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

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

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

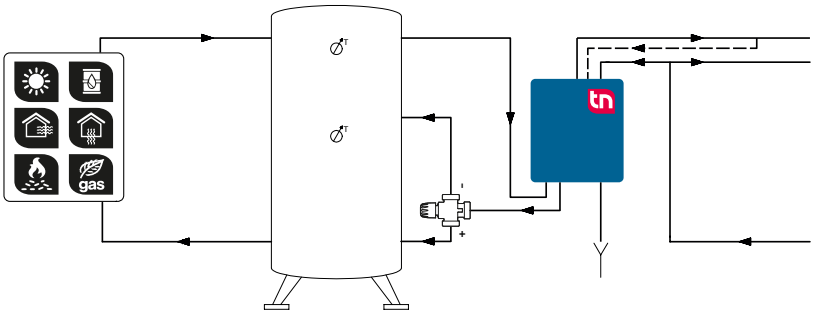
Drinking water is heated to the defined dispensing temperature in the TacoTherm Fresh Mega Connect in accordance with the continuous flow principle. The integrated heat exchanger is supplied with as little hot water from the storage tank as is required to maintain a constant dispensing temperature.

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



SPECIFICATION TEXT

See 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 (on request: stainless steel solder)
- 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

- 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

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

APPROVALS / CERTIFICATES

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

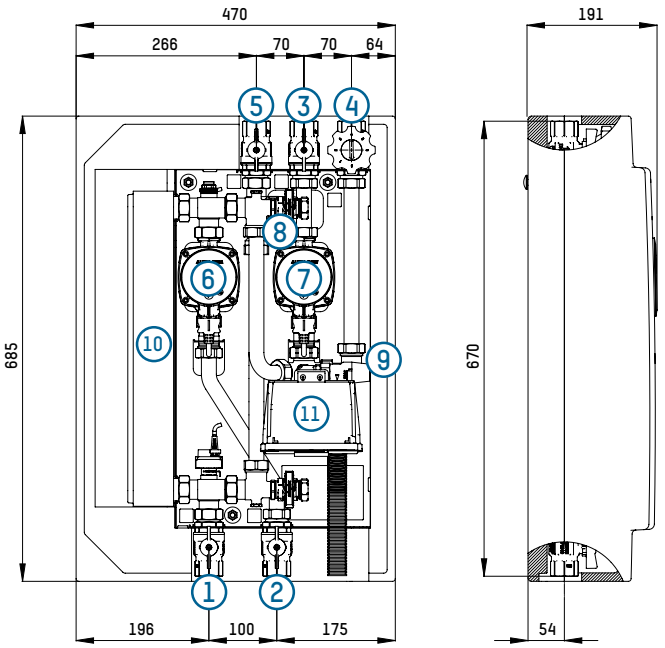
TYPE OVERVIEW

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

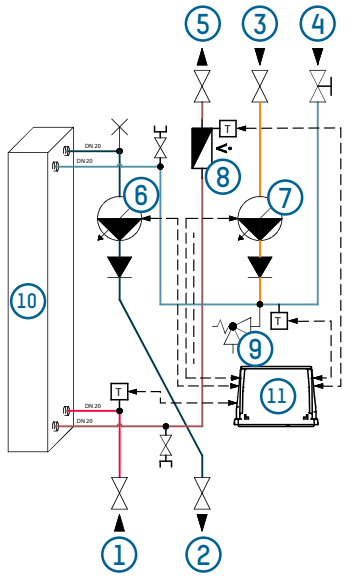
Order no.	Rp	Version	Version
272.6024.000	1" IG		Without circulating pump
273.6624.000	1" IG	C	With circulating pump *

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

DIMENSIONAL DRAWING



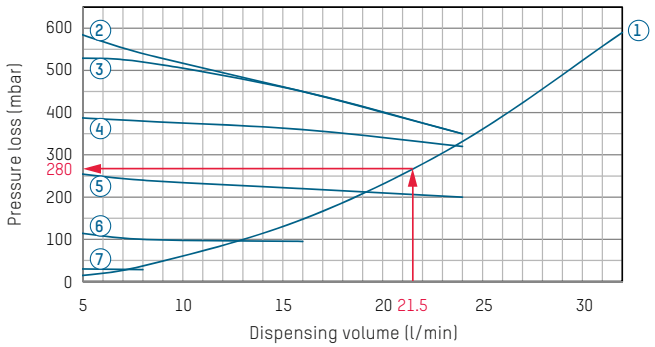
PRODUCT DIAGRAM



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

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

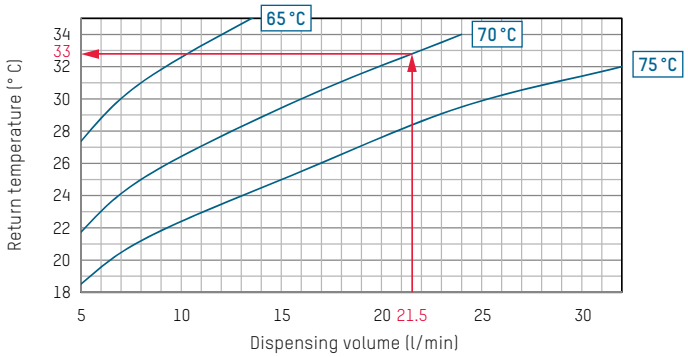
D) Secondary pressure loss



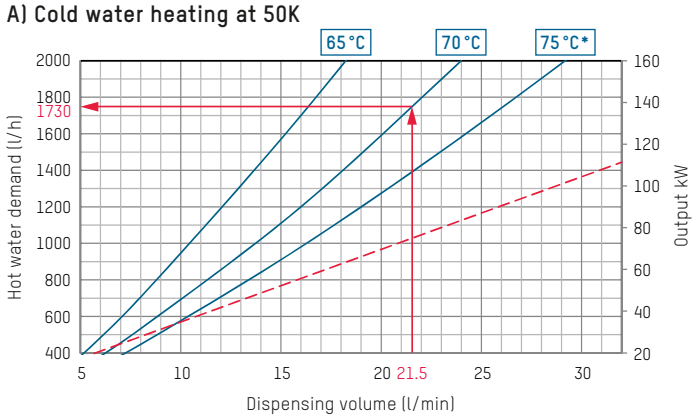
1 Pressure loss for cold water and circulation (secondary)
2 Pump characteristic in circulation - Speed stage 6
3 Pump characteristic in circulation - Speed stage 5
4 Pump characteristic in circulation - Speed stage 4
5 Pump characteristic in circulation - Speed stage 3
6 Pump characteristic in circulation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

* If a higher primary flow temperature (>75 °C) is anticipated (e.g. with solar thermal/wood combustion systems), it is recommended that a thermostatic mixing valve (NovaMix Value) be installed in the primary flow of the domestic hot water station.

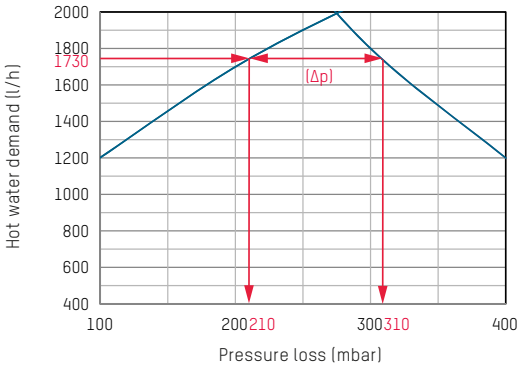
C) Return temperatures



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

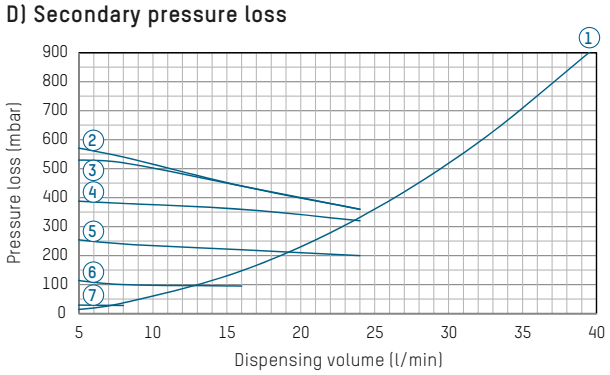
- Hot water demand (l/h)
- Primary heating return temperature in °C
- Secondary pressure loss in mbar
- Primary pressure loss in mbar

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 (Δp).
- 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



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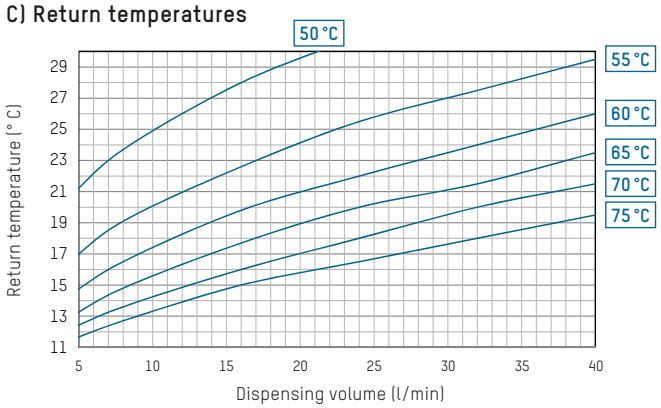
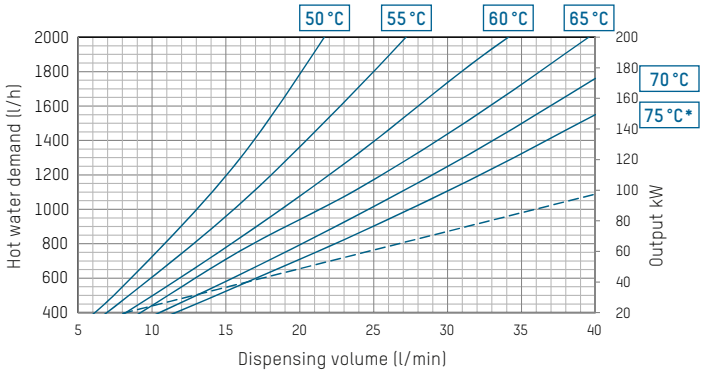
* If a higher primary flow temperature (>75 °C) is anticipated (e.g. with solar thermal/wood combustion systems), it is recommended that a thermostatic mixing valve (NovaMix Value) be installed in the primary flow of the domestic hot water station.

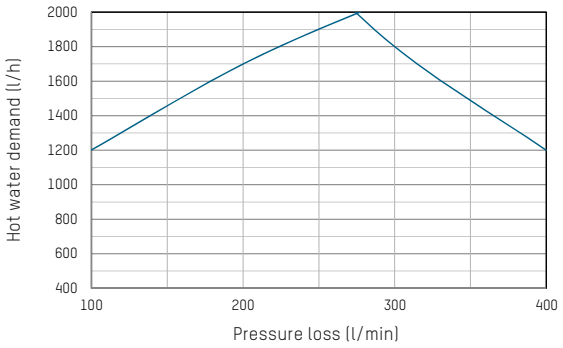
C) Return temperatures



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_{VS} 1	k_{VS} 2
252.6034.107	25	1 ¼"	102	6,1	5,9

E = Extracted (outlet) quantity at Δp = 1,0 bar
k_{VS} 1 = without check valve
k_{VS} 2 = with check valve

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