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Assembly instructions

aquatherm® heat dissipater control unit and **aquatherm®** heating circuit distributor (Product No. 92052 – 92062) for floor heating

aquatherm® heat dissipater control unit

Now you can easily convert and/or extend your existing radiator system to incorporate floor heating.

- **Safe**
- **Cost-efficient**
- **Attractively priced**

All that is required is a single riser at the temperature level of the radiators (e.g. 70°C/50°C).

After installation, everything else is regulated by the new **aquatherm®** heat dissipater control unit.

Components

aquatherm® heat dissipater control unit
Product No. 92155, consisting of:

- Injection mixing valve to regulate the flow temperature in the floor heating circuit
- Circulating pump
- Safety temperature cut-out
- Thermometer





Function

The **aquatherm®** heat dissipater control unit works on the admixing control principle as a fixed setpoint controller.

You can set the desired flow temperature for the floor heating using the hand wheel on the thermostatic mixing valve.

The required volume of water is pumped from the tank circuit (e.g. 70°C) via the heating circuit dissipater return pipe, and is then mixed with the floor heating circuit.

The safety temperature cut-out automatically switches off the circulating pump if the maximum temperature is exceeded.

Under the German Standards for New Boiler and Sanitary Hot Water Production [*Heizungsanlagenverordnung*], installation of separate room thermostats is compulsory so that the temperature in individual rooms can be controlled.

Where only one room has floor heating, the thermostat can be switched to the circulating pump.

Note:

The aquatherm® heat dissipater control unit is intended exclusively for use in a pump-warm water heating system, as illustrated in the following diagram:

Operation

The temperature sensor is located directly in the water flow, and thus responds more or less immediately to temperature changes in the heating circuit flow pipe.

The injection valve is set by the factory to a lift of $h = 7$ mm. This corresponds to a heating circuit temperature of 37°C with a heat output of 10KW. The actual required flow temperature is set by turning the hand wheel to the left (= higher temperature), or to the right (= lower temperature).

When adjusting the temperature, the scale ring is pushed up, which then allows the hand wheel to be turned. After the desired temperature has been set, the scale ring is reset to secure the hand wheel.

One revolution corresponds to 1.5 mm lift (see the diagram on the right for the lift/temperature ratio). The measurement h for the lift is measured between the scale ring and the housing. The thermometer then displays the current flow temperature.

The connecting line that is attached to the top of the injection valve has a dual function:

1. Bypass function:

Prevents the pressure in the heating circuit circulating pump reaching the maximum level when the heating circuits are closed.



2. Pilot current:

Continually relays the current flow temperature in the heating circuit to the thermostat sensor.

The thermostat sensor (located behind the thermometer) is screened from the hot tank water, so that it reacts only to the temperature of the pilot current. This insulating screening, made of material with low thermal conductivity, also limits the pilot current or bypass to prevent the circulating pump in the heating circuit being hydraulically short-circuited.

Mixing valve

Thermometer
(flow temperature)

Scale ring

Valve lift “h”

Hand wheel

Setting guide

[vertical axis] **Flow temperature (°C)**

Default factory setting: valve lift $h = 7\text{mm}$
(corresponds to approx. $38\text{--}40^\circ\text{C}$)
 $\frac{1}{2}$ revolution of the hand wheel changes the
flow temperature by approx. $2\text{--}3\text{ K}$.

The exact target temperature value is set using the thermometer.

[horizontal axis] **Valve lift “h” (mm)**

1.5 mm valve lift corresponds to one revolution of the hand wheel.

* Characteristic curve calculated at a tank temperature of 70°C
and with a medium heat load.

Installation

The heat dissipater control unit can be mounted either on the left or right side of the **aquatherm®** heating circuit distributor.



Filling and venting

The assembly of the aquatherm® plastic pipes on the heating circuit distributors should follow the assembly instructions (D 92052).

1. Fit all the heating circuit flow pipes to the flow valves.
2. The return pipes are fitted only after the filling operation.
3. Shut off all the flow and return valves.
4. A ½" feed cock can be used to fill the system, or it can be filled on site. (In the latter case, the feed cock must be kept closed.)
5. Open the flow valve of the first heating circuit and carefully fill and vent the heating circuit.
6. Close the flow valve again and fit the return pipe onto the return valve.
7. Rinse and vent each of the individual heating circuits in turn, and then fit them to the return valves.
8. The valves can be opened once all the heating circuits have been filled and vented.
9. After the system has been filled, a pressure and leak test must be carried out as described in the assembly instructions (D 91200 **aquatherm®** Floor Heating Systems: installation and operations guideline).

Adjustment

1. Start up the circulating pump.
2. The adjustment of the heat dissipater control unit must be carried out with a high system temperature.
3. The adjustment spindle on the distribution return valve sets the volume for the individual heating circuits, and the value is displayed on the flow meter. (See separate assembly instructions Heating Circuit Distributor D 92082.)
4. The required temperature is set using the hand wheel on the thermostatic mixing valve, and is displayed on the thermometer. The scale ring is pressed up when making an adjustment.



Troubleshooting

If the system does not reach the required flow temperature, the reason may be that:

- a)** The system temperature is lower than the temperature set on the sensor element.
- b)** The temperature set on the safety temperature cut-out is lower than the temperature set on the sensor element.
- c)** A room thermostat switched to the circulating pump is on too low a setting (increase the temperature on the room thermostat).
- d)** Some shut-off components are closed.
- e)** The on-site circulating pump is not in operation, preventing admixing of the system water.

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