



# GÜNTHER<sup>GmbH</sup>

## Temperaturmesstechnik



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**Product category 13-TFL  
Thermocouple Assemblies  
with Welded Blank Flange**

## 13-TFL

### Thermocouple Assemblies with Welded Blank Flange



#### Application Examples for Thermocouple Assemblies with Welded Blank Flange:

-  Waste Recycling / Incineration
-  Plant and Machine Construction
-  Steel and Iron Industry
-  Automobile Industry
-  Chemical Industry
-  Laboratories
-  Energy Production

#### 13-TFL

#### Thermocouple Assemblies with Welded Blank Flange

Thermocouple assemblies with welded blank flange (13-TFL) are used to measure temperatures in gaseous or fluid media, such as air, steam, water or oil.

Distinctive characteristic of these sensors is a blank flange welded to or onto the protective sheath, most commonly pursuant to DIN EN 1092, enabling a tight connection of the sensor with the respective wall of an over- or under-pressure facility as can be found in power plants, for example.

Sensors in this component assembly contain either a thermocouple with ceramic insulation or an exchangeable mineral-insulated gauge slide.

#### Preferred Application Environments:

- Containers and Piping
- Instruments and Machinery
- Laboratories
- Testing Facilities
- Process Technology
- Energy Production und Heat Distribution
- Food and Beverage Industry
- Plant and Machine Construction

Thermoelectric voltages and tolerances of our thermocouples and mineral-insulated gauge slides are pursuant to DIN EN 60584, Class 1, for thermocouples and mineral-insulated gauge slides of Type L pursuant to DIN 43710.





**1 Connection Head**

A	BUSH (M24 x 1,5)
B (M24 x 1,5)	BUZH (M24 x 1,5)
BUS (M24 x 1,5)	DL / MA (M10 x 1)
BUZ (M24 x 1,5)	

**2 Blank Flange pursuant to DIN EN 1092**

DN 10 - DN 100	PN 16
Material:	
Mat. No. St37-2	Mat. No. 1.4571
Mat. No. C22.8	Alloy C4

**3 Mineral-Insulated Gauge Slide**

Material:	NiCr-Ni
	Fe-CuNi
	Nicrosil-Nisil
Diameter:	3 - 8 mm
Single or Double	

**4 Protective Tube Material / Dimensions**

St. 35.8	Mat. No. 1.0305
Stainless Steel	Mat. No. 1.4571
X10Cr Al 24	Mat. No. 1.4762
X15CrNi Si 25 20	Mat. No. 1.4841
Inconel	Mat. No. 2.4816
Kanthal	
Alloy C4	
Diameter:	6 - 22 mm
Wall:	0,75 - 3 mm

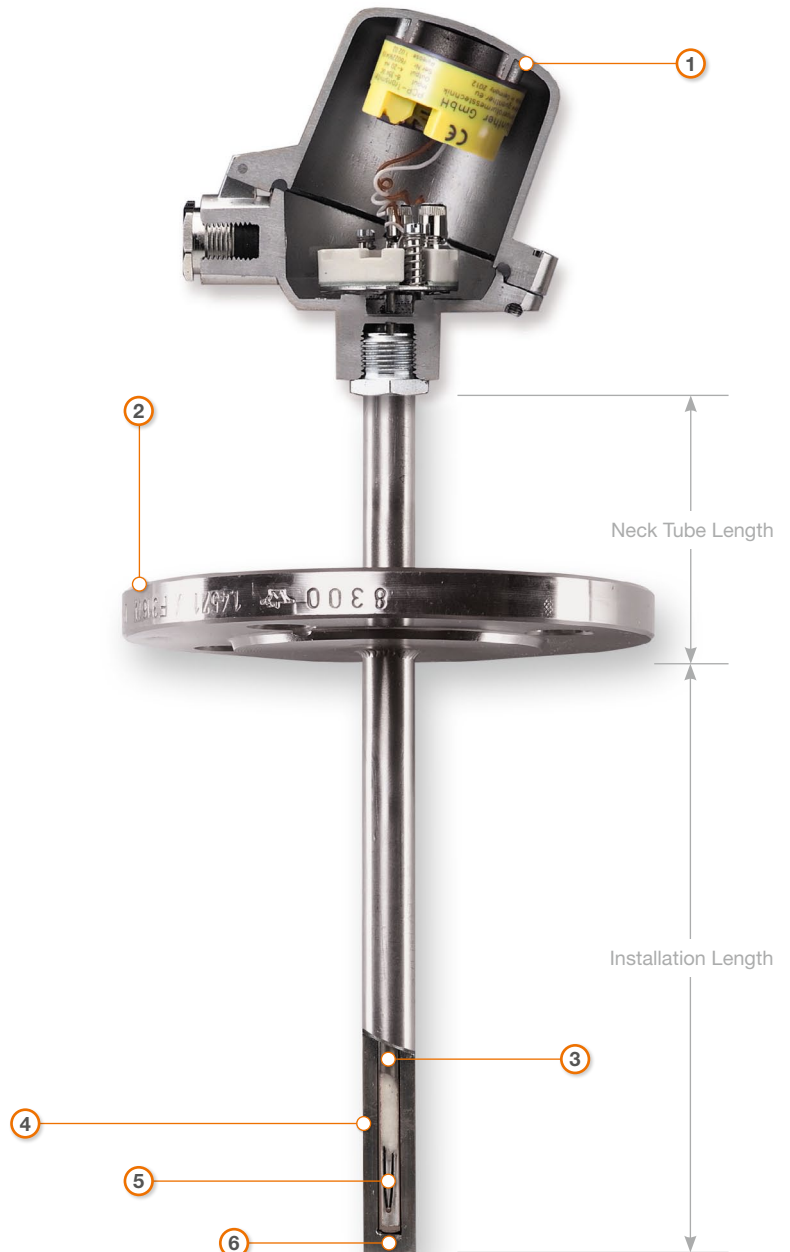
**5 Thermocouple with Ceramic Insulation**

Single or Double:	
NiCr-Ni/K	Fe-CuNi/J
Fe-CuNi/L	NiCrSi-NiSi/N
PtRh10-Pt/S	PtRh13-Pt/R
PtRh30-PtRh6/B	

**6 Configuration**

Normal (Straight Protective Tube)
Fast Reacting
(Tapered Protective Tube):
Tube Tip Diameter: 6-15 mm

Example of a common implementation in this product line



Individual Solutions such as, for example materials, process connectors, accessories, etc. not listed here, are often viable.

Please contact us for further information!

# 13-TFL

## Product Number Code

### 13 - TFL // Thermocouples with blank flanges welded on

Thermocouples with blank flanges

1 3 -

Installation length / Neck tube length in mm

#### Connection head

A	1	BUZ (M24 x 1.5)	6
	2	BUSH (M24 x 1.5)	7
	3	BUZH (M24 x 1.5)	8
B (M24 x 1.5)	4	DL / MA (M10 x 1)	9
BUS (M24 x 1.5)	5		0

Blank flange in acc. St37-2 1.4571 C22.8 Alloy C4 with DIN 2527

DN 10	PN 16	10	20	30	40	None
DN 15	PN 16	11	21	31	41	
DN 20	PN 16	12	22	32	42	00
DN 25	PN 16	13	23	33	43	
DN 32	PN 16	14	24	34	44	
DN 40	PN 16	15	25	35	45	
DN 50	PN 16	16	26	36	46	Other
DN 65	PN 16	17	27	37	47	
DN 80	PN 16	18	28	38	48	99
DN 100	PN 16	19	29	39	49	

#### Thermocouple insulated in ceramic material

#### Sheathed measuring insert

	Standard	Double	NiCr-Ni		Fe-CuNi		Fe-CuNi		Nicrosil-Nisil		
			Type KI	Type LV	Type JV	Type NI					
NiCr-Ni/K	11	21									
Fe-CuNi/J	12	22									
Fe-CuNi/L	13	23									
NiCrSi-NiSi/N	14	24	3	31	41	51	61	71	81	91	96
PtRh10-Pt/S	15	25	4.5	32	42	52	62	72	82	92	97
PtRh13-Pt/R	16	26	6	33	43	53	63	73	83	93	98
PtRh30-PtRh6/B	17	27	8	34	44	-	-	-	-	-	-

#### Outer protection tube / dimension

Other 99

#### Material number

ø	1.0305	1.4571	1.4762	1.4841	Alloy 600	Kanthal	Alloy C4
6 x 0,75	01	12	23	34	45	56	67
8 x 1	02	13	24	35	46	57	68
9 x 1	03	14	25	36	47	58	69
10 x 1,5	04	15	26	37	48	59	70
11 x 1	05	16	27	38	49	50	71
11 x 2	06	17	28	39	40	61	72
12 x 1,5	07	18	29	30	51	62	73
12 x 2,5	08	19	20	41	52	63	74
15 x 2	09	10	31	42	53	64	75
15 x 3	00	21	32	43	54	65	76
22 x 2	11	22	33	44	55	66	77

#### Design

Standard [protection tube tube not tapered] 0

Fast response [protection tube tapered]

Thermowell point	15 mm ø	1		
Thermowell point	12 mm ø	2		
Thermowell point	9 mm ø	3		
Thermowell point	6 mm ø	4		
Thermowell point	10 mm ø	5		
Thermowell point	8 mm ø	6	Other	9

Custom designs:

1 3 -

9 9 1 3 x x x x

Consecutive no.

Installation length / Neck tube length in mm

Installation length / Neck tube length in mm



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