

# oventrop for the combination of radiator and surface heating systems

## “Multiblock T-RTL” Fittings

Technical information

### Tender specification:

Oventrop fittings “Multiblock T-RTL” for the combination of radiator and surface heating systems for room temperature control and limitation of the return temperature of the surface heating. With valve insert with infinitely adjustable presetting, radiator isolating facility and integrated return temperature limiter (RTL). For radiators with a distance of 50 mm between the pipe centres, radiator connections soft sealing. Including mounting aid.

Body made of nickel plated brass, stem of the valve insert made of stainless steel with double O-ring seal. Technical data as thermostatic valves “AV 9”.

G  $\frac{3}{4}$  pipework connections according to DIN EN 16313 (cone “Euro”) for Oventrop compression fittings (alternatively the compression fittings of other manufacturers - except for composition pipe “Copipe” - which are suitable for the connection to male thread G  $\frac{3}{4}$  according to DIN EN 16313 (cone “Euro”) may also be used).

Plastic design covers in white or chrome plated are available as accessories.

### Models:

“Multiblock T-RTL” for radiators with:

	Item no.:
G $\frac{3}{4}$ male thread according to DIN EN 16313	1184016
G $\frac{1}{2}$ female thread	1184086

### Technical data:

Operating temperature $t_s$ :	2 °C up to 70 °C
Max. operating pressure $p_s$ :	10 bar (PN 10)
Fluid:	Water and suitable water and glycol mixtures according to VDI 2035 / ÖNORM 5195 (max. glycol proportion). Not suitable for steam, oily and aggressive fluids.
Recommended differential pressure range:	30 up to 200 mbar
Control range return temperature:	10 °C up to 40 °C

### Function:

The Oventrop fitting “Multiblock T-RTL” is a combination consisting of a thermostatic valve with infinitely adjustable presetting, an isolating fitting and a return temperature limiter (RTL).

Room temperature control is carried out by the thermostatic valve with mounted thermostat in combination with a radiator. Surface temperature balance is carried out independent of the thermostatic valve by limiting the return temperature via the integrated return temperature limiter.

### Advantages:

Oventrop fitting “Multiblock T-RTL” for the connection to all radiators with a distance of 50 mm between the pipe centres.

- for separate control of radiator and surface heating with one fitting
- for radiator isolation
- presettable flow rate
- adjustable surface heating return temperature

### Application:

The fitting “Multiblock T-RTL” is used in central heating systems (two pipe) with closed circuits for room temperature control and limitation of the return temperature of the surface heating.

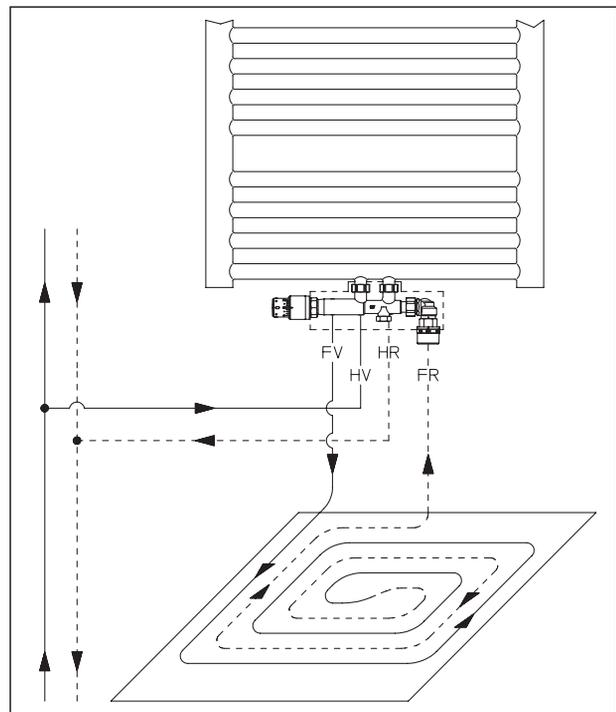
Installation can be carried out with any standard pipe material.

Oventrop offers suitable compression fittings for copper, stainless steel and plastic pipes as well as the composition pipe “Copipe”.

The corresponding installation instructions are to be observed.



“Multiblock T-RTL”



System illustration

**Installation:**

**Preparations:**

The position of the radiator and fitting has to be determined with due consideration of the specifications of the radiator manufacturer. The direction of flow must conform to the arrow on the valve body.

The fitting must only be installed in a clean pipework system and must only be operated with a clean unpolluted fluid.

In new buildings, the pipework for the supply and return pipe connection of the heating circuit (middle connections of the fitting) is laid during the construction phase. Suitable wall channels for the heating circuit and surface temperature balance have to be created for this purpose (see illustr. “Illustrated section - Heating circuit connection” and “Wall view - Heating circuit connection”). Screw the mounting aid precisely onto the unplastered wall (screws are not included in the delivery). When installing the pipework, please make sure that the pipes run in parallel. The protruding pipes have to be fixed in the mounting aid with the enclosed diaphragm tailpipes.

The connection pipes laid into the wall have to be insulated according to the Germany Energy Saving Directive (EnEV). This will also facilitate the connection of the fitting. Laying of the connection pipes for surface temperature balance is only carried out after wall plastering has been completed.

**Installation of the fitting and the radiator:**

The radiator is mounted with due consideration of the installations dimensions and the designed wall construction (e.g. tiles).

Screw the “Multiblock T-RTL” to the radiator free from tension (torque 20-30 Nm) and connect it to the pipework of the heating circuit by use of compression fittings. Supply to connection “HV” and return to connection “HR” (see illustr. “Wall view - Heating circuit connection”).

For radiators with female thread G 1/2, use the enclosed self-sealing nipples and screw them tightly into the connection nipples of the radiator (only applies for item no. 1184086).

For the connection of copper, precision steel, stainless steel and plastic pipes as well as the composition pipe “Copipe”, the Oventrop compression fittings are to be used (alternatively the compression fittings of other manufacturers - except for the composition pipe “Copipe” - which are suitable for the connection to male thread G 3/4 according to DIN EN 16313 (cone “Euro”) may also be used).

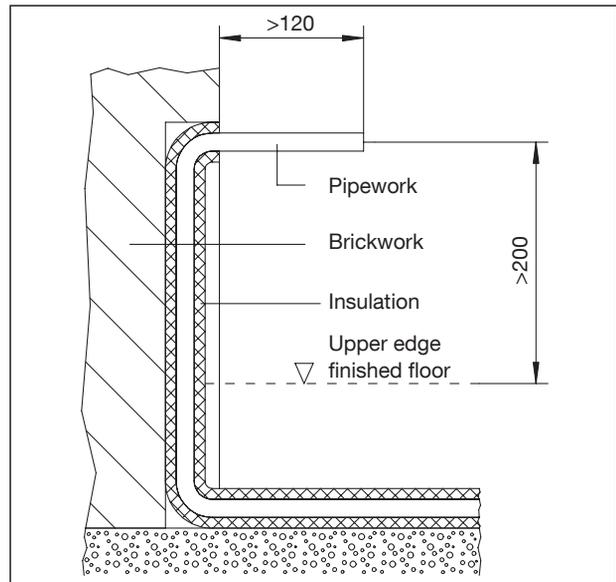
**Installation of the surface heating circuit:**

When designing the floor as a surface heating, the construction regarding thermal and sound insulation, has to comply with the valid rules, standards and regulations.

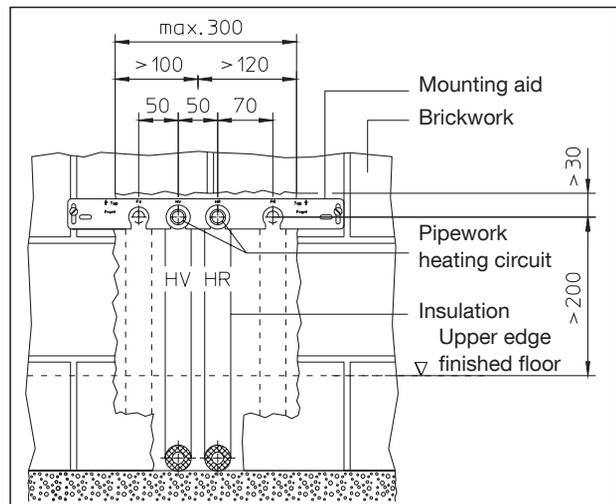
Once the insulation has been applied, the supply pipe of the surface heating circuit is connected to the connection “FV” and the return pipe to the connection “FR” of the “Multiblock T-RTL” (see illustr. “Wall view - Surface temperature balance”). The surface heating circuit has to be laid in a spiral pattern in order to achieve a constant temperature distribution.

Heating up of concrete and anhydrite screed has to be carried out according to EN 1264-4. The installation and operating instructions must be observed.

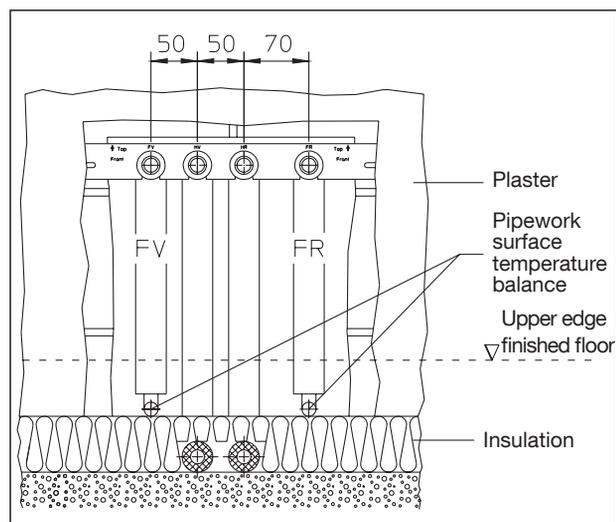
Installation of the surface heating circuit can be carried out with any standard pipe material. Oventrop offers suitable compression fittings. The corresponding installation instructions are to be observed.



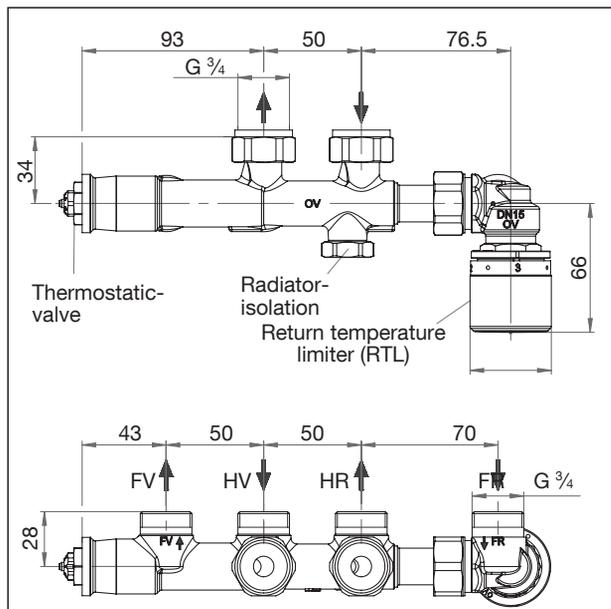
Illustrated section - Heating circuit connection



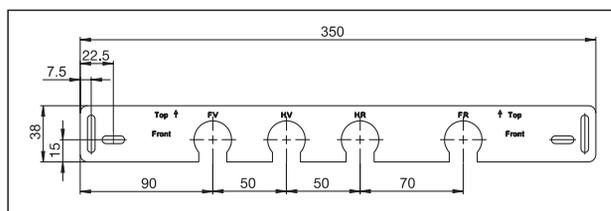
Wall view - Heating circuit connection



Wall view - Surface temperature balance



Dimensions of the fitting



Dimensions of the mounting aid

**Markings:**

Markings on the body:

- OV** Oventrop
- Flow direction
- HV** Supply heating circuit
- HR** Return heating circuit
- FV** Supply surface temperature balance
- FR** Return surface temperature balance

**Accessories:**

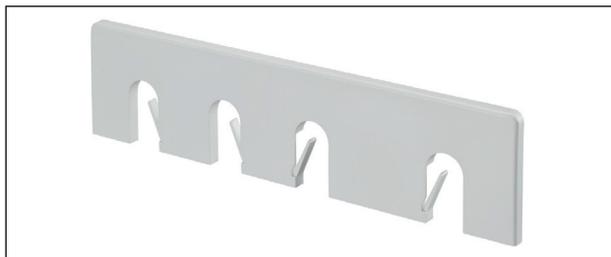
**Design cover for panelling**



**Item no.:**  
1184077  
1184087

chrome plated  
white

**Rosette cover**



**Item no.:**  
1189077  
1189087

chrome plated  
white

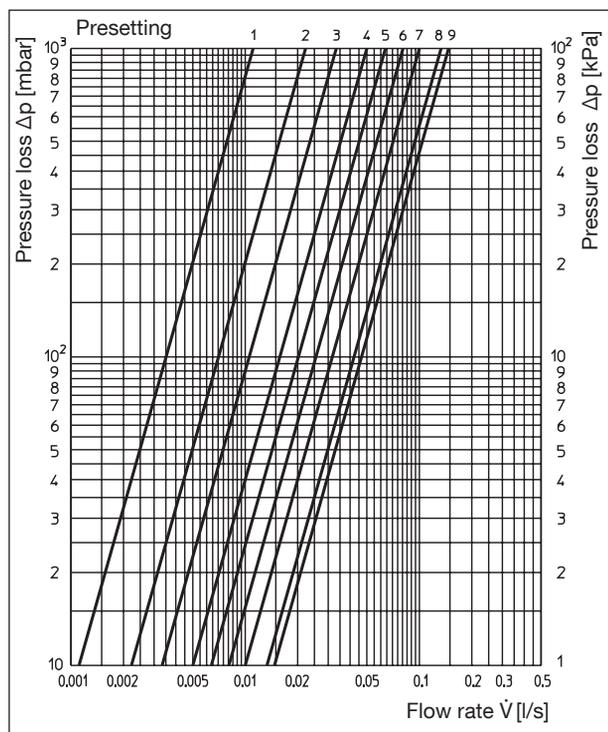
**Block for initial operation**



Item no. 1184094

**Pressure loss chart, thermostatic valve**

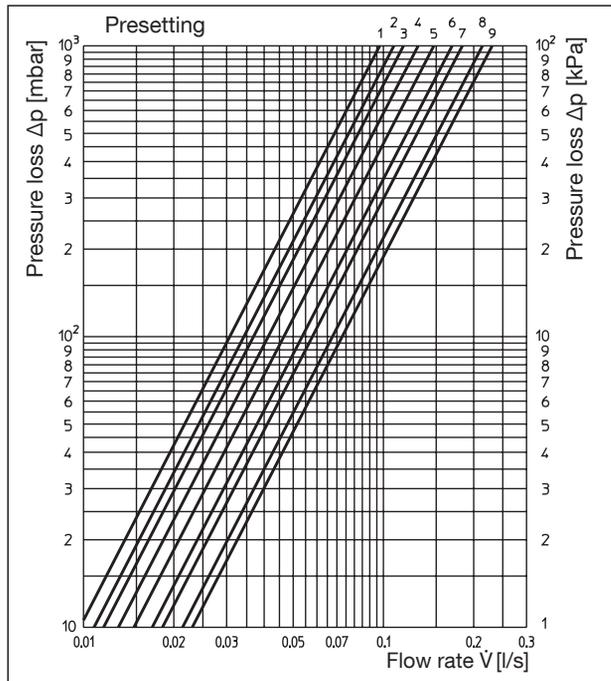
Thermostatic valve at 2 K P-deviation  
Return temperature limiter at 2 K to 4 K P-deviation  
Max. pipework length surface heating circuit: 100 m  
Pipe material: Composition pipe “Copipe” 16 x 2 mm



Presetting	1	2	3	4	5	6	7	8	9
$k_v$ value	0.04	0.08	0.12	0.18	0.23	0.29	0.36	0.48	0.53

Performance data

**“Multiblock T-RTL” Fittings**  
for the combination of radiator and surface heating systems

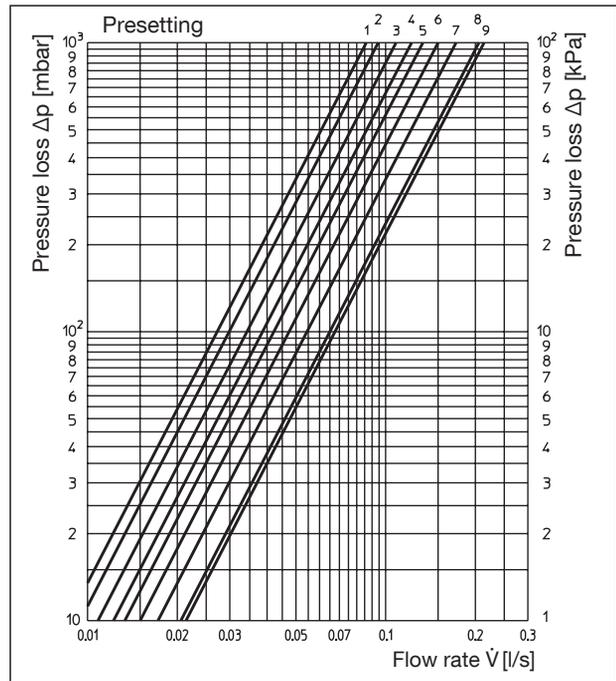


**Pressure loss chart, thermostatic valve + RTL**

Thermostatic valve at 2 K P-deviation  
Return temperature limiter at 2 K to 4 K P-deviation  
Pipework length: Surface heating circuit 33 m  
Pipe material: Composition pipe “Copipe” 16 x 2 mm

Presetting	1	2	3	4	5	6	7	8	9
$k_v$ value	0.35	0.39	0.42	0.47	0.53	0.61	0.66	0.77	0.83

Performance data

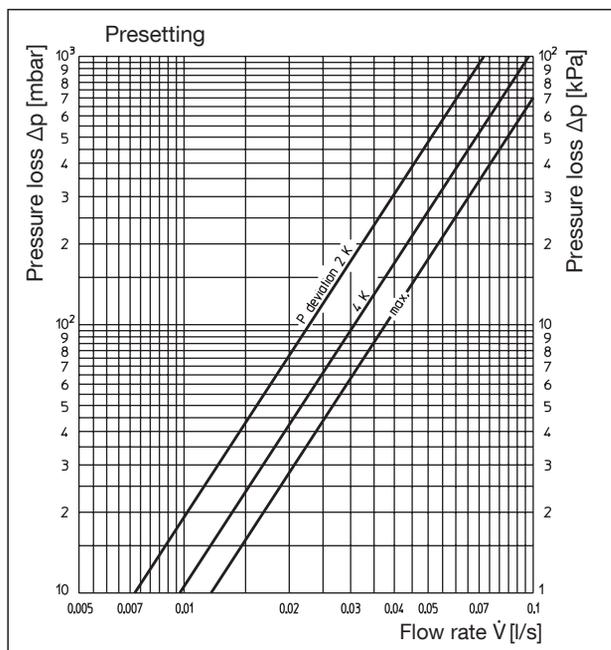


**Pressure loss chart, thermostatic valve + RTL**

Thermostatic valve at 2 K P-deviation  
Return temperature limiter at 2 K to 4 K P-deviation  
Pipework length: Surface heating circuit 100 m  
Pipe material: Composition pipe “Copipe” 16 x 2 mm

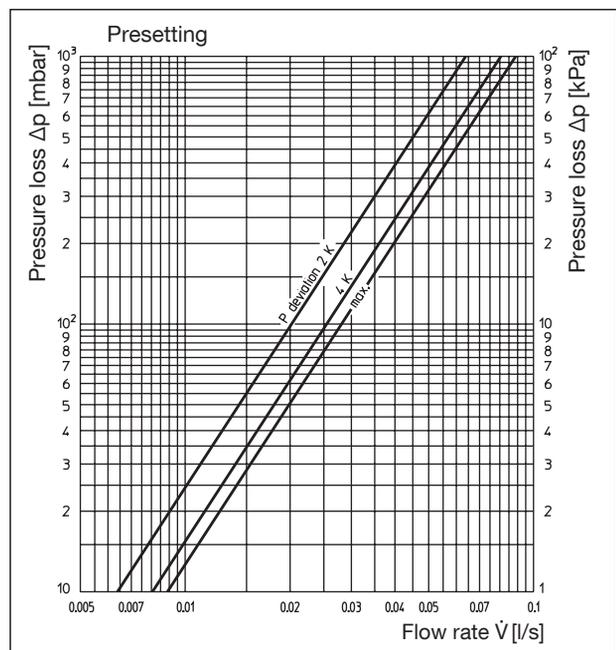
Presetting	1	2	3	4	5	6	7	8	9
$k_v$ value	0.31	0.34	0.39	0.44	0.48	0.54	0.62	0.74	0.77

Performance data



**Pressure loss chart, RTL (surface heating circuit)**

Thermostatic valve at 2 K P-deviation  
Pipework length: Surface heating circuit 33 m  
Pipe material: Composition pipe “Copipe” 16 x 2 mm



**Pressure loss chart, RTL (surface heating circuit)**

Thermostatic valve at 2 K P-deviation  
Pipework length: Surface heating circuit 100 m  
Pipe material: Composition pipe “Copipe” 16 x 2 mm

Subject to technical modifications without notice.

Product range 1  
ti 317-EN/10/MW  
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