

Climate
Control

IMI Heimeier

Eclipse F



Thermostatic Radiator Valves
With automatic flow limitation

Eclipse F

The thermostatic radiator valve Eclipse has a unique integrated flow limiter that eliminate over flows. The required flow rate can be adjusted directly at the valve with a twist. The adjusted flow will not be exceed 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

Easy adjustment

Just a twist to reach design flow

Flow range from 10 to 150 l/h

For high flexibility

All valve bodies with II+ marking can be retrofitted as Eclipse

i.e. Calypso exact, Calypso, Mikrotherm F, Multilux, Multilux 4-Set

Perfect for renovation

Standard dimensions and easy flow sizing

Technical description

Applications area:

Heating systems.

Function:

Control
Flow limitation
Shut-off

Dimensions:

DN 10-20

Pressure class:

PN 10

Temperature:

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

Flow range:

The flow can be stepless pre-set within the range: 10-150 l/h.
Delivery setting: Commissioning.
(Max. nominal flow q_{mN} at 10 kPa concerning EN 215: 110 l/h)

Differential pressure (Δp_V):

Max. differential pressure:
60 kPa (<30 dB(A))
Min. differential pressure:
10 – 100 l/h = 10 kPa
100 – 150 l/h = 15 kPa

Materials:

Valve body: Brass
O-rings: EPDM rubber
Valve disc: EPDM rubber
Return spring: Stainless steel
Valve insert: Brass, PPS (polyphenylsulphide) and SPS (syndiotactic polystyrene)
The complete thermostatic insert can be replaced using the IMI Heimeier fitting tool without draining the system.
Spindle: Niro-steel spindle with double O-ring sealing.

Surface treatment:

Valve body and fittings are nickel-plated.

Marking:

THE, country code, flow direction arrow, DN and KEYMARK-Designation.
II+ Designation.
Orange protection cap.

Standards:

Valve bodies meet the following requirements:
– KEYMARK certified and tested to DIN EN 215, series F.



Pipe connection:

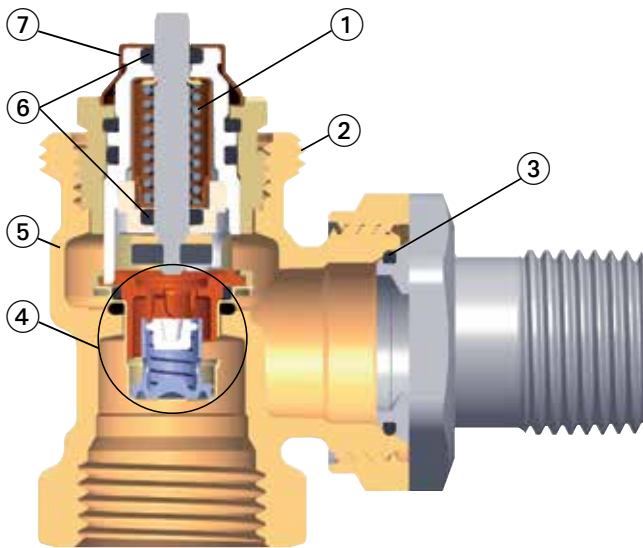
The internal-threaded version is designed for connection to threaded pipe, or in conjunction with compression fittings, to copper or precision steel pipe.
With double connection fitting suitable for compression fitting for multi layer pipes.

Connection to thermostatic head and actuator:

IMI Heimeier M30x1.5

Construction

Eclipse



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. EPDM O-ring
4. Automatic flow limiter
5. Valve body made of Brass
6. Long-life double O-ring sealing
7. Flow setting

Replaceable insert

The complete thermostatic insert can be replaced using the fitting tool without draining the system.

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

The thermostatic radiator valve Eclipse is 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).

Renovation

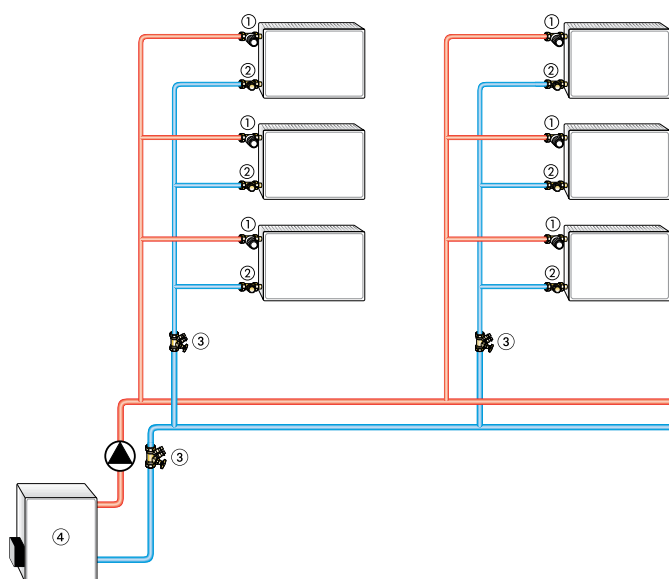
All IMI Heimeier thermostatic radiator valves with II+ marking, i.e. Calypso exact, Calypso, Mikrotherm F, Multilux, Multilux 4-Set can be retrofitted as Eclipse.

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)).
- Flow must be correctly adjusted.
- The system must be completely deaerated.

Sample application



1. Eclipse
2. Lockshield Regulux/Regutec
3. STAD balancing valve for maintenance and diagnostics
4. Boiler

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 or motorized actuators. 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

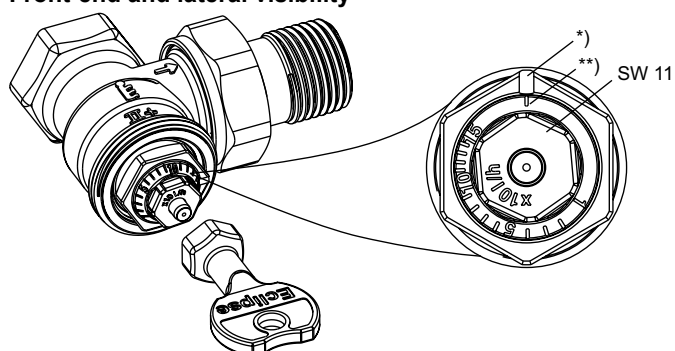
Flow setting

Stepless setting between 1 to 15 (10 to 150 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

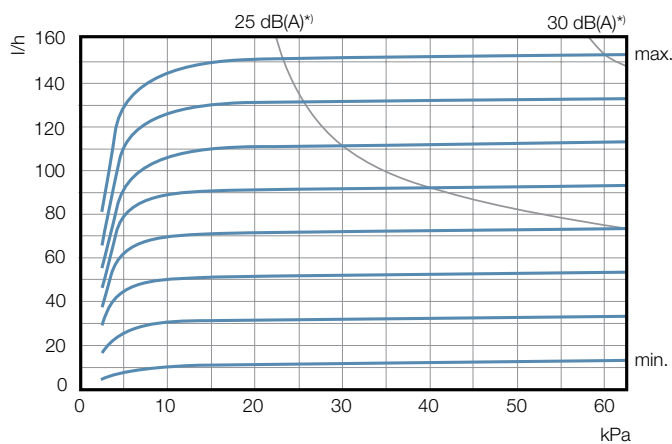
**) Commissioning setting

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

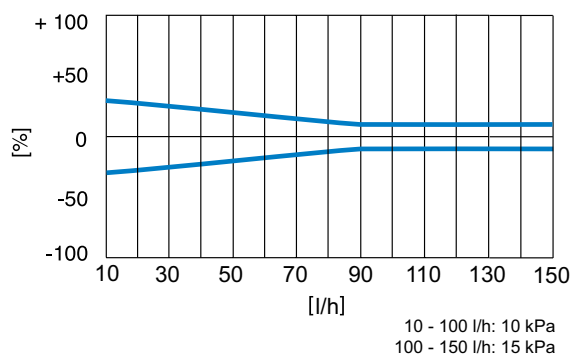
P-band [xp] max. 2 K.

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

Diagram



Lowest flow tolerances



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

Setting table

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

Q = Radiator performance

Δt = System differential temperature

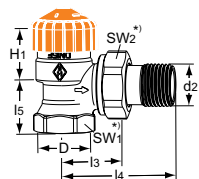
Δp = Differential pressure

Sample:

Q = 1000 W, Δt = 15 K

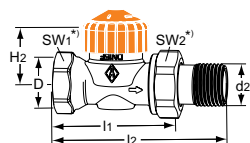
Setting value: **6** (≈ 60 l/h)

Articles



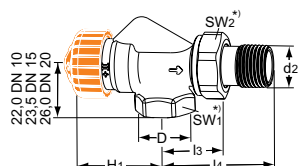
Angle

DN	D	d2	l3	l4	l5	H1	Flow range [l/h]	EAN	Article No
10	Rp3/8	R3/8	24	49	20	24	10-150	4024052932313	3461-01.000
15	Rp1/2	R1/2	26	53	23	23,5	10-150	4024052932412	3461-02.000
20	Rp3/4	R3/4	30	63	26	21,5	10-150	4024052932511	3461-03.000



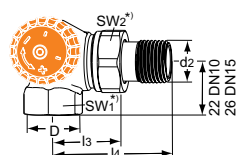
Straight

DN	D	d2	l1	l2	H2	Flow range [l/h]	EAN	Article No
10	Rp3/8	R3/8	50	76	22,5	10-150	4024052932610	3462-01.000
15	Rp1/2	R1/2	55	83	22,5	10-150	4024052932719	3462-02.000
20	Rp3/4	R3/4	65	97	22,5	10-150	4024052932818	3462-03.000



Axial

DN	D	d2	l3	l4	H1	Flow range [l/h]	EAN	Article No
10	Rp3/8	R3/8	24,5	50	34,5	10-150	4024052932016	3460-01.000
15	Rp1/2	R1/2	26	53	34,5	10-150	4024052932115	3460-02.000
20	Rp3/4	R3/4	30	63	34,5	10-150	4024052932214	3460-03.000

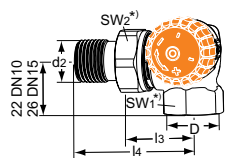


Double angle

Connection to radiator left.

Gunmetal. Suitable for compression fitting for multi layer pipes.

DN	D	d2	l3	l4	Flow range [l/h]	EAN	Article No
10	Rp3/8	R3/8	26	52	10-150	4024052931019	3933-01.000
15	Rp1/2	R1/2	29	58	10-150	4024052931217	3933-02.000



Double angle

Connection to radiator right.

Gunmetal. Suitable for compression fitting for multi layer pipes.

DN	D	d2	l3	l4	Flow range [l/h]	EAN	Article No
10	Rp3/8	R3/8	26	52	10-150	4024052931118	3934-01.000
15	Rp1/2	R1/2	29	58	10-150	4024052931415	3934-02.000

*) SW1: DN 10 = 22 mm, DN 15 = 27 mm, DN 20 = 32 mm

SW2: DN 10 = 27 mm, DN 15 = 30 mm, DN 20 = 37 mm

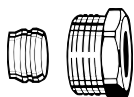
Values H1 and H2 are at the bearing surface thermostatic head or actuator.

Accessories



Setting key
for Eclipse. Color orange.

EAN	Article No
4024052937714	3930-02.142



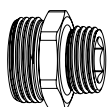
Compression fitting
for copper or precision steel pipe according to DIN EN 1057/10305-1/2. Internal thread connection Rp 3/8 – Rp 3/4. Metal-to-metal joint. Brass nickel-plated. Support sleeves should be used for a pipe wall thickness of 0.8 – 1 mm. Follow the specifications of the pipe manufacturer.

Ø Pipe	DN	EAN	Article No
12	10 (3/8")	4024052174614	2201-12.351
14	15 (1/2")	4024052174713	2201-14.351
15	15 (1/2")	4024052175017	2201-15.351
16	15 (1/2")	4024052175116	2201-16.351
18	20 (3/4")	4024052175215	2201-18.351



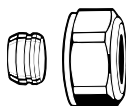
Support sleeve
for copper or precision steel pipe with a 1 mm wall thickness. Brass.

Ø Pipe	L	EAN	Article No
12	25,0	4024052127016	1300-12.170
15	26,0	4024052127917	1300-15.170
16	26,3	4024052128419	1300-16.170
18	26,8	4024052128815	1300-18.170



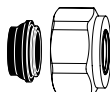
Double connection fitting
For clamping plastic, copper, precision steel or multi-layer pipes. Brass, nickel-plated.

	L	EAN	Article No
G3/4 x R1/2	26	4024052308415	1321-12.083



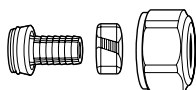
Compression fitting
for copper or precision steel pipe according to DIN EN 1057/10305-1/2. Connection external thread G 3/4 according to DIN EN 16313 (Eurocone). Metal-to-metal joint. Brass nickel-plated. With a pipe wall thickness of 0.8-1 mm insert supporting sleeves. Heed pipe manufacturer's technical advice.

Ø Pipe	EAN	Article No
12	4024052214211	3831-12.351
14	4024052214310	3831-14.351
15	4024052214617	3831-15.351
16	4024052214914	3831-16.351
18	4024052215218	3831-18.351



Compression fitting
for copper or precision steel pipe according to DIN EN 1057/10305-1/2 and stainless steel pipe. Connection external thread G 3/4 according to DIN EN 16313 (Eurocone). Soft sealed, max. 95°C. Nickel-plated brass.

Ø Pipe	EAN	Article No
15	4024052515851	1313-15.351
18	4024052516056	1313-18.351



Compression fitting
for plastic pipe according to DIN 4726, ISO 10508.
PE-X: DIN 16892/16893, EN ISO 15875;
PB: DIN 16968/16969.
Connection external thread G 3/4 according to DIN EN 16313 (Eurocone). Nickel plated brass.

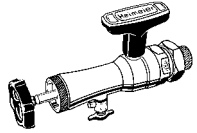
Ø Pipe	EAN	Article No
12x1,1	4024052136018	1315-12.351
14x2	4024052134618	1311-14.351
16x1,5	4024052136117	1315-16.351
16x2	4024052134816	1311-16.351
17x2	4024052134915	1311-17.351
18x2	4024052135110	1311-18.351
20x2	4024052135318	1311-20.351

**Compression fitting**

for Alu/PEX multi-layer pipe according to DIN 16836.

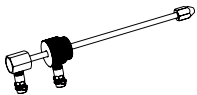
Connection external thread G 3/4 according to DIN EN 16313 (Eurocone). Nickel-plated brass.

Ø Pipe	EAN	Article No
16x2	4024052137312	1331-16.351
18x2	4024052137411	1331-18.351

**Fitting tool**

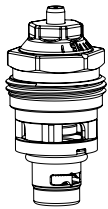
complete with case, box spanner and replacement seals, for replacing thermostatic inserts without draining off the heating system (for DN 10 to DN 20).

	EAN	Article No
Fitting tool	4024052298914	9721-00.000

**Measuring spindle for fitting tool**

for differential pressure measurement at thermostatic valve bodies with TA-SCOPE balancing instrument.

	EAN	Article No
	4024052942114	9790-01.890

**Replacement thermostatic insert**

with automatic flow limiter for Eclipse.

	EAN	Article No
	4024052940912	3930-02.300

Other accessories, see catalogue leaflet "Accessories and spare parts for thermostatic radiator valves".