



Peter Trimborn (production manager) and Ludwig Esser (owner)

ESSER METALLBAU - GERMANY

MORE COMPETITIVE WITH LARGE-FORMAT LASERS

50 years after it purchased its first LVD machines, Ludwig Esser Metallbau GmbH has invested in two high-technology LVD fiber laser cutting systems to increase its productivity, capacity and competitiveness.

The Phoenix FL-6020 is an all-round performer with flexible automation allowing it to effectively process a wide variety of materials, components and batch sizes. Full automation can be used on large batches, while the machine can still be used with manual loading and unloading for low volumes and one-offs.

The Taurus is LVD's revolutionary fiber laser cutting machine for extra large format material processing. Its unique modular construction allows it to be configured to suit a customer's precise requirements. It can accommodate parts up to 3.2 m wide and 30 mm thick, and the basic 10 meter bed length can be extended in 4 m increments up to a maximum of 42 m. The machine is equipped with state-of-the-art bevel head technology.

Large format capabilities

Founded in 1886, and still run by the same family, Ludwig Esser Metallbau was originally set up to construct and test weighbridges for carts and wagons. It later moved into metalworking for the construction industry and in 1971 relocated in Euskirchen. At that stage it added a sheet metal processing capability and installed two LVD press brakes.

Since then, it has constantly extended its capabilities so that it can now process sheets up to 12 m in length and 3 m wide. Typical applications for these large-format capabilities include conveyor systems for the paper and cement industries and heavy-duty sawmill equipment.

It is now a subcontractor for laser and waterjet cutting, bending, profiling and the fabrication of welded assemblies. It processes all standard, high-strength and wear-resistant steels, stainless steel, aluminium and special alloys.

Customers come from industries including mechanical and plant engineering, bulk and component handling, agricultural machinery, commercial vehicles and environmental technology. They come from all over Germany, as well as the Benelux countries, France, Poland, the Czech Republic and others.

In addition to the installed LVD machines, machining capabilities include waterjet cutting machines up to 3 by 10 m, press brakes up to 12 m working length and 2,000 ton pressing force as well as MIG, MAG and TIG welding facilities.

Profile

Company Esser Metallbau GmbH

Since 1886

Industry:

Subcontractor for laser and waterjet cutting, bending, profiling and the fabrication of welded assemblies for mechanical and plant engineering, bulk and component handling, agricultural machinery, commercial vehicles and environmental technology

Works with:

all standard, high-strength and wear-resistant steels, stainless steel, aluminium and special alloys

LVD installations:

10 kW Taurus 24 fiber laser
10 kW Phoenix FL-6020 fiber laser
PPEB 500/61 press brake
PPEB 320/61 press brake
PPEC 80/25 press brake
MVS 62/10 shearing machine

Software:

CADMAN-SDI, CADMAN-B, CADMAN-L, CADMAN-JOB

Investing to improve competitiveness

Managing Director Ludwig Esser explains that the motivation for investing in these new LVD machines was to strengthen the company's competitiveness by increasing productivity and adding new capabilities.

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“Compared to our previous CO₂ lasers, the fiber laser machines have significantly higher cutting speeds – and hence much higher productivity. We simply get more material cut in the same time,” he says, adding that the two systems meet different requirements.

“The Phoenix has 2 by 6 m sheet capacity and we established that we cut a lot of material in this size range. We decided that this highly productive machine should be at least partially automated, so we specified it with an automated loading and unloading system. This allows us to run unmanned at night if we want to, but also gives us the flexibility to load single sheets manually for one-offs and small batches.

Large sheets and bevel cutting

“The Taurus is a completely different concept. Rather than having a shuttle table like the

Phoenix it has one big bed that we can lay two 12 by 3 m sheets on. While we are working at one end of the machine we can be unloading at the other.

“The key factor was the ability to process sheets of this size to match the capabilities of our press brakes. The ability to add value using the machine’s bevel cutting capabilities was also important.

“The large parts we are cutting on the Taurus often go into welded fabrications so it cuts out a second operation if we can produce the weld edge preparation directly on the laser.”

Its bevel head has other applications too.

“We can cut contours using the 3D cutting head at any angle between plus and minus 45°. This can be used, for example to cut angled holes in the plate for pipe and tube

intersections. We also use it for a customer in the bulk handling sector. We make big shafts for them that are made in two halves and we contour both sides of the longitudinal seam where they fit together.”

Reducing carbon footprint

Euskirchen, where Ludwig Esser Metallbau is based, was at the heart of the recent disastrous flooding that hit Germany, so one of the other justifications for moving to fiber lasers was thrown into sharp focus.

“One of our reasons for moving to fiber lasers was the reduction in power consumption, and hence CO₂ emissions. It has become even more important since we bought it,” says Mr Esser.

“In recent months the effects of climate change have become more visible – flooding, forest fires, storms – so the decision to make this move was very timely.”



PPEB 500-ton 6-meter press brake



"The ability to add value using the machine's bevel cutting capabilities was also important."

Single source partnership

Overall, a decisive factor was the ability to buy everything from a single source – with the same programming software and a single point of contact for service and maintenance. A full ERP and CADMAN-JOB integration is scheduled to further optimise the complete production flow.

Having bought its first LVD machine 50 years ago, the company renewed its relationship in 2018 when it

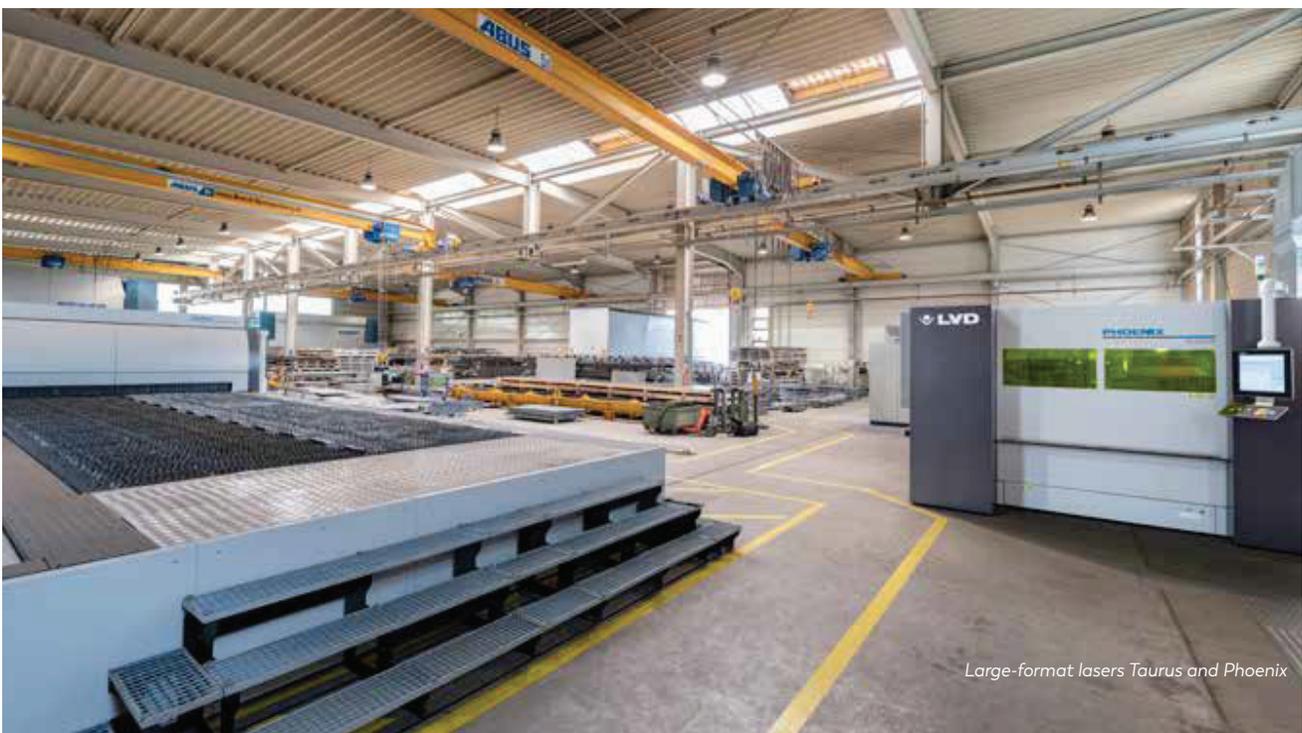
purchased a 6-meter press brake. The positive experiences of that investment – the people, the process and the technology – meant that Mr Esser had the confidence to turn to LVD when he wanted to invest in these new lasers.

In good hands with LVD

He concludes: "As a subcontractor with no product of our own it is important to us that we have a reputation for reliability in quality and on-time delivery. To achieve

that we need to have a high level of availability on our machines – and fast help and service when we need it.

"We have to be flexible in responding to the demands of our customers – which change on a daily basis. To do that we rely on the support we get from the partners who supply our machines and need to be able to turn to them for advice on new components, materials and technologies. With LVD we feel that we are in good hands."



Large-format lasers Taurus and Phoenix