



How to Identify an Industrial-grade vs. Commercial-grade Laser Marking System

How to distinguish between Industrial-grade versus Commercial-grade systems – a simple eye-test will help you decide. When all the hardware and electronics are situated on top of the processing chamber, you are most likely looking at an industrial-grade system. When the hardware is below the processing chamber, it is highly likely commercial-grade. Over time, metallic contaminants generated by the engraving process will migrate downward each time you open the chamber door. If the electronics are located below the processing chamber, these electro-conductive contaminants will be drawn through the cooling vents accumulating on the laser pump. Based on the usage rate (number of shifts utilized) and engraving depth, the potential for premature system failure is present once a sufficient amount of debris has accumulated inside the hardware creating conditions for an electrical short. These shorting failure mechanisms generally occur in years 4-6.

Industrial-grade laser systems are CDRH, OSHA and FDA rated for safety compliance in the industrial work environment, while commercial-grade systems are better suited for general purpose applications in clean, relatively light-duty processing environments. Systems designed for industrial settings will always have laser-rated viewing windows as well as software and hardware safety interlocks to ensure operator safety. Finally, overall cost of operation is greatly reduced due to the use of sealed subsystems designed specifically to work in dusty, humid conditions without the need for scheduled maintenance, cleaning or adjustment of critical components.

**Laser Photonics' systems are maintenance free requiring no consumables with a
MTBF>50,000 hours**



Hardware on Top

Hardware Underneath



Hardware Underneath



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