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((1, 2, 3, 4));

(=0,84
/ , =1,89 / , =2,93 / ,
=3,97 / , =5,02 /).

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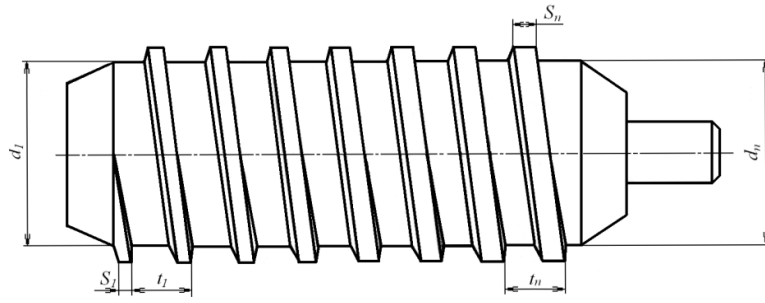
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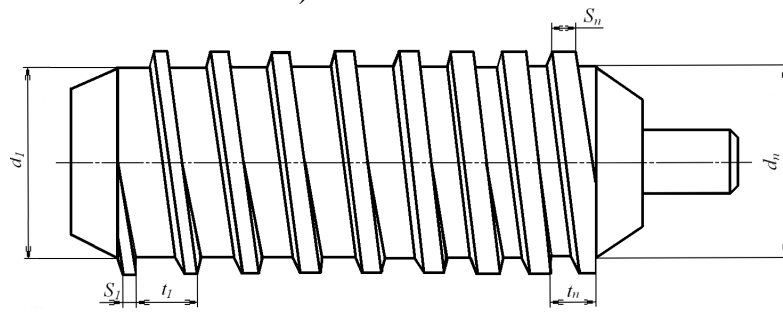
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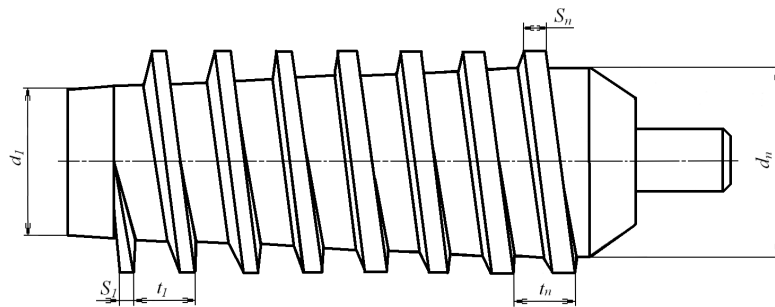
$$S_1 < S_2; t_1 = t_2; d_1 = d_n$$

) 1



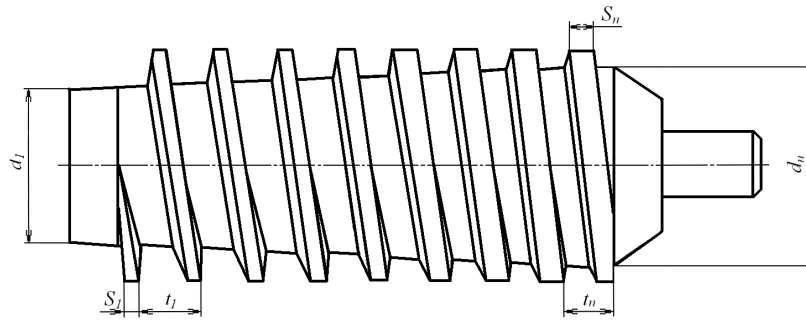
$$S_1 < S_2; t_1 > t_2; d_1 = d_n$$

) 2



$$S_1 < S_2; t_1 = t_2; d_1 < d_n$$

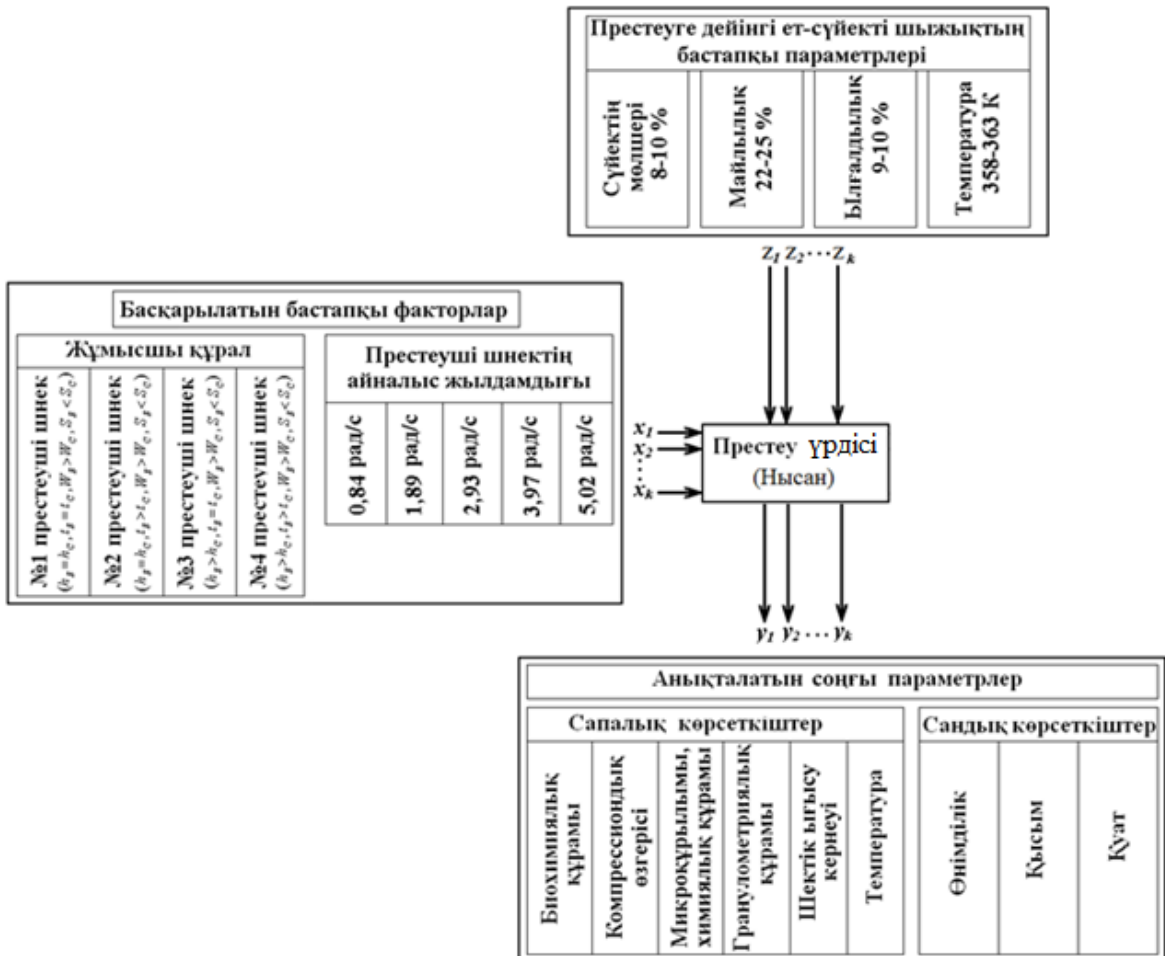
) 3



$$S_1 < S_n; t_1 > t_n; d_1 < d_n$$

) 4

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 z_i ,

i ,

y_i .

1, 2, 3, 4
-1 +1

2^4

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1 -

	$\omega, \text{ }^{-1}$	$\frac{h}{h}$	$\frac{W}{W}$	$\frac{t}{t}$
(0)	3,14	2	1,8	1,1
	2,09	1	0,6	0,1
(+1)	5,23	3	2,4	1,2
(-1)	1,05	1	1,2	1

2

2 -

$\omega, \text{ }^{-1}$	$x_1 = \frac{\omega - 3,14}{2,09}$
-------------------------	------------------------------------

, ,	$x_2 = \frac{W_B}{W_C} - 2$
W,	$x_3 = \frac{W}{0,6} - 1,8$
, t,	$x_4 = \frac{t}{0,1} - 1,1$

1

((0), (+1), 1), ((-1)) .

: (0,5) - 4,18⁻¹, (-0,5) - 2,09⁻¹, (+1) - 5,23⁻¹, (-1) - 1,05⁻¹ (2).

3 -

1

, ⁻¹	1
1,05	-1
2,09	-0,5
4,18	0,5
5,23	+1

3

 φ

4 –

	1	2	3	4	1 2	1 3	1 4	1 2 3 4	φ
1	-1	-1	-1	0	1	1	0	0	13,2
2	-0,5	-1	-1	0	0,5	0,5	0	0	16,1
3	0,5	-1	-1	0	-0,5	-0,5	0	0	20,28
4	1	-1	-1	0	-1	-1	0	0	24,49
5	-1	-1	1	1	1	-1	-1	1	10,7
6	-0,5	-1	1	1	0,5	-0,5	-0,5	0,5	13,94
7	0,5	-1	1	1	-0,5	0,5	0,5	-0,5	18,51
8	1	-1	1	1	-1	1	1	-1	22,23
9	-1	1	-1	-1	-1	1	1	-1	8,48
10	-0,5	1	-1	-1	-0,5	0,5	0,5	-0,5	10,82
11	0,5	1	-1	-1	0,5	-0,5	-0,5	0,5	16,82
12	1	1	-1	-1	1	-1	-1	1	20,142
13	-1	1	0	1	-1	0	-1	0	7,12
14	-0,5	1	0	1	-0,5	0	-0,5	0	9,21

15	0,5	1	0	1	0,5	0	0,5	0	14
16	1	1	0	1	1	0	1	0	17,66

-

:

$$\varphi_1 = b_0 + b_1x_1 + b_2x_2 + b_3x_3 + b_4x_4 + b_5x_1x_2 + b_6x_1x_3 + b_7x_1x_4 + b_8x_1x_2x_3x_4 \quad (1)$$

4

1

2

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5 -

	1	2	3	4	φ_1	φ_2
1	1,05	1	1,2	1,1	15,72091	14,82559
2	2,09	1	1,2	1,1	19,29864	18,85098
3	4,18	1	1,2	1,1	26,4885	26,93615
4	5,23	1	1,2	1,1	30,10063	30,99594
5	1,05	1	2,4	1,2	11,22893	11,44068
6	2,09	1	2,4	1,2	14,80666	14,91254
7	4,18	1	2,4	1,2	21,99652	21,89065
8	5,23	1	2,4	1,2	25,60865	25,3969
9	1,05	3	1,2	1	11,00173	10,78998

10	2,09	3	1,2	1	14,57946	14,47359
11	4,18	3	1,2	1	21,76932	21,8752
12	5,23	3	1,2	1	25,38145	25,5932
13	1,05	3	1,8	1,2	9,291131	8,526131
14	2,09	3	1,8	1,2	12,86886	12,48636
15	4,18	3	1,8	1,2	20,05872	20,44122
16	5,23	3	1,8	1,2	23,67085	24,43585

4

$$\begin{aligned}
 \varphi_1 = & 15,21 + 3,44\omega - 2,18\frac{h}{h_c} - 4,04\frac{W}{W} + 3,56\frac{t}{t_c} + 0,009\omega \cdot \frac{h}{h_c} - \\
 & - 0,904\omega \cdot \frac{W}{W} + 0,75\omega \cdot \frac{t}{t_c} + 0,052\omega \cdot \frac{h}{h_c} \cdot \frac{W}{W} \cdot \frac{t}{t_c}.
 \end{aligned} \tag{2}$$

(2)

$$\sigma = \sqrt{\frac{\sum_{i=1}^n \Delta y_i^2}{n(n-1)}} = 1,29 \tag{3}$$

t=2,12 (f=16, $\alpha=0,05$)

$$\delta\sigma_i = 1,29 \cdot 2,12 = 2,73$$

2,73

. , 2,73 (4)

$$\varphi_2 = 15,21 + 3,44\omega - 4,04 \frac{W}{W_C} + 3,56 \frac{t}{t} \quad (4)$$

(2)

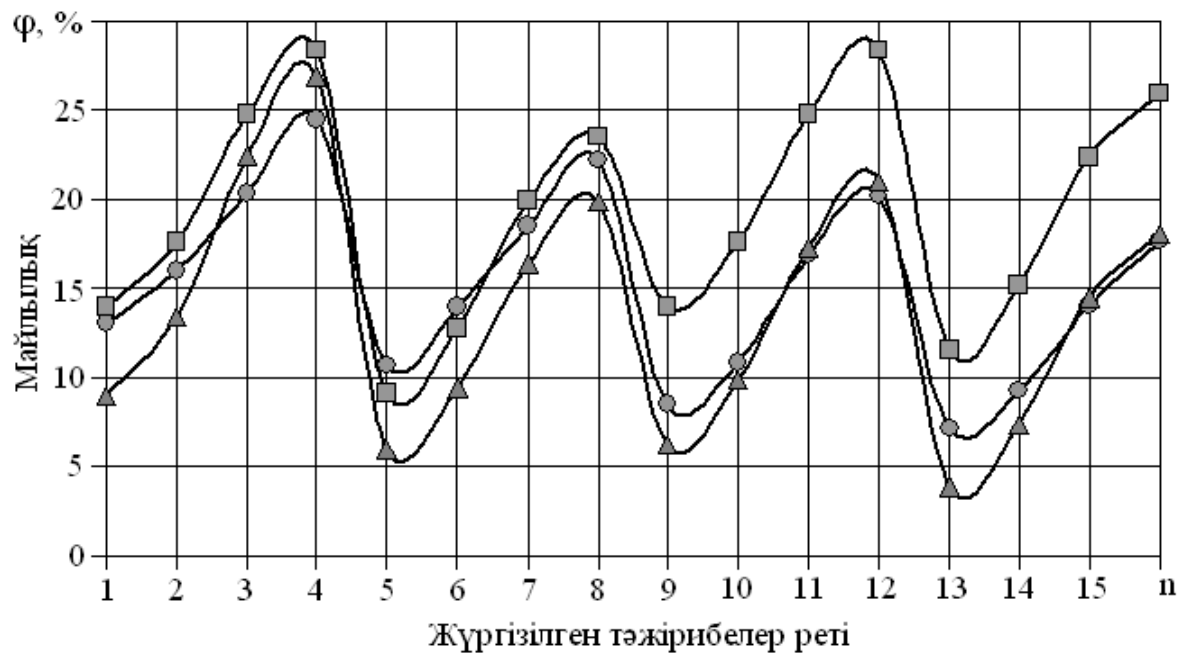
(4)

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6, 7
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(4)

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Summary

In given article mathematical pressing processing with the use of the developed designs pressing screw is described. Article has the big scientific and practical interest for the industry as it is devoted to the important problem of pressing. The decision of this problem is based on the improvement screw devices which are used as the universal working bodies to carry out some operations allowing simultaneously and continuously. Researches were spent with the use various experimental pressing screw on a press. The main advantage of the research is a method of a black box. For research the four-factorial plan of experiment has been made, i.e. with its help 16 parameters of full cubic regress have been estimated. During the experiment the analysis of influencing factors by means of criterion of Stjudenta is carried out. The regress equations characterizing qualitative and quantity indicators pressing screw are received