PROSPIANT

COMMERCIAL
GROW SOLUTIONS

Call us (513) 242-0310 | sales@prospiant.com | www.prospiant.com

IN-HOUSE SOLUTIONS

Our greenhouse projects are not designed with a “one size fits all” mentality. We’ll guide you from the very beginning of your business venture all the way through the day you begin growing – and we’re there for you to upgrade and maintain your greenhouse for years to come.

CONSULTING

- Value Engineering
- Site Review and Evaluation
- Cost Estimation
- Architectural Layout
- Compliance Review

ENVIRONMENTAL SYSTEMS + CONTROLS INTEGRATION

- Installation
- On–site Training / Review

CONTRACTOR SERVICES

- Single-point of contact
- Project Management
- Project Planning + Scheduling
- Construction + Scheduling

DESIGN + ENGINEERING

- Facility + Systems Design
- Renderings / AutoCAD Drawings
- Professional Engineers: Architectural, Structural, Mechanical, Electrical, Plumbing

MANUFACTURING

- Multi-state: CA, CO, IL, OH
- National Greenhouse Manufacturers Association Member

MAINTENANCE

- Parts
- Service
- Maintenance
- Renovations

VAIL

The Nexus Vail structure features the traditional peak style design ideal for growing or retail space. Natural ventilation is enhanced by using an Atrium vent which allows for the best and most efficient cooling over traditional ridge vents. Adaptable to a variety of hard covering, styles of ventilation, heating and cooling systems, environmental controls and shade systems to optimize your growing or retail environment.

VENLO

Venlo glass greenhouses are favored among commercial growers. The truss design accommodates supplementary equipment, such as heat retention and shading systems, reducing winter heat loss and summer heat gain while boosting energy efficiency.

POLYARCH

The Poly–Arch has a unique roof vent design which allows for maximum cooling. The bottom rail of the vent opens above the ridge, eliminating trapped hot air, allowing for easy venting regardless of outdoor conditions. Ideal for high acreage facilities with a need for a controlled growing environment.

WINDJAMMER

A coldframe greenhouse is available as a standalone structure, or can be gutter–connected to create a continuous greenhouse range. Designed with higher peak and wall heights, the Windjammer allows increased ventilation efficiency to ensure optimal growing environments. With walls from 4’ to 9’4”, there is ample room to work and for your plants to thrive.

OPEN ROOF

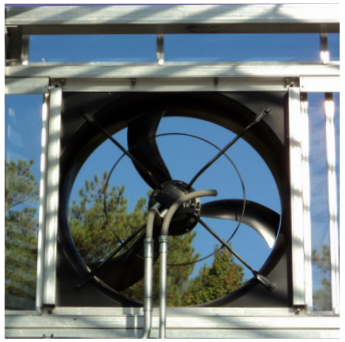
The house of choice for growers who desire a natural growing environment mostly closely simulating an outdoor growing environment. A full, vertical roof opening maximizes light and ventilation with a Venlo–style peak.

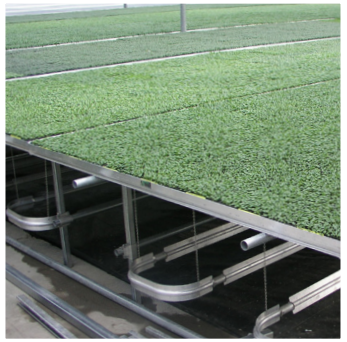
ZEPHYR

The combination of the Zephyr vertical ridge vent and side/endwall vents eliminates the need for exhaust fans and reduces dependence on high cost electricity. The Zephyr vent design allows for easier installation of bug screening at the vent. Grower experience in this house indicates the ability to hold outside ambient temperature in the greenhouse without use of mechanical cooling.

CULTIVATION ENVIRONMENTS

There are different methods to provide environments for the desired temperature and humidity in your cultivation facility. Geographic location, the desired range of temperatures and humidity control will dictate which system is best for you.

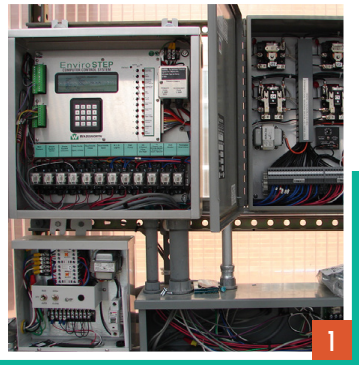



A Conventional greenhouse produces their environment through air exchanges. Exhaust fans pull the outside air through screens (sized for various pest control) and is cooled through cost efficient evaporative systems.

A Semi-Sealed greenhouse provides the grower more control without having the capital costs of a sealed greenhouse. These facilities are the most economical answer for humidity control in certain geographical areas where nighttime temperatures can reach the dewpoint.

To avoid this, the greenhouse is sealed only at night with supplemental dehumidification. In a Sealed greenhouse environment, the conditioned air within the space is recirculated and tempered to the model temperature and humidity levels as opposed to constantly conditioning outside air. The environmental system is closed making pest management and pollen contamination easier to contain.

ZONE CLIMATE CONTROL



1


2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4


5

ENVIRONMENTAL CONTROLS

An environmental controller (1) is a necessity to operate efficiently. It ensures all of the equipment is integrated and allows for seamless system communication. Sensors mounted throughout the facility will relay feedback on a variety of measurements such as temperature, humidity, CO_2 so that the environmental controller can operate the corresponding equipment at the desired levels. Power distribution panels can be provided to complete your entire electrical scope.

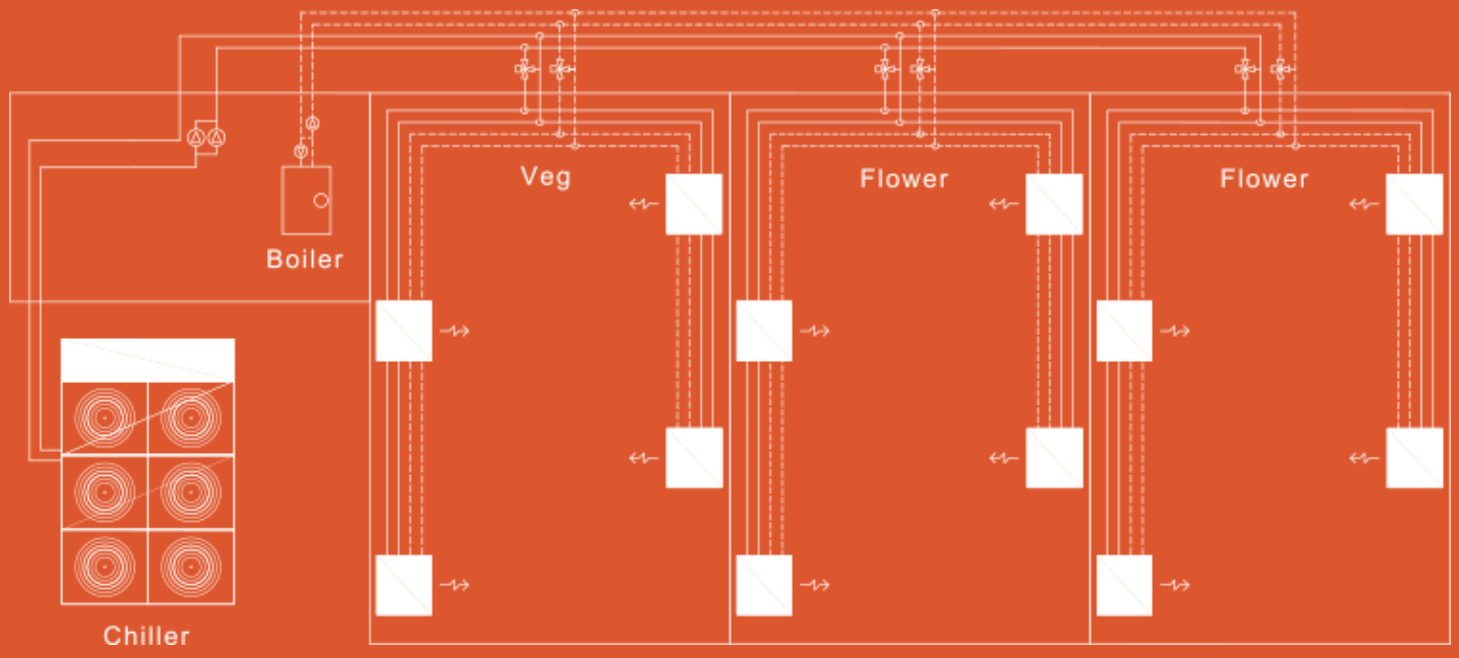
HEATING + COOLING

The most cost–effective way to heat a facility is through overhead unit heaters (2). With adequate air circulation these units can be scaled to provide the required BTUs. Hydronic Heat (3) cuts down on hot and cold spots by radiating throughout the entire zone. The piping can be run overhead, under the bench or in the floor.

Fan/Pad Cooling (4) uses exhaust fans to pull outside air through the greenhouse at over one air exchange per minute. If additional cooling is needed, an evaporative wet pad can be activated. This system is operationally efficient and less capital intensive. HVAC systems (5) using chillers and mechanical cooling designed by our engineering team is an option for sealed greenhouses.

DEHUMIDIFICATION

A priority for cannabis cultivation facilities is humidity management due to molds and mildews. When outdoor conditions are too hot and humid, specialized mechanical cooling is used. Chilled water and hydronic reheat systems circulate water through a closed loop piping systems. Fans draw warm, humid air form the environment across chilled water coils for dehumidification. Then, hot water coils are used to recondition the dry air to the desired temperature. Fan coils are placed in accordance with the facility layout to ensure homogenized air throughout the growing environment.

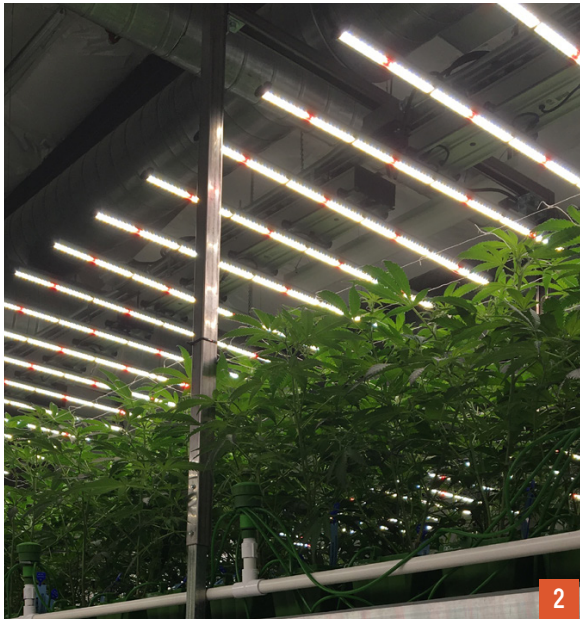


SUPPLEMENTAL LIGHTING

Our systems are designed to provide the levels of photosynthetically active radiation (PAR) to obtain the daily light integral (DLI) for your cannabis plants. A light plan is created based on mounting style, light levels, and uniformity. By carefully analyzing the grow space, we can create a balanced and economical lighting solution to grow healthy plants with consistent yields.

HPS LIGHTING

High Intensity Discharge (HID) fixtures have a high–pressure sodium (HPS) (1) or metal halide (MH) lamp depending on whether red or blue supplemental light is desired HID lights feature deeper photon penetration into the canopy.

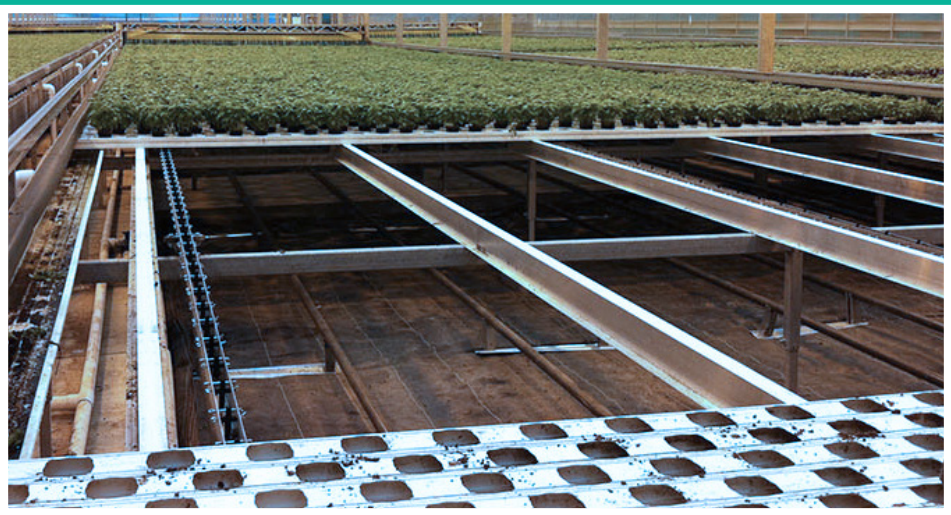


LED LIGHTING

Cannabis growers look to LEDs (2) for their superior spectrum control along with their operational efficiency. LEDs produce less heat than HPS making them applicable to tiered growing systems.

LIGHT DEPRIVATION

The Nexus Hybrid greenhouse with its opaque walls and overhead light deprivation (3) curtains are integral to the photoperiod requirements of cannabis. Integrated controllers deploy the curtains when "nighttime" mode is required. A secondary benefit of these systems is the elimination of light pollution reducing neighborhood complaints. Equipment will have light traps to eliminate light penetration.



BENCHING

Cultivation space can be more cost effective with the installation of a rolling bench system. These benches are covered with expanded metal or plastic trays and troughs for plant irrigation. Palletized transport benches are available for efficient zone use as well as a method of plant transportation from grow areas to processing rooms.

Fixed two and three tier benches are used in veg rooms to fill smaller areas more compactly. These benches will have supports for LED lights and trays for irrigation. Rolling tiered benches are available when even tighter bench spacing is required for facilities with limited space.

WATER MANAGEMENT

Our in–house systems engineers design project specific irrigation and fertigation systems based on the criteria from your grower. A fertilizer injection system is a necessity for cannabis cultivation facilities looking to increase yields and uniformity. Manual systems are unable to provide the consistency and homogeneity needed for facilities growing multiple strains at different life cycles.

Benefits of Engineered Water Management:

- Concentrations and Ratios of Nutrients
- Irrigation Timing, Dosing Amounts
- Precise Volumes of Nutrient Solutions Each Plant
- pH of Final Nutrient Solutions

Our Mechanical Systems Engineering Team Offer a Variety of Options to Best Fit with Your Growing Practices:

- Prefilteration
- Water Storage
- Fertigation

Custom Nutrient Injector Systems:

- Automated for Easy Management and Detailed Data Records
- Pressurized In–Line Injection for Consistent Application
- Potential for 64 Custom Feed Recipes
- Equipment System Integration for Complete Control
- Full Recirculation of Plant Leachate and Runoff

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