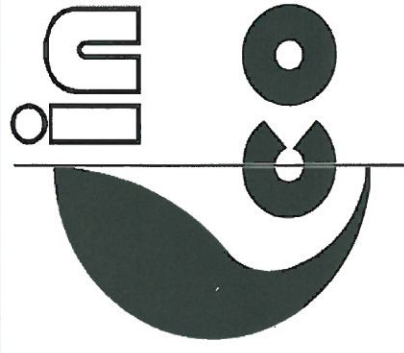
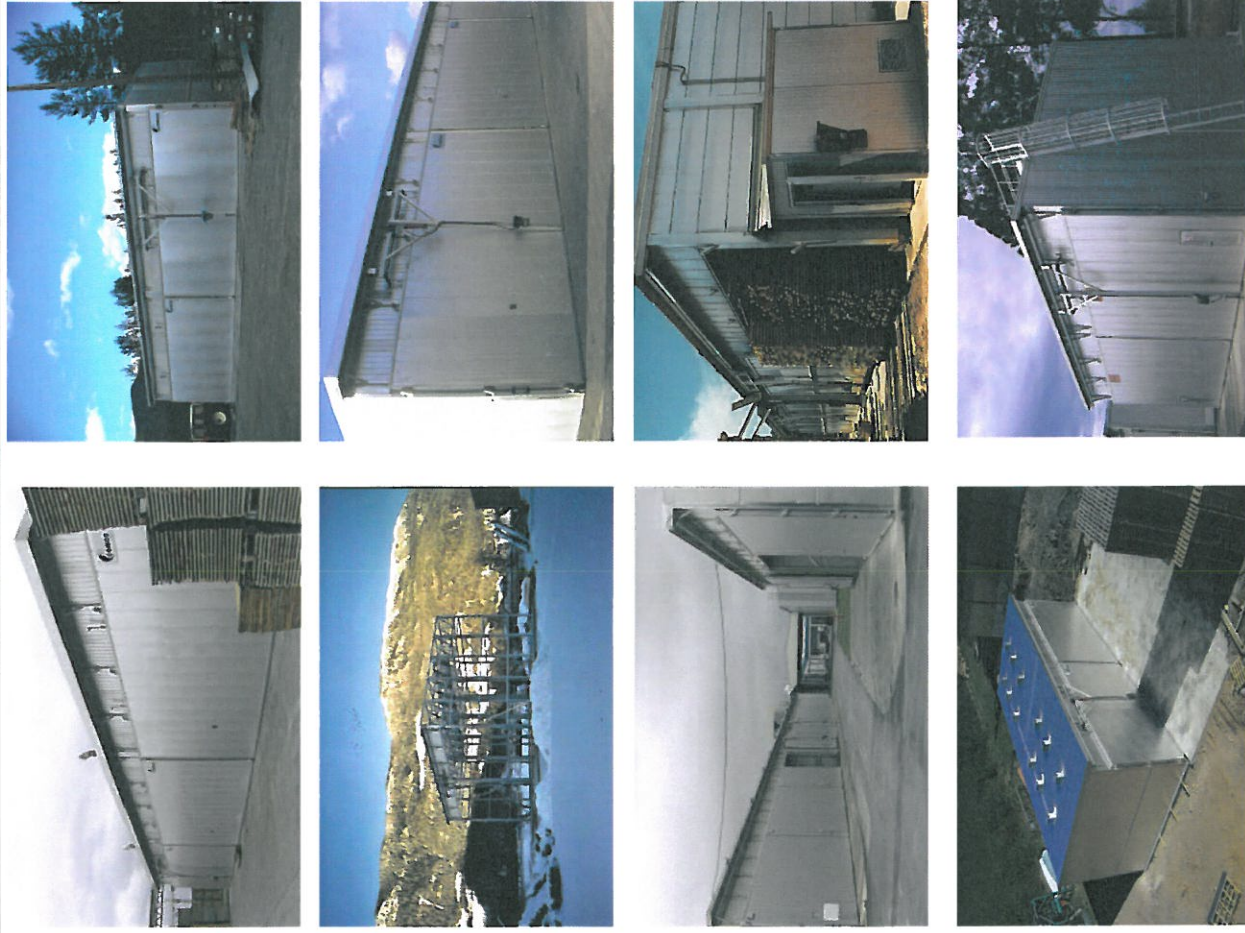
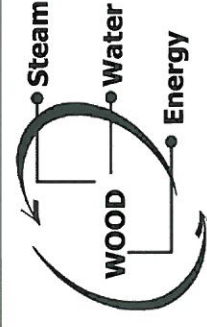
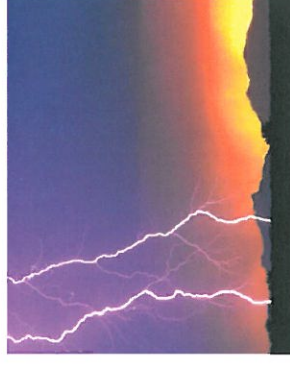
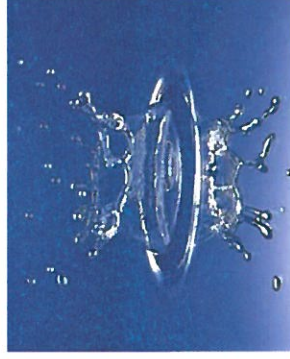


WORLDWIDE INCOMAC INSTALLATIONS



SINCE 1975

Wood drying systems



welcome to incomac



THE COMPANY AND THE PERSON

Since 1975 Incomac **started its activity** in one of the most important industrial area of Italy **the North-East**. These years have been of continuous technological progress and Incomac has taken benefits of each innovation, with its technical staff, specialist in the air conditioning and expert in the hygrothermic treatment of wood. Thanks to technological progresses, the first manually controlled drying kilns are today totally computerized.

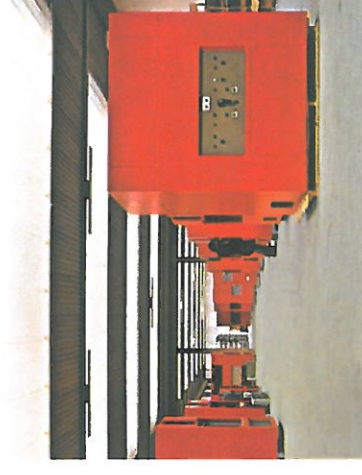
Over 8.000 kilns installed in more than 50 countries are the best evidence of the trust that the wood industry has in Incomac. Incomac machines built in 1976 are still in operation, thanks to their reliability, to the availability of spare parts and to the prompt after sales service.

COMPANY HISTORY

Founded in 1975, Incomac is recognized world wide for their experience and innovation in wood technology. Incomac developed a drying system by De-humidification which began the modernization of wood drying.

Improvements of the boiler's technology led to production of the conventional kilns used today.

Incomac has also developed new technological advances in steaming chambers, direct heating kilns utilizing gas or gas oil, and recently the thermal treatment kilns for pallets and wood packing.



1975: First seat



1996: New seat



Entrance

the products



Mod. Junior
Small capacity kilns: 3÷10 m³



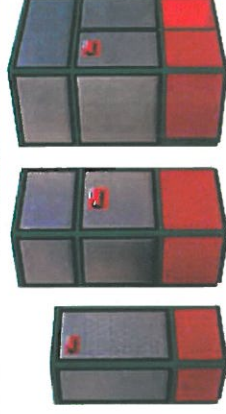
Mod. ICD
Medium to large capacity kilns front forklift loading: 20÷200 m³



Mod. TAG
Kilns using direct heating with gas or gas oil: 30÷100 m³



Mod. ICD/HT
Large capacity technically advanced high temperature kilns



Mod. MAC
Drying kilns by condensation- small, medium and large capacity: 3÷160 m³



Mod. ICD/T
Tunnels with trolley loading



Mod. VAP
Steaming kilns with direct/indirect system: 3÷50 m³



Mod. HT/RL
Advanced high technology kilns for special use and research

service

MANUFACTURING HIGH QUALITY DRYING KILNS NEEDS ABILITY. KEEPING THEM IN OPERATION FOR MANY YEARS NEEDS EXPERIENCED TECHNICIANS AND UNPARALLELED CUSTOMER SERVICE

Incomac's technical staff, of great experience, is composed by:
Engineers and designers
Knowledgeable technicians for direct after sale service
Dealer's technicians
Internet and phone modem teleassistance is also available



Engineers office



After sale service office



Welding robot



Assembling

the power and the energy

FRAME STRUCTURE

The frame structure is self-supporting with modular extruded profiles in aluminum alloy 6005. Easy to install and disassemble



HEATING

Heating for convection with a system of bimetallic finned pipes in copper/aluminum or aluminum/stainless steel. Thermal fluid:

- hot water
- overheated water
- steam
- diathermic oil



WALLS AND ROOF INSULATION

Pre-fabricated aluminum panels with insulation available in:

- spun glass fiber
- rock wool fiber
- polyurethane



HUMIDIFICATION

Proper humidification is key to insure a correct drying process and for retaining hygroscopic equilibrium. Cold water, hot water or steam can be used



SUB-CEILING

Between the roof and the sub-ceiling is a plenum that insures constant and homogeneous pressure among the stacks of wood



VENTILATION

Helicoidal and reversible fans with tropicalized motors are installed in the plenum



intelligence

Development of surveying and drying cycle control systems



1975
Manual
control



1980
Semi-automatic
control



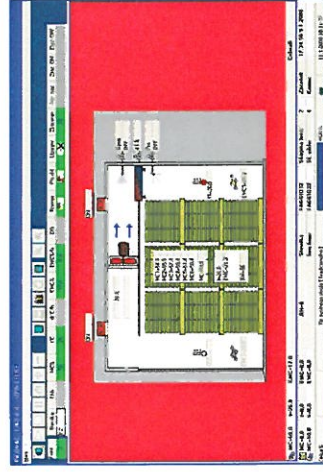
1985
Automatic
control



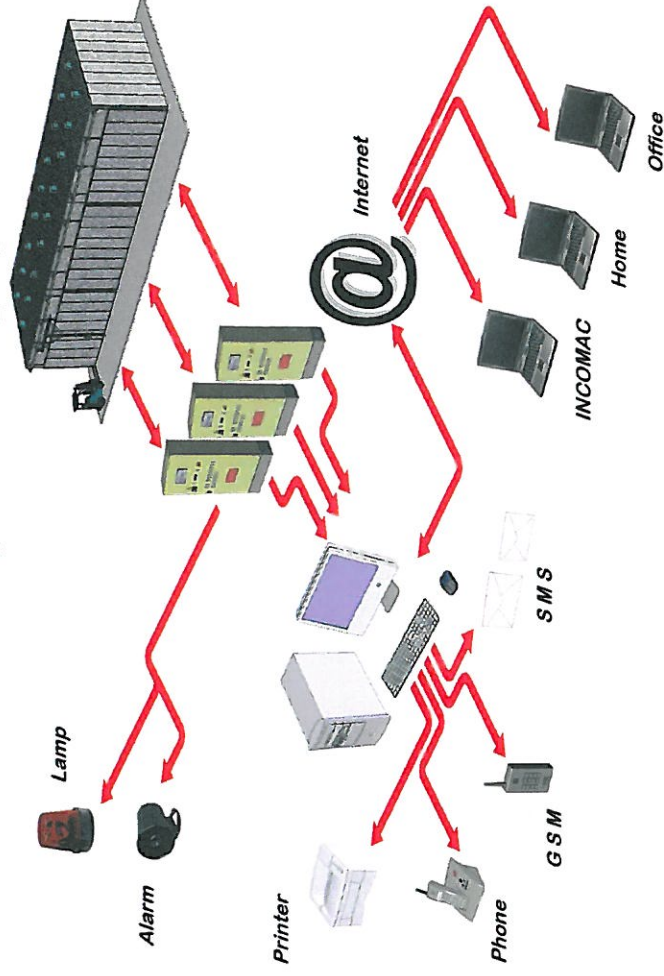
1988
First computerized
system

INTELLIGENT TECHNOLOGY Programming systems of new generation.

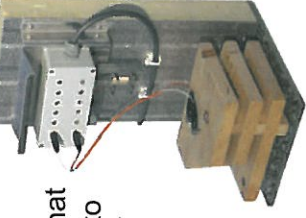
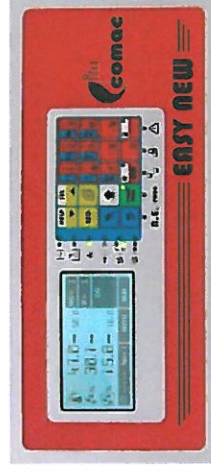
Socrates Evolution Computerized System



Sophisticated and customer
friendly software

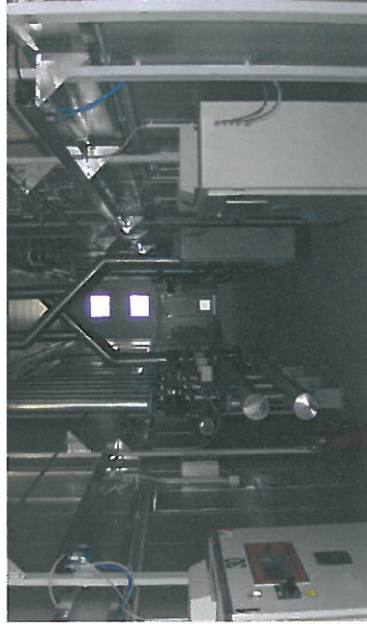


Multiprocessor Easy New



A new and easy
automatic device that
can be connected to
a remote computer
with our Easy Link
software

conventional drying kilns

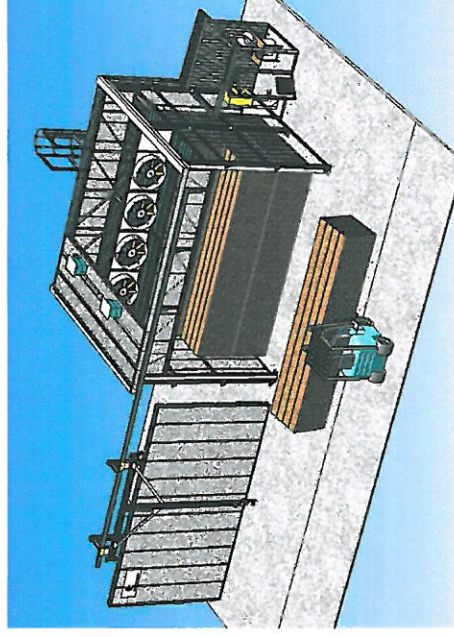


Our conventional drying system uses hot water, overheated water, steam or diathermic oil as a heating source. The drying principle is based on the air exchange of the wet air expelled from the kiln with the contemporaneous intake of fresh air from the outside.

Main components:

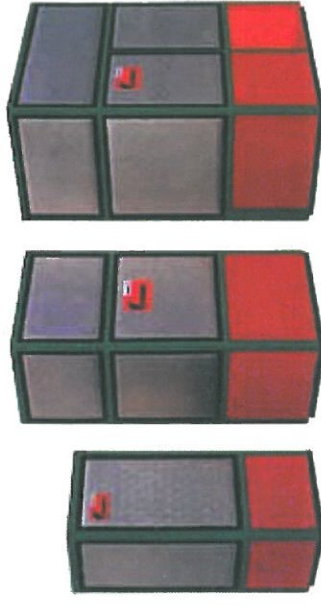
- Heating device
- Humidification device
- Circulation and air changing device
- Cycle controlling and programming device

ICD Line

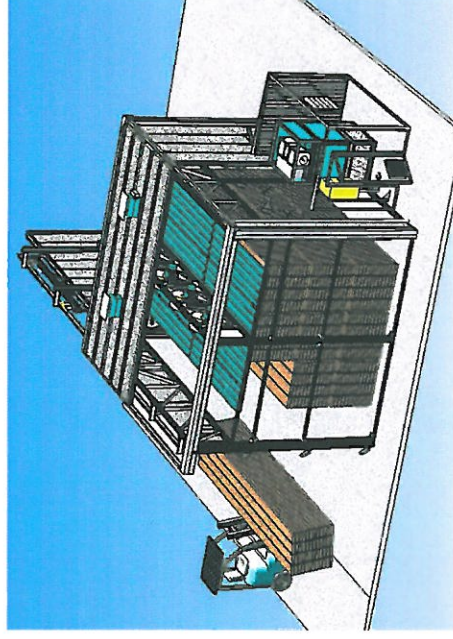


Standard Models	Useful inside sizes width x depth x height m
ICD 20	4,68 x 3,72 x 3,80
ICD 30	5,88 x 4,92 x 3,80
ICD 40	7,08 x 5,52 x 3,80
ICD 50/A	7,08 x 6,72 x 3,80
ICD 50/B	7,68 x 5,52 x 3,80
ICD 60	8,28 x 7,32 x 3,80
ICD 80	8,88 x 8,52 x 3,80
ICD 100	10,68 x 8,52 x 3,80
ICD 120	12,48 x 8,52 x 3,80
ICD 150	13,08 x 9,72 x 3,80

condensation drying kilns



MAC Line



Electricity is required to operate as heating source in our system with no additional heating source needed. The high efficiency heat pump system ensures low energy consumption.

Drying process:

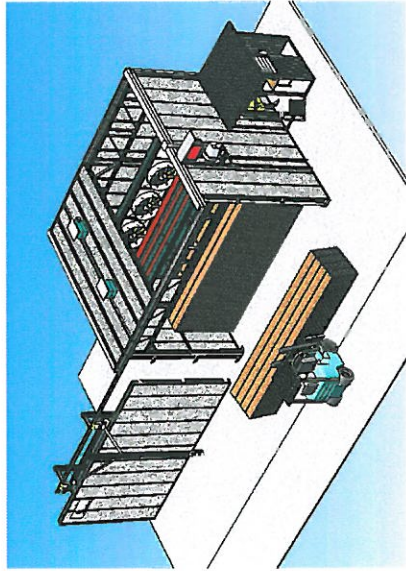
- reversible ventilation
- heat pump heating
- cooling and condensation phases
- recovery of latent heat produced by condensation

Standard Models	Drying capacity m ³
MAC 6	3 ÷ 6
MAC 10	8 ÷ 10
MAC 15	12 ÷ 15
MAC 25	20 ÷ 25
MAC 35	30 ÷ 35
MAC 50	50 ÷ 55
MAC 70	65 ÷ 70
MAC 100	90 ÷ 100
MAC 140	120 ÷ 130
MAC 200	150 ÷ 160

direct heating drying kilns

TAG Line

The direct heating drying kiln system uses gas or gas oil as a heating source. The drying principle is based on the air exchange (as per conventional system). A heat exchanger, is connected to a burner and provides the heat. The flame and combustion smoke serve to warm a coil that in turn warms the air flowing continuously inside the kiln. The heat is recovered and the waste smoke is discharged at a low temperature to the outside. To insure safety there is no direct contact between the combustion system and the drying chamber.



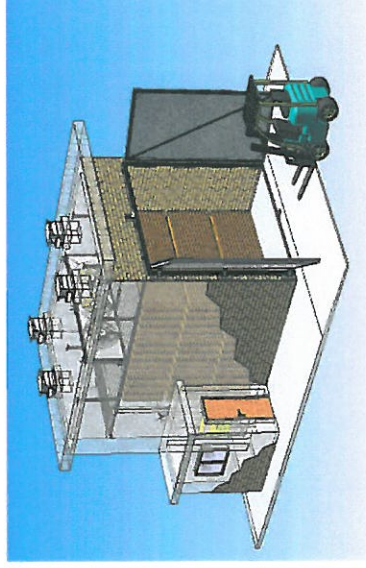
Kiln. The heat is recovered and the waste smoke is discharged at a low temperature to the outside. To insure safety there is no direct contact between the combustion system and the drying chamber.



Kiln with gas burner



Heat exchanger



Incomac can supply the needed components (in relation to your available energy source) to your existing masonry chamber:

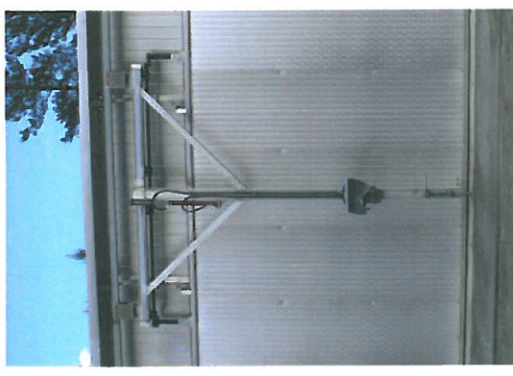
- heat pump or heat exchangers
- fans
- dampers
- valves
- sub-ceiling
- main doors
- inspection doors
- electronic devices



Heat exchangers



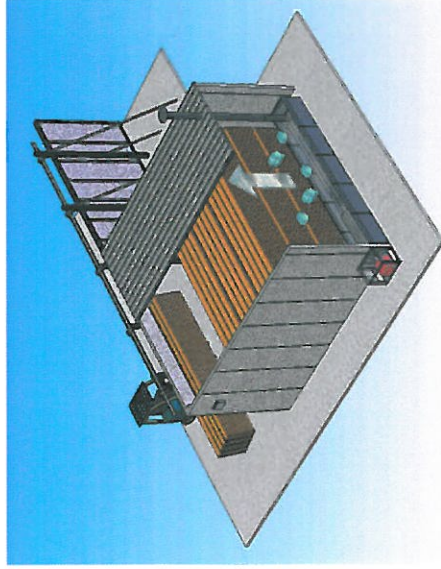
Fans supporting beam



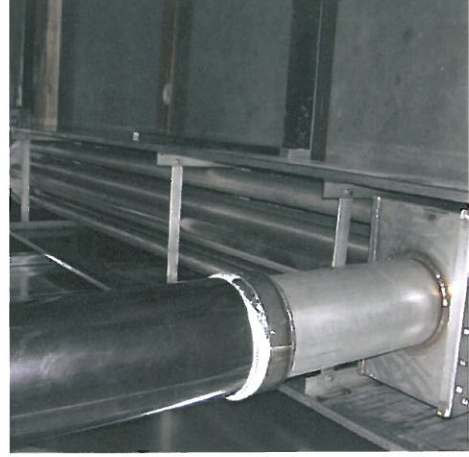
Hydraulic trolley

steaming

VAP Line

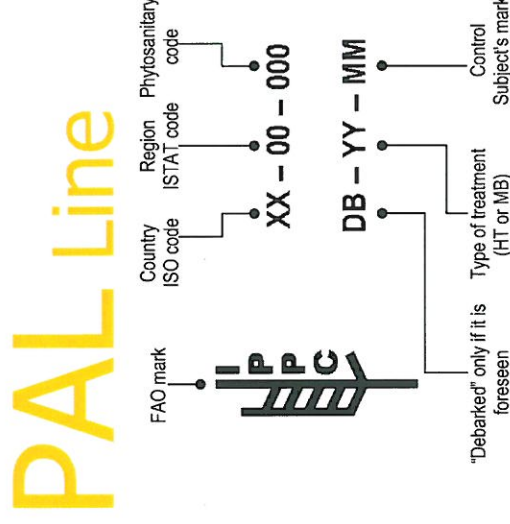


Certain types of wood, such as beech, benefit from steaming process. Steaming results are in brighter and more uniform color to the treated wood. The steaming process consist of treating wet wood planks with water steam at a temperature of 90 to 100 degrees Celsius. The steaming process can be **direct** with the introduction of steam inside the kiln or **indirect** through a heat exchanger located inside a steam bath.



thermal treatment of pallets & wooden packing

The Food and Agriculture Organization of the United Nations (FAO) has issued the ISPM-15 rule (International Standards for Phytosanitary Measures). The ISPM-15 rule establishes the **phytosanitary treatment** for all wooden packing, the aim being to disinfect the wood from a group of **insects** that can readily spread through the wooden packing. The rule states that the wood be heated to a core temperature of 56 degrees Celsius for 30 min.



“ready to go” drying kilns with heat generator

accessories

Incomac can produce special drying kilns complete with hot water production line fed with wood waste, gas or gas oil.

