

APPLICATION SPOTLIGHT

Firetrace Protects Dust Collectors From Fire



Image 1 - Full view of Dust Collector

Like all metal cutting machine processes, precision laser cutting machines produce waste (metal “dust”). Attached to many of these machines are Dust Collectors designed to pull the waste away through a cartridge filtering system (see Images 1 & 2). They use strong exhaust fans to create this “vacuum” removal system that pulls the waste away from the bottom of the machine. Since the cutting process involves metal and a laser, sparks are a natural byproduct. Occasionally, a spark from the cutting area flows into the Dust Collector. When this occurs, the metal “dust” can ignite. A fire can start slowly and smolder for some time inside the filters before becoming a flaming fire. As with all machines that are used to produce precision metal products, continual operation is a must for the plant productivity and profitability. So, a fire can be quite costly in the form of machine downtime.



Image 2 - Filters installed on Dust Collector

A Firetrace Indirect Low Pressure (ILP) system provides the perfect *fire protection* for these machines (see Image 3), since the customer specifically asked for fire protection in the filter compartment (They realize that Firetrace does *not* provide *explosion protection*.) The ILP system used 20 lbs. of Class D powder as the fire suppressing agent because of the metallic nature of the combustible dust. The Firetrace Detection Tubing was run above the collection cartridges to quickly detect a fire (see Image 4). Four Discharge Nozzles were placed throughout the Dust Collector to thoroughly saturate the area with powder upon system activation (see Image 5). A Pressure Switch was installed to shut the exhaust fans down as soon as the system detected a fire. It was also connected to the building’s fire alarm to signal the fire. A Manual release was included as well as an additional safety precaution (see Image 6).



Image 3 - Installed Firetrace Indirect Low Pressure (ILP) Dry Chemical System

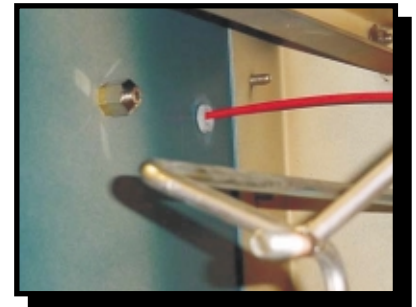


Image 5 - One of four Discharge Nozzles



Image 4 - Firetrace Detection Tubing run above all of the filter cartridges

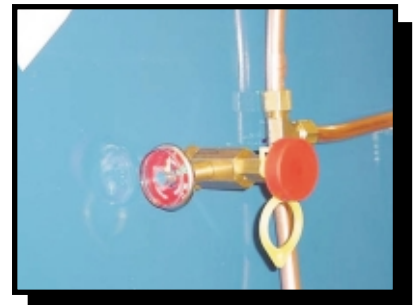


Image 6 - Manual Release

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Firetrace International • 7898 E. Acoma Drive, Suite 106 • Scottsdale, AZ 85260 USA • (480) 607-1218 • firetrace@firetrace.com • www.firetrace.com

¹ The Donaldson Company does not specifically endorse Firetrace. When operated properly, their equipment is inherently safe from fire.