trotec

Customer Stories

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Industrial Edition

ABB Ltd

ABB Ltd double production and find flexibility with Trotec laser

A market leading business

ABB Ltd is an international company with a presence in over 100 countries. With 1800 employees across 15 locations in the UK and Ireland, ABB is focused on achieving a more productive and sustainable future. A long track record of innovation in industry across a wide portfolio of products including automation, robotics and motion has made ABB Ltd a market leader in its field.
Annually, ABB supply around £0.5 billion worth of products to customers UK wide across a number of industries.

A necessity for improved processing

Prior to the launch of a new product range, ABB lacked a practical process for part-marking as serial numbers and other important information were often marked using a permanent marker pen. The introduction of the new product range and the requirement to mark regulatory information onto products, meant a more durable method of marking was needed.

The search for a new method of marking parts coincided with the desire of two teams, the Electrodes Department and the Gas Analyser Department, to have more internal processing capabilities. Product development was a costly process as due to the lack of an internal solution, outsourcing was the only way they could realistically prototype ideas. Aside from added cost, this led to long lead times which slowed production down. During discussions, laser technology was mentioned as a possible solution to the requirements of both teams. ABB's manufacturing engineer, David Hoskins, was keen to investigate the viability of the technology and contacted Trotec to find out more.

During consultation with Trotec, David discovered the Speedy flexx dual source laser option. This technology combines both a CO2 and fiber laser into one engraving system and it appealed to David because it would allow for processing a greater range of materials including plastics and metals.

The Flexx option, alongside Trotec's quality of hardware and the level of support that became apparent during discussions, made David confident that Trotec was the right solution for both departments. Following a demonstration at the local Trotec showroom, David purchased a Speedy 300 flexx laser which was installed at ABB Ltd. in 2016.

"The quality of Trotec machines coupled with their support network made us fully confident in our purchase. With the two machines we now have greater scope for production and prototyping, saving us both time and money in outsourcing."

David Hoskins,
Manufacturing Engineer, Abb Ltd

Reliability is key for success

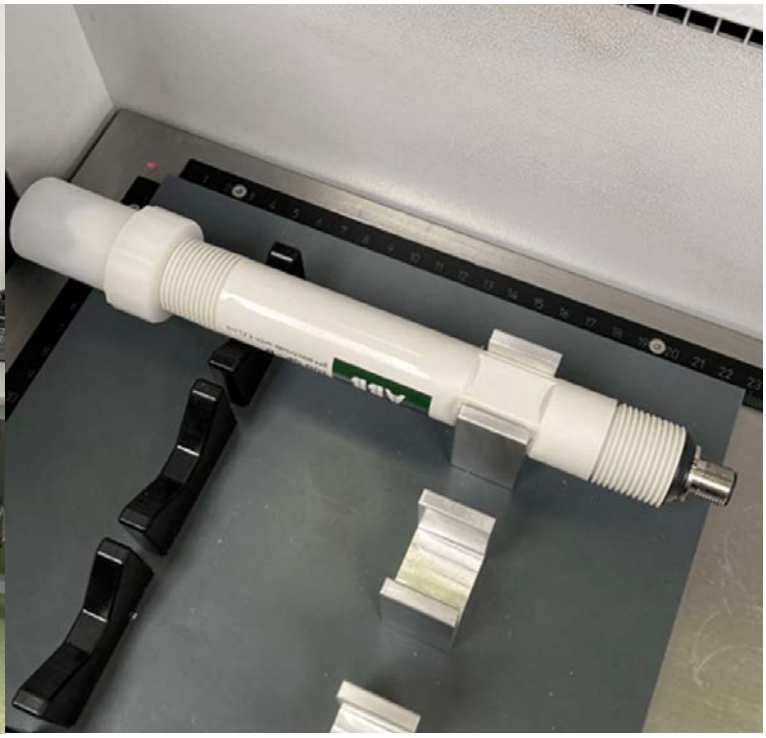
The introduction of laser engraving technology to ABB's production process has brought a new level of professionalism and productivity to the product development process. The Speedy laser is bringing a significant return on investment thanks to its versatility and several time and cost saving benefits. Prototypes can now be created and developed with reduced lead times and costs which are especially noticeable when several design iterations are required.

The dual source flexx system provides maximum flexibility for marking different products. The fiber laser source enables direct marking onto blank metals, while the use of a marking spray alongside the CO2 laser source creates a vivid black mark on aluminium parts.

Three years after their initial foray into using laser technology, the departments doubled up production capabilities with the investment in a second Speedy 300 flexx laser system, allowing each department access to their own laser cutter. The addition of the second laser has doubled ABB's productivity when it comes to both prototyping and product marking, with both departments utilising the lasers for production work, while one machine is also used for development work when extra production capacity is not required.

"Trotec materials are excellent quality and the finished processing results are outstanding. To achieve a strong contrast on our aluminium Production Tooling for easy identification purposes, we also use the Cermark spray. Marking aluminium with a fiber laser source produces a white contrast which isn't particularly strong, but marking using this product and our CO2 laser allows us to create a more vivid black mark and a striking contrast."

David Hoskins,
Manufacturing Engineer, Abb Ltd



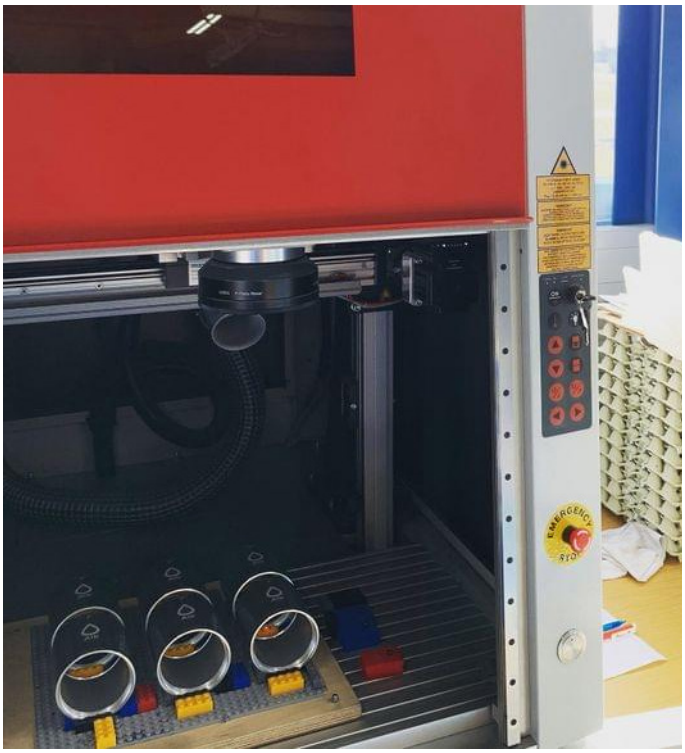
Blaufaktor

Laser mark drinking water filters sustainably

Sustainability and resource protection from the region

In times of climate change and population growth, clean drinking water is an increasingly critical issue. Pharmaceutical residues, hormones, pesticide and antibiotic residues as well as toxins are often not even detected or filtered out by wastewater treatment plants and public drinking water treatment systems.

The drinking water filter supplier Blaufaktor GmbH & Co. KG has developed a solution to this problem with its Alb Filter brand. Since the development of the first Alb Filter in 2013, the concept has been constantly improved and the application possibilities of the filters continuously expanded. Thus, the modular design of the various cartridges of the supplier can be addressed to the most diverse needs and application purposes of customers - whether for personal hygiene or drinking water, whether at home or on the road.



Mandatory traceability

The aluminium water filters and accessory modules must be permanently and individually labelled due to mandatory traceability.

Previously, the basic housings produced in a lathe shop were taken to an external service provider for labelling and transported back from there to the actual filter production facility. The accessory modules were also marked externally.

The compilation of the marked supplier parts caused considerable effort. So the search was on for a more logistically and cost-efficient solution.

In-house laser marking

Blaufaktor went for the SpeedMarker 700 laser marker and decided to set it up directly in the turning shop, which significantly simplified logistics.

The stand-alone device with a processing area of approximately 580 x 495 mm marks the manufactured parts here directly on site, thus saving time and money previously spent to get them marked off site.

The self-explanatory menu of the SpeedMark software for template creation allows complex markings to be implemented quickly via a drag-and-drop function. The data is quickly imported via USB stick and the housing holders are assembled from simple plastic components.

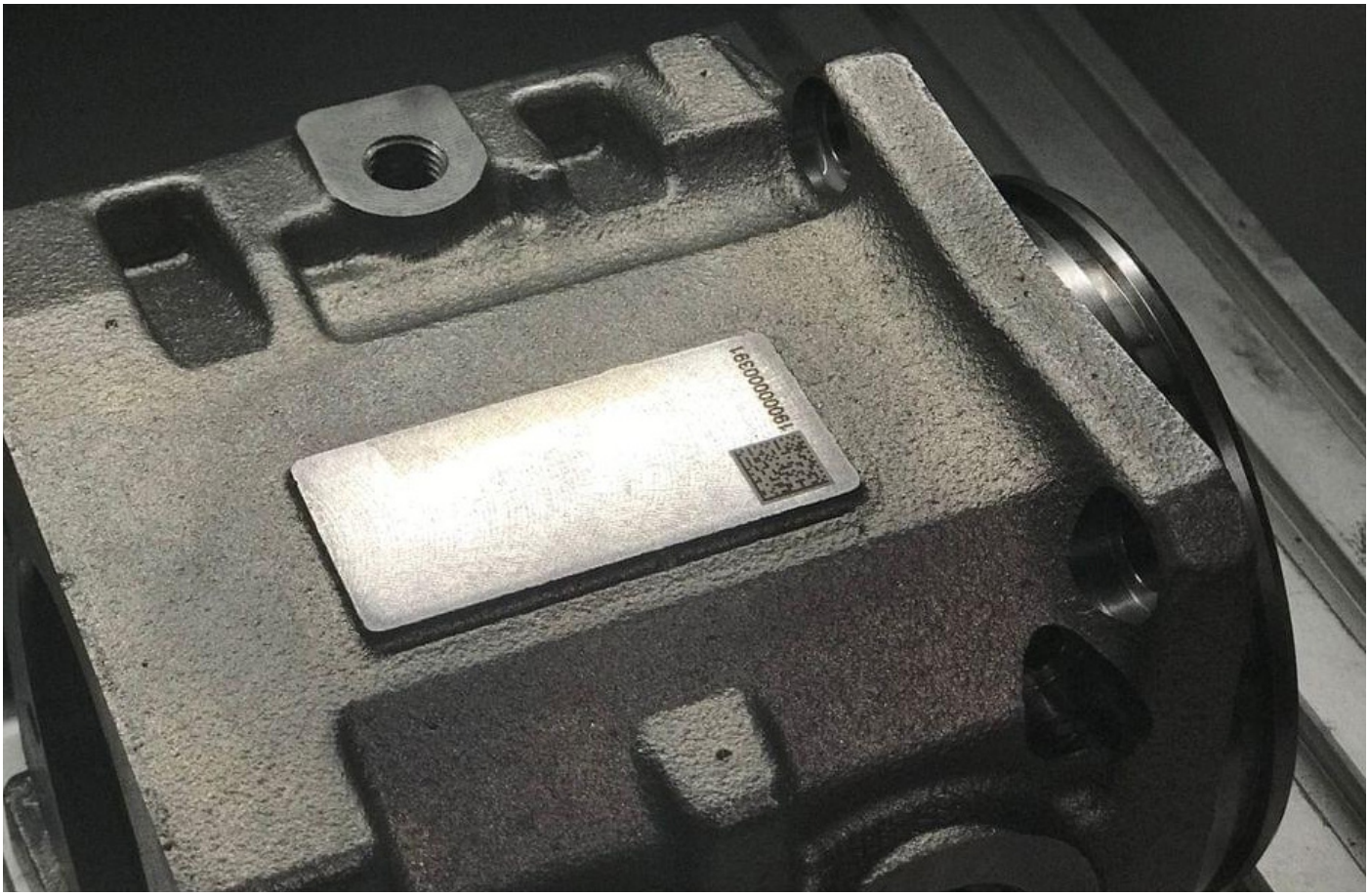
Since the laser system can mark a wide range of alloys, this will now gradually be adopted for other metal alloys as well in order to optimise the workflow there, too.

“Now that we are no longer dependent on a service provider, we can respond even faster to individual customer requests for marking with serial numbers, product designations or logos, and at lower cost.”

Patrick Leichtenstern,
Managing Director - Blaufaktor

Machine Fabriek Elburg

One of the largest machine factories in the Netherlands



About Machine Fabriek Elburg

Machine Fabriek Elburg is a specialist in machining castings, supplying accurate turning and milling parts and assembled products. They manufacture semi-finished products for trucks, engines, compressors, pumps, agriculture and oil & gas. They do this in both large and small series. Thanks to their many years of experience, they export their products worldwide and have a strong position on the European market. They are certified according to IATF16949, ISO 14001, ISO 9001 and deliver 10PPM according to automotive requirement (= a maximum of 10 parts deviating per 1 million delivered parts allowed).

Machine Fabriek was founded in 1984 and team now consists of 100 employees and the main business is the truck industry. Customers such as DAF Trucks in Eindhoven, DAF Trucks in Westerlo Belgium and PACCAR (parent company of DAF worldwide) are some of the major customers. In addition, they have various other large customers in the Netherlands and in Europe from the engine industry (Liebherr and MTU in Germany), the gas industry (Mokveld Valves from Gouda) as well as in the cooling industry (GEA Refrigeration Netherlands NV from Den Bosch), and the agricultural sector (Krone and Claas in Germany). Herrald Hulst talks about their distinctive capacity: “we process both small and large series and, in addition to 35 stand-alone machines in turning and milling, we also have a fully automated Flexible Manufacturing System on which we produce fully automated with robots 24/7”.

The challenge

“We went looking for a laser machine, because our new customer Liebherr from Germany wanted to have the parts provided with a lasered data matrix code. The laser was and is a completely new supplement for us. With the laser machine we now can meet the traceability requirements and so we can soon be deployed for more diverse assignments and customers. There is now a working group of 4 people who operate the laser. After only a brief training period, the staff were able to operate the marking laser, “says Herrald Hulst.

Trotec Solution

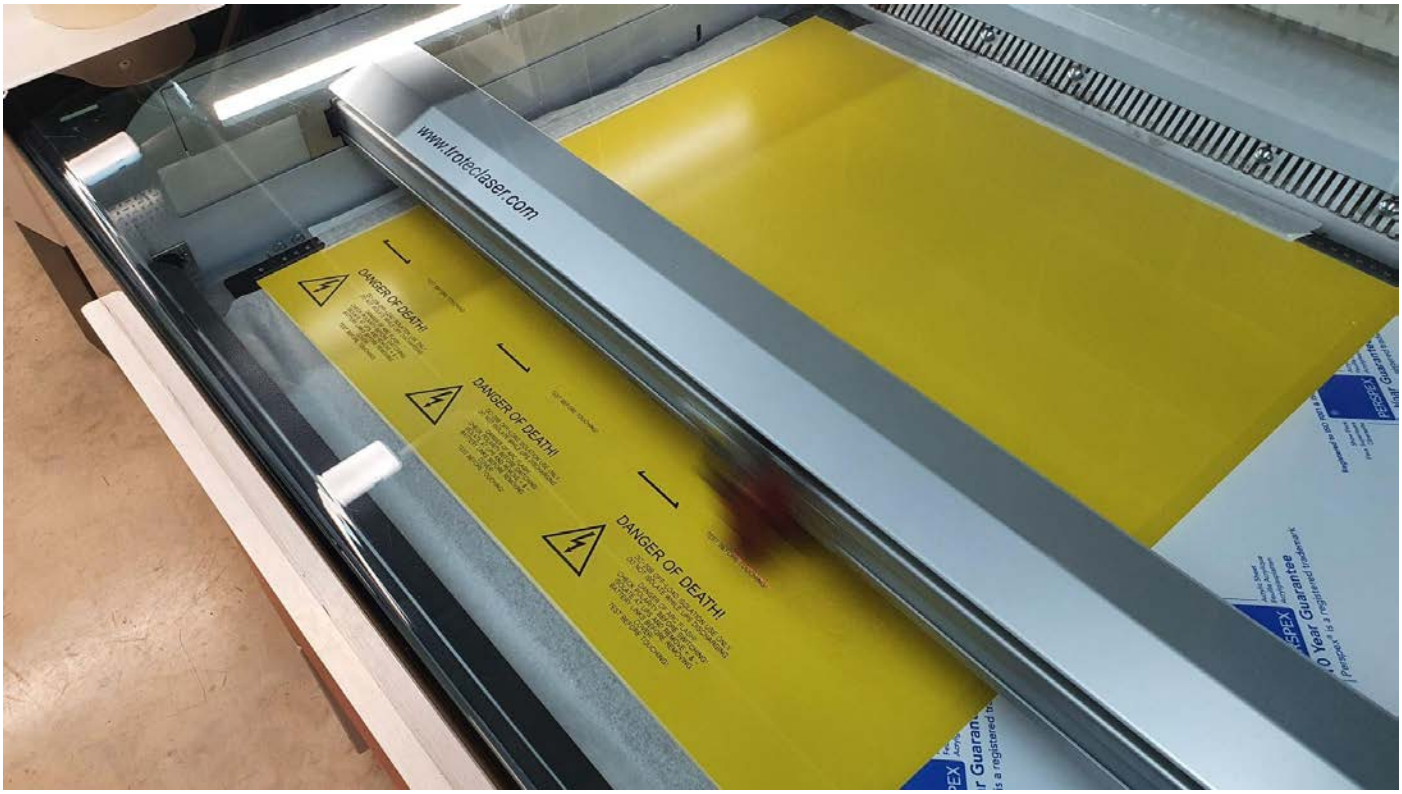
In the search for a high-quality laser machine, we compared various suppliers. In the end, we opted for a SpeedMarker 700 marking laser from Trotec. In addition to the time and energy that the company Trotec put into its product and (new) customer, Trotec came up with a competitive offer and complete concept that both Machine Fabriek Elburg and its end customer can agree with. In addition, we were also able to have some small series lasered at Trotec on a demo machine prior to the fast delivery so that the customer immediately had a result in-house for evaluation. We are very satisfied with the laser machine, because it is easy to use. It has made us even more complete as a supplier, “ says Herrald Hulst.

RB1 Ltd

Switchgear production for UPS supplier

About RB1 Ltd

Founded in 2014, RB1 Ltd is a company comprising of electrical engineers with a strong background in the UPS (Uninterruptible Power Supply) industry. An ISO9001 company based in Chesterfield, UK, the team design and manufacture AC + DC switchgear specifically for the UPS industry. The wealth of industry experience of each team member ensures that panels designed and built by the team are fully fit for purpose.



Dan discovered Trotec through social media, and following further research into the products, he became quickly convinced that Trotec could be the ideal solution for the RB1 team. Keen to see for himself what the lasers were capable of, Dan contacted Trotec to book a laser demonstration at his local showroom on Trotec's Speedy 400 laser cutter.

During the demonstration Dan was not only impressed with the speed and quality of the machine, but the service he received from the Trotec area manager. Convinced by the demonstration, as well as the support he had received from Trotec during his contact with the various teams, Dan opted to replace their existing laser cutters with two Trotec Speedy 400s, which were installed in February 2020.

"Trotec made the whole process of purchasing a laser cutter easy. The machines are exemplary and have allowed us to maximise our production capabilities while experimenting with other features such as photo engraving. The Trotec lasers have really helped us to take the business forward. The customer service we have received from Trotec has been perfect from day one."

Dan Ward,
Production Manager

Doubling up with efficient production

Since the Speedy 400 laser engraving machines were installed, Dan and the team have seen a vast improvement to the production process for RB1. The cutting efficiency of the lasers is a vast improvement over the previous machines, allowing for greater productivity, which has led to the company doubling its production output with the Trotec laser cutters. Material processing is also a lot more effective with the new Speedy systems, especially when processing flexible laminates.

Alongside the more efficient cutting, the engraving quality has vastly improved thanks to the ceramic laser tube featured in the Speedy series. Whilst many glass tube lasers are designed purely for cutting, ceramic laser sources are equally as efficient for cutting and engraving, allowing for fine detailed results to be easily created with the laser, which has allowed the team to produce outstanding engraving results. Thanks to the technical capabilities of the Speedy lasers, Dan and the team have been able to trial other applications, including photo engraving, which has given them outstanding results.

The laser software has also proved to be a benefit for the team, as laser settings are all stored within the dedicated materials database. This means the team can begin processing a material with full confidence that they will achieve consistent results throughout their processing.

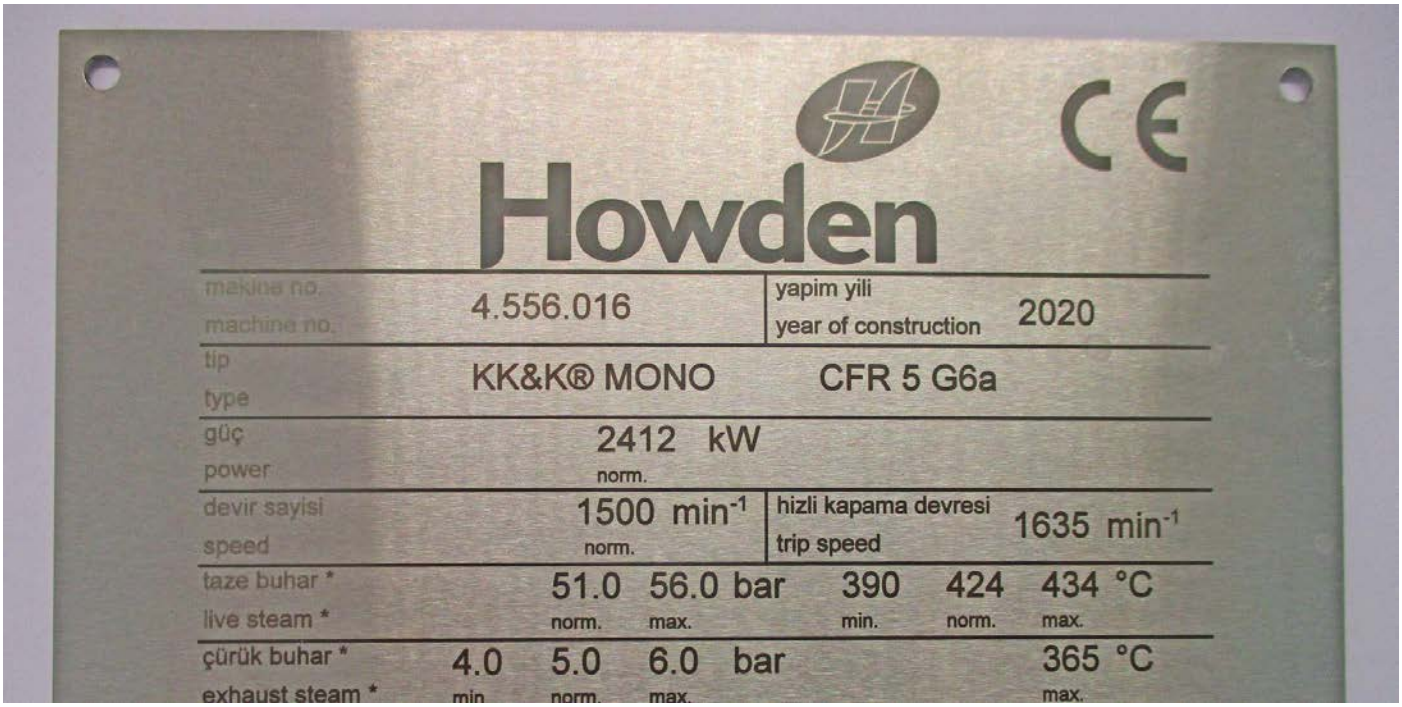
Dan has been quick to praise his Trotec experience. From the initial discussion to his demonstration and beyond Dan has felt fully supported by Trotec. Dealing direct with the supplier meant that the process was incredibly easy and everyone was extremely helpful. Any questions that Dan asked always received a prompt answer, making him fully confident that Trotec are a supplier that he can rely on.

“We recently switched to using Trotec's flexible laminates. The quality is an improvement over our previous materials and the material is also cheaper to purchase. Thanks to the laser software we can easily process the material with the pre-installed parameters, minimising the risk of wasted material that was occurring with our previous laser cutter.”

Dan Ward,
Production Manager

Howden Turbo

Howden Turbo relies on Trotec marking lasers.



About Howden Turbo GmbH

Howden Turbo GmbH is a mechanical engineering company with ~ 6,000 employees worldwide that develops and manufactures turbomachinery (compressors, turbo-fans and steam turbines) for a wide range of industrial applications in oil & gas, power generation, process engineering, wastewater treatment, etc.

The requirements

Laser technology is used in mechanical manufacturing for component identification and for the production of type plates for turbomachinery. The materials used for this purpose include metallic materials (steel, aluminum, brass) and plastic plates, which are either inscribed or laser engraved depending on the application.

The components are marked with different information during the ongoing production process, which is used for later identification of the component in assembly or field service. The laser parameters are configured in such a way that the marking is permanently durable and still legible even under difficult conditions (dirt etc.), with a good contrast to the base material. For Mr. Müller, these requirements were decisive for a stable process and are solved very effectively with the SpeedMarker 1350.

The advantages of the Trotec marking laser

Howden Turbo GmbH has selected the SpeedMarker 1350 laser marker with customisation.

In addition to the engraving quality and the fast finding of suitable material parameters, the laser marker was particularly convincing due to the extensive possibilities of process scripting in the SpeedMark software. This makes it possible to reduce the error rate in the production process to an absolute minimum and, because it is so user-friendly, does not require extensive training.

The in-house produced nameplates make Howden Turbo more flexible in terms of time and less dependent on suppliers. On average the company saves 60% of the cost of previously purchased nameplates.

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