Regudis W-CE

Electronic dwelling station

For the supply of individual dwellings with heating water and hot 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, a spacer for heat meters and, depending on the version, water meters, ceramic disc valves, angle ball valves, vent valves and drain valves.

The Regudis W-CE stations are designed for unmixed heating circuits. The stations are characterised by particularly compact dimensions and simple, fast and flexible installation. High draw-off capacities can be achieved with low excess temperatures and pressure losses.

Features

+ Compact dimensions
+ Simple, fast and flexible installation
+ High draw-off capacity at low excess temperature
+ Optimised in terms of pressure loss

General data

Variants	Performance range 1a-2; with copper brazed heat exchanger or copper brazed heat exchanger with Sealix® protective layer
Empty weight of the station	1343929: 8.7 kg 1343930/50: 9.6 kg 1343931/51: 10.4 kg 1343960: 8.8 kg 1343961: 9.4 kg
Max. operating temperature	90 °C
Max. operating pressure	10 bar
Ambient temperature	2...35 °C
Medium	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.

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Product Details

Technical Data

Dimensions and connections

Width x Height x Depth	See dimensions
Connections	Rp ¾ IT
Centre distance of the connections	65 mm
Centre distance to wall	26,5 mm

Hydraulic data: Primary circuit (buffer storage cylinder)

Medium	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.
Min. differential pressure	150 mbar
Max. differential pressure	2.0 bar
Min. flow temperature	See charts in the appendix

Hydraulic data: Heating circuit (radiators)

Medium	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.
Max. volume flow	approx 460 l/h
Differential pressure control	150 mbar

Hydraulic data: Potable water circuit

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

Electrical data: Power supply unit

Mains input voltage	100...240 V AC ±10 %
Mains input frequency	50...60 Hz
Output voltage	5 V DC +7.5 %, -5 %
Rated output current	max. 1200 mA
Protection type: connection box	IP66
Protection class	II
Overvoltage category	III
Ambient temperature	0...60 °C

Electrical data: Actuator

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

Material

Heat exchanger copper brazed	Plate material: Stainless steel 1.4401 Connections: Stainless steel 1.4404 Brazing material: Copper
Heat exchanger copper brazed with Sealix® protective layer	Plate material: Stainless steel 1.4401 Connections: Stainless steel 1.4404 Brazing material: Copper Protective layer: SiO2 basis
Pipes	Stainless steel 1.4404
Valves and fittings	Brass
Temperature sensor	Stainless steel 1.4404
Volume flow sensor	Brass and plastic
Meter spacer	Plastic
Seals	EPDM and fibre material

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Functions

The dwelling station is an electronically controlled product assembly with heat exchanger 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.

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.

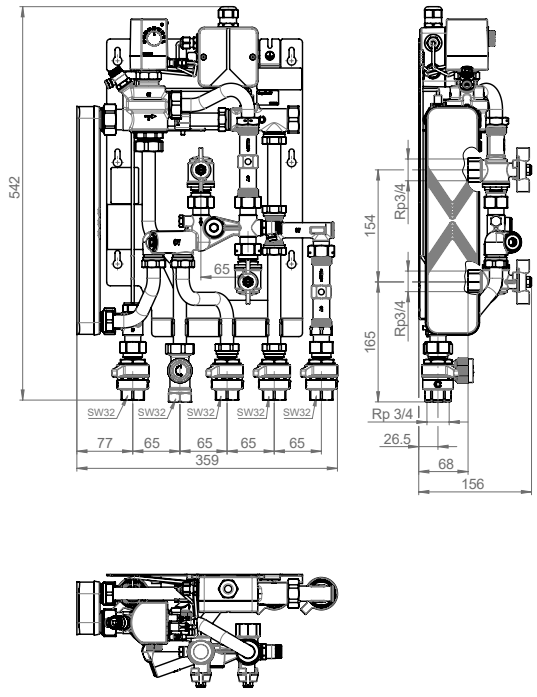
The information from the volume flow sensor and the temperature sensor is passed on to the actuator by the electronic control.

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.

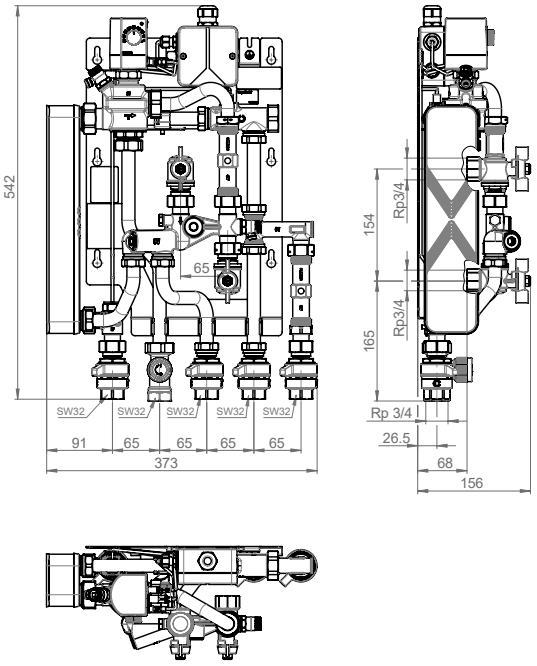
The heat output transferred to the potable water depends on the heating water quantity and the heating water temperature supplied to the heat exchanger. The control valve features a potable water priority function ensuring the supply of the required hot water quantity even in heating mode.

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

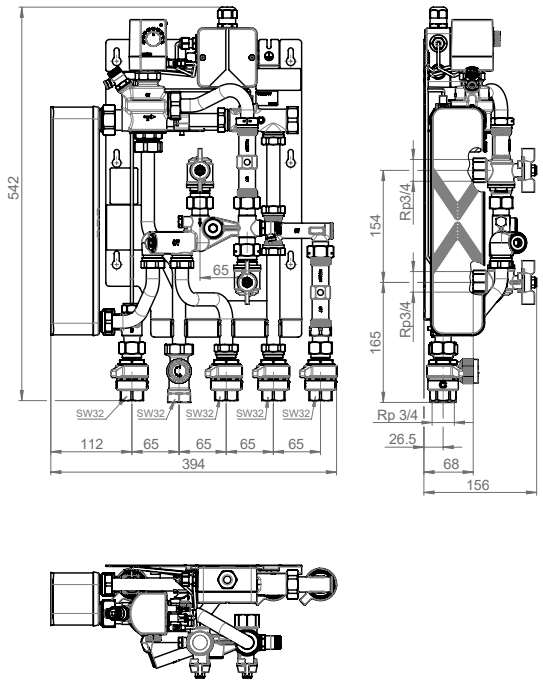
Dimensions



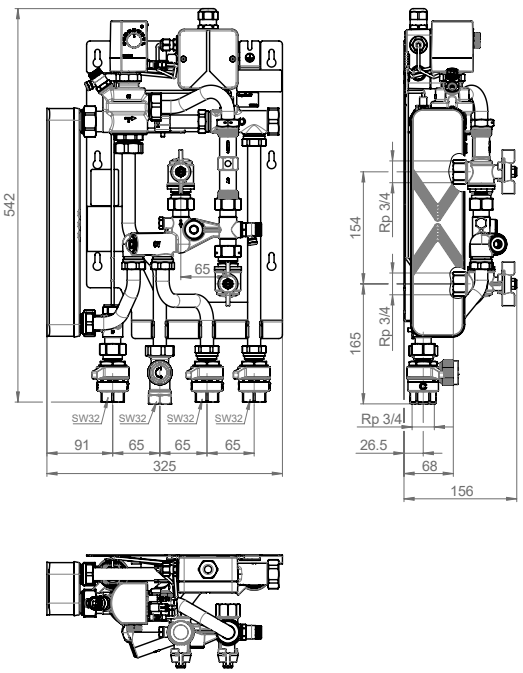
Station including ceramic disc valves,
cold water outlet and spacer for water meter
Performance range 1a



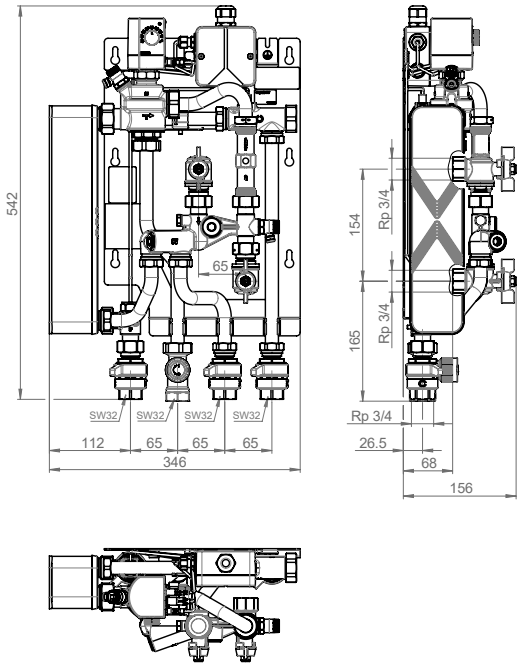
Station including ceramic disc valves,
cold water outlet and spacer for water meter
Performance range 1



Station including ceramic disc valves,
cold water outlet and spacer for water meter
Performance range 2



Station including ceramic disc valves, without
cold water outlet and spacer for water meter
Performance range 1



Station including ceramic disc valves, without
cold water outlet and spacer for water meter
Performance range 2

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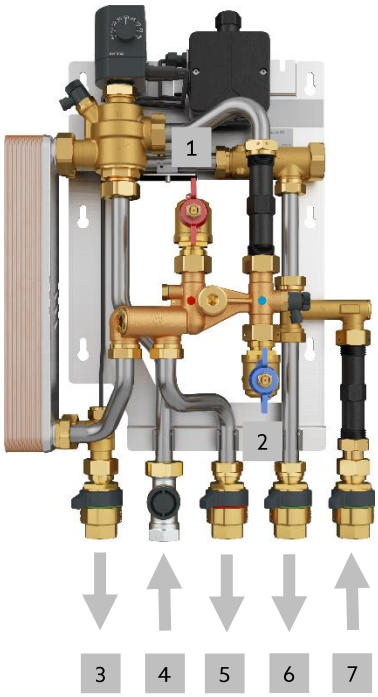
Connections

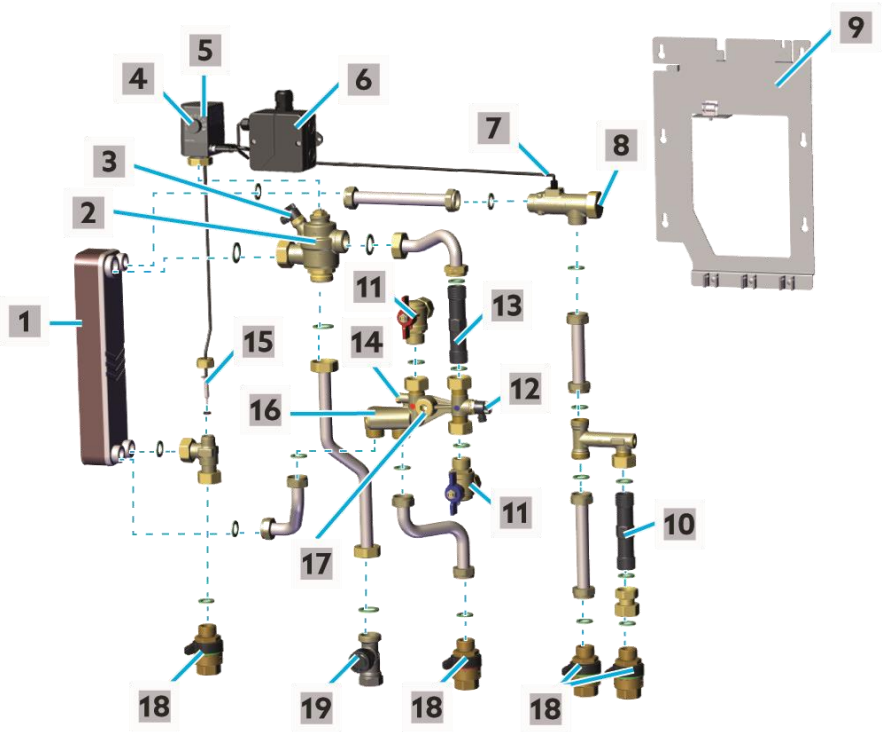
Station including ceramic disc valves, cold water outlet and spacer for water meter:



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

Design

Station including ceramic disc valves, cold water outlet and spacer for water meter:



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

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Selection

Item Numbers

Regudis W-CE

Station including ceramic disc valves.

	Performance range	Heat exchanger	Item no.
	Performance range 1a	Copper brazed	1343929
	Performance range 1	Copper brazed	1343930
	Performance range 2	Copper brazed	1343931
	Performance range 1	Copper brazed with Sealix® protective layer	1343950
	Performance range 2	Copper brazed with Sealix® protective layer	1343951

Regudis W-CE

Station including ceramic disc valves, without cold water outlet and spacer for water meter.

	Performance range	Heat exchanger	Item no.
	Performance range 1	Copper brazed	1343960
	Performance range 2	Copper brazed	1343961

Accessories and Spare Parts

Accessories

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

Description	Item no.
Potable water circulation module	1344555
Derivative temperature control set	1344490
Stainless steel spacer	1349052
Accessory set for equipotential bonding	1349983
ClimaCon F 210 room thermostat	1155021
Aktor T 2P thermal actuator	1012452
Surface-mounted thermal insulation bonnet	1344870

Spare parts

Selected spare parts for the Regudis W-CE station. For a complete overview, see product catalogue.

Description	Item no.
Actuator with integrated potable water temperature control	1344491
Power supply unit	1344496
Volume flow sensor	1344693
Filter insert	1344495
Sealing ring for junction G ¾	1344497
Sealing ring for junction G 1	1344498
Potable water temperature sensor	1344494
Heat exchanger copper brazed, performance range 1	1344083
Heat exchanger copper brazed, performance range 2	1344084
Heat exchanger copper brazed with Sealix® protective layer, performance range 1	1344093
Heat exchanger copper brazed with Sealix® protective layer, performance range 2	1344094
Control valve with integrated differential pressure and volume flow control	1344492
Stuffing box screw for control valve	9010491
Ceramic disc valve	1344780

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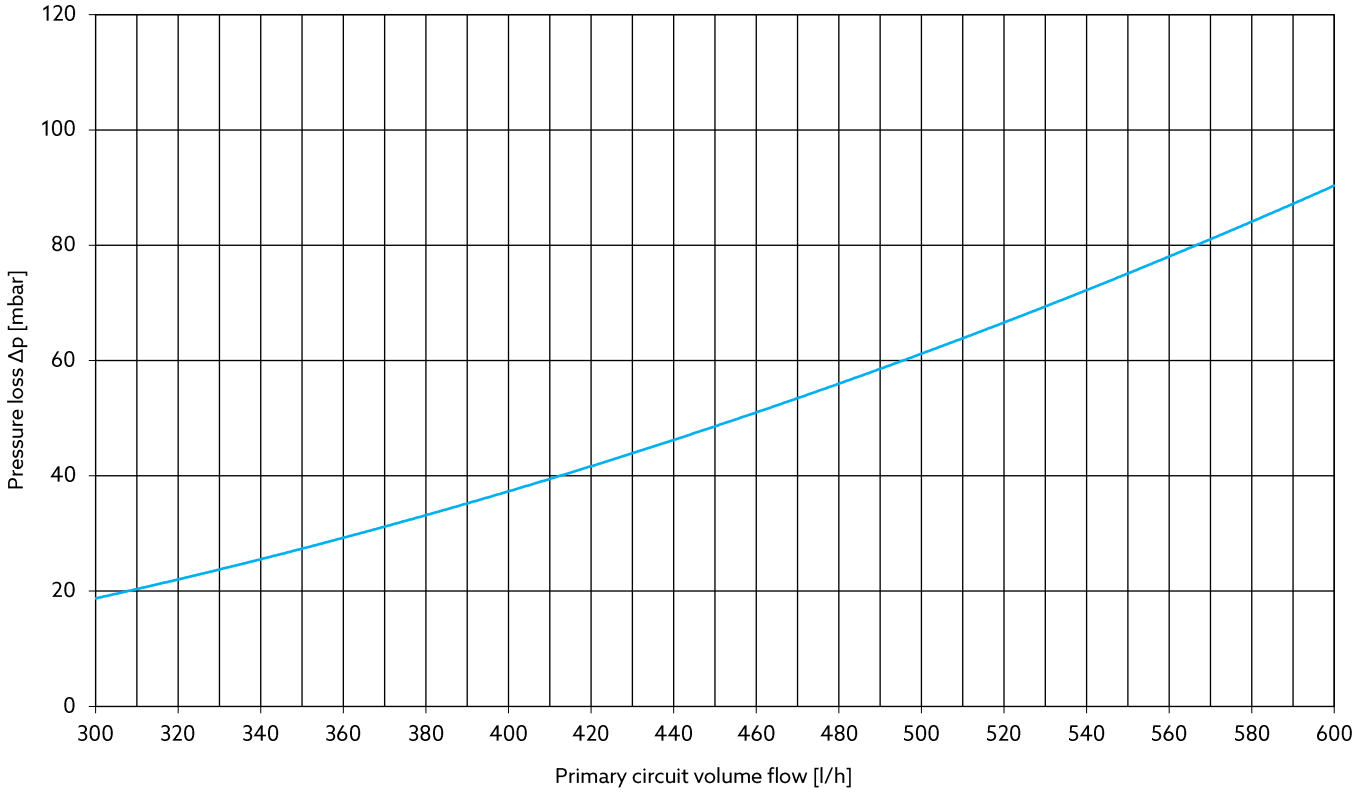
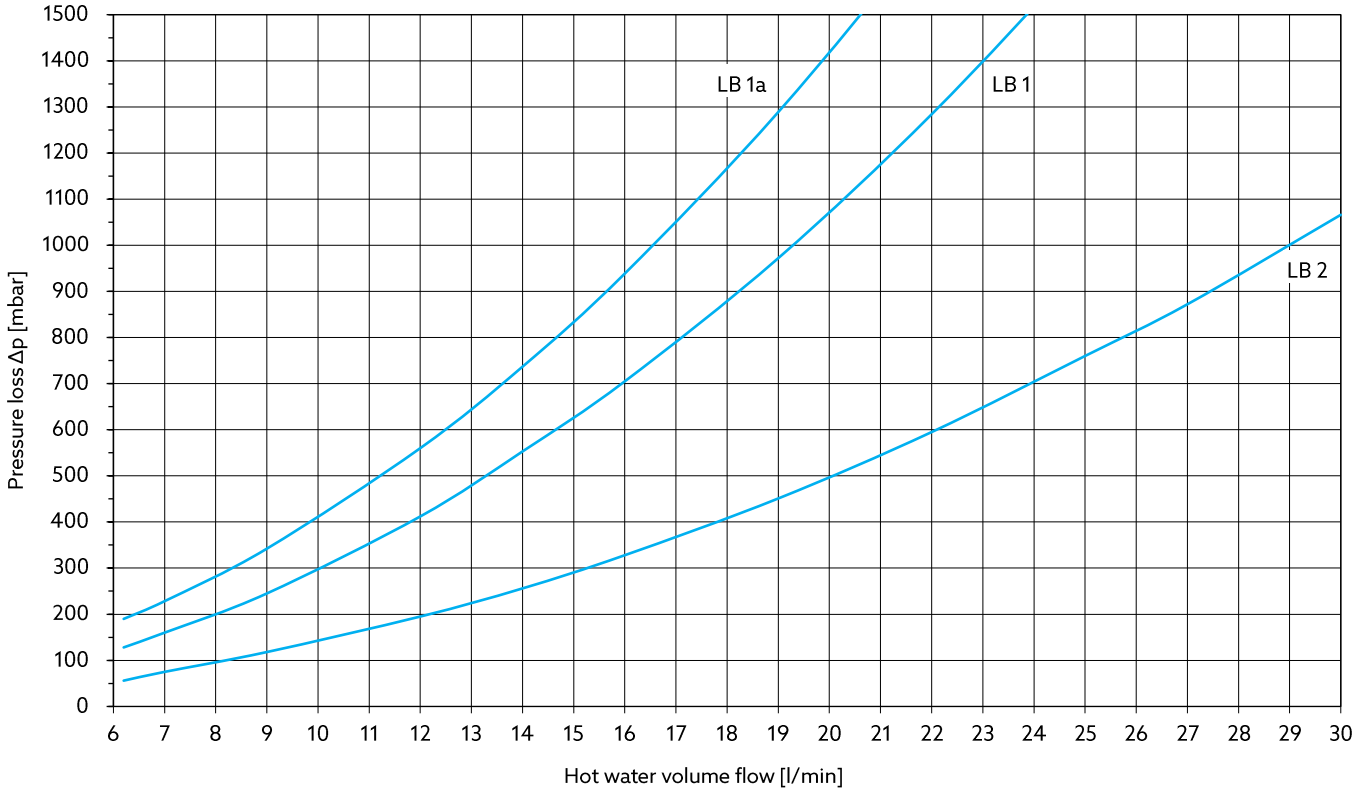
Design Charts

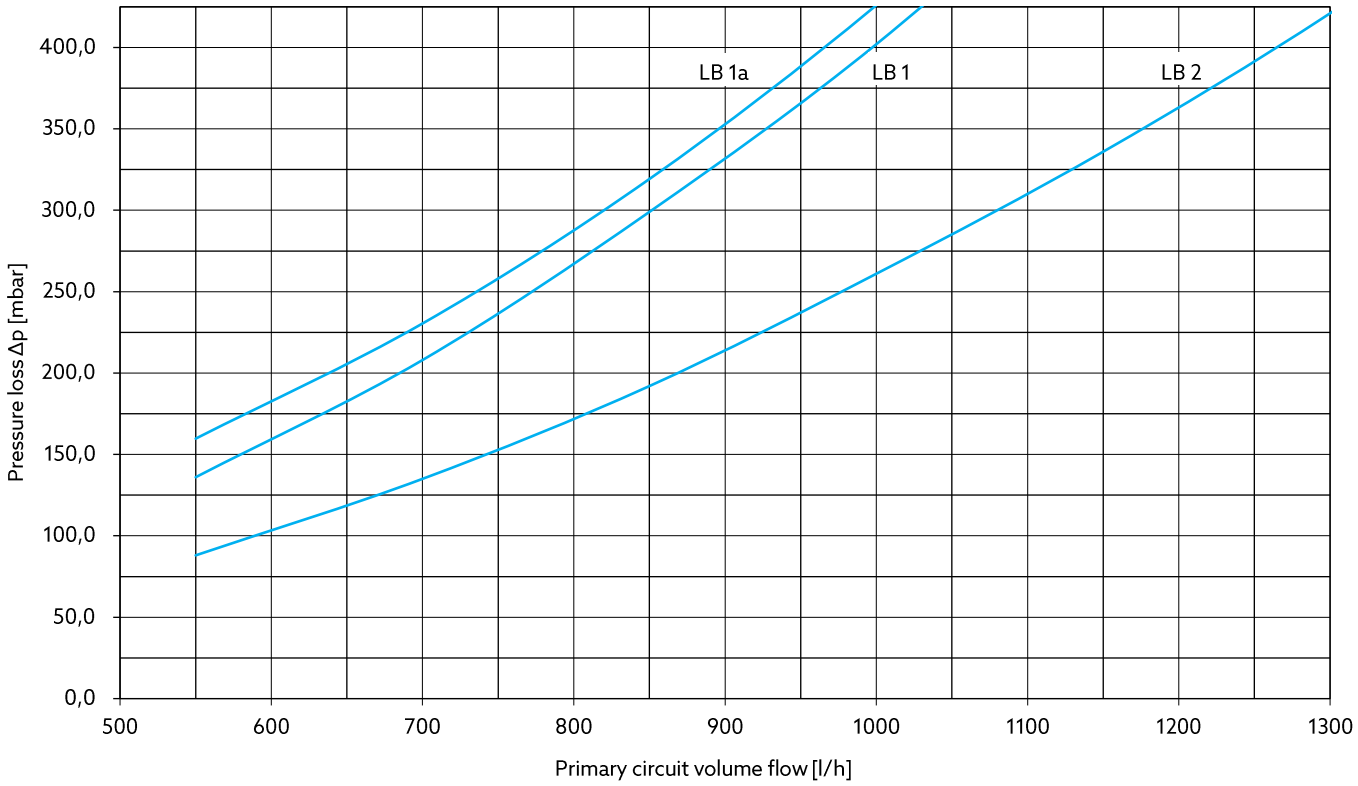
Pressure loss of the primary circuit during heating mode for performance ranges 1a-2



Pressure loss of the potable water circuit for potable water heating for performance ranges (LB) 1a-2



Pressure loss of the primary circuit for potable water heating for performance ranges (LB) 1a-2



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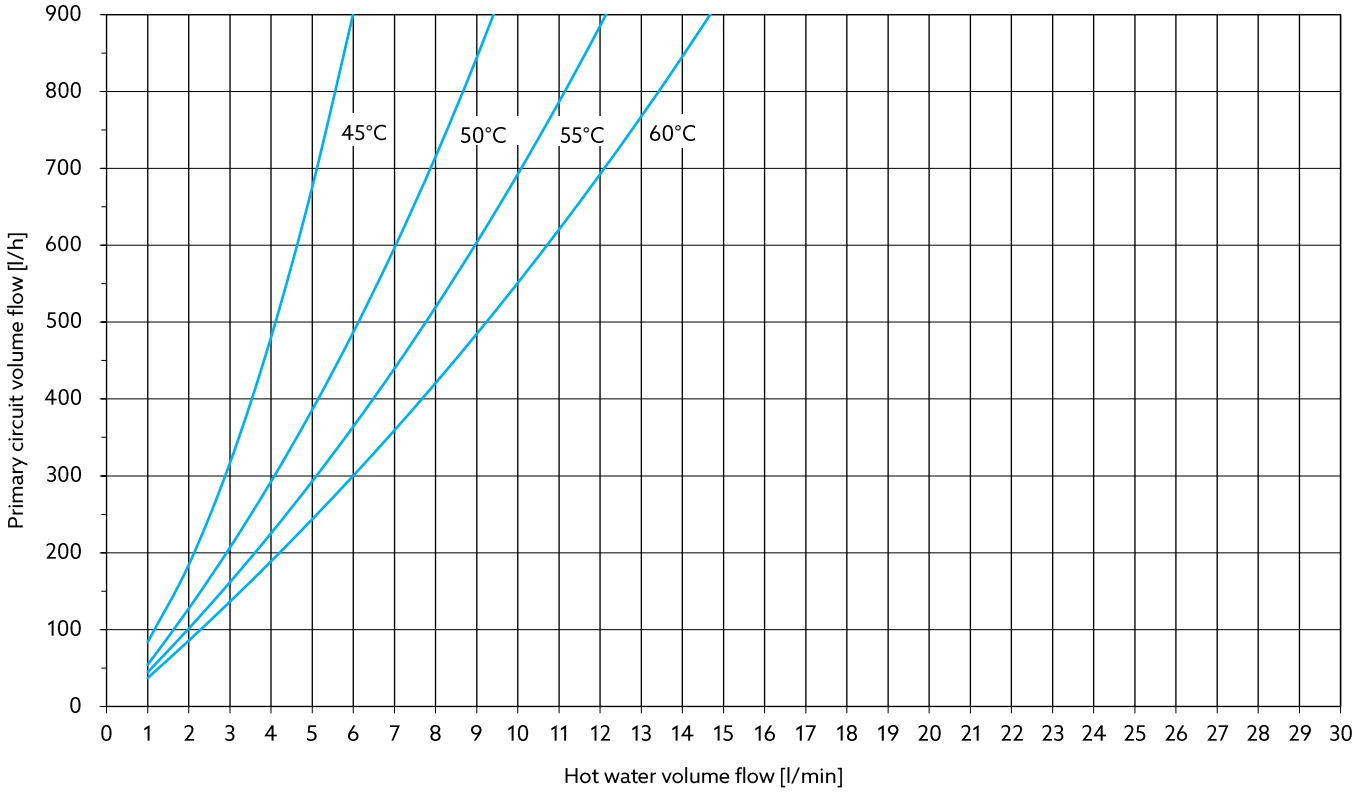
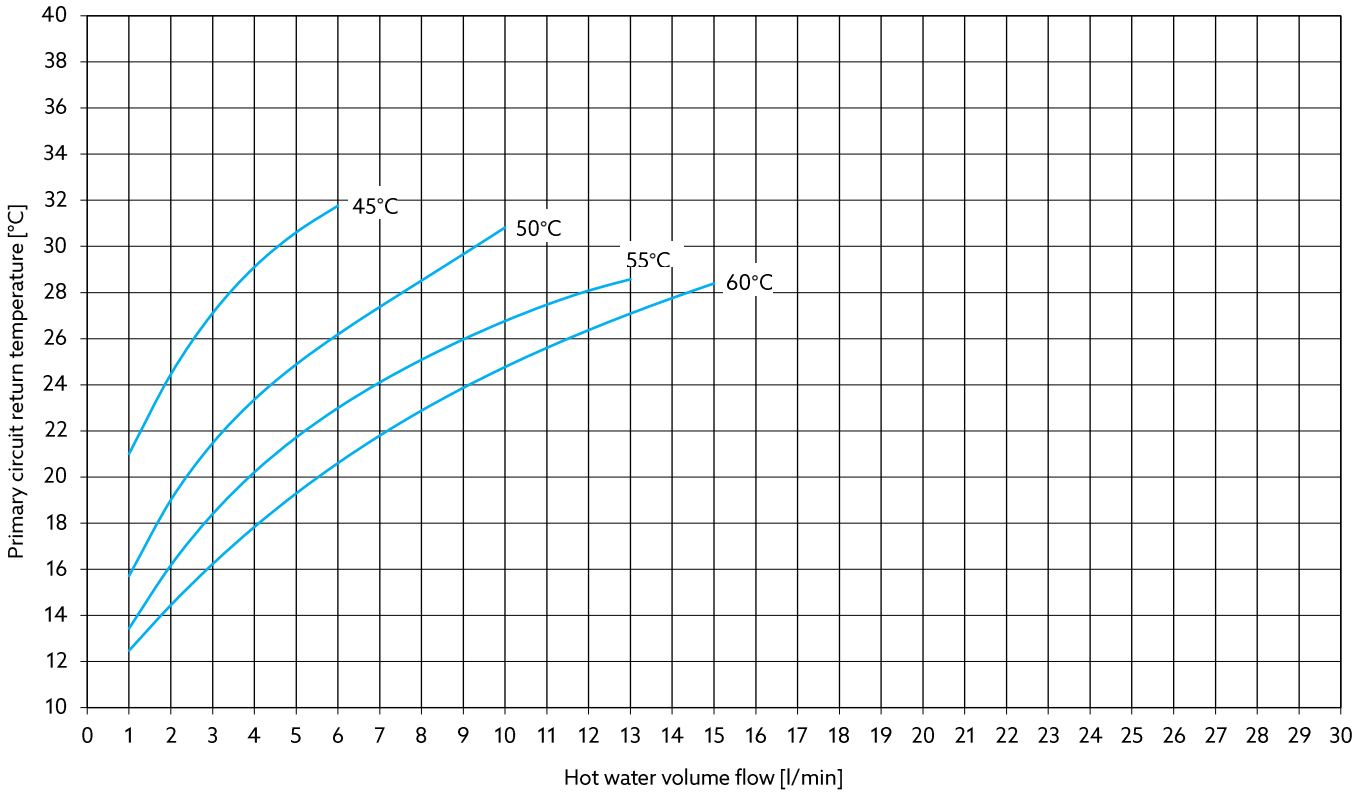
Performance range 1a: Heating of potable water from 10 °C to 45 °C

(Performance data according to SPF test procedure)

Volume flow of the primary circuit at different flow temperatures



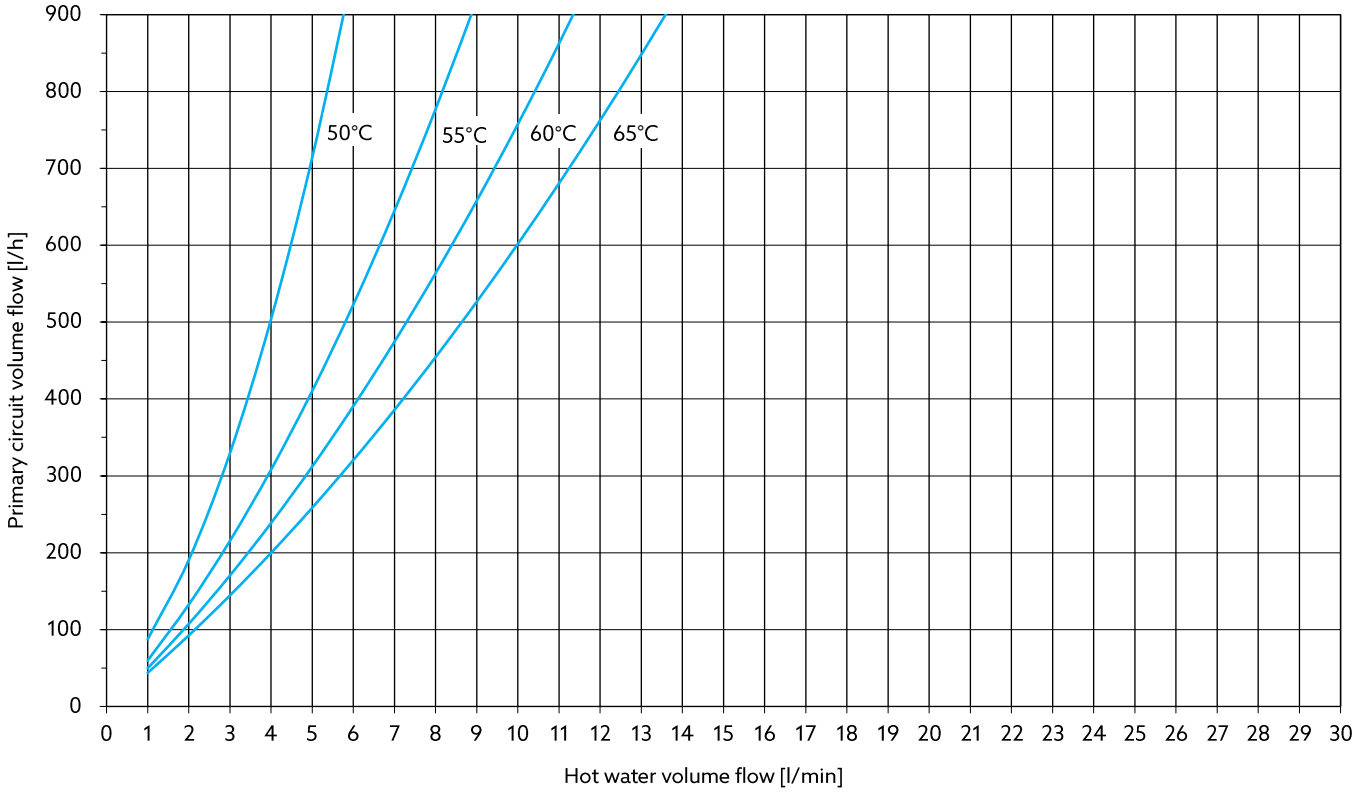
Return temperature of the primary circuit at different flow temperatures



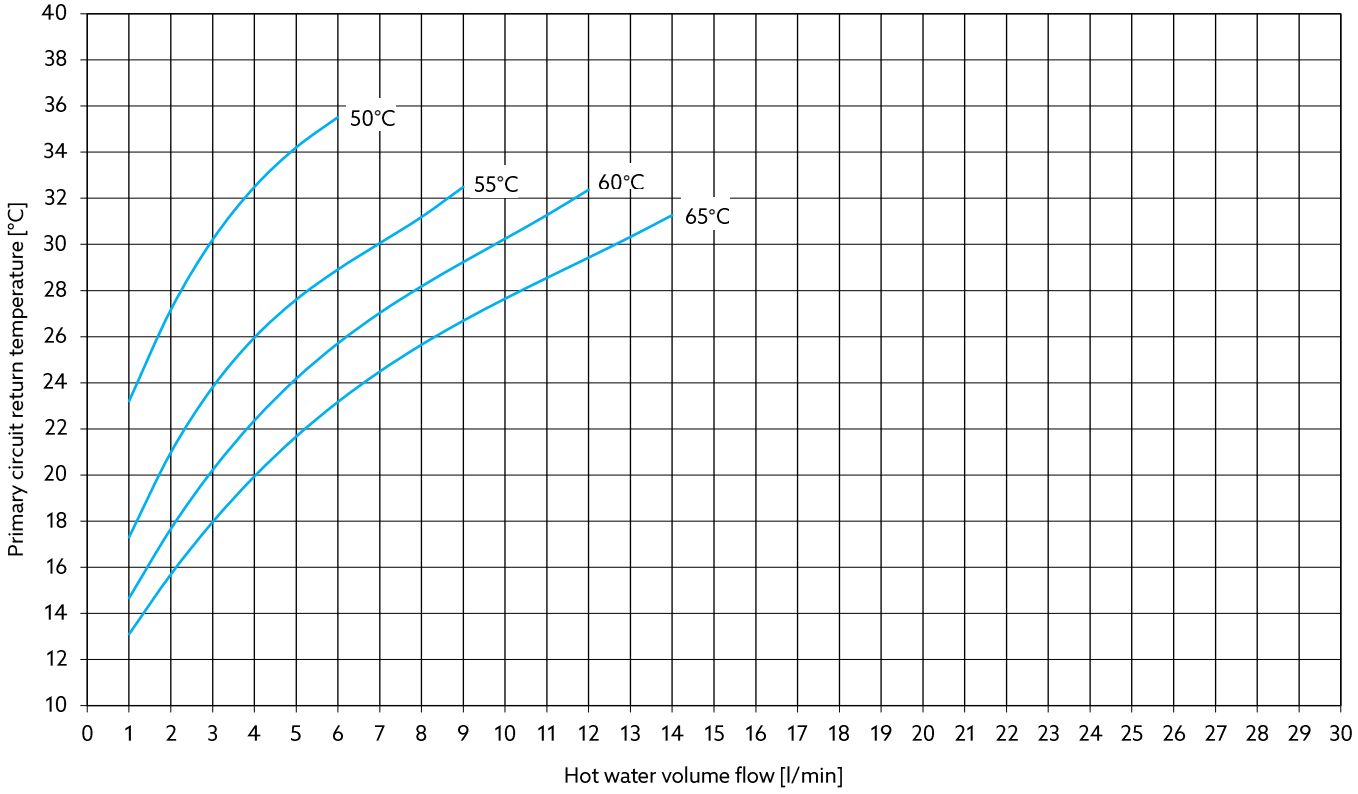
Performance range 1a: Heating of potable water from 10 °C to 50 °C

(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



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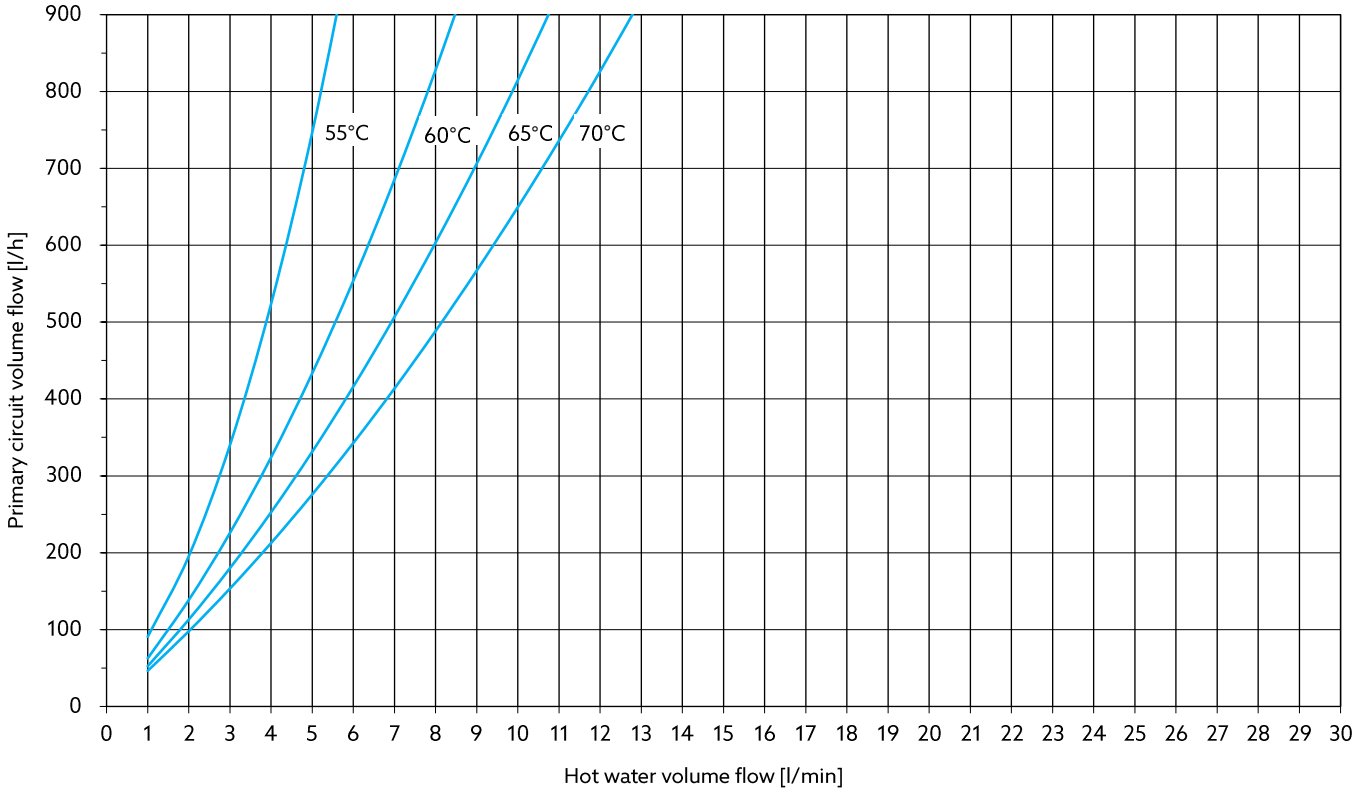
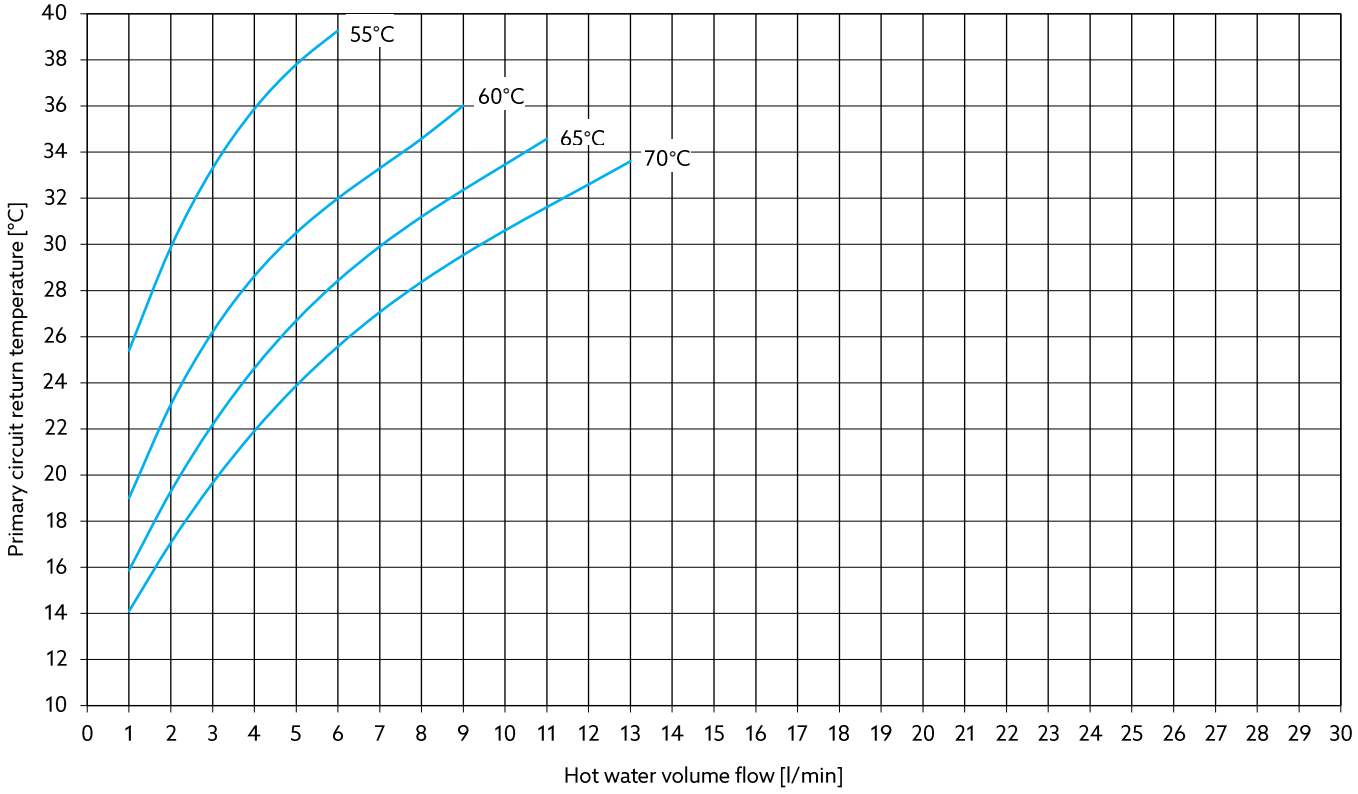
Performance range 1a: Heating of potable water from 10 °C to 55 °C

(Performance data according to SPF test procedure)

Volume flow of the primary circuit at different flow temperatures



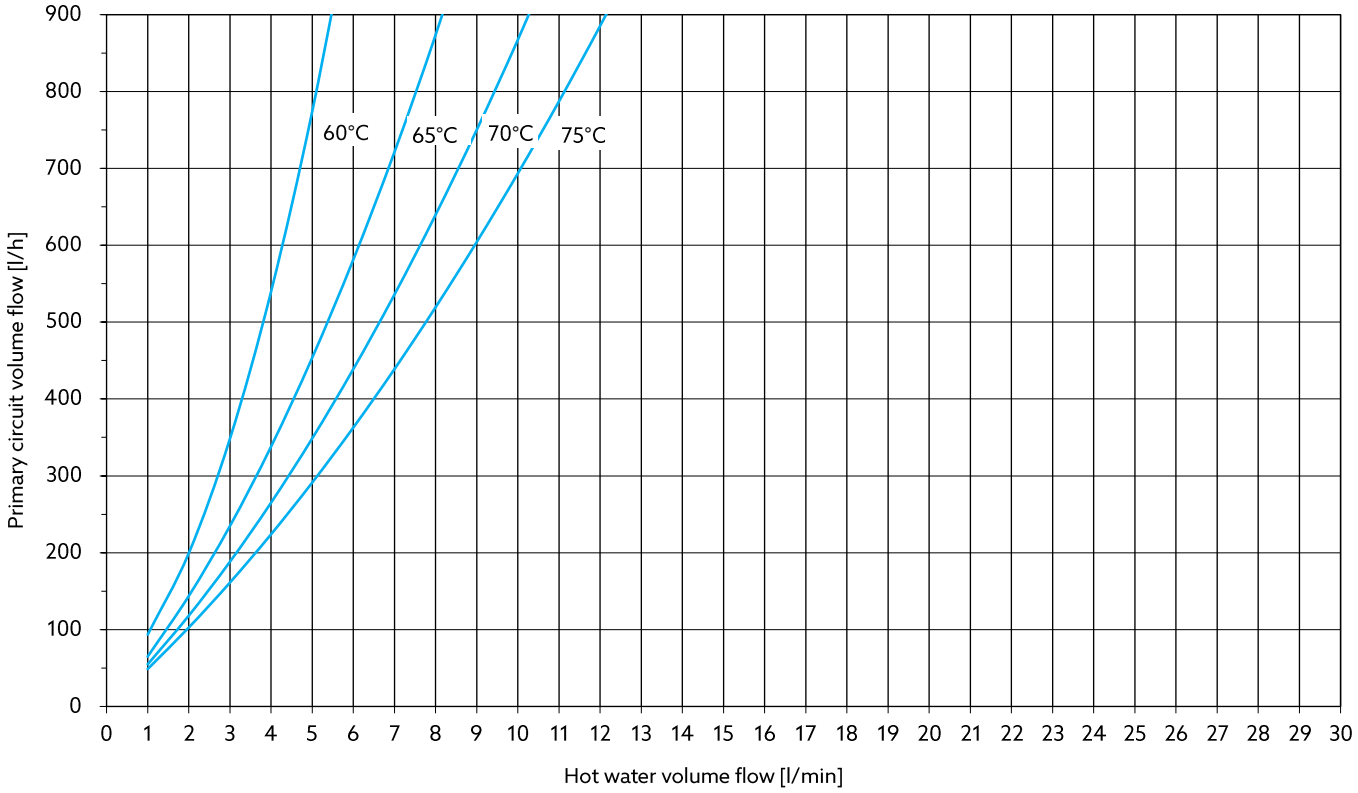
Return temperature of the primary circuit at different flow temperatures



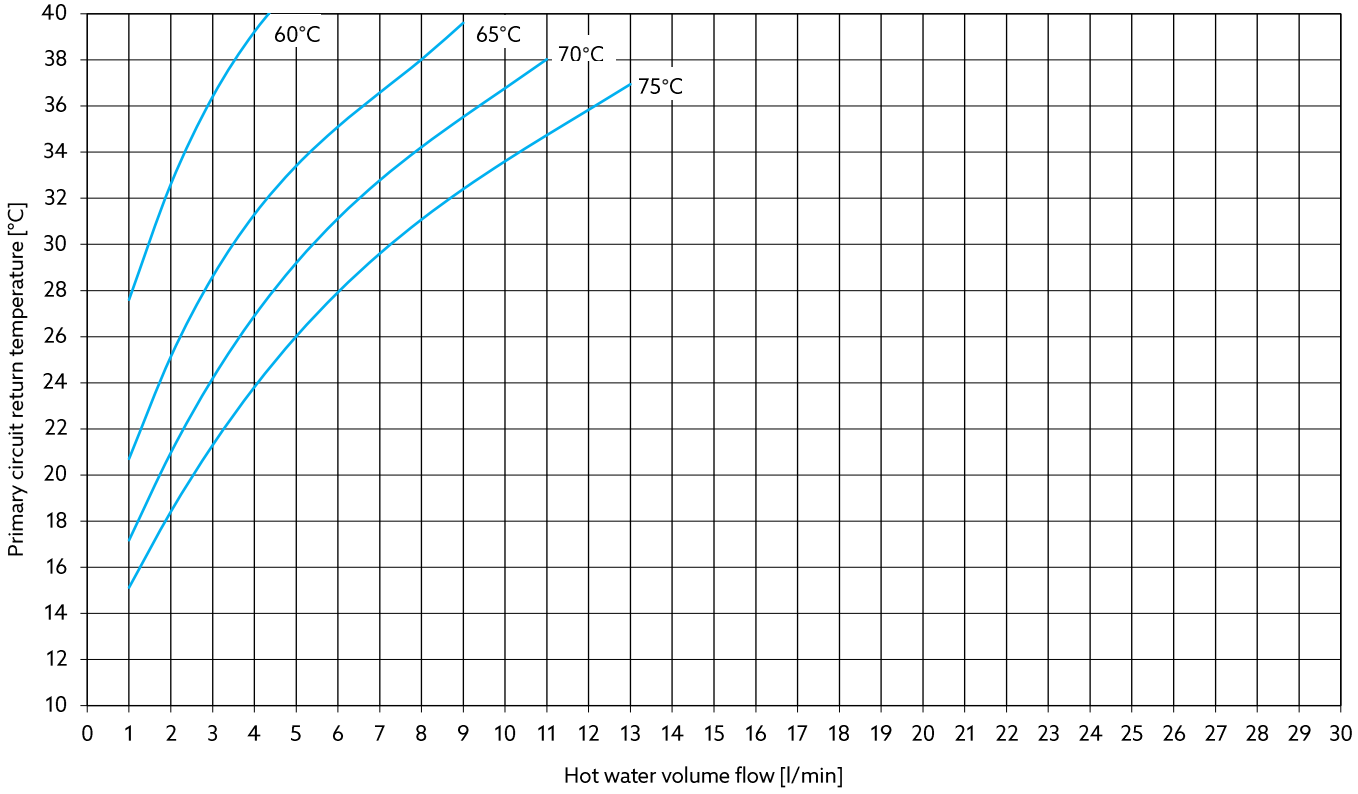
Performance range 1a: Heating of potable water from 10 °C to 60 °C

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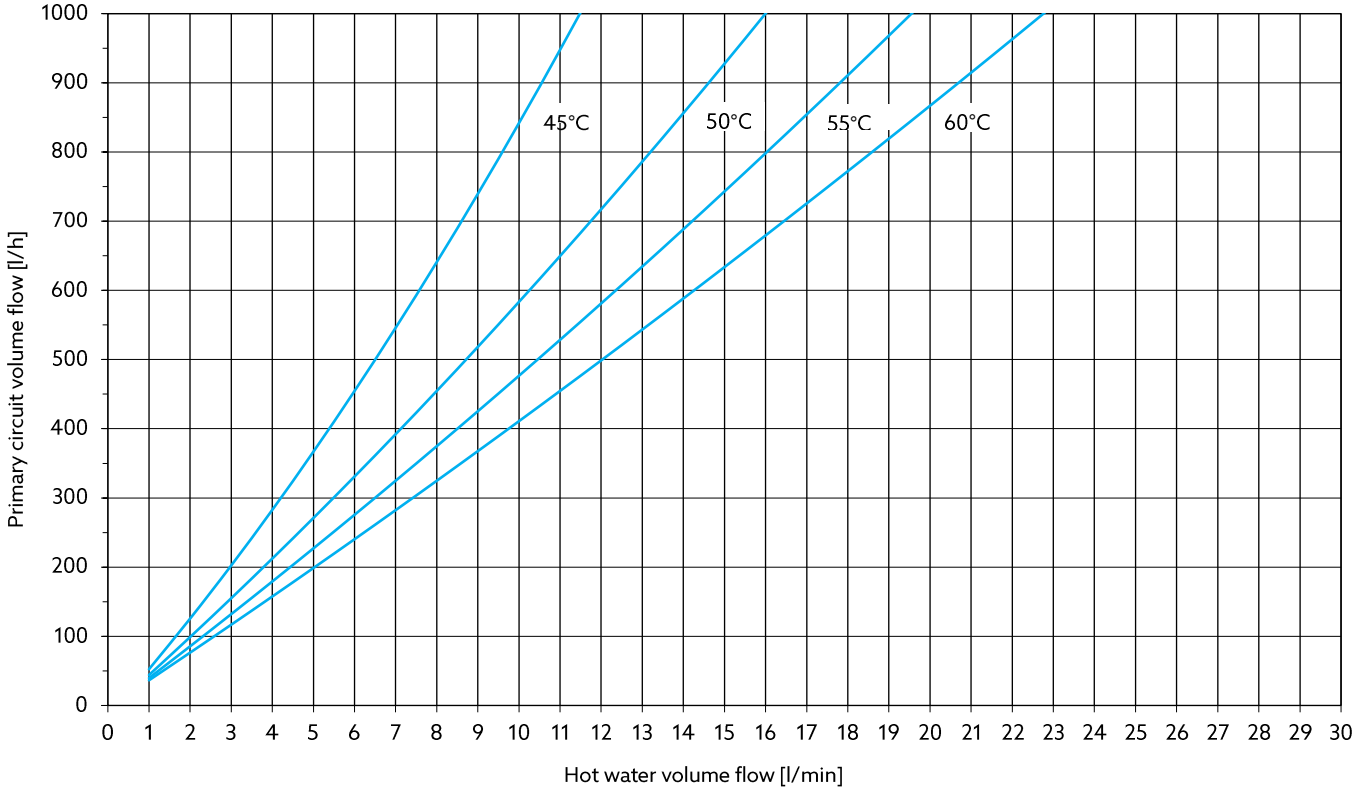
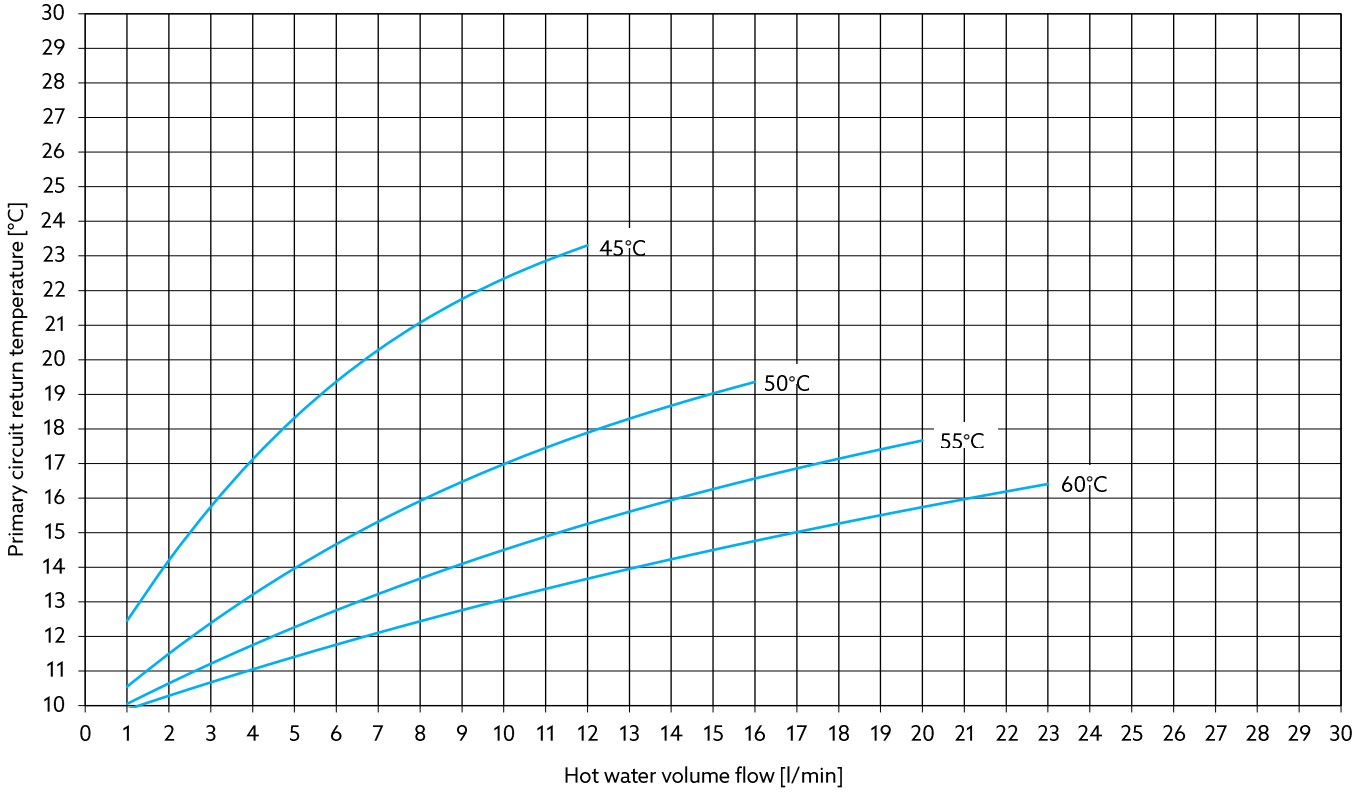
Performance range 1: Heating of potable water from 10 °C to 45 °C

(Performance data according to SPF test procedure)

Volume flow of the primary circuit at different flow temperatures



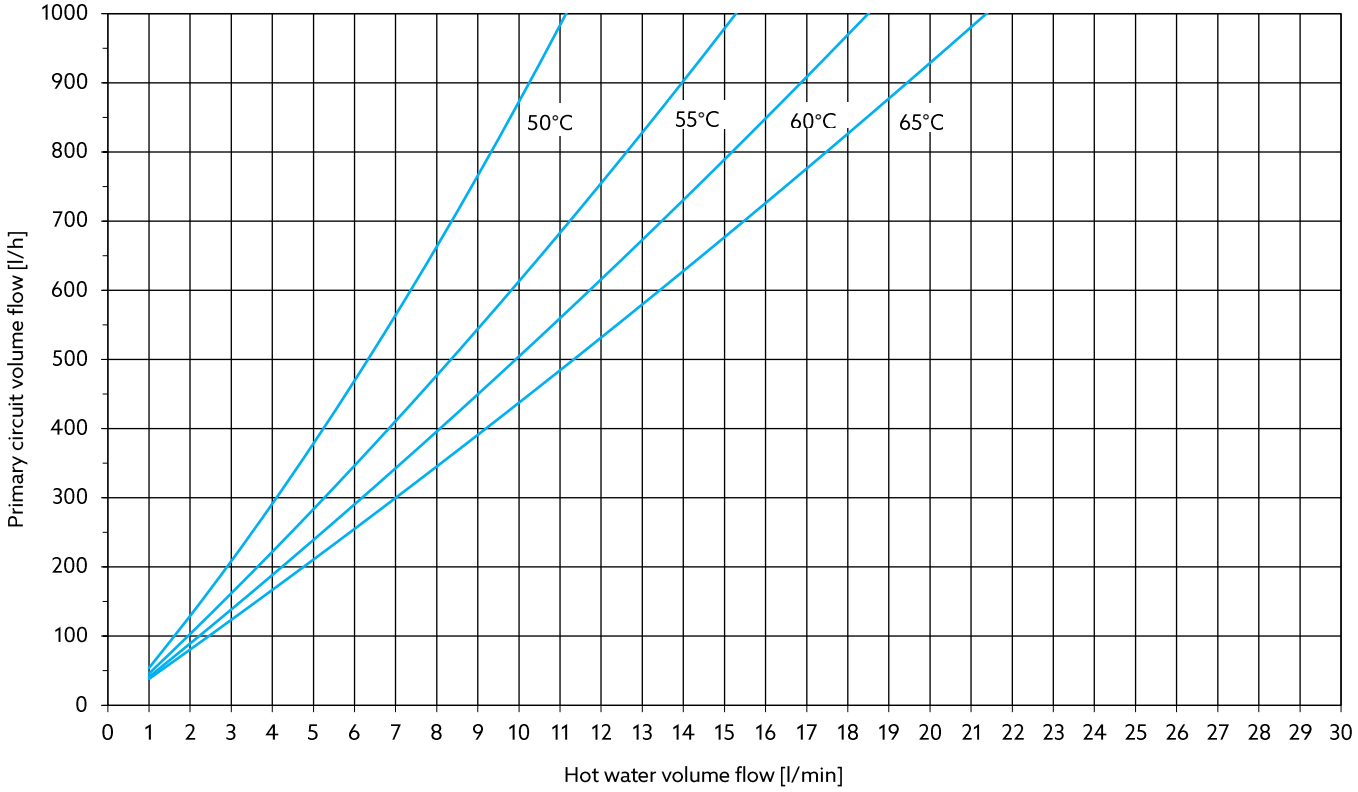
Return temperature of the primary circuit at different flow temperatures



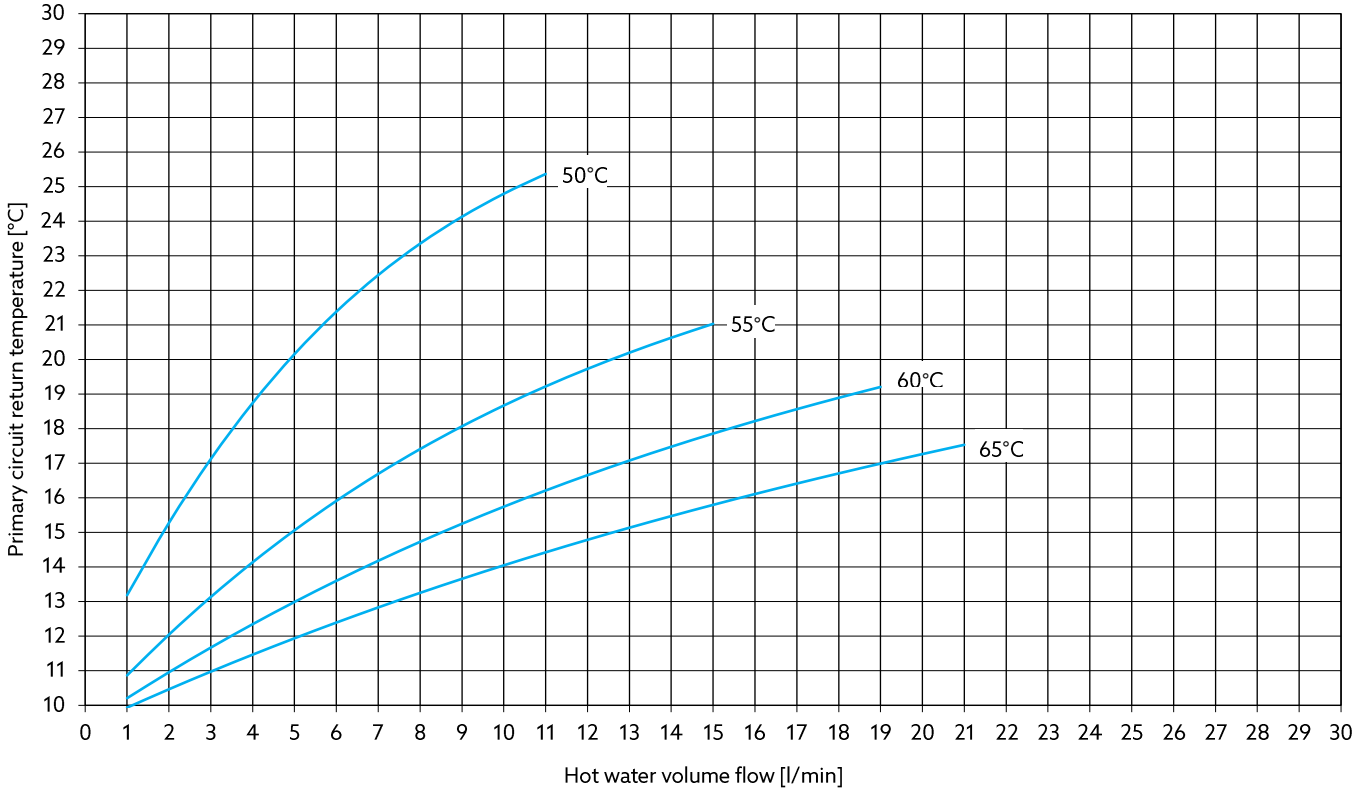
Performance range 1: Heating of potable water from 10 °C to 50 °C

(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



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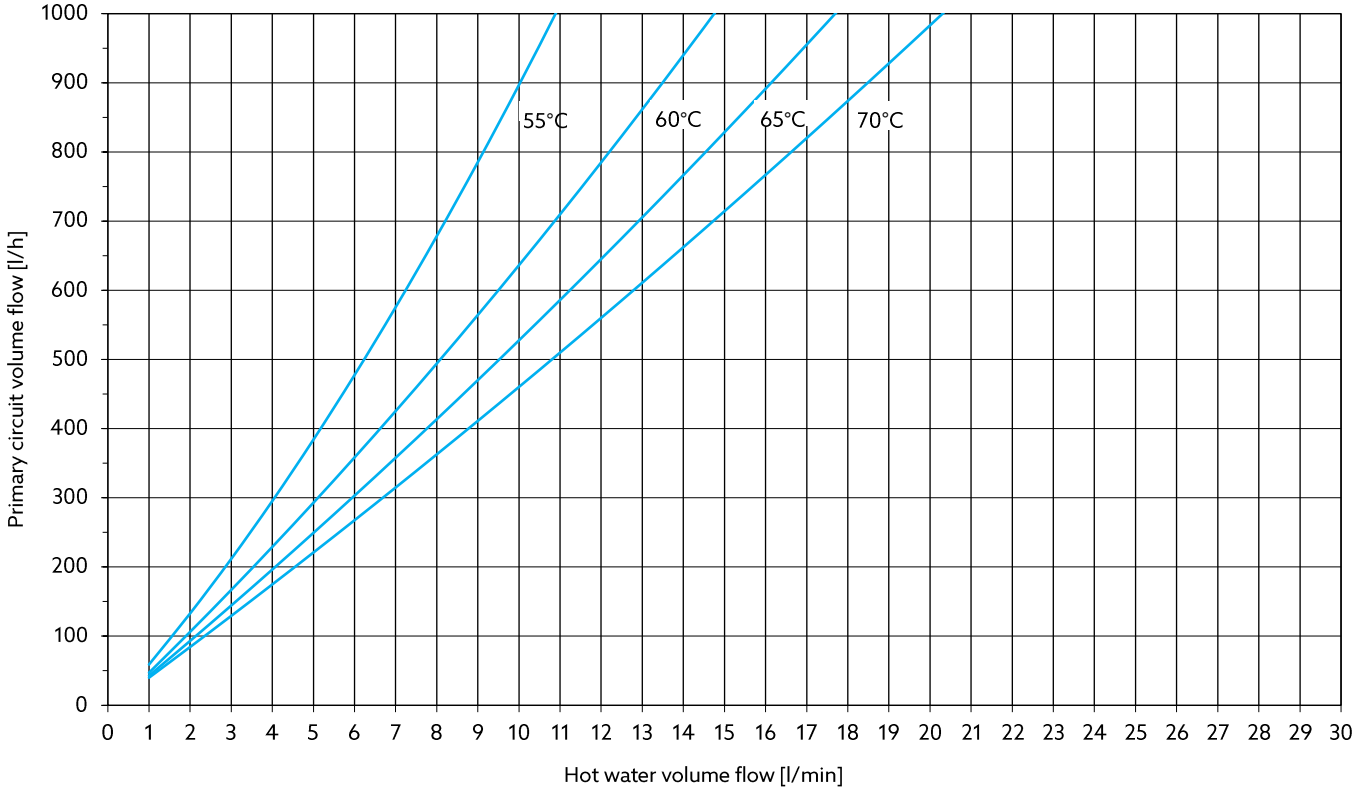
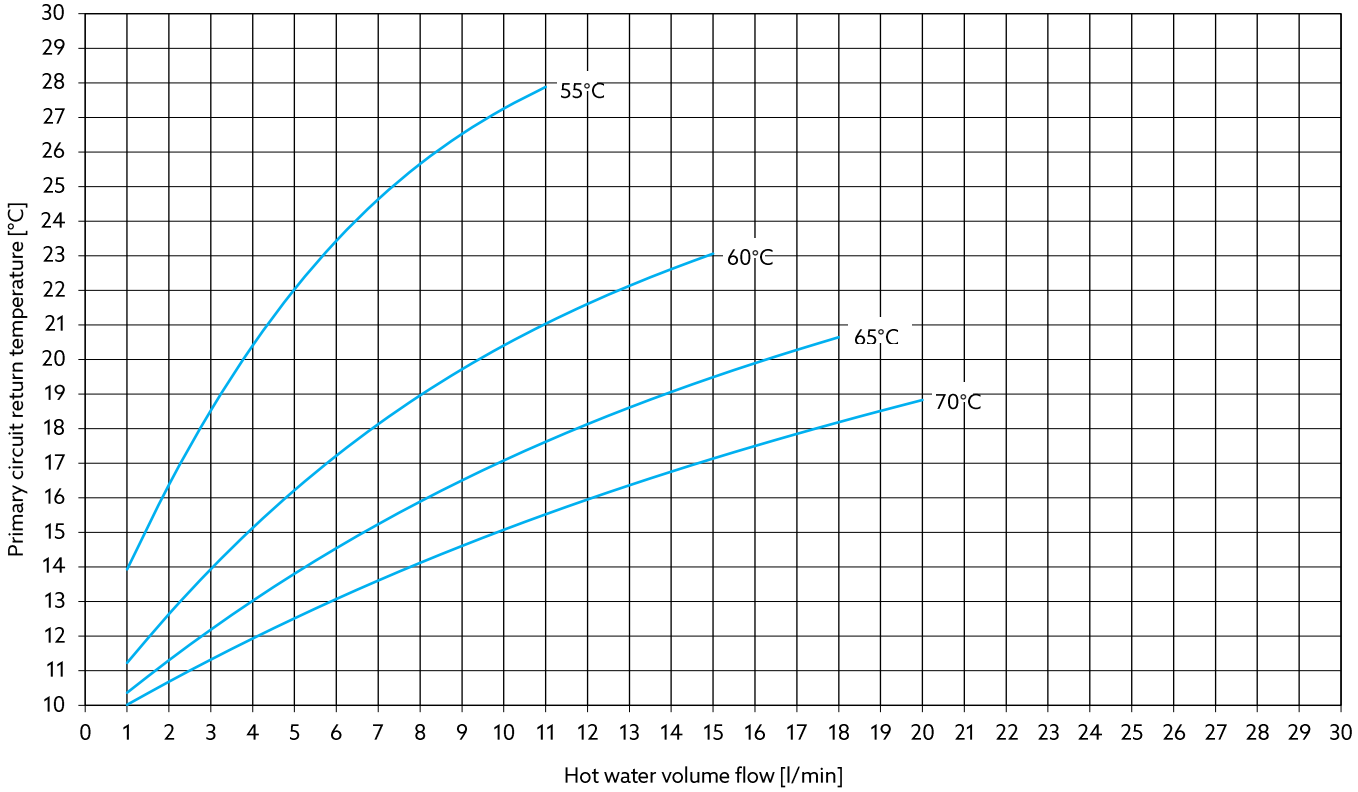
Performance range 1: Heating of potable water from 10 °C to 55 °C

(Performance data according to SPF test procedure)

Volume flow of the primary circuit at different flow temperatures



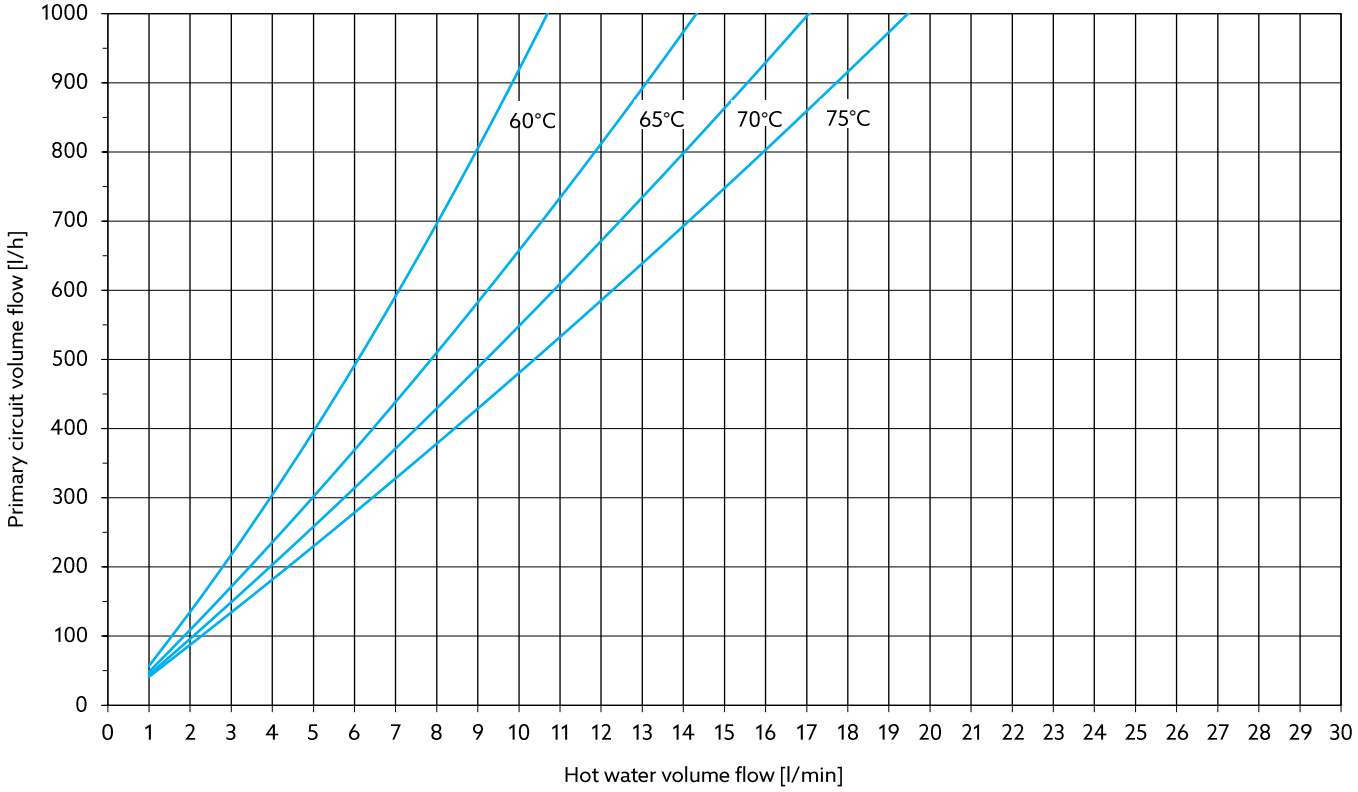
Return temperature of the primary circuit at different flow temperatures



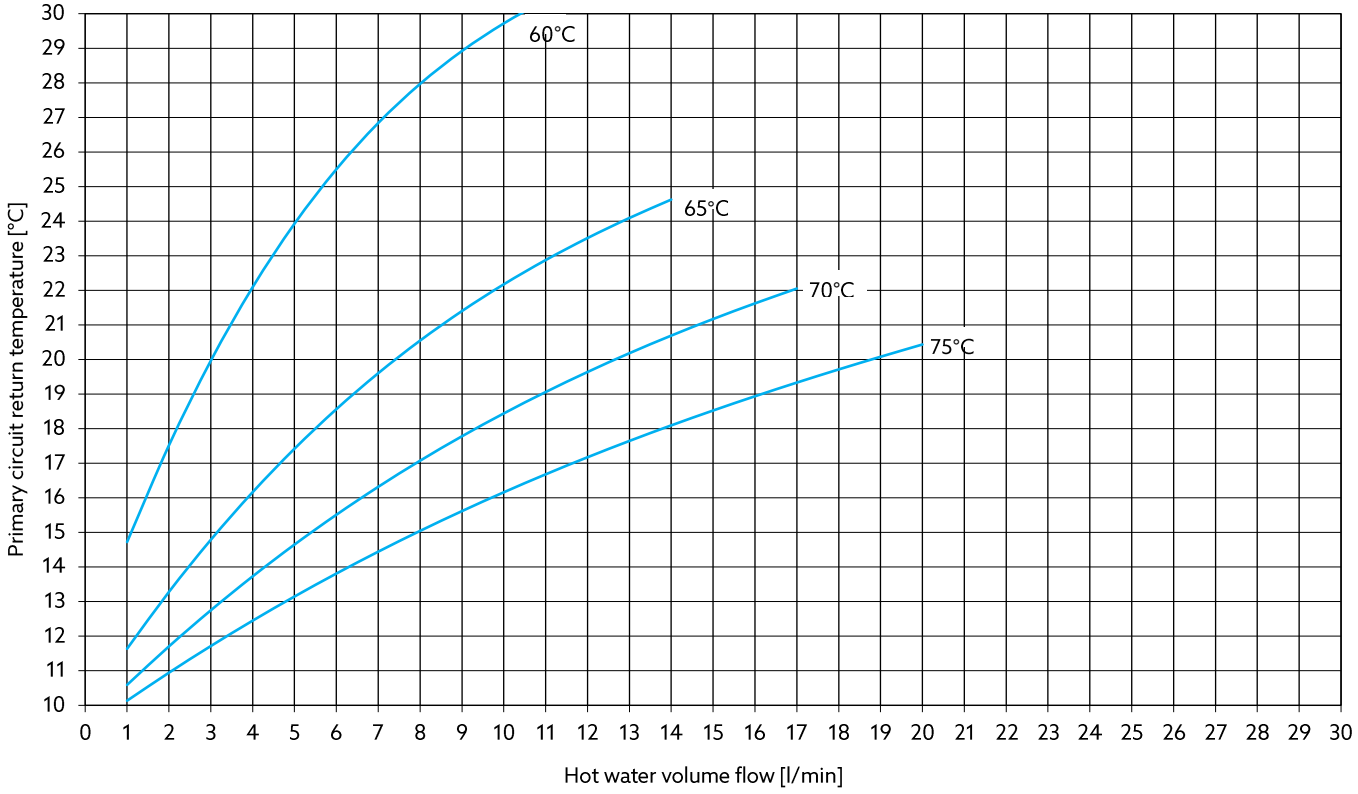
Performance range 1: Heating of potable water from 10 °C to 60 °C

(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



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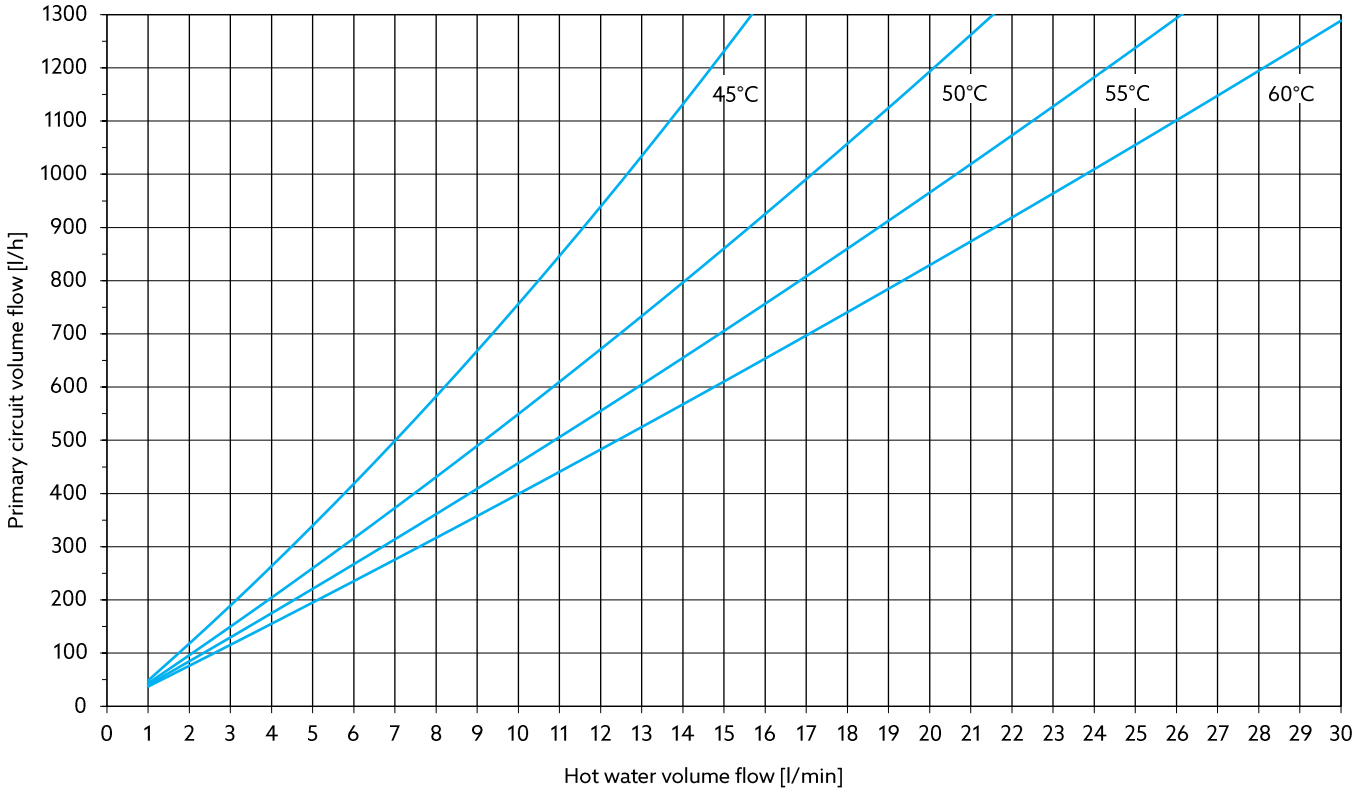
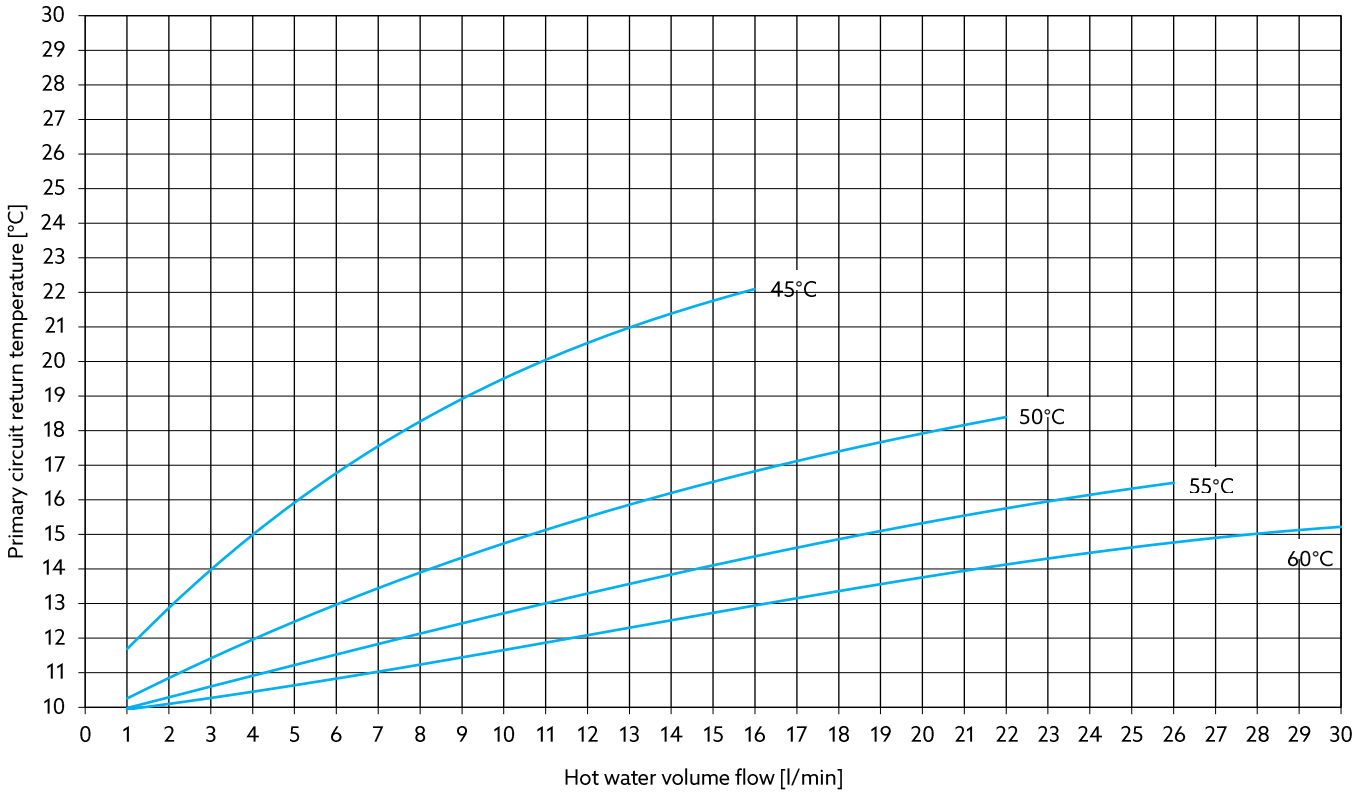
Performance range 2: Heating of potable water from 10 °C to 45 °C

(Performance data according to SPF test procedure)

Volume flow of the primary circuit at different flow temperatures



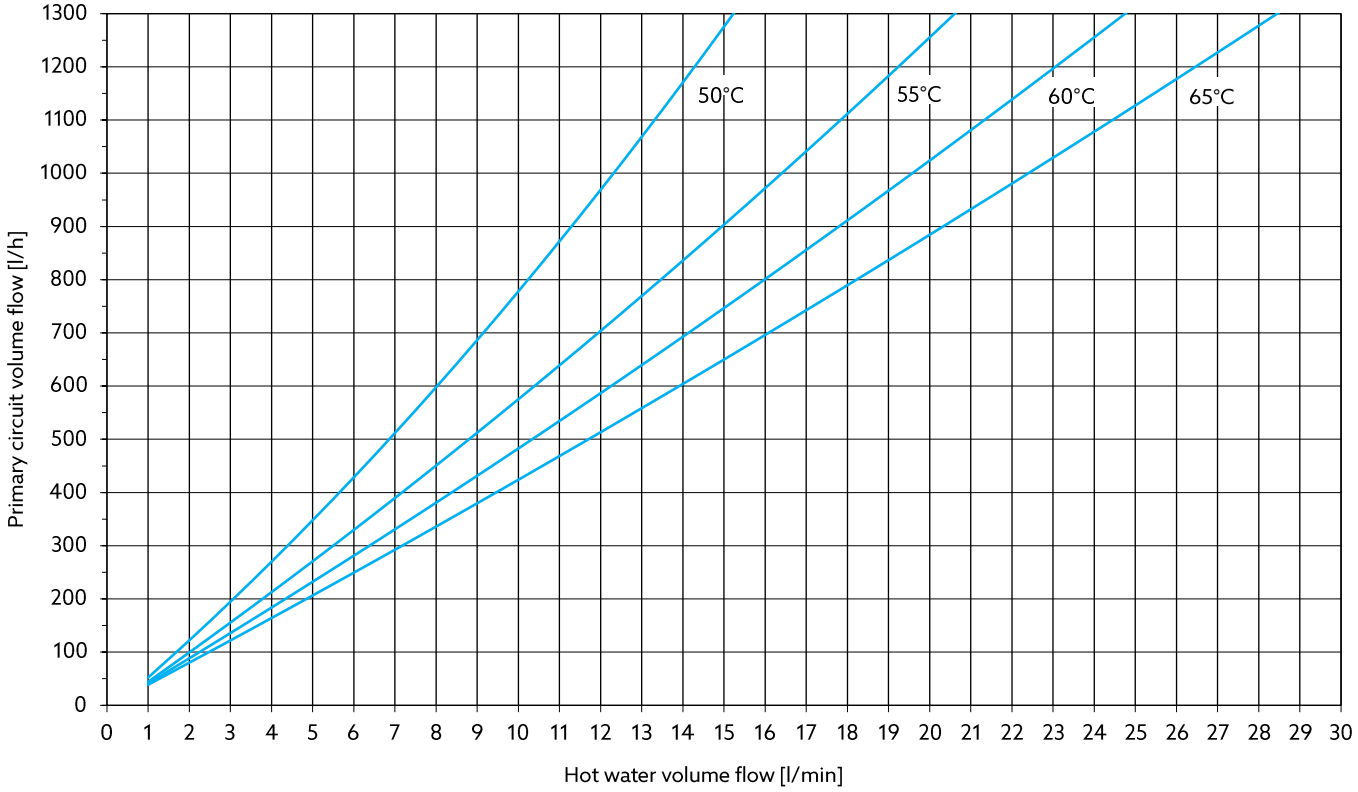
Return temperature of the primary circuit at different flow temperatures



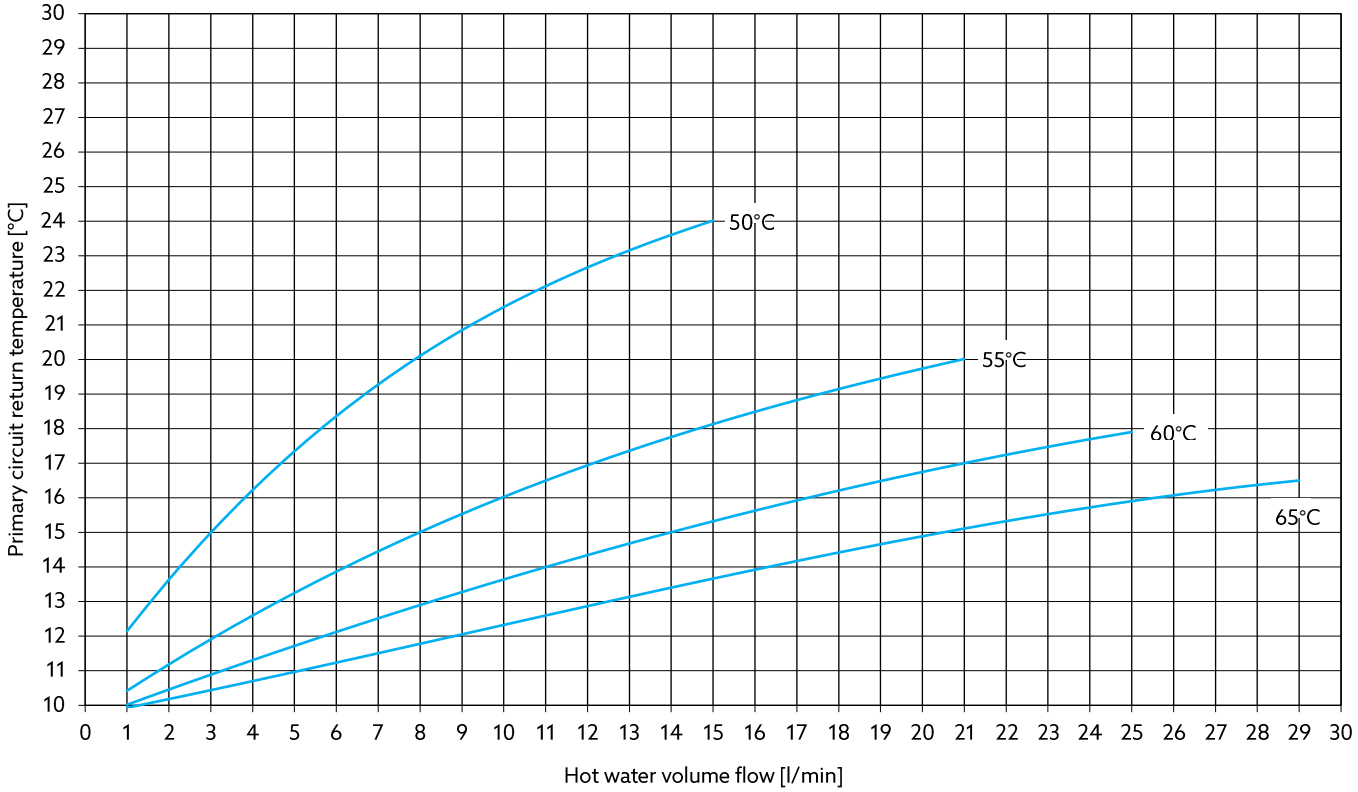
Performance range 2: Heating of potable water from 10 °C to 50 °C

(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



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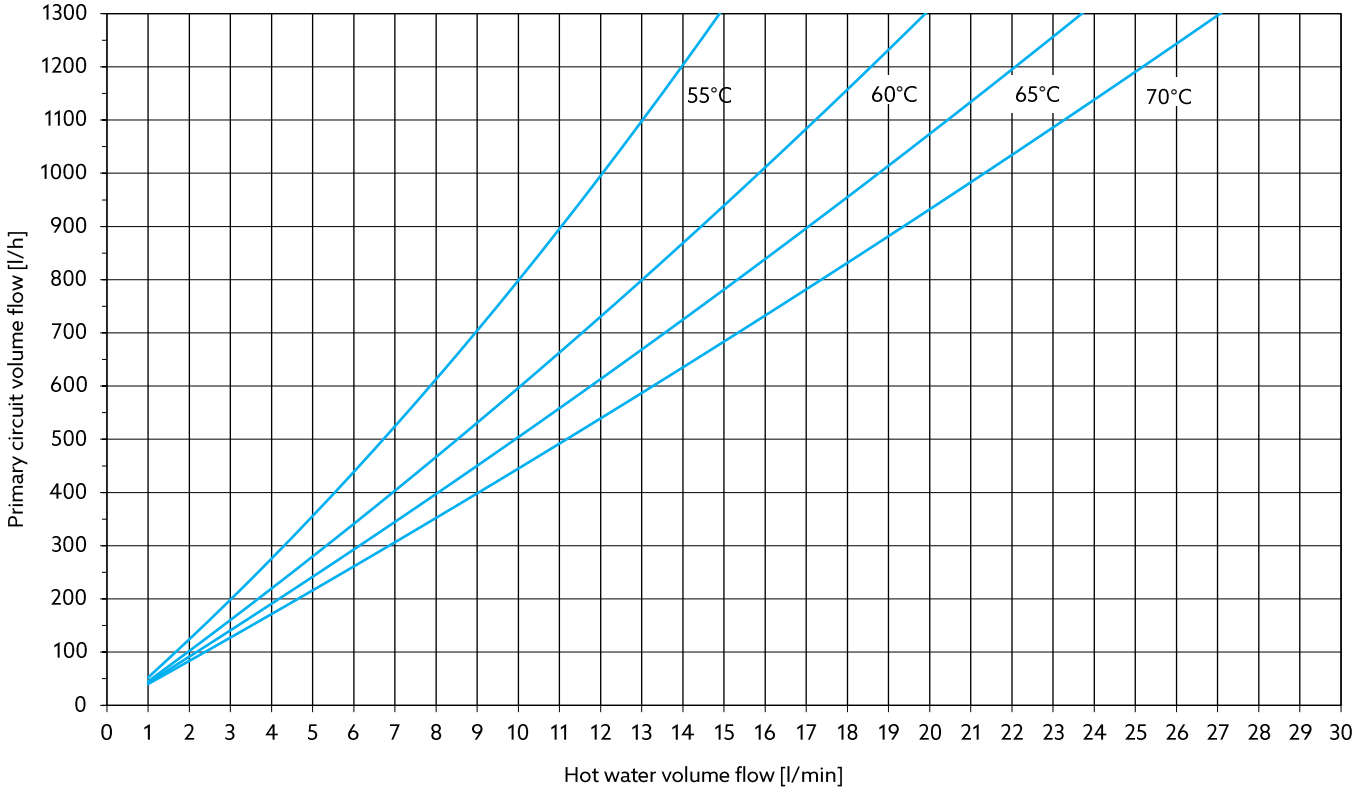
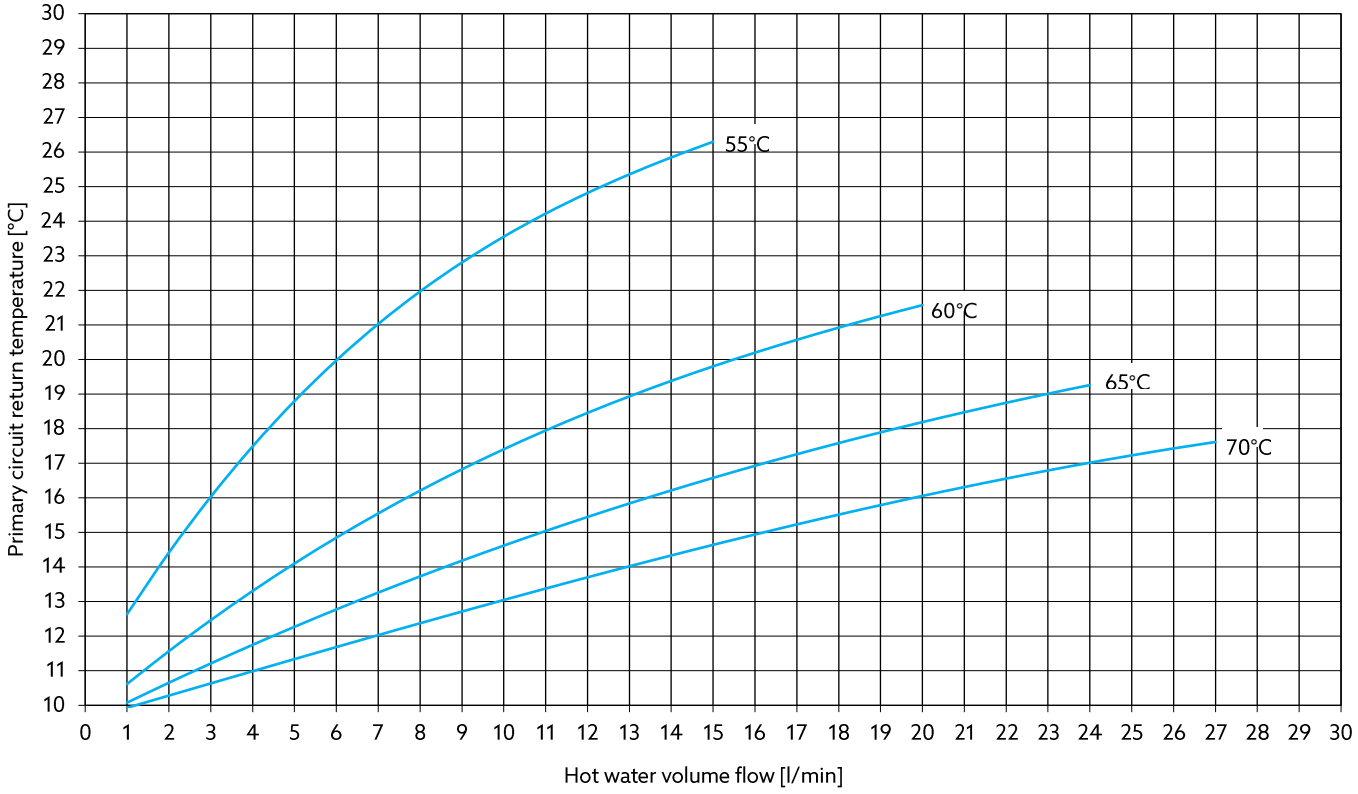
Performance range 2: Heating of potable water from 10 °C to 55 °C

(Performance data according to SPF test procedure)

Volume flow of the primary circuit at different flow temperatures



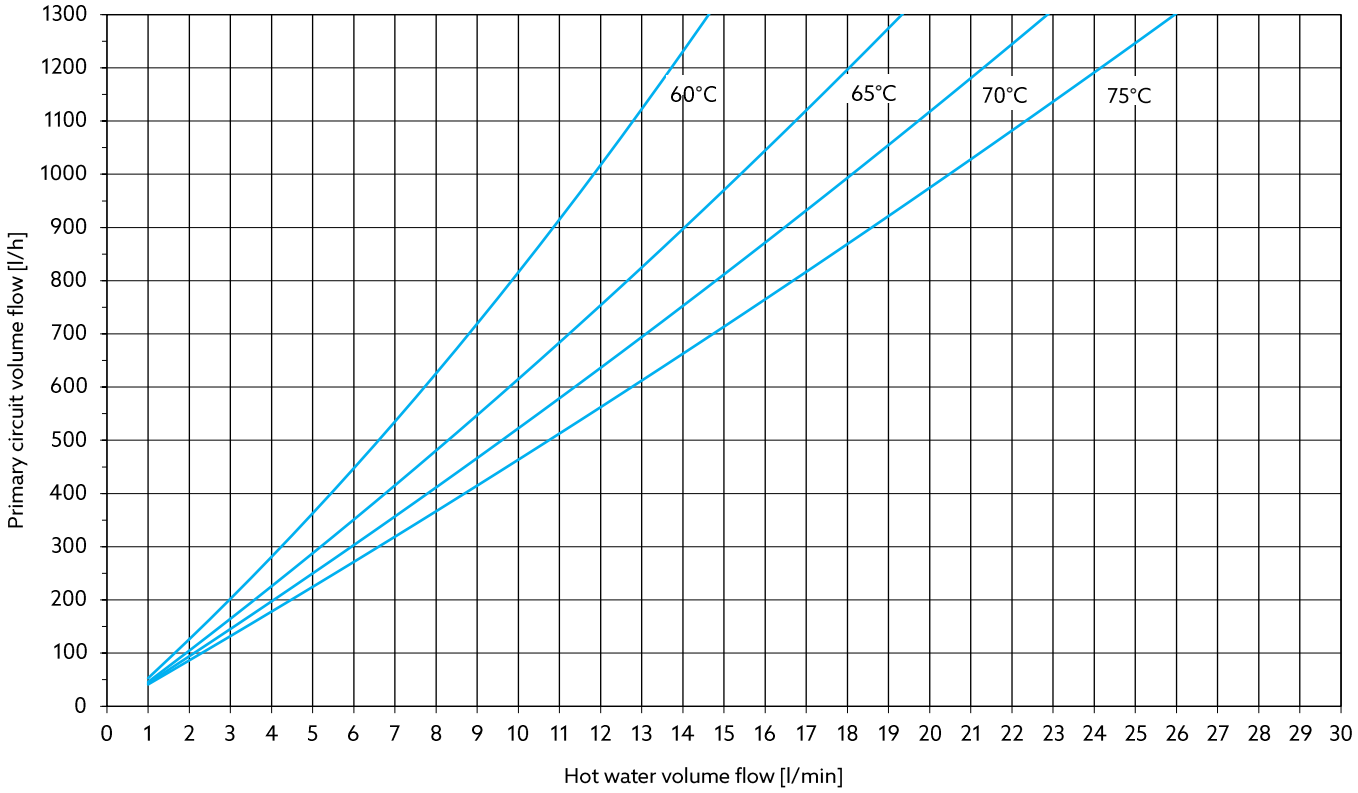
Return temperature of the primary circuit at different flow temperatures



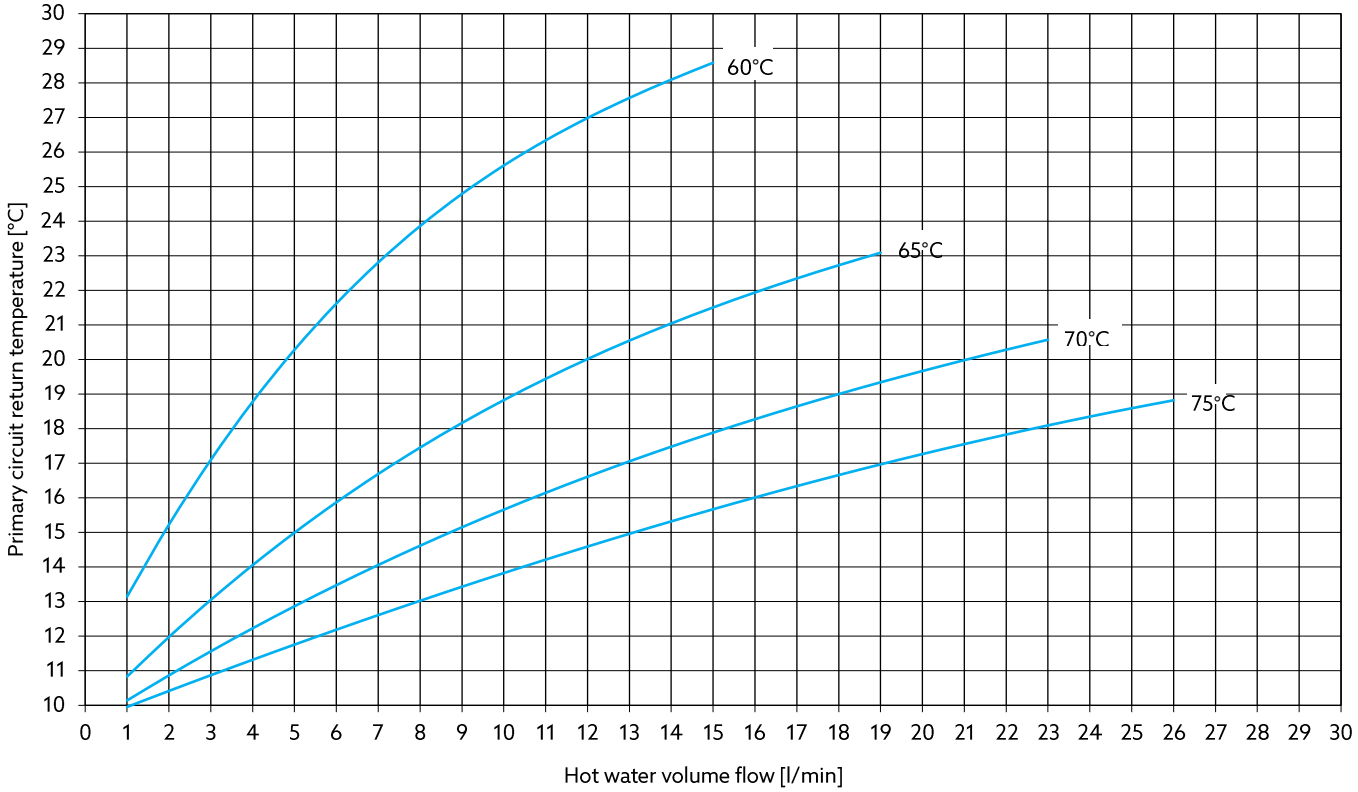
Performance range 2: Heating of potable water from 10 °C to 60 °C

(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



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