

Hydro Innovations, Expert in Heat Control



By **Stephen Keen**
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Company Presentation

Hydro Innovations is a young, dynamic company started and owned by an experienced indoor gardener. As our name implies, we believe that there are a lot of “thinking out of the box” innovations that can be made to improve indoor gardening, primarily in the area of heat control, which is our focus. We have a lot of in-the-trenches experience and our products reflect that. We won’t mislead you with inflated claims of performance: our products do exactly what we say they’ll do, and we know it because we’ve tested each of them extensively in an actual indoor-growing environment.

HydroGEN PRO

Hydro Innovations is proud to present the next generation in water-cooled CO₂ generators, the HydroGEN PRO. Like the original, the PRO version uses a water-cooled heat exchanger to cool nearly 90% of the heat produced by burning propane. The new unit has several upgrades and new features over the very popular original model. The PRO unit is more user friendly and has more installation options, making it the best water-cooled unit yet. A few of the upgrades include replacing the 3-V battery pack with a power-cord adapter that now operates on 12 V, adding insulation to the internal tubing to protect it from excessively humid environments, and an additional power outlet for the Ice Cap cooling accessory, soon to be released. The best part is that the HydroGEN PRO retails for the same price as the original version!



Ice Box

The Ice Box is a water-cooled heat exchanger that can be used to cool the hot air generated by your lamps. With this system, you can do away with your in-and-out ducting and keep everything but the water chiller inside the garden. There are several great advantages to sealing your room, including superior CO₂ efficiency (by keeping your CO₂ in), reduced opportunities for pests or disease to reach your plants, and easier odour control. With this system, you can get—and keep—absolute control over your garden temperatures and not be at the mercy of the outdoor climate. It can be used simply for controlling the heat from your lights or for replacing your air conditioner altogether, but

either way you will see a significant drop in your cooling energy requirements. Chillers are typically twice as efficient as air conditioners simply because water can absorb heat 20 times faster than air. To use the Ice Box heat exchanger efficiently, you will need a high quality chiller, appropriately sized for your application, a 30- to 50-gallon reservoir, a properly sized



pump, Ice Boxes for each of your reflectors, quality tubing and miscellaneous plumbing parts. To help understand the way the system works, there are instructional videos available on [youtube.com](https://www.youtube.com) and on Hydro Innovations’ website.

Ice Box Thermostat

The Ice Box thermostat was custom-made by Grozone specifically to be used with the Ice Box water-cooled system. When using the Ice Box to air condition your space, this is the most efficient way to adjust and set your room temperatures. As cooling needs change, the Ice Box



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thermostat will speed up or slow down most fans accordingly by controlling a single plug outlet. It has a photo cell, which allows day and night settings and a 6-foot long temperature probe.



What is unique about our product is that during the lights-on cycle, the fans will only slow down to an idle when the desired room temperature is met (the fans will never stop during lights on). It isn't a good idea to stop airflow through the hoods, as it will quickly build up too much heat right above the plant canopy. During the lights-off cycle, the fans will actually turn off when the desired temperature is met so that the room doesn't get too cold. The thermostat can run multiple fans with the ability to handle up to 6 amps.

CO₂ Monitor

Hydro Innovations is now offering a high quality yet extremely affordable CO₂ monitor. The product features a maintenance-free SenseAir brand gas detector, which after extensive testing we have found to be the most accurate sensor available.



The cost savings are not a result of cutting corners on the accuracy or function of the unit—it is because our unit is simplified and lacks a lot of the frequently unused bells and whistles that other monitors have. Our monitor is not adjustable and comes preset to turn on at 1,300 PPM and off at 1,500 PPM. Simple indicator lights

show the current CO₂ levels instead of a digital screen. Our monitor comes with a piggyback plug, allowing it to be used with any brand generator. We also supply our easy-mount wall bracket to make installation as easy as it can be. The simplicity of our monitor makes it the most user-friendly CO₂ monitor available.

Chillers

We are proud to be the exclusive distributor of ChillKing brand chiller systems. ChillKing has been building commercial-grade chillers as well as installing complete water-cooled cooling systems in restaurants for over 10 years. When Hydro Innovations teamed up with ChillKing, we were really able to take the company and water cooling the garden to the next level. Finally, we've located heavy duty but affordable chillers that are user friendly and built to last! There are several different models and sizes to choose from so that you can get the perfect chiller for your particular setup. Standard models are available from ½ to 15 HP and custom units are available in any size. There are units that come with reservoirs and pumps built inside, and we can even supply the larger units in three-phase power. Custom jobs include water-cooled chillers, split systems with the ability to use the compressor indoors, and units that have multiple compressors that can



be automatically started separately as cooling is needed, thus saving energy. Units larger than 2 HP are completely made in the USA and use a Copeland scroll compressor that has a 5-year warranty. Units up to 2 HP are partially made and completely assembled in the USA. Most air conditioners perform to roughly 50% of their BTU rating, which means the average 24,000 BTU (2 HP) air conditioner only puts out about 12,000 BTU of actual cooling. ChillKing chillers are individually tested and don't pass quality control if they don't output at a minimum of 110% of their

rating. Our 24,000 BTU water chiller outputs roughly 26,000 BTU of cooling... more than double that of an air conditioner with the same energy requirements! It doesn't take long for the energy savings to add up.

Water-Cooled Air Handlers

For simple water-cooled air conditioning, ChillKing's water-cooled air handlers can be paired with our self-contained ChillKing brand chiller. Since these chillers come with pumps and reservoirs built in, you simply attach water lines between the chiller and air handler, add water and the install is nearly done. These air handlers include a multi-speed fan, thermostat, humidistat, and condensation drip pans that can be plumbed to a drain. These units are very similar to what is used on split-system air conditioners but their advantage, beside double the efficiency, is that there is no freon or refrigerant to deal with, so they don't require any HVAC licensing to install. Additionally, a typical setup allows use of the air handlers with 45 degree water to remove much of the humidity out of the air with no worries of freezing up the coils as with typical A/C coils. Using a water-cooled air-conditioning system is also expandable and can be used in conjunction with any other water-cooled product available from Hydro Innovations.



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