that also generates value for our technology partners in the car industry.

Sintex' technologies are obvious choices for drive units (motors, clutches and small components) for cars; electro-motors and gears; brake systems; heating, ventilation and air-conditioning equipment (HVAC) as well as safety components.

Hybrid
Electric Petrol Diesel

Due to requirements concerning maintenance-free solutions, the motor and pump industry specifies exacting requirements with regard to corrosion resistance and robustness, in addition to geometric versatility and enhancements such that the overall output of the systems is optimised.

The industry's focus on geometry and enhancements is matched by an ambitious further development of powder metallurgy – especially Metal Injection Moulding (MIM). Furthermore, we have a great deal of experience in magnetic systems.

Sintex' magnetic solutions are optimised with regard to efficiency, complexity and economy. This applies to our patented rotor technology and to the magnetic material SMC, which, with its 3-dimensional magnetic properties, enables completely new design options to be realised compared to traditionally laminated tin.

MIM technology uniquely combines the geometric versatility of plastic injection moulding with the material properties from powder metallurgy and enables more complex components to be produced than is the case for traditional powder metallurgy.

Sintex' technologies are applied within areas such as high-efficiency motors, compact motors, high-efficiency submersible pumps, circulation pumps, household pumps, sewage pumps, industrial pumps, metering pumps, vacuum pumps, etc.

Technologies

Motor & Pump industry



Filter components • Filter systems • High-speed rotors • Complex pump housing components • Cooling/heating components • Motor calculations • Permanent magnetic rotors (wet and dry runners) • Sensor housings • Sensor components • Wear-resistant coatings on pump shafts, bearings and gaskets • Stator systems • Valve systems

Technologies

Food industry



The food industry has exacting requirements with regard to stainless materials, cleanliness and consulting tasks, and not least to maintenance-free solutions.

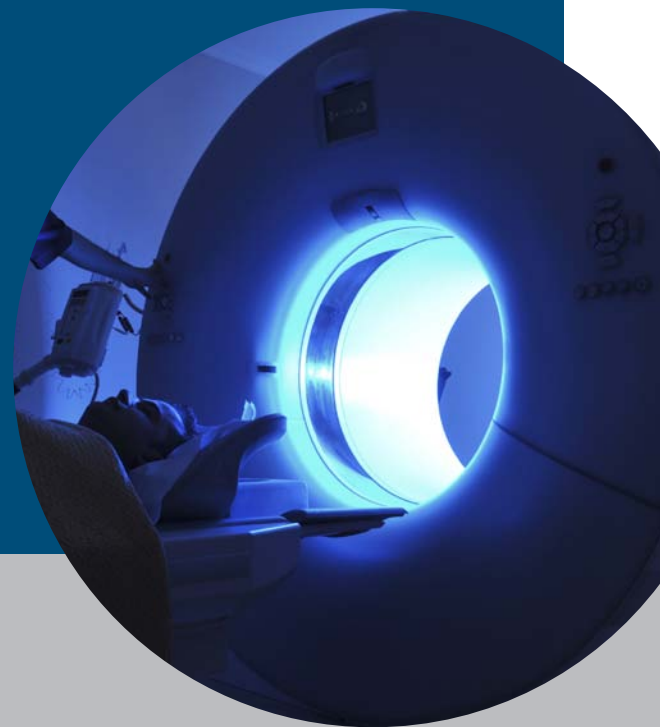
We are specialists in stainless products and develop our own alloys that keep pace with development and live up to the particular quality requirements and processes in question.

These alloys include the STX2000 alloy for stainless steel sintered components, which are particularly corrosion-resistant and certified for use in drinking water applications in accordance with the French drinking water directive.

The food industry also utilises our other new products in both corrosion-resistant and maintenance-free filter systems, magnetic solutions and wear-resistant coatings.

The applications are most commonly used for production and processing equipment.

Production and processing equipment



Technologies

Pharmaceutical industry

The pharmaceutical industry's requirements in terms of quality, advanced technology and documentation of processes and materials are familiar to Sintex a/s. Today we supply high-tech stainless steel sintered components, filters and magnetic systems to the pharmaceutical industry.

It goes without saying that we ensure certification in accordance with agreed specifications, and our entire organisation has incorporated the quality systems and international standards that are necessary to live up to specific customer requirements at all times.

Scanners • Aids and equipment • Clinical consumer goods •
Mixers • Processing equipment and devices • Filter systems

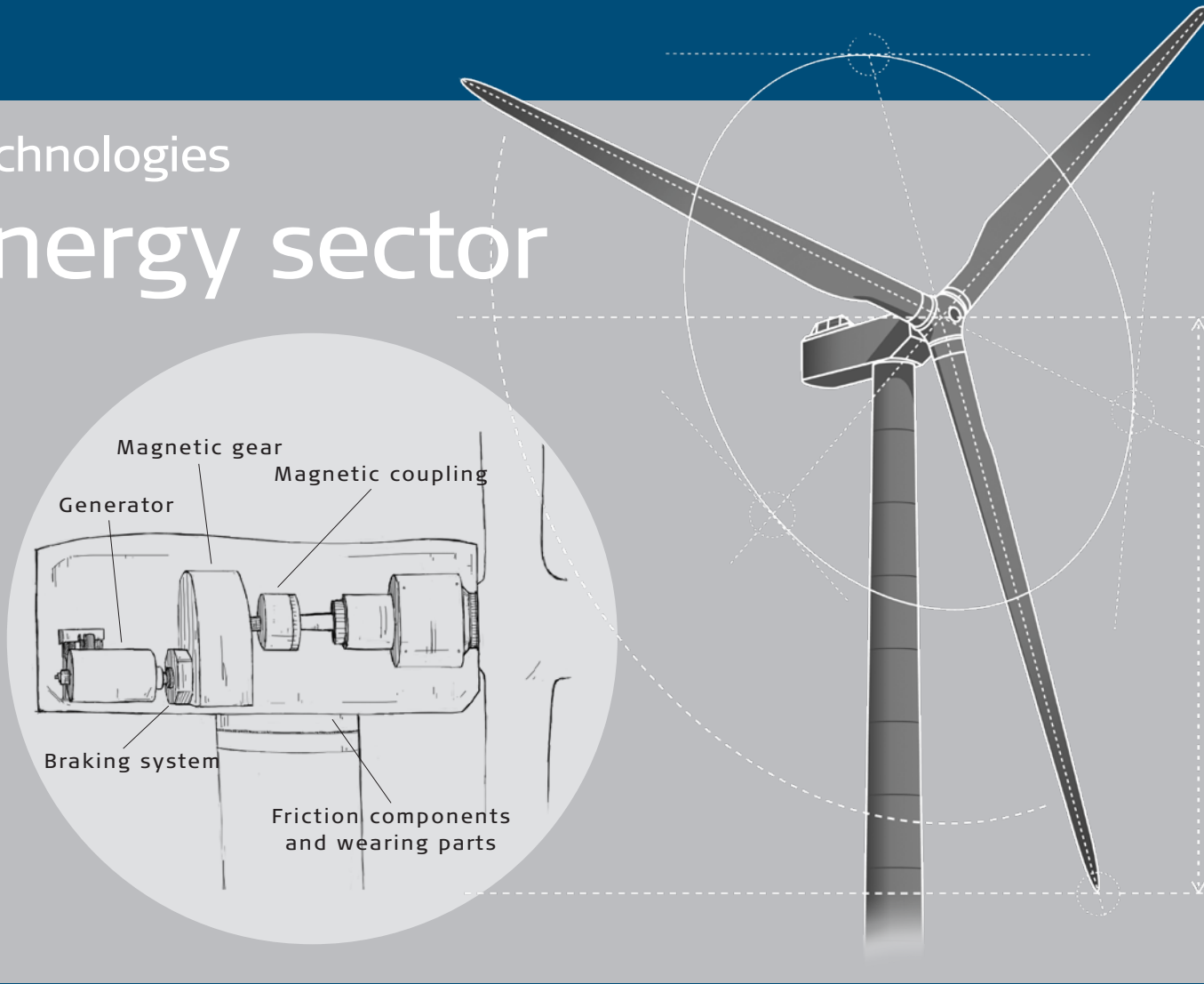
The energy sector has a pressing need for solutions that are maintenance-free, optimised in terms of power and fully enclosed. In the wind turbine industry – and in the case of offshore wind turbines in particular – maintenance is an expensive drain on resources that should be avoided.

Sintex' many years of experience with similar requirements from the motor and pump industry is a definite strength. We are experts in maintenance-free, fully-enclosed solutions – and have our own patents as well as patents acquired in collaboration with development partners.

We have considerable experience of working with several involved parties in order to achieve a common goal – and we are always happy to contribute to the end result.

There are numerous examples within the wind turbine industry: Magnetic couplings, magnetic gears, generators, braking systems, friction components and wearing parts.

Technologies Energy sector



Fuel cells • Heat pipes • Generators •
Magnetic gears • Magnetic couplings •
Extreme magnets • Range extenders

Actuators and lifting columns • Sensors •
Power components • Audio / Hi-fi • Show
and lights • Miscellaneous accessories

The electronics industry's need for innovation and rapid technological progress often means even closer development collaboration with customers within this particular industry. It is a highly competitive industry where being at the forefront of development and being innovative are all important.

Sintex typically develops mechanical components and support systems for the electronics industry. An example of this is a groundbreaking new magnetic solution within the hi-fi field which Sintex has spent several years developing along with one of the market's most successful speaker manufacturers. The magnetic solution is an innovative world-first that is being introduced into a new and unique transducer technology. The solution is based on the advanced magnetic material, SMC (Soft Magnetic Composites), and enables a significant reduction in distortion. Sintex is thereby helping to generate value for our technology partner and boosting its chances of being a leader on a hi-fi market that is under a great deal of pressure.

There are plenty of opportunities – also within the electronics industry!

Technologies

Electronics industry



R&D

Sintex a/s has its own development department which both runs individual projects on behalf of customers and works with the development of Sintex' own materials, designs and processes.

They are experts within Sintex' fields of technology and are happy to be at your disposal!

The development department's work includes:

- Patentable ideas for concepts, design and manufacturing methods
- Development or enhancement of materials and processes
- Consultancy services and problem-solving
- Calculations using advanced programs – for example, magnetic calculations with finite element programs, 3D simulations, torque calculations or motor calculations
- Test and measurements with high-tech equipment – for example, density measurements, measurement of mechanical and magnetic properties, salt spray chamber testing, etc.
- Technical patent investigations and applications – also along with other business partners
- Close collaboration with universities and research centres – including participation in national and international research projects
- Development of networks with international experts

Our development department ensures that we and our customers are constantly renewing ourselves. In this way we help to ensure that our customers are at the forefront of new technologies and manufacturing processes in their core business areas.





Vision

We aim to be a competence centre in the Grundfos group with external customers. We wish to be pioneers within our focus areas of innovation, technology maturation and high-tech production.

Mission

We are based on high-tech, bespoke products within the field of powder-based solutions. Our core competencies are applied in collaboration with our customers to generate intelligent solutions.

Innovation, technology maturation and production commissioning are based on widespread sharing of knowledge. Innovation within existing and new areas of technology is a fundamental element of our business creation.

Sintex - your competence centre

At Sintex a/s we wish to be a competence centre that contributes to ensuring you a quantum leap in technology.

We work openly with solutions at different levels and for numerous stakeholders – ranging all the way from consultancy alone to the production of prototypes, manufacture of stand-alone equipment, manufacturing of production lines, production of series in-house or relocation of a commissioned production line.

We look forward to dealing with any challenges you may wish to present to us!

History &

culture

Despite its relatively young age, Sintex a/s is a company with a colourful history and solid roots.

We began in 1997 as a spin-off from Grundfos A/S. The idea was to exploit the fact that the materials and processes that were developed at Grundfos could be applied outside the pump industry. Six employees from a department at Grundfos thus became the foundation of Sintex a/s.

Today we are an independent limited liability company owned by Grundfos A/S. In 2012 we achieved another milestone as we exceeded 150 employees for the first time and more than 5,400 square metres of floor space. Sintex a/s is thus always on the lookout for skilled employees that can contribute to the development of the company.

Being a high-tech enterprise places great demands on our employees. As Sintex also wishes our employees to be satisfied with their respective jobs, we attach great importance to looking after our personnel. Our employees receive regular training and we make a priority of ensuring motivating work where contributory influence and self-governing teams are a natural element of the organisation.

Purchaser:

"... From the moment I walked through the door, I was met by the good spirit and atmosphere which the management has been so good at engendering here. We are given free rein and independent working conditions in the form of both flexitime and working from home, and there is a marvellous cheerful and relaxed atmosphere."

Operator in the magnetic systems department:

"It was Sintex' values concerning openness, responsibility and not least job satisfaction that provided the trigger for applying for a job at Sintex a/s. ... Since I began my term of employment, shared goals and self-development have been very much in focus. Everyone strives to work towards the same goal, which makes Sintex a/s a very satisfying place in which to work."

Employee in the workshop:

"It was Sintex' good reputation in terms of its personnel that encouraged me to apply for a position here. I am unskilled, so it meant a lot to me to find a company that listens to its employees – and I've been fortunate enough to find such a company!"

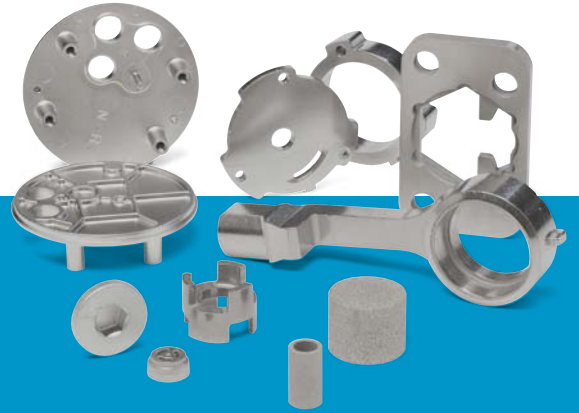


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- 2013** Installation of second fully automatic MIM oven
- 2013** Transfer of rotor line
- 2012 April** Sintex a/s reaches 150 employees
- 2012 April** Rotor flex line installed and commissioned
- 2011 December** Densomat for density measurements
- 2011 September** 250T fully hydraulic trial press commissioned
- 2011 February** Sintex a/s moves its stock to new premises at Jyllandsvej 7
- 2010 October** Fully automatic MIM oven installed and commissioned
- 2010 January** Delivery of component no. 100,000,000
- 2009 November** New fully automatic facility for thermal spraying
- 2008 March** Delivery of magnetic rotor no. 500,000
- 2008 February** Sintex a/s achieves the milestone of 100 employees
- 2007 December** New administration building with canteen
- 2007 October** Opening of new development laboratory
- 2007 June** MIM oven installed and commissioned
- 2007 May** 10th anniversary
- 2006 December** New 3-D measurement device is installed in the quality department
- 2005 January** Sintex a/s takes over Sjællandsvej 13 for stock, workshop and development laboratory
- 2004 April** 160T fully hydraulic multi-plate powder press commissioned
- 2004 March** New production hall for stainless powder metal is opened
- 2004 January** Delivery of magnetic rotor no. 100,000
- 2003 October** Fully automatic robot cell for assembly and laser-welding of magnetic rotors commissioned
- 2003 May** Sintex a/s takes over Jyllandsvej 12, thereby doubling the number of square metres of production space
- 2002 July** Delivery of component no. 10,000,000
- 2001 May** Delivery of first magnetic rotor
- 2000 November** ISO 9001:2000 certified
- 2000 October** Commissioning of first high-temperature/hydrogen sintering oven of own design
- 1999 December** Sintex a/s approved as A-grade supplier to the car industry
- 1998 May** Sintex a/s makes its debut as an exhibitor at Metal '98 trade fair
- 1998 May** Number of staff increased from 6 to 13 personnel
- 1997 May** Establishment of Sintex a/s

Product sheets

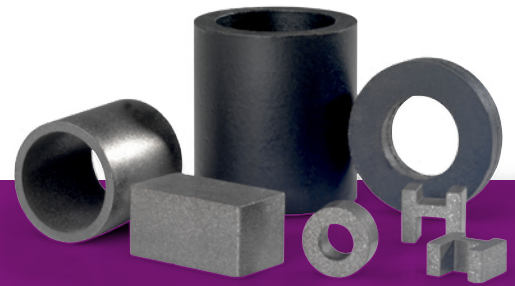
Sintex® Sintered Parts

Stainless steel sintered components
Stainless steel sintered filters
MIM - Metal Injection Moulding



Sintex® Permanent Magnets

Sintered and polymer-bonded
permanent magnets



Sintex® Magnetic Systems

Magnet systems and components
Magnetic rotors
Magnetic couplings
Soft Magnetic Composites



Sintex® Wear Resistant Coatings

Thermal spray coatings





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