
Hemp-drying.com
Professionals in drying
Drying & Retting Solutions
For Industrial Hemp
Control & Consistency
Highest Quality
Efficiency

Hemp-drying.com

Professionals in drying

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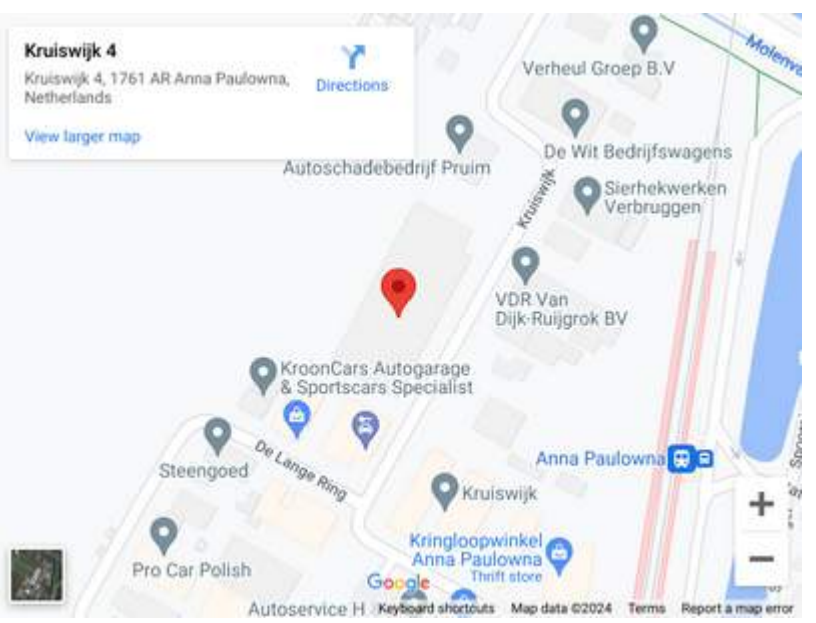

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Introduction

Specific Installations for each part of the hemp plant

ABOUT US

In the transition to a circular green economy, industrial hemp will play an important role by providing regenerative source materials for many industries, whilst storing carbon and restoring healthy soil life.

In order to increase the potential of industrial hemp as a globally used and locally produced industrial source material, we want to provide ***reliable, consistent, and efficient*** **drying and retting solutions** which add value to your harvest.

Our parent company Agratechniek (www.agratechniek.com) has 50 years of experience in drying agricultural produce, its systems are installed globally. With specialization in drying flower bulbs, seeds, garlics and onions amongst others.

Agratechniek b.v.
Lou Nieuwenhuizen
DRYING INSTALLATIONS & EQUIPMENT

cannabis-drying.com
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DRYING INSTALLATIONS & EQUIPMENT

Since 10 years we have a sister company, Cannabis-drying.com, which provides specialized drying equipment for medicinal and recreational cannabis (www.cannabis-drying.com).

This combined experience has thought us to think along with our clients and deliver drying solutions best suited for their case. We apply this knowledge to Hemp-drying.com for energy-efficient, targeted, and controlled drying & retting solutions. Our goal is to transform your fresh harvest to premium quality hemp source materials demanded by the market.

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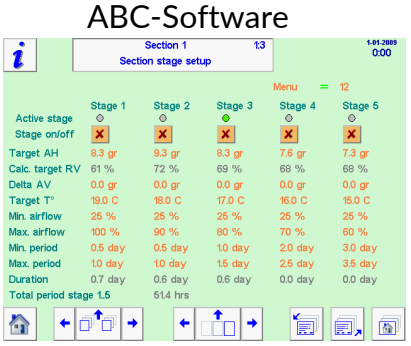
DRYING AND RETTING INSTALLATIONS

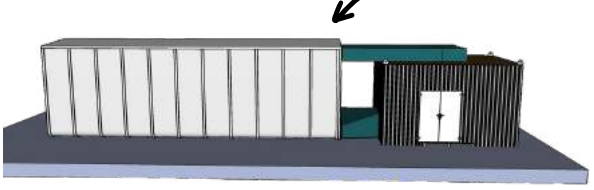
OUR PRODUCTS

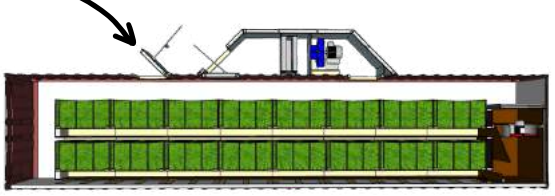
Boxes Installations

ABC-Software



Container Installations





DRYING THEORY

How to dry efficiently ?

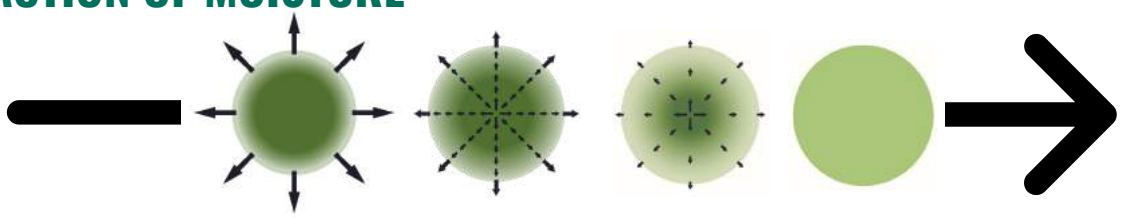
For water molecules to be contained in air they need to be moving, this requires the air to have energy in a form of temperature. This means that the maximum amount of moisture that air can hold is related to the energy present in the air.

The amount of grams of moisture in one kilogram of air is called the Absolute Humidity (AH). The amount of grams of water in the air in relation to the maximum water capacity of the air is expressed in a percentage, called the Relative Humidity (RH) of air.

In the table you can see, whereas an absolute humidity of 4,36g water per kg air at 2 degrees Celsius has a relative humidity of 100%; the same AH of 4,36g water per kg air at 12 degrees Celsius has a relative humidity of 50%.

Relative Humidity % (RH)	100%	T° C/F
Absolute Humidity g water / kg air (AH)	4.36	2° | 35.6°
	4.36	12° | 53.6°
Relative Humidity % (RH)	50%	T° C/F

SUBSTRACTION OF MOISTURE



When the absolute humidity in the air that gets blown through your product is lower than the absolute humidity in the product, this air will adsorb moisture and your product will dry until the surrounding air and the air in the product are in balance.

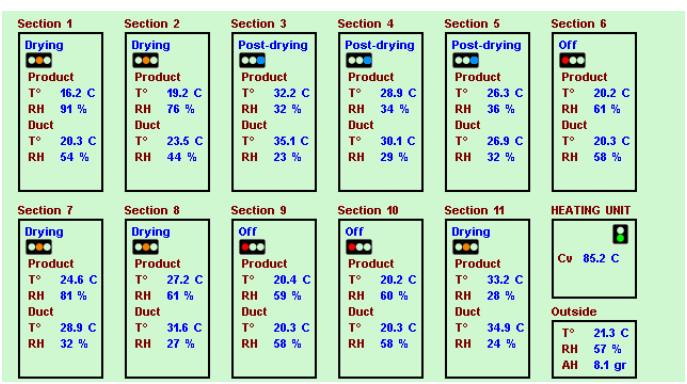
We make use of this principle by measuring the ingoing and outgoing absolute humidity. This enables us to dry your product controlled to the desired moisture content. The difference between the outgoing and incoming absolute humidity is called '*delta absolute humidity*'.

AUTOMATIC CONTROL OF THE PROCESS

	Stage 1	Stage 2	Stage 3	Stage 4	Stage 5
Active stage	○	○	●	○	○
Stage on/off	✕	✕	✕	✕	✕
Target AH	8.3 gr	9.3 gr	8.3 gr	7.6 gr	7.3 gr
Calc. target RV	61 %	72 %	69 %	68 %	68 %
Delta AV	0.0 gr	0.0 gr	0.0 gr	0.0 gr	0.0 gr
Target T°	19.0 C	18.0 C	17.0 C	16.0 C	15.0 C
Min. airflow	25 %	25 %	25 %	25 %	25 %
Max. airflow	100 %	90 %	80 %	70 %	60 %
Min. period	0.5 day	0.5 day	1.0 day	2.0 day	3.0 day
Max. period	1.0 day	1.0 day	1.5 day	2.5 day	3.5 day
Duration	0.7 day	0.6 day	0.6 day	0.0 day	0.0 day
Total period stage 1..5		51.4 hrs			

With the ABC-software you have insight into all relevant variables, which are measured through sensors. The progress of the drying (or retting) process of your product is monitored and insightful every moment of the way.

With the ABC-software, the drying process is engineered in such a way that we can **dry the maximum amount** with **minimal input of energy**. During the drying process, airflow and temperature are automatically guided per drying stage.



ABC-SOFTWARE PROPERTIES

- Sensors measure the conditions of the air
- The ABC-software automatically conditions the air to create the desired drying capacity
- The drying (or retting) of the product happens gradually in stages
- The stages of drying are engineered to dry the maximum amount with a minimal input of energy
- Through the ABC-software, hemp is processed economically with optimal quality
- In case of installations with multiple sections, each can operate individually

THE BOXES

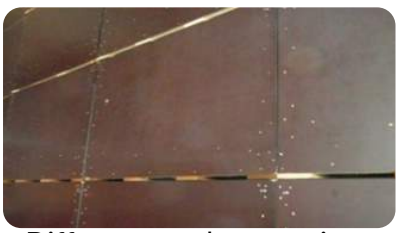
Boxes made of special water-resistant plywood give you the maximum drying volume on minimal floor space. With different heating source options, this highly efficient drying method dries your hemp products precisely, automatically, and economically.

Each box is designed to receive optimal airflow, so the product inside is dried or retted optimally. The size of a single box ranges from ***1m³ to 3.5m³***.

How do the boxes work together ?

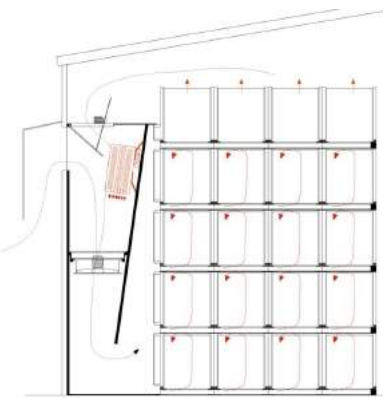
Pallet bottom closed by *9mm plywood.*

Difference in thickness between plywood and hardwood plank.

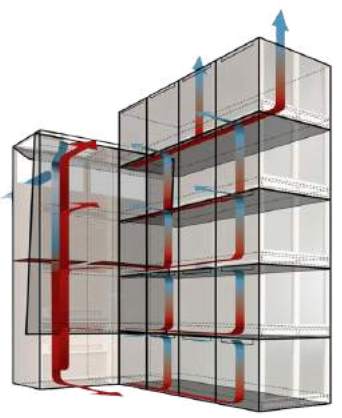


Difference makes openings between box layers for escaping moist air on each box layer.

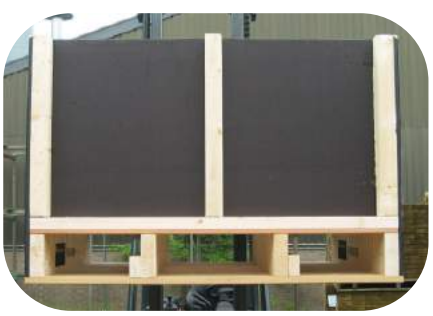
Boxes are placed in front and on top of each other in front of an air distribution unit. That contains a heating element and ventilator.



A fan extracts outdoor or indoor air. Air will be heated and dried and distributed over the box levels.



Dry and warm air adsorbs moisture from the product and moist air escapes per layer out of the product.



With extra provision, the pallet can be flipped safely by a forklift.

Box cannot move between the pile. The pallet cannot be damaged. This enables a smooth dosing of the product.

KEY POINTS OF THE BOXES

- Boxes have a capacity ranging from 1m³ up to 3.5m³ each
- Modular system, scaleable to your drying needs
- Extremely mobile and easy in internal transport
- Efficient in use for harvesting, drying/retting, and storage
- Drying solution for hemp seed, flower, and stalks. Retting solution for hemp stalks

DRYING INSTALLATION WITH STACKED BOXES

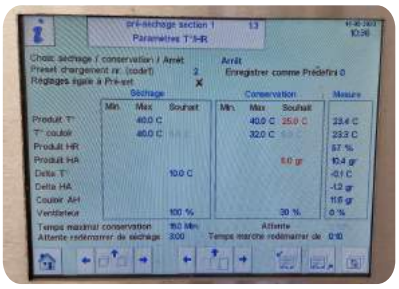
- Complete drying solution for optimal quality retention
- Controlled drying of the complete harvest
- Efficient use of heating and ventilation for minimal energy consumption

- Variable heating based on two gas burners (or desired heating source)
- 1 variable high-pressure fan, automatically controlled
- Software system for automatic, optimal and economical drying

Conditioned airflow per layer of boxes

Boxes stacked 5 high and 8 in front of each other

Easy to fill, transport, stack, and empty with grab or forklift



Automatic drying programs for convenience and consistent drying results

ADVANTAGES:

- Large drying capacity on minimal space
- Capacity per box and capacity of the total installation to your demands
- Controlled airflow and heating for optimal drying
- Efficient use of energy for energy-efficient drying
- Ease of use

DRYING INSTALLATION WITH INDIVIDUAL BOXES

- Complete drying solution for optimal quality retention
- Controlled drying per individual box
- Efficient use of heating and ventilation for minimal energy consumption

- Variable heating based on radiators with buffer tanks, option for dehumidified air
- Variable high-pressure fans, controllable per box
- Software system for automatic, optimal and economical drying

The amount of box places is based on your drying needs. Along with the box size.

Precise ventilation and heating per box

Humidity & Temperature sensor per box place

ABC software. Automatically controlled per box based on sensors

ADVANTAGES:

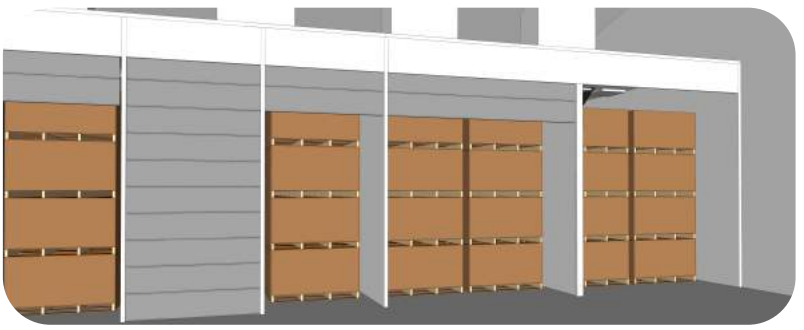
- Quickly start drying after harvest
- Optimal air flow and heating for perfect drying
- High drying capacity at low temperatures with addition of dried air
- Efficient use of energy for energy-efficient drying
- Ease of use

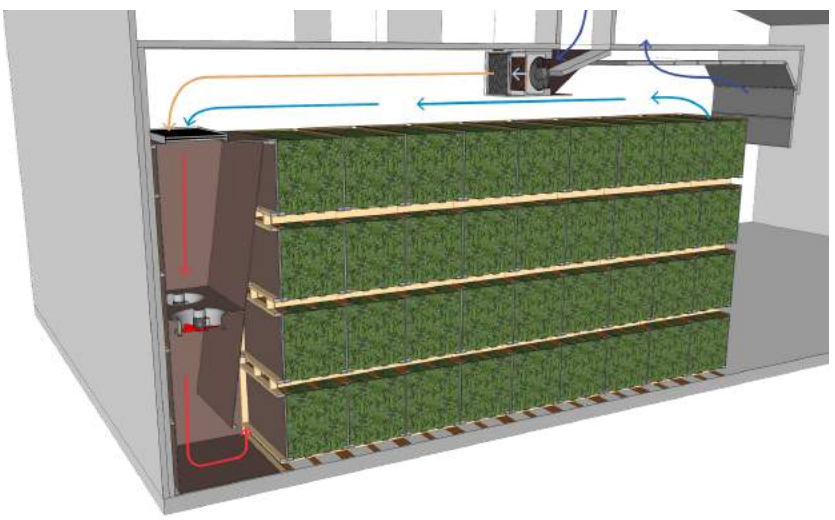
THE DRYING & RETTING CELL

In area's with high levels of humidity, for products that need to be dried at especially low temperatures, or for products that need to be retted; the boxes installation is installed within a special cell structure. This cell can be conditioned to the required environment for processing each specific hemp part.

CONDITIONED CELLS

- Overhead doors facilitate optimal use of cell capacity. The layout and design of the cells with boxes are client specific. We will advise you.
- Depending on the needs and use, the layout and measurements of the cells are determined.





DRYING CELL (FOR FLOWERS)

- A cooling block hangs within the cell, which suctions the air through a hatch from the outside to the inside.
- The suctioned air is cooled down through the unit to achieve the desired moisture content in the cell.
- Above the fan a heating battery is placed to heat up the air to the desired temperature per row.
- It reduces the relative humidity for the air to absorb the humidity from the product.

RETTING CELL (FOR STALKS)

- A closed cell provides an environment that can be precisely controlled.
- For creating the desired conditions, the retting installation is equipped with a radiator, ventilator, moisturizing nozzles, and a filter.
- Airflow at the desired conditions for the retting microbes is forced through the hemp stalks which lie parallel in our high-quality boxes.
- Once the hemp stalks are retted to the desired stage of decomposition, the retting process is stopped and the product is dried.

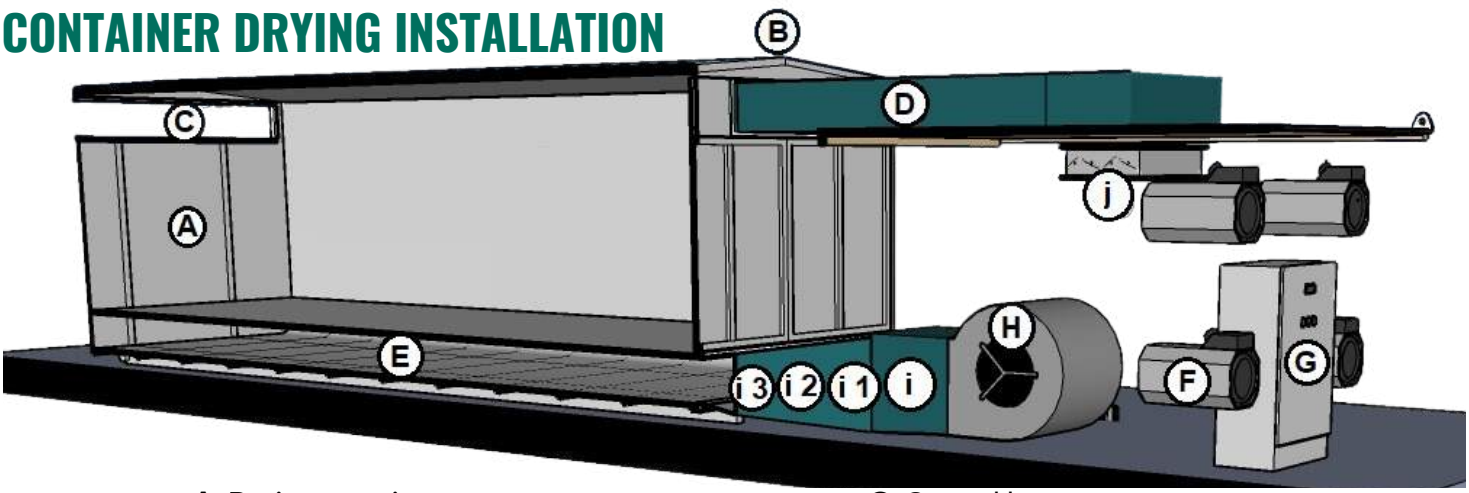
KEY POINTS

- The installation is optimally designed based on your available space and production capacity
- A closed environment is provided within the cell
- High-quality components for high-quality end products
- Highly efficient energy sources and energy retention within the cell
- The conditions are tailored to the needs of the product to be processed
- Dry and cool process air to dry the hemp flowers; humid and warm process for retting of the hemp stalks

THE DRYING & RETTING CONTAINER

As a stand-alone unit or connected with other containers the Hemp-drying.com bulk container provides an energy-efficient and practical solution for drying hemp products and retting the hemp stalk in bulk. Each container has a capacity of **35m³** of bulk material.

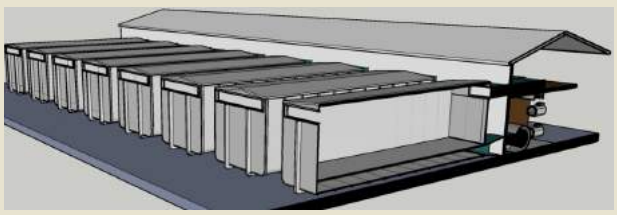
CONTAINER DRYING INSTALLATION

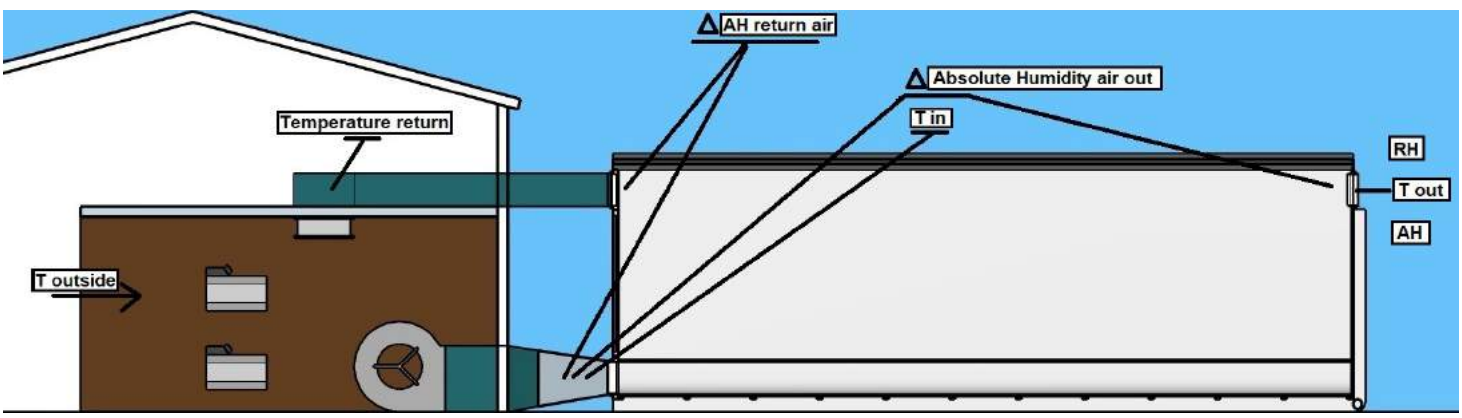


A: Drying container
B: Opening roof lids for filling and unloading
C: Outlet moist air with control valve
D: Returning air for stabilizing drying or damp air for retting
E: Double bottom for dispersion air
F: (Bio)Gas heater/burner or radiator
G: Control box
H: Centrifugal fan
i: Inlet air to container
- **i 1**: Humidifying unit
- **i 2**: Filter
- **i 3**: Inlet retting microbes

J: Return channel for air

An installation can be just one container, but can also be composed of multiple connected containers.





To regulate the process with our ABC-software, sensors measure the incoming outside air, ingoing air, outgoing air and returning air. Three sensors measure humidity to determine the absolute humidity (AH) and relative humidity (RH). Using these values, the ABC-software regulates automatically weather air is removed, or air is returned for energy savings.

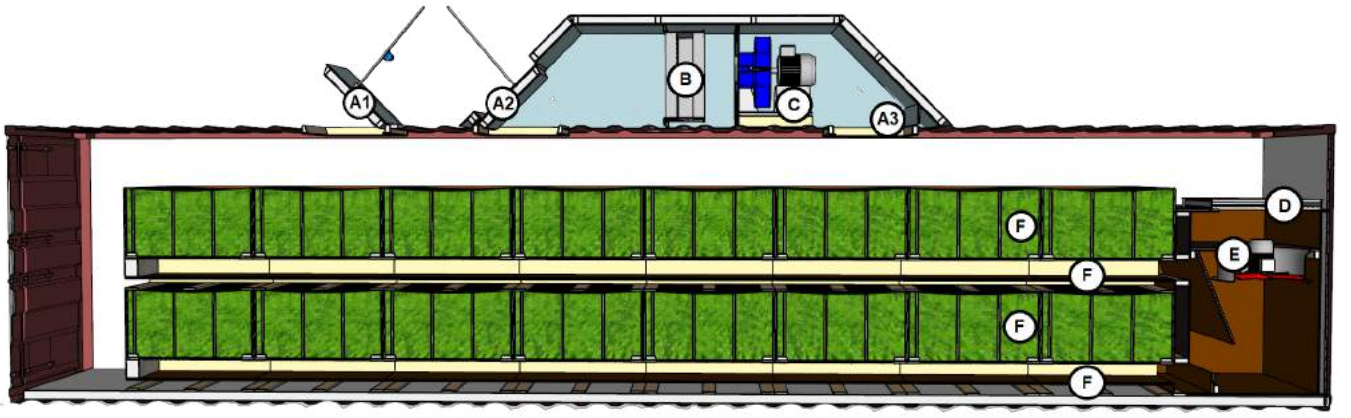
KEY POINTS

- Capacity of up to 35m³ of bulk material
- Easy harvesting directly into the container
- Complete control over the environment with open or closed air circulation
- Controlled and automatic drying (or retting) with efficient use of energy

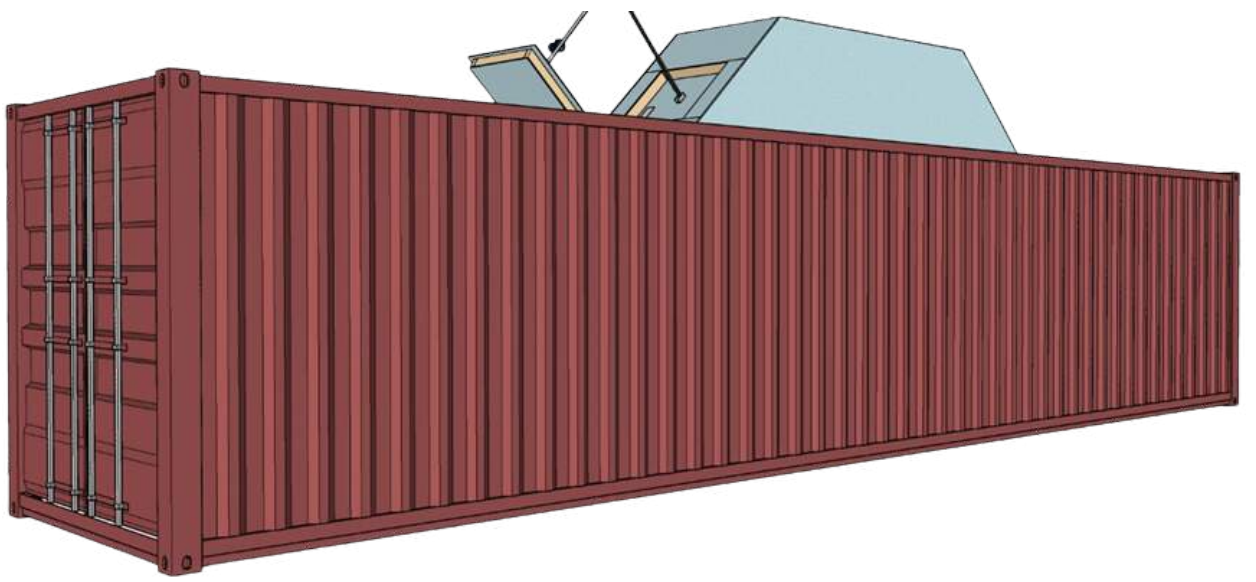
THE CONDITIONED CONTAINER

A 40 feet container provides a large drying capacity within an enclosed environment which can be placed at a location at your convenience. The boxes are made from water-resistant plywood and can be open for bulk drying or divided with drawers. This provides up to **24m³** drying capacity.

CONDITIONED DRYING CONTAINER



A: Valves for regulation of airflow
A1: Valve for discharging saturated humid air
A2: Valve for recirculation of inside air; or when (partially) closed for introduction of outside air
A3: Valve for inlet conditioned air
B: Cooling block for conditioning air to remove moisture by condensation
C: Ventilator sucking airflow through the cooling block
D: Heating block for conditioning air to increase drying capacity by heating air (maximum 20°C)
E: Ventilator for creation of airflow through the heating block and to the box pallets
F: Plenum for airflow to the boxes, upwards and through the product



When industrial hemp requires a more gentle, yet effective drying process, drying with dehumidified air is a perfect solution.

For example, to retain the cannabinoids and terpenes in the hemp flowers, or to dry hemp seeds for optimum quality.

A container installation conditioned using a heat pump and a heat and cooling block can create a large drying capacity at low temperatures (≈20°C).

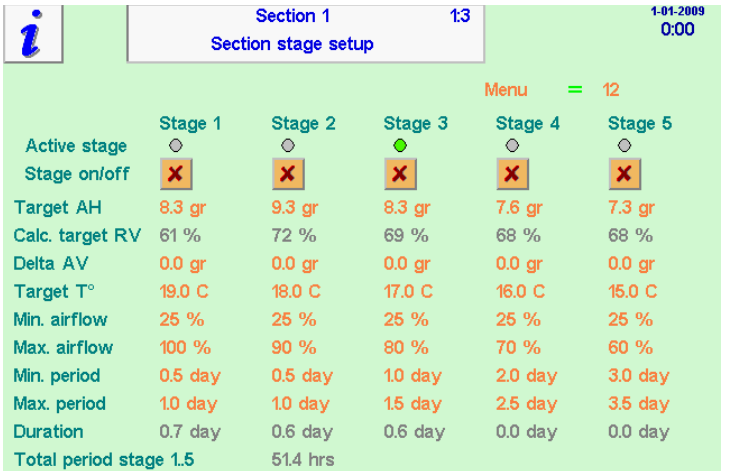
KEY POINTS

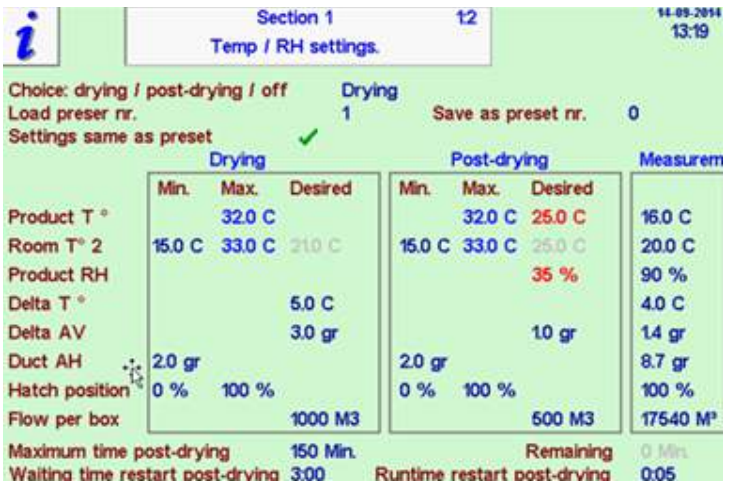
- Stand-alone installation for high-quality drying at low temperatures
- Drying capacity of 24m³ with a total of 16 boxes
- Placed at your convenience, portable with adaptions
- Long-term economic savings and better quality due to hybrid heat pump
- Automatic control and guidance by the ABC-software

THE ABC-SOFTWARE

To start, control and monitor the drying process, we have developed our ABC-software. This has already been applied to a wide variety of agricultural drying solutions, with modular processes to be flexible to your needs.

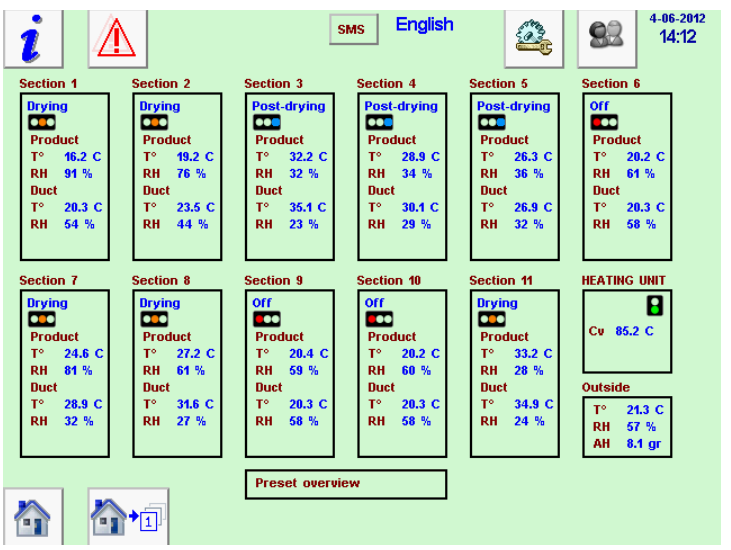
- With the ABC-software you have insight into all the different variables. These are measured through sensors. The progress of the drying process of your product is monitored and insightful at every moment.
- Using these measurements the ABC-software automatically executes a pre-set drying (or retting) program in stages.
- This can be 5 stages like the example on the right for conditioned drying of hemp flowers.





- Or these can be 2 stages, as seen in the example on the left for drying hemp seeds.
- For every product a processing regimen can be made in the ABC-software and saved for repeated use.
- This ensures consistent outcomes.
- Using our ABC-software in your drying process helps preserve energy and time.

- The ABC-software is easy to use and clear to navigate.
- Every individual section can operate on its own schedule for independent and dedicated conditions.
- The process is modular and designed to economically process your product with optimal outcome quality.
- The drying or retting variables can be adjusted according to the needs of your product.



KEY POINTS

- Automatic and controlled execution of the drying or retting process
- Predetermined execution of the process for the highest quality end product
- Insight into the progress during the process and all variables during each stage of drying or retting
- Different drying sections can operate separately on its own schedule
- Insight during the retting or drying process and data available for analysis after completion

HEATING/CONDITIONING SOURCES

There are multiple effective ways to create drying capacity in the air. Following are a couple of examples Hemp-drying.com can offer or is compatible with.

(BIO-) GAS BURNER

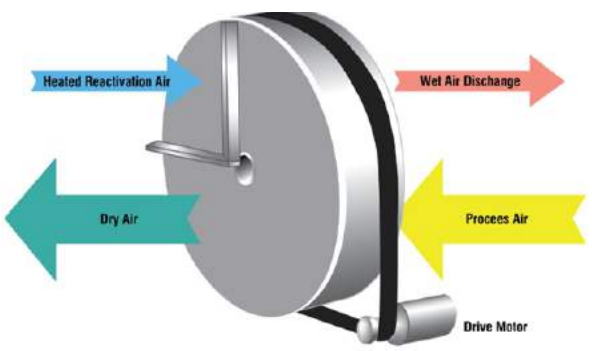
- A (bio-) gas burner is a basic but trusted source to provide drying capacity.
- Heating up the air creates more capacity to adsorb moisture from the product to be dried.
- In case of hemp mostly suited for hemp seeds and hemp stalks due to the (relatively) high drying temperature (35°C).

HEAT EXCHANGE UNIT

- Hot gas from the condensator gives energy to the warm water circuit through the heat exchange unit.
- Cooled off gas is compressed within the compressor and returned to the condensator.
- The warm water is collected in a buffer tank.
- From the buffer tank the warm water goes to the radiators above the ventilators.
- At the condensator the air is dried through condensation by cooling the air.
- At the air distribution unit the air is warmed with the same energy in order be able to absorb moisture again.

HEATPUMP ADSORPTION SYSTEM

ADSORPTION ROTOR



> The process air is pre-dried by first intensely cooling the air.
  - Because of the resulting condensation the air will become dryer.

> This cool air with a high relative humidity passes through the adsorption rotor.
  - Here extra moisture is subtracted, such that the air becomes very dry at a relatively low temperature.

> The energy applied for cooling, will be used for heating the air for regeneration.
  - The spinning adsorption rotor is dried again using hot air.
  - The regeneration air emerges warm and moist out of the adsorption rotor.

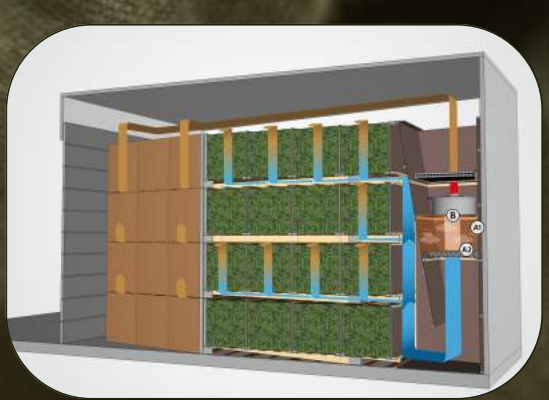
> An option is to cool down this regeneration air with a lot of energy again.
  - The released energy can subsequently be used again to heat up process air.
  - In this way no extra gas is needed.

By making use of the hybrid heat pump a significant amount of heat energy will be saved.

Hemp Stalks

Long Fibers & Clean Shives

CONTROLLED
RETTING AND DRYING
HIGH QUALITY APPLICATIONS



Controlled Retting Installation

For the clean and efficient extraction of high-quality fibers of consistent quality from hemp (or flax), a controlled and precise retting process of the stalks is needed.

Hemp-drying.com

HARVEST

- Harvesting the hemp stalks and placing them parallel on the field.
- Start retting and drying on the field.
- At a stable moisture content the hemp is baled and stored.

Controlled Retting Installation

CONTROLLED RETTING

- Bales are opened up and rolled off parallelly into Hemp-drying.com boxes.
- Microbes are added while the boxes are filled.
- The boxes are placed in front- and on top of each other in the controlled retting installation.
- Conditioned air is distributed per box layer.
- First, the stalks are dried slightly for a more consistent retting outcome.
- The right conditions are created for the retting process.
- At the desired retting stage, the process is stopped.
- The stalks are dried to the desired moisture content for scutching.

PROCESSING

- The stalks are retted according to the capacity of your scutching line.
- The stalks are dried to the ideal moisture content for scutching.
- The Hemp-drying.com boxes are conveyed to the scutching installation.
- The boxes are tipped over to feed parallel hemp stalks to be scutched.
- The scutching line is tuned to the controlled retting outcome quality & supply.
- This results in precise and effective separation of the fibers and hemp hurds.

BENEFITS

- Year-round stable storage in bales, curing the stalks
- Year-round retting of the stalks according to the capacity of the scutching line
- Year-round retting of the stalks tailored to the desired retting outcome
- Control over your in- and output quality
- More efficient separation through scutching, resulting in higher value output

CONTROLLED RETTING INSTALLATION

Retting elements

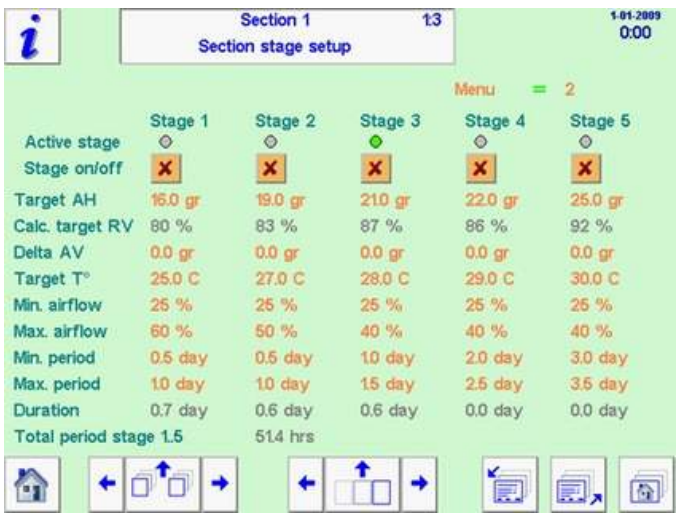
A. Heating of airflow
B. Ventilator
C. Nebulizing moisture
D. Moisture adsorption to humidify the air
E. Sensor of ingoing air
F. Distribution of airflow to the boxes
G. Airflow per layer of boxes
H. Gap for air outlet for recirculation
I. Closed cell

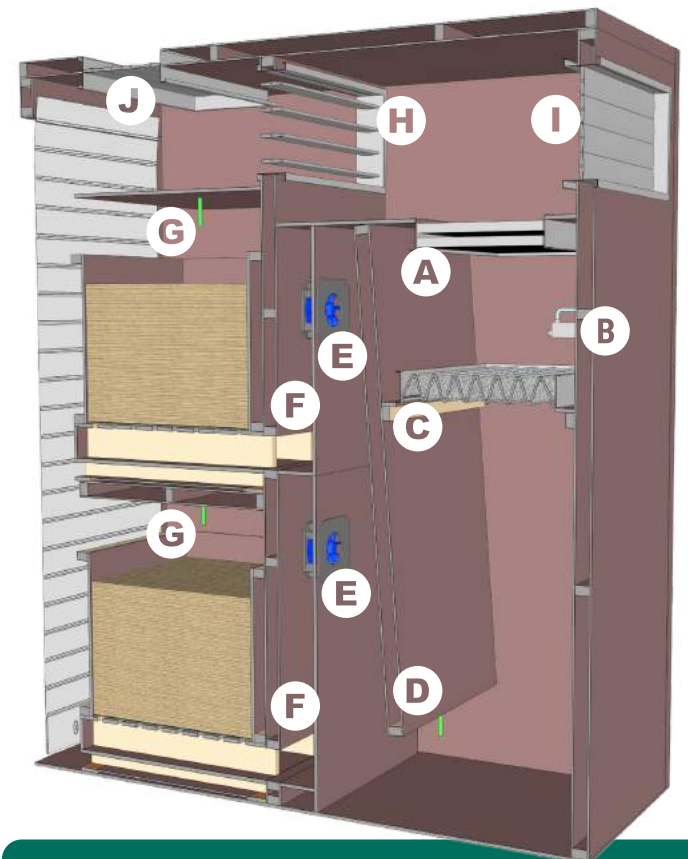
Drying

A. Heating of airflow
B. Ventilation
F. Distribution of airflow to boxes

ABC SOFTWARE CONTROL AND AUTOMATION

Stage 1: Creation of optimal environment for the growth of the microbes for retting
Stage 2: Humidifying the stalks to the optimal moisture content and temperature for retting
Stage 3: Internal circulation under optimal conditions for the activity of the microbes for retting
Stage 4: Finalizing retting under optimal conditions to the desired outcome quality
Stage 5: Finishing retting and drying to the desired moisture content for scutching





TEST INSTALLATION

For scientific research into the retting process we supply a testing unit.

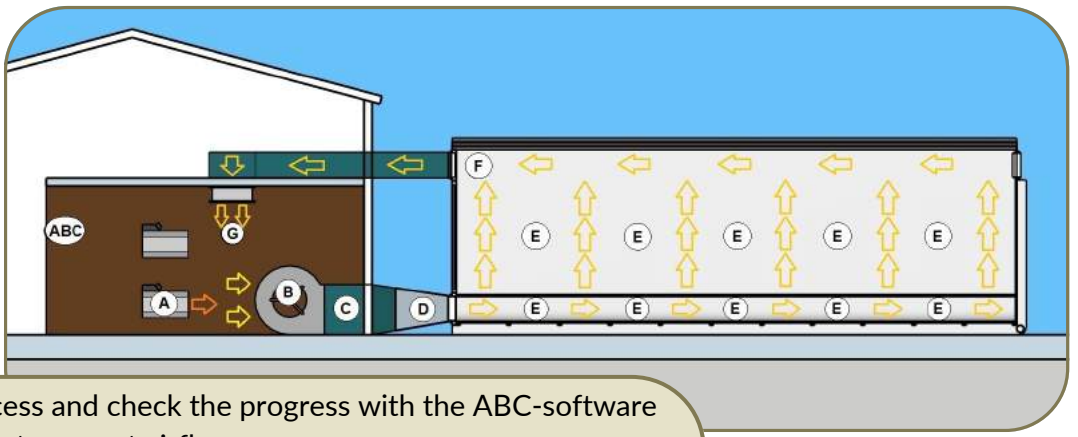
<u>This consists of:</u>

A. Radiator
B. Ultrasone nebulizer
C. Filter for moisture adsorption by the air
D. Measurement sensor for the temperature and relative humidity
E. Ventilator per box
F. Plenum for directing airflow through the box
G. Measurement sensor for the temperature and relative humidity
H. Valves for returning process air
i. Valve for inlet outside air
j. Valve for expunging air to the outside

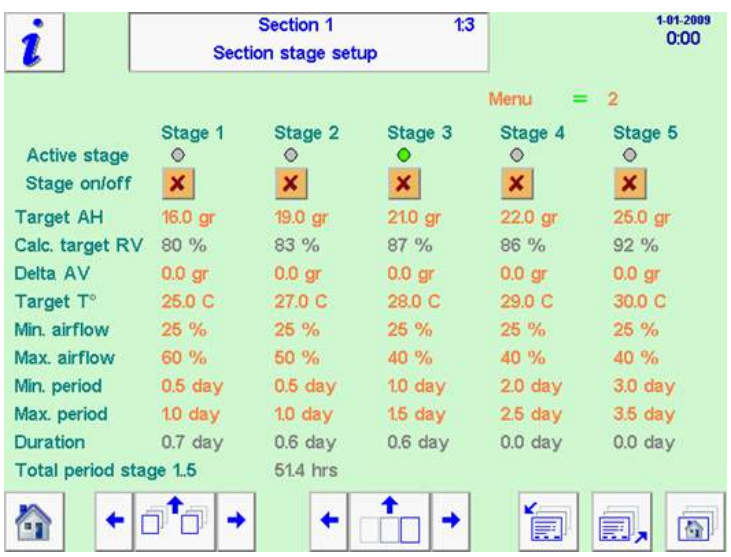
Our ABC software allows you to control, automate, and analyze the process

Retting & drying in bulk for controlled and consistent outcomes is achieved in the container installation by Hemp-drying.com.

CONTAINER INSTALLATION



ABC: Start the retting process and check the progress with the ABC-software
A: A ventilator sucks in air at a preset airflow
B: Slightly heated outside air is circulated at the desired temperature
C: A sensor measures the incoming absolute humidity of the air
D: The air gets dispersed at the plenum at the bottom and rises equally through the biomass
E: Sensors measuring the absolute humidity of the outgoing air
F: Air is circulated back to the ventilator
G: A removable filter, and a humidifier are situated in the vent



	Stage 1	Stage 2	Stage 3	Stage 4	Stage 5
Active stage	○	○	●	○	○
Stage on/off	✕	✕	✕	✕	✕
Target AH	16.0 gr	19.0 gr	21.0 gr	22.0 gr	25.0 gr
Calc. target RV	80 %	83 %	87 %	86 %	92 %
Delta AV	0.0 gr	0.0 gr	0.0 gr	0.0 gr	0.0 gr
Target T°	25.0 C	27.0 C	28.0 C	29.0 C	30.0 C
Min. airflow	25 %	25 %	25 %	25 %	25 %
Max. airflow	60 %	50 %	40 %	40 %	40 %
Min. period	0.5 day	0.5 day	1.0 day	2.0 day	3.0 day
Max. period	1.0 day	1.0 day	1.5 day	2.5 day	3.5 day
Duration	0.7 day	0.6 day	0.6 day	0.0 day	0.0 day
Total period stage 1..5		51.4 hrs			

ABC SOFTWARE
Control & Automation

Stage 1: Drying the stalks to a uniform moisture content
Stage 2: Start moisturizing the airflow
Stage 3: Raise the moisture content and temperature to the ideal conditions for retting
Stage 4: Stable retting conditions
Stage 5: Stable retting conditions
Stage 6: Stable retting conditions
Stage 7: Eliminate microbes through inhospitable conditions
Stage 8: Dry till the desired moisture content

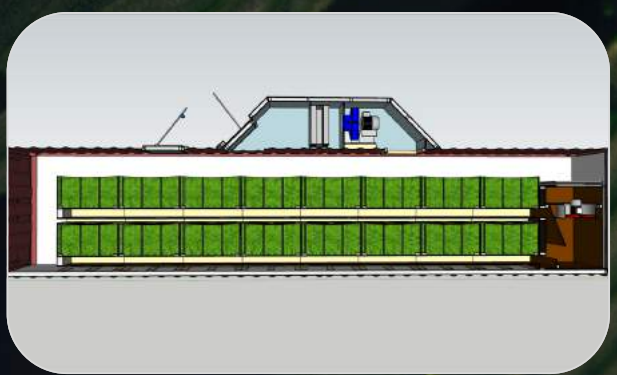
BENEFITS OF THE CONTROLLED RETTING INSTALLATION

- Complete control over your valuable crop from seed, till retting, to scutching
- Do not rely on nature, but utilize the strengths of nature with our technology
- Improve long fiber yields and quality
- Repeatable process quality for a consistent hemp source product
- Controlled retting allows for the precise separation of hemp fibers and hurds
- Tailor the degree of retting to the qualities and properties demanded by the market

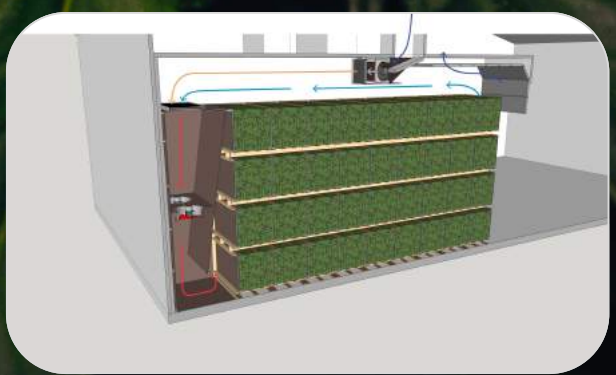
Hemp Flower

Cannabinoid & Terpene Retention

CONDITIONED DRYING
LOW TEMPERATURES
MAXIMIZE VALUE



CONDITIONED DRYING CONTAINER



CONDITIONED DRYING CEL

Retain the maximum amount of cannabinoids and terpenes with a controlled and precise drying process.

Hemp-drying.com

HEMP FLOWER

Dual Purpose Crop

- The hemp flower is separated from the plant.
- Deposited in a container trailing behind the combine.
- Stalks are cut and left on the field for later harvesting.

Cannabinoid Purpose Crop

- Greenhouse-grown or outside grown.
- The fresh flowers are bucked or trimmed.
- The hemp flowers are deposited in our special drying boxes.

Conditioned Drying Cell

Conditioned Drying Container

CONDITIONED DRYING PROCESS

- The drying cell, or container, is conditioned with dehumidified air. This creates great drying capacity at low temperatures.
- The installation is filled with boxes filled with hemp flowers.
- Boxes with drawers filled with layers of hemp flowers
- Boxes filled with hemp flowers, in bulk.
- In five stages the hemp flowers are gradually dried
- Air with a maximum temperature of 20°C preserves cannabinoids and terpenes.

PROCESSING TO CANNABINOID PRODUCTS

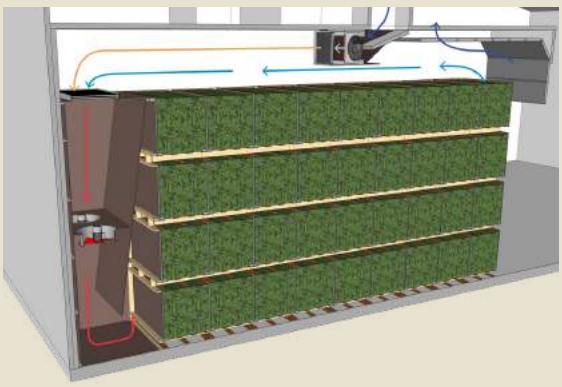
- The carefully dried hemp flowers are sold as a CBD flower product.
- The hemp flowers with well-preserved cannabinoids and terpenes are extracted after drying.
- The contents of the extracted hemp flowers are used in oils, tinctures, foods, cosmetics, sports balms, vaporizers.

BENEFITS OF THE CONDITIONED DRYING INSTALLATION

- High-quality outcomes and low-energy drying with cool dehumidified air
- Maximum temperature of 20°C for optimal conservation of active compounds
- Automatic and controlled drying process for consistent and reliable quality
- Low cost and durable drying with the heat pump system

Retain the maximum amount of cannabinoids and terpenes with a controlled and precise drying process. Closed cells with a cooling-drying installation (heat pump) provide a solution and save a lot of energy.

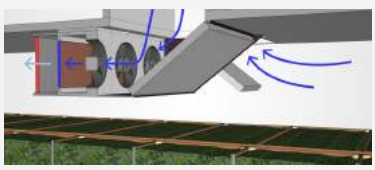
CONDITIONED DRYING INSTALLATION



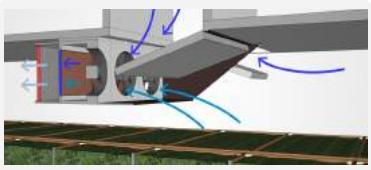
- The drying installation is placed within a closed cell.
- A hybrid heat pump provides dry air at low temperatures.
- Boxes, with a capacity up to **3.5m³** each, are filled with hemp flowers.
- The dried airflow is forced through each individual box.

Sensors measuring the drying conditions control the conditioned drying cell and direct the drying process automatically in 5 stages through our ABC-software.

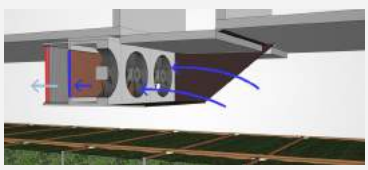
HATCHES FOR REGULATING SUPPLY OF OUTSIDE AND INSIDE AIR TO A COOL-DRY UNIT



When the product is moist and/or the outside air is dry, outside air is aspirated.

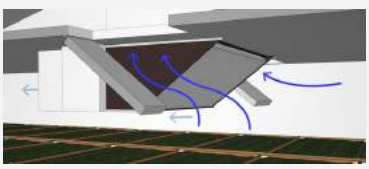


When the air in the cell becomes drier than outside, inside air is partially used.

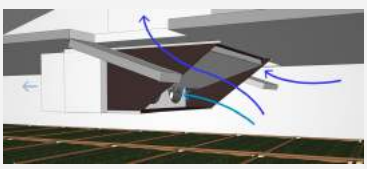


When the outside air is too moist or the air from the product is dry, only inside air is used for the drying process.

NEXT TO THE COOLING-DRYING UNITS, HATCHES ARE PLACED TO DISCHARGE HUMID AIR



They are connected to suction hatches; 100% outside air means 100% opened position.



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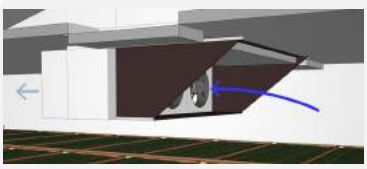
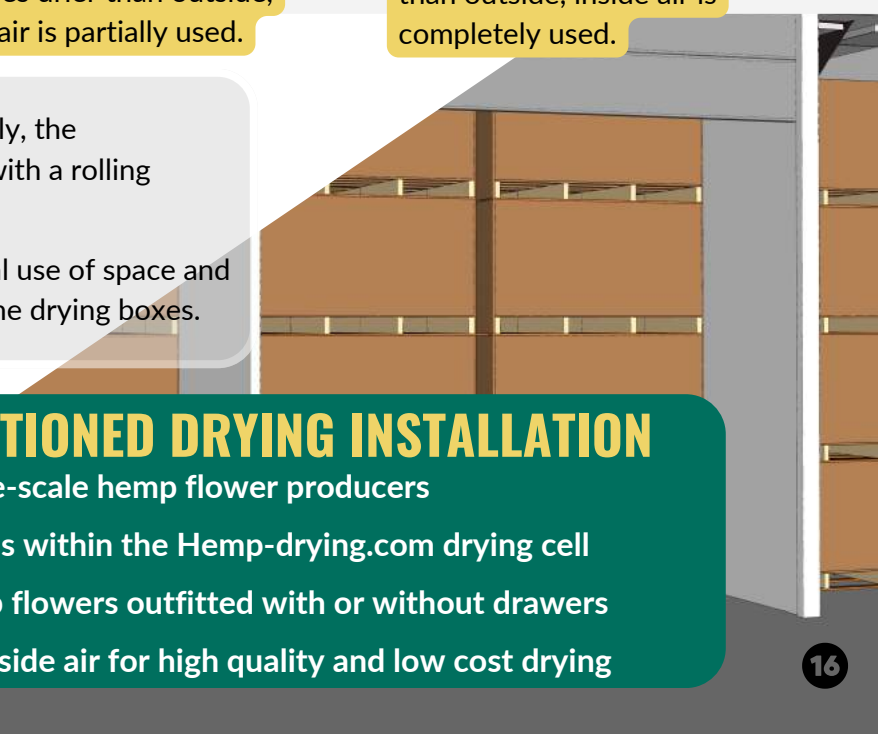


When the air in the cell is drier than outside, inside air is completely used.

- To make use of the dried air optimally, the conditioned drying cells are closed with a rolling shutter.
- The rolling shutter makes for optimal use of space and easy maneuvering and handling of the drying boxes.



BENEFITS OF THE CONDITIONED DRYING INSTALLATION

- **Well suited for small and large-scale hemp flower producers**
- **Optimum control of conditions within the Hemp-drying.com drying cell**
- **Special boxes for drying hemp flowers outfitted with or without drawers**
- **Efficient use of outside and inside air for high quality and low cost drying**

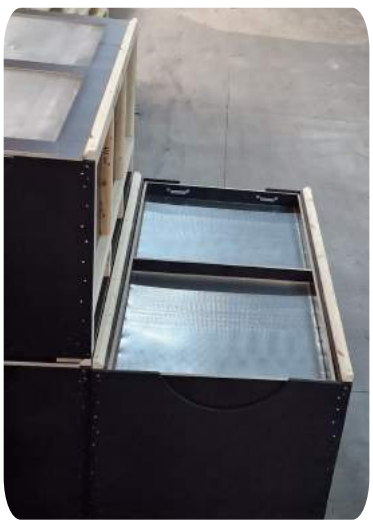
Retain the maximum amount of cannabinoids and terpenes with a controlled and precise drying process. Separated boxes with a heat pump, provides a flexible and high-quality solution and saves a lot of energy.

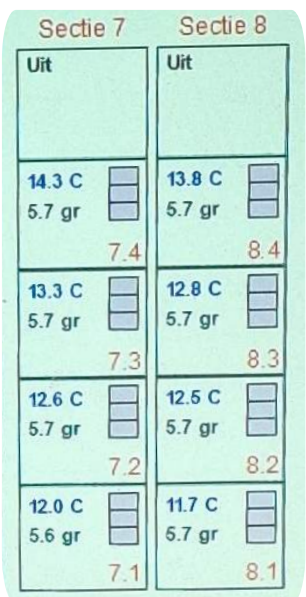
INDIVIDUAL BOX DRYER

- Optimal airflow
- High-pressure fans per box
- Dehumidified air per section or per individual box
- Highly precise drying
- Place the box once filled
- The drying program starts automatically

BOXES WITH TRAYS

- Trays of water-resistant plywood and stainless steel
- Easy to fill and handle
- Dividing the flower for optimal airflow and quality
- 6 trays per box
- Perfect for bucked or trimmed flower





ABC-SOFTWARE

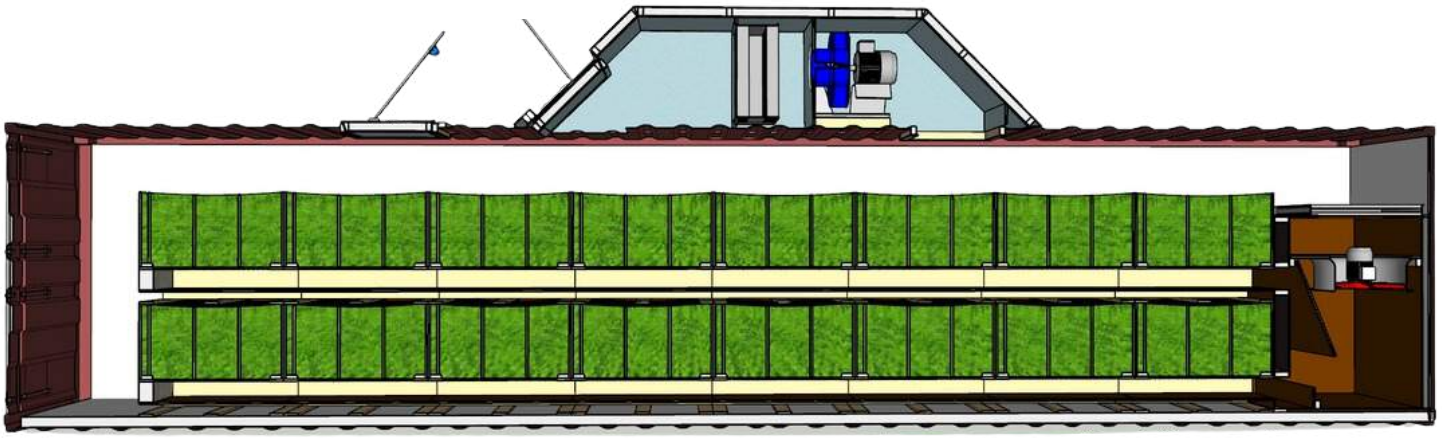
- Clear overview of all box places
- Per box place, the drying progress is stated
- Automatic drying process with the ABC Pre-sets
- Where possible excess energy is automatically conserved or reused
- Easy to use
- Insight into all the variables
- Logfiles for registration and analysis of the drying process

BENEFITS OF INDIVIDUAL BOX DRYING

- **Modular installation, making continuous batch drying possible**
- **Each box, or batch can run it's own drying pre-set**
- **Optimal conditioned airflow to each individual box**
- **Automation and energy efficiency through the ABC-software**

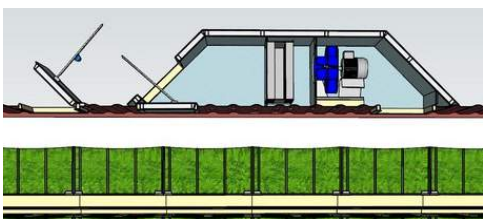
Retain the maximum amount of cannabinoids and terpenes with a controlled and precise drying process. A container installation that is conditioned using a heat pump and a heat and cooling block, can create a large drying capacity at low temperatures (≈20°C).

CONDITIONED DRYING CONTAINER



- A 40 feet container provides a large drying capacity within an enclosed environment.
- The container can be placed at a location at your convenience.
- The boxes made from water-resistant plywood can be open for bulk drying or divided with drawers.
- Bucked or trimmed flowers are placed in the boxes and into the installation.

CONDITIONING UNIT WITH VENTILATOR, COOLING UNIT & AIRFLOW HATCHES



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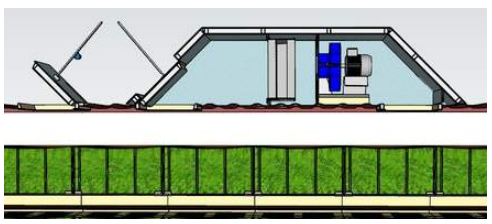
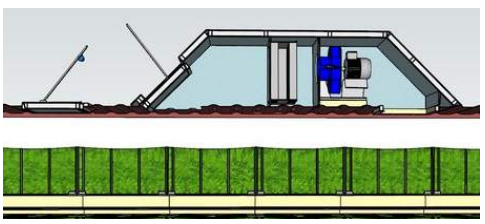


When the air in the cell becomes drier than outside, inside air is partially used.



When the outside air is too moist or the air from the product is dry, only inside air is used for the drying process.

Ventilation is provided immediately to start carrying off the first moisture. Once the container is full, the drying regimen is started with the ABC-software.

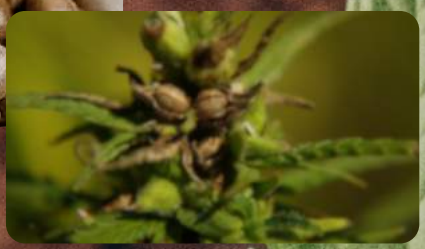
The drying container is conditioned in its entirety and moisture is removed from the hemp flowers and the containers continuously in five stages.

Per stage, the conditions are automatically guided according to the preset drying schedule. Drying the product gradually and consistently dehumidification of the product until the desired moisture content.

BENEFITS OF THE CONDITIONED DRYING INSTALLATION

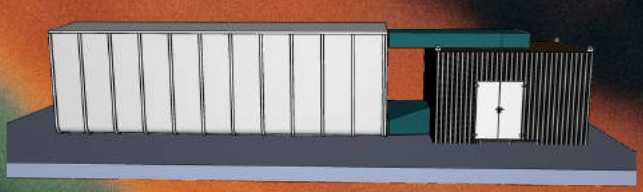
- **Stand-alone installation for high-quality drying at low temperatures**
- **Placed at your convenience, portable with adaptions**
- **Long-term economic savings and better quality due to hybrid heat pump**
- **Automatic control and guidance by the ABC-software**

Hemp Seed



Gentle & Efficient

EASY
QUICK
EFFECTIVE
EXPERIENCED



CONTAINER DRYING INSTALLATION

BOX DRYING INSTALLATION

Prevent spoilage and oxidization of your fragile hemp seeds. Through a controlled and precise drying process by the tried and tested seed drying installations of Hemp-drying.com.

Hemp-drying.com

HARVEST

The hemp seeds are separated from the flower during harvest. These seeds are deposited in the bunker of the harvester or a container:

Option 1

Quickly after (or during) harvest the seeds are deposited in our special seed-drying boxes.

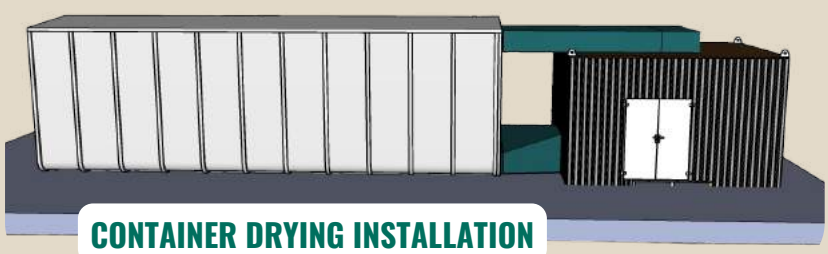
Option 2

During or quickly after harvest the seeds are deposited in our special drying container.

BOX DRYING INSTALLATION

CONTROLLED DRYING

- The standard and highly effective drying method for seeds.
- Temperatures of up to 40 degrees dry the product, with maximum temperature to prevent oxidization.
- Ventilator providing a strong airflow to prevent spoilage or scalding
- All automatically controlled with our ABC-software.



CONTAINER DRYING INSTALLATION

- Boxes for a small, or large-scale flexible, and modular drying solution until the required moisture content is reached.
- Container for efficient bulk drying and efficient harvesting until the required moisture content is reached.

PROCESSING

- Once the seeds are properly dried, they can be stored at a stable moisture content in our installations until processing.
- The drying installations are easily emptied to start the processing or packaging of the seeds.
- The careful and controlled drying process ensures your harvest will retain their quality.
- Our installation ensures the hemp seeds are at the desired moisture content for storage, dehulling or pressing.

BENEFITS OF THE DRYING INSTALLATIONS

- **Efficient and quick harvesting into our installations for drying**
- **Controlled temperature and airflow for the optimal drying process**
- **Tried and tested drying techniques for seeds**
- **Maximize efficiency and minimize losses**

BOX SEED-BED

Boxes for drying seeds are fitted with a special fine screen to prevent seeds from getting lost.

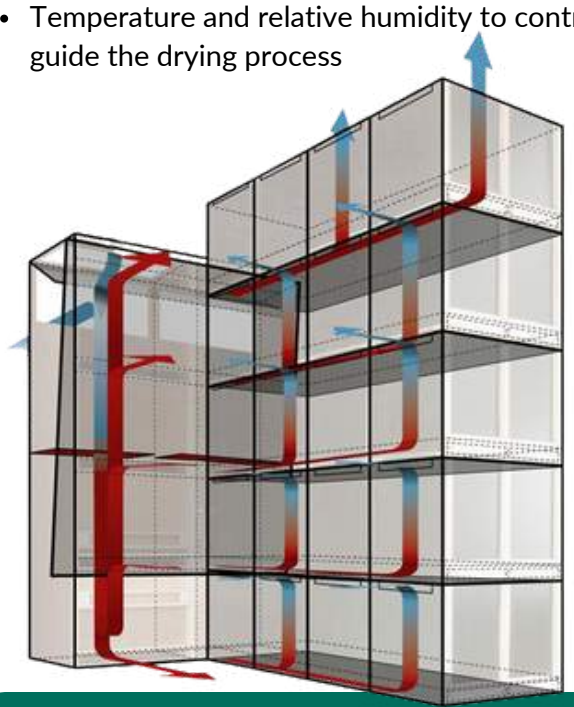
- Boxes for drying seeds are fitted with a special fine screen to prevent seeds from getting lost.
- The boxes are made with corner posts on the outside, to make sure no seeds get stuck in gaps and corners. Up to 3.5m3 capacity per box.
- High-quality materials are used to ensure the long-lasting lifetime of the Hemp-drying.com boxes.
- The boxes can be outfitted with a lid of a fine screen to prevent contamination or animals eating the tasty seeds.

DRYING AIRFLOW

A drying installation is designed for and placed at a location at your convenience.

An air distribution unit is composed of:

- Air ducts for outside air
- A heating source (biogas, radiator, heat pump)
- A ventilator provides airflow
- Temperature and relative humidity to control and guide the drying process



BOX DRYING INSTALLATION

Boxes are placed in front of and on top of each other against the air outlet gaps.

- Conditioned airflow is provided per layer of boxes.
- Per box, the airflow is forced through the product extracting moisture from the seeds.
- The airflow escapes each box out of the side, removing the moist air from the drying box.
- Continuously, new airflow is forced through the product at the desired temperature and humidity.

Automatically controlled drying through our ABC-software, for the best and most consistent quality.

BENEFITS OF THE BOX DRYING INSTALLATION

- Easy to fill, transport, handle, and empty boxes
- Quickly start drying after harvest to prevent spoilage
- Drying process programmed to retain the highest quality, with minimal risk of spoilage and minimal energy expense
- Drying boxes best suited for drying the delicate parts of the hemp plant
- Efficient use of floor space

INDIVIDUAL BOX DRYER

- Optimal airflow
- High-pressure fans per box
- Heating per section or per box
- Highly precise drying
- Place the box once filled
- The drying program starts automatically

ABC SOFTWARE

- Clear overview of all box places
- Per box place, the drying progress is stated
- Automatic drying process with the ABC Pre-sets
- Where possible excess energy is automatically conserved or reused
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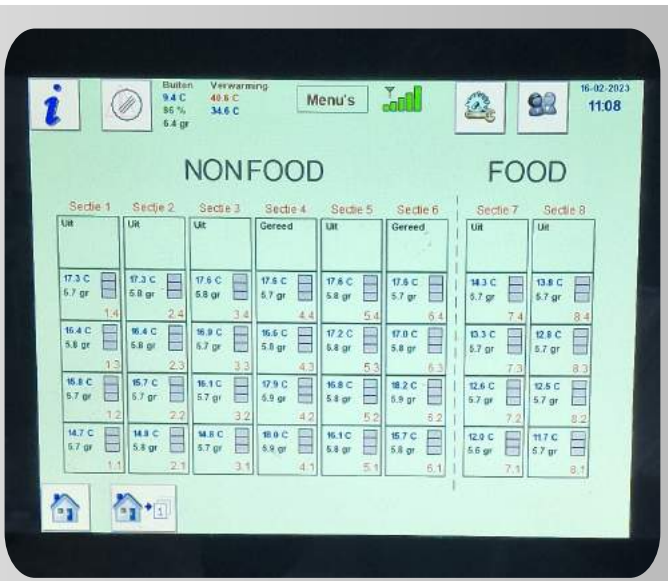


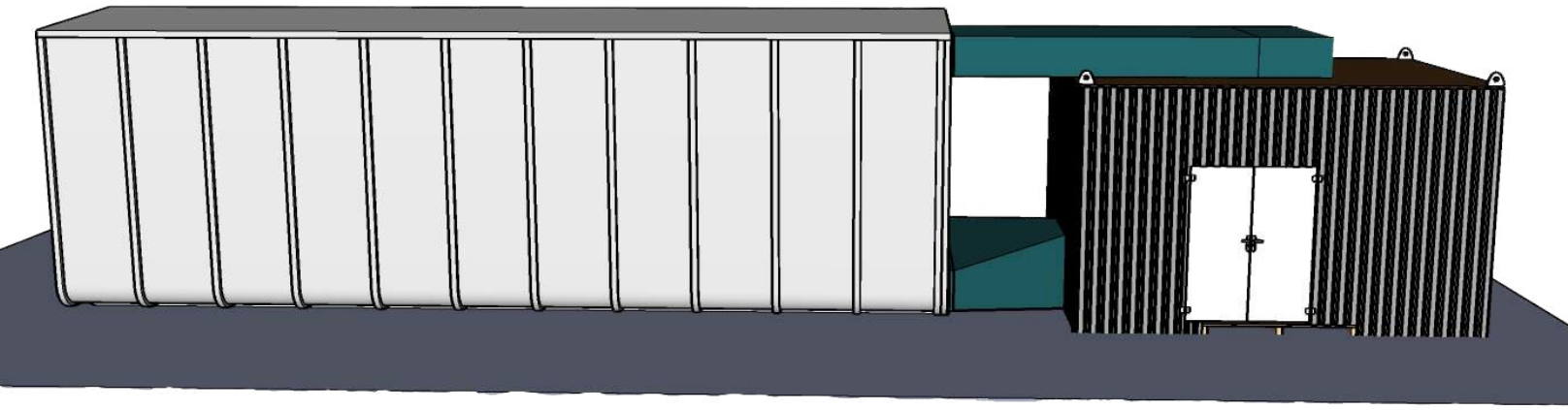
DRAWER DRYER

Dryer for small batches of seeds

- Precision drying of small amounts of seeds
- Easy and straightforward in use
- Trays with special mesh for seeds
- Air inlet guidance per drawer
- Air in and outlet per individual drawer
- Manual control, or automatic control by the ABC-software

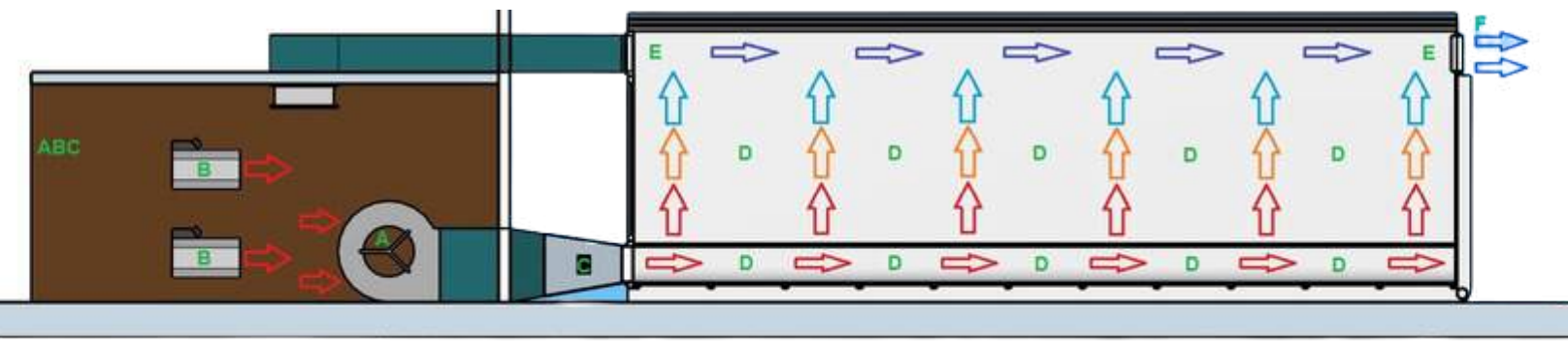
BENEFITS OF INDIVIDUAL BOX DRYING

- **Modular installation, making continuous batch drying possible**
- **Each box, or batch can run it's own drying pre-set**
- **Optimal conditioned airflow to each individual box**
- **Automation and energy efficiency through the ABC-software**



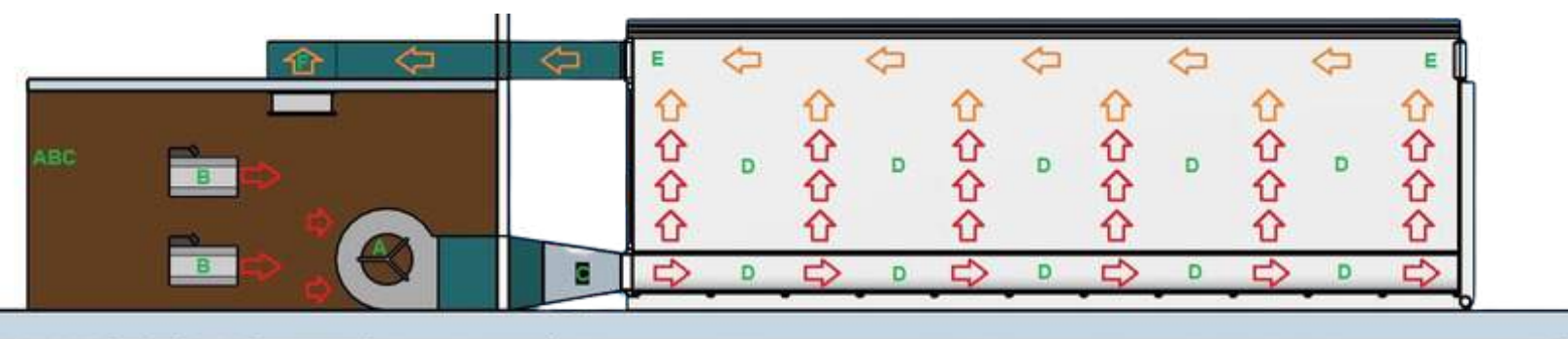
CONTAINER DRYING INSTALLATION

- 35m3 drying capacity
- Container for drying seeds with conditioned air
- Opening roof lids for easy filling and unloading
- Container is transportable, thus can be used for harvesting
- Different heating sources applicable: (bio)gas burners, heat pump system
- High quality components for high quality drying outcomes



REMOVING HUMID AIR

- Incoming and outgoing temperature and moisture are measured by sensors
- In the beginning stages of drying a lot of moisture is dried from the product
- This moisture is removed from the container
- Gradually the hemp seeds become dryer



RECYCLING DRY AIR

- In the later stages of drying less moisture is extracted from the seeds
- Once the sensors measure the air is relatively dry after passing the product the air is not removed but recirculated
- This relatively hot and dry air is dried again to save energy

BENEFITS OF THE CONTAINER DRYING INSTALLATION

- **You can harvest directly into the container**
- **Complete control over the environment with open or closed air circulation**
- **Controlled drying with efficient use of energy**
- **Optimal drying process for hemp seeds**

Hemp-drying.com

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Translation