

# Regudis W-HTE

## Electronic Dwelling Station



For the supply of individual dwellings with heating water, as well as with hot and cold potable water. The required heat is provided by a central heat supply. Hot potable water is prepared decentrally via a plate heat exchanger according to the continuous flow principle. When selecting the dwelling station, it is necessary to consider the water quality of the area of use.

The stations consist of a plate heat exchanger, a control valve with integrated differential pressure and volume flow control, an actuator with integrated potable water temperature control, a zone valve, a volume flow sensor, a temperature sensor, a filter insert, spacers for heat and water meters, vent valves and drain valves.

The Regudis W-HTE stations are designed for unmixed heating circuits and can also be used for mixed heating circuits with an optional flow temperature control module. The range of functions can also be extended in a modular way using extension modules. The stations are characterised by high draw-off capacities at low excess temperatures, are optimised in terms of pressure loss and offer a conclusive insulation concept.

### Features

- + Modularly extendable
- + High draw-off capacity at low excess temperature
- + Optimised in terms of pressure loss

### General data

|                                   |                                                                                                                                                                                                                |
|-----------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Variants</b>                   | Performance range 1-3<br>with copper brazed heat exchanger or<br>copper brazed heat exchanger with<br>Sealix® protective layer<br>Double-walled version<br>with copper-brazed heat exchanger,<br>double-walled |
| <b>Empty weight</b>               | Performance range 1: 7.7 kg<br>Performance range 2: 8.8 kg<br>Performance range 3: 10.2 kg<br>Double-walled version: 13.3 kg                                                                                   |
| <b>Max. operating temperature</b> | 90 °C                                                                                                                                                                                                          |
| <b>Max. operating pressure</b>    | 10 bar                                                                                                                                                                                                         |
| <b>Ambient temperature</b>        | 2...35 °C                                                                                                                                                                                                      |
| <b>Medium</b>                     | Heating water according to VDI 2035/Ö-<br>Norm H 5195-1, fluid category ≤ 3<br>according to EN 1717. Observe the<br>specifications of the Oventrop<br>information sheet on corrosion<br>protection.            |

# Product Details

## Technical Data

### Dimensions and connections

|                                           |                             |
|-------------------------------------------|-----------------------------|
| <b>Width x Height x Depth</b>             | 600 x 455 x 110 mm          |
| <b>Connections</b>                        | G ¾ union nut, flat sealing |
| <b>Centre distance of the connections</b> | 65 mm                       |
| <b>Centre distance to wall</b>            | 26.5 mm                     |

### Hydraulic data: Primary circuit (buffer storage cylinder)

|                                   |                                                                                                                                                                                     |
|-----------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Medium</b>                     | Heating water according to VDI 2035/Ö-Norm H 5195-1, fluid category ≤ 3 according to EN 1717. Observe the specifications of the Oventrop information sheet on corrosion protection. |
| <b>Min. differential pressure</b> | 150 mbar                                                                                                                                                                            |
| <b>Max. differential pressure</b> | 2.0 bar                                                                                                                                                                             |
| <b>Min. flow temperature</b>      | See charts in the appendix                                                                                                                                                          |

### Hydraulic data: Heating circuit (radiators)

|                                      |                                                                                                                                                                                     |
|--------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Medium</b>                        | Heating water according to VDI 2035/Ö-Norm H 5195-1, fluid category ≤ 3 according to EN 1717. Observe the specifications of the Oventrop information sheet on corrosion protection. |
| <b>Max. volume flow</b>              | 600 l/h                                                                                                                                                                             |
| <b>Differential pressure control</b> | 150 mbar                                                                                                                                                                            |

### Hydraulic data: Potable water circuit

|                                   |                                                                                                      |
|-----------------------------------|------------------------------------------------------------------------------------------------------|
| <b>Medium</b>                     | Potable water. Observe the specifications of the Oventrop information sheet on corrosion protection. |
| <b>Min. cold water pressure</b>   | See charts in the appendix                                                                           |
| <b>Control range</b>              | 40...70 °C                                                                                           |
| <b>Max. hot water volume flow</b> | See charts in the appendix                                                                           |

### Electrical data: Power supply unit

|                                        |                      |
|----------------------------------------|----------------------|
| <b>Mains input voltage</b>             | 100...240 V AC ±10 % |
| <b>Mains input frequency</b>           | 50...60 Hz           |
| <b>Output voltage</b>                  | 5 V DC +7.5 %, -5 %  |
| <b>Rated output current</b>            | Max. 1200 mA         |
| <b>Protection type: connection box</b> | IP65                 |
| <b>Protection class</b>                | II                   |
| <b>Overvoltage category</b>            | III                  |
| <b>Ambient temperature</b>             | 0...60 °C            |

### Electrical data: Actuator

|                            |                     |
|----------------------------|---------------------|
| <b>Input voltage</b>       | 5 V DC +7.5 %, -5 % |
| <b>Power consumption</b>   | 0.15...3 W          |
| <b>Protection type</b>     | IP54                |
| <b>Ambient temperature</b> | 0...60 °C           |

### Material

|                                                                   |                                                                                                                                           |
|-------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Heat exchanger copper brazed</b>                               | Plate material: Stainless steel 1.4401<br>Connections: Stainless steel 1.4404<br>Brazing material: Copper                                 |
| <b>Heat exchanger copper brazed with Sealix® protective layer</b> | Plate material: Stainless steel 1.4401<br>Connections: Stainless steel 1.4404<br>Brazing material: Copper<br>Protective layer: SiO2 basis |
| <b>Pipes</b>                                                      | Stainless steel 1.4404                                                                                                                    |
| <b>Valves and fittings</b>                                        | Brass                                                                                                                                     |
| <b>Temperature sensor</b>                                         | Stainless steel 1.4404                                                                                                                    |
| <b>Volume flow sensor</b>                                         | Brass and plastic                                                                                                                         |
| <b>Meter spacers</b>                                              | Plastic                                                                                                                                   |
| <b>Seals</b>                                                      | EPDM and fibre material                                                                                                                   |
| <b>Thermal insulation</b>                                         | EPP                                                                                                                                       |

## Functions

The dwelling station is an electronically controlled product assembly with heat exchanger intended for use in domestic areas. The product assembly provides heated potable water (hot water) within a residential unit and distributes the heating water (max. 90° C) to radiators. With an optional flow temperature control module, heating water distribution to a surface heating system (e.g. underfloor heating) is also possible.

The decentralised hot water preparation of the station makes the storage of hot potable water unnecessary.

In the heat exchanger, potable water is heated according to the continuous flow principle only when it is needed. The demand for hot water is detected by the volume flow sensor.

The setpoint temperature for the hot water is adjusted with the rotary knob on the actuator. During operation, the temperature sensor continuously measures the temperature of the hot water at the hot water outlet of the heat exchanger. The temperature sensor forwards this information to the electronic control.

The information from the volume flow sensor and the temperature sensor is passed on to the actuator by the electronic control.

The actuator opens and closes the control valve. Depending on the position of the control valve, more or less hot heating water flows from the primary supply into the heat exchanger as required. In addition, the control valve keeps the necessary differential pressure in the system constant.

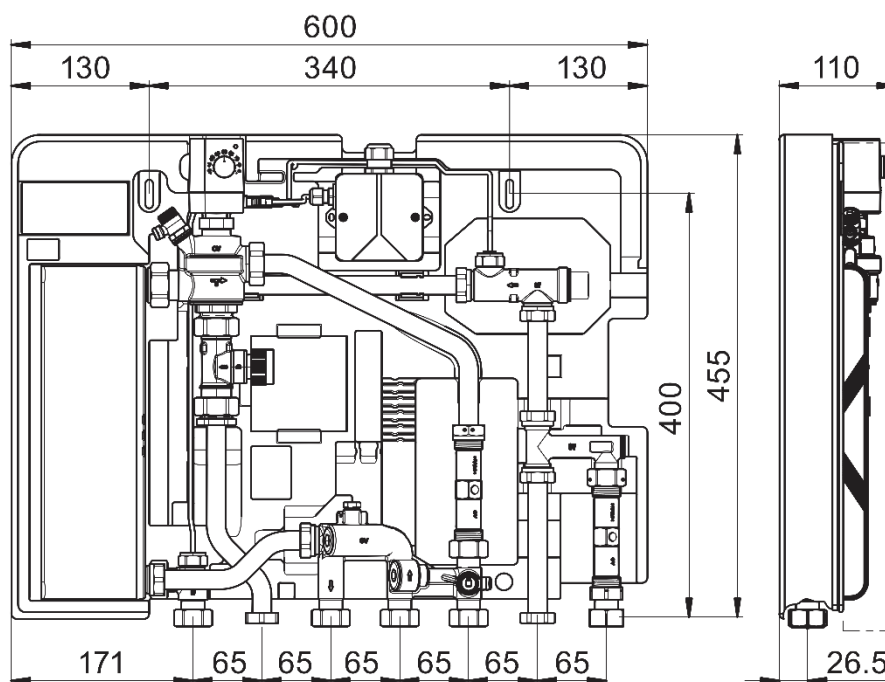
The heat output transferred to the potable water depends on the heating water quantity and the heating water temperature supplied to the heat exchanger. The control valve features a potable water priority function ensuring the supply of the required hot water quantity even in heating mode.

Optionally, an actuator can be mounted on the zone valve. This offers you the possibility to close the zone valve time-controlled.

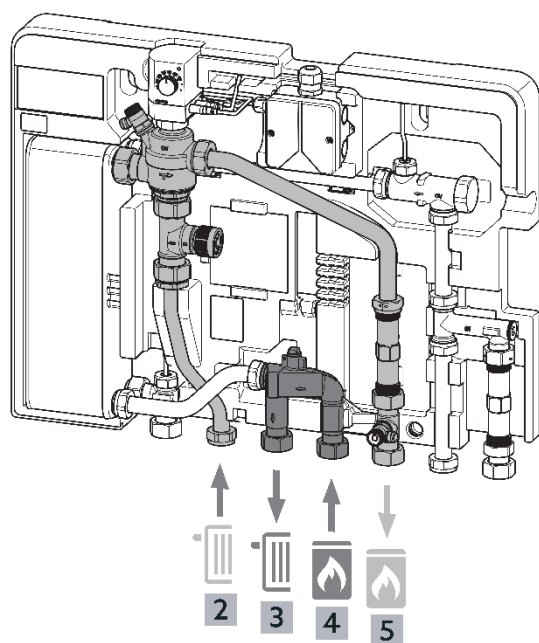
The Regudis W-HTE dwelling station is available in different performance ranges. The performance ranges differ in the size of the heat exchanger (see charts in the appendix).

The double-walled version of the dwelling station is equipped with a double-walled heat exchanger and has a leakage detection device on the underside. As soon as there is a leak in one of the plates of the heat exchanger, water escapes through the leakage detection device.

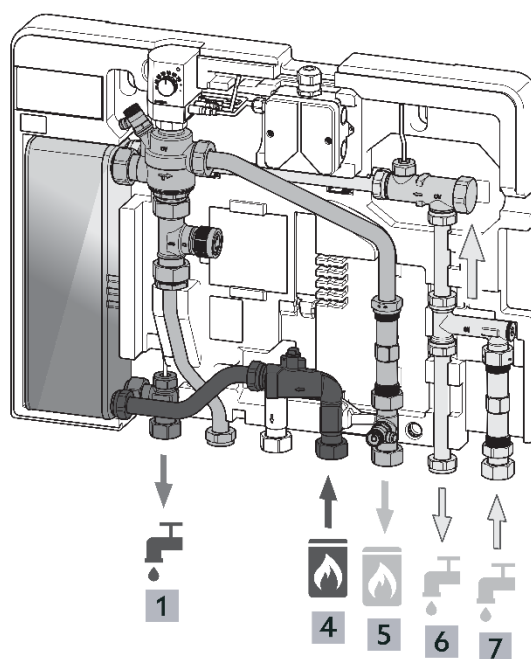
## Dimensions



## Connections



Heating mode

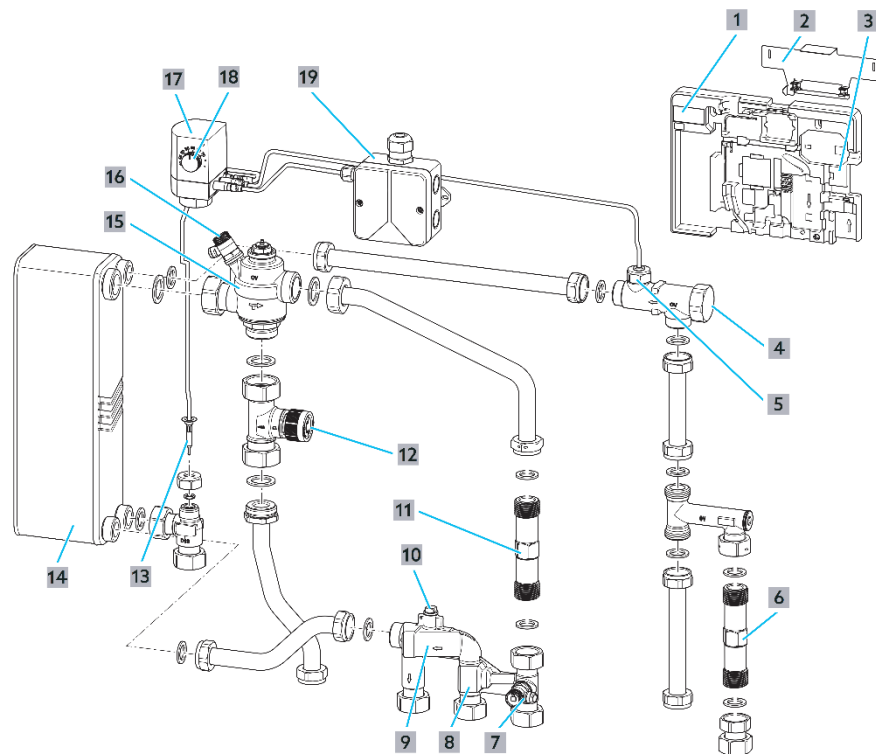


Hot water mode

### Description

- |   |                                                 |
|---|-------------------------------------------------|
| 1 | Hot water outlet                                |
| 2 | Heating circuit return                          |
| 3 | Heating circuit supply                          |
| 4 | Primary supply from the buffer storage cylinder |
| 5 | Primary return to the buffer storage cylinder   |
| 6 | Cold water outlet                               |
| 7 | Cold water inlet from the house connection      |

# Design



## Description

|    |                                                                               |
|----|-------------------------------------------------------------------------------|
| 1  | Type plate                                                                    |
| 2  | Angled wall bracket                                                           |
| 3  | Thermally insulated lower shell                                               |
| 4  | Connection for the circulation pipe                                           |
| 5  | Volume flow sensor                                                            |
| 6  | Spacer for water meter                                                        |
| 7  | Drain valve in the primary circuit                                            |
| 8  | Connection for the derivative temperature control set                         |
| 9  | Filter insert in the primary supply                                           |
| 10 | Connection in the primary supply for the temperature sensor of the heat meter |
| 11 | Spacer for heat meter                                                         |
| 12 | Zone valve for heating circuit control                                        |
| 13 | Hot water temperature sensor                                                  |
| 14 | Heat exchanger                                                                |
| 15 | Control valve with integrated differential pressure and volume flow control   |
| 16 | Vent valve in the heating circuit                                             |
| 17 | Actuator with integrated potable water temperature control                    |
| 18 | Rotary knob                                                                   |
| 19 | Connection box for the power supply                                           |

# Selection

## Item Numbers

### Regudis W-HTE

|                                                                                   | Performance range     | Heat exchanger                              | Item no. |
|-----------------------------------------------------------------------------------|-----------------------|---------------------------------------------|----------|
|  | Performance range 1   | Copper brazed                               | 1344030  |
|                                                                                   | Performance range 2   | Copper brazed                               | 1344031  |
|                                                                                   | Performance range 3   | Copper brazed                               | 1344032  |
|                                                                                   | Performance range 1   | Copper brazed with Sealix® protective layer | 1344050  |
|                                                                                   | Performance range 2   | Copper brazed with Sealix® protective layer | 1344051  |
|                                                                                   | Performance range 3   | Copper brazed with Sealix® protective layer | 1344052  |
|                                                                                   | Double-walled version | Copper brazed, double-walled                | 1344070  |

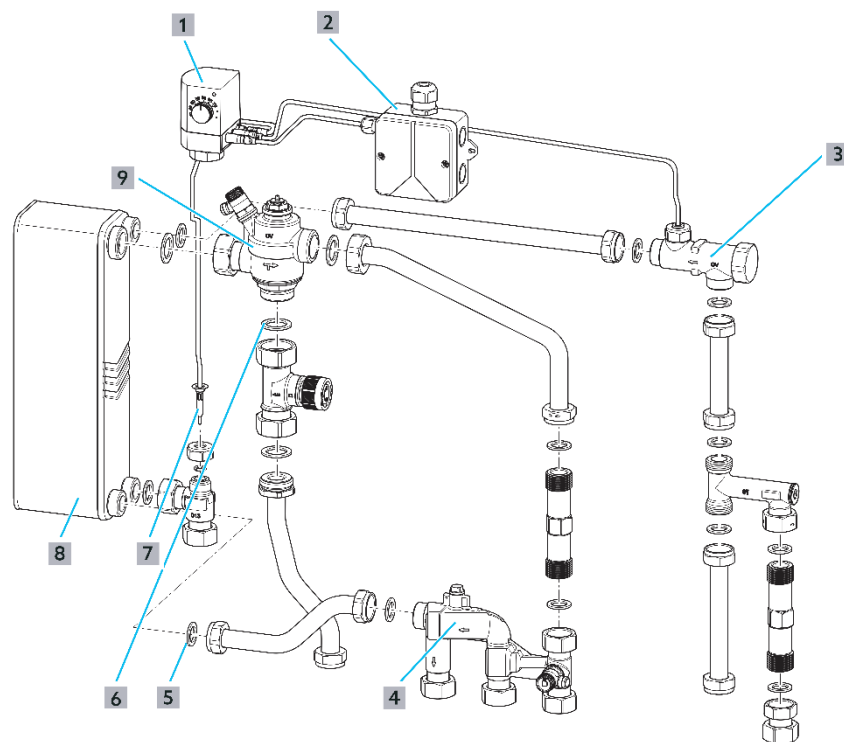
## Accessories and Spare Parts

### Accessories

Selected accessories for the Regudis W-HTE station. For a complete overview, see product catalogue.

| Description                                                                                  | Item no. |
|----------------------------------------------------------------------------------------------|----------|
| Flow temperature control module                                                              | 1344550  |
| Heating circuit connection fitting                                                           | 1344551  |
| Potable water circulation module                                                             | 1344555  |
| Instantaneous water heater module                                                            | 1344560  |
| Connection and piping set for Regudis W-HTE instantaneous water heater module                | 1344561  |
| Duo heating circuit separation module                                                        | 1344576  |
| Connection module for Regudis W-HTE for flexible hydronic connection from above and/or below | 1344570  |
| Front thermal insulation shell                                                               | 1344470  |
| Derivative temperature control set                                                           | 1344490  |
| Connection and shutoff set for Regudis W-HTE                                                 | 1344680  |
| Connection and shutoff set for Regudis W-HTE potable water circulation module                | 1344684  |
| Connection and shutoff set for Regudis W-HTE with flushing function                          | 1344685  |
| Flushing and mounting bridge for Regudis W-HTE                                               | 1344489  |
| Sealing plug set                                                                             | 1344481  |
| Electrical connecting block for surface heating with integrated time switch                  | 1400983  |
| Flush-mounted cabinet, standard model                                                        | 1344596  |
| Flush-mounted cabinet, long model for heating circuit manifolds up to 8 circuits             | 1344598  |
| Flush-mounted cabinet, long model for heating circuit manifolds up to 12 circuits            | 1344599  |
| Revision frame                                                                               | 1344098  |
| Surface-mounted cabinet, standard model                                                      | 1344697  |
| Surface-mounted cabinet, long model for heating circuit manifolds up to 8 circuits           | 1344698  |
| Surface-mounted cabinet, long model for heating circuit manifolds up to 12 circuits          | 1344699  |
| Regubox exclusive surface-mounted bonnet                                                     | 1344595  |

## Spare Parts



| Description                                                                     | Item no. |
|---------------------------------------------------------------------------------|----------|
| 1 Actuator with integrated potable water temperature control                    | 1344491  |
| 2 Power supply unit                                                             | 1344496  |
| 3 Volume flow sensor                                                            | 1344693  |
| 4 Distributor                                                                   | 1344486  |
| Filter insert                                                                   | 1344495  |
| 5 Sealing ring for junction G 3/4                                               | 1344497  |
| 6 Sealing ring for junction G 1                                                 | 1344498  |
| 7 Potable water temperature sensor                                              | 1344494  |
| 8 Heat exchanger copper brazed, performance range 1                             | 1344083  |
| Heat exchanger copper brazed, performance range 2                               | 1344084  |
| Heat exchanger copper brazed, performance range 3                               | 1344085  |
| Heat exchanger copper brazed with Sealix® protective layer, performance range 1 | 1344093  |
| Heat exchanger copper brazed with Sealix® protective layer, performance range 2 | 1344094  |
| Heat exchanger copper brazed with Sealix® protective layer, performance range 3 | 1344095  |
| 9 Control valve with integrated differential pressure and volume flow control   | 1344492  |

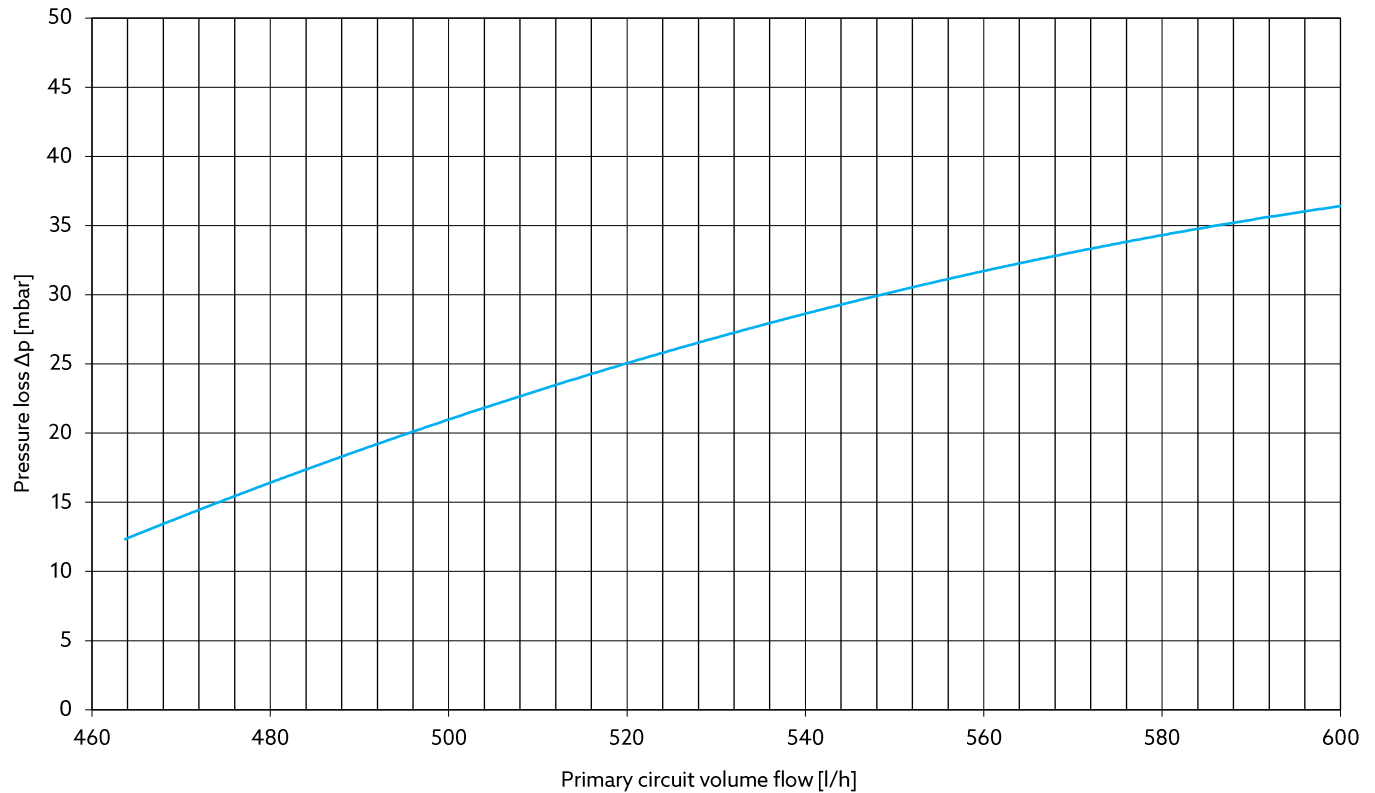
Suitable component for cabinet mounting



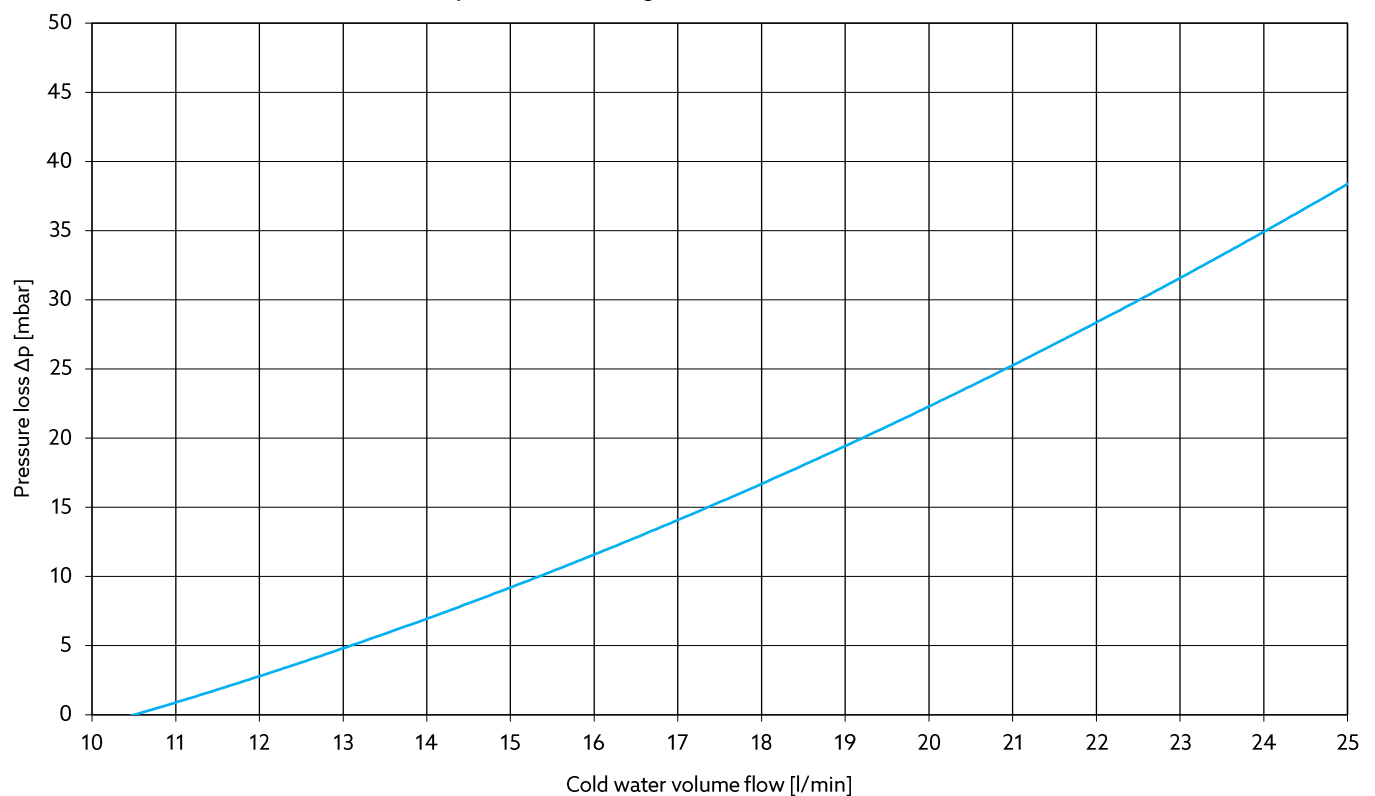
| Product                                                         | Item no.                         |
|-----------------------------------------------------------------|----------------------------------|
| Surface- / flush-mounted cabinet for Regudis W-HTE              | 1344699 / 1344599                |
| Electronic dwelling station Regudis W-HTE                       | 1344030 - 32 / 1344050 – 52 / 70 |
| Derivative temperature control set for Regudis W-HTE            | 1344490                          |
| Connection and shutoff set for Regudis W-HTE                    | 1344680                          |
| Flow temperature control module for für Regudis W-HTE           | 1344550                          |
| Heating circuit connection fitting for Regudis W-HTE            | 1344551                          |
| Potable water circulation module for Regudis W-HTE              | 1344555                          |
| Connection and shutoff set for potable water circulation module | 1344684                          |
| Multidis SF heating circuit manifold                            | 1406352 - 1406362                |
| Aktor T 2P actuator                                             | 1012452                          |
| Electrical connecting block for surface heating                 | 1400983                          |

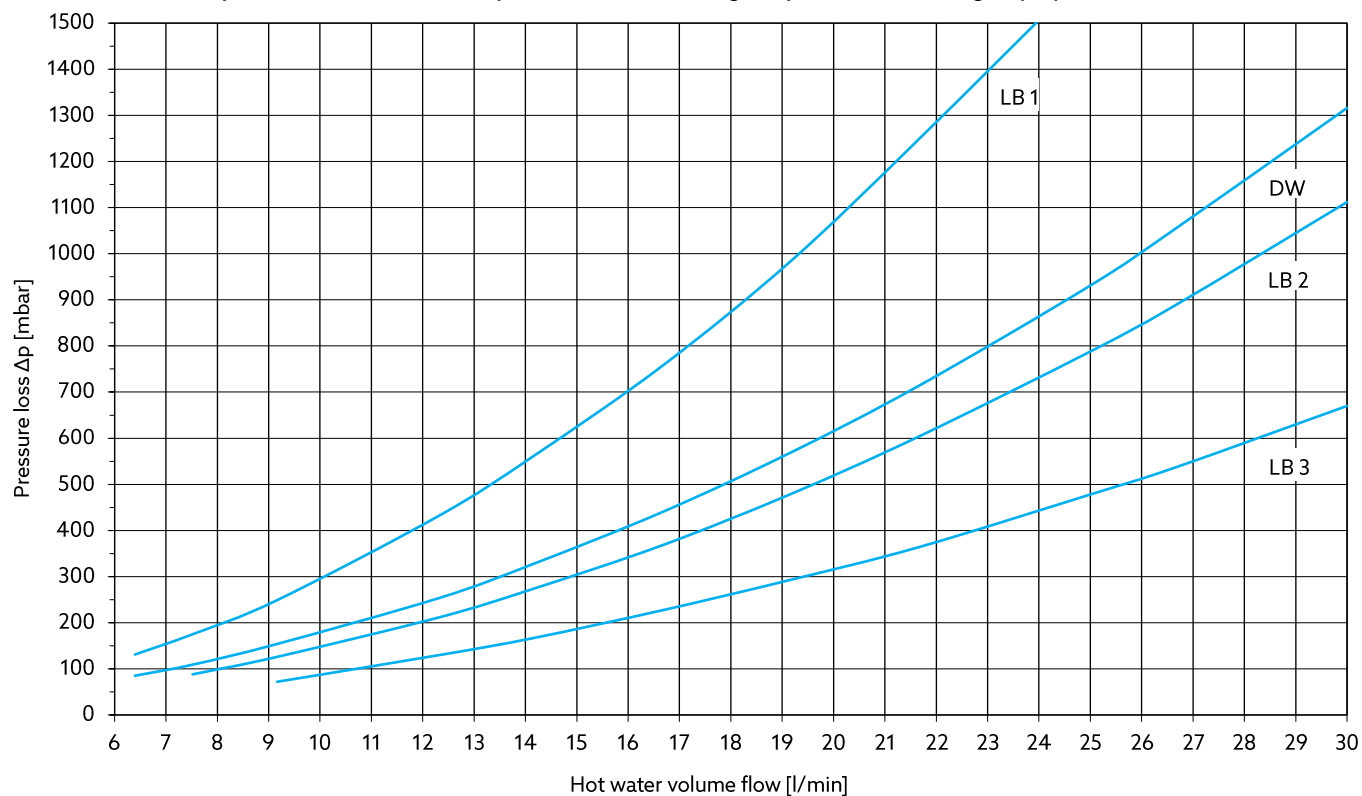
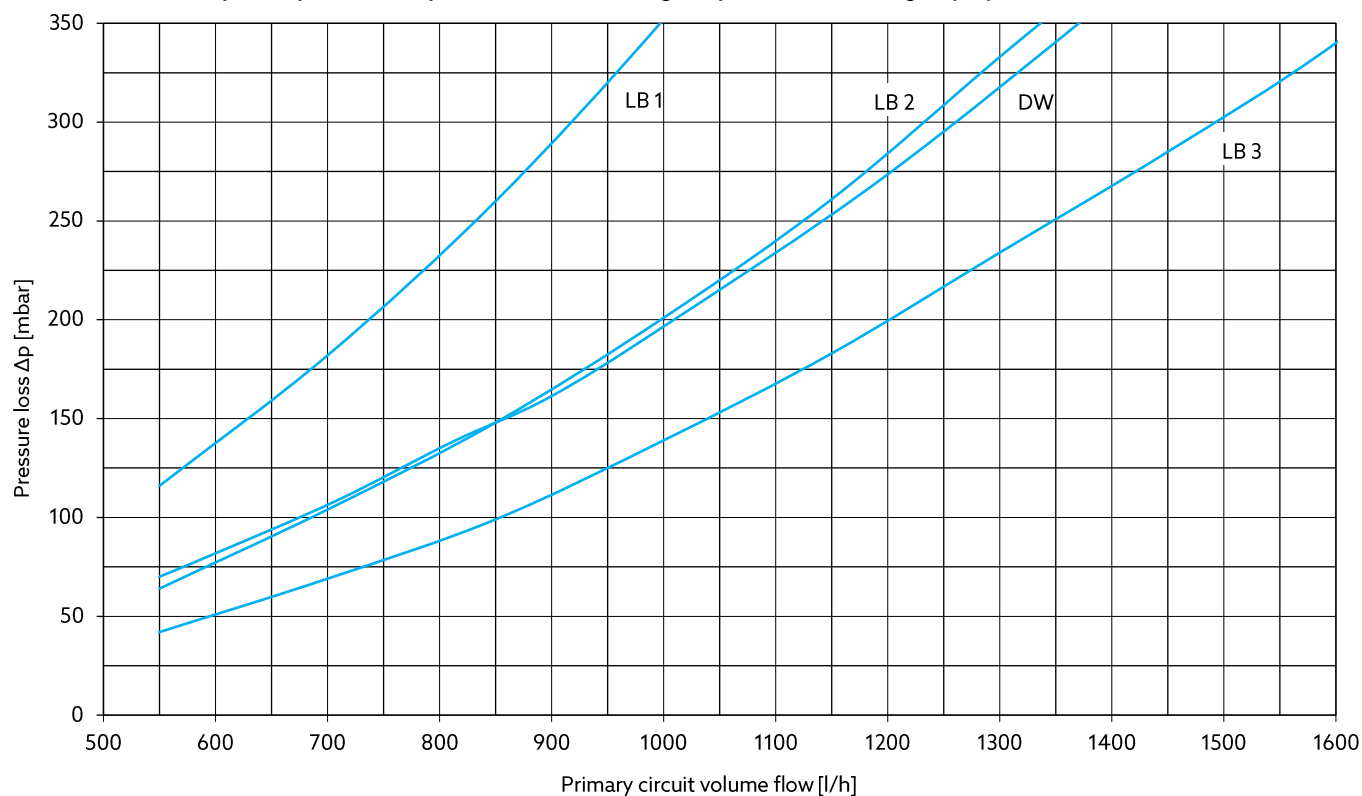
# Design Charts

Pressure loss of the primary circuit during heating mode for performance ranges 1-3 and double-walled version



Pressure loss of the cold water outlet for performance ranges 1-3 and double-walled version

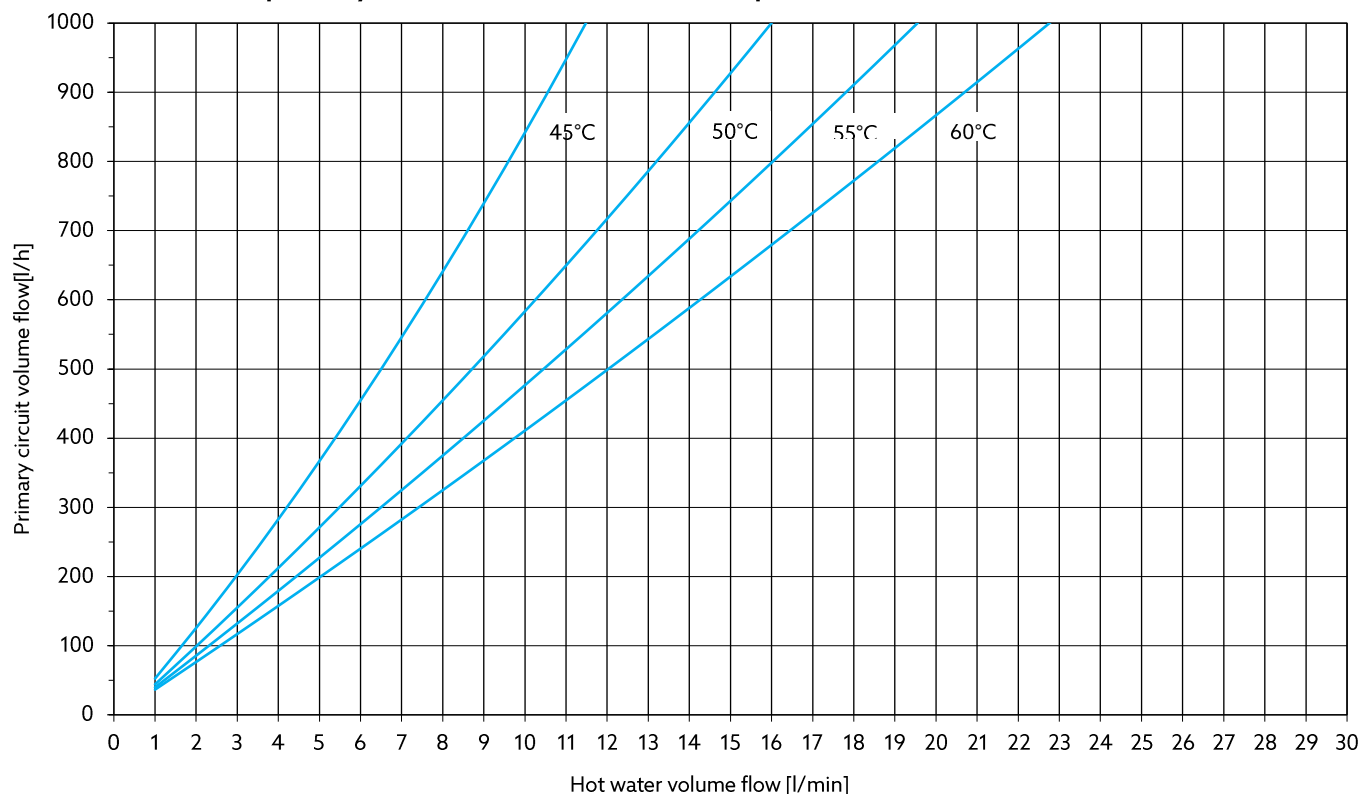


**Pressure loss of the potable water circuit for potable water heating for performance ranges (LB) 1-3 and double-walled version****Pressure loss of the primary circuit for potable water heating for performance ranges (LB) 1-3 and double-walled version**

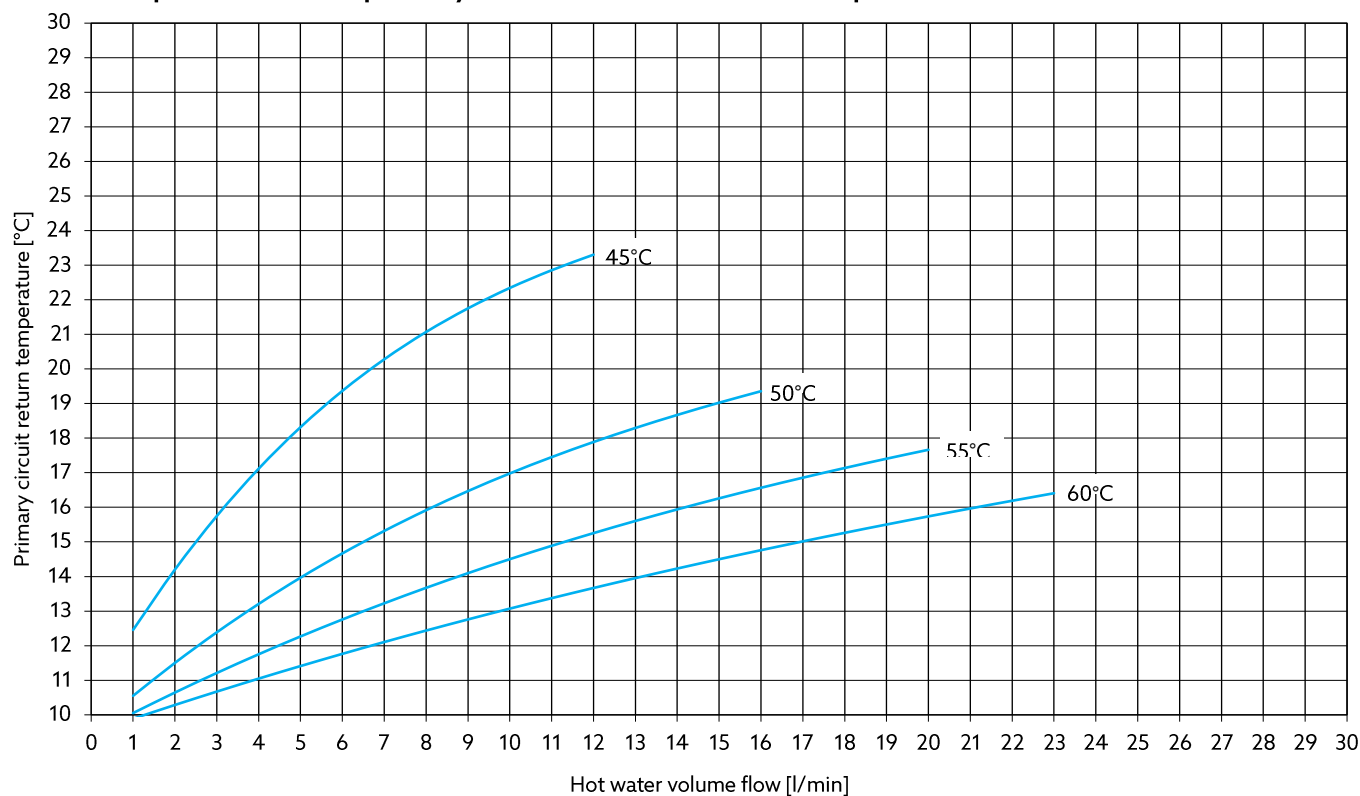
# Performance range 1: Heating of potable water from 10 °C to 45 °C

(Performance data according to SPF test procedure)

## Volume flow of the primary circuit at different flow temperatures



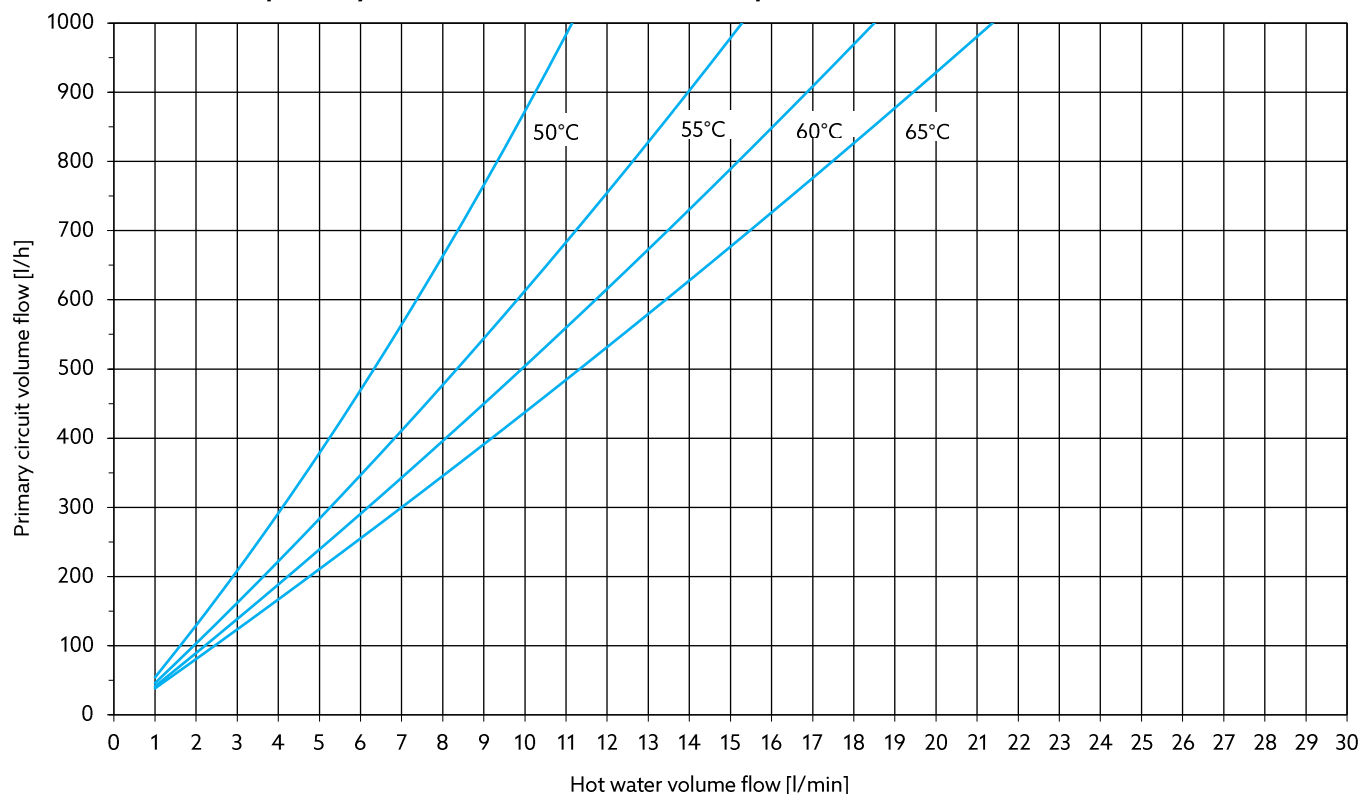
## Return temperature of the primary circuit at different flow temperatures



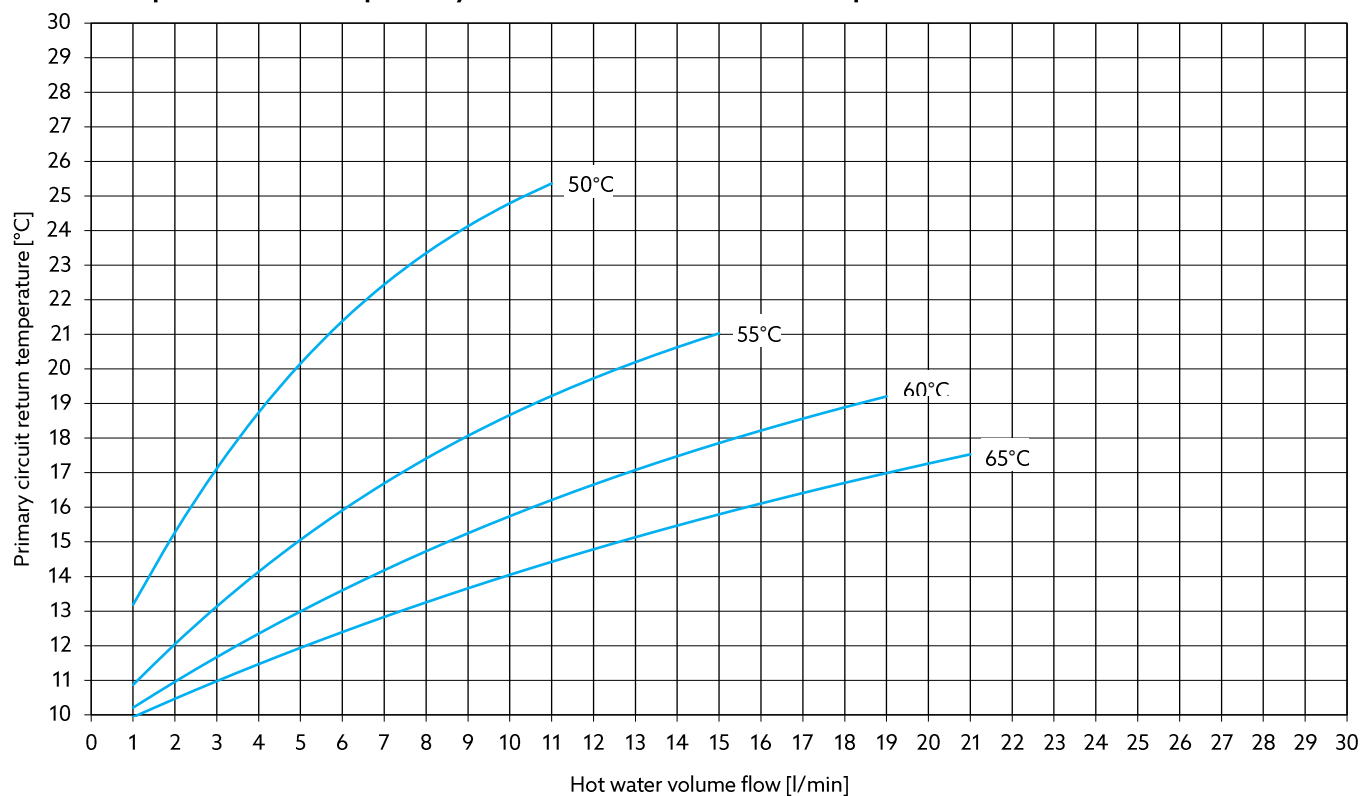
# Performance range 1: Heating of potable water from 10 °C to 50 °C

(Performance data according to SPF test procedure)

## Volume flow of the primary circuit at different flow temperatures



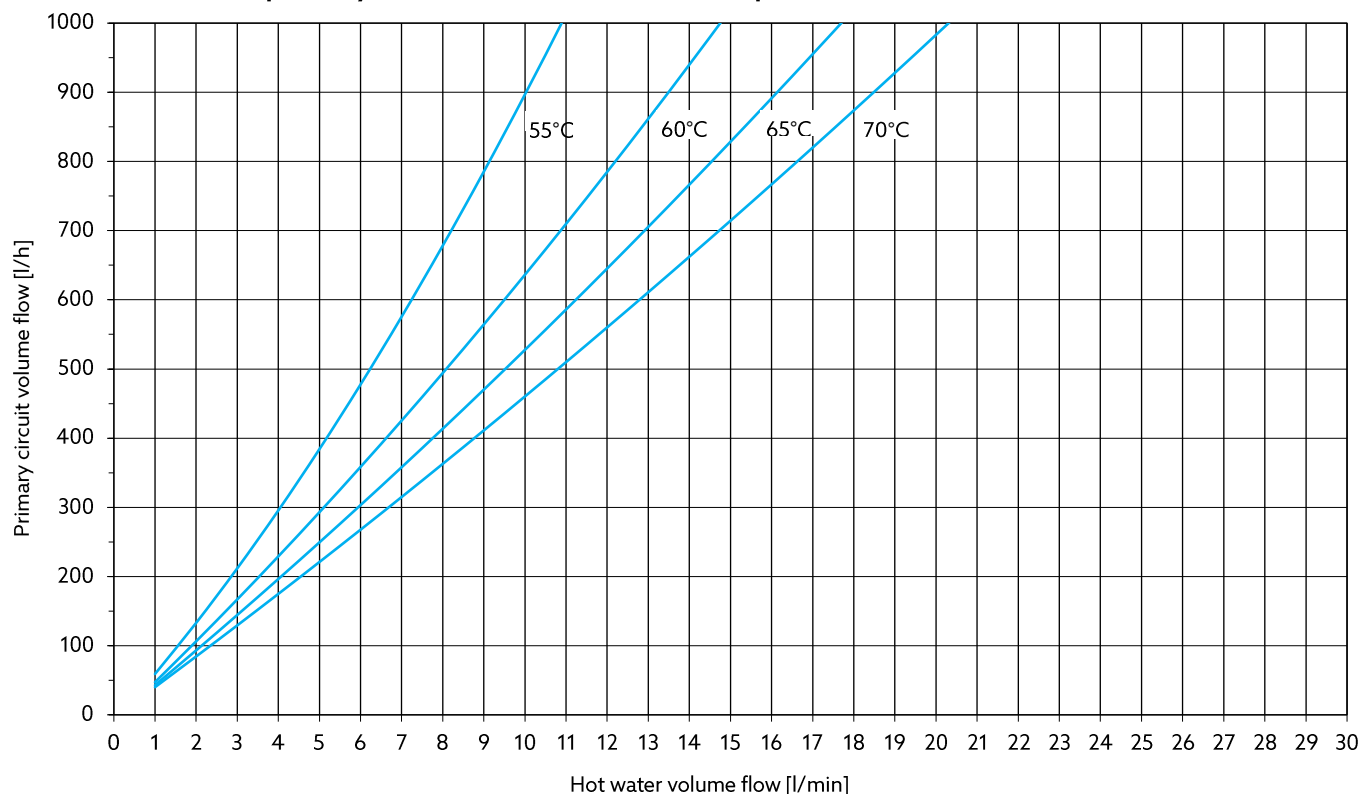
## Return temperature of the primary circuit at different flow temperatures



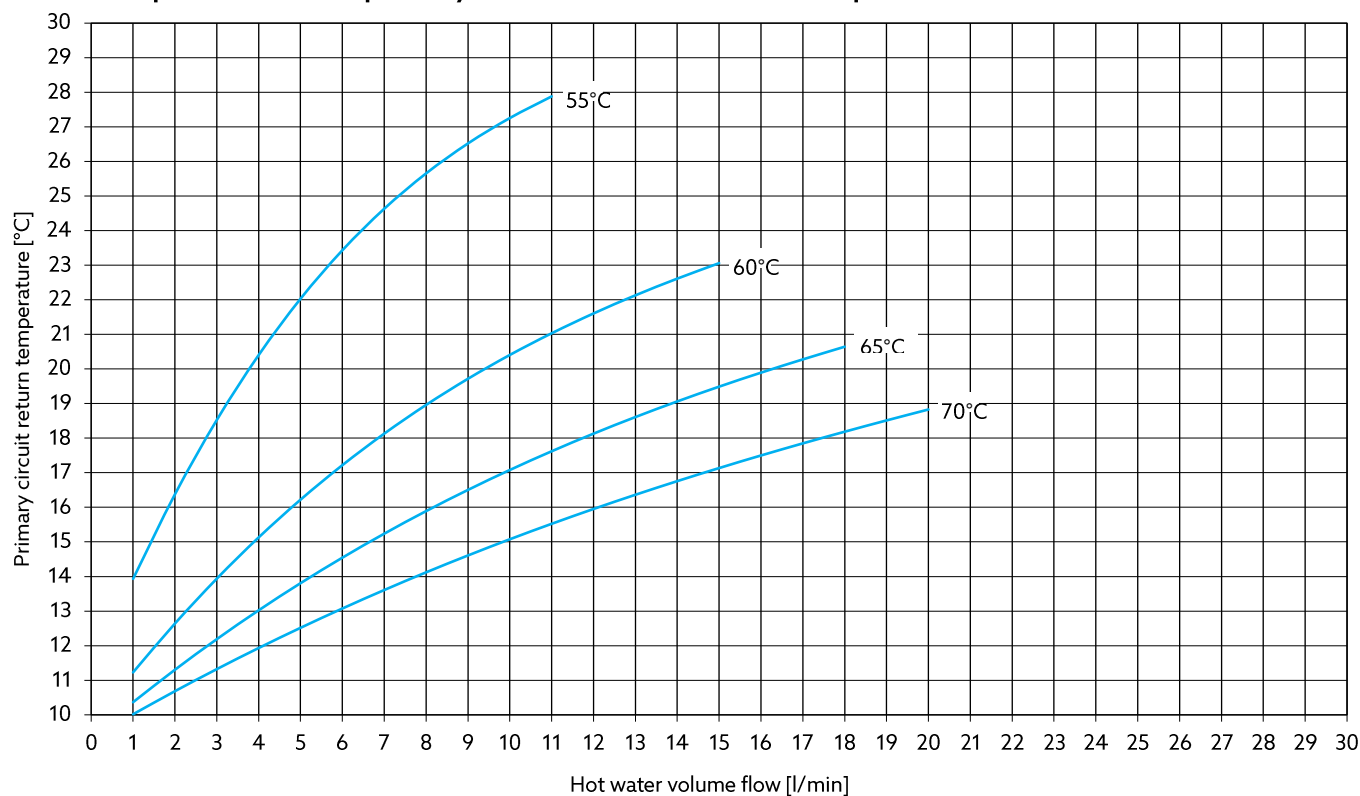
## Performance range 1: Heating of potable water from 10 °C to 55 °C

(Performance data according to SPF test procedure)

### Volume flow of the primary circuit at different flow temperatures



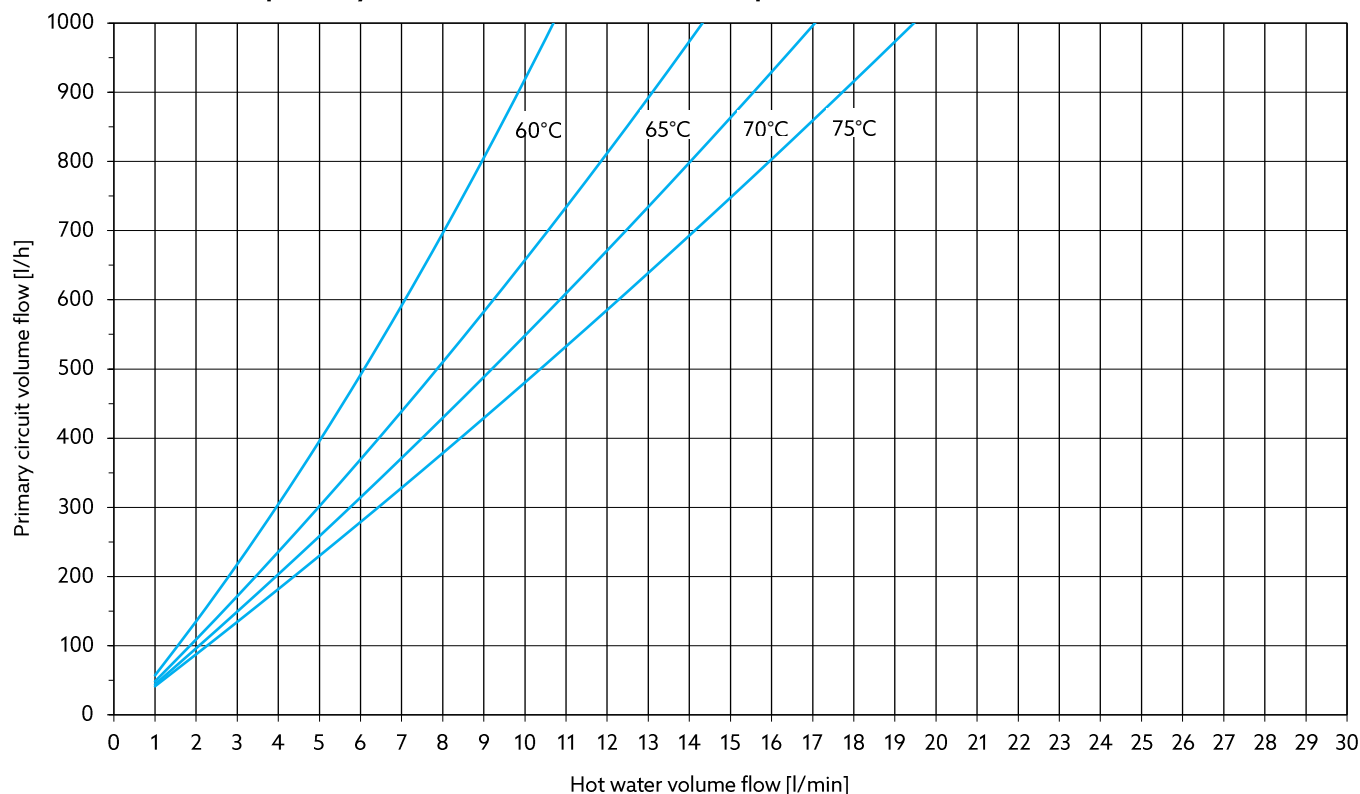
### Return temperature of the primary circuit at different flow temperatures



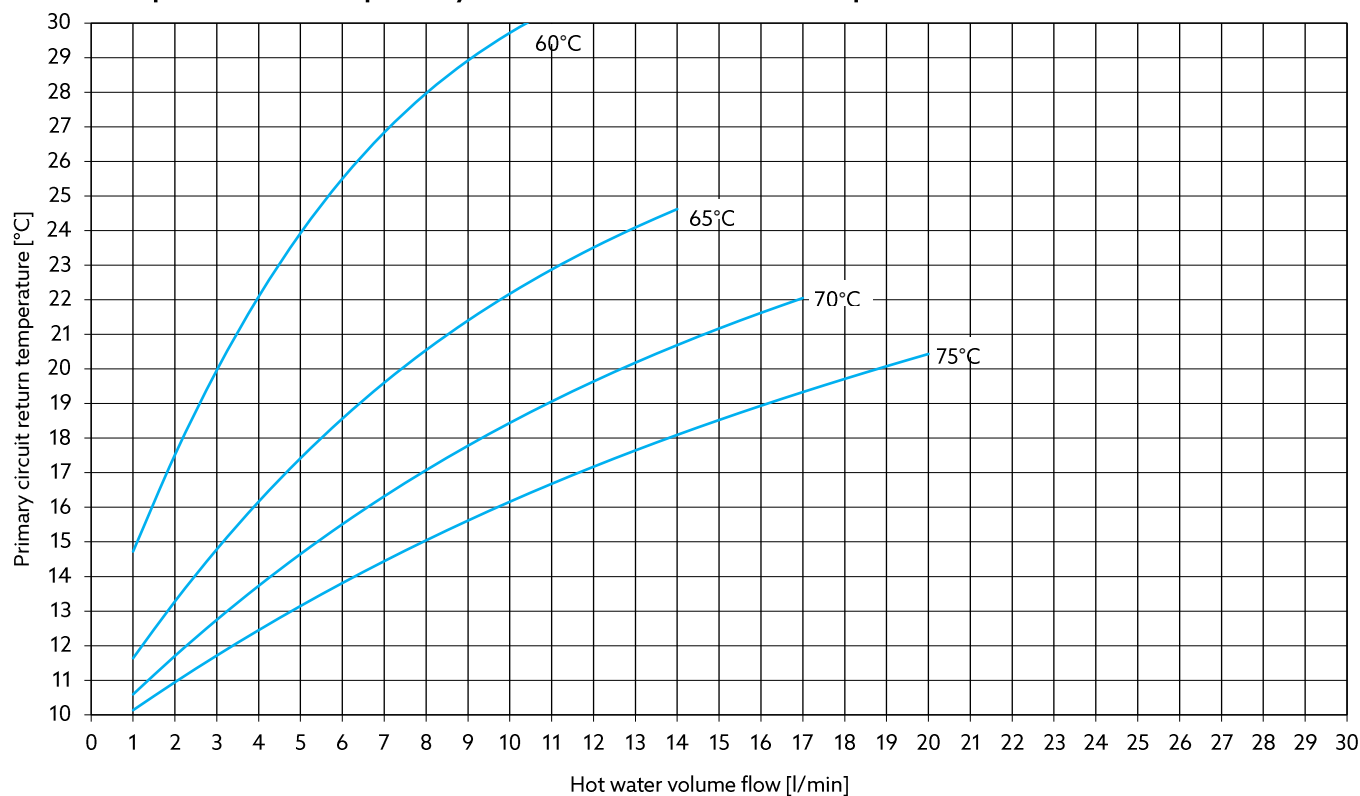
# Performance range 1: Heating of potable water from 10 °C to 60 °C

(Performance data according to SPF test procedure)

## Volume flow of the primary circuit at different flow temperatures



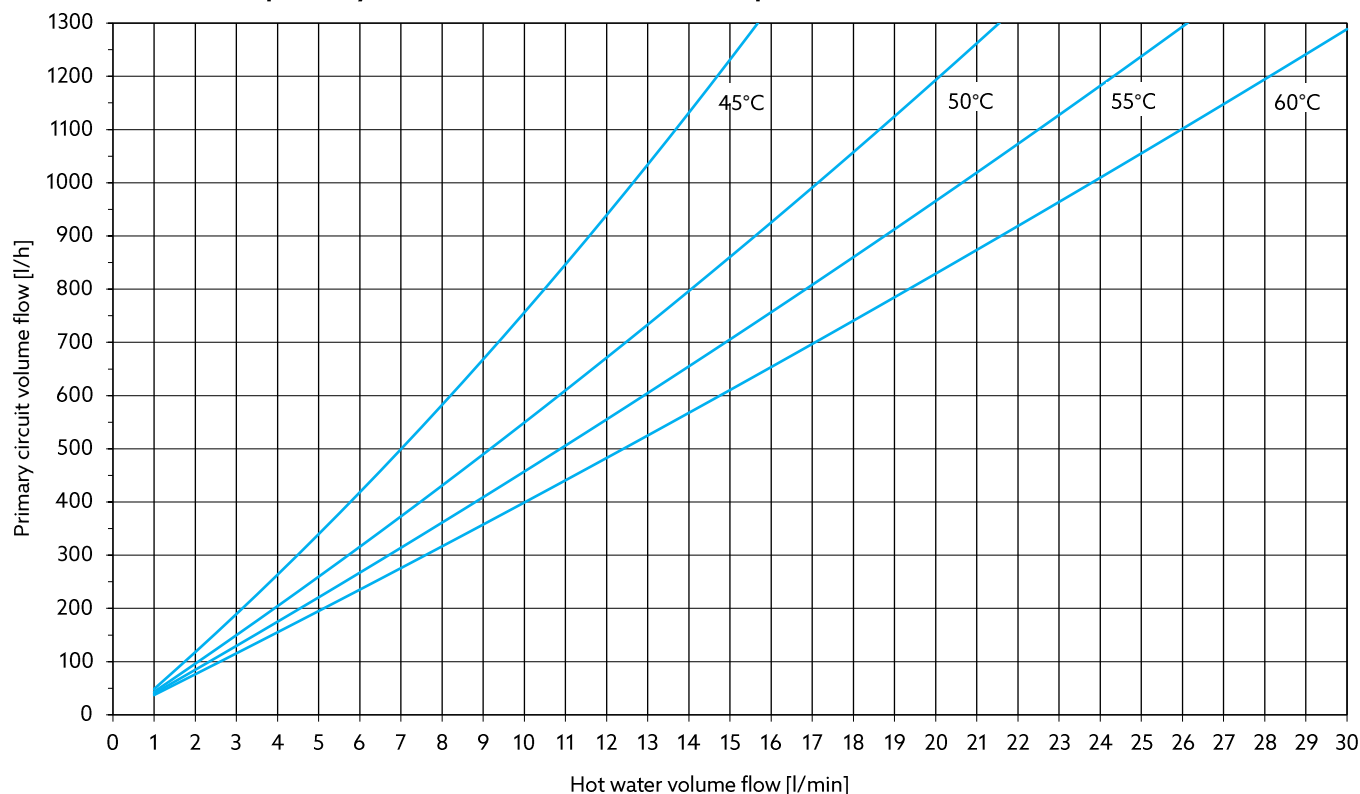
## Return temperature of the primary circuit at different flow temperatures



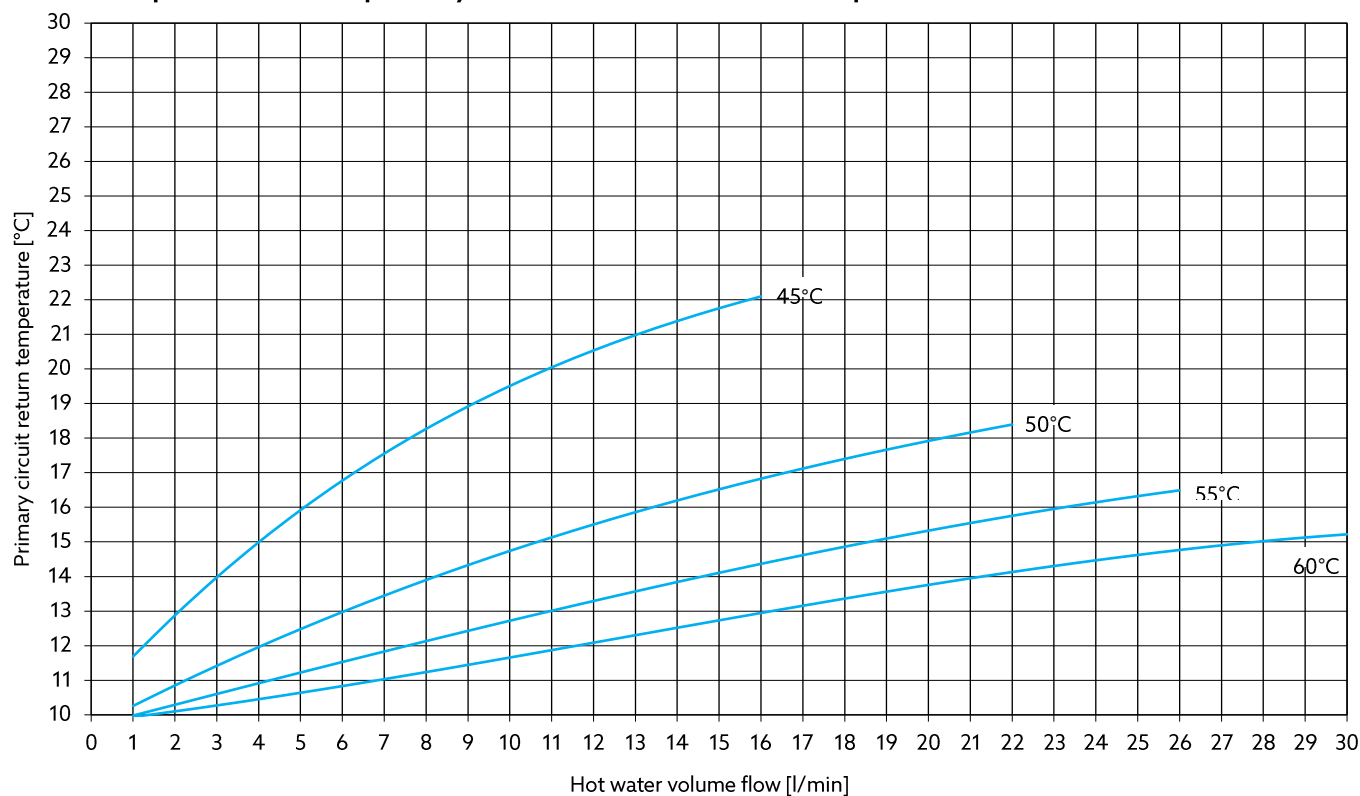
## Performance range 2: Heating of potable water from 10 °C to 45 °C

(Performance data according to SPF test procedure)

### Volume flow of the primary circuit at different flow temperatures



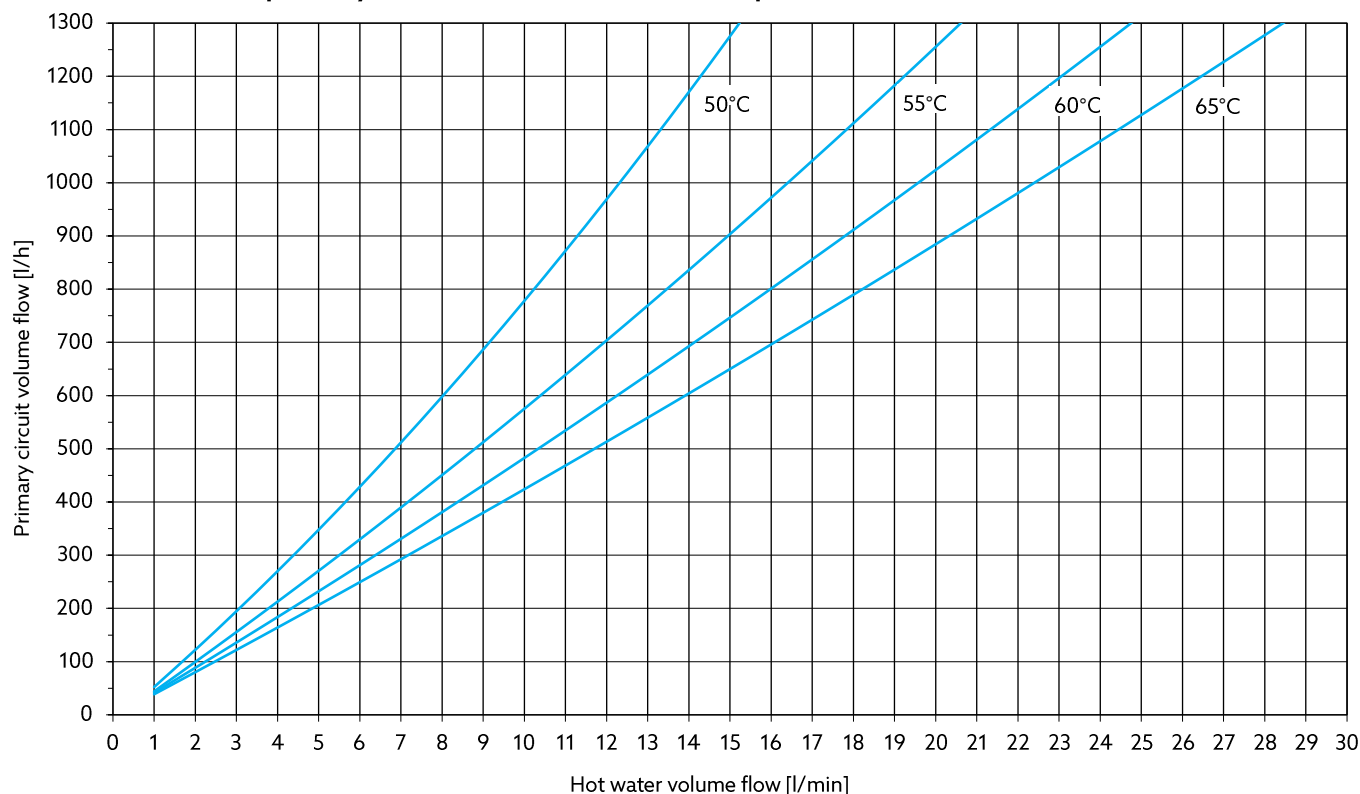
### Return temperature of the primary circuit at different flow temperatures



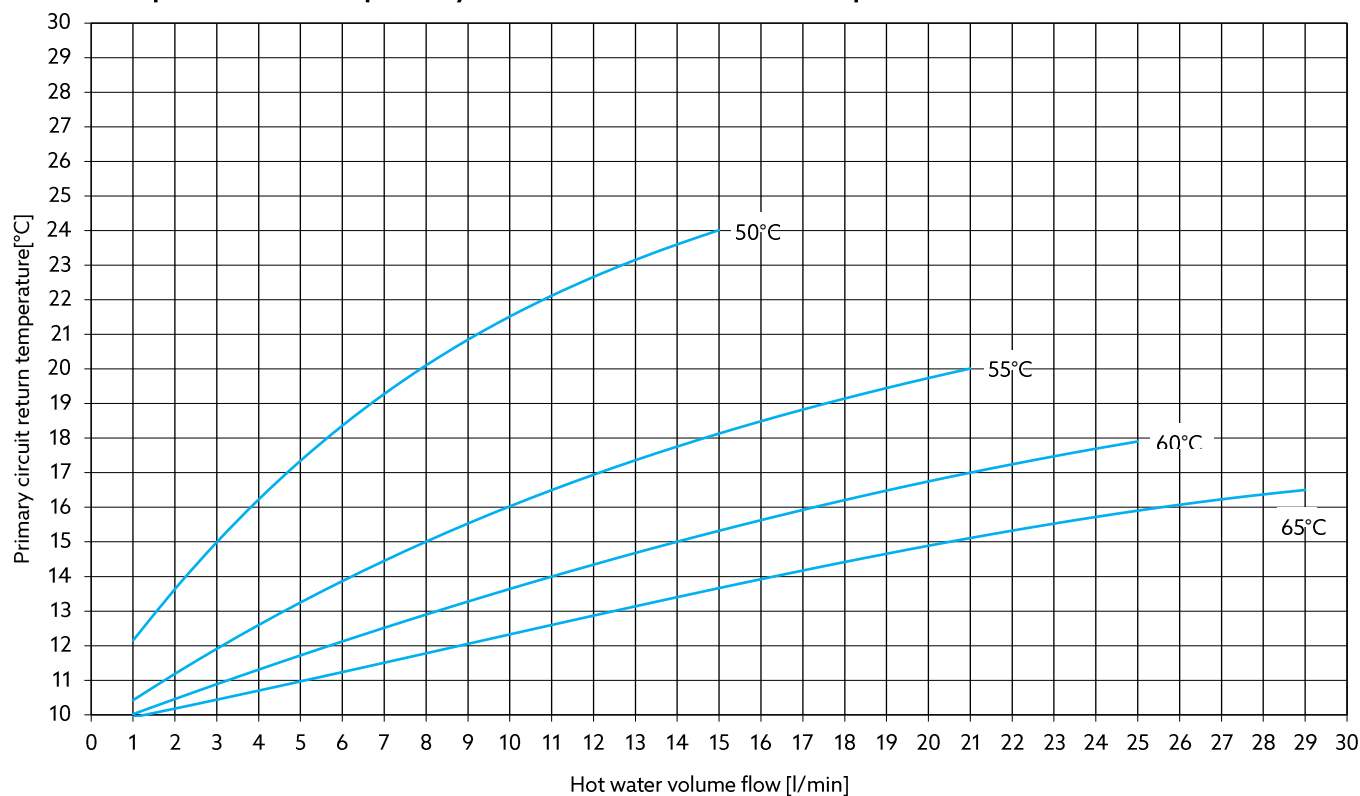
## Performance range 2: Heating of potable water from 10 °C to 50 °C

(Performance data according to SPF test procedure)

### Volume flow of the primary circuit at different flow temperatures



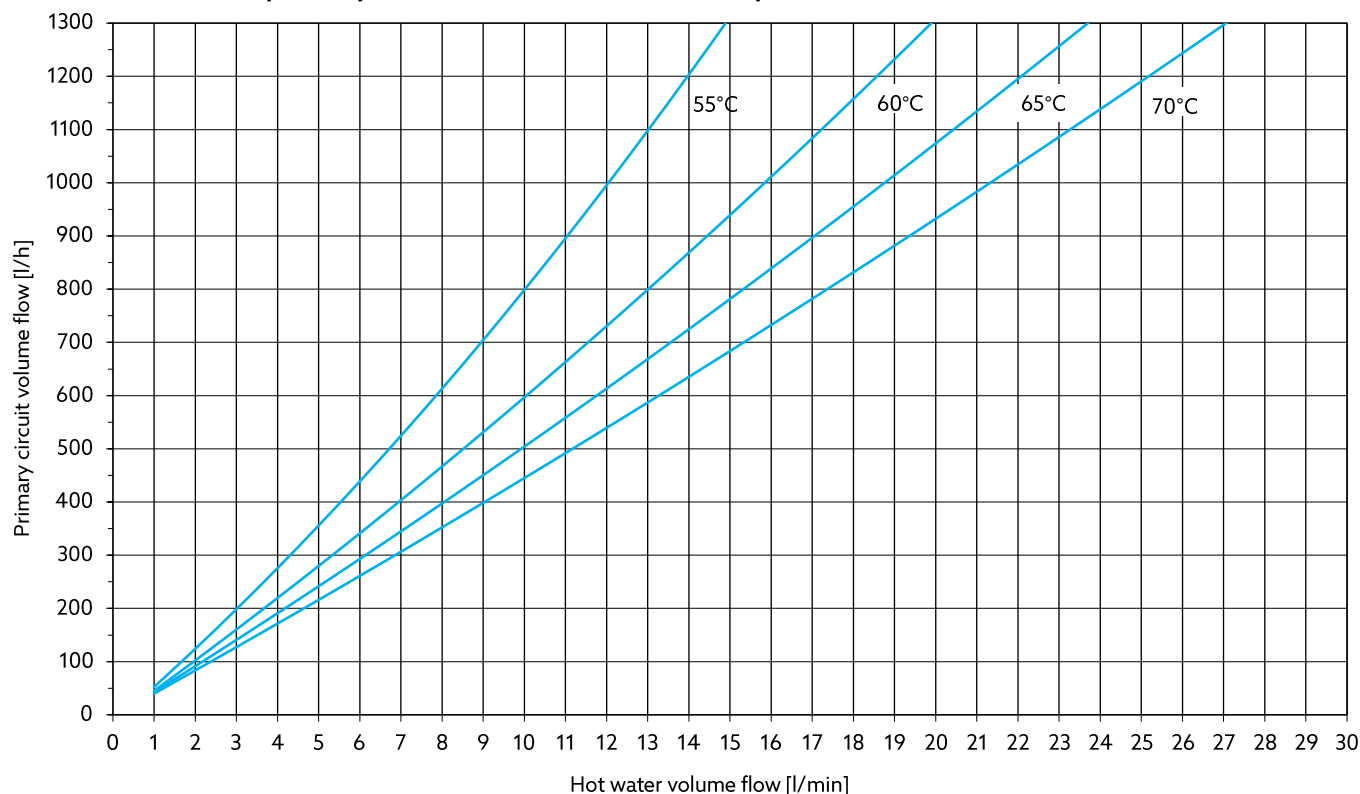
### Return temperature of the primary circuit at different flow temperatures



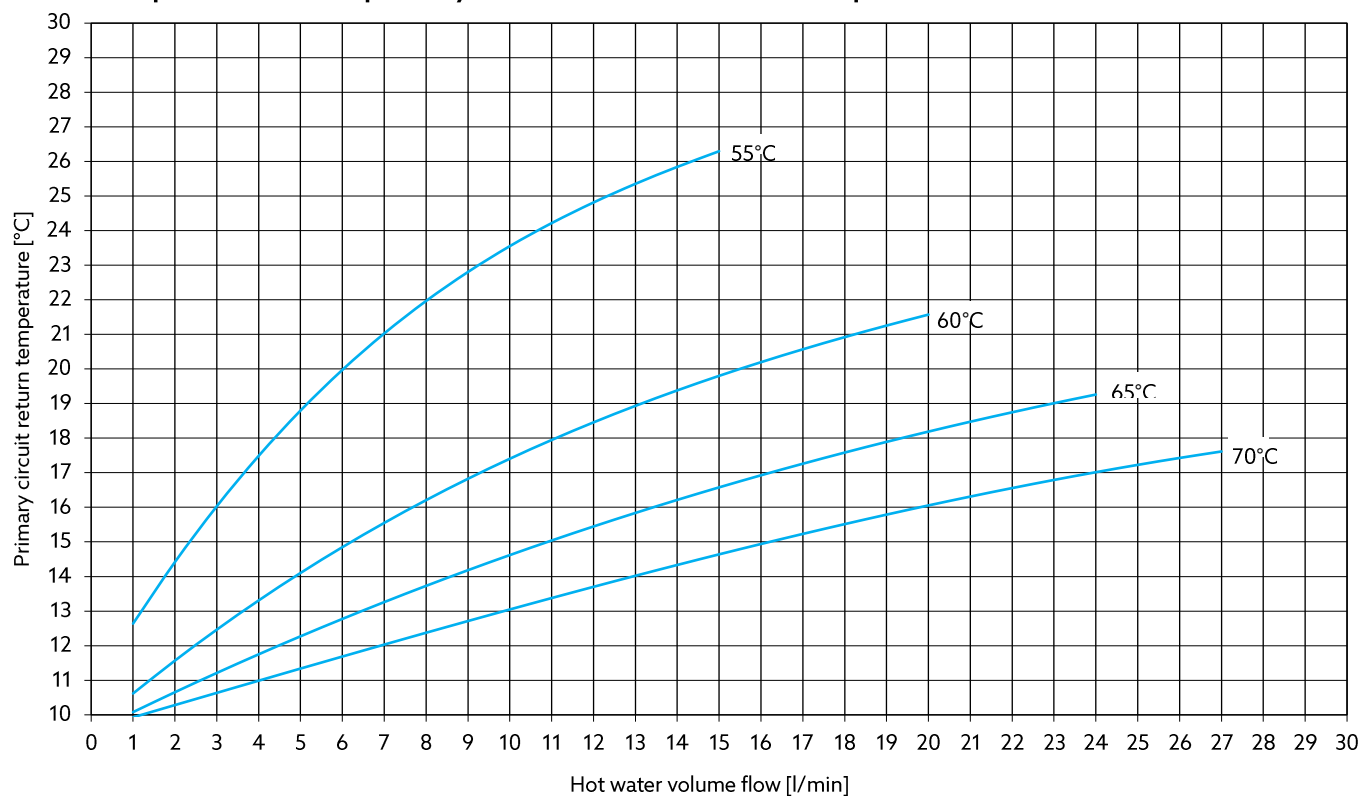
## Performance range 2: Heating of potable water from 10 °C to 55 °C

(Performance data according to SPF test procedure)

### Volume flow of the primary circuit at different flow temperatures



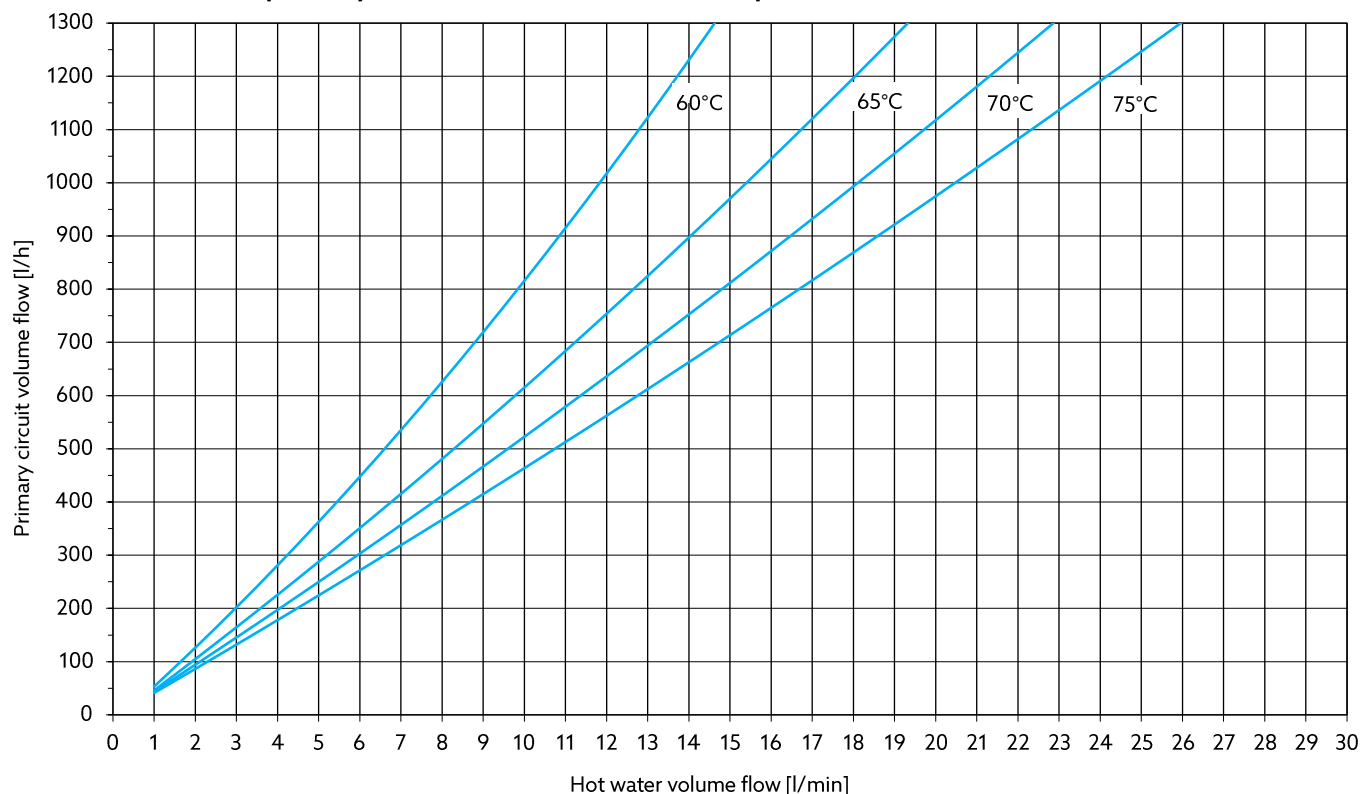
### Return temperature of the primary circuit at different flow temperatures



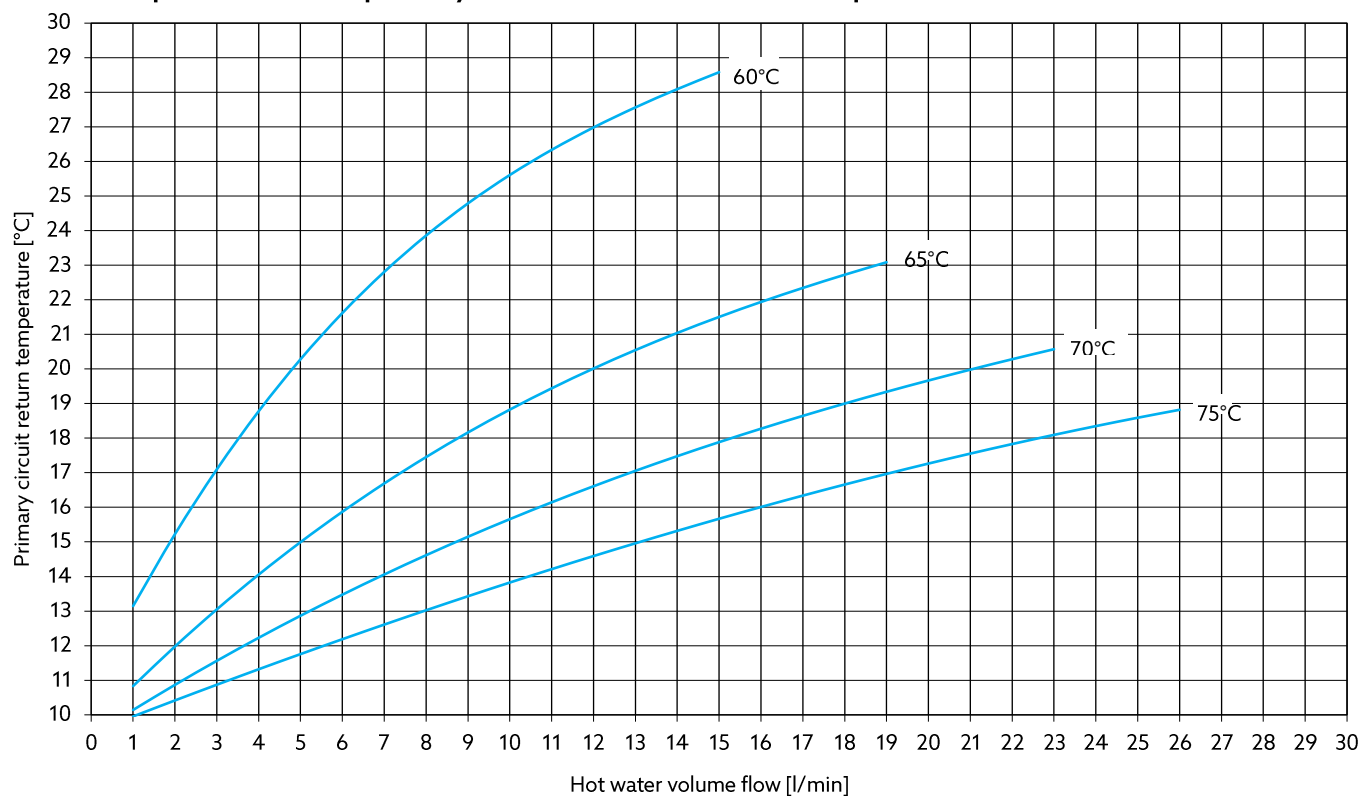
## Performance range 2: Heating of potable water from 10 °C to 60 °C

(Performance data according to SPF test procedure)

### Volume flow of the primary circuit at different flow temperatures



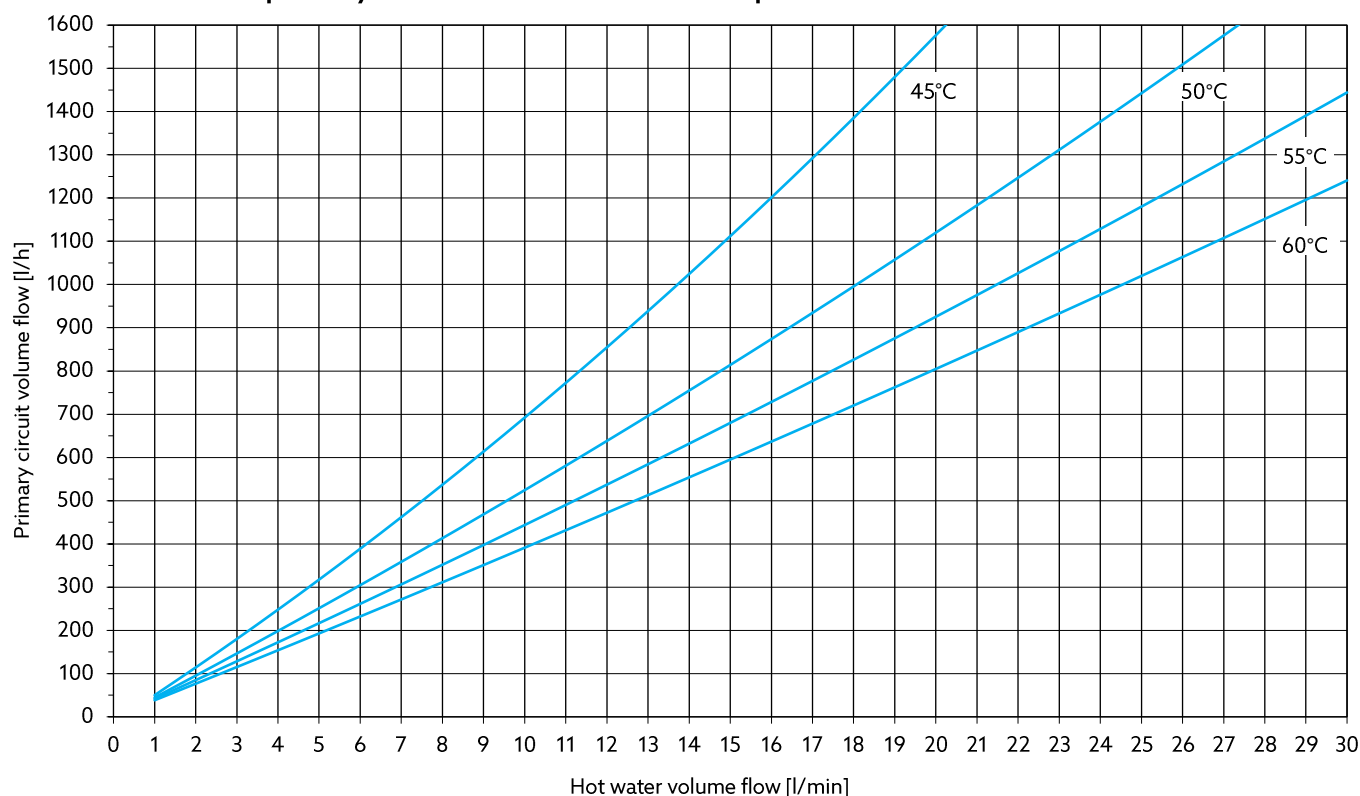
### Return temperature of the primary circuit at different flow temperatures



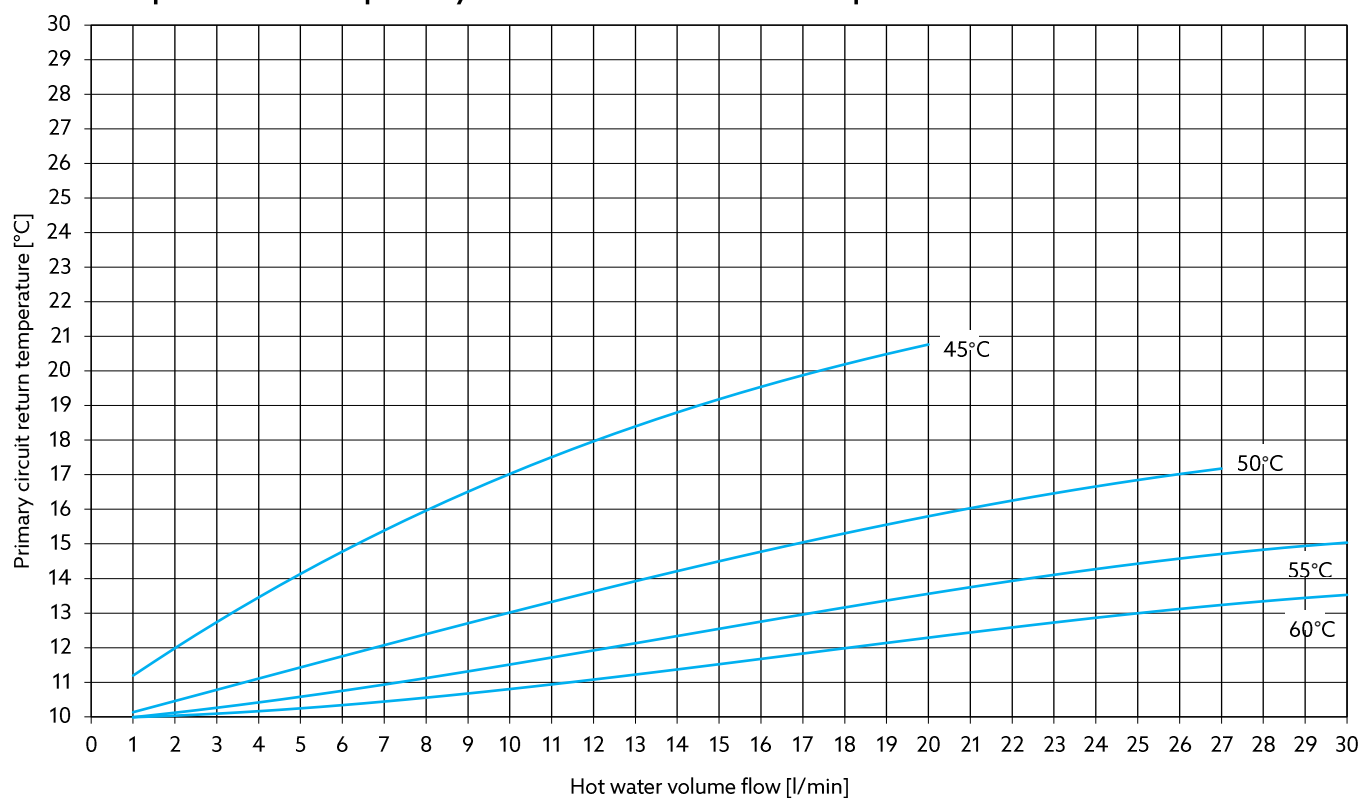
## Performance range 3: Heating of potable water from 10 °C to 45 °C

(Performance data according to SPF test procedure)

### Volume flow of the primary circuit at different flow temperatures



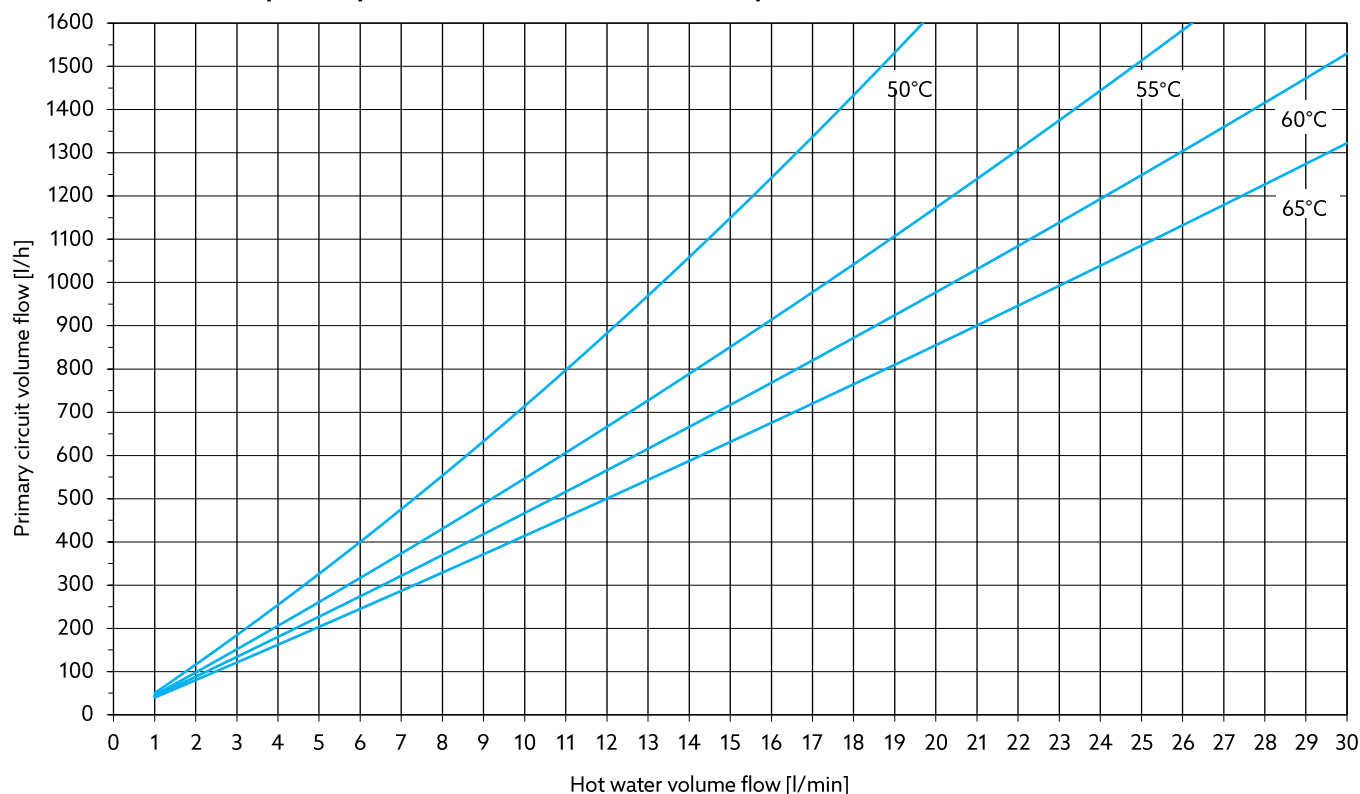
### Return temperature of the primary circuit at different flow temperatures



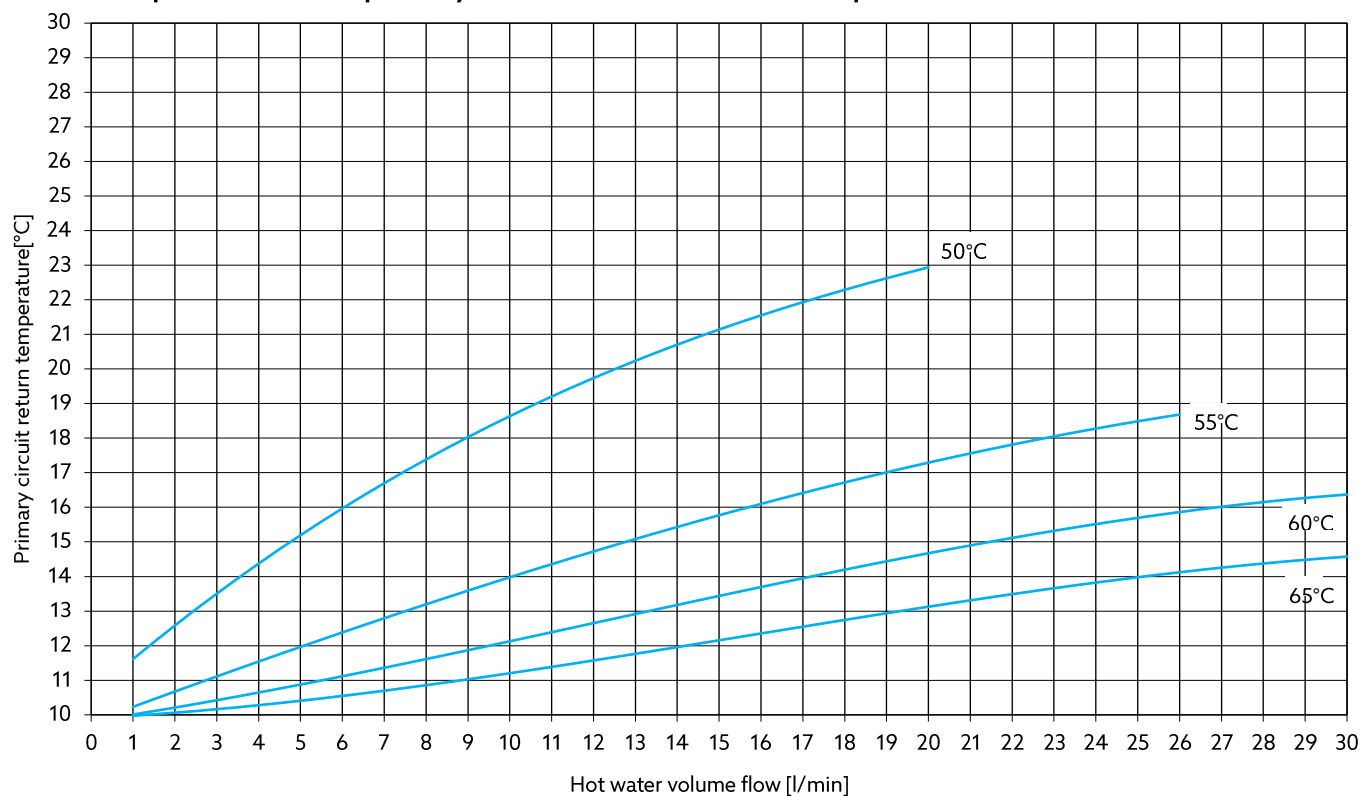
## Performance range 3: Heating of potable water from 10 °C to 50 °C

(Performance data according to SPF test procedure)

### Volume flow of the primary circuit at different flow temperatures



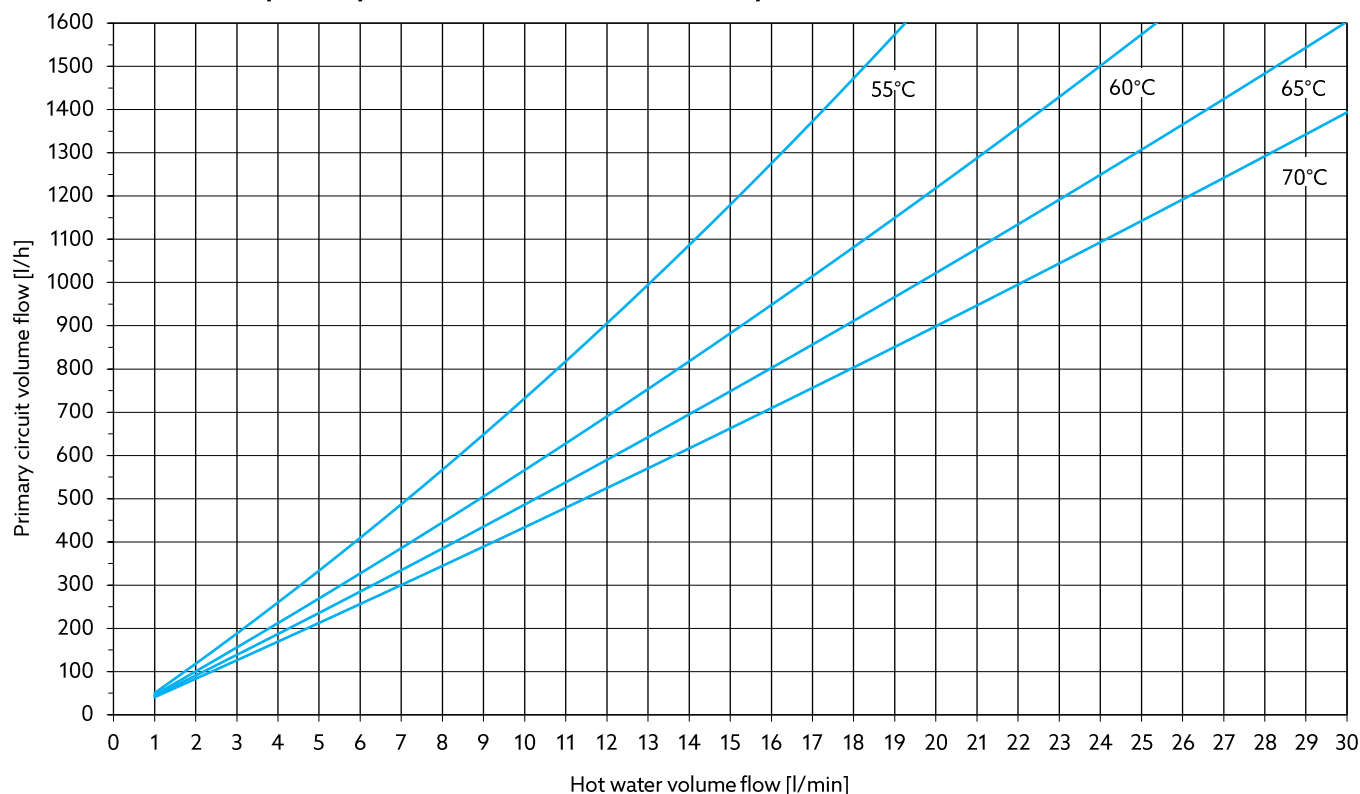
### Return temperature of the primary circuit at different flow temperatures



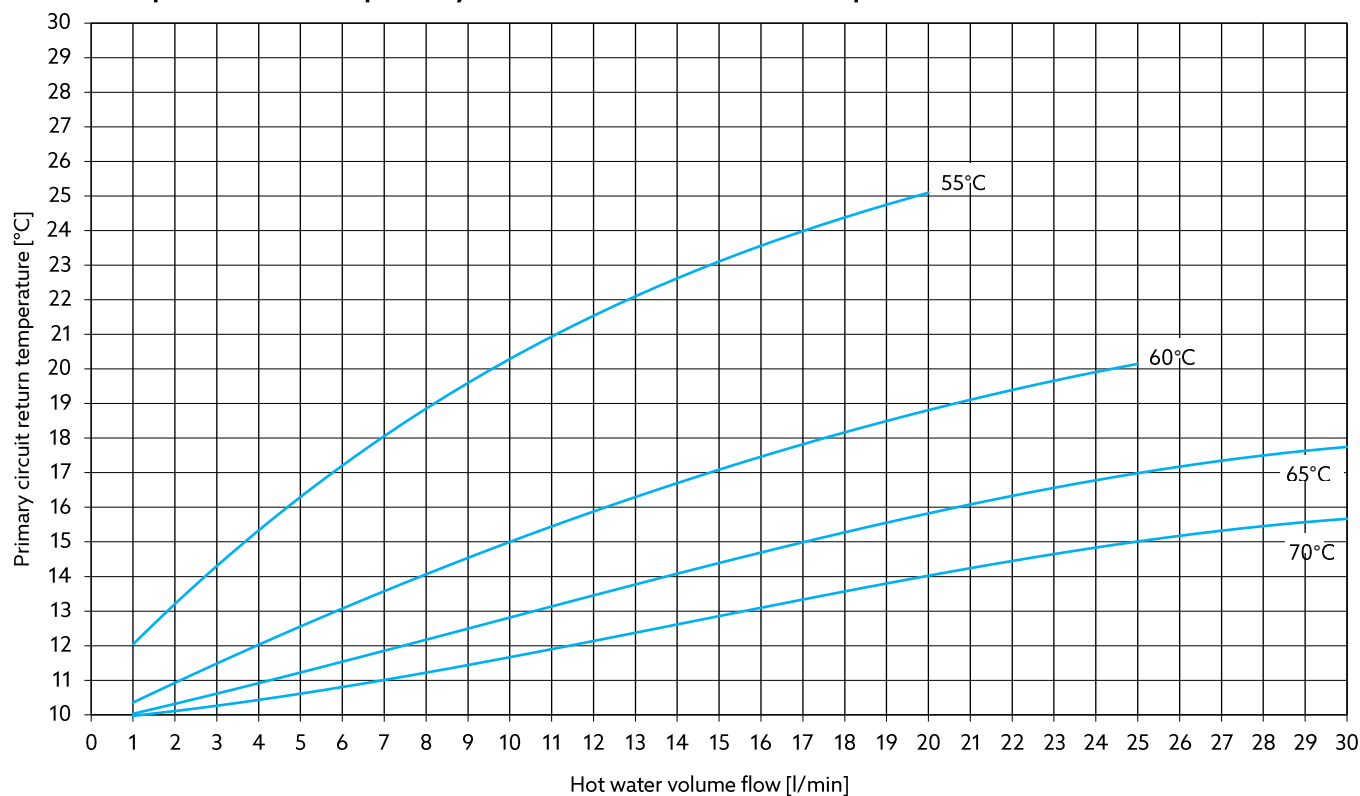
## Performance range 3: Heating of potable water from 10 °C to 55 °C

(Performance data according to SPF test procedure)

### Volume flow of the primary circuit at different flow temperatures



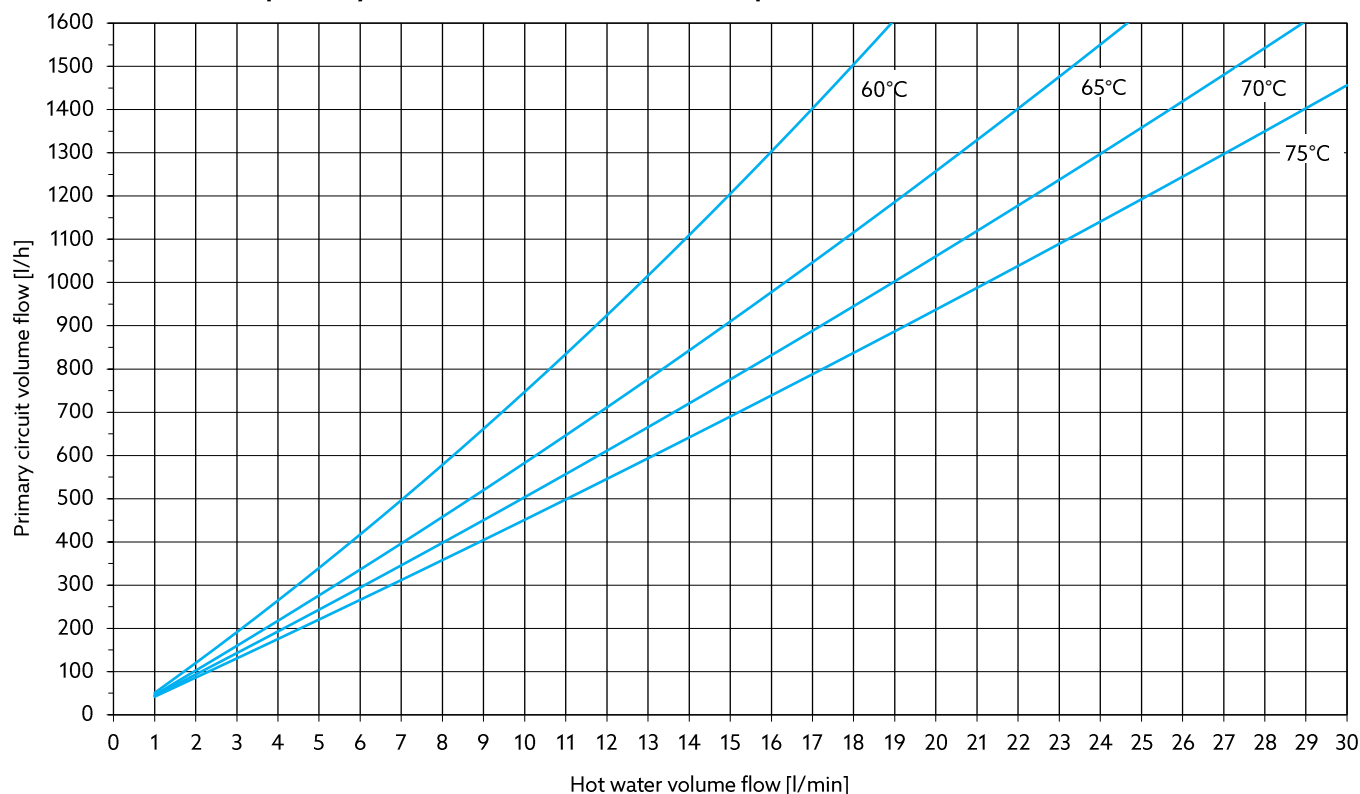
### Return temperature of the primary circuit at different flow temperatures



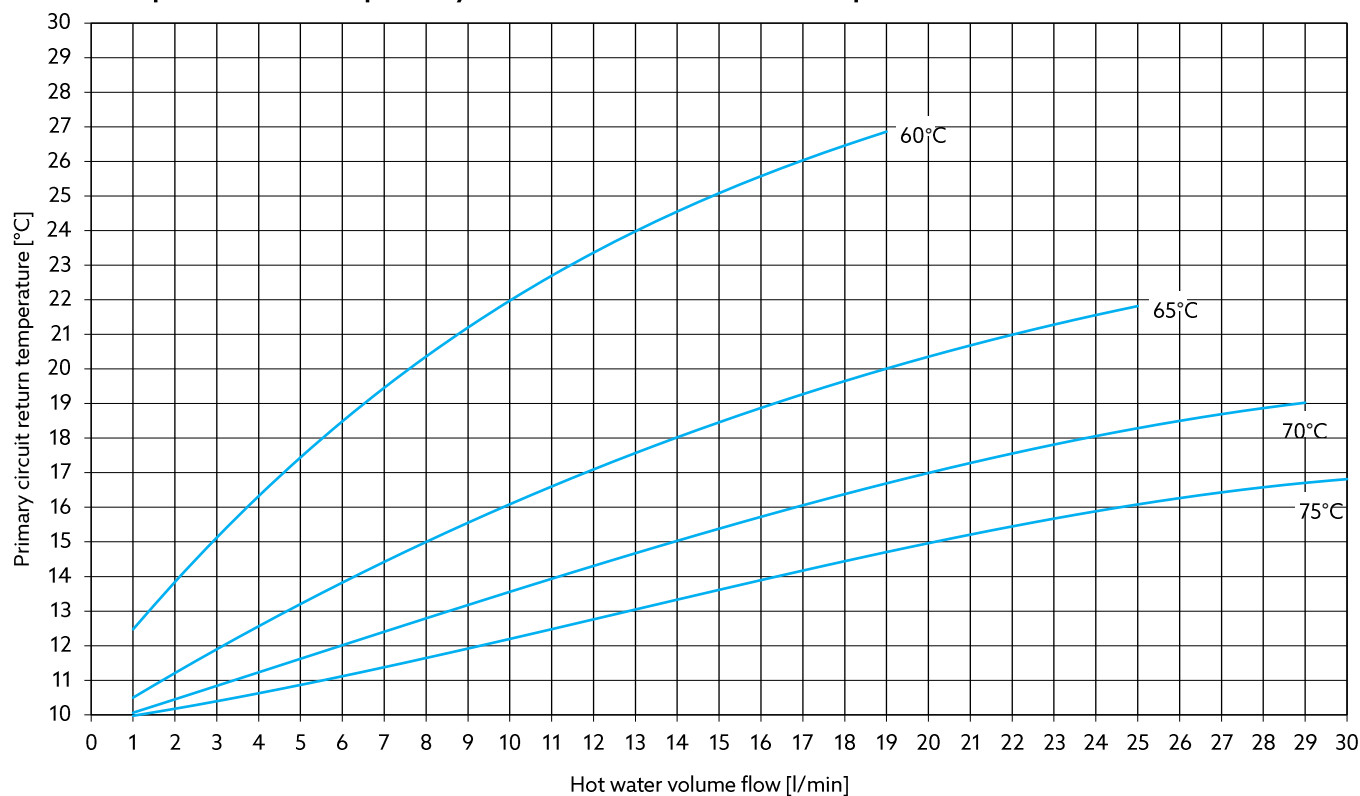
## Performance range 3: Heating of potable water from 10 °C to 60 °C

(Performance data according to SPF test procedure)

### Volume flow of the primary circuit at different flow temperatures



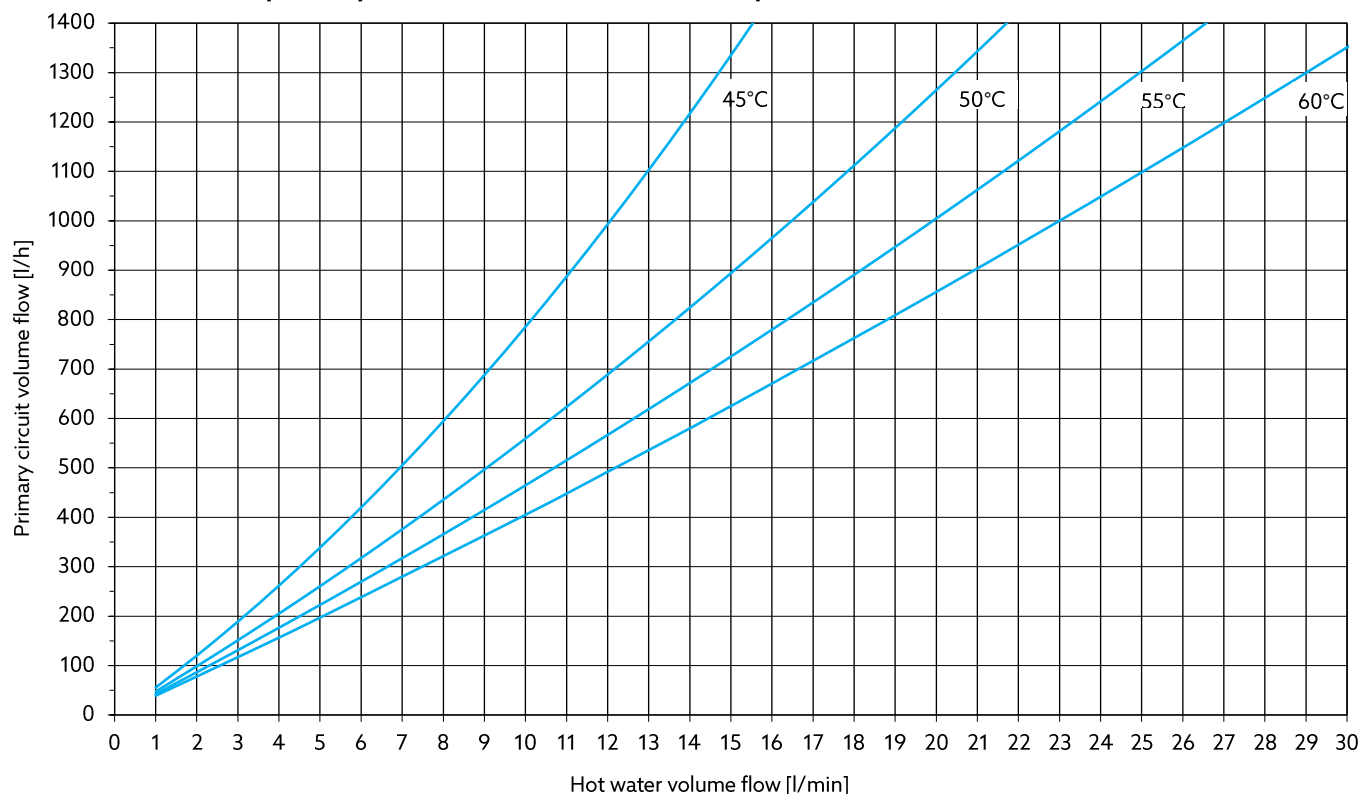
### Return temperature of the primary circuit at different flow temperatures



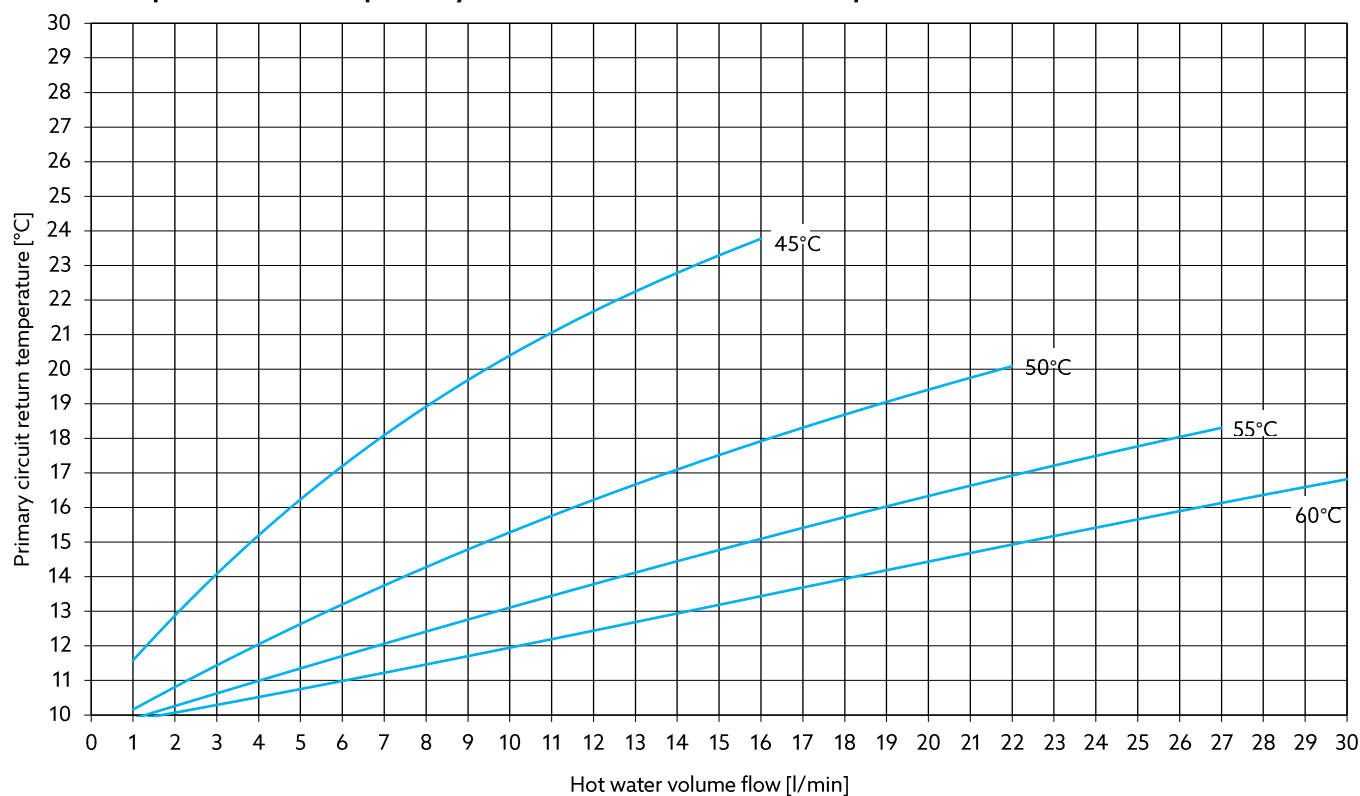
# Double-walled version: Heating of potable water from 10 °C to 45 °C

(Performance data according to SPF test procedure)

## Volume flow of the primary circuit at different flow temperatures



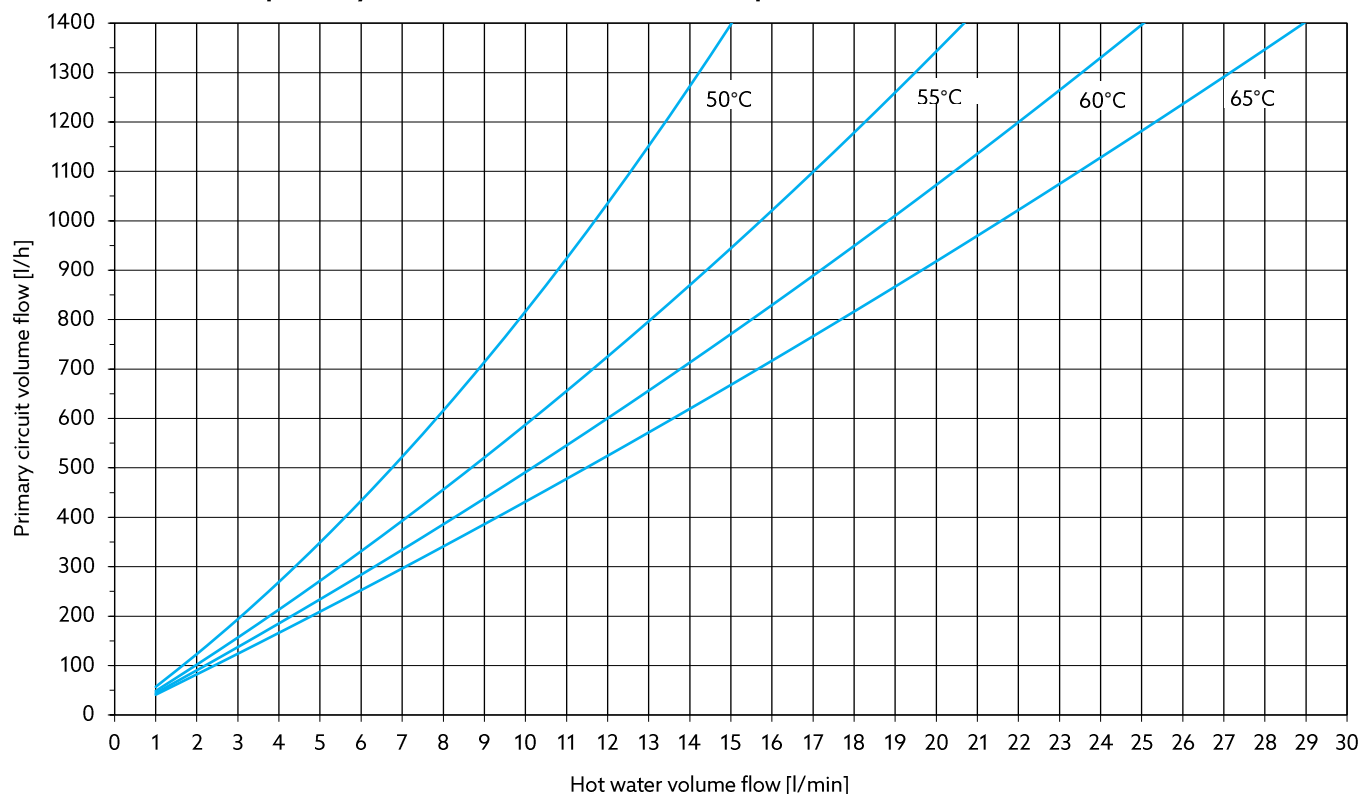
## Return temperature of the primary circuit at different flow temperatures



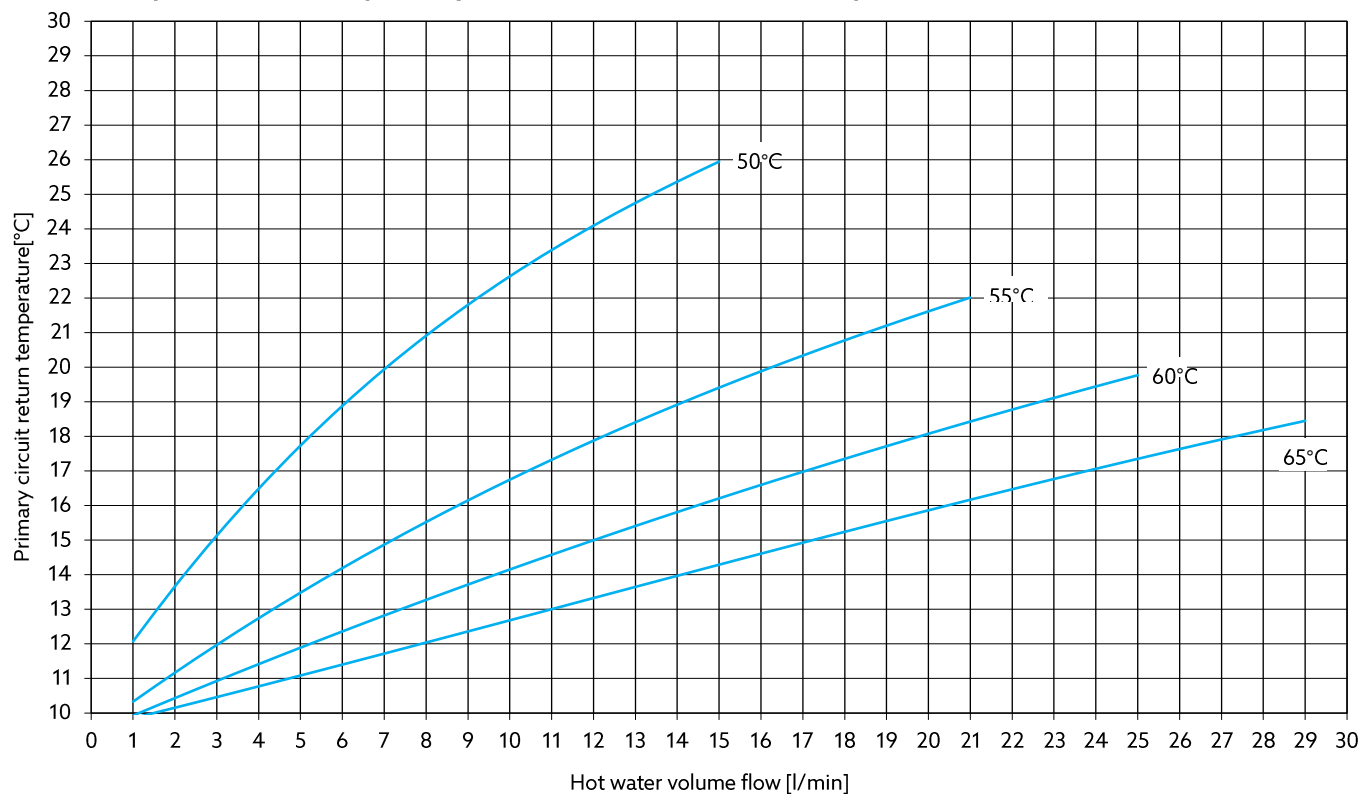
# Double-walled version: Heating of potable water from 10 °C to 50 °C

(Performance data according to SPF test procedure)

## Volume flow of the primary circuit at different flow temperatures



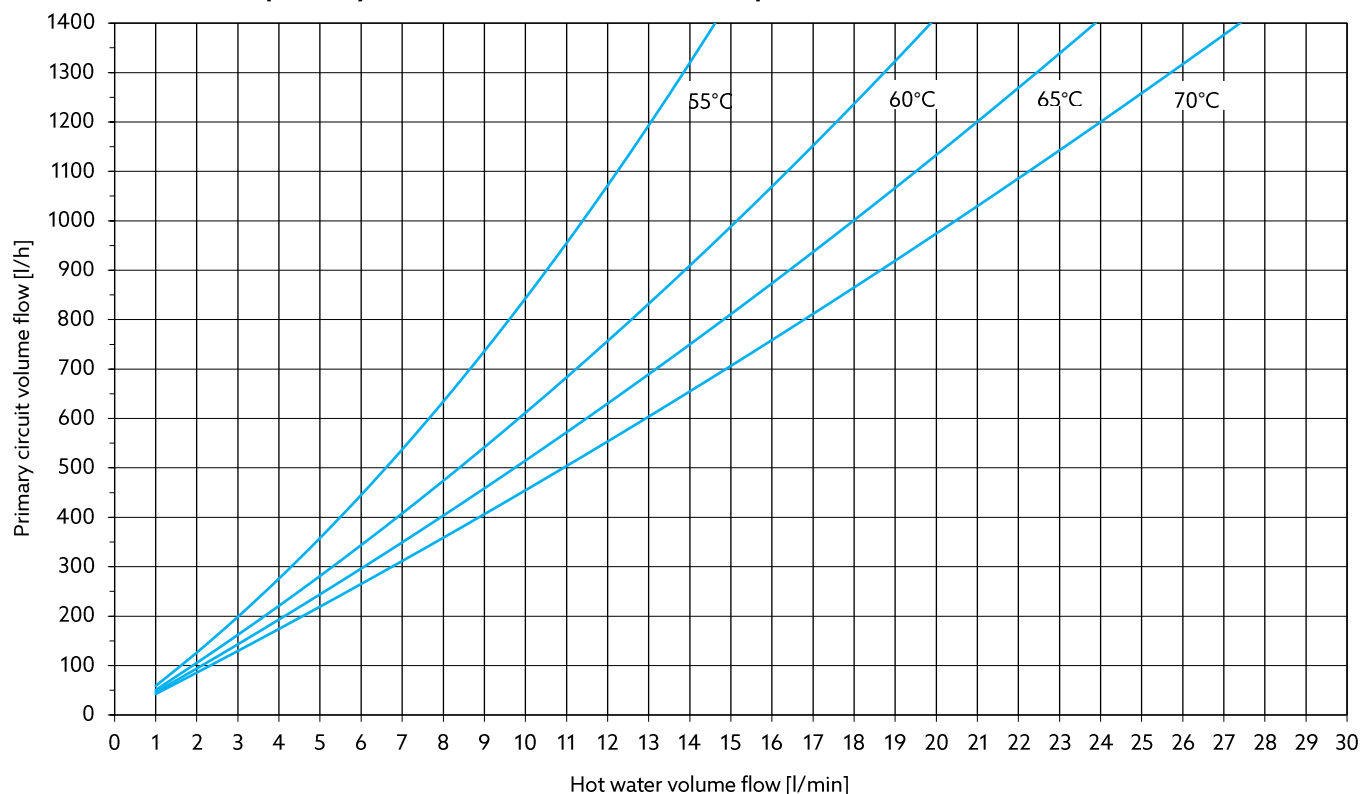
## Return temperature of the primary circuit at different flow temperatures



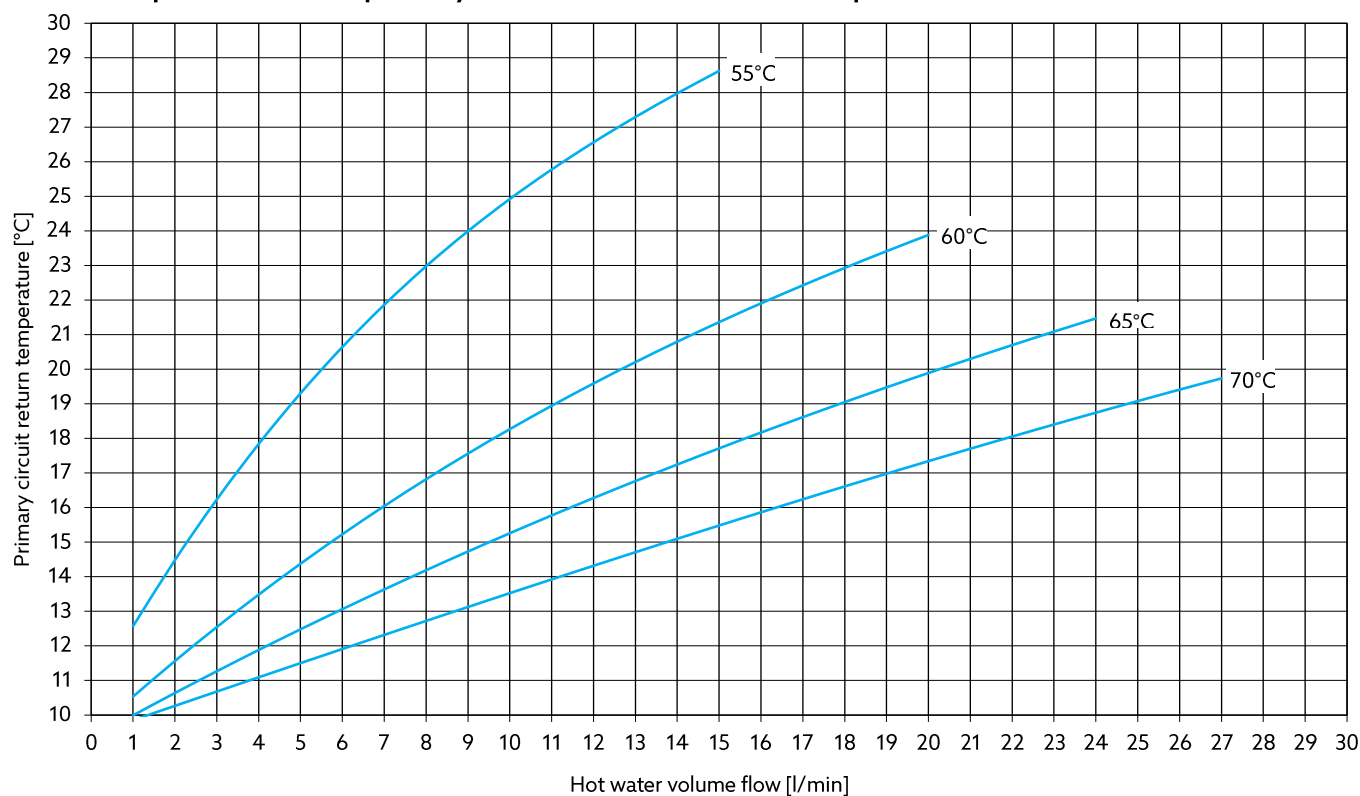
# Double-walled version: Heating of potable water from 10 °C to 55 °C

(Performance data according to SPF test procedure)

## Volume flow of the primary circuit at different flow temperatures



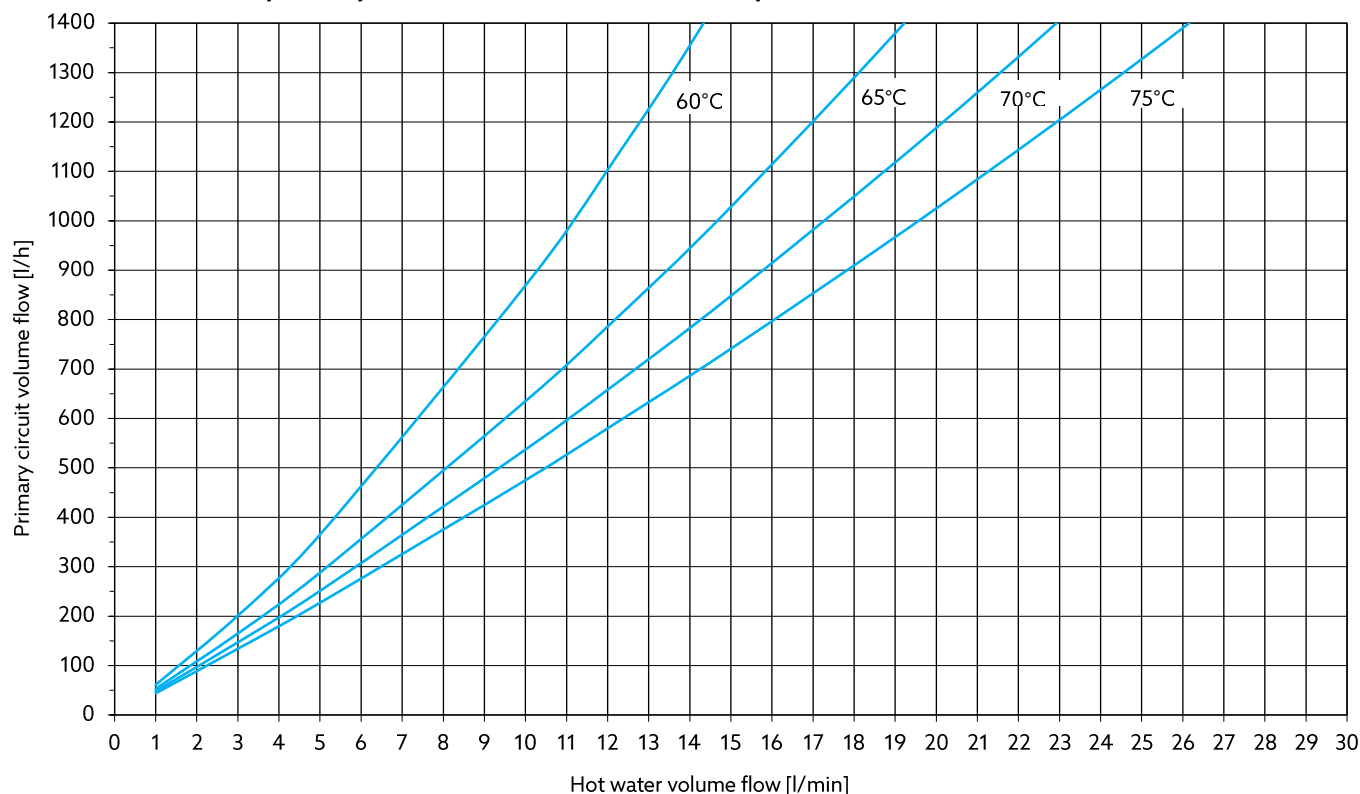
## Return temperature of the primary circuit at different flow temperatures



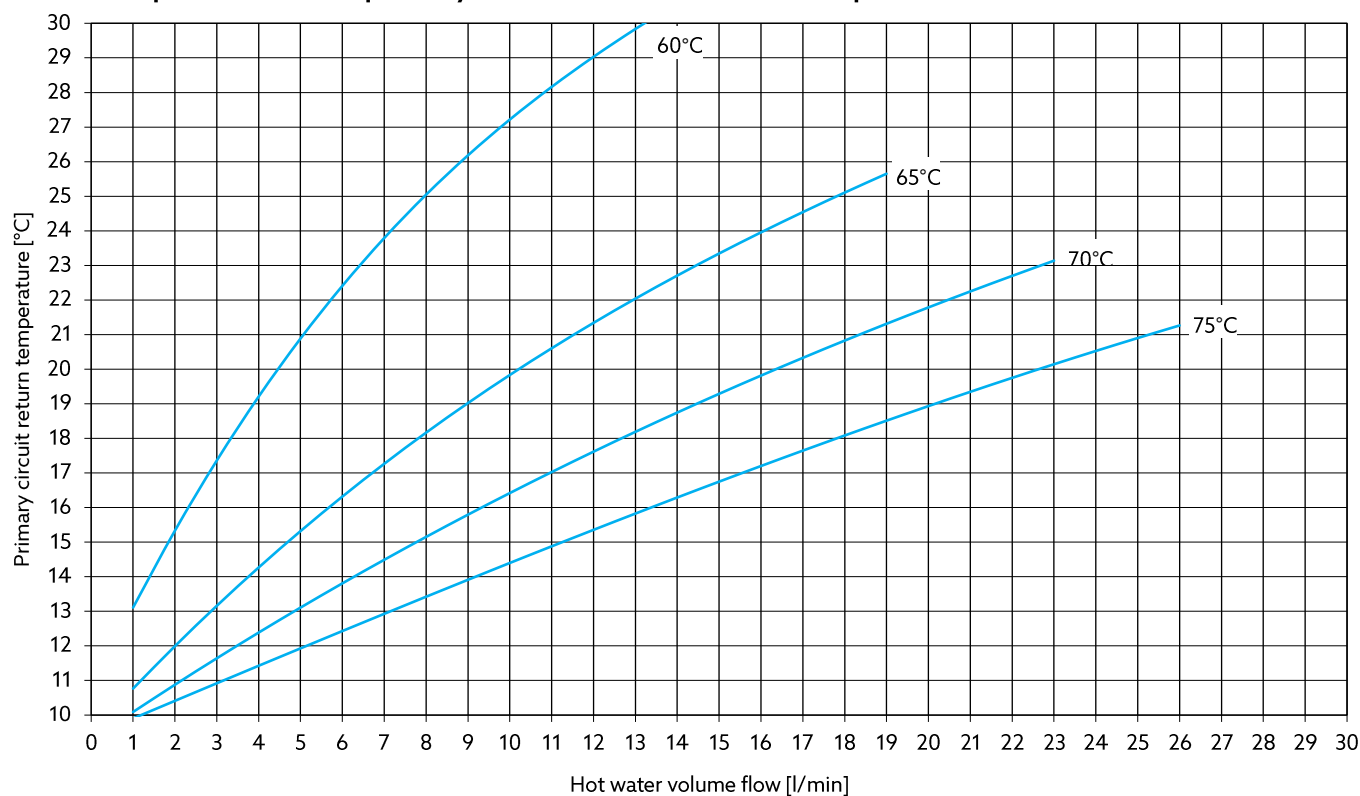
# Double-walled version: Heating of potable water from 10 °C to 60 °C

(Performance data according to SPF test procedure)

## Volume flow of the primary circuit at different flow temperatures



## Return temperature of the primary circuit at different flow temperatures



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