

# TACOTHERM FRESH TERA C/CL

## FRESH HOT WATER STATION



Fresh hot water station for hygienically heating drinking water in accordance with the continuous flow principle with and without dual-zone return stratification of the storage tank.

### DESCRIPTION

The TacoTherm Fresh Tera C/CL fresh water station is used for on-demand preparation of domestic hot water in accordance with the continuous flow principle. It retrieves the heat from the storage tank of an existing or new heating system, which uses solid-fuel boilers, heat pumps, solar systems, etc. as a heat source. The station replaces the storage of hot drinking water 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 Tera C/CL 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

#### Compact

Equipped with all the necessary valves and components, ideally complements the TacoSol Load Tera 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 with ready-to-connect wiring

#### Efficient

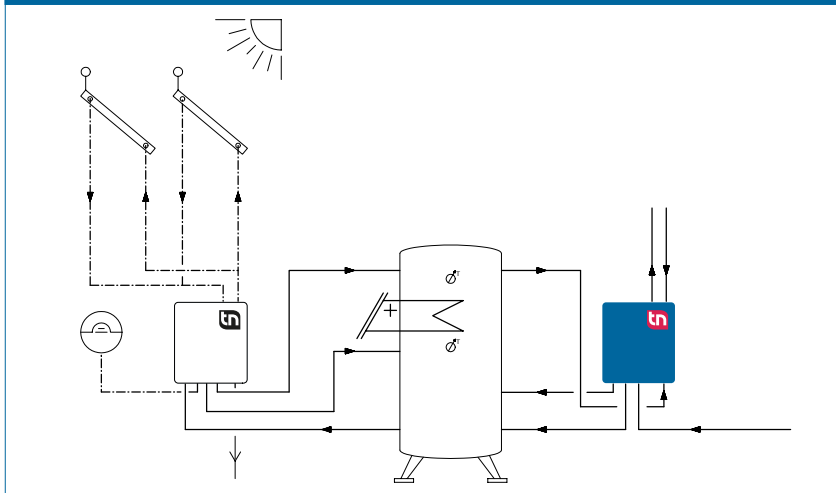
Highly efficient system operation owing to the use of HE pumps and stable storage tank stratification

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 the temperature difference and flow rate data, the electronic regulator simultaneously records and stores the quantity of heat consumed. The TacoTherm Fresh Tera C/CL can be supplied optionally with a switching valve for storage stratification. This pump and also the load valve are controlled by the integrated regulation system by means of a separate program.

### 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 TERA C/CL | FRESH HOT WATER STATION

## SPECIFICATION TEXT

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

## TECHNICAL DATA

### General

- TacoTherm Fresh Tera controller with display
- Weight (empty): 25 kg
- Overall dimensions (incl. hood):  
W 656 mm × H 930 mm × D 197 mm

### Material

- Design hood made from EPP with plastic surround
- Pumps:
  - Primary: Cast iron
  - Secondary: Brass (resistant to dezincification)
- Valve housing: Brass
- Pipes: DN 20 stainless steel 1.4403
- Plate heat exchanger:
  - Plates and connector pieces: Stainless steel 1.4401
  - Heat exchanger solder: 99.99 % copper
- Seals: AFM flush seal

### Primary side

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

### Secondary side

Modules on secondary side with drinking water certifications

- Operating temperature  $T_{0\max}$ : 95 °C
- Operating pressure  $P_{0\max}$ : 9 bar
- Safety valve (intrinsic safety):  
10 bar discharge pressure and 9 bar closing pressure
- Circulation pump:  
Yonos PARA Z 15/7.0 RKC

### Performance data

- See design diagram

### Electrical connection data

- Mains voltage: 230 VAC ± 10 %
- Mains frequency: 50...60 Hz
- Power consumption: max. 100W, 2AT fuse
- Protection type: IP 40

### Flow media

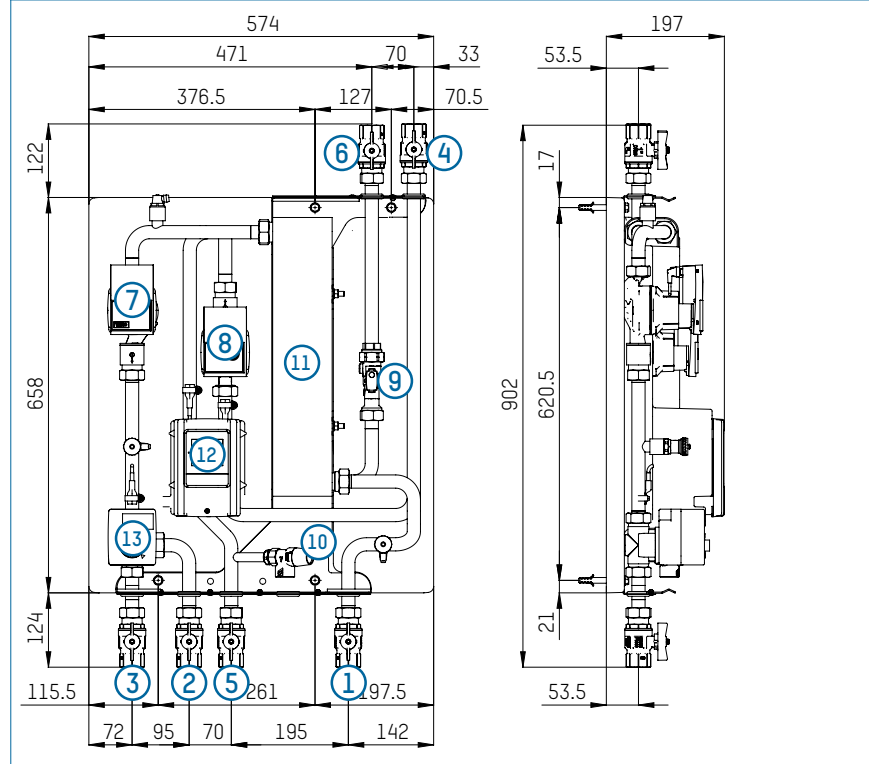
- Heating water  
(VDI 2035; SWKI BT 102-01; ÖNORM H 5195-1)
- Cold water

## TYPE OVERVIEW

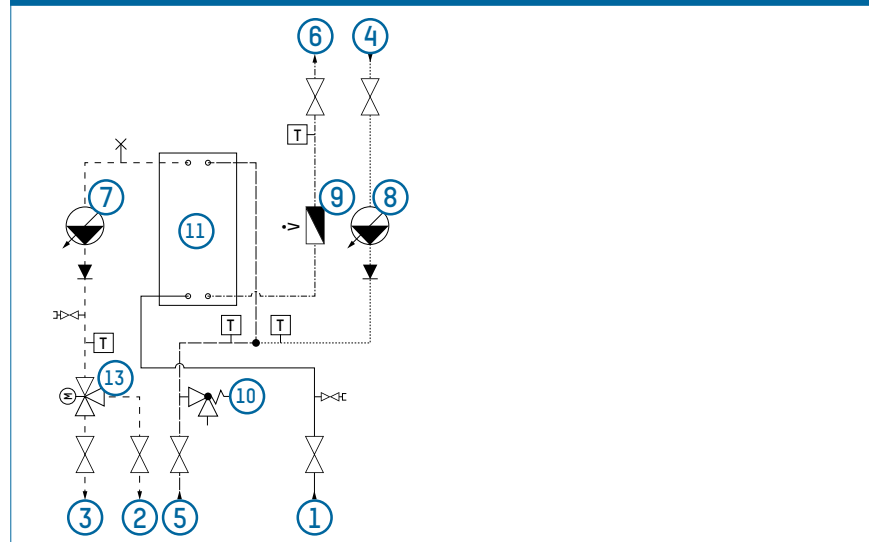
TacoTherm Fresh Tera C/CL | Fresh hot water station

Order no.	Rp	Version	Version
273.5524.000	1" IT	C	without dual-zone return stratification
273.5525.000	1" IT	CL	with dual-zone return stratification

## DIMENSIONAL DRAWING



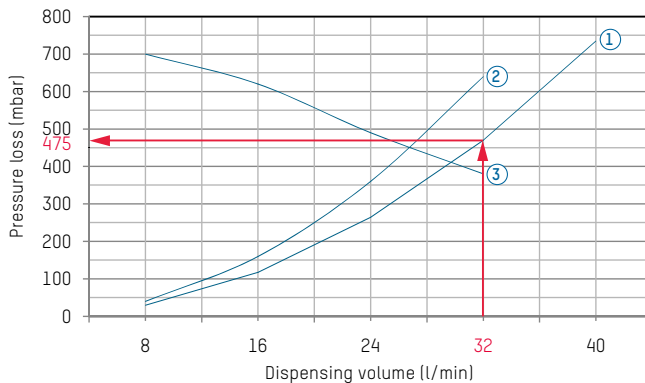
## PRODUCT DIAGRAM



- |   |                                 |
|---|---------------------------------|
| 1 Primary storage flow  | 7 Primary pump                  |
| 2 Primary hot water return 1 (integration of storage tank below)                  | 8 Circulation pump              |
| 3 Primary hot water return 2 (integration of storage tank in center in CL models) | 9 Flow rate sensor              |
| 4 Circulation   | 10 Safety valve                 |
| 5 Cold water connection   | 11 Heat exchanger               |
| 6 Hot water connection  | 12 Regulator                    |
|   | 13 Switching valve (CL version) |

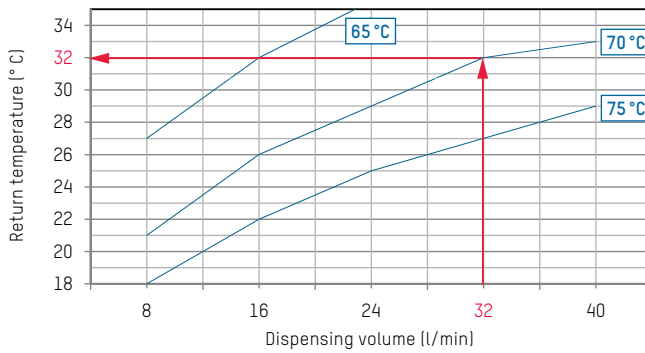
**FLOW AND PRESSURE LOSS DIAGRAMS  
COLD WATER HEATING AT 50K (10 ... 60 °C)**

**D) Secondary pressure loss**

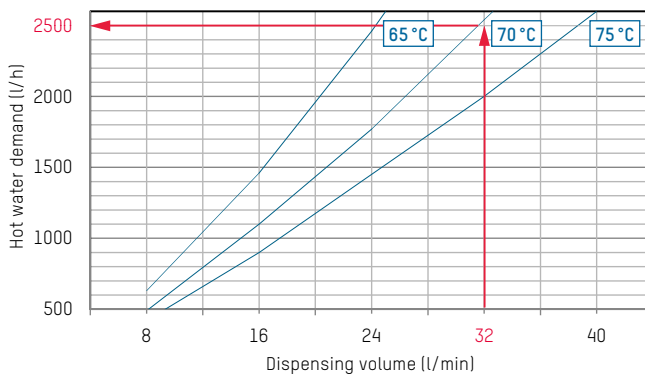


- 1 Secondary pressure loss
- 2 Secondary pressure loss in circulation
- 3 Pump characteristic in circulation

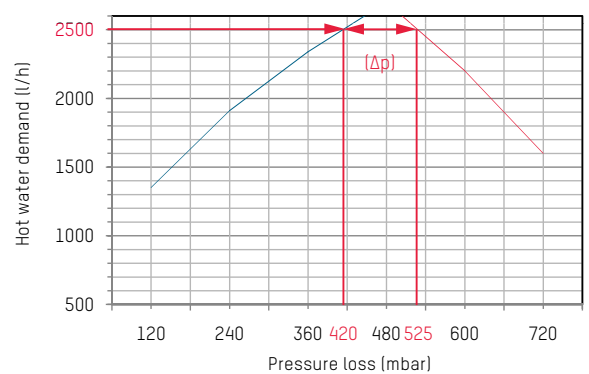
**C) Return temperatures**



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



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



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

**Given**

- Hot water dispensing volume: 32 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

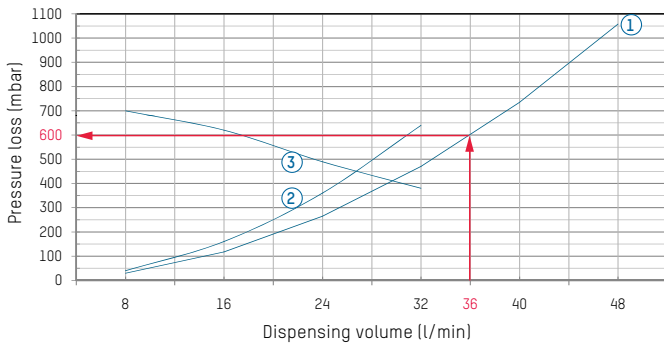
**Approach**

- In Diagram A) the hot water demand at the intersection point of the dispensing volume of 32 l/min and primary flow temperature of 70 °C is 2500 l/h.
- In Diagram B) the primary pressure loss for a hot water demand of 2500 l/h is 420 mbar. The pump delivery head is 525 mbar, discounting the pressure loss this gives rise to a residual pump head of 105 mbar ( $\Delta p$ ).

- In Diagram C) the primary return temperature for a given dispensing volume of 32 l/min and the selected flow temperature of 70 °C is 32 °C.
- In Diagram D) the secondary pressure loss for the given data is 475 mbar

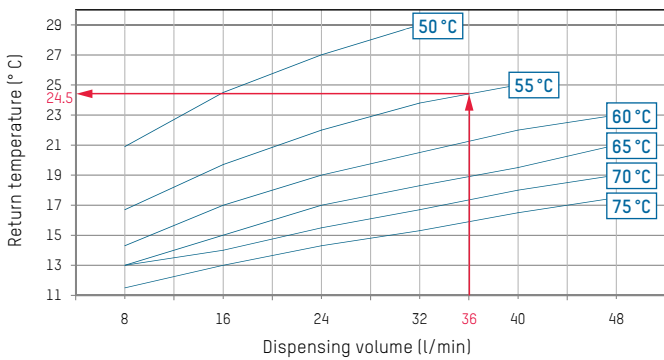
**FLOW AND PRESSURE LOSS DIAGRAMS**  
**COLD WATER HEATING AT 35K (10 ... 45 °C)**

**D) Secondary pressure loss**

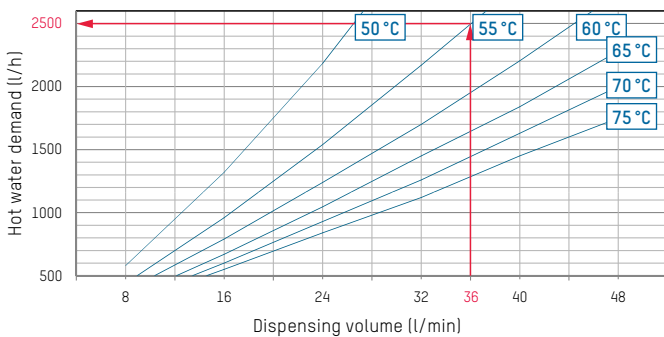


- 1 Secondary pressure loss
- 2 Secondary pressure loss in circulation
- 3 Pump characteristic in circulation

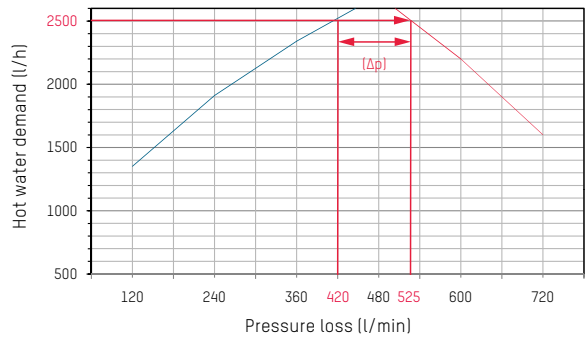
**C) Return temperatures**



**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“.