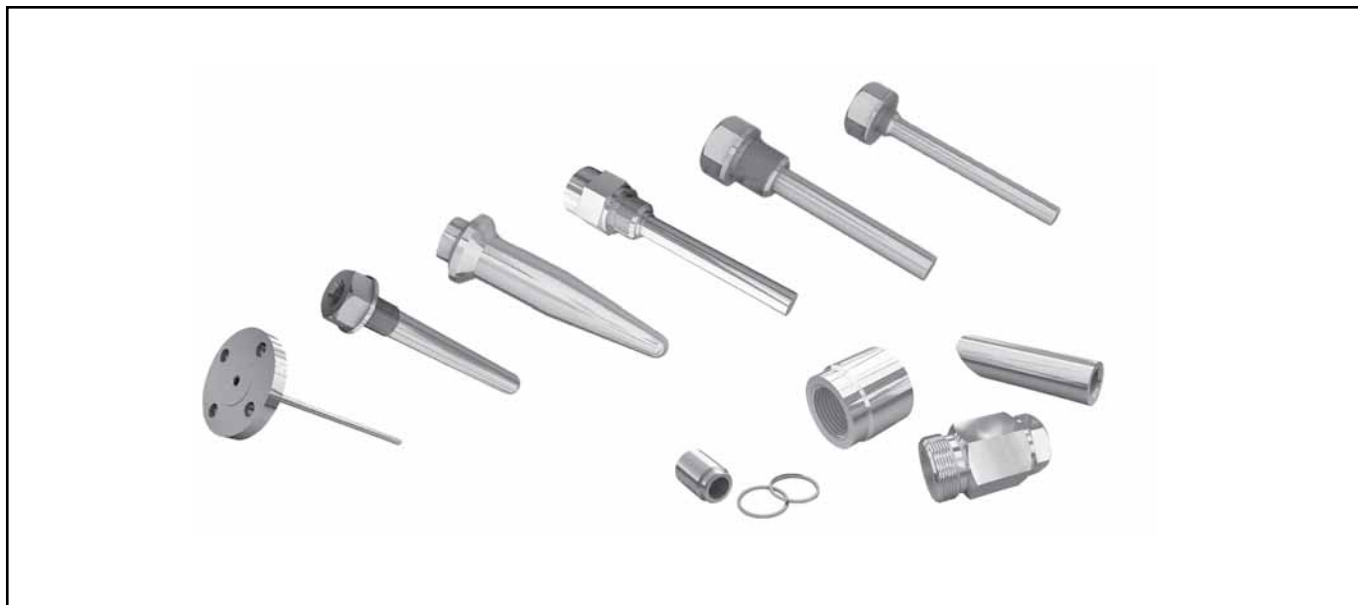


## Assemblies and Parts for Temperature Transmitters



### THERMOWELLS

**Application:** designed to protect temperature transmitters from high pressure and chemical effect of process fluids.

**Construction:** integral and welded.

**Connection type:** connector, flange, welded.

**Materials:** 12Cr18Ni10Ti, 10Cr17Ni13Mo2Ti, 12Cr1MoV.

#### Thermowell with Connector

*Table 1*

Thermowell	Fig.	D, mm	d, mm	d1 x s, mm	Length L, mm	Maximum Pressure, MPa
200.004.00	1	M24x1.5 M33x2	M20x1.5	-	60, 80, 100, 120, 160, 200, 250, 320, 400, 500, 630	50
200.006.00	2	M20x1.5 M27x2 G3/4-B	M20x1.5	-	60, 80, 100, 120, 160, 200, 250, 320, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150	25
		M27x2	1/2NPT*			
200.007.00	3	M33x2	M20x1.5	20x2.5	60, 80, 100, 120, 160, 200, 250, 320, 400, 500, 630, 800, 1000, 1250, 1600, 2000	50
200.007.00-01				16x2.2		
200.008.00	1	M33x2	1/2NPT*	-	120, 160, 200, 250, 320	50
2000.010.00	4	G1/2-B	G1/2-B	10x0.8	80, 110, 140, 160, 200	4
2000.011.01		M20x1.5			102, 122, 142, 162, 202	
2000.000.01	5	M20x1.5 G1/2-B		17x4.0	250, 320, 330, 400	15

\* K1/2 GOST 6111 is permitted.



**Welded Thermowells**

**Dimensions and Operation Conditions for 200.005.00**

Table 1

Thermowell Designation	Dimensions, mm						Max Flow Rate, m/s		Max Pressure, MPa
	L	L1	L2	L3	l1	l	Steam	Water	
200.005.00-00	122	143	71	136	45	65	120	10	50
-01	162	183	111	176	60	90			
-02	202	223	151	216	75	115	100	7,5	

Material of thermowell: 12Cr1MoV.

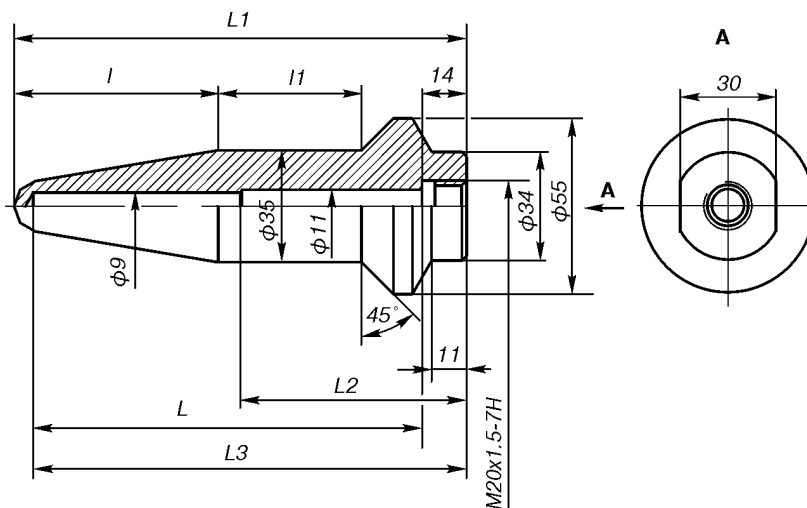


Fig. 1. 200.005.00.

**ORDERING INFORMATION FOR THERMOWELL WITH CONNECTOR**

<b>Thermowell - 200.005.00-01</b>	
1	2

- 1. Name.
- 2. Designation (Table 1).

**Thermowells with Flanges**

- Material of thermowell is 12Cr18Ni10Ti.
- Dimensions and parameters of thermowells with flanges

Table 1

Designation	Version by Pressure	Max Pressure, MPa	Flange type*	D, mm	D1, mm	d, mm	h, mm
2000.501, 2000.502, 2000.503, 2000.504, 2000.505	-00	1.6	I	160	125	18	13
	-01	2.5	I	160	125	18	17
	-02	4	I	160	125	18	17
	-03	6.3	I	175	135	22	23
	-04	10	II	195	145	26	25
	-05	16	II	195	145	26	27

Table 2

Designation	Version by Pressure	Max Pressure, MPa	Flange Type*	D, mm	D1, mm	D2, mm	D3, mm	d, mm	h, mm
2000.507	-00	6.3	I	175	135	102	85	22	23
	-01	10	II	195	145	102	85	26	25
	-02	16	II	195	145	115	95	26	27

\* Flange type I, II is shown in Fig. 1, 2.

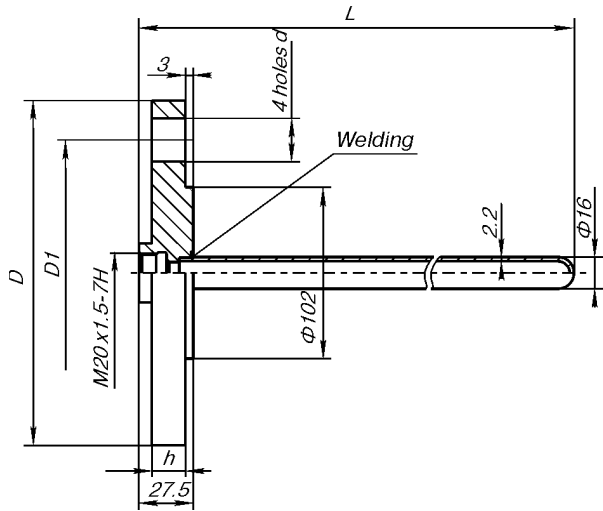


Fig.1. Type I.

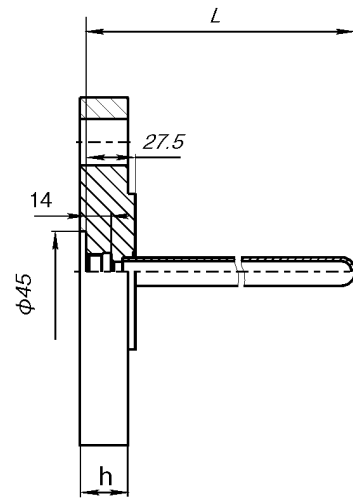


Fig.2. Type II (also refer to Fig.1).

For thermowells 2000.501, 2000.502, 2000.503, 2000.504, 2000.505, 2000.507 flange sizes are given in Fig.3-8 accordingly. Dimensions of flange sealing surface is produced according to GOST 12815-80.

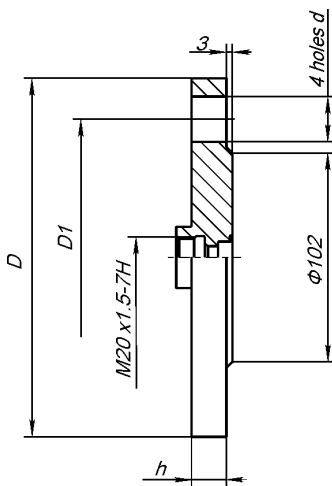


Fig.3. Thermowell flange 2000.501.

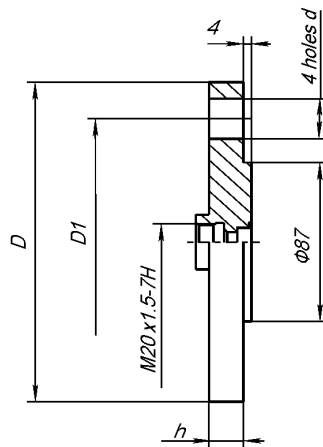


Fig.4. Thermowell flange 2000.502.

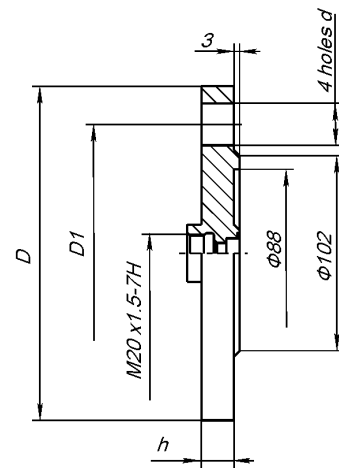


Fig.5. Thermowell flange 2000.503.

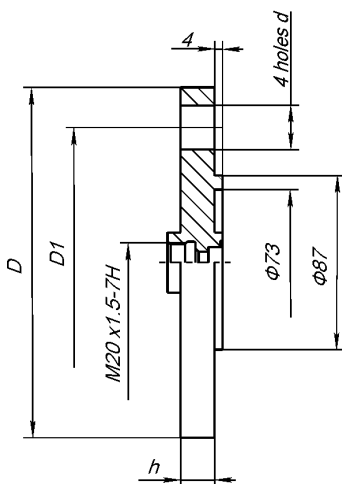


Fig.6. Thermowell flange 2000.504.

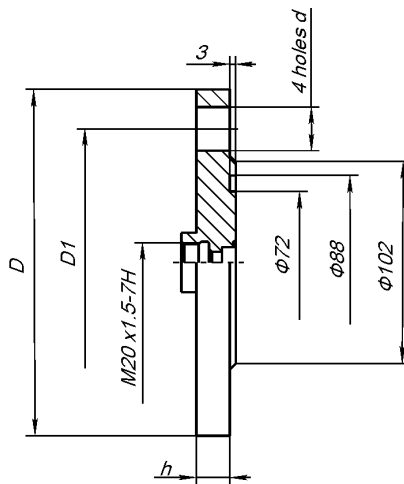


Fig.7. Thermowell flange 2000.505.

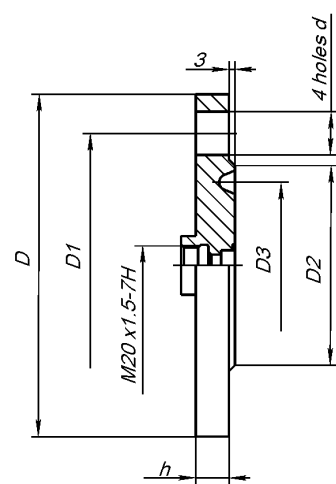


Fig.8. Thermowell flange 2000.507.

## ORDERING INFORMATION

Thermowell - 2000.503 - 02 - 400

1 2 3 4

1. Name.
2. Designation (Table 1, 2).
3. Version by pressure (-00, ..., -05; refer to Table 1, 2)
4. Length L, mm (selected from: 120, 160, 200, 250, 320, 400, 500, 630, 800, 1000, 1250, 1600, 2000 mm).

## Adjustable Connector

**Application:** designed to be installed where RTD operates. Adjustable connector works with pressure up to 0.25 MPa. Delivered as an individual item. Material is 12Cr18Ni10Ti steel.

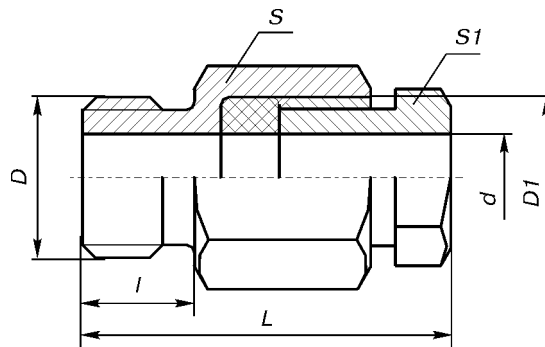


Table 1

Designation	Dimensions, mm						
	L	I	D	D1	d	S	S1
200.002.00-00	65	16	M33x2	M27x2	21	36	30
-01	65	16	M27x2	M27x2	21	36	30
-02	46	16	M27x2	M20x1.5	10,5	36	22
-03	44	14	M20x1.5	M20x1.5	10,5	27	22
-04	44	14	M20x1.5	M20x1.5	8,5	27	22
-05	40	12	M16x1.5	M12x1.5	6,3	22	17
-06	40	12	M16x1.5	M12x1.5	5,3	22	17
-07	40	12	M16x1.5	M12x1.5	5	22	17
-08	40	12	M12x1.5	M10x1	4,3	17	14

## ORDERING INFORMATION

Adjustable connector - 200.002.00-03

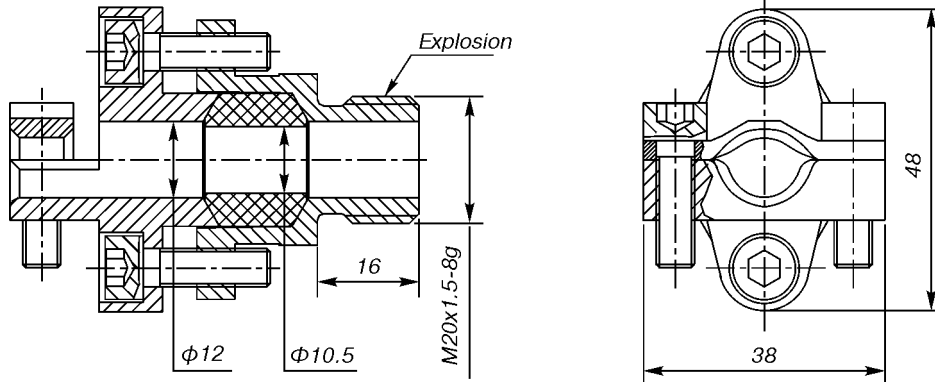
1 2

1. Name.
2. Designation (Table 1).

### Mounting Sets for Cable Entry

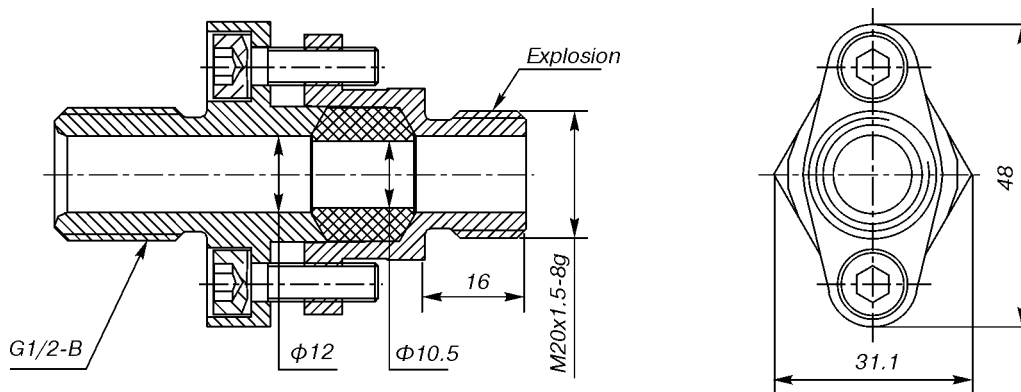
**Application:** to connect Metran-250, Metran-270-Exd, Metran-280-Exd to functional and (or) secondary equipment.

#### For Armored Cable



**Fig. 1.** 251.01.09.000

#### For Pipe Mounting



**Fig. 2.** 251.01.08.000

#### ORDERING INFORMATION

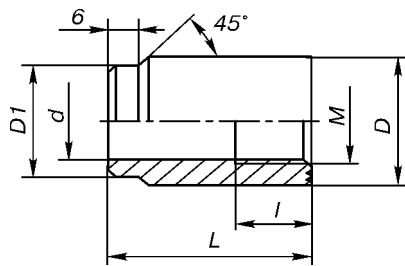
When ordering Metran-250, Metran-270-Exd, Metran-280-Exd, please indicate:

**BK** for armored cable,

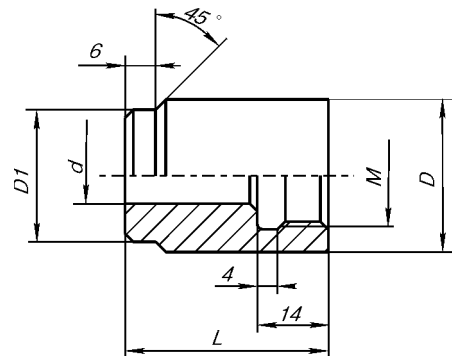
**TB** for pipe mounting.

**Bosses**

**Application:** to install where RTD and Thermowells operate.



**Fig.1.** 1610.000.03.



**Fig.2.** 1610.000.23.

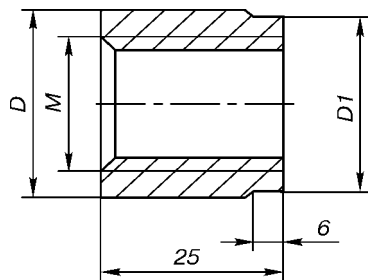
**Overall Dimensions of Boss 1610.000.03**

*Table 1*

Designation	Dimensions, mm						Material
	M	D	D1	d	l	L	
1610.000.03-00	20x1.5	30	26	18	24	40	St20
-01						12Cr18Ni10Ti	
-02	27x2	40	30	22	32	60	St20
-03						12Cr18Ni10Ti	
-04	33x2	50	36	31	32	50	St20
-05						12Cr18Ni10Ti	
-06	33x2	50	36	31	32	70	St20
-07						12Cr18Ni10Ti	
-08	33x2	50	36	31	32	70	St20
-09						12Cr18Ni10Ti	
-10	33x2	50	36	31	32	90	St20
-11						12Cr18Ni10Ti	
1610.000.23-00	20x1.5	30	26	11	14	40	St20
-01						12Cr18Ni10Ti	
-02	27x2	40	30	22	32	60	St20
-03						12Cr18Ni10To	

**Overall Dimensions of Boss 1610.000.06**

*Table 2*



**Fig.3.** 1610.000.06.

Designation	Dimensions, mm			Material
	M	D	D1	
1610.000.06-00	20x1.5	28	26	St20
-01				12Cr18Ni10Ti
-02	27x2	35	33	St20
-03				12Cr18Ni10Ti
-04	33x2	41	39	St20
-05				12Cr18Ni10Ti

## Overall Dimensions of Boss 1610.000.08

Table 3

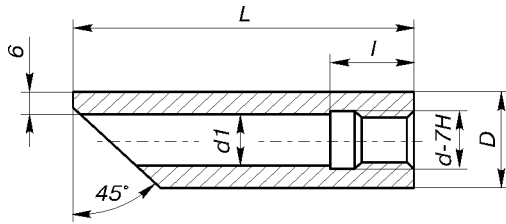


Fig.4. 1610.000.08.

Designation	Dimensions, mm					Material
	d	D	d1	L	l	
1610.000.08-00	M20x1.5	32	18.5	115	24	St20
-01				12Cr18Ni10Ti		
-02				St20		
-03				12Cr18Ni10Ti		
-04	M27x2	42	25	115		St20
-05				12Cr18Ni10Ti		
-06				St20		
-07				12Cr18Ni10Ti		
-08	M33x2	48	31	115		St20
-09				12Cr18Ni10Ti		
-10				St20		
-11				12Cr18Ni10Ti		

## ORDERING INFORMATION

Boss - 1610.000.06-03

1

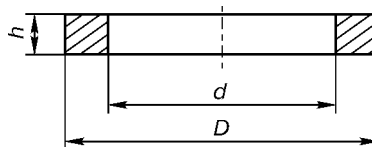
2

1. Name.
2. Designation (Table 1, 2, 3).

## Washers

**Application:** to seal temperature transmitters during installation. Washer is delivered as an individual item.

**Material:** copper M1.



## OVERALL DIMENSIONS

Table 1

Designation	D, mm	d, mm	h, mm	Application with Temperature Transmitter
1610.000.04-00	18	13.5	1.5	with adjustable connector M20x1.5 (S22)
-01	32	26	1.5	with fixed connector M20x1.5 (S27)
-02	36	32	2	with fixed connector M27x2 (S32)
-03	38	28	2	with fixed connector M27x2 (S27)
-04	47	39	2	with fixed connector M33x2 (S41)

## ORDERING INFORMATION

Washer - 1610.000.04-01

1

2

1. Name.
2. Designation (Table 1).