Danfoss AVTQ 20 Flow Controlled Temperature Control

Danfoss AVTQ 20 Flow Controlled Temperature Control Instructions

Contents

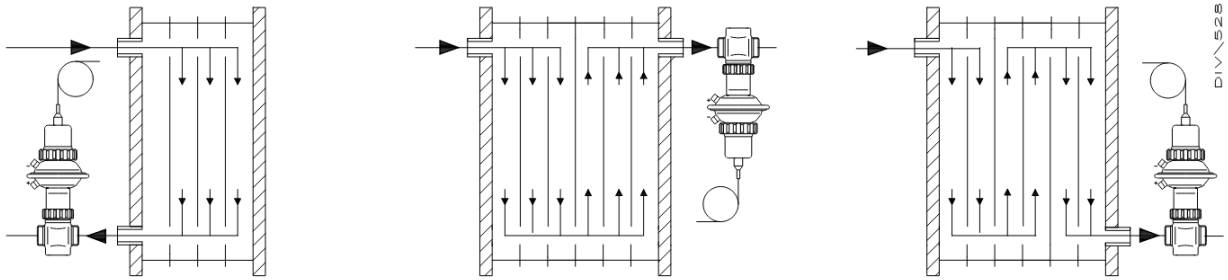
Danfoss AVTQ 20 Flow Controlled Temperature Control

Application

AVTQ is a flow-controlled temperature control primarily for use with plate heat exchangers for hot service water in district heating systems. The valve closes on rising sensor temperature.

System

AVTQ can be used with most types of plate heat exchangers (fig. 5). The heat exchanger manufacturer should be contacted to ensure:



Et-slags varmeveksler
1 pass plate heat exchanger
Einkanaliger Wärmeübertrager
Scambiatori di calore a piastre ad un passo (1 pass phe)
1-stegs värmeväxlare
Jednoptytowy wymiennik ciepta

To-slags varmeveksler
2 passes plate heat exchanger
Zweikanaliger Wärmeübertrager
Scambiatori di calore a piastre a due passi (2 passes phe)
2-stegs värmeväxlare
Dwuptytowy wymiennik ciepta

Tre-slags varmeveksler
3 passes plate heat exchanger
Dreikanaliger Wärmeübertrager
Scambiatori di calore a piastre a tre passi (3 passes phe)
3-stegs värmeväxlare
Trójptytowy wymiennik ciepta

Fig. 5

- that the AVTQ is approved for use with the chosen exchanger
- the correct material selection when connecting the heat exchangers,
- the correct connection of one pass plate heat exchanger; layer distribution might occur, i.e. reduced comfort.

Systems function best when the sensor is installed right inside the heat exchanger (see fig. 1).

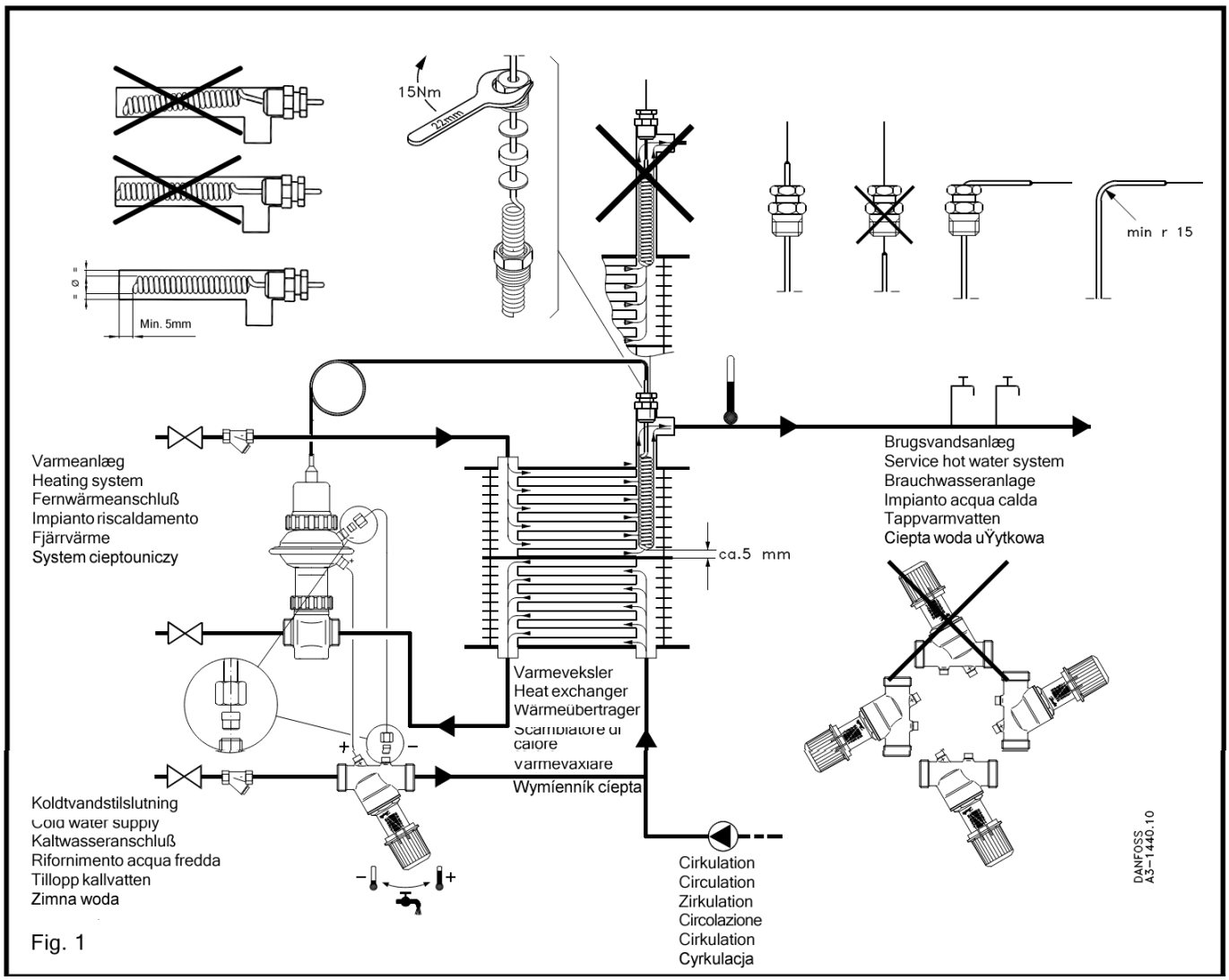


Fig. 1

For correct no-load function, the thermal flow should be avoided as the hot water will rise and thus increase the no-load consumption. For optimum orientation of pressure connections loosen the nut (1), turn the diaphragm part into the desired position (2) and tighten the nut (20 Nm) – see fig. 4.

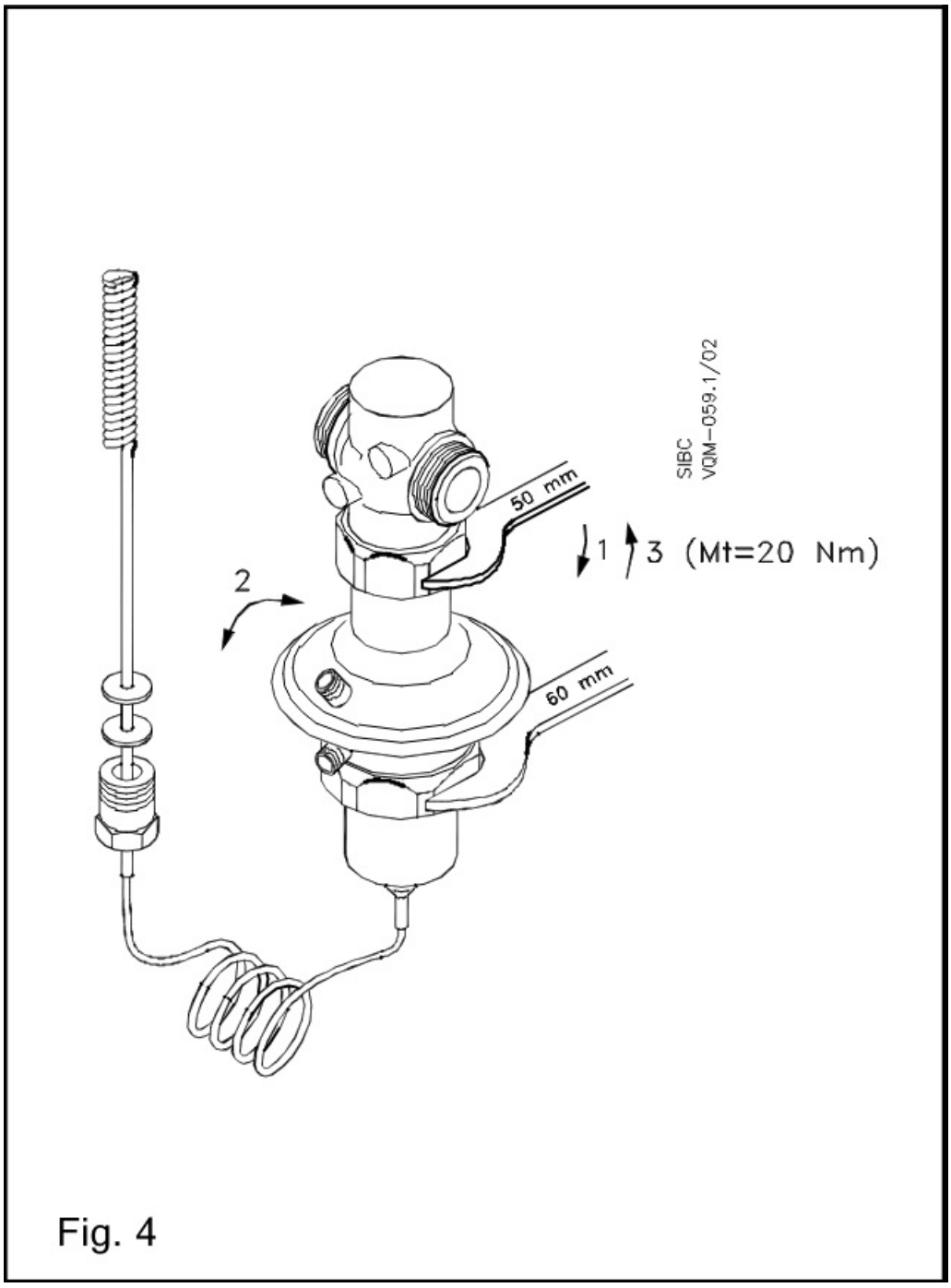


Fig. 4

Note that the water velocity around the sensor must be by the requirements for the copper tube.

Installation

Install the temperature control in the return line on the primary side of the heat exchanger (district heating side). The water must flow in the direction of the arrow. Install the control valve with temperature setting on the cold water direction of the wow. The nipples for the capillary tube connection must not point downwards. Fit the sensor inside in a neat excnanger; its orientation is oT no importance (fig. 3).

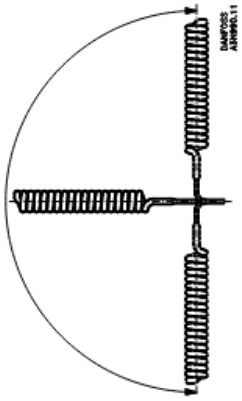


Fig. 3

We recommend that a filter with a max. mesh size of 0.6 mm be installed both ahead of the temperature control and ahead of the control valve. See section “Function tallure.

Setting

The following minimum requirements must be met to obtain unproblematic operation:

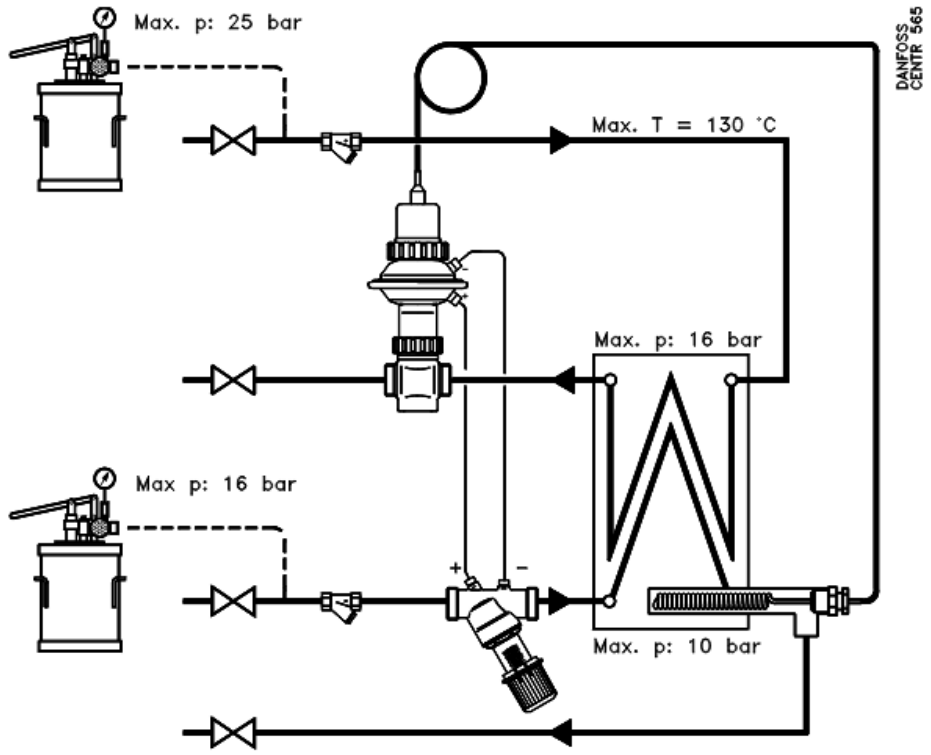


Fig. 2

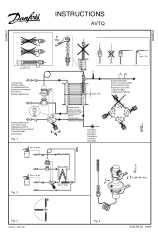
Before setting, the system should be flushed and vented, both on the primary side and secondary side of the heat exchanger. The capillary tubes from the pilot valve to the diaphragm should also be vented on the (+) as well as the (-) side.
NOTE: The valves mounted in the flow should always be opened before the valves mounted in the return. The control operates with a fixed no-load temperature (tide) and an adjustable tapping temperature.

Open the control until the required tapping flow is obtained and set the required tapping temperature by turning the control handle. Note that the system requires a stabilizing time (about 20 s) when setting and that the tapping Temperature will always the lower than the flow temperature.

Function failure

If the control valve falls, the not-water-tapping temperature will become the same as the no-load temperature. The cause of the failure might be particles (e.g. gravel) from the service water. The cause of the problem should be remedied as soon as possible, we, therefore, recommend that a filter be installed ahead of the control valve. There might be extension parts between the temperature unit and the diaphragm. Be aware that the same quantity of extension parts is remounted, if not the no-load temperature will not be 35°C (40°C) as stated.

Documents / Resources

	Danfoss AVTQ 20 Flow Controlled Temperature Control [pdf] Instructions AVTQ 20 Flow Controlled Temperature Control, AVTQ 20, Flow Controlled Temperature Control, Controlled Temperature Control, Temperature Control, Control

References

- User Manual