



## Description

PAKKENS TE Series Temperature Gauges have been developed as a standard version for temperature indication in HVAC systems, heating, and cooling applications. The modular design of the temperature gauge makes it enable to have different combinations of nominal sizes, stem lengths, and scale ranges.

The bimetal temperature gauges are assembled to the processes with screw-in thermowells. Besides protecting the measurement instrument, the thermowell is also used for exchanging the temperature gauge without halting the systems.

## Industrial Applications

Air Conditioning and Refrigeration Systems, Heating Systems, Ventilation Systems, Hot Water Tanks, Solar Collectors

## General Specifications

### Confirmity:

EN13190

### Temperature Sensing Element:

Bimetal Helix Coil

### Sizes (mm):

Ø63, Ø100, Ø160

### Bulb Diameter (mm):

Ø9

### Thermowell Diameter (mm):

Ø12

### Unit:

°C

### Immersion Length (mm):

Ø63: 50mm...500mm  
Ø100:50mm...1000mm  
Ø160:100mm...1000mm

### Measurement Ranges:

-30°C...200°C (For products that have a 50mm immersion length)  
-30°C...500°C

### Accuracy Class:

CL 2.0

### Ingress Protection Rate:

IP51

### Max. Working Pressure:

25 bar

### Process Connections:

G1/2"B

### Materials:

#### Bimetal Cover :

Brass

#### Thermowell:

AISI 316L, Brass (For products that have a 50mm immersion length)

#### Case:

Ø63, Ø100 : AISI 430

Ø160: Black Painted Steel

#### Kapak:

Ø63, Ø100 : AISI 430

Ø160: Black Painted Steel

#### Window:

Ø63 : Polycarbonate ( $\leq 120^{\circ}\text{C}$ )

Ø63, Ø100, Ø160 : Glass

#### Dial:

Aluminium

#### Pointer:

Ø63, Ø100 : Plastic ( $\leq 160^{\circ}\text{C}$ )

Ø63, Ø100, Ø160 : Aluminium

### Options:

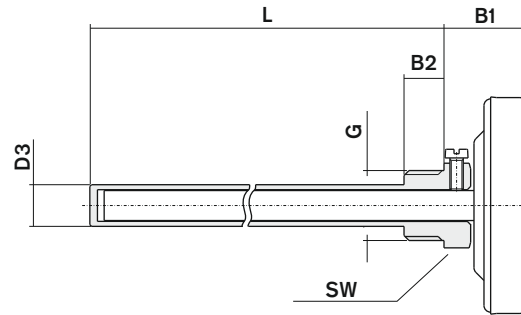
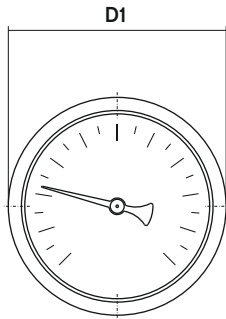
Other process connections

Other temperature units

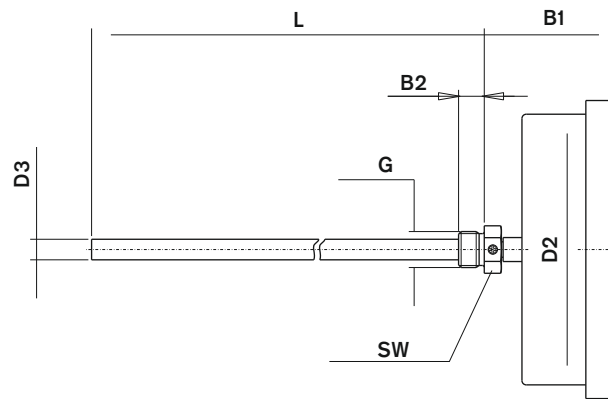
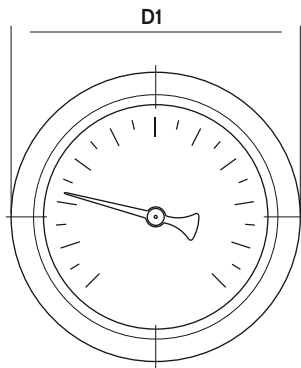
Special dial design

**Dimensions(mm)**

01- Ø63, Ø100



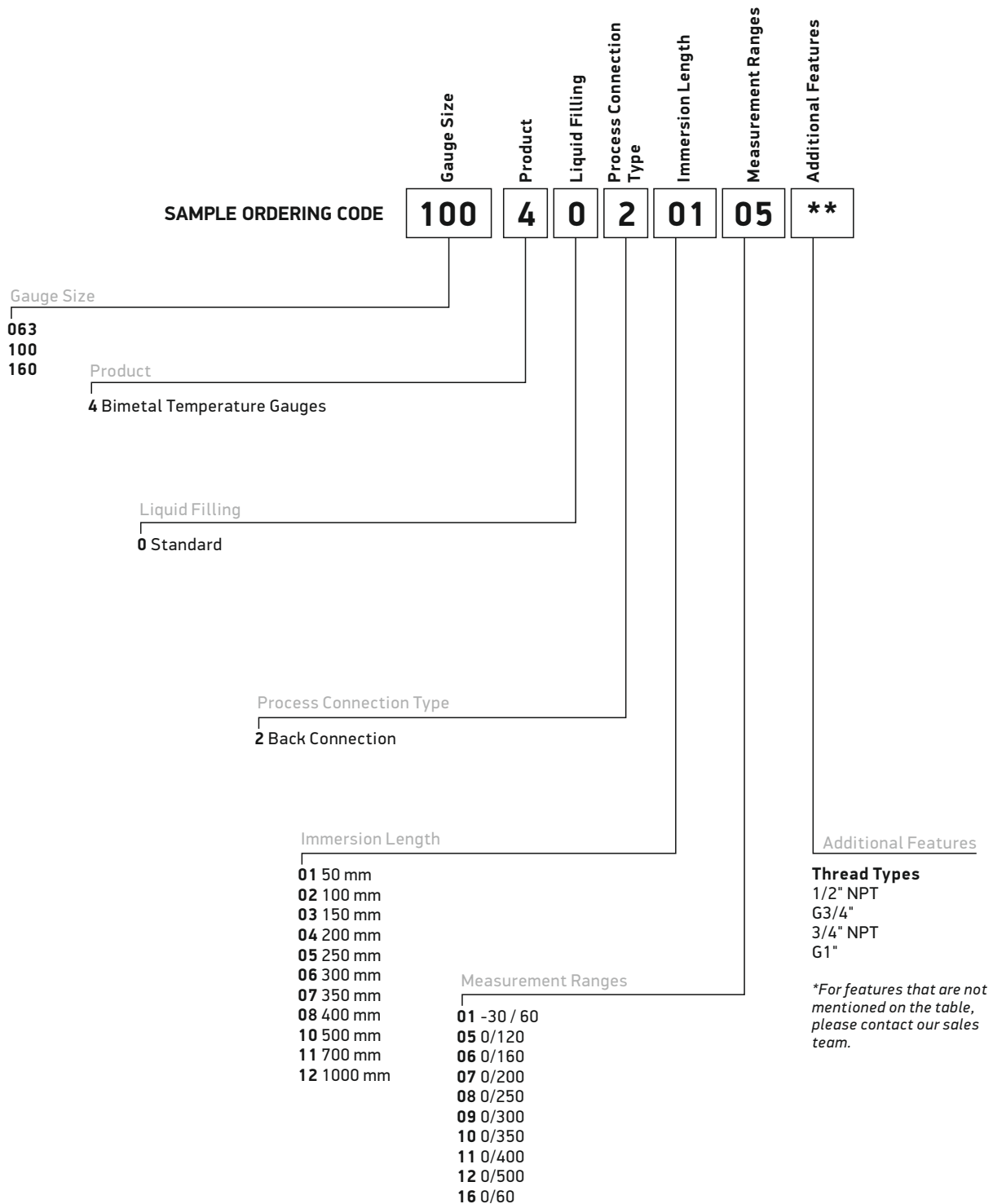
02- Ø160



Ø	Connections	Version	Case	Window	Cover	D1	D2	D3	B1	B2	L	G	SW
63	Back	Standard	Metal	Glass*	Metal	65	-	12	23	12	50-1000	G1/2"	22
100	Back	Standard	Metal	Glass	Metal	100	-	12	26,5	15	50-1000	G1/2"	24
160	Back	Standard	Metal	Glass	Metal	174	160	12	74	15	100-1000	G1/2"	24

\* Polycarbonate ( $\leq 120^{\circ}\text{C}$ )

How To Order?



## Approvals:



Turkish Standards Institution



ISO 9001 Quality Management System



TURKAK Calibration Laboratory Accreditation Certificate



2014/68/EU Pressure Equipment Directive - Certificate of Conformity



211/65/EU Restriction of Hazardous Substances Directive - Declaration of Conformity



Gost Certificate

*System and quality certifications of PAKKENS Inc.  
Product and product group certifications may vary*







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PAKKENS TE Series Temperature Gauges have been developed as a standard version for temperature indication in HVAC systems, heating, and cooling applications. The modular design of the temperature gauge makes it enable to have different combinations of nominal sizes, stem lengths, and scale ranges.

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## Industrial Applications

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## General Specifications

### Confirmity:

EN13190

### Temperature Sensing Element:

Bimetal Helix Coil

### Sizes (mm):

Ø63, Ø100, Ø160

### Bulb Diameter (mm):

Ø9

### Thermowell Diameter (mm):

Ø12

### Unit:

°C

### Immersion Length (mm):

Ø63: 50mm...500mm  
Ø100:50mm...1000mm  
Ø160:100mm...1000mm

### Measurement Ranges:

-30°C...200°C (For products that have a 50mm immersion length)  
-30°C...500°C

### Accuracy Class:

CL 2.0

### Ingress Protection Rate:

IP51

### Max. Working Pressure:

25 bar

### Process Connections:

G1/2"B

### Materials:

#### Bimetal Cover :

Brass

#### Thermowell:

AISI 316L, Brass (For products that have a 50mm immersion length)

#### Case:

Ø63, Ø100 : AISI 430

Ø160: Black Painted Steel

#### Kapak:

Ø63, Ø100 : AISI 430

Ø160: Black Painted Steel

#### Window:

Ø63 : Polycarbonate ( $\leq 120^\circ\text{C}$ )

Ø63, Ø100, Ø160 : Glass

#### Dial:

Aluminium

#### Pointer:

Ø63, Ø100 : Plastic ( $\leq 160^\circ\text{C}$ )

Ø63, Ø100, Ø160 : Aluminium

### Options:

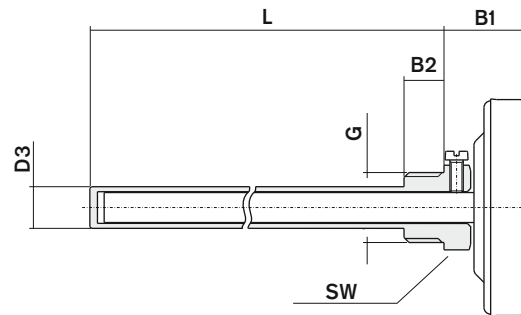
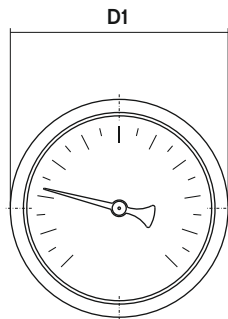
Other process connections

Other temperature units

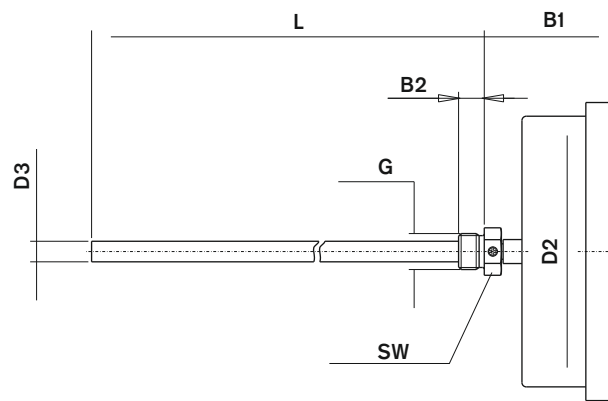
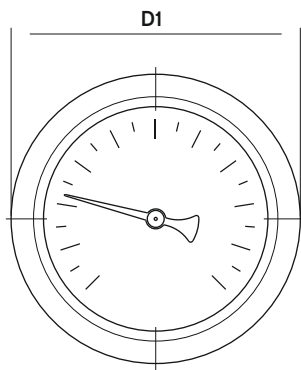
Special dial design

**Dimensions(mm)**

01- Ø63, Ø100



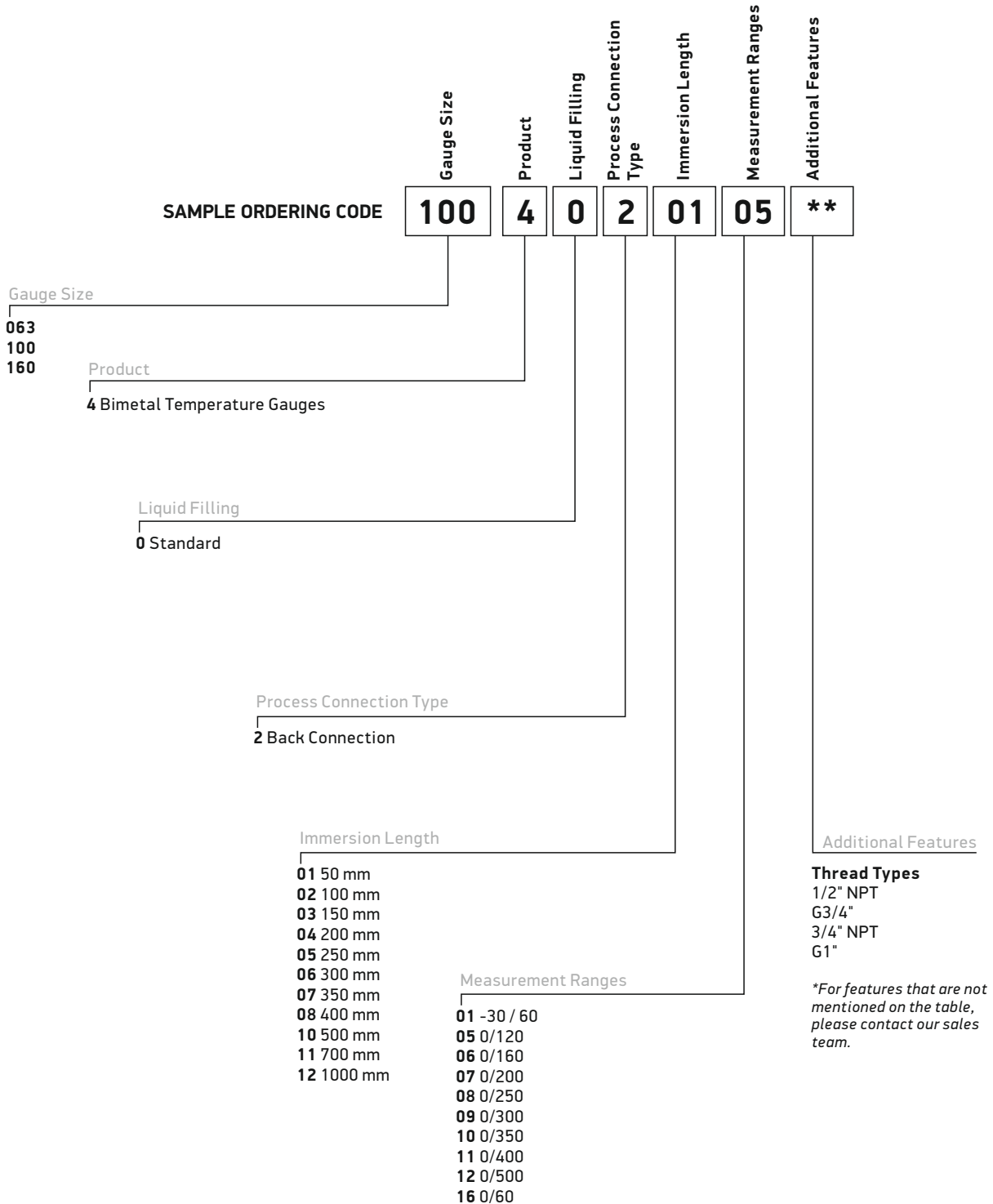
02- Ø160



Ø	Connections	Version	Case	Window	Cover	D1	D2	D3	B1	B2	L	G	SW
63	Back	Standard	Metal	Glass*	Metal	65	-	12	23	12	50-1000	G1/2"	22
100	Back	Standard	Metal	Glass	Metal	100	-	12	26,5	15	50-1000	G1/2"	24
160	Back	Standard	Metal	Glass	Metal	174	160	12	74	15	100-1000	G1/2"	24

\* Polycarbonate ( $\leq 120^{\circ}\text{C}$ )

**How To Order?**



**Approvals:**



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## Industrial Applications

Air Conditioning and Refrigeration Systems, Heating Systems, Ventilation Systems, Hot Water Tanks, Solar Collectors

## General Specifications

### Confirmity:

EN13190

### Temperature Sensing Element:

Bimetal Helix Coil

### Sizes (mm):

Ø100, Ø160

### Bulb Diameter (mm):

Ø9

### Thermowell Diameter (mm):

Ø12

### Unit:

°C

### Immersion Length (mm):

100mm...1000mm

### Measurement Ranges:

-30°C...500°C

### Accuracy Class:

CL 2.0

### Ingress Protection Rate:

IP51

### Max. Working Pressure:

25 bar

### Process Connections:

G1/2" B

### Materials:

#### Bimetal Cover :

Brass

#### Thermowell:

AISI 316L

#### Case:

Black Painted Steel

#### Cover:

Black Painted Steel

#### Window:

Glass

#### Dial:

Aluminium

#### Pointer:

Ø100: Plastic (≤160°C)

Ø100, Ø160: Aluminium

### Options:

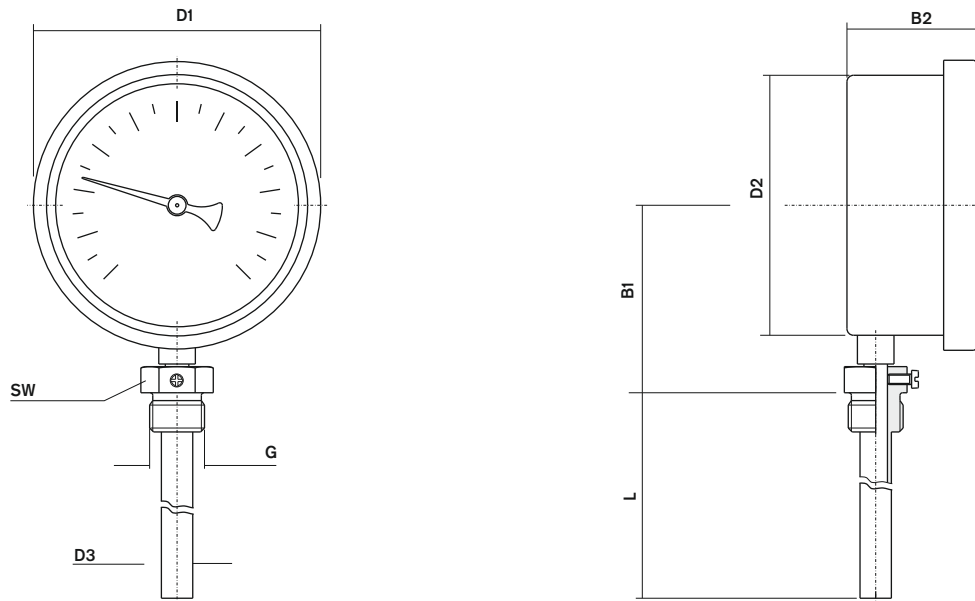
Other process connections

Other temperature units

Special dial design

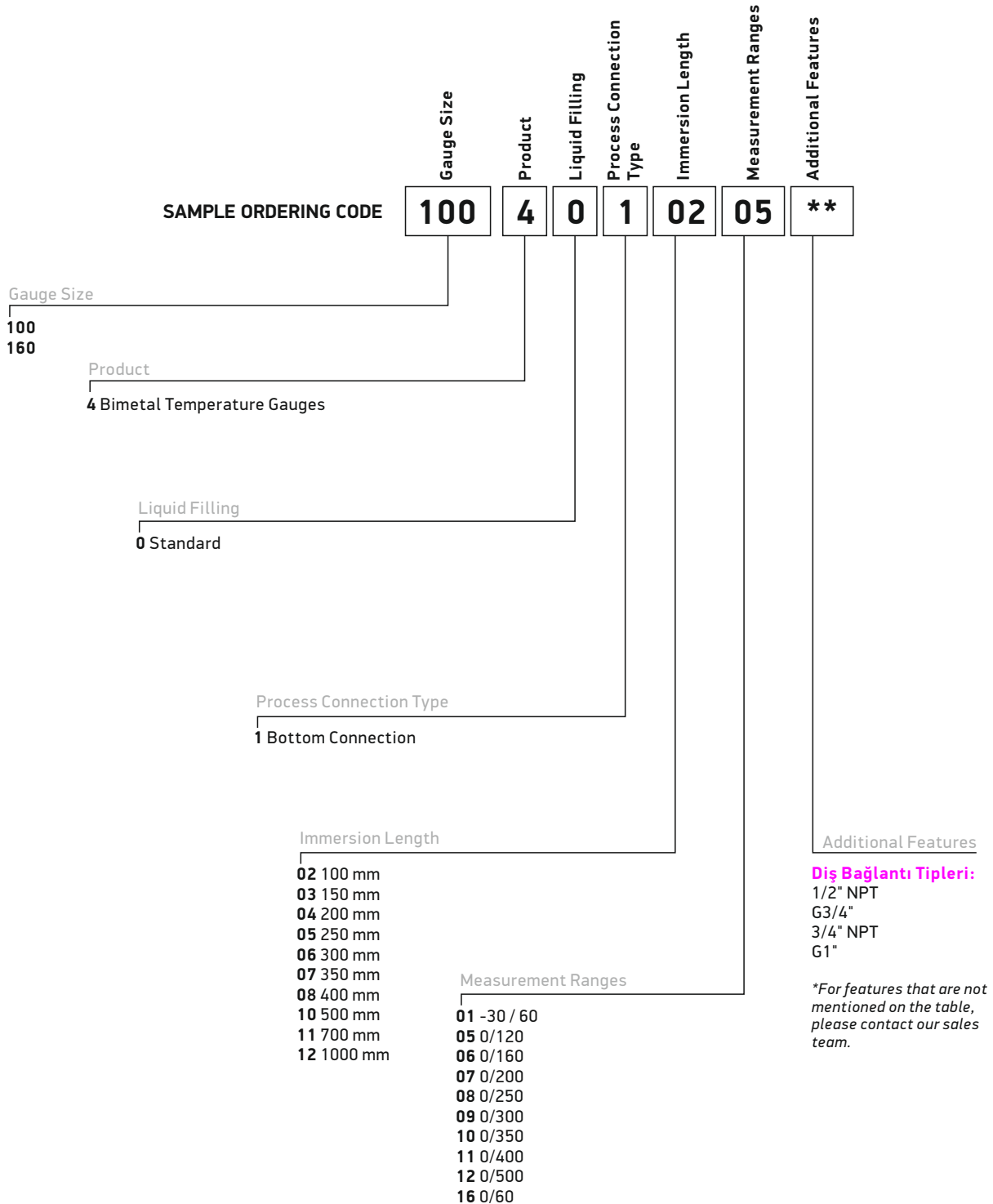
**Dimensions(mm)**

01- Ø100, Ø160



Ø	Connections	Version	Case	Window	Cover	D1	D2	D3	B1	B2	L	G	SW
100	Bottom	Standard	Metal	Glass	Metal	110	100	12	72	48	100-1000	G1/2"	22
160	Bottom	Standard	Metal	Glass	Metal	174	160	12	102	48	100-1000	G1/2"	22

**How To Order?**



**Approvals:**



Turkish Standards Institution



ISO 9001 Quality Management System



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Bimetal Helix Coil

### Sizes (mm):

Ø100, Ø160

### Bulb Diameter (mm):

Ø9

### Thermowell Diameter (mm):

Ø12

### Unit:

°C

### Immersion Length (mm):

100mm...1000mm

### Measurement Ranges:

-30°C...500°C

### Accuracy Class:

CL 2.0

### Ingress Protection Rate:

IP51

### Max. Working Pressure:

25 bar

### Process Connections:

G1/2" B

### Materials:

#### Bimetal Cover :

Brass

#### Thermowell:

AISI 316L

#### Case:

Black Painted Steel

#### Cover:

Black Painted Steel

#### Window:

Glass

#### Dial:

Aluminium

#### Pointer:

Ø100: Plastic (≤160°C)

Ø100, Ø160: Aluminium

### Options:

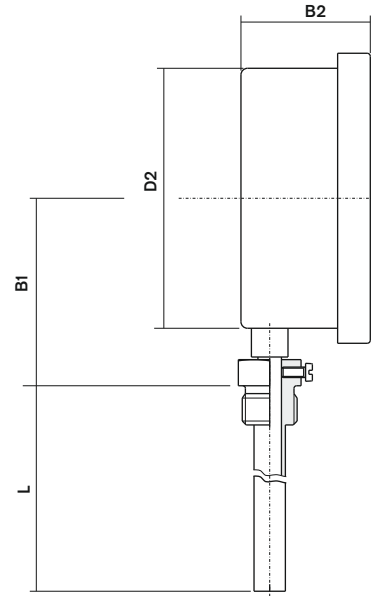
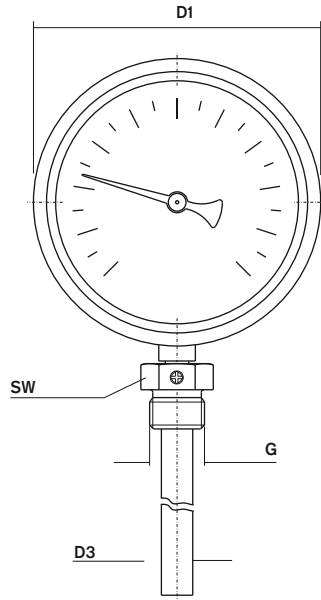
Other process connections

Other temperature units

Special dial design

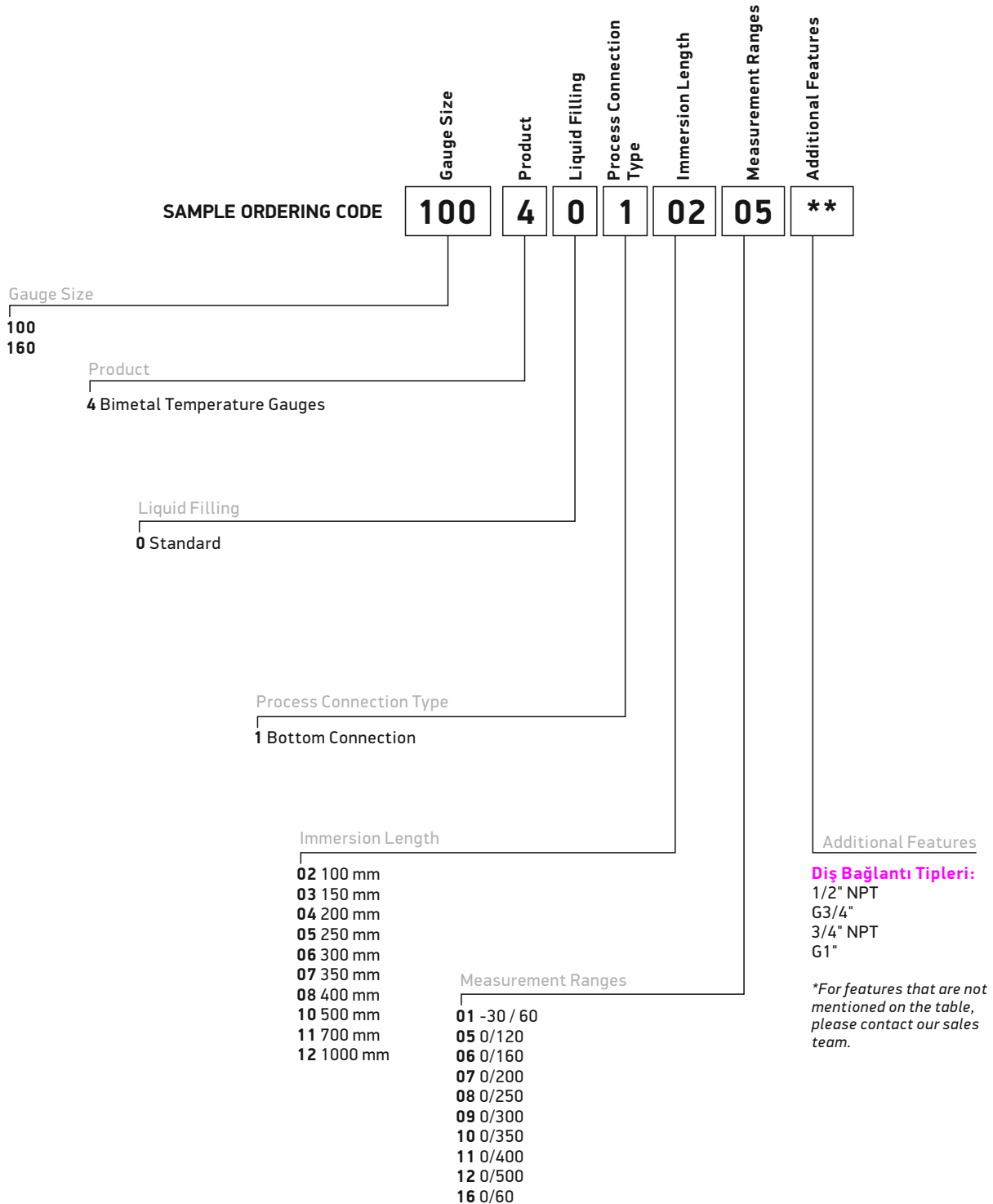
**Dimensions(mm)**

01- Ø100, Ø160



Ø	Connections	Version	Case	Window	Cover	D1	D2	D3	B1	B2	L	G	SW
100	Bottom	Standard	Metal	Glass	Metal	110	100	12	72	48	100-1000	G1/2"	22
160	Bottom	Standard	Metal	Glass	Metal	174	160	12	102	48	100-1000	G1/2"	22

**How To Order?**



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## Dial Thermometers - TG 100

- Used where industrial accuracy is needed.
- Used with gas and liquids which do not attack stainless steel 316L.
- With its capillary tubing Thermometer's body can be mounted away from heat source (max. 5mt)
- In vibrating environments silicon oil filled types should be used.
- As an option electric contacts can be added on request.

Industry Sector: Petro-chemical plants, Machinery Manufacturing, Heating, ventilation, & conditioning (HVAC) and vessel manufacturers



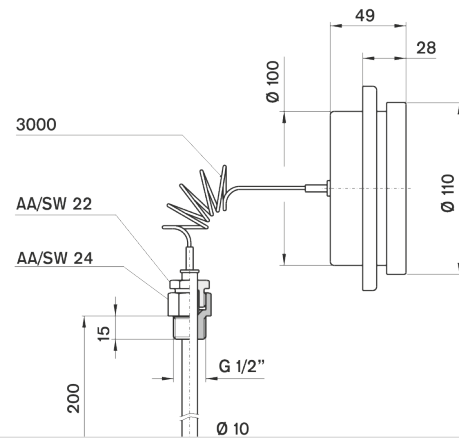
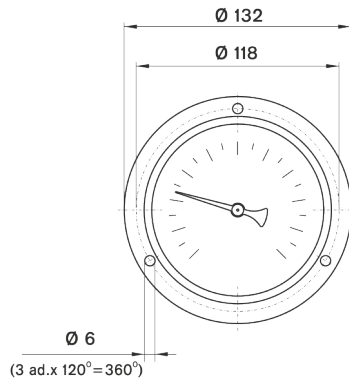
### Usage Properties

Conformity	· EN 13190
Accuracy Class	· CL 1.0
Protection Rate	· IP 51
Storage Temperature	· -40 ... +70 °C

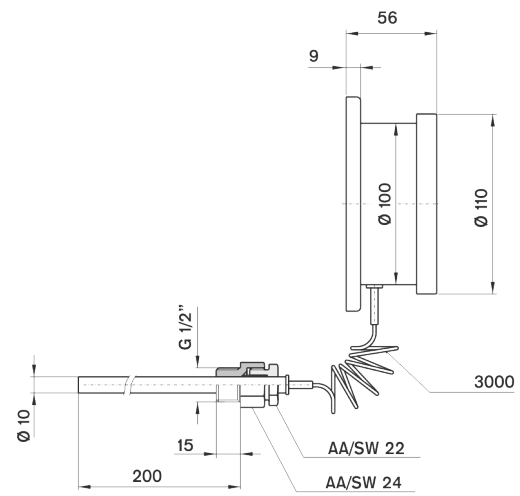
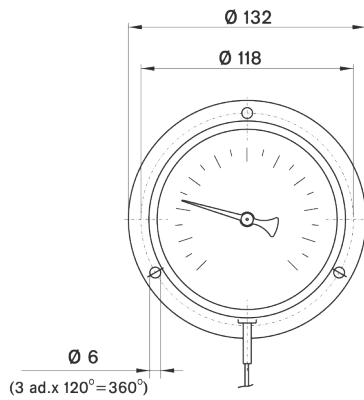
### Constructive Properties

Mounting Type	· Bottom Connection
Scale Range (T)	· -40/+40°C · -40/+60°C · 0/+120°C · 0/+160°C · · · 0/+300°C · 0/+350°C · 0/+400°C · 0/+500°C
Case	· Stainless Steel AISI-304
Bezel	· Stainless Steel AISI-304
Window	· Glass
Connection	· G 1/2" B
Dial	· Aluminum
Pointer	· Aluminum
Temperature Element	· Gas Actuated
Thermowell	· Stainless Steel AISI-316L
Immersion Length	· 200mm
Capillary Tube Length	· 3m · 5m

**Technical Drawings - TG 100**



100 612 /



100 611 /



## Dial Thermometers - TG 100

- Used where industrial accuracy is needed.
- Used with gas and liquids which do not attack stainless steel 316L.
- With its capillary tubing Thermometer's body can be mounted away from heat source (max. 5mt)
- In vibrating environments silicon oil filled types should be used.

Industry Sector: Petro-chemical plants, Machinery Manufacturing, Heating, ventilation, & conditioning (HVAC) and vessel manufacturers



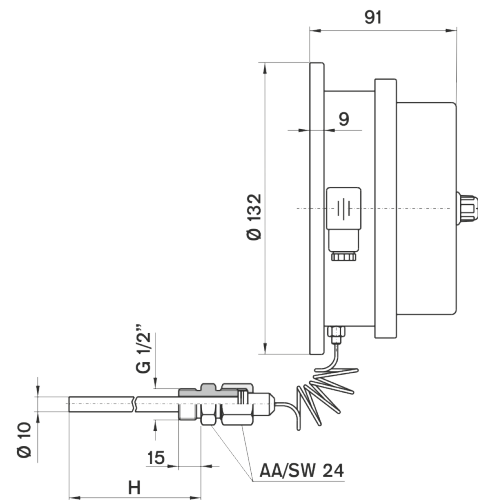
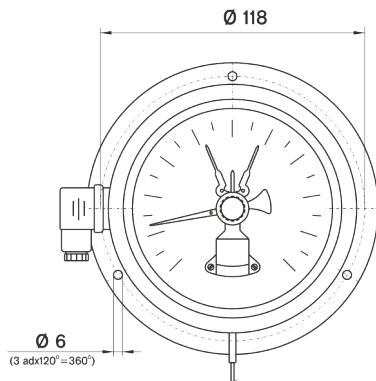
### Usage Properties

Conformity	· EN 13190
Accuracy Class	· CL 1.0
Protection Rate	· IP 51
Storage Temperature	· -40 ... +70 °C

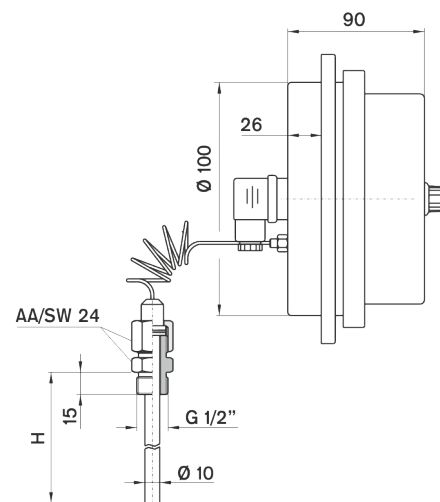
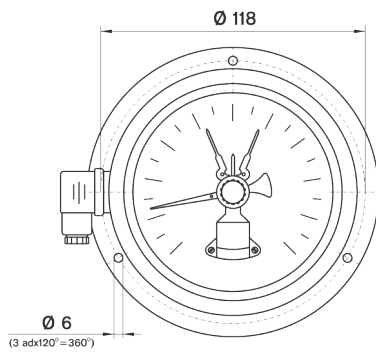
### Constructive Properties

Mounting Type	· Bottom Connection
Scale Range (T)	· -30/+60°C · 0/+120°C · 0/+160°C · · · 0/+300°C · 0/+350°C · 0/+400°C · 0/+500°C
Case	· Stainless Steel AISI-304
Bezel	· Stainless Steel AISI-304
Window	· Polycarbonate
Connection	· G 1/2" B
Dial	· Aluminum
Pointer	· Aluminum
Contact Types	· Inductive · 1NO · 1NC · 2NONO · 2NONC · 2NCNC · 2NCNO
Temperature Element	· Gas Actuated
Thermowell	· Stainless Steel AISI-316L
Immersion Length	· 200mm
Capillary Tube Length	· 3m · 5m

Technical Drawings - TG 100



100 611 K /



100 612 K /



## Dial Thermometers - TG 160



- Used where industrial accuracy is needed.
- Used with gas and liquids which do not attack stainless steel 316L.
- With its capillary tubing Thermometer's body can be mounted away from heat source (max. 5mt)
- In vibrating environments silicon oil filled types should be used.
- As an option electric contacts can be added on request.

Industry Sector: Petro-chemical plants, Machinery Manufacturing, Heating, ventilation, & conditioning (HVAC) and vessel manufacturers



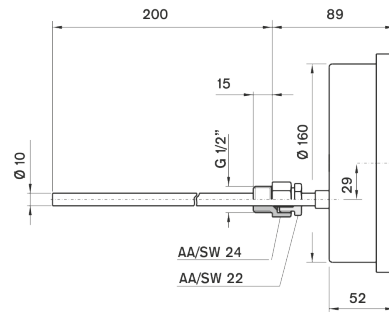
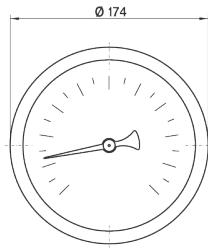
### Usage Properties

Conformity	· EN 13190
Accuracy Class	· CL 1.0
Protection Rate	· IP 51
Storage Temperature	· -40 ... +70 °C

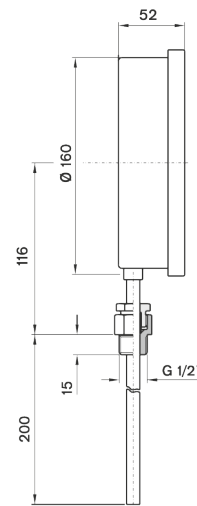
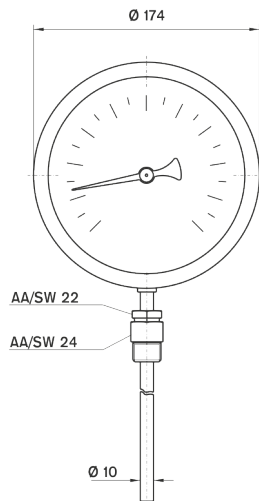
### Constructive Properties

Mounting Type	· Bottom Connection
Scale Range (T)	· -40/+40°C · -40/+60°C · 0/+120°C · 0/+160°C · · · 0/+300°C · 0/+350°C · 0/+400°C · 0/+500°C
Case	· Stainless Steel AISI-304
Bezel	· Stainless Steel AISI-304
Window	· Glass
Connection	· G 1/2" B
Dial	· Aluminum
Pointer	· Aluminum
Temperature Element	· Gas Actuated
Thermowell	· Stainless Steel AISI-316L
Immersion Length	· 200mm
Capillary Tube Length	· 3m · 5m

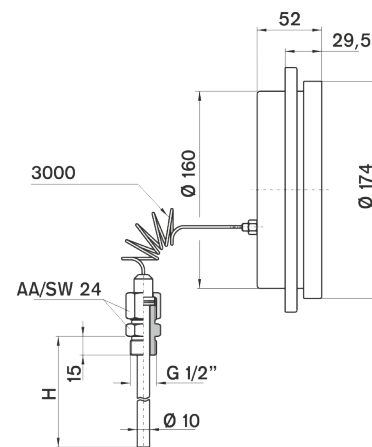
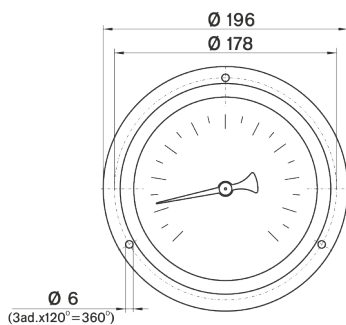
**Technical Drawings - TG 160**



**160 612 D /**

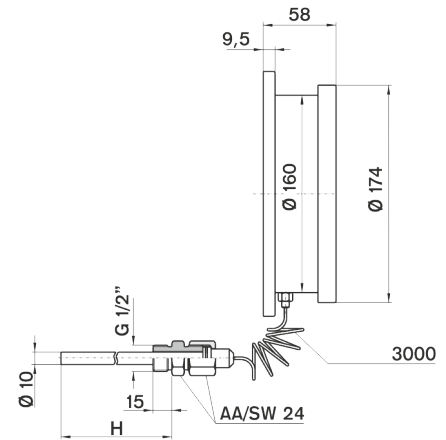
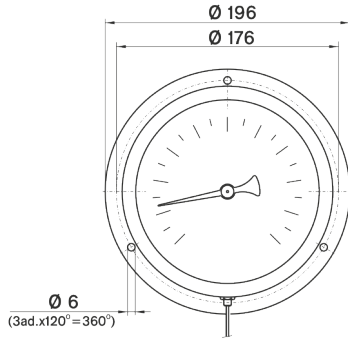


**160 611 D /**



**160 612 /**

**Technical Drawings - TG 160**



160 611 /



## Dial Thermometers - TG 160

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- Used with gas and liquids which do not attack stainless steel 316L.
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Industry Sector: Petro-chemical plants, Machinery Manufacturing, Heating, ventilation, air conditioning (HVAC) and vessel manufacturers



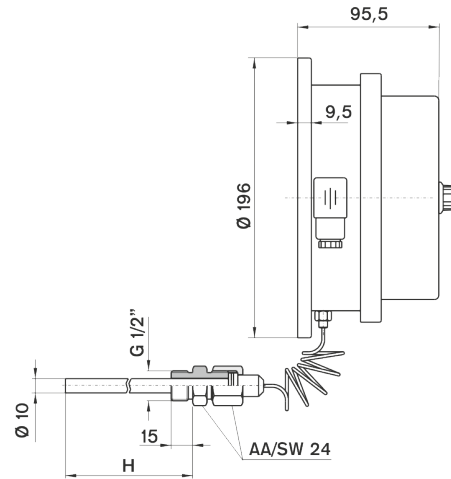
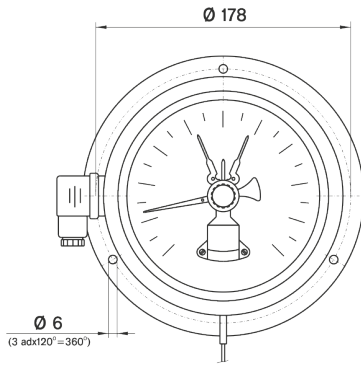
### Usage Properties

Conformity	· EN 13190
Accuracy Class	· CL 1.0
Protection Rate	· IP 51
Storage Temperature	· -40 ... +70 °C

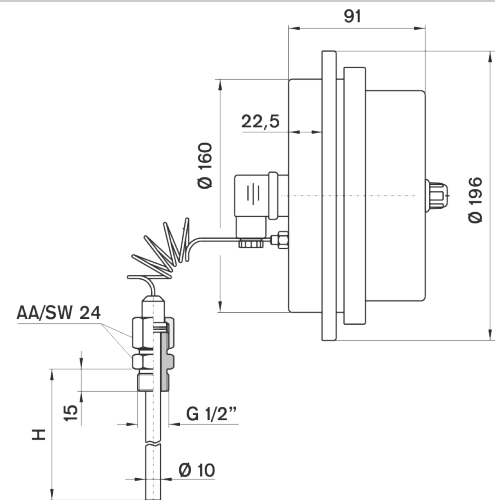
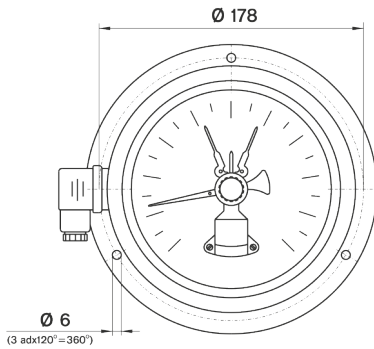
### Constructive Properties

Mounting Type	· Bottom Connection
Scale Range (T)	· -30/+60°C · 0/+120°C · 0/+160°C · · · 0/+300°C
Case	· Stainless Steel AISI-304
Bezel	· Stainless Steel AISI-304
Window	· Polycarbonate
Connection	· G 1/2" B
Dial	· Aluminum
Pointer	· Aluminum
Contact Types	· Inductive · 1NO · 1NC · 2NONO · 2NONC · 2NCNC · 2NCNO
Temperature Element	· Gas Actuated
Thermowell	· Stainless Steel AISI-316L
Immersion Length	· 200mm
Capillary Tube Length	· 3m · 5m

**Technical Drawings - TG 160**



**160 611 K /**



**160 612 K /**