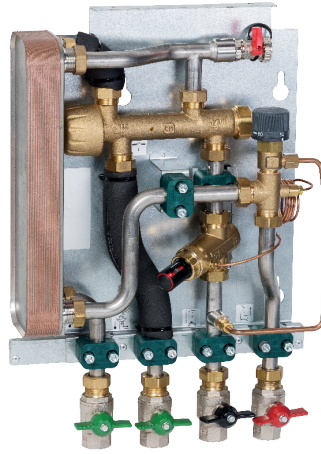


# TACOTHERM FRESH FEMT02

FRESH HOT WATER STATION



## ADVANTAGES

### Compact

- Comes equipped with all the necessary valves and components
- Space-saving because a drinking water storage tank is not required

### Secure

- Protection against Legionella by avoiding water stagnation

### Simple

- System is easy to install in refurbishments
- Station is completely preassembled and connection-ready

### Efficient

- Reduced energy costs through regulation of the hot water temperature without auxiliary electric energy

Connection-ready transfer station for heating drinking water

## DESCRIPTION

The Tacotherm Fresh Femto2 unit is a decentralised heat interface unit that replaces a circulation system for a building storey. In contrast to solutions with DHW circulation systems, this solution reduces the volume of domestic hot water while at the same time increasing efficiency due to lower return temperatures.

The unit has an integrated proportional flow controller with connection pipework and a plate heat exchanger.

## INSTALLATION POSITION

The station is intended for surface mounting in a domestic setting or in installation shafts or built-in cabinets.

## OPERATION

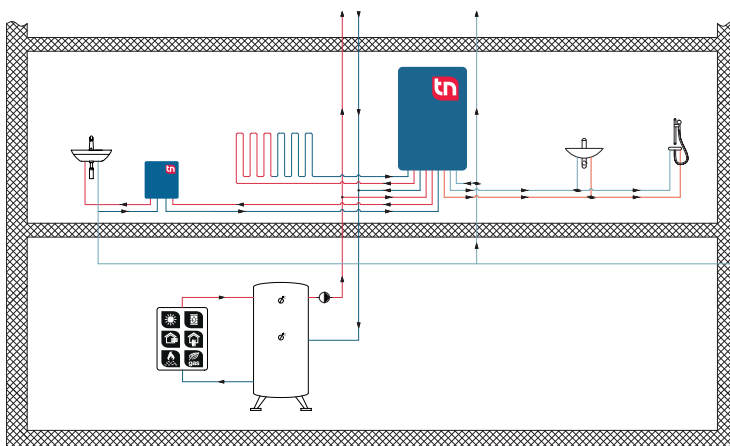
In the TacoTherm Fresh Femto2, the drinking water is heated to the specified tap temperature via the plate heat exchanger based on the instantaneous water heating principle. If it is used in combination with a decentralised heat interface unit, it draws the energy from its distribution grid. The built-in pressure-controlled proportional flow controller regulates heating of the drinking water at tap draw-off rates of up to 12 l/min.

A constant DHW temperature can be achieved with downstream thermal mixing valves NovaMix Value or Standard (optional).

## BUILDING CATEGORIES

- Apartment blocks
- Single family dwellings
- Multiple dwelling units
- Office and commercial buildings

## SYSTEM/BASIC DIAGRAM



# TACOTHERM FRESH FEMTO2 | FRESH HOT WATER STATION

## SPECIFICATION TEXT

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

## TECHNICAL DATA

### General

- Weight: 11 kg
- Overall dimensions:  
W 330 mm × H 481 mm × D 100 mm
- Dispensing range: 2.5 – 12 l/min  
A pressure differential of 330 mbar must be available via the proportional flow controller on the primary side.
- Inner thread Rp (cylindrical) in accordance with ISO 7-1

### Primary side

- Operating temperature  $T_{0\text{ max}}$ : 95 °C
- Operating pressure  $P_{0\text{ max}}$ : 3 bar
- Ball valves: DN 20, inner thread 3/4"
- DN18 pipes
- $K_{VS}$  primary: 1.73

### Secondary side

- Operating temperature  $T_{0\text{ max}}$ : 95 °C
- Operating pressure  $P_{0\text{ max}}$ : 10 bar
- DN20 ball valves, inner thread 3/4"
- DN18 pipes
- Opening flow: 2,3 l/min
- $K_{VS}$  secondary: 1.62

### Material

- Valve housing for controller: Brass
- Pipes : 1.4404
- Heat exchanger: 1.4401 approved for drinking water
- Heat exchanger solder: copper or stainless steel
- Valves and screw connectors: Brass or plastic approved for drinking water
- Seals: AFM 34, flat sealing
- Mounting material: Steel or plastic

### Fluids

- Heating water  
(VDI 2035; SWKI BT 102-01; ÖNORM H 5195-1)
- Cold water according to DIN 1988200:2012-05

## APPROVALS / CERTIFICATES

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

## TYPE OVERVIEW

### TacoTherm Fresh Femto2 | Fresh hot water station

Order no.	Rp	Dispensing range	Version
272.0010.001	3/4" fem.	2.5 – 12 l/min	Base station with CU-PWT mounted on base plate
272.0010.125	3/4" fem.	2.5 – 12 l/min	Base station with VA-PWT mounted on base plate

## ACCESSORIES

Order no.	Description
296.7040.000	Connection rail with 4 ball valves
296.3018.000	Cover made of painted sheet steel
296.7040.001	Flush-mounted cabinet with connection rail

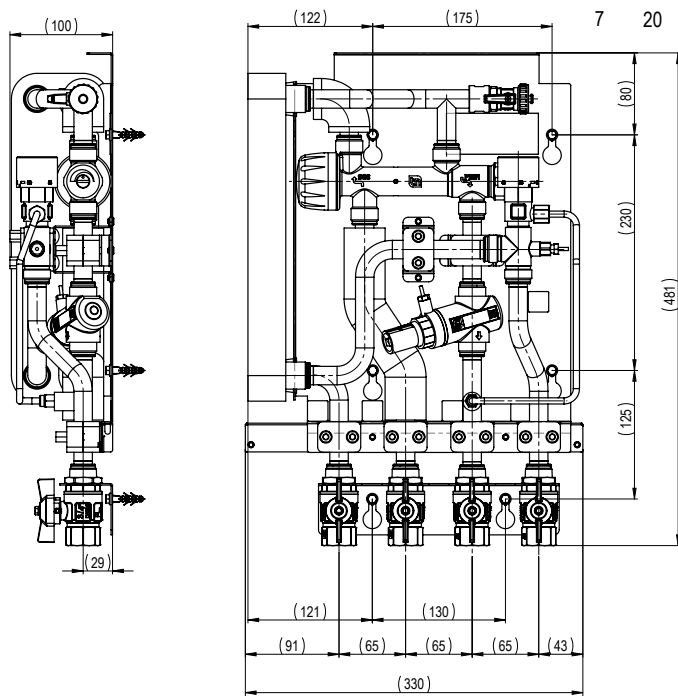
## NOTE

### REQUIREMENTS FOR FLOW MEDIA

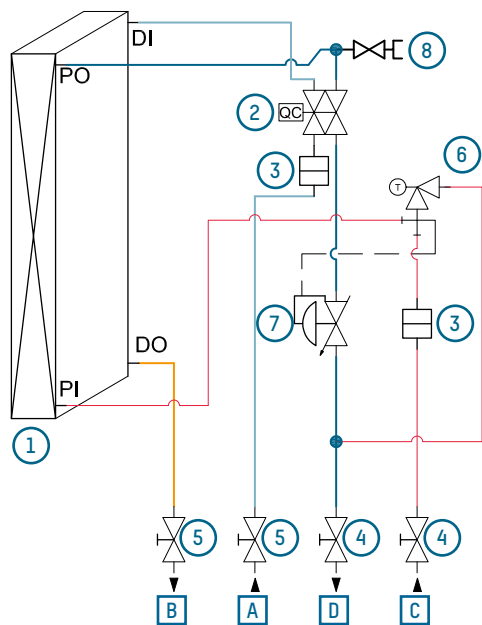
The stations heat interface units use a copper-soldered stainless steel plate heat exchanger as standard. It must be checked prior to use in the framework of system planning whether the issues of corrosion protection and scale formation have been sufficiently taken into account in accordance with DIN 1988200 and current drinking water analyses according to DIN EN 8065. See datasheet "Plate Heat Exchanger Requirements - Limit Values for Drinking Water Quality".

# TACOTHERM FRESH FEMTO2 | FRESH HOT WATER STATION

## DIMENSIONAL DRAWING



## HYDRAULIC DIAGRAM



### Legende

- 1 Plate heat exchanger
- 2 Proportional flow controller
- 3 Screen seal
- 4 Ball valve heating
- 5 Ball valve with TWW approval
- 6 Warm-holding module (WHM)
- 7 Differential pressure regulator EDP.1 Flowcon M8x1
- 8 Full/flush/drain valve (KFE)

### Anschlüsse

- A Cold water connection
- B Hot water taps
- C Main heating supply pipe
- D Main return heating

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

### Given

- DHW draw-off rate: 16 l/min
- Primary heating flow temperature: 55 °C
- Draw-off temperature: 45 °C

### Required

- Heating water demand
- Heating return temperature, primary in °C
- Pressure drop, secondary, in mbar

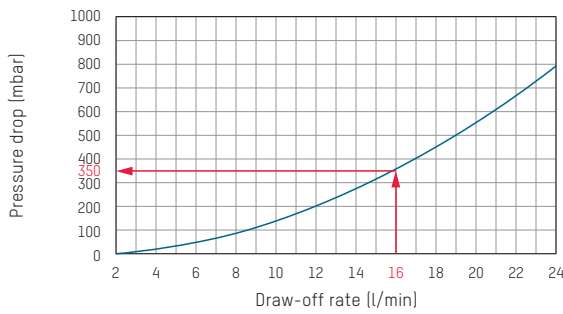
### Solution

- Diagram A) shows a pressure loss of 350 mbar at the intersection of the given DHW draw-off rate (16 l/min) and the flow temperature (55 °C,) and DHW heating of 10 °C to 45 °C.
- Furthermore, the heating water demand (720l/h) can be read in diagram C) and the return temperature of 19.2°C in diagram D).

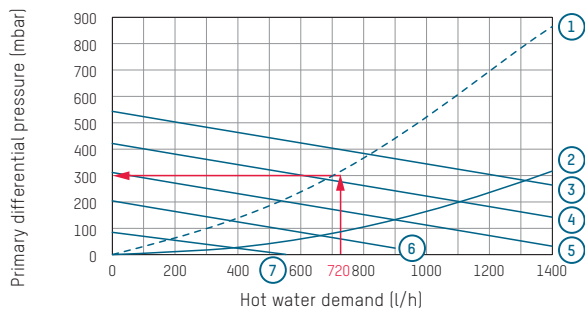
- In diagram B), the setting of the differential pressure controller in position 2 (intersection of performance curve 6) and the required primary pump inlet pressure of 300 mbar (intersection of performance curve 1) are determined using the calculated heating water demand of 720 l/min.

**FLOW AND PRESSURE LOSS DIAGRAMS**

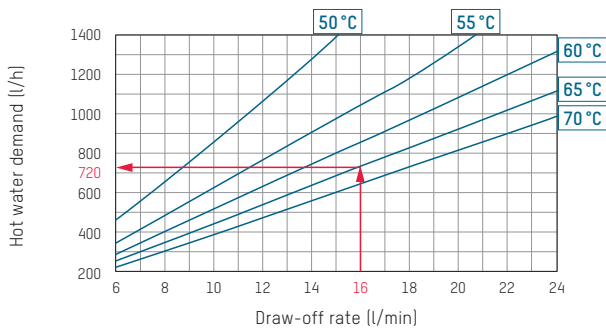
**A) Secondary pressure drop**



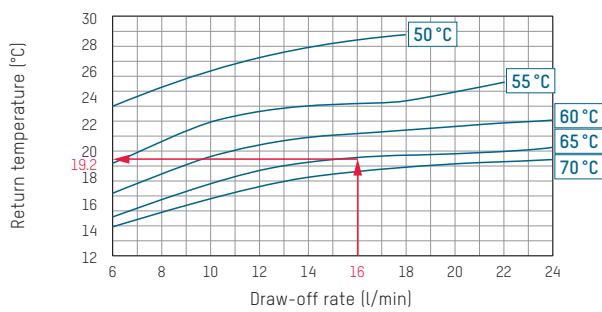
**B) Hot water demand / differential pressure**



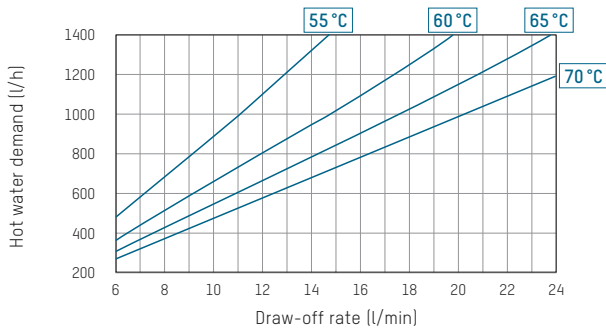
**C) Hot water demand for heating by 35°C (10 – 45°C)**



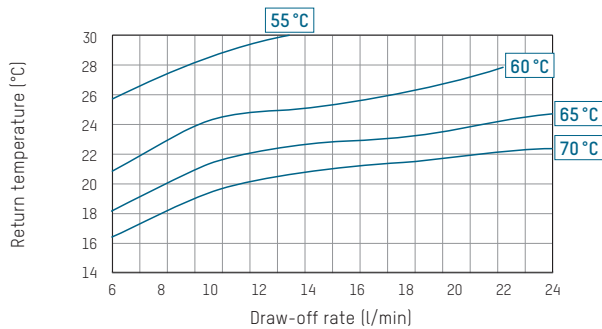
**D) Return temperature when heated by 35°C (10 – 45°C)**



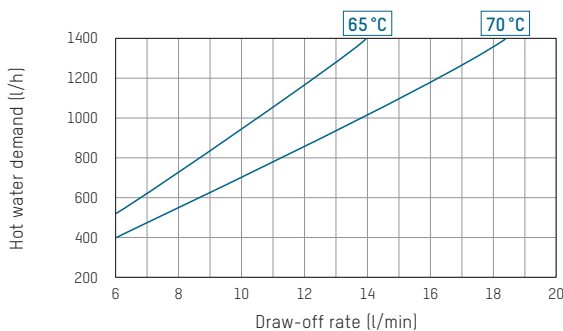
**E) Hot water demand for heating by 40°C (10 – 50°C)**



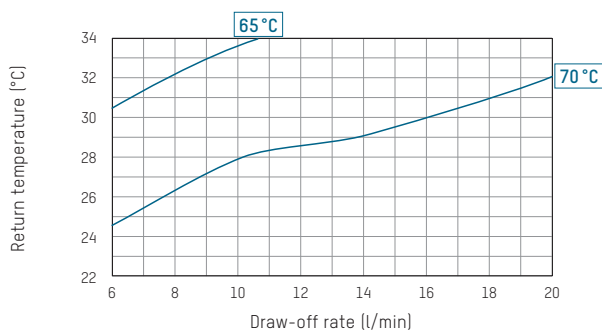
**F) Return temperature when heated by 40°C (10 – 50°C)**



**G) Hot water demand for heating by 50°C (10 – 60°C)**



**H) Return temperature when heated by 50°C (10 – 60°C)**



- 1 Pump inlet pressure
- 2 Pressure loss in the system
- 3 dP EPD1 (level 5)
- 4 dP EPD1 (level 4)
- 5 dP EPD1 (level 3)
- 6 dP EPD1 (level 2)
- 7 dP EPD1 (level 1)

**CONTACT AND FURTHER INFORMATION**

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