



A Guide To

# Closed Loop Environments

Sealed Rooms, Closed Growing Environments,  
Closed Loop Horticulture



NO HIGH WATER USAGE



NO ENGINEERS REQUIRED

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## Inside This Brochure...

- Illustrated Room Diagram
- Full Equipment List
- Your Questions Answered

**GO CLOSED LOOP**

**WITH STEALTH GARDEN**

**FDP** **WHOLESALE**  
WHOLESALE  
ENQUIRIES ONLY



# A GUIDE TO CLOSED LOOP ENVIRONMENTS

A Closed Loop Environment (CLE) is sometimes also referred to as a *Sealed Room, a Closed Growing Environment or Closed Loop Horticulture* and allows you to create the perfect environment in which your plants can grow.

## WHAT IS A CLOSED LOOP ENVIRONMENT?

A closed loop environment is a 'sealed', controlled, environment where all the environmental conditions such as humidity, temperature and Co2 are controlled by you, the grower. In a CLE the environmental conditions outside of the grow room will not alter the environmental conditions inside the grow room.

## WHAT ARE THE BENEFITS OF CLE'S?

The main benefits of a CLE are that your plants can flourish to a far greater extent because they are allowed to grow in the perfect atmosphere, and not subjected to extra stresses that may occur in a normal grow room or even outdoors. For instance, controlling the Co2, humidity and temperature to be in sync with your plants growth and bloom cycles, rather than being at the mercy of temperature and humidity fluctuations caused by the changing weather conditions outside. Also, with there being no link to the outside, disease and pests are far less likely to occur. Many growers also appreciate the convenience of having no air links to outside.

## WHAT ARE THE CURRENT POPULAR METHODS OF CLE'S?

CLE growing methods are most common in commercial horticulture, for instance hydroponic food or flower growing greenhouses. Such commercial operations use machines which circulate cold water to help reduce grow room temperature. In recent years there has been an increase in CLE setups for smaller domestic growing areas. The issue with this method is that vast quantities of water can often be wasted - which is fine in a large commercial setup where rainwater is collected in purpose built reservoirs, however it's not fine in domestic applications where people often have to use a "metered" water supply, which can cost a lot of money and sometimes cause water authorities to believe there is a water leak at the property.

## WHY IS A STEALTH GARDEN SETUP BETTER?

Our setup does not use water to cool your grow room. We use a specific type of air conditioner combined with Co2 release systems, de-humidifiers and humidifiers to control the atmosphere. Our system saves water, which is a precious commodity, keeping the water board happy.

## FREQUENTLY ASKED QUESTIONS

Don't be afraid of CLE, the theory is more complicated than the practical. Once you're set up there's very little maintenance and you'll see your plants respond to their new environment like you've never experience before.



How difficult is the equipment to set up?

A CLE is easy to install, in many ways easier than a conventional room, and anybody with average DIY skills can do so. No specialist engineers are required and all equipment is 'plug and play'. The equipment is easier to position than other types of CLE systems that require permanent plumbing to a water supply.



Is CLE expensive to run?

There is a higher power requirement with a CLE over a conventional grow room, but the increased production capability more than offsets this, and with no water requirement and our 'Double Inverter Technology' our system is less expensive to operate than other CLE systems.



Is a CLE difficult to run?

We wouldn't recommend you try CLE with no experience; however your store owner will be able to guide you through our system with ease. You will soon find that in comparison to a conventional room, which no matter how well specified is always a juggling act, CLE is the easiest way to grow. Just dial in the parameters and sit back.



Can I create a CLE in a grow tent?

We would not recommend using a grow tent although it has been done. A professional CLE will need solid walls on which to mount equipment, a decent 'seal' and good insulation. A purpose built 'enclosure' or room is best.



Does a CLE mean my grow room will be automated?

Yes! All environmental parameters are completely at your control, there will always be work to do inside the grow room however, so you will still need to visit your room and check your plants regularly.



With a 'split' air-conditioning system there is still a link to outside, so your system is not truly a 'closed system' right?

A split system does have what's known as an 'outdoor unit', although it's important to remember that the air that leaves this unit is not the air from inside the grow room. The air will not smell and is not excessively hot, and because they are virtually silent, they can easily be located in a ventilated room if it's not possible to put them outside.



## WHAT YOU WILL NEED...



See Kahn Units  
Pages 06-07



### 1. Air Conditioning Unit Split Air Unit

You can't just use any old air conditioning unit. Our systems are extremely powerful, robust, efficient, allow day and night cooling/heating, and are designed not to exchange air with the outside environment. They also don't require an engineer to install and have no water requirement.



### 2. Co2 Analyser & Release System The growth gas!

With no incoming air, co2 must be supplemented. This is easy to do with a Co2 Analyser and Release System. With no air exchange, Co2 can be maintained at much higher levels than found in a conventional grow room, leading to faster growth rates and staggering yields.



### 3. De-humidifier Specific to room size / plant no.

The de-humidifier **must** be capable of operating in the demanding conditions of a CLE. Our system can do this, and as an option, you can collect the run off water and re-use it (See page 8 - R.O machine)



### 4. Humidifier Dependent on room size

The humidifier you choose is essential and you will require specific, controllable units for specific room sizes. In some cases multiple units may be required.

## OPTIONAL ITEMS...



### 5. Air Scrubbing System Filter, Fan and Fittings

Air scrubbers are used to 'scrub' clean the air inside the room, removing dust, dirt, debris and VOC's from the atmosphere.



### 6. Ozone Generators Output adjustable to room size

Ozone can be used inside the grow room to provide a higher level of air cleaning and sterilisation, creating a truly 'medical grade' growing environment.



### 7. Airpumps and Airstones Rootzone oxygenation

So you have a perfect Co2 rich environment in the plant canopy, you should also consider the root systems requirements for oxygen, which is displaced by co2. This is easily remedied using an air pump and air stones to inject oxygen into the root zone.



### 8. R.O Machine Reverse Osmosis

An RO machine will filter your water giving you the 'purest' base for your nutrient solution. This does away with all problems associated with 'hard water', or an unknown water supply. Run off water from de-humidifiers and air-conditioning is also chemically pure and can be collected and reused.

SEE OUR EXAMPLE SETUP PAGE 08 - 09



# CHOOSE YOUR WEAPON! ⚠️

**KAHN CLIMATE CONTROL SYSTEMS**



Stealth Garden are partners with Kahn Climate Control Systems, a leading manufacturer of hydroponics climate control equipment. Kahn believe in offering an exceptional range of hydroponic and climate control products and providing expert advice and consultation to the indoor gardening community.

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**ATOM 12K**  
12-14 X 600W  
SINGLE PHASE

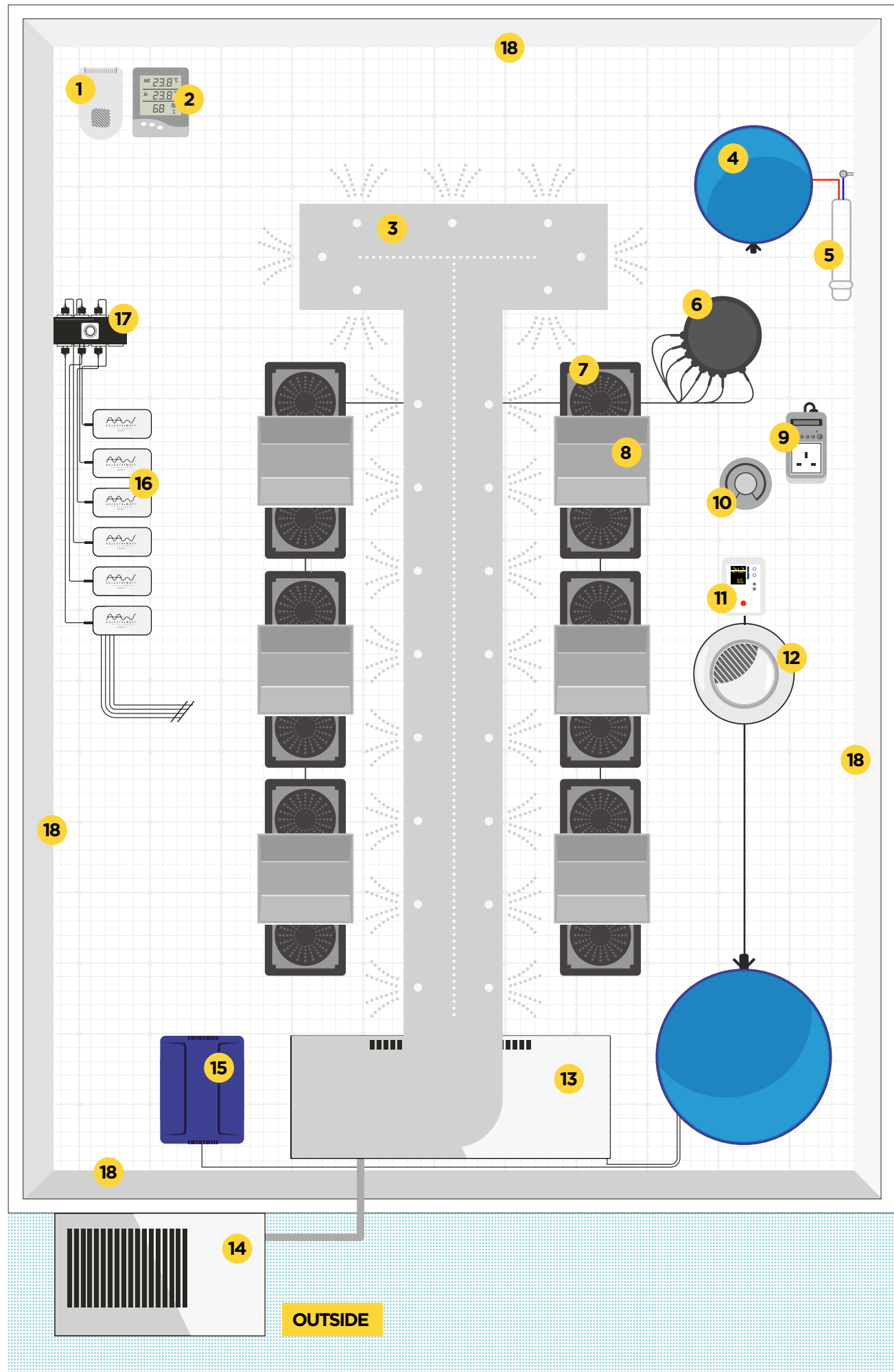
**LITTLE BOY 18K**  
22-24 X 600W  
SINGLE PHASE

**FAT MAN 28K**  
32-34 X 600W  
SINGLE PHASE

**TRINITY**  
UNLIMITED COOLING  
THREE PHASE



**EXAMPLE ROOM SETUP**



**COMPONENTS**

- |   |                           |    |                                |    |                         |
|---|---------------------------|----|--------------------------------|----|-------------------------|
| 1 | Ozone Generator           | 7  | RTA Trays with Air-Pot 22.5ltr | 13 | Indoor Air Conditioner  |
| 2 | Hygrometer                | 8  | Fixtures                       | 14 | Outdoor Air Conditioner |
| 3 | Fabric Duct Air Dispenser | 9  | Analyser                       | 15 | Dehumidifier            |
| 4 | Reservoir                 | 10 | CO2                            | 16 | Ballasts                |
| 5 | R.O. Machine              | 11 | Digital Humidistat             | 17 | Contactor               |
| 6 | RTA Control Unit          | 12 | Humidifier                     | 18 | Orca Grow Film          |



**YOU'VE INVESTED IN THE BEST ENVIRONMENTAL EQUIPMENT...**

Now get the best lighting and growing system.

## ADJUSTA-WATT 400V ELITE



### THE BENEFITS OF A COMPLETE 400 VOLT 1000W LIGHTING SYSTEM

- Delivering the highest PAR for the highest yields
- For High Voltage/400V Double Ended and E40 Mogul based Horticultural Lamps
- 10% more PAR light - The highest of all HPS systems
- Highest efficiency of all HPS Systems
- Highest Lumen Maintenance of all HPS Systems
- Adjustable Output 400w/600w/1000w/1100w
- SmartStart™ Ignition Control Software
- Full Circuit Protection Software
- LED Fault Status Indicator
- Soft Start Technology
- Automatic Frequency adjustment
- Hot Lamp Detection
- Thermostatic Air-Cooling
- Whisper Quiet Operation
- Compact Design
- 2 Year Warranty



## AIRPOT RTA SYSTEM



### ADVANTAGES OF THE AIR-POT RTA SYSTEM

- Reduced transplant shock
- Faster growth rates
- Healthier plants
- Higher yields
- Longer pot life
- Improved root development
- Improved oxygenation
- Improved nutrient uptake
- Improved quality
- Reduced crop time
- Easily manage run off from any size system
- Plants are never left to stand in waste water
- Run to waste or re-circulate
- Allows precise nutrient management
- No limit to size of system
- Positioning of pots is flexible
- Fits 10ltr, 15ltr, 22.5ltr, 30ltr & 45ltr Air-Pot







## FIND A STEALTH RETAILER

[WWW.STEALTHGARDEN.CO.UK](http://WWW.STEALTHGARDEN.CO.UK)

Advice Service Also Available

## Closed Loop Environments

Everything you  
need to succeed in  
the most advanced  
method of climate  
control...

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