

TA || Expansion Thermometer

Application

The expansion thermometer TA serves as indicator, monitor, and controller.

It is used in all industries where temperature shall be registered.

Operation

The instrument's temperature detection part is filled with nitrogen. Temperature changes at the end of the probe stem cause pressure changes in the filled system. An integrated coil spring converts this pressure change to a tension which is intensified by a motion work and transferred to the 270° scale.

Measuring Ranges

Code number	Temperature range	
	[°C]	[°F]
25	-30 .. +50	-22 .. 122
23	-30 .. +30	-22 .. 86
26	-20 .. +40	- 4 .. 104
28	-10 .. +50	14 .. 122
31	0 .. +60	32 .. 140
32	0 .. +80	32 .. 176
40	0 .. +100	32 .. 212
41	0 .. +120	32 .. 248
51	0 .. +160	32 .. 320
60	0 .. +200	32 .. 392
61	0 .. +250	32 .. 482
70	0 .. +300	32 .. 572
80	0 .. +400	32 .. 752
90	0 .. +500	32 .. 932
91	0 .. +600	32 .. 1112
99	special ranges up to 800°C on request	

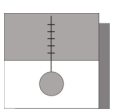


Main Features

- rugged and vibration resistant measuring system
- moisture resistant bayonet ring case (stainless steel)
- high accuracy (class 1) acc. to DIN EN 13190
- very short reaction time
- mechanical working
- zero point correction
- suitable for equipment of contact devices
- suitable in combination with Pt100 measuring resistance

Typical Applications

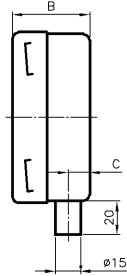
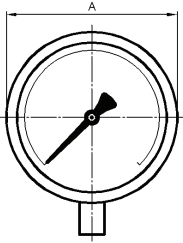
- process technology
- environmental technology
- heating systems, ventilating and air-conditioning systems



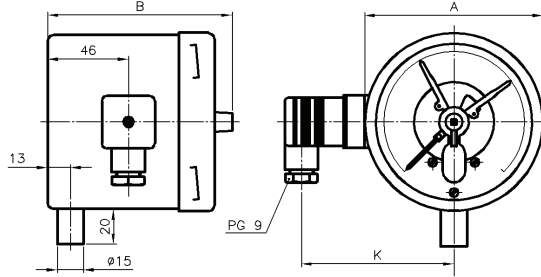
Specifications

Case Model / Probe Arrangement (all units in mm unless stated otherwise)

TA##AV...

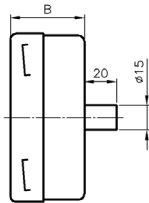


TA##AV...with inbuilt contacts

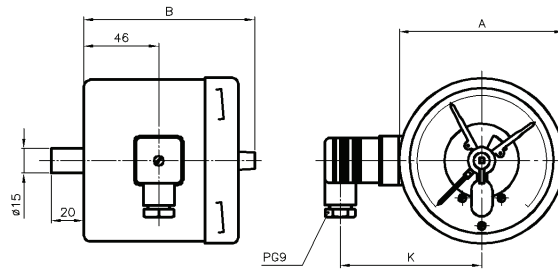


	NG100	NG160
A	101	161
B	45	45
B (w.Contacts)	104	108
C	13	13
K	92	122

TA##CV...



TA##CV...with inbuilt contacts



	NG100	NG160
A	101	161
B	45	45
B (w.Contacts)	104	108
K	92	122

Probes without protective sleeve (all units in mm unless stated otherwise)

Probe and screw connection consist of stainless steel 1.4571.

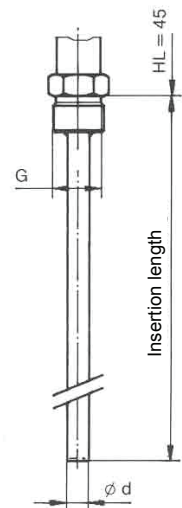
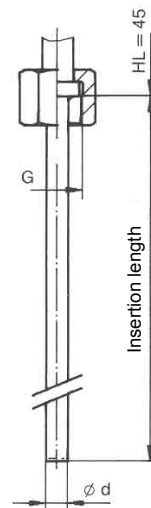
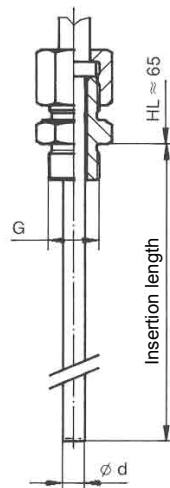
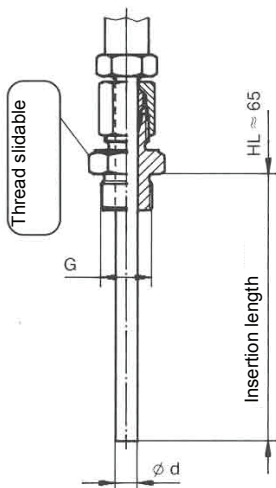
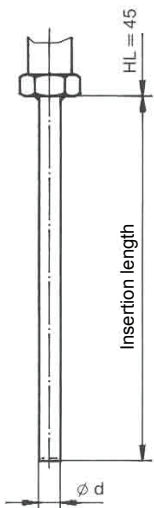
Type A
plain stem

Type J
like type A, with
slideable
compression fitting

Type B
stem with union, union
nut, and loose screw
connection

Type C
stem with union and
union nut

Type D
stem with fixed screw
connection

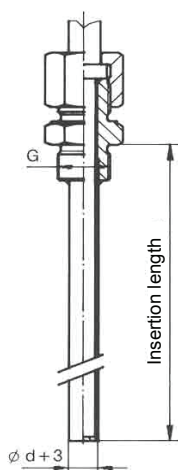


Probes with additional Protective Sleeve (all units in mm unless stated otherwise)
only for probes with $\varnothing 10\text{mm}$

The additional protective sleeve is available of the following materials: stainless steel (1.4571), steel C22.8 (only types K to N)

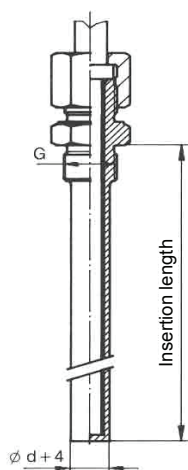
Type E

like probe type C, but with additional protective sleeve PN 25 (not with connection G3/8).



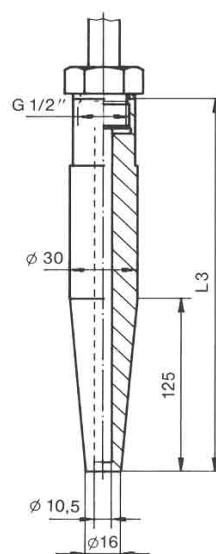
Type F

like probe type C, but with additional protective sleeve PN 64 of solid material (not with connection G3/8).



Types K to N

like probe type B and D with screw connection G1/2, but with additional weld-in protective sleeve PN 250 in the style of DIN 43772 type D, $\varnothing 30\text{ mm}$.



Type	Length of protective sleeve L3	Insertion length L	Basic probe type
K	200	190	Type B
L	200	190	Type D
M	260	250	Type B
N	260	250	Type D

Insertion Length and Diameter ($\varnothing d$)

A minimum insertion length is essential to get the same temperature for the expansion liquid enclosed in the probe as the temperature of the medium which shall be measured. This minimum insertion length depends on the diameter of the probe. Please note that probes with protective sleeve must have a diameter of $\varnothing 10\text{ mm}$.

Insertion length-($\varnothing d$) [mm]	$\varnothing 6$	$\varnothing 8$	$\varnothing 10$	$\varnothing 12$	$\varnothing 14$
Minimum insertion length L_{min} [mm]	150	90	70	40	35

Insertion lengths are available from 60 to 400 mm, see the Ordering Code for details. Intermediate lengths are available on request.

Connection

We offer the following screw connections of stainless steel 1.4571 for pipe mounting : G1/2, G3/4, G1, G3/8. Other connections are available on request. The expansion thermometer is available without screw connection, too.

