

## MICROFLUIDIC COMPONENTS

## DIGITAL CONVERTING

Through the use of precise, high speed digital converting technology, the Precision Medical Converting Group (PMCG) at LasX Industries is able to economically manufacture next generation microfluidic components, turning prototypes into viable components ready for clinical use. Laser digital converting offers the flexibility to create miniaturized features in laminated polymer materials without the design constraints associated with hard tooling. By integrating this technology with continuous web processing, multilayer medical device components can be mass produced in a manner that is far more cost effective than competitive methodologies.

### PRECISION

*LaserSharp®* Digital Converting is capable of producing microfluidic channels as narrow as 125  $\mu\text{m}$  on a production basis. These channels can be positioned within a tolerance band of 75  $\mu\text{m}$ . Our digital converting technology utilizes patented laser control software integrated with high performance motion control systems, which produce extremely accurate features with tight tolerances and superior edge quality. *LaserSharp®* processed components do not exhibit the discoloration or edge charring associated with typical in-house prototyping systems. These benefits, combined with the ability to process pre-laminated structures, make digital converting an all-round advanced production solution for the manufacturing of microfluidic components.

### SPEED

*LaserSharp®* Digital Converting is an ideal manufacturing process for the production of microfluidic channels. When compared to other laser processes, *LaserSharp®* Digital Converting is over 20 times faster, allowing you to realize cost-effective, high volume production. Additionally, materials are processed on a web or sheet-fed basis in order to meet any production requirement. This technology allows for a seamless transition from the development stage to full scale production, sending your components to market faster.



The photograph above shows a *LaserSharp®* produced fluid flow channel. The orange channels are 0.005" wide and the black channels are 0.015" wide. The fill holes and channels can be optimized for your specific process and fluid utilization requirements.

Precision  
Medical  
Converting  
Group

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