(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
15 October 2020 (15.10.2020)

WIPO | PCT

(10) International Publication Number
WO 2020/209819 A4

(51) International Patent Classification:
F24H 1/18 (2006.01)

(21) International Application Number:
PCT/TR2020/050368

(22) International Filing Date:
02 May 2020 (02.05.2020)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
2019/05406 10 April 2019 (10.04.2019) TR

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(81) Designated States *(unless otherwise indicated, for every kind of national protection available)*: AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DJ, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IR, IS, JO, JP, KE, KG, KH, KN, KP, KR, KW, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA, SC, SD, SE, SG, SK, SL, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, WS, ZA, ZM, ZW.

(84) Designated States *(unless otherwise indicated, for every kind of regional protection available)*: ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, ST, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, KM, ML, MR, NE, SN, TD, TG).

Published:
— *with international search report (Art. 21(3))*
— *with amended claims (Art. 19(1))*
— *the filing date of the international application is within two months from the date of expiration of the priority period (Rule 26bis.3)*
— *in black and white; the international application as filed contained color or greyscale and is available for download from PATENTSCOPE*

(54) **Title:** HOT WATER GENERATOR THAT HAS THE CHARACTERISTICS OF NATURAL GAS COMBI-BOILERS AND BOILERS

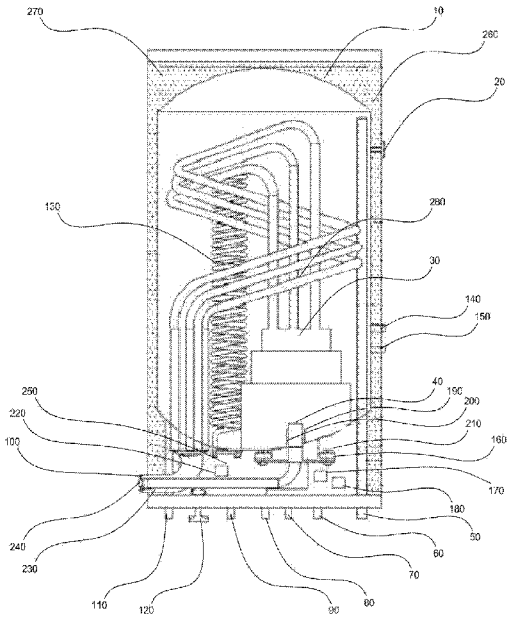


Figure- 1

(57) **Abstract:** The invention relates to a hot water generator that has the characteristics of natural gas combi-boilers and boilers, which is developed for all indoor and outdoor areas, houses, villas, flats, workplaces and living areas, providing hot water use in all quantities and/or ambient heating by condensing and/or non-condensing.

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Date of publication of the amended claims:
28 January 2021 (28.01.2021)

AMENDED CLAIMS
received by the International Bureau on 30 Dec. 2020 (30.12.2020)

1. The invention relates to a hot water generator that has the characteristics of natural gas combi-boilers and boilers, which is developed for all indoor and outdoor areas, houses, villas, flats, workplaces and living areas, providing hot water use in all quantities and/or ambient heating by condensing and/or non-condensing, and is characterised in that; including **at least a tank** (10) which

- **contains a reservoir** that
  - accumulates ready-to-use heat energy in water and **keeps** hot water always available, thus **meets** the ambient heating and/or domestic water simultaneously when the user demands,
  - **enables** the ambient heating water and domestic water to work separately, independently, and simultaneously, thus **can serve** the ambient heating and domestic water supply at the same time,
  - **does not increase** the instant operating power by using the ready hot water in the tank instead of using maximum power while meeting the instantaneous high amount of ambient heating demands and/or hot water needs as in the existing ambient heater combi boilers,
  - saves energy by ensuring stable operation of the product,
- enables the combustion chamber (30), flue exchanger (280) and other combustion equipment to be used in smaller capacities and sizes by means of the maximum operating power is lower than the existing combi boilers that perform the same function,
- **contains the combustion chamber (30), the premix burner (40), the honeycomb heat exchanger (130) and the flue exchanger (280), which are the preparers of the ambient heating and the heat of domestic water to prevent the heat generated by the combustion to be transferred to the external environment by cutting off their relationship with the environment and surrounds them with water**,

- contains an electronic card (250) that eliminates the necessity of using control equipment that requires precision by providing the temperature balance of the requested ambient heating and domestic hot water with the hot water in the tank, eliminates the need to follow the instantaneous water temperature according to instantaneous ambient heating and domestic hot water demands, eliminates the need for modulation equipment and equipment required for premix combustion since it's an ambient heater and/or a domestic water supplier with a reservoir, ensures the communication and coordination of all equipment with each other, controls the combi boiler and/or boiler system in a balanced order and can control the entire system, which meets the same needs with combi-boiler, with less equipment.

2. It is a hot water generator mentioned in claim 1 and is characterized in that including a tank (10) that allows instant supply of ambient heating water and/or domestic heating water and contains **the premix burner** (40), which provides the mixing of gas and air in the previously determined proportions and the electronic card (250) that works in integration with the said **premix burner** (40), pre-air mixer and/or a special flue, fan and gas valve. The said premix burner

- can be satisfied with a certain amount of operating power adjustment, provides a proportional, high efficiency combustion of clean air and flammable gas in the combustion chamber (30), and can work without modulation,
- allows the combustion to mix and burn the air and gas mixture at the ideal rate, as in instantaneous water heaters, with modulations that adjust the desired amount of stage and power level,
- provides combustion by transmitting the flame to the desired direction and thus transmitting its heat directly from the combustion chamber (30) to the flue exchanger (280) towards the lower direction of the flame, which is outside the natural direction of the flame and/or colder.

3. It is a hot water generator mentioned in claim 1 and is characterised in that including **at least one honeycomb exchanger** (130) that heats the water used in the pads and is positioned in the tank (10).

4. It is a hot water generator mentioned in claim 1 and is characterised in that including at least one fan (160) that prepares a mixture of air and gas.

5. It is a hot water generator mentioned in claim 1 and is characterised in that including a premix burner (40), flue exchanger (280) and combustion chamber (30) where proportional and efficient combustion is realised.

6. It is a hot water generator mentioned in claim 1 and is characterised in that including a tank (10) and an electronic card (250) that ensure that the amount of hot water desired by the consumer for ambient heating and domestic water is obtained by stable combustion.

7. The invention relates to a hot water generator that has the characteristics of natural gas combi-boilers and boilers, which is developed for all indoor and outdoor areas, houses, villas, flats, workplaces and living spaces, complies with the energy efficiency requirements in Europe, providing hot water use and/or ambient heating in all quantities and is characterised in that including a **flue system**, which contains the condensate outlet (60) and the gas inlet (80), throws the dirty air out via the dirty air outlet (100), takes the fresh air from the fresh air inlet (240), and at the same time heats clean air and natural gas by transferring heat between dirty air, clean air and natural gas, and increases the efficiency of the system.

8. It is a hot water generator that has the characteristics of natural gas combi-boilers and boilers in accordance with Claim 7 and is characterised in that heating the water by the flue gas, entering to the heat transfer with the cold water entering through the cold water inlet (110), which is located at the bottom of the tank (10).