Industrial Digital Printing Machine Manufactured For the First Time in Turkey

Digital Printing Accelerated With Contributions From Kollmorgen

Manufactured for the first time in Turkey, the industrial digital printing machine is able to produce 400 square metres per hour with 600x600 dpi quality. This means that it is approximately 20% faster than its counterparts.

Mezit Technology, a Bursa-based company, has manufactured an industrial digital printing machine for the first time in Turkey, in collaboration with Kollmorgen products and engineering. Following successful trials, the machine has started production. Mezit Technology officials state that the machine is 20% faster than its counterparts. The machine was manufactured as a result of R&D efforts that lasted around 6 months, and has been intensely sought-after by textile manufacturers from Turkey and from several other countries.

As owner of Mezit Technology, with substantial industry-specific experience in digital printing, Mr Ibrahim tells their start up story: “I have significant experience in the digital printing industry, and many years of expertise. During this time, I worked with several companies and learnt almost all the intricacies of this field. As a result of our evaluations, we decided that digital printing technology must be used more intensively in an important textile production centre like Turkey and even these machines must be manufactured in Turkey. We have diligently selected and gathered a technical team who will design and manufacture this machine, thus forming a highly experienced team.

We turned to TUBITAK to develop this project, and after establishing collaboration within our team, we met with various companies to assess the market and to source materials and services. We came to an agreement with Kollmorgen for the motion control systems, and they delivered 1 linear direct drive motor, 5 servo motors, drives, boards and other control systems. We worked with 2 international companies for the software. We wanted to produce a technology meeting or exceeding the European standards, bringing together the best in the world, and we succeeded in manufacturing an industrial digital printing machine for the first time in Turkey. Our machine started production following the test phases, and one of the first clients has expressed how pleased they are with the machine so far".

Kollmorgen project manager Seref Karaoglan summarises the motive behind their preferences in the project, and says, "It wouldn't be inaccurate to say that Kollmorgen is cut out for this project. We are one of the few companies that could possibly manufacture all of the products used in the machine. Furthermore, I can easily say that we are the only company that is capable of providing a linear motor, and all of these products, while optimally utilising its engineering in such an important R&D project".

6 Axis Synchronisation with a Single Controller

Kollmorgen project manager Seref Karaoglan shares their success story in synchronisation, and says, "Another important element that we provided in the machine's success is our AKD PDMM controller with outstanding features. Our controller is embedded in the drives; it simultaneously controls 6 axes that are comprised of pulling, bonding, band, head Y axes (linear motor), head Z axes and wiping (cleaning). This way, we were able to successfully ensure synchronisation between axes".

20% Faster Than Its Counterparts

Mr Ibrahim from the Mezit Technology Company points out that the machine has the production capacity of 220-230 linear metres per hour, meaning that it is 20% faster than its counterparts across the world, and says, "So we can produce 400 square metres with 600x600 dpi quality. The total cost of R&D has reached approximately £360,000 (TRY 1.5 million). For now, we have production plans for just 2 machines, but we aim to manufacture 20 machines in 2016. We will establish dealerships in Brazil and China, and we are looking to develop opportunities farther afield, in other countries where the industry is dense".

An Enviable Linear Motor Technology

Seref Karaoglan remarks that the most striking feature of the machine is its high speed, and that, "it is very important that it is able to reach desired speeds, while being able to stop in a very short time for pulling, bonding, band, head Y axes (linear motor), head Z axes and wiping (cleaning). I would like to highlight the quality of Kollmorgen at this point. It is capable of gaining very high momentum, as in order for the machine to carry out a successful process, it needs to reach 1.8 m/s in 150 milliseconds. Our high performance linear motor and servo drive and motion control solutions are able to address these needs".

Emphasising that one of the most critical aspects of such machines is 'the motion control', the owner of the Mezit Technology company, Mr Ibrahim, indicates his reliance on Kollmorgen controllers and says, "Because there are so many synchronised motions, such as the simultaneous movement of units, the bonding of fabric to blanket, as well as drying-swinging in high speeds, this is a very complicated piece of technology. In this regard, Kollmorgen has met all of our expectations. We used symmetric printing technology in this machine and this was another important factor that increased our speed".

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About Kollmorgen

Kollmorgen is a leading supplier of integrated automation and driver systems, as well as related components, aimed at machine manufacturers all over the world. With over 70 years of experience in Motion Control Design and application, as well as its extensive knowledge in the areas of production standards and bespoke solutions, Kollmorgen provides prominent solutions in terms of performance, quality, reliability and ease of use. As a result, our clients gain indisputable leverage in the market. www.kollmorgen.com/uk