

-VPT

421412.004



	.....	2
1	.....	3
2	.....	4
	2.1	4
	2.2	5
	2.3	5
	2.4	6
	2.5	6
	2.6	8
	2.7	9
3	.....	9
4	.....	9
	4.1	9
	4.2	10
	4.3	11
5	.....	12
	5.1	12
	5.2	12
6	.....	27
	6.1	27
	6.2	27
	6.3	28
	6.4	28
7	.....	29
	7.1	29
	7.2	29
	7.3	29
	7.4	29
8	.....	30
9	.....	30
	9.1	30
	9.2	30
	9.3	30
	9.4	31
	9.5	31
	9.6	31
	9.7	32
	9.8	34
	9.9	34
	9.10	35
10	.....	36
	1.	37
	2. ()	39
	3.	40
	4.	45
	5.	47
	6. 1-11	51
	7.	52

2

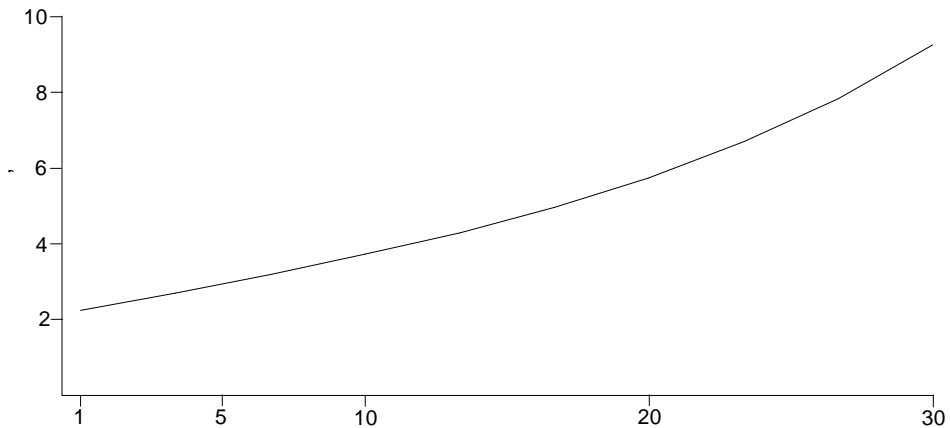
2.1

421412.004.

:
 - 30° 55° ;
 - 95% 35° ;
 - 84 107 .
 :
 - 190 ×135 ×95 ;
 - 70 ×70 ×60 ;
 - 2,0 ;
 - 0,3 ;
 - IP66.
 :
 - 400 / (50 ± 1) ;
 - 0,1 25 .
 :
 - 3,6 . , 1

2.1.

:
 - 10 000 ;
 - 10 .



2.1 - (20°C RS-232)

2.1. - 2.1.

	U ,	U ,	I ,	L ,	C ,
-VPT	± 12	24	50	1,0	1,0
-RS232					

1. U , U , I -
 2. , L -

2.2

0,084 ; 1,4 ; 0,084 ; 0,2 ; 0,084 ; 0,7 ;
 25° ; 60° ;
 (") 1 " " 500 .
 (" ") - 50 , - 10,0 .
 (EPSON ESP/P) ,
 -RW RS-232 1200 / ; 2400 / ; 4800
 / 9600 / . 1000
 -LRS232.

2.3

126 ; 480, 1150
 1;
 (-) (1;) (2046)
 -) , 2;
 () 1; , 255 . -) ,
 -) 1;
 - ;
 - ;
 - ;
 - 2;
 - ;
 -)
 - :
 - 0,66 / ³ 1,05 / ³ ;
 - 0 % 15%;
 - 0,9 1,0;
 -)

2.5.4

t

" " \ \| " (1): " " " " " "

2.5.4.1 t > "t " "t>t " -

:
 - t = t - t 60° ;
 - t = t () - t > 60° " , " = " ;
 - t = "t " () - t > 60° " , " =

2.5.4.2 "t " t "t " "t= " - ,
 t = t .

2.5.4.3 t < "t " "t<t " - ,
 :

- t = t - t t , t = 25° (23,15°) - 50-213-

80 (GERG-91 . NX19 .);

- t = t () - t < t " , " = " ;
 - t = "t " () - t < t " , " = " .

2.5.4.4 "t, " = " " , "t= " -
 , t = "t " .

2.5.5

K

"K= " - K , :
 - = () - " , " = " ;
 - = " " () - " , " = " "
 - = "K= " - ,
 = .

2.6

2.6.1

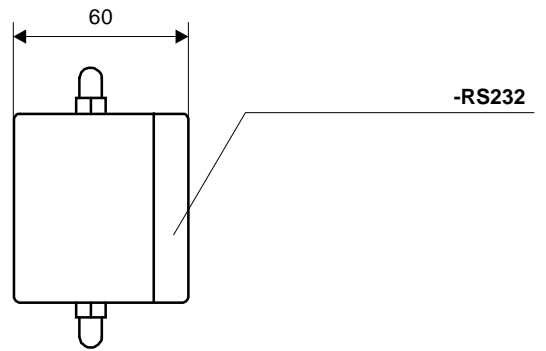
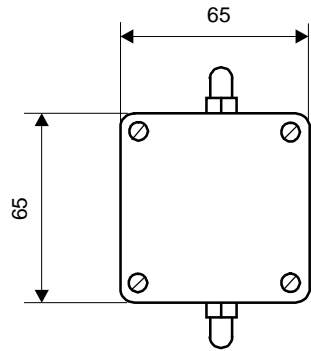
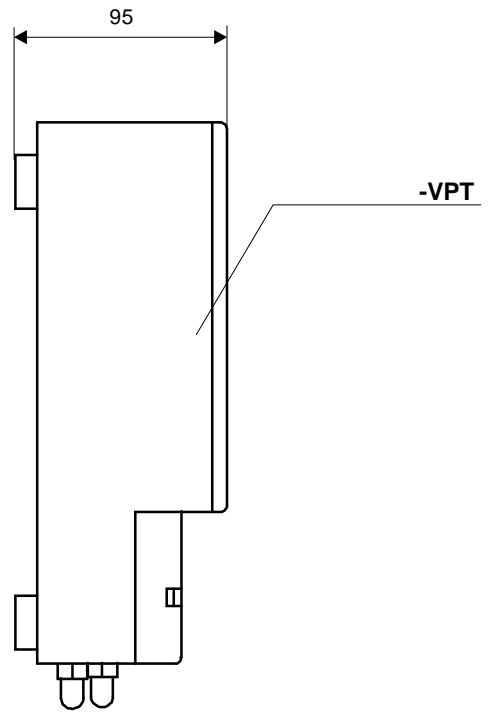
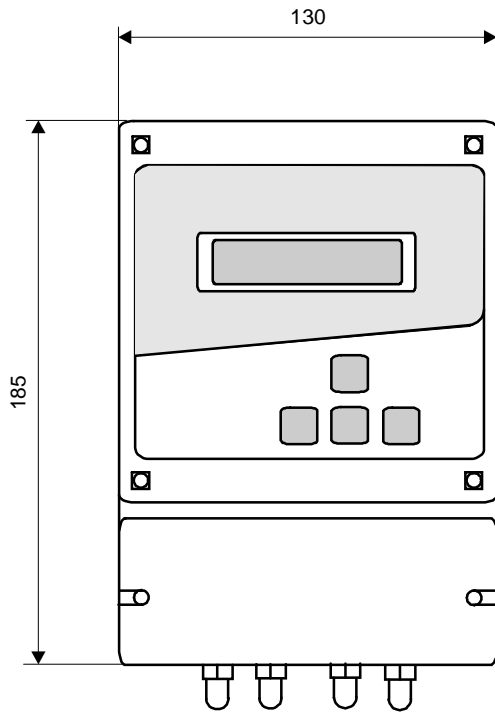
:
 - - 0,084 0,2 ; 0,084 0,7 ; 0,084
 1,4
 - - 40° 70° ;
 - - 0 3/ 99999 3/ ;
 - , - 0 3 99999999 3 .

2.6.2

:
 - -6- 0,00001 ;
 - -4- 0,01° ;
 - -6-
 0,00001;
 - -5- ;
 - , -8-
 () : 1,0 3 ; 0,1 3 ; 0,01 3 ; 0,001 3 .

2.6.3

:
 " , : ' : "

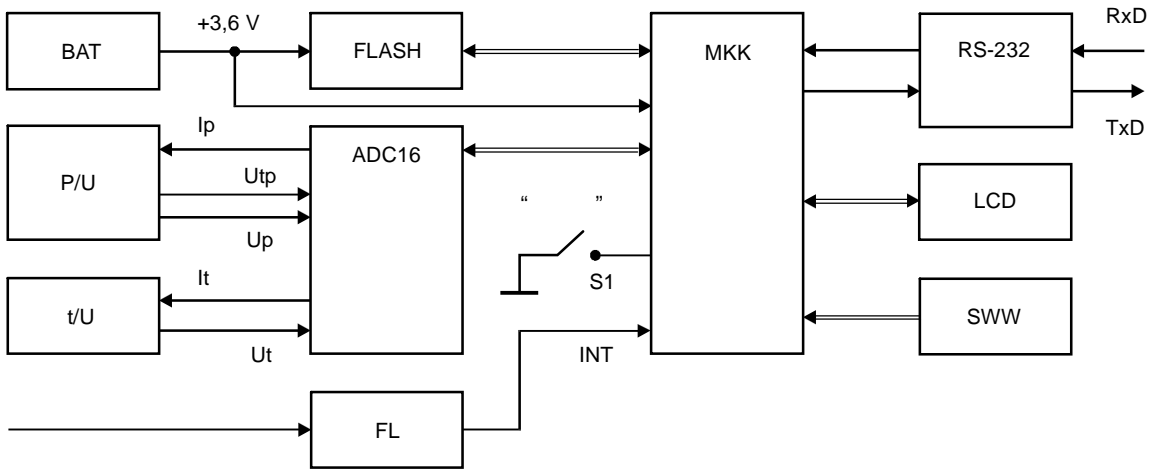


4.1 -

4.2

(4.2) :
 - 3,6 ;
 - FLASH ;
 - 16- RISC , 12-
 , / , 16-
 USART SPI , 16-
 - RS-232;
 - P\U ;
 - t\U ;
 - 16- - ADC16
 ;

- S1 " " ;
 - LCD, ;
 - SWW, 4 ;
 - FL .



4.2 -

BAT, P/U, Ip, Utp, Up, t/U, ADC16, It, Ut, P/U, FL, INT, RS-232, LCD, SWW.

(2.1) - (2.5)

RS-232

S1 " " "1" - (1).

4.3

22782.5, 22782.0,
"1 ibIIAT4" "

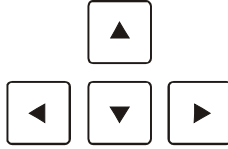
"ib",

" b

5

5.1

(5.1) 4



5.1 -

(5.2)

16

5.2,

"09"

9 0,

"19" -

9

1.

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0																
1																
	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F

5.2 -

"10"

"■",

- "▲".

5.2

5.2.1

5.3

01, , 2006 , 09 : 01 : 01
V=9999999.9 ³ W=9999999.9 ³

5.3 -



5.2.6.1

(5.11) 3 8

1) "\ , V, W, P, t - , ' , , V W - ' , , / 0C...0F : " V", " W" " T" = " " = " ;

2) "\ = , - "q Q " "Q < q Q " ("Q q Q ") - " \ //Q " = " ("), "q = Q "; - "P p P " " = P "; - "t t t " "t = t "; - " = " " = " , V W - ' , , ;

> Q

3) "\ = , - "Q < q < Q " - " \ //Q " = " , "q "; - " < " " > "; - "t < t " "t > t "; - " = " , V W - ' , , ;

4) "\Q>Q " , - " V W - ' , , ;

5) "\Q<Q " , - " V W - ' , , ;

6) "\P>P " , - " V W - ' , , ;

7) "\P< " , - " V W - ' , , ;

8) "\t>t " , - " V W - ' , , ;

9) "\t<t " , - " V W - ' , , ;

10) "\ = " , - " V W - ' , , ;

11) "*Q,t,P= " , - " V , V , W - ' , , ;

, - " " " "



$\| P ? \pm 9.9999E\pm 8$	-	()
$\| P ? \pm 9.9999E\pm 8$	-	: P /2 < P P ()
$\| P ? \pm 9.9999E\pm 8$	-	: 0,084 P P ()
$\| P ? \pm 9.9999E\pm 8$	-	: 0,084 < P P ()

5.19 - " \ "

5.2.8.4 " \ "
(5.20)
5.2.8.3.

$\| t ?^\circ \pm 9.9999E\pm 8$	-	: 0 < t 60 ()
$\| t ?^\circ \pm 9.9999E\pm 8$	-	: -25 t t -50; -23,15 t t - NX19 GERG-91 ()
$\| t ?^\circ \pm 9.9999E\pm 8$	-	: -25 t 60 -50; -23,15 t 60 - NX19 GERG-91 ()

5.20 - " \ "

5.2.8.5 " \ "
(5.21)
5.2.8.3.

$\| V ?^3 \pm 9.9999E\pm 8$	-	: 0,01 V 10 ()
$\| Q ?^3 / \pm 9.9999E\pm 8$	-	: 10 < Q 20000 ()
$\| Q ?^3 / \pm 9.9999E\pm 8$	-	: V Q Q /8 ()
$\| Q ?^3 / 9.9999E\pm 8$	()	: V /8 Qo < Q
$\| Q ?^3 / 9.9999E\pm 8$	-	: Q < Q 20000 ()
$\| W0?^3 \pm 9.9999E\pm 8$	-	: ±1 W0 ±99999000 ()

5.21 - " \ "

" \ \| W0?^3":

- , ;
- , ;

;
- 5 , W0=+783324 3,
W0=+7.8332 +5,
- W0= +4.0000 +0.

- " " ? " :
 - " " ? " :
 - () - " " / " ;
 - " " ? " :
 1-2 " " ,
 .
 □

\ RS232? /c
 9600

RS-232, 1200; 2400; 4800; 9600 (

\ ?Hex
 HHHH

, - 1 FFF0 ()

5.24 -

5.2.8.8

" \ "

(5.25)

\ ?
 GERG

: NX19; GERG; 50

\ P?

\ t?

\ Q?

\ ?

\ Q ?

q Q ; Q - Qo<q<Q () :

\ ?

; - p, t, q () :

\ ?

120 (: -) ; -

\ V ?³
 0.1

: 1,0; 0,1; 0,01; 0,001 ()

\ ?
 10

: 1; 2; 3; 5; 10; 15; 30 ()

\ ?

() , : 00; 01; 02; 03, " ? "= 00 ()

\ ?
 03

\ .?
 09

: 00 - 23 ()

\ .?
 03

: 01 - 28 ()

\ ?Hex

-6- 000000 - FFFFFFFF

\ ,

() « »: - ; - « » ()

5.25 -

" \ "

1. () () ! , ()
 2. () () , ()

5.29) □ “ ” (5.28) “ ” (

“ ”	“ ”	“ ”
“ ”	“ ”	“ ”
“ ”	“ ”	“ ”
“ ”	“ ”	“ ”

(0-23) (0-59) (0-59)

5.28 - " "

“ ”	“ ”	“ ”
“ ”	“ ”	“ ”
“ ”	“ ”	“ ”
“ ”	“ ”	“ ”

(0-30) (1-12) (1-31)

5.29 - " "

(1-2) " "

□

2020 15 02 2020 01 03
 - 23 59 55 ; 00 00 ;
 - 03 2020 .
 2020 01 04 , 2020 , 15 04 ,

! “ ” “<” () “1F”

5.2.8.10

(5.30)

“ \ ”
“ / “>” - ”,
“?”
“?”
“<” -
11,

- “ ” -
- “X” -
- “H” -
- “D” -
- “A” -
- “O” -
- “U” -

200 .

- “\ = ” -
;
- “\ = ” -
“\ ?...”.

“\ ?”

“\ ?”

5.30 -

“\ ? ”
“\ ? ”

6

6.1

()
;
;
(“10”)
“■”,
“■”.

2046

6.2

6.2.1

"Q<Q" -
 "Q", "\Q", "=", "\Q", "=", "Q",
 ("Q=0").

6.2.2

"Q>Q" -
 (" -
 "\Q", "= " ", "\Q", "= " ",

6.2.3

" > " (" < ") -
).
 ">" (" < 0,084),
 "\Q", "= " ".

6.2.4

"t>t" ("t<t ") -
 t > 60 ° (t < t , t = 25 ° -
 50-213-80 t = 23,15 ° -
 GERG-91 . NX19 .),
 "\Q", "= " ".

6.3

"K=" -
 "\Q", "= " ".

6.3

" = " -
 "0" - (

" " !
 "1" ()

"U < " -
 10%.

"U <U" -
). " " : " " "


9.5

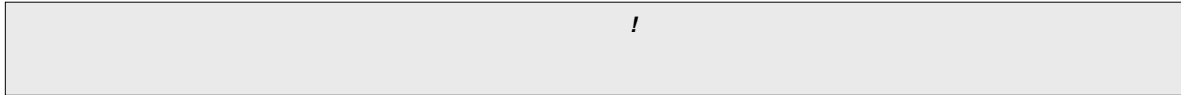
(). 4
1,5 .

9.6

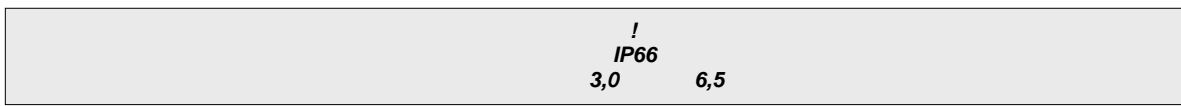
22782.5, 22782.0, "ib",
"1 ibIIAT4" " 4 " 0.00-132-01"
" b
-RS232

9.7

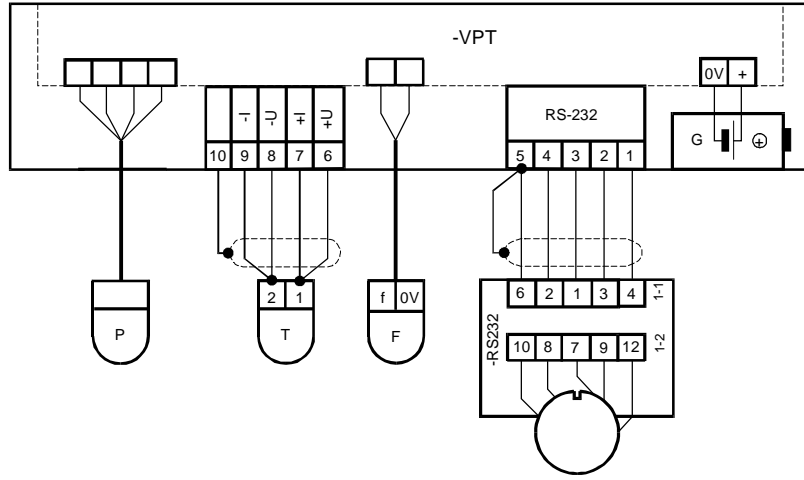
4.
5.


6.
() 4. : 50 × 50 .
" 1" ' 9.1.
-RS232.
7.


7 - (" 1-2"). " 1-1" () ' -
3,0 6,5 (PG7).


! IP66 3,0 6,5

0,15² 1,5².



9.1 –

-RS232

-RS232

-RS232,

9.2.

9.3.

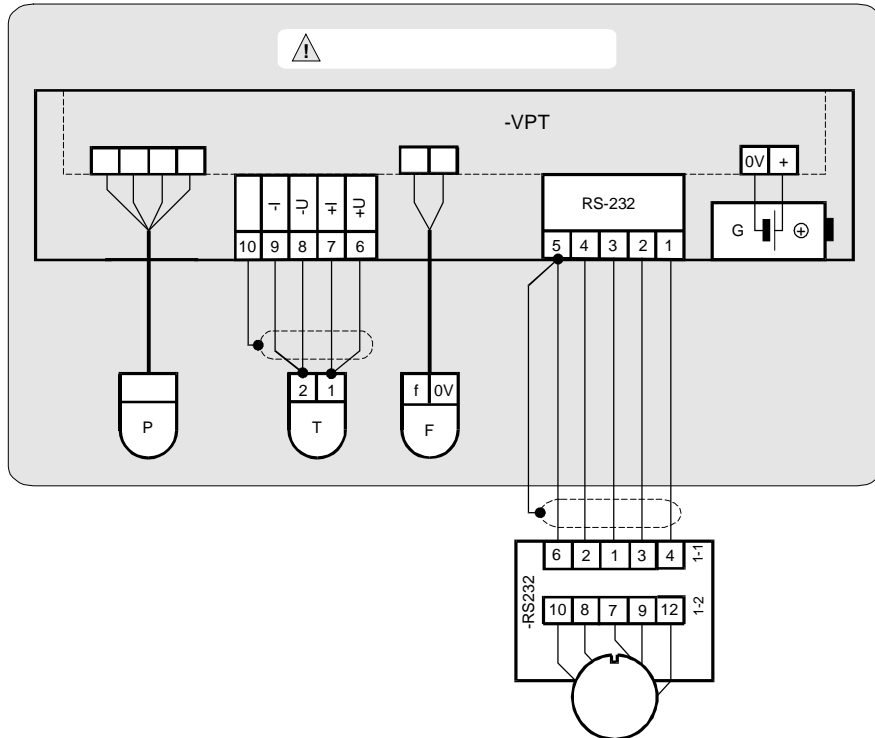
-RS232

RS-232

25 .

-LRS232,

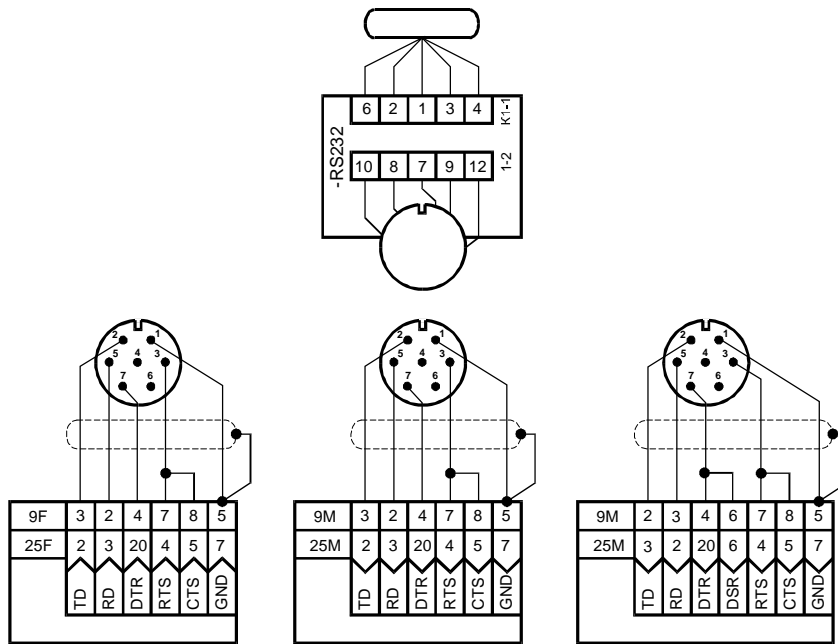
1000 .



9.2 –

-RS232

-VPT



9.3 -

-RS232

-7

9.8

:
 - "0" -
 1-2
 2 - 20
 - " (5.2.8),
 ;
 " \ " (5.2.2)
 ;
 - " " ()
 - 5.2.8.10 " \| \| ? " ,
 (" W, 3" - ") \| W, 3" \| \| ? " ,
 - " " " " "1" - ,
 - " = " ;
 , 9.9.

!
 - « \| » - Q < Q < Q ;
 - « \| » - < ≤ P ;
 - « \| » - t < t .

9.9

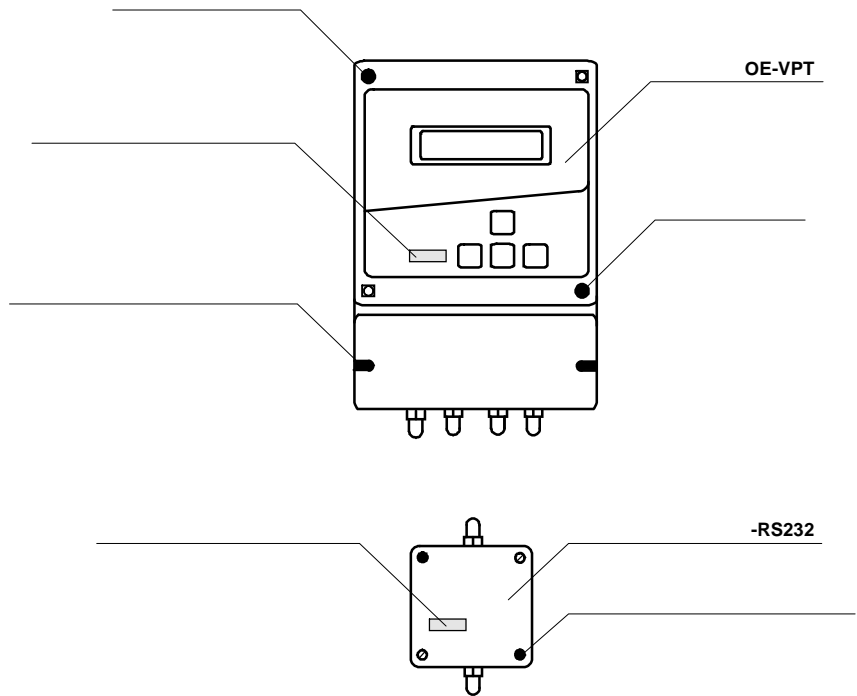
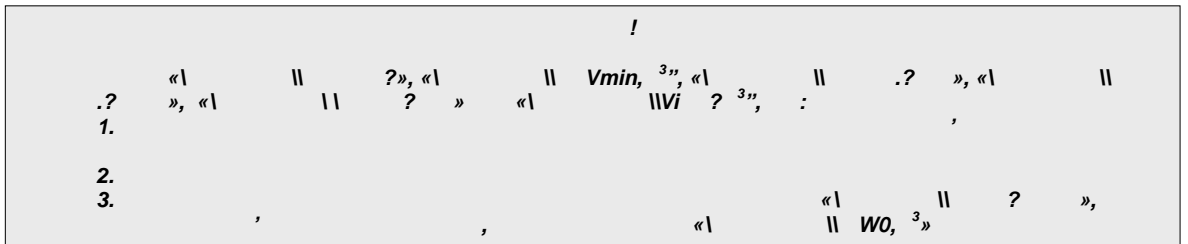
(9.4):

- ;
- ;
,



9.10

- " (5.2.8.2) ;
- " (5.2.2) ;
- " (5.2.3), " (5.2.5)
- ;
- " "



9.4 -

- ;
- ;
-VPT

- ;
- ;
- ;
- ;
- ;
- ;



10

() , ,
2 15150.
, . 1 15150.
, , ,
- 6 .

: " \ "				
1	?		0...FFFFFF	
: " \ "				
2	,		50; GERG; NX19	
3	P,		" ; " "	
4	t,		" ; " "	
5	Q,		" ; " "	
6	,		" ; " "	
7	Q ,	Q	" ; " "	
8	,		" ; " "	
9	,		" ; " "	
10	V , ³		0,001; 0,01; 0,1; 1,0	
11	,		1, 2, 3, 5, 10, 15, 20, 30	
12			;	
13	,	()	0...4	
14	..		0...23	
15	..		1...28	
16	,Hex		0...FFFFFF	
17	,	" "	" ; " "	
: " \ "				
18	, / ³		0,66...1,05	
19	,%		0...15,0	
20	,%		0...15,0	
21			0,9...1,0	
: " \ "				
22	P ,		0,2; 0,7; 1,4	
23	,		P /2...P	
24	P ,		0,084..P	
25	P ,		0,084...P	
: " \ "				
26	t , °		0...+60	
27	t , °	: 50-13 NX19, GERG-91	-25...t -23,15...t	
28	t , °	: 50-13 NX19, GERG-91	-25...+60 -23,15...+60	
: " \ "				
29	V , ³		0,01...10,0	
30	Q , ³ /		10...20000	
31	Q , ³ /		V ...Q /8	
32	Q , ³ /	" "	V /8...Q	
33	Q , ³ /		Q ...20000	
34	W0, ³		±1 W0 99999000	

2
(,)

, ()

1	=	()
2	=	()
3	FLASH=	, ()
4	FLASH=	, ()
5	=	
6	=	()
7	- =	
8	- =	()
9	-U=	
10	-U=	
11	= ?	, ()
12	=	
13	=	()
14	=	
15	=	
16	Q=	
17	Q=0	" "(
18	Q<Q	()
19	Q>Q	()
20	Q=	
21	=	
22	<	()
23	>	()
24	=	
25	t=	
26	t<t _	()
27	t>t	()
28	t=	
29	U =	()
30	U <	(10%)
31	U <U	()
32	U =	()
1.	-	.
2.		

(3)

1.

- ;
 - ;
 q - ;
 q - ;
 p - ;
 p - ;
 p - ;
 t - ;
 t - ;
 V - ;
 , , 3 - , ;
 , , 3 - , ;
 , - ;
 . . - ;
 - () ;
 - () ;
 - () .

2. “ ”

OE-VPT	25333 (" ")
	5.1
	NX19
	09
	01
	03
	01
" "	.250...
	BK
	B K
	1.000
	400.0000
	2.5000
	1.0000
	100.0000
	0.1
	0.7000
	0.50000
	0.14000
	0.50000
	BK
	60.0000
	-25.0000
	10.0000

01.01.07 16:37:22

“ ” \ // , ”= , “ ”

3. “ ”
 3.1 :“ \ \|Q ? ”=” ” “ \ \| ? ”=” ”

()
 01.07.06 09:00:00 01.08.06 08:59:59

OE-VPT 25333(" ") , - 01, - 09
 .250..., V = 1.000 3, q = 2.500 3/ , q = 400.00 3/
 Xy = 0.0420 %, = 0.7560 %, = 0.6830 / 3
 NX19

01.07.06 09:00:00	1073.765	0419.000	2.56268	-0.97	0.24258	01 00:00:00
02.07.06 09:00:00	0972.683	0382.000	2.54629	2.42	0.24750	01 00:00:00
...
31.07.06 09:00:00	1084.696	0421.000	2.57647	10.32	0.24647	00 22:59:29

	30746.600	10503.000				30 22:59:29/00 01:00:31
	18969.420	07855.000				0004 00:00:00
	50201.613	18324.000				0034 22:59:59
=	29501.016	10005.000				30 21:44:35
\q,t,p=KOHCT	00000.000	00000.000				00 00:00:00
\q<q	00574.659	00068.000				00 04:21:43
=	01245.584	00498.000				00 01:14:54
\q>q	01245.584	00498.000				00 01:14:54
\p>p	00000.000	00000.000				00 00:00:00
\p<p	00000.000	00000.000				00 00:00:00
\t>t	00000.000	00000.000				00 00:00:00
\t<t	00000.000	00000.000				00 00:00:00
\K=ABP	00000.000	00000.000				00 00:00:00

02.08.06 14:06:55

3.2 :“ \ \|Q ”=” ” “ \ \| ? ”=” ”

()
 01.07.06 09:00:00 01.08.06 08:59:59

OE-VPT 25333(" ") , - 01, - 09
 .250..., V = 1.000 3, q = 2.500 3/ , q = 400.00 3/
 Xy = 0.0420 %, = 0.7560 %, = 0.6830 / 3
 NX19

01.07.06 09:00:00	1073.765	0419.000	2.56268	-0.97	0.24258	01 00:00:00
02.07.06 09:00:00	0972.683	0382.000	2.54629	2.42	0.24750	01 00:00:00
...
31.07.06 09:00:00	1084.696	0421.000	2.57647	10.32	0.24647	00 22:59:29

	30746.600	10503.000				30 22:59:29/00 01:00:31
	18969.420	07855.000				0004 00:00:00
	50201.613	18324.000				0034 22:59:59
=	29501.016	10005.000				30 17:22:52
\q,t,p=KOHCT	00000.000	00000.000				00 00:00:00
=	01416.791	00566.000				00 05:36:37
\q>q	01245.584	00498.000				00 01:14:54
\q<q	00171.207	00068.000				00 04:21:43
\p>p	00000.000	00000.000				00 00:00:00
\p<p	00000.000	00000.000				00 00:00:00
\t>t	00000.000	00000.000				00 00:00:00
\t<t	00000.000	00000.000				00 00:00:00
\K=ABP	00000.000	00000.000				00 00:00:00

02.08.06 14:06:55

3.4.6 “ ” “ ” , () ,

4. “ ” (- 1)

		01.03.06 09:00:00		()		01.08.06 08:59:59	
OE-VPT 25333(“ ”),		- 01,		- 09		NX19	
.250..., V = 1.000 3, q		= 2.500 3/ , q		= 400.00 3/			
03.03.05 12:23:16	Xy,%	1,0027	1,0420	22491.352	09015.000		
07.03.05 13:31:44	Xa,%	0,7560	0,7820	26970.724	10813.000		
10.03.05 15:14:19	RS232, /c	4800	9600	30134.105	12030.000		
02.08.06 14:09:07							

5. “ ” (- 2)

		01.07.06 09:00:00		()		01.08.06 08:59:59	
OE-VPT 25333(“ ”),		- 01,		- 09		NX19	
.250..., V = 1.000 3, q		= 2.500 3/ , q		= 400.00 3/			
01.07.06 12:20:01	Q<Q		20628.910		08270.000		
01.07.06 16:41:44	Q=HOPM		20742.922		08312.000		
08.07.06 22:12:29	Q>Q		48364.478		17734.000		
08.07.06 23:27:35	Q=HOPM		47118.894		18232.000		
02.08.06 14:17:03							

“ ” “ ” , :

“ OE-VPT 25333 N” ,

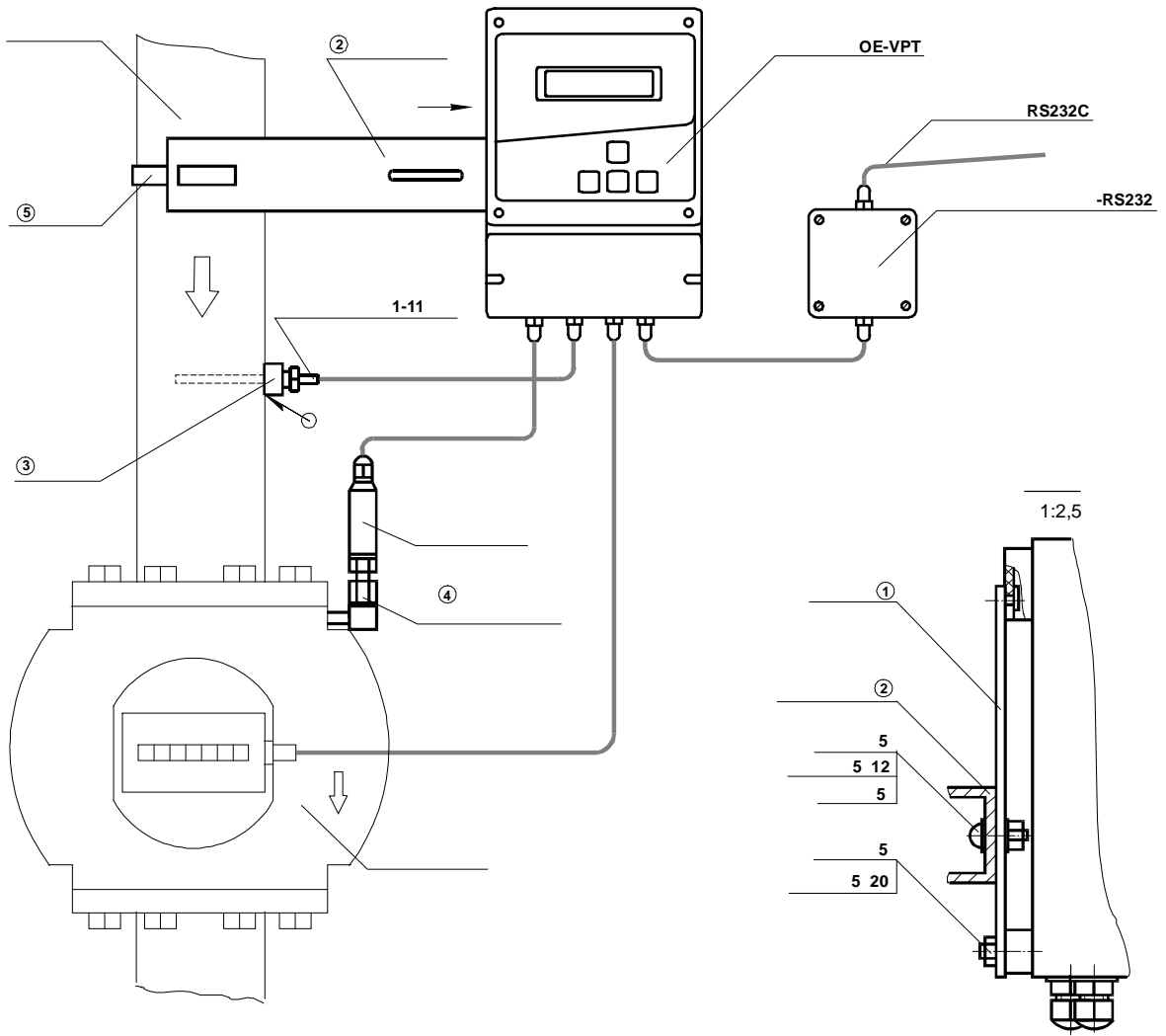
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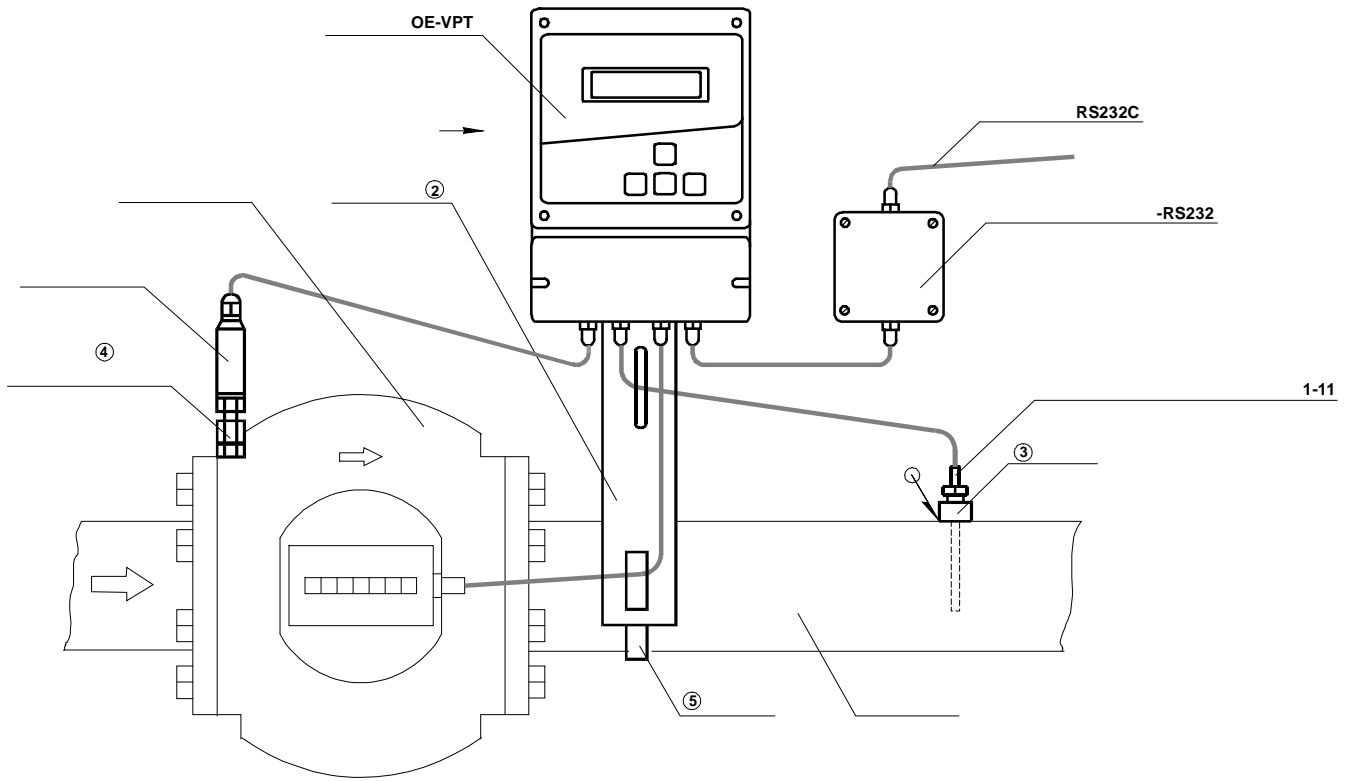
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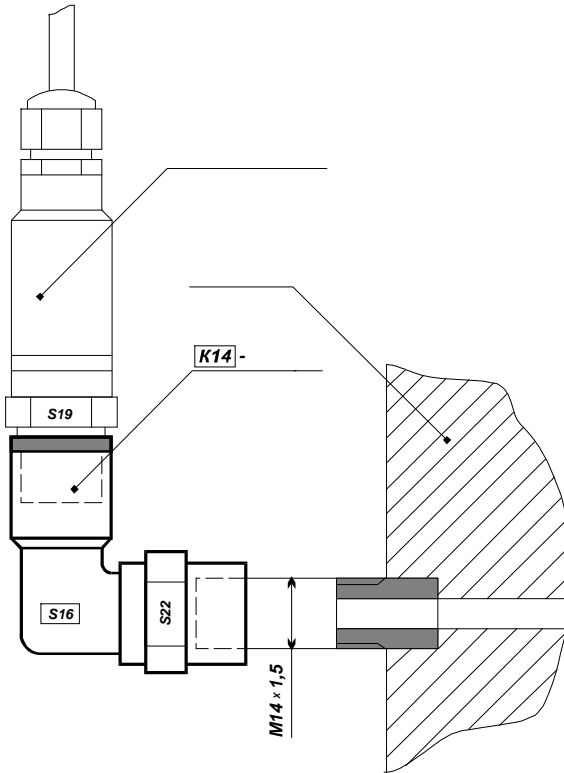
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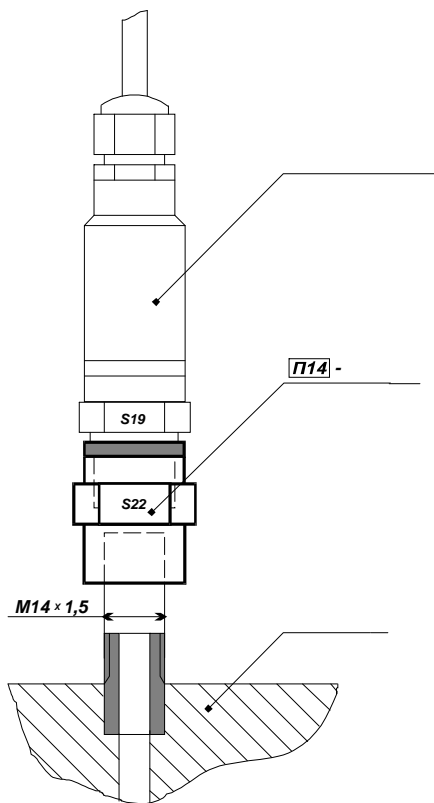
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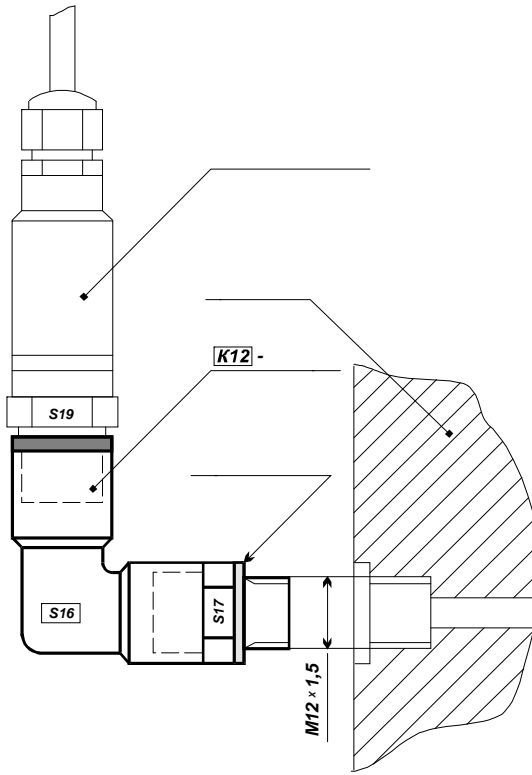


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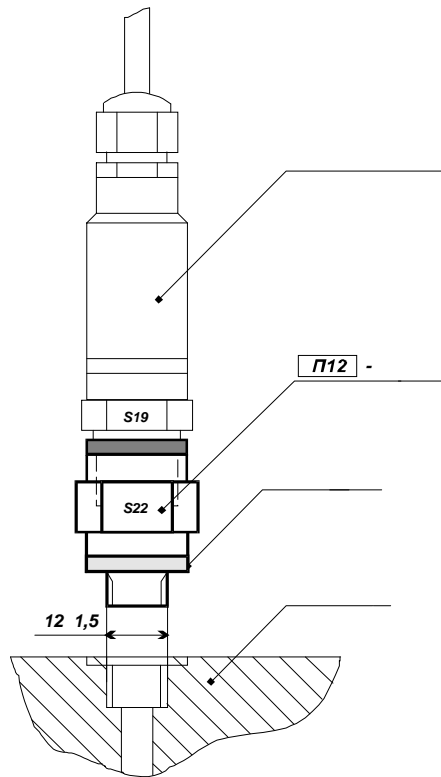
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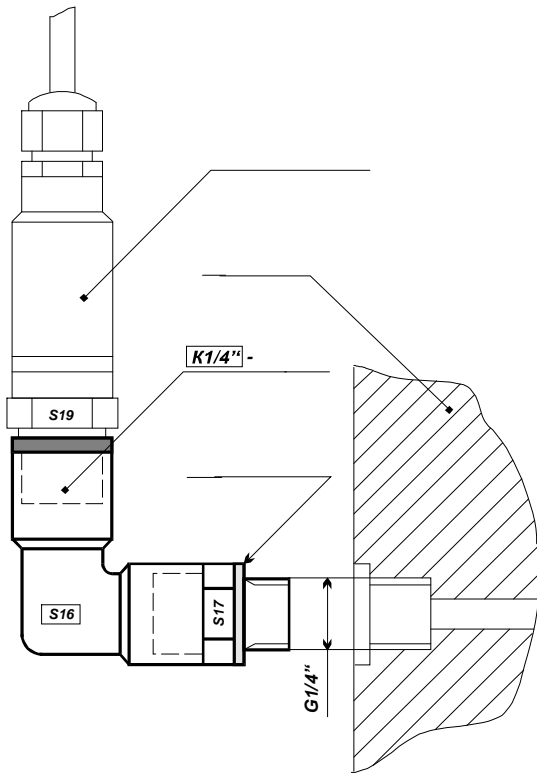


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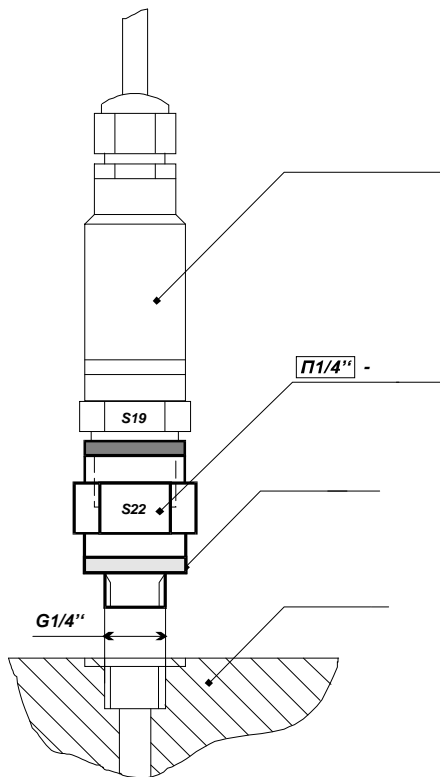
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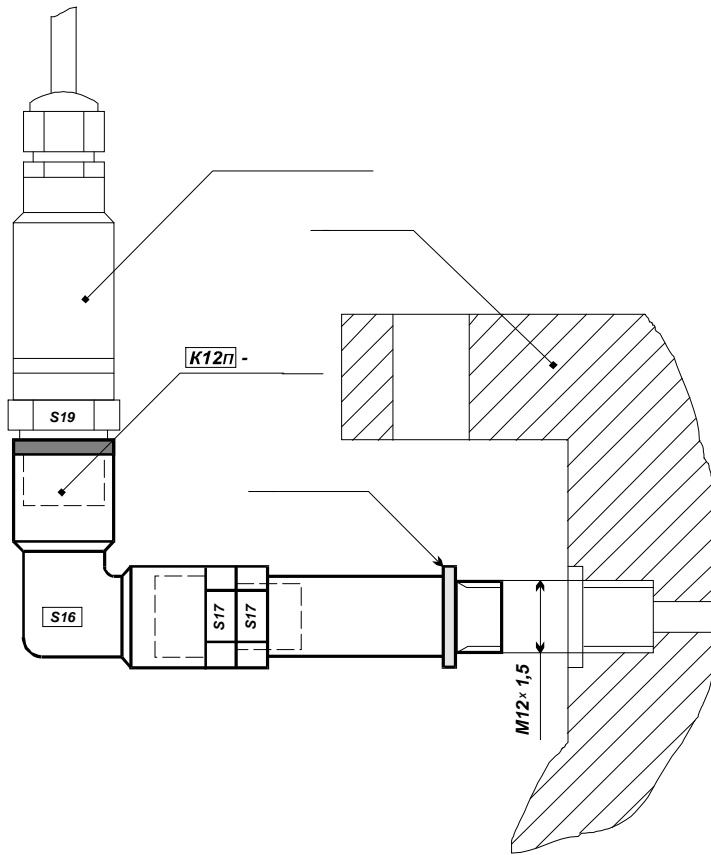
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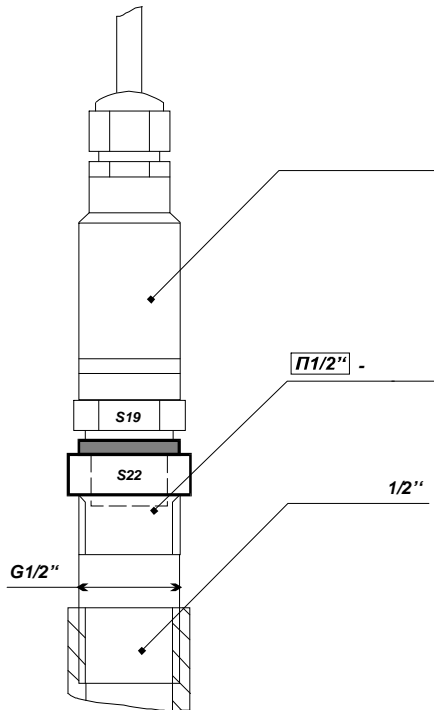
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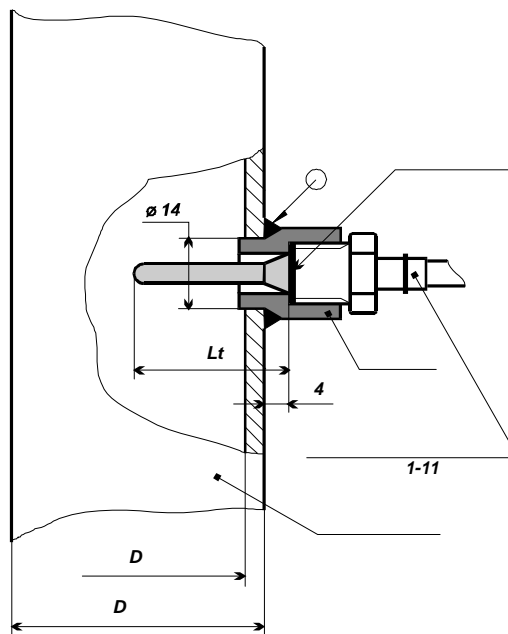
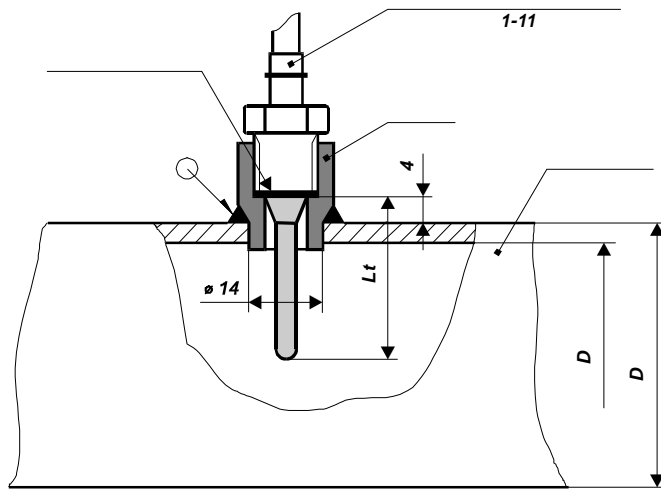
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Lt:

D	32	40	50	80	100	125	150	200	250
Lt	25		32	50	60		80	100	120



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1. **9** (, DB-9M – ,).
2. **25** (, DB-25M – ,).
3. **9** (, DB-9F – , ,).
4. **25** (, DB-25F – , ,).
5. **9** (, DB-9 – ,).
6. **25** (, DB-25 – ,).