

Types Ea, Ga, CS // For thermometers with union nut, type Da



Your advantages

Types	Ea / Ga / CS
	<ul style="list-style-type: none"> • Suitable materials for your pipe system • Minimizes the risk of sensor breakage during operation • Replacement of the measuring device possible without draining the system • Protection of the sensor against pressure and inflow

Technical data

Type	Ea	Ga	CS
Version	Threaded socket with tube and bottom hard soldered (non-ferrous metal) or welded (steel) to be screwed in	Made of solid material to be screwed in	Made of solid material to be welded in
Connection thread immersion tube	G½, G¾, M20 x 1.5 and M27 x 2		
Medium / Application area	Liquid and gaseous media		
Protection tube length l	63 mm, 73 mm, 100mm, 110 mm, 160 mm, 170 mm, 250mm, 260 mm, 400 mm and 410 mm		
For immersion tube diameter	up to 10 mm		
Process connection	Thread	Thread	for welding in
Nominal pressure	Max. 35 bar	Max. 100 bar	Max. 400 bar
Medium temperature	depending on material, pressure and flow speed		

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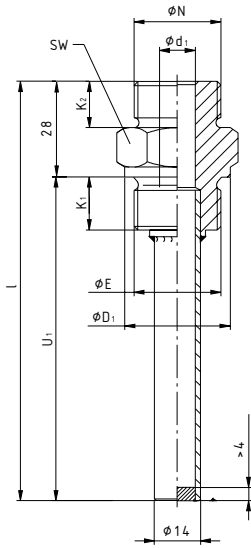
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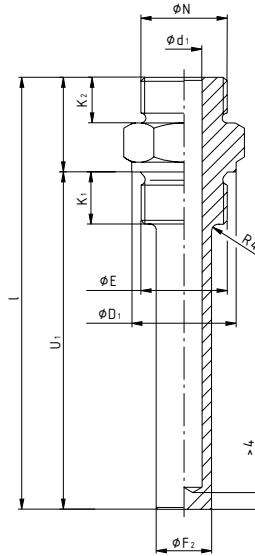
**Type Ea
(DIN 43772, form 8)**

Fig. 1



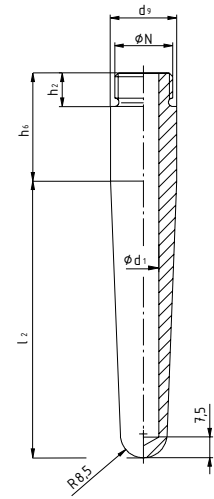
**Type Ga
(DIN 43772, form 9)**

Fig. 2



**Type CS
(SIKA factory standard)**

Fig. 3



Dimensions [mm] for types Ea / Ga / CS

Thread E / N	d ₁	D ₁	F ₁	F ₂	K ₁	K ₂	SW	N	d ₉	h ₂	h ₆
G½	11	25	14	17	14	12	27	G½	24 h11	12	39
M20 x 1.5											
G¾	11	32	14	19	16	14	32	G¾	30 h11	14	45
M27 x 2											

Order code			
Immersion tube			
Type Ea (Fig. 1)		179.2	
Type Ga (Fig. 2)		179.4	
Type CS (Fig. 3)		180.6	
Immersion length l₁	Overall length l	Immersion length U / L	Code
Type Ea – tube brazed into socket for non-ferrous materials or welded for steel, to be screwed in			
89 mm* / 93 mm**	101 mm	73 mm	073
126 mm* / 130 mm**	138 mm	110 mm	110
186 mm* / 190 mm**	198 mm	170 mm	170
276 mm* / 280 mm**	288 mm	260 mm	260
426 mm* / 430 mm**	438 mm	410 mm	410
Type Ga – made of solid material to be screwed in			
89 mm* / 93 mm**	101 mm	73 mm	073
126 mm* / 130 mm**	138 mm	110 mm	110
186 mm* / 190 mm**	198 mm	170 mm	170
276 mm* / 280 mm**	288 mm	260 mm	260
426 mm* / 430 mm**	438 mm	410 mm	410
Type CS – made of solid material weld-in type			
89 mm* / 93 mm**		63 mm	063
126 mm* / 130 mm**		100 mm	100
186 mm* / 190 mm**		160 mm	160
276 mm* / 280 mm**		250 mm	250
426 mm* / 430 mm**		400 mm	400
Connection thread dimension E / N			
G½			2
M20 x 1.5			7
G¾			3
M27 x 2			9
Materials for type			
Ea	Steel, connection thread 1.0718 / Rohr 1.0308		0
	Brass - Hexagon CW617N, tube CW702R or CW508L		1
Ga	Brass - CW617N		1
Ea / Ga / CS	Stainless steel - 1.4571		3
Ea	Special brass - connection thread CW710R / tube CW702R		4
Ga	Special brass - CW710R		15
	Copper-nickel alloy - CW354H		5
	Stainless steel - 1.7335		7
	Stainless steel - 1.7380		8
CS	Stainless steel - 1.5415		9
	Steel - 1.0460		6
Example order number		179.2 073	2 0

* available with thread G½ or M20 x 1.5

** available with thread G¾ or M27 x 2

Materials				
Type		Ea	Ga	CS
Brass	CW617N	✓1)2)	✓1)	
Steel	Thread connection: 1.0718 tube: 1.0308 E235	✓1)		
	1.0718, 11SMnPb30		✓1)	
Stainless steel	1.4571, X6CrNiMo Ti17-12-2	✓1)	✓	✓
Special brass	CW702R	✓1)	✓1)	
Copper-nickel alloy	CW354H CuNi30Mn1Fe	✓1)	✓1)	
Steel	1.0460 P250GH			✓
Stainless steel	1.7335 13CrMo4-5		✓	✓
	1.7380 10CrMo9-10			✓
	1.5415 16Mo3			✓
Special brass	CW710R		✓1)	

1) Only possible with Works Certificate EN 10204-2.1 or -2.2.

2) Hexagon CW617N, tube CW702R or CW508L

Types D1, D2, D4 and D5 // For thermometers with union nut, type DC



D1

Your advantages

Type	D1 / D2 / D4 / D5
	<ul style="list-style-type: none"> • Suitable materials for your pipe system • Minimizes the risk of sensor breakage during operation • Replacement of the measuring device possible without draining the system • Protection of the sensor against pressure and inflow

Technical data

Type	D1 / D2 / D4 / D5
Version	Made of solid material to be welded in
Connection thread immersion tube*	M8 x 1.5
Medium / Application area	Liquid and gaseous media
Protection tube length l	140 mm, 200 mm and 260 mm
For immersion tube diameter	6.5 mm
Process connection	for welding in
Nominal pressure	Max. 400 bar
Medium temperature	depending on material, pressure and flow speed

* Thermometer is attached via HDo nipple or neck tube

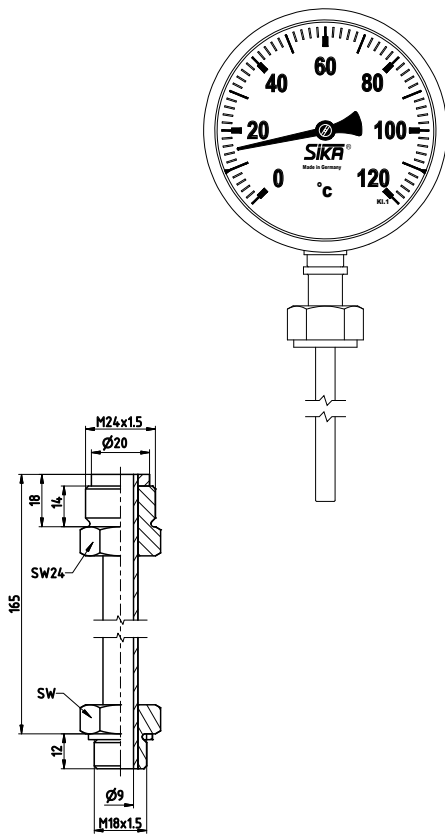


Fig. 1

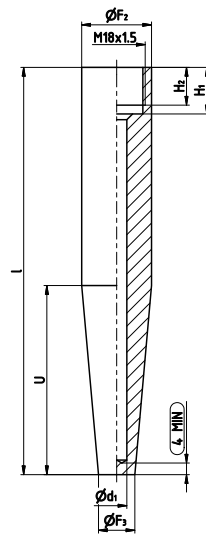


Fig. 2

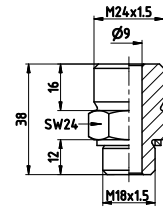
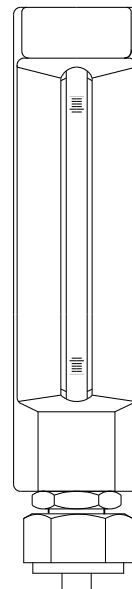


Fig. 3

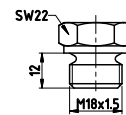


Fig. 4

Immersion lengths (l_3 of the thermometer) [mm]

Type	With neck tube	With double threaded adapter
D1	295	155
D2 / D4	355	215
D5	415	275

Abmessungen [mm]

Protection tube length l	Immersion length U	F_2	F_3	d_1	N
		D	D	D	D
140 (D1)	65	24 h 7	12,5	7	M18 x 1.5
200 (D2)	125	24 h 7	12,5	7	
200 (D4)	65	24 h 7	12,5	7	
260 (D5)	125	24 h 7	12,5	7	

The protection tube [Fig. 2] and the thermometer are either connected with a double threaded adapter [Fig. 3] or with a neck tube [Fig. 1]. This combination provides the required installation length l_1 . The screwed sealing plug [Fig. 4] helps to prevent contamination when assembling the protection tube.

Accessories

- Neck tube 165 mm, M18 x 1.5 / M24 x 1.5, steel, nickel-plated [Fig. 1] Order-No. 165020V
- Double threaded adapter M18 x 1.5 / M24 x 1.5, steel, nickel-plated [Fig. 2] Order-No. 00076V
- Plug screw M18 x 1.5, brass [Fig. 3] Order-No. 000061



DIN 43772, Form 4, for thermometer connection type Dc.

Order code				
Protection tube type				
Type D		180.9		
Type	Protection tube length l			
D1	140 mm	001	0	
D2	200 mm	002	0	
D4	200 mm	004	0	
D5	260 mm	005	0	
Materials				
Stainless steel 1.4571			=	3
Steel 1.0460			=	6
Stainless steel 1.7335			=	7
Stainless steel 1.7380			=	8
Stainless steel 1.5415			=	9
Example order number		180.9	001	0
			0	3

Order example combination of protection tube type and thermometer

Protection tube selection

Protection tube type D

= 180.9

Selection of the protection tube length, e.g. 200 mm

= 180.9.0020

Selection of the material, e.g. stainless steel 1.4571

= 180.9.0020.3

Combination of thermometer and neck tube

Selection of the neck tube 165 mm

= 165020V

Determine the thermometer installation length using the 'Immersion length' table

= $l_3 = 355$ mm

Select a thermometer with connection type Dc from the industrial thermometer or dial thermometer chapter. Pay attention to the specified installation length l_3 .

Combination of thermometer and double threaded adapter

Selection of the double threaded adapter

= 00076V

Determine the thermometer installation length using the 'Installation length' table

= $l_3 = 215$ mm

Select a thermometer with connection type Dc from the industrial thermometer or dial thermometer chapter. Pay attention to the specified installation length l_3 .

Materials		
Type		D
Brass	CW617N	
Steel	Thread connection: 1.0718 tube: 1.0308 E235	
	1.0718	
Stainless steel	1.4571, X6CrNiMo Ti17-12-2	✓
Special brass	CW702R	
Copper-nickel alloy	CW354H CuNi30Mn1Fe	
Steel	1.0460 P250GH	✓
Stainless steel	1.7335 13CrMo4-5	✓
	1.7380 10CrMo9-10	✓
	1.5415 16Mo3	✓
Special brass	CW710R	

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