

148WM Series

Thermostatic actuators

Technical Data Sheet




Description

148WM, 148SDWM Series thermostatic actuators are automatic room temperature control devices, which act directly on the heat emitter in radiator heating systems. The actuators are designed for installation on thermostat-adaptable valves for heat emitters and automate the movement of the valve disc by means of a sensing element inside the knob, which detects changes in room temperature. WATTS thermostatic actuators have low thermal inertia with a response time of less than 30 minutes.

148WM



Thermostatic actuator with liquid-filled sensing element. Temperature limiting and locking device. ABS handwheel. Graduated scale from 0 to 5. Adjustment range: 0÷28°C. Anti-freeze position: 8°C (indicated with ). Maximum differential pressure: 1.5 bar.

UNI EN 215 compliant.

In conjunction with valve 178D12WM, 179D12WM, 179D34WM.

Type	Part No.	Weight (g)
148WM	SE148	150

148SDWM



Thermostatic actuator with remote sensor. Capillary length 2m. Other features as for 148WM Series.

Type	Part No.	Weight (g)
148SDWM	SE148SD	250

EN 215 compliant thermostatic valve

In conjunction with 148WM Series thermostatic head.



Type	DN	*q _{mN} (l/h)
178D12WM + actuator	1/2"	220

*q_{mN} refers to the excluded pre-regulation condition

EN 215 compliant thermostatic valve

In conjunction with 148WM Series thermostatic head.



Type	DN	*q _{mN} (l/h)
179D12WM + actuator	1/2"	225
179D34WM + actuator	3/4"	240

*q_{mN} refers to the excluded pre-regulation condition

148GAWM

Tamper-proof cover for 148WM Series thermostatic actuators. Provision for limiting and locking temperature range on rivetable closing position. Complete with standard fixing screws and break-stem rivets.



Type	Part No.	Weight (g)
148GAWM	SE148GA	30

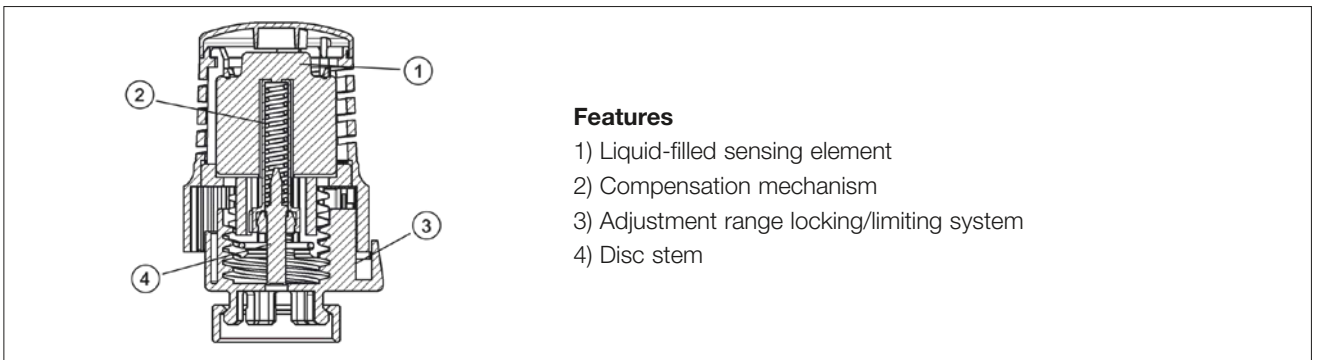
Technical features in conjunction with valve 178D-179D

Adjustment range	8÷28°C
Hysteresis "C"	0.4K
Control accuracy "CA"	0.6K
Proportional band*	2K
Response time "Z"	27 min
Effect of fluid temperature "W"	0.92K
Max. effect of differential pressure "D"	0.32K
Capillary length 148SDWM Series	2 m

* Proportional band with which the flow and Kv values are calculated

Design features

Sensing element	liquid-filled
Springs	stainless steel
Handwheel	ABS



Application

When used in conjunction with thermostat-adaptable valves, these devices adapt the heat output of heat emitters to the desired temperature, and ensure a high level of comfort with considerable energy savings, by using the naturally occurring heat sources in the room.

Operation

Operation is controlled by a liquid-filled sensing element inside the knob. When the element expands or contracts, it moves the valve disc stem in proportion to the deviation between the setpoint temperature and the actual room temperature. If the room temperature exceeds the setpoint, the sensing element gradually closes the disc, thus reducing the flow of hot water to the radiator. Conversely, if the room temperature falls below the setpoint, the element opens the disc, thus increasing the flow of hot water to the radiator. This keeps the temperature constant at the level set for each individual room.

Adjustment

To set the room temperature, turn the handwheel until the indicator lines up with the desired setting: the numbers and symbols marked on the handwheel correspond to the temperatures shown in the table.

①	❄️	1	2	③	4	5
Closed*	8°C Anti-freeze	12°C	16°C	20°C	24°C	28°C

The antifreeze position ensures that the temperature does not fall below 8°C, thus protecting the system against freezing.

*** Actuator 148WM Series is not an interception organ, use the valve for this purpose.**

Setting locks

To help set the ideal temperature for each room and find it again quickly, the actuator is equipped with graduated setting locks, which enable you to:

- limit the temperature adjustment range;
- select a fixed setting;
- limit the closing setpoint.

To set an adjustment range of 16÷20°C, proceed as follows:

Fig. 1 - Turn the actuator knob until the indicator lines up with the maximum desired value. Pos.3=20°C;

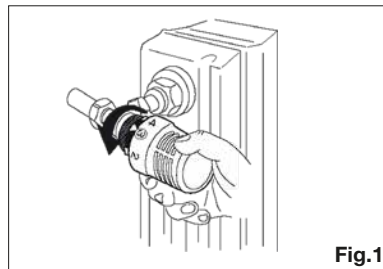


Fig. 2 - Pull out the first lock on the right and position it immediately next to the indicator. This sets the **upper** limit of the adjustment range (Pos.3);

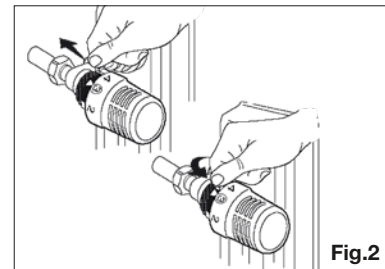


Fig. 3 - Turn the actuator knob until the indicator lines up with the minimum desired value. Pos.2=16°C;

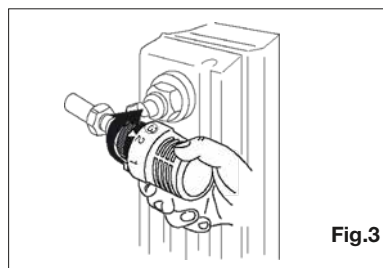
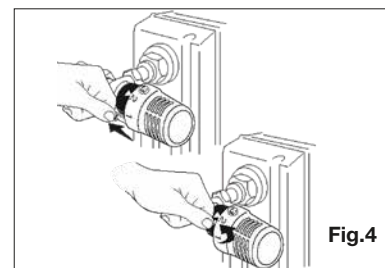


Fig. 4 - Pull out the lock on the left and position it immediately next to the indicator. This sets the lower limit of the adjustment range (Pos.2).



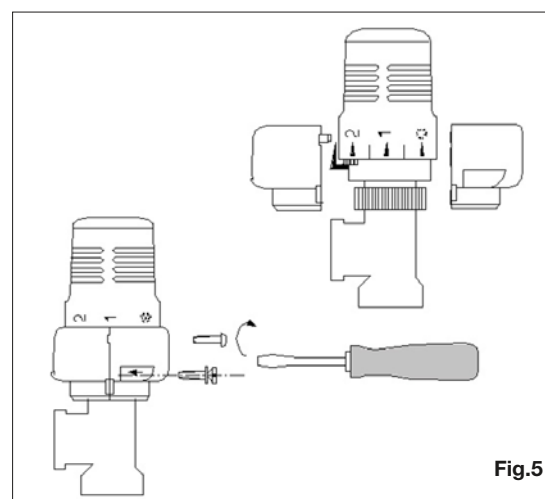
This "memory" system makes it easy to restore settings to meet changing needs.

Installation

Make sure the actuator is not subject to factors that could distort the room temperature reading (e.g. if located behind curtains, in direct sunlight, in recesses etc.), and make sure the adjustment handwheel is accessible (not confined within radiator enclosures).

If this is not possible, you are advised to use the version with remote sensor **Fig.10 (148SDWM Series)**. These models are different because the sensor is separated from the transducer by a liquid-filled capillary, and can be positioned in the most suitable point of the room to sense the correct temperature.

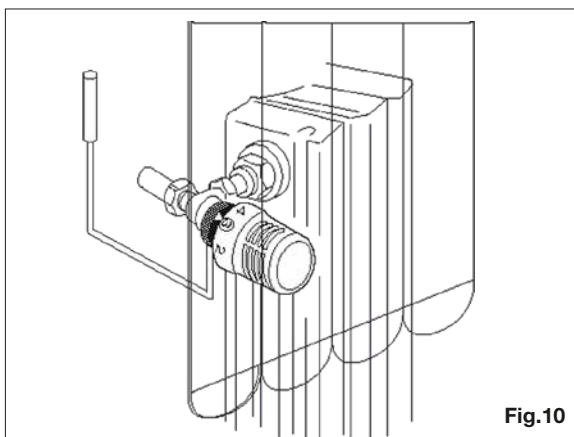
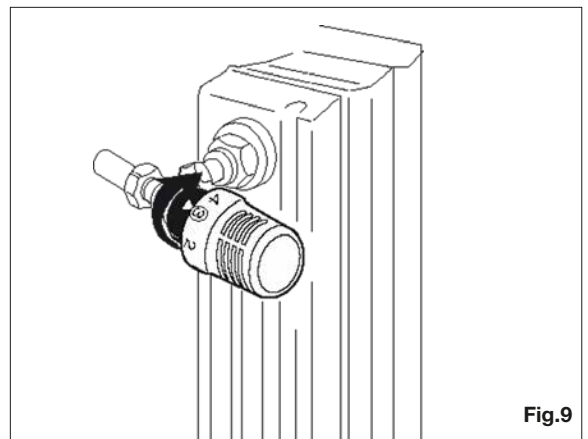
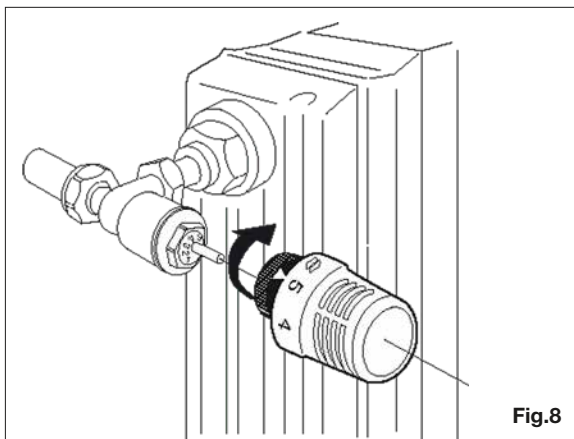
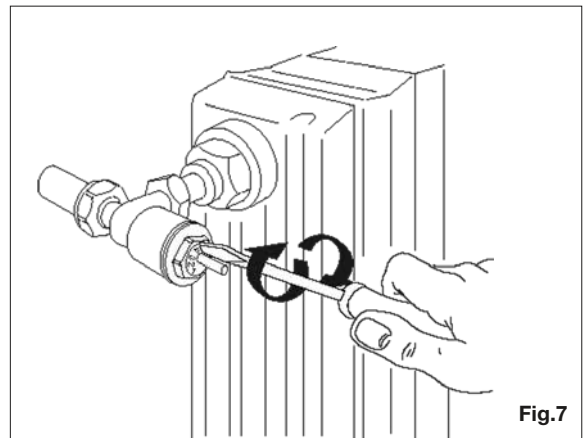
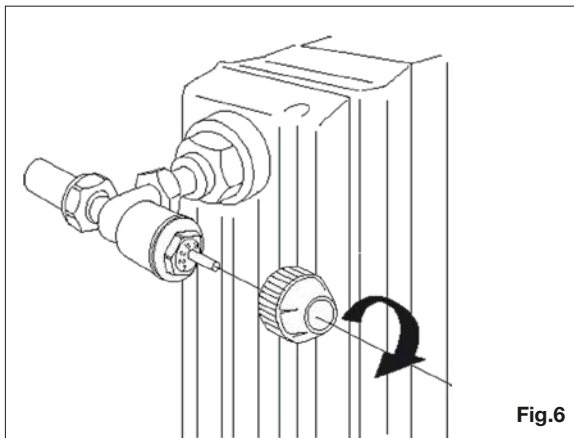
To protect the actuator against tampering, accidental knocks and/or vandalism in public buildings (schools, hospitals, etc.), you are advised to fit a **148GAWM Series** cover, the installation of which is shown in **Figure 5**.

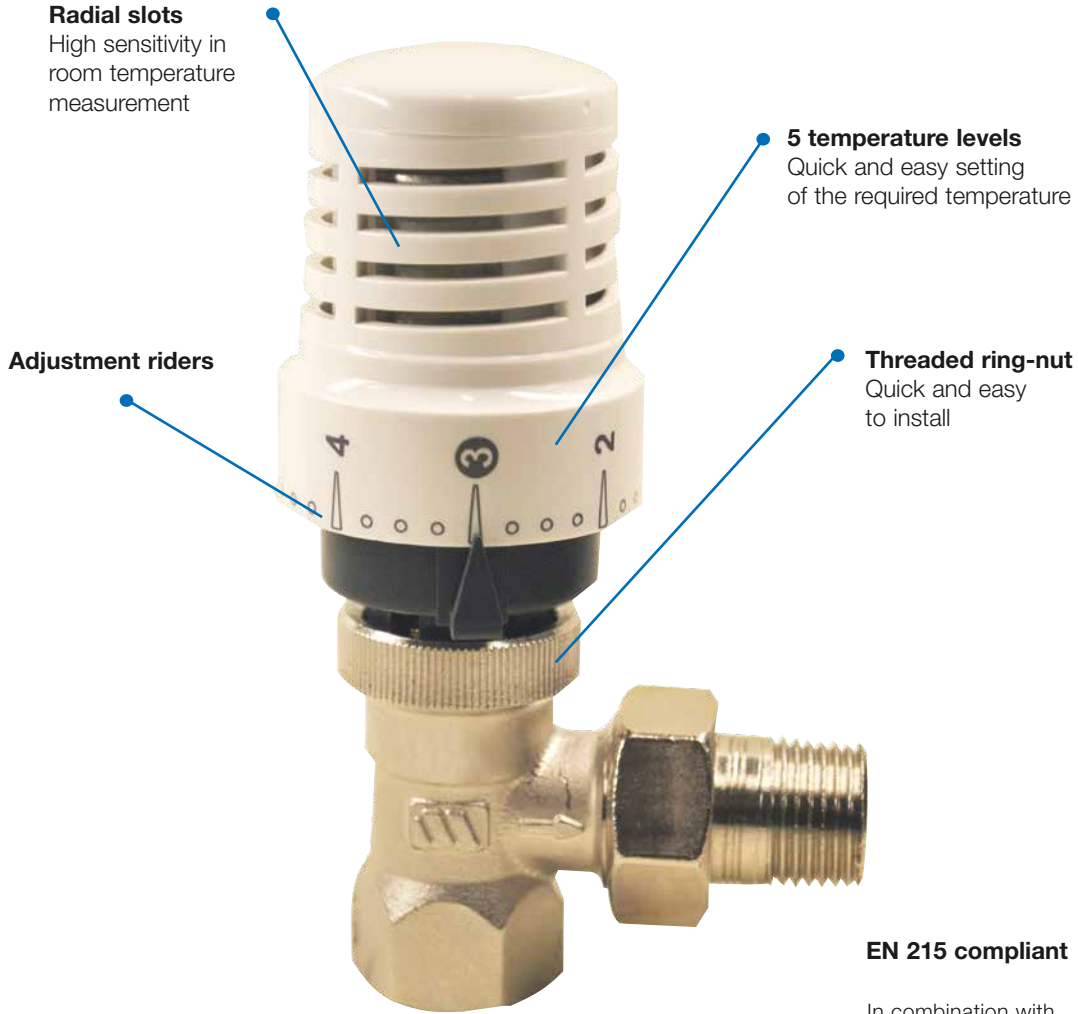


The cover can be installed **with the system running**, as follows:

- 1) Remove the cap or handwheel from the valve body (**Fig.6**).
- 2) Pre-set the device, if necessary, by following the relevant instructions or selecting the position from the flow curves (**Fig.7**).
- 3) Open the actuator fully (**Pos.5**) and bring it into contact with the valve body, with the reference indicator clearly visible (**Fig.8**).
- 4) Tighten the nickel-plated ring-nut by hand as far as it will go (**Fig.9**).

Avoid fitting the actuator vertically.





Radial slots
High sensitivity in
room temperature
measurement

5 temperature levels
Quick and easy setting
of the required temperature

Adjustment riders

Threaded ring-nut
Quick and easy
to install

EN 215 compliant

In combination with
178D12WM, 179D12WM,
179D34WM Series

UNSCREW

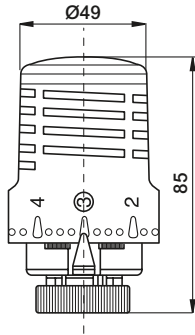


**TIGHTEN THE
THERMOSTATIC
ACTUATOR RING NUT**

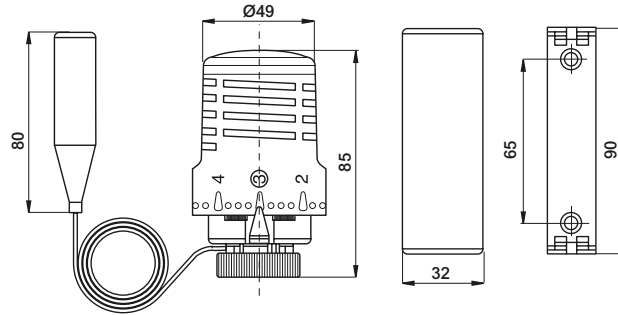


Overall dimensions (mm)

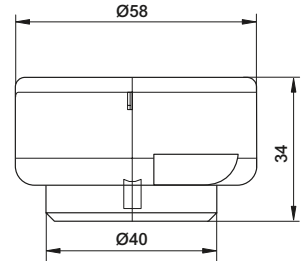
148WM



148SDWM



148GAWM



Specification text

148WM Series

Thermostatic actuator with liquid-filled sensing element **148WM Series**, WATTS brand, with temperature locking and limiting device. ABS cap with radial slots. M30x1.5 threaded ring-nut for coupling with thermostat-adaptable valves. Compatible with **148GAWM Series tamper-proof cover**. Graduated scale from 0 to 5. Adjustment range: 0÷28°C. Anti-freeze position: 8°C. Maximum differential pressure: 1.5 bar. Max. hysteresis 0.4K. Time constant: 27min. UNI EN 215 compliant.

148SDWM Series

Thermostatic actuator with remote sensor **148SDWM Series**, WATTS brand. Liquid-filled sensing element. With temperature limiting and locking device. ABS cap with radial slots. M30x1.5 threaded ring-nut for coupling with thermostat-adaptable valves. Compatible with **148GAWM Series tamper-proof cover**. Graduated scale from 0 to 5. Adjustment range: 0÷28°C. Anti-freeze position: 8°C. Capillary length: 2m. Maximum differential pressure: 1.5 bar. Max. hysteresis 0.4K. Time constant: 27 min.

148GAWM Series

Tamper-proof cover **148GAWM Series**, WATTS brand. Compatible with **148WM Series** thermostatic actuators. Limiting and locking temperature range on rivettable closing position. Complete with standard fixing screws and break-stem rivets.



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