

**THERMO-Gas**

**TG**

**1**

Gas pressure thermometers\* with rigid stem  
for industry

*In a class of its own*

*Stainless*

- Non-polluting
- Temperature range:  
from - 260°C to + 800°C

- Very fast response
- Miniaturized and standardized bulbs  
(6, 8, 9 and 13 mm dia.)
- With rigid stem

\* Patents applied for in principal countries



## Gas pressure thermometers with rigid stem "stainless steel" range

Head and bezel in stainless steel AISI 304/1.4301

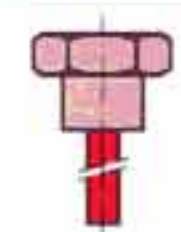



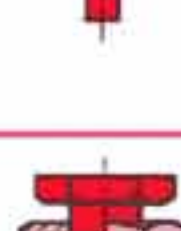
Mineral glass (thickness: 3 mm)

Waterproof twist lock bezel (EPR seal - ethylene-propylene rubber)

● = Standard model, **without** price supplement

○ = Standard model, **with** supplément de prix

□ = Optional, **with** supplément de prix

<p>With unthreaded shoulder <b>A</b> 15 dia. x 10 mm  - all-stainless steel AISI 303/1.4305</p>		<p><b>Types</b> 100 mm (4") dia. 130 mm (5") dia. 160 mm (6") dia.</p>
<p>With swivelling and sliding threaded connection <b>TAMX</b>  - all-stainless steel AISI 303/1.4305</p>		
<p>With fixed threaded connection <b>S</b>  - all-stainless steel AISI 303/1.4305  - all-stainless steel AISI 316/1.4401 (other threads on request, at extra cost)</p>		<p><b>Types</b> 100 mm (4") dia. 130 mm (5") dia. 160 mm (6") dia.</p> <p><b>Threads</b> C = G1/2A G3/4A M18x1,5 M20x1,5 1/2"NPT 3/4"NPT G1/2A 1/2"NPT</p>
<p>With swivelling threaded connection <b>T</b>  - all-stainless steel AISI 303/1.4305</p>		<p><b>Types</b> 100 mm (4") dia. 130 mm (5") dia. 160 mm (6") dia.</p> <p><b>Threads</b> C = G1/2A M18x1,5 M20x1,5</p>
<p>With swivelling cap connection <b>U</b>  - all-stainless steel AISI 303/1.4305</p>		<p><b>Types</b> 100 mm (4") dia. 130 mm (5") dia. 160 mm (6") dia.</p> <p><b>Threads</b> C = G1/2A G3/4A M24x1,5 M27x2</p>
<p>Other connection types see data sheet <b>TA 1</b></p>		
<p><b>Options</b></p>		
<p>Unbreakable acrylic glass</p>		
<p>Safety glass</p>		
<p>Bright-polished bezel</p>		
<p>Epoxy-coated head and bezel</p>		
<p>With index-pointer (to record maximum or minimum temperature attained) mounted on glass</p>		
<p>Amplifying movement, stainless steel</p>		
<p>Ditto, also resistant to vibrations</p>		
<p>Liquid filled</p>		
<p>RÜEGER inspection certificate</p>		
<p>Price list</p>		
<p>With electrical and pneumatic contacts</p>		
<p>Reference</p>		<p>See notices</p>





Co-axial models (H) (back connected)	Vertical models (V) (bottom connected)	Tilting/rotating models (I)
TGH100A	TGV100A	TGI100A
TGH130A	TGV130A	TGI130A
TGH160A	TGV160A	TGI160A
●	●	●
TGH100A + TAMX	TGV100A + TAMX	TGI100A + TAMX
TGH130A + TAMX	TGV130A + TAMX	TGI130A + TAMX
TGH160A + TAMX	TGV160A + TAMX	TGI160A + TAMX
□	□	□
TGH100S	TGV100S	TGI100S
TGH130S	TGV130S	TGI130S
TGH160S	TGV160S	TGI160S
●	●	●
○	○	○
□	□	□
○	○	○
●	●	○
○	○	●
○	○	○
○	○	○
TGH100T	TGV100T	TGI100T
TGH130T	TGV130T	TGI130T
TGH160T	TGV160T	TGI160T
○	○	○
○	○	○
○	○	○
TGH100U	TGV100U	TGI100U
TGH130U	TGV130U	TGI130U
TGH160U	TGV160U	TGI160U
○	○	○
○	○	○
○	○	○
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□	□	□
□	□	□
TG 1	TG 1	TG 1
TK 1, TK 2, TK 3	TK 1, TK 2, TK 3	TK 1, TK 2, TK 3



## Standard temperature ranges

Range		Range		Range		Range	
°C	°Div.	°C	°Div.	°C	°Div.	°C	°Div.
- 260... + 50 *	5	- 30... + 170	2	0... + 120 **	1	0... + 400	5
- 200... + 50 *	2	- 30... + 270	5	0... + 160 **	2	0... + 500 */**	10
- 120... + 40 *	2	0... + 60 **	1/2	0... + 200 **	2	0... + 600 */**	10
- 70... + 40	1	0... + 80	1	0... + 250 **	2	0... + 700 *	10
- 40... + 40	1	0... + 100	1	0... + 320	5	0... + 800 *	10
- 30... + 70	1						

\* = with price supplement

\*\* = DIN recommended ranges

Other **special scales** (°C, °F, Kelvin, double °C/°F scales) available on request, with price supplement.

The **average scale angle** is 270° (260°-280°). The **scale length** on the dial is about 190 mm for 100 mm dia., 250 mm for 130 mm dia. and 300 mm for 160 mm dia.

The dial **diameters**, the printing of the **figures**, and the **divisions**, conforme to **DIN standards**. The antiparallax is made of printed or anodized aluminium.

On request, **DIN** and **Cl.1** or **Cl.2** indications can be printed on the dial.

Pointer aluminium alloy, black.

## Stems

Dia. d = mm	Standard length (L = ... mm) (intermediate lengths on request)	Materials available (for all dias and lengths)
6	120, 150, 200, 300, 400, <b>500 max.</b>	<b>Stainless steel AISI 304 L/1.4306</b> (standard)
8, 9, 13	60, 120, 150, 200, 300, 400, 500, 600, 700, 800, 900, 1000, 1100, 1200, 1300, 1400, 1500, 1600, 1700, 1800, 1900, <b>2000 max.</b>	or Stainless steel AISI 316 L/1.4404 (on request)

Tolerance on stem diameters: 0/-0,1 mm.

## Minimum sensitive lengths «Is» of temperature bulb

Temperature ranges	from -260°C to +700°C	0... +800°C
Materials	<b>Stainless steel AISI 316 L/1.4404</b>	<b>Nimonic - drilled from bar stock</b>
Lengths «Is» for 6 mm dia.	100 mm (minimum)	--
8 mm dia.	50 mm (minimum)	--
9 mm dia.	50 mm (minimum)	<b>100 mm</b>
13 mm dia.	50 mm (minimum)	50 mm (minimum)

Recommended length Is : 100 mm

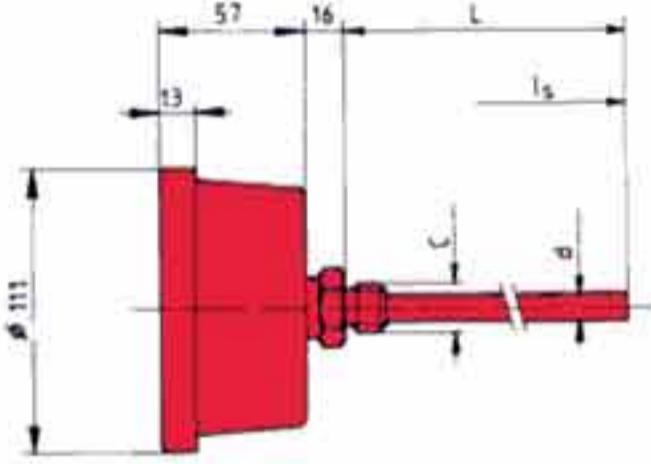
The immersion depth should be at least equivalent to the sensitive length «Is».

## Technical specification

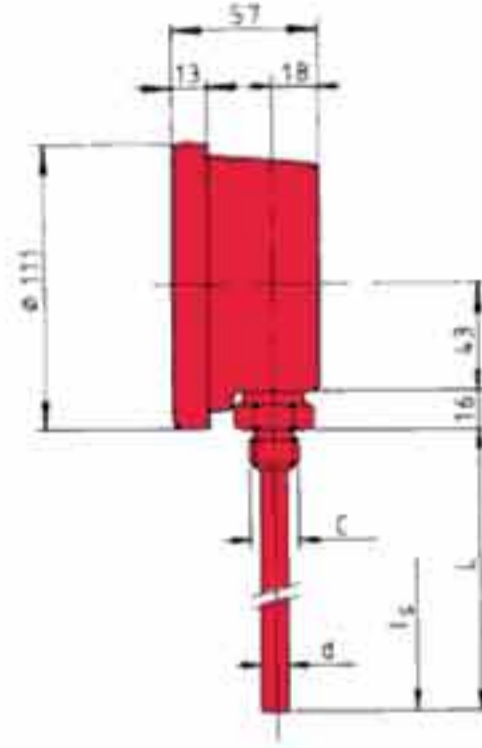
Characteristics	Units	Value	Characteristics	Units	Value
Range lower limit	°C	≥ - 260	Hysteresis	% FS	0.5
upper limit	°C	≤ + 800	Threshold	% FS	≤ ± 0,3
Full scale (FS) ΔT	min.	K	60	Stability	% FS/a
	max.	K	800		
Overload for range < 600°C	% FS	20	Ambient temperature error (- 10... + 50°C)	% FS	≤ ± 1
Calibration error (accuracy: Cl. 1)	% FS	≤ ± 1	Calibration at ≅ +20°C and ≅ 1 bar <sub>abs</sub>		
Repeatability	% FS	≤ ± 0,3	Degree of protection	IP	65

These thermometers may be in **vibration-resistant execution** according to the **service conditions** expected (e.g. liquid filled). Please specify when ordering.

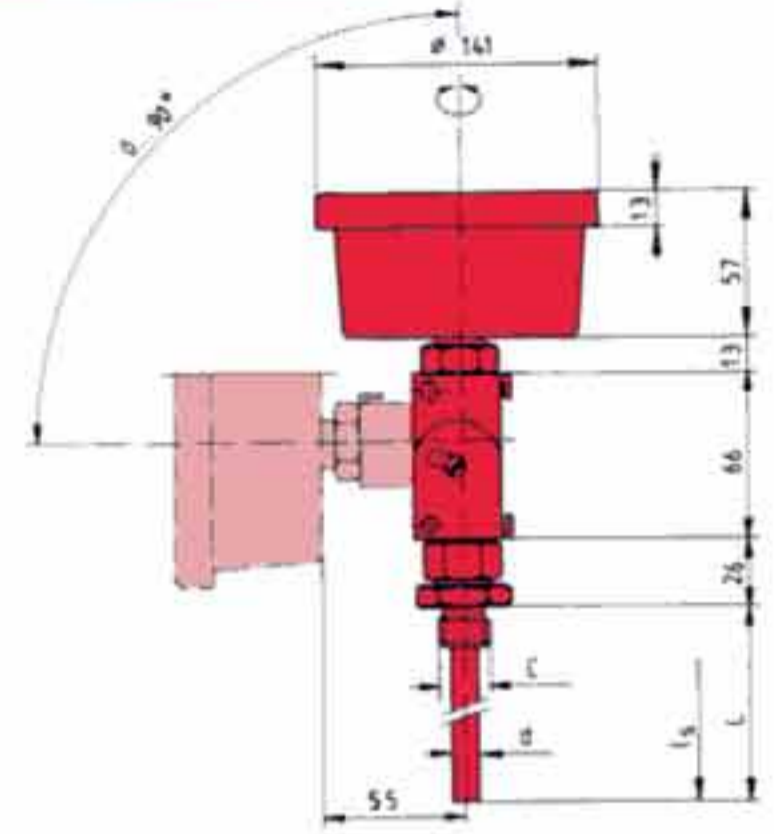




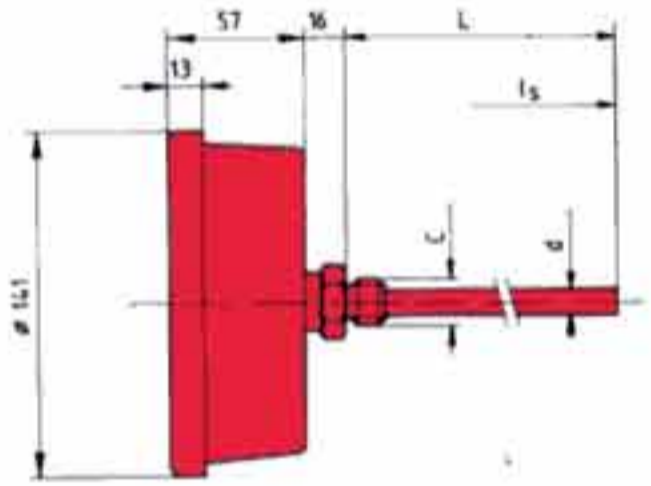
TGH100S



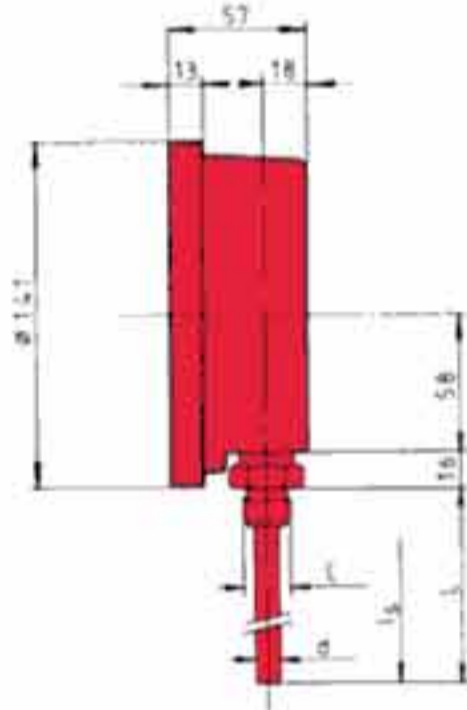
TGV100S



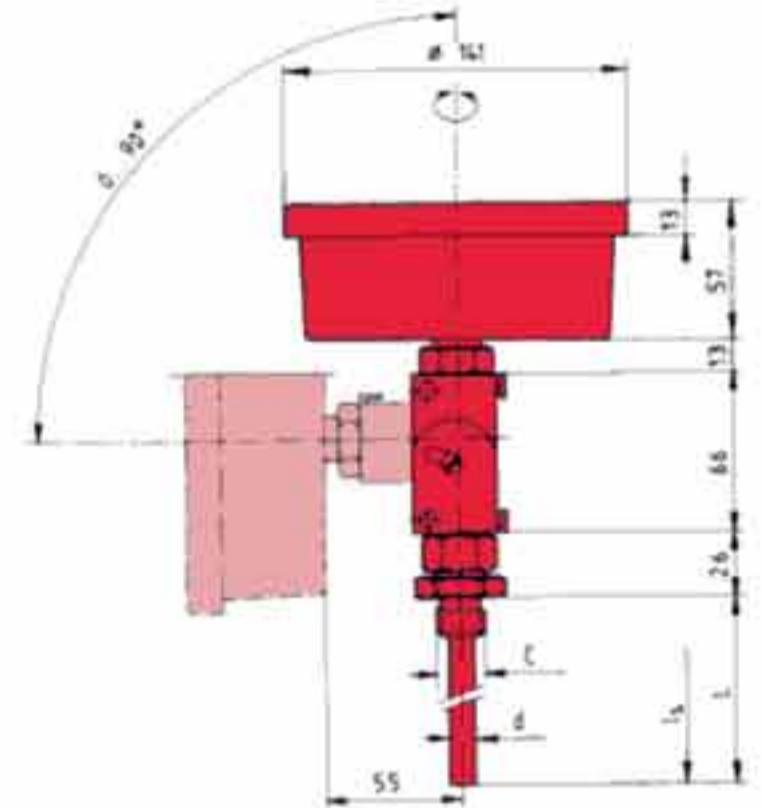
TGI100S



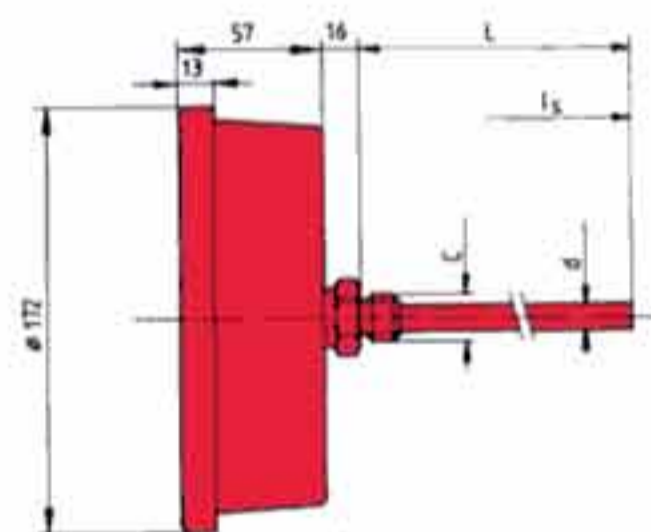
TGH130S



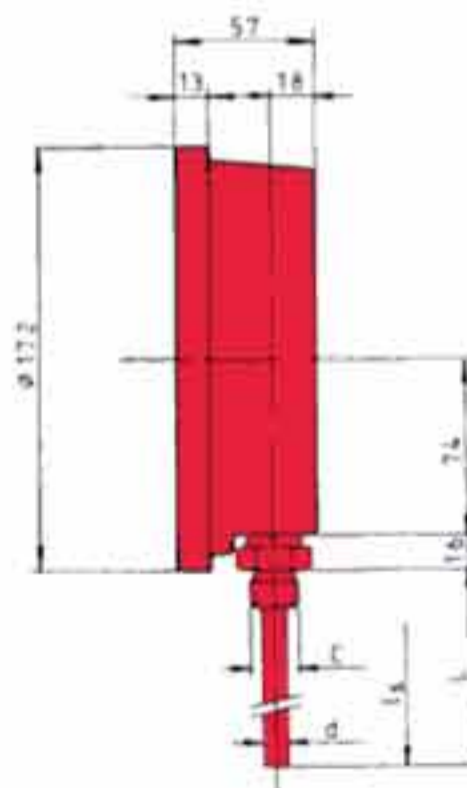
TGV130S



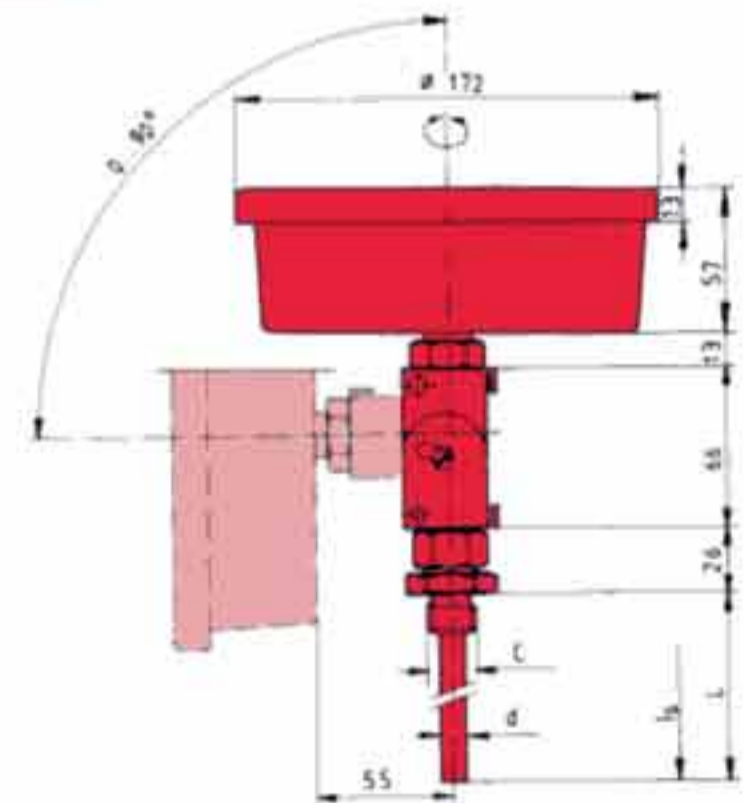
TGI130S



TGH160S



TGV160S



TGI160S

Other connection types

- .....A = With unthreaded shoulder
- .....T = With swivelling threaded connection
- .....U = With swivelling cap connection



see data sheet TA 1



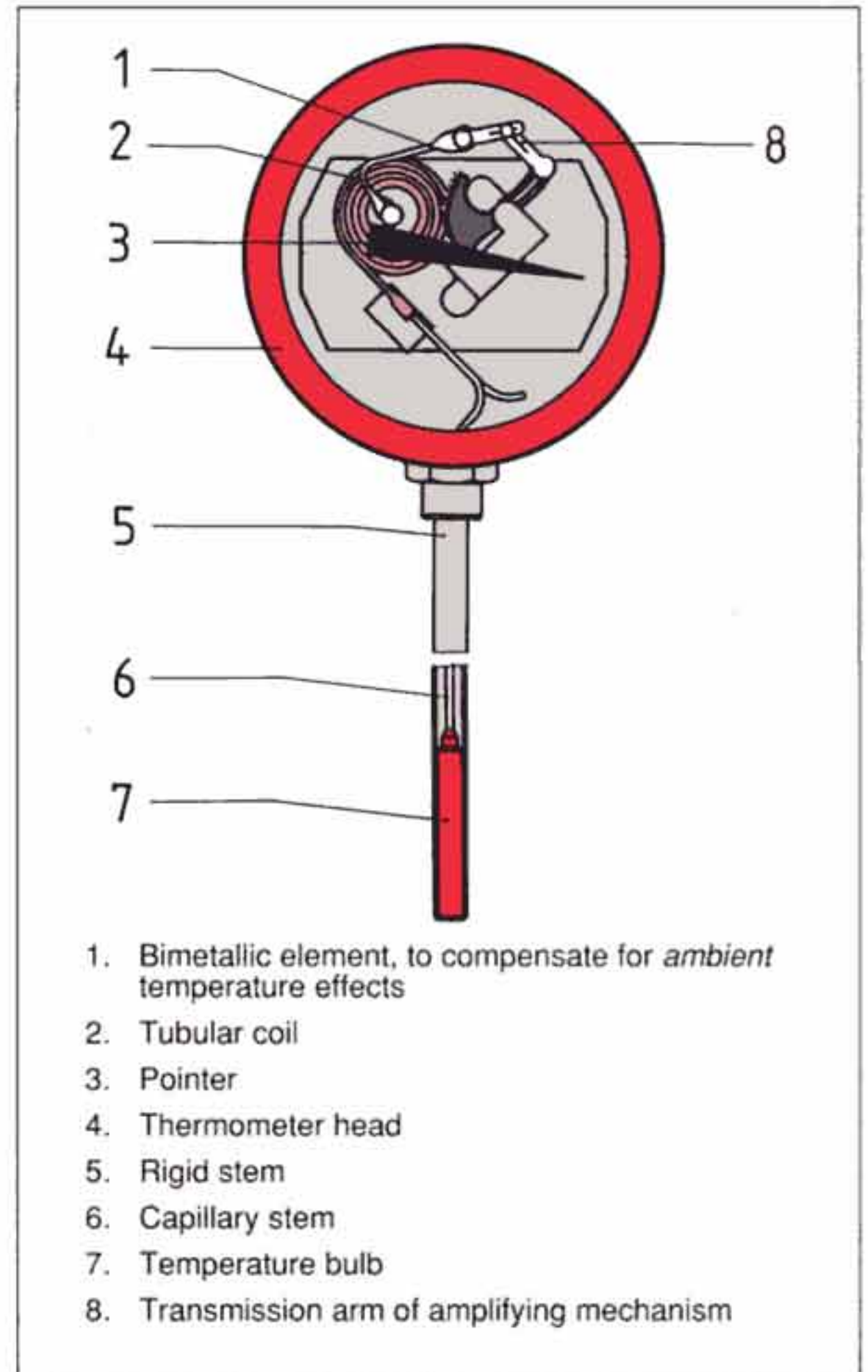
## Extreme performance and decisive advantages

- **Temperature ranges**  
from -260 °C to +800 °C
- **Very fast response**  
+20 °C to +100 °C.....3 seconds  
+20 °C to +200 °C.....4 seconds
- **Specially rugged design**  
Withstands - shocks  
- vibration  
- outdoor conditions

## Unusually wide application scope

Due to their exclusive high-performance characteristics, these thermometers are particularly suitable for applications in:

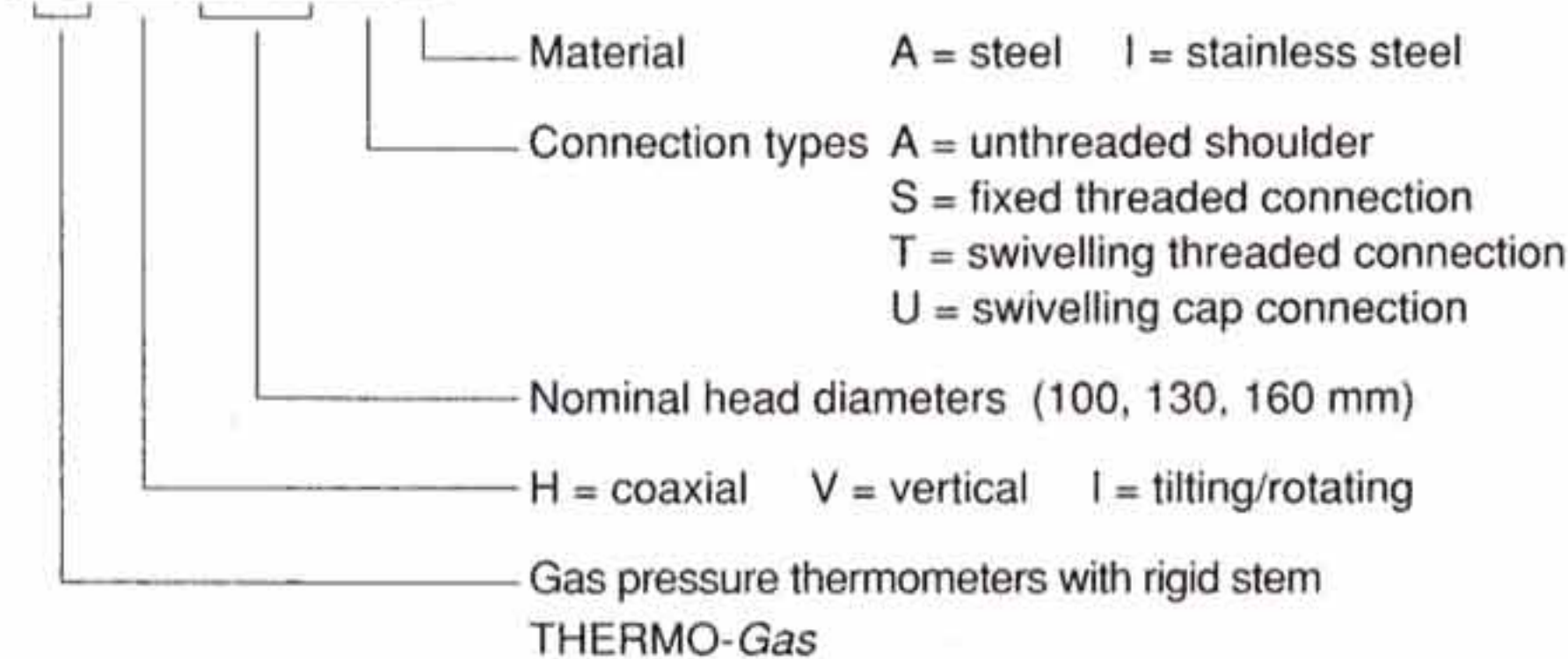
- the food, pharmaceutical, chemical and petro-chemical industries
- cryogenics, refrigeration, heating, sterilization
- industrial plant, e.g. compressors, engines, machines, apparatus, etc.



## Ordering code structure

### Type

T G V 1 0 0 A I



### Additional information

- Temperature range
- Connection thread and material
- Stem diameter
- Length of stem
- Sensitive length «Is»
- Special connection type (see data sheet TA 1)

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