

LESJÖFORS
SPRINGS & PRESSINGS



**Europe's leading manufacturer
of springs, stampings and pressings**

The Lesjöfors Group also includes

EUROPEAN
SPRINGS & PRESSINGS

stece
FJÄDRAR AB

www.lesjoforsab.com

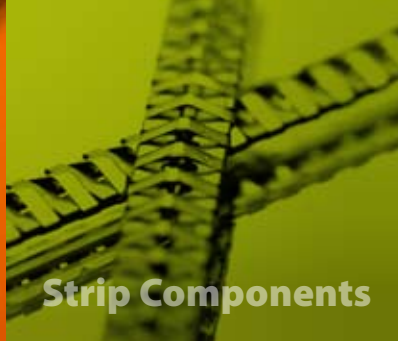




Springs



Gas springs



Strip Components



Automotive

LOOK TO THE FUTURE WITH LESJÖFORS

Lesjöfors is a global manufacturer and supplier with the market's widest range of springs, gas springs and strip components. Our success is the result of years of dedicated work and research into innovative problem solving across a range of major and diverse industries. Our experience, along with our unique skills, access to resources and focus on continuous development processes delivers high tech customised solutions for every need.

Meet the future with strengthened competitiveness and allow our experienced staff to become part of your product and process development with everything from advanced calculations and design to manufacturing.

At Lesjöfors you can be certain of meeting people with leading edge, high-tech skills whether your requirement is low volume bespoke precision work or high volume standard parts.

Welcome to Lesjöfors.





SPRINGS

Lesjöfors has long and extensive experience in the manufacture of springs and constantly gives priority to technological developments in this field. Our main competitive advantages are our wide product range, high-quality production, leading-edge technical skills and superior customer support.

Our wide product range is unique in the spring industry and has been developed to give our customers the option of single sourcing with us. Our springs are found in almost all industrial sectors, for example power generation, paper and pulp, petrochemicals on and offshore, automotive, infrastructure and consumer electronics. At Lesjöfors we work with our customers to find the most effective way to make the product available in the optimum

quantity, then manufacture and deliver on time. We stock and distribute all kinds of springs and can satisfy any customer order method.

Our most frequently manufactured springs are compression, torsion and tension springs, in addition to wire components and flat springs from strip. We possess expertise and experience in different spring materials e.g steel, stainless steel, super alloys (used in springs designed for high temperature and aggressive corrosive environments), titanium and even aluminium. Our manufacturing equipment is the most up to date currently available, which enables us to maintain the highest level of quality and productivity into future.





Facts

- No other spring manufacturer in Europe can offer the same range of in-house manufactured components from so many different types of materials.
- We offer flexible manufacturing processes from single items to high volume production.
- With close cooperation with our customers in the product development process, we can lower costs and reduce impact on the environment – under or over engineered products can be costly for all concerned.
- The Lesjöfors Group manufacture compression springs, tension springs and torsion springs in dimensions from 0,03 to 65 mm, which covers the vast majority of our customer's needs.
- The Group has close links with suppliers, standard institutes and universities, contributing to problem solving, technical experience & expertise we can offer.

“Lesjöfors is a flexible comprehensive spring supplier”





GAS SPRINGS

Regardless of whether you need a quick delivery of standard gas springs or a special design, Lesjöfors is able to supply the solution you require.

Gas springs with their unique spring characteristics and controlled movement can help you in a number of applications. Often they fit excellently when there are special demands on ergonomics or operator safety.

Our standard range of gas springs has 770 different part numbers with around a 100 end fittings and accessories.

As a result we can offer extension forces between 40 and 2000 N and strokes between 20 and 500 mm directly from

stock, which confirms our unique ability to meet immediate demands within various applications. Some of these may require features such as stainless steel, force reduction, safety lock function or stepless locking function. We can offer them all.

If our large standard range does not satisfy your specific requirement for length, force, damping ability, surface treatment, end connection etc we will be happy to support you. We have decades of experience in choosing the right gas spring for various needs. We will be able to assist with our sample service and technical advice from your early product development phase all the way to optimised delivery schedules for your mass production.





Facts

- Unique spring characteristics with controlled movement.
- 770 different part numbers in stock – order today, assemble tomorrow.
- Acid proof stainless steel gas springs.
- Customised solutions and special product types on request.
- Technical support including application calculations and sample service.



“With almost 800 different gas springs in stock, we believe we have the widest standard range in Europe”





STAMPINGS & PRESSINGS

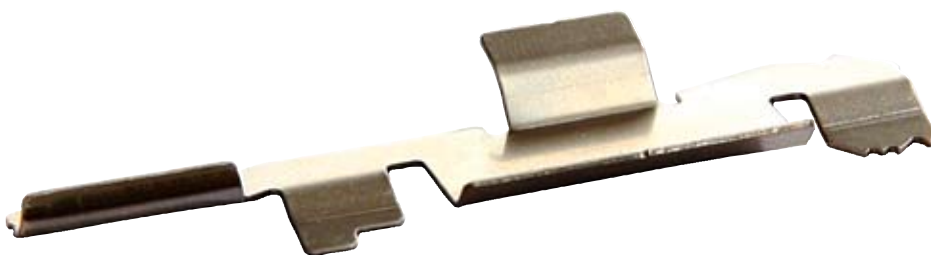
Lesjöfors is constantly working to improve our manufacturing portfolio, techniques and tool design, always taking each individual customer's requirements into account. Superior engineering combined with modern production processes result in the best environment for high-quality, cost effective products.

We are happy to assist in producing prototypes, selecting the optimum material, processing and surface treatments for your specific product. Our development engineers can give support with advanced technical calculations such as force, relaxation and fatigue.

Lesjöfors offers cost effective production irrespective of whether the order is for 10 or 10 million components.

With highly automatic processes and tools, such as multislide machines from Bihler, Finzer and Latour or high speed stamping presses such as Bruderer & Mabu, we can guarantee superior products.

If you require smaller batches with fast turnaround, we can support this with standard tooling, manual forming, laser cutting and wire erosion. Lesjöfors also has manufacturing units in Latvia and China, which can provide very competitive production.





Facts

- Lesjöfors manufactures strip components in dimensions from 0,025 to 6 mm in thickness.
- Lesjöfors has an extensive range of materials in stock and offers rapid prototyping and product development for complex components reducing development times TTM yielding superior product Quality.
- Lesjöfors specialises in products with complex geometries in high strength, conductive and thin materials.



“Lesjöfors is an innovative problem solver in the spring- and pressings industry”





STANDARD SPRINGS

With our structured selection of components held in stock, we make life easier for our customers. 'Simple, safe and cost effective' are key words in our promise to the market.

- Lesjöfors' wide selection ensures that in most cases our customers find a standard spring that fits their needs.
- Your standard spring can be delivered tomorrow thanks to our efficient logistics.
- Our experience in logistic management makes it possible to deliver the majority of our range in larger volumes at short notice.
- You can rely on the guidance of our highly skilled personnel to get the correct spring for your requirements.
- Our unique spring catalogue makes it easy for you to find the right standard spring yourself.
- The search engine on our website makes your search easy and fast.
- Almost all items are available as CAD models, which can be downloaded for free.
- You have many options when ordering, from a direct phone call to EDI solutions.
- Lesjöfors' own manufacturing combined with a wide network of suppliers guarantee superior quality and secure deliveries.

Facts

- Our selection includes almost 10,000 items.
- The latest edition of the spring catalogue contains 419 new items.
- Our standard 3D CAD models can be configured and downloaded in 8 different formats.





Contents in the Spring Catalogue

Wave springs – multi coil wave springs are new to the standard selection. They are made from flat spring materials and are suitable for use in applications where a low mounting dimension is required. A reduction in mounting dimension of up to 50 % can be achieved.

Compression springs – you will find an extensive selection of the most common standard springs on the European market. This segment also contains tool/die springs according to ISO 10243.

Tensions springs – a unique dimension standard for special loops and standard springs ensure a large assortment. Most of the items are available in stainless steel.

Torsion springs – we offer both double and single torsion springs in a program that covers most applications. All items are available in stainless steel.

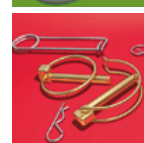
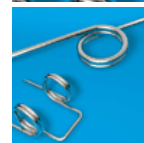
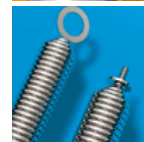
Disc springs – the selection is based on the European standard DIN 2093, combined with a wide range of disc springs in stainless steel.

Constant force springs and spring washers – we provide a wide range of clock springs and constant force springs in combination with clever fittings and slide bearings.

Locking springs, pins, spring u-nuts and clips – a large selection of the most common spring locking components.

Gas springs – a complete assortment of gas springs with strokes up to 500 mm. Most items are available in stainless steel. Models with force reduction and integrated safety locks are new in our standard selection.

Gas spring end fittings – loops, clevises, ballcaps and brackets are available in different designs and materials. Most items are available in stainless steel.



“Lesjöfors is one of the oldest and most experienced spring suppliers in the world”



AUTOMOTIVE AFTERMARKET

Lesjöfors Automotive is a specialised, highly skilled manufacturer and stockist of suspension springs. We offer the widest commercially available range of quality assured aftermarket springs. In addition to our own production and wide product program, our main competitive advantage is our efficient logistics and superior customer service.

Lesjöfors Automotive specialises in the aftermarket for passenger cars and other vehicles. We are unique, since we are both a manufacturer and a stockist. We control the process from spring calculation to manufacture, stocking, logistics and service.

“With the widest product range of vehicle springs – Lesjöfors is often the most natural choice”

Within Automotive we possess a deep competence and large capacity in both production and application.

Lesjöfors provides a complete range of chassis springs from our own production. Our sport spring kits are TÜV approved and developed for Nordic road conditions. Our range of gas springs covers just about every car model on the European market, and we offer a complete range of leaf springs for light transport vehicles.

Our customers are mainly national distributors of vehicle spare parts. Distribution is carried out from our logistic centres in Sweden, Germany, United Kingdom and Russia.





IN CONSTANT MOTION

The Lesjöfors group is continuously improving. In close cooperation with our customers we constantly evolve. As their leading spring supplier our globally recognised customers challenge us to extend the boundaries of our technical expertise everyday. By moving forward area by area and by setting in stone action plans our ultimate objective is to provide an unrivalled service for all our customers.

Quality

Our management systems are third party approved according to ISO 9001. Some subsidiaries are also third party approved according to TS 16949, which is a quality standard requirement for automotive industry suppliers. Our management systems are designed to satisfy the customer's product demands and expectations on the supplier partner.

Environment

Lesjöfors and all its subsidiaries fulfil the laws and regulations from the authorities. The environmental focus is to work constantly to eliminate any impact on the environment. Consequently, we have been third party approved for a number of years to the environmental standards in ISO 14001. The environmental control and improvement are part of our management systems and designed to identify significant environmental considerations, evaluate the situation and define environmental goals and to take actions.

"Quality and environmental considerations are essential in all Lesjöfors business"





TECHNICAL DEVELOPMENT

The performance of your spring or strip component is crucial for the function of your application. To determine the products performance, Lesjöfors makes calculations and simulations that later are verified through measuring and testing. We have the capacity to calculate, measure and test all types of springs, from very small and thin strip components to several hundred kilo heavy coil springs.

Complete development partner

Lesjöfors' wide network of product and manufacturing science includes fields as material, surface treatment, cosmetics, dimensioning, manufacturing, testing and quality assurance. We cooperate with the leading material and alloy suppliers in the world, which gives us access to the best knowledge of material qualities. We use leading-edge methods to support you with calculations and dimensioning for your specific requirements.

Function and reliability

The selection of the optimal material and surface treatment for your product is dependant on factors as working temperature and risk of corrosion etc. Lesjöfors' spring experts give you advice and recommendations for the best function of your component.

Examples of spring materials that we work with:

- Cold drawn low-alloy steel
- Quenched and tempered spring steel
- Stainless spring steel
- Copper alloys
- Super alloys
- Titanium alloys



3D optical analysis of a compression spring geometry.

Facts

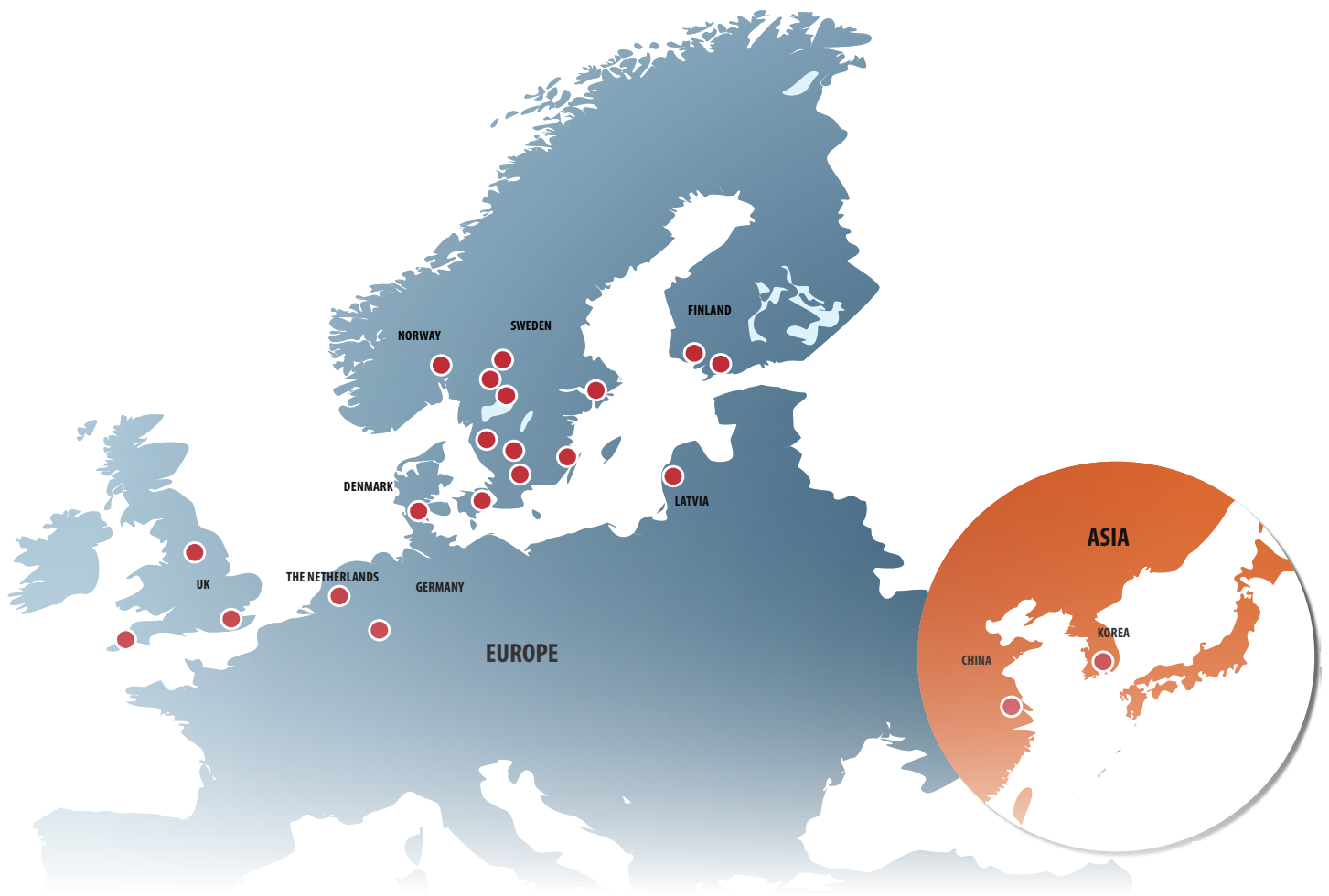
- Lesjöfors measures and tests springs and strip components at 13 different locations in Europe and China.
- Lesjöfors employs Europe's best highly skilled and experienced engineers and spring experts that work with technical service and customer projects.
- Lesjöfors has the capacity to measure and test the performance of all products in our program.

Tension, compression and bending loads are together with torque important parameters for the function of springs. Fatigue strength with high-safety is especially important to dynamic working springs. Relaxation or creep is often important for static loaded components. Mechanical qualities such as wear resistance, surface structure and friction are important to some components. For other components, electrical qualities such as conductivity and contact resistance are significant.

As your partner in a development project, we contribute with specific competence about the product, its qualities and manufacturing.

“Lesjöfors is a knowledge based company within the spring and pressings industry”





SWEDEN

Lesjöfors Försäljning

Jämtlandsgatan 62
162 60 Vällingby
Tel +46-8 445 88 88
Fax +46-8 87 63 50
info.vby@lesjoforsab.com

NORWAY

Lesjöfors AS

Professor Birkelandsvei 24A
N-1081 Oslo
Tel +47-22 90 57 00
Fax +47-22 90 56 90
info.ske@lesjoforsab.com

DENMARK

Lesjöfors A/S

Ringager 9-11
DK-2605 Brøndby
Tel +45-4695 6100
Fax +45-4695 6195
info.bby@lesjoforsab.com

FINLAND

Oy Lesjöfors AB

Hallimestarinkatu 7
SF-20780 Kaarina
Tel +358-2276 1400
Fax +358-2235 5689
info.abo@lesjoforsab.com

Contact for Hot Coiled Springs

Oy Lesjöfors AB
Valsverksvägen 115
SF-104 10 Åminnefors
Tel +358-19 2766 200
Fax +358-19 2766 230
info.ami@lesjoforsab.com

GREAT BRITAIN

Lesjöfors Springs LTD

Lowfields Way, Lowfields Business Park,
Elland, West Yorkshire, UK HX5 9DA
Tel +44 142 2377 335
Fax +44 142 2373 336
info.ell@lesjoforsab.com

European Springs & Pressings LTD

Part of the Lesjöfors Group
Chaffinch Business Park, Croydon Road,
Beckenham, GB-KENT BR3 4DW
Tel +44 2086 631 800
Fax +44 2086 631 900
info.bec@lesjoforsab.com

GERMANY

Lesjöfors Springs GmbH

Spannstiftstr. 2
DE-58119 Hagen - Hohenlimburg
Tel +49-2334 50170
Fax +49-2334 501717
info.hag@lesjoforsab.com

THE NETHERLANDS

Lesjöfors Netherlands

Tel +31 74 267 3180
Fax +31 74 267 3179
info.nl@lesjoforsab.com

LATVIA

Lesjöfors Springs LV

Kapsedes iela 2b
LV-3402 Liepāja
Tel +371-340 1840
Fax +371-340 1850
info.lep@lesjoforsab.com

CHINA

Lesjöfors China Ltd

No.22 HengShan Road
New District of Changzhou
CN-213002 Changzhou China
Tel +86-519 5118 010
Fax +86-519 5118 670
info.cz@lesjoforsab.com

AFTERMARKET DIVISION

Germany / UK / Russia / Sweden

Lesjöfors Automotive AB

Rådjursvägen 8
SE-352 45 Växjö
Tel +46 470 70 72 80
Fax +46 470 70 72 99
info.auto@lesjoforsab.com

LESJÖFORS

SPRINGS & PRESSINGS

The Lesjöfors Group also includes

EUROPEAN
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