

incomac.com



DRYING SYSTEMS
SINCE 1975

WELCOME TO INCOMAC

We've been producing drying systems for the last 40 years, aiming at maximum efficiency and reduced energy consumption.

In the industrial heart of the north east of Italy, we combine manual skills with the benefits of electronics on a daily basis, guaranteeing our customers long-lasting, high-performance systems that can be customised depending on their individual needs.



HISTORY

Incomac Srl was established in 1975. The company is internationally recognised as being a leading manufacturer of wood drying systems.

Thanks to our highly qualified and specialised team, we are able to offer our customers highly efficient and top quality products.



We use the most advanced technology to cut and shape the metal, combining this with avant-garde electronics to produce models that allow our customers to control the drying process in detail, thereby improving energy efficiency.

All products are designed and developed to perfectly adapt to each customer's specific requirements and to the most varied weather and environmental conditions.

We have supplied over ten thousand systems to 90 different countries, supporting our customers throughout every phase, from their initial request right through to the installation of the equipment to dry, vaporise and heat-treat wood.

We have always paid a great deal of attention to our after sales service, always ensuring that our customers get maximum efficiency.

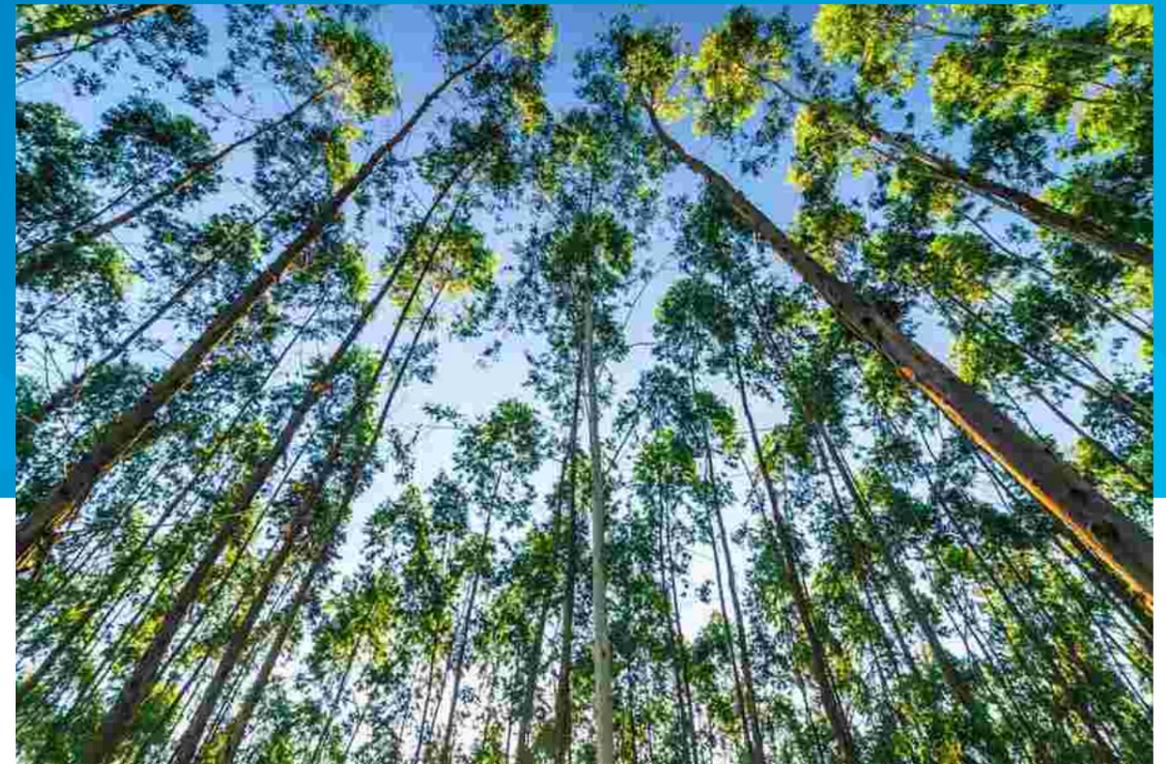
Our vision

In order to maintain solid performance, experience and skills must keep in step with technology. We believe in future developments, making structural changes to our processes and designs and investing in research and development in order to offer the best to our customers.

Our mission

We listen to our customers' needs and create functional, high quality, efficient and technologically advanced equipment to dry, vaporise and heat-treat wood, all 'Made in Italy' certified.

VALUES



WE RESPECT THE ENVIRONMENT, AIMING FOR EFFICIENCY

Our awareness of the environment goes into every system we produce. We design models ensuring maximum efficiency with minimal energy consumption.



WE SUPPORT OUR CUSTOMERS EVERY STEP OF THE WAY

We listen to our customers and support them every step of the project, from their initial request right through to installing the equipment, representing a reliable partner that pays attention to their needs.



WE INVEST IN TRAINING OUR STAFF

Our staff reflect the excellence of our company, which has been developing the skills of its team since 1975, preparing them to interact with customers in both Italy and abroad, in a continuously developing market context.

TEAM

The Incomac family is made up of a highly trained and qualified team who interact and discuss with customers across the world on a daily basis.

Our technicians are specialised both in the field of air conditioning and heat treatment, enabling them to resolve any problems that may arise during the drying process in a professional way.

Our sales department is always on hand to help customers, creating trust-based relationships that become consolidated over time. Sales of our products are supported by commercial agents and specialised dealers in the industry, both in Italy and abroad.

Our workshop is a laboratory in which craftsmanship and electronics come together to create long-lasting and highly technological systems. Each piece of equipment is made in full compliance with safety regulations.



Automation



Safety



Precision



**SYSTEMS
INSTALLED IN
95 COUNTRIES**



**INCOMAC
SPEAKS
5 LANGUAGES**



**OVER
10.000 SYSTEMS
INSTALLED**

CONSTRUCTION TECHNOLOGY

SUPPORT STRUCTURE

The support structure for the dryer is made from extruded Al-Mg-Si alloy profiles, belonging to category **6005** under standard no. **UNI 9006/1**, physical state: T6, ultimate tensile strength: 280 mega-Pascal. All parts of the machine - reticular trusses, support columns, crosspieces and braces - are fixed to each other using stainless steel fastening bolts (AISI 304 A2 STAINLESS STEEL).



SUBCEILING

The subceiling, made from **corrugated alloy sheet (EN AW 3105)**, with a **physical state of H18**, is installed inside the cell between the wood and the roof. It channels the flow of air from the ventilators, guaranteeing an even distribution of air between the loads. It comes with a hatch, providing easy access to the motors.



HEATING

Various heating systems are available: bimetallic heat exchangers that use hot water or superheated water or steam or heating oil; gas burners with direct heat exchange ("hot air vein"), with fuel burners with indirect heat exchange (heat exchanger); heat pump (condensation system); pure ventilation (viscous dissipation system).



INSULATION

Insulation of the equipment is guaranteed through panels made from mineral wool or polyurethane foam. Both panels are made using a **"sandwich"** system with an internal/external **corrugated sheet** made from embossed natural aluminium. **The panels are modular with a tongue-and-groove joint system** and guarantee a high level of thermal and acoustic insulation.



SPRAYING

The cold water or steam spraying system is provided complete with solenoid valve and removable filter to allow for cleaning. The spray nozzles are made from brass and reinforced plastic and are attached to a stainless steel tube. Spraying guarantees the right hygrometric balance inside the cell and the level of pressure required for the water or steam supply is 3 bar.



VENTILATION

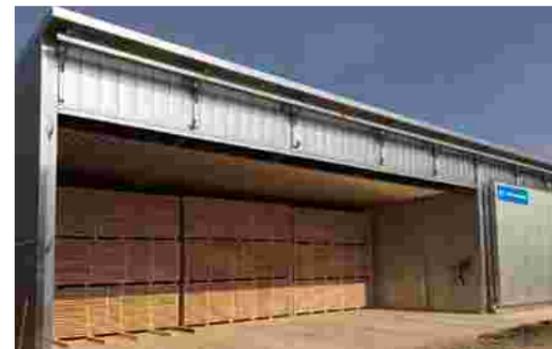
The ventilators provided are **axial reversible**, with **symmetrical, aluminium**, airfoil blades to guarantee equal performance in the two rotation directions. The motors are hermetically sealed and are built in accordance with the latest IE2 standards, **with category F or category H tropicalised insulation**, and IP55-grade protection to work in high temperatures and high levels of humidity. For equipment with an internal temperature of over 90°C, we provide motors equipped with an external greasing system.



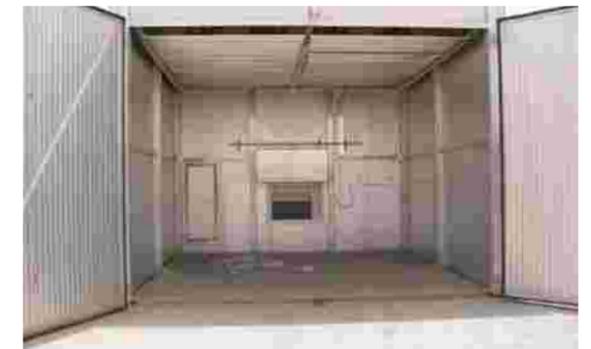
PRODUCTS

Our drying systems are suitable to treat any type of wood. The models we offer differ depending on the feeding system and all are designed and implemented by our team in order to fulfil the requirements of our customers, both in Italy and throughout the world.

All products are available in various sizes, **with front loading and tunnel loading options**. They also all come in a **PAL version**, specifically for drying and treating pallets.



ICD
Chambers with a thermal fluid supply



MAC
Condensation chambers with heat pump



TAG
Chambers with a methane gas, LPG or diesel supply



IDV
Chambers with viscous dissipation



VAP
Steaming chambers



PAL
Chambers for drying and heat-treating pallets

ICD



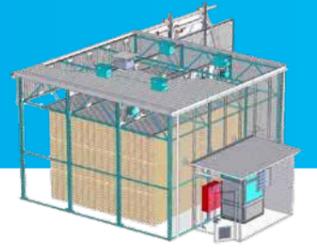
THERMAL FLUID SUPPLY

The ICD dryer is powered by a thermal fluid: hot water, superheated water, heating oil or steam. Heating is provided thanks to heat exchangers with bimetallic, finned tubes, with dampers ensuring air exchange.

This model is recommended for customers with a central heating plant available. With a few technical adjustments, these driers can also work at high temperatures (up to 110°C).



MAC



CONDENSATION WITH HEAT PUMP

The Mac model is a condensation system with a heat pump, allowing the machine's refrigeration system to be exploited to the full. The heat pump allows for a significant energy saving: with electrical heating, 1kW of energy produces 860 Kcal, whereas with 1 kW, the heat pump produces between 2,000 and 4,000 Kcal/h.

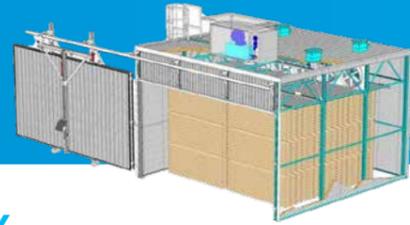
In the MAC model, the potential of the heat pump is exploited to the full: the cold produced is used to condense and expel the humidity that evaporates from the wood. The heat, on the other hand, is used to heat up the wood and accelerate the evaporation of the water contained therein.



Characteristics		Model	Useful width mm	Useful depth mm	Useful height mm	Capacity m ³
01	Heating with heat exchangers	ICD J 10	2000	6300	2700	10
		ICD J 20	3650	6300	2700	20
		ICD 20	4680	3720	3800	20
02	Chambers with suitable thermal and acoustic insulation	ICD 30	5880	4920	3800	30
		ICD 40	6480	5520	3800	40
		ICD 50	6480	6720	3800	50
03	Adjustable ventilation with inverter	ICD 60	8280	7320	3800	60
		ICD 80	8880	8520	3800	80
		ICD 100	10680	8520	3800	100
04	MC sensor with wires or wireless	ICD 120	12480	8520	3800	120
		ICD 150	13080	9720	3800	150

Characteristics		Model	Useful width mm	Useful depth mm	Useful height mm	Capacity m ³
01	Electricity feeding	MAC 6/C	2000	6300	2200	6
		MAC 10/C	2000	6300	2500	10
		MAC 15/C	3500	6300	2700	15
02	Heating with heat pump (compressor)	MAC 25	4680	3720	3800	25
		MAC 35	5880	4920	3800	35
		MAC 50 A	6480	6720	3800	50
03	Use of non-polluting gas	MAC 50 B	7680	5520	3800	50
		MAC 70	8280	7320	3800	70
		MAC 100	10680	8520	3800	100
04	MC sensor with wires or wireless	MAC 140	12480	8520	3800	140
		MAC 200	13080	9720	3800	200

TAG

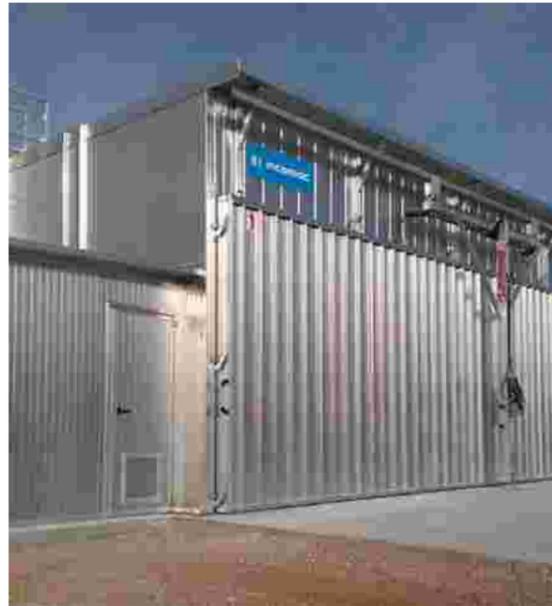


METHANE GAS, LPG OR DIESEL SUPPLY

For equipment with a diesel supply, an external burner burns the fuel in a combustion chamber which is connected via stainless steel tubes that act as heat exchangers.

Thanks to the chamber's unique shape, the heat produced is recovered and flue gases are released at a low temperature.

For equipment with a methane gas or LPG supply, we use air vein burners which take the heat directly to the chamber, without expelling flue gases. This system also allows for energy saving thanks to the modular nature of the power supply.



IDV



VISCOUS DISSIPATION CHAMBER

In the innovative IDV dryer, heat is generated thanks to a "viscous dissipation" process which transforms the speed of the air generated by the ventilators into thermal energy.

Incomac's IDV model allows for a significant reduction of total energy and operating costs per cubic metre.



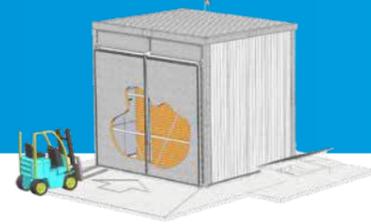
Characteristics

	Model	Useful width mm	Useful depth mm	Useful height mm	Capacity m ³
01 Heating produced by a burner	TAG 30	5880	5520	3800	30
	TAG 50	7680	5520	3800	50
	TAG 80	8880	8520	3800	80
02 Faster increase in chamber temperature	TAG 100	10680	8520	3800	100
03 Easy to maintain					
04 MC sensor with wires or wireless					

Characteristics

	Model	Useful width mm	Useful depth mm	Useful height mm	Capacity m ³
01 Ventilators as a source of heat	IDV 20	4680	3720	3800	20
	IDV 40	6480	5520	3800	40
	IDV 50	7680	5520	3800	50
	IDV 60	8280	7320	3800	60
	IDV 80	10680	7320	3800	100
02 No hydraulic installation					
03 No type of burner					
04 MC sensor with wires or wireless					

VAP

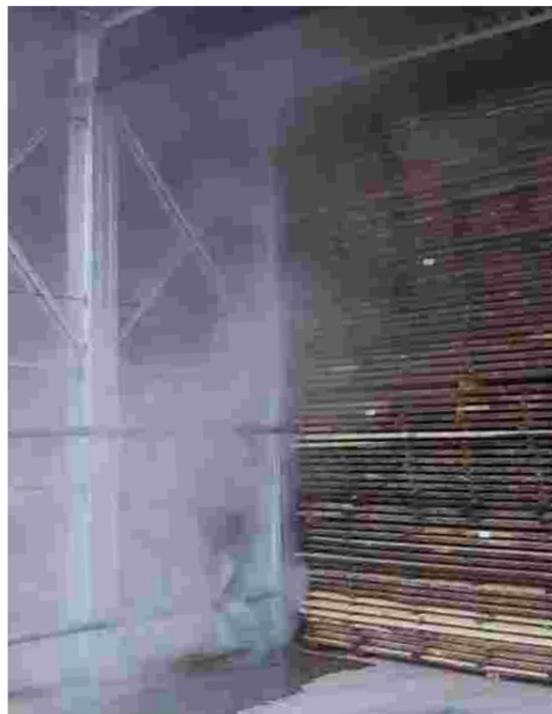


STEAMING CHAMBER

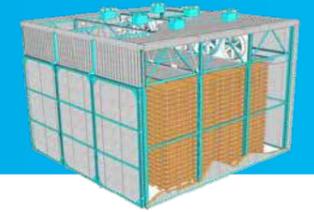
Wood vaporisation facilitates the drying process. It can be applied to all types of wood and, depending on how long the process lasts, it can make the colour more even and give it gradation.

There are two types of VAP system:

- ▶ direct, in which the saturated steam is injected into the cell using a perforated tube;
- ▶ indirect, in which the steam is produced in a tub with coils inside, which superheated water or steam or heating oil run through.



PAL



SPECIAL SYSTEMS FOR DRYING PALLETS

The FAO ISPM 15 regulation states that pallets and packaging must be sterilised. Incomac designs and produces systems for compulsory heat treatment and/or for drying.

These are the same as the drying systems, in all the various versions, but feature electronics and software that allow for heat treatment at 56°C to be launched, certified and recorded.

Characteristics

01

Suitably sized heating system to accelerate treatment times

02

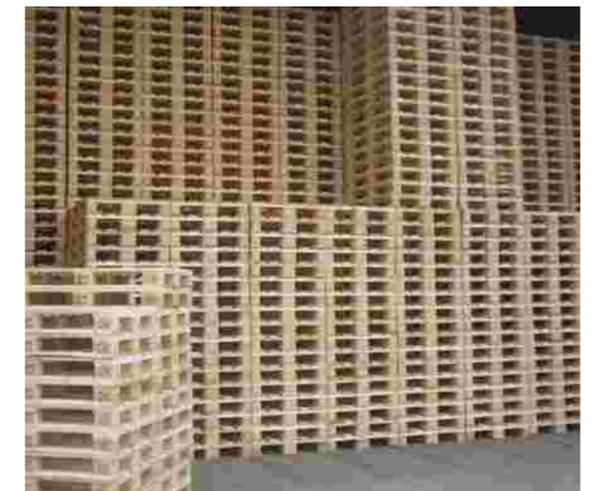
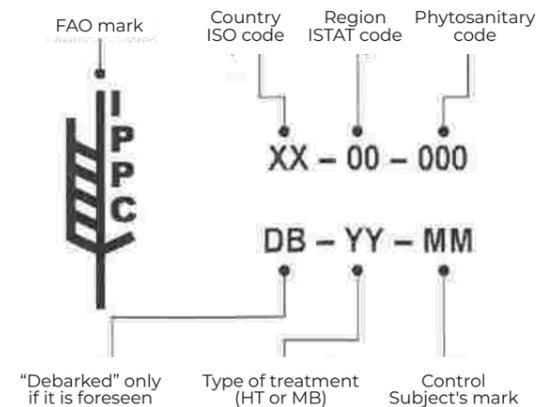
An EPDM rubber deflector between the roof space and the last, upper row of pallets

03

Ventilation that guarantees an even flow of hot air

04

Electronic system that is suitable for certification



Characteristics

- 01 Steam or superheated water supply
- 02 Chamber with a high level of thermal insulation
- 03 Possibility to vaporise from 80°C to 110°C
- 04 Cycle control with two temperature sensors

Model	Useful width mm	Useful depth mm	Useful height mm	Capacity m ³
VAP D-T 10	1500	6500	2500	10
VAP I-T 10	2100	6500	2500	10
VAP D 20	4680	3720	3800	20
VAP I 20	4680	4320	3800	20
VAP D 30	6480	3720	3800	30
VAP I 30	6480	4320	3800	30
VAP D 40	6480	4920	3800	40
VAP I 40	6480	6120	3800	40

CHAMBERS IN BRICKWORK



AN ADDITIONAL EXTRA FOR OUR CUSTOMERS

No matter what the model, customers may ask for their chamber to be built into brickwork. Our technical department shall provide the necessary designs to build the chamber, suitable for internal components and doors to be inserted.

As long as our technical instructions are followed for the construction, the brickwork chamber will perform just as well as a prefabricated chamber.

Characteristics

01

Competitive investment

02

Drying performance equal to prefabricated chamber

03

Fewer transport costs

04

Fewer assembly costs



ACCESSORIES

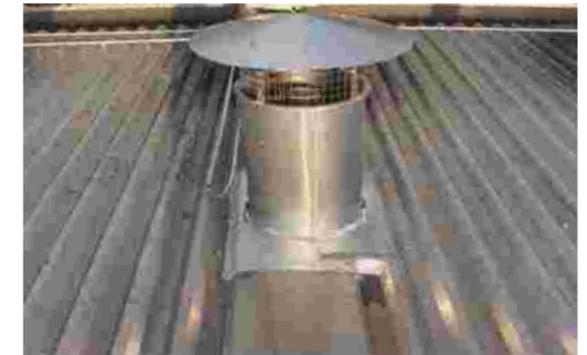
EVERYTHING YOU NEED TO CUSTOMISE A DRYER

In order to satisfy the needs of every customer, our driers can be fitted with a range of accessories, ensuring greater control over energy consumption and increased safety for inspection work and structure accessibility.



HEAT RECOVERY UNITS

These pre-heat cold external air, using the hot air that is released and reducing the loss of thermal energy.



EXTRACTORS

These speed up the drying cycle and keep the wood white.



FREQUENCY INVERTERS

These save on electricity and provide the right amount of ventilation depending on the type of wood.



WALKWAY ON THE ROOF

This allows easy access to the devices on the roof, preventing panels from getting damaged.



ACCESS STEPS TO THE ROOF

These allow for safe access to the roof.



VERTICAL FLAPS AND HORIZONTAL BAFFLES

These allow for optimal air circulation.

AFTER SALES SERVICES

WARRANTY AND SPARE PARTS

As part of our work, we dedicate a lot of attention to our after sales service, ensuring that customers can count on us to maintain their systems and to provide advice on the drying process.

In the first 24 months after installation, we provide any technical assistance necessary and supply spare parts free of charge. At the end of this warranty period, we offer an annual "Fault Diagnostic Service" which guarantees remote assistance 24 hours a day.

Customers can contact us at any time to request spare parts for their systems. In fact, we store the majority of necessary spare parts in our warehouse, even for systems purchased in the 1970s, and most are available within 48 hours.

This service is performed thanks to our SPS program (Spare Parts Soon).

We also offer all customers a regular maintenance service, known as "MPP": Maintenance Periodical Programme, which involves six-monthly or annual visits to check the chamber and its components.



MPP
MAINTENANCE PERIODICAL PROGRAM
Regular maintenance programme



SPS
SPARE PARTS SOON
Spare parts available in 48 hours, worldwide



FDS
FAULT DIAGNOSTIC SERVICE
Remote assistance 24 hours a day

CONTROL SYSTEMS AND SOFTWARE

ELECTRONICS SUPPORTING EFFICIENCY

All Incomac driers are equipped with an electrical panel that allows the operator to control the ventilators, dampers, valves and spraying system, as well as a control system that manages the drying cycle.

The control system allows the operator to automatically or manually control the main functions of the drying process and manage it using a supervision software, allowing them to achieve the desired drying quality. The supervision software allows for one or more chambers to be connected to a PC and to view all the data and graphics relating to the drying cycle.



VAP 18



EASY SUN



EASY EVOLUTION



SOCRATES ADVANCED

CONTROL SYSTEMS

SUPERVISION SOFTWARE

VAP 18

Exclusively controls the chamber temperature and how long the various stages last. It is only used for steaming systems.

EASY SUN

Checks the drying process using the t°, EMC and MC parameters (4 sensors), used in chambers with a small capacity.

EASY EVOLUTION

Checks the drying process using the t°, EMC and MC parameters (from 4 to 32 sensors), can also be used for heat treatment. Wireless sensors available.

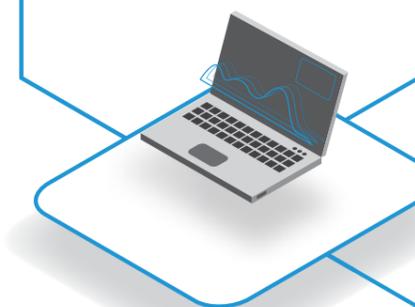
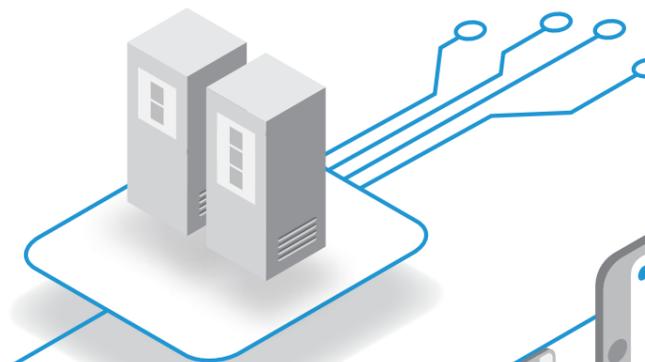
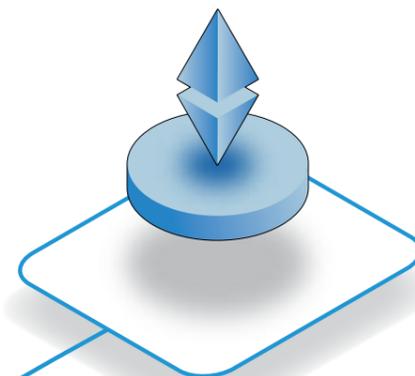
FITOTHERM 56

Used for heat treatment in Italy as it is Fitok-certified. It can also be used for drying.

SOCRATES ADVANCED

checks the drying process using the t°, EMC and MC parameters. There may be 1 to 4 t° and EMC sensors per chamber and there may be anything from 4 to 32 MC sensors per chamber, in both the wire and wireless versions.

500 stored drying programmes, which automatically adapt based on the wood's actual initial conditions.
 Calculation of energy consumption (electricity, thermal, gas, etc.).
 Management of one or more anemometers to measure air speed.
 Possible STOP and GO programming.
 Adjustable hysteresis for all functions.
 Configuration to correct wood humidity.
 Visualisation of the temperature in °C or °F and of humidity in EMC or RH.



CLIENTS





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