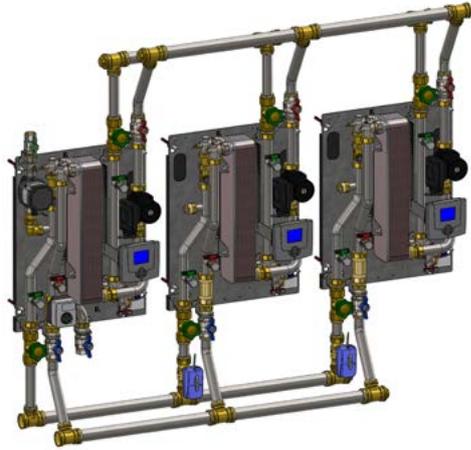


TACOTHERM FRESH CASCADE

DOMESTIC HOT WATER STATIONS



Cascade solution for hygienic DHW heating using the instantaneous water heating principle

DESCRIPTION

Domestic hot water stations are used for demand-dependent DHW heating based on the instantaneous water heating principle, in conjunction with a buffer cylinder.

The modules replace the need to store domestic hot water in an additional cylinder and offer a high level of protection against legionella bacteria as water stagnation is prevented.

If the delivery capacity of a single domestic hot water station is insufficient, several stations can be combined to form what is known as a "cascade".

This configuration is especially good for covering peak loads and ensuring a reliable DHW supply. Domestic hot water stations can therefore also be used in very large hot water heating systems.

INSTALLATION POSITION

Vertically on the wall, close to the buffer cylinder. Modules of the same type and the DHW circulation set are connected in accordance with the Tichelmann principle. This achieves the same pressure conditions among the stations.

BENEFITS

Reliable

- Extremely reliable DHW supply thanks to modular design

Flexible

- DHW supply can be flexibly extended with individual modules
- Individual system concepts can be implemented
- Peak loads can be covered

OPERATING PRINCIPLE

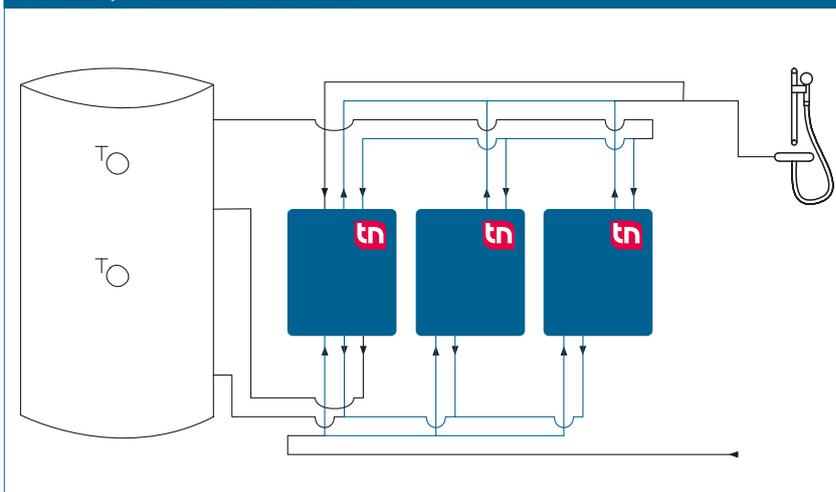
In a cascade, DHW is heated in stages. Initially, only one domestic hot water station (lead station) in the cascade is opened; as demand increases, the other domestic hot water stations are gradually opened as well.

The required DHW demand is captured via integral flow sensors in the cold water supply line to the stations. The stations are controlled by electric zone valves installed in the individual cold water supply lines and communication takes place via the controllers connected in the common bus system.

BUILDING CATEGORIES

- Apartment buildings
- Estates of detached houses
- Multi family homes
- Care homes and hospitals
- Administrative and service buildings
- Hotels and restaurants, commercial kitchens
- School buildings and sports halls/ sports facilities
- Commercial and industrial buildings, industrial plants
- Sites with partial use such as barracks, campsites

SYSTEM/SCHEMATIC DIAGRAM



TACOTHERM FRESH | CASCADE

SAMPLE ORDER FOR TACOTHERM FRESH PETA CASCADE MODULE

Components ¹⁾	Cascade circuit with external DHW circulation, with external return stratification, with sequence changeover		Cascade circuit with integral DHW circulation, with external return stratification, without sequence changeover	
	Cascade of 3	Cascade of x	Cascade of 3	Cascade of x
Domestic hot water station ²⁾ without DHW circulation, without return stratification	3	x	2	x - 1
Domestic hot water station ²⁾ with DHW circulation, with return stratification	-	-	1	1
Standard kit	1	1	1	1
Extension kit	1	x - 2	1	x - 2
Zone valve	1	1	-	-
External cylinder heating	1	1	-	-
External DHW circulation	1	1	-	-

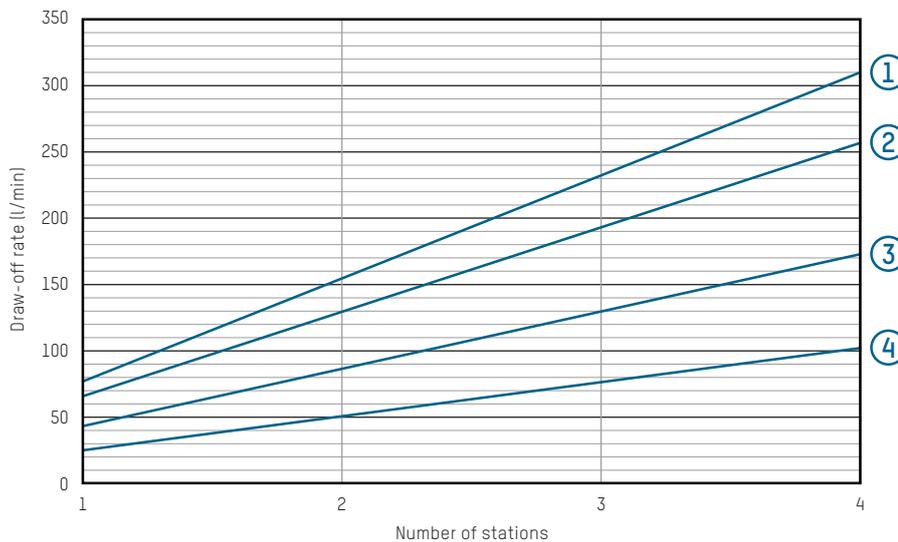
1) Components: see pricelist for part numbers

2) Module type: select in accordance with the output data in the datasheets

TYPE OVERVIEW – CASCADE ACCESSORIES

Components	TacoTherm Fresh Mega2 (X)	TacoTherm Fresh Peta (X)
Standard kit	295.0200.000	295.0100.000
Extension kit	295.0201.000	295.0101.000
Zone valve	296.7036.000	296.7026.000
External cylinder heating	296.7024.000 (DN32) 296.7025.000 (DN50)	
External DHW circulation	272.6030.391	

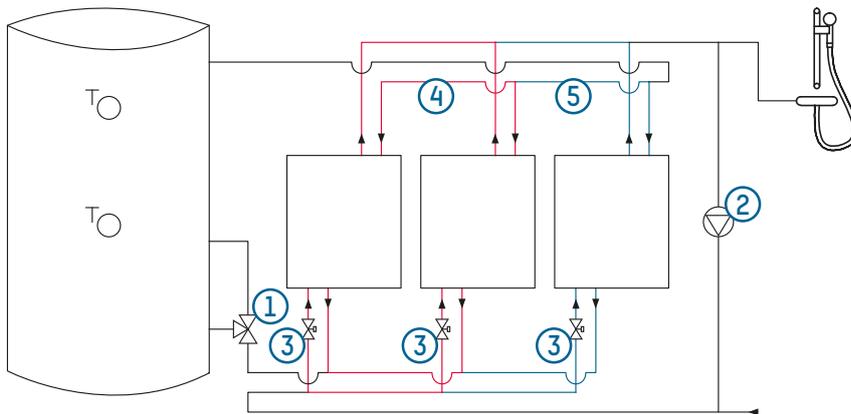
SAMPLE CALCULATION OF OUTPUT DATA (ϑ CYLINDER = 70 °C; ϑ DHW = 60 °C; PRIMARY DP = 100 MBAR)



- 1 TacoTherm Fresh Peta X
p_{secondary} = 500 mbar
- 2 TacoTherm Fresh Peta
p_{secondary} = 450 mbar
- 3 TacoTherm Fresh Mega2 X
p_{secondary} = 380 mbar
- 4 TacoTherm Fresh Mega2
p_{secondary} = 200 mbar

SAMPLE SCHEMATICS OF TACOTHERM FRESH PETA CASCADE

External DHW circulation and return stratification (with sequence changeover)



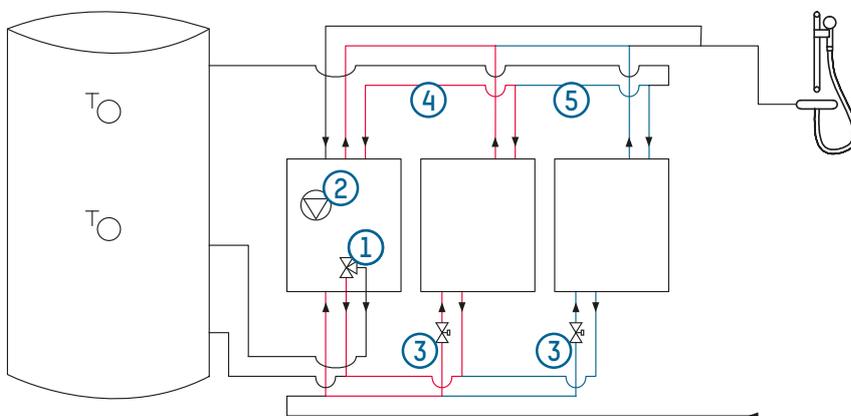
Function

- Each module functions as the lead station in turn

Benefit

- No water stagnation in the modules that only cover peak loads. Each station receives a flow in sequence

Internal DHW circulation and return stratification (without sequence changeover)



Function

- One station covers the base load; other stations are switched on in addition as required

Benefit

- Straightforward installation as the DHW circulation pump and return stratification facility are pre-installed in the lead station

- 1 Diverter valve
- 2 DHW circulation pump
- 3 Zone valve
- 4 Standard kit (red)
- 5 Extension kit (blue)

VERSIONS

Stations suitable for cascades

- TacoTherm Fresh Mega2
- TacoTherm Fresh Mega2 X
- TacoTherm Fresh Peta
- TacoTherm Fresh Peta X

Station versions/options

- TacoTherm Fresh with DHW circulation
- TacoTherm Fresh with DHW circulation and return stratification
- TacoTherm Fresh without DHW circulation and return stratification
- Standard cascade kits

- Cascade extension kits
- External return stratification
- External DHW circulation

Hydraulic versions

TacoTherm Fresh domestic hot water stations can be operated in one of two modes:

- Operating mode without sequence changeover of the stations (cyclical change of lead station): For stations with integral DHW circulation pump and valve for cylinder return stratification in the lead station.

- Operating mode with sequence changeover of the stations. Here, the DHW circulation pump and the valve for return stratification are fitted externally.

In both cases, the stations can be connected with a cascade pipework kit.