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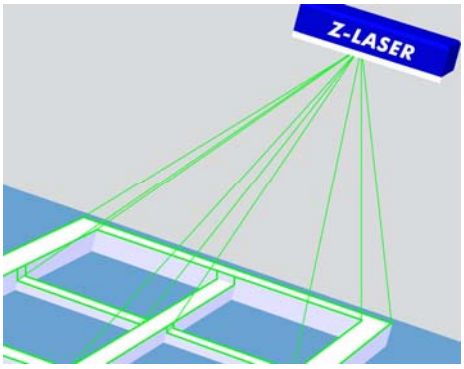
2D- and 3D-laser projection in wood industry



For more than 20 years ***Z-LASER*** GmbH, Germany, has produced laser modules and laser systems, which are used as positioning aids for many types of applications in all kind of industries. In wood industry, the powerful laser projection systems are designed to simplify and optimize working cycles thanks to the millimeter precise laser projection. The laser projector allows a size for size 1:1 transfer of complete component drawings from a CAD system to the working table. Error-prone processes of measuring or the use of stencils and patterns are no longer required, changes can be made easily and particularly fast, because updated construction data are transferred to the projection file and instantly displayed by the laser projector. The circumstantially re-measuring or drawing-up of new stencils is no more necessary. So the projection can be achieved very easily and with an accuracy of 1mm per 1m projection distance. The bright, distinctive red or green laser lines accurately display any contours, patterns or shapes on any surface. The size, form (even an arc of a circle can be projected), position and height of the projection can be changed.

The polygons can be moved and assembled into groups (e.g. nesting). Moreover single letters or numbers can be displayed for precisely defining a certain pattern of projection. Depending on the manufacturing process either the whole contours of work pieces or the position of single elements can be projected.

These computer-supported projectors use a point laser which is directed on two small

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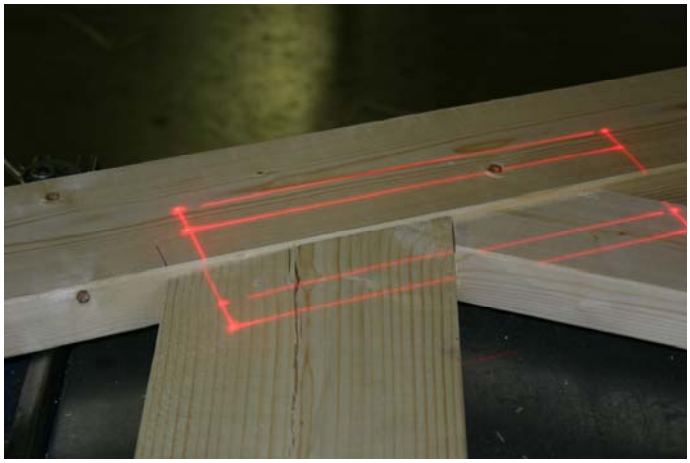
movable mirrors, which are adjusted rectangularly to each other. The mirrors are precisely moved by a galvano metre, which are controlled by a computer. When the mirrors are inclined in exactly coordinated angles, the laser point can be moved along a contour, which is determined by the computer programme. If the point moves quick enough the complete contour appears as an almost standing image (cinema effect). If you look at the laser object on your working place in front of you, you can decide immediately where to place another working piece or vacuum pods on a CNC-Router. You can make your choice whether the whole contour will be displayed or the components will be displayed one by one. Via an industrial remote control or the easy-to-use laser menu the projector switches over to the next programmed object in order to show working actions step-by-step. For displaying large production pieces (e.g. laminated woods) many laser projectors work together in a multi-projection-system.



A laser projector can be integrated in the manufacturing process without consuming much time and effort. Good to know this laser projection system has not to meet special safety precautions and you don't have to train or instruct the staff working at the machines in a special way. And last but not least the installation on any machine is very easy and the laser can be integrated into the production process without any problems. Laser projectors save production time and increase quality of production by elimination of failures. These laser projections are used for several applications like CNC, wooden framework construction, truss or laminated woods.