



#### Function

Thermostatic valves allow to make each room independent with a specific set temperature, thus enhancing comfort and actual energy saving, as prescribed by national and international regulations.

The sensor inside the head regulates the opening and closing of the valve by reacting proportionally to temperature changes, thus allowing for room temperature adjustment.

It is vitally important not to install thermostatic heads under barriers such as shelves, curtains and pieces of furniture, or in a vertical position. These obstacles can store heat and thus distort the detection of room temperature.

#### Technical data

Max. working pressure:	10 bar
Max. differential pressure:	1 bar
Max. working temperature:	120 °C
Min. adjustment temperature:	6 °C
Max. adjustment temperature:	30 °C (TT3000, TT3000C), 28 °C (TT3002)
Energy saving conditions:	Pos. "3" = 20 °C
Working fluids:	Water in compliance with UNI 8065:1989
Hysteresis (C):	< 0.4 K
Differential pressure influence (D):	0.5 K
Response time (Z):	22 min.
Water temperature influence (W):	0.25 K
Inalterability range:	-15 °C ÷ +60 °C
Storage temperature:	-20 °C ÷ +50 °C

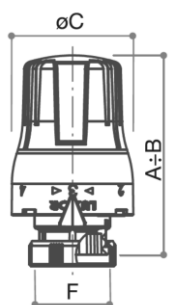
#### Materials

Sensor:	Liquid
Head:	RAL9016 white ABS (TT3000, TT3002), chrome-plated ABS (TT3000C)
Collar:	CW 614 N UNI-EN 12164-2016

**Dimensional Drawings**

**TT 3000**

Thermostatic head with integrated control and sensor.



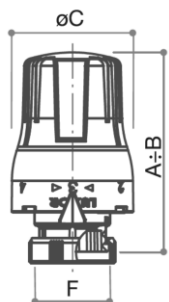
Code	Size	A	B	C	E	F
69100000	M30 x 1,5	75	80	46,5	-	M30x1,5

Code	Size	A	B	C	E	F
69100000BRA*	M30 x 1,5	75	80	46,5	-	M30x1,5

\*With Braille numbers

**TT 3000C**

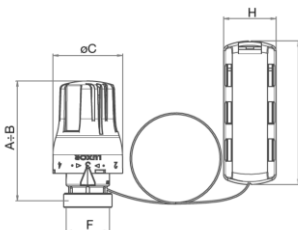
Thermostatic head with integrated control and sensor.



Code	Size	A	B	C	E	F
69100000	M30 x 1,5	75	80	46,5	-	M30x1,5

**TT 3002**

Thermostatic head with integrated control and remote sensor. Standard length of capillary 2 m.

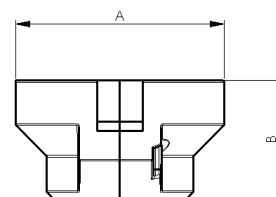


Code	Size	A	B	C	E	F
69100020	M30 x 1,5	75	80	46,5	-	M30x1,5

Code	Size	G	H	L	M	N
69100020	M30 x 1,5	-	35	96	-	-

**BT 242**

Tamper-and-theft-proof clip for TT 3000 and TT 3002.



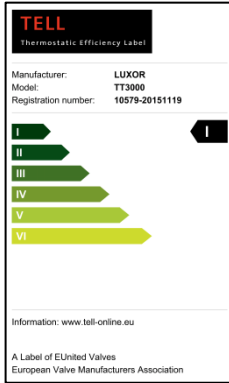
Code	Size	A	B	C	D	E
69010402	-	50,5	28,5	-	-	-

## Approvals



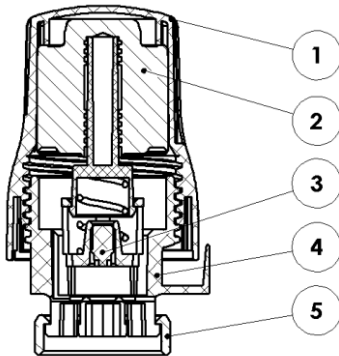
The TT 3000 thermostatic head complies with the European Standard EN215:2019. TT 3000 thermostatic heads is certified in combination with the following thermostatic valves: RS202 DN15; RS206 DN15; RS212 DN10; RS212 DN15; RS209 DN10; RS209 DN15; RS212/A DN10; RS212/A DN15; RS209/A DN10; RS209/A DN15; RS2502 DN15; RS2506 DN15; RS2512 DN10; RS2512 DN15; RS2509 DN10; RS2509 DN15; RS2512/A DN10; RS2512/A DN15; RS2509/A DN10; RS2509/A DN15.

The TT 3000 thermostatic head is classified as a “low thermal inertia” device and therefore complies with the requirements set out in the Italian Decreto del Ministero dell’Economia e delle Finanze del 19 febbraio 2007, “Disposizioni in materia di detrazioni per le spese di riqualificazione energetica del patrimonio edilizio esistente, ai sensi dell’art. 1, comma 349, legge 27/12/2006, n. 296”.



The TT3000 thermostatic head has obtained the Class I Thermostatic Efficiency Label (TELL).

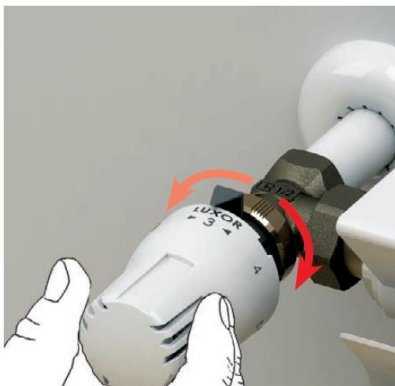
## Design and Function



1. Adjustment knob
2. Liquid sensor
3. Piston
4. Body
5. Fastening collar

The thermostatic head consists of a sensor (2) filled with a highly expandable liquid. This liquid, which is placed inside the adjustment knob (1), expands or contracts in proportion to room temperature changes, reacting even to the smallest variation. When the surrounding temperature increases, the element expands and acts on the obturator with an axial thrust movement (3), thus controlling the valve’s action. The flow of the heating medium can be adjusted by opening and closing the valve. When the temperature decreases, the opposite occurs thanks to the thrust generated by the return spring. Thermostatic heads precisely maintain the set room temperature. The required value is set by turning the adjustment knob, the numbers on it correspond to different temperatures.

## Range of Adjustment



**TT 3000 - TT 3000C**

6 °C	12 °C	16 °C	20 °C	24 °C	30 °C
*	1	2	3	4	5

**TT 3002**

6 °C	12 °C	16 °C	20 °C	24 °C	28 °C
*	1	2	3	4	5

**Working Instructions**



Before installing the thermostatic head, set the adjustment knob to "5", so as to facilitate the following installation steps. Unscrew the RAL 9016 white ABS protection cap mounted on THERMOTEKNA thermostatic valves. Tighten the brass collar of the thermostatic head to the valve body, then set the knob to the desired position.

**Conditions for a Proper Functioning**



Fig.1



Fig.2



Fig.3



Fig.4



Fig.5



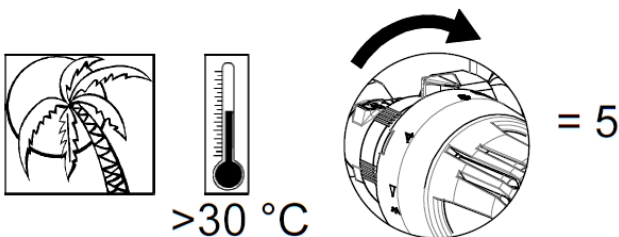
Fig.6

Thermostatic heads must be installed away from the heat streams surrounding the heating body (fig. 1) and direct sunlight (fig. 2).

Do not install thermostatic heads under shelves (fig. 3), in a recess (fig. 4), within the heat stream (fig. 5) or behind curtains (fig. 6).

These kinds of installation are not proper, as they may cause the head to measure temperature values which do not coincide with the actual room temperature.

In order for the system to function properly, it is advisable to install a pressure relief valve between the inlet and the outlet. To avoid excessive noise in the system it is recommended not to use thermostatic valves with  $\Delta P$  value above 0,2-0,25 bar.

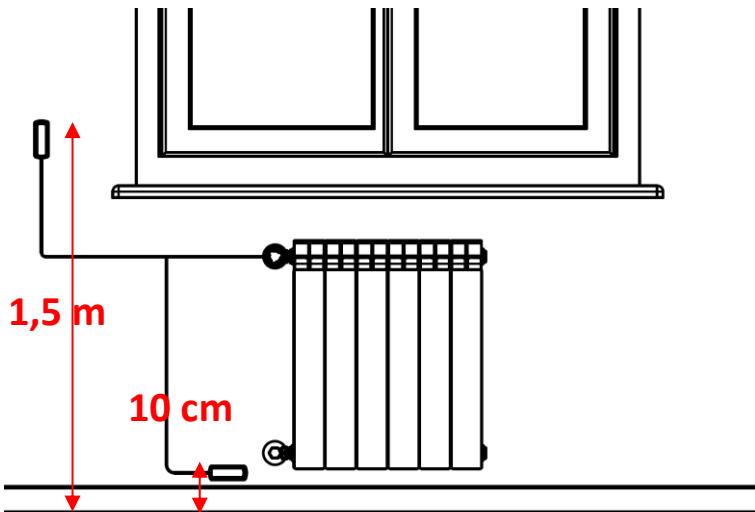


During summer it is recommended to set the heads to the maximum opening so as to avoid issues connected with an excessive force applied on the valves's screw in closed position.

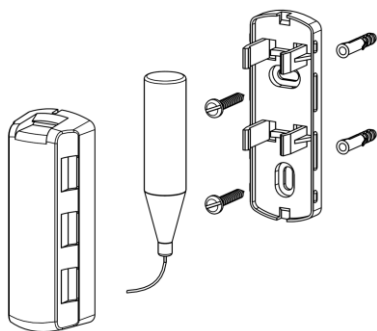


TT3000 thermostatic heads can be applied to all heating bodies unless in presence of barriers such as shelves, curtains or furniture, which may accumulate heat and therefore alter the measurement of room temperature. In this case, it is recommended to use TT3002 thermostatic heads with remote sensor.

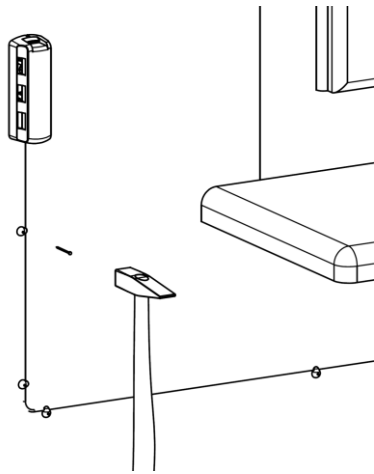
**Placing and Installation of the TT 3002 sensor**



Place the sensor as shown in the picture.



Fasten the sensor case with the included screws and dowels.

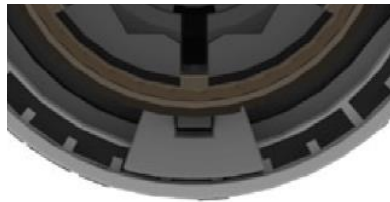
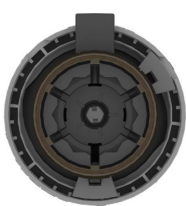


Fasten the capillary with the U-bolts and nails included in the package.

**WARNING:** Take care not to crush, pierce or tilt the capillary

### Limiting and Blocking Temperature

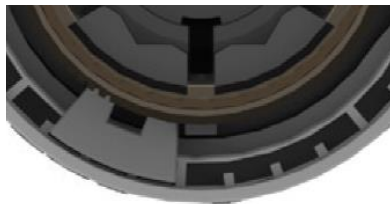
The head's temperature range can be limited or locked by using the provided fork pin.



Blocking the adjustment

To lock the temperature to a fixed value, for example "3":

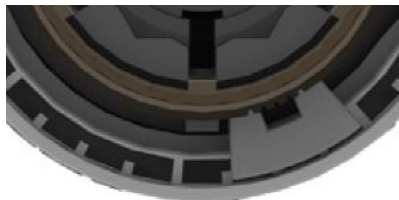
- turn the knob so that the indicator corresponds to the required position.
- Insert the fork pin across the spline placed in the lower part, diametrically opposite to the index.



Limiting the temperature range

To limit the temperature range between a chosen value and a maximum limit, for example "3" and "5":

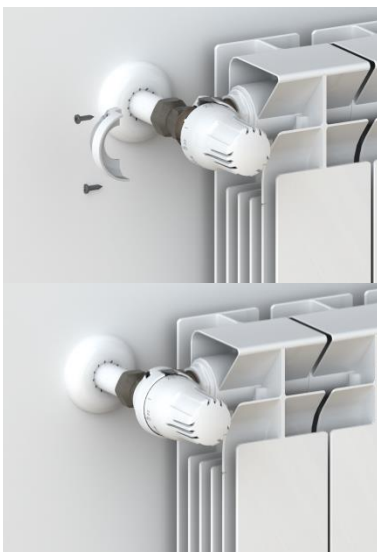
- Insert the fork pin to the left of the spline.



To limit the temperature range between a chosen value and a minimum limit, for example "3" and "❄":

- Insert the fork pin to the right of the spline.

### Working Instructions BT 242



Tamper-and-theft-proof clip for TT 3000 and TT 3002.

The tamperproof and antitheft version of the thermostatic head is formed by fitting a suitable shell to the knob as shown in the illustration on the side.

It is secured with two screws with a special head and can therefore only be tightened with the appropriate allen key.

## Item Specifications

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### TT 3000

Low thermal inertia thermostatic head with integrated control and sensor, liquid sensitive element. Graduated scale from “❄” to 5, corresponding to an adjustment range of 6°C to 30°C. Possibility to limit and lock the temperature.

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### TT 3002

Low thermal inertia thermostatic head with integrated control and remote sensor, liquid sensitive element. Graduated scale from “❄” to 5, corresponding to an adjustment range of 6°C to 30°C. Possibility to limit and lock the temperature.

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### TT 3000C

Low thermal inertia thermostatic head with integrated control and sensor, liquid sensitive element. Graduated scale from “❄” to 5, corresponding to an adjustment range of 6°C to 30°C. Possibility to limit and lock the temperature.

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### BT 242

Tamper-and-theft-proof clip for TT 3000 and TT 3002.

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Luxor S.p.A.

Sede amministrativa, stabilimento e uffici commerciali:

Administrative office, factory and commercial office:

Tel.: 030-9961161 – Fax: 030-9961165

info@luxor.it – www.luxor.it

via Madonnina, 94 – 25018 Montichiari - (BS) Italy

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