



**Description**

In today's society, the search for well-being has become a fundamental factor. One of the relative issues that arises in the home concerns the management of the temperature in the individual rooms, on the basis of how they are used. IT'S fundamental for the user to be able to decide the best temperature for the places where he/she lives or works, thereby obtaining energy savings as well. To reach these results, you need temperature adjustment systems that optimise the potential of the system, exploiting the free energy supplies. During the day, the rooms of the home are subject to thermal loads that change on the basis of various factors including any sudden variation in the outdoor temperature, indoor supplies of free energy due for example to the presence of people, electrical equipment, or solar radiation via the windows. In these situations, an automatic adjustment tool like the thermostatic head fitted on the heating body prevents the risk of excess temperatures. It does this by excluding the radiator of that room from the rest of the system (so the room is not actually heated), while energy continues to be supplied as usual throughout the rest of the home.

For all new/renovated buildings and thermal systems, Legislative Decree 192/05 - the implementation of Directive 2002/91/EC regarding energy yields in building - (and the subsequent integration with Legislative Decree 311/06), annex I article 12, confirmed by Presidential Decree no.59/2009 (Art. 4, paragraph 6-c), prescribes the installation of devices for automatically adjusting the temperature in individual rooms or areas with the same characteristics of use and exposure, in order to avoid the risk of over-heating due to the added effects of solar radiation and free indoor energy supplies.

**Operation**

The operating principle is very simple: the variation in room temperature leads to a variation in the volume of liquid contained in the sensor of the thermostatic head.

This volume change causes the movement of an internal mechanism and the resulting closure or opening of the valve, hence the modulated flow rate of water entering the heating body.

When the temperature in the room is approaching the required value, the head gradually closes the valve, letting through just the minimum amount of water needed to keep the room temperature constant. This means guaranteed energy savings.

The Giacomini R468 thermostatic head is designed to be applied exclusively on Giacomini elements of the TG, D and F series with thermostatic option.

**Technical data**

- Temperature range in combination with the valve bodies: 5÷110 °C
- Max. working pressure in combination with the valve bodies: 10 bar
- Maximum differential pressure in the valve:
  - 1,4 bar (1/2")
  - 0,7 bar (3/4")
- Minimum head calibration 8 °C in position \*
- Maximum head calibration 28 °C in position \*
- Mechanical lockout position (shut-off): fully closed in position "0".

Valve body size	Nominal flow rate qmNH	Authority a of the shutter
3/8"	150 kg/h	0,892
1/2"	150 kg/h	0,924
1/2" (R415TG, R435TG)	150 kg/h	0,832
3/4" (R401D, R401F, R421F)	240 kg/h	0,873
3/4" (R402D, R402F, R422F)	240 kg/h	0,897

C – declared hysteresis: 0,23 K

D – influence of the declared differential pressure: 0,15 K

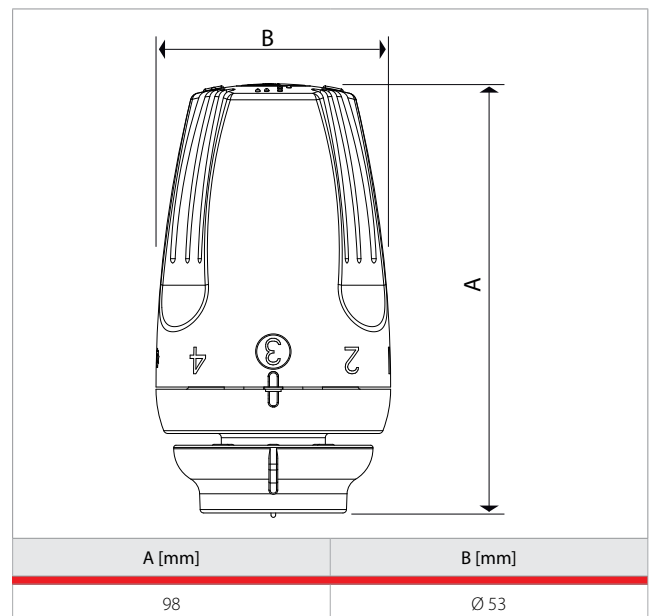
W – influence of the declared water temperature: 0,42 K

Z – declared response time: 25 min



**NB:** the thermostatic head is fitted with an indication in Braille of the number 3 on the knob, and the + and - signs are also raised, so the adjustment can also be made by blind and/or partially-sighted people.

**Dimensions**



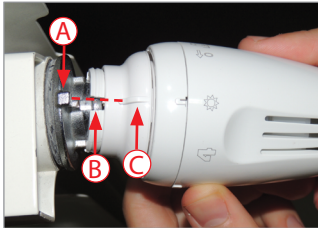


**Installation**

To install the thermostatic head, proceed as follows:



1. Fully open the head by turning the knob to \*. Pull the Clip Clap connection towards the knob.



2. Connect the thermostatic head to the valve, making sure the valve pin (A), thermostatic head slit (B) and Clip Clap ring indicator notch (C) are aligned.



3. Fully close the head, turning the knob to "0".



4. The head is now fixed to the valve, and can be moved to the required adjustment position.

**Adjusting the head**

The correct position of the R468 thermostatic head is obtained beforehand, by referring to the table that combines the number on the knob with corresponding room temperatures verified in a thermostatic chamber with a heating body in perfect operating conditions.

If the radiator is positioned where there is cold air or draughts, the calibration temperature will not correspond to the average room temperature because the head sensor is influenced by the local temperature and therefore commands the closure of the valve too early or not at all. In these cases, the position of the knob must be readjusted with the aid of a mercury thermometer positioned in the middle of the room.

If, for example, the head is in position 3 and the room temperature is lower than the 20 °C envisaged while the system is working, this means the valve has been prematurely closed due to local excess temperature. In this case, turn the knob slightly until it is halfway between number 3 and number 4. Vice versa, if the temperature is higher than the 20°C envisaged when the head is in position 3, this means the bulb is positioned in a cold draught and therefore keeps the valve open. In this case, turn the knob until it is halfway between number 2 and number 3.

If the room where the thermostatic head is installed is not used, you can ensure the best energy savings by turning the knob to position \* (corresponding to the 8 °C anti-freeze protection temperature).

In the case of radiator maintenance, you can use the thermostatic head "shut off" function: position "0" corresponding to mechanical closure allows you to shut off the radiator valve without having to disassemble the thermostatic head and reassemble the manual handwheel.

Position	0	*	1	2	3	4	*
Adjusted temperature [°C]	SHUT OFF	8	12	16	20	24	28



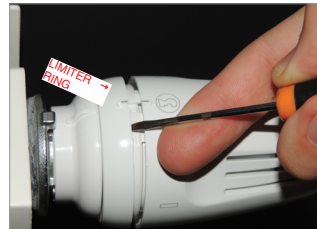
**Warning.**

To avoid excessive loads on the seal gasket of the thermostatic bonnet (with the resulting risk of jamming and locking) during the summer, it is a good idea to place the knob in the fully open position marked by the symbol \*.

The values shown in the table refer to the optimum conditions obtained in a climatic chamber. In the room itself, these values may be altered by factors such as the type of installation, the environmental conditions, the degree of insulation of the building, and certain characteristics of the heating body.

**Knob opening limit and locking**

The knob limit and locking operations are carried out with the head already assembled on the valve body.

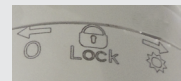


1. Turn the knob to the position that you want to lock/slice, then disconnect the limiter ring with the aid of a screwdriver. (example: in this figure, you want to lock/slice the adjustment at position 3).



2. Rotate the limiter ring. Using the "T" indicator notch (see figure) as a reference, connect the ring in line with one of the 3 icons on the back of the knob:

- ☛ →
- 0 ←
- 🔒 lock



**3a. Slicing the opening/closure of the thermostatic head:**



• in position 0 ←, the required position is limited to 0 (shut-off). Example: fix the knob in position 3 and the limiter ring in position 0 ←. In this way, the head can be fully closed, or opened as far as 3.



• in position ☛ →, the required position is limited to \* (fully open). Example: fix the knob in position 3 and the limiter ring in position ☛ →. In this way, the head can be fully opened, or closed as far as 3.

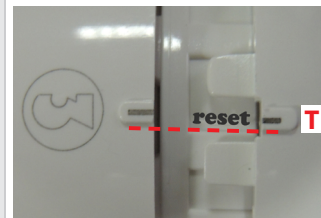
**3b. Locking the adjustment range:**



• in the 🔒 lock position, the adjustment is locked in the required position. Example: fix the knob in position 3 and the limiter ring in the 🔒 lock position. In this way, the head is locked in position 3 and cannot be adjusted.

**Nota.**

Whether necessary to reset the limiter ring to the default position:  
1) put the notch (T) in correspondence of "reset" marking.  
2) set the position n° 3 of thermostatic head in correspondence of "reset" marking.

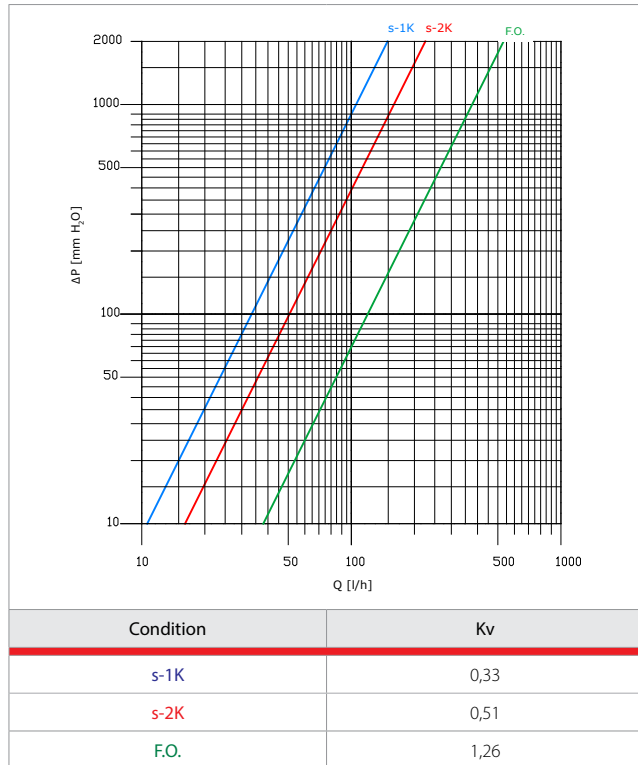




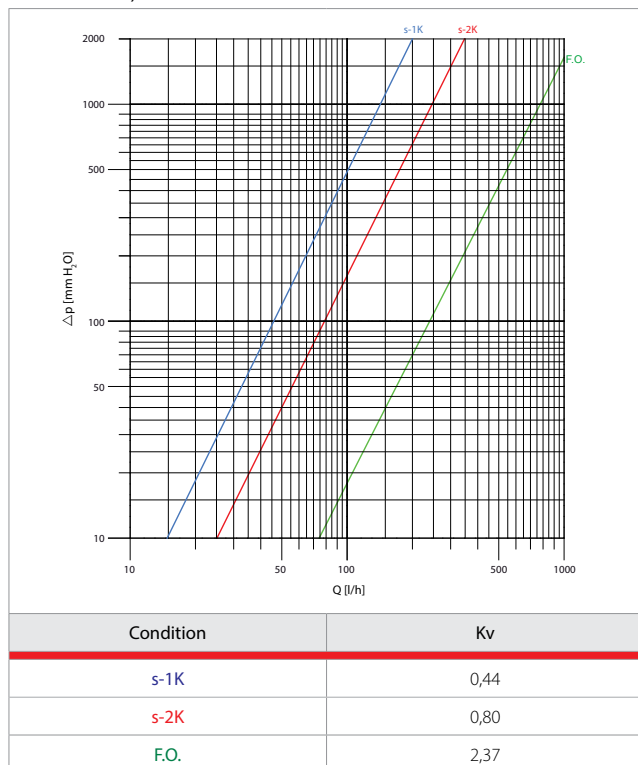
**Losses of pressure**

The diagrams showing loss of pressure are obtained with the thermostatic head in position 3 and a difference between the room temperature and set temperature equal to 1K and 2K (curves s-1K and s-2K), and with the thermostatic head fully open in position \* (corresponding to the maximum valve opening).

**Combined with the 3/8" - 1/2" valve bodies**



**Combined with the 3/4" valve bodies (R401D - R401F - R421F - R402D - R402F - R422F)**

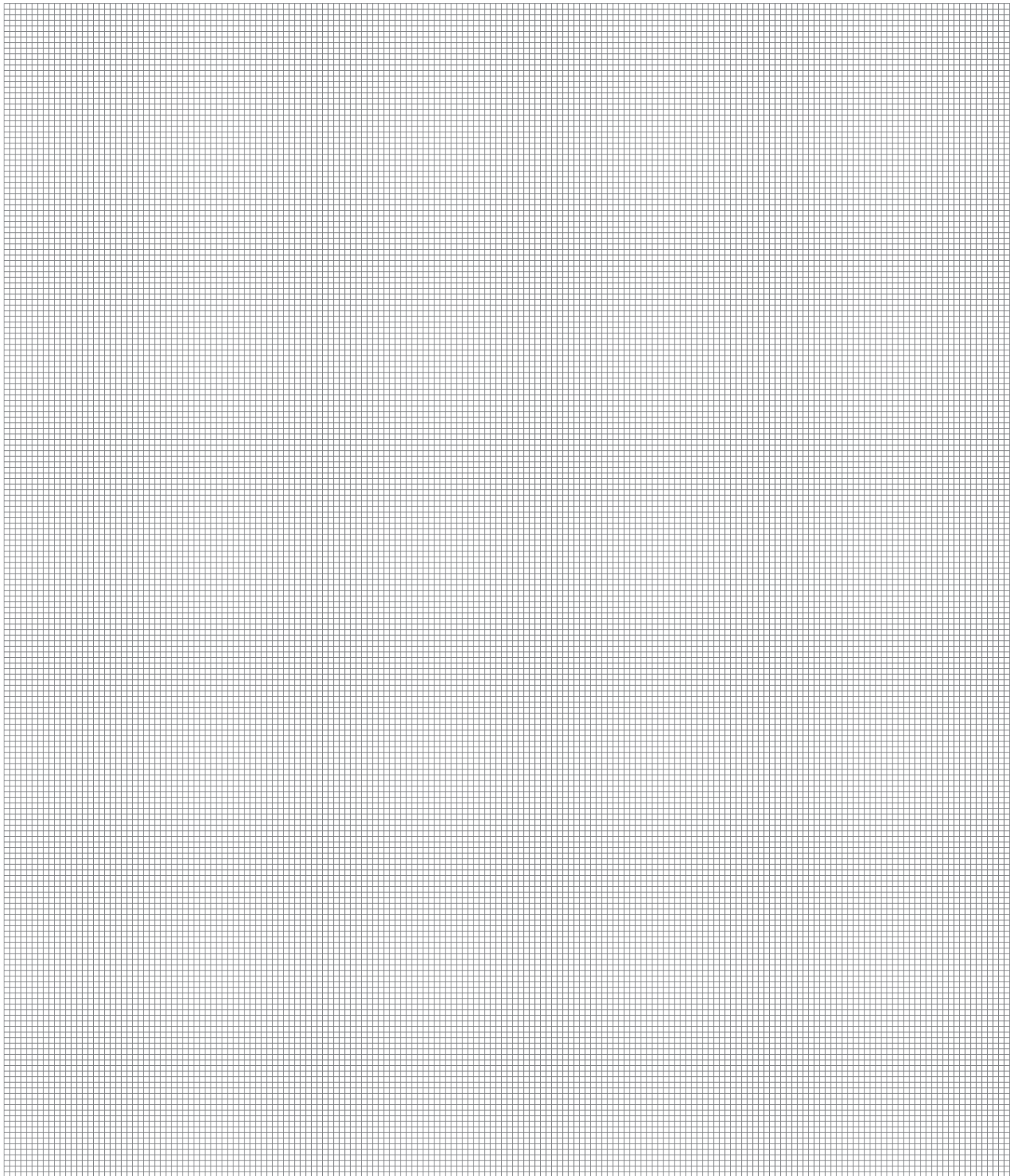




**Product specifications**

**R468**

Thermostatic head with liquid sensor and CLIP CLAP bayonet connection system. Adjustment positions from \* a \*, corresponding to a temperature range of 8÷28 °C. Position "0" for shut-off function. Possibility to lock or slice the opening and/or closure via the limiter ring supplied. Adaptable to the Giacomini valves with thermostatic option - series "TG, D, F". Temperature range in combination with the valve bodies 5÷110 °C. Max. working pressure in combination with the valve bodies 10 bar. KEYMARK – TELL certification of energy class A, complying with Directive RT2012 - Certità con valore di *variation temporelle* VT 0,29. Numbering in Braille, enabling blind and/or partially-sighted people to make the necessary adjustments.



**Additional information**

For additional information please check the website [www.giacomini.com](http://www.giacomini.com) or contact the technical service: ☎ +39 0322 923372 📠 +39 0322 923255 ✉ [consulenza.prodotti@giacomini.com](mailto:consulenza.prodotti@giacomini.com)  
This pamphlet is merely for information purposes. Giacomini S.p.A. retains the right to make modifications for technical or commercial reasons, without prior notice, to the items described in this pamphlet. The information described in this technical pamphlet does not exempt the user from following carefully the existing regulations and norms on good workmanship.  
Giacomini S.p.A. Via per Alzo, 39 - 28017 San Maurizio d'Opaglio (NO) Italy