

Installation Notes Metal Halide Lamps

All TCS Technologies UV curing lamps are shipped clean. ***If inadvertently touched, clean with alcohol or Windex.*** Fingerprint contact with the quartz must be avoided. A single fingerprint will etch the quartz surface eventually causing premature failure that will not be covered under warranty. All types of dust, powder, grease, smoke and misting ink must be cleaned from lamp. Any of these conditions can cause overheating and will shorten the life of the lamp.

Certain inkjet lamps especially for Agfa Anapurna are considered iron iodide **metal halide** lamps.

“Metal halide” is a broad term used to describe a wide variety of gaseous discharge arc lamps in which the gas-filled arc tube operates at several times the normal atmospheric pressure. The various types of metal halide lamps are categorized and named by the type of additive contained within the arc tube. Examples are gallium, indium, cadmium and iron.

At TCS Technologies we believe in providing useful information free of sales hype. ***On a practical basis metal halide lamps especially iron iodide lamps are fraught with operating issues. They are hard to start, must be run only at high power and are extremely easy to overcool.*** Metal halide lamps have a strict temperature profile and are not intended to be dimmed i.e. operated at reduced power. These lamps are designed, electrode chosen and bulbs shaped based on a certain power. ***Lamp output will not remain stable unless operated at high power level. Always start a lamp at high power.***

Iron iodide metal halide lamps are prone to overcooling. *Lamps must have a minimum wall temperature in excess of 357°C, the boiling point of mercury. Below this temperature mercury and other additives will condense on the inner lamp surface turning the tubing dark silver to black. Once this plating has occurred, the effect is irreversible. It only takes a short time for an overcooled–glow mode–lamp to fail. A competent UV system will monitor lamp temperature and reduce cooling accordingly. An overcooled lamp will always operate at reduced voltage resulting in lower UV output. Their light output will appear dim, certainly not as bright as a normal lamp and they will not come up to temperature.*



Always operate iron iodide lamps at full (high) power. If run at reduced power you must adjust lamp cooling by restricting between 40 to 50% of the lamp cooling air. If UV system exhaust temperature appears “cool”, most likely the problem is lamp overcooling. Shut the UV lamp off and block 50% of cooling fan intake. Restart lamp at high power and observe UV lamp output. Adjust cooling air until lamp reaches correct temperature. Lamp will not be damaged by reduced airflow as it was too much to begin with. Questions, contact TCS Technologies.