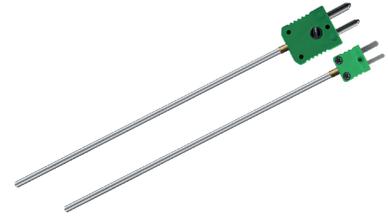


# Sheathed thermocouple type K with TC-connector

**Order nr.: 802311 1211**

Sheathed thermocouples with connectors are mineral insulated. We manufacture them from high-quality materials in a robust type. They are flexible and can thus be used flexibly in the high temperature range from -40 °C to 1,000 °C (class 1) or -40 °C to 1,200 °C (class 2). Configure your probe according to your specifications: We offer diameters of 1.5 as well as 3 and 6 mm as standard. The mounting length is between 100 and 1500 mm. In addition to open wire ends, we can also supply TE connectors and couplings in mini and standard sizes. Just send us your order code. We will be pleased to offer you further model variants on request.

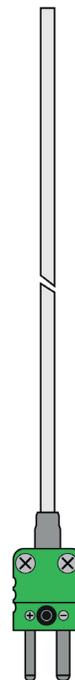


General Information	
Measuring range	-40 °C to +1000 °C
Accuracy	Class 1 <sup>1)</sup> : -40 °C bis +375 °C: ±1,5 °C   375 °C bis 1.000 °C: ±0,004  t  Class 2 <sup>1)</sup> : -40 °C bis +333 °C: ±2,5 °C   375 °C bis 1.200 °C: ±0,0075  t  <sup>2)</sup>
Response time	t63 / t99: information is available on request
Supply and output	
Measuring element	Thermocouple Type K
Measuring point	Measuring point isolated
Measurement signal	Thermovoltage
Ambient conditions	
Protection class	IP68 (protective tube) according to DIN 60529
Humidity and moisture condensation resistance	according to application-specific qualification
Certificates and Standards	
Standards	DIN EN 61326-1:2013   DIN EN IEC 63000:2019-05
Directive	RoHS 2011/65/EU   2014/30/EU
Certificates	Certificate of suitability (on request)

<sup>1)</sup> according to DIN IEC 60584 <sup>2)</sup> If the thermocouple is operated outside the specified measuring range of its respective tolerance class, irreversible changes may also occur on the thermocouple, which subsequently leads to a measurement deviation (even within the specified range).

**Customizable options**

- C - Length protection sleeve
- D - Ø protection sleeve
- G - Connector



Sheathed thermocouple		C - Length prot. sleeve		D - Ø prot. sleeve	
Material	Inconel   2.4816	Code	Length (mm)	Code	Ø (mm)
C (Length)   D (Ø)	please choose	C0100	100 <sup>1)</sup>	D015	1,5 <sup>2)</sup>
		C0150	150 <sup>1)</sup>	D030	3,0 <sup>2)</sup>
		C0200	200 <sup>1)</sup>	D060	6,0 <sup>2)</sup>
		C0250	250 <sup>1)</sup>		
		C0300	300 <sup>1)</sup>		
		C0400	400 <sup>1)</sup>		
		C0500	500 <sup>1)</sup>		
		C1000	1000 <sup>1)</sup>		
		C1500	1500 <sup>1)</sup>		

Other protective sleeve lengths and Ø on request | <sup>1)</sup> Tolerance ± 1% | <sup>2)</sup> Tolerance ± 0.1 mm | Please note: Length of protection sleeve = C - 2 mm

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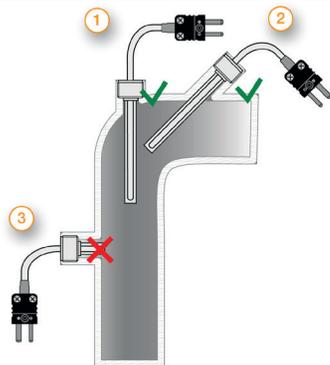
G - Connector					
Picture	Code	Feature	Picture	Code	Feature
	G12	Mini-TC connector Type K gn		G32	TC connector Type K gn
	G19	Mini-TC connector Type K ye		G39	TC connector Type K ye

Other connectors available on request | Mini TC connector only available for 1.5 mm and 3 mm diameter.

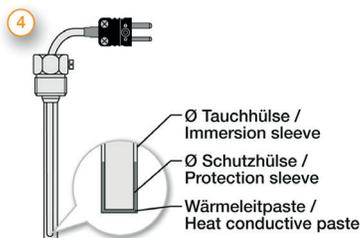
Technical drawing - Connector	
<p>Rundstecker / Round Plug IP: 42</p>	<p>Flachstecker / Flat Plug IP: 42</p>

Delivery and Assembly	
Delivery and Packaging	Probe, separately packaged in PE bag

**Wichtige Montagehinweise**



Measuring errors can occur due to heat dissipation to the environment. To keep these as small as possible, we recommend immersing the protection sleeve of your temperature probe as deeply as possible into the medium to be measured during installation. The optimum installation depth should be 10-15 times the  $\varnothing$  of the protection sleeve or, when using an immersion sleeve, the  $\varnothing$  of the immersion sleeve. When installing in pipelines whose  $\varnothing$  does not have a sufficiently deep installation depth, you should install the probe either at an angle or in a pipe elbow. Make sure that there is sufficient space for the probe to be removed. 1) Installation with sufficient installation depth 2) Installation at an angle with small pipe  $\varnothing$  3) Not like this: Minimum installation depth not reached



Installation by using an immersion sleeve (4): Please ensure that the  $\varnothing$  and length of the immersion sleeve are selected to suit the installation situation so that the minimum immersion depth can be achieved. Since the probe is not inserted directly into the medium, but via the immersion sleeve, the response times are somewhat slower. The probe should be selected in such a way that the protection sleeve touches the bottom of the immersion sleeve and that the air cushion around the protection sleeve is as small as possible. The use of thermal paste can improve the response times.

Please pay attention to the bending radius. This should be at least 5 X D of the outer diameter of the sheathed thermocouple.

Your order code			
Order nr.	Length protection sleeve	$\varnothing$ protection sleeve	Connector
802311 1211	C_____	D_____	G_____

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**Technical drawing (All dimensions in mm)**

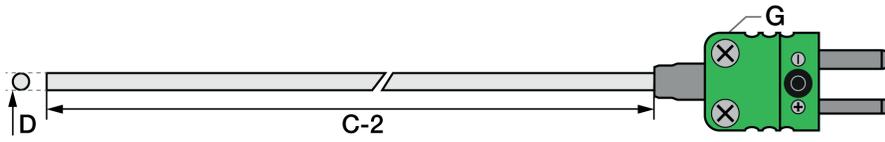
**Customizable options**

C - Length protection sleeve

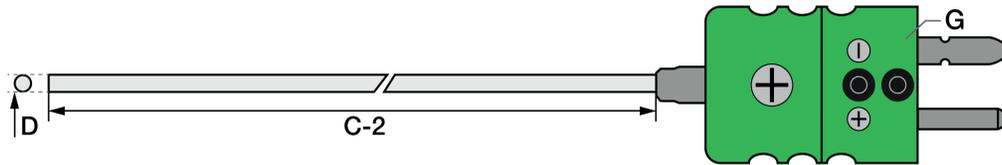
D - Ø protection sleeve

G - Connector

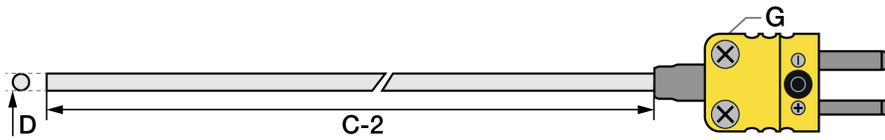
**Version with mini TE connector**



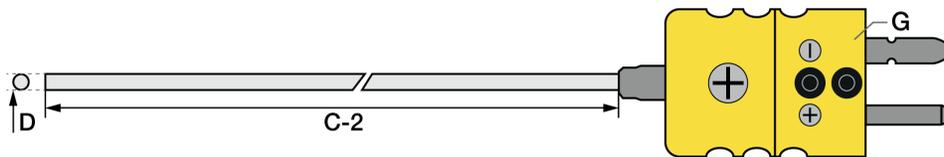
**Version with TE connector**



**Version with mini TE connector**

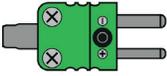
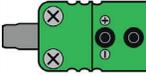
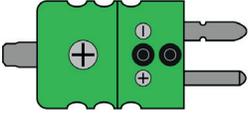
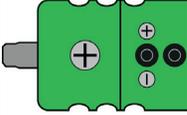
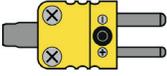
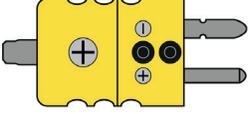
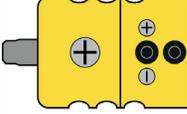


**Version with TE connector**

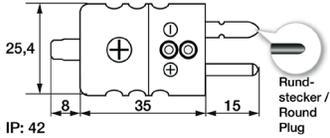
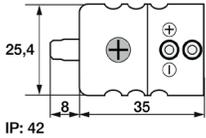
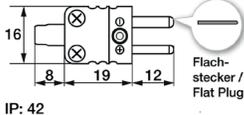
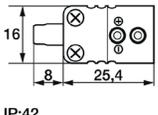


# Matching accessories: Connector

Details of accessories can be found on our website.

Connector					
Picture	Code	Feature	Picture	Code	Feature
	809140 2000	Mini-TC connector Type K gn		809100 2000	Mini-TC coupling Type K gn
	809150 2000	TC connector Type K gn		809110 2000	TC coupling Type K gn
	809140 2001	Mini-TC connector Type K ye		809100 2001	Mini-TC coupling Type K ye
	809150 2001	TC connector Type K ye		809110 2001	TC coupling Type K ye

Other connectors available on request

Matching accessories - Connector			
	IP: 42		IP: 42
	IP: 42		IP: 42



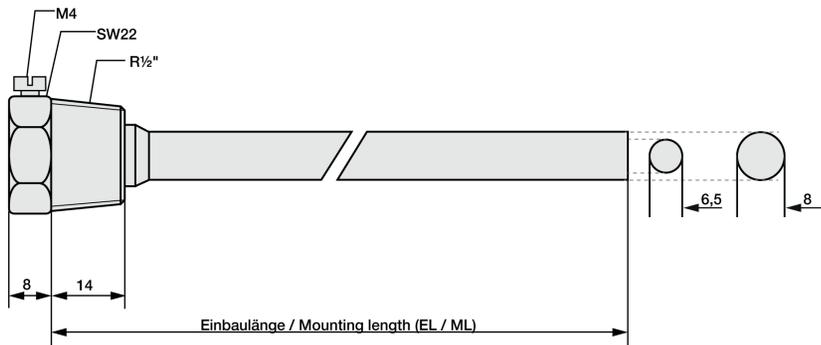
# Matching accessories: Immersion sleeves

Brass immersion sleeve R1/2 "				
Article no.	809520 10XX	Code		
Temp. max	+150 °C	05	50	
Pressure proof up to	10 bar	10	100	
Material	Nickel plated	15	150	
Process connection	R1/2 "	20	200	
Wrench size	22	25	250	
Ø Inside / Outside (mm)	6,5 / 8	30	300	
Scope of delivery	Immersion sleeve, packed in PE bag	40	400	
Order code	809520 10	--		



Please attach the code for the mounting length.

### Technical drawing

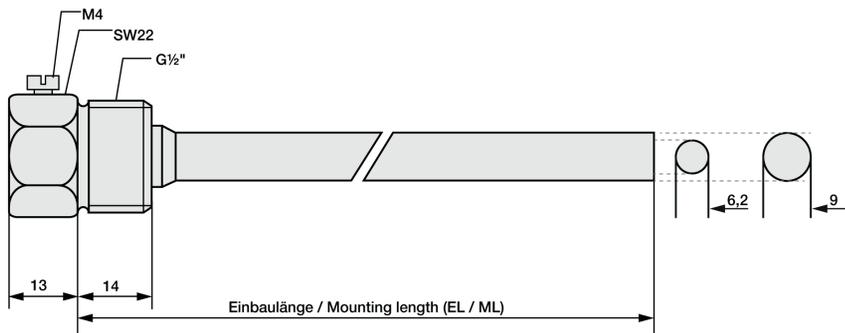


Stainless steel immersion sleeve G1/2 "				
Article no.	809520 20XX	Code		
Temp. max	+600 °C	05	50	
Pressure proof up to	40 bar	10	100	
Material	Stainless steel 1.4571   316TI	15	150	
Process connection	G1/2 "	20	200	
Wrench size	22	25	250	
Ø Inside / Outside (mm)	6,2 / 9	30	300	
Scope of delivery	Immersion sleeve, packed in PE bag	40	400	
Your order code	809520 20	--		



Please attach the code for the mounting length.

### Technical drawing



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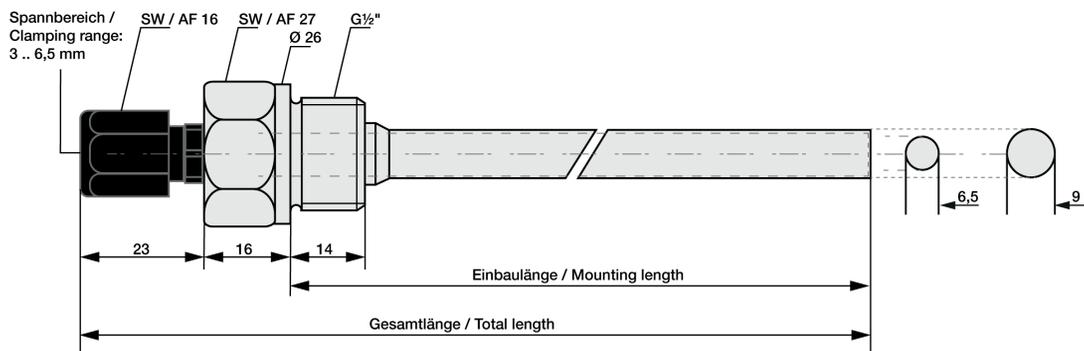
# Matching accessories: Immersion sleeves

Immersion sleeve G1/2 " with cable gland					
Article no.	809520 60XX	Compression fitting		Code	
Temp. max	+600 °C	Temp. max	100 °C	05	50
pressure proof until	40 bar	Material	Plastic	10	100
Material	Stainless steel 1.4571   316Ti	Screw	M12 x 1,5	15	150
Process connection	G1/2 "	Clamping range (mm)	3 bis 6,5	20	200
Wrench size	22			25	250
Scope of delivery	Immersion sleeve, packed in PE bag	Cable gland	strain relief	30	300
				40	400
Your order code	809520 60			--	--



Please attach the code for the mounting length.

### Technical drawing



# Matching accessories: Compression fittings

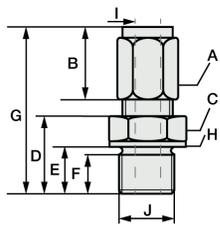
## Compression fitting with PTFE clamping ring

Compression fittings with PTFE clamping ring can be used several times. They are only pressure-tight up to 10 bar. For assembly, please tighten the connecting nut of the compression fitting by hand as far as it will go (clearly noticeable) by hand. With a wrench suitable for the width across flats, please make a 1/4 turn for compression fittings with PTFE pressure ring.

	<b>Article no.</b>	<b>809610 2XXX</b>	<b>Code</b>	<b>I - Ø Inside (mm)</b>	<b>Code</b>	<b>J - Process connection</b>
	Temp. max	+260 °C	0	1	27	M6x1 <sup>1)</sup>
	Pressure proof up to	10 bar	1	1,5	28	M8x1 <sup>1)</sup>
	Material	Stainless steel 1.4571   316TI	3	3	22	M10x1
	Material clamping ring	PTFE	6	6	14	G1/8 "
	Scope of delivery	Compression fitting, packed in PE bag			12	G1/4 "
					11	G1/2 "
	Your order code	809610 2	-	-	-	-

Append the code for Ø Inside & process connection to the article no. | <sup>1)</sup> not available for Ø Inside (I) 6 mm

## Dimensions for technical drawing



I	J	A	B	C	D	E	F	G	H
1	M6x1 <sup>1)</sup>	SW10	13	SW12	13	9	8	31	Ø10
1,5	M8x1 <sup>1)</sup>	SW10	13	SW12	13,5	9,5	8	31	Ø11,8
3	M10x1	Ø 1,5 & 3: SW10   Ø 6: SW12	13	SW14	13,5	9,5	8	32	Ø13,8
6	G1/8 "	Ø 1,5 & 3: SW10   Ø 6: SW12	13	SW14	13,5	9,5	8	32	Ø13,8
	G1/4 "	Ø 1,5 & 3: SW10   Ø 6: SW12	13	SW19	20	14	12	38,5	Ø18
	G1/2 "	Ø 1,5 & 3: SW10   Ø 6: SW12	13	SW27	23	17	14	38,5	Ø26

All dimensions in mm | <sup>1)</sup> not available for Ø Inner (I) 6 mm

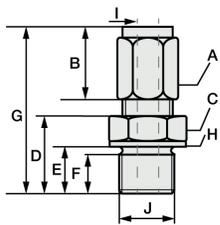
## Compression fitting with stainless steel cutting ring

In compression fittings with stainless steel cutting ring, the compression fitting connects with the protective sleeve. This connection is pressure-resistant up to 40 bar. Therefore, these compression fittings can also only be used once and must be tightened more firmly. For assembly, please tighten the union nut of the compression fitting by hand as far as it will go (clearly noticeable). With a wrench suitable for the wrench size, please make 1 3/4 turns for compression fittings with stainless steel cutting ring.

	<b>Article no.</b>	<b>809610 1XXX</b>	<b>Code</b>	<b>I - Ø Inside (mm)</b>	<b>Code</b>	<b>J - Process connection</b>
	Temp. max	+800 °C	1	1,5	27	M6x1 <sup>1)</sup>
	Pressure proof up to	40 bar	3	3	28	M8x1 <sup>1)</sup>
	Material	Stainless steel 1.4571   316TI	6	6	22	M10x1
	Material clamping ring	Stainless steel 1.4571   316TI			14	G1/8 "
	Scope of delivery	Cutting ring screw fitting, packed in PE bag			12	G1/4 "
					11	G1/2 "
	Your order code	809610 1	-	-	-	-

Append the code for Ø Inside & process connection to the article no. | <sup>1)</sup> not available for Ø Inside (I) 6 mm

## Dimensions for technical drawing



I	J	A	B	C	D	E	F	G	H
1,5	M6x1 <sup>1)</sup>	SW10	13	SW12	13	9	8	31	Ø10
3	M8x1 <sup>1)</sup>	SW10	13	SW12	13,5	9,5	8	31	Ø11,8
6	M10x1	Ø 1,5 & 3: SW10   Ø 6: SW12	13	SW14	13,5	9,5	8	32	Ø13,8
	G1/8 "	Ø 1,5 & 3: SW10   Ø 6: SW12	13	SW14	13,5	9,5	8	32	Ø13,8
	G1/4 "	Ø 1,5 & 3: SW10   Ø 6: SW12	13	SW19	20	14	12	38,5	Ø18
	G1/2 "	Ø 1,5 & 3: SW10   Ø 6: SW12	13	SW27	23	17	14	38,5	Ø26

All dimensions in mm | <sup>1)</sup> not available for Ø Inner (I) 6 mm

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