

# TACOTHERM FRESH MEGA

FRESH WATER STATION WITH HIGH-EFFICIENCY PUMPS



Fresh water station for hygienically heating drinking water in accordance with the cyclical principle with and without circulation

## DESCRIPTION

The TacoTherm Fresh Mega fresh 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, solid fuel 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 required dispensing temperature in the TacoTherm Fresh Mega in accordance with the cyclical 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. A low return temperature of the heating water to the storage tank can be expected owing to the special design of the heat exchanger. In recording

## ADVANTAGES

### Compact

- Equipped with all the necessary valves and components, ideally complements the TacoSol Load Mega storage loading station

### Secure

- Intrinsic safety of the system thanks to an integrated safety subassembly
- Protection against Legionella by avoiding water stagnation

### Simple

- Station is fully preassembled and supplied with ready-to-connect wiring

### Efficient (ErP-Ready)

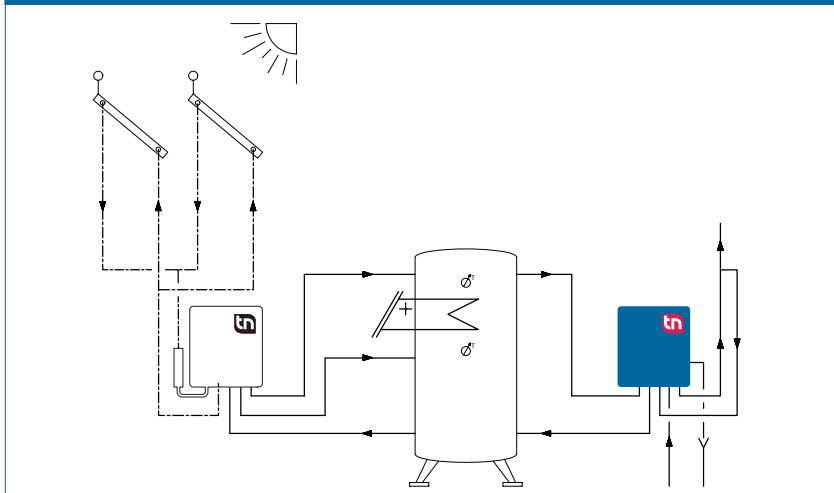
- Highly efficient system operation owing to the use of high efficiency pumps.

the temperature difference and flow rate data, the electronic regulator simultaneously records and stores the quantity of heat consumed.

## BUILDING CATEGORIES

- Apartments, apartment blocks
- Single family homes, housing estates
- Multiple dwelling units
- Residential care facilities and hospitals
- Administration and service buildings
- Hotels and restaurants, industrial kitchens
- School buildings and sports facilities
- Commercial and industrial buildings, industrial facilities
- Facilities with partial use – for example barracks, camping sites, etc.

## SYSTEM/BASIC DIAGRAM



# TACOTHERM FRESH MEGA | FRESH WATER STATION

## SPECIFICATION TEXT

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

## TECHNICAL DATA

### General

- TacoTherm Fresh Mega controller with display
- Weight (empty): 14 kg
- Overall dimensions (incl. hood):  
W 490 mm × H 637 mm × D 181 mm

### Material

- Designer hood made from EPP
- Pumps: Cast iron
- Valve housing: Brass
- Pipes: DN 18 stainless steel 1.4404
- Plate heat exchanger:
  - Plates and connector pieces:  
Rp 3/4" OT stainless steel 1.4401
  - Heat exchanger solder:  
99.99 % copper
- Seals: AFM 34, flat sealing

### Primary side

- Operating temperature  $T_{0\max}$ : 95 °C
- Operating pressure  $P_{0\max}$ : 3 bar
- Primary pump:  
Wilo Yonos Para 15/7.5 (3 - 76W)

### Secondary side

Modules on secondary side with drinking water certifications

- Operating temperature  $T_{0\max}$ : 95 °C
- Operating pressure  $P_{0\max}$ : 10 bar
- Safety valve (intrinsic safety)
- 10 bar discharge pressure
- Circulation pump:  
Wilo Yonos Para Z 15/7.0 RKC 3 - 45W

### Performance data

- See design diagram

### Electrical connection data

- Mains voltage: 230 VAC ± 10 %
- Mains frequency: 50...60 Hz
- Power consumption: Max. 146 W,  
2 AT fuse
- Protection type: IP 40

### Fluids

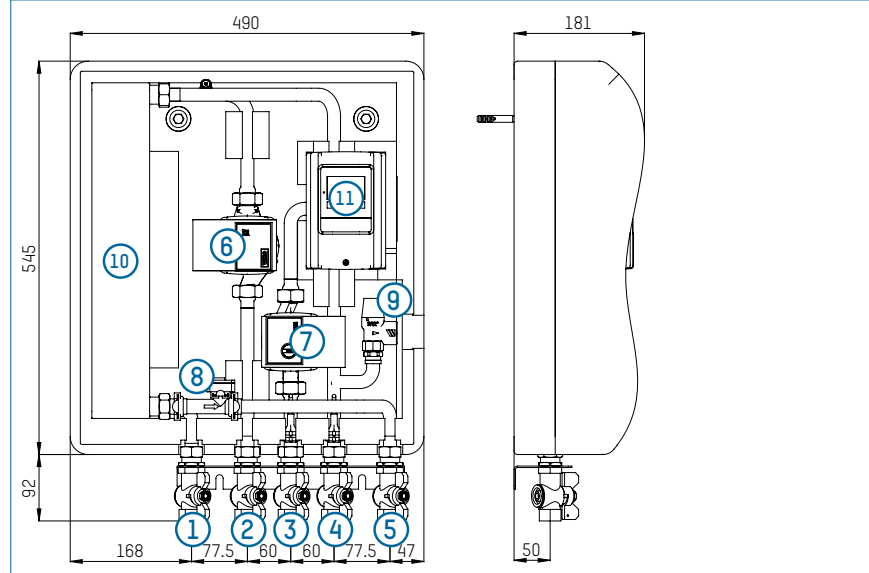
- Heating water  
(VDI 2035; SWKI BT 102-01;  
ÖNORM H 5195-1)
- Cold water

## TYPE OVERVIEW

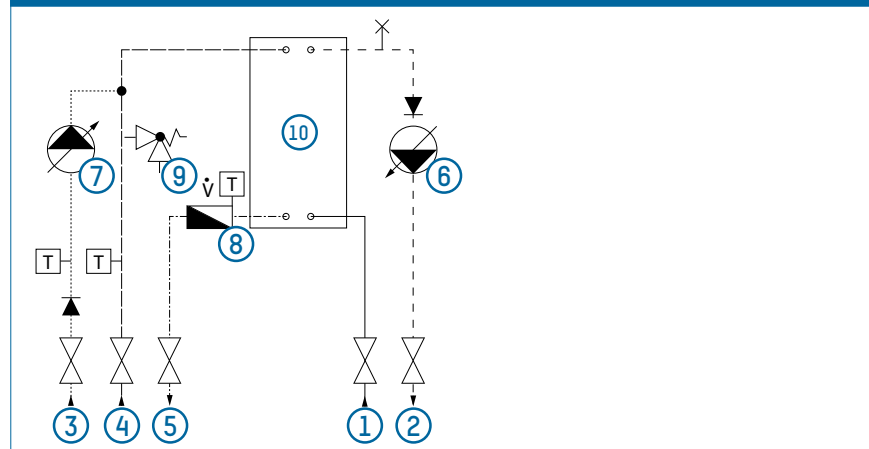
### TacoTherm Fresh Mega | Frischwasserstation

Order no.	Rp	Version	Equipment
273.5523.000	3/4" IT	C	with circulation
272.5023.000	3/4" IT		without circulation

## DIMENSIONAL DRAWING

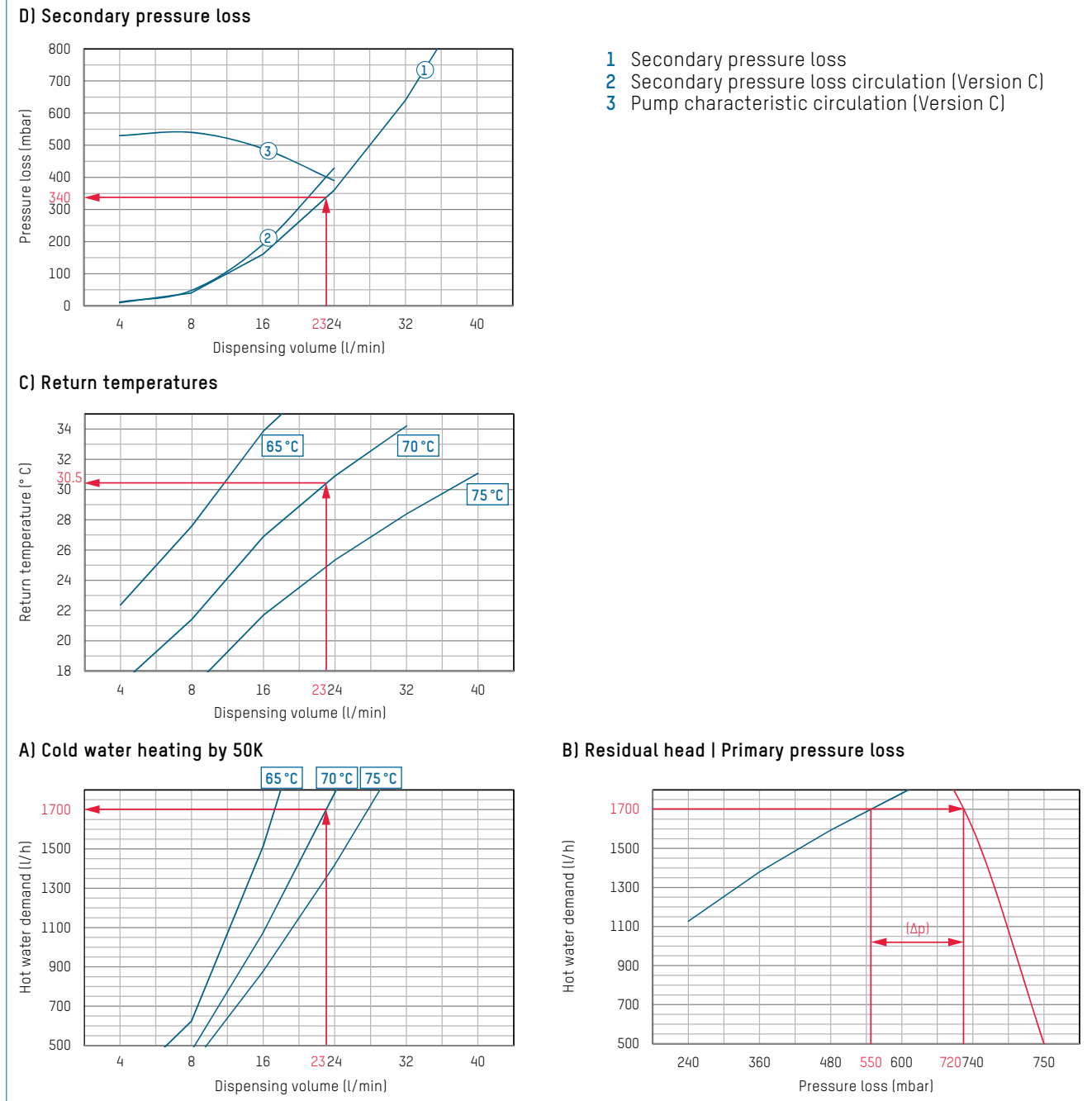


## HYDRAULIC DIAGRAM



- |                          |                               |
|--------------------------|-------------------------------|
| 1 Primary flow input     | 7 Circulation pump [optional] |
| 2 Primary return output  | 8 Flow rate sensor            |
| 3 Circulation [optional] | 9 Safety valve                |
| 4 Cold water connection  | 10 Heat exchanger             |
| 5 Hot water connection   | 11 Controller                 |
| 6 Primary pump           |                               |

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

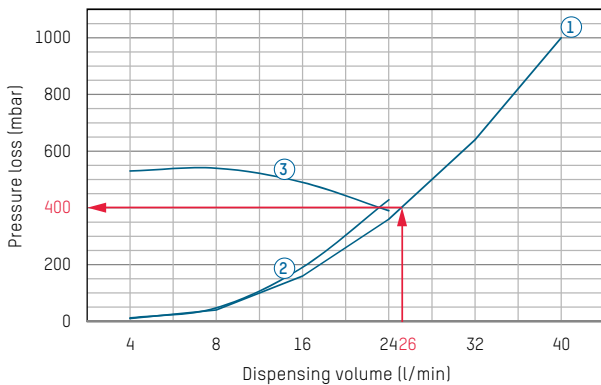


**EXAMPLE OF INTERPRETING THE FLOW RATE AND PRESSURE LOSS DIAGRAMS**

- |   |  |   |
|---|--|---|
| <p><b>Given</b></p> <ul style="list-style-type: none"> <li>Hot water dispensing volume: 23 l/min</li> <li>Primary heating flow temperature: 70 °C</li> </ul> <p><b>Sought</b></p> <ul style="list-style-type: none"> <li>Hot water demand in l/h</li> <li>Primary heating return temperature in °C</li> <li>Secondary pressure loss in mbar</li> <li>Primary pressure loss in mbar</li> </ul> | <p><b>Approach</b></p> <ul style="list-style-type: none"> <li>In Diagram A) the hot water demand at the intersection point of the dispensing volume of 23 l/min and primary flow temperature of 70 °C is 1,700 l/h.</li> <li>In Diagram B) the primary pressure loss for a hot water demand of 1,700 l/h is 550 mbar.</li> <li>The pump delivery head is 720 mbar, discounting the pressure loss this gives rise to a residual pump head of 170 mbar (<math>\Delta p</math>).</li> </ul> | <ul style="list-style-type: none"> <li>In Diagram C) the primary return temperature for a given dispensing volume of 23 l/min and the selected flow temperature of 70 °C is 30.5 °C.</li> <li>In Diagram D) the secondary pressure loss for the given data is 340 mbar</li> </ul> |
|---|--|---|

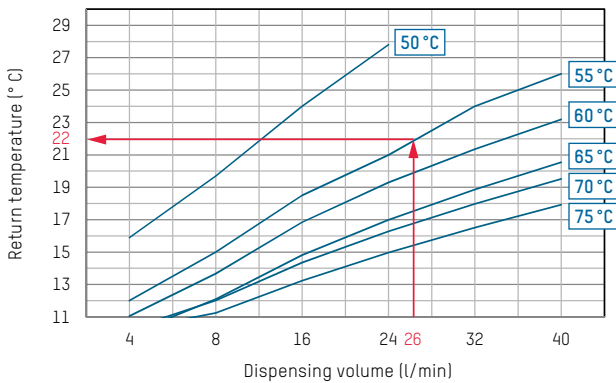
**FLOW AND PRESSURE LOSS DIAGRAMS**  
**COLD WATER HEATING BY 35K (10 ... 45 °C)**

**D) Secondary pressure loss**

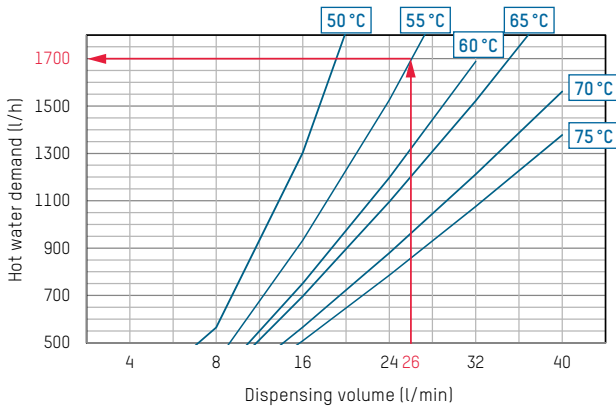


- 1 Secondary pressure loss
- 2 Secondary pressure loss circulation (Version C)
- 3 Pump characteristic circulation (Version C)

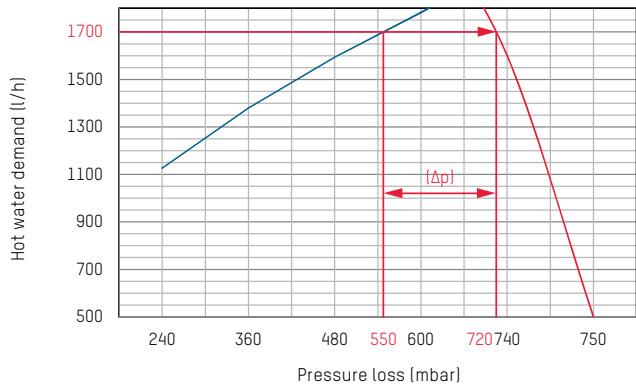
**C) Return temperatures**



**A) Cold water heating by 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“.