

Data Sheet

Danfoss REACT™ thermostatic sensors series

Application



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

The Danfoss React™ thermostat uses liquid-filled technology, that gives fast reaction time and compact sensor size to fit most applications.

The Danfoss React™ 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 React™ thermostat is applicable to all types of heating applications, including applications with small calculated P-band.

Danfoss React™ 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 M30x1.5 connection for radiator valves and radiators with integrated valves

Features:

- Liquid-filled thermostat with precise temperature control
- Fast reaction time in thermostatic sensor category
- Highest-class Control Accuracy (CA 0.2) 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
- Facilities for limiting and locking temperature set-point
- Frost protection setting
- A theft protectioc, 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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Danfoss React™ Thermostatic sensors series








Technical data

Type	Sensor	Response time	Differential pressure influence (D)	Hysteresis (C)	Water temperature influence (W)	Control Accuracy (CA)
React RA	Built-in	15 mins	0.10 k	0.20 k	0.68 k	0.2
React RA	Remote	20 mins	0.10 k	0.20 k	0.40 k	0.2
React M30	Built-in	15 mins	0.10 k	0.40 k	0.48 k	0.2

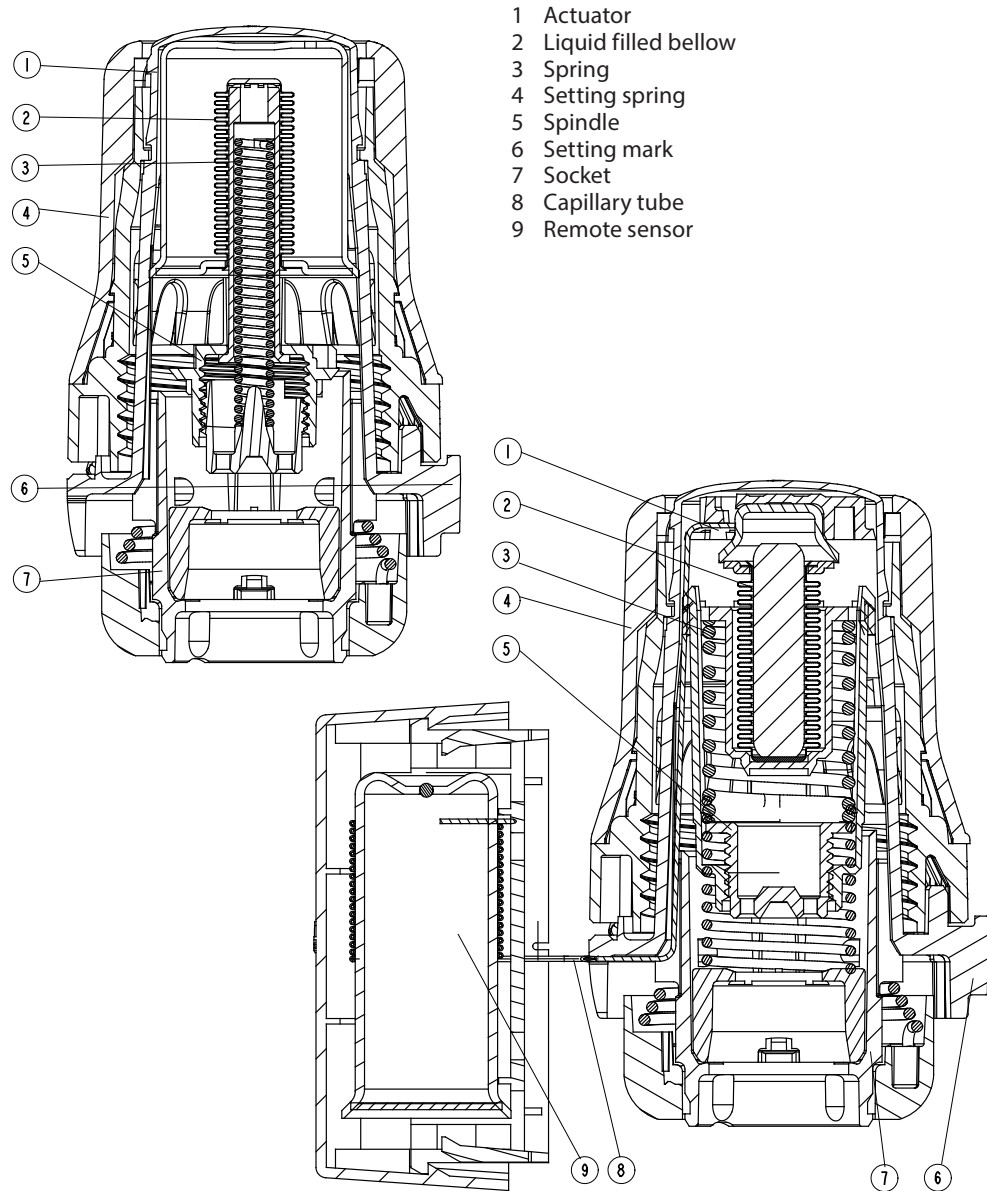
Ordering and Specification

Type	Model	Sensor	Cap. tube	Set point range	Connection	Zero blocking	Limiter pins	Theft protection	EN215 Certified	Code no.
React RA	Standard	Built-in		8-28°C	RA		✓		✓	015G3090
React RA	Standard	Built-in		8-28°C	RA	✓	✓		✓	015G3098
React RA	Standard	Remote	0-2m	8-28°C	RA		✓		✓	015G3092
React RA	Standard	Built-in		8-28°C	RA		✓			015G3290
React RA	Standard	Remote	0-2m	8-28°C	RA		✓			015G3292
React RA	Standard	Built-in		8-28°C	RA		✓	✓	✓	015G3080
React RA	Standard	Remote	0-2m	8-28°C	RA		✓	✓	✓	015G3082
React RA	Standard	Built-in		8-28°C	RA	✓	✓	✓	✓	015G3088
React M30	Standard	Built-in		8-28°C	M30 x 15		✓			015G3030
React M30	Standard	Built-in		8-28°C	M30 x 15	✓	✓		✓	015G3038
React M30	Standard	Built-in		8-28°C	M30 x 15	✓	✓		✓	015G5313
React M30	Standard	Remote		8-28°C	M30 x 15		✓			015G3032

Accessories

Accessories	Code no.
 Anti-theft plug for snap-lock sensors, white (20 pcs.)	013G5245
 Blocking pin (130 pcs.)	013G5199
 Toolkit comprising Allen key & locking pin tool	013G1236
 Theft protection for M30 sensors (10 pcs.)	013G5287
 Partner clip	015G3900
 Angle adapter for Danfoss RA sensors	013G1350
 Angle adapter for M30 x 1.5 connection	013G1360

Construction



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 head 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 React™ series of thermostatic sensors are fitted with liquid-filled bellows, ensuring fast reaction time to changing ambient temperature.

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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.

The temperature scales are stated according to European standards at $X_p = 2^\circ\text{C}$. This means that the radiator thermostats close at a sensor temperature which is 2°C higher than stated on the temperature scales.

Locking and limitation of the temperature set-point of RA sensors are carried out using the limiter pins placed at the back of the sensor.

Locking and max./min limitation of the remote temperature adjuster are carried out by the limiter tabs. The limiter tabs will be covered by the setting dial.

The procedure is described in the instruction.

Danfoss React™



Setting position

❄	1	2	3	4	5	
8	12	16	20	24	28	°C

Room temperature

❄ = Frost protection setting

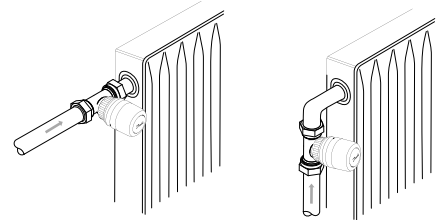
Choose the right sensor

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

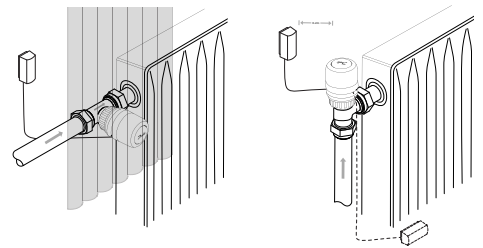
These should always be fitted horizontally so that the ambient air can pass freely over the sensor. Danfoss does not recommend the fitting of a built-in sensor in vertical position because heat effect from the valve body and possibly surface pipes will cause incorrect operation of the thermostat.



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.

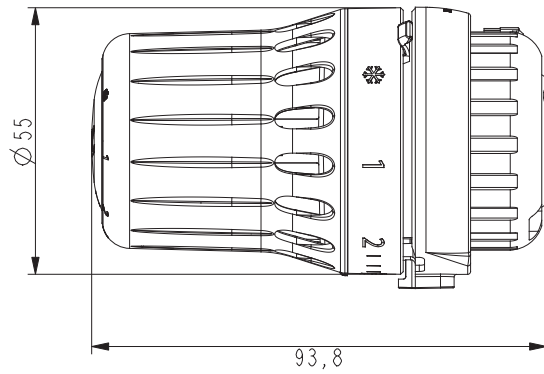
All remote sensors are now supplied with ultra-thin capillary tube. Simply pull out the length required (2 m maximum) and fix using clips provided or a special tacker gun.

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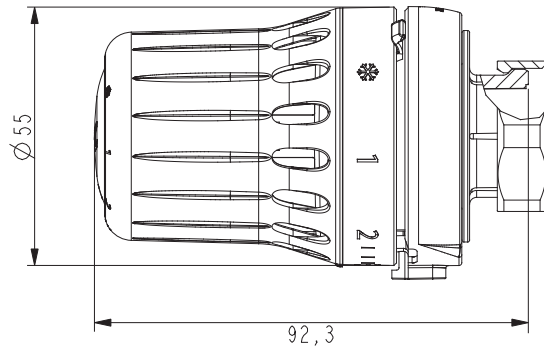
Danfoss React™ Thermostatic sensors series

Dimensions

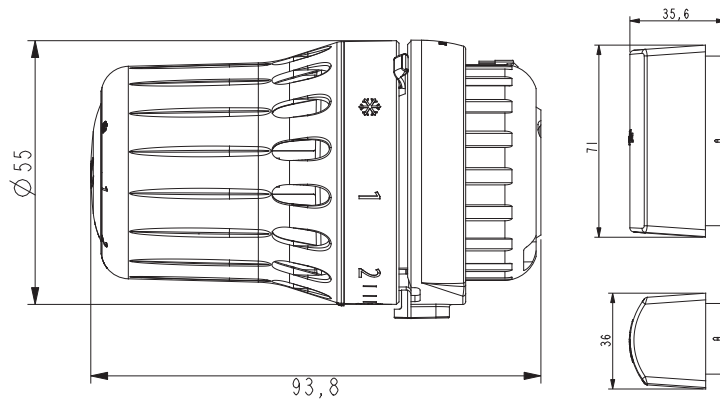
Danfoss React™ RA



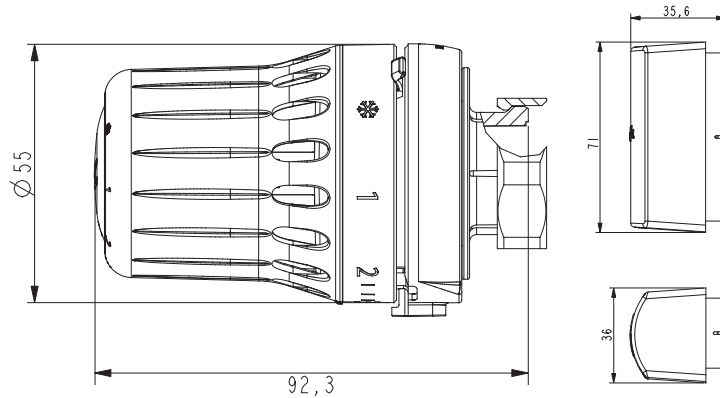
Danfoss React™ M30



Danfoss React™ RA with remote sensor



Danfoss React™ M30 with remote sensor



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