Profactor Armaturen GmbH

EN

PROFACTOR®
DER DEUTSCHE QUALITÄTSSTANDARD

TECHNICAL DATA SHEET AND USER MANUAL

BIMETALLIC THERMOMETERS

PRODUCT CODE

PF SG 866
PF SG 868

1. PURPOSE AND SCOPE

PROFACTOR® bimetallic thermometers are designed for measuring the temperature of liquid and gaseous media that are non-aggressive to the materials of the device in water supply, heating, and cooling systems. The thermometer is not subject to mandatory certification.

2. TECHNICAL SPECIFICATIONS

PROFACTOR® bimetallic thermometers

Product Code	PF SG 866	PF SG 868
Diameter	41 mm	63 mm
Connection type	Axial	
Scale range	0°C to 80°C	0°C to 120°C
Recommended measurement temperature limits	10°C to 70°C	10°C to 110°C
Maximum short-term allowable temperature	90°C	130°C
Accuracy class	2 (DIN EN 13190)	
Protection class	IP 41	
Ambient temperature	–20°C to 60°C	
Weight	18 g	60 g

Immersion sleeve for thermometer installation

Product Code	PF SG 867	PF SG 869
Compatibility with thermometer	PF SG 866	PF SG 868
Allowable pressure	6 bar	
Connection to system, G	1/4"M	1/2"M
Weight	16 g	37 g

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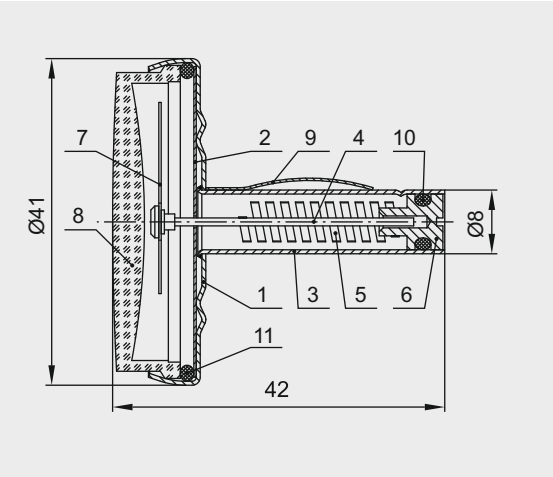
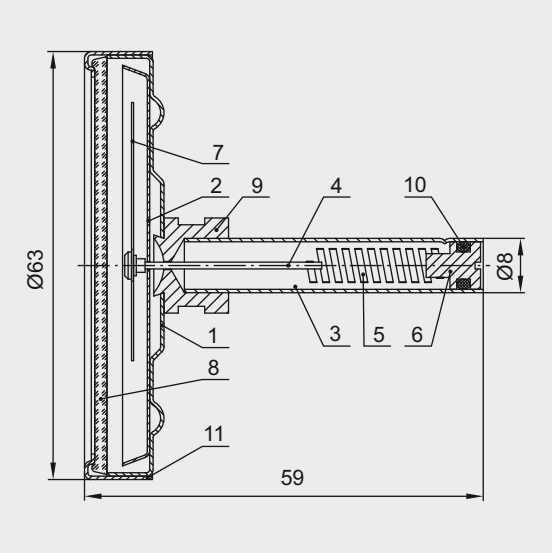
3. DESIGN

PROFACTOR® PF SG 866 bimetallic thermometer:



1 – Housing
2 – Dial with scale
3 – Stem
4 – Pointer shaft
5 – Bimetallic spiral
6 – Adjustment sleeve
7 – Pointer
8 – Transparent cover
9 – Spring clip
10, 11 – Sealing rings

PROFACTOR® PF SG 868 bimetallic thermometer:



1 – Housing
2 – Dial with scale
3 – Stem
4 – Pointer shaft
5 – Bimetallic spiral
6 – Adjustment sleeve
7 – Pointer
8 – Transparent cover
9 – Base
10 – Sealing ring
11 – Bezel

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PROFACTOR® PF SG 866 and PF SG 868 bimetallic thermometers are in an accordance with DIN EN 13190.

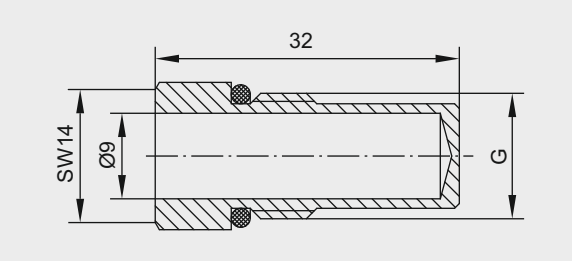
The main element of the PROFACTOR® PF SG 866 and PF SG 868 thermometers is a bimetallic spiral (5) made of two metals pressed together, each having different coefficients of linear expansion. One end of the spiral is soldered to the pointer shaft (4), while the other is attached to the adjustment sleeve (6).

The dial features a black scale graduated in degrees Celsius (°C) for temperature reading. The entire thermometer assembly is enclosed by a transparent cover (8).

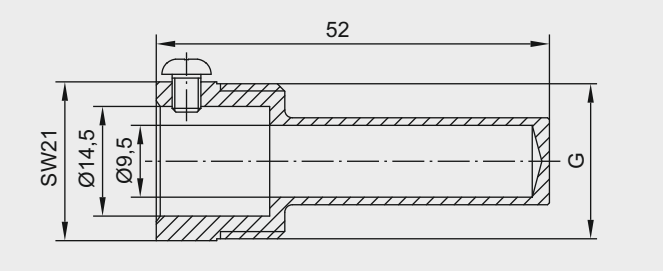
The PROFACTOR® PF SG 866 bimetallic thermometer is connected to the system using the PROFACTOR® PF SG 867 immersion sleeve and is secured inside it by a spring clip.

The PROFACTOR® PF SG 868 bimetallic thermometer is connected to the system using the PROFACTOR® PF SG 869 immersion sleeve and is fixed in place by a locking screw.

Immersion sleeve PF SG 867 for thermometer PF SG 866:



Immersion sleeve PF SG 869 for thermometer PF SG 868:



4. MATERIALS

Housing (1) — Galvanized sheet steel
Dial (2) and Pointer (7) — Aluminum
Stem (3) — Brass CW614N (DIN EN 12165)
Pointer shaft (4) — Stainless steel
Adjustment sleeve (6) — Steel
Cover (8) — Acrylic glass
Sealing rings — EPDM
Immersion sleeves PF SG 867 and PF SG 869 — Brass CW614N (DIN EN 12165)

5. PRINCIPLE OF OPERATION

The sensing element of the PROFACTOR® PF SG 866 and PF SG 868 thermometers is a bimetallic spiral (5) made of two metals pressed together, each having different coefficients of linear expansion. This spiral deforms in direct proportion to temperature changes, thereby rotating the pointer shaft.

6. INSTALLATION INSTRUCTIONS

First, the immersion sleeve must be installed in the pipeline. Installation is carried out on-site by screwing the immersion sleeve into the mounting socket. Use the hexagonal section provided on the sleeve and a wrench SW14 for the PROFACTOR® PF SG 867 sleeve or SW21 for the PF SG 869 sleeve. The PF SG 867 immersion sleeve does not require additional sealing materials, as it is equipped with a special sealing ring.

Next, insert the bimetallic thermometer into the sleeve. Make sure to insert the thermometer fully, so that its stem is completely immersed in the sleeve. The PROFACTOR® PF SG 866 thermometer is fixed in the PF SG 867 sleeve using a spring clip, while the PROFACTOR® PF SG 868 thermometer is secured in the PF SG 869 sleeve using a locking screw.

Thermometers must be installed in easily accessible locations with good visibility of the dial.

7. OPERATING AND MAINTENANCE

The thermometers must be operated within the temperature ranges specified in the technical specifications table. The system pressure must not exceed 6 bar.

PROFACTOR® bimetallic thermometers are calibrated for an ambient air temperature from 0°C to +40°C. To adjust the pointer position, turn the adjustment sleeve (6) using a slotted screwdriver.

Installation and removal of the immersion sleeve must be performed only when the system is depressurized. Allow the equipment to cool down to ambient temperature before handling.Installation and removal of the thermometer can be performed without interrupting system operation.

During operation, periodic inspections, calibrations, and technical checks must be carried out according to the schedules and regulations established by the operating organization.

To prevent additional heating, the measuring instruments must be protected from direct sunlight during operation.

All installation, removal, and repair work must be performed only by qualified personnel who have received appropriate training.

8. STORAGE AND TRANSPORTATION CONDITIONS

The products must be stored in the manufacturer's original packaging. During storage and transportation, the instruments must be protected from excessive humidity and ambient temperatures below –30°C. The products must be protected from shocks and drops! Mechanical damage during unpacking or installation voids the manufacturer's warranty.

9. WARRANTY OBLIGATIONS

The warranty period is 12 months from the date of sale to the end consumer. Throughout the entire warranty period, the manufacturer guarantees the proper functioning of the product and its compliance with safety requirements, provided that the consumer follows the rules for storage, transportation, installation, operation, and maintenance of the product. The warranty covers all defects arising through the manufacturer's fault.

The warranty does not cover defects resulting from:

— Violation of storage, transportation, installation, operation, or maintenance conditions;
— Exposure to substances aggressive to the materials of the product;
— Signs of mechanical damage;
— Damage caused by fire, natural disasters, or other force majeure circumstances;
— Damage caused by improper actions of the user;
— Evidence of unauthorized interference with the product design.

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The product described in this technical manual is a technically complex device that must be installed by a qualified specialist with appropriate experience working with this type of equipment.

Installation and commissioning must be carried out by an authorized and certified company.

Profactor Armaturen GmbH reserves the right to make changes to the product design that do not affect its technical characteristics or functional features.

INTERNATIONAL WARRANTY CARD

NAME OF THE PRODUCT _____

PRODUCT CODE, SIZE _____ **QUANTITY** _____

SELLER NAME AND ADDRESS _____

DATE OF PURCHASE _____

SELLER STAMP

SELLER SIGNATURE _____

For the warranty term refer to the Warranty obligation clause in the technical manual

FOLD LINE FOLD LINE

In case of any claims to the product quality the following documents should be submitted:

1. Application with customer and product detailes:
- Name of the customer, actual address and phone number
- Article of the product
- Reason for the claim and photo
- Plumbing system where installed (name, address, phone number)

2. Invoice copy and receipt

3. Warranty card

RETURN/EXCHANGE COMMENTS _____

DATE _____ **SIGNATURE** _____

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