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THE SUN COLLECTORS, THEIRS CLASSIFICATION, IN THEM OBSERVE TO BE USED DISADVANTAGES AND SOLUTIONS

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A B S T R A C T

This in the macula It’s dark of collectors historical, their classification, Kuyosh in collectors observed defects and drinks in Tugri information given

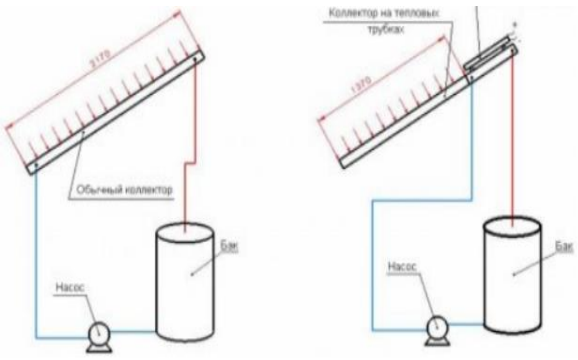
K E Y W O R D S

energy, collector, model, contour, oil Inkyrozi, closed glass

INTRODUCTION

The sun of the collector initial model of the 18th century at the end Swiss scientist Horace Sausage created is in _ warming up feature have has been layer available bottle and wood from the box consists of device was _ That's it at the same time scientist its « small , cheap and that it is "simple " . felt was _ Such devices practice of the 19th century at the end South in California hot the water heating for is used started _ To the sun looked at side with a closed bottle covered with wood to the box installed , black paint with covered in the form of a water tank simple

The sun collector work released started _ Such in collectors in the evening water It was not warm , his heating up for next the day waiting need was _ 1909 - year in California William Bailey modern flat the collector created _ This is water from the filled tank device separately without to him _ going heat heat through an alternating circuit was (1.1.1 - picture).



1.1.1 – rasm. Oddiy Quyosh kollektorining sxematik ko’rinishi.

The sun collectors production _ _ industry of the 1940s to the end of the US South in the states California and in Florida the most high level did _ Sal later , electricity and from gas use , hot the water harvest to do price decreased went and The sun collectors production _ _ stopped .

The sun collectors of production _ second stage in the 1970s right will come Because this at the time the world across oil crisis starting with energy with provider of means price sharp rising up gone was , as a result the world many countries , in particular , USA, Japan , Australia and Medium Er the sea surroundings in the regions The sun collector a lot amount work release to the road was put

In the 1950s in Israel strong energy shortage that's it to the degree reached that is , the government evening moment hot water taminotin stop to put about the law acceptance did _ That's it from time starting from in the country hot water harvest to do for The sun devices production _ _ develop started _ 1967 - to the year come 20% of the country's population The sun from the collector used was _ 70s _ energy crisis in time parliament each one new under construction home for The sun heating system is available to be about the law acceptance did _ Today's in the day come , this in the state home in the farm 85% energy consumption The sun collectors gives _ In them amount of produced energy _ 3% of the country's energy supply does _ This means in the country one 2 million per year . barrel oil economy It means that it was done .

By 2000 in the field of energy of prices increase The sun from the collector to use and production _ _ new stage started _ 2010 - the year per head come whole on the planet The sun swimming pools and the air collectors account with a capacity of 150 GW The sun collectors installed . Har more than 30 GW

per year power giving The sun collector installing , current in the day come in the world The sun of collectors common heat capacity 250GW from energy more than energy work is issuing and this pointer on the rise continue is doing In particular , in China by 2012 Come , Sun of collectors common The area is 145 million m², they are giving common the amount of heat energy has exceeded 100GW . This comparative in Russia _ of all nuclear plants power together when calculating of them four even high to power have _ That's it interestingly , 15 years before in China The sun collectors almost no was _ Initially this direction according to work release development to the road placed if so , today to the day come the government population for useful has been collectors to create to expand possibility created _

Because The sun from the collector use economic in terms of very useful , own service term during The sun collector so in quantity energy work the device that comes out to make gone expenses one how many equal to excess with will be covered .

Today's in the day Come , Sun collectors The sun from energy in use the most efficient device being left _ If photoelectric panels to himself coming down The sun 14-18% of its energy is used by the Sun in the collector this efficiency reaches 70-80% .

To the temperature depends in case The sun collectors the following to types was in case seeing let's go :

1. Low temperature collectors - such above 50º C in collectors didn't happen temperature is taken . These are

in pools Suvni to warm up similar high temperature requirement not done in cases is used .

2. Medium temperature collectors are _ water 50 - 80º C up to heating up can _ Most of the time such a collector has a flat glass plate is heat _ carrier as from the liquid consists of device is considered

3. Upper temperature collectors often in the form of a parabola consists of often _ _ relatively bigger in lists which , electric energy collect him city electricity energy along dividing in cases works .
Current at the time come The sun of collectors the most simple from the looks of it one the air collectors is considered
These are thermosyphon collectors that too is conducted . Such to be named cause , the generator is one of time in itself the heat to himself take his at the expense of is heating up the water too in itself saves , such collectors mostly standard devices calculated gaseous and electric devices initial up to temperature raise for the water warming up gives _ Such method using electricity supply savings can _ This collector advantages let's see : first , electricity energy saves . Second , relatively enough cheap calculated The sun water heating in the system is used . Third , device maintenance _ show much simple , like this collectors « Integrated C olle c tor and storage » or just don't collect collectors is called This is often the case one or one how many water with there is a filled tank . This tanks from the heat protected box inside will be placed and glass cover with covered , sometimes a reflector is placed inside the box his purpose coming down The sun the light collect gives _ of this device work process much simple . From glass past The sun energy the water warms up . Such method service showing device for cheap falls , however cold at the time the water from freezing protection to do need will be
Summary in place that's it to say must be the Sun the air collectors - Sun energy using working and the air heating is a device . This most of the time simple flat collectors in the form of mainly _ _ buildings heating and village economy products drying for is used . Air in this using natural convection or a fan devourer surface through passes . Air to the liquid relatively the heat bad spent due to , fluid with working heat to the carrier than the heat devourer to the surface less transmits. Some The sun the air in the heaters devourer A fan is connected to the plates They are air turbulence increase the heat transmission improves . This of the device disadvantage from that consists of the ventilator performance for additional energy consumption existence this of the system cost to increase take will come Cold climate conditions air plate - absorber surface across the channel between is directed and collector back the wall heats , as a result , across the glass addition heat loss observed . However environment _ _ temperature above 17º C _ otherwise , the plate is an absorber from the surface two bilaterally spinning the air excess heat without loss efficient works _ Air of collectors main advantages their simplicity and reliability . If attention with if used , it is 10-20 years service to do can _ From this except heat carrier element replacement is not observed because the air does not freeze .

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