

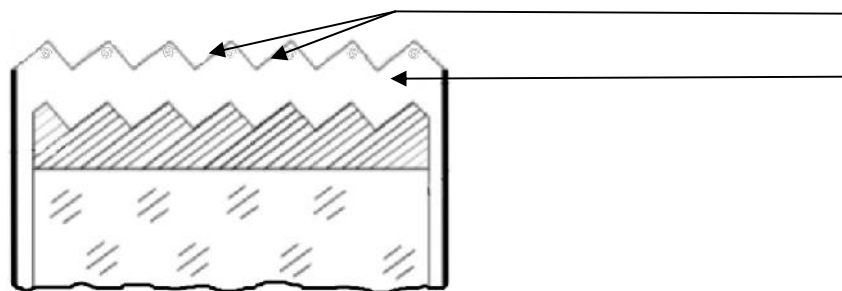
621.4

In this work the problem of increasing performance index of Stirling engine is investigated. One of ways for resolving of this problem is to improve heat-conducting properties of heat exchangers. Due to using of fluted heat-exchanging walls of cylinders it's possible to reach increasing of the performance index of stirling as shown in the article. There was comparative calculations of performance indexes for engines without and with proposed changes. Besides there was identified severities of this way for solving problem and set the goal for future researches.

Keywords: engine of Stirling, increase of O R, corrugated heat-exchangers.

[1],

. 1.



. 1.

$p, V-$

[2, . 17]

$p, V-$

$p, V-$

[2, . 29]

(p)

(T).

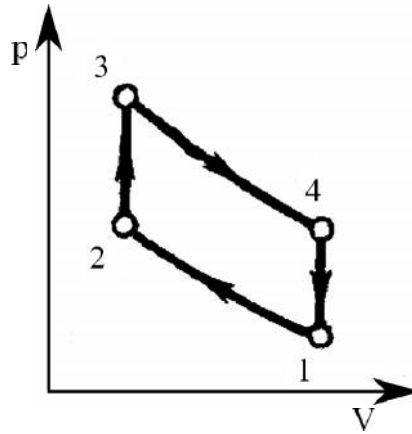
1)

1;

2) $\eta = \frac{T_{\min}}{T_{\max}};$

3) $r = \frac{V_{\max}}{V_{\min}}.$

, $V_1 = \frac{RT_1}{p_1}.$



. 2. p,V-

(1-2).

$Q = A.$ $T_{\min}.$, . . . I

$p_2 = \frac{p_1 V_1}{V_2} = p_1 r; T_2 = T_1 = T_{\min}.$

(2-3).

I T T . $V = const, A = 0.$

$p_3 = \frac{p_2 T_3}{T_2} = \frac{p_2}{T_2}; V_3 = V_2.$

(3-4).

$p_4 = \frac{p_3 V_3}{V_4} = p_3 \left(\frac{1}{r}\right); T_4 = T_3 = T$

(4-1).

T T .

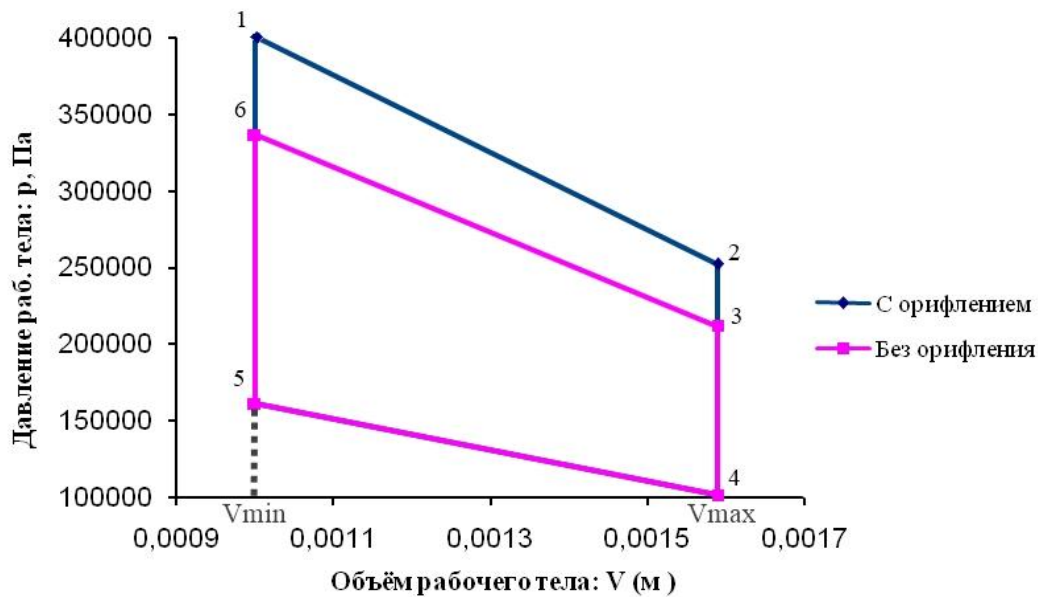
$p_1 = \frac{p_4 T_4}{T_1} = p_1; V_1 = V_4.$

(c

$k = 3$

$a = 3$)

p, V - , . 3. ,
 p, V - : 3-4-5-6 .
 2-4-5-1 , 37% -



. 3. , V-

1.

().

1. , // . - 2011. - 2 (32). - . 110-116.
2. , / . . - , 1978. - 152 .

25.09.2012 .

E-mail: andrey.poltavets@gmail.com