progress Maschinen & Automation AG, 39042 Brixen, Italy

Intelligent investment: Gandrup Element A/S switches to automated in-house production of reinforcement meshes

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The Danish family-owned company Gandrup Element A/S, founded in 1972, with 121 employees in Gandrup, switched to in-house production of reinforcement meshes in 2021. The time, material and labour savings, and not least the fact that it had also been desired by the workers for a long time, led the management to the decision to invest in an M-System BlueMesh® from Progress Maschinen & Automation. Due to the high degree of automation, larger quantities of reinforcement can now be produced in a shorter time and at a lower price.

The current steel price increase is also clearly noticeable at Gandrup Element. The managing director Mrs. Mai-Britt Wentzel, who manages the company together with her husband Karsten Wentzel Jensen, is optimistic that the new machine will help to cope with these challenging times.

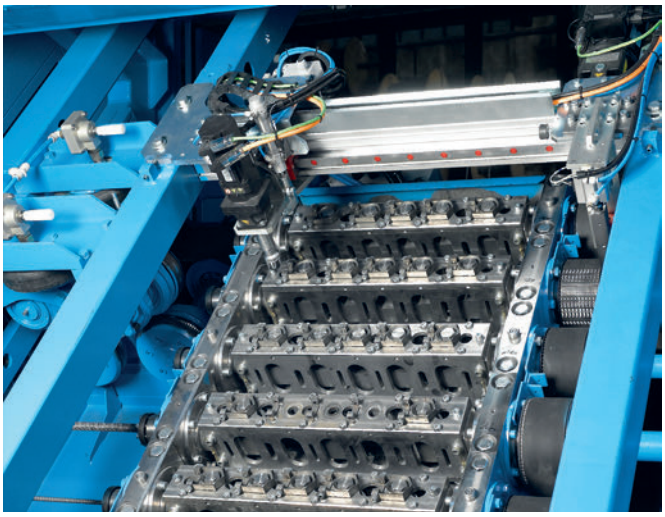
Modern construction with precast concrete elements in Denmark

15 fitters alone are on the road throughout Denmark assembling the precast concrete houses from Gandrup Element A/S - mainly in the office and residential building sectors. Only recently they were able to build a single-storey detached house with an area of approx. 150 m² in a single day. In the morning the building owner stood in front of a building site and in the evening, he could already set foot in the shell construction. In order to be able to reinforce the elements faster and more cost-effectively, as well as to cover the orders more flexibly and with less wear, a further step towards the future was taken with the purchase of the mesh welding machine.

Karsten Wentzel Jensen and his wife Mai-Britt Wentzel run the family business, which celebrates its 60th birthday next year.

The new reinforcement production hall for the mesh welding machine was built using the company's own precast concrete elements

The construction of the hall and the installation of the machine could be finalised in the summer of 2021.



The MSR 16 straightens the bars reliably and consistently using the rotor straightening technology with 5 rotors for different wire diameters.

M-System BlueMesh mesh welding machine

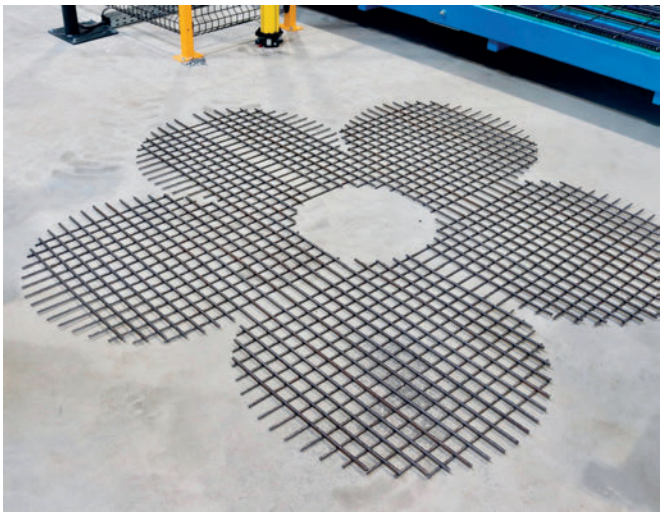
First and foremost, the machine was purchased in order to be able to produce the meshes in-house and in an automated manner, thus saving money and time. The new acquisition was also a welcome change for the company's workers, as the machine handles detailed work directly and automatically. Previously, the reinforcement meshes were purchased and had to be laboriously processed by the workers in manual steps. This task is now taken over by the new M-System BlueMesh. This long-planned investment was installed in the summer of 2021 and both the management and the workers are pleased with it. Up to now, the machine has been running in single-shift operation and produces approx. 5 t per day. However, the company is confident that it will be able to increase this quantity in the future. In order to create a suitable space for the mesh welding plant, a new 1,700 m² hall was even built with the company's own precast concrete elements.

The hall and the machine were recently completed and put into operation. Not only the more convenient, independent and faster production, but also the environmental aspect justifies this investment. This is because the M-System BlueMesh optimises various parameters resulting in significant savings in terms of CO_2-emissions, waste, freight, etc.

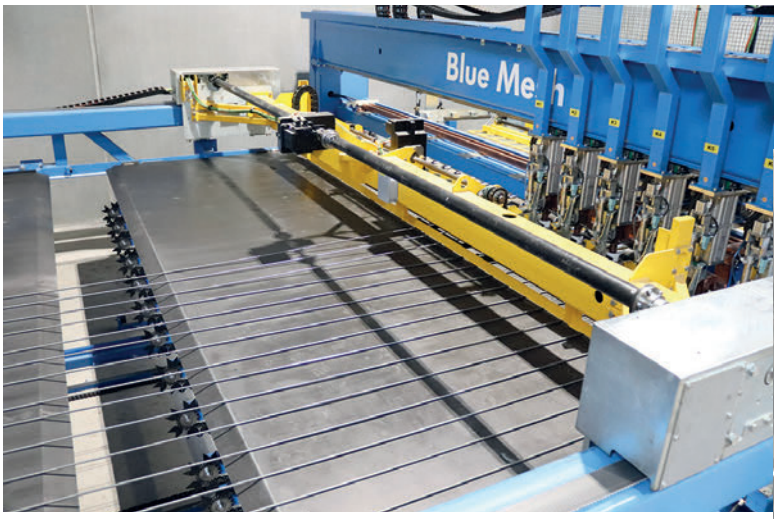
Automated system reduces physical work and increases flexibility

The M-System BlueMesh mesh welding plant from Progress Maschinen & Automation, a Progress Group company, works directly from the coil and can produce elements with or without recesses just-in-time and grid-free. Each production phase is assigned to a single workstation, so that the individual parts of the machine can operate independently of each other, thus guaranteeing a continuous flow of production. The integrated MSR straightening and cutting machine is

The outlet of the longitudinal bars with 2 outlet flaps and 10 m length catches the cut bars and brings them into position for the likewise automated further transport to welding.



The shapes and hole sizes can vary for each mesh and can be produced flexibly according to the order.



The mesh welding plant welds individual reinforcement meshes just-in-time.

equipped with five separate rotors for different wire diameters and guarantees constant straightening results due to the implemented rotor straightening technology. This means that the correct lengths and spacing of the bars can be precisely prefabricated with a wire diameter of up to 16 mm. The processed longitudinal and transverse bars are then transported fully automatically to the welding station. With the BlueMesh, the production of special meshes is also facilitated by the six flexibly movable welding heads. The required production data are taken from the structural engineer's software, i.e., the CAD data, on the basis of a bending list, prepared accordingly and transferred to the machine. The software required for this was supplied by Progress Software Development, also a Progress Group company. An automated mesh conveyor system including a traverse gripper and an automated stacking unit provides additional savings in heavy physical labour and a higher throughput speed.

Conscious decision for progress through automation

Mai-Britt Wentzel and her husband, Karsten Wentzel Jensen, chose Progress because the company had already successfully supplied well-known market leaders in Denmark with mesh welding machines: "Progress has experience in the Danish market and a good reputation that we can only confirm. We are also very pleased with the machine." ■

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