



The EQUATAIR heat recovery unit for open fireplaces



An open fire fireplace has *generally* **a very low efficiency:**

- only 10 to 15% of the energy consumed is returned in the form of heat in the room, the rest goes out through the chimney ... *to warm bird nests !*

Already in the last century, static recuperators (i.e. without fans) fitted chimneys:

- *a double wall, or hollow tubes, placed at the bottom of the chimney heated the air which came out through two vents, on each side of the chimney.*
- *These equipments had to be installed at the time of construction of the chimney.*

The rising cost of energy encouraged manufacturers to imagine more efficient systems, and this is how the AMPHORA company created EQUATAIRS in 1981, whose manufacturing had been transferred to China at the turn of this century.

When CONFORT DOMO France purchased the former AMPHORA company, the owner decided in 2016 to have this **heat recovery system 100% manufactured and assembled in France, in the Ardennes.**



EQUATAIR Classic (réf CD 0130)

General concept

A hollow heating manifold, made of GL 250 cast iron, is placed in the hearth of the fireplace, the hottest place in the chimney; a fan sucks in air and sends it into a flexible metal duct, then into the heating body where it heats up, to gently diffuse it into the room.

The efficiency of this product - up to 7 kW/h of caloric power - comes from the fact that the air circulates in a 1.70 meter cast iron manifold (coil), at the hottest point of the chimney (750 to 850 °C) and that it is ventilated into the room when it reaches its maximum temperature.

- Approximately 20 minutes after lighting the fire, you get a temperature of 200°C at the outlet of the cast iron manifold, and you can exceed 300°C after an hour of burning.
- The heating volume is 180 to 230 m³.
- Blown through a single mouth, the air goes horizontally towards the bottom of the room to be heated, then mixes little by little with the air in the room, **allowing air circulation from bottom to top**. This air soft draught is not felt by the user.

In addition, **hot air does not burn** because it is dry air: if you bring your hand close to the fireplace, you will feel approximately the **same effect as hot air coming out a hair dryer**.

This system is particularly interesting in primary or secondary residences subject to humidity and having a fireplace not equipped with an insert. For a fire of a few hours, the EQUATAIR allows you to get very quickly a pleasant and uniform temperature throughout the room.

Moreover, the EQUATAIR heat recovery system is particularly interesting since there is no need of transformation nor any kind of civil work in or outside of your fireplace.

EQUATAIR unit is immediately operational.

❖ Technical information :

➤ the VENTILATING UNIT :



It is a controlled mechanical ventilation fan which rotates at 1,300 rpm. It is designed to operate 24 hours a day for many years.

This fan, German designed and manufactured in France, was chosen to be efficient and obtain a large volume of warm air : **65 m³/hour actual output at 18°C, therefore much more at 350°C.**

"Centrifugal" type, it delivers significant air pressure which allows the hot air to be ventilated far away into the room.

The EQUATAIR fan consumes only 35 Watts (less than a traditional electric light bulb): it is a **true example of extremely efficient and eco-responsible energy recovery** (35 Watts of consumption to recover up to 7 kW of calories).

➤ *Most users turn off the electric heating in the room when the EQUATAIR is running !*

The fan is placed in a box to obtain a very low sound volume, recently optimized following improvements in the performance of the centrifugal turbine.

The filter, fixed between two grilles, cleans the air and also reduces the noise level. It can be cleaned with a vacuum cleaner and replaced from time to time with a piece of fire-rated extractor hood filter.

The fan can be placed in the room, where it will recycle the ambient air: in this case you can leave the fan running all night and take advantage of all the calories available in the home.

If you place the fan outside, protecting it from bad weather, or in a cellar or crawl space, you will have the advantage of bringing fresh air into the room.

However, the device must then be coupled with a programmable timer to avoid cooling the house when the fire is out...

Dimensions : L 33 x l 28,4 x h 11,5 cm

L : overall length with the "tube" outlet.

Without this outlet, the length is 29 cm

Spare part references:

- The ventilation box without the electrical cable (CD 0100-01).
- The electrical cable (CD 0100-02).

➤ **the FLEXIBLE SHEATH :**



This sheath is made in Italy, due to lack of a supplier in France.

The material used is electro-galvanized steel without joints to be more flexible and covered with high temperature paint to resist fire.

Due to the absence of a joint, it is not perfectly waterproof and the best result is obtained by stretching it as much as possible - without exaggeration - and placing it as straight as possible.

During use of the device, it is cooled by the passage of fresh air.

The sheath can be extended in pieces of 1 m. or 1.25 m. : the male end of one end adapts to the other end fitted with a serflex collar.

NB: beyond 2 sheaths placed end to end, the air losses in line are significant and, beyond 4 meters, the power loss becomes high.

The duct can also be used at the outlet of the device to take the hot air to another room: you must then screw the elbow onto the telescopic extension, then thread the other end of the elbow into the duct on the serflex side (note on the four meters remains valid for the hot air outlet).



- Flexible sheath length 1 meter: CD 0100-04
- Flexible sheath length 1.25 meter: CD 0100-30

➤ **the 90° ELBOW :**



The elbow is painted “cataphoresis” to resist fire. It has an Allen screw to fix it, the fixing remaining simple and almost invisible.

Used either at the entrance to the coil, it allows you to bypass the chimney leg when it is narrow, or to arrive via the ground (cellar, crawl space) with the flexible sheath or rigid tube of 48.3 mm.

Used at the coil outlet (our photo), it directs the hot air at 90°.

Spare part reference:

- Elbow : CD 0100-05

➤ **the HEATING BODY :**



Cast in France using a very specific casting process, the manifold would be **1.70 m long if “unfolded”**.

Made up of a single piece of special heating cast iron, GL 250 cast iron, its dimensions have been chosen to adapt to medium-sized chimneys.

For large fireplaces, it is possible to put 2 coils in the hearth to correspond to the size of the hearth, because the EQUATAIR is reversible: a one-meter log burns over a length of 60 cm, and the heating body is then surrounded by embers.

NB A single larger manifold would have been less efficient, as the sides would have served as a cooler.

The EQUATAIR cast iron manifold must be raised a few centimeters – 2.5 inch - above the ground to be heated:

- **below** by the embers
- **above** by burning wood.

If it is placed in the ashes, the system loses its effectiveness.

Indeed, ashes are an excellent insulator...

❖ To light the fire:

- with the ready-to-use FTB QAÏTO firelighter bags from CONFORT DOMO, the logs are placed on the coil and the FTB firelighter will be placed on the logs or between 2 logs. It's very simple.



- reference for the firelighter in a box of 12 sachets: CD 1000
- with the kindling, you must place it on the coil and put the logs on top.

Then, once the logs are lit, simply maintain a fire with good embers to obtain good hot air production.

We strongly recommend using the LOG PARE Support, the design of which has been designed to optimize the performance of the cast iron coil.

In addition, this LOG GUARD support, as its name suggests, holds the logs on the coil, for optimal safety.

NB: many fires are due to burning or incandescent logs falling out of the fireplace. The customer must be informed of this because it is an important element to take into account when installing the EQUATAIR.

See explanations on the LOG GUARD Support in the last paragraph.

For users using andirons, the system changes the way the fire is made a little: the wood must be split into smaller pieces and fed more often when starting to prevent it from going out. It may therefore be wise not to place it on the andirons but to simply raise it a few centimeters from the ground. This complicates the use of the EQUATAIR.

The heating body is reversible left/right, which allows you to choose the hot air outlet side (or the place of the fan).

LOG GUARD SUPPORT or Kit Deco (CD 0136)



For greater efficiency and better safety, the heating body of the Equatair Classic is placed on the Log Guard Support also called Deco Kit.

Made up of four feet allowing the coil to be placed stably and a cast iron front part to prevent the logs from falling, the Log Guard Support places the heating body at an optimal height to take full advantage of the heat of the fire in upper part (burning logs) and lower part (hot or incandescent embers).

The front part has been designed to allow, thanks to 2 identical openings, to place the coil so that the hot air outlet is to the right or left of the fireplace. The unused opening is aesthetically sealed with a hexagonal cast iron "plug".

This double opening allows the suction fan to be placed on one side or the other of the chimney legs.

The Log Guard Support was designed to also be decorative – hence its usual name "DECO KIT".

But its main function remains security

❖ Heat Recovery Market:

The market for fireplace owners can be divided into two groups:

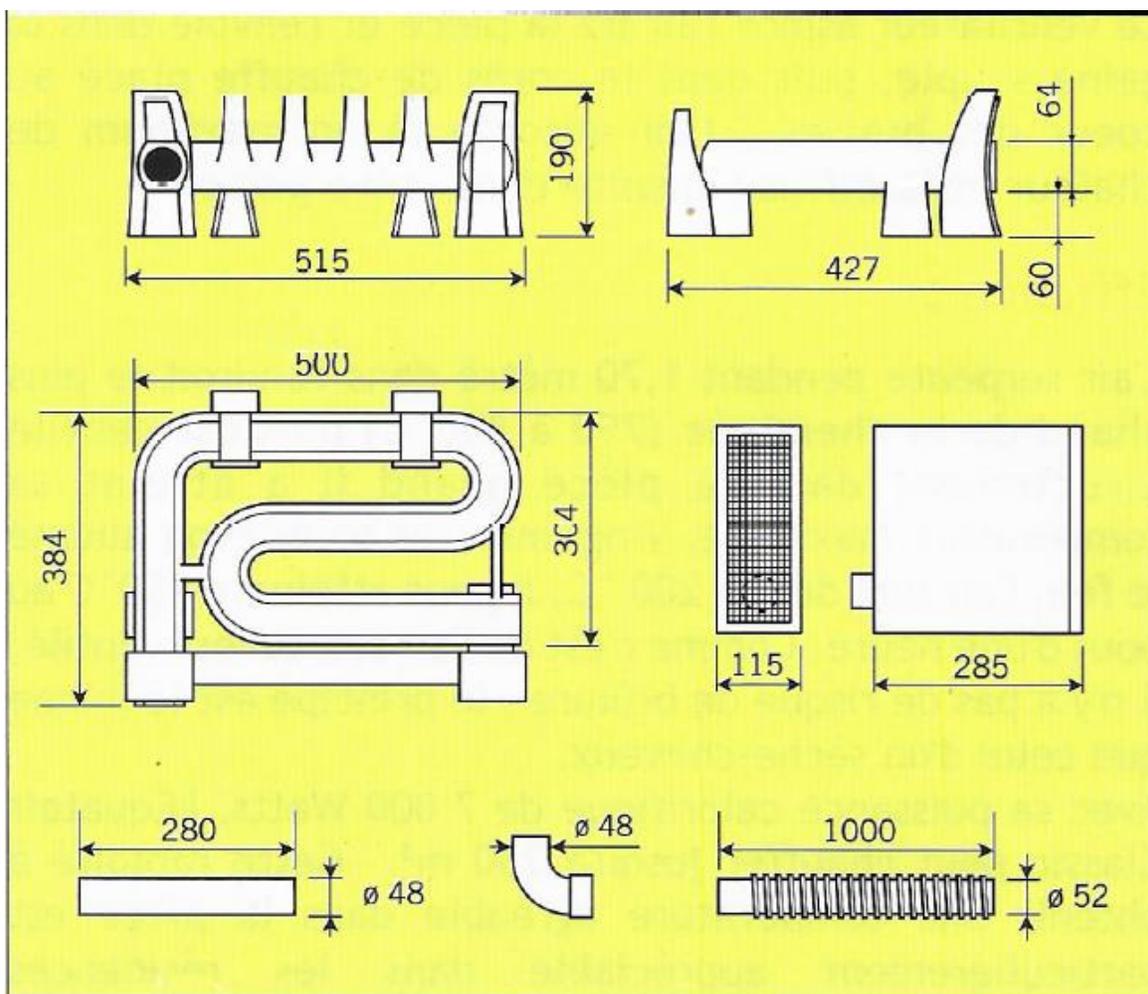
1 - People interested in installing an insert: they are looking for a means of continuous heating, and are reassured by the "safety" aspect of the window.

2 - People for whom seeing fire in an open fireplace is a pleasure and an important element of the living environment: the installation of a closed fireplace does not interest them.

Added to this market are many old fireplaces whose dimensions do not allow the installation of an insert.

For all these users, the **EQUATAIR heat recovery system** represents **THE** solution for recovering the heat released by the fireplace, while maintaining the spectacle of the fire.

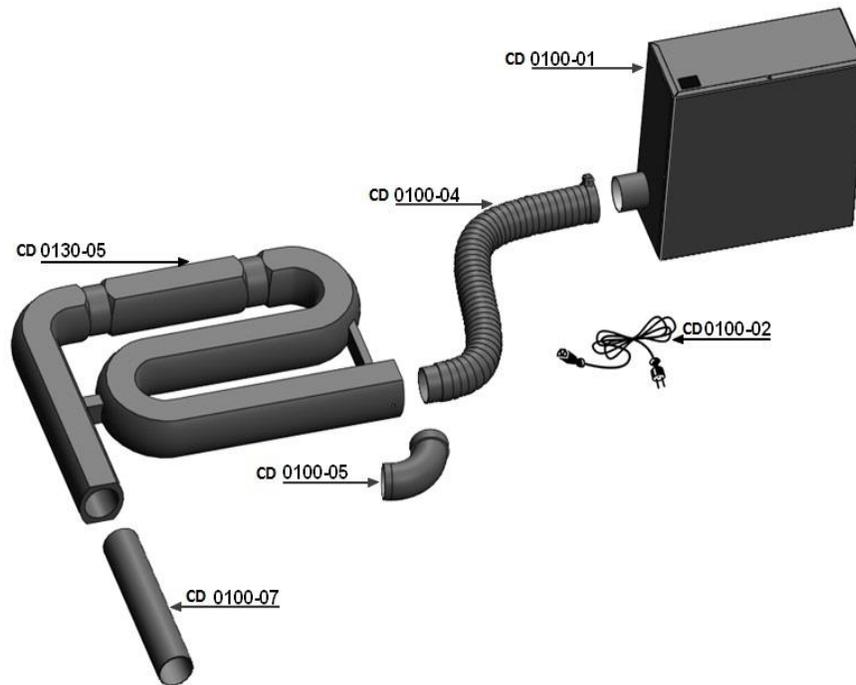




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- The electrical cable: CD 0100-02
- Flexible sheath length 1 meter: CD 0100-04
- Flexible sheath length 1.25 meters: CD 0100-30
- Cataphoresed 90° elbow (High Temperature paint): CD 0100-05
- Fire starters in box of 12 sachets: CD 1000
- Cast iron manifold : CD 0130-05

Split of components : EQUATAIR CD 0130



Split of components for the Log Guard support ou KIT DECO CD 0136

