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Pedax A/S, 3490 Kvistgaard, Denmark

Fully automated processing centre for straightening, cutting and bending reinforcing steel

Pedax has always had as the focus of its strategic alignment complete solutions for improved efficiency in reinforcing steel fabrication and system concepts for increased and appropriate production output. The decisive factor is always the output per man hour, especially in the area of reinforcing steel fabrication, which is space, power, and time intensive. The economic viability of all factories and production areas is dependent on the processes, process planning, logistics and storage of outgoing products. Here there are resources whose use provides the key advantage and which can generate significant time and cost benefits.

A variety of production machines are used during the preparation of reinforcement for precast. The stirrups, straight lengths and curved shapes produced are then stored at different locations until they are brought together and processed later, often days later, at one threading or welding station. This procedure is time-consuming and complex. It leads to considerable loss of time due to long transport distances, to additional sorting work and also to errors and costly reworking.

In conjunction with KSH from Cologne, Pedax has developed a new, hitherto lesser known processing system, with the flexibility to produce all the necessary reinforce-

ment elements automatically, collect them all in a pallet system, temporarily store them and subsequently deliver them for final processing. KSH, represented by Messrs Kraus, is responsible for the logistics and storage systems. The entire project was obtained through the AIF in Berlin and funded as part of the Central Innovation Program (Zentrales Innovationsprogramm für den Mittelstand, ZIM) by the German Federal Ministry of Economics and Technology (Bundesministerium für Wirtschaft und Technologie, BMWi).

The aim was to develop a machine which was completely new for processing technology and, parallel to that, the logistics for



Pedax processing centre for reinforcing steel fabrication from the coil. The new fully auto-mated system combines a straightening machine with automatic hyperbolic rotors, a double bender and a stirrup bender in one centre.

a chaotic storage system with the associated alternative handling equipment. This reduces long changeover times and the unwieldy process and storage logistics in the sense of just-in-time production.

The result is a fully automated processing centre for straightening, cutting and bending reinforcing steel in various lengths, diameters and shapes. The system combines three machines in one unit: a stirrup bender, a double bender and a rotor straightening machine. The system works from the coil. This achieves flexible, plan-based production of individual batches, which can then be put together for follow-up orders. For this, the individual orders must be distributed into defined boxes, which can then be stored. The overall system was created from independent individual machines. Here, the full range of data management is of particular importance.

The new machining centre is modular. Pedax can therefore design customized systems. These include rotor straightening equipment with automatically adjustable rotors, combined straightening and double

bending machines, stirrup benders for bars and, of course, the overall system described above.

The new system is suitable for precast facilities as well as bending shops. The entire system is driven by one operator. It is the culmination of long years of Pedax experience.

Particular importance was attached to the coordination of all the processes with each other. The reel system is controlled by a program. The reels are designed for coil weights up to 5,000 kg and are very stable. The straightening system uses hyperbolic rotors that are automatically adjusted to different reinforcing steel diameters. The rotors are automatically maintained by oil-air lubrication (copyright protected), and this can eliminate downtimes which would otherwise be incurred by manual lubrication. Flying shears ensure high straightening speeds for accurate lengths with low tolerances. The double bender has an automatic tool changer. The supply of rods is carried out via a buffer system. The Pedax software is user-friendly. The production data

are automatically distributed to the various system components.

Pedax will present the new system concept to the technical community at bauma in Munich. ■

FURTHER INFORMATION



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