

21.

$$= (\quad / \quad) 100\%.$$

0,025; 0,04; 0,05; 0,06; 0,1; 0,2; 0,25; 0,4; 0,5; 0,6; 1,0; 1,5; 1,6; 2,0; 2,5; 4,0.
0,5; 1,0; 1,5.

22.

[7]

273,16

(),

().

,

,

.

-259,34

() 1064,43° ().

t,

° .

t

= *t* + 273,15.

.

,

:

.

,

,

.

()

,

.

,

()

()

.

-190 +600° .

,

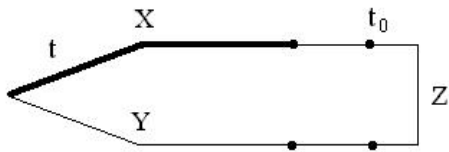
,

,

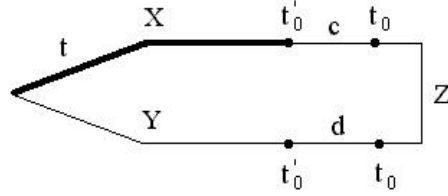
;

-50 +630° .

10.1.



a



б

10.1 -

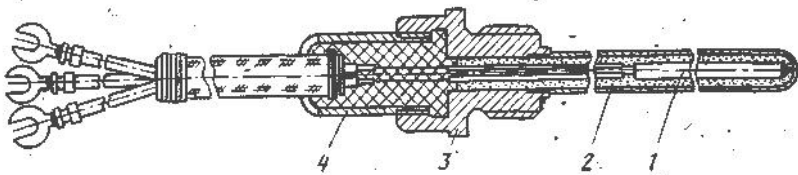
Z; -

d.

+2500 °

10.2.

1



10.2 – : 1- ; 2-
 (); 3- ; 4- .

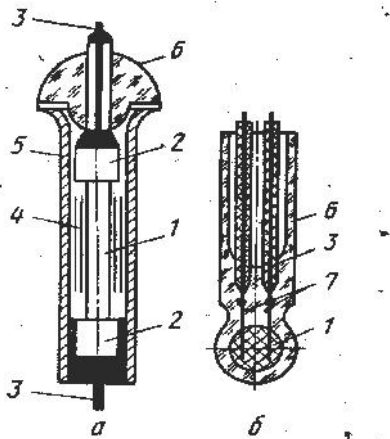
9...30c

() -200 +650°
 () -50 +180° .
 ()
 -90 +180° .

(. 10.3).

. 10.4.

() - () .

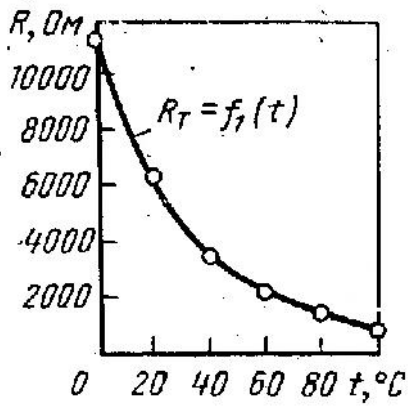


10.3 – : -
 ; - - : 1-
 ; 2- ; 3- ; 4-
 ; 5- ;
 6- ; 7- .

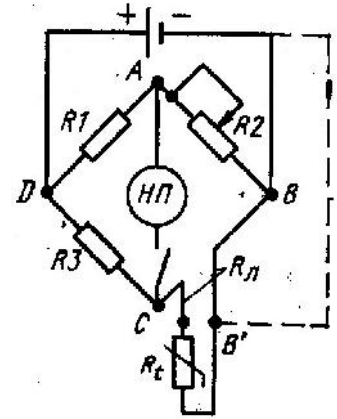
. 10.5.

R1 R ,

R2



10.4 -



10.5 -

Rt.

2R

Rt.

DB

R2

(. 10.5)

Rt.

()

[7]:

- ():

+ .

1%

;

-

1

2.

" -1-3"

1400...2800° , "

-4" 1200 1700 ° , "

-6" 900

+2200 ° .

1400...2800 °

±0,6%

;

-

0 .

23.

()

0.5

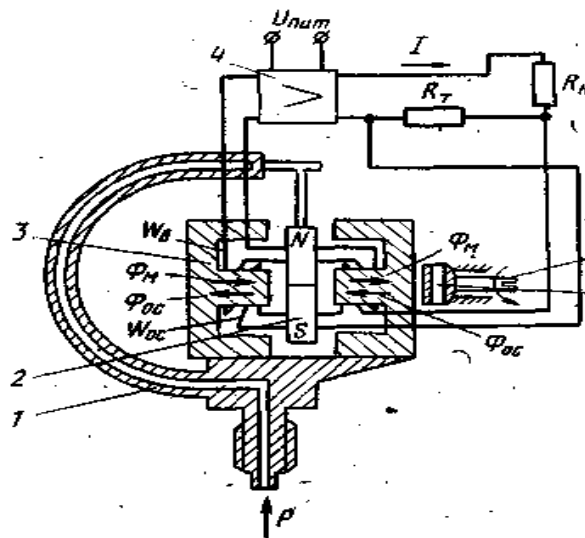
()

10.6.

1

2,

W



10.6 -

3,

W

4.

I

R,

6

5.

5%

100%-

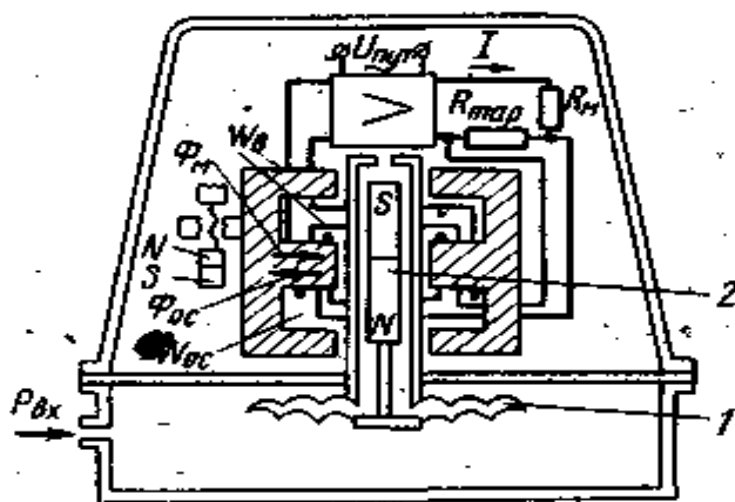
1 .

1,0...2,5%.

(. 10.7)

0.5

1,



10.7 -

2,

(. . . 10.6).

0,16; 0,25; 0,6;

1,6 2,5 .

±1 %,

1 .

901...909

R = kR , R - ;

100

0,2%.

(3·103),

1 %

[7].

24.

(. 10.8)

h .

h ,

-h ,

100 (. 10.9).

R₁,

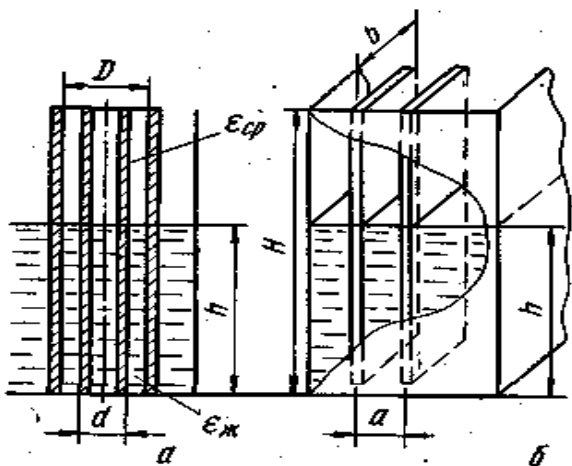
()

R

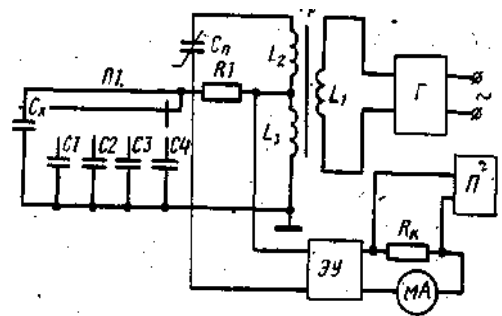
0...100 .

1... 4

1.



10.8 -



10.9 -

.

,

,

,

.

,

,

.

.

[7]

- ()

.

[2,7]

,

1...3 .

.

:

(,)

,

.

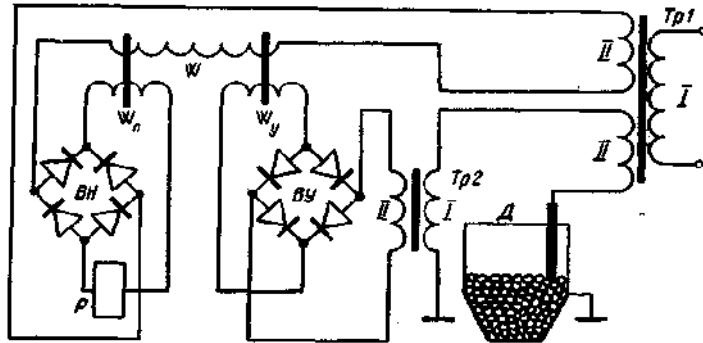
-1, -2, -1, -1 .

-1

. 10.10.

" "

.



10.10 -

1.

(W)

W,

W ,

(. 10.11,),

1 2

(. 3.11,)

1

2,

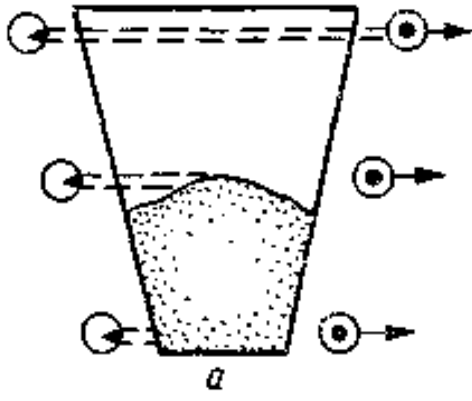
3.

4

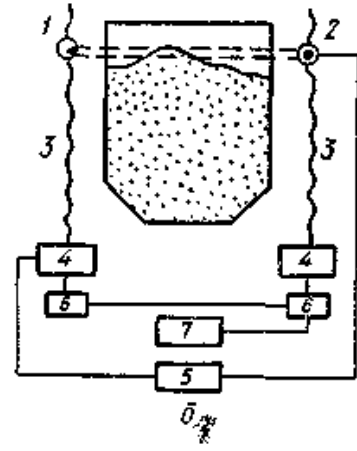
6,

" - "

5



10.11-



()

()

7.

(. 10.12)

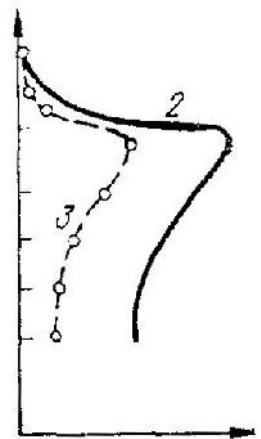
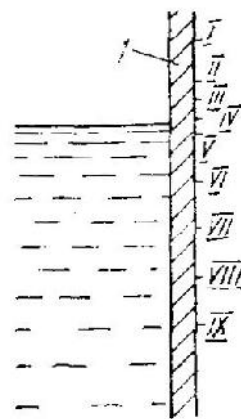
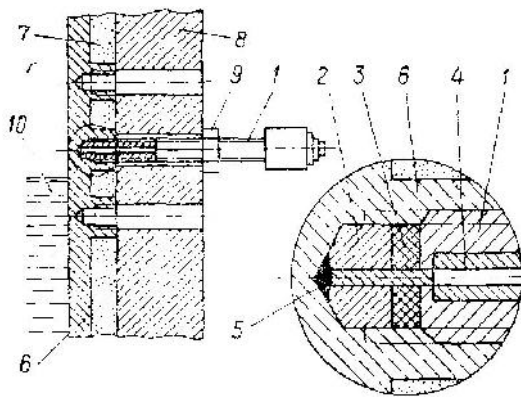
[2]

80 20%

() .

(-)

. 10.13.



10.12 -

10.13 -

- ; 1 -
- ; 2 -
- ; 3 -
- ; 4 -
- ; 5 -
- ; 6 -
- ; 7 -
- ; 8 -
- ; 9 -
- ; 10 -

- ; 1 -
- ; 2 -
- ; 3 -

: 1...1
; 2

25.

G

Q

[7].

$3/$

$3/ /$

[7]

()

()

()

:

$$A_1 v_1 = A_0 v_0 = A_2 v_2,$$

1 2 -

; 0-

; v1, v0, v2-

$$Q = 0.2(1 - 2) / , - ; -$$

(),

[7].

0,025...63 3/

() ± 2,5%.

()

[7].

10⁻⁵ -1 -1.

[7]

n

$$V : n = k V .$$

$$Q = AV \quad (A -) , :$$

$$n = kQ/A,$$

k -

(0,015^{3/}),

(2500^{3/}).

0,2...0,5%.

2.5%.

(60)

6...60^{3/} ,

0,5%.

()

26.

(),

[4].

(-)).

. 10.14, .

1 2

2

/4

1 2

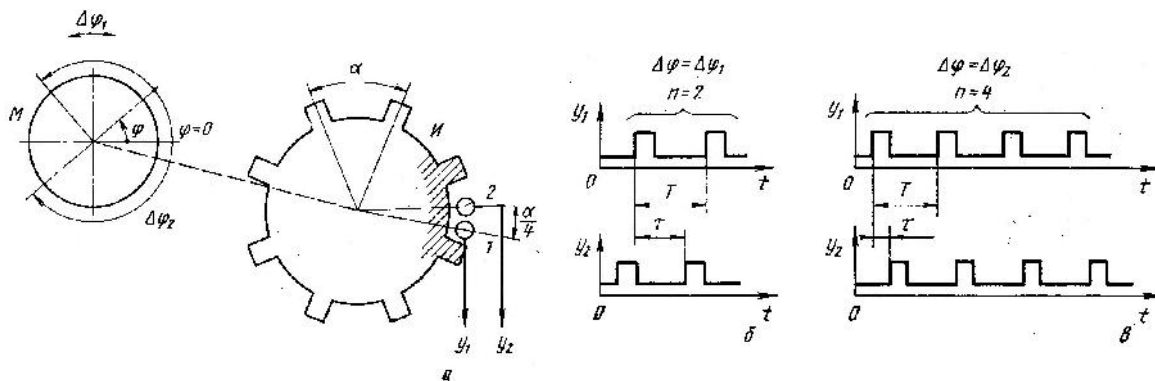
1 2,

2

1.

()
).

(-
1 2



10.14 -

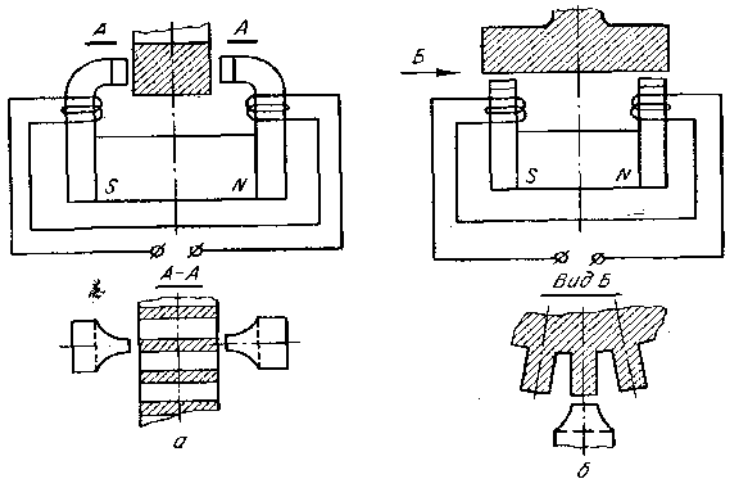
= 1

. 10.14, ,

2 - . 10.14, .

10.15).

(.



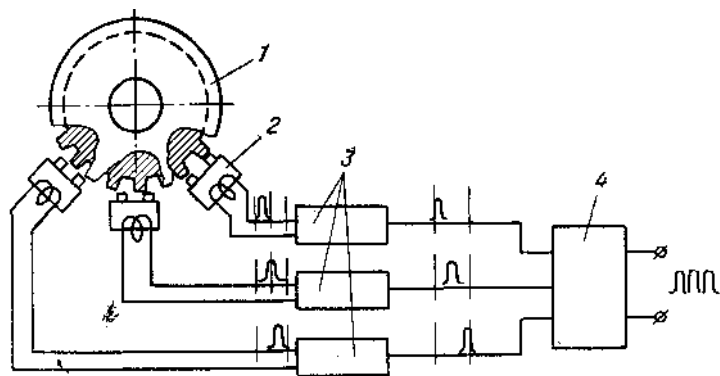
10.15 -

200,

(. 10.16).

1

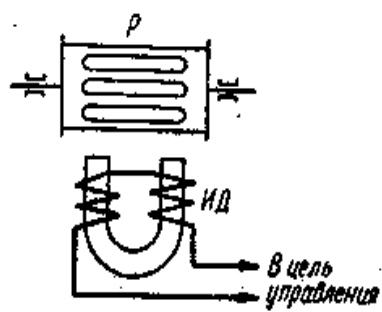
2



10.16 –

,
, 120° .
3
;
4,
3 .

. 10.17.



10.17 –

,

,

.

.

,

,

-

.

,

..

:

,

,

.

. 10.18

()

.

,

,

(),

.

,

,

.

,

,

.

$$= 2 / ,$$

10.19

n

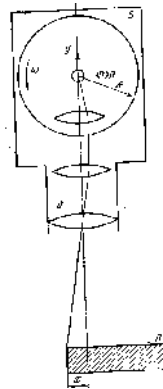
1, 2, ... **n**,

m-

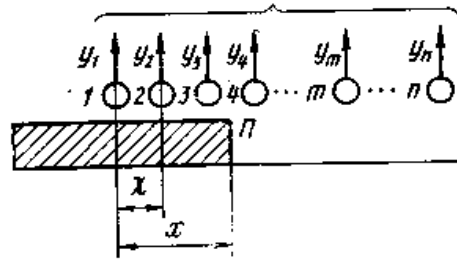
(**m** =1), - (**m**=0),

1, 2..., **n** =(1, 2, ..., **m**, ..., **n**)

[. 3.19 =1, 1, 1, 0...,0, ..., 0].



10.18 -



10.19 -

. 10.18 10.19,

()

[4].

27.

()

()

. 3.20, .

2

3

1.

. 10.20,

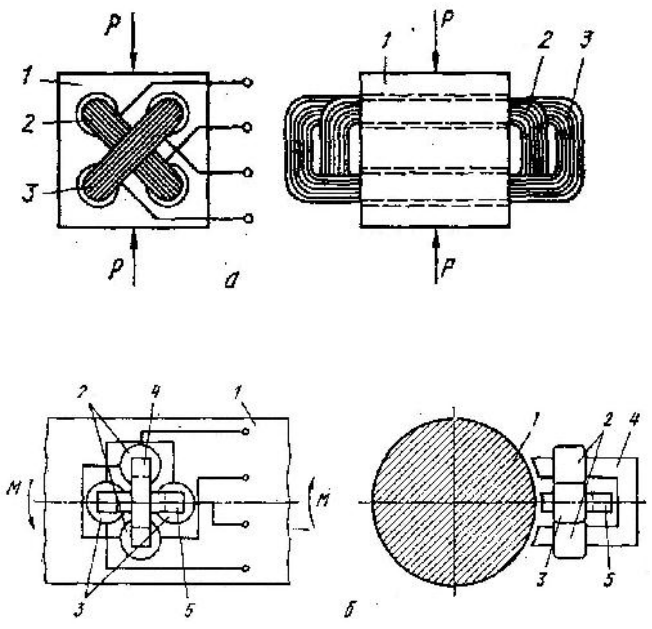
2

3

4

5.

45°



10.20 -

()

()

() ,

, .

.

, .

.

.

$$T = u (T - T), \tag{10.1}$$

T - ; T -

, ; u -

:

$$T = T - T , \tag{10.2}$$

T - ; T - ;

$$T = (d /dt), \tag{3.3}$$

- ; -

:

$$T = k I, \tag{10.4}$$

k - ,

; I - .

(3.1) ... (3.3)

$$T = k \cdot I - (d/dt) \quad (10.5)$$

$$= U - IR \quad (10.6)$$

$$= k \quad (10.7)$$

U - ; R - ; k -

k k , (10.5) (10.7),

k = k .

(10.5)...(10.7)

$$T = (U - IR)I - (d/dt) \quad (10.8)$$

=f()

T , , I, I

d/dt, T

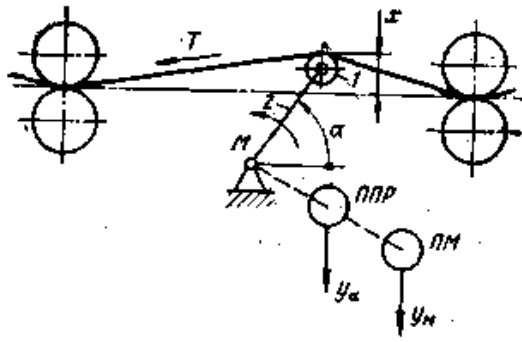
(10.1) (10.5). T , ,

U, I,

d/dt , T (10.1)

(10.8).

. 10.21.



10.21 -

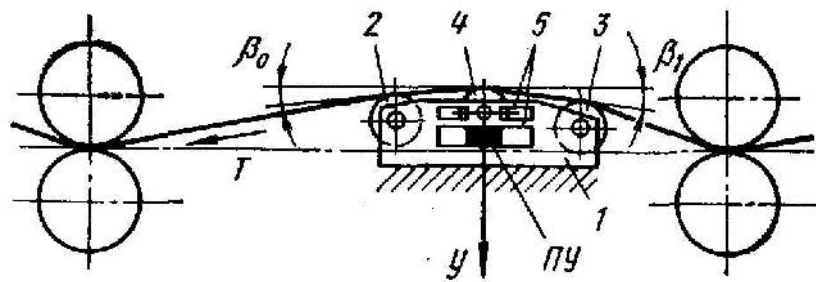
. 10.22.

1,

2 5

4.

5.



10.22 -

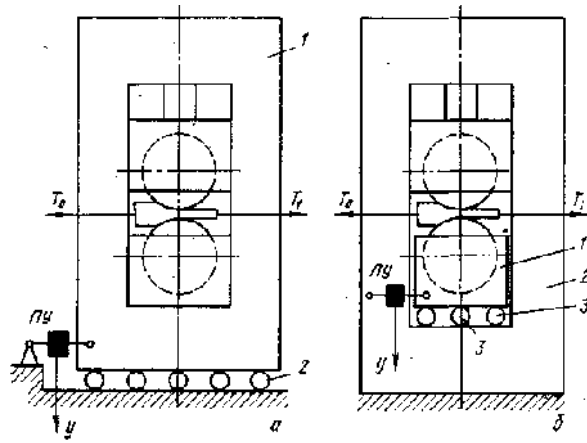
0 1.

[4].

1

2

. 10.23,



10.23 –

() ()

1 0,

(. 10.23,).

2

3

1

(,)

(

).

[4].

27.

().

()

(,)

,

I

$I = I - \mu h$, *I* -

; μ -

; *h* -

(-) -

0,3

1,2

(

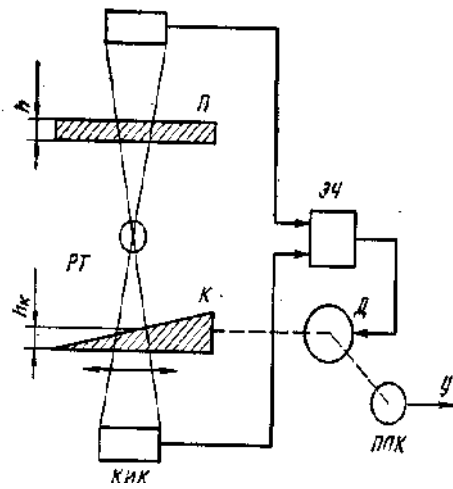
).

10.24.

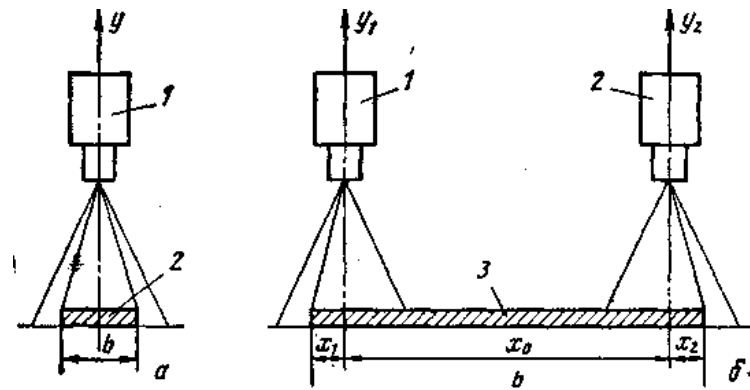
() ,
() ,
- ,

$$h = h_K.$$

h.



10.24 -



10.25 -

10.25,

1 b 2.

10.25,

2

1 2

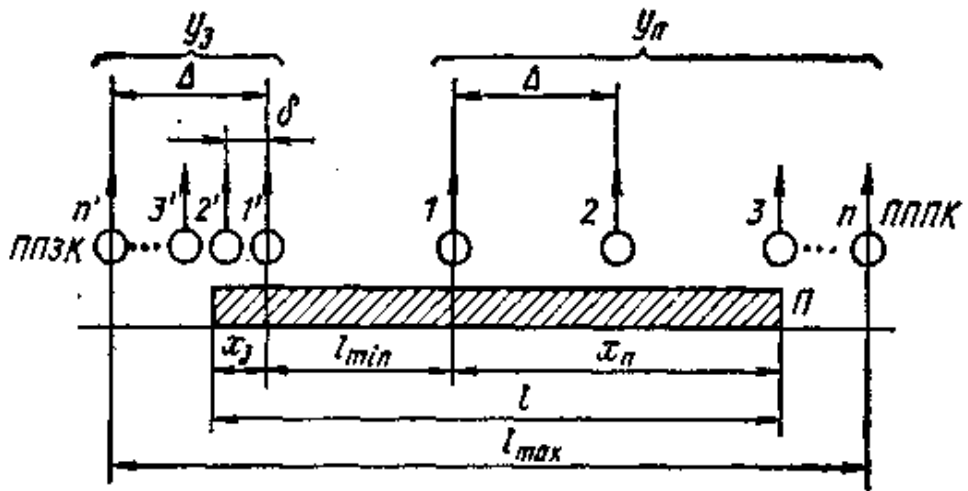
1 2

3

$b = x_0 + x_1 + x_2,$ 0 -

()

()



10.26 -

1.

1, 2, ..., n,

1', 2', ..., n',

$= (n' - 1) \cdot$

$1 \cdot 1'$

l_{min}

$n \cdot n' -$

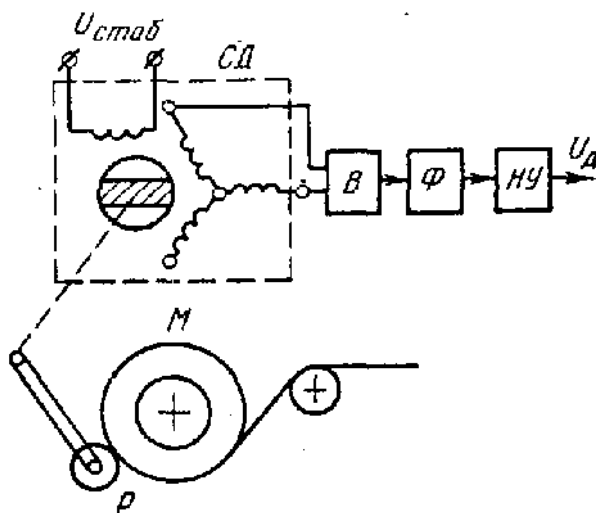
$l_{max}.$

$$l = l_{min} + x + x .$$

()

().

(.10.27)



10.27 -

- ; - ; - ; -

- ,

, ,

-

- .