18

Thermostatic Radiator Valve Heads

RT56.05
RT56.15

with integrated fluid-filled sensor

Use

Hot water central heating plants with thermostatic individual room temperature control.

The thermostatic head is designed for use with radiator valves.

It is fitted to radiator valve types VD…, VE…, VU…, VPC…, VPD…, VPE… and automatically regulates the hot water flow in function of the temperature requirements of the individual rooms.

- In two-pipe heating systems (with weather-dependent flow temperature control)
- For individual room temperature control and limitation in individual rooms
- Maintains the required room temperature at a constant level
- Acquires and compensates heat gains from solar radiation, people, lighting, etc., as well as heat losses in the space
- Proportional control
- For public buildings; protected against tampering, damage and removal by using protective cover AL148

Mode of operation

The fluid-filled sensor responds to deviations from the room temperature setpoint. When the room temperature rises, the fluid inside the metal capsule expands, exerting pressure on the bellows and the stem, which causes the valve to continuously close so that the radiator's heat output will be reduced. When the room temperature falls, the bellows expands, thereby opening the valve so that the radiator's output will be increased again.

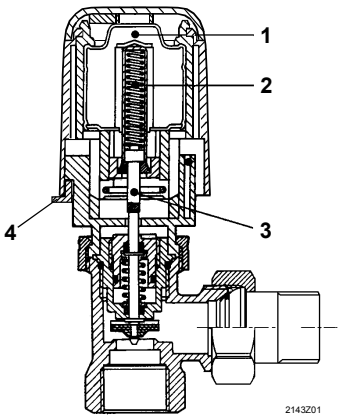
This design allows the radiator valve to be continuously operated, thus achieving smooth regulation of the flow of heating water to the radiator, resulting in a constant room temperature in agreement with the room temperature setpoint.

Type overview

Description	*Type reference*	*Weight*
Thermostatic head with frost protection and fully closed position	RT56.05	126 g
Thermostatic head with frost protection position	RT56.15	126 g
Protective cover, colour pure white RAL9016	AL148	30 g

Technical design

- Tested and certified to EN 215.
- High-quality fluid-filled sensor with great control accuracy
- Large specific travel and very small hysteresis
- Riders for minimum or maximum limitation or locking at a certain setpoint
- The capsule is filled with an expansion fluid and is used with a bellows and stem.



1) Fluid-filled capsule
2) Overtravel facility
3) Stem
4) Rider

Mechanical design

The setting knob, which accommodates the sensor, has openings which allow the surrounding room air to enter, thus enabling the sensor to acquire the room temperature quickly and accurately.

A slight mechanical stop indicates the recommended setpoint adjustment of 20 °C.

The head has a scale and symbols that correspond to the following room temperature setpoints:

0	**✻**	**1**	**2**	**3**	**4**	**5**
Valve fully closed, (only with RT56.05)	Frost protection at 8 °C	12 °C	16 °C	20 °C	24 °C	28 °C

Accessories

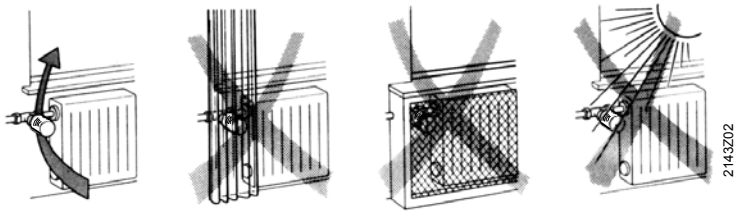
Protective cover AL148 to provide protection against tampering, especially suited for public buildings. Protects the thermostatic head against inadvertent adjustments, damage and removal and facilitates locking of the setpoint.

Sizing

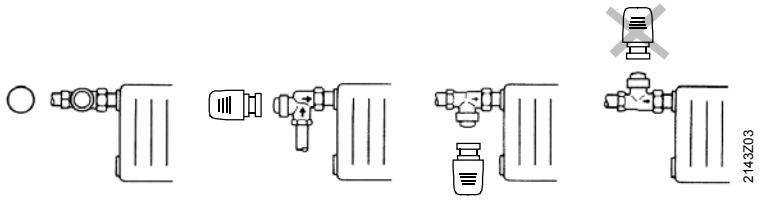
For technical data of thermostatic radiator valves, refer to data sheets 2145 and 2146.

Fitting notes

- To ensure optimum room temperature control, it should be made certain that thermostatic heads with built-in sensor are always mounted horizontally so that the room air can freely circulate around the sensor. This means that the head must not be covered by panels, furniture and the like.
- Also, the head must not be exposed to direct solar radiation and draughts of cold air.
- In locations where these requirements cannot be met, the version with a remote sensor, type RT76.052, must be used.
- The head can also be fitted while the plant is in operation. A robust metal nut facilitates direct fitting to the VD…, VE…, VU…, VPC…, VPD…, VPE… valves without the use of tools.



- Near the radiator, the room air must freely circulate.
- The thermostatic head must not be exposed to direct solar radiation.



- Thermostatic heads with built-in sensor should be fitted horizontally.
- Heads may be fitted vertically if a remote sensor is used.

Technical data

General	Thermostatic head to CEN standards	EN 215 (part 1)
	Max. differential pressure (closing pressure)	1.5 bar (⅜“ - ½“)
	Max. differential pressure (closing pressure)	1.0 bar (¾”)
	Max. operating temperature	110 °C
	Setpoint setting range	8…28 °C
	Min. sensor temperature (storage)	-15 °C
	Max. sensor temperature	60 °C
	Hysteresis	≤ 1 K
	Nominal valve stroke	2.5 mm
	Proportional band	2 K
	Time constant	34 min.
	Influence of medium temperature	≤ 1.5 K
	Influence of differential pressure	≤ 1 K
Material	Liquid sensor	Steel / copper
	Spring elements	steel
	Head stem	polyamides
	Setting knob	ABS

Dimensions