

# Duct probe with J-Head and aluminium flange

**Order nr.: 803711 2011**

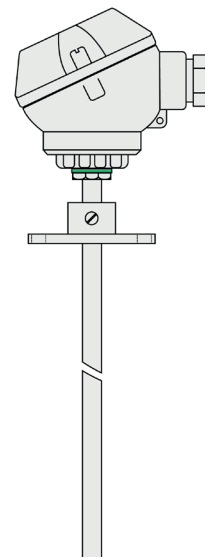
Our duct probe with aluminum flange is used to measure the temperature in gaseous media in a temperature range from -30 up to +150°C. For an easy and quick mounting, a suitable aluminum flange is included. Further mounting flanges made of stainless steel or plastic can be found in our accessories. Simply configure your probe and send us the order code.



General Information	
Measuring range	-30 °C to +150 °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. measurement 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)

**Customizable options**

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



A - Measuring element				
Code	Sensor	Accuracy / Tolerance resistance	min <sup>2)</sup>	max <sup>2)</sup>
A012	Pt100	Cl. B dT = ±(0,30 °C + 0,005 t ) <sup>1)</sup>	-50 °C	+400 °C
A011	Pt100	Cl. A dT = ±(0,15 °C + 0,002 t ) <sup>1)</sup>	-50 °C	+300 °C
A013	Pt100	1/3 Cl. B dT = ±(1/3 · (0,30 °C + 0,005 t )) <sup>1)</sup>	-50 °C	+200 °C
A014	Pt100	1/10 Cl. B dT = ±(1/10 · (0,30 °C + 0,005 t )) <sup>1)</sup>	±0 °C	+100 °C
A022	Pt500	Cl. B dT = ±(0,30 °C + 0,005 t ) <sup>1)</sup>	-70 °C	+500 °C
A032	Pt1000	Cl. B dT = ±(0,30 °C + 0,005 t ) <sup>1)</sup>	-50 °C	+400 °C
A031	Pt1000	Cl. A dT = ±(0,15 °C + 0,002 t ) <sup>1)</sup>	-50 °C	+300 °C
A105	NTC 5 kOhm	R25 = 5 KOhm ±1 %	-40 °C	+125 °C
A110	NTC 10 kOhm	R25 = 10 KOhm ±1 %	-40 °C	+125 °C
A120	NTC 20 kOhm	R25 = 20 KOhm ±1 %	-40 °C	+125 °C
A210	Ni1000	-60 °C to 0 °C: dT = ±(0,4 °C + 0,028 · T)   0 °C to +150 °C: dT = ±(0,4 °C + 0,007 · T)	-60 °C	+150 °C
A323	LM235Z	typical ±1 °C	-40 °C	+125 °C
A421	KTY 81-210	R25 = 2 KOhm ±1 %	-50 °C	+150 °C
A411	KTY 81-110	R25 = 1 KOhm ±1 %	-50 °C	+150 °C
A520	DS18B20	-10 °C to +85 °C: ±0,5 °C   -30 °C to +100 °C: ±1 °C   -55 °C to +125 °C: ±2 °C	-55 °C	+125 °C
A334	LM34	typical ±0,5 °F at 77 °F   ±1,5 °F at -50 °F to +300 °F	-50 °F	+300 °F

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

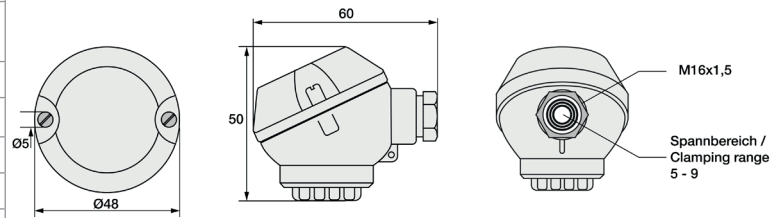
Possible connections			
Sensor	2W	3W	4W
Pt	✓	✓	✓
NTC	✓		
Ni	✓	✓	✓
LM235Z	✓		
KTY	✓		
DS18B20		✓	
LM34		✓	

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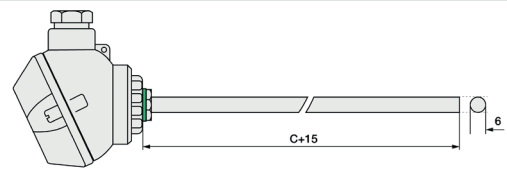
<sup>1)</sup>according to IEC 751 / EN 60751 | <sup>2)</sup> Perm. range °C | A334 only on request | Detailed information and the characteristics can be found in our download area.



Connection head	
Design	Form J (MA)
Material	Aluminium pressure die-casting
Color	RAL 9006 aluminium silver
W/H/Ø (mm)	50/60/48
Cable gland head	with strain relief
Clamping range (mm)	5 to 9
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 <sup>2)</sup>	C0050	50 <sup>1)</sup>	C0250	250 <sup>1)</sup>
		C0100	100 <sup>1)</sup>	C0300	300 <sup>1)</sup>
		C0150	150 <sup>1)</sup>	C0400	400 <sup>1)</sup>
		C0200	200 <sup>1)</sup>	C0500	500 <sup>1)</sup>

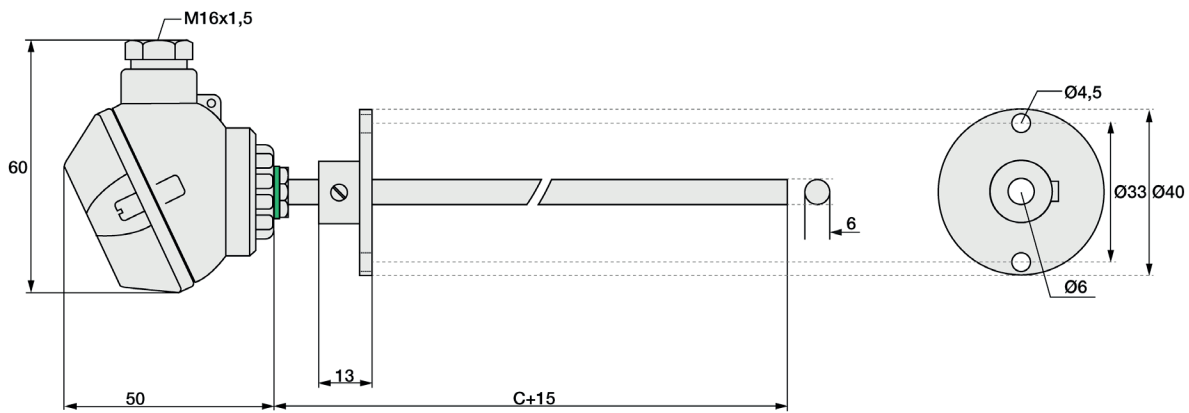


Other mounting lengths on request | <sup>1)</sup>Tolerance ± 1% | Please note: Mounting length = C + 15 mm | <sup>2)</sup> Tolerance ± 0,1 mm

Aluminium flange	
<b>Included in delivery</b>	
Material	Aluminum
Fixing	two holes Ø 4.5 mm
Hole (mm)	6
Article number flange	809500 2060
You will find further mounting flanges in our accessories.	

Your order code			
Order nr.	Measuring element	Connection type	Mounting length
803711 2011	A_____	B_____	C_____
Delivery and Packaging	Probe, Mounting flange, seperatly packaged in PE bag		
Assembly instructions	Installation by using the enclosed mounting flange		

**Technical drawing**



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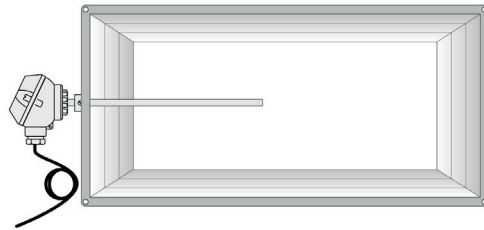
All dimensions in mm



# Important assembly advices

## 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



Mounting by means of compression fitting: Please tighten the union nut of the compression fitting by hand until it stops (clearly noticeable). With a wrench suitable for the wrench size, please make a 1/4 turn for compression fittings with PTFE pressure ring. 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 (included in delivery): Please make sure that the Ø of the mounting flange matches the Ø of the protection sleeve.

Please lay the cable with reserve loop (5) and in such a way that no water can penetrate into the sensor head. This allows you to extend the probe without disconnecting the electrical connection.

## Matching accessories: Connection cable

Details of accessories can be found on our website.

### Connection cable

Please select your desired cable first.

Picture	Code	Connection type	Color	IP	From (°C) <sup>1)</sup>	To (°C) <sup>1)</sup>	Outside material	Material strand	Ø (mm) <sup>2)</sup>	Q (mm <sup>2</sup> ) <sup>3)</sup>	Color strand	? / m <sup>4)</sup>
	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 3 <sup>5)</sup>	3-Wire	red-brown	IP67	-50	+180	Silicone	Silicone	4,4	0,22	br, gn, wt	0,08
	809210 2	4-Wire	red-brown	IP67	-50	+180	Silicone	Silicone	4,9	0,22	rd, wt, rd, wt	0,08

Insulation resistance: ? 100 MOhm at min. 100 VDC | <sup>1)</sup>Perm. range °C | <sup>2)</sup>Tolerance ± 0,2 mm | <sup>3)</sup>Tolerance ± 0,03 mm<sup>2</sup> | <sup>4)</sup>per single strand | <sup>5)</sup>We use this cable only when using a DS18B20 or LM34 sensor. Litz color brown, green, white | 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.

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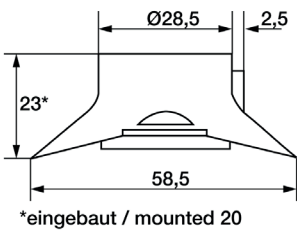
# Matching accessories: Mounting flange

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
<b>Your order code 809500 1_ _ _</b>	

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
<b>Your order code 809500 2_ _ _</b>	

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
<b>Your order code 809500 4_ _ _</b>	

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# Matching accessories: Compression fittings

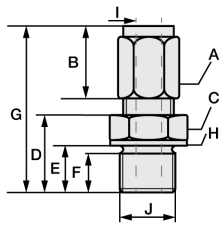
## Compression fitting with PTFE clamping ring

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

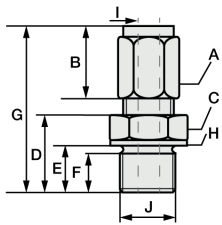
## Compression fitting with stainless steel cutting ring

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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