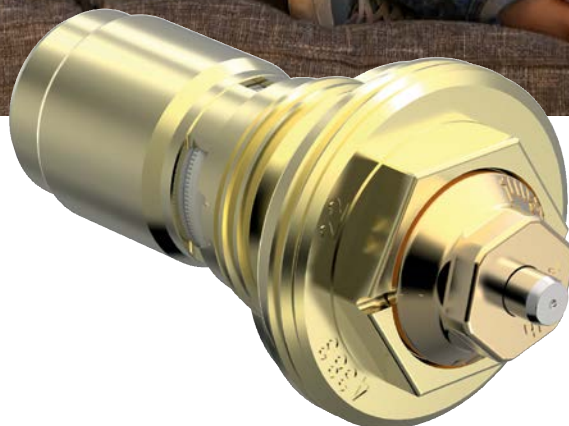


COMFORTABLE HEATING

thanks to automatic hydronic balancing



Eclipse

The Stelrad Eclipse thermostatic insert is not just any adjustable valve. This valve automatically ensures a constant flow rate. The Eclipse regulates the flow independently of any pressure differential due to changes within the central heating system.

A well-functioning radiator is the result.

Sometimes, hydronic balancing is not performed correctly or not at all. This is because such balancing is a complicated, time-consuming procedure that relies on experience and knowhow. However, building regulations strongly encourage hydronic balancing.



Why is balancing advisable?

Proper balancing ensures optimal interaction between all your central heating system's component parts. This is what is meant by a balanced system.

The advantages are manifold:

- Faster heating of rooms to the desired temperature
- Improved boiler efficiency due to consistent return temperatures, lower consumption and less carbon emissions
- Fewer flow noise

Easy balancing

The Eclipse makes setting the required flow rate a simple matter. Complicated calculations to determine the correct settings are no longer necessary. Just calculate the flow rate for the radiator, without any need to take pressure loss into account.

Benefits for installers

- Easy determination of the correct setting based on the desired capacity and temperature difference
- Set the insert to the desired flow rate with an 11 mm spanner
- Multiply the set value by a factor of ten for the rate in litres/hour
- The mass flow controller restricts the mass flow rate independently of the differential pressure
- Constant limitation of the flow rate to the set value

Benefits for end users

- Energy savings
- CO₂-reduction
- Improved comfort
- No more flow noise
- Compliance with latest standards and regulations

Compatibility

The Stelrad Eclipse thermostatic insert is compatible with all Stelrad compact valve radiators in two-pipe central heating systems with average to high temperature differentials.

Performing hydronic balancing is easy; simply set each radiator's desired flow rate at the insert.

Once set up, the Eclipse automatically regulates the flow, independently of other system components.

The selected flow rate will not be exceeded, even in the event of increased flow due to closed valves elsewhere in the system or at other radiators.

It is no longer necessary to account for pressure losses in pipes or older systems during renovation work.

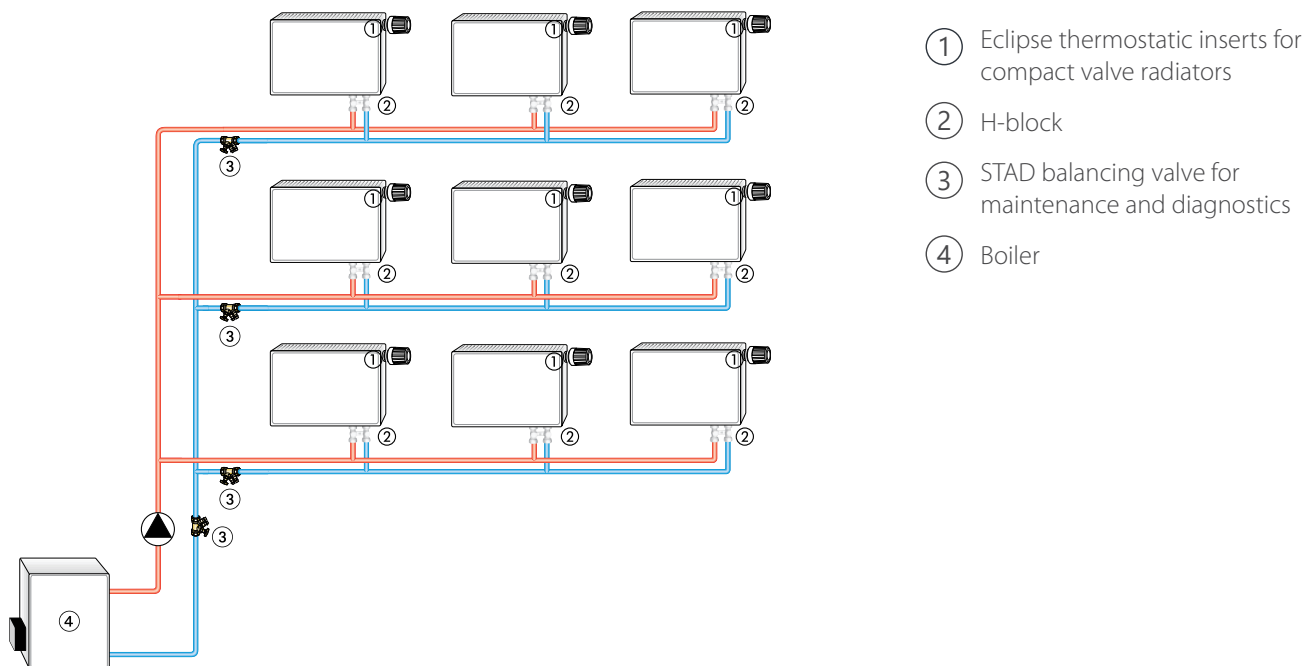
All you have to do is to calculate the heat capacity and the associated flow rate.

The Stelrad Eclipse thermostatic insert guarantees the required flow.

Compatible with the following radiators

Novello ECO - Hygiene ECO - Planar Slim ECO - Planar ECO - Planar Style ECO - ECO Galva - Hygiene ECO Galva - Planar 8 - Planar Style 8 - Novello 8 - Planar - Planar Plinth (D) - Planar Style Plinth (D) - Novello Plinth - Novello All In

Sample application



Noise

The following conditions must be met to ensure silent operation:

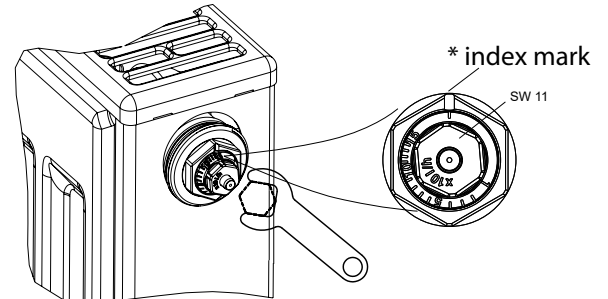
- Keep the differential pressure for the Eclipse under 60 kPa = 600 mbar = 0.6 bar (<30 dB(A)). It is recommended not to allow it to exceed 35 kPa.
- Be sure to fully bleed the system before balancing the valve.
- Set the flow rate correctly.

Controls

Settings

The setting can be adjusted continuously from 1 to 15 (10 to 150 l/h). To change the preselected setting, use an 11 mm spanner. Position the spanner so that it grips the insert.

- Rotate to align the value for the desired setting with the mark* on the insert (see figure).
- Remove the spanner. The insert shows the setting for the valve.



Settings	1	1	1	1	5	1	1	1	1	10	1	1	1	1	15
l/h	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150

p-band [xp] max. 2 K.

p-band [xp] max. 1 K up to 90 l/h.

Settings table

Recommended values for different radiator capacities and temperature differentials.

Q (W) Δt[K]	200	250	300	400	500	600	700	800	900	1000	1200	1400	1600	1800	2000	2200	2400	2600	2800	3000	3200	3400	3600	3800	4000	4800	5300	6500	6800		
10	2	2	3	3	4	5	6	7	8	9	10	12	14	15																	
15	1	1	2	2	3	3	4	5	5	6	7	8	9	10	12	13	14	15													
20	1	1	1	2	2	3	3	3	4	4	5	6	7	8	9	10	10	11	12	13	14	15									
30	1	1	1	1	1	2	2	2	3	3	3	4	5	5	6	6	7	8	8	9	9	10	10	11	12	14	15				
40	1	1	1	1	1	1	2	2	2	2	3	3	3	4	4	5	5	6	6	7	7	7	8	8	9	10	11	14	15		

Q = radiator capacity

ΔT = temperature differential

Δp = pressure differential

Δp min. 10 - 100 l/h = 10 kPa

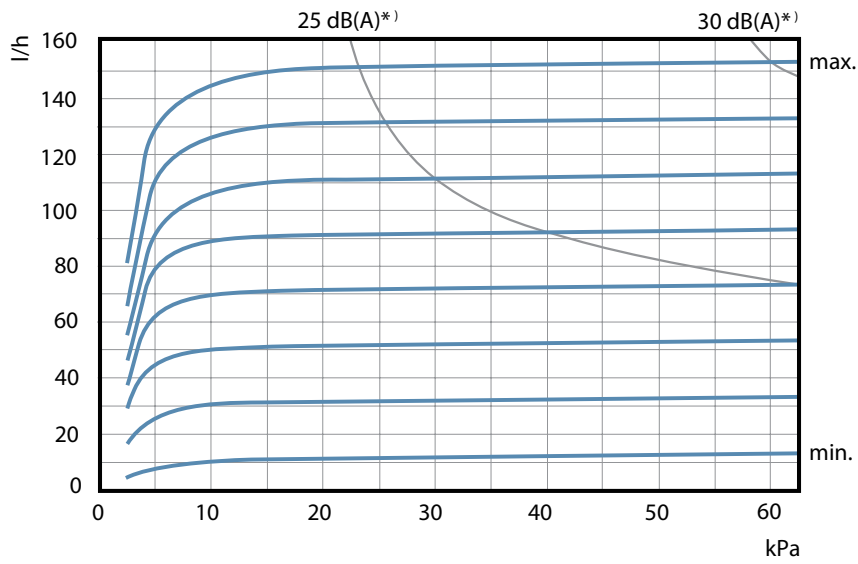
Δp min. 100 - 150 l/h = 15 kPa

Example:

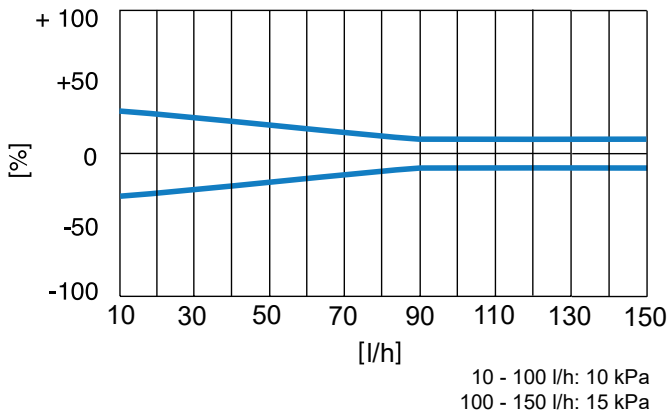
Q = 1 000 W, ΔT = 15K

Set value: 6 (≈60 l/h)

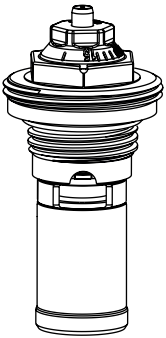
Chart



*) P-Band [xp] max. 2 K.



Technical specifications



Eclipse thermostatic insert with automatic flow limiter

Product number

R4250

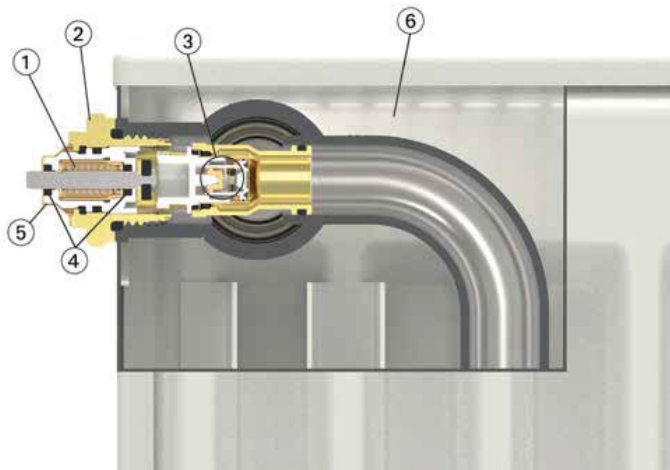
Thread size

G1/2"

Compatibility	All Stelrad compact valve radiators
Purpose	Regulation Automatic flow control Shutting off
Nominal pressure	10 bar
Temperature	Max. operating temperature: 120 °C or 100 °C with protective cap or actuator Min. operating temperature: 2 °C
Material	Internal mechanism: brass, PPS O-ring: EPDM rubber Shut-off cone: EPDM rubber Spring: Stainless steel Spindle: Niro steel with double o-ring seal
Flow range	The flow rate can be adjusted between 10 – 150 l/h. Factory setting: 150 l/h.
Differential pressure (Δp_V)	Max. differential pressure: 60 kPa, recommended: 35 kPa Min. differential pressure: 10 – 100 l/h = 10 kPa 100 – 150 l/h = 15 kPa
Connection for thermostatic control head and motor:	M30x1,5

Set-up and use

Stelrad Eclipse thermostatic insert with automatic flow limiter



- ① A stiff return spring and high initial tension prevent the valve's performance from weakening over time.
- ② M30x1,5 connection for thermostatic control heads and motors
- ③ Automatic flow limiter
- ④ Long-lasting double O-ring seal
- ⑤ Flow adjustment
- ⑥ Compact valve radiator

- To prevent damage and limescale build-up in the hot water installation, the composition of the medium must meet VDI guideline 2035 (Verein Deutscher Ingenieure = association of German engineers).

For industrial heating systems and district heating networks, please consult the explanatory fact sheet VdTÜV 1466 (AGFW 510).

The presence in the medium of mineral oils or lubricants containing minerals can result in significant expansion and will cause EPDM seals to fail in a majority of cases.

If using a nitrite-free antifreeze formulation or corrosion inhibitor containing ethylene glycol, consult the manufacturer's specifications to check for the presence of such additives, paying special attention to concentrations of specific ingredients.

- In the event of existing, heavily contaminated systems, be sure to flush the system before replacing the thermostatic valves.
- The thermostatic valve bodies accept all Heimeier thermostatic control heads and thermal or electric actuators. When using products from other brands, ensure that torque and stroke are suitable for use with our thermostatic valve bodies.

FOR MORE INFORMATION, CONTACT:

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