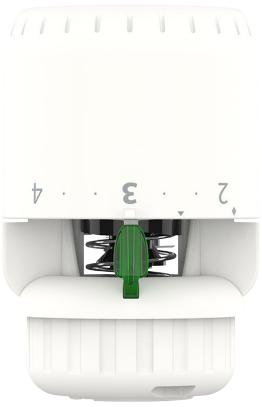
ENGINEERING
TOMORROW

Data Sheet

Danfoss Aveo® Thermostatic sensors series

Application





The Danfoss Aveo® series is a comprehensive portfolio of premium quality thermostatic sensors, produced in Denmark.

Danfoss Aveo® thermostats use a unique gas filled technology, that gives the fastest reacting self-acting thermostat in the world.

The Danfoss Aveo® thermostat is installed onto a radiator valve. The combination of the thermostat and radiator valve, controls the individual room temperature at a given setpoint by adjusting the flow of hot water through the radiator.

The Danfoss Aveo® thermostat is applicable to all types of heating systems and thanks to its compact size fits most applications.

The use of Danfoss Aveo® gas-filled thermostats is highly recommended for applications with small P-band (1K).

Danfoss Aveo® series includes:

- Standard thermostats with built-in or remote sensor
- Variants with connection for radiator valves and radiators with integrated valves, type Danfoss RA
- Variants with connection for Danfoss valves, type Danfoss RA/V & RA/VL
- RA/V and RA/VL service kits including stuffing box

Features:

- Gas technology - fastest and most precise temperature control
- Highest-class Control Accuracy (CA 0.2 K) per amended EN215
- Danfoss RA Click mount - fast, save, tool-less
- Modern and user-friendly design
- Easy to operate, easy to clean
- Facilities designed for the visually impaired
- Tactile feedback every 0.5°C, for precise temperature setting and improved user experience
- Facilities for limiting and locking temperature set-point, also available as accessory
- Frost protection setting
- A theft protection, from factory or available as accessory

Quality

Danfoss Aveo® thermostatic sensors are certified according to the European standard EN 215.

All Danfoss radiator thermostats are manufactured in factories, assessed and certified by by BVC (Bureau Veritas Certification) against ISO 9001 and ISO 14001.

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Technical data

Type	Sensor	Response time	Differential pressure influence (D)	Hysteresis (C)	Water temperature influence (W)	Control Accuracy (CA)
Aveo RA	Built-in	10 mins	0.30 K	0.40 K	0.45 K	0.2 K
Aveo RA	Remote	10 mins	0.30 K	0.40 K	0.20 K	0.2 K

Ordering and Specification

Type	Model	Sensor	Cap. tube	Set point range	Connection	Zero blocking	Limiter pins	Theft protection	EN215 Certified	Code no.
Aveo RA	Standard	Built-in		7-28ºC	RA		✓		✓	**015G4090**
Aveo RA	Standard	Remote	0-2m	7-26ºC	RA		✓		✓	**015G4092**
Aveo RA	Standard	Built-in		7-28ºC	RA	✓	✓		✓	**015G4098**
Aveo RA	Standard	Built-in		7-28ºC	RA		✓			**015G4290**
Aveo RA	Standard	Remote	0-2 m	7-26ºC	RA		✓			**015G4292**
Aveo RA	Limited	Built-in		7-21ºC	RA		✓	✓	✓	**015G4180**
Aveo RA	Limited	Remote	0-2 m	7-21ºC	RA		✓	✓	✓	**015G4182**
Aveo RA	limited	Built-in		7-23ºC	RA		✓	✓	✓	**015G4123**
Aveo RA/VL	Service	Built-in		7-28ºC	RA/VL		✓			**015G4050**
Aveo RA/VL	Service kit	Built-in		7-28ºC	RA/VL		✓			**015G4051**
Aveo RA/VL	Service kit	Remote	0-2 m	7-26ºC	RA/VL		✓			**015G4053**
Aveo RA/V	Service	Built-in		7-28ºC	RA/V					**015G4060**
Aveo RA/V	Service kit	Built-in		7-28ºC	RA/V					**015G4061**
Aveo RA/V	Service kit	Remote	0-2 m	7-26ºC	RA/V					**015G4063**

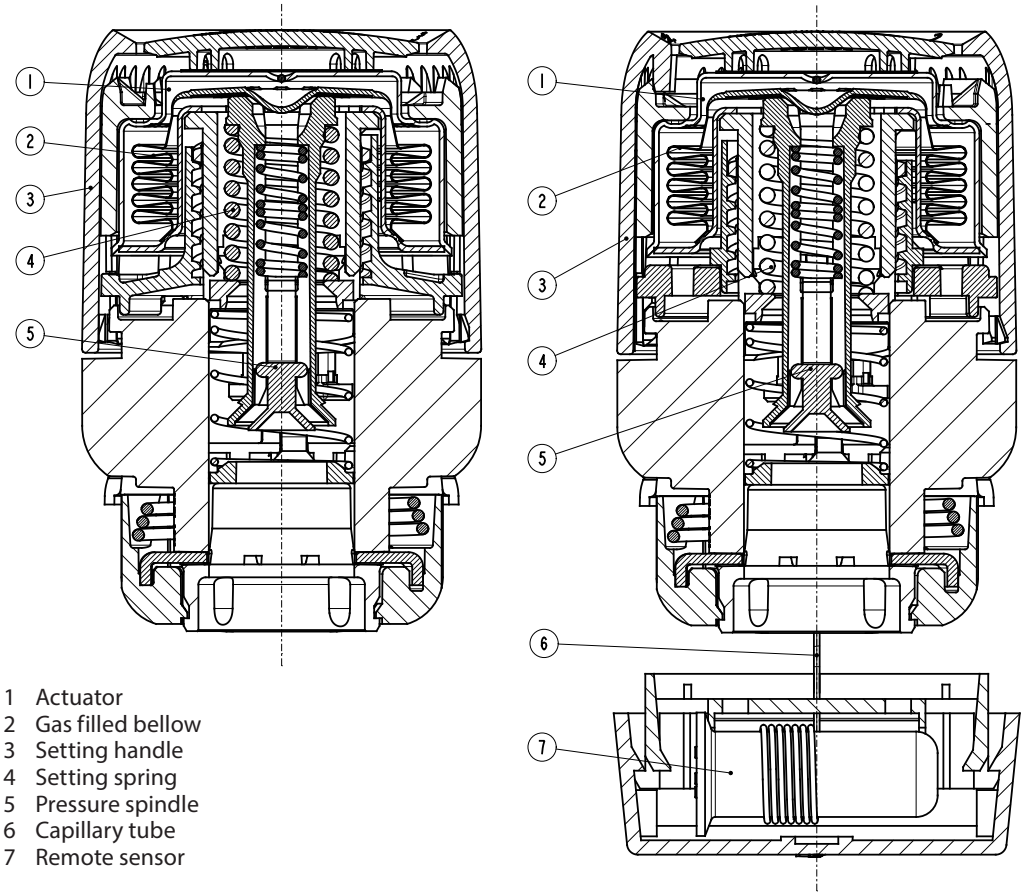
Accessories

Accessories		Code no.
	Anti-theft plug for snap-lock sensors, white (20 pcs.)	**013G5245**
	Limiting pins for built-in, remote and service sensors (10 pcs.)	**013G1246**
	Toolkit comprising Allen key & locking pin tool	**013G1236**
	Protection cap, RA/VL	**015G4950**
	Protection cap, RA/V	**015G4951**
	Angle adapter for Danfoss RA sensors	**013G1350**

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Construction



1 Actuator
2 Gas filled bellow
3 Setting handle
4 Setting spring
5 Pressure spindle
6 Capillary tube
7 Remote sensor

Operating Principle

Thermostatic sensors are proportional controls, regulating the heat supply in relation to the difference between the temperature set on the sensor and the temperature of ambient air, detected by the thermostat.

The thermal expansion element (bellow) responds to room temperature by expanding or contracting proportionally. The movement is transmitted onto the control element of the thermostatic valve.

The thermostatic sensor controls the amount of water which flows into radiator to the suitable flow level that is required to maintain the room temperature on the set level.

Danfoss Aveo® series of thermostatic sensors are fitted with gas-filled bellows, ensuring fast response time to changing ambient temperature.

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Datasheet Danfoss Aveo® Thermostatic sensors series

Setting the temperature

The required room temperature is set by turning the setting dial. The temperature scales below shows the correlation between scale values and the room temperature. The temperature values stated are for guidance only as the obtained room temperature will often be influenced by installation conditions.

Locking and limitation of the temperature set-point of the Danfoss Aveo® thermostats are carried out using the limiter pins placed at the back of the sensor.

The procedure is described in the instruction.

Danfoss Aveo®



Setting position

❄	1	2 • •	3 • •	4	5	
7	14	17	20	23	26	°C

Room temperature

❄ = Frost protection setting

Danfoss Aveo® 015G4180



Setting position

❄	1	2 • •	3 •			
7	14	17	20			°C

Room temperature

❄ = Frost protection setting

Danfoss Aveo® 015G4123



Setting position

❄	1	2 • •	3 • •	4		
7	14	17	20	23		°C

Room temperature

❄ = Frost protection setting

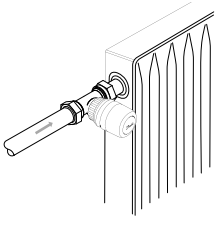
Datasheet Danfoss Aveo® Thermostatic sensors series

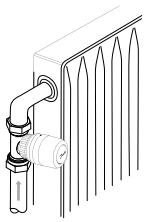
Choose the right sensor

The thermostatic sensor should be selected on the basis of the following criteria:

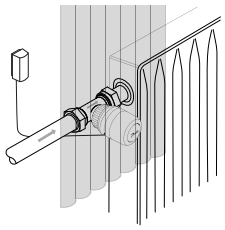
The thermostat must always be able to register the temperature of the ambient air.

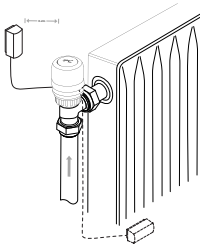
Radiator thermostats with built-in sensors
These should always be fitted horizontally so that the ambient air can pass freely over the sensor. Danfoss does not recommend the fitting of a built-in sensor in vertical position because heat effect from the valve body and possibly surface pipes will cause incorrect operation of the thermostat.





Radiator thermostats with remote sensor
These should be used when:
- Curtains cover the thermostat
- Thermostat is affected by surface pipes
- Thermostat is affected by draught
- It is necessary to mount the thermostat in vertical position if there are adjacent obstructions.



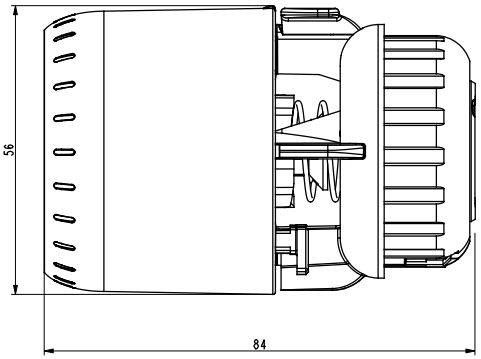


The remote sensor must be mounted on the wall, away from curtains, or on the skirting board beneath the radiator if free of surface pipes.

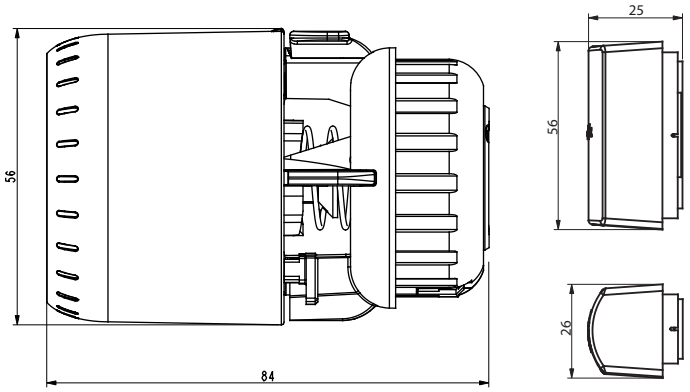
All remote sensors are now supplied with ultra-thin capillary tube. Simply pull out the length required (2 m maximum) and fix using clips provided or a special tacker gun.

Dimensions

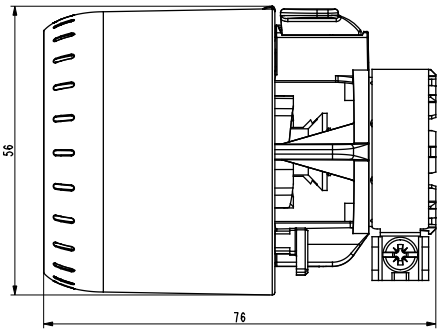
Danfoss Aveo® RA



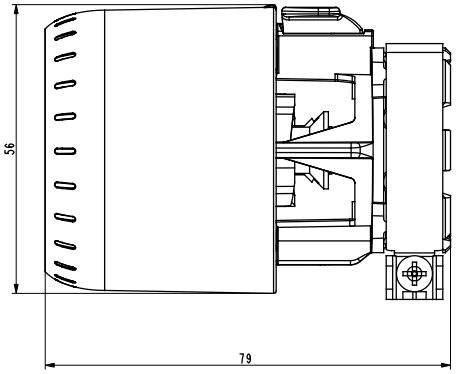
Danfoss Aveo® RA
with remote sensor



Danfoss Aveo® RA/VL



Danfoss Aveo® RA/V



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