STUDY OF HEAT SUPPLY SYSTEMS WORKING ON THE BASIS OF TRADITIONAL AND RENEWABLE ENERGY SOURCES

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Annotation: In this article, the issues of heat supply also also have a traditional heating system, which are also traditional heating systems. During this scientific research, the technology of water heating and local boilers was studied with the hot air obtained using solar heat. It also provides the types, advantages and disadvantages of passive heating systems, key indicators, properties, methods of application, and the main requirements for them. The recommended passage of passive solar collectors together with local boilers and their study and technical indicators are provided.

Keywords: heat, radiation, air inlet, absorber, heated air pipe, water-container, collector.

ИЗУЧЕНИЕ СИСТЕМ ТЕПЛОСНАБЖЕНИЯ, РАБОТАЮЩИХ НА ОСНОВЕ ТРАДИЦИОННЫХ И ВОЗОБНОВЛЯЕМЫХ ИСТОЧНИКОВ ЭНЕРГИИ

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Аннотация: В этой статье вопросы теплоснабжения также также имеют традиционную систему отопления, которые также являются традиционными системами отопления. В ходе этого научного исследования технологии водогрейного отопления и местных котлов изучали горячий воздух, полученный с использованием солнечного тепла. Он также предоставляет типы, преимущества и недостатки систем пассивных нагрева, ключевых показателей, свойств, методов применения и основных требований для них. Предварительно рекомендуемое прохождение пассивных солнечных коллекторов вместе с местными котлами и их изучением и техническими показателями.

Ключевые слова: тепло, излучение, воздухозаборник, поглотитель, труба нагретого воздуха, емкость для воды, коллектор.

In our country, special attention is paid to the saving of natural resources and manufacturing sectors to introduce environmentally friendly technologies. According to experts, in the climatic conditions of our country, climate conditions are great opportunities for the use of non-traditional energy types such as solar, water, wind, biogas. In the Republic of Uzbekistan will be sunny on the territory of the year, while most large-territories fields blow constant wind.[1-4]

According to the Uzbekistan climate, the sun is the most alternative option and preparation of its heat due to its heat. To do this, the issue of creating a heat supply system contained on the basis of sun-water and silk collectors performed on the basis of sun-water and water collectors for this purpose are of urgent.[5]

It is necessary to know the amount of solar energy: first, depends on the geographic, semi conduct, district, powdery, dusty, dust, and the fog, [6] powders, and the fog, the condition of the atmosphere.

The amount of solar energy that falls at the points of the centers of the Central Asian republics is enough to use it for practical purposes. Below is the value of the correct radiation amount of radiation ($Q \quad (W/m^2)$) in the sunlight as an example.[7]

Table 1. Seasonal solar radiation

Width	hour / month	12	$\frac{14}{13}$	$\frac{10}{12}$	$\frac{9}{15}$	$\frac{8}{16}$	$\frac{7}{17}$	$\frac{6}{18}$
$\varphi = 40^0$	January	823,6	777,2	730,8	624,4	359,6	-	-
	December							
	February	870	858,4	798,4	701,8	533,6	-	-
	November							
	March	904,8	883,2	846,8	777,2	754	371,2	-
	October							
	April	928	916,4	887,4	846,8	742,4	598,5	197,2
	September							
	May	928	916,4	887,4	846,8	777,2	632,2	394,4
	August							
	June	930	883,2	883,2	846,8	777,2	678,6	510,4
	July							

The correct radiation flow is a matter of actinometers, while the collection radiation is measured using pyranometers.At the fever, mostly traditional heating systems are widely used in the fever.[8-9] The day of holding the ecological situation in a sustainable level and cost-effective technology is a topical issue

A new technology of the joint use of traditional and renewable energy sources in heating buildings.

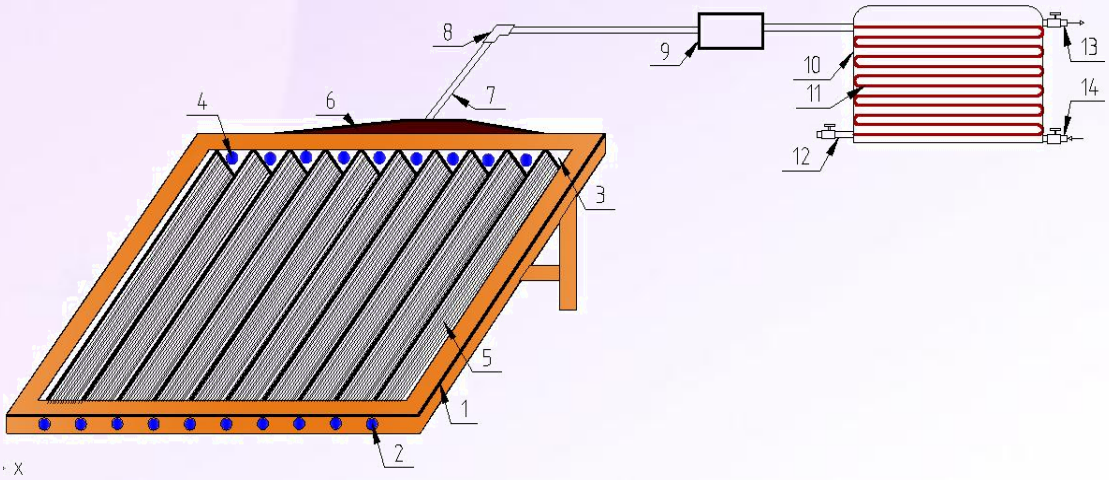

Fig.1 Heating on the basis of traditional and renewable energy sources.

1-corpus, 2-air inlet, 3-window, 4-air outlet, 5-absorber, 6-general air canal, 7-heated air pipe, 9-ventilator, 10-water-container, 11-heated air pipe, 12-heated air output pipe, 13-hot water outlet pipe, 14-cold water inspection piping.

This proposed technology is obtained using heat energy using solar energy. (Figure 1) The airstream is moved through the input pipes by the inbound pipeline absorption (5), and the temperature of the heated absorber is increased due to air flow. Hot air (9) is shipped to a heating pipe using a suction (11) after warming water in the water tank (10).[10]

In winter season, hot water is sent to the barrier and hot water supply in the summer.

In the proposed technology, the hot water consumption and solar collector surface are identified as follows.

$$Q = GCp(t_2 - t_1) \qquad (1)$$

Here: G - water consumption l/s, heat capacity of Cp- water kj/kg score, t -water temperature ^{o}C.[11]

Water consumption is determined as follows.

$$G = \frac{M}{\tau} \qquad (2)$$

Here: M - water content l, τ- time.

The amount of hot water is identified as follows.

$$M = n \cdot N \qquad (3)$$

Here:n-the amount of water in the required norm required for one person.

$$Q = \frac{60}{18000} \cdot 1(50 - 15) = 1200\ W \qquad (4)$$

Auxiliary headers for local boilers

If we analyze the various structures of solar collector, the factor that makes it easier for their heat exchange, the reliability of the solar collector, technical economic cost and accumulation of the collector. The most reliabilities can be metal pipes, for example, but they are expensive and their collection takes a lot of time. In addition, the heat-operating heating to the metal pipes has a significant weight, which requires a heavy box and complicates the establishment of a turn. Conducting these, the solar collector is selected by the solar collector with optimal designed schemes.[12-14]

Solar air collections provide a temperature of water to +50 °C. Such collectors are used in the need to convey water to a small stake. We calculate the collector in the inpatient settings to combine the local cauldron in heating buildings.[13]

$$q = 400\frac{vt}{m^2}t_{st} = 50\ ℃ t'_k = 15℃$$

We carry out the heat calculation of the solar collector in stationary conditions. We consider the temperature of the collector pipes constant and thus find the average temperature difference.

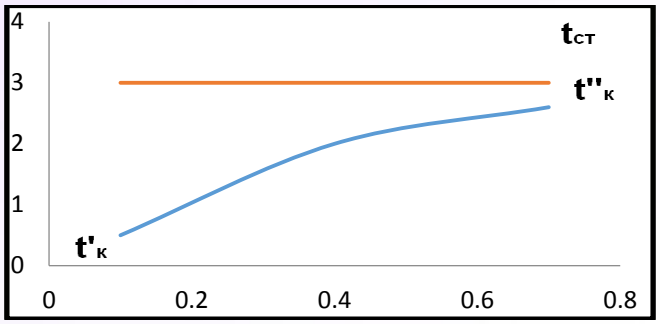

Fig 2. Giving a collector in the stationary setting

$$\Delta t_b = t_{st} - t'_k \Delta t_m = t_{st} - t''_k$$

$$\Delta t = \frac{\Delta t_b + \Delta t_m}{2} = \frac{(t_{st} - t'_k) + (t_{st} - t''_k)}{2} = \frac{2t_{st} - (t'_k + t''_k)}{2} = t_{st} - \frac{t'_k + t''_k}{2}; \quad (4)$$

We will identify the heat of heating in the collector with a given surface.

$$Q = \alpha F \Delta t = \alpha F \left(t_{st} - \frac{t'_k + t''_k}{2}\right); \quad (5)$$

We consider heat consumption to calculate the amount of heat.

$$Q = GC_p(t'_k + t''_k); \quad (6)$$

$t'_k - 15$℃We accept (from the water supply network)

Then $$t''_k = \frac{Q}{GC_p} + t'_k; \quad (7)$$

We will receive the following (7) equation

$$\frac{Q}{\alpha F} = t_{st} - \frac{t'_k + t''_k}{2}; \quad (8)$$

We put equation (7) equation (8)

$$\frac{Q}{\alpha F} = t_{st} - \frac{t'_k + \frac{Q}{GC_p} + t''_k}{2} = t_{st} - t'_k \frac{Q}{2GC_p}; \quad (9)$$

$$Q\left(\frac{1}{\alpha F} + \frac{1}{GC_p}\right) = t_{st} - t'_k; \quad (10)$$

$$Q = \frac{t_{st} - t'_k}{\left(\frac{1}{\alpha F} + \frac{1}{GC_p}\right)}; \qquad (11)$$

In the laminar stream, we accept the heat supply ratio as follows;

$$\alpha = 300\frac{Vt}{m^2}; \quad G = 0{,}05\frac{kg}{s}; \quad C_p = 1000\frac{Dj}{kg°C}; \quad F = 10m^2$$

$$Q = \frac{t_{st} - t'_k}{\left(\frac{1}{300 \cdot 10} + \frac{1}{2 \cdot 0.05 \cdot 1000}\right)} = \frac{35}{0{,}0003 + 0{,}01} = 3500\,Vt = 3{,}5\,kW$$

The results of the computational matters above show that when the proposed flat sunny collector is set to the roof of buildings and the surface is an average of 10 m², its capacity is 3.5 kW.[15]

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