

## Keep your water clean and fresh

The main enemies of any CO<sup>2</sup> laser tube are dirt and heat. This is because dirt in the cooling system will clog up the water pipes, causing the tube temperature to rise - especially if your laser is operating with a bucket of water and a pump.

If you are using a chiller with a closed loop water system, the issue is not that serious, because external contaminants are unlikely to find their way into the water. However, if you only use a water bucket and pump, you should keep a lid on the bucket to prevent animal hairs, dust and other dirt from entering the cooling system.

Also, keep your water bucket out of sunlight as it will allow algae to flourish in the water - causing the same issues.

We recently got a call out to "fix" a machine that was overheating, and found that everything was clogged up with cat hair. Cleaning the tube and pipes restored this machine to operation, but it could have resulted in the client needing to buy a new water pump and water flow sensor, and maybe even a new tube.

Whether you have a bucket and pump or a chiller, following these simple "rules" will ensure that your laser lasts longer :

1. Add 1 teaspoon of anti-freeze to your chiller water, or 2 teaspoons of antifreeze to 20 litres of water in a bucket. Never add more than this.  
(see Technical Bulletin #29 f or reasons)
2. Only use distilled water.
3. Replace chiller water every 6 months - bucket water every month.
4. Please do not allow your dogs and / or cats to drink from the laser water bucket.
5. Vacuum your work area daily.
5. Check the water flow at least once a week, and monitor the tube temperature.
6. If your tube does somehow start growing algae, you will need to flush the water. Add a tablespoon of thin bleach to a clean bucket of tap water and let it circulate for a couple of hours. Replace the water again (with plain clean tap water) and let it pump out to another container. Repeat this cycle as many times as is required to remove the algae. Use distilled water for the last flush. Fill up with fresh distilled water afterwards.

Remember, if your tube is damaged because of dirt, there is no warranty.

Moral of the story? You can buy the best equipment in the world, but if you don't take the time to maintain and clean your equipment, you are just ensuring that you spend more money.

When the machine is not running, you are not making money either.



Actual cat hair removed from a tube, pipes and water flow sensor.

