

# TACOTHERM DUAL PIKO SMART CONNECT

ELECTRONICALLY CONTROLLED DECENTRALISED HEAT INTERFACE UNIT



Preconfigured decentralised heat interface unit with slimline design, electronically controlled DHW heating and integrated heat distribution.

## DESCRIPTION

With its decentralised electric DHW heating, slimline design and various styles, the Piko series of decentralised heat interface units is ideal for virtually any installation and application scenario.

Units are available as single DHW or heating modules, or as combi units. The easily adjustable DHW temperature ensures demand-based DHW supply and energy billing.

## INSTALLATION

The decentralised heat interface units are available as heating modules and DHW modules, enabling pre-assembly during the building phase. The unit should preferably be sited close to the draw-off points of each apartment. This enables decentralised DHW and room heating for the apartment.

## ADVANTAGES

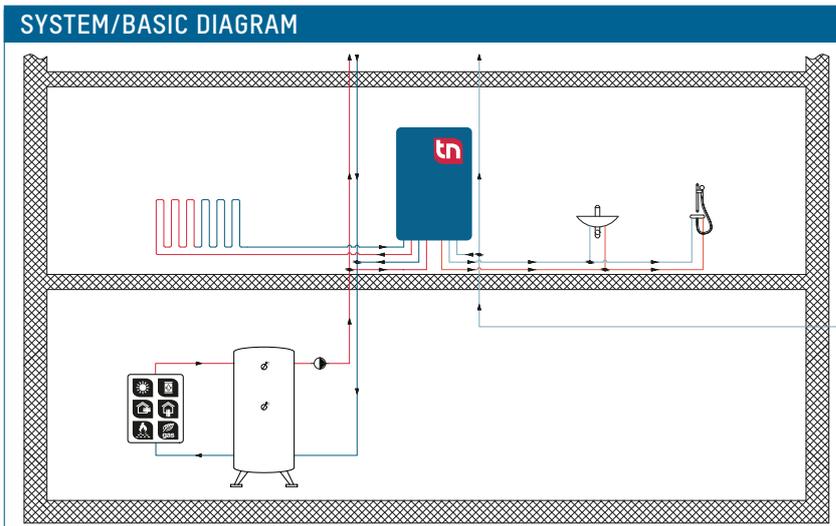
- Electronic drinking water heating with hot water priority switching for maximum comfort
- Large number of variants
- Available as a single fresh water or combination station
- On-demand, hygienic, decentralised DHW heating
- High hygiene standards by avoiding heated stagnant water
- Demand-driven calculation of energy costs

## OPERATION

Piko Smart Connect electronic decentralised heat interface units are designed for DHW heating and heat distribution, especially for low temperature heat generation. Primary energy is supplied via a central buffer cylinder. Decentralised DHW heating in the DHW module takes place on demand according to the instantaneous water heating principle. In combi units, the heating surfaces in the living spaces are connected to the underfloor heating circuit manifolds of the heating module. The heating flow temperature in the living space is regulated via the central boiler controls. Fittings are included in the modules for the installation of heat meters and cold water meters on site.

## BUILDING CATEGORIES

- Apartment blocks
- Hotels and residential homes
- Industrial buildings



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## SPECIFICATION TEXT

See [www.taconova.com](http://www.taconova.com)

## GENERAL TECHNICAL DATA

### General

- Max. operating pressure  $P_{0\max}$ :
  - Primary: 3 bar
  - Secondary: 10 bar
- Combi unit installation dimensions:
  - 2 – 10 heating circuits:  
W 750 × H 1350 + 90 × D 110 mm
  - 11 – 12 heating circuits:  
W 840 × H 1350 + 90 × D 110 mm
- Weight of combination station (empty): 65 kg

### Materials

- Housing: painted sheet steel
- Pipes: DN 15, stainless steel 1.4404
- Primary pump fresh hot water module: cast iron
- DHW circulation pump: brass
- Valve housing: brass
- Seals: AFM34 (flat sealing)

### Performance data

See design diagram

### Electrical connection data

- Mains voltage: 230 VAC ± 10 %
- Mains frequency: 50...60 Hz
- Power consumption fresh hot water module: max. 50 W
- Power consumption combination station incl. actuators: 120 – 140 W
- Protection type: IP 30
- EEI ≤ 0.20 – Part 2

### Flow media

- Heating water (VDI 2035; SWKI BT 102-01; ÖNORM H 5195-1)
- Cold water as per DIN 1988-200 and DIN EN 806-5

## APPROVALS / CERTIFICATES

- Components in contact with potable water comply with UBA Evaluation Criteria 26/03/2018 and Directive (EU) 2015/1535

## TECHNICAL DATA

### FRESH HOT WATER MODULE

#### General

- Max. operating temperature  $T_{0\max}$ : 90 °C
- Weight (empty): 35 kg
- Dimensions of structure on base plate:  
W 740 × H 568 × D 109 mm
- Primary pump:  
TacoFlow 3 GenS 15-85/130
- DHW circulation pump:  
TacoFlow 2 Pure

#### Materials

- Plate heat exchanger (plates and connector pieces):
  - Stainless steel 1.4401
  - Stainless-steel-soldered

## TECHNICAL DATA HEATING MODULE

### General

- Max. operating temperature  $T_{0\max}$ : 65 °C
- Weight (empty): 30 kg
- Pre-delivery dimensions:
  - 2 – 10 heating circuits:  
B 750 × H 1350 + 90 × T 110 mm
  - 11 – 12 heating circuits:  
B 840 × H 1350 + 90 × T 110 mm
- Heating circuit pump:  
TacoFlow 3 GenS 15-85/130
- Change-over and control valve for weather-controlled regulation

## NOTE

### REQUIREMENTS FOR FLOW MEDIA

A stainless steel brazed stainless steel plate heat exchanger is used as standard in the electronically controlled units. Before use, it is important to check at the system planning stage whether issues of corrosion protection and scale formation have been given sufficient consideration according to DIN 1988-200 and the current drinking water analyses as set out in DIN EN 806-5. See information sheet "Specifications for plate heat exchanger – limit values for drinking water quality".

# TACOTHERM DUAL PIKO SMART CONNECT

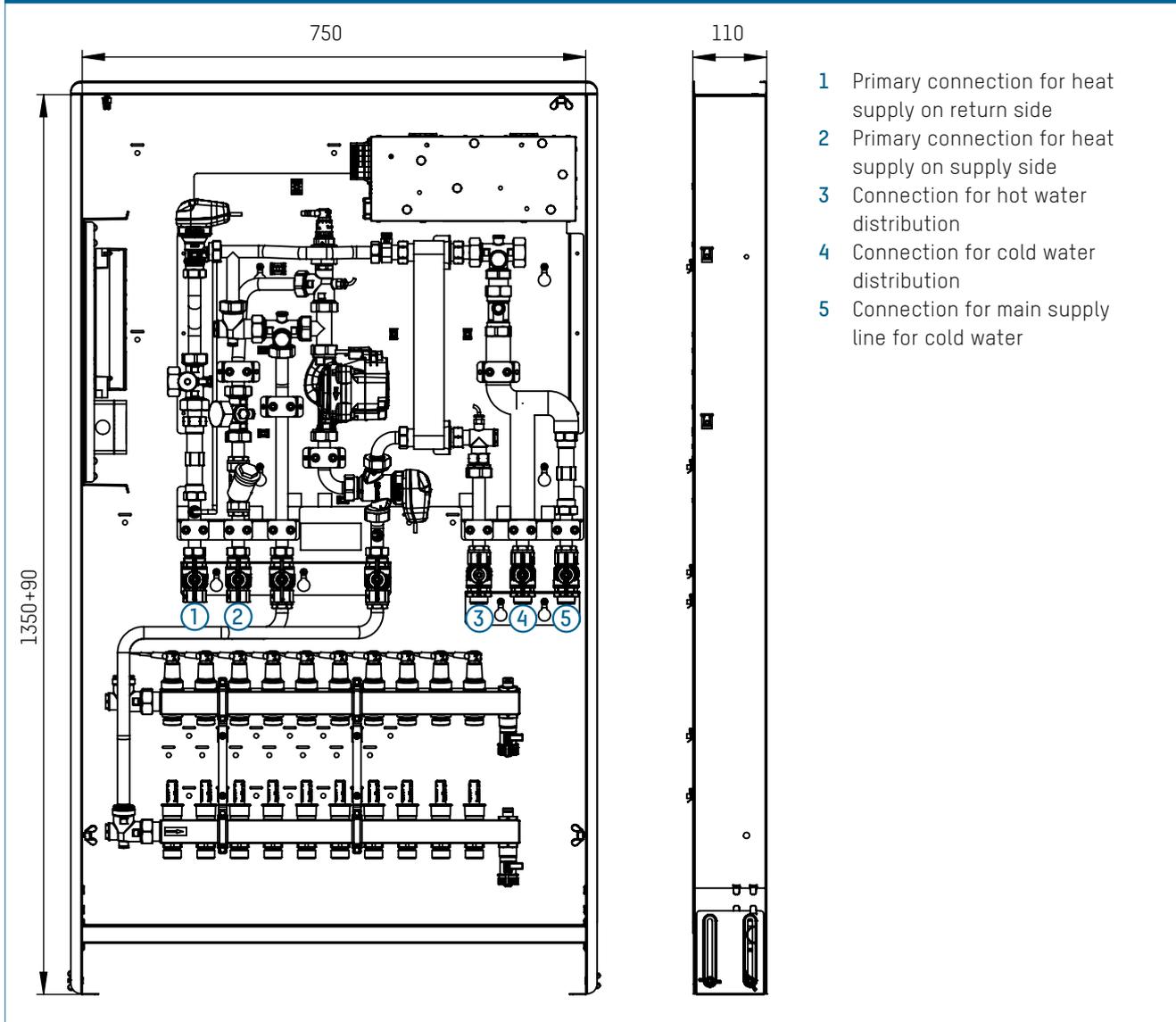
## TYPE OVERVIEW

TacoTherm Dual Piko Smart Connect | Heating module assembly with up to 12 heating circuits\*

Order no.	DN	Connections	Underfloor heating circuits	Version
278.2792.133P ...	15	¾" IG	3	Module in a 4-pipe system
278.2792.142P			12	
278.2793.133P ...	15	¾" IG	3	Module in a 2-pipe system
278.2793.142P			12	

\* Accessories required for completion and versions can be selected individually

## DIMENSIONAL DRAWING

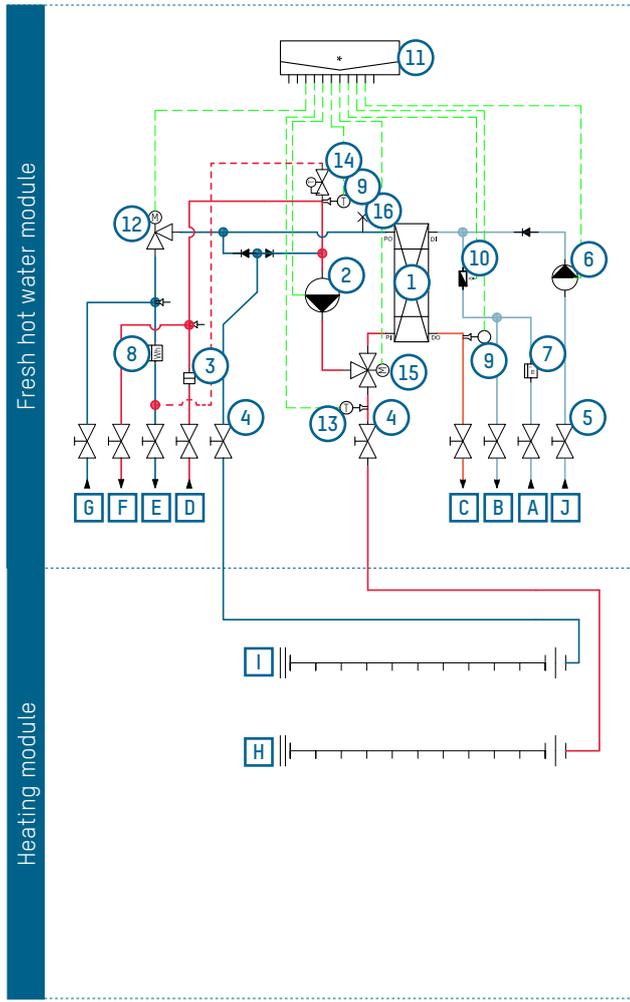


## ACCESSORIES

Order no.	Description
296.7038.000	Insulation shell for additional insulation of the centralised heat interface unit
296.7014.000	Mobile operating panel (HMI) for commissioning one or more decentralised heat interface units (we recommend storing at least one panel in the plant room of the property)
296.7014.001	WiFi stick for alternative operation of the unit via PC or tablet
296.7045.001	Outdoor temperature sensor PT 1000

**FLOW DIAGRAM**

Heating control: Fixed value and weather-controlled  
 Connection for 2-pipe system



**Key**

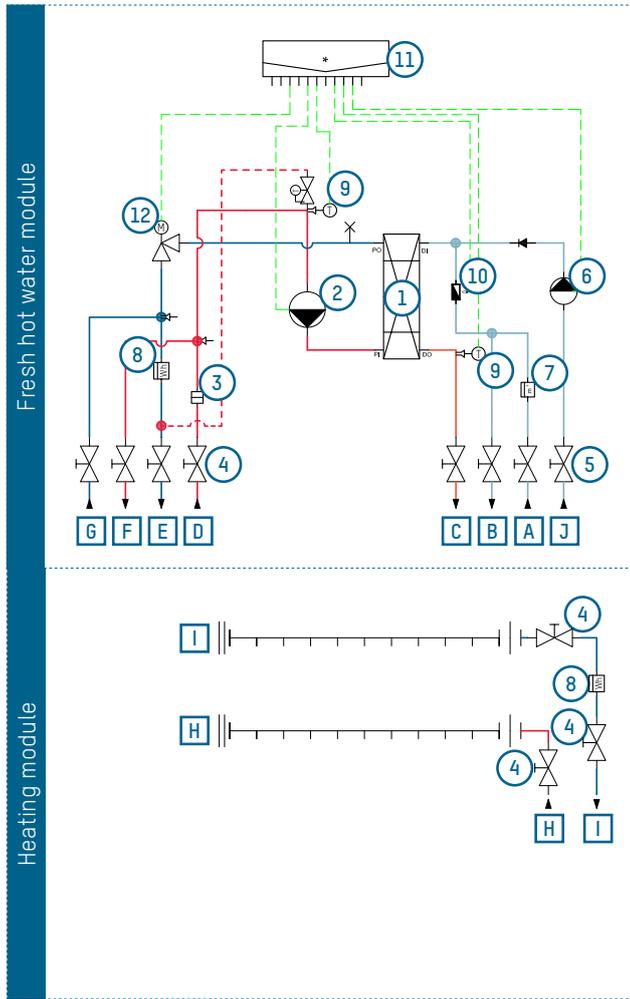
- 1 Plate heat exchanger
- 2 Primary pump for domestic hot water and heating module
- 3 Dirt trap with filter
- 4 Shut-off valve for heating
- 5 Shut-off valve with domestic hot water certification
- 6 Optional DHW circulation pump
- 7 Cold water meter adjusting piece
- 8 Heat meter adjusting piece
- 9 Temperature sensor
- 10 Volume flow sensor
- 11 Heat interface unit controller
- 12 Drive with stepper motor
- 13 Flow sensor weather-controlled regulation
- 14 Warming module actuator
- 15 Heating/DHW heating diverter valve
- 16 Automatic air vent valve

**Connections**

- A Connection for main supply line for cold water
- B Connection for cold water distribution
- C Connection for hot water distribution
- D Primary connection for heat supply on supply side
- E Primary connection for heat supply on return side
- F Radiator connection in supply circuit
- G Radiator connection in return circuit
- H Connection for underfloor heating on supply side
- I Connection for underfloor heating on return side
- J Connection for DHW circulation

**FLOW DIAGRAM**

Heating control: Fixed value  
 Connection for 4-pipe system



**Key**

- 1 Plate heat exchanger
- 2 Primary pump for fresh hot water
- 3 Dirt trap with filter
- 4 Shut-off valve for heating
- 5 Shut-off valve with domestic hot water certification
- 6 Optional DHW circulation pump
- 7 Cold water meter adjusting piece
- 8 Heat meter adjusting piece
- 9 Temperature sensor
- 10 Volume flow sensor
- 11 Heat interface unit controller
- 12 Drive with stepper motor

**Connections**

- A Connection for main supply line for cold water
- B Connection for cold water distribution
- C Connection for hot water distribution
- D Primary connection for heat supply on supply side
- E Primary connection for heat supply on return side
- F Radiator connection in supply circuit
- G Radiator connection in return circuit
- H Connection for underfloor heating on supply side
- I Connection for underfloor heating on return side
- J Connection for drinking water circulation

# TACOTHERM DUAL PIKO SMART CONNECT

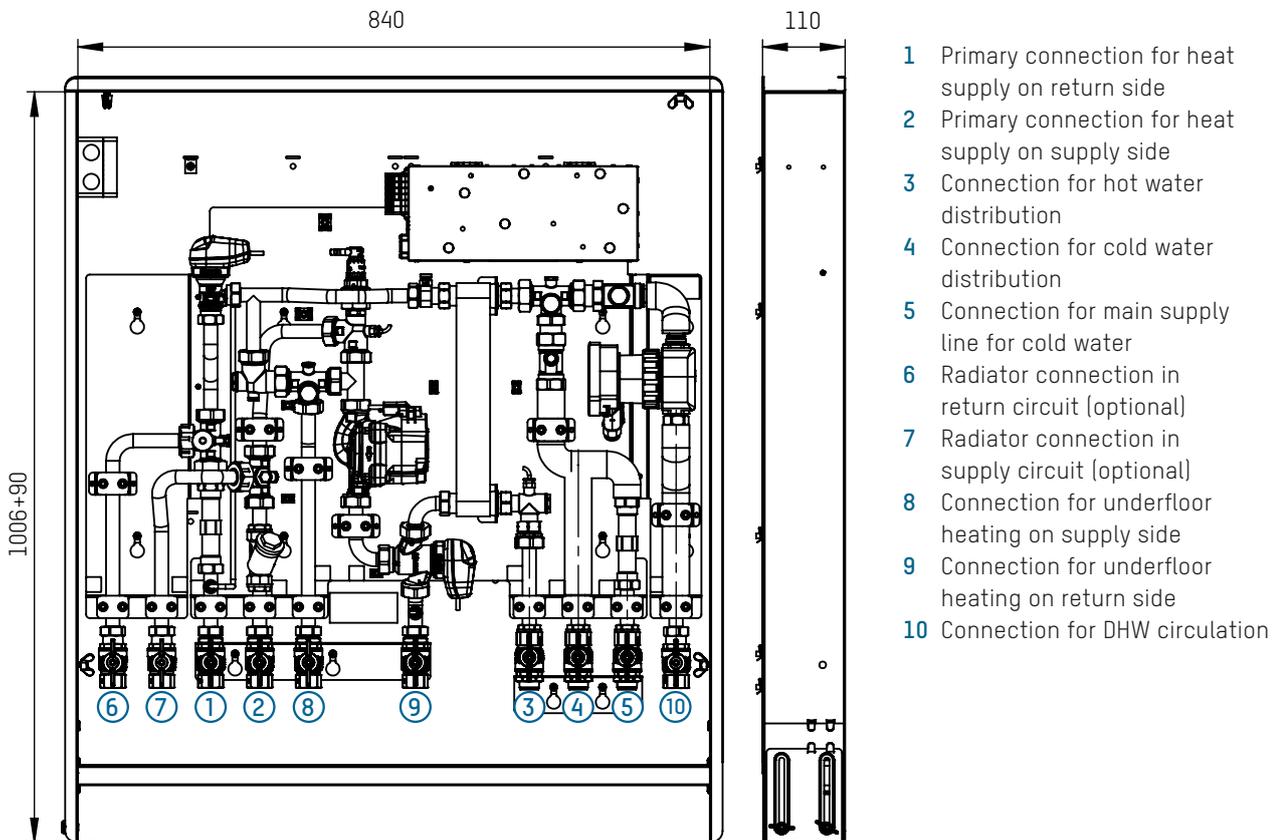
## TYPE OVERVIEW

TacoTherm Fresh Piko Smart Connect | Domestic hot water module

Order no.	DN	Connections	Dispensing range*	Version
278.2390.000	15	¾" fem.	25 l/min	DHW module for retrofitting on base plate for installation in a 2-pipe system
278.2391.000	15	¾" fem.	25 l/min	DHW module for retrofitting on base plate for installation in a 2-pipe system with DHW circulation
278.2392.000	15	¾" fem.	25 l/min	DHW module for retrofitting on base plate for installation in a 4-pipe system
278.2393.000	15	¾" fem.	25 l/min	DHW module for retrofitting on base plate for installation in a 4-pipe system with DHW circulation

\* Performance data for primary = flow 55 °C / secondary = hot water 45 °C

## DIMENSIONAL DRAWING

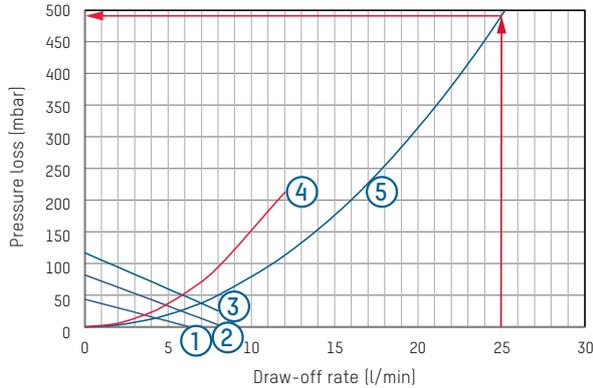


## ACCESSORIES

Order no.	Description
296.3011.000	Radiator connection kit (DN 20   Rp 1" x 18 mm)
296.7014.000	Mobile operating panel (HMI) for commissioning one or more decentralised heat interface units (we recommend storing at least one panel in the plant room of the property)
296.7014.001	WiFi stick for alternative operation of the unit via PC or tablet
296.7045.001	Outdoor temperature sensor PT 1000

**FLOW AND PRESSURE LOSS DIAGRAMS  
COLD WATER HEATING BY 35 K (10 ... 45 °C)**

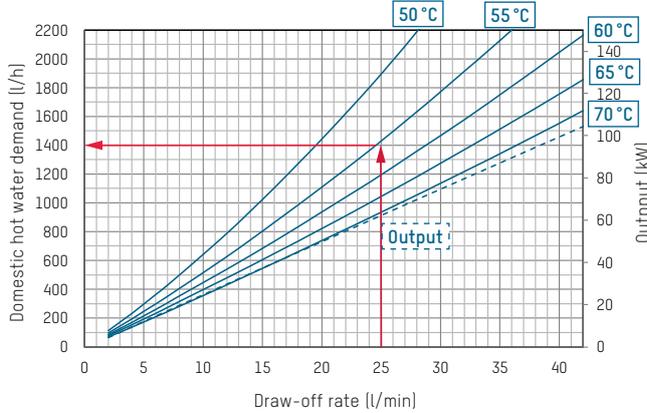
**D) Secondary pressure loss**



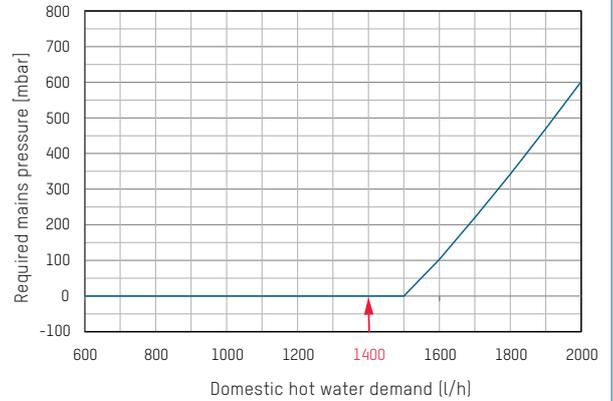
**Key**

- 1 DHW circulation pump stage 1
- 2 DHW circulation pump stage 2
- 3 DHW circulation pump stage 3
- 4 Circulation pressure drop
- 5 Secondary pressure drop

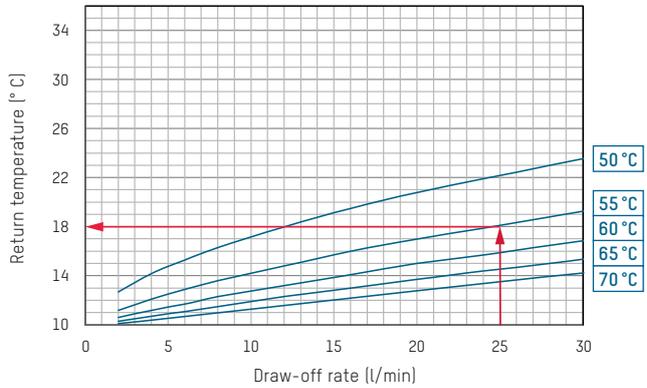
**A) Heating water demand, primary**



**B) Pilot pressure required at the station depends on heating water demand**



**C) Return temperatures on primary side**



**EXAMPLE OF INTERPRETING THE FLOW RATE AND PRESSURE LOSS DIAGRAMS**

**Given**

- Hot water dispensing volume: 25 l/min
- Primary heating flow temperature: 55°C
- Draw-off temperature: 45 °C
- Pilot pressure at station, primary: 300 mbar

**Sought**

- Domestic hot water demand in l/h
- Primary pressure loss in mbar
- Primary heating return temperature in °C
- Secondary pressure loss in mbar
- System output monitoring

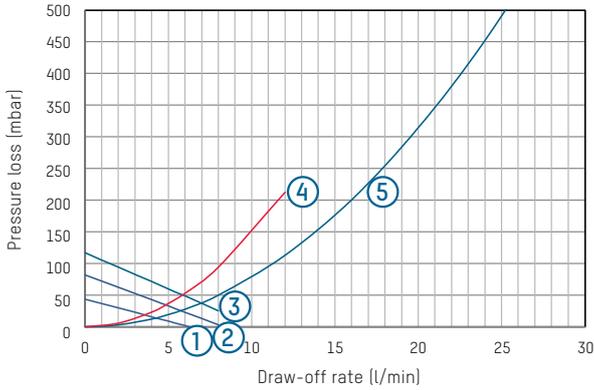
**Approach**

- From graph A), the heating water flow rate of 1400 l/min can be read off at the intersection of the given DHW draw-off rate and the existing primary flow temperature.
- On graph B), the pilot pressure required at the station can be calculated based on the determined hot water flow rate of 1400 l/h. Up to a heating water demand of 1500 l/h, the pressure drop of the station is not taken into account.

- In Diagram C) the primary return temperature for the given dispensing volume and the selected flow temperature of 55°C is then 18°C.
- In Diagram D) the secondary pressure loss for the given data is 480 mbar

**FLOW AND PRESSURE LOSS DIAGRAMS  
COLD WATER HEATING BY 45 K (10 ... 55 °C)**

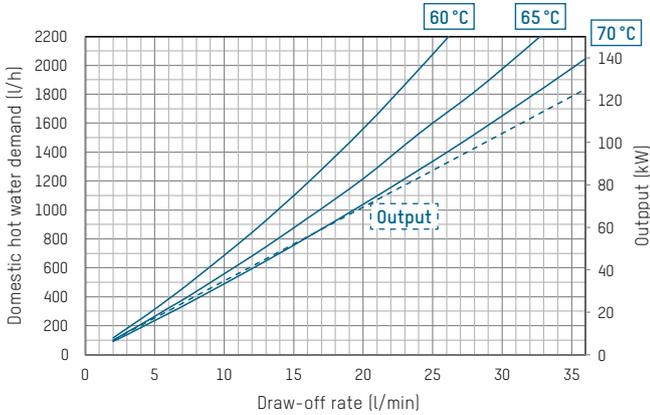
**E) Secondary pressure loss**



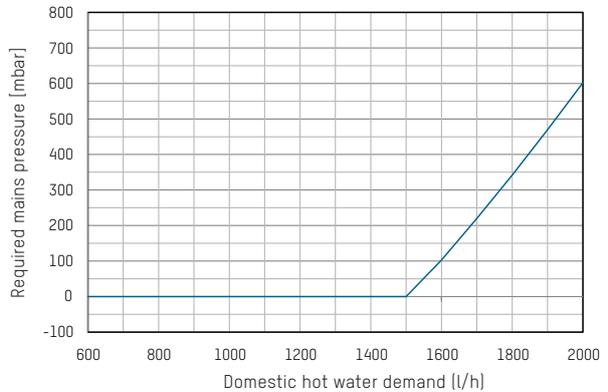
**Key**

- 1 DHW circulation pump stage 1
- 2 DHW circulation pump stage 2
- 3 DHW circulation pump stage 3
- 4 Circulation pressure drop
- 5 Secondary pressure drop

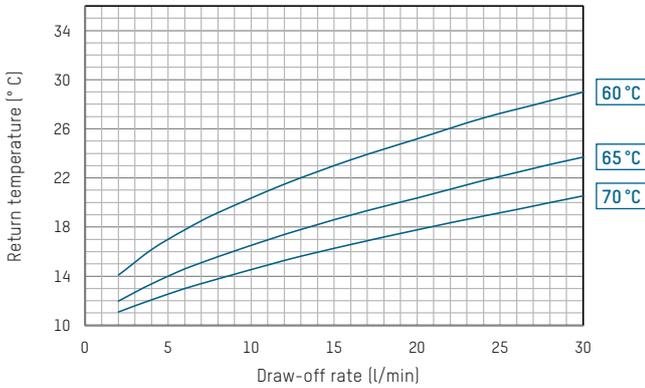
**A) Heating water demand, primary**



**B) Pilot pressure required at the station depends on heating water demand**



**C) Return temperatures on primary side**



**CONTACT AND FURTHER INFORMATION**

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