

Energy-efficient district heating system includes solar collectors, a district heating circuit, and an automatic control system. It additionally contains a heat accumulator connected to the solar collectors, an air-to-water heat pump, the input of which is connected to the external circuit and the output to the internal heating circuit. The heat exchanger hydraulically separates the district heating circuit and the internal heating circuit. An electric boiler is connected to the internal circuit as a backup heat source. The system also includes circulation pumps to ensure the circulation of the coolant.