

TERMOMAT SOLAR

CONTROL UNIT FOR SOLAR HEATING APPLICATIONS

MOUNTING AND OPERATING INSTRUCTIONS FOR ART. NO 8006

TERMOMAT SOLAR is engineered to insure maximum performance in solar systems. The unit is pre-assembled and tested. It can be installed quickly with simplified plumbing and electrical connections.

DELIVERY PARTS

1. Flow control and measuring valve. 8 l/min. Pipe connection 15 mm compression fitting
2. Connection block
3. Manometer. 1,6 MPa (16 bar)
4. Airing valve. Hose connection G ½"
5. Expansion tank. 2 l / 1,0 MPa (10 bar) @ 100 °C. Pressured to 2,0 bar
6. Safety valve. 0,9 MPa (9 bar)
7. Combined main valve with filter and backflow preventer
8. Filling valve. Hose connection G ½"
9. Circulator Grundfos UPS 25 - 60 130 mm
10. Ball valve with pipe connection 15 mm compression fitting
11. Electronic differential temperature control TM5-G1 with digital display
12. T1. Sensor for storage tank. L = 3 m. Sensor housing R ½" L = 150 mm
13. T2. Sensor for return to collector. L = 3 m. Sensor housing R ½" L = 150 mm
14. T3. Sensor from collector. L = 12 m. Sensor housing R ½" L = 90 mm

MOUNTING

TERMOMAT SOLAR control unit is to be mounted where the digital display is easily read.

Be careful to hold on to the compression fittings while tightening them so as not to damage the flow control and measuring valve (1).

The electronic differential temperature control TM5-G1 has three sensors T1, T2 and T3, which are to be mounted according to the TERMOMAT 5 Mounting and Operating Instructions.

To avoid corrosion monopropylene glycole is recommended as collector fluid (17).

START-UP

1. The highest point in the system is to be provided with an airing valve (19).
2. Open the ball valve (10).

3. Unscrew the cover of the filling valve (8). Connect the filling hose and filling pump (18). Open the filling valve .
4. Unscrew the cover of the airing valve (4). Connect airing hose to valve (4). Open the airing valve.
5. Close the main valve (7).
6. Put the filling and the airing hoses in the can with collector fluid (17).
7. Pump at least 1 liter collector fluid into the system by means of the filling pump (18). Start the circulator (9) by turning the program selector in TERMOMAT 5 (11) to position M = Manual operation. **The circulator must not run dry.**
8. When collector fluid comes out from the airing hose, the circulator should run until all air is removed from the system. It is important that the whole system is filled up correctly. If there are parallel collectors with ball valves, fill one collector at a time.
9. When all air is removed, close the airing valve (4). Open the main valve (7) and let the system circulate for some minutes. Close the main valve again. Open the airing valve and let the circulator run 2 – 3 minutes so that all air from the main valve is removed. Close the airing valve again.
10. Open the main valve (7). Check in flow control valve (1) that the fluid circulates. If not, open the airing valve (19) in the highest point in the system.
11. The pressure when filling the system must be at least 3,5 bar to avoid boiling during summer time. The best time to start-up the system is in morning or in the evening in cloudy weather. The temperature in the system must be below 30°C. The system pressure is increased with the filling pump (18). When the correct system pressure is reached, close the filling valve (8).
12. The system must have a pressure above 3 bar. Check manometer (3). The collector fluid must circulate. Check that the flow control and measuring valve (1) is open. The flow must be at least 4 l/min.
13. Stop the circulation by turning program selector (11) to 0 = Off. Leave it in this position for 15 minutes. Start again by turning the program selector to M = Manual operation. If the fluid does not circulate and the flow = 0, there is probably air in the system. Remove the air according to points 1 - 11. After removing air the pressure must again be increased to at least 3,5 bar by means of the filling pump (18). Check manometer (3).
14. A safety valve (6) prevents the pressure from rising too high when filling the system. The valve opens at 9 bar to let out fluid through the copper pipe at the safety valve.
15. When the system works, disconnect the hoses and screw the front cover onto the solar unit.



