Dial thermometer // gas filled // for industrial applications

Type 341 // 342 // 347



Type 341

Highlights

- Suitable for outdoor use - closed system (IP65)
- Completely stainless steel - high-quality industrial design
- Without electrical auxiliary power

Technical data			
Type	**341**	**342**	**347**
Version	Rigid connection with neck tube		Universally adjustable
Nominal size	Ø 63, 80, 100 or 160 mm		
Display ranges according to EN 13190	Between -40...600 °C		
Accuracy according to EN 13190	Class 1		
Medium / Application area	Liquid and gaseous media		
Immersion tube connection	Bottom	Central back	Central back universally adjustable
Immersion tube length	Between 63...430 mm		
Immersion tube diameter	Ø 8, 10 or 12 mm		
Process connection	Connection types: A, AK, B, Da, SN		
Nominal pressure	Max. 25 bar		
Measuring system	Nitrogen filled		
Degree of protection according to EN 60529	IP65		
Medium temperature	See selected display range		
Ambient temperature	-20...60 °C (only indoors)		
Storage temperature	-40...60 °C		
Nominal service temperature (EN 13190)	23 °C ±2 °C		
Approvals			
	DNV		

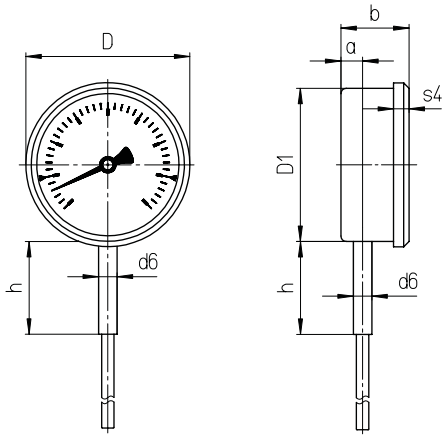
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Options

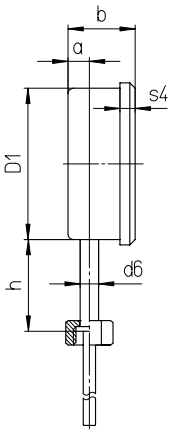
Options	
For Type	**On request**
341/ 342 / 347	Case filling (silicone oil) Other immersion tube diameters and connection types Other display ranges and / or special scales, e.g. double scale °C / °F

Technical drawings // Dimensions

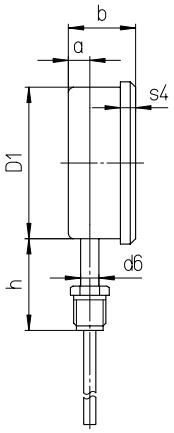
Type 341 (Bottom connection)



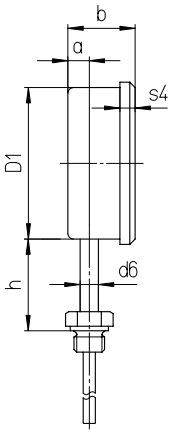
Connection type A + AK



Connection type Da



Connection type SN



Connection type B

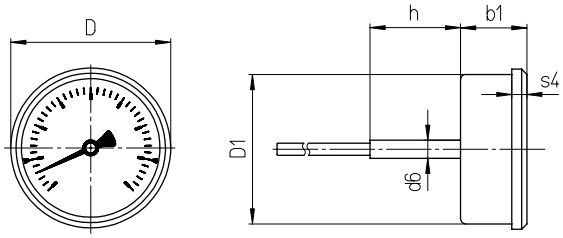
Dimensions [mm]								Weight [kg]	
NS	**a**	**b**	**D**	**D1**	**d6**	**h***	**s4**	**unfilled**	**filled**
63	12	39	67	62	12	60	8	0.23	0.30
80	15	42	86	79	12	60	8	0.32	0.46
100	15	43	106	99	12	60	10	0.43	0.63
160	15	51	167	159	12	60	11	0.75	1.46

* For display range > 500 °C: +20 mm
Display ranges ≥ 400 °C require an extended neck tube
This information is provided as an example and relates to the version with connection type A, Ø 10 mm, and immersion tube length 200 mm.

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Technical drawings // Dimensions

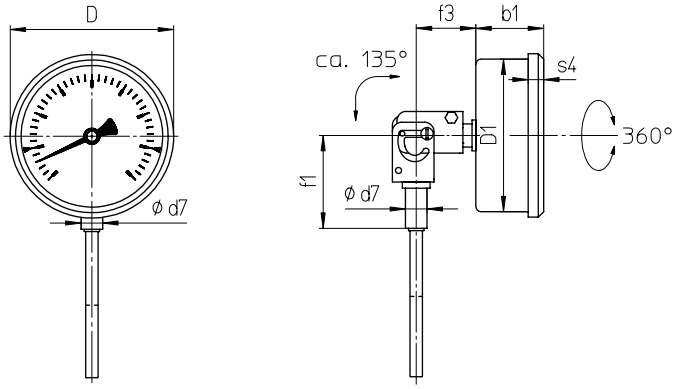
Type 342 (Central back connection)



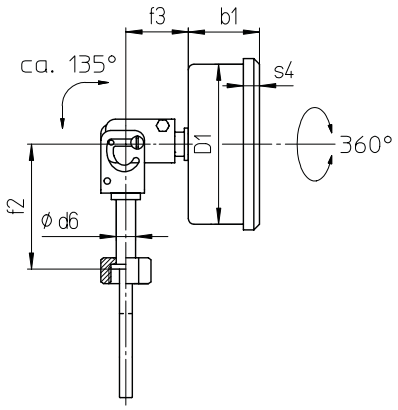
Dimensions [mm]													Weight [kg]	
NS	b1	b3	D	D1	d1	d2	d3	d6	h*	h1*	s	s4	unfilled	filled
63	39	42	67	62	75	85	3.6	12	60	57	5	8	0.23	0.30
80	42	45	86	79	95	110	4.8	12	60	56.5	6	8	0.32	0.46
100	43	46.5	106	99	116	132	4.8	12	60	57	6	10	0.43	0.63
160	51	54	167	159	178	196	5.8	12	60			11	0.75	1.46

* For scale range > 500 °C: +20 mm
Display ranges ≥ 400 °C require an extended neck tube

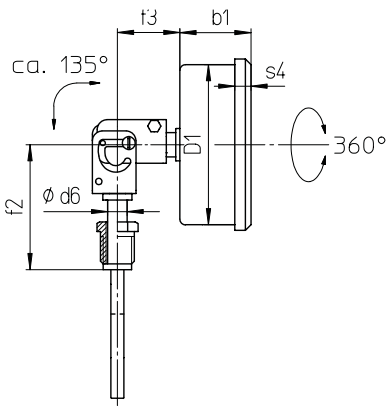
Type 347 (Universally adjustable)



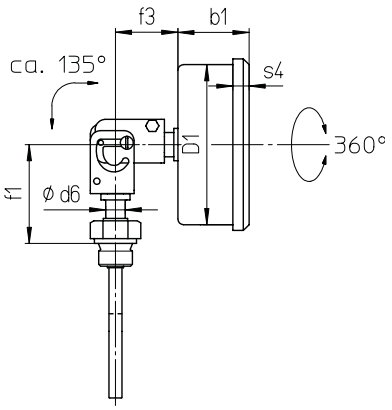
Connection type A + AK



Connection type Da



Connection type SN



Connection type B

Dimensions [mm]									Weight [kg]	
NS	b1	D	D1	d7	f1	f2	f3	s4	unfilled	filled
63	39	67	62	14	63	80	40	8	0.35	0.43
80	42	86	79	14	63	80	40	8	0.44	0.58
100	43	106	99	14	63	80	40	10	0.55	0.75
160	51	167	159	14	63	80	40	11	0.88	1.60

This information is provided as an example and relates to the version with connection type A, Ø 10 mm, and immersion tube length 200 mm.

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Material

Material	
Housing	Crimped-on ring, Stainless steel 1.4301
Window	Instrument glass
Pointer movement	German silver / brass
Dial	Aluminium white with black scale markings
Pointer	Aluminium black
Material in contact with media	
Process connection	Stainless steel 1.4571
Immersion tube	Stainless steel 1.4571

Standard connection types // Immersion tube // for type 341/ 342 / 347

Connection type A

Plain immersion tube, universally usable

Connection type AK* [mm]

With adjustable compression fitting, for direct installation or use with protection tubes compliant with DIN 43772, form 4. 5 and 6 or DIN 16179

G	SW1	SW2	i	Lk
G½ B	27	22	14	42
G¾ B	32	22	16	42
½ NPT	27	22	19	42
¾ NPT	27	22	19	42
M20 x 1.5	27	22	14	42

Connection type B* [mm]

Fixed male thread for direct installation or use with protection tubes compliant with DIN 43772, form 4. 5 and 6 and DIN 16179.

G	SW	i
G½ B	27	14
G¾ B	32	16
½ NPT	27	19
¾ NPT	27	19
M20 x 1.5	27	14

Connection type Da* [mm]

Union nut, for use with protection tubes compliant with DIN 43772, form 8, 9 or DIN 16179 CS

G	SW	i
G½ B	27	10
G¾ B	32	12
M20 x 1.5	27	10
M27 x 2	32	12

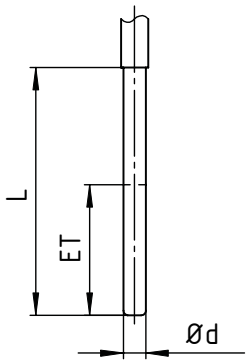
Connection type SN** [mm]

Rotatable male thread, for use with protection tubes compliant with DIN 43772, form 4. 5 and 6 or DIN 16179

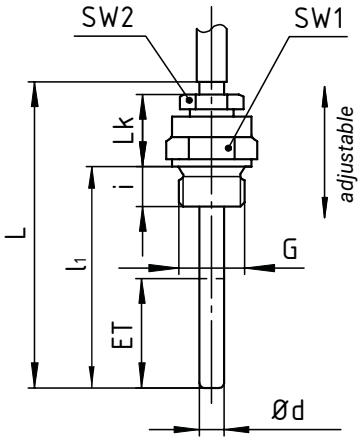
G	SW	i
G½ B	27	20
G¾ B	32	23
M20 x 1.5	27	20
M27 x 2	32	23

* Other threads on request.
** Non-sealing, protection tube necessary.

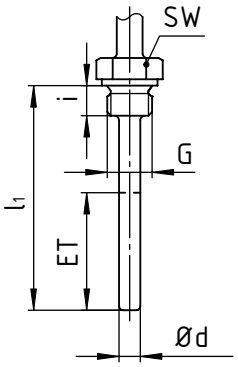
Connection type A



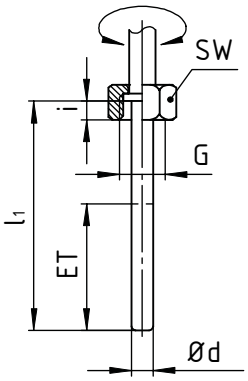
Connection type AK



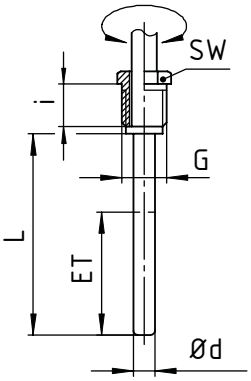
Connection type B



Connection type Da



Connection type SN*



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Connection type	Length	Thread	Up to max 0...500 °C Immersion tube diameter Ø d			More than 0...500 °C Immersion tube diameter Ø d		
			12	10	8	12	10	8
All types	ET		35	45	75	75	105	165
A	Lmin		55	65	95	95	125	185
AK	l1min	All standard threads	48	58	88	88	118	178
B	l1min	G½, M18 x 1.5, M20 x 1.5	49	59	89	89	119	179
		G¾	51	61	91	91	121	181
		½ NPT, ¾ NPT	54	64	94	94	124	184
Da	l1min	All standard threads	55	65	95	95	125	185
SN	Lmin	All standard threads	55	65	95	95	125	185

The minimum length Lmin / l1min of the immersion tube is the shortest possible immersion tube length for a given active length ET (bulb) and connection type. The active length ET of the immersion tube (bulb) must be fully immersed in the substance to be measured in order to obtain measurements corresponding to the stated accuracy class. The maximum feasible immersion tube length is 2.5 m.

Article numbers

Order code							
Immersion tube connection							
Bottom		Z	341				
Central back		Z	342				
Universally adjustable		Z	347				
Nominal size							
63 mm	Unfilled			1			
	Filled			A			
80 mm	Unfilled			2			
	Filled			B			
100 mm	Unfilled			3			
	Filled			C			
160 mm	Unfilled			4			
	Filled			D			
Material housing							
Stainless steel 1.4301					2		
Display range							
-40...40 °C						44	
-40...60 °C						46	
-30...50 °C						35	
-20...60 °C						26	
0...80 °C						08	
0...100 °C						10	
0...120 °C						12	
0...160 °C						16	
0...200 °C						20	
0...250 °C						25	
0...300 °C						30	
0...400 °C						40	
0...500 °C						50	
0...600 °C						60	
Connection type / Immersion tube length							
Please see next page and insert here							xxxxxxx
Example order number		**Z**	**341**	**3**	**2**	**12**	**0631033**

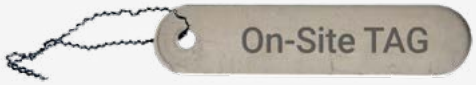
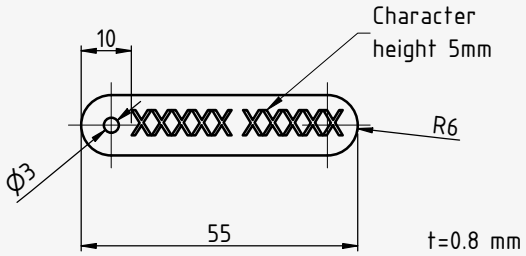
Article numbers // Connection type // Immersion tube length

Connection types	Add article number into order code				
Connection type A, Plain immersion tube Ø 10 mm					
Immersion tube length L [mm]	**Plain**				
108	0631033				
145	1001033				
205	1601033				
295	2501033				
445	4001033				
Connection type AK, adjustable compression fitting with immersion tube Ø 10 mm					
Immersion tube length l1 [mm]	**G½**	**G¾**	**M20 x 1.5**	**½ NPT**	**¾ NPT**
63	0639233	0639333	0639733	0639B33	0639C33
100	1009233	1009333	1009733	1009B33	1009C33
160	1609233	1609333	1609733	1609B33	1609C33
250	2509233	2509333	2509733	2509B33	2509C33
400	4009233	4009333	4009733	4009B33	4009C33
Connection type B, fixed male thread with immersion tube Ø 10 mm					
Immersion tube length l1 [mm]	**G½**	**G¾**	**M20 x 1.5**	**½ NPT**	**¾ NPT**
63	0632233	0632333	0632733	0632B33	0632C33
100	1002233	1002333	1002733	1002B33	1002C33
160	1602233	1602333	1602733	1602B33	1602C33
250	2502233	2502333	2502733	2502B33	2502C33
400	4002233	4002333	4002733	4002B33	4002C33
Connection type Da, Union nut with immersion tube Ø 10 mm					
Immersion tube length l1 [mm]	**G½**	**G¾**	**M20 x 1.5**	**M27 x 2**	
89* / 93**	0893233	0933333	0893733	0933933	
126* / 130**	1263233	1303333	1263733	1303933	
186* / 190**	1863233	1903333	1863733	1903933	
276* / 280**	2763233	2803333	2763733	2803933	
426* / 430**	4263233	4303333	4263733	4303933	
Connection type SN, rotatable male thread with immersion tube Ø 10 mm					
Immersion tube length L [mm]* **	**G½**	**G¾**	**M20 x 1.5**	**M27 x 2**	
80 / 86 / 77	0806233	0776333	0806733	0776933	
140 / 146 / 137	1406233	1376333	1406733	1376933	
230 / 236 / 227	2306233	2276333	2306733	2276933	
380 / 386 / 377	3806233	3776333	3806733	3776933	

* At G½ or M20 x 1.5 ** At G¾ or M27 x 2 *** Installation length „L" in depends on thread
On this page mentioned lengths are subject to technical feasibility.
Please observe the minimum immersion tube lengths in the two-page listing of standard connection types.

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Accessories

Accessories	Article number
Measuring point designation Laser-inscribed stainless steel plate with fixing wire for easy attachment to measuring points → **Scope of delivery:** Designation plate inscribed according to specification and enclosed fixing wire (sealing wire) → **Fastening:** Wire (included in delivery), alternatively sealing, cable ties or similar (not included in delivery) → **Materials:** Plate stainless steel 1.4571, wire stainless steel → **Dimensions:** Plate 55 x 10 x 0.8 mm, wire length 180 mm → **Inscription:** one-sided, single-line, max. 11 characters, character height 5 mm, designation width max. 40 mm, letters, numbers, symbols, barcodes, QR codes → **Transmission of designations:** digital list, file formats Excel, Word or CSV  	**ONSITETAG**