TRV pack Eclipse

The 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 (ΔpV) 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.

011

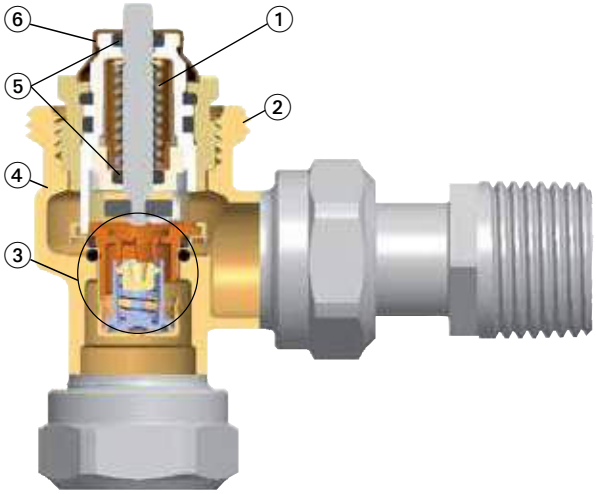
Pipe connection:
G1/2 male thread with 15 mm compression fitting for copper or precision steel pipe.

Connection to thermostatic head and actuator:
Heimeier M30x1.5

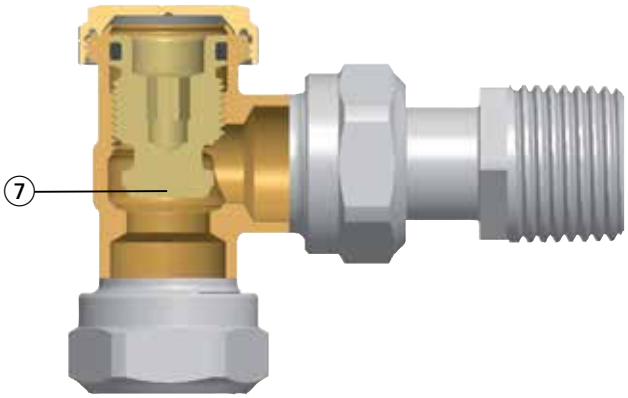
Thermostatic heads:
Closed graduation cap and liquid-filled thermostat. High actuating force, minimum hysteresis, optimum closing time. Stable control response even with minor calculated p-band variations (<1 K). Frost protection.
Thermostatic head DX: Setting numbers 0–IIIII. Temperature range 0 °C 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
2. HEIMEIER M30x1.5 connection for thermostatic heads and actuators
3. Automatic flow limiter
4. Valve body in corrosion-resistant gunmetal
5. Long-life double O-ring sealing
6. Flow setting
7. Shut-off cone

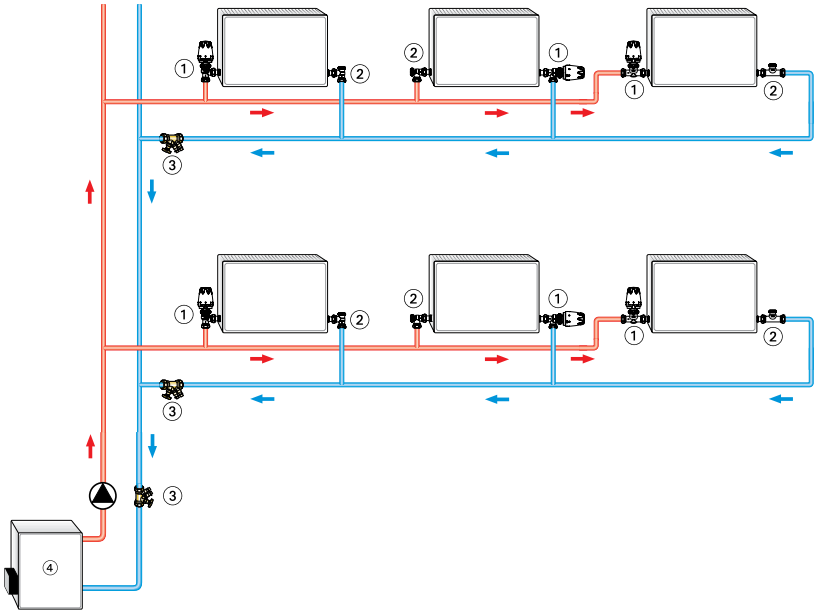
Application

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 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 HEIMEIER thermostatic heads and HEIMEIER or 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.

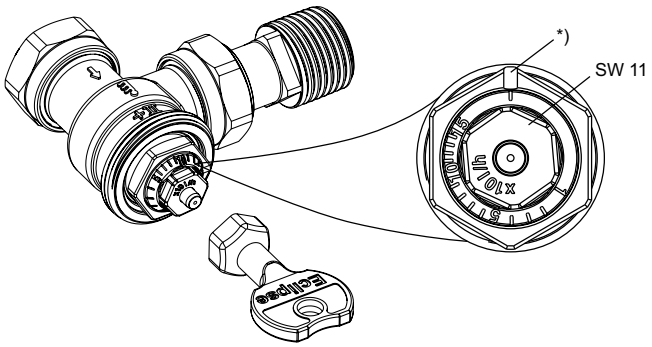
Operation

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

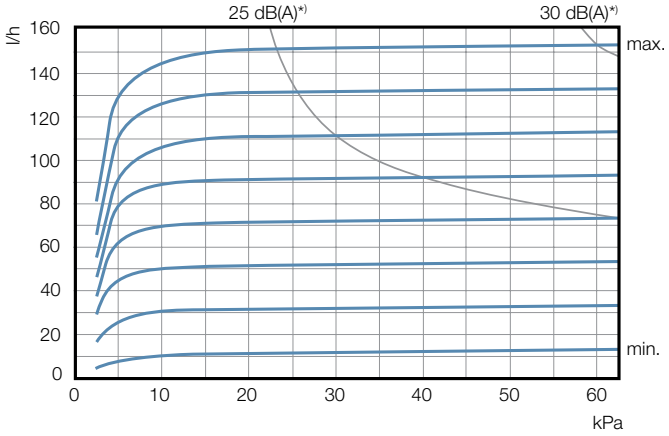


*) Index

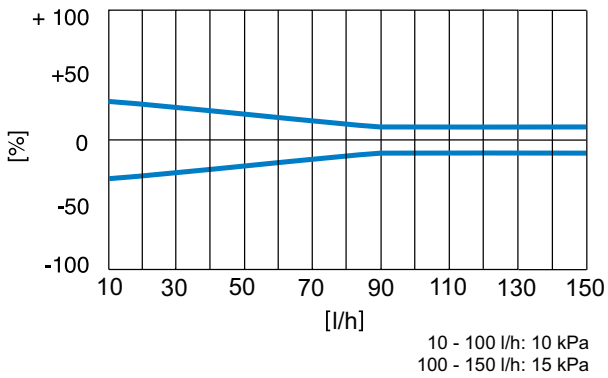
Setting	1	I	I	I	5	I	I	I	I	10	I	I	I	I	15
l/h	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150

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

Diagram



Lowest flow tolerances



10 - 100 l/h: 10 kPa
100 - 150 l/h: 15 kPa

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

Setting table

Setting values with different radiator performances and system differential temperatures

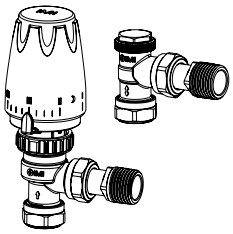
Q [W]	200	250	300	400	500	600	700	800	900	1000	1200	1400	1600	1800	2000	2200	2400	2600	2800	3000	3200	3400	3600	3800	4000	4800	5300	6500	6800
Δt [K]																													
10	2	2	3	3	4	5	6	7	8	9	10	12	14	15															
15	1	1	2	2	3	3	4	5	5	6	7	8	9	10	12	13	14	15											
20	1	1	1	2	2	3	3	3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

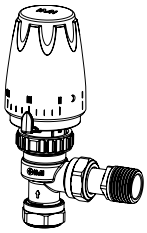
Articles



Set – Angle + DX head

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

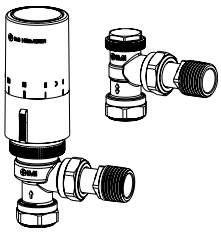
DN	Connection radiator	Head colour	Connection pipe	Flow range [l/h]	Article No
15	Rp1/2	white	15 mm	10-150	9690-61.800



Angle + DX head

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

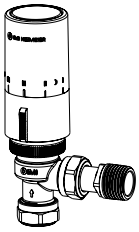
DN	Connection radiator	Head colour	Connection pipe	Flow range [l/h]	Article No
15	Rp1/2	white	15 mm	10-150	9690-61.700



Set – Angle + Halo head

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

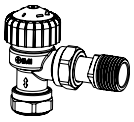
DN	Connection radiator	Head colour	Connection pipe	Flow range [l/h]	Article No
15	Rp1/2	white	15 mm	10-150	9690-61.820
15	Rp1/2	chrome	15 mm	10-150	9690-61.821



Angle + Halo head

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

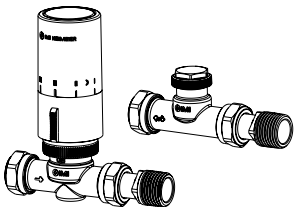
DN	Connection radiator	Head Colour	Connection pipe	Flow range [l/h]	Article No
15	Rp1/2	white	15 mm	10-150	9690-61.720
15	Rp1/2	chrome	15 mm	10-150	9690-61.721



Angle

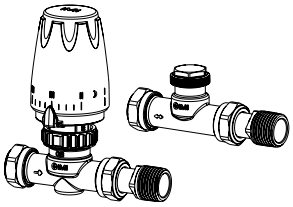
Connectivity in angle **or** reversed position (see dimensions)

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



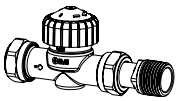
Set – Straight + Halo head

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



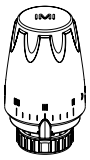
Set – Straight + DX head

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

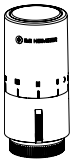
DN	Connection radiator	Connection pipe	Flow range [l/h]	Article No
15	Rp1/2	15 mm	10-150	9690-63.000



Thermostatic head DX

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

Model	Article No
Cap with graduation RAL 9016, **white**	6700-27.500



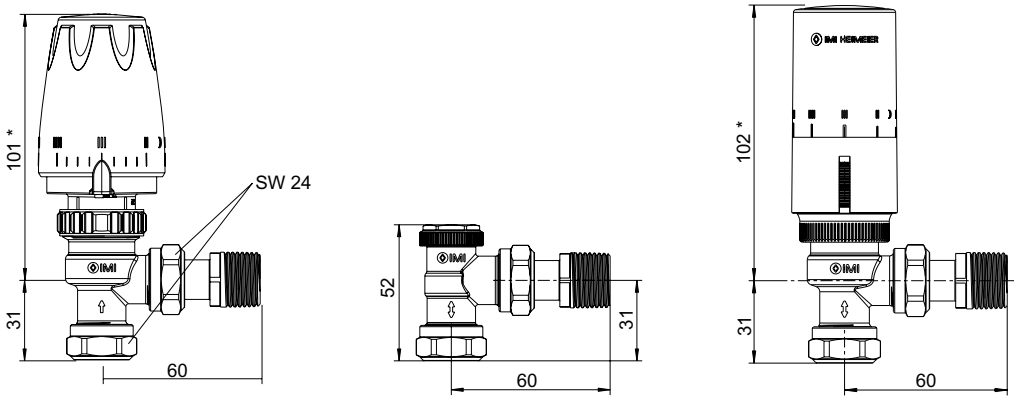
Thermostatic head Halo

Setting numbers I–IIIII. Temperature range 6 °C to 28 °C.

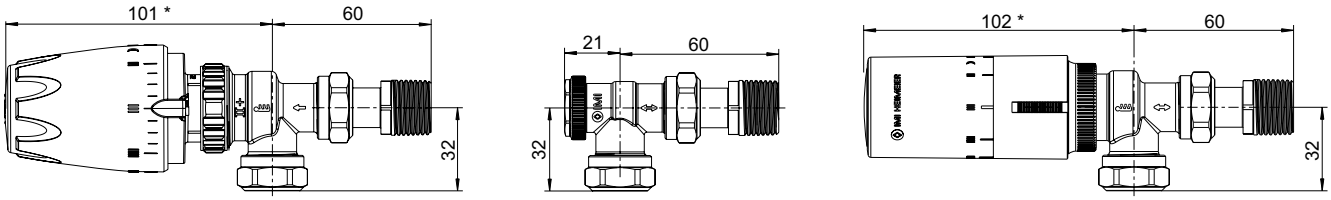
Model	Article No
Cap with graduation RAL 9016, **white**	7510-00.500
Cap with graduation **chrome**	7510-00.501

Dimensions

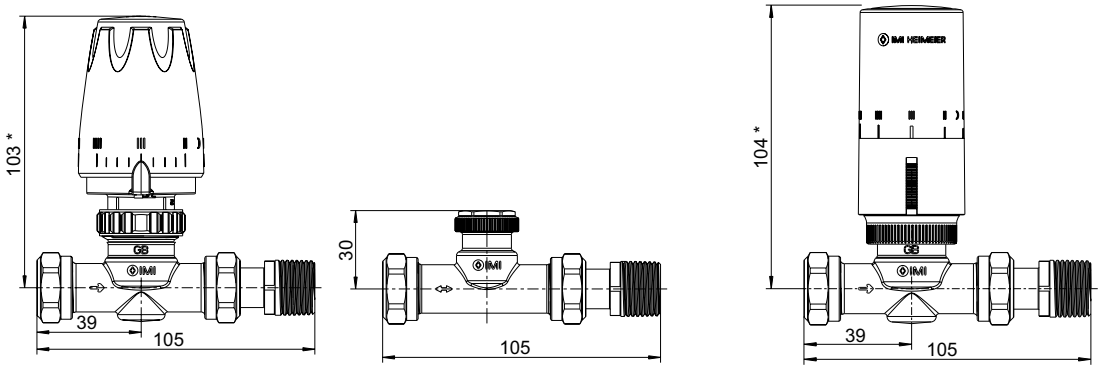
Angle connection



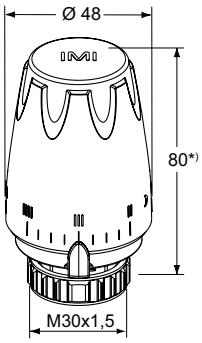
Reversed connection



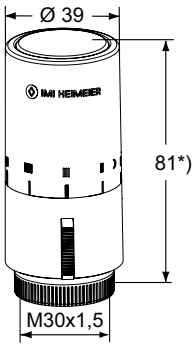
Straight connection



DX head



Halo head



*) at setting III