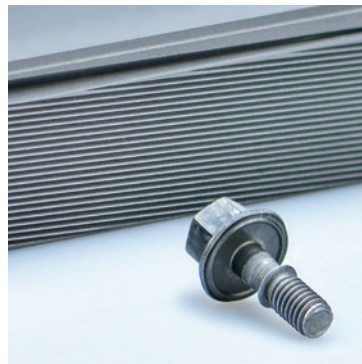
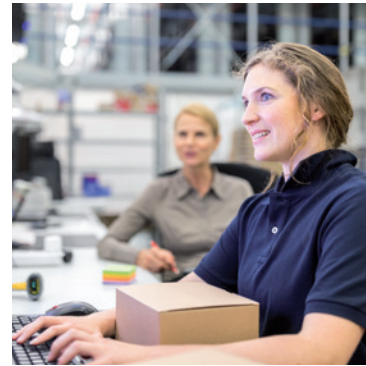




LICHTHART.
Tools in **top form.**





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„Customer satisfaction is the top priority at Lichthart.“

Reinhard Schlichting & Stephanie Opitz
Management





Management System
ISO 9001:2015
www.tuv.com
ID 0910072007

The company

To good manners.

Everything is nothing without the right tool. For forging, it is the measure of all things. However, the requirements for its special features and the manufacturing process can be extremely specific and complex. So complex that standard solutions are no solution. Quality, precision, durability - these are the desired criteria for a good mould. However, they can often lead to conflicting objectives. Expertise and a good overview are then required in order to achieve optimum results.

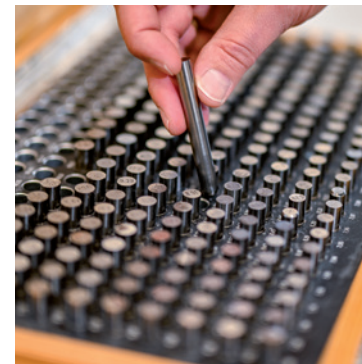
Lichthart specialises in the trade of tools for the production of fasteners and fixing elements. We have been working on behalf of our customers for over 50 years and supply a wide range of industries such as the automotive, aviation

and energy sectors with customised, intelligent solutions.

Our strength is our reliability. We find a way. This is ensured by stable, international contacts, our own expertise in toolmaking and systematic implementation and handling processes based on modern ERP and documentation systems. We don't just take the search for the best available solution off your hands. We also keep bureaucracy away from you and guarantee reliable, fast procurement and delivery. For more typical, recurring requirements, we also maintain an extensive stock programme for the benefit of our customers. If necessary, we can deliver immediately.

*Are you looking for the perfect tool for forging?
We will find it for you. This is ensured by 50 years
of industry experience and worldwide contacts.*

*Lichthart is a German trading company based in
the Sauerland region.*



Tools for solid forming

True to shape. Dimensionally stable. Perfect shape.

Modern industry would be inconceivable without forging techniques (stamping, rolling, pressing, etc.), as it requires components, connecting and fastening elements, for example, that can withstand extremely high static and dynamic loads while still being safe and reliable. This is particularly true in highly technical sectors such as aerospace, the automotive industry or the energy sector. The requirements here are often extremely complex. When choosing the right product, they range from functional to environmental aspects.

Wrought alloys of all kinds are suitable for forming - especially steel. The forming process itself is essentially about changing the shape of the material used without losing typical material qualities and advantages - and often in accordance with demanding geometries. In this way, high-quality, seamless products with an excellent surface finish can be created.

From a technical perspective, whether cold, warm or hot forming processes should be used depends primarily on the properties that the end product should have. This is because not only the material used, but also the forming process itself has a fundamental influence on this.

But the be-all and end-all of forming is the right tool. And above all: its precision and resilience. It is responsible for shaping and often has to withstand extreme stresses during the production process.

Lichthart is your specialist for this. We not only advise you on material selection, the production process and possible finishing techniques. We also provide the right tools.



Advantages & disadvantages of Hot & cold forming

Cold forming:

- + Increase in material strength
- + Reduction in ductility
- + Outstanding surface quality
- + High precision, tight tolerances
- + Cost advantages in large-scale production
- High stress on the tool
- Low mouldability

Hot forming:

- + Good formability of the materials
- + Complicated product geometries
- + Low stress on the tool
- Oxide layers
- Low dimensional accuracy
- Lack of control over the microstructure of the material
- Necessity of post-processing

Products

Pressing tools for quick, clean & easy work

Punches & Punch Pins

Our range of punches and pins leaves nothing to be desired. Phillips®, Prozidriv®, Supadriv®, Torx® and Torx Plus® or TriWing®, Torq Set®, Six Lobe, 12-edge, or ACR® the connoisseur will find the tool of their choice.

Combination punches and combination pins as well as special punches and special pins round off our product range.

Carbide tools

We supply you with: Head press dies, head press dies with serration, reducing dies and coupling dies, extrusion dies, form press dies, pre-die upsets and finish upsets, shearing knives and shearing bushes, pinching jaws, one-piece and segmented hexagonal tools and hexagonal pins, carbide six lobe pins and inserts, extrusion needles, hexagonal and square front disks, drawing tools, special tools according to customer drawings.

Casing & Sleeves

We can supply you with casing for first- and second punches as well as for dies with a slotted sleeve or as a screwed socket according to your specifications.

Closing tools

More complex products often require more complex tools.

Area of application: If undercuts are required on the component, conventional tool solutions quickly reach their limits. In these cases, clamping tools are often the key to success with which sophisticated geometries can be produced in a cost-optimized manner. With our clamping tools, we support you in manufacturing your products in a cost-optimized manner. We would be happy to advise you on this.

Punches & Punch Pins

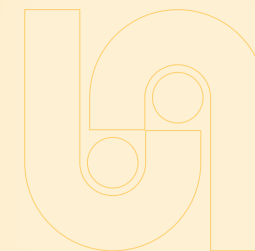


Carbide tools

Casing & Sleeves



Closing tools



We always have around 60,000 pressing tools in stock. Your special tool is not included? No problem, we will make sure that this changes in the shortest possible time.
Talk to us.



Products

Rolling tools for stable & high-precision rolling

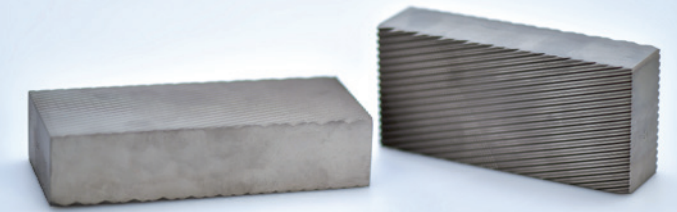
We supply you with rolling tools made of different materials and surface coatings to suit your requirements.

- > **Flat thread dies with all standard thread forms**
- > **License & special profiles**
For example: TT 2000®, TAPTITE II®, POWERLOK®; MATHread®, amm.
- > **Cylindrical thread rolls for 2- & 3-roll systems**
in continuous & insertion process
- > **Rollers & segments for standard & special thread forms**
- > **Rollers & segments for nail production**
(ring & helical)

RT for metric threads



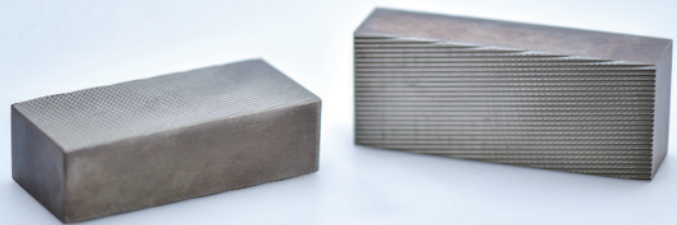
RT for HILO thread



RT for gimlet point dies



RT for gimlet point dies, form F



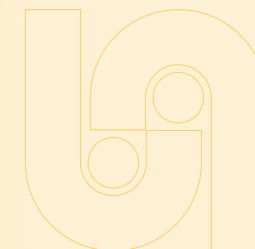
RT for wood screws
& special wood threads
according to customer
specifications



RT for chipboard screws



RT for molded parts



We always have approx. 2,000 rolling tools in stock. Your special tool is not included? No problem, we will make sure that this changes in the shortest possible time.
Talk to us.

Products

Trim dies for precise punching & reliable deburring

We can supply you with all standard and special dimensions, with and without collar:

- > Hexagon
- > Square
- > Many special shapes according to your drawings

Like all of our tools, the trim dies are also available uncoated and coated.

Trim dies in all standard & special dimensions



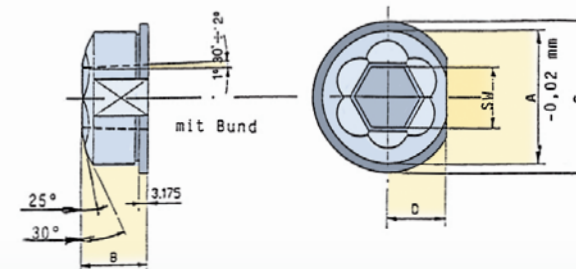
Our trimming tools are available in different materials.
Get in touch with us.



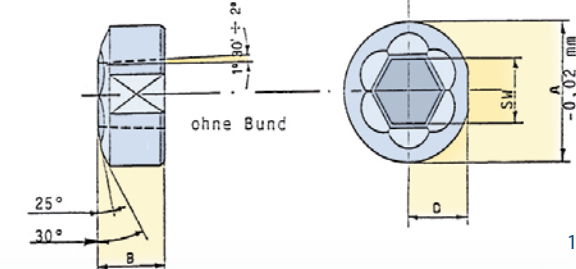
We always have approx. 2,000 trim dies in stock. Can't find the tool you need? No problem. We will make sure that this changes in the shortest possible time.

Talk to us.

Trim dies **with collar**



Trim dies **without collar**



Products

Measuring tools for precise measurements & reliable tests

For the inspection of your products we provide you a large selection of measuring tools.

Here is a small selection ...

Model 9500-10, F10

Concentricity test system

Measuring range

Length: – 100 mm

Diameter: – 25 mm

Modell 9500-20, F20

Measuring range

Length: – 150 mm

Diameter: – 50 mm



Model HL-10

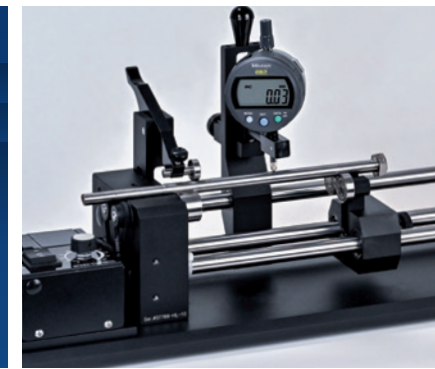
Concentricity tester

With electric drive

Measuring range

Length: – 610 mm

Diameter: 3 – 25 mm



Models 9475 -

Universal length measuring device

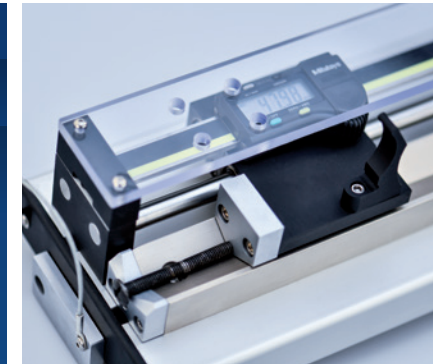
Models / Measuring range:

9475-04 Length: – 100 mm

9475-08 Length: – 200 mm

9475-12 Length: – 300 mm

9475-24 Length: – 600 mm



Models 9100 -

Penetration depth measuring station

Models:

9100-06 with 6 shots

9100-12 with 12 shots



Model 9450-B2

Head height measuring station



Model

Go-NOGO Gauges
Penetration depth gauge

For all common screw drives



Model

Thread gauges

According to ISO and customer-specific requirements



We always have around 400 measuring tools in stock. Your special tool is not included? No problem, we will make sure that this changes in the shortest possible time.

Talk to us.

Products

Machining tools for the machining of carbide cores

Carbide reamers

Precisely manufactured carbide reamers with high concentricity and stability.

Diamond compound

Universal Punch diamond paste is the result of years of research, testing and development of a superior diamond abrasive. The base of the abrasive paste is characterised by its high lubricity and acts as a cleaning agent.

HY-PRESS LUBE

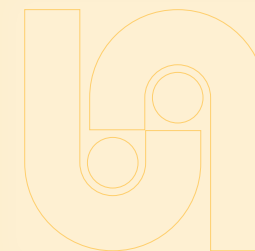
HY-PRESS LUBE is a lubricant specially developed for the assembly of steel or carbide inserts in tools. It has a very high film strength that does not break down even under extreme

pressure. The moulds are easy to assemble and disassemble. The material flows during the pressing process without tearing. This product should not be missing in your company.

Broaching mandrels

Special demands on the screw drive require special tools. These are often achieved by broaching. Choosing the right broach in terms of diameter, length and material is crucial for high-quality broaching work, which is why we have our standard broaches available in different material grades and coatings. However, customised broaches to your specifications are also no problem for us.

Drill, Diamond compound & Hy-Press Lube



We always have 2,000 HM drill bits and sufficient diamond compound and HY-PRESS LUBE in stock. Do you need more parts or other quantities? No problem, we will take care of it, **just talk to us.**

Machine spare parts

A mere formality.

What applies to tools also applies to the production machines of which they are a part. Presses, for example. The base frames have a very high level of stability. However, the vibrations, shocks and impacts can cause damage to the mechanics in the long term. This is a particular problem when machines are older and it is difficult to get hold of suitable spare parts. However, it is not uncommon for upgrades to be necessary in order to restore machines to as-new con-

dition or to improve the quality and efficiency of production.

It is our experience and international contacts in particular that can then help. It makes no difference to us whether small or large series are required. We will find the perfect spare part for your machine. machine. If necessary: on the basis of a technical drawing.

Your contact persons

We are at your disposal



Stephanie Opitz
Managing Director

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Email: sopitz@lichthart.de

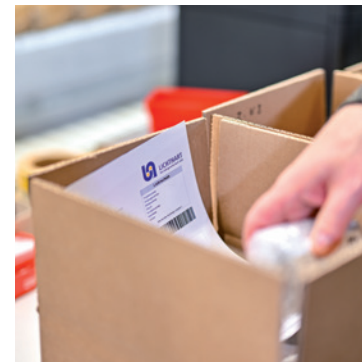


Reinhard Schlichting
Managing Director

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Email: rschlichting@lichthart.de

Typical spare parts requirements for presses cold forming presses and their peripherals:

- > Feed rollers
- > Mangle rollers
- > Scraper
- > Pressure roller for pre-drawers
- > Die block
- > Punch holder
- > Gripper holder and gripper finger holder



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