taconova

TACOTHERM FRESH NANO2

GAS BOILER REPLACEMENT UNIT

ADVANTAGES

- Compact design
- Preconfigured for straightforward installation
- On-demand, hygienic, decentralised DHW heating
- Reduction of stored drinking water volume to a minimum
- Demand-based energy billing

Preconfigured gas boiler replacement unit with a compact design.

DESCRIPTION

The TacoTherm Fresh Nano2 gas boiler replacement unit suits practically any installation situation thanks to its compact design and various mounting versions.
The unit is designed to replace decentralised wall mounted gas boilers with solutions that generate heat centrally, such as heat pumps. Optionally available additional components ensure on-demand heat distribution in the apartment as well as optimisation of the return temperature to the heating buffer cylinder.

Consumption-based billing of the energy costs is possible using the meter mounting boards provided.

INSTALLATION POSITION

The TacoTherm Fresh Nano2 decentralised heat interface unit is fitted as a base station on a base plate. Models are available for shaft or surface mounting.
The version for surface mounting is available with a high quality housing casing.
This station is designed for the replacement of wall mounted gas boilers in addition to other applications.

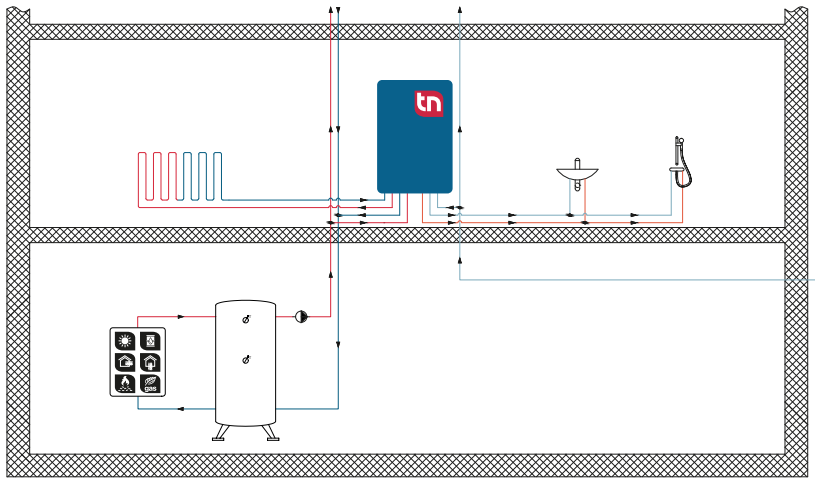
OPERATING PRINCIPLE

The decentralised heat interface units in the Nano2 series are designed for DHW heating and heat distribution in multi-story residential buildings.
Primary energy is supplied via a central buffer cylinder; domestic hot water is heated in the DHW module as required, according to the instantaneous water heating principle.
Both fixed-value and weather-compensated control of the heating flow temperature is possible.
Fittings are provided as standard for on-site installation of heat meters.

BUILDING CATEGORIES

- Apartment buildings
- Hotels and residential homes
- Industrial buildings

SYSTEM/SCHEMATIC DIAGRAM



TENDER DOCUMENTATION

See www.taconova.com

SPECIFICATION

General

- Max. operating temperature $T_{B\,max}$: 95 °C
- Max. static pressure $P_{B\,max}$:
  - Primary: 3 bar
  - Secondary: 6 bar
- Overall dimensions (incl. cover): W 447 mm × H 800 mm × D 117 mm
- Weight without water: 35 kg

Material

- Plate heat exchanger (plates and connectors): copper brazed / stainless steel brazed
- Housing: painted sheet steel
- Pipes: DN 20 stainless steel 1.4404
- Valve housing: brass
- Gaskets: AFM34 (flat packing)

Performance data

See design diagram

Flow media

- Heating water (VDI 2035; SWKI BT 102-01; ÖNORM H 5195-1)
- Cold water to DIN 1988-200 and DIN EN 806-5

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 Nano2 | Decentralised heat interface unit *1)

Part no.	Flow rate *2)	Heat exchanger	Version
276.1119.000	15.5 l/min	Copper brazed 26 plates	Surface mounting
276.1119.125	15.5 l/min	Stainless steel brazed 26 plates	Surface mounting
276.2119.000	16.5 l/min	Copper brazed 40 plates	Surface mounting
276.2119.125	16.5 l/min	Stainless steel brazed 40 plates	Surface mounting
276.1110.000	15.5 l/min	Copper brazed 26 plates	On base plate
276.1110.125	15.5 l/min	Stainless steel brazed 26 plates	On base plate
276.2110.000	16.5 l/min	Copper brazed 40 plates	On base plate
276.2110.125	16.5 l/min	Stainless steel brazed 40 plates	On base plate

* 1) Accessories required for completion can be selected individually

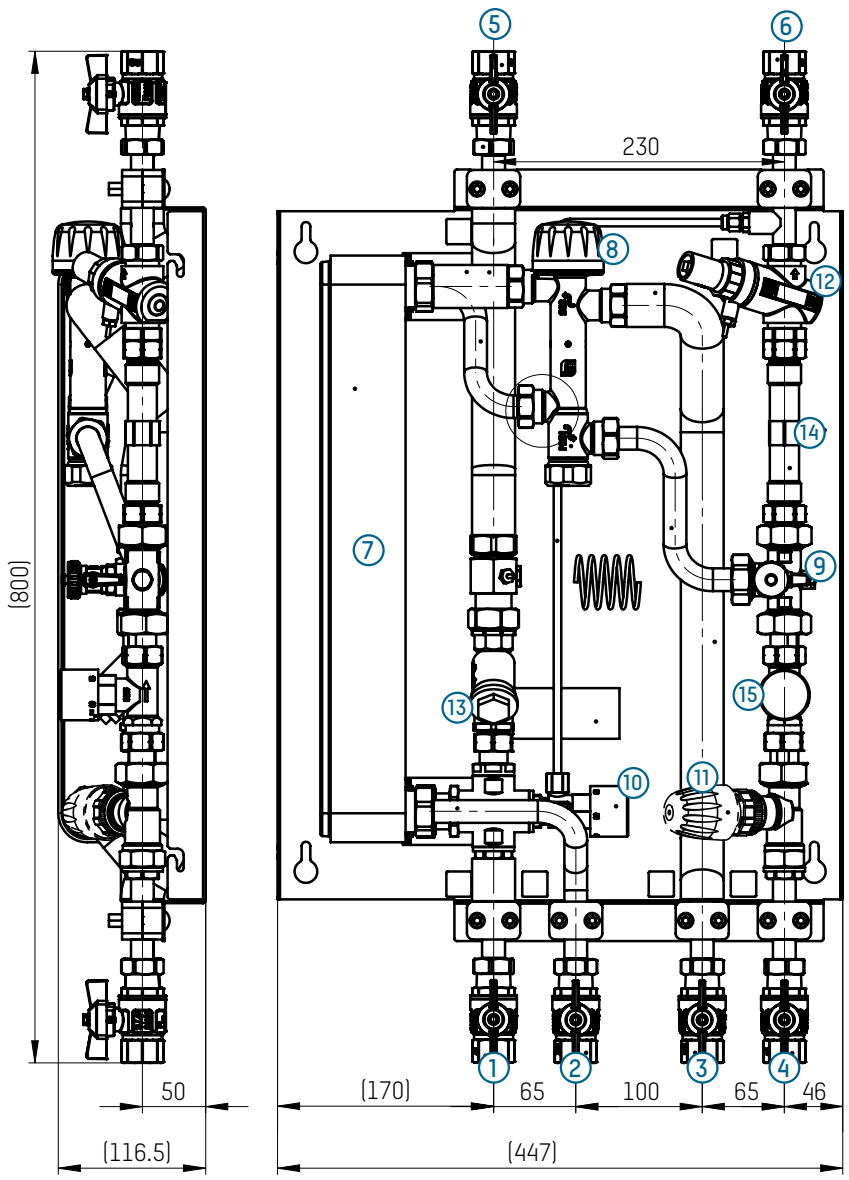
* 2) Performance data at primary = flow 60 °C / secondary = DHW 45 °C; Δp ≥ 300 mbar (780 kg/h)

PLEASE NOTE

REQUIREMENTS FOR FLOW MEDIA

A copper brazed stainless steel plate heat exchanger is used in these units as standard. Before use, it is important to check at the system planning stage whether issues of corrosion protection and scale formation have been given sufficient consideration in accordance with DIN 1988-200 and the current drinking water analyses as set out in DIN EN 806-5.
See information sheet "Specifications for plate heat exchanger – limit values for drinking water quality".

DIMENSIONAL DRAWING

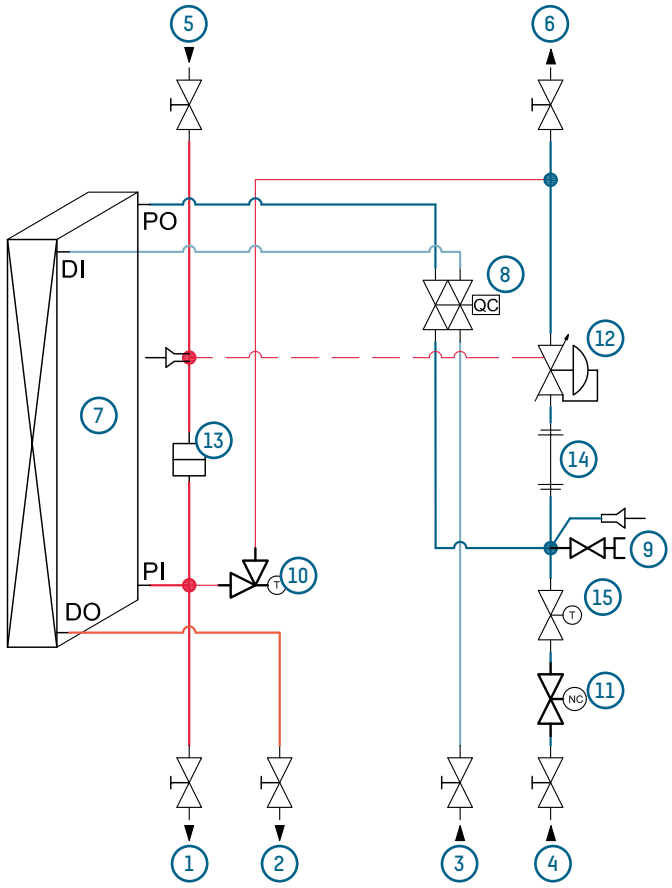


1 Connection for heat distribution, flow
2 Connection for drinking water distribution (hot)
3 Connection for main supply line, drinking water
4 Connection for heat distribution, return
5 Primary connection for heat supply, flow*
6 Primary connection for heat supply, return*
7 Heat exchanger
8 Proportional flow controller
9 Air vent valve/BDF valve
10 Standby module
11 Zone valve for central room control (actuator optional)
12 Dynamic balancing valve
13 Dirt trap
14 Heat meter fitting
15 Return temperature limiter (optional)

ACCESSORIES

Part no.	Description
296.3003.000	Return temperature limiter
257.1055.000	TopDrive actuator for zone control

FLOW DIAGRAM



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12 Dynamic balancing valve
13 Dirt trap
14 Meter fitting
15 Return temperature limiter (optional)

EXAMPLE OF INTERPRETING THE FLOW AND PRESSURE DROP DIAGRAMS

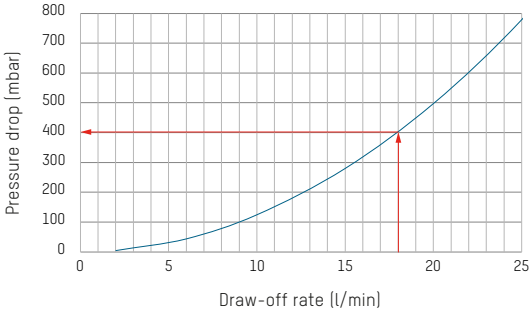
Given
- DHW draw-off rate: 18 l/min
- Heating flow temperature, primary: 65 °C
- Required draw-off temperature 45 °C

Sought
- Heating water demand in l/h
- Primary and secondary pressure drop in mbar
- Primary heating return temperature in °C

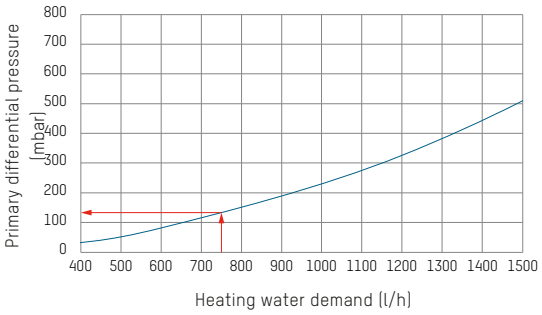
Solution
- On the basis of diagram A), a pressure drop on the secondary side of 400 mbar can be determined at the specified DHW draw-off rate of 18 l/min at the point of intersection.
- Diagram C) shows that a heating water flow of 750 l/h is determined at 18 l/min with 45 °C DHW temperature and a primary flow temperature of 65 °C.
- Diagram D) shows that a return temperature of 16 °C is determined for the same values.
- Diagram B) shows a differential pressure on the primary side of 130 mbar for the given heating water demand of 750 l/h.

FLOW AND PRESSURE DROP DIAGRAMS (PLATE HEAT EXCHANGER WITH 26 PLATES)

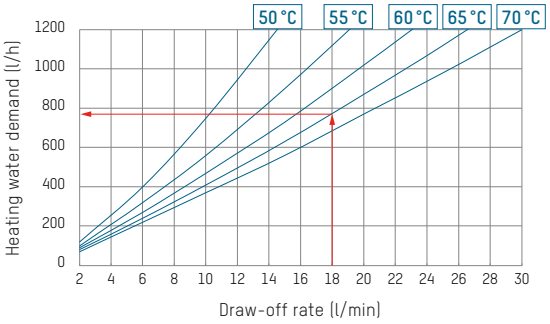
A) Secondary pressure drop



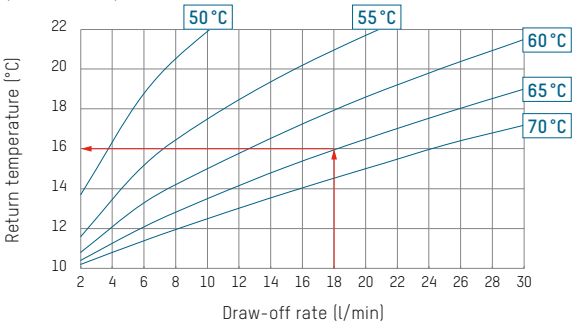
B) Heating water demand/primary differential pressure



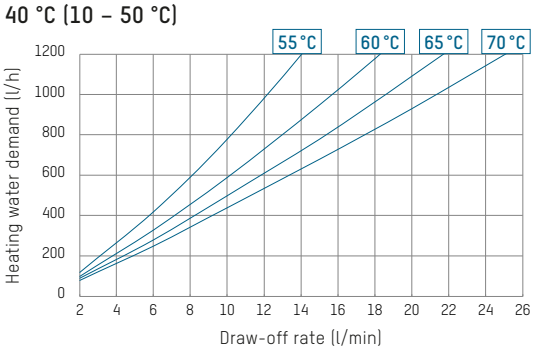
C) Heating water demand for heating DHW by 35 °C (10 – 45 °C)



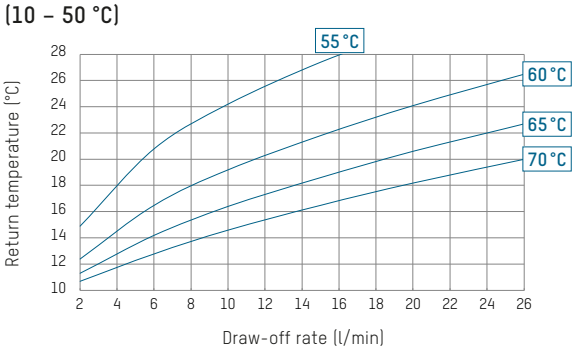
D) Return temperature for heating DHW by 35 °C (10 – 45 °C)



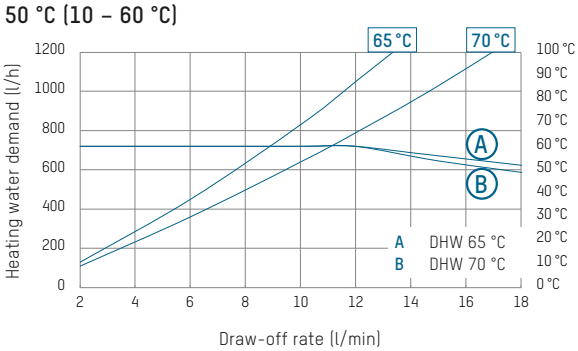
E) Heating water demand for heating DHW by 40 °C (10 – 50 °C)



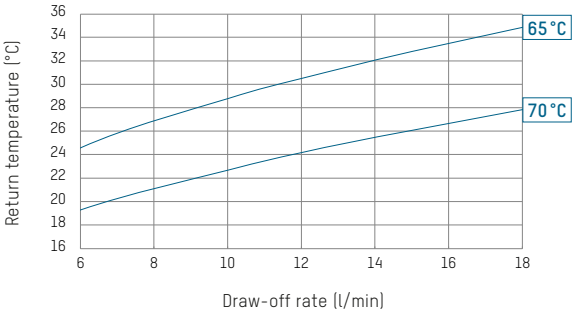
F) Return temperature for heating DHW by 40 °C (10 – 50 °C)



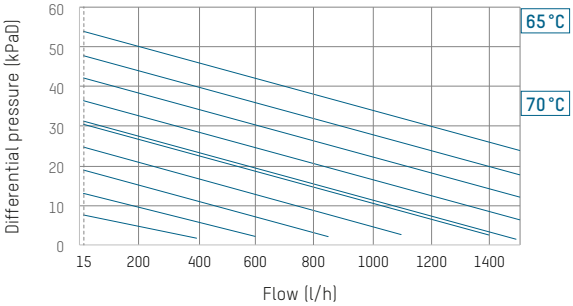
G) Heating water demand for heating DHW by 50 °C (10 – 60 °C)



H) Return temperature for heating DHW by 50 °C (10 – 60 °C)

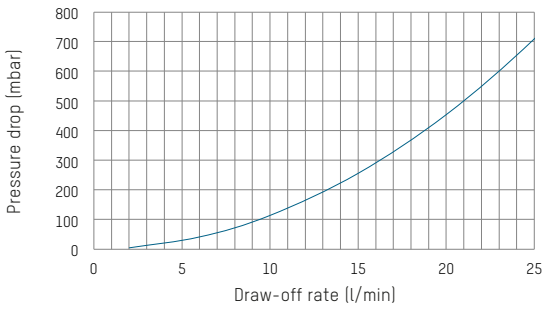


I) Flow curves

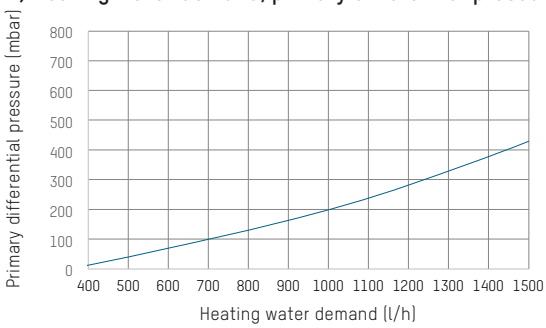


FLOW AND PRESSURE DROP DIAGRAMS
PLATE HEAT EXCHANGER WITH 40 PLATES

A) Secondary pressure drop



B) Heating water demand/primary differential pressure



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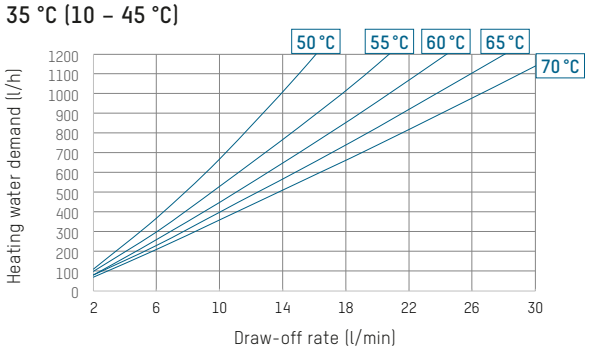

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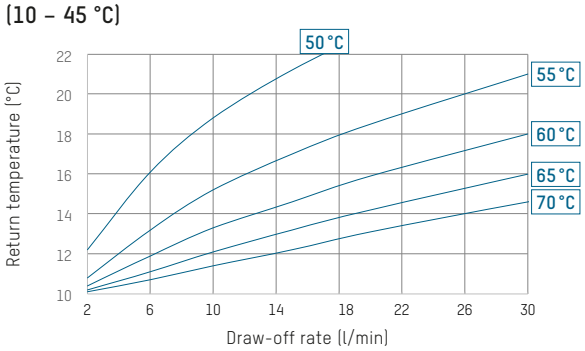
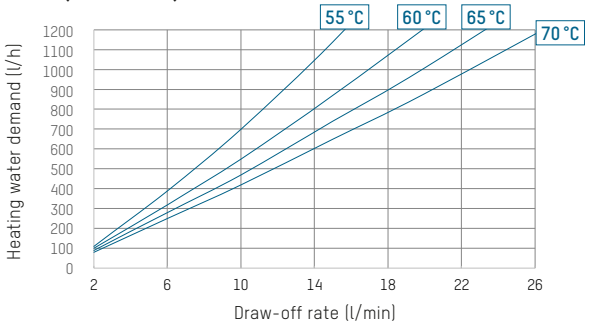


E) Heating water demand for heating DHW by 40 °C (10 – 50 °C)



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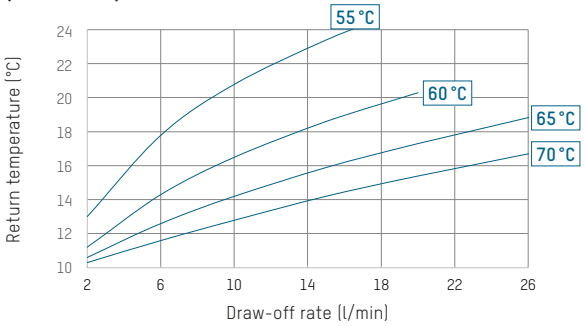

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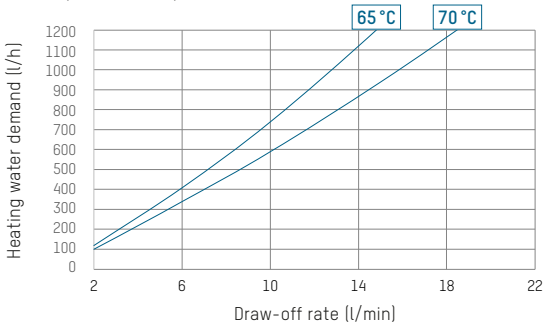

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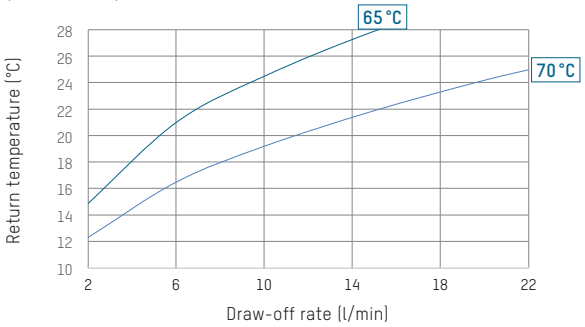

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