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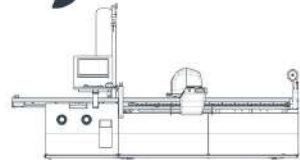
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02/2019



Cam-Bot-Laser®



## Cam-Bot-Laser® (patented system)

The name itself "Cam-Bot-Laser" describes the main components of a product that required five years of development.

CAM - indicates the cutting cam system (Computer Aided Manufacturing) "use of computers in production processes" to which the prototype must be added. In addition to CAM, it indicates the new video camera that contains three extraordinary features as they are combined into a single product as follows:

1. Professional shooting with very high resolutions Full HD, thanks to a technological leap in optics;
2. Slow-motion that reduces the frames/second and from a video view without the flickering of massive laser projections;
3. Interfaceability with 4K monitor systems of high dimensions and resolutions of 3840 x 2160 pixels such as to allow "Live".

BOT - is recognized as the nickname for "robot" and coincides with both the hardware and software system for moving the camera but also again with the cutting machine.

LASER - is an important part of the philosophy of the system consisting of multiple laser projections of the images piloted and synchronized by a special software, namely "CBL software" developed in FKgroup. Multiple projectors allow to cover large projection areas but divided into portions, resulting in the reduction of flickering proportional to the reduction of the area and the contours to be projected.

### WORKING PRINCIPLE FOR FABRICS OR PANELS

The operator places directly on the fabric thanks to a laser projection, the placement criteria both for stripes and squares matching in case of panels, and coinciding drawings in the case of panels. The theoretical placement created by the CAD can be proposed to the basic operator, including the points in which it is necessary to have a matching between motif / design / line / frame and the model, leaving only the task of looking for real matches in the fabric and adjust the position of the pieces. The expert operator may not require any placement, as he can directly import the pieces to place by matching and cutting immediately. The "Live Positioning" phase can take place either on the 4K monitor on the machine, or on a "Live" remote station, but also with the aid of a tablet operating directly over the fabrics.

The main software retrieves the placement in ISO format and allows the complete manipulation; in fact, the operator chooses which components to project and which essential pieces must appear (never the entire cliché). The pieces that are selected are then projected "Live" onto the real fabric directly in the cutting area of the machines. All this takes place with immobile fabric that will no longer move until the end of the process and perfectly executed cut. The operator can decide the details to be zoomed and the areas of the carpet where to act to achieve the matching, the Camera shows both the fabric and the laser projection on the 4K video, then interacts directly piloted by the operator by operating the BOT camera above the affected area.

The software handling and rotation of the pieces is approximately as that of a normal CAD, but with the following advantages:

- in any case it operates directly in the "real" and live fabric;
- the fabric is cut exactly where it is placed.

PIN-DIRECT: it's the perfect solution in case of mattress production of panels, stripes, checks.

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