

# PROSPIANT

## HYDRONIC 4-PIPE HVACD SYSTEM

This proprietary system provides unparalleled environmental control and energy efficiency for high-grade cannabis cultivation in sealed greenhouses and indoor grow environments.



*Exterior Air Handling Unit*



*Electric Chiller*

### Reliable Redundancy

Protect your cannabis crop when things go wrong. Our system offers:

- Option for multiple shared chillers, boilers, and pumps ensures uninterrupted operation.
- Multiple air-handler fans guarantee continuous airflow.
- Built-in outdoor air intake doubles as a fresh air supply and emergency exhaust.

### Precision for Efficiency

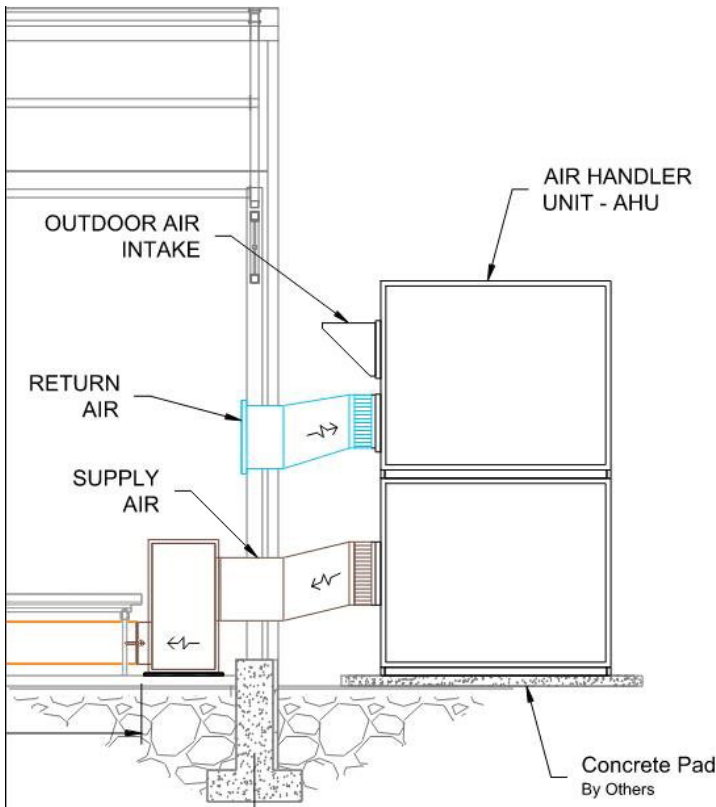
Achieve excellent temperature and humidity control with:

- **Valve Modulation:** Modulate chilled and hot water mixing valves at precise load levels to balance cooling, heating, and dehumidification.
- **Combined Cooling and Dehumidification:** Dehumidification mode managed by the same air handler unit operating cooling and heating. Simultaneously, chilled water coils cool and dehumidify air while hot water coils reheat air back to neutral temperatures.



*Under-the-bench ducting*

The HVACD System's economizer mode saves energy by leveraging outdoor conditions to deliver filtered, cooled, and dehumidified air. An optional boiler flue CO<sub>2</sub> system provides free CO<sub>2</sub> grow zone enrichment.



## Energy Efficiency

Manage energy costs effectively with:

- **Consistent Dehumidification:** Air handler consistently dehumidifies with precise chilled water control, reducing energy consumption by 10%.
- **Heating/Boiler Efficiency:** High-efficiency condensing boilers use 15% less energy for the same heat output as conventional gas unit heaters.
- **Economization:** Turn off the chilled water system and utilize outdoor air during cooler months of the year, for up to 35% electricity savings annually.

## System Components

The Prospiant Hydronic 4-Pipe HVACD System includes:

- **Outdoor-mounted Air Handlers** for each grow space with dual heating and cooling coils, controlled by two chilled and two hot water pipes.
- **Efficient Ducting** from air handlers through the end gable wall directly distributes conditioned air to the plants via perforated flexible ducting located beneath the benches.

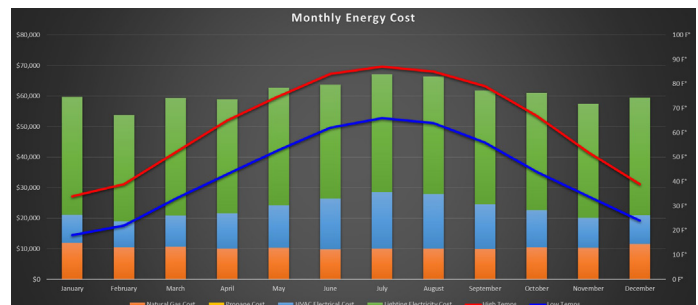
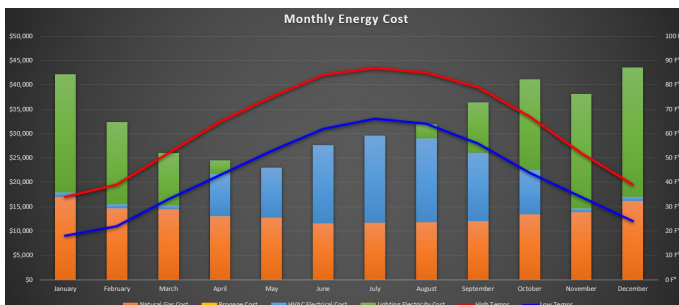
## TAKE CHARGE OF YOUR OPEX

In mature markets, with wholesale prices dropping, controlling your OPEX while maintaining flower quality is crucial. A sealed, environmentally controlled greenhouse delivers similar temperatures and humidity levels to an indoor grow, with the bonus of free full-spectrum sunlight. A greenhouse with full-spectrum natural lighting, designed for 80°F and at 55% humidity, uses 47% less energy costs than an indoor grow with HPS lights employing a conventional HVACD system. You gain a huge market advantage!

## Energy Savings Comparison: Indoor Grow vs. Greenhouse Grow

Greenhouse\* = \$390,000\*\*/year

Indoor Grow\* = \$730,000\*\*/year



\*Calculations based on 25,000 sf scenario in Midwest, maintaining 35 DLI lighting with HPS lights

\*\*Costs based on \$0.10/kWh for electric and \$13.00/1,000 ft<sup>3</sup> for natural gas

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info@prospiant.com • www.prospiant.com • 513-242-0310