## APPLICATION OF LASER ENGRAVING TECHNOLOGY IN FABRIC EMBROIDERY

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The working principle of laser embroidery is to use the high-intensity laser emitted by the laser, and the advanced galvanometer to control its movement trajectory, and to carve and punch holes in various fabrics to create a fashionable and trend-leading effect. It is essentially different from the effect embroidered by an embroidery machine.

First of all, from the visual point of view of the pattern, the embroidery machine sews threads of different colors on the surface of the clothing fabric, and combines the color blocks to form a pattern. The "laser embroidery" is processed according to the background color of the clothing fabric. Through the layering method of the laser control system, "embroider" on the fabric of the same color and shade, the transition color with a sense of layering is different in the background color of the fabric is It has a unique, natural and rustic style that cannot be adjusted by any designer.

Secondly, from the perspective of expression, the embroidery machine cannot continuously express single-line fine and large-format patterns due to its working characteristics. And "laser embroidery" complements the embroidery machine because of its slender beam, high-speed movement, and continuous engraving. The laser-cut pattern women's clothing that has just become popular this summer has a special effect by directly forming patterns by laser drilling. Although the unit price of processing has increased to 10 to 20 yuan, the supply is still in short supply. Fashionable products must be innovative in order to be popular. At present, we also apply this technology to the denim processing industry to produce images, flower shapes, cat whiskers and other effects on denim clothing. Laser bleaching, with its advantages of high efficiency, energy saving, and pollution-free, is believed to gradually replace it in the near future. Denim sandblasting this process.

In terms of laser cutting applications, the applique embroidery blanking in the embroidery process is changing from the traditional knife die blanking to the laser cutting blank which is easy to control the pattern. Compared with die blanking, laser cutting blanking has the advantages of fineness, no fringe incision, and arbitrary pattern output. However, single-head laser cutting and blanking cannot fully meet the production requirements of large-scale embroidery factories, so a patent-protected multi-head high-efficiency laser engraving machine has been introduced. It can not only cut and blank small-format batches, but also can process large-format pieces, which has strong applicability. In addition, in the trademark production industry, the laser edge cutting process is gradually replacing the traditional manual hot cutting processing method. It can be said that the market prospect of laser application in the clothing industry can be said to be unlimited.