

# TACOTHERM FRESH EXA C

FRESH HOT WATER STATION FOR LARGE INSTALLATIONS



Image similar



Connection-ready fresh hot water station for especially fast and efficient generation of fresh hot water in large installations

## DESCRIPTION

The TacoTherm Fresh Exa C is a highly-efficient fresh hot water station for supplying hot water for a large dispensing range (1 - 125 l/min). The station for large installations 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.

## OPERATION

The required energy for preparing the hot water is taken from the heating system's heating storage tank and transferred on demand via a plate heat exchanger. The adjustable dispensing temperature is controlled on the primary side by means of the variable flow rate. The pumps are activated by the controller integrated in the station.

A circulation circuit and thermal disinfection can be controlled on the secondary side by a separate program. The Tacotherm Fresh Exa C can be supplied optionally with a switching valve for dual-zone return-flow stratification.

## ADVANTAGES

### Compact

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

### 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

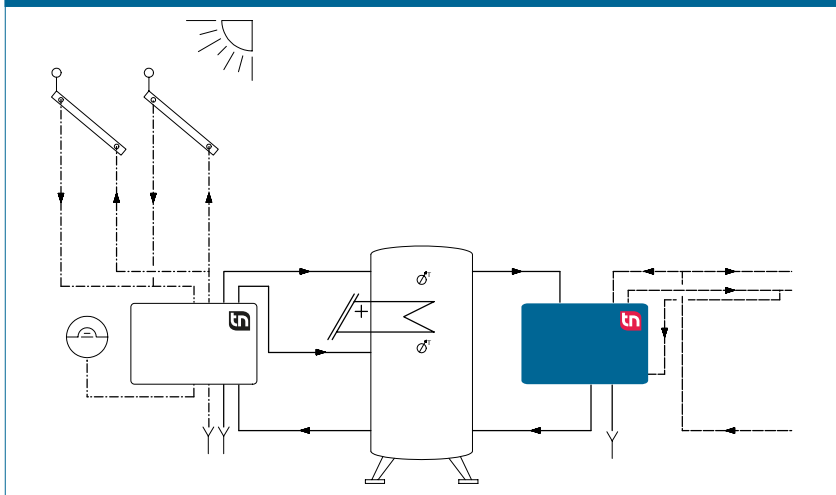
- Highly efficient system operation owing to the use of HE pumps and stable dual-zone storage tank loading

The primary pump and also the load valve are controlled by the integrated regulation system in accordance with the programmed specifications.

## BUILDING CATEGORIES

- Apartment blocks, 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 EXA C | FRESH HOT WATER STATION FOR LARGE INSTALLATIONS

## SPECIFICATION TEXT

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

## TECHNICAL DATA

### General

- Controller TTF Exa C
- Weight (empty): approx. 125 kg
- Overall dimensions  
(overall dimensions of hood):  
W 1176 mm × H 746 mm × D 306 mm

### Material

- Designer hood made from galvanized sheet metal, powder-coated
- Pipes: 1.4404
- Heat exchanger: 1.4401 SVGW
- Heat exchanger solder: Copper 99.9 %
- Valves: Brass or plastic, approved for drinking water
- Seals: AFM 34

### Primary side

- Max. operating temperature:  $T_{0 \max}$ : 95 °C
- Max. operating pressure:  $P_{0 \max}$ : 3 bar
- Primary pump I:  
Laing E6-PWMS 25/180
- Primary pump II:  
Wilo Stratos Para 25/1-12 (180mm)
- Nominal width of connecting pipes:  
Rp 1 1/2" inner thread

### Secondary side

- Max. operating temperature:  $T_{0 \max}$ : 95 °C
- Max. operating pressure:  $P_{0 \max}$ : 10 bar
- DN15 safety valve (intrinsic safety) with 10 bar discharge pressure
- Circulation pump:  
Wilo Stratos Para Z 25 / 1-8 (180mm)
- Nominal width of connecting cables:
  - HW / CW: Rp 1 1/2" inner thread
  - Circulation: Rp 1" inner thread

### Electrical connection data

- Mains voltage: 230 VAC ± 10 %
- Mains frequency: 50...60 Hz
- Power consumption: 14 - 440 W
- Controller protection: 2 AT
- Protection type: IP 40

### Flow Media

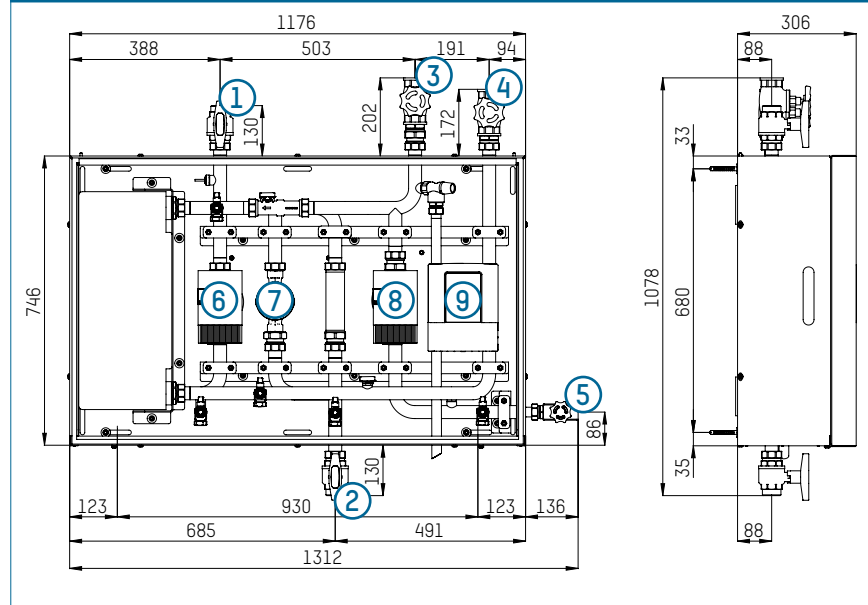
- Heating water  
(VDI 2035; SWKI BT 102-01; ÖNORM H 5195-1)
- Cold water (DIN 1988-200:2012-05)

## TYPE OVERVIEW

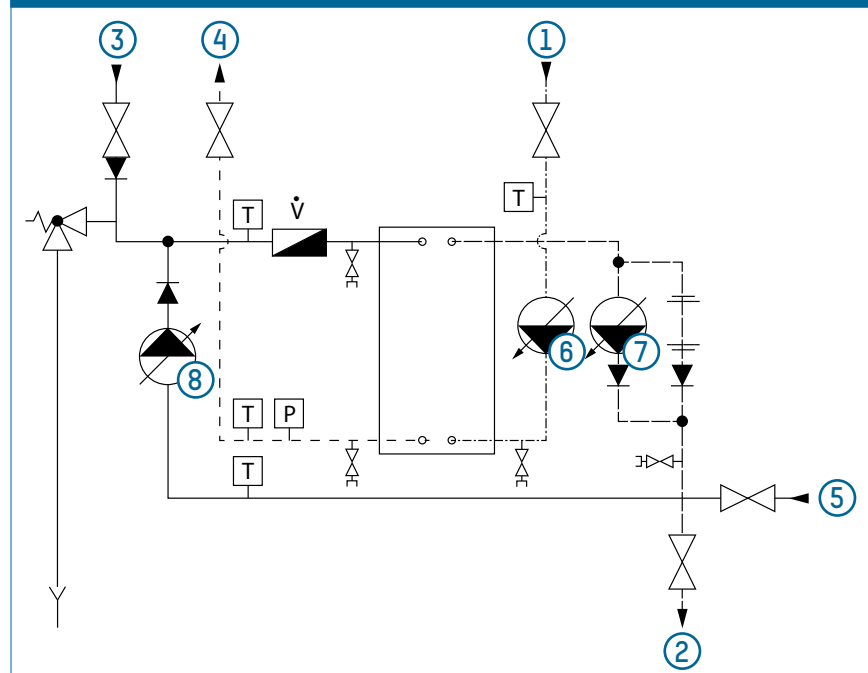
TacoTherm Fresh Exa C | Version with two primary pumps

Order no.	Rp	Thermal insulation	Heat exchanger type
273.5530.000	1 1/2" IT	No	Copper-soldered
273.5530.382	1 1/2" IT	Yes	Copper-soldered
273.5531.000	1 1/2" IT	No	Nickel-soldered
273.5531.382	1 1/2" IT	Yes	Nickel-soldered

## DIMENSIONAL DRAWING



## PRODUCT DIAGRAM

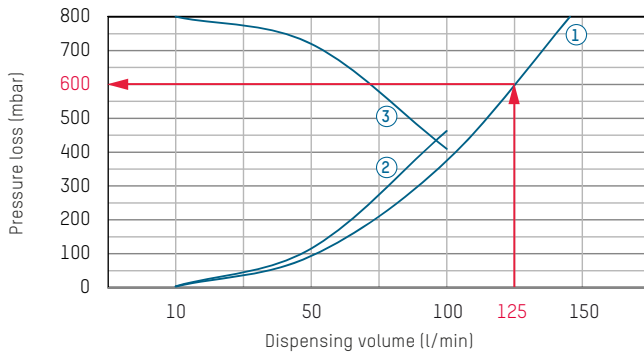


## LEGEND

- |                              |                    |
|------------------------------|--------------------|
| 1 Primary heating flow       | 6 Primary pump I   |
| 2 Primary heating return     | 7 Primary pump II  |
| 3 Cold water connection      | 8 Circulation pump |
| 4 Fresh hot water connection | 9 Controller       |
| 5 Circulation connection     |                    |

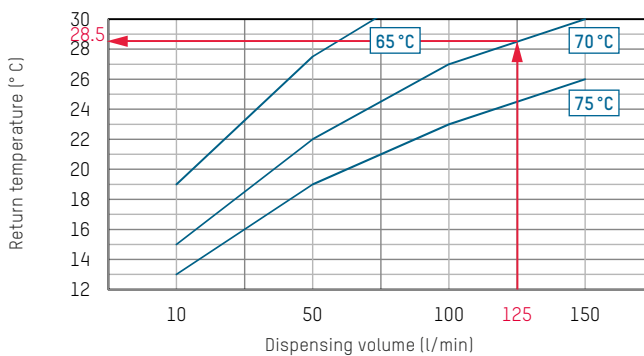
**FLOW AND PRESSURE LOSS DIAGRAMS  
COLD WATER HEATING AT 50K (10 ... 60 °C)**

**D) Secondary pressure loss**

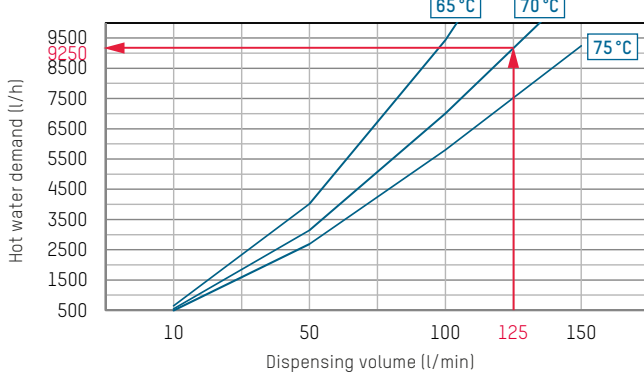


- 1 Secondary pressure loss
- 2 Secondary pressure loss in circulation
- 3 Pump characteristic in circulation

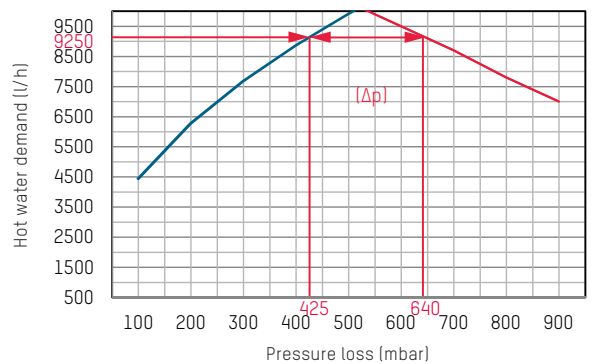
**C) Return temperatures**



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



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



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

**Given**

- Hot water dispensing volume: 125 l/min
- Primary heating flow temperature: 70 °C

**Sought**

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

**Approach**

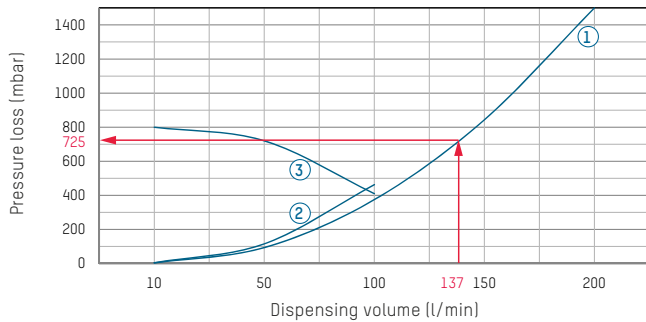
- In Diagram A) the hot water demand at the intersection point of the dispensing volume of 125 l/min and primary flow temperature of 70 °C is 9,250 l/h.
- In Diagram B) the primary pressure loss for a hot water demand of 9,250 l/h is 425 mbar.
- The pump delivery head is 640 mbar, discounting the pressure loss of

425 mbar this gives rise to a residual pump head of 215 mbar ( $\Delta p$ ).

- In Diagram C) the primary return temperature for a given dispensing volume of 125 l/min and the selected flow temperature of 70 °C is 28.5 °C.
- In Diagram D) the secondary pressure loss for the given data is 600 mbar

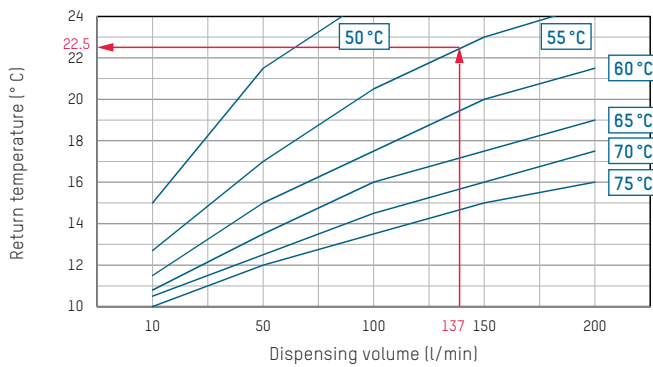
**FLOW AND PRESSURE LOSS DIAGRAMS**  
**COLD WATER HEATING AT 35K (10 ... 45 °C)**

**D) Secondary pressure loss**

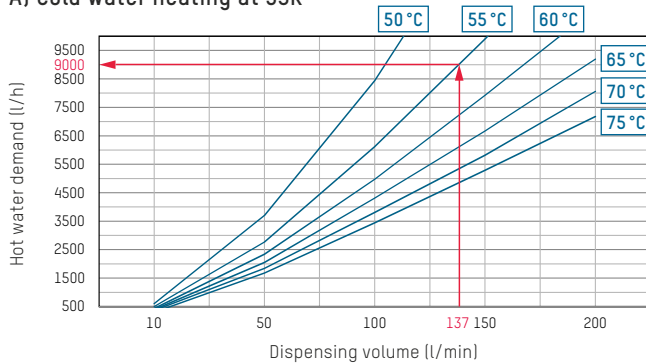


- 1 Secondary pressure loss
- 2 Secondary pressure loss in circulation
- 3 Pump characteristic in circulation

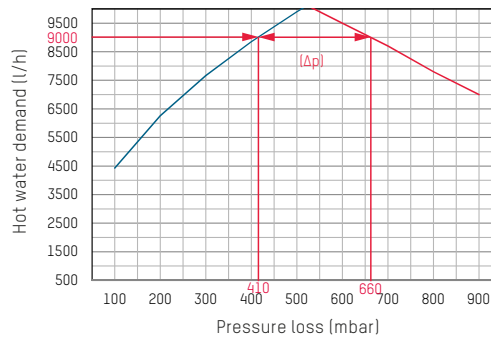
**C) Return temperatures**



**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“.