CATALYTIC DISTRICT HEATING PLANT

Description
The operating principle of the catalytic district heating plant (CDHP) is based on catalytically-assisted fuel combustion at temperatures of 600 - 700 °C with simultaneous heat removal by introducing heat exchange surfaces immediately into a pseudo-liquefied catalyst bed. The plant burns a variety of fuels:
- liquid fuels: diesel fuel, black oil fuel, crude oil, liquid organic wastes;
- solid fuels: mineral coals, peat, and solid municipal and agricultural wastes.

Technical Specifications
Overall dimensions:
- length 3.5 m
- width 1.37 m
- height 2.77 m
- weight 2600 kg
Heat rates: from 0.2 Gcal/h and higher.
Production versions: mobile and stationary.

Technical appraisal and economic benefits
- a high available-heat factor (92 - 95%);
- a five- to tenfold reduction in overall dimensions and metal consumption
- environmental safety (the content of harmful substances in off-gases is not higher than 0.07 mg/m³ NOₓ, 0.04 mg/m³ SOₓ, and 1 mg/m³ CO);
- simple design and easy servicing.

Application areas
For heating and hot water supply of detached houses, public and industrial buildings, field objects, and as emergency heaters.

Development stage
Full-scale production of the plants was launched in Novosibirsk (Novosibirsk Chemical Concentrates Plant). Since 1994, more than 35 plants have been put in operation.

Patent situation
A patent was granted in the Russian Federation (1996).
**Commercial offers**
Vending of selling licenses. Delivery and setup of plants.

**Estimated cost**
The cost of the plant does not exceed the cost of currently used conventional devices of equal power.

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