

# TACOTHERM FRESH MEGA CONNECT

FRESH HOT WATER STATION WITH HIGH-EFFICIENCY PUMPS



Fresh hot water station for hygienically heating drinking water in accordance with the continuous flow principle with innovative pump and regulation technology

## DESCRIPTION

The TacoTherm Fresh Mega Connect fresh hot water station is used for heating drinking water on demand in accordance with the cyclical principle in conjunction with a storage tank for existing and new heating systems, wood-burning boilers, heat pumps and solar systems. The station replaces the storage of hot drinking water in an additional storage unit and thus provides a high degree of protection against Legionella by avoiding water stagnation.

## INSTALLATION POSITION

Vertical wall-mounting in the vicinity of the hot water storage tank or on the tank itself.

## OPERATION

Drinking water is heated to the defined dispensing temperature in the TacoTherm Fresh Mega Connect in accordance with the continuous flow principle. The integrated heat exchanger is supplied with as little hot water from the storage tank as is required to maintain a constant dispensing temperature.

## ADVANTAGES

### Efficient

- Simple and fast commissioning thanks to innovative pump and regulation technology

### Safe

- Integrated safety subassembly, cold water connection with soft-close valve, components and materials suitable for use with drinking water

### Variable

- Choice of models with and without circulating pump

### Simple

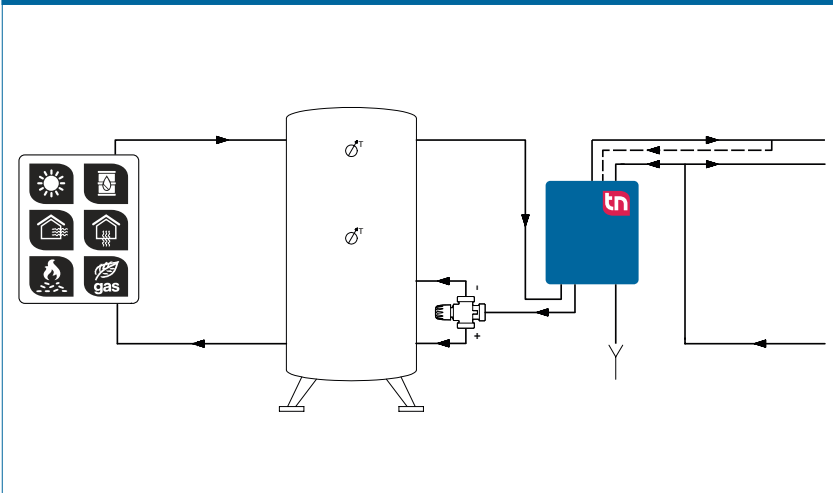
- Use of cutting-edge pump technology as well as high transmission performance and low pressure loss thanks to optimized piping

Cutting-edge pump technology is used with wireless connection to the regulating components. Setpoints can be adjusted for domestic hot water and circulation directly at the pumps using simple menu guidance. The station comes in a choice of models with and without circulating pump.

## BUILDING CATEGORIES

- Apartment blocks
- Housing estates
- Multiple dwelling units
- Smaller public buildings
- Facilities with partial use – for example barracks, camping sites, etc.

## SYSTEM/BASIC DIAGRAM



# TACOTHERM FRESH MEGA CONNECT / C | FRESH HOT WATER STATION

## SPECIFICATION TEXT

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

## TECHNICAL DATA

### General

- TacoTherm Fresh Mega Connect controller with Wireless Connect
- Weight (empty): 16.5 – 19 kg
- Overall dimensions (incl. hood):  
W 470 mm × H 685 mm × D 191 mm

### Material

- Base plate: Galvanized sheet steel
- Rear panel and hood: EPP design insulation
- Pumps:
  - Primary: PPS
  - Secondary: PPS (plastic, approved for drinking water)
- Valve housing: Brass
- Pipes: DN 20 stainless steel 1.4404
- Plate heat exchanger:
  - Plates and connector pieces: Stainless steel 1.4401
  - Heat exchanger solder: 99.99 % copper (stainless steel solder model available on request)
- Seals: AFM flush seal

### Primary side

- Operating temperature  $T_{0\max}$ : 95 °C
- Operating pressure  $P_{0\max}$ : 10 bar
- Primary pump: Grundfos ALPHA2 FWM

### Secondary side

Modules on secondary side with drinking water certifications

- Operating temperature  $T_{0\max}$ : 85 °C
- Operating pressure  $P_{0\max}$ : 9 bar
- Safety valve (intrinsic safety): 10 bar discharge pressure and 9 bar closing pressure
- Circulation pump: Grundfos ALPHA2 DHW

### Performance data

- See design diagram

### Electrical connection data

- Mains voltage: 230 VAC ± 10 %
- Mains frequency: 50...60 Hz
- Power consumption: max. 80 W
- Protection type: IP 40

### Flow media

- Heating water (VDI 2035; SWKI BT 102-01; ÖNORM H 5195-1)
- Cold water

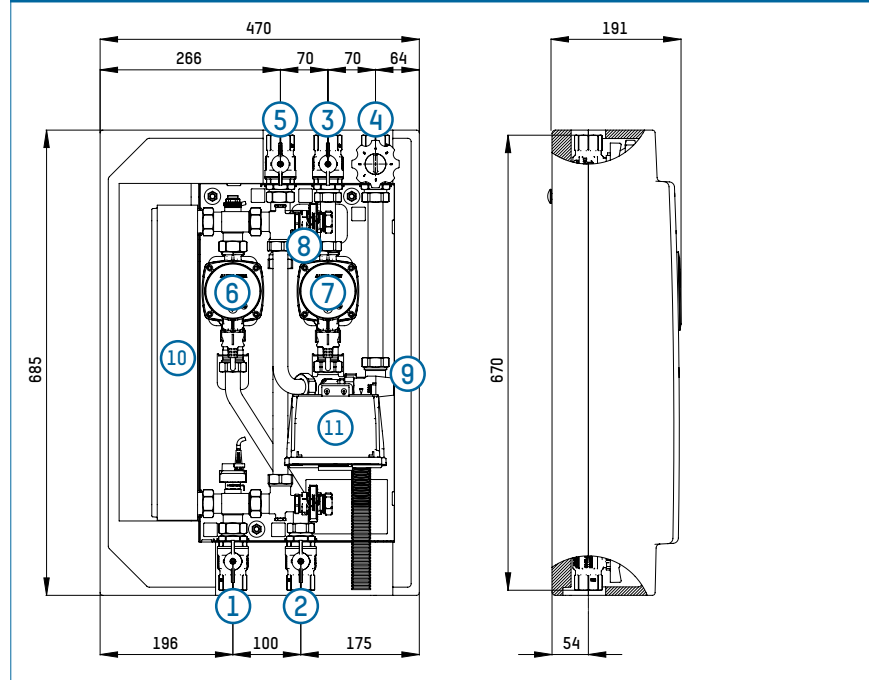
## TYPE OVERVIEW

TacoTherm Fresh Mega Connect and Mega Connect C | Fresh hot water station

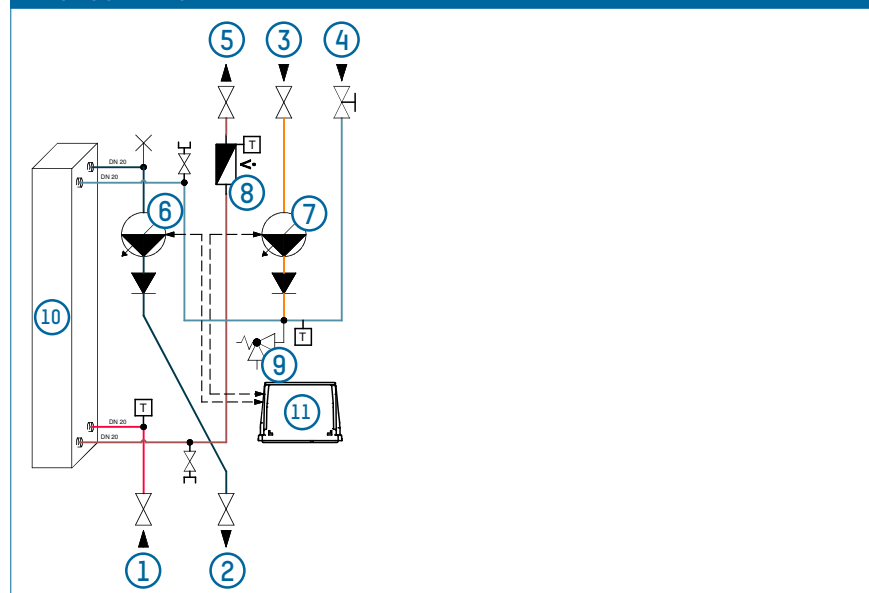
Order no.	Rp	Version	Version
272.6024.000	1" IG		Without circulating pump
273.6624.000	1" IG	C	With circulating pump *

\* Thermostatic mixing valve for dual-zone stratification: see accessories

## DIMENSIONAL DRAWING



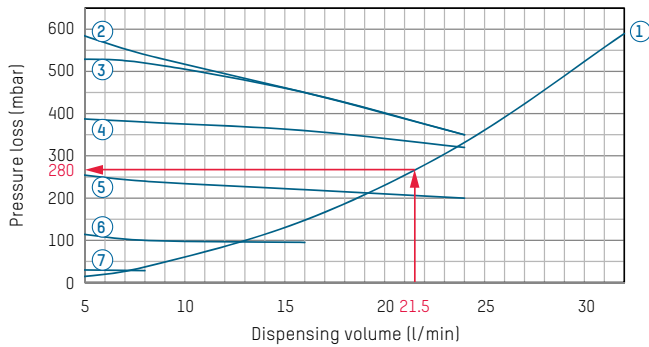
## PRODUCT DIAGRAM



- |   |                                |
|---|--------------------------------|
| 1 Primary hot water flow                  | 7 Circulation pump (C version) |
| 2 Primary hot water return                | 8 Flow rate sensor             |
| 3 Circulation (C version)                 | 9 Safety valve                 |
| 4 Cold water connection                   | 10 Heat exchanger              |
| 5 Hot water connection                    | 11 Sensor box                  |
| 6 Primary pump with integrated regulation |                                |

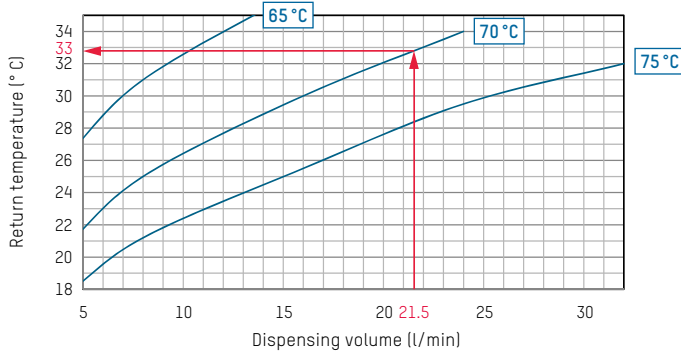
**FLOW AND PRESSURE LOSS DIAGRAMS  
COLD WATER HEATING AT 50K (10 ... 60 °C)**

**D) Secondary pressure loss**

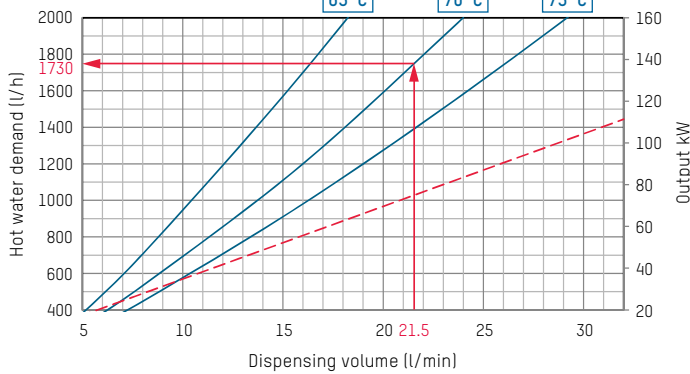


- 1 Pressure loss for cold water and circulation (secondary)
- 2 Pump characteristic in circulation - Speed stage 6
- 3 Pump characteristic in circulation - Speed stage 5
- 4 Pump characteristic in circulation - Speed stage 4
- 5 Pump characteristic in circulation - Speed stage 3
- 6 Pump characteristic in circulation - Speed stage 2
- 7 Pump characteristic in circulation - Speed stage 1

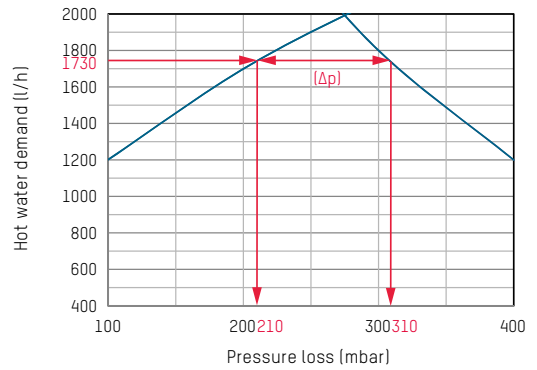
**C) Return temperatures**



**A) Cold water heating at 50K**



**B) Residual head**



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

**Given**

- Hot water dispensing volume: 21.5 l/min
- Primary heating flow temperature: 70 °C

**Sought**

- Hot water demand (l/h)
- Primary heating return temperature in °C
- Secondary pressure loss in mbar
- Primary pressure loss in mbar

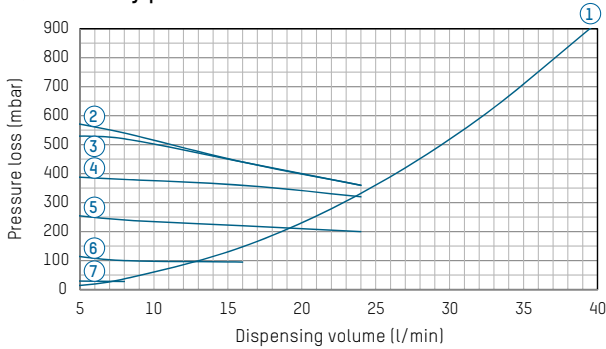
**Approach**

- In Diagram A) the hot water demand at the intersection point of the dispensing volume of 21.5 l/min and primary flow temperature of 70 °C is 1730 l/h.
- In Diagram B) the primary pressure loss for a hot water demand of 1730 l/h is 210 mbar. The pump delivery head is 310 mbar, discounting the pressure loss this gives rise to a residual pump head of 100 mbar ( $\Delta p$ ).

- In Diagram C) the primary return temperature for a given dispensing volume of 21.5 l/min and the selected flow temperature of 70 °C is 33 °C.
- In Diagram D) the secondary pressure loss for the given data is 280 mbar

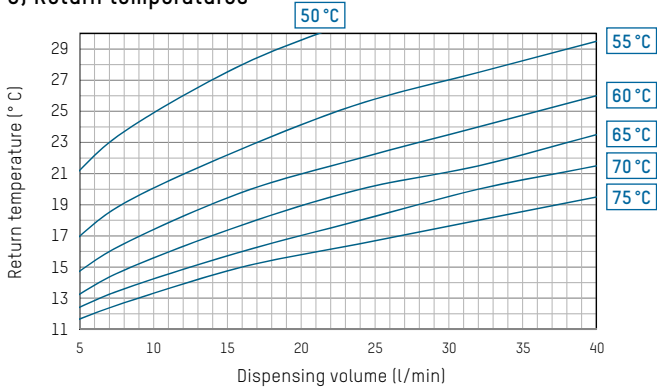
**FLOW AND PRESSURE LOSS DIAGRAMS**  
**COLD WATER HEATING AT 35K (10 ... 45 °C)**

**D) Secondary pressure loss**

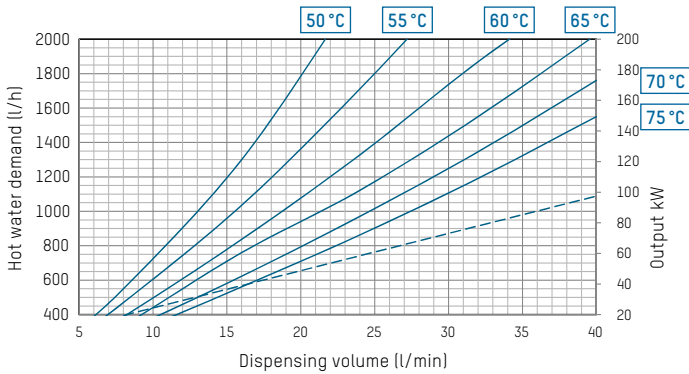


- 1 Pressure loss for cold water and circulation (secondary)
- 2 Pump characteristic in circulation - Speed stage 6
- 3 Pump characteristic in circulation - Speed stage 5
- 4 Pump characteristic in circulation - Speed stage 4
- 5 Pump characteristic in circulation - Speed stage 3
- 6 Pump characteristic in circulation - Speed stage 2
- 7 Pump characteristic in circulation - Speed stage 1

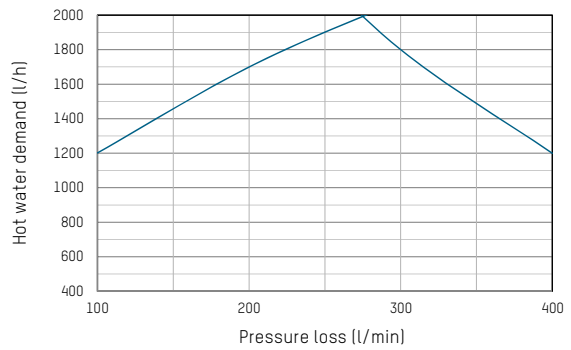
**C) Return temperatures**



**A) Cold water heating at 35K**



**B) Residual head | Primary pressure loss**



**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“.

ACCESSORIES



**THERMOSTATIC MIXING VALVE FOR DUAL-ZONE STRATIFICATION**

NovaMix High Capacity for storage water heating, temperature range 20 – 70 °C

Order no.	DN	G	E (l/min)	k <sub>vs</sub> 1	k <sub>vs</sub> 2
252.6034.107	25	1 1/4"	102	6,1	5,9

E = Extracted (outlet) quantity at Δp = 1,0 bar

k<sub>vs</sub> 1 = without check valve

k<sub>vs</sub> 2 = with check valve