

# RTL

## Return temperature limiter



To be precise.



## Description



The HEIMEIER return temperature limiter RTL is an automatic thermostatic controller. The temperature of the flowing medium is transferred to the sensor via conductivity. This keeps the specified value constant within a proportional band necessary for control. The valve only opens when the set limiting value has not been reached.

Sensor element with concealed upper and lower temperature range limiting or blocking of the settings using stop clips. Thermostat filled with an expansible medium.

Overstroke safety.

White cover with printed scale.

Valve body made of nickel-plated gunmetal (angle/straight). With stainless spindle and double O-ring seal.

Outer O-ring can be replaced without draining the system.

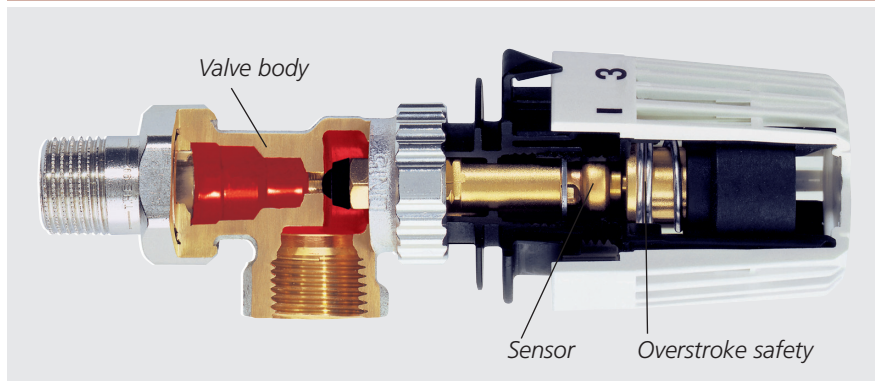
Potential connections using the model with inside threading for threaded pipe or with compression fittings for copper, precision steel, or multi-layer pipe. For the model with outside thread, potential connection with additional compression fittings for plastic pipe.

For the RTL return temperature limiter use only the accompanying, labeled HEIMEIER compression fittings (e.g. 15 THE).

**Attention:** The RTL return temperature limiter is constructed from a special valve body and sensor element. Thermostatic valve bodies cannot be used.

## Construction

RTL – return temperature limiter



- Body made of corrosion-resistant gunmetal
- Stainless spindle with double O-ring seal
- Outer O-ring can be replaced while under pressure
- Concealed limiting or blocking using stop clips

## Settings

Number on dial	1	2	3	4	5
Return temperature $t_R$ [°C]	10	20	30	40	50
Return temperature $t_R$ [°F]	50	68	86	104	122

## Application

Among other things, the HEIMEIER return temperature limiter RTL is used to limit the return temperatures of radiators or combined floor/radiator systems to equalize the temperature of smaller floor surfaces (up to ca. 15 m<sup>2</sup>). The return temperature is constantly controlled.

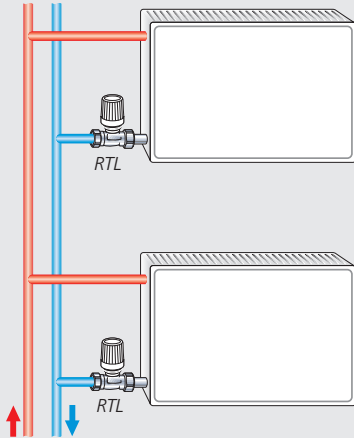
With floor heating systems, it is important to note that the flow temperature controlled by the system is appropriate for the particular system installed.

Please make sure the setting value is not below the ambient temperature of the return temperature limiter, as this would

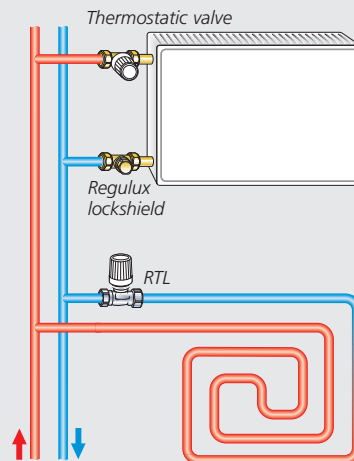
then no longer open (carefully choose location of installation). This may also be the case if the return temperature limiter is influenced by transferred heat, e.g. by mounting a floor heating circuit distributor directly on the return collector.

### Sample applications

#### Return temperature limiting on radiators



#### Floor heating



### Note

The composition of the heat transfer medium should be one which avoids damage or the accumulation of stones in hot water heating systems, in accordance with VDI guide line 2035. For industrial and long-distance energy systems, see applicable codes VdTÜV and 1466/AGFW 5/15.

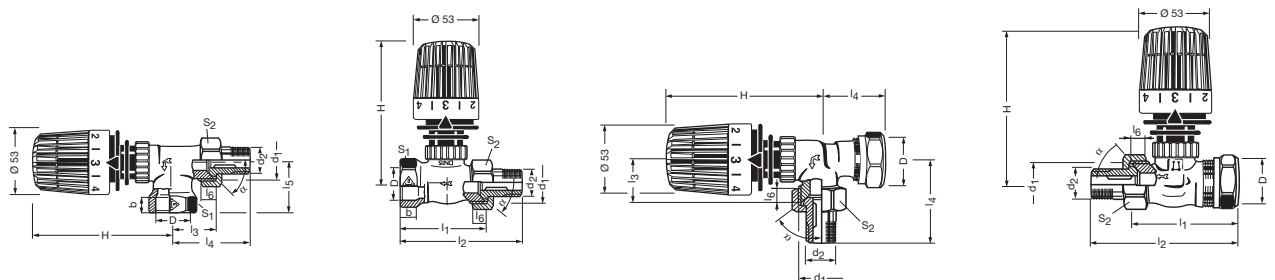
Heat transfer media containing mineral oils or lubricants containing mineral oil can have seriously negative effects on the source apparatus and usually lead to the disintegration of EPDM seals.

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 details concerning concentration and specific additives.

## Article numbers

Model	Connection	Art. no.	Model	Connection	Art. no.
<b>Angle</b> 	R 1/2	9173-02.800	<b>Straight</b> 	R 1/2	9174-02.800
<b>Angle</b> 	G 3/4	9153-02.800	<b>Straight</b> 	G 3/4	9154-02.800

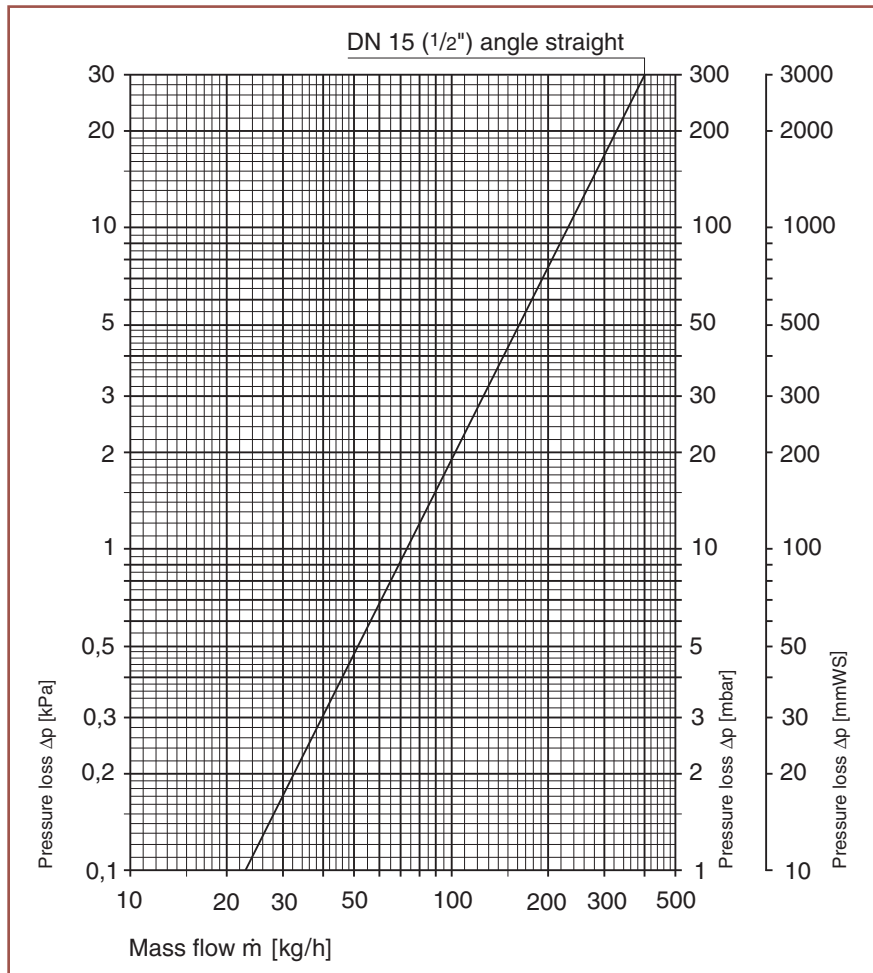
## Dimensions



NW	D	b	d <sub>1</sub>	d <sub>2</sub>	l <sub>1</sub> ±2	l <sub>2</sub> ±2	l <sub>3</sub> ±1	l <sub>4</sub> ±1.5	l <sub>5</sub> ±1.5	l <sub>6</sub> min.	α	Spanner size		H
												S <sub>1</sub>	S <sub>2</sub>	
15	R <sub>p</sub> 1/2	13.2	G 3/4	R 1/2	66	95	31	59	28	7	70°±10°	27	30	107
15	G 3/4	–	G 3/4	R 1/2	62	91	31	58	29	7	70°±10°	–	30	107

## Technical data

### Diagram



Regulator with valve body	$k_v$ value [m <sup>3</sup> /h]	Permissible operating temperature TB [°C]	Permissible operating pressure PB [bar]	Permissible pressure differential at which the return temperature limiter still closes $\Delta p$ [bar]
DN 15 (1/2") angle, straight	0.73	120	10	4

## Accessories

### RTL thermostatic head

As spare part for return temperature limiter RTL. white RAL 9016 Art. no. **6500-00.500**  
chrome Art. no. **6500-00.501**

### Insert for RTL

Since 1996. With 25 mm brass sleeve. Art. no. **2004-02.300**

### Special insert for RTL

Since 1996, with 25 mm brass sleeve, for reversed flow direction. Art. no. **2004-24.300**

### Spindle extension for RTL

Brass nickel-plated. Length: 20 mm. Art. no. **9153-20.700**

## Accessories

### Compression fitting

for copper or precision steel pipe, metal-to-metal joint. For a pipe wall thickness of 0.8–1 mm, use support sleeves. Follow the specifications of the pipe manufacturer.

Connection female thread Rp 1/2	Connection male thread G 3/4
Art. no. $\varnothing$ pipe	Art. no. $\varnothing$ pipe
<b>2202-10.351</b> 10	<b>3831-10.351</b> 10
<b>2202-12.351</b> 12	<b>3831-12.351</b> 12
<b>2201-14.351</b> 14	<b>3831-14.351</b> 14
<b>2201-15.351</b> 15	<b>3831-15.351</b> 15
<b>2201-16.351</b> 16	<b>3831-16.351</b> 16
	<b>3831-18.351</b> 18

### Support sleeve

for copper or precision steel pipe with a wall thickness of 1 mm.

Art. no.	$\varnothing$ pipe	Length
<b>1300-10.170</b>	10	18.5
<b>1300-12.170</b>	12	25.0
<b>1300-14.170</b>	14	25.0
<b>1300-15.170</b>	15	26.0
<b>1300-16.170</b>	16	26.3
<b>1300-18.170</b>	18	26.8

### Compression fitting

for copper or precision steel pipe. Soft sealed.

Male thread connection G 3/4

Art. no.	$\varnothing$ pipe
<b>1313-12.351</b>	12
<b>1313-14.351</b>	14
<b>1313-15.351</b>	15
<b>1313-16.351</b>	16
<b>1313-18.351</b>	18

### Compression fitting

for plastic pipe

Connection outside thread G 3/4

Art. no.	$\varnothing$ pipe
<b>1311-12.351</b>	12 x 2
<b>1311-14.351</b>	14 x 2
<b>1311-16.351</b>	16 x 2
<b>1311-17.351</b>	17 x 2
<b>1311-18.351</b>	18 x 2
<b>1312-18.351</b>	18 x 2.5
<b>1311-20.351</b>	20 x 2
<b>1311-21.351</b>	21 x 2.5

### Compression fitting

for multi-layer pipe, nickel-plated

Connection female thread Rp 1/2	Connection male thread G 3/4
Art. no. $\varnothing$ pipe	Art. no. $\varnothing$ pipe
<b>1335-14.351</b> 14 x 2	<b>1331-14.351</b> 14 x 2
<b>1335-16.351</b> 16 x 2	<b>1331-16.351</b> 16 x 2
	<b>1331-18.351</b> 18 x 2



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