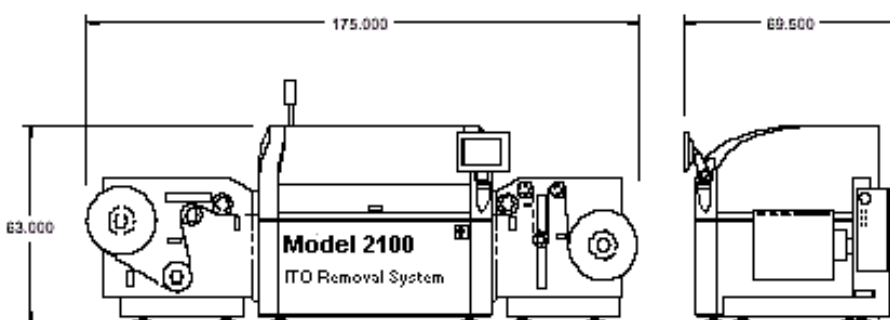




## *Velocitec Model 2100C & 2100LPX*

### **ITO Laser Removal System**



#### **Technical Overview**

The system was designed and constructed to strip the ITO (Indium Tin Oxide) film on glass or plastic film. The laser fires in a controlled dose, remove the ITO film with a stable speed. When the laser is running, the table moves the substrate with specific contour depending on the size and required width.

The system employs an UV laser source, called excimer laser, to etch the ITO film. The UV Laser is a pulsed laser that produces radiation in the ultraviolet region. The unique way UV radiation interacts with materials has provided a means to produce precise micro-sized features to micrometer dimensions. This material interaction is called photoablation. The high photon UV energy breaks down the molecular bonds in the material, and the resulting vaporized fragments are ejected from the irradiated site. Since this process is a photochemical process and not a thermal process, the surrounding does suffer from thermal effects.

UV laser micromachining is a useful process for holes drilling, selective material removal, marking, thin film patterning and micro-milling. This process has the capability to product features with tolerances of +/-0.00005”(1 micron) or better with proper tooling and fixturing. Another feature is the precise milling capability. Since the etch rate of most materials is <1 micron/pulse the UV Laser can produce ultra precise grooves and blind slots.

ITO thin film removal is a good application for UV laser, especially its entirely dry and clean-free properties compared with wet-etching. Furthermore, plastic substrate patterning is subjected to some difficulties with chemical etching, UV laser has entirely no problems with it.

Velocitec’s Model-2100 system can strip the ITO film in a large size on the panel, also it can process very precise feature down to 10microns space width. This system was already utilized on Touch Panel market in United States for years, it’s a mature and proven technology.

In order to balance the throughput requirement and budget consideration, Velocitec provides one system with two different laser heads.

- Velocitec Model 2100C ITO Removal System
- Velocitec Model 2100LPX ITO Removal System

Model 2100C has a smaller Laser head with less power, and Model 2100LPX has a bigger laser with higher power output.