

Solid fuel boilers with automatic fuel loading EKY/S 17 – 250

pellet

coal

olive pomace

hazelnut shell



TERMODINAMIK®

HVAC SYSTEMS



- Burning variety of fuels without oven change !
- Feeding automatic boiler with woods in manual mode !



Distinctive advantages of solid fuel boilers of TERMODINAMIK

- *Universal oven*
- *Compact design*
- *Automatic control*
- *Advanced fire protection*
- *Easy operational maintenance*
- *Professional service support*

- 20-1162 kW Heating Capacity Range
 - 78-86%* Efficiency Range
- *Depends on heating efficiency of the fuel

TRUST THIS WARMTH



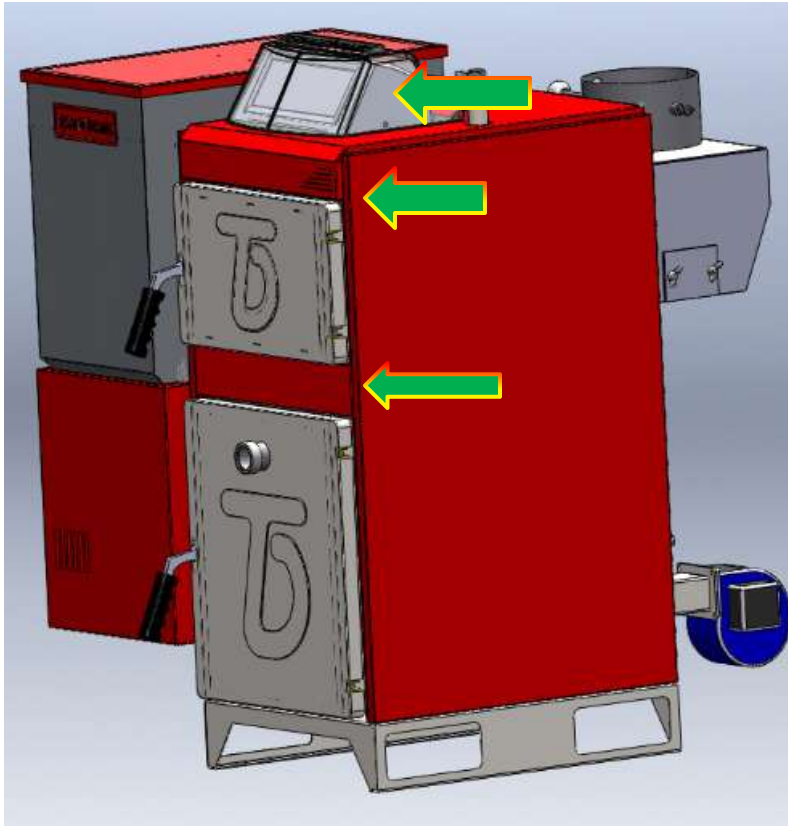
SOLID FUEL BOILERS EKY/S 17-250

INTRODUCTION

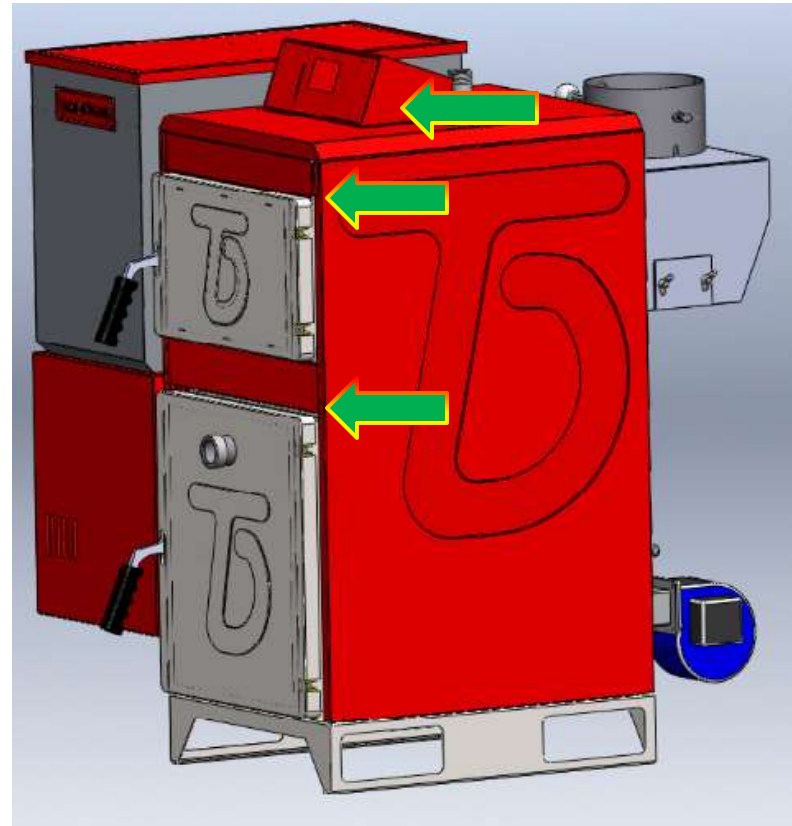
- ✓ **EKY/S 17-250 product family has been engineered for heating of 100 – 2900 m2 residential and industrial areas**
- ✓ **Practically designed solid fuel boilers allow to obtain high efficiency with minimum fuel consumption**
- ✓ **Electronic control panel ensures autonomous operation of the boiler**
- ✓ **Predicted safety system allows to stoke the boiler unattended**
- ✓ **Easy-to-access design makes simple to look after and ensure years of operation**

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NEW APPEARANCE



New Design of 2013

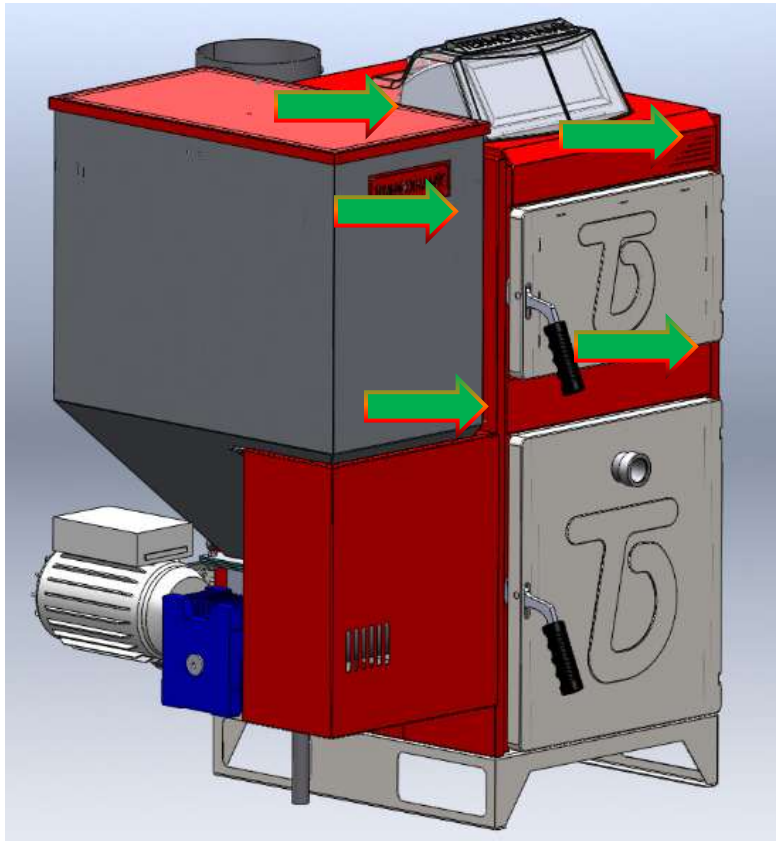


Design before 2013

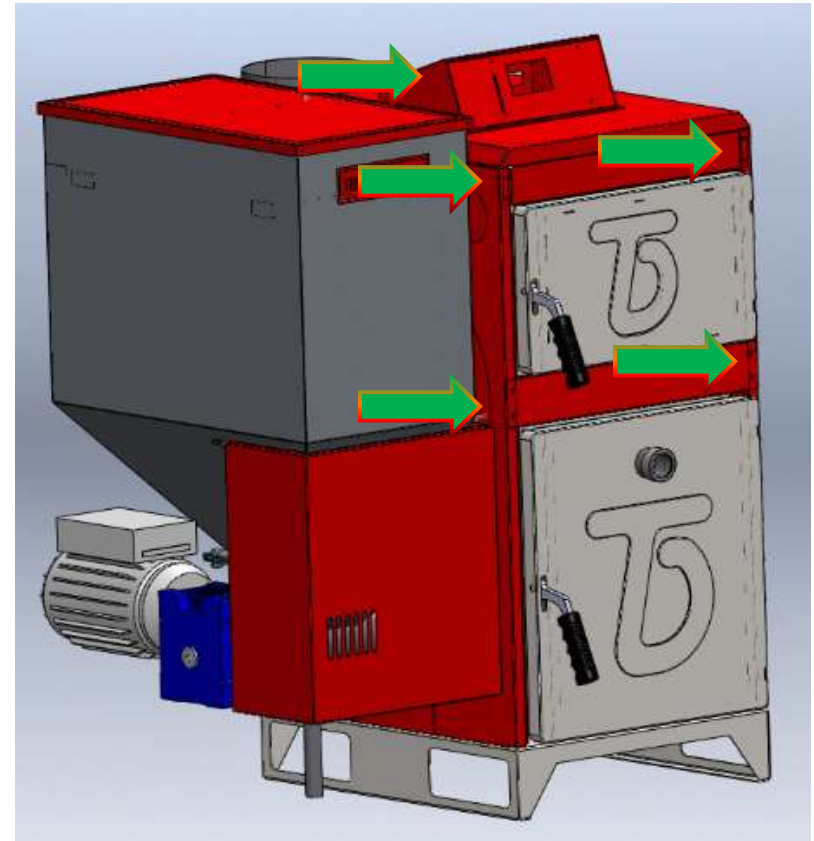
- ✓ New exterior design of boilers provides modern and neat appearance of boilers. Insulation and fasteners have been hidden underneath decorative metal sheets

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New Design of 2013

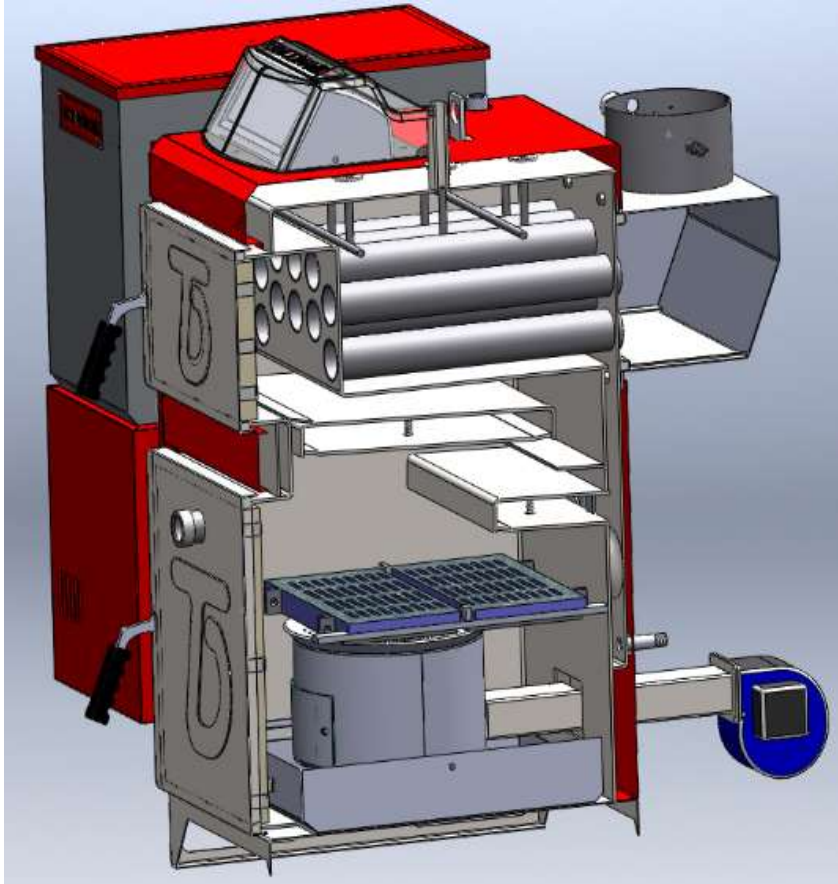


Design before 2013

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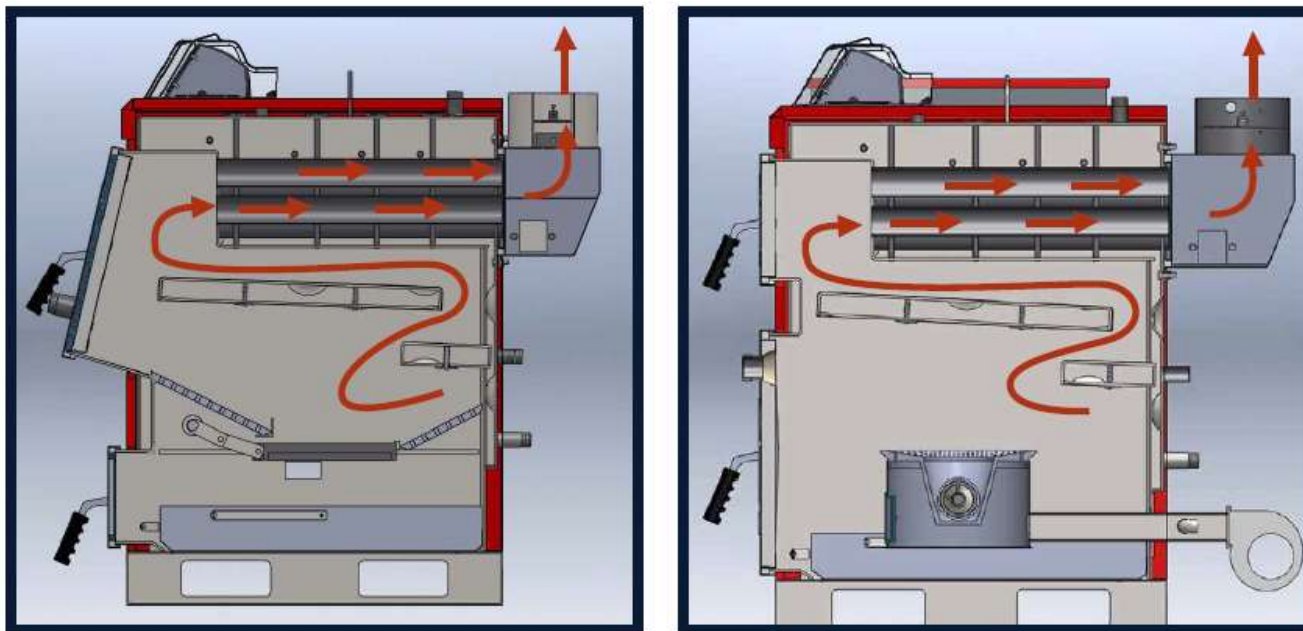
DESIGN FEATURES



- ✓ 4-pass structure increases thermal efficiency and reduces fuel consumption
- ✓ Long life cycle of the boilers has been reached due to thicker materials applied

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4-PASS STRUCTURE



- ✓ Efficiency reaches 83% for coal and 86% for wood pellets;
- ✓ Fuel consumption decreases on 5% for EKY/S 17-60 boilers and 10% for EKY/S 80-250 boilers

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HEAT EXCHANGER

Steel heat exchanger

- ✓ Steel with thickness 5mm for inner surface and 4mm for outer surface respectively has been applied to produce the heat exchangers.

Why is the steel preferred?

- ✓ The higher efficiency of steel boilers (ex. due to technical limits of cast iron boilers);
- ✓ Low response of the steel material to sudden temperature changes;
- ✓ The steel boilers are light-weighted.

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FURNACE

Cast iron furnace

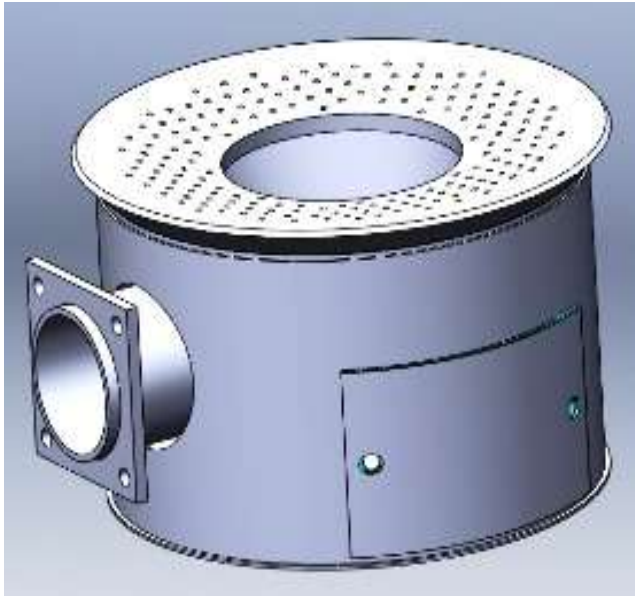
- ✓ Cast iron is applied to produce furnaces.

Why is the cast iron preferred?

- ✓ Significantly high heat transfer of cast iron furnaces;
- ✓ Cast iron is less prone to deformation at high temperatures;
- ✓ High reliability of cast iron;
- ✓ Longer life cycle of cast iron furnaces.

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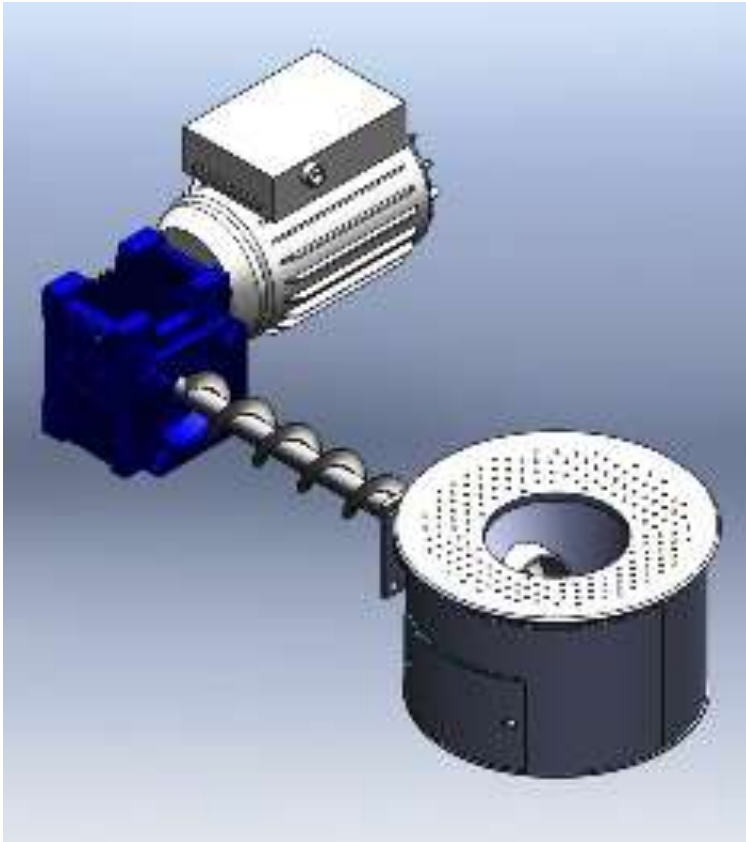
MULTIFUEL BURNING FURNACE



- ✓ Specially designed coal burning furnace unites the loading neck to dry and heat up the possibly wet fuel with proper air blowing from bottom up to decrease the heat transfer losses and benefit from maximal boiler's efficiency.

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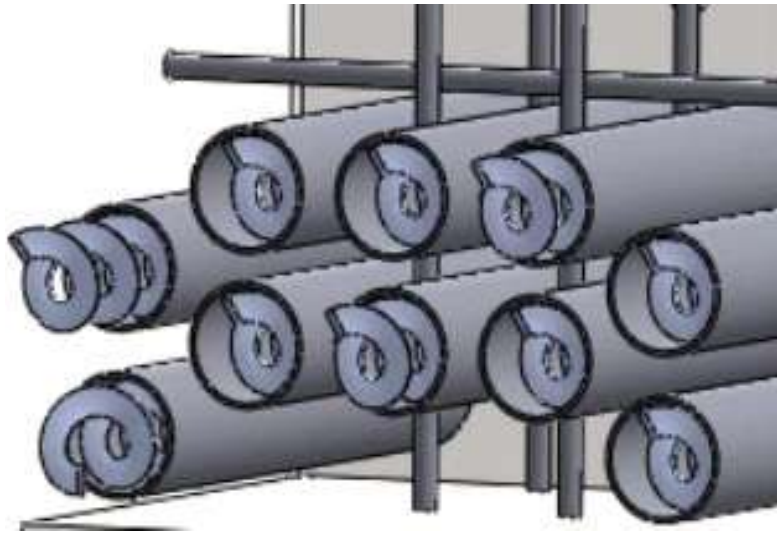
FEEDING AUGER



- ✓ Automatic feeding boilers are equipped with feeding auger, reduction gear and the fuel bunker. The feeding system of the boiler is automatically controlled in accordance with parameters settled by the operator with the help of control panel and allows to burn the boiler unattended.

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TURBULATORS



- ✓ To keep hot gases in the heat exchanger as long as possible, the fire tubes have been equipped with turbulators. It helps to benefit from significant heat transfer without draw loss.
- ✓ Besides, turbulators decrease the amount of soot collecting along the fire tubes (help to avoid the loss of efficiency because of the soot) and assist with fire tube cleaning.

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FLUE DAMPER



- ✓ Flue damper helps to achieve fuel saving for high draught flues. It can be adjusted easily by the user due to its position visible from outside.

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THERMOSTATIC VALVE



What is the thermostatic valve for?

✓ This valve prevents ignition of the fuel inside of the fuel storage tank. While operating there's the risk of transmitting of the fire through the auger from the furnace to the fuel storage tank.

How does the fire safety system work?

✓ Integrated temperature sensor helps thermostatic valve to record the current temperature of the body of the auger. When the temperature inside of the auger exceeds set limits (this witnesses that the fire flows towards the fuel storage tank), the valve is being opened and let the water from the return line extinguish the fire in the auger. The valve will be closed automatically as soon as the temperature sensor detects the drop of the temperature to the set level.

Why is the thermostatic valve fire safety system preferred?

✓ It's often called "set & forget" due to high reliability proven during years.

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SAFETY PROTECTION

- ✓ **Boiler water temperature is set with thermostat on the electronic control panel. In case of water temperature increases to 100 oC due to any reason, limit thermostat engages and stops operation of the fan;**
- ✓ **Thermostatic valve protects the fuel bunker from the inflammation due to constant measurement of the auger's temperature. In case when the temperature exceeds the limit, the water from by-pass line blow the fire out;**
- ✓ **Special design of the auger and its connection with the fan prevents smoke going to the fuel bunker;**
- ✓ **Fuel sensor prevents unnecessary operation of the fan indicating the burnout due to equipment displaying out-of-fuel warning on the control panel.**

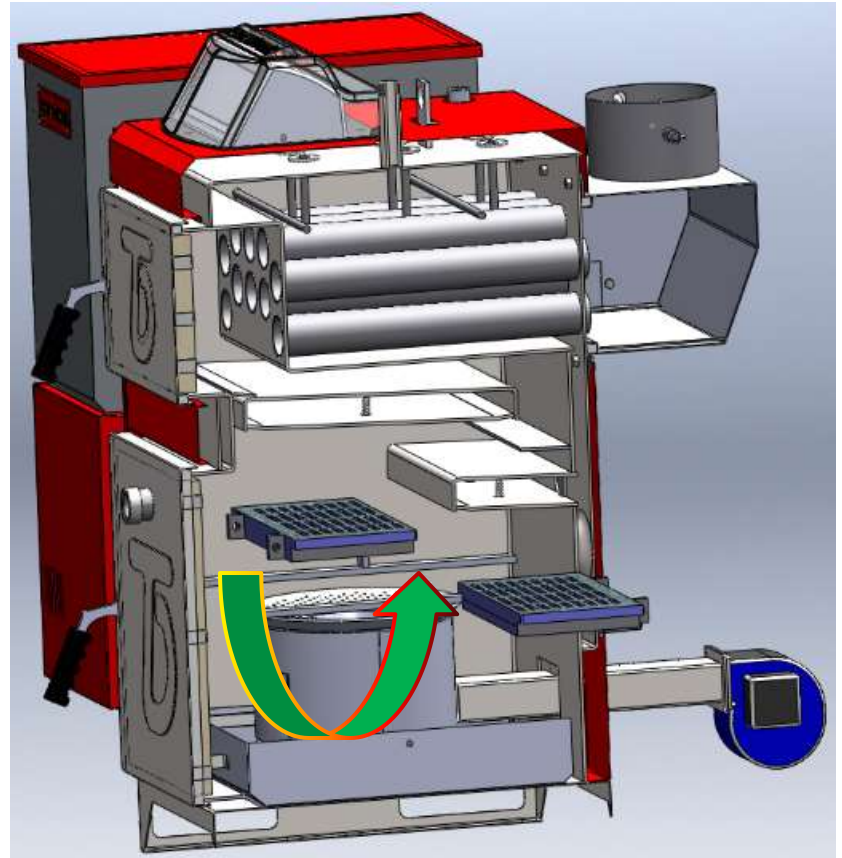
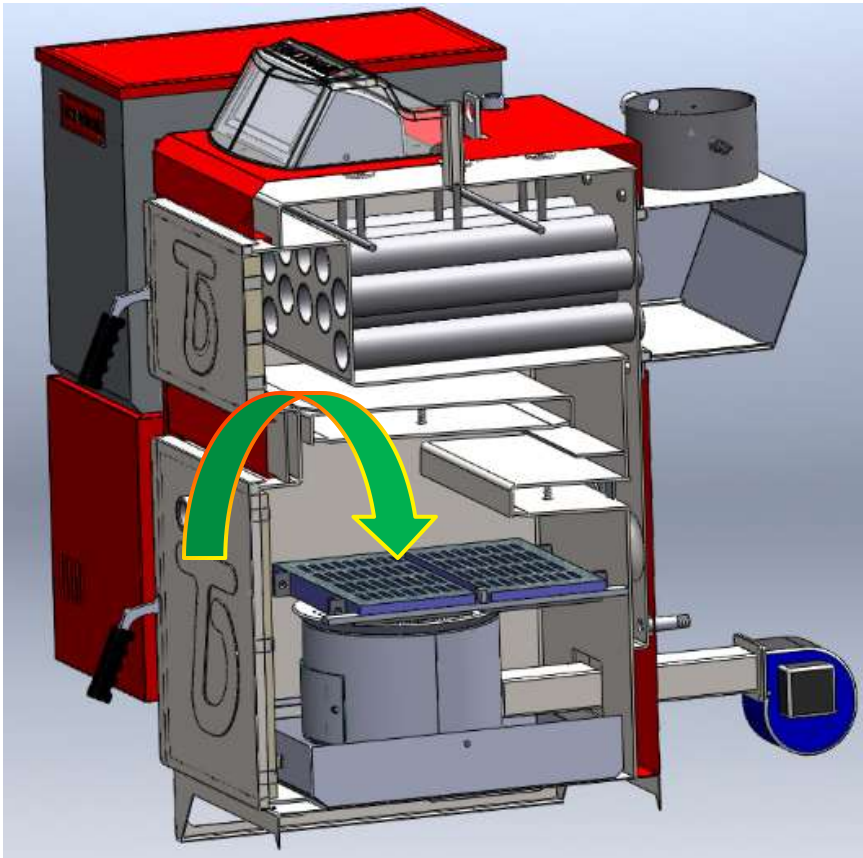
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ADDITIONAL EQUIPMENT

- ✓ To ensure autonomous and safety operation, the boiler is delivered with automatic control panel. This panel allows to settle parameters of burning and feeding, select language (English, Spanish, Greek, Romanian, Portuguese, Turkish, Russian) and control proper burning process;
- ✓ To ensure efficient burning, the forced draft fan is included into the set;
- ✓ Boilers EKY/S-17-25-40-60 are equipped with circulation pump for heat agent transfer within the heating system to decrease the costs of end operator;
- ✓ Care kit (set of brushes and scrapers) permits to extend the life cycle of the boiler due to regular maintenance and service.

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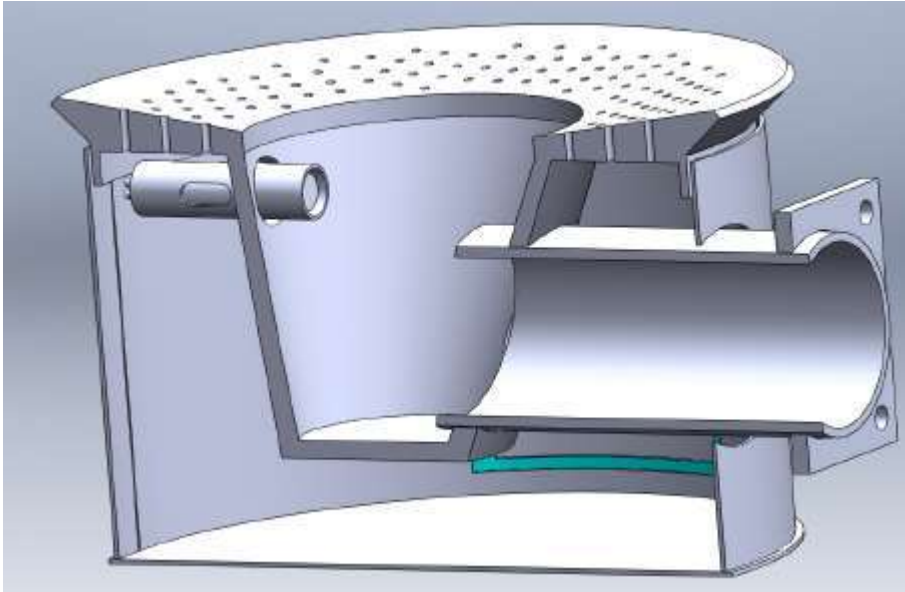
REMOVABLE GRILLE



- ✓ As an option, additional removable grille allows to stoke automatic boilers with firewood in manual mode

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AUTO IGNITION SYSTEM



- ✓ As an option, an automatic ignition can be adopted to enhance the comfort of operation.

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HOT WATER SUPPLY



As an option, EKY/S 17-100 boilers optionally may include additional heat exchanger to meet the needs of hot domestic water during winter time. The additional heat exchanger, being mounted into heating line, warms the domestic water up with the help of the heat transmitted from the water pumped from the boiler to the heating system.

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FUEL CONSUMPTION (PELLETS)

BOILER	Capacity, kW	Consumption of 3 pass boilers, kg/h	Consumption of 4 pass boilers, kg/h	Fuel saving
EKY/S-25	29	7,4	6,8	6%
EKY/S-40	46	11,85	11,14	6%
EKY/S-60	70	17,8	16,38	8%
EKY/S-80	93	23,7	21,33	10%
EKY/S-100	116	29,7	26,7	10%

- ✓ Calculated for the worst operation conditions (ex. bad insulation of the building)
- ✓ Calculated for pellet burning with pellets' heating performance 4500 kcal/kg
- ✓ Pellet fraction 10-18 mm

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FUEL CONSUMPTION (COAL)

BOILER	Capacity, kW	Consumption of 3 pass boilers, kg/h	Consumption of 4 pass boilers, kg/h	Fuel saving
EKY/S-25	29	6,4	6	6%
EKY/S-40	46	9,54	9	6%
EKY/S-60	70	14,04	13	8%
EKY/S-80	93	18,15	16,5	10%
EKY/S-100	116	22,55	20,5	10%

- ✓ Calculated for the worst operation conditions (ex. bad insulation of the building)
- ✓ Calculated for coal burning with coal's heating performance 6000 kcal/kg
- ✓ Coal fraction 10-18 mm

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**TERMODINAMIK
HEATS EUROPE**

Based on easy to operate approach in production and quality of TM
TERMODINAMIK products have been awarded by the World Consumer Academy.

Every year the World Consumer Academy is assessing the compliance of the
trademarks and its products to the standards of European Union.

Quality of TMTERMODINAMIK products has been complimented with
EU Quality Award.



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HVAL SYSTEMS

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