

Climate  
Control

IMI Heimeier

# TRV pack Eclipse



**Thermostatic valves with radiator connection systems**  
With automatic flow control, head and lockshield

## TRV pack Eclipse

The IMI Heimeier radiator pack, consists of an automatic flow control TRV body, DX or Halo head and lockshield. Designed for application in a two-pipe pumped heating system. 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 desired flow. The thermostatic head with our incompressible liquid-filled sensor guarantees a reliable and precise room temperature control.



### Technical description

#### Applications area:

Heating systems

#### Function:

Control  
Flow limitation  
Shut-off

#### Dimensions:

DN 15

#### Pressure class:

PN 10

#### Temperature:

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

#### Flow range Eclipse:

The flow can be stepless pre-set within the range: 10-150 l/h.  
Delivery setting 150 l/h.  
(Max. nominal flow  $q_{mN}$  at 10 kPa respecting EN 215: 115 l/h)

#### Differential pressure ( $\Delta p_V$ ) Eclipse:

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)  
Spindle: Niro-steel spindle with double O-ring sealing.

#### Material thermostatic head:

ABS, PA6.6GF30, brass, steel,  
Liquid-filled thermostat.

#### Surface treatment:

Valve body and fittings are nickel-plated.

#### Marking:

IMI, country code, flow direction arrow, KEYMARK-Designation. II+ Designation. Orange protection cap.

#### Standards:

The thermostatic valve bodies meet the following requirements:  
– KEYMARK certified and tested to DIN EN 215.



#### Pipe connection:

G1/2 external thread with 15 mm compression fitting for copper or precision steel pipe.

#### Connection to thermostatic head and actuator:

IMI Heimeier M30x1.5

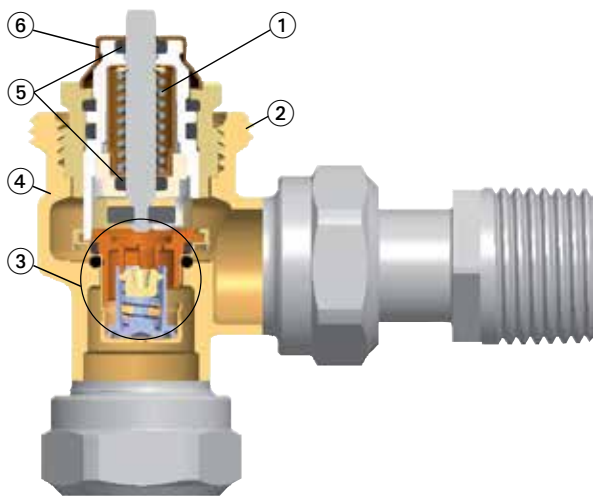
#### Thermostatic heads:

Closed graduation cap and liquid-filled thermostat. High actuating force, minimum hysteresis, optimum closing time. Stable control response even with minor calculated p-band variations (<1 K). Frost protection.

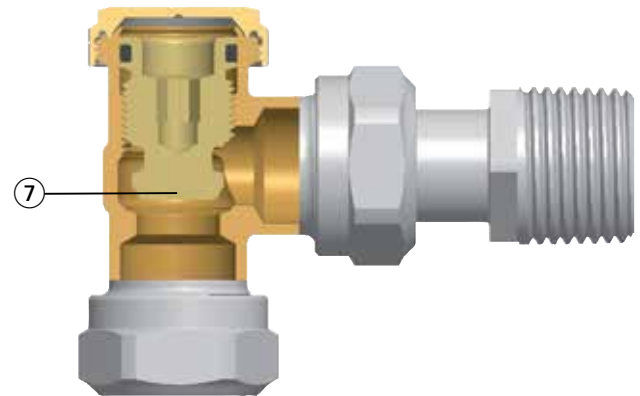
Thermostatic head DX: Setting numbers 0–IIIII. Temperature range 0 °C to 28 °C.  
Thermostatic head Halo: Setting numbers I–IIIII. Temperature range 6 °C to 28 °C.

## Construction

### Thermostatic valve body



### Lockshield



### Replaceable insert

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

- |   |   |
|---|---|
| 1. Strong return spring in combination with high locating force ensures that the valve does not slacken off over time | 4. Valve body in corrosion-resistant gunmetal |
| 2. IMI Heimeier M30x1.5 connection for thermostatic heads and actuators   | 5. Long-life double O-ring sealing            |
| 3. Automatic flow limiter   | 6. Flow setting                               |
|   | 7. Shut-off cone                              |

## Application

The IMI radiator pack Eclipse with thermostatic valve and lockshield 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 setpoint will then not be exceeded. Even if there is an oversupply of pressure, either 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).

The angle Eclipse kit can be installed as angle form or reversed form.

The thermostatic head with our incompressible liquid-filled sensor guarantees a reliable and precise room temperature control.

### Renovation

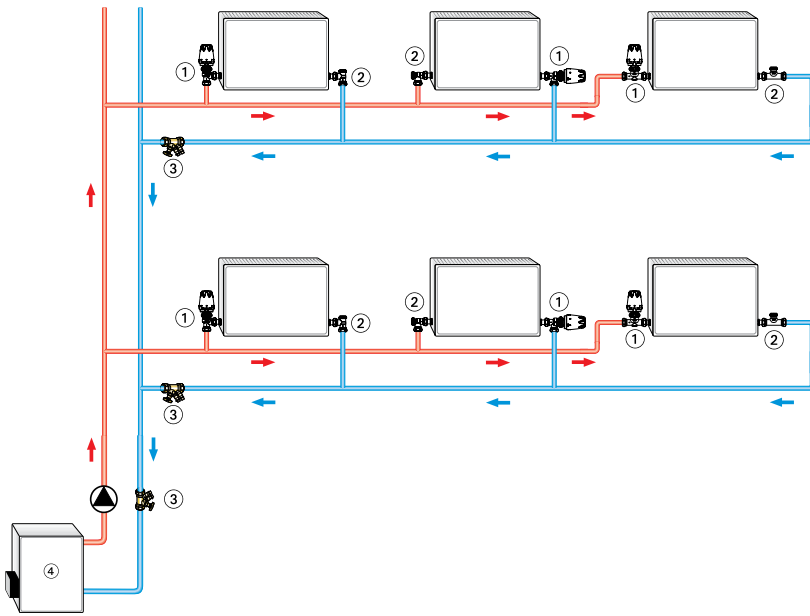
Eclipse replaces old valves with ease as the dimensions conform with the EN 215 standard. All IMI Heimeier thermostatic radiator valves with II+ marking, i.e. Calypso can be retrofitted as Eclipse.

### 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 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.

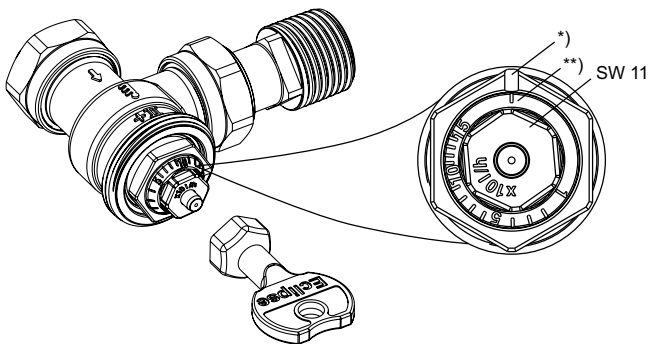
## Operation

### Flow setting

Stepless setting between 1 to 15 (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



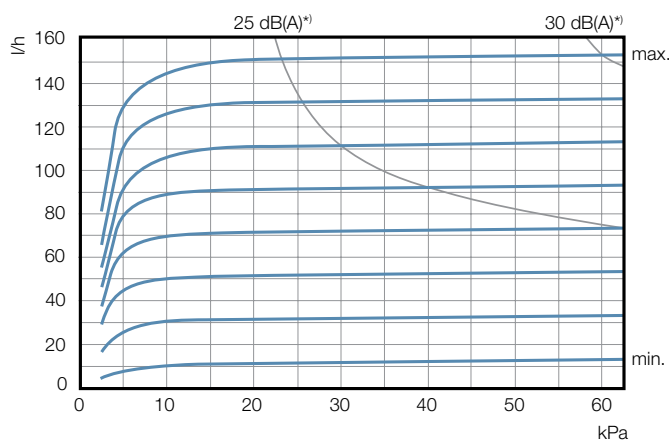
\*) Index

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

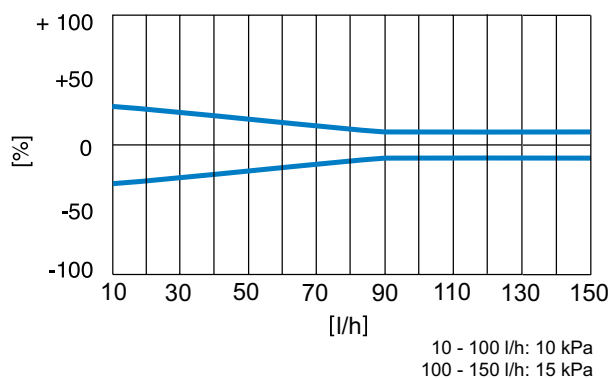
P-band [xp] max. 2 K.

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
$\Delta t$ [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

$\Delta p$  min. 10 - 100 l/h = 10 kPa  
 $\Delta p$  min. 100 - 150 l/h = 15 kPa

Q = Radiator performance

$\Delta t$  = System differential temperature

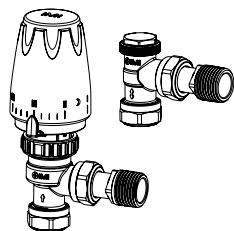
$\Delta p$  = Differential pressure

### Sample:

Q = 1000 W,  $\Delta t$  = 15 K

Setting value: **6** ( $\approx$  60 l/h)

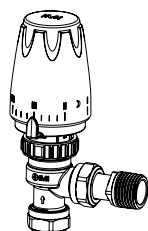
## Articles



### Set – Angle + DX head

Connectivity in angle **or** reversed position (see dimensions)

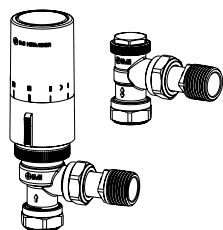
DN	Connection radiator	Head colour	Connection pipe	Flow range [l/h]	Article No
15	Rp1/2	white	15 mm	10-150	9690-61.800



### Angle + DX head

Connectivity in angle **or** reversed position (see dimensions)

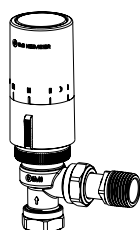
DN	Connection radiator	Head colour	Connection pipe	Flow range [l/h]	Article No
15	Rp1/2	white	15 mm	10-150	9690-61.700



### Set – Angle + Halo head

Connectivity in angle **or** reversed position (see dimensions)

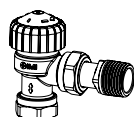
DN	Connection radiator	Head colour	Connection pipe	Flow range [l/h]	Article No
15	Rp1/2	white	15 mm	10-150	9690-61.820
15	Rp1/2	chrome	15 mm	10-150	9690-61.821



### Angle + Halo head

Connectivity in angle **or** reversed position (see dimensions)

DN	Connection radiator	Head colour	Connection pipe	Flow range [l/h]	Article No
15	Rp1/2	white	15 mm	10-150	9690-61.720
15	Rp1/2	chrome	15 mm	10-150	9690-61.721



### Angle

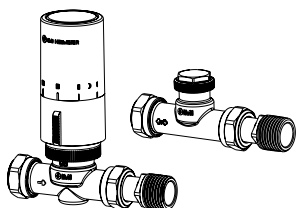
Connectivity in angle **or** reversed position (see dimensions)

DN	Connection radiator	Connection pipe	Flow range [l/h]	Article No
15	Rp1/2	15 mm	10-150	9690-61.000

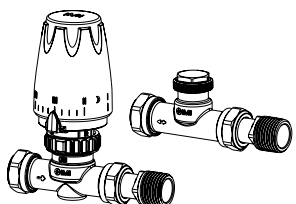


### Regutec GB, angle

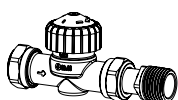
DN	Connection radiator	Connection pipe	Kvs Lockshield	Article No
15	Rp1/2	15 mm	1,74	0391-02.000

**Set – Straight + Halo head**

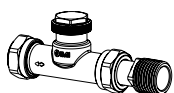
DN	Connection radiator	Head colour	Connection pipe	Flow range [l/h]	Article No
15	Rp1/2	white	15 mm	10-150	9690-63.820
15	Rp1/2	chrome	15 mm	10-150	9690-63.821

**Set – Straight + DX head**

DN	Connection radiator	Head colour	Connection pipe	Flow range [l/h]	Article No
15	Rp1/2	white	15 mm	10-150	9690-63.800

**Straight**

DN	Connection radiator	Connection pipe	Flow range [l/h]	Article No
15	Rp1/2	15 mm	10-150	9690-63.000

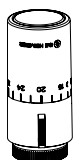
**Regutec GB, straight**

DN	Connection radiator	Connection pipe	Kvs Lockshield	Article No
15	Rp1/2	15 mm	1,74	0392-02.000

**Thermostatic head DX**

Setting numbers 0–IIIII. Temperature range 0 °C to 28 °C.

Model	Article No
Cap with graduation RAL 9016, <b>white</b>	6700-27.500

**Thermostatic head Halo**

Setting scale with temperature values. Temperature range 6 °C to 28 °C.

Model	Article No
Cap with graduation RAL 9016, <b>white</b>	7500-00.500
Cap with graduation <b>chrome</b>	7500-00.501

## Accessories

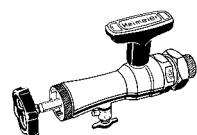


### Setting key

for Eclipse. Color orange.

#### Article No

3930-02.142



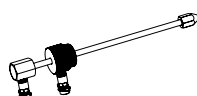
### Fitting tool

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

#### Article No

Fitting tool

9721-00.000

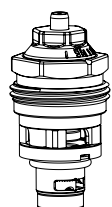


### Measuring spindle for fitting tool

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

#### Article No

9790-01.890

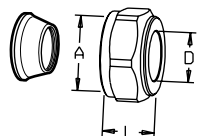


### Replacement thermostatic insert

with automatic flow limiter for Eclipse.

#### Article No

3930-02.300



### Compression set TA 319 Half coupling

Chrome plated

Should not be used with PEX-pipes

#### DxA

#### L<sup>1</sup>

#### Article No

10xG1/2

17

53 319-210

12xG1/2

17

53 319-212

15xG1/2

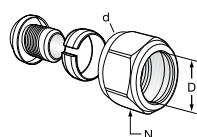
20

53 319-215

16xG1/2

25

53 319-216



### Connection set FPL-PX

Chrome plated

#### d

#### L<sup>1</sup>

#### For PEX-pipe D

#### N

#### Article No

G1/2

13

12x1,7

24

53 644-212

G1/2

13

12x2,0

24

53 644-312

G1/2

16

15x2,5

24

53 644-315

1) Over all length.



### Theft protection

for thermostatic head DX.

#### Article No

6020-01.347

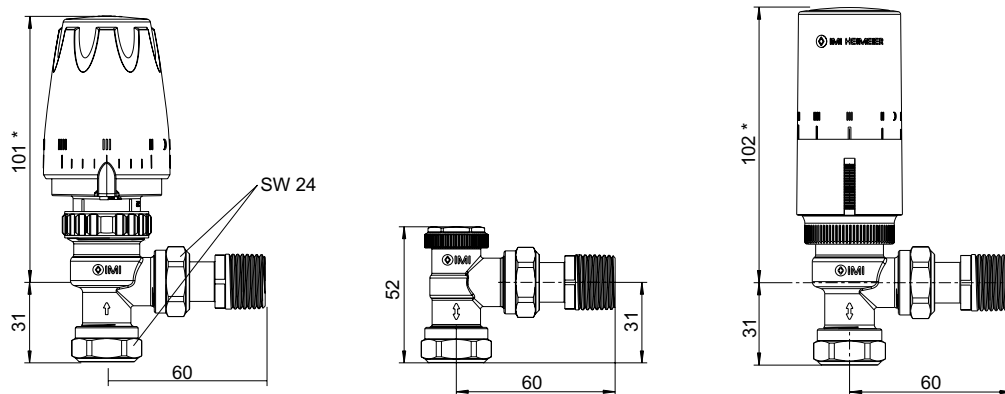
Other accessories, see catalogue leaflet "Accessories and spare parts for thermostatic radiator valves".

Other couplings, see catalogue leaflet "FPL".

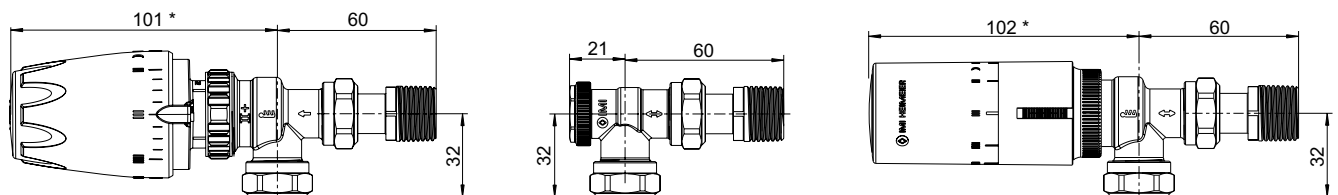


## Dimensions

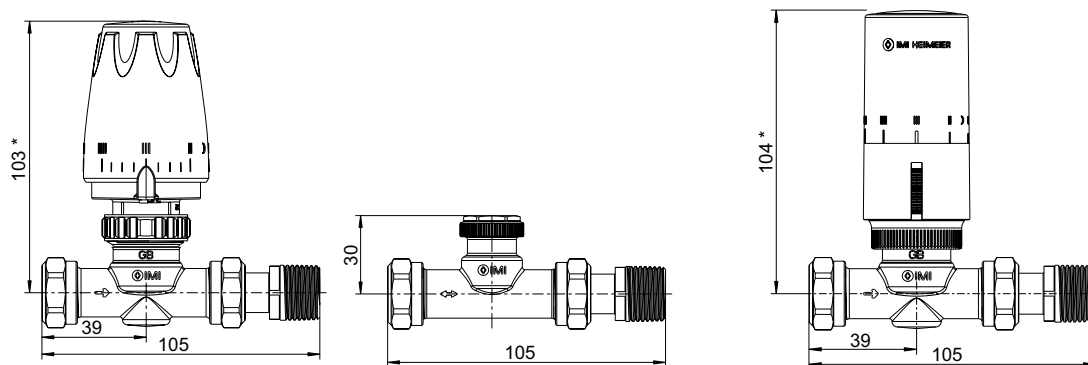
### Angle connection



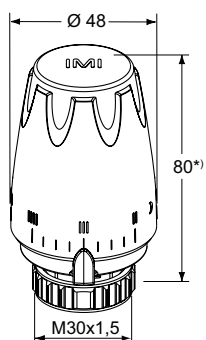
### Reversed connection



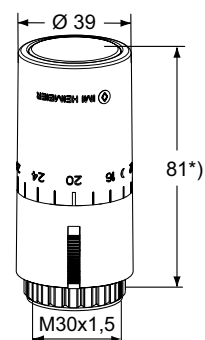
### Straight connection



### DX head



### Halo head



\*) at setting III

\*) at setting 20



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