ISOTHERM

Control unit for panel heating systems

Constant temperature maintenance

Technical Data Sheet

WattsWater.eu

WATTS®

Description and application

The **ISOTHERM** is a control unit designed for use for constant control of the supply temperature in panel heating systems or in panel heating systems in combined with a high-temperature heating circuit.

Control unit ISOTHERM

Ready-to-mount, compact control unit to control supply temperature in radiant panel heating systems up to 15 kW heat demand. Set-point value for supply temperature can be adjusted via thermostatic injection valve. Pre-wired pump and temperature limiter 30 - 90 °C. Can be mounted either on the left or right side of the heating circuit manifold. Suitable for all Watts 1" M heating circuit manifolds.

Type	Part no.	Setting range	Pump	Weight
ISOTHERM	10084162	30-50 °C	Wilo Para SCU/6	4.09 kg
ISOTHERM	10084636	30-50 °C	Grundfos UPM3A/7	4.30 kg
ISOTHERM	10087337	30-50 °C	Lowara Eco2/6	4,20 kg
ISOTHERM	10086191	30-50 °C	KSB CalioSI/7	4.10 kg
ISOTHERM	10084351	45-60 °C	Wilo Para SCU/6	4.09 kg
ISOTHERM	10084637	45-60 °C	Grundfos UPM3A/7	4.30 kg
ISOTHERM	10087338	45-60 °C	Lowara Eco2/6	4,20 kg
ISOTHERM	10086192	45-60 °C	KSB CalioSI/7	4.10 kg

Technical characteristics and materials

Technical characteristics		
Operating ambient temperature:	0 - 40 °C	
Operating medium temperature:	0 - 90 °C	
Max. operating pressure:	6 bar	
Setting range of supply temperature[1]:	30 - 50 °C	45-60 °C
Factory pre-setting of target supply temperature:	44 °C	55 °C
Factory pre-setting of the temperature limiter:	55 °C	65 °C
Heating demand:	up to 15 kW, ΔT = 10K	
Operating voltage:	230 V - 50 Hz	
Primary (heat generator):	1" M, flat sealing	
Secondary (heat distribution):	1" union nut, flat sealing	

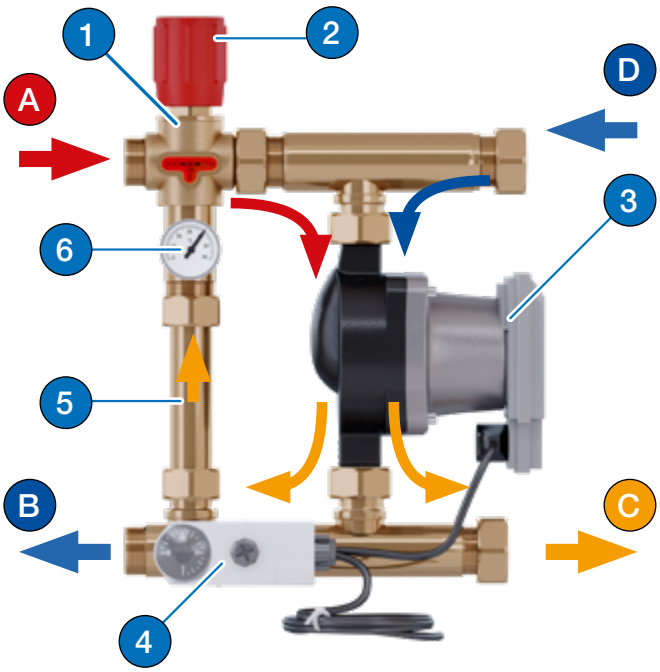
Materials	
Fittings:	Brass CW617N
Pipe parts:	Brass CW508L
Plastics:	Impact resistant and temperature resistant
Seals:	AFM 34/2
O-Rings:	EPDM

1) Two versions of Isotherm with 2 setting ranges depending on the version of the mixing valve.

Structure

1 Thermostatic mixing valve
2 Setting hand wheel of the mixing vavle
3 Circulation pump 130 mm
4 Temperature limiter
5 Bypass
6 Thermometer 0 - 60 °C

A Primary supply (1" male thread)
B Primary return (1" male thread)
C Surface heating/cooling supply (1" union nut)
D Surface heating/cooling return (1" union nut)



Operation

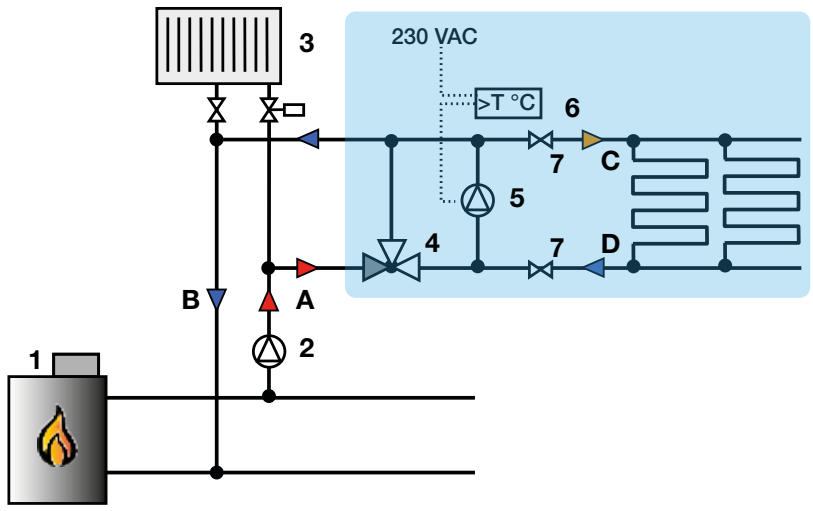
The mixing valve (1) is designed as a proportional controller and operates without the need for a power supply. The supply temperature adjusted on the setting handwheel (2) is continuously controlled by a thermostat element. This sensor is constantly flowed around by a partial volume flow with the current flow temperature via the bypass (5). The current supply temperature is displayed on the thermometer (6). Deviations from the target value result in an immediate change in valve stroke and, accordingly, a change in the volume of the hot water injected from the primary supply (A).

The injected water volume from primary circle (A) is mixed with the return water from the manifold (D) at the inlet to the circulation pump (3) and, in this way, keeps the supply temperature constant within a narrow temperature range.

The mixed medium is distributed via the circulation pump (3) to the supply of the surface heating / heating circuit manifold (C) and from there to the connected heating circuits as well as being routed as a pilot flow via the bypass (5).

In the event of malfunction, the temperature limiter (4) attached to the supply line switches off the circulation pump (3) to prevent overheating of the surface heating system.

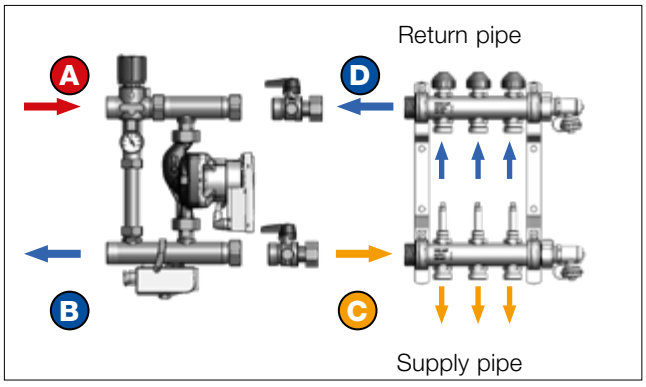
Example of application

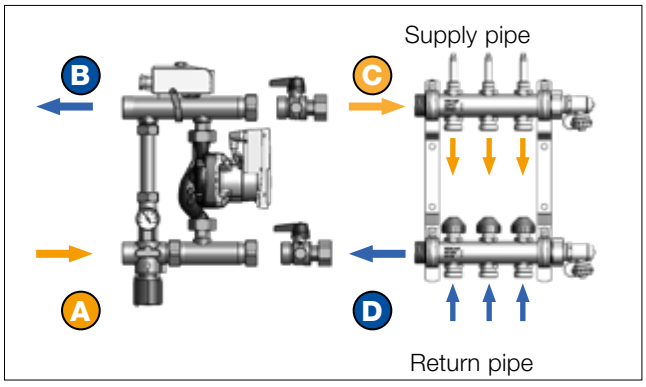


1 Heat generator
2 Primary circulation pump
3 Heating element / radiator
4 Mixing valve
5 Circulation pump for panel heating
6 Temperature limiter
7 Shut-off valves (recommendable)
A Primary supply
B Primary return
C Panel heating supply
D Panel heating return

Mounting

The control unit **ISOTHERM** is supplied ready for mounting to the left of the heating circuit manifold with side connection 1" male thread and connection centre's of 210 mm. If you want to mount it to the right of the heating circuit manifold, all you have to do is reposition the thermometer.



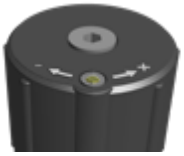


Setting of the target supply temperature

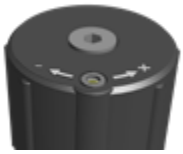
To reduce the target temperature
Turn the setting wheel clockwise.
1 Click = -1 °C.
The pilot pin moves out in the process

Factory setting Set point 44 / 55 °C, depending on version.

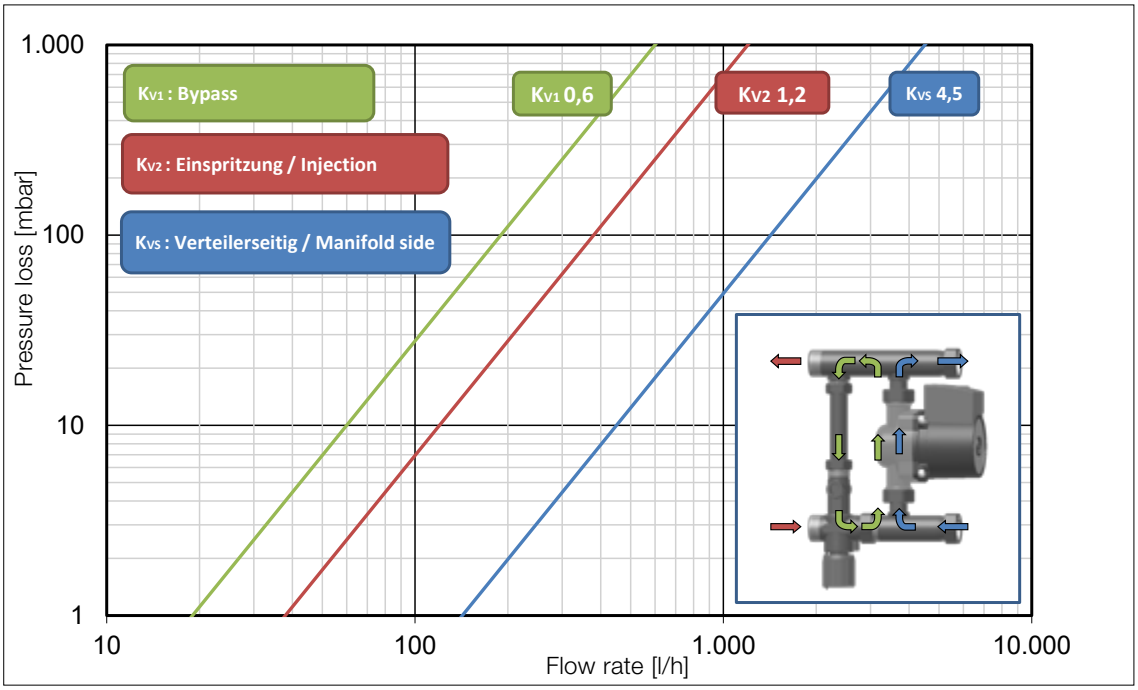
The pilot pin is flush.



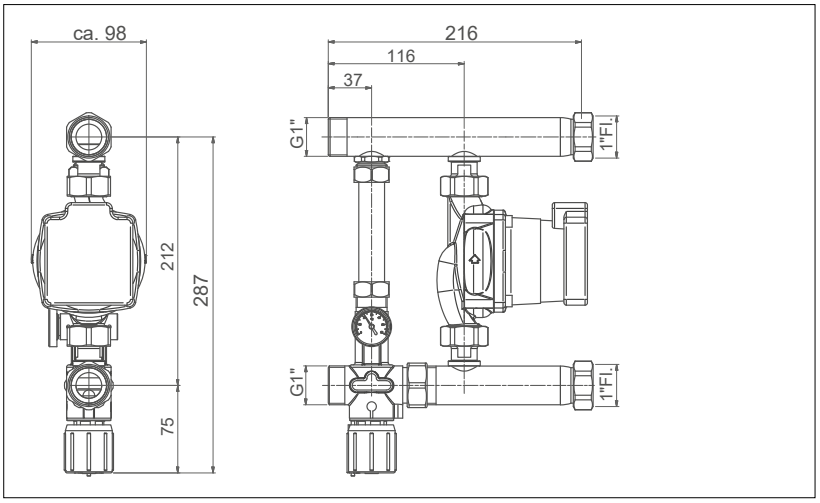
To increase the target temperature
Turn the setting wheel counterclockwise.
1 Click = +1 °C.
The pilot pin "sinks".



Pressure loss diagram



Overall dimensions [mm]



Specification text

WATTS control unit Type: ISOTHERM

Ready-to-mount, compact control unit to control supply temperature in radiant panel heating systems up to 15 kW heat demand. Set-point value for supply temperature can be adjusted via thermostatic injection valve. Temperature range 30 - 50 °C or 45 - 60 °C. Pre-wired pump and temperature limiter. Designed for installation on heating circuit manifolds with 1" Male thread and center distance 210 mm. Can be mounted either on the left or right side of the heating circuit manifold. Suitable for all Watts 1" M heating circuit manifolds.

Watts Industries Deutschland GmbH
Godramsteiner Hauptstr. 167 • 76829 Landau • Deutschland
Telefon: +49 6341 9656-0 • Fax: +49 6341 9656-560
E-Mail: WIDE@wattswater.com • www.wattswater.de