

## Laser Cutting Systems

Laser cutting systems are quite in demand for normal and high quality laser cutting of various substances?from fabric to metal. Depending on the need for laser cutting, there are different types of laser cutting systems. These are high speed cylindrical laser cutting systems, CO2 laser cutting systems, ion lasers, diode lasers, fiber lasers, etc. Ion lasers stimulate the emission of radiation between two levels of ionized gas providing moderate to high continuous-wave output of around 1mW to 10W. Carbon dioxide lasers, on the other hand, use the energy-state transitions that exist between the vibrational and rotational state of the CO2 molecule to emit radiation that is of 10  $\mu\text{m}$ , wavelengths. Carbon dioxide lasers have the ability to maintain a continuous and high level of power and are typically used for purposes like cutting, welding, etching, and marking applications. Diode lasers are tunable and allow for adjustments so that they can emit any one of several different wavelengths. The other type of laser is fiber laser that uses optical fibers that are doped with low levels of rare-earth halides used as lasing medium for amplifying light. Each of the above laser types has its individual laser-making systems, which can be varied according to their use. The strength of different types of lasers produced by different laser systems makes them versatile enough to be used for cutting even sensitive and delicate substances like thin cotton, and also to be used for cutting, scribing, marking, joining, and surface treating a variety of hard materials and metals. A lot of these laser-cutting systems are high precision equipments. These are attached to computers that control the exact amount and strength of the laser beam. These are excellent for delicate or precision cutting as per exact requirements. Thus, the choice of a particular laser system totally depends on the type of material that the laser is to cut as well as the purpose of the cut.

## About the Author

Mission Statement of the Ohio Optical Dispensers Board. To protect and serve the public of Ohio by effectively and efficiently regulating.

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