

UNISIGN EXPERIENCE

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General Machining

Case study



Application

Machining complex welded constructions for medical devices

Material

Steel

Customer

VDL Konings, Swalmen (NL)

Machine type

Uniport 6000

Benefits

- Reduced downtime thanks to pendulum configuration
- A single machine for all operations, instead of several separate machines
- Outstanding performance in terms of quality, reliability and speed

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Performing multiple operations on complex welded structures

About our customer

Konings was founded in Swalmen in the Dutch province of Limburg, all the way back in 1873. The family-run business started out as a machine factory, adding an iron foundry in 1898. Over its rich history of more than 140 years, Konings has built up an impressive list of achievements, even building the first cars in the Netherlands in 1898 and a twin-engined truck in 1936.

Over the years, Konings has become a key player producing high-quality machines for agriculture, chemicals, and the textile, foil, foam and paper industry. Since 2005, the company has been part of the VDL Groep and its registered company name is now VDL Konings. Around 100 people work at its production site in Swalmen.

VDL Konings specialises in developing, building and installing machines, as well as supplying mechanical components and modules for various industries including defence, automotive and medical.

This is typically done as turnkey projects. VDL Konings then takes care of the entire engineering process, up to and including installation, with quality being the core focus throughout every phase.

Mechanical components for medical devices

VDL Konings was approached by a medical device manufacturer, asking the firm to produce a number of mechanical components.

Sales Manager Erik Leppers says, "They wanted to move their production from





China to Europe, so we had to come up with a smart way to structure their production. For this smart solution, we needed special equipment, such as a multifunctional CNC machine, which became the Uniport 6000.”

More machining, less time wasted

VDL Konings produces the assemblies in multiple parts that are subsequently welded together by robots. Erik continues, “We carry out various operations on these complex welding structures, and wanted to machine the assemblies simultaneously. The Uniport 6000 offered us that possibility. Our Uniport is equipped with pendulums to reduce downtime to a minimum. We also opted for a carousel station especially because of the turning operations we were asked to do.”

Not just a standard machine

“Unisign was right to approach this as a

turnkey project,” says programmer Roel van der Varst, “which is exactly what we do for our customers. On top of providing extensive technological advice, they also supply all the clamps and tools you need. Many other suppliers just provide you a standard machine with zero flexibility.

Unisign builds a single, tailor-made machine that you can perform all of your operations on. That’s what they do best.”

Erik concludes, “Until the new machine could be delivered, Unisign processed parts for our customer at its own site. That meant we could start the validation with our customer in the preliminary phase. That extra service from Unisign was invaluable to us.”



General specifications Uniport 6000

Work area

X-axis, longitudinal: 4000 – 24000+ mm
Y-axis, cross travel: 1500 – 5000 mm
Z-axis, spindle stroke: 1000 | 1250 mm
Portal horizontal clearance: 1500 – 5000 mm
Portal vertical clearance: 1300 / 1550 mm

Main and horizontal spindle

Power: (S6-40%) 36 / 54 kW
(S1-100%) 26 / 39 kW
Speed: 6000 rpm
Torque: 720 / 1000 Nm

Tooling

Tool system: HSK100A / SK 50 / Capto C8
Number of tool pockets: # 28 – 214
Tool change time: 10 s

Axis drive and feed system

Rapid transverse / Feed rate
X-axis: 40,000 mm/min
Y and Z-axis: 40,000 mm/min

Experience with Unisign

Roel is satisfied with the progress of the process, even more so with how the Uniport 6000 performs. He continues, “Together with Unisign’s engineers, we tailored the machine to our own preferences. My experience with the Uniport 6000 has been very good. The machine is stable, has a high uptime and processes components quickly and accurately. It can turn, mill and drill components that are long and big or big and flat perfectly, no matter what type of steel it is.”

