

LASCO UMFORMTECHNIK

Your needs. Our solutions.

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WELCOME

Dear customers, dear readers,

Since its foundation in 1863, our company has dedicated itself passionately to the task of manufacturing machines and production lines that can solve forming tasks as economically as possible. Performance, quality and advancement of our products justify the worldwide recognition of LASCO Umformtechnik as a technology supplier and innovator in the forming and building materials industry.

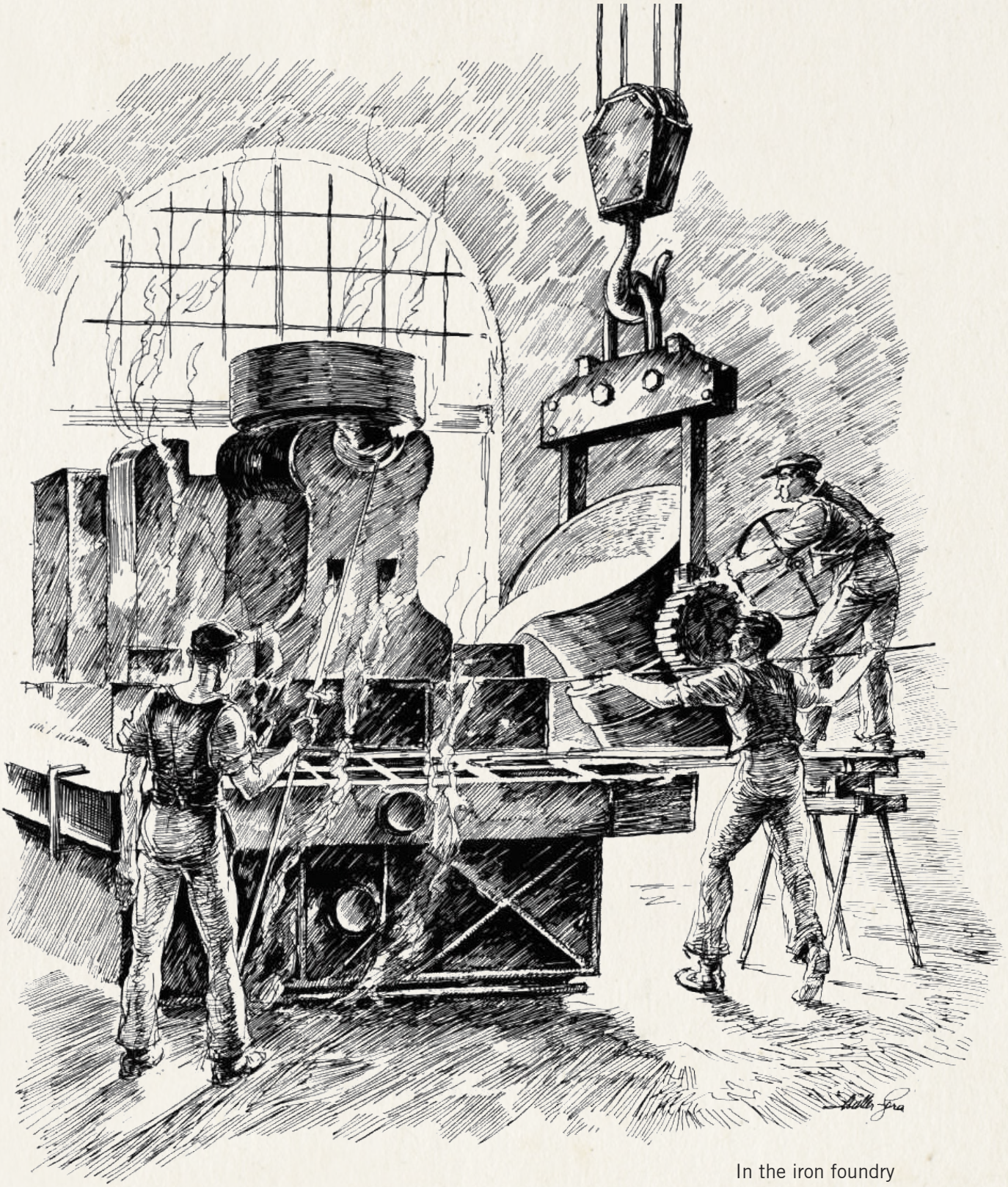
Consistently tailored to the needs of the markets!

Our focus is on **mechanical engineering in solid and sheet metal forming.** In addition, LASCO machines and production lines have been excelling for many years in the **production of building materials** and in **special machine construction**.

The criteria for our actions are the wishes of our customers. Based on decades of experience and technical progress, we seek, find and implement the best solution for their individual requirements. This includes **automation, handling** and **interface technology** as well as the **modernization** of proven production veterans.

Being a well-established and qualified partner, we supply production equipment with which our customers can thrive in international competition for years to come.

Yours **LASCO UMFORMTECHNIK**
WERKZEUGMASCHINENFABRIK



In the iron foundry

Tradition

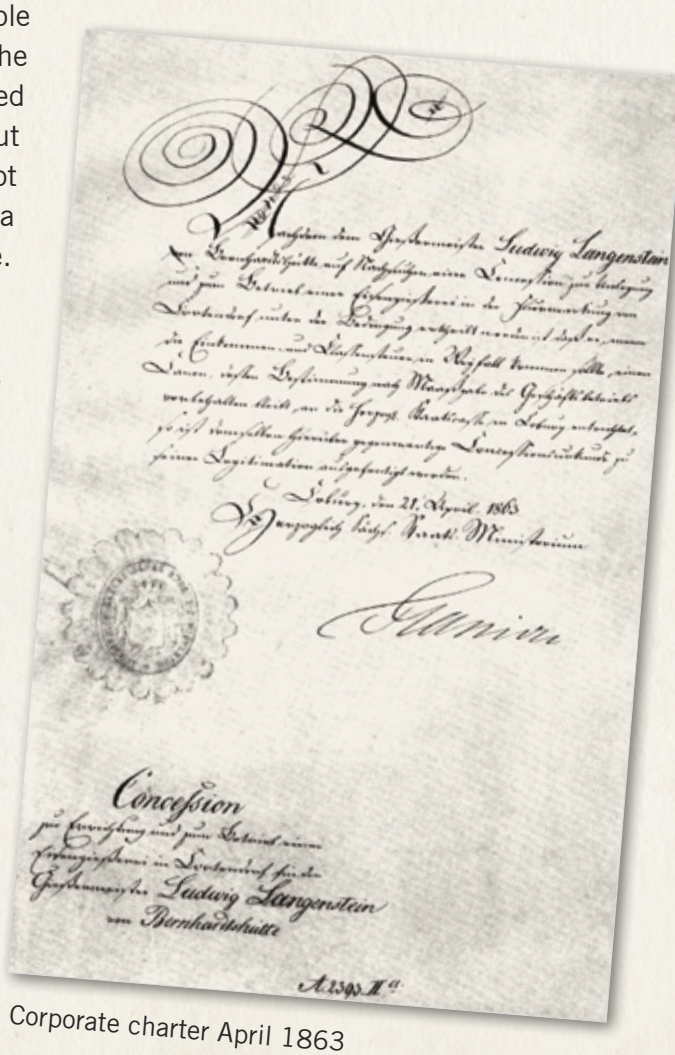
It was the middle of the 19th century, the first German Constitution (St. Paul's Church, Frankfurt 1848) was still young, the German Empire would not rise before 1871 and the Duchy of Saxe-Coburg-Gotha – which was of quite some importance at that time – was a member of the German Confederation, a loose amalgamation of states consisting of 35 principalities and four free cities.



Length was measured in "Rute", "Fuß" and "Zoll", and people paid with "Gulden", "Thaler" and "Silbergroschen". The majority of the population worked in agriculture and skilled crafts and trades. Economy was not very innovative, but industrialisation slowly made its breakthrough – and not only the middle classes in the Duchy of Saxe-Coburg-Gotha pushed for better con- ditions for economic development, i.e. for liberalism.

In this epoch metallurgy expert and master founder **Louis Langenstein** and merchant **Ludwig Schemann** established the "Cortendorfer Eisengießerei und Maschinenfabrik" (Iron Foundry and Engineering Works Cortendorf), today's machine tool factory "**LASCO**" – originally: **LA**NGENSTEIN & **S**CHEMANN, **CO**RTENDORF – near the ducal seat of Coburg.

The licence for setting up an iron foundry was granted by the Ducal Saxe State Ministry in Coburg on 21 April 1863, and in the same year – on 30 September – the Ducal Saxe Administrative District Office granted the owners' request to call their factory "Ernst-Hütte" (Ernst Foundry) due to a "gracio s decision" by Duke "Ernst II".

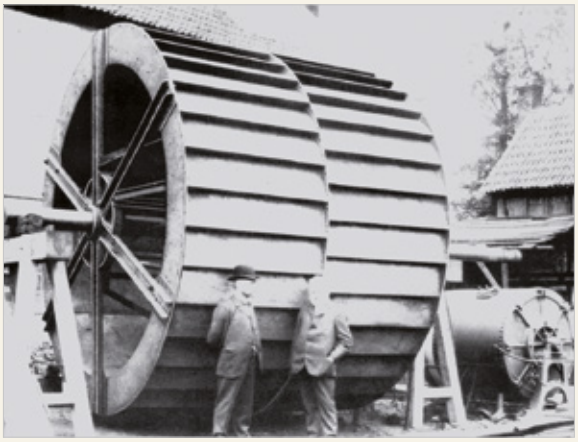


Corporate charter April 1863

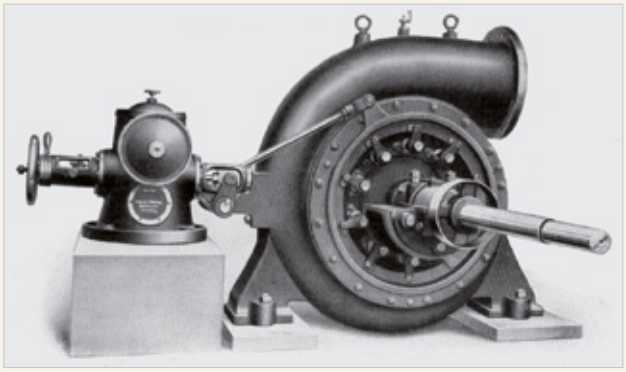
Historical Product range



Pelton rotor



The beginning of the hydraulic prime mover production



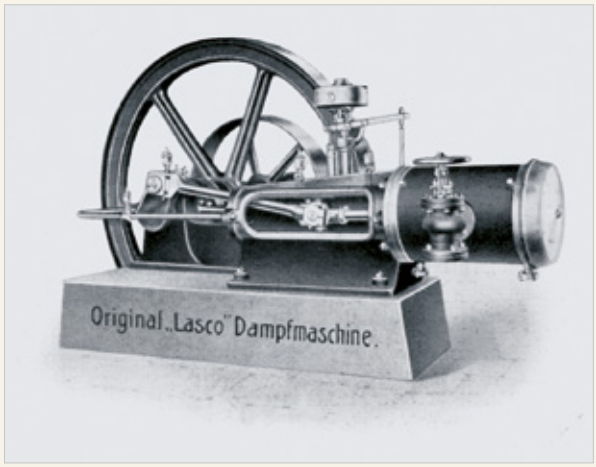
Francis spiral turbine with horizontal shaft

Shortly after the foundation of the company, the product range also included **waterwheels** and **milling equipment** besides **foundry products**. But as early as 1869 they started to design and build the first **water turbines**. Some hundred lines were to follow. The high demand in Thuringia played a decisive role at the beginning, but also later the solidly-built, advanced "LASCO design" of **Francis, Kaplan** and **Pelton turbines** was highly appreciated abroad. Thus numerous interesting lines – with a performance of up to 3,000 kW – were delivered to many countries worldwide.

During its further development the company took up the construction of **combustion** and **steam engines** and succeeded in advancing this manufacturing sector to a high technical degree, too. For about 50 years - saw gates were also produced.

Both the Thuringian and the Franconian Forest offered good sales opportunities. The design of the "Hexenmeister Saw Gate", which was patented several times, was technically far ahead of its time. However, the production of **saw gates** was stopped in 1952 within the scope of a general standardisation of products and rationalisation.

Already towards the end of the 19th century rising industries within LASCO's field of activities inspired changes in the production programme. The tool factories at Suhl, Zella-Mehlis, Schmalkalden, Erfurt etc. – situated in the "Green Heart" of Germany – needed efficient die forging hammers for production



Original LASCO steam engine



Original "LASCO locomobile"

purposes. For this reason LASCO started with the production of **forging hammers** as early as the 1880s.

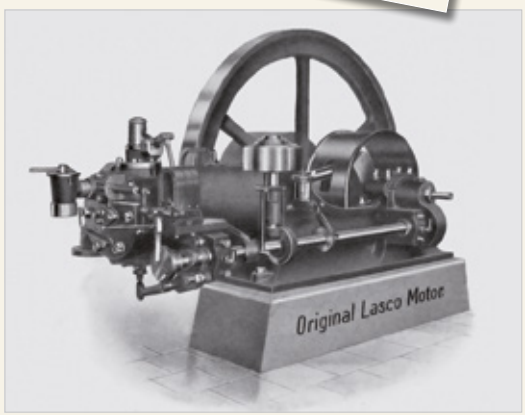
Only a short time afterwards the first **"LASCO patent drop-board hammer FW"** was developed from the first **"friction forging hammer"**. Its maximum working capacity was at 5 mt (approx. 50 kJ). More than one thousand of these machine tools - which were advanced and efficient for that time - were delivered. At the same time a powerful **spring hammer** especially suited for stretching was developed for the surrounding small-scale industry as well as for crafts and trades. This robust forging hammer excelled in high efficiency, great flexibility of application and long operational lifespan. Four sizes of the series FH with ram weights of up to 100 kg were built and delivered worldwide.



"Hexenmeister Saw Gate"

"Langenstein & Schemann AG" (corporate form from 1918) gained access to the relevant industries in Baden-Württemberg, the Ruhr area, Westphalia and also beyond the German borders. This was based on its success in Thuringia due to its robust machine and line design and continuous development.

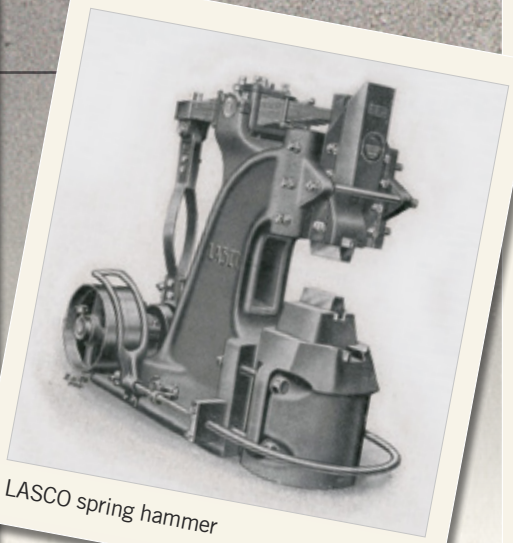
The economic development in the pre-war period and bold entrepreneurial spirit led to the continuous rise of the company and its development from a small firm to a respectable machine tool factory with iron foundry.



Original LASCO gas engine



LASCO patent drop-board hammer FW



LASCO spring hammer



First electro oil-hydraulic die forging hammer worldwide – LASCO patent no. 974854 dd. 1951

More than 1,000 drop-board hammers as well as spring hammers proved to be reliable production lines in the steel-processing industry as well as in crafts and trades.

In the 1930s the production of special hammers for forming light metal parts for the developing aircraft industry was introduced. The first hammer of this type, an **electro oil-hydraulic "LASCO forming hammer"**, left the company in 1938. A resulting development from this machine was the first **"hydraulically driven die forging hammer" – LASCO patent no. 974854 dated 1951** – which proved to be a first-rate success story. Meanwhile this machine tool has been delivered to 62 countries in the world in the HES, KH, KGK and currently the HO series.

Due to the valuable experience LASCO had made with the construction of hydraulic machine drives, the company promptly developed the first "electro oil-hydraulic press for deep-drawing, blowing, forging and stretching" for the rising automotive and accessories industry in the early 1950s.

This machine for universal application was presented to trade professionals at the European machine tool exhibition in Hanover in 1952 for the first time. Important car manufacturers recognized the universal applicability of this machine very quickly, which consequently led to high production figures through to the 1980s.

Since then LASCO machines have been presented at nearly all German and European machine tool exhibitions. There are permanent representations as well as our own after-sales services and spare part stores both in Germany and in many European and overseas countries.



Electro oil-hydraulic LASCO forming hammer VSH



Electro oil-hydraulic LASCO deep-drawing TSP range



Electro oil-hydraulic LASCO die forging hammer KH/KGK

Ever since then the steady and consistent development of the machine tool range has been adapted exclusively to our customers' requirements.

The significant success of LASCO is based on entrepreneurial courage and open-mindedness. „Quality based on tradition and progress" has been a fundamental principle throughout the company history and applies to the complete production programme.

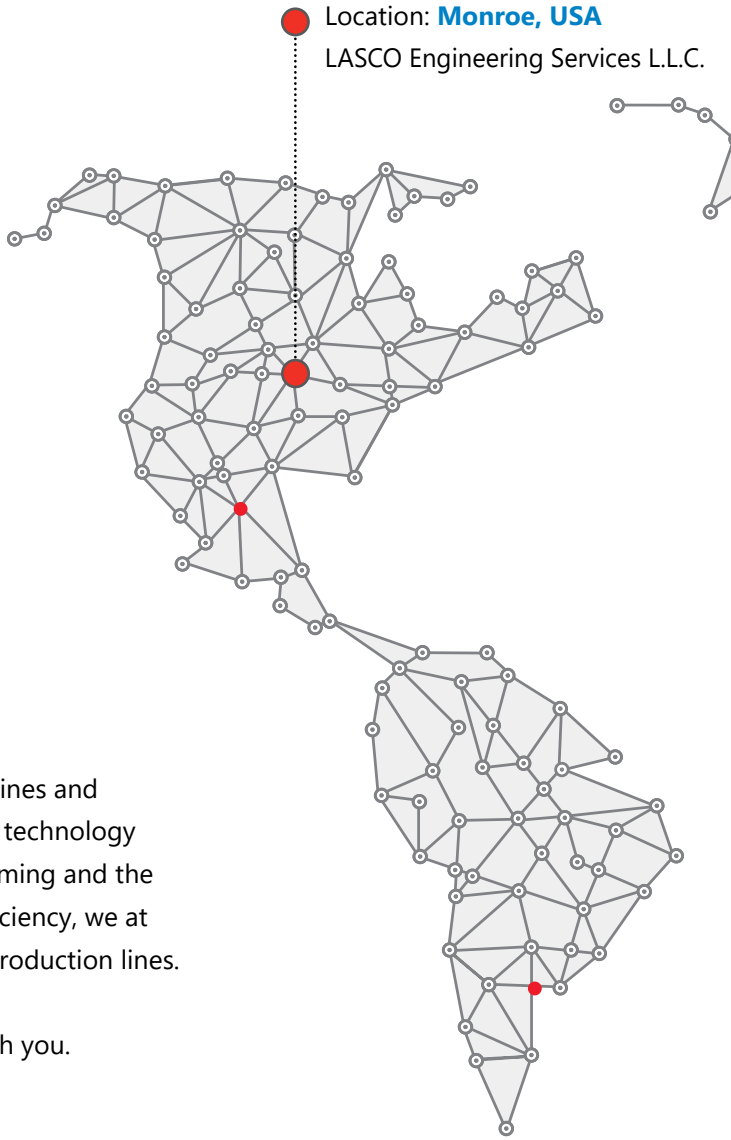
The years from 1970 onwards are characterised by a step-by-step and con- sequent extension of the machine tool range for hot and cold solid forming, sheet metal forming and later on also for the production of building materials. Automation of all LASCO machine tools and lines for the forming as well as the building material industry plays an important role in customer-oriented research and development.

After splitting the company in 1982 a change under corporate law from "Langenstein & Schemann AG" to "Langenstein & Schemann GmbH" was made. The company has served as a holding company since then.

Operational business – design, production and sales – has been the respon- sibility of the newly founded **"LASCO Umformtechnik GmbH"** since 1983.

In 1996 **"LASCO Engineering Services L.L.C."** was founded in Detroit (USA) and **"LASCO (Beijing) Forming Technology Co. Ltd."** in Beijing (China) in 2006.

Your partner for mechanical engineering and technology



3 LOCATIONS ON 3 CONTINENTS

48 SALES AND SERVICE PARTNERS IN 60 COUNTRIES

100 COUNTRIES OF USE ALL OVER THE WORLD

Specialized in modern machine tools, efficient production lines and comprehensive automation technology, we are among the technology leaders in the fields of solid metal forming, sheet metal forming and the production of sand-lime blocks. Focusing on economic efficiency, we at LASCO design holistic solutions and also expand existing production lines.

We cooperate, solve your problems, and work together with you.
Because the center of the LASCO world is not us, but you.

Past, present and future:
Since 1863, we have been your reliable partner for solid and sheet metal forming - and today also for building material machines and automation & robotics.



Scan now and watch our company video!



Guiding principle:

We are personally committed to your success. With a team of professionals who want to achieve nothing less than the best for you.

YOUR BENEFITS

What you can expect from us



We are a think-tank.

With our experience as a technology supplier and technical solutions specialist, we can tackle particularly difficult challenges.
Your benefit: Decades of experience and constant striving for progress enable us to find the best solution for you.



We are problem solvers.

There is an optimal solution for every challenge. 15 percent of our employees work in research and development in order to develop the best possible result for you.
Your benefit: Each machine/line or automation solution is tailored precisely to your needs.



We are troubleshooters.

We rely on long-term partnerships. In this way, we can support your company in achieving optimum goals in the long term.
Your benefit: Your permanent contact at LASCO supports you throughout the entire development process.

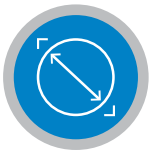


We are optimizers.

We provide you with solutions to automate processes and production lines optimally and to interlink them smoothly.
Your benefit: By using robotics for complex or critical applications, you save costs and avoid downtimes. In addition, you achieve constant production performance and better quality results.

OUR COMPETENCIES

Why we are among the technology leaders



Custom development

Each of our machines/production lines is as individual as the requirements. We support you on your way from the first idea to the product-ready solution.



Lifelong service

Place your confidence in our quality. We support you with an innovative remote maintenance system, no matter where in the world your production facility is located.



Process optimization

Faster, higher, broader - we analyze process sequences and optimize your production with the latest automation, handling and interface technology.



Green technology

Resource-saving machines and production lines are an investment in the future. Our contribution is the use of innovative, energy-efficient technologies.



Retrofit

Machines/production lines do not always have to be new to produce efficiently. We modernize veterans of production – regardless of their origins – to the most modern standard possible so that you can continue to use them in efficient production.



SOLID FORMING

We form your ideas

LASCO machines are specially designed for the harsh working environments of industrial forging facilities and are therefore absolutely reliable. High vertical range of manufacture and certification according to strict specifications and international standards assure quality and let us react easily to customer wishes and requirements.

Hydraulic forging presses

Our hydraulic presses are built using highly rigid frames and stand out due to high forming speeds, optimum pressure build-up and fast reversing. The shorter dwell times have a particularly tool-friendly effect.

With various series and numerous options, extensive accessories and automation possibilities, we design efficient hydraulic forming machines for every field of application. We offer designs tailored to a wide range of applications or optimized for special requirements.

Screw presses

Up to now, the development of our frequency-controlled drive technology in the early 1980s has been regarded as a pioneering achievement and is the cornerstone of LASCO's outstanding position in the world market for precision screw presses.

As energy-bound units, screw presses are always used where the forming of work pieces with comparatively short strokes is possible and/or where a high repeat accuracy of the forming process is required due to constant energy. Our drive concept controls the forming energy precisely via computer.



Hydraulic forging hammers

LASCO not only invented the first hydraulic die forging hammer, but has also supplied a large number of hydraulically driven die forging hammers world-wide. The key component of automatic hammer forging is the optimized and patented LASCO forging process.

The forming characteristics of the forging hammer are ideal for a wide range of commercially available forgings. Many – especially complicated, heavy, and heaviest forging parts can only be produced economically with a hammer.

Cross wedge and forging rolls

Increasing quality of forged parts at decreasing production costs - LASCO offers the solution with automated forging cells. A highly qualified, modern machine concept for mass pre-distribution was developed for this purpose. Conceptual mass pre-distribution by using cross wedge and forging rolls in the preforming process ensures material savings, improved workpiece contours and die life.

The special feature of LASCO rolling machines are torque motor direct drives with downstream compact reduction gears. Thanks to the patented hydraulic roller clamping system, tool changes of five to ten minutes are possible.

Electric upsetting machines

LASCO manufactures electric upsetting machines in horizontal and vertical arrangement in special constructions, however not in fixed type series, but adapted to special market and customer requirements.

The application of the electric upsetting process circumvents certain technological limits of mechanical upsetting machines – economic efficiency increases. All commercially available steels and non-ferrous metals including high-temperature nickel alloys can be upset in the electric upsetting process.





Preforming lines

Hydraulic forming machines with servomotor-driven manipulators are designed in such a way that a large number of different workpieces can be produced without time-consuming retooling processes. Our preforming lines are alternatives to radial forming machines, open die forging lines and conventional stretching lines.



Incremental forming presses

A special feature of the LASCO incremental forming press is the combination of the hydraulic servo direct drive for the feed movement of the lower piston with a powerful torque motor for the actual tumbling movement. This means that the tumbling cycle can be started and stopped in the correct position - and implemented with absolute precision.

Servo-mechanical presses

The servo-mechanical LASCO press distinguishes itself by the type and position of the main drive. In contrast to conventional drives installed on the press head, four torque motor eccentric drives are arranged on the press table below floor level in the servo-mechanical LASCO press.







Special machines

LASCO does not design machines for solid forming in fixed type series, but instead machines adapted to special market and customer requirements. Each machine and production line is therefore unique and perfectly matched to the task at hand.

*„**QUALITY** FROM A SINGLE SOURCE.*
WE TAKE CARE OF EVERY TASK
***FROM START TO FINISH**."*

SHEET METAL FORMING

From sheet metal to component

We offer a complete range of classical state-of-the-art forming machines which are designed and automated individually to meet customer requirements. Manufacturers from a wide range of industries rely on the well-known high LASCO quality.

Deep-drawing presses

Hydraulic deep-drawing presses are particularly suitable for difficult drawn parts and special materials. As a specialist for hydraulically driven forming units, LASCO designs deep-drawing presses that are tailor-made to meet even highest demands of sheet metal forming.

Multiplex presses

With the multiplex press, LASCO achieves unprecedented flexibility. The combination of servo-hydraulic press with integrated impact forming presents new possibilities in forging technology.

Servo-mechanical presses

The servo-mechanical LASCO press distinguishes itself by the type and position of the main drive. In contrast to conventional drives installed on the press head, four torque motor conrod drives are arranged on the press table below floor level in the servo-mechanical LASCO press.



Press line consisting of five deep-drawing presses

Scan now and experience LASCO multiplex presses!

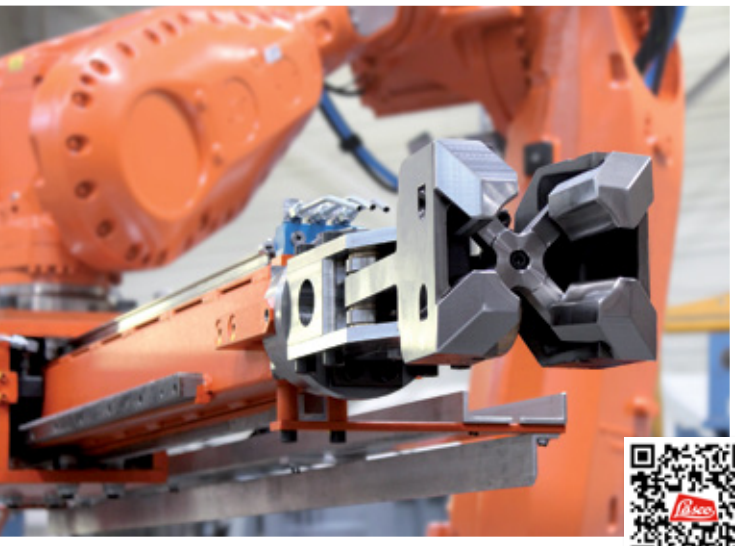
AUTOMATION & ROBOTICS

More precise / faster / more economical

Intelligent production lines: People, machines, production lines, products and logistics communicate and cooperate directly with each other - that's Industry 4.0, with the goal of largely self-organizing production. We create automation solutions and robotic systems that secure your competitive edge for years to come. You benefit from our experienced programmers who devote themselves in-house to the creation of source code. Always in direct contact with technicians and assemblers. This enables us to meet your needs precisely, even if your requirements change or the market makes adjustments necessary.

Separation

Ideal automation solutions are used for the separation of source materials, for example step conveyors or stacking devices with image recognition.



Scan now and experience Automation & Robotics!

Transport & handling

With fast, safe and robust transport and handling systems, such as robots and linear transfer systems, production lines become efficient.

Image processing systems

State-of-the-art sensor technology and optical image recognition identify potential misalignments, which are compensated by robotics automatically.

Gripping technology

Transfer operations must be handled quickly, accurately and safely, but also smoothly. LASCO knows the most advanced solution for every product and process - from vacuum systems to sensitive gripping system.

In addition, LASCO offers robotic systems for sorting, stacking, cleaning, testing and marking different workpieces/components. LASCO master control systems reliably link and control complex production lines.

STRONG TYPES

The optimum forming unit for each application

Based on these components we realize solutions for the individual tasks of our customers. This applies not only to processes, tools and control systems, but also to design and construction – for example in confined spaces.

Our basic series are supplemented by robust robot and manipulation systems for workpieces of various sizes, shapes and weights designed for rough forging operations, as well as automatic tool changing systems and peripheral equipment.



Performance overview / process technology:

		Upsetting	**Hot or cold forming**	**Hot or cold extrusion pressing**	**Cold extrusion pressing**	**Coining**	**Bending**	**Ironing**	**Die-forging**	**Hot or cold deep-drawing**	**Precision forging**	**Preforming** by rolling	**Finish-forming** by rolling	**Pre-forming** by stretching	**Cross-rolling** of round material	**Ironing** of weldless tubes	**Preforming** by heating and upsetting
HYDRAULIC PRESSES	**PRESSES** SOLID FORMING	**Preforming / multipurpose press VP/VPA/VPE**	x	x	x	x	x	x	x			x						
		Piercing & drawing press VPZ	x	x	x				x								x	
		Calibrating press KP		x		x	x											
		Cold extrusion press KFP		x	x							x						
	PRESSES SHEET-METAL FORMING	**Multi-purpose, deep-drawing & coining press TZP**		x		x	x				x	x						
	MULTI-PRESSES SHEET-METAL / SOLID FORMING	**Hydraulic multiplex press MXP**	x	x	x	x	x	x		x	x							
	MULIT-AXIAL PRESSES	**Hydraulic multi-axial press MAP „FlexiMat“**	x	x	x													
		Hydr. horizontal forging machine HWS	x	x	x					x								
	INCREMENTAL FORMING PRESS	**Incremental forming press TP**		x		x	x											
	PREFORMING MACHINES	**Fully automatic stretching line AR**	x												x			
		Preforming line AR-D													x			
SCREW PRESSES		**Screw presses SPP/SPR**	x	x		x	x			x		x						
HYDRAULIC FORGING HAMMERS		**Hydraulic double-acting hammer HO-U**	x							x								
		Hydraulic counterblow hammer GH	x							x								
ELECTRIC UPSETTERS		**Electric upsetter EH/EV**																x
ROLLING MACHINES		**Cross wedge roll QKW**										x	x					
		Forging roll RCW										x		x				
		Axial feed cross roll AVQ										x	x		x			
		Stretching roll STW							x								x	

LASCO PRODUCTION LINES

Unique in every dimension

HYDRAULIC PRESSES

Solid forming



VPA/VPE
Preforming/multi-propose presses
Press force
2,500 – 100,000 kN



VPZ
Piercing & drawing press
Press force
5,000 – 40,000 kN



KP
Calibrating press
Press force
4,000 – 40,000 kN



KFP
Cold extrusion press
Press force
2,500 – 40,000 kN

Sheet-metal forming



TZP
Multi-purpose, deep-drawing & coining press
Press force
4,000 – 40,000 kN

Sheet-metal/ solid forming



MXP
Hydraulic multiplex press
Press force
2,500 – 20,000 kN
Forming impulse
20 – 80 kJ

Screw presses



SPR
Screw press
Nominal press force
1 – 50 MN
Working capacity
2 – 1,400 kJ



SPP
Screw press
Nominal press force
1 – 25 MN
Working capacity
2 – 250 kJ

Hydraulic forging hammers

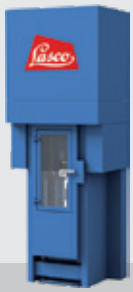


HO-U
Hydraulic double-acting hammer
Blow energy
10 – 200 kJ

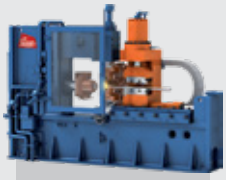


GH
Hydraulic counter-blow hammer
Blow energy
160 – 800 kJ

Electric upsetters



EV
Vertical electric upsetter
AC: 10 – 400 kVA
Ø 5 – 140 mm
DC: 250 – 800 kVA
Ø 100 – 140 mm



EH
Horizontal electric upsetter
AC: 10 – 400 kVA
Ø 5 – 160 mm
DC: 250 – 800 kVA
Ø 100 – 160 mm

Multi-axial presses
for solid forming





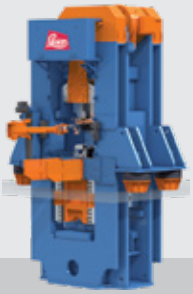
MAP
Hydraulic multi-axial press „FlexiMat“

Vert. forming force up to 15,000 kN
Horiz. forming force up to 10,000 kN

HWS
Hydraulic horizontal forging machine

Upsetting force 2,000 – 20,000 kN

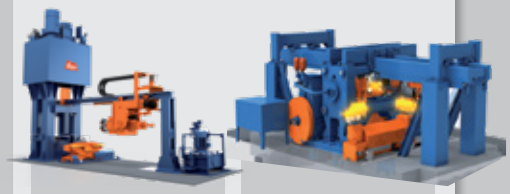
Incremental forming press



TP
Incremental forming press

Press force 5,000 – 40,000 kN

Preforming machines



AR
Fully automatic stretching line

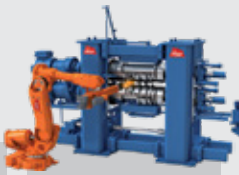
Press force 100 – 5,000 kN

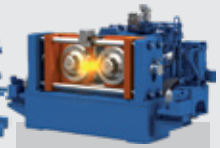
AR-D
Preforming line

Press force 10 – 10,000 kN

Rolling machines









QKW
Cross wedge roll

Roller diameter 350 – 1,400 mm

RCW
Forging roll

Roller diameter 460 – 930 mm

AVQ
Axial feed cross roll

Roller diameter 630 mm

STW
Stretching roll

Roller diameter 550 mm
Rotational speed rollers 175 min^{-1}

Further types and sizes on request!

Competence and know-how in design and development enable LASCO to find a solution even for the most difficult requirements.

Challenge us!

Scan the QR code and get further information on our website LASCO.COM

BUILDING MATERIAL MACHINES

Technology for sand-lime block production

With its comprehensive range of production systems, individual machines and automation technology, LASCO has been one of the leading system suppliers in the production of wall-building materials for years. The optimum machine for every application - to meet this demand, we offer a complete range of sand-lime block presses and production systems for the building materials industry.

THE SAND-LIME BLOCK – a white block gaining favour

The extremely robust sand-lime block combines the naturalness of its completely biological raw materials with a high level of sound and thermal insulation, weather resistance and exemplary static strength.



Its environmentally friendly production and the healthy indoor climate it creates, make the sand-lime block not only attractive as a building material but also economical due to low-energy production processes.

For sustainable, efficient architecture that retains its value and provides a wide range of design options!

THE LASCO SAND-LIME BLOCK SYSTEMS

The mineral mass of lime, sand and water is compacted hydraulically into a dimensionally stable sand-lime "green" block under high pressure. Various handling systems (drive/lifting axes or robots) are used to supply the green blocks to the autoclaves on curing wagons according to freely programmable stacking patterns.

The appropriate production system for every requirement:

- **Sand-lime block press KSE with single-acting compaction**
- **Sand-line block press KSP with double-acting compaction**
- **Vario-block press PSP**
- **Complete sand-lime block plants**

Optionally, LASCO offers the modernization, expansion or retrofitting of old systems (including those of other manufacturers) as well as the supply of components.



QUALITY FEATURES:

Drive
Our hydraulic drives are designed and optimized precisely for your specific requirements. All units can be equipped with either a conventional hydraulic drive or a hydraulic servo direct drive.

Press frame
Press frame, crosshead and lateral columns are welded and stress relieved. Adaptation to existing foundations is possible for any machine.

Feed box
Two independently driven stirrers, integrated in the feed box, ensure homogeneous filling of the molds.

Stacking device
Individual stacking patterns are stored in the database of the control system in order to make optimum use of the capacity of the autoclave.

Transport technology
Control electronics make the gripper almost as sensitive as human hands.
The position of the conveyor belt is detected by an encoder, and cycle steps are freely programmable

Control unit
The entire production sequence is monitored and controlled by a programmable logic controller. Operating personnel only take over control and setup functions.

Benefits:
- High rigidity of the frames
- High pressing speed under load
- Infinitely programmable press force and counterholding force
- High output

SAND-LIME BLOCK PRESS KSE

With single-acting compaction

Presses of the KSE series are LASCO's answer to the demand for highly economical **production of small-format sand-lime blocks**. The **particularly compact design** offers the advantage that this press type can also be used for **low hall heights and low crane load capacities** - depending on requirements and conditions, either automatically with drive/lifting axes or very flexibly with industrial robots.





Sand lime block press KSE for the production of CS blocks with layer heights ≤ 25 cm - both as solid or perforated blocks.

Standard blocks according to DIN 20000-402:

- CS solid blocks
- CS building blocks R format
- CS blocks
- CS blocks R format
- CS chamfered blocks

Benefit:

- Energy-saving, as only one hydraulic press ram is used
- Compact design with large press table enables shorter handling distances, very short cycle times and thus very high outputs

SAND-LIME BLOCK PRESS KSP

With double-acting compaction

The core aspect of the sand-lime block press of the KSP series is the **compaction of the raw materials from two sides** by means of oil-hydraulically driven upper and lower punch. The independently controlled movement of the punches provides for a **bulk density as homogenous as possible** over the entire cross-section of the block. It was only with the introduction of presses with double-acting compaction that it became possible to produce formats such as the CS block Quadro, CS block XL and elements in the required quality.





Sand lime block press KSP for the production of CS blocks with layer heights ≤ 65 cm - both as solid or perforated blocks.

Standard blocks according to DIN 20000-402:

- CS solid blocks
- CS building blocks R format
- CS blocks
- CS blocks R format
- CS chamfered blocks
- CS XL grid elements
- CS XL elements
- CS blocks E format

Benefit:

- The decentralized process control - individually configured and programmed by LASCO for the respective task profile - enables maximum flexibility. All axes, opening and filling times, filling methods, filling positions of the lower punch as well as pressing speed of the upper and lower punch are freely programmable.

VARIO-BLOCK PRESS PSP

Patented solutions for variable lengths

With the vario-block press, LASCO makes another decisive contribution to streamlining for the building materials industry. Up to 70 percent of the usual sawing effort needed for the production of supplementary or vario-blocks from large-sized blocks and elements is eliminated.

The patented mold system of the vario-block press based on the LASCO KSP enables the production of variable block lengths from 100 to 750 mm. This makes it possible to reduce the raw material input by about 5% and the waste by about 35%.

The blocks are pressed in longitudinal direction, the positioning of the punch travel is done via data exchange with the unitizing respectively batching software.



Special features of the patented LASCO **shifting mold:**

- Only the mold box that is in pressing position at the time of the working cycle is filled and pressed.
- In order to produce vario-blocks in a different wall thickness, the entire mold (upper and lower punch, press table with mold boxes) is moved hydraulically in horizontal direction. This is done fully automatically in seconds.
- For greater flexibility in production, the shifting mold is also optionally offered as a double mold. Changeover takes place directly via the process control system, allowing the production of vario-blocks in up to eight different wall thicknesses and variable lengths.

Innovation with clear benefits:

- Significantly less waste
- Maximum use of raw material
- Significant improvement in energy utilization
- Avoidance of expensively manufactured finished products

PSP-SYSTEM

Most flexible production line for elements

Optionally, the vario-block press can be upgraded to a PSP system. In the PSP system, all blocks in the CS element system can be produced economically and with dimensional accuracy in a fully automated process using a single system. The reworking of individual blocks outside the process cycle is no longer necessary - **better, faster, more cost-effective**.

The original vario-block press is supplemented by:

- Green block saw or double green block saw
- Saws for the production of masonry slits
- Green block crushers with overspill recovery
- Marking printer for product tracking
- Stacking robot
- Curing wagon coding system

Wall unitizing software enables precise pre-planning of complex construction projects. Individually - on the basis of the construction drawings - CAD-supported wall plans are converted into data sets with optimized batches for controlling the shifting mold with multiple mold boxes. The division of walls and blocks thus follows the most economical solution.

Higher output of pressed or also additionally sawn green blocks due to two-row stacking on the curing wagon. **Ready-to-use palletizing and just-in-time delivery to the construction site.**





Scan now –
and learn more about the
LASCO vario-block press!

Possible types of cuts:

- Height / gable / bevel cuts
- Cross cuts
- Levelling blocks
- Door and window cutouts
- Supply ducts for cables and tubes



COMPLETE SAND-LIME BLOCK PLANTS

Investment- and future-proof

A new factory should set standards in automation, productivity, quality assurance and logistics. When every detail is right and all components work together optimally, the leap into a new performance dimension is achieved.

The competition our clients face now and in the future is primarily in our focus when we plan and build a complete sand-lime block plant as a general contractor. Our specific planning concept enables investors to build plants quickly and safely according to individual production requirements.



Primary components

Reactors, presses, autoclaves, curing wagon platforms are arranged in such a way that the most ideal production flow possible is achieved.

Secondary components

These include, for example, material handling, packaging, workshop, laboratory and control room. They are integrated in such a way that smooth processes of control functions and quality assurance measures are ensured with minimum distances.

Process components

On request, components such as heat recovery, shifting platforms, fully automatic packaging systems or process-integrated color mixing systems will also be included in the scope of supply.

Scan now – see how all the components of the turnkey sand-lime block plant work together!

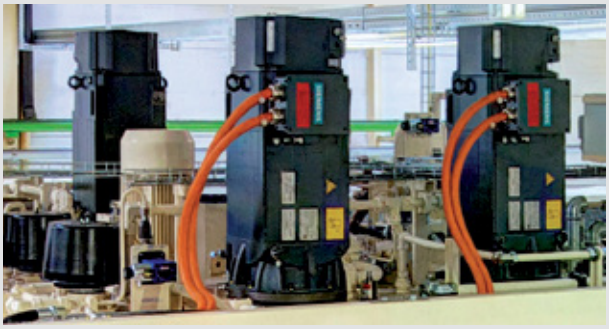
The package is completed by further components, such as warehouse, boiler house, facility management and administration, thus ensuring a sustainable economic overall process.

LASCO HYDRAULIC SERVO DIRECT DRIVE®

Increase in energy efficiency

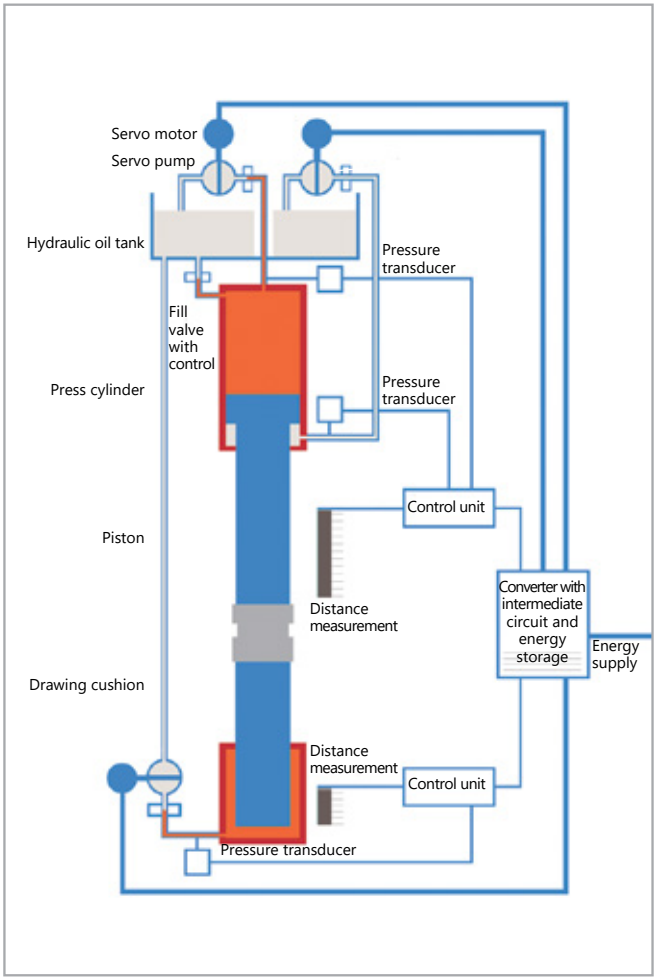
In the hydraulic servo direct drive developed by LASCO (LASCO hydraulic servo direct drive®), the hydraulic pump and servo motor form a compact unit.

The excellent controllability enables exact specifications of torque, speed and position of the pump rotor. Highest output with optimum energy use is guaranteed.



BENEFITS OF THIS DRIVE TECHNOLOGY

- Enables high cycle rates/high output
- Low power dissipation
- Highest energy efficiency
- Less susceptible to faults, low wear and easy to maintain
- Hydraulic presses driven by servo pumps have an efficiency of >90% (cos φ = 1)
- When the system is at a standstill, the drive motors and pumps are also at a standstill
- Hydraulic systems operate largely shock-free
- Multi-axis systems - especially with close functional links between the axes - can be controlled reliably
- All setting data can be stored and documented in digital form
- Simplified diagnosis even of complex systems due to clear drive structure



Schematic view LASCO hydraulic servo direct drive®

Scan now and learn more about the LASCO hydraulic servo direct drive®!

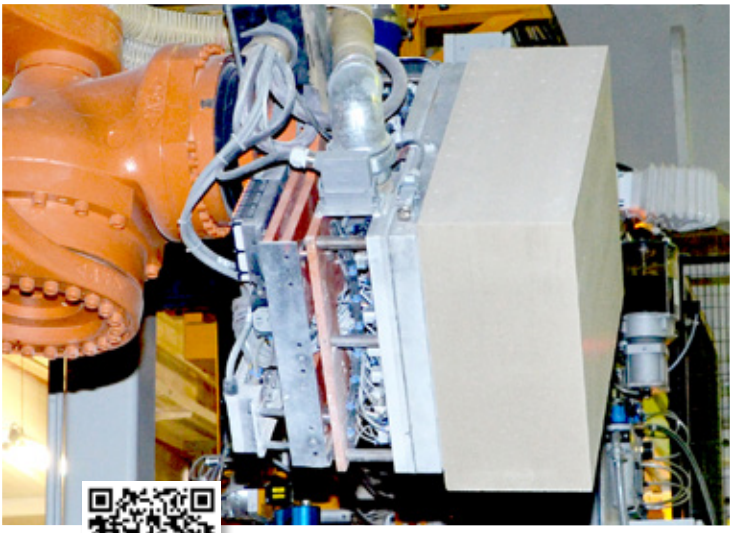
AUTOMATION & ROBOTICS

More precise / faster / more economical

Intelligent production lines: People, machines, production lines, products and logistics communicate and cooperate directly with each other - that's Industry 4.0, with the goal of largely self-organizing production. We create automation solutions and robotic systems that secure your competitive edge for years to come. You benefit from our experienced programmers who devote themselves in-house to the creation of source code, while always in direct contact with technicians and assemblers. This enables us to meet your needs precisely, even if requirements or market changes make adjustments necessary.

Transport & Handling

The fully automatic stacking of the green blocks on the curing wagons as well as the loading and unloading into the autoclaves is carried out with fast, safe and robust transport and handling systems for optimum capacity utilization.



Scan now and experience **Automation** & **Robotics**!

Palettizing

Optimally controlled logistical processes enable automatic customizing and packaging of the blocks for ready-to-build delivery of the pallets - efficiently and reliably.

Image processing systems

State-of-the-art sensor technology and optical image recognition identify potential misalignments, which are compensated by robotics automatically.

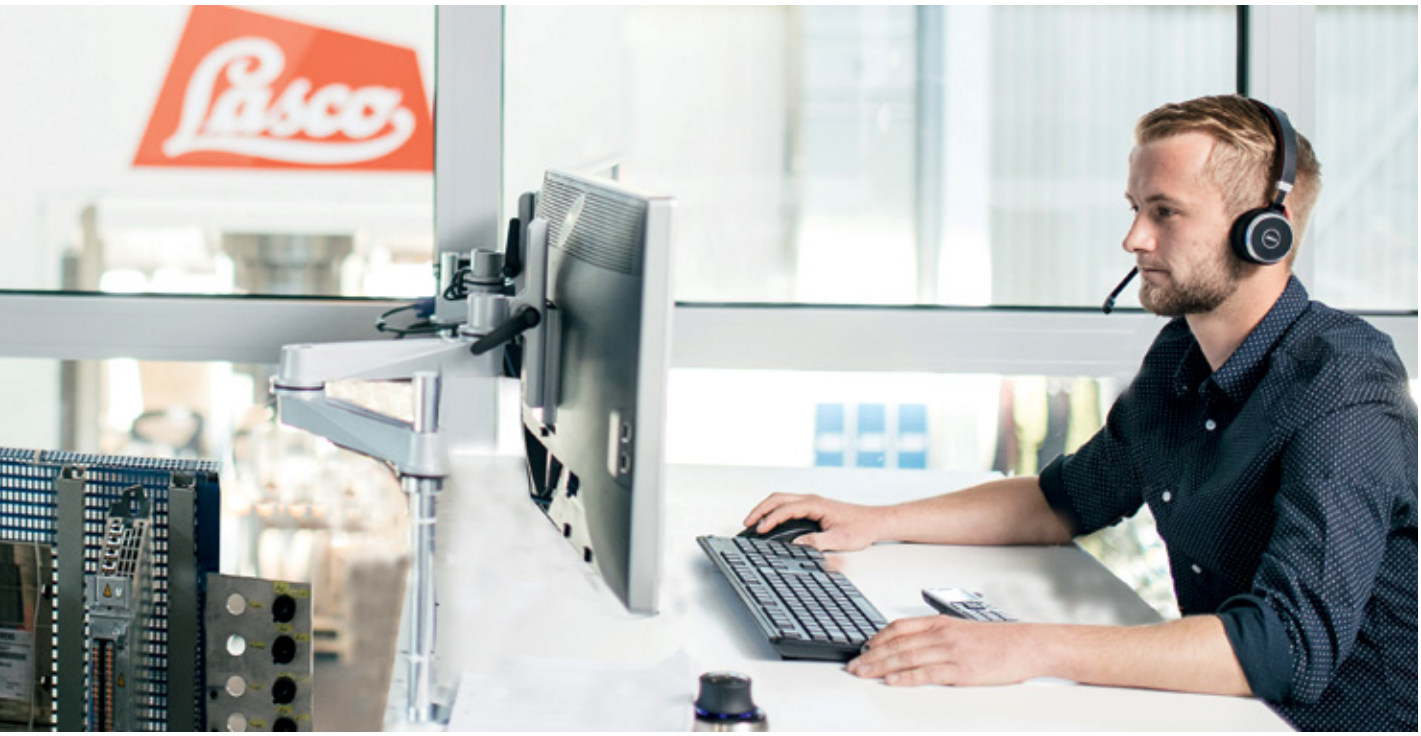
Gripping technology

Transfer operations must be handled quickly, accurately and safely, but also smoothly. LASCO knows the most advanced solution for every product and process - from vacuum systems to sensitive gripping systems.

In addition, LASCO offers robotic systems for sorting, stacking, cleaning, testing and marking different block formats. LASCO master control systems reliably link and control complex production lines.

VIRTUAL COMMISSIONING

Simulation of complex systems



Beginning in the engineering phase, automation systems are virtually optimized for commissioning. LASCO uses real process parameters for this purpose. Long before assembly begins, all machine sequences and operating conditions are simulated on the computer.

The use of this method in the development process of machines/production lines detects and eliminates errors at an early stage.

This minimizes correction loops in the engineering stage. **Cost-optimized** and **shortened commissioning on site** are the desired beneficial outcomes.

The „virtual commissioning" technology can also be used for planned changes to the setup of the production line. Changes of products and production processes can already be tested and adapted virtually parallel to production.



REMOTE ASSISTANCE SYSTEM

Real-time collaboration

Scan internet-based
LASCO maintenance services

LASCO machines and production lines are characterized by high availability and operational safety. In order to guarantee this in the long term, it is particularly important to us to offer our customers the fastest possible assistance and to be able to provide them with competent support. Remote diagnosis provides the service technician with valuable information on the actual condition of the system.

The system represents the technically superior alternative to conventional means of communication. Video stream and SmartGlasses enable bidirectional image and sound transmission from the first-person perspective as well as fast and direct troubleshooting by the technician on site. This reduces downtime and ideally avoids production interruptions. The virtual support by a LASCO expert during the execution of the individual work steps significantly increases the quality of the measure. Furthermore, upcoming repair work can be prepared in a targeted manner.

Our service

- Demand-oriented and optimized LASCO Remote Assistance System
- Quick and direct contact to LASCO experts
- Integration, training and workshop

Remote maintenance

Since 1998 already, LASCO has offered remote maintenance solutions that allow our service technicians to access the control systems of LASCO production lines worldwide from Coburg. We offer a combined system for maximum safety and efficiency.

Your benefits

- Support in maintaining optimum system availability
- Efficient fault analysis in real time
- Bidirectional video and audio communication
- Free hands and unrestricted movements thanks to SmartGlasses

CONTACT

HEADQUARTERS

LASCO UMFORMTECHNIK
WERKZEUGMASCHINENFABRIK

LASCO Umformtechnik GmbH
Hahnweg 139
96450 Coburg / GERMANY
phone +49 9561 642-0
e-Mail lasco@lasco.de

Your contact
M.Sc. Nicklas Trier / Sales Director

USA

LASCO UMFORMTECHNIK
LASCO ENGINEERING SERVICES

LASCO Engineering Services L.L.C.
615 Harbor Avenue
Monroe, MI 48162 / USA
phone +1 734 241 0094
e-mail lasco@lascoUSA.com

CHINA

LASCO UMFORMTECHNIK
拉斯科成形技术有限公司

LASCO Forming Technology Co.Ltd.
Huateng Tower, Unit 1706A
Jia 302, 3rd Area of Jinsong,
Chaoyang District
100021 BEIJING / P. R. CHINA
phone +86 10 8773 0378
e-mail lasco.beijing@lasco.de

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