

Immersion probe with B-Head 400 °C

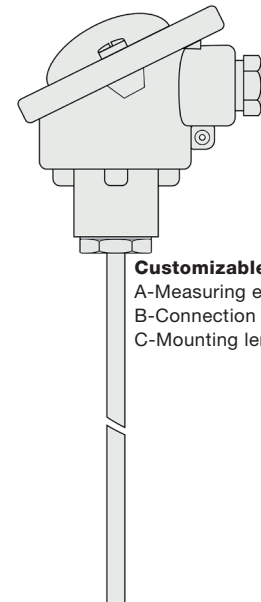
Article no.: 803311 4011

Our immersion probe with B-head can be used in process measurement technology in a temperature range of up to 400 °C. They are installed directly in contact with the medium or using immersion sleeves. We offer brass or stainless steel immersion sleeves as well as mounting flanges made of different materials as accessories. Configure the probe according to your needs and send us the order code.

General Information	
Measuring range	-50 °C to +400 °C depending on the sensor Type
Perm. (°C) conn. head	-40 °C to +100 °C
Accuracy	depending on sensor Type
Response time	t63 / t99: information is available on request
Supply and output	
Max. meas. current	max. 1 mA
Supply voltage	approx. 5 V depending on measurement current
Measurement signal	passive (resistance value)
Ambient conditions	
Protection class	IP65 according 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)

A - Measuring element				
Code	Sensor	Accuracy / Tolerance resistance	min ²⁾	max ²⁾
A011	Pt100	Cl. A dT = ±(0,15 °C + 0,002 t) ¹⁾	-50 °C	+300 °C
A012	Pt100	Cl. B dT = ±(0,30 °C + 0,005 t) ¹⁾	-50 °C	+400 °C
A022	Pt500	Cl. B dT = ±(0,30 °C + 0,005 t) ¹⁾	-70 °C	+500 °C
A031	Pt1000	Cl. A dT = ±(0,15 °C + 0,002 t) ¹⁾	-50 °C	+300 °C
A032	Pt1000	Cl. B dT = ±(0,30 °C + 0,005 t) ¹⁾	-50 °C	+400 °C

¹⁾according to IEC 751 / EN 60751 | ²⁾ Perm. range °C | Detailed information and the characteristics can be found in our download area.



Customizable options

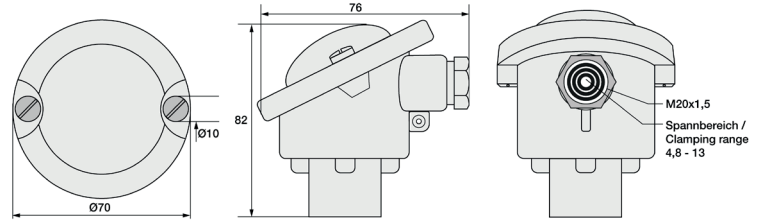
- A-Measuring element
- B-Connection Type
- C-Mounting length

B - Connection Type	
Code	Conn. Type
B2	2-Wire (2W)
B3	3-Wire (3W)
B4	4-Wire (4W)

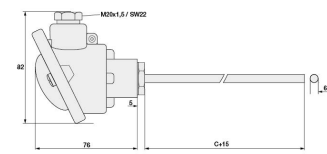
Possible connections			
Sensor	2W	3W	4W
Pt	✓	✓	✓



Connection head	
Design	Form B
Material	Aluminium
W/H/Ø (mm)	76/82/70
Color	RAL 9006 aluminium silver
Cable gland head	with strain relief
Cable electrical connection	Screw terminals max. 2,5mm ²
Clamping range (mm)	4,8 to 13
Ambient temperature max	+100 °C
Sensor unit	Fixed



Protection sleeve		C - Mounting length			
Material	Stainless steel 1.4571 316TI	Code	Length (mm)	Code	Length (mm)
Ø (mm)	6 ²⁾	C0050	50 ¹⁾	C0250	250 ¹⁾
Other mounting lengths on request ¹⁾ Tolerance ± 1% Please note: Mounting length = C + 15 mm ²⁾ Tolerance ± 0,1 mm		C0100	100 ¹⁾	C0300	300 ¹⁾
		C0150	150 ¹⁾	C0400	400 ¹⁾
		C0200	200 ¹⁾	C0500	500 ¹⁾



Important assembly advices

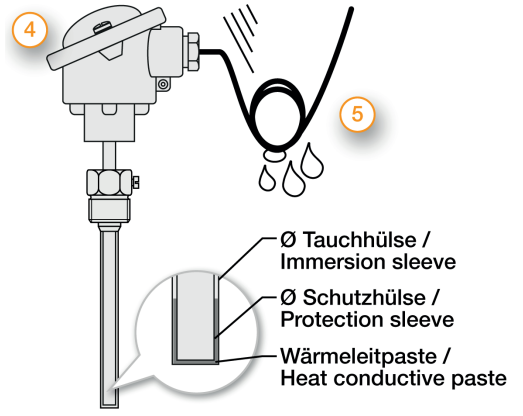
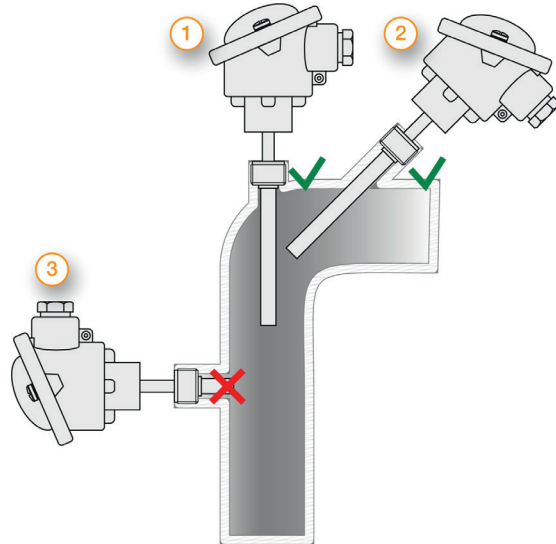
Measurement errors can occur due to heat dissipation to the environment. To keep these as small as possible, we recommend immersing the protection sleeve of your temperature probe as deeply as possible in the medium to be measured during installation. The optimum installation depth should be 10-15 times the Ø of the protection sleeve or, when using an immersion sleeve, the Ø of the immersion sleeve. When installing in pipelines whose Ø 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 Ø 3) Not like this: Minimum installation depth not reached

Installation by means of compression fitting: 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 width across flats, please make a 1/4 turn on compression fittings with PTFE thrust collar. These compression fittings can be used several times in this way. In the case of compression fittings with stainless steel cutting ring, the compression fitting connects to the protection tube. This connection is pressure resistant up to 40 bar. However, the compression fitting can only be used once. It must also be tightened more firmly. Please tighten it with 1 3/4 turns.

Mounting by means of mounting flange: Please make sure that the Ø of the mounting flange matches the Ø of the protection sleeve. For B-head fittings with very long protection sleeves, we recommend a stainless steel or aluminum mounting flange due to its stability.

Mounting by using an immersion sleeve (4): Please note that the Ø and the length of the immersion sleeve must be selected to match 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 lay the cable with reserve loop (5) and in such a way that no water can penetrate the sensor head. This allows you to extend the probe without disconnecting the electrical connection.



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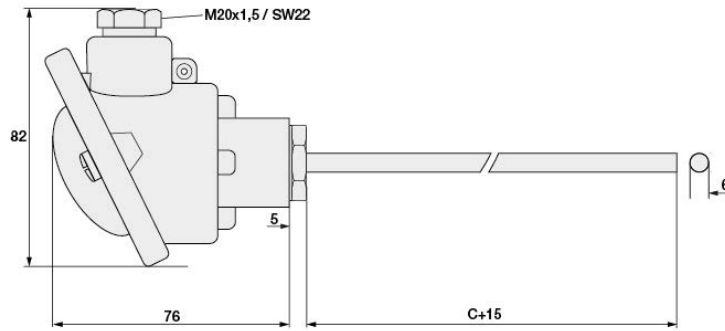
Technical drawing

Customizable options
A - Measuring element

B - Connection Type

C - Mounting length

All dimensions in mm



Delivery and Assembly

Assembly instructions	by using an existing protection sleeve, mounting flange, immersion sleeve or compression fitting
Delivery and Packaging	Probe, seperatly packaged in PE bag

Your order code



Article no.	Measuring element	Connection Type	Mounting length
803311 4011	A_____	B_____	C_____



Matching accessories: Connection cable

Connection cable

Please select your desired cable first.

Picture	Code	Connection Type	Color	IP	From (°C) ¹⁾	To (°C) ¹⁾	Outside material	Material strand	Ø (mm) ²⁾	Q (mm ²) ³⁾	Color strand	Ω / m ⁴⁾
	809200 0	2-Wire	black	IP67	-30	+105	PVC	PVC	4,8	0,22	rd, wt	0,07
	809200 1	3-Wire	black	IP67	-30	+105	PVC	PVC	4,8	0,22	rd, wt, rd	0,07
	809200 2	4-Wire	black	IP67	-30	+105	PVC	PVC	4,8	0,22	rd, wt, rd, wt	0,07
	809210 0	2-Wire	red-brown	IP67	-50	+180	Silicone	Silicone	4,7	0,22	rd, wt	0,08
	809210 1	3-Wire	red-brown	IP67	-50	+180	Silicone	Silicone	4,9	0,22	rd, wt, rd	0,08
	809210 2	4-Wire	red-brown	IP67	-50	+180	Silicone	Silicone	4,9	0,22	0,08	0,08

Insulation resistance: ≥ 100 MOhm at min. 100 VDC | ¹⁾Perm. range °C | ²⁾Tolerance ± 0,2 mm | ³⁾Tolerance ± 0,03 mm² | ⁴⁾per single strand | Please also note the connection Type of your selected temperature sensor.

Now please select the length and add the code to the article no. of the cable.

Length (m)	1	2	5	10	20
Code	010	020	050	100	200

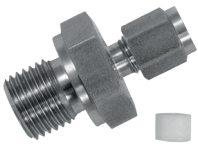
Please append these digits to the part number of your desired cable.



Matching accessories: Compression fittings

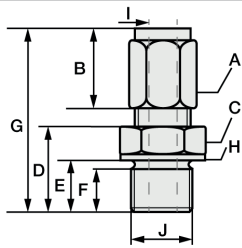
Compression fitting with PTFE clamping ring

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.

	Article no.	809610 2XXX	Code	I - Ø Inside (mm)	Code	J - Process connection
	Temp. max	+260 °C	0	1	27	M6x1 ¹⁾
	Pressure proof up to	10 bar	1	1,5	28	M8x1 ¹⁾
	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. | ¹⁾ not available for Ø Inside (I) 6 mm

Dimensions for technical drawing

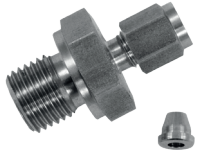


I	J	A	B	C	D	E	F	G	H
1	M6x1 ¹⁾	SW10	13	SW12	13	9	8	31	Ø10
1,5	M8x1 ¹⁾	SW10	13	SW12	13,5	9,5	8	31	Ø11,8
3	M10x1	Ø 1,5 & 3: SW10 Ø 6: SW12	13	SW14	13,5	9,5	8	32	Ø13,8
6	G1/8 "	Ø 1,5 & 3: SW10 Ø 6: SW12	13	SW14	13,5	9,5	8	32	Ø13,8
	G1/4 "	Ø 1,5 & 3: SW10 Ø 6: SW12	13	SW19	20	14	12	38,5	Ø18
	G1/2 "	Ø 1,5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

All dimensions in mm | ¹⁾ not available for Ø Inner (I) 6 mm

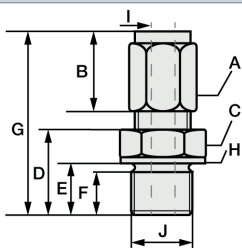
Compression fitting with stainless steel cutting ring

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.

	Article no.	809610 1XXX	Code	I - Ø Inside (mm)	Code	J - Process connection
	Temp. max	+800 °C	1	1,5	27	M6x1 ¹⁾
	Pressure proof up to	40 bar	3	3	28	M8x1 ¹⁾
	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. | ¹⁾ not available for Ø Inside (I) 6 mm

Dimensions for technical drawing



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

All dimensions in mm | ¹⁾ not available for Ø Inner (I) 6 mm

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Matching accessories: Mounting flange

Steel flange

Article no.	809500 1XXX
Material	Stainless Steel
Fixing	3 x Ø 4,5 mm drill holes
Now please select the size of the hole and append the last digits to your order number.	
A - Hole (mm)	Code
6	060
9	090
10	100
15	150
Your order code 809500 1_ _ _	

Aluminium flange

Article no.	809500 2XXX
Material	Aluminium
Fixing	2 x Ø 4,5 mm drill holes
Now please select the size of the hole and append the last digits to your order number.	
A - Hole (mm)	Code
6	060
11	110
Your order code 809500 2_ _ _	

Plastic flange

Article no.	809500 4XXX
Material	Plastic
Fixing	2 x Ø 4,5 mm drill holes
Now please select the size of the hole and append the last digits to your order number.	
A - Hole (mm)	Code
6	060
12	120
Your order code 809500 4_ _ _	

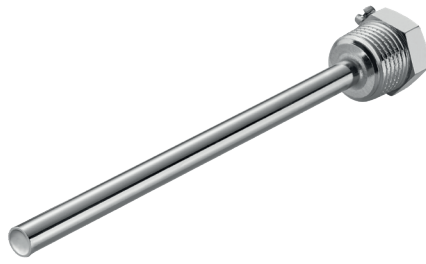
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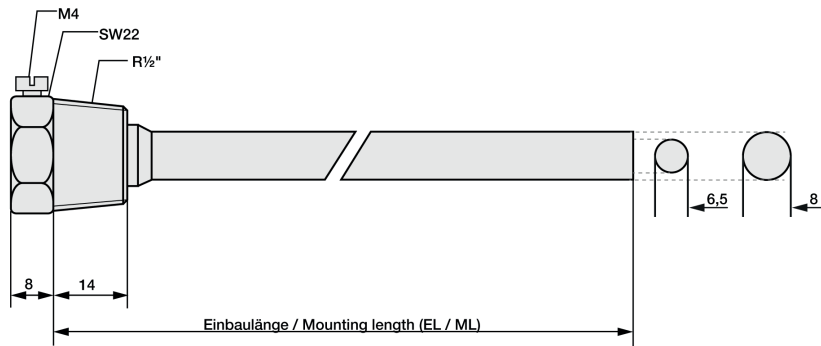
Matching accessories: Immersion sleeves

Brass immersion sleeve R1/2 "				
Article no.	809520 10XX	Code		Mounting length (mm)
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			

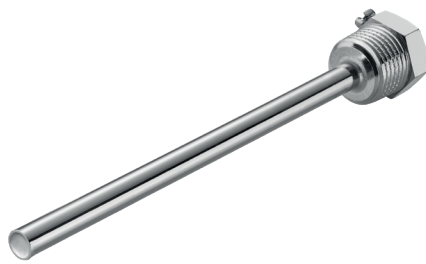


Please attach the code for the mounting length.

Technical drawing

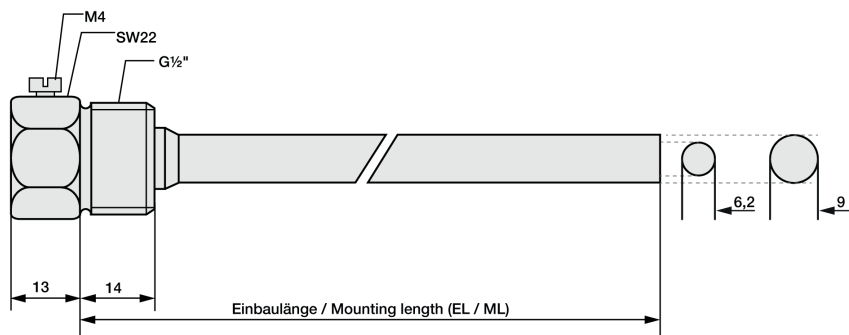


Stainless steel immersion sleeve G1/2 "				
Article no.	809520 20XX	Code		Mounting length (mm)
Temp. max	+600 °C	05		50
Pressure proof up to	40 bar	10		100
Material	Stainless steel 1.4571 316TI	15		150
Process connection	G1/2 "	20		200
Wrench size	22	25		250
Ø Inside / Outside (mm)	6,2 / 9	30		300
Scope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



Please attach the code for the mounting length.

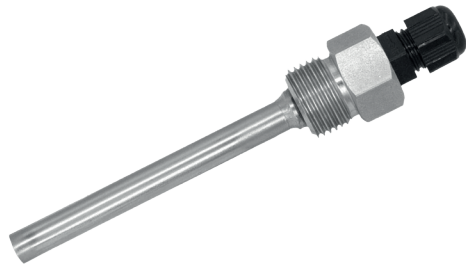
Technical drawing



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Immersion sleeve G1/2 " with cable gland



Article no.	809520 60XX	Compression fitting		Code	Mounting length (mm)
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 to 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

