



GÜNTHER^{GmbH}

Temperaturmesstechnik



**Product category 08-TMP
Thermocouples with
Noble Metal Protective Tube**

08-TMP

Thermocouple Assemblies with Noble Metal Protective Tube



GÜNTHER GmbH has been a supplier of Thermocouples for over 40 years to the following sectors of the glass industry:

- Container Glass
- Fibreglass
- Sheet Glass
- Glass Wool
- Dinnerware Glass
- Dinnerware Glass
- Medical Glass

Further technical information for this product line is available on our website:

<http://www.guenther.eu/en/products/thermocouples/08-tmp/thermocouples-with-precious-metal-protective-sleeves>

08-TMP

Thermocouple Assemblies with Noble Metal Protective Tube

Straight line Thermocouple Assemblies with Noble Metal Protective Tube (08-TMP) are used in the glass industry for temperature measurement in glass melting. The applied protection tubes consist of alloyed noble metals. In order to meet the extreme environment conditions, only high grade materials are used in production.

A large selection of various dimensions and platinum alloys are available from stock in order to ensure fast delivery times.

Aside from alloying with other metals such as iridium and rhodium, we offer dispersion-hardened protection tubes and platinum coated ceramic pipes.

Thermocouples are available as required, in single, double or triple element version.

Also, GÜNTHER GmbH will deliver bubbler pipes or glass level probes in various versions according to customer specifications.

Thermoelectric voltages and tolerances are pursuant to DIN EN 60584, class 1 for thermocouple types S and R, class 2 for thermocouple type B.

Operation temperature

for platinum-rhodium/platinum thermocouples

Type	Diameter	Maximum Temperature
S	0,35 mm	1350 °C
S	0,50 mm	1600 °C
R	0,35 mm	1350 °C
R	0,50 mm	1600 °C
B	0,35 mm	1600 °C
B	0,50 mm	1800 °C





1 Connection Head

A	B
AUS	BUS
AUZ	BUZ
AUZH	BUZH
AUSH	BBK

2 Process Connector (detachable)

Flange
Threaded Socket
Flange / Counter Flange

3 Protection Tube (Materials)

C610
C799
C530

4 Inner Tube

C610	TEP
C799 (Gas-Tight)	Aluminium Oxide

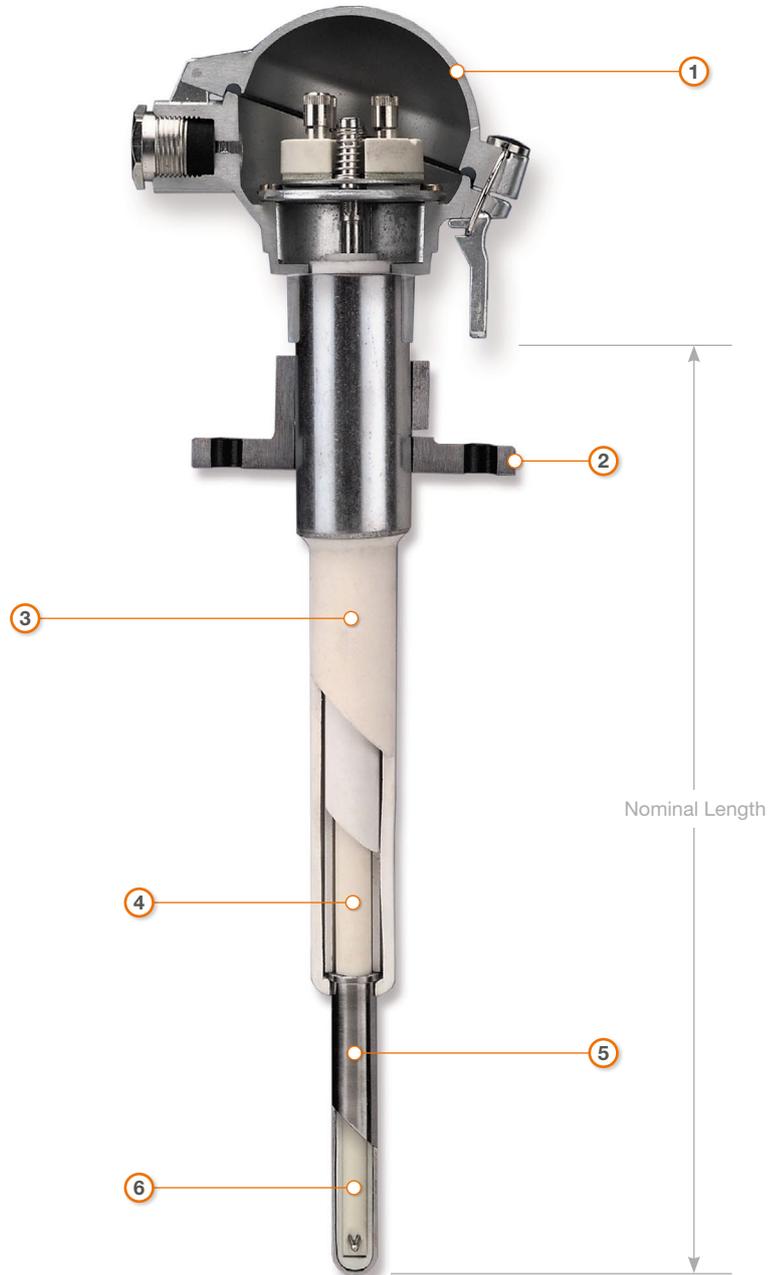
5 Noble Metal Protection Tube

PtRh90/10	9,1 x 0,3 mm
PtRh90/10	9,1 x 0,5 mm
PtRh90/10	6,5 x 0,5 mm
PtRh90/10	9,0 x 0,4 mm
PtRh85/15	7,3 x 0,4 mm
PtRh80/20	9,1 x 0,5 mm
PtRh90/10	9,0 x 0,5 mm

6 Thermocouple

Type R	PtRh13-Pt
Type S	PtRh10-Pt
Type B	PtRh30-PtRh6

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!



08-TMP

Product Number Code

08 - TMP // Straight thermocouples with a precious metal protective sleeve

Thermocouples with PtRh protective sleeves

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Protection tube (dimensions / material)	7 x 4 mm	C799	0
	10 x 7 mm	C610	1
	10 x 6 mm	C799	2
	15 x 11 mm	C610	3
	15 x 10 mm	C799	4
	16 x 12 mm	C610	5
	24 x 19 mm	C610	6
	24 x 18 mm	C799	7
	16 x 12 mm	C530	8
	16 x 12 mm	C799	9

Nominal length

Visible length of the PtRh protective sleeve

Inner tube	None	0
	C530 Porous ceramic material (on request)	1
	C610 gastight ceramic	2
	C799 Aluminium oxide	3

Holding tube (visible length)	1.0305	1.4571	1.4762	1.4841
15x 2 50 mm	05	75	-	-
15 x 2 60 mm	06	76	26	36
15 x 2 80 mm	07	77	27	37
15 x 2 100 mm	08	78	28	38
15 x 2 150 mm	09	79	29	39
15 x 2 200 mm	10	80	30	40
22 x 2 100 mm	11	81	31	41
22 x 2 150 mm	12	82	32	42
22 x 2 200 mm	13	83	33	43
22 x 2 250 mm	14	84	34	44
22 x 2 300 mm	15	85	35	45
28.3 x 1.5 80 mm	16	-	-	-
28.3 x 1.5 180 mm	17	-	-	-
32 x 2 50 mm	18	88	-	48
32 x 2 100 mm	19	89	-	49
32 x 2 150 mm	20	90	-	70
32 x 2 200 mm	21	91	-	71
32 x 2 250 mm	22	92	-	72
Alloy 600 (mat. no. 2.4816)		Kanthal		
22 x 2 200 mm	61	15 x 1.3	100 mm	51
22 x 2 300 mm	62	15 x 1.3	150 mm	52
22 x 2 400 mm	63	15 x 1.3	200 mm	53
22 x 2 500 mm	64			
30 x 2.5 230 mm	65	Individual		00
30 x 2.5 400 mm	66	No holding tube		99

Head	A	1	B	6
	AUS	2	BUS	7
	AUZ	3	BUZ	8
	AUZH	4	BUZH	9
	AUSH	5	BBK	0

Thermocouple	Type R	1x	PtRh13-Pt	Standard	1
	Type R	2x	PtRh13-Pt	Double	2
	Type R	3x	PtRh13-Pt	Triple	3
	Type S	1x	PtRh10-Pt	Standard	4
	Type S	2x	PtRh10-Pt	Double	5
	Type S	3x	PtRh10-Pt	Triple	6
	Type B	1x	PtRh30-PtRh6	Standard	7
	Type B	2x	PtRh30-PtRh6	Double	8
	Type B	3x	PtRh30-PtRh6	Triple	9

Protective sleeves	PtRh90/10	9.1 x 0.3 mm	1
	PtRh90/10	9.1 x 0.5 mm	2
	PtRh90/10	6.5 x 0.5 mm	3
	PtRh90/10	9.0 x 0.8 mm	4
	PtRh85/15	7.3 x 0.4 mm	5
	PtRh80/20	9.1 x 0.5 mm	6
	PtRh90/10	9.0 x 0.5 mm	7
	Other		9

Fastening	None	0	Mounting thread	2
	Flange	1	Flange/counter flange	3

Custom designs:

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9 9 0 8 x x x x -

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Consecutive no.

Nominal length / mm

