HI-TECH
COMPONENTS

the world of **heat**

Circond

Stainless Steel
Condensing Heat Exchanger

VALMEX
GROUP
Heat exchangers - Cold Pressing

Circond

Stainless Steel
Condensing Heat Exchanger

The favourite choice for great manufacturers

"Circond" is a single purpose integrated and compact heat exchanger based on a simple stainless steel coil with an oval section.

The heat exchanger is composed by a combustion chamber, condensing area and an insulated metallic disk protected with silicon ceramic fiber which separates the two areas.

- Compact
- Easy interchangeability
- Full range for domestic application
- Best performance and high reliability
- Modular for different output

Patents Pending

VALMEX GROUP

Heat exchangers - Cold Pressing

High efficiency compliant with the ErP regulation…

- ErP Energy labelling
- Erp Ecodesign

…and standard

- Efficiency directive number 92/42/EEG
- Gas fired central heating boilers
- EN 15502-1/ EN 15502-2
- Gases according to EN 437
- SEDBUK criteria
- EN 14471
- REACH regulation
- ROHS directive
- GB 20665
- GB/T 13611
- GB25034 for standard boiler
- CJ/T 395 for condensing boiler

ErP COMPLIANT

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Benefits of a single coil Heat Exchanger

Autocleaning

To avoid dirt and debris accumulation, especially in replacement market. Flow rate is uniformly distributed in a single pipe ensuring a proper heat transfer. Best performance in water pressure drop: biggest cross section in the market!

Minimum number of components

To simplify the production and assembly

High efficiency and robustness

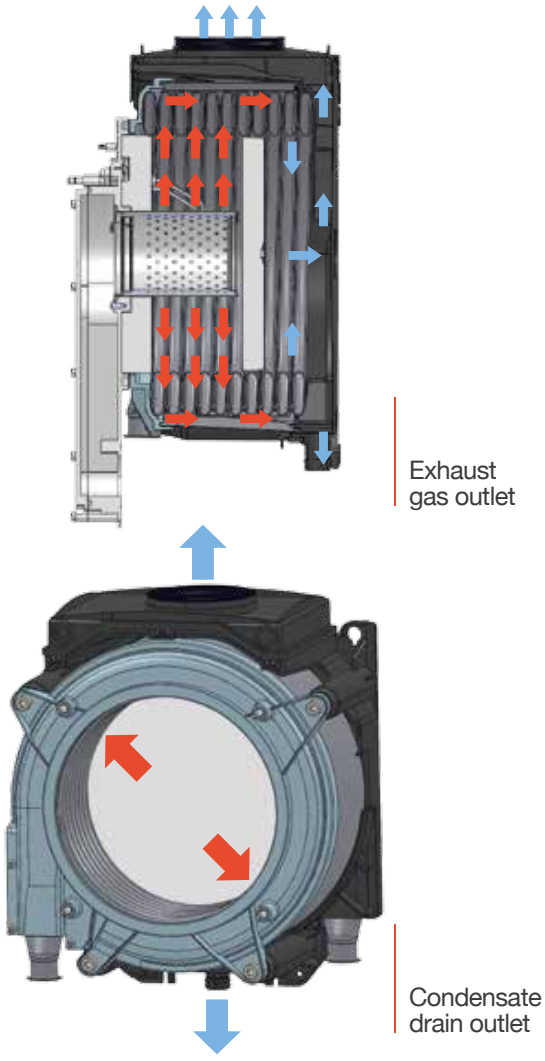
Constant water speed over a long lifecycle

Stainless Steel

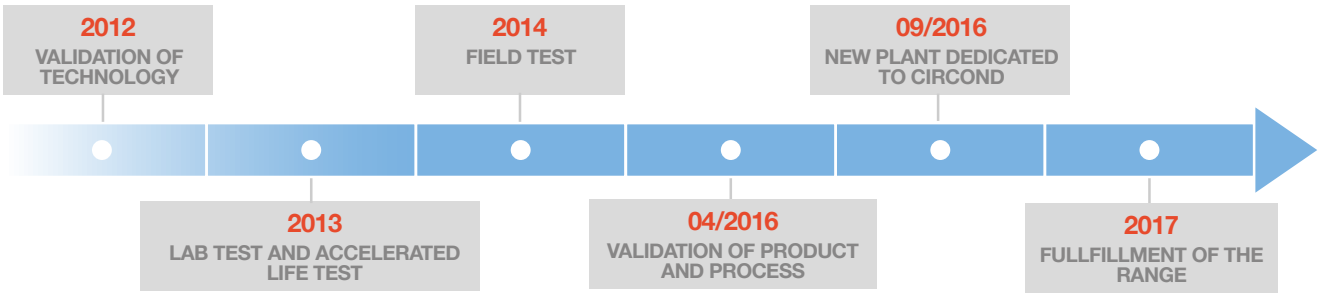
Excellent resistance to corrosion and easily machinable.

Avoiding welding process

Is mandatory for quality and cost



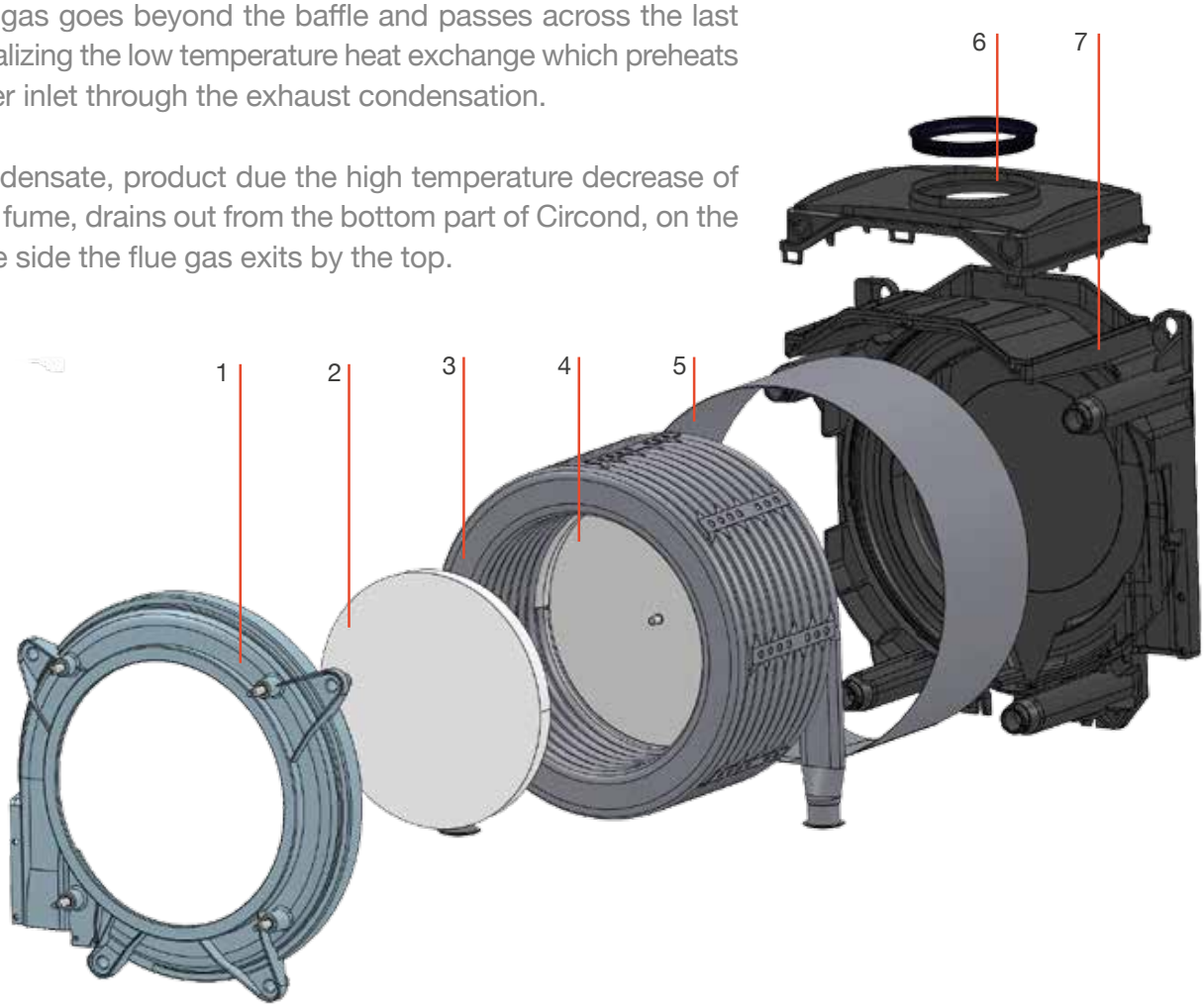
Timing & milestones Circond project



Functional principles

The hot flue gas produced in the combustion chamber crosses the first coils before the metallic disk and goes outside towards the external case realizing the high temperature heat exchange; the flue gas goes beyond the baffle and passes across the last coils, realizing the low temperature heat exchange which preheats the water inlet through the exhaust condensation.

The condensate, product due the high temperature decrease of exhaust fume, drains out from the bottom part of Circond, on the opposite side the flue gas exits by the top.



The metallic disk separates the combustion chamber and the condensing part and the disk position is variable: this distinctive features guarantees an optimized condensing heat exchange for each specific power size.

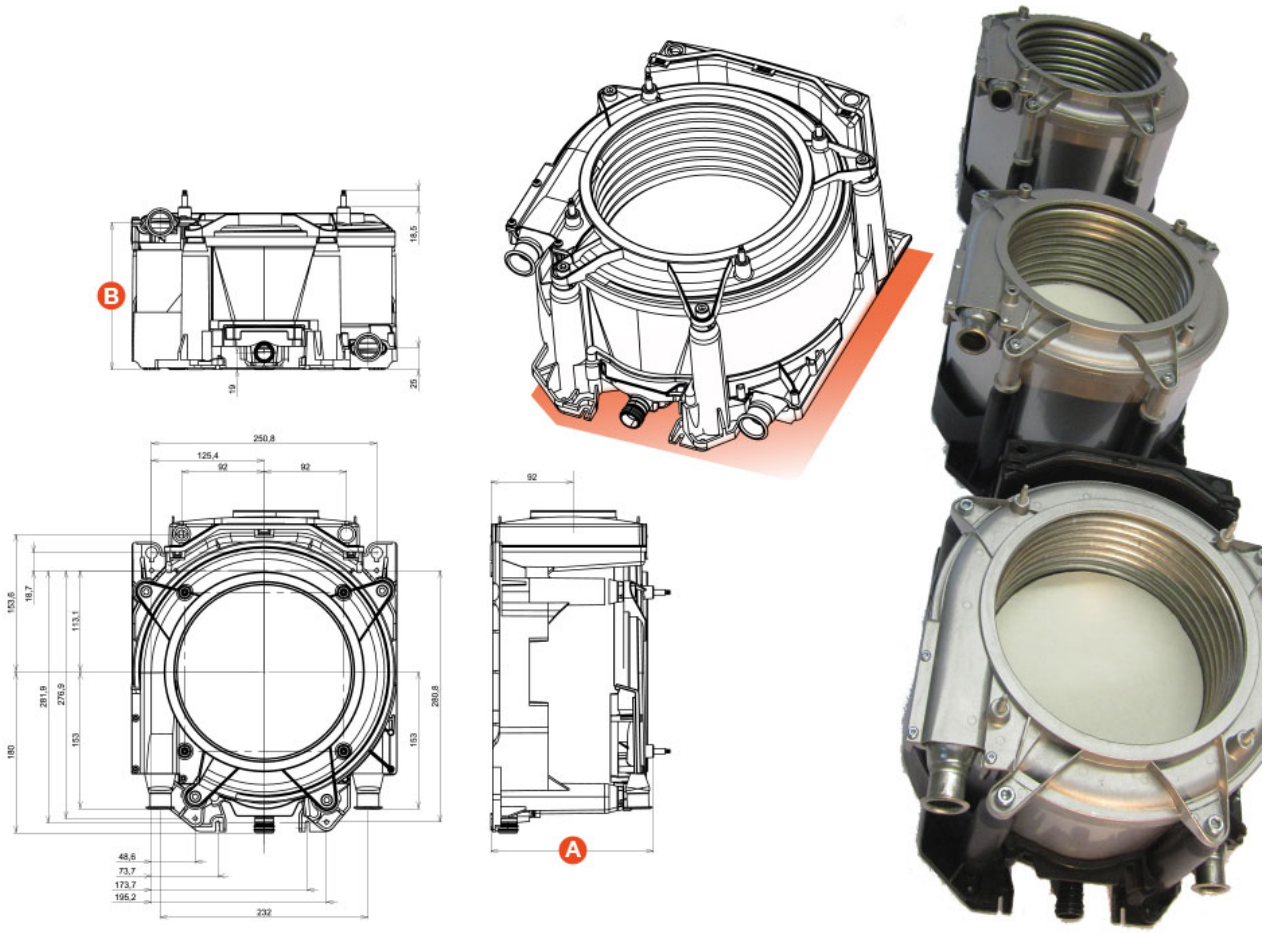
This particular property affect both the fume pressure drops and quantity of produced condensate, consequently the Heat Exchanger efficiency.

Design features

N°	Name
1	Frontal Cover
2	Divider Plate Insulation
3	Coil
4	Divider Plate
5	Coil Casing
6	Casign Top
7	Back Casing

Range of products

The three models differ from each other by the number of the coil windings and consequently the external dimensions. In the figure below with the same diameter the depth (A) and the Heights of water connections interaxes (B) change.

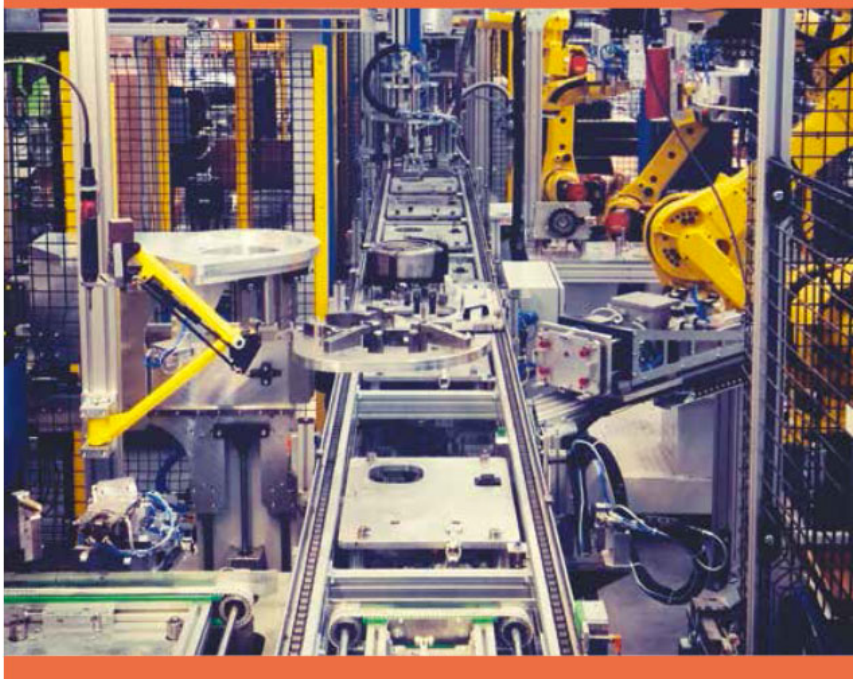


Model Circond	Max power CH	Max power DHW	Depth (A)	Water connections interaxes (B)
24/30	24 kW	30 kW	182 mm	164 mm
28/35	28 kW	35 kW	222 mm	203 mm
33/40	32 kW	40 kW	247 mm	229 mm

Strong reliability: product validation

Circond succeded many different kind of tests and has a robust design concept:

- a CFD analysis
- b Robust design metodology
- c Best Efficiency and Combustion analysis
- d Accelerated Life test with different cycles carried out in several critical conditions
- e Large field test
- f Corrosion analysis



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REG.N. 2227-A
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BS OHSAS 18001/2007