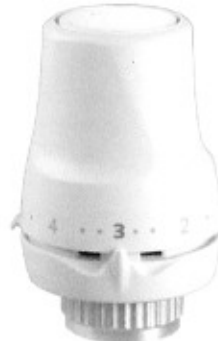




EN 215-1



RTN51GB



VEN115GB



Thermostatic Radiator Valves

**RTN51GB
VEN115GB**

Thermostatic actuators

- Self-acting, without auxiliary power
- High-quality fluid-filled sensor with fast acquisition of room temperature changes
- Direct mounting with coupling nut, no tools required
- Robust construction, maintenance-free, noiseless operation

Radiator valves

- Reverse flow fitting allows installation in either flow
- Valve bodies made of brass, mat nickel-plated
- DN15
- Internally and externally threaded (Rp/R) conforming to ISO 7/1
- Manual knob / protective cover included in the delivery

Use

- The thermostatic radiator valves are used in hot water heating plants for individual room or zone temperature control and limitation. They are basically recommended in all rooms, especially where heat gains or different temperature levels occur.

Type summary

Types	Description
RTN51GB	Thermostatic actuator
VEN115GB	Valve
MTN51GB	RTN51GB and VEN115GB in one package
MTN51GBL	RTN51GB, VEN115GB and elbow in one package

Accessories

Type	Description
ATN2	Fitting to prevent dismantling of actuator
	Elbow with 10 mm push-fit fitting

Ordering

When ordering, please give quantity, product name and type reference.

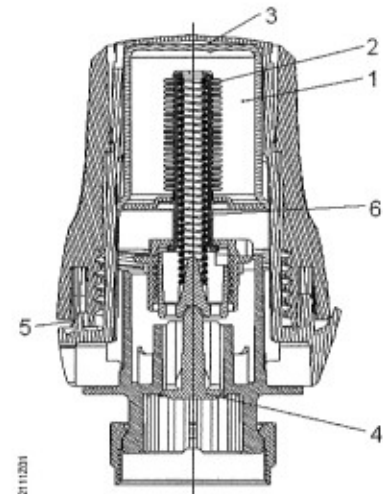
Example: **6 thermostatic actuators RTN51GB**
10 sets MTN51GBL

Technical design / mechanical design

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.



RTN51GB

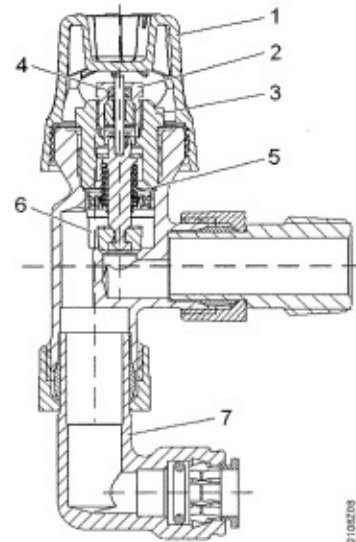
- 1 Fluid-filled sensor
- 2 Bellows
- 3 Overtravel mechanism
- 4 Stem
- 5 Limit tappet
- 6 Closing spring

2 easily adjustable captive tappets are used to set the required setpoint setting range: Turn tappet until stop is reached (at the setpoint indicator) → push on it → turn head until stop is reached → release tappet.

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

0	*	1	2	3	4	5
Valve fully closed	Frost protection at 8 °C	12 °C	16 °C	20 °C	24 °C	28 °C

- 1 Protective cover
- 2 Sealing gland
- 3 Valve insert
- 4 O-ring
- 5 Reset spring
- 6 Orifice
- 7 Elbow (accessory)



VEN115GB

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Accessories

Elbow

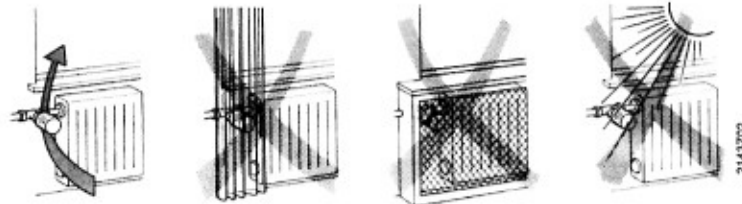


Mounting and installation notes

Important:

The sensing element of the thermostatic actuator must always be able to acquire the temperature of circulating room air.

The actuator must not be covered by radiator enclosures, furniture or curtains and it must not be affected by direct solar radiation or air drafts.



Orientation

The thermostatic radiator valve can be fitted in any position.

Mounting Instructions are printed on the package (RTN51GB) or enclosed with the package (No. 74 319 0469 0).

Maintenance

The thermostatic actuators and valves are maintenance-free.

Repair

The actuators and valves cannot be repaired. The complete units must be replaced.

Disposal



The thermostatic radiator valve must not be disposed of together with domestic waste. Legislation may demand special handling of certain components, or it may be sensible from an ecological point of view.

Current local legislation must be observed.

Warranty

When using the devices in connection with products from other manufacturers, proper functioning must be ensured by the user.

Technical data

RTN51GB	Design	Conformity	CEN standard EN 215-1	
		Drive principle	liquid expansion	
	Functional data	Setpoint setting range	8 ... 28 °C	
		Setting scale	*, 1 ... 5	
		Frost protection position	✓	
		Minimum / maximum limitation	captive tappets	
		Perm. medium temperature	120 °C	
		Perm. sensor temperature	40 °C	
		Perm. closing pressure	60 kPa (0.6 bar)	
		Influence of water temperature	≤ 1.5 K	
		Influence of differential pressure	≤ 1 K	
		Hysteresis	≤ 1 K	
	Proportional band	2 K		
	Dimensions / weight	Dimensions	refer to «Dimensions»	
		Fixing on valve	coupling nut M30 x 1.5	
		Weight	0.157 kg	
Housing colors	Actuator	RAL9016		
Materials	- Coupling nut	- brass, nickel-plated		
	- Stem	- PBT, 30 % glass		
	- Manual knob	- ABS		

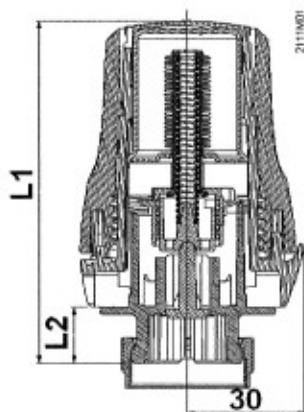
VEN115GB	Functional data	PN class	PN 10		
		Nominal diameter	DN 15		
		Suitable media	cold and hot water, water-glycol mixtures; recommendation: water treatment to VDI 2035		
		Medium temperature	1 ... 120 °C		
		Perm. operating pressure	1000 kPa (10 bar)		
		Closing pressure	60 kPa (0.6 bar)		
		Differential pressure Δp_{v100}	5 ... 20 kPa (0.05 ... 0.2 bar): recommended range		
		k_{vs} -value	0.79 m ³ /h		
		k_v -value at a P-Band of 2 K	0.62 m ³ /h		
		Stroke	min 1.2 mm		
		Materials	Valve body	brass, mat nickel-plated	
			Fitting	brass, mat nickel-plated	
			Protective cover	polypropylene	
	O-ring		EPDM		
	Weight	- Valve including fittings	- 0.242 kg		
		- Elbow	- 0.062 kg		
	Dimensions	refer to «Dimensions»			
		Mounting length	EN215		
		Thread	Rp internally threaded to ISO 7/1 R externally threaded to ISO 7/1 G-thread to ISO 228/1		

General ambient conditions

	Operation IEC 721-3-3	Transport IEC 721-3-2	Storage IEC 721-3-1
Environmental conditions	Class 3K3	Class 2K3	Class 1K3
Temperature	+1 ... +50 °C	-25 ... +70 °C	-5 ... +50 °C
Humidity	5 ... 85 % r.h.	< 95 % r.h.	5 ... 95 % r.h.

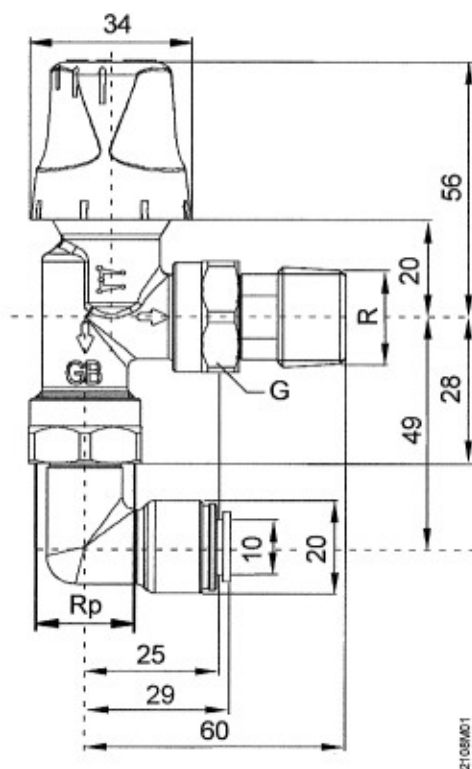
Dimensions

RTN51GB



Dimensions [mm]		
Position	L ₁	L ₂
*	84.9	11.5
3	87.6	14.2
5	89.5	16.1

VEN115GB



Thread [inch]		
Rp	R	G
1/2	1/2B	3/4