HOPS-DRYING.COM

DRYING & STORAGE SOLUTIONS

DRYING INSTALLATIONS FOR HOPS

AGRATECHNIEK

DRYING & STORAGE SOLUTIONS

HOPS-DRYING.COM

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A brand by Agratechniek B.V.

This brochure provides a brief overview of the drying solutions that Hops-Drying.com offers you.

Hops-Drying.com is a brand of Agratechniek BV.
Agratechniek is located in the Netherlands and has been supplying drying and storage solutions for over 50 years. Our installations are suitable for a wide range of agricultural products, including flower bulbs and vegetable seeds. Each system is custom designed to meet your specific requirements. We work closely with your contractor and/or installer to develop a solution that perfectly matches your needs.

We understand each other, and it works!

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INTRODUCTION

HOPS-DRYING.COM: INNOVATION IN HOP DRYING

Agratechniek, a leader in drying installations for 50 years, offers energy-efficient methods for drying agricultural products such as hops. Our Agra Drying Method (ADM) optimizes the drying process in stages with the smart ABC processor that automatically controls air and temperature, reducing energy costs. Together with the WAgratech air dryer, this results in faster drying times and better product quality due to lower temperatures.

ADVANTAGES OF HOPS-DRYING.COM INSTALLATIONS WITH ADM PRINCIPLE:

- **Energy savings: Up to 60 percent on electricity and gas consumption.**
- **Flexibility: Modular system suitable for various crops.**
- **Economical: Automatic adjustment of air and temperature for each drying phase.**

Innovations

- **WAgratech Air Dryer: Creates dried air, reduces the need for high temperatures, shortens drying time and improves efficiency.**
- **Drying hops in boxes: Compact, specially designed boxes for maximum capacity and optimum drying. In addition to hops, the boxes can also be used for drying and storing your other agricultural products.**
- **Hop drying in containers: Large drying capacity without investment in buildings.**

Upgrade of Installation

Hops-drying.com improves existing drying installations with the ADM principle, where the ABC processor automates the drying process. Together with the WAgratech Air Dryer, this increases efficiency and reduces operational costs, without major structural adjustments. This makes hop drying more environmentally friendly.

Conclusion

- 50 years of experience in innovation
- Focus on drying process optimization
- Tailor-made solutions
- Increases efficiency, reduces costs
- Efficient use of energy for a better result for the environment

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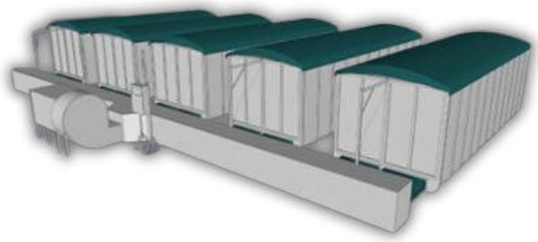
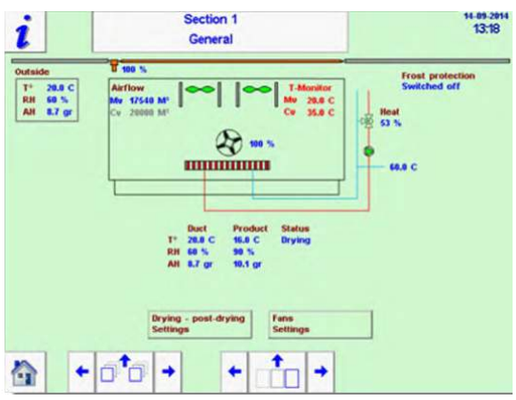
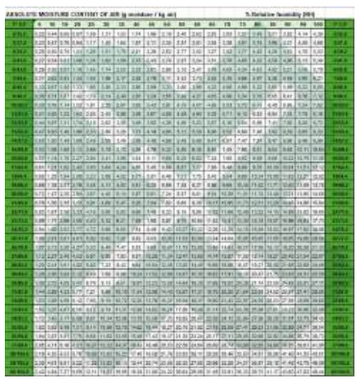
Drying information

Upgrading the Installation

New installation







THE DRYING PROCESS IN 5 PHASES

EFFICIENT AND EVEN DRYING

Start drying process; dry air removes moisture from the outer layer.

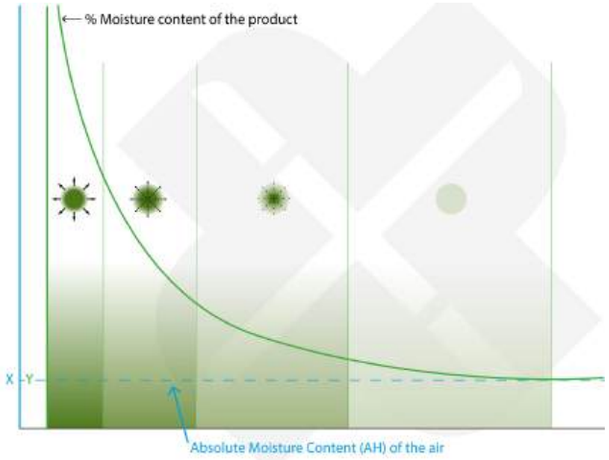
The moisture from the outer layers reaches equilibrium with the ambient air.

Gradually the moisture from the core reaches equilibrium with the outer layer.

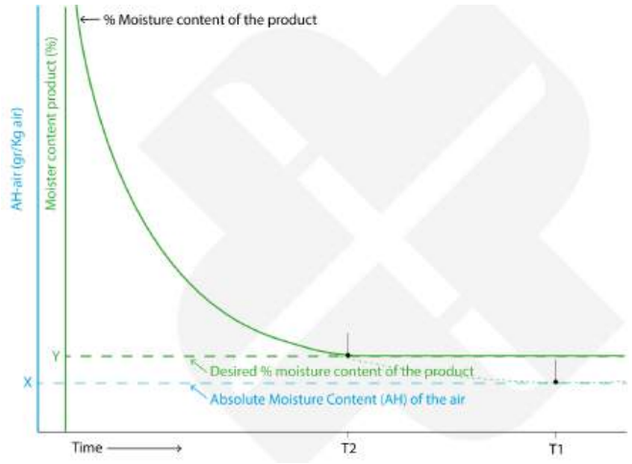
As the process continues, it takes longer and longer for the moisture in the core to equilibrate with the outside air.

Eventually the moisture reaches the desired level. The product is dry.

THE DRYING PROCESS IN A GRAPH



In the early stages of drying, the hop cone readily releases moisture to the dry air. As the drying process progresses, this moisture release slows down because the moisture in the core must migrate to areas with lower vapor pressure differences between the hops and the air. This increases the time required to reach equilibrium moisture content.



The desired moisture content of the hop cone (y) is easily achieved when the ambient air (X) has a low moisture content.
By adding dried air, this dry air is given ample opportunity to absorb the remaining moisture.

AGRATECHNIEK DRYING METHOD (ADM)

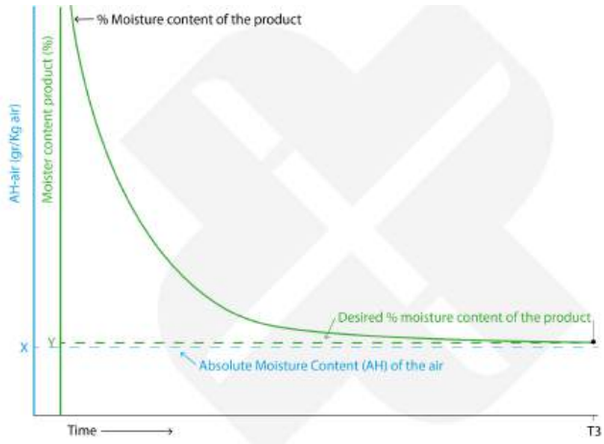
Hop-drying.com's ADM control system adjusts airflow and temperature per drying stage:

- Initial phase: High airflow with minimal heating, with the temperature gradually increasing at the start of the process.
- Drying phase: Reducing airflow and increasing temperature to improve moisture removal.
- Final stage: Automatic temperature reduction and airflow minimization for efficient completion of the drying process.
- Use of dry air: Ensures the optimum equilibrium moisture content is achieved within an ideal time period for consistent results.

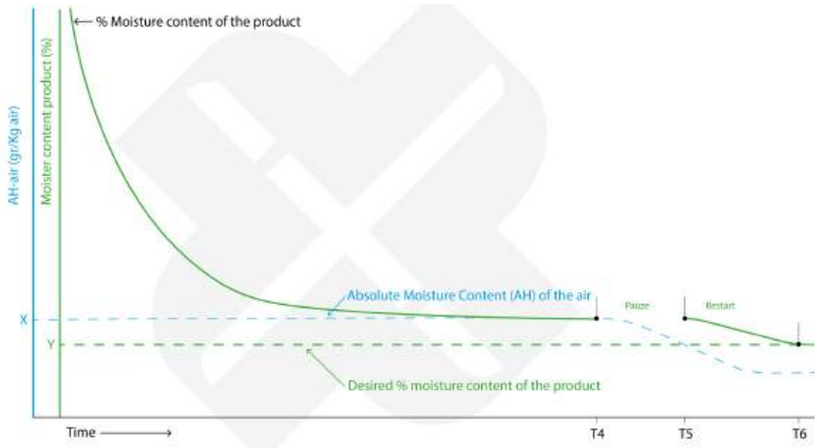
If the incoming air is (too) humid, it will take much longer to reach the desired moisture content, or it may not be possible to reach it at all.

THE DRYING PROCESS IN 5 PHASES

EFFICIENT AND EVEN DRYING



If the moisture difference (y - X) is too small, it will take a long time to reach the desired moisture content (T3).

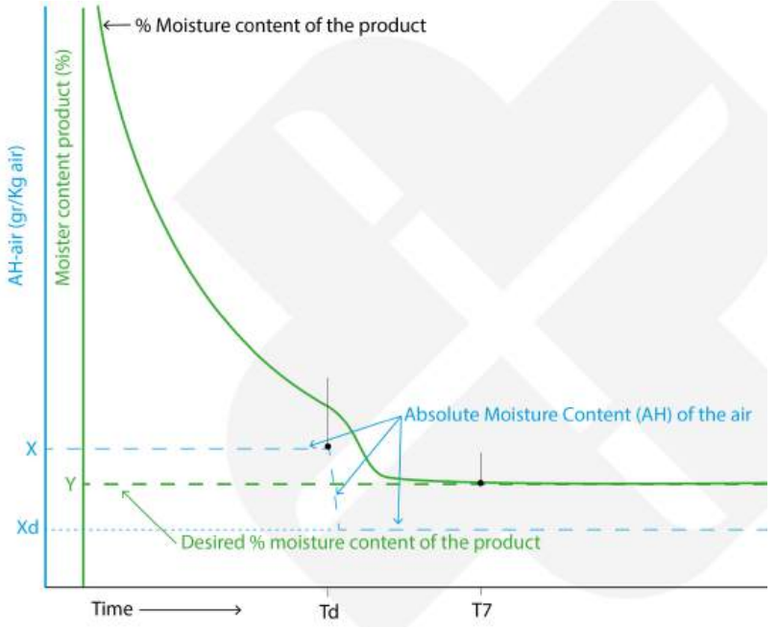


If the moisture content of the air (X) is higher than the equilibrium moisture content of the hop cone, the desired moisture content in the cone will not be achieved.

The drying process can be temporarily stopped (T4) while waiting for drier air (T5).

To achieve the desired moisture content as quickly as possible and consistently, even when the outside air is too humid, the use of dried air is necessary.

SHORTEN DRYING TIME WITH THE WAGRATECH AIR DRYER



When dried air is mixed with the process air (Td) during the drying process, the moisture content of the air drops significantly (from X to Xd). This enables the hop cone to reach the desired final moisture content (y) more quickly. By using dried air, the desired (low) moisture content is consistently achieved. The drying time in the final phase (T7) is also significantly reduced, which ultimately increases the capacity of the drying plant considerably.

The ABC processor ensures that the dried air from the central WAgratech Air Dryer is optimally distributed over the drying sections or box locations, maximizing efficiency and uniformity.

DE AGRA DRYING METHOD

SPEED UP YOUR DRYING AND SAVE YOUR ENERGY

Make your drying installation ready for the future with the Agra Drying Method!

In order to be able to dry environmentally friendly, economically and quickly, your installation can be adapted with the ADM principle and the WAgratech Air Dryer. This innovative method has already proven itself with a wide range of crops. With these adaptations, your drying installation is ready for the future.

Save energy with the ABC drying processor

The ABC processor forms the basis for the ADM principle and is the heart of the drying installation. Sensors measure the temperature and Relative Humidity (RH) and calculate how much moisture is in the air; both incoming and outgoing. This determines and regulates the optimum air volume and temperature for each drying phase. This can save up to 60% on electricity and gas.

More capacity due to faster drying thanks to dried air

The WAgratech Air Dryer automatically adds dried air to the different drying sections to speed up the drying process. Thanks to dried air, the drying process is less delayed by too humid outside air. Dried air enables optimal drying without the air being heated to its maximum. Better quality, more capacity and again environmentally friendly.

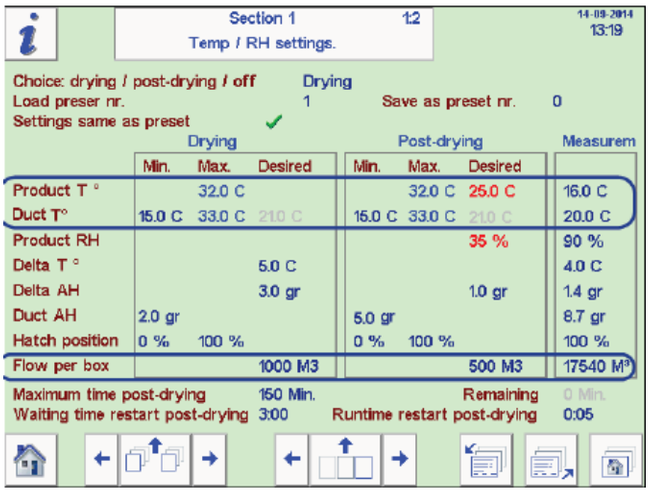
Professional drying installation with a professional ABC drying processor.

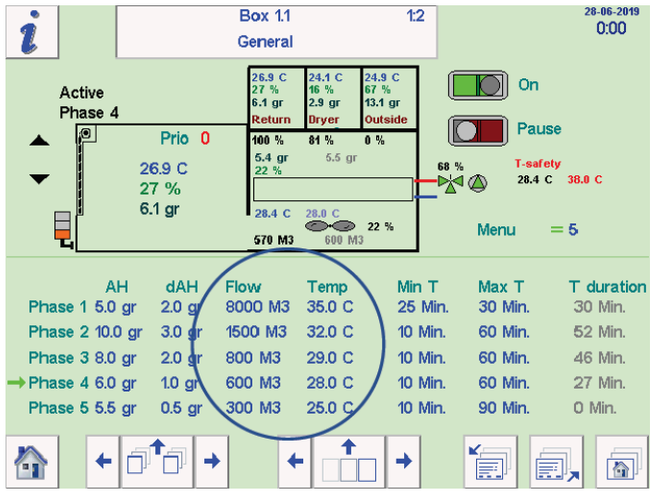
The ABC processor is easy to operate with a clear touchscreen. Thanks to pre-made ADM presets, different drying programs for hops can be selected; from fast drying for bulk to calm products for your most valuable hops. And everything in between. With the ABC-PC software you can follow the drying process from your PC and adjust it if necessary. All settings and measurements of the drying process are stored on your PC with the same PC software and can be read back in graphs or tables.

DE AGRA DRYING METHOD

ECONOMICAL WAY OF DRYING

An optimal and economical drying process is not possible with a start-stop button and a thermostat. That is why Agratechniek developed the ABC processor, which automatically adjusts the temperature and airflow to the specific needs for an optimal drying result.





The advanced ABC processor automatically controls the drying process:

- The amount of air required per drying phase
- The optimal drying temperature for each drying phase
- The drying process stops automatically once the product is dry.
- If the outside air is too humid, the drying process is temporarily interrupted and resumed under more favorable conditions.

Variable air flow

- Reducing airflow by 20% saves 50% of electricity consumption.
- A 50% reduction results in a saving of approximately 85%.

Variable heating power

- Energy consumption increases linearly with increased air flow and higher temperature.
- By reducing the airflow, energy is saved proportionally.
- At a lower temperature, energy is also saved proportionally.

% control	kWe	m³/h	Delta-T	kW
100	22,0	30000	20	192
100	22,0	30000	20	192
100	22,0	30000	20	192
100	22,0	30000	20	192
100	22,0	30000	20	192
100	22,0	30000	20	192
100	22,0	30000	20	192
100	22,0	30000	20	192
100	22,0	30000	20	192
Total	198,0			1728
	kWe			kW heat

Fixed air flow and fixed heating power

% control	kWe	m3/h	Delta-T	kW
100	22,0	30000	20	192
90	16,0	27000	20	173
80	11,3	24000	20	154
70	7,5	21000	20	134
60	4,8	18000	20	115
50	2,8	15000	20	96
40	1,4	12000	20	77
30	0,6	9000	20	58
20	0,2	6000	20	38
Total	66,5			1037
	kWe			kW heat

Variable air flow and fixed heating power

% control	kWe	m3/h	Delta-T	kW
100	22,0	30000	5	48
90	16,0	27000	9	77,76
80	11,3	24000	13	99,84
70	7,5	21000	18	120,96
60	4,8	18000	20	115,2
50	2,8	15000	20	96
40	1,4	12000	20	76,8
30	0,6	9000	16	46,08
20	0,2	6000	4	7,68
Total	66,5			688
	kWe			kW heat

Variable air flow and variable heating power

Variable air speed saves up to 66% on electricity consumption Temperature adjusted to needs saves up to 40% on gas consumption

EFFICIENT BOX DRYING

WITH THE USE OF THE ADM

One of our specialties and also the most versatile drying installation is a drying installation where the products are dried in boxes.

This installation consists of:

- Air distribution system with intake hatches
- Fans
- Heating
- The boxes
- WAgratech Air Dryer

These installations are also controlled with the ABC drying processor with the ADM principle.

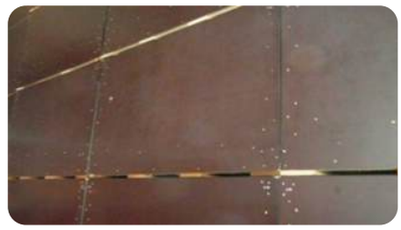
This versatile drying installation can be used for a large part of the year for various products, making it a profitable investment.

We make boxes in many sizes; the content can vary from 1m³ to 3.5m³. This depends on the product, with larger volumes being recommended for hops.
The boxes with hops are placed in front of the air distribution system. This system is equipped with openings at the front that are at the same height as the box pallets.
The most optimal air condition (outside or inside air) can be drawn in via the intake hatches. Again controlled by the ABC drying processor.

The openings in the front of the air distribution system are sized to the opening of each box pallet. Outside air is drawn in through an opening in the wall at the back. When the outside air is too humid, inside air is recirculated to maintain optimum drying conditions.

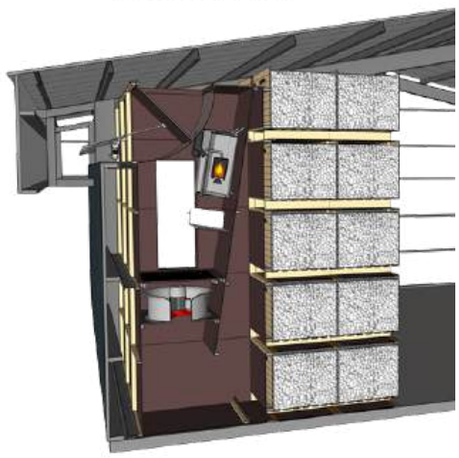
The bottom of the pallet on the box is closed with 9 mm plywood.

There is a difference in thickness between the plywood and the hardwood bottom board.

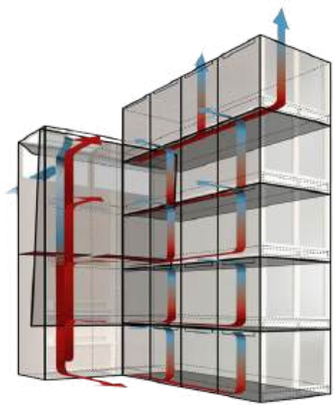


The difference creates a gap between the layers of the box, allowing the air that dried the product to escape.

Boxes are placed in front of and on top of each other.



A fan sucks in outside or inside air. The air is heated or dried and distributed over the different levels of the box.



Dry air extracts moisture from the product, moist air escapes from the box in layers.

EFFICIENT BOX DRYING

WITH THE USE OF THE ADM

Example of a box drying installation with a gas burner, stacked 5 high

- A valve with motor draws in outside or inside air.
- Intake air is heated with one or two gas burner(s).
- The fan draws in air through a grate and distributes the air over the box layers.

FEATURES OF THE BOXES

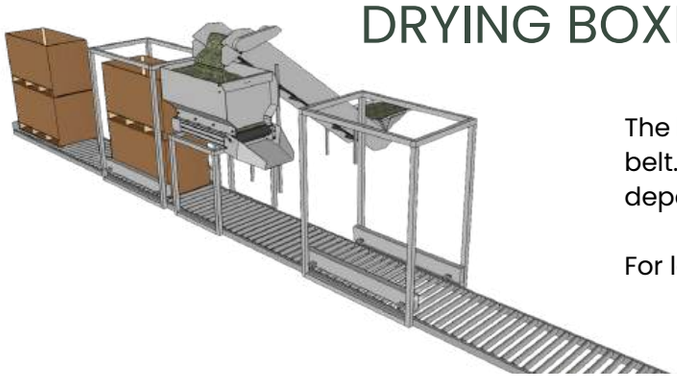
- Made of special water-resistant plywood.
- Optimized airflow design.
- Available in various sizes, ranging from 1m³ to 3.5m³.
- Special pallet for easy tilting.
- Optimal removal of moist air.
- Suitable for various heat sources.
- Compact design, maximum drying capacity on minimum floor space.

Shown above are boxes designed for hop drying. These are the largest boxes produced by Hops-Drying.com. The pallet is specially designed to easily tip the box with a tilting forklift.

Versatile boxes, made in our own factory in the Netherlands

EFFICIENT BOX DRYING

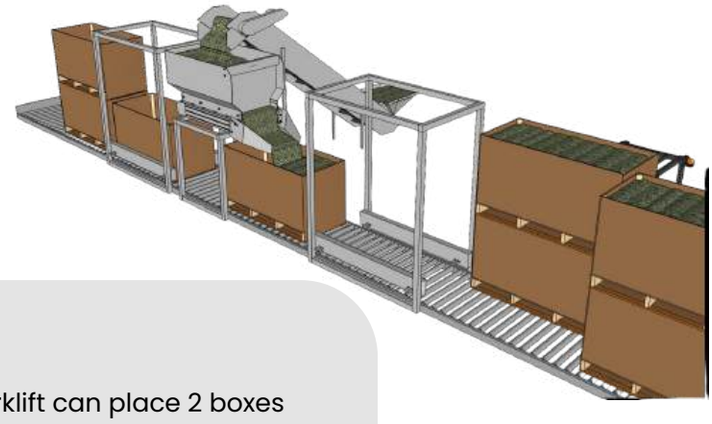
DRYING BOXES IN PRACTICE

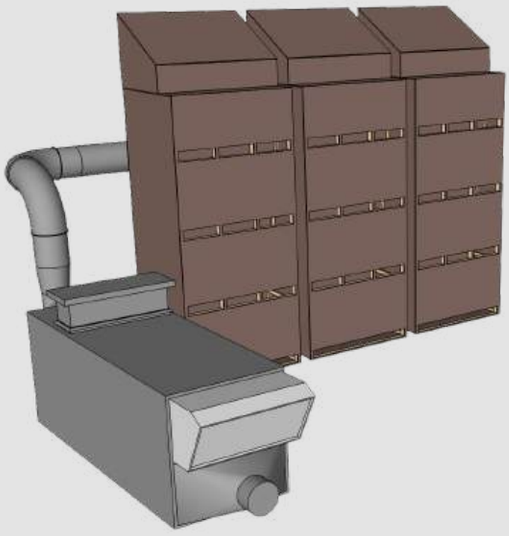


The boxes can be filled individually directly with a conveyor belt. However, this does result in intensive internal transport, depending on the quantities.

For larger quantities an automatic filling line can be used:

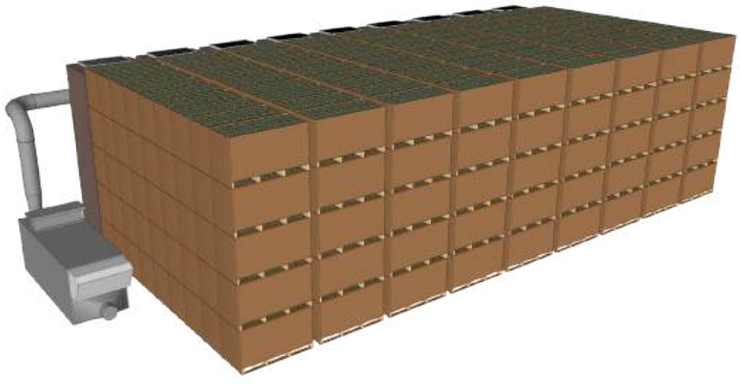
- Boxes are placed 2 or 3 on top of each other on a supply unit.
- A destacker lifts the top box(es) so that the bottom box can be filled with fresh hops.
- After filling the boxes with hops, the boxes are stacked again.





- The forklift can place 2 boxes simultaneously in front of the air distribution system.
- When a drying section is filled with the maximum number of boxes, drying for that section can start immediately.
- After drying, the boxes are removed from the drying facility.

- The hops can stabilize in the same boxes before further processing can take place.
- The box with hops can be emptied directly into the collection bunker using a forklift truck.
- This is also possible with a special tilter.
- Optionally also with automatic supply of full boxes and removal of empty ones.

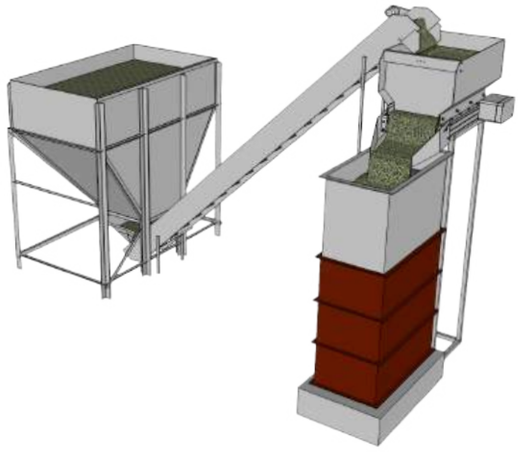


Boxes of hops are placed in front of a drying wall with 9 rows. Each row can consist of a different harvest day.

Efficient operational business process thanks to automatic box filling

EFFICIENT BOX DRYING

DRYING BOXES IN PRACTICE



When the hops are dried with our system, there is no need to let them rest or cool down due to the lower temperature requirement; processing can continue immediately.

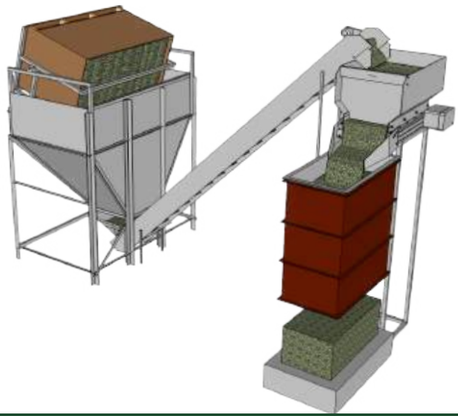
Whether the hops are processed into pellets or bales, we offer systems that are compatible with our drying facilities.

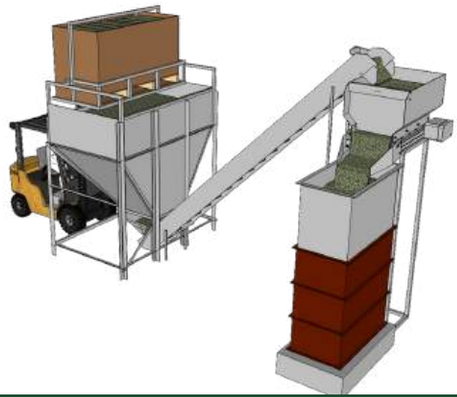
The forklift is equipped with tilting forks. As shown earlier in the brochure, the boxes are specially designed to tilt easily.

In addition to drying installations, Agratechniek also supplies custom-made equipment, including:

- **Tippers – For efficient emptying of boxes with minimal product damage.**
- **Bunkers – Storage systems that ensure a controlled and even flow of product.**
- **Hoppers – Funnels that help to accurately dose the hops into the processing line.**
- **Conveyor Belts – Efficient logistics solutions to move hops smoothly through the drying and processing process.**

Below is a tipper. The box of hops is placed on the tipper, which then carefully pours the hops into the funnel.
The tilter is made with or without a (closed) hood, and can be custom-made for any width of box.





Hops-Drying.com supplies tailor-made machines for hops in the drying and processing process.

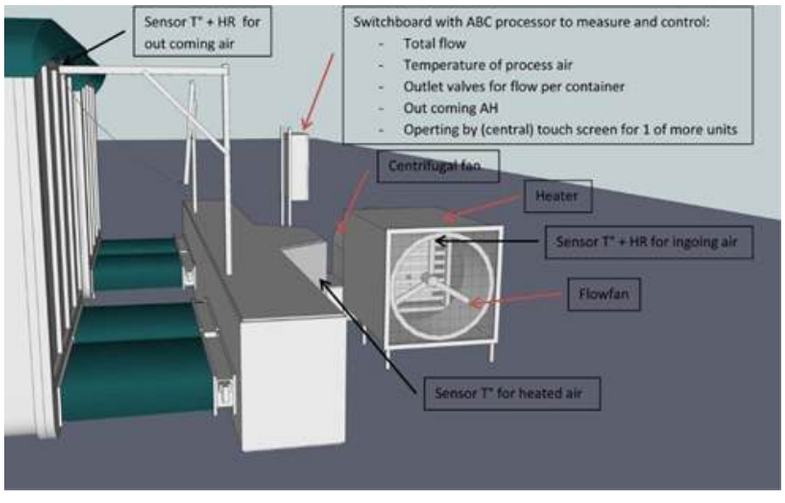
EFFICIENT CONTAINER DRYING

WITH THE USE OF THE ADM

Drying in truck containers with a double bottom is already used in various sectors. The advantage is that the investment in a building is limited to the processing of the plant and the pressing of the bales. The entire drying process can take place outside. In some countries, the containers can be rented from other companies during the drying period.

Hops-Drying.com supplies the plenum with fan to blow the process air through the double bottom through the hops. The air is heated per container by a propane gas burner with variable capacity. The plenum with fan is supplied by Hop-drying.com. The gas burner can be supplied and installed by Hop-drying.com or by a local installer.

The entire drying process is controlled by the ABC drying processor. Here too, according to the ADM principle.

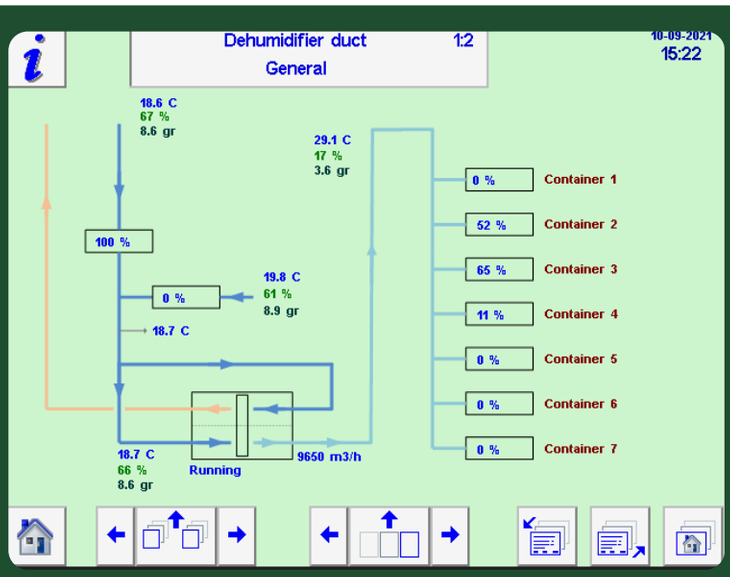


Measurements for Control

- T° + RH of the air from the container; calculation of the Absolute Humidity (AH)
- T° of the incoming heated air
- T° + RH of the extracted air; calculation of AH
- Air volume: thanks to the air measurement, the central fan supplies the right amount of air for the number of active containers. This saves considerably on electricity consumption.

EFFICIENT CONTAINER DRYING

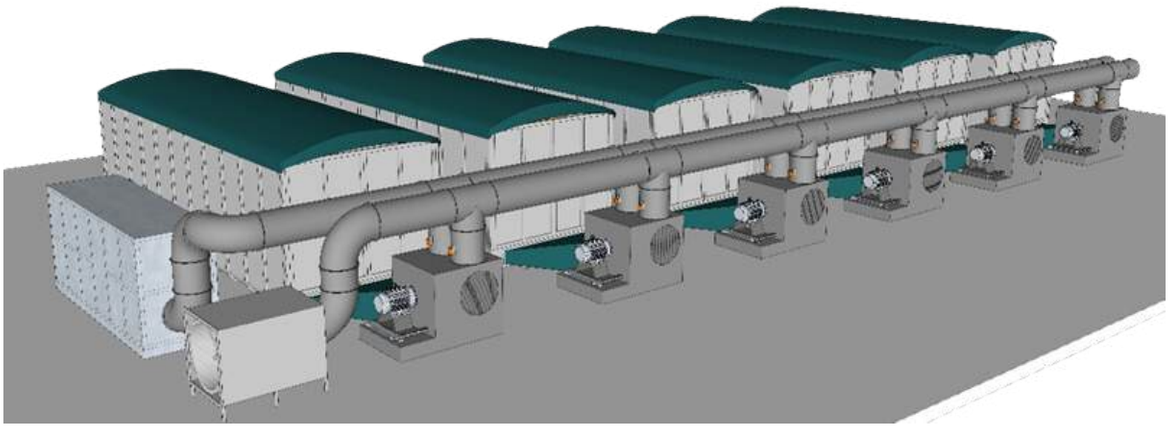
WITH THE USE OF THE ADM



The entire drying process is controlled by the ABC drying processor.

ADM Methode

- Measurement of the actual moisture content of the incoming and outgoing air.
- Variable air volume.
- Variable temperature.
- Supply of dried air in the final phase.
- To guarantee the amount of air, the air volume can also be measured here.



ADVANTAGES OF THIS MULTIFUNCTIONAL INSTALLATION:

- No investment in the building.
- If necessary, drying can take place close to the growing area (distance
- Containers to be used for drying many agricultural bulk products.
- Renting the containers is an option in some countries

The ABC Processor controlled technology is mobile and expandable

ABC PROCESSOR

WAGRATECH AIR DRYER

UPGRADING YOUR INSTALLATION

UPGRADING YOUR INSTALLATION

WITH THE USE OF THE ADM

Many (large) companies already have an existing hop drying installation, this installation can be improved in many places by technology from Hops-Drying.com. In the following pages we will discuss how we can upgrade each drying installation.

Fans

- Fan equipped with a frequency controller.
- The frequency controllers are controlled from the ABC drying processor.
- The air volume is automatically adjusted to each drying phase thanks to the ADM method.
- Savings go up to x^3
  - 20% less air required $(0.20)^3$, so a saving of 50%.
  - At 30% the saving is more than 70%.

Gas burners

- The propane gas burners are equipped with a modular gas pressure regulation.
- The gas pressure regulator is controlled from the ABC drying processor.
- Different temperatures are achieved by passing more or less pressure.
- Savings
  - With a decreasing air volume, gas savings are linear with the air volume.
  - With a lot of air with little heating and a low temperature increase, maximum gas savings are achieved.

WAgratech Air Dryer

- From the central WAgratech Air Dryer, dried air is supplied to the various sections via an air duct.
- In the section with the least dry product, dried air is blown in by the fan.
- This ensures that the slowing drying process is accelerated again in the final phase.
- Savings
  - Shorter drying time, so less gas and electricity.
  - Shorter drying time, so more capacity.

Hops-drying.com optimizes existing hop drying installations with smart control, shorter drying times and up to 70% energy savings.

UPGRADING YOUR INSTALLATION

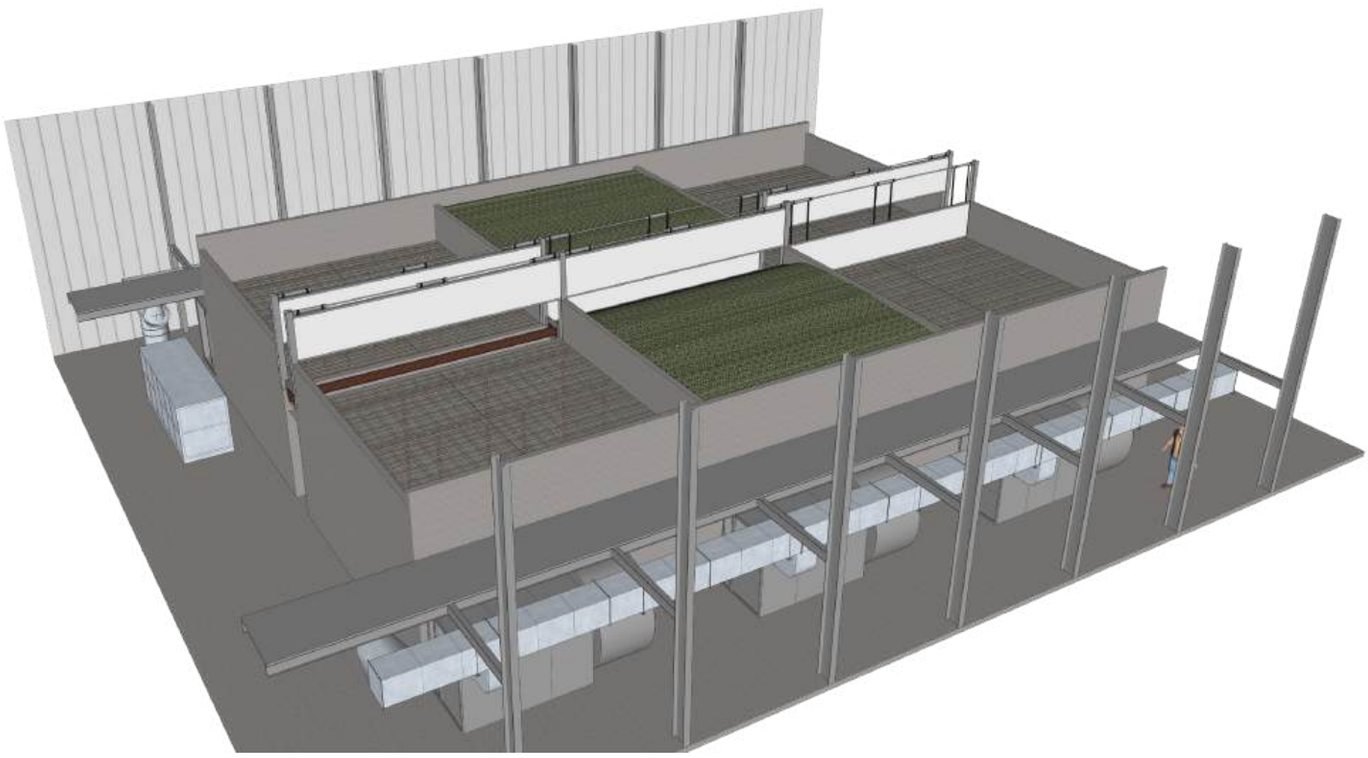
WITH THE USE OF THE ADM

Introduction Air Control

The first step in upgrading your current drying installation is to implement advanced air control. By measuring and adjusting airflow, the system can be optimized based on:

- The number of drying cells
- The specific drying phases
- Measured humidity differences

This allows the airflow to be precisely regulated, ensuring that the correct amount of air is used to effectively remove moisture at each stage of the drying process, helping to further automate the process.



Addition Temperature Control

The second step in upgrading your drying system is to improve temperature control. By measuring and adjusting both temperature and absolute humidity, the system ensures that:

- Air is only heated when needed, which significantly reduces gas consumption.
- Humidity differences are continuously monitored.
- The airflow is regulated to effectively remove moisture at the correct stages.

This upgrade optimizes energy consumption and improves overall drying efficiency.

Hops-Drying.com optimizes your drying installation with advanced air and temperature control, which ensures more efficient drying, less gas consumption and maximum automation.

UPGRADING YOUR INSTALLATION

ADDING THE WAGRATECH AIR DRYER

Adding Dried Air

The third step in upgrading your drying system is the introduction of dried air. By adding dried air, especially in the final stages of the drying process, the system achieves:

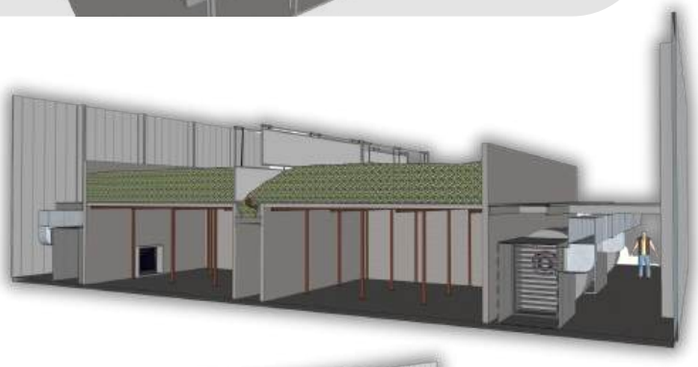
- Improved efficiency by reducing the need for high temperatures.
- Precise airflow control tailored to moisture removal needs.
- Improved drying performance even at increasing humidity.

The use of dried air ensures that moisture is effectively removed without unnecessary energy costs, optimising both drying time and fuel consumption.

The air is heated by gas burners as it enters the drying chamber.
The air is blown under and through the hops.

Current situation
6 drying chambers with 37 kW centrifugal fans without automatic speed control.

The Agra Drying Method does not require major renovations. Air distribution systems with adjustable valves, sensors and the WAgratech dehumidifier can be seamlessly integrated into almost any installation without the need for structural adjustments.



The air from the dryer is distributed by a high-pressure fan. The ABC processor measures the relative humidity and temperature of the incoming and outgoing air, calculates the absolute humidity and determines the current drying stage. This ensures that optimum drying conditions are achieved for the product at every stage of the process.

Maximum drying performance, minimum energy costs – dried air for a more efficient and precise drying process.

THE WAGRATECH AIR DRYER

THE MOST ADVANCED CONDITIONING SYSTEM

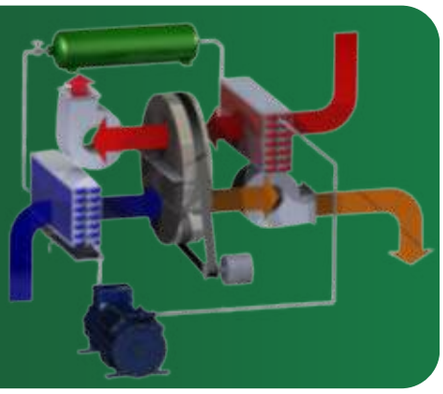
Dry air is an important component for optimal drying with minimal energy and in a short time. From the central WAgratech Air Dryer, dried air is distributed over the drying sections. The section with the driest hops receives sufficient air to quickly reach the desired moisture content in the final phase. By adding dried air, especially in the final phases of the drying process, the system achieves:

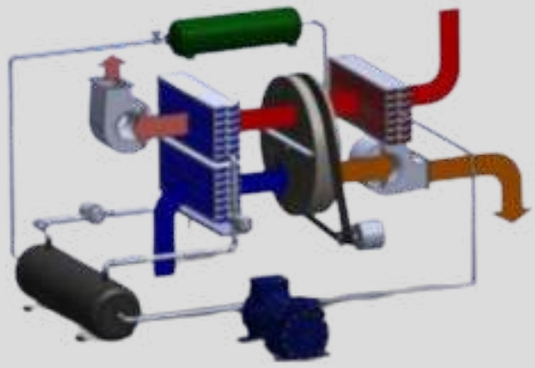
- Improved efficiency by reducing the need for high temperatures.
- Precise airflow control tailored to moisture removal needs.
- Improved drying performance, especially in humid outdoor air.

The use of dried air ensures that moisture from the hops is effectively adsorbed without unnecessary energy costs, optimising both drying time and fuel consumption.

The WAgratech Air Dryer has an integrated heat pump on electricity. In the presence of solar panels, the WAgratech Air Dryer gives an extra big saving on energy costs.

The heat pump cools the process air considerably and pre-dries it by means of condensation (bottom blue radiator).





Cooling of regeneration air for extra hot water

After drying the rotor, the warm and humid regeneration air can be cooled down again. All energy is now used in a very energy-efficient way to heat additional water.

Smart air treatment for maximum efficiency – the WAGratech Air Dryer saves energy and optimizes the drying process.

THE WAGRATECH AIR DRYER

THE MOST ADVANCED CONDITIONING SYSTEM

Creating hot water
A built-in plate heat exchanger ensures that the extra energy from the gas is used to heat water.

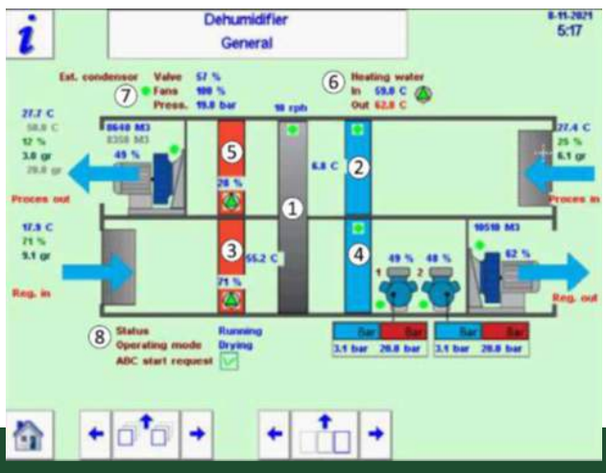
Buffertank
The hot water is pumped to a buffer tank. From there the hot water is pumped to the drying sections.

Condenser
External condenser for cooling and extra hot water.

An external condenser ensures that sufficient water can always be heated by extracting additional energy from the outside air.

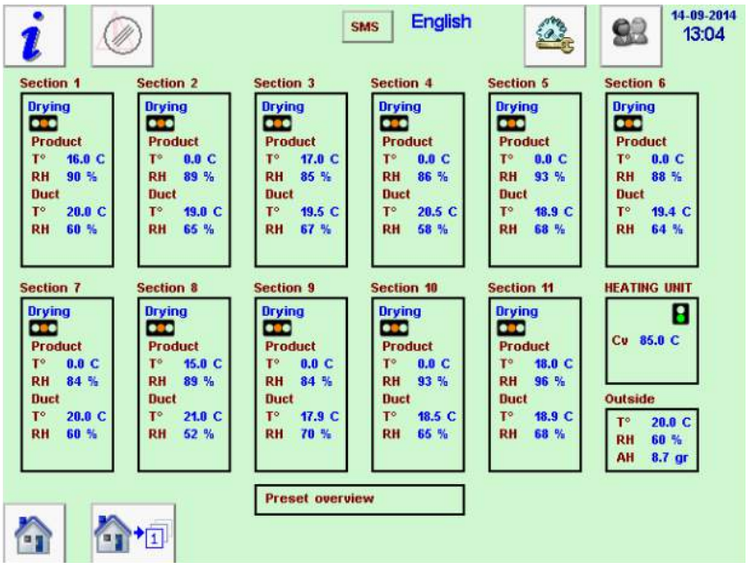
ABC Processor controlled heat pump

1. Adsorptierotor.
2. Pre-cooling before pre-drying.
3. Heating for regeneration air.
4. Cooling of regeneration air.
5. Heating of process air.
6. Warm water for drying seeds.
7. External condenser.
8. Status of the WAgratech dehumidifier.

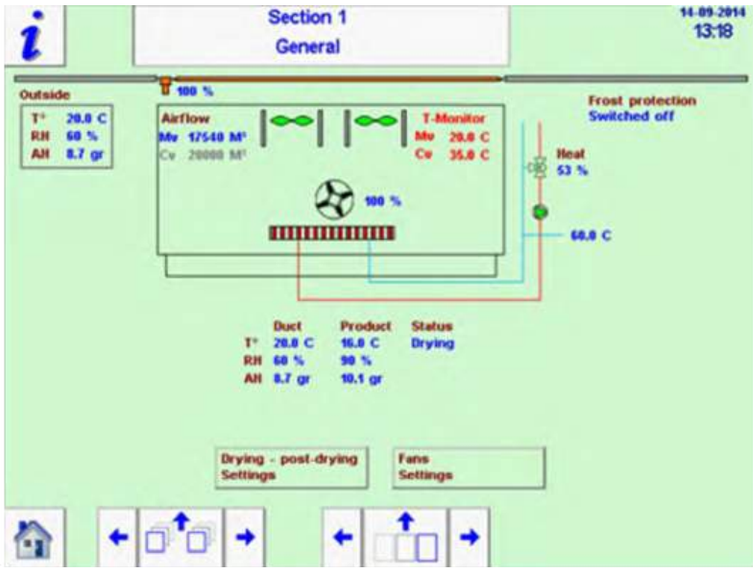


AUTOMATIC CONTROL OF DRYING

WITH OUR ADVANCED ABC SOFTWARE



Selecting a section on the main page opens the operating interface with measured values, device status and settings such as percentage control and color indicators. One touch on an area opens the settings page for quick adjustments. The visual and informative design of all ABC software makes configuration easy and user-friendly.



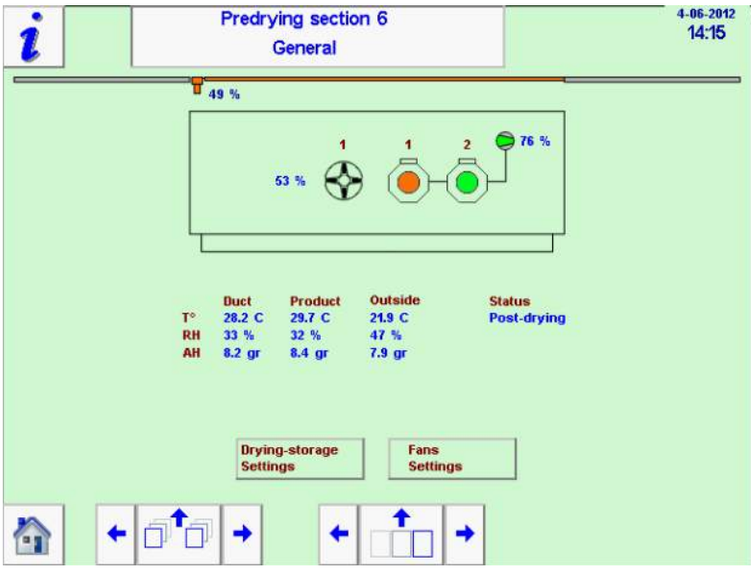
User-friendly, easy and automatic control of the drying installation with the ABC Processor from Agratechniek.

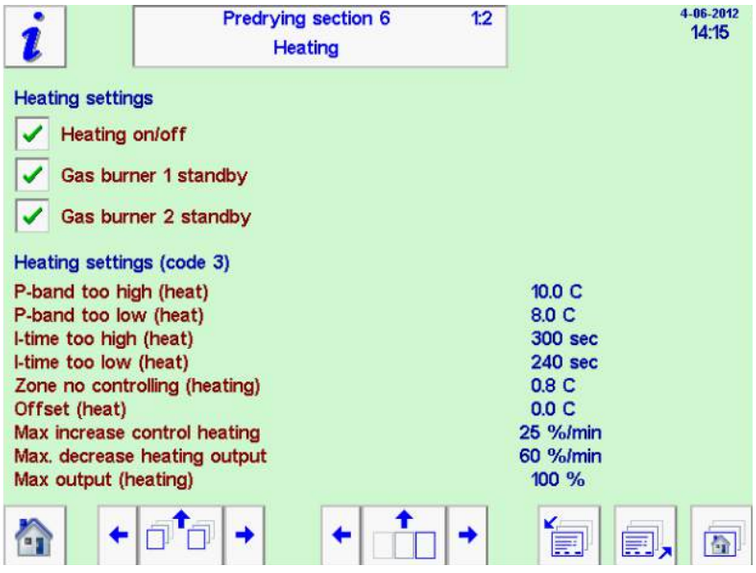
AUTOMATIC CONTROL OF DRYING

WITH OUR ADVANCED ABC SOFTWARE

In current hop drying kilns it is common to see modular gas burners as a heating source. These are usually directly fired propane gas burners.

- **Minimum capacity of gas burners: 35-40%, may lead to shutdown at low heating demand or air volume.**
- **Agratechnie solution: Two burners per drying section (e.g. 40 kW and 60 kW).**
- **System operation:**
  - Start with the smallest burner at 14 kW.
  - Second burner switches on at 100% capacity of the first.
- **Advantage: Range of 14-100 kW, instead of 35-100%.**
- **Automatic control: ABC processor adjusts based on heat demand.**



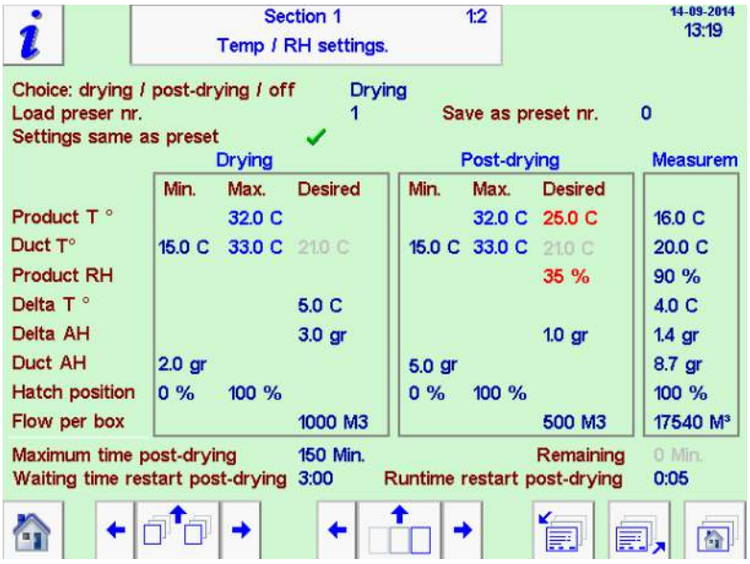


- **Gas burner activation: Possibility to use one or both burners.**
- **Temperature control of gas burners: Less precise than a central water heating system.**
- **Compensation via ABC scheme:**
  - Additional settings for maximum temperature stability.
  - Fast and controlled increase to the desired temperature level.
- **Advantages:**
  - Minimizes overshoot at startup.
  - Ensures fast and stable temperature control.

- **Handy feature:**
Save and reuse 33 preset drying configurations.

- **Ease of use:**
Easy recall of stored programs.

- **Application:**
Available in all ABC programs for controlling various drying installations.



Smarter drying with ABC software – optimal control, more efficient energy use, perfect results.

ABSOLUTE HUMIDITY

THE BASIS OF OUR DRYING TECHNIQUES

This table shows the Absolute (actual) moisture content/humidity (AH) in the air, related to the different temperatures (T°) and relative humidity (RH) of the air. AH is shown in grams per kg of air (approx. 1.1-1.2 m³). At the top (horizontally) you can see the different RH values and in the left and right columns (vertically) you can see the temperature.
Moisture stays in the air because water molecules can move. They can move thanks to the energy in the air. Warm air has more energy and can therefore hold more moisture than cold air. When the air is saturated with moisture (maximum AH), we say that we have 100% humidity.
A lower AH is reported in relation to the maximum moisture content; so 40% RH means that the air consists of 40% moisture in relation to the maximum moisture content at that temperature. Also, air with 30% RH at 20°C is much drier than air with 30% RH at 30°C (from 4.4 to 8.15 gr/kg air). Relative humidity (RH) therefore gives no information about the actual moisture content if the temperature is not stated!

ABSOLUTE MOISTURE CONTENT OF AIR (g moisture / kg air)															% Relative humidity (RH)						
T° C/F	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100	T° C/F
2/35.6	0,22	0,44	0,65	0,87	1,09	1,31	1,53	1,74	1,96	2,18	2,40	2,62	2,83	3,05	3,27	3,49	3,71	3,92	4,14	4,36	2/35.6
3/37.4	0,23	0,47	0,70	0,94	1,17	1,40	1,64	1,87	2,11	2,34	2,57	2,81	3,04	3,28	3,51	3,74	3,98	4,21	4,45	4,68	3/37.4
4/39.2	0,25	0,50	0,75	1,01	1,26	1,51	1,76	2,01	2,26	2,52	2,77	3,02	3,27	3,52	3,77	4,02	4,28	4,53	4,78	5,03	4/39.2
5/41.0	0,27	0,54	0,81	1,08	1,35	1,62	1,89	2,16	2,43	2,70	2,97	3,24	3,51	3,78	4,05	4,32	4,59	4,86	5,13	5,40	5/41.0
6/42.8	0,29	0,58	0,87	1,16	1,45	1,74	2,03	2,32	2,61	2,90	3,18	3,47	3,76	4,05	4,34	4,63	4,92	5,21	5,50	5,79	6/42.8
7/44.6	0,31	0,62	0,93	1,24	1,55	1,86	2,17	2,48	2,79	3,11	3,42	3,73	4,04	4,35	4,66	4,97	5,28	5,59	5,90	6,21	7/44.6
8/46.4	0,33	0,67	1,00	1,33	1,66	2,00	2,33	2,66	2,99	3,33	3,66	3,99	4,32	4,66	4,99	5,32	5,65	5,99	6,32	6,65	8/46.4
9/48.2	0,36	0,71	1,07	1,42	1,78	2,14	2,49	2,85	3,20	3,56	3,92	4,27	4,63	4,98	5,34	5,70	6,05	6,41	6,76	7,12	9/48.2
10/50.0	0,38	0,76	1,14	1,52	1,91	2,29	2,67	3,05	3,43	3,81	4,19	4,57	4,95	5,33	5,72	6,10	6,48	6,86	7,24	7,62	10/50.0
11/51.8	0,41	0,82	1,22	1,63	2,04	2,45	2,86	3,26	3,67	4,08	4,49	4,90	5,30	5,71	6,12	6,53	6,94	7,34	7,75	8,16	11/51.8
12/53.6	0,44	0,87	1,31	1,74	2,18	2,62	3,05	3,49	3,92	4,36	4,80	5,23	5,67	6,10	6,54	6,98	7,41	7,85	8,28	8,72	12/53.6
13/55.4	0,47	0,93	1,40	1,86	2,33	2,80	3,26	3,73	4,19	4,66	5,13	5,59	6,06	6,52	6,99	7,46	7,92	8,39	8,85	9,32	13/55.4
14/57.2	0,50	1,00	1,49	1,99	2,49	2,99	3,49	3,98	4,48	4,98	5,48	5,98	6,47	6,97	7,47	7,97	8,47	8,96	9,46	9,96	14/57.2
15/59.0	0,53	1,06	1,60	2,13	2,66	3,19	3,72	4,26	4,79	5,32	5,85	6,38	6,92	7,45	7,98	8,51	9,04	9,58	10,11	10,64	15/59.0
16/60.8	0,57	1,14	1,70	2,27	2,84	3,41	3,98	4,54	5,11	5,68	6,25	6,82	7,38	7,95	8,52	9,09	9,66	10,22	10,79	11,36	16/60.8
17/62.6	0,61	1,21	1,82	2,42	3,03	3,64	4,24	4,85	5,45	6,06	6,67	7,27	7,88	8,48	9,09	9,70	10,30	10,91	11,51	12,12	17/62.6
1864.4	0,65	1,29	1,94	2,58	3,23	3,88	4,52	5,17	5,81	6,46	7,11	7,75	8,40	9,04	9,69	10,34	10,98	11,63	12,27	12,92	1864.4
19/66.2	0,69	1,38	2,07	2,76	3,45	4,13	4,82	5,51	6,20	6,89	7,58	8,27	8,96	9,65	10,34	11,02	11,71	12,40	13,09	13,78	19/66.2
20/68.0	0,73	1,47	2,20	2,94	3,67	4,40	5,14	5,87	6,61	7,34	8,07	8,81	9,54	10,28	11,01	11,74	12,48	13,21	13,95	14,68	20/68.0
21/69.8	0,78	1,56	2,35	3,13	3,91	4,69	5,47	6,26	7,04	7,82	8,60	9,38	10,17	10,95	11,73	12,51	13,29	14,08	14,86	15,64	21/69.8
22/71.6	0,83	1,67	2,50	3,33	4,16	5,00	5,83	6,66	7,49	8,33	9,16	9,99	10,82	11,66	12,49	13,32	14,15	14,99	15,82	16,65	22/71.6
23/73.4	0,89	1,77	2,66	3,55	4,43	5,32	6,21	7,09	7,98	8,87	9,75	10,64	11,52	12,41	13,30	14,18	15,07	15,96	16,84	17,73	23/73.4
24/75.2	0,94	1,89	2,83	3,77	4,72	5,66	6,60	7,54	8,49	9,43	10,37	11,32	12,26	13,20	14,15	15,09	16,03	16,97	17,92	18,86	24/75.2
25/77.0	1,00	2,01	3,01	4,01	5,02	6,02	7,02	8,02	9,03	10,03	11,03	12,04	13,04	14,04	15,05	16,05	17,05	18,05	19,06	20,06	25/77.0
26/78.8	1,07	2,13	3,20	4,27	5,33	6,40	7,47	8,53	9,60	10,67	11,73	12,80	13,86	14,93	16,00	17,06	18,13	19,20	20,26	21,33	26/78.8
27/80.6	1,13	2,27	3,40	4,53	5,67	6,80	7,93	9,07	10,20	11,34	12,47	13,60	14,74	15,87	17,00	18,14	19,27	20,40	21,54	22,67	27/80.6
28/82.4	1,20	2,41	3,61	4,82	6,02	7,23	8,43	9,64	10,84	12,05	13,25	14,45	15,66	16,86	18,07	19,27	20,48	21,68	22,89	24,09	28/82.4
29/84.2	1,28	2,56	3,84	5,12	6,40	7,68	8,96	10,24	11,52	12,80	14,07	15,35	16,63	17,91	19,19	20,47	21,75	23,03	24,31	25,59	29/84.2
30/86.0	1,36	2,72	4,08	5,43	6,79	8,15	9,51	10,87	12,23	13,59	14,94	16,30	17,66	19,02	20,38	21,74	23,09	24,45	25,81	27,17	30/86.0
31/87.8	1,44	2,89	4,33	5,77	7,21	8,66	10,10	11,54	12,98	14,43	15,87	17,31	18,75	20,20	21,64	23,08	24,52	25,97	27,41	28,85	31/87.8
32/89.6	1,53	3,06	4,59	6,12	7,66	9,19	10,72	12,25	13,78	15,31	16,84	18,37	19,90	21,43	22,97	24,50	26,03	27,56	29,09	30,62	32/89.6
33/91.4	1,62	3,25	4,87	6,50	8,12	9,74	11,37	12,99	14,62	16,24	17,86	19,49	21,11	22,74	24,36	25,98	27,61	29,23	30,86	32,48	33/91.4
34/93.2	1,72	3,45	5,17	6,89	8,61	10,34	12,06	13,78	15,50	17,23	18,95	20,67	22,39	24,12	25,84	27,56	29,28	31,01	32,73	34,45	34/93.2
35/95.0	1,83	3,65	5,48	7,31	9,14	10,96	12,79	14,62	16,44	18,27	20,10	21,92	23,75	25,58	27,41	29,23	31,06	32,89	34,71	36,54	35/95.0
36/96.8	1,94	3,87	5,81	7,75	9,68	11,62	13,56	15,49	17,43	19,37	21,30	23,24	25,17	27,11	29,05	30,98	32,92	34,86	36,79	38,73	36/96.8
37/98.6	2,05	4,11	6,16	8,21	10,27	12,32	14,37	16,42	18,48	20,53	22,58	24,64	26,69	28,74	30,80	32,85	34,90	36,95	39,01	41,06	37/98.6
38/100.4	2,18	4,35	6,53	8,70	10,88	13,05	15,23	17,40	19,58	21,76	23,93	26,11	28,28	30,46	32,63	34,81	36,98	41,48	41,33	43,51	38/100.4
39/102.2	2,30	4,61	6,91	9,22	11,52	13,83	16,13	18,44	20,74	23,05	25,35	27,65	29,96	32,26	34,57	36,87	39,18	41,48	43,79	46,09	39/102.2
40/104.0	2,42	4,84	7,27	9,69	12,11	14,53	16,95	19,38	21,80	24,22	26,64	29,06	31,49	33,91	36,33	38,75	41,17	43,60	47,02	48,44	40/104.0

HOPS-DRYING.COM
DRYING & STORAGE SOLUTIONS

We hope this brochure gives you a good idea of our new hop drying installation. By understanding the specifics of your business operations, we can tailor our solutions to your exact needs.

We would be happy to contact you to discuss how our drying technology can enhance your hop growing facility.

A potential visit will allow us to explore any specific challenges you are experiencing and how our systems can be adapted or optimized to effectively address them.

Please do not hesitate to contact us if you have any questions or would like to arrange a visit. We look forward to hearing from you!