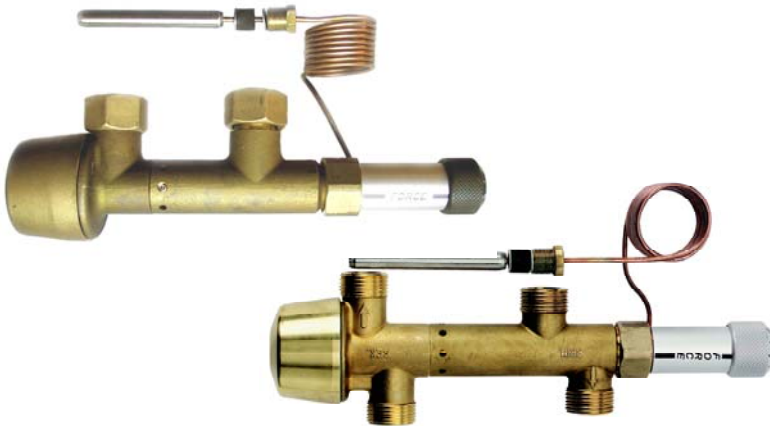


## PT°C controller



**FORCE PT°C controller®**  
*Design-protected*

### Application

The Danfoss Redan PT°C controller is used for controlling the domestic hot water temperature in combination with a plate heat exchanger.

### Capacity

The capacity of the controller corresponds to the domestic hot water need of minimum one to two dwellings.

### Function

The controller is pressure and thermostatic controlled. The pressure control ensures that district heating water is led to the instantaneous water heater only when hot water is being tapped and that the flow of district heating water is shut off, when the tapping of domestic hot water ends. The thermostat controls the domestic hot water temperature.

### Standby losses

Due to the functionality of the controller standby losses are avoided. When the tapping of domestic hot water ends, the controller immediately shuts off the flow of district heating water into the heat exchanger. This means that energy (district heating) is needed only, when hot water is being tapped.

### Lime scale deposits in the heat exchanger

Normally no lime scale will occur when the heat exchanger is used in combination with the

PT°C controller. When hot water is not consumed the district heating flow is also shut off and the temperature in the secondary side of the heat exchanger does not exceed the temperature (approx. 55°C), at which lime scale is deposited.

### Materials

The controller is made of materials, which have been approved for fresh water purposes.

The controller housing is made of dezincification-free brass. The spindle is made of stainless steel. All O-rings and the membrane are made of EPDM rubber.

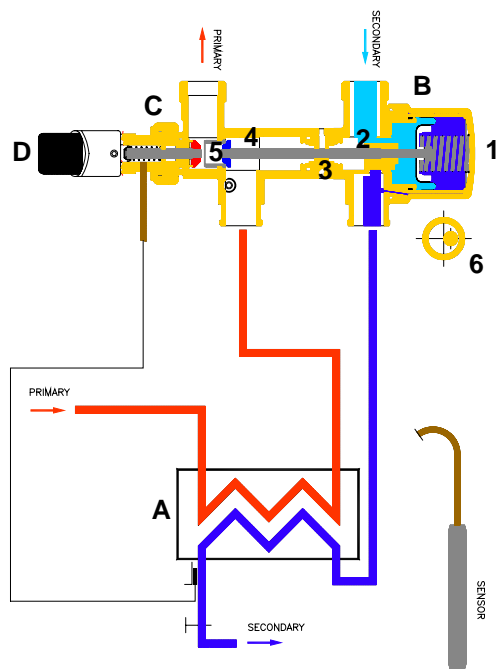
### Options

If the domestic water installation is made with circulation it is recommended to establish a bypass above the district heating part of the controller. By means of a return flow thermostat and the connecting capillary tubes separate control of the circulation and domestic hot water temperature is made possible.

### Installation

The controller must be installed in a way that allows the medium to flow in the direction indicated by the arrows. The insertion position of the sensor is optional and it is recommended that the sensor is placed in the hot water connection piece of the heat exchanger.

**Flow diagram:**



- A. Plate heat exchanger / water heater
- B. Cold water part of the PT°C controller
- C. District heating/thermostatic part of the PT°C controller
- D. Temperature controller

- 1. Membrane housing with revolving membrane
- 2. Cold water piston
- 3. Spindle (through-going)
- 4. District heating piston
- 5. District heating opening
- 6. Cold water opening

**The PT°C controller is design-protected.**

In principle the controller consists of two parts:

The domestic water part B (the pressure-controlled part) and the district heating part C (the temperature-controlled part).

When water is consumed a difference in pressure will arise in the controller, which turns on the district heating water and the cold water flow to/from the water heater.

By means of the temperature controller D the wanted hot water temperature is set.

**Data for the FORCE PT°C controller:**

**Dimensions, weight**

Size of packaging: H60 x W90 x L230 mm.  
Weight: 1,32 kg. (incl. of packaging).

**Materials**

Controller housing: Dezincification-free brass  
Piston (district heating): Dezincification-free brass  
Piston (cold water): Noryl  
Spindle / guide: Stainless, acid-resisting steel / Teflon  
O-rings / membrane: EPDM rubber  
Sensor: Stainless, acidresisting steel

**Pressure, temperatures, K<sub>v</sub>-values**

K<sub>vs</sub>: 3,5 m<sup>3</sup>/h  
K<sub>vR</sub>: 0,06 m<sup>3</sup>/h  
Pressure level: PN 16  
Max. Δp primary (closing): 6,0 bar  
Max. Δp primary (controlling): 2,0 bar  
Max. temperature primary: 110°C  
Min. cold water pressure: 2,0 bar  
Setting area: 20-70°C

**Dimensioned sketch:**

