



Energy
Management

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PATENTED

DB thermostatic radiator valves with dynamic balancing

The evolution of our renowned radiator valves to ensure comfort and energy efficiency at the highest levels.

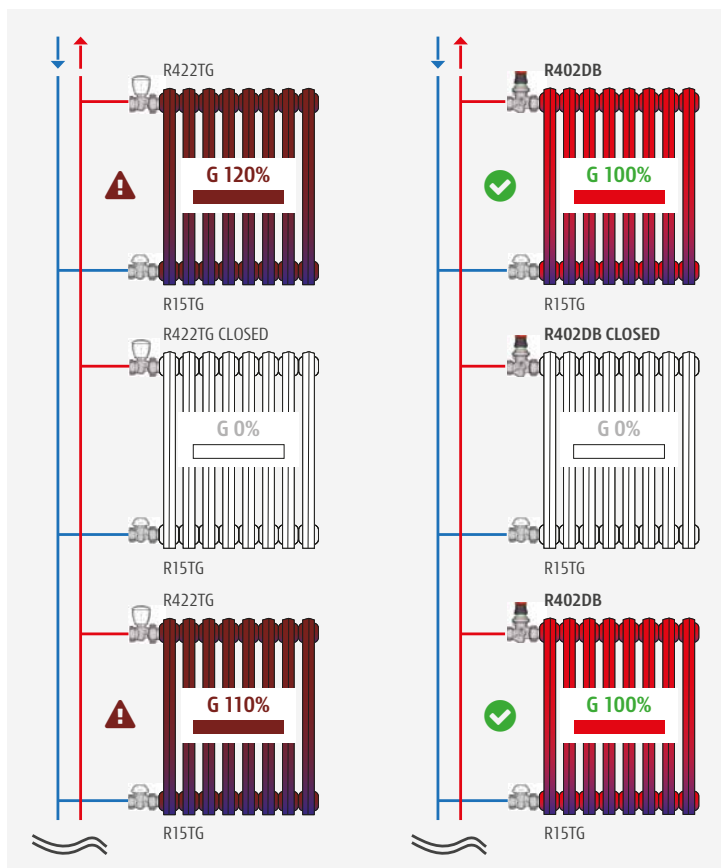
Why use dynamic balancing valves?

An unbalanced system is essentially an inefficient system.

DB thermostatic radiator valves (with dynamic balancing) are for use in twin-pipe heating systems.

Systems with DB thermostatic valves maintain balanced flow rates in every radiator. They provide the correct heat output to every zone of the building while optimizing energy efficiency and comfort.

➤ Partial load with and without DB valves



Two-pipe heating system with traditional TG series valves (static flow balancing).

Two-pipe heating system with DB series valves (integrated dynamic balancing).

➤ Main benefits

Full and accurate control: presetting, continuous adjustment and shutting-off

Easy and immediate circuit calibration, perfect for systems with complex riser designs

Quick system upgrade: **same dimensions and center distances** of TG and PTG valves

Flow rate **balanced in every radiator** for the highest levels of comfort and energy saving

DB thermostatic radiator valves are provided with an integrated cartridge that adjusts and limits the flow rate to preset values.

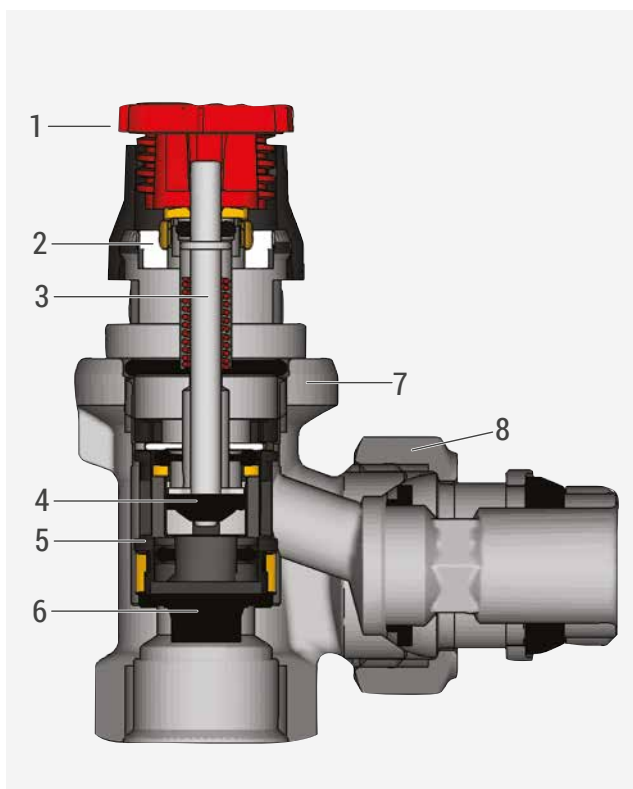
Regardless of changes in system pressure, the flow rate of the valve will be limited to the preset value.

Within a minimum and maximum differential pressure range, this operation is completely independent from the differential pressure.

Complicated calculations for pressure drops and

balancing are no longer required, as the desired flow rate can be set directly on the cartridge using the R73P key. This simplifies the installation process and reduces the time required to commissioning the system.

These characteristics are extremely important in new systems and even more so in renovations, where system parameters may be unknown to planners and installers.



1 Protective cover with manual adjustment dial

2 Plastic indicator ring

3 Stainless-steel stem

4 EPDM stopper

5 Setting sleeves

6 EPDM controlled-deformation balancing membrane

7 Brass valve body

8 Brass tail piece with EPDM self-seal

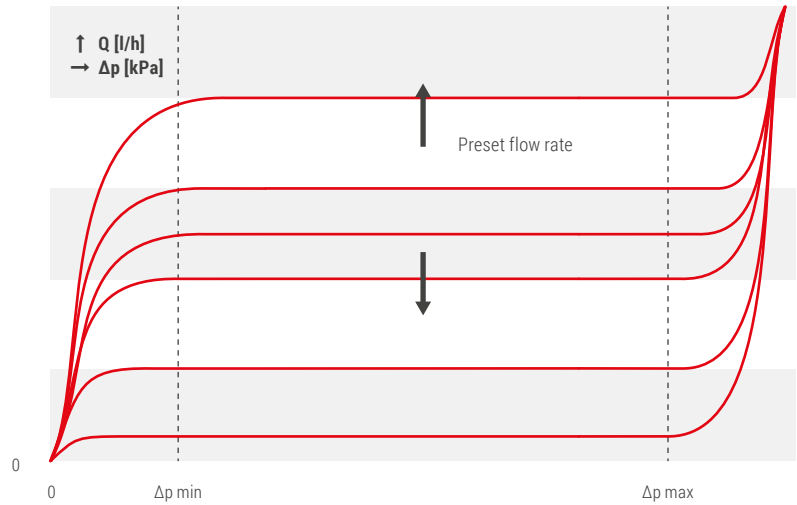
Patented cartridge with EPDM controlled-deformation balancing membrane

When other thermostatic valves start to close, the flow rate can increase to valves left open. To avoid exceeding the flow rate that has been preset on the valve, the cartridge membrane automatically responds to changes in system pressure by reducing the surface area of the valve in order to limit the flow rate to the preset value. Similarly, if the flow rate reduces as other valves start to open, the membrane expands the surface area and the flow rate increases up to the preset value.

Operational range

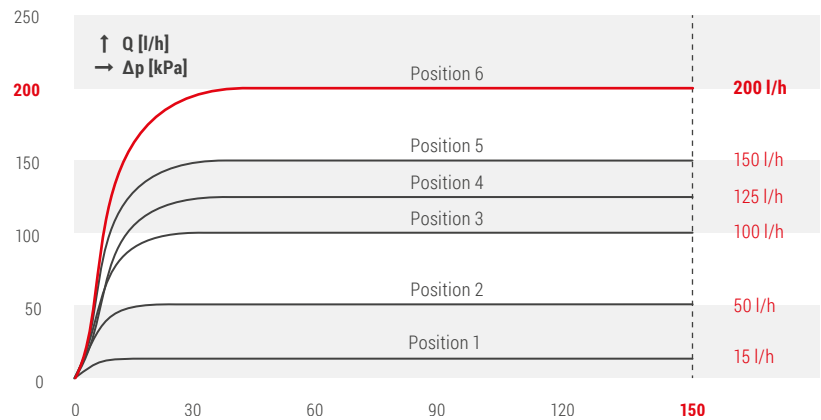
Flow rate presetting

The flow rate presetting diagram shows the typical curve for a DB thermostatic valve: reducing the preset flow rate moves the characteristic curve downward, whilst increasing the preset flow rate moves the curve upward.



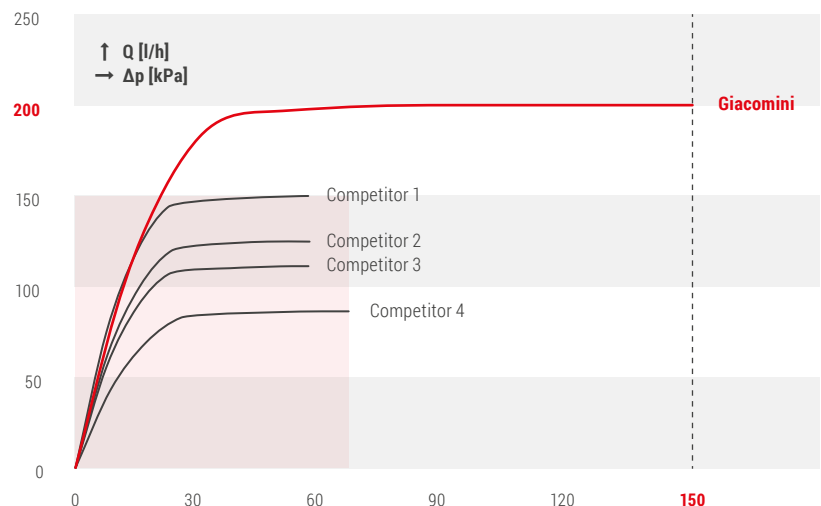
DB valves feature 6 presetting positions (factory-setting position 6) and are designed to work up to 150 kPa of max. differential pressure and a 200 l/h flow rate: this makes them fit for a variety of applications, from small residential units to large buildings.

With thermostatic head and 2K proportional band

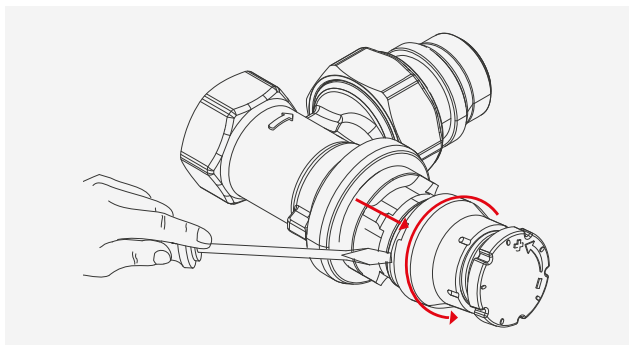


Giacomini vs Competitor

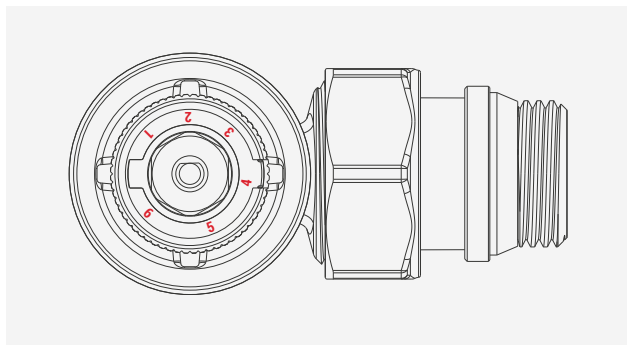
DB valves have no match on the market in terms of performance. No competitor can control the same flow rate and differential pressure values. The outstanding performance guaranteed by DB valves results in greater comfort and energy savings.



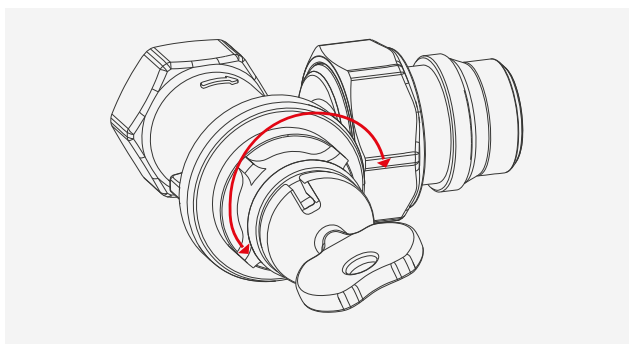
➤ **Presetting requires 4 simple steps using the R73P key**



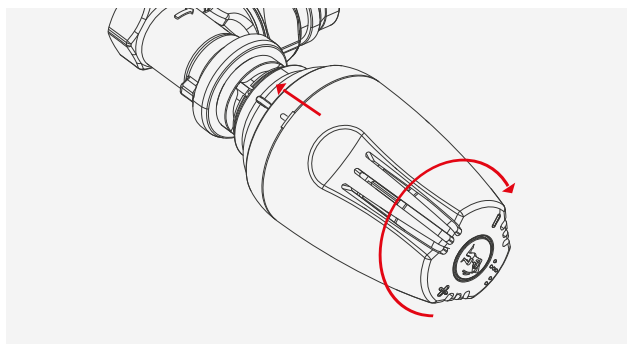
1. Remove the protective cover from the valve.



2. Identify the cartridge position corresponding to the desired flow rate on the presetting diagram. The position chosen must be included between 1 and 6 on the cartridge.



3. Place the adjustment key on the cartridge and turn it till the desired position appears in the key slot.



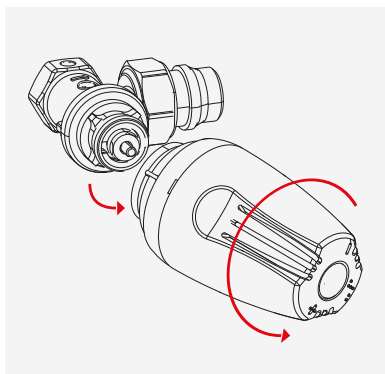
4. Remove the key and fit the thermostatic head.

➤ **Replacing the valve cartridge while the system is still operational**

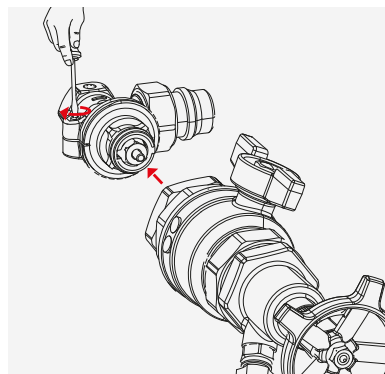
As standard, Giacomini's full range of TRVs allow users to replace the cartridge if ever necessary.

This can be done using the R400DB tool, without having to isolate, drain down or remove the valve body from the pipework.

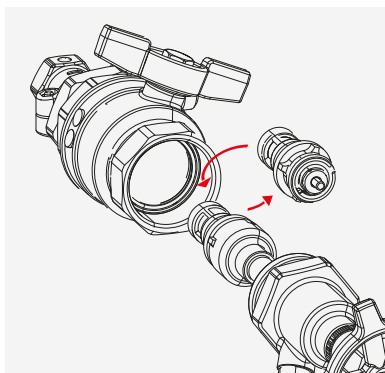
A quick guide to the process of cartridge removal can be seen adjacent.



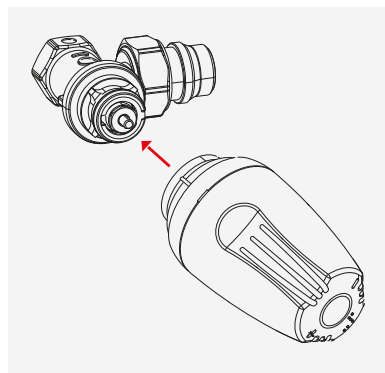
1. Open completely and remove the thermostatic head.



2. Fit the special plastic ring nut on the valve and tighten the R400DB tool.



3. Replace the cartridge.



4. Snap the thermostatic head on the valve, close it completely and set it on the desired position.

➤ *DB radiator valve range with iron pipe connection*



➤ *DB radiator valve range with adapter connection*



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