

Technology Offer

Electrothermal boiler with heat pipe for producing domestic hot water and heating

Summary

A Romanian inventor from Transylvania has developed an environmentally-safe electrothermal boiler, which can be used for generating hot water as well as for domestic space heating. The electrothermal boiler generates heat through a heat exchanger based on a central thermal tube, thus advantageously ensuring both low primary energy and high speed thermal transfer. The Romanian inventor is willing to transfer the specific know how to a prospective partner on the basis of a license agreement.

Creation Date	08 February 2016
Last Update	07 March 2016
Expiration Date	07 March 2017
Reference	TORO20160204001

Details

Description

During the last years, an inventor from Romania has focused his activity on developing an environmentally-friendly electrothermal boiler.

The invention refers to an electrothermal boiler with heat pipe designed both for the production of domestic hot water and for heating living spaces. Although the market acknowledges a number of domestic small sized installations (e.g. electric boilers) for generating hot water and space heating, in the case of larger size they prove to be less efficient and involve considerable costs.

The technical problem solved by the invention is that the electrothermal boiler with heat pipe optimizes the heat transfer from the combustion of the water heater installation towards the flow of water via the heat pipe.

The electrothermal boiler with heat pipe consists of a heat exchanger based on a central thermal tube which is rigidly fastened by flanges both to a preheater and an enclosure for the water cycle, the latter linked to the preheater via a connecting pipe. At the bottom of the preheater, an oil immersed electrical resistance is fastened.

Having in view the above mentioned characteristics of the electrothermal boiler with heat pipe, the Romanian inventor is willing to transfer the specific know how to a prospective partner on the basis of a license agreement.

Advantages and Innovations

By applying the heat pipe principles of thermal engineering, the electrothermal boiler offers the following advantages:

- maximum heat transfer ensured;
- 15% lower primary energy required as compared to conventional alternatives;
- environmentally-friendly;

- non-hazardous operation.

Having in view the fact that in classic variants there is only one division plan between the primary energy (fire) and the heating medium, the innovative element of the present electrothermal boiler is the heat exchanger based on a central heat pipe, which optimizes heat transfer from the combustion installation towards the water flow.

Stage of Development

Prototype available for demonstration

IPR Status

Patents granted

Comment Regarding IPR status

Patent granted by the Romanian State Office for Inventions and Trademarks (IP rights on national level - Romania).

Profile Origin

Private (in-house) research

Keywords

Technology

004008	Energy efficiency
04002004	Furnace and boiler technologies
04002006	Heat exchangers
04007005	Heat pipes

Market

06010001	Energy for private/domestic housing
07004008	Other consumer products
07006	Other Consumer Related (not elsewhere classified)

NACE

D.35.3.0	Steam and air conditioning supply
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Network Contact

Issuing Partner

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Open for EOI : Yes

Dissemination

Send to Sector Group

Environment

Client

Type and Size of Organisation Behind the Profile

Inventor

Year Established

0

Already Engaged in Trans-National Cooperation

No.

Languages Spoken

English

Client Country

Romania

Partner Sought

Type and Role of Partner Sought

The partners sought are SMEs active in the field of production and looking for buying license so as to introduce it in the manufacturing process the electrothermal boiler with heat pipe.

Type and Size of Partner Sought

SME 11-50,SME <10,SME 51-250

Type of Partnership Considered

License agreement