

# zeroflame

## Fire Suppression for Laser Cutters/Engravers in Educational Facilities

Laser cutters and engravers use a highly focussed beam of 'light' to produce the concentrated heat needed to cut or engrave materials. In some circumstances the materials being laser processed have the potential to ignite. The resulting fire can cause damage to the laser equipment and the surrounding property, and a hazardous situation could possibly develop for nearby personnel.

The primary method for preventing this situation is constant operator supervision of the laser system when in use. However, in the typical classroom situation distractions are common and a backup automatic fire suppression system is essential. These systems will deploy fire suppressant into the laser processing area if excessive heat is detected.

### The primary benefits of an Automatic Fire Suppression System are:

#### Increased Operational Safety






In the event of the operator being distracted and a fire initiating, the risk of the fire developing and causing extensive damage to the machine and surrounding expensive property is greatly reduced.

#### Reduced Costs

Reduces the chances of downtime and the need for costly repairs, which inevitably occurs when a fire continues.

### How the Automatic Fire Suppression System Works:

In the event that the circumstances *-(1) A lapse in supervision and (2) A fire prone material is being processed -* allow for a fire to develop in your laser, the automatic system will activate as follows-

<b>1</b>	<b>DETECTION</b>
	The continuous heat detection loop detects the elevated temperature inside the cabinet of the laser.
<b>2</b>	<b>RESPONSE</b>
	a. The laser processing stops.
	b. The laser exhaust port closes to reduce oxygen availability.
	c. An audible alarm sounds.
<b>3</b>	<b>SOLUTION</b>
	After a pre-set time the fire suppressant is released into the cabinet of the laser. This suppressant is environmentally safe, approved for use worldwide and leaves very little residue.

