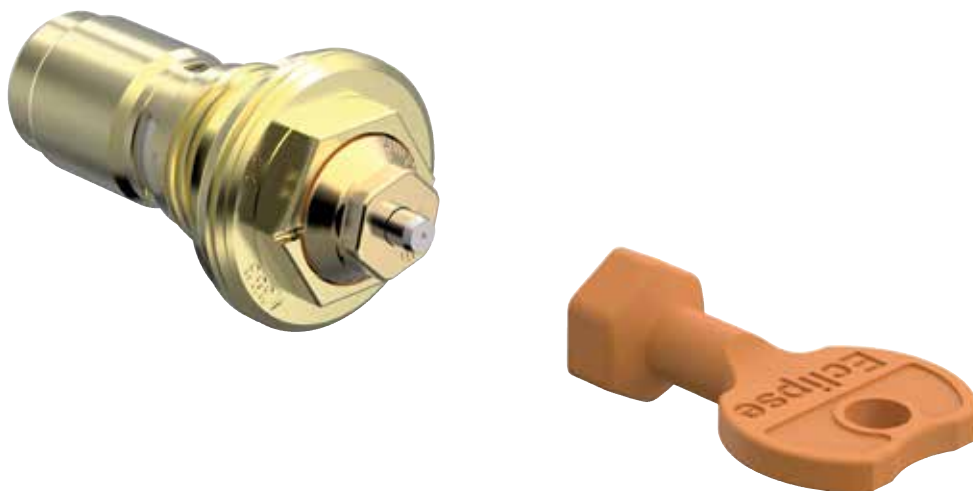


Climate
Control

IMI Heimeier

Eclipse thermostatic inserts



Valves for radiators with integrated valve

Thermostatic inserts with automatic flow control for radiators with integrated valves

Eclipse thermostatic inserts

The Eclipse thermostatic inserts are suitable for all IMI Heimeier thermostatic heads and actuators. The required flow rate can be adjusted directly at the Eclipse thermostatic insert with a twist. The adjusted flow will not be exceeded even if there are load changes in the system, due to other valves closing or during morning start up. The valve controls the flow rate independently from differential pressure. Therefore, complicated calculations to determine settings are not necessary.



Key features

Integrated flow limiter

Eliminates over flows

Wide flow range

For high flexibility

Easy adjustment

Just a twist to reach design flow

Technical description

Applications:

Heating systems

Function:

Control
Flow limitation
Shut-off

Pressure class:

PN 10

Temperature:

Max. working temperature: 120°C, with protection cap or actuator 100°C.
Min. working temperature: -10°C.

Differential pressure (Δp_V):

Max. differential pressure:
60 kPa, 35 kPa recommended
Min. differential pressure:
4381, 4382, 4384, 4385:
10 – 100 l/h = 10 kPa
100 – 150 l/h = 15 kPa
4383, 4386:
10 – 100 l/h = 10 kPa
100 – 170 l/h = 15 kPa

Flow range:

The flow can be stepless pre-set within the range.
4381, 4382, 4384, 4385: 10 - 150 l/h.
Factory setting: Commissioning.
4383 4386: 10 - 170 l/h.
Factory setting: Commissioning.

Materials:

Valve insert: Brass, PPS and SPS (syndiotactic polystyrene)
O-rings: EPDM rubber
Valve disc: EPDM rubber
Return spring: Stainless steel
Spindle: Niro-steel spindle with double O-ring sealing.

Connection to thermostatic head and actuator:

IMI Heimeier M30x1,5

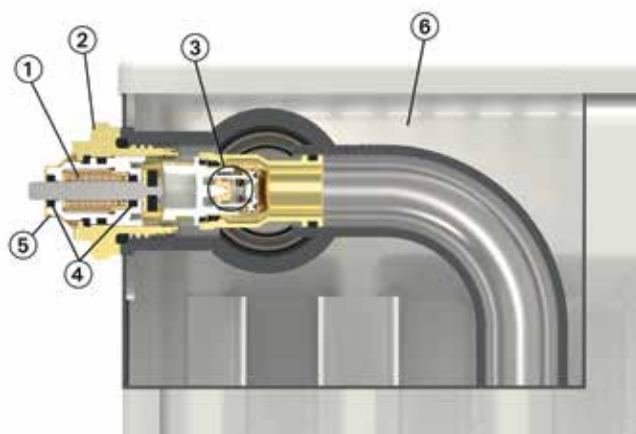
Construction

Eclipse thermostatic inserts with automatic flow limitation



Article No	Radiators with integrated valves e.g.	Compatible thermostatic insert article No
4381	Korado, U.S. Steel (Korad), Coskunöz (Copa), Rettig (Purmo), Vasco, Brugman, Superia	4360 / 4361 / 4333
4382	Stelrad Radiator Group (Stelrad, Henrad, Termoteknik)	4368 / 4369
4383	Kermi	4335 / 4336
4384	Lyngson	4365 / 4366 / 4340
4385	HM	4324
4386	Vogel & Noot	

Subject to technical modifications of the radiator manufacturer.



1. Strong return spring in combination with high locating force ensures that the valve does not slacken off over time
2. IMI Heimeier M30x1.5 connection for thermostatic heads and actuators
3. Automatic flow limiter
4. Long-life double O-ring sealing
5. Flow setting
6. Radiators with integrated valves

Function

Eclipse flow limiter

A regulating part is set to the calculated control rate by turning the digit cap with the setting key or an 11 mm end wrench. If the flow rate increases at the valve the rising pressure moves the sleeve, thus constantly limiting the flow to the set value. The set flow rate is therefore never exceeded. If the flow rate drops below the set value a spring presses the sleeve back to its original position.

Application

Eclipse thermostatic inserts for radiators with integrated valves are applied in two-pipe pumped heating system with normal to high temperature spread.

The required design flow for each radiator is set directly on the Eclipse valve. This automatic flow limitation is done with a twist and the adjusted flow will then not be exceeded. Even if there is an oversupply of pressure, due to load changes in the system, for example other valves closing or during morning start up, Eclipse will guarantee the requested flow.

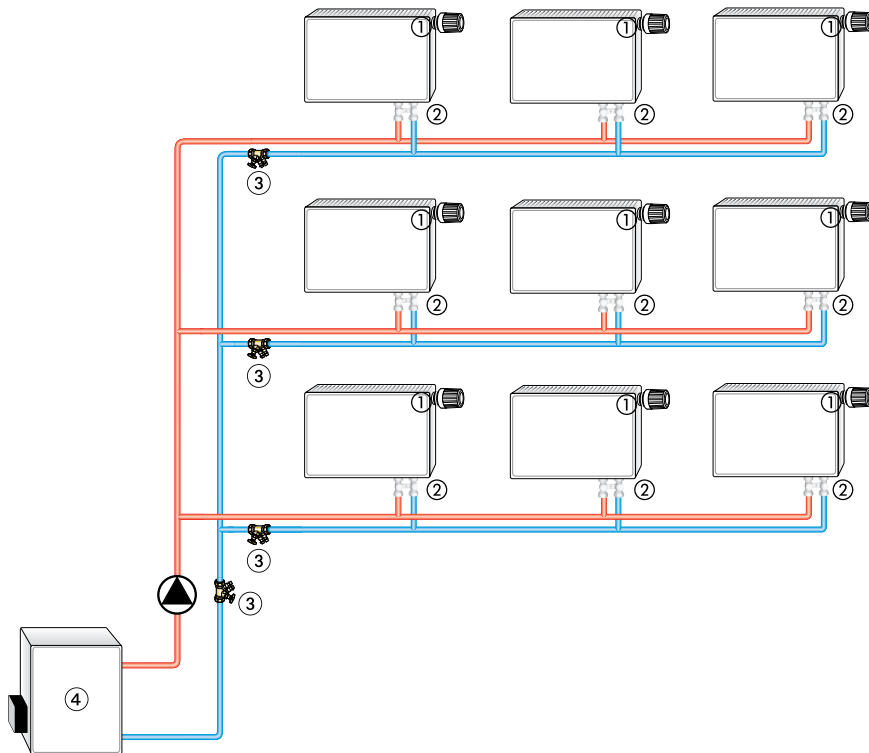
The valve controls the flow rate independently from differential pressure. Therefore, complicated calculations to determine settings are not necessary. The pressure loss of pipings in old systems does not have to be determined in renovation projects. Only the heating capacity and the resulting max. flow rate have to be determined (see setting chart). The min. differential pressure has to be at the most unfavourable valve. If necessary, it can be measured in order to optimize pump settings (see accessories).

Noise behaviour

To ensure low-noise performance, the following conditions must be met:

- The differential pressure above Eclipse should not exceed 60 kPa = 600 mbar = 0,6 bar (<30 dB(A)).
Max. 35 kPa recommended.
- Flow must be correctly adjusted.
- The system must be completely deaerated, before presetting the valve.

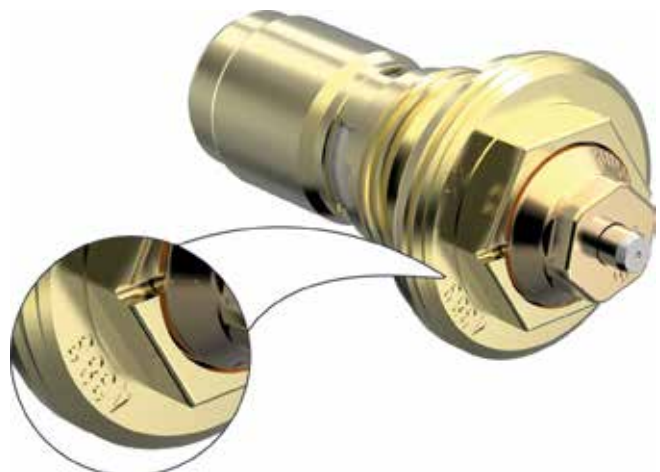
Sample application



1. Eclipse thermostatic inserts for radiators with integrated valves
2. Double connection fitting Vekolux / Vekotrim
3. STAD balancing valve for maintenance and diagnostics
4. Boiler

Identification by article number

The IMI Heimeier thermostatic inserts can be identified by the corresponding 4-digit article number on the end face.



Notes

- To avoid damage and the formation of scale deposit in the hot-water heating system, the composition of the heat transfer medium should be in accordance with the VDI guideline 2035. For industrial and long-distance energy systems, see the applicable codes VdTÜV and 1466/AGFW FW 510. A heat transfer medium containing mineral oils, or any type of lubricant containing mineral oil can have extremely negative effects and usually lead to the disintegration of EPDM seals. When using nitrite-free frost and corrosion resistance solutions with an ethylene glycol base, pay close attention to the details outlined in the manufacturers' documentation, particularly concerning concentration and specific additives.
- Flush the system before changing thermostatic valves in heavy polluted existing systems.
- The thermostatic valve bodies can be used with all IMI Heimeier thermostatic heads and IMI Heimeier or IMI TA thermal actuators or motorized. The optimal tuning of the components guarantees maximum safety. When using actuators from other manufacturers, make sure that the pressure power is appropriate for thermostatic valve bodies with soft sealing valve discs.

Operation

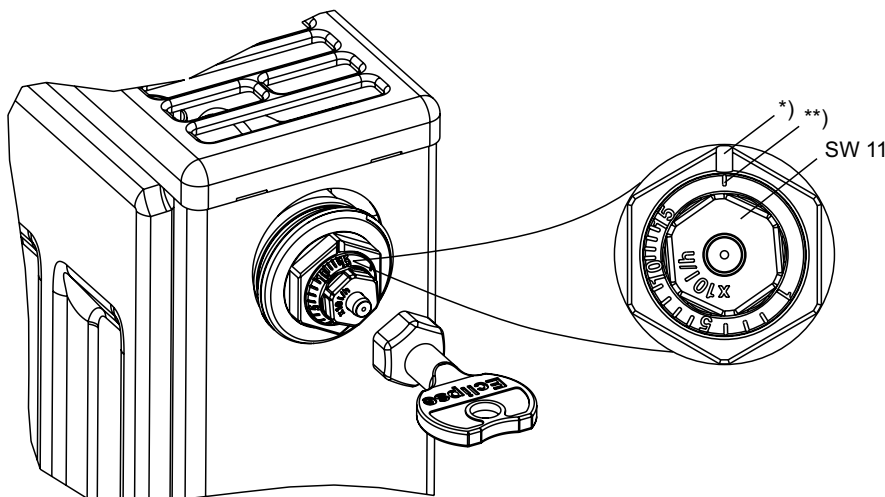
Flow setting

Stepless setting between 1 to 15 or 1 to 17 (10 to 150 l/h or 10 to 170 l/h).

The setting is changed using a special setting key (article No. 3930-02.142) or an 11 mm end wrench, to ensure tamper proof setting.

- Place the setting key on the valve insert.
- Turn the setting tool so that desired setting value is pointing at the index* of the valve body (see fig.).
- Remove the key or 11 mm end wrench. The valve is now set.

Front-end and lateral visibility



*) Index
 **) Commissioning setting

4381, 4382, 4384, 4385

Setting	1	I	I	I	5	I	I	I	I	10	I	I	I	I	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.

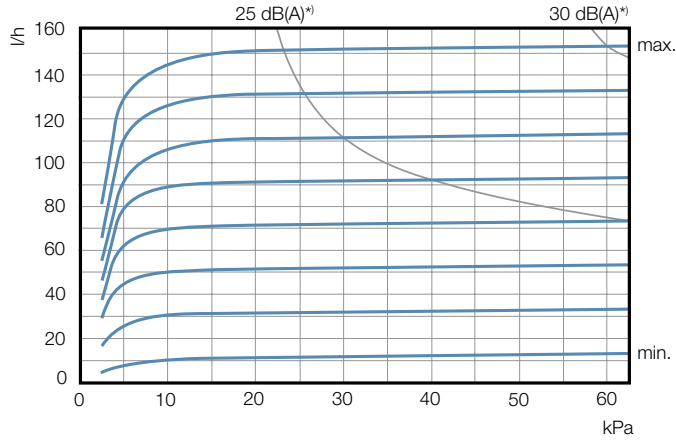
4383, 4386

Setting	1	I	I	I	5	I	I	I	I	10	I	I	13	I	I	I	17
l/h	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170

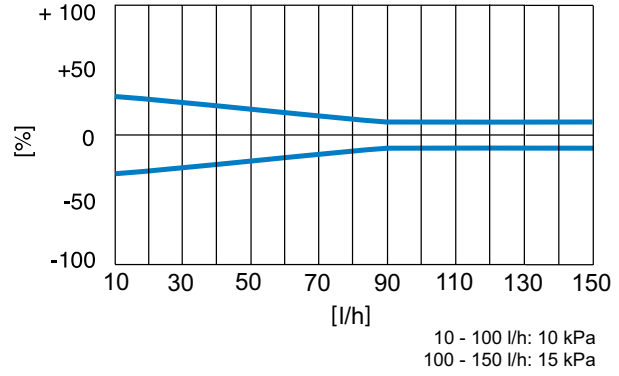
P-band [xp] max. 2 K.
 P-band [xp] max. 1 K up to 90 l/h.

Diagram

4381, 4382, 4384, 4385

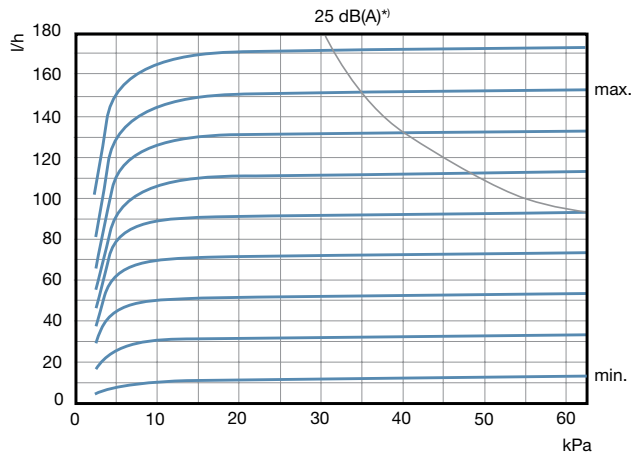


Lowest flow tolerances

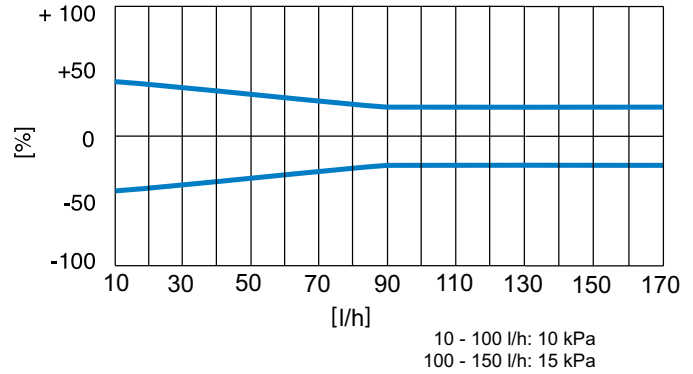


*) P-band [xp] max. 2 K.

4383, 4386



Lowest flow tolerances



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

Setting table

4381, 4382, 4384, 4385

Setting values with different radiator performances and system differential temperatures

Q [W]	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			
Δt [K]																																
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	2	2	2	2	3	3	3	4	4	5	5	6	6	7	7	7	8	8	9	10	11	14	15			

Δp min. 10 - 100 l/h = 10 kPa
 Δp min. 100 - 150 l/h = 15 kPa

4383, 4386

Setting values with different radiator performances and system differential temperatures

Q [W]	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	7300	7800	
Δt [K]																																
10	2	2	3	3	4	5	6	7	8	9	10	12	14	15	16	17																
15	1	1	2	2	3	3	4	5	5	6	7	8	9	10	12	13	14	15	16	17												
20	1	1	1	2	2	3	3	3	4	4	5	6	7	8	9	10	10	11	12	13	14	15	16	17								
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	16	17			
40		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	16	17	

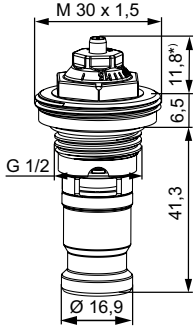
Δp min. 10 - 100 l/h = 10 kPa
 Δp min. 100 - 170 l/h = 15 kPa

Q = Heating performance
 Δt = System differential temperature
 Δp = Differential pressure

Sample:

Q = 1000 W, Δt = 15 K
 Setting value: **6** (\approx 60 l/h)

Articles



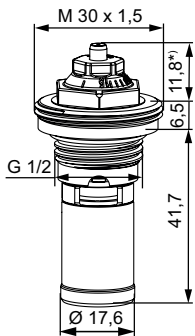
Eclipse thermostatic insert

For radiators with integrated valves.

With automatic flow limiter.

Suitable for e.g. Korado, U.S. Steel. (Korad), Coskunöz (Copa), Rettig (Purmo), Vasco, Brugman, Superia

Thread	EAN	Article No
G1/2	4024052978915	4381-00.300



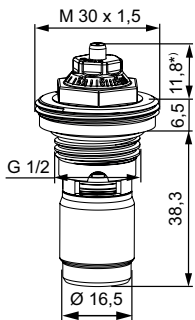
Eclipse thermostatic insert

For radiators with integrated valves.

With automatic flow limiter.

Suitable for e.g. Stelrad Radiator Group (Stelrad, Henrad, Termoteknik)

Thread	EAN	Article No
G1/2	4024052979011	4382-00.300



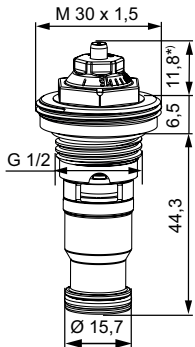
Eclipse thermostatic insert

For radiators with integrated valves.

With automatic flow limiter.

Suitable for e.g. Kerma

Thread	EAN	Article No
G1/2	4024052979110	4383-00.300



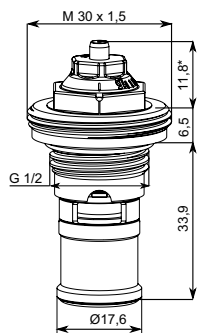
Eclipse thermostatic insert

For radiators with integrated valves.

With automatic flow limiter.

Suitable for e.g. Lyngson.

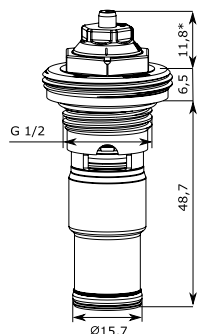
Thread	EAN	Article No
G1/2	4024052979219	4384-00.300



Eclipse thermostatic insert

For radiators with integrated valves.
With automatic flow limiter.
Suitable for e.g. HM

Thread	EAN	Article No
G1/2	4024052090525	4385-00.300



Eclipse thermostatic insert

For radiators with integrated valves.
With automatic flow limiter.
Suitable for e.g. Vogel & Noot.

Thread	EAN	Article No
G1/2	4024052048090	4386-00.300

Accessories



Setting key
for Eclipse. Color orange.

EAN	Article No
4024052937714	3930-02.142



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