

TA-COMFORT-S



Prefabricated units

Heating interface unit for surface heating and hot water services



Engineering
GREAT Solutions

TA-COMFORT-S

All in one design with STAP differential pressure controller over heating zone or entire heating interface unit. Incorporating a TBV-C compact control valve for measurement and balancing of the heating circuit. Return flow limitation and temperature maintaining bypass with IMI Heimeier RTL valves.

Key features

> **Complete systems for decentralised heat distribution and hot water**

Provides the dwelling with heat, controlling the heat requirements and/or producing hot water via the heat exchanger.

> **Considerable savings in installation costs**

Central risers and decentralised distribution. Domestic hot water flow and return pipes are no longer required.

> **Lower maintenance costs**

No additional costs for consumption settlement, each unit is recorded separately.



Technical description

Applications:

Supply of hot as well as cold water and heating to apartments in multiple-dwelling buildings with actual consumption accounting.

Dimensions:

Draw-off volume 12, 15 and 17 l/min when heating hot water.

Normal conditions with:

Heating supply pipe: 65°C

Cold water inlet: 10°C

Hot water outlet: 50°C

Cold water pressure: min. 2 bar

Heat output: 10 kW at ΔT 20K

Pressure class:

PN 10

Temperature:

Max. working temperature: 110° C

Material:

Heat exchanger: High-grade steel
AISI 316

PM regulator: DZR brass, DVGW and ACS approved

Differential pressure controller STAP: AMETAL®

Control valve TBV-C: AMETAL®

Piping material: High-grade steel
corrugated piping AISI 316, insulated
Housing: Galvanized sheet steel

General:

More information on STAP, TBV-C and RTL – see separate technical leaflets.

Function

Heating interface unit with hot-water generation based on flow principle for local and district heating networks, without the need for additional external energy input. Fully adjustable temperature bypass thermostatically controlled.

Using a centralised heat source such as a traditional boiler system or district heating network the unit is supplied with a flow of low temperature hot water (normally up to 90°C) or medium temperature hot water (normally 90-110°C). The unit is also connected to the cold water services supply. The hot water service is then generated from the integrated plate heat exchanger.

Pressure independent supply of the heating circuit is provided by means of an STAP differential pressure controller. Measurement of the flow and differential pressure is made possible by means of TA-SCOPE. Use of a ancillary room thermostat and thermal actuator allows localized control.

When hot water is required the PM regulator opens the tertiary port and allows heating water to pass into the heat exchanger. As the hot water is being drawn off the heating circuit is temporarily shut off to prioritise the hot water requirement.

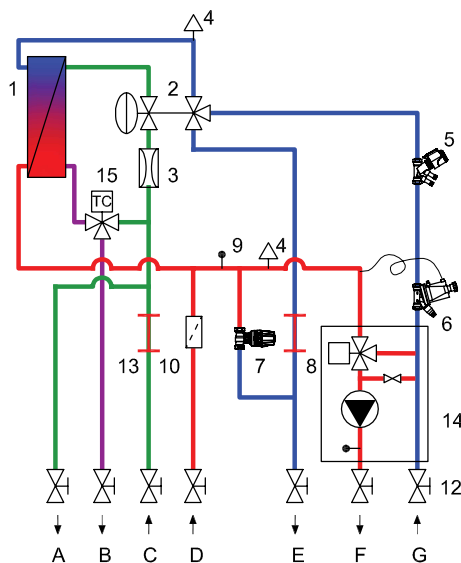
TA-COMFORT is an all-inclusive product in which all of the system components are technically configured to best optimize the performance.

Scope of delivery

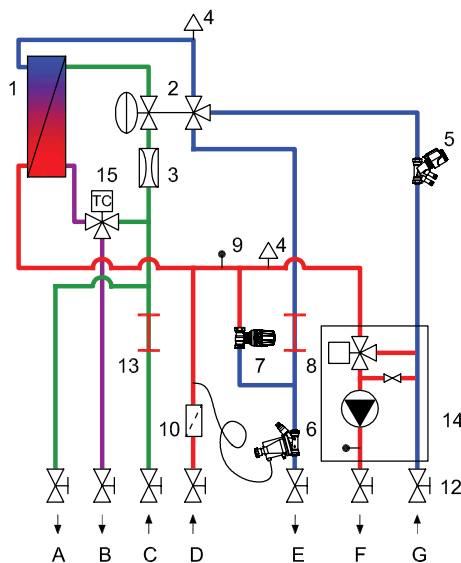
- Baseplate with 7 x 3/4" connections
- High-grade steel plate heat exchanger
- PM regulator with lime scale preventive coating, DVGW and ACS approvals
- Hot water flow limiter 12, 15 or 17 l/min
- Thermal circulation bridge (holding bypass), IMI Heimeier RTL
- 1 strainer
- Continuously adjustable differential pressure controller STAP 15 (TA-COMFORT-SC) or STAP 20 (TA-COMFORT-SP) 10-60 kPa.
- Mixing circuit module, incl. pump (presetable heating temperature)
- Adjustable and measurable apartment zone valve TBV-C, for fitting IMI TA actuators
- Dummy pieces for heat meters' and water meters' installation.
- Piping made of flexible, high-grade steel, insulated, packed flat, finish-piped, all components fully installed and pressure tested

Hydronic design of the station

TA-COMFORT-SC



TA-COMFORT-SP



- A. Cold water outlet
- B. Hot water outlet
- C. Cold water inlet
- D. Heating supply, primary
- E. Heating return, primary
- F. Heating supply, secondary
- G. Heating return, secondary

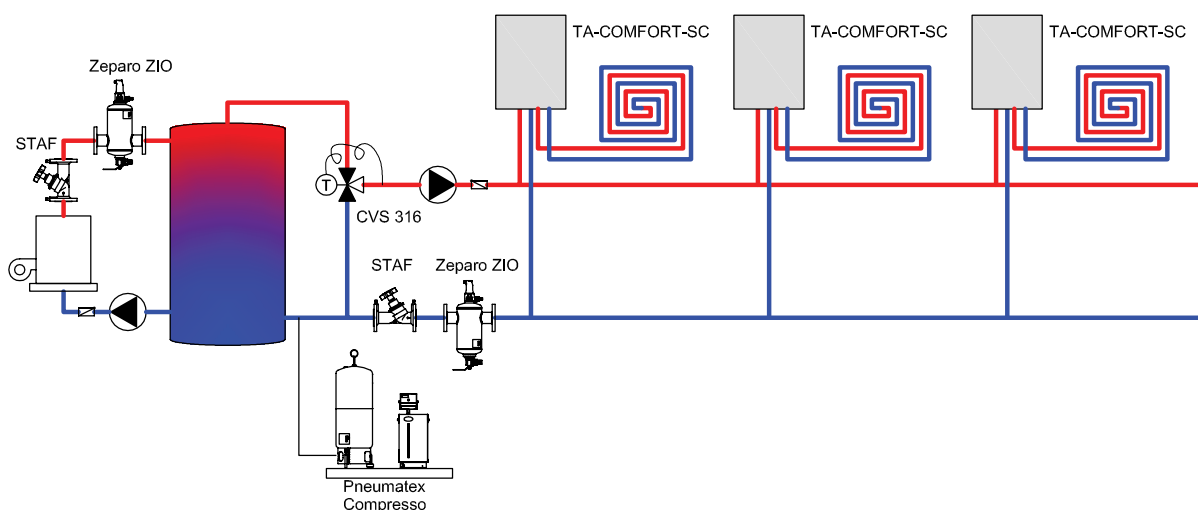
- 1. Stainless steel plate heat exchanger
- 2. PM Controller: Control of heating water during tap water consumption with anti calcium coating, DVGW and ACS approvals.
- 3. Hot water flow limiter 12, 15 or 17 l/min
- 4. Air vent
- 5. TBV-C: Compact control and balancing valve with flow measurement.
- 6. STAP: Internal Δp controller, setting range 10 - 60 kPa.
- 7. RTL Thermal circulation bypass
- 8. Dummy piece for heat meter
- 9. 1/2" connection for heat meter sensor
- 10. Strainer
- 12. Shut-off 3/4" female (optional)
- 13. Dummy piece for cold water meter
- 14. Mixing circuit controlled thermostatically or electrically
- 15. Scald protection (thermostatic hot water mixing valve) (optional)
- 17. RTL: Thermal circulation bypass, return temperature limitation

Application examples

Hydronic system connection

The sizing of the supply pipes from the main supply to the station has to be done in relation to the maximum demand for the domestic hot water.

The sizing of the main supply pipes should be done with an appropriate diversity factor in relation to the amount of connected stations. Calculation software is available to assist with this. Please contact your IMI Hydronic Engineering representative.

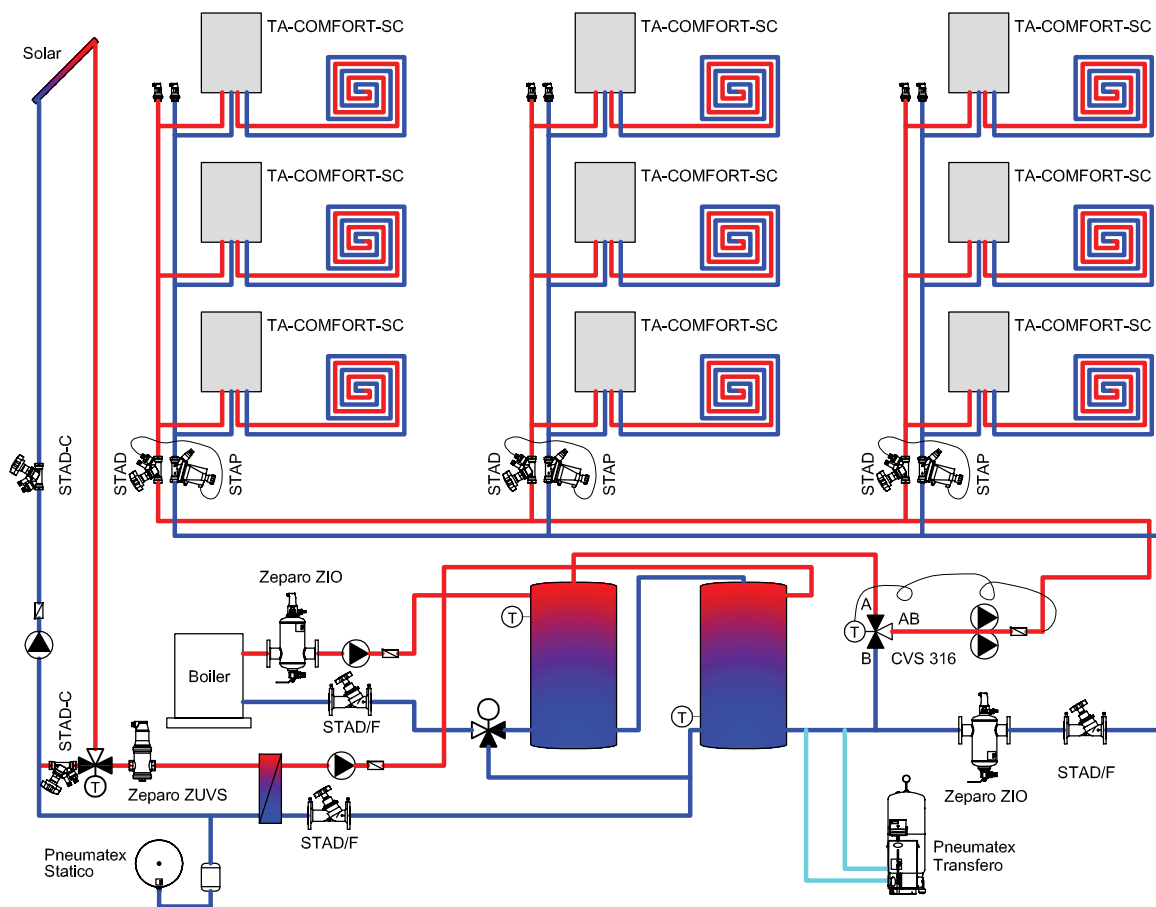


ATTENTION

If the supply pipes are undersized it may not be possible for the TA-COMFORT to produce the required amount of hot tap water. This has to be taken in consideration especially when plastic or cross link poly-ethylene piping systems are used. The reduced diameter of these piping systems can cause increases in system resistance. This should be taken into account when sizing the system.

A STAP differential controller upstream of the TA-COMFORT of the supply circuit enables a constant differential pressure for the stations. The pressure drop in the connection pipes after the Δp controller must not exceed 10 kPa. The constant Δp for the secondary heating system is obtained with the integrated Δp controller in the station. The set point can be adjusted from 10 - 60 kPa.

Principle of TA-COMFORT-SC stations



To cover peak loads a buffer tank should be utilised to enable full coverage of the hot water requirements and heat load. Sizing of the buffer tank requires you to create an energy balance in the plant. Please contact your IMI Hydronic Engineering representative for assistance.

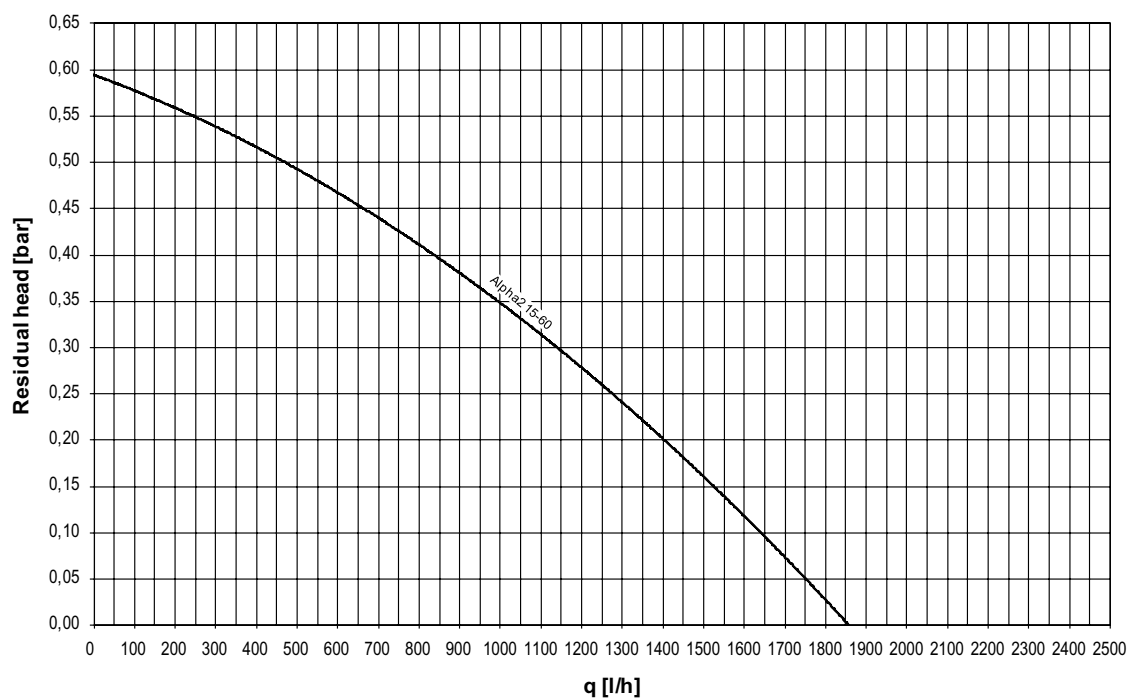
The control of constant temperature from the buffer tank to the heating system can be obtained with the help of a self acting 3-way control valve CVS 316.

Residual head and pressure loss diagram

These values are to be considered for the dimensioning of the residential heating circuits.

Kv value of the control group: 3.6

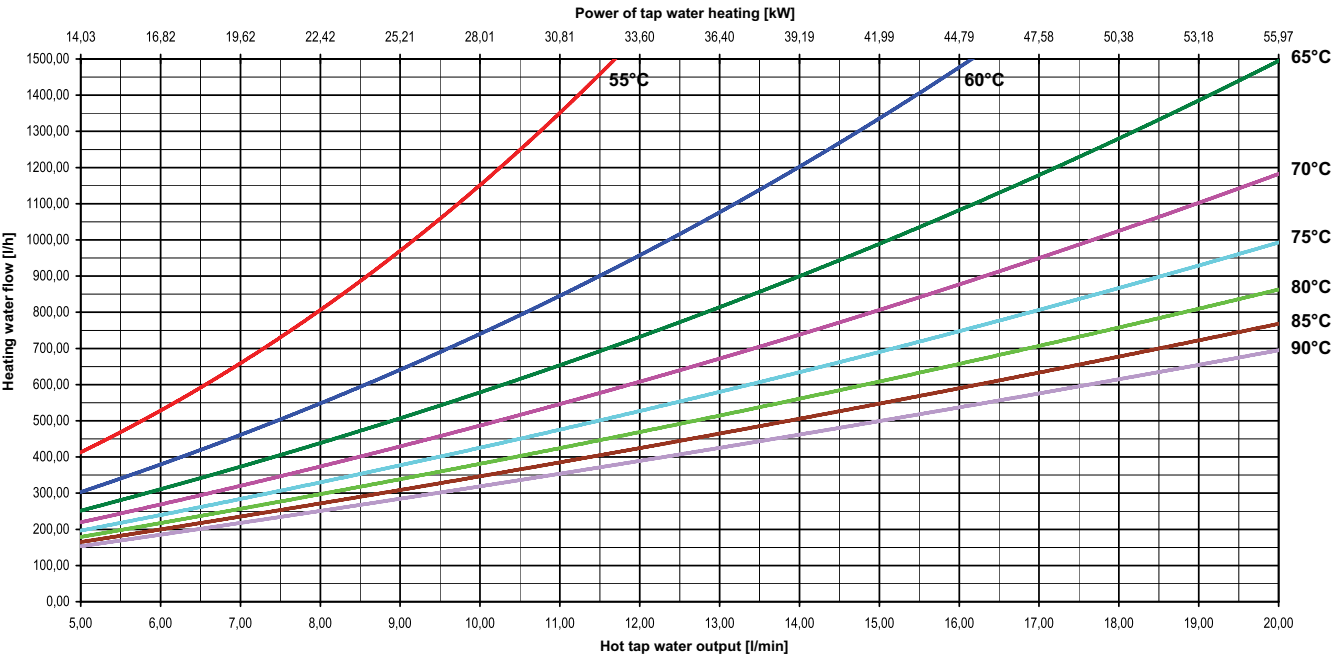
Max. residual pump head



Diagrams – TA-COMFORT 35 kW

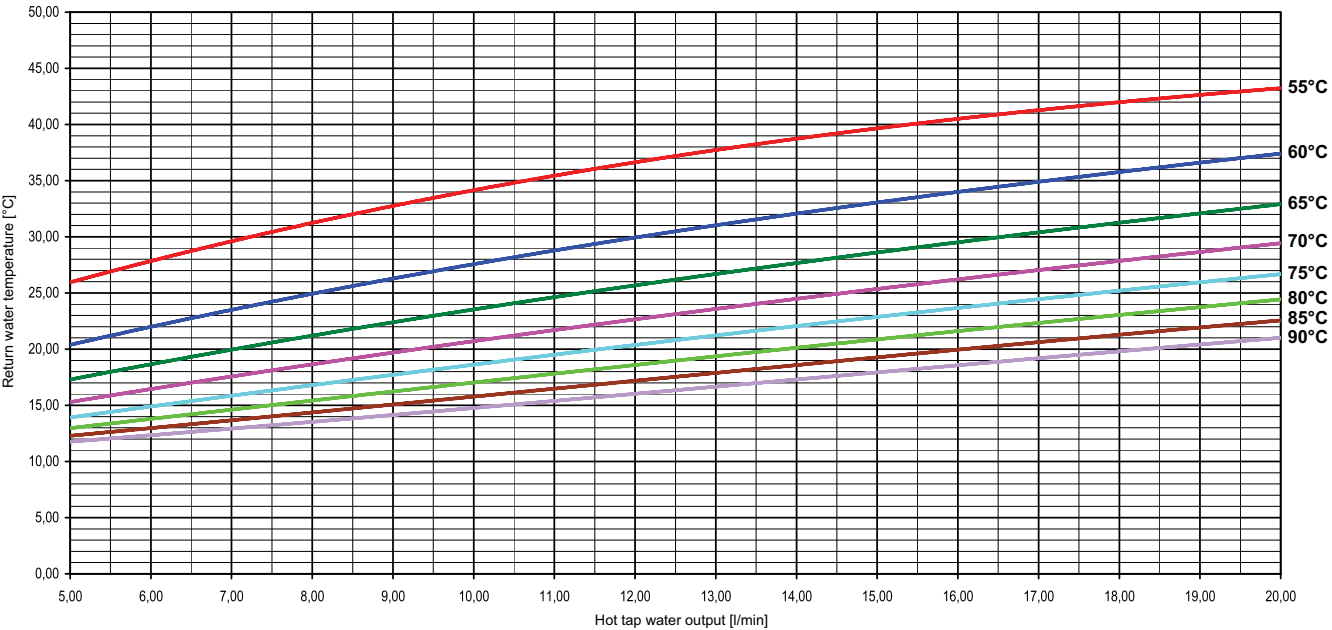
Hot tap water flow

Required flow of heating water to increase the tap water by 40 K (10°C to 50°C) in relation to the supply temperature
IC8T-24



Return temperature during draw off

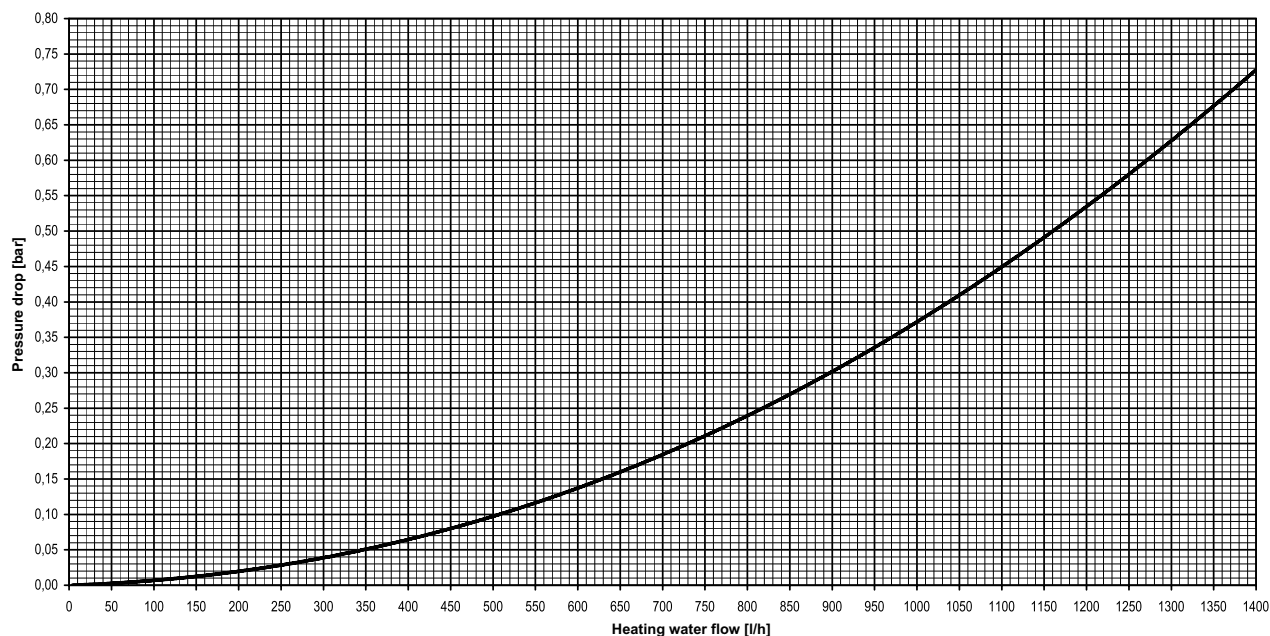
Reachable return temperature of heating water to increase the tap water by 40 K (10°C to 50°C) in relation to the supply temperature
IC8T-24



Pressure drop heating side during draw off

Pressure drop of the primary side of the station in relation to the flow of heating water for max. tap water power (PM controller max. open) thermal circulation bridge closed

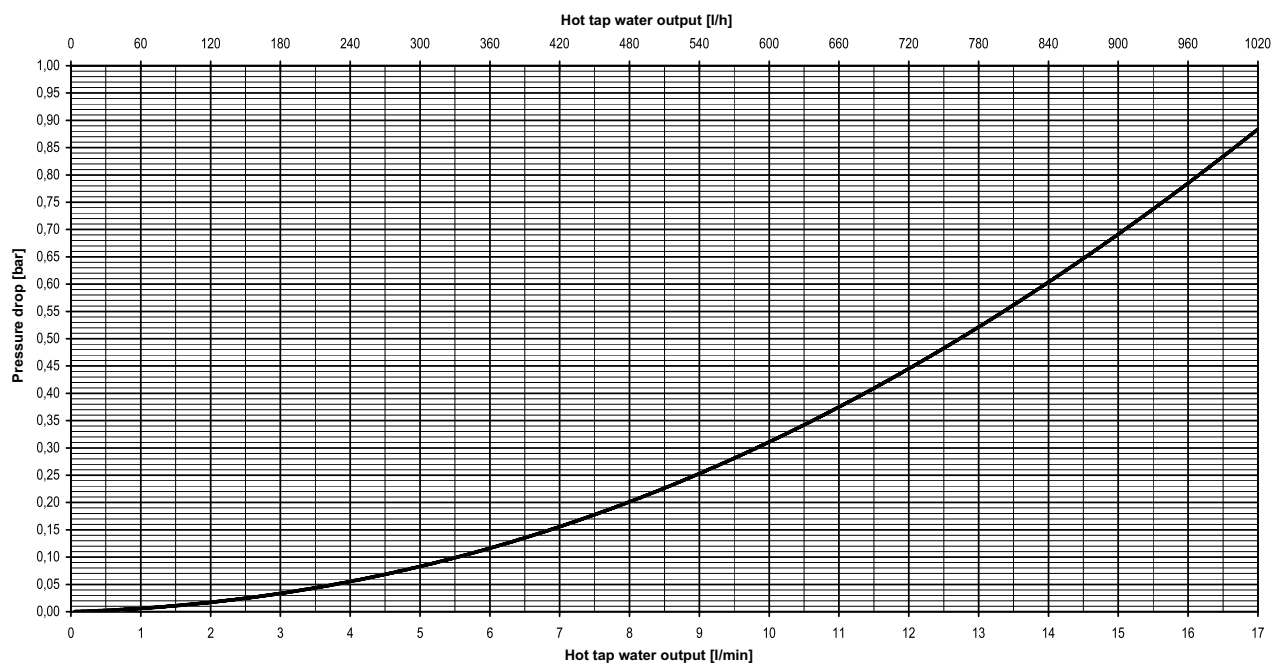
IC8T-24



Pressure drop tap water side during draw off

Pressure drop of the secondary side of the station in relation to the tap water flow (without tap water flow limiter) max. tap water draw off (PM controller max. open)

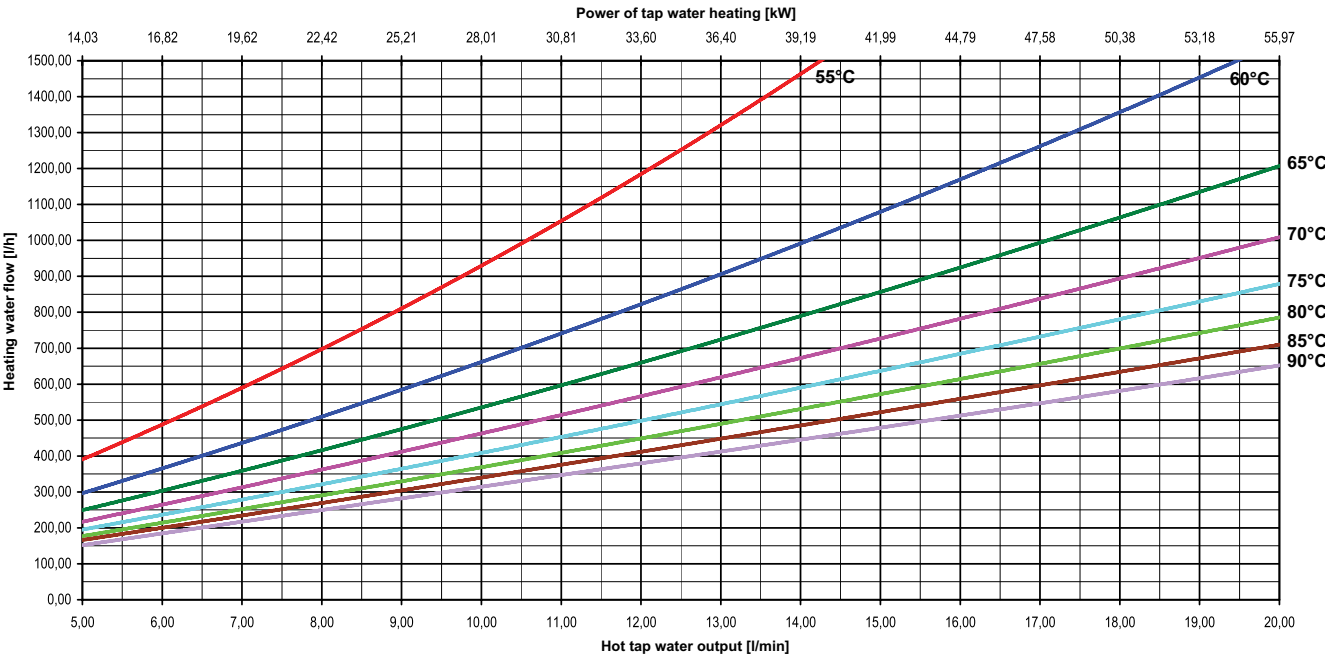
IC8T-24



Diagrams – TA-COMFORT 42 kW

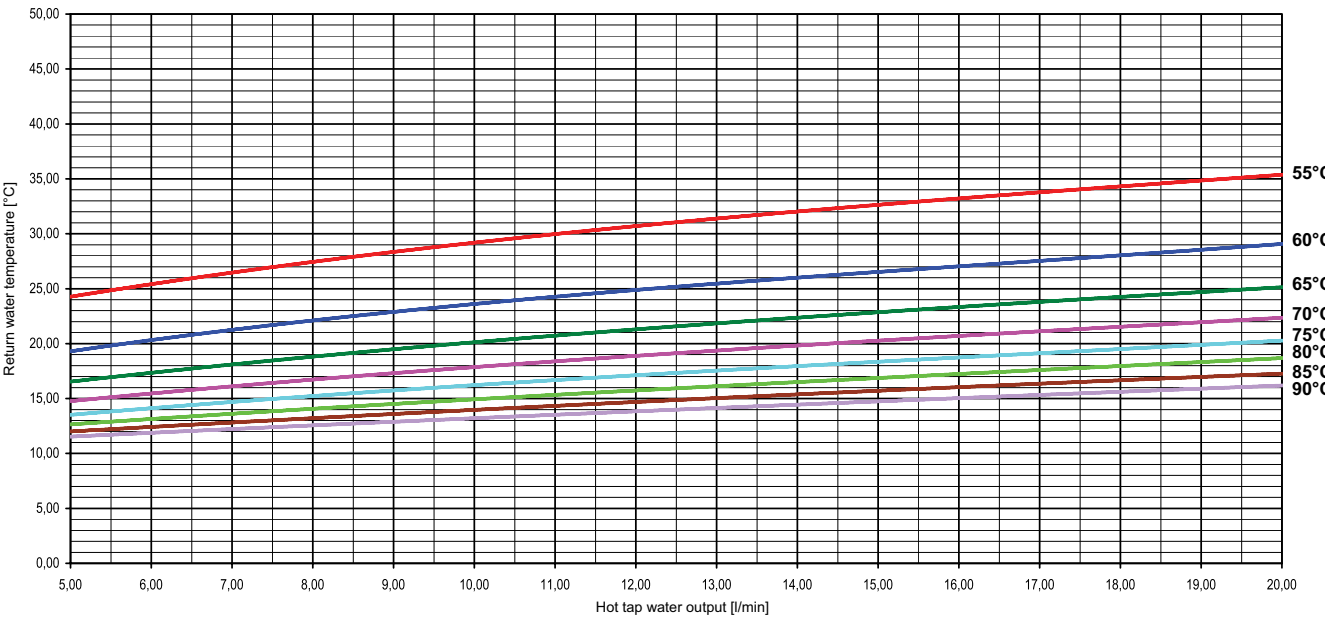
Hot tap water flow

Required flow of heating water to increase the tap water by 40 K (10°C to 50°C) in relation to the supply temperature
WP 24-20



Return temperature during draw off

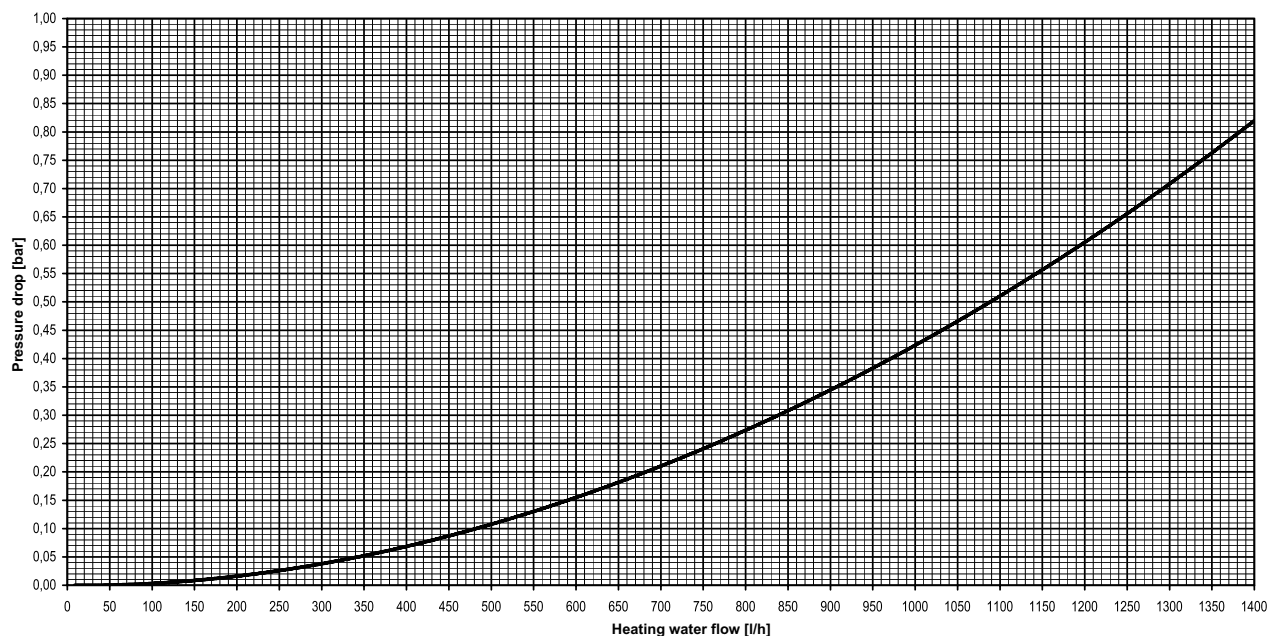
Reachable return temperature of heating water to increase the tap water by 40 K (10°C to 50°C) in relation to the supply temperature
WP 24-20



Pressure drop heating side during draw off

Pressure drop of the primary side of the station in relation to the flow of heating water for max. tap water power (PM controller max. open) thermal circulation bridge closed

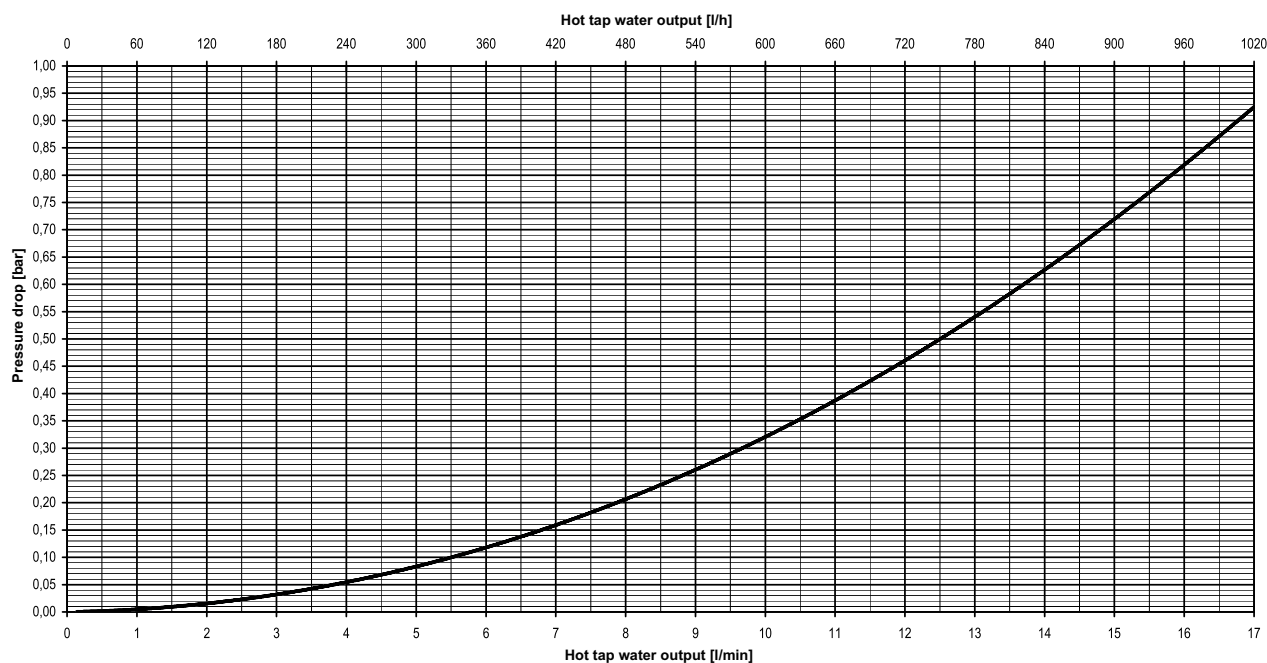
WP 24-20



Pressure drop tap water side during draw off

Pressure drop of the secondary side of the station in relation to the tap water flow (without tap water flow limiter) max. tap water draw off (PM controller max. open)

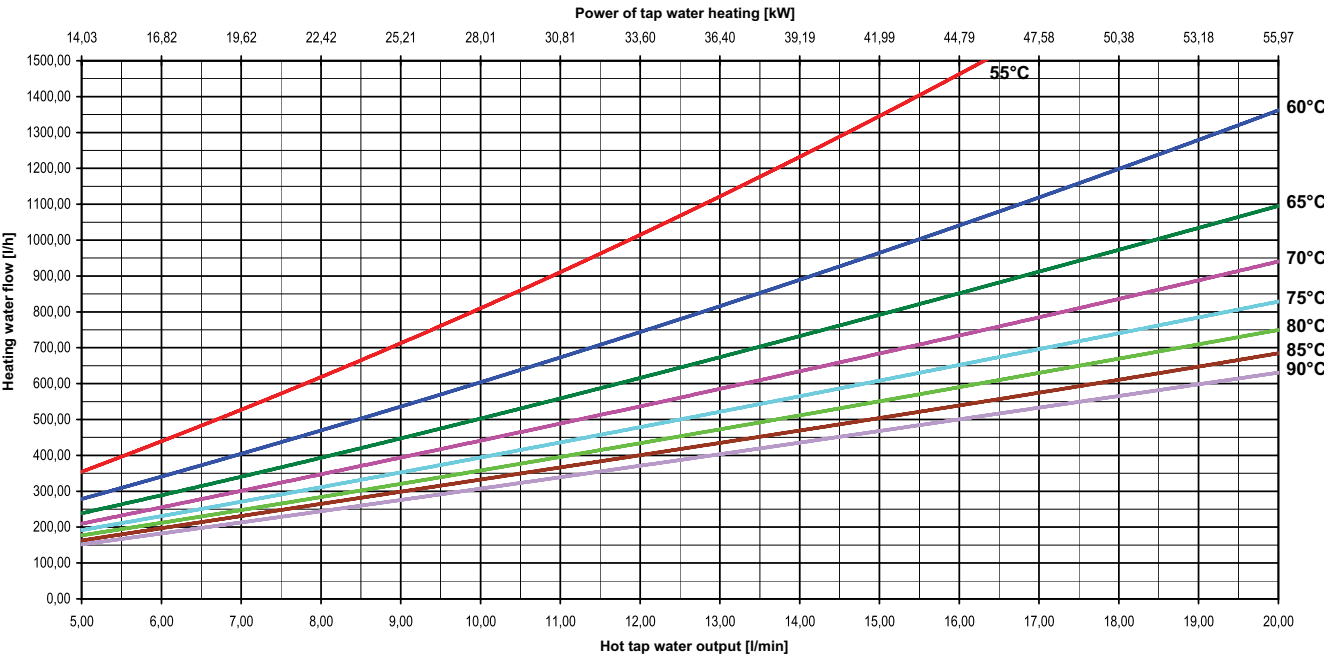
WP 24-20



Diagrams – TA-COMFORT 46 kW

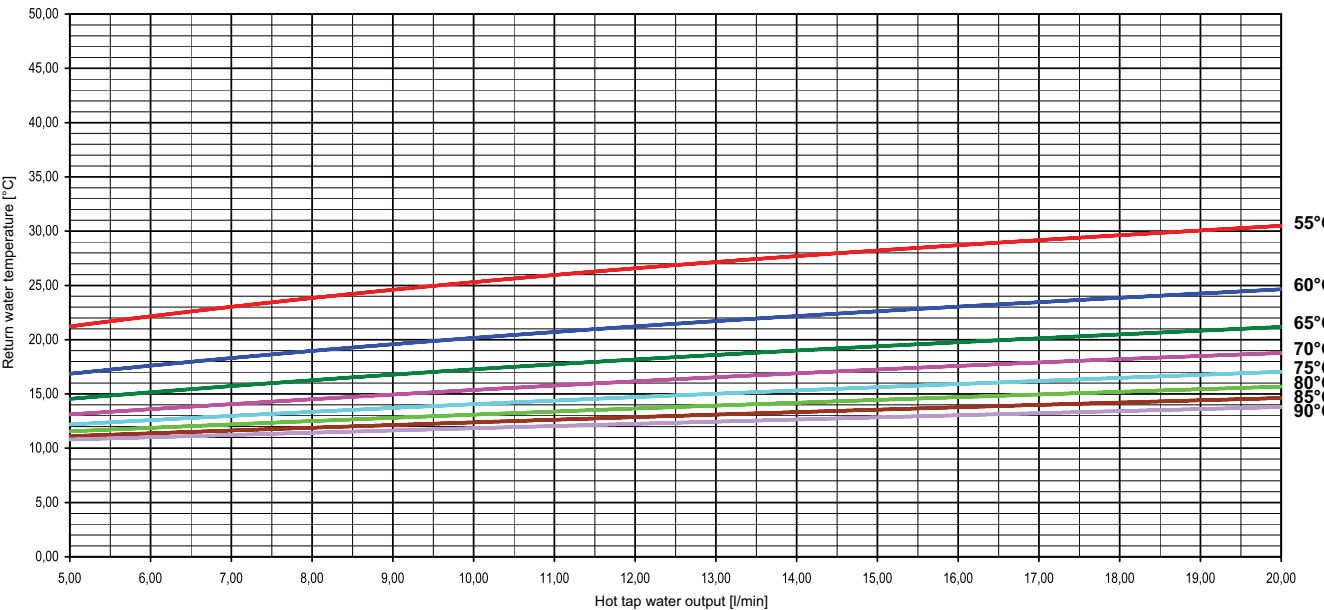
Hot tap water flow

Required flow of heating water to increase the tap water by 40 K (10°C to 50°C) in relation to the supply temperature
WP 24-30



Return temperature during draw off

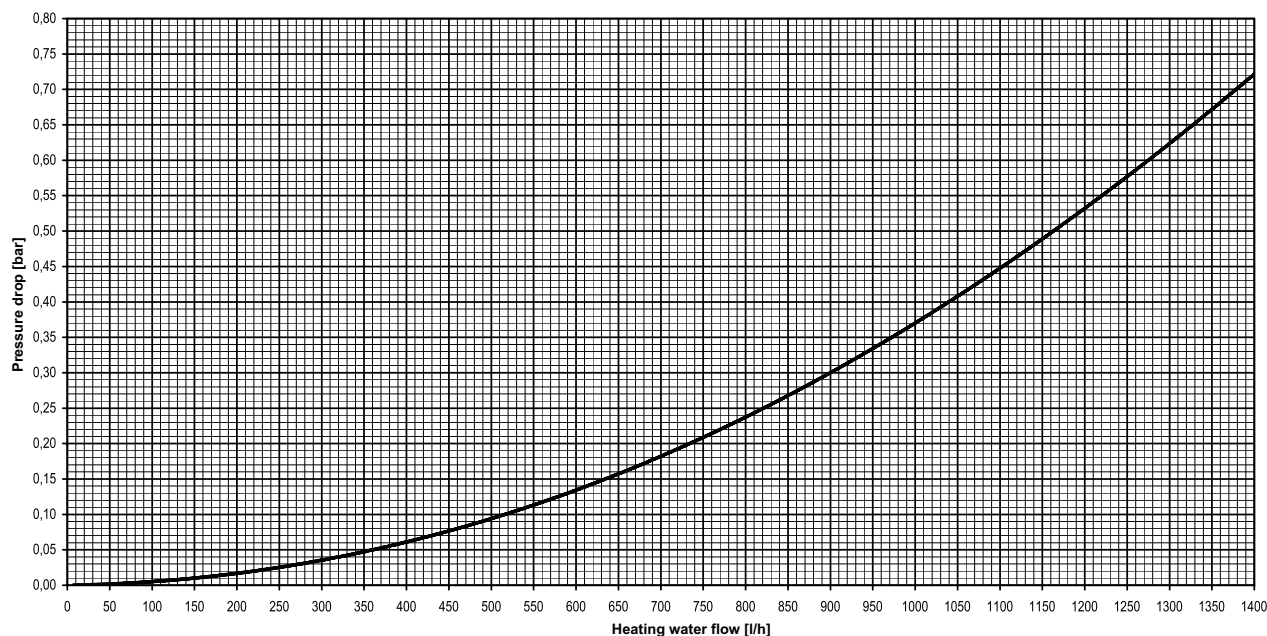
Reachable return temperature of heating water to increase the tap water by 40 K (10°C to 50°C) in relation to the supply temperature
WP 24-30



Pressure drop heating side during draw off

Pressure drop of the primary side of the station in relation to the flow of heating water for max. tap water power (PM controller max. open) thermal circulation bridge closed

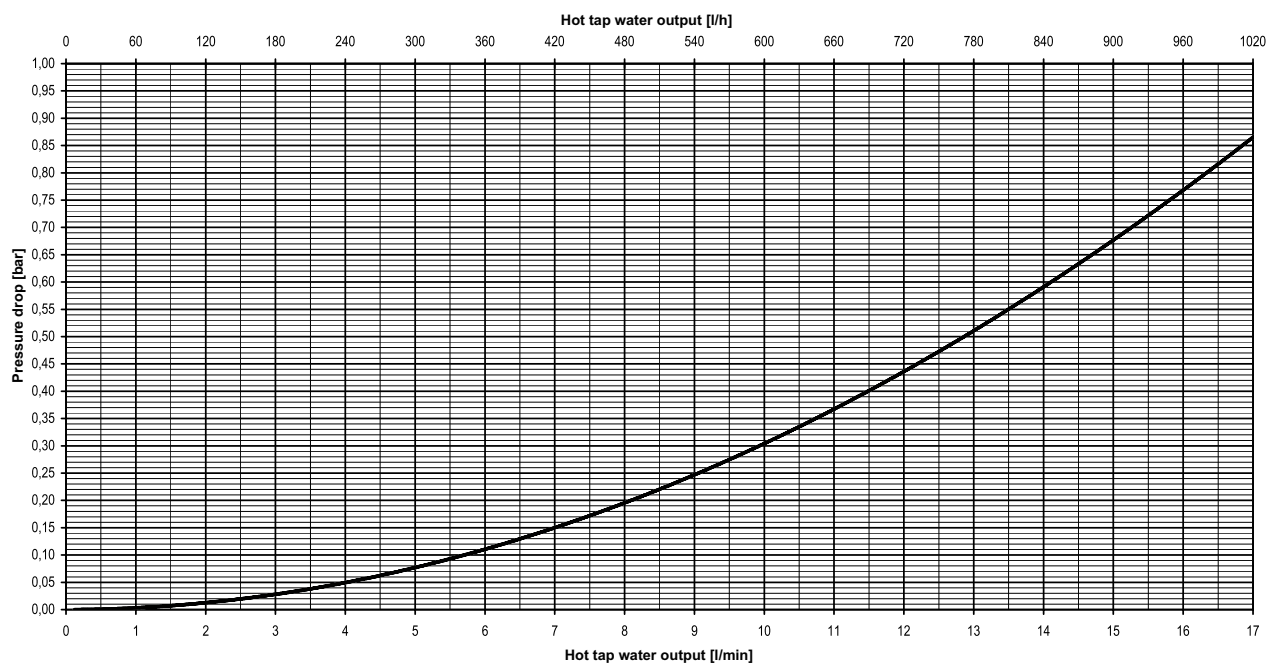
WP 24-30



Pressure drop tap water side during draw off

Pressure drop of the secondary side of the station in relation to the tap water flow (without tap water flow limiter) max. tap water draw off (PM controller max. open)

WP 24-30



Articles – with scalding protection

**TA-COMFORT-SC with differential pressure controller over heating zone and scalding protection**

| Type | Max. output service water Q [kW] | Draw-off volume (10/50°C) [l/min] | Heat exchanger | Max. pressure loss without heat meter [kPa] | Article No |
|---|----------------------------------|-----------------------------------|----------------|---|--------------|
| TA-COMFORT-SC | | | | | |
| Dummy for heat meter 110 mm / Dummy for water meter 80 mm | | | | | |
| SC 35 - 110/80 | 35 | 12 | IC8T-24 | 20 | 26103-121135 |
| SC 42 - 110/80 | 42 | 15 | WP24-20 | 30 | 26103-121242 |
| SC 46 - 110/80 | 46 | 17 | WP24-30 | 30 | 26103-121346 |
| Dummy for heat meter 110 mm / Dummy for water meter 110 mm | | | | | |
| SC 35 - 110/110 | 35 | 12 | IC8T-24 | 20 | 26103-122135 |
| SC 42 - 110/110 | 42 | 15 | WP24-20 | 30 | 26103-122242 |
| SC 46 - 110/110 | 46 | 17 | WP24-30 | 30 | 26103-122346 |
| Dummy for heat meter 190 mm (DN 25/1") / Dummy for water meter 80 mm | | | | | |
| SC 35 - 190/80 | 35 | 12 | IC8T-24 | 20 | 26103-131135 |
| SC 42 - 190/80 | 42 | 15 | WP24-20 | 30 | 26103-131242 |
| SC 46 - 190/80 | 46 | 17 | WP24-30 | 30 | 26103-131346 |

**TA-COMFORT-SP with differential pressure controller over heating interface unit and scalding protection**

| Type | Max. output service water Q [kW] | Draw-off volume (10/50°C) [l/min] | Heat exchanger | Max. pressure loss without heat meter [kPa] | Article No |
|---|----------------------------------|-----------------------------------|----------------|---|--------------|
| TA-COMFORT-SP | | | | | |
| Dummy for heat meter 110 mm / Dummy for water meter 80 mm | | | | | |
| SP 35 - 110/80 | 35 | 12 | IC8T-24 | 20 | 26103-221135 |
| SP 42 - 110/80 | 42 | 15 | WP24-20 | 30 | 26103-221242 |
| SP 46 - 110/80 | 46 | 17 | WP24-30 | 30 | 26103-221346 |
| Dummy for heat meter 110 mm / Dummy for water meter 110 mm | | | | | |
| SP 35 - 110/110 | 35 | 12 | IC8T-24 | 20 | 26103-222135 |
| SP 42 - 110/110 | 42 | 15 | WP24-20 | 30 | 26103-222242 |
| SP 46 - 110/110 | 46 | 17 | WP24-30 | 30 | 26103-222346 |
| Dummy for heat meter 190 mm (DN 25/1") / Dummy for water meter 80 mm | | | | | |
| SP 35 - 190/80 | 35 | 12 | IC8T-24 | 20 | 26103-231135 |
| SP 42 - 190/80 | 42 | 15 | WP24-20 | 30 | 26103-231242 |
| SP 46 - 190/80 | 46 | 17 | WP24-30 | 30 | 26103-231346 |

Articles – without scalding protection



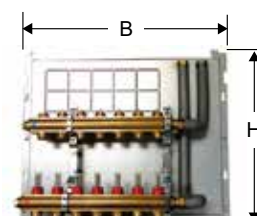
TA-COMFORT-SC with differential pressure controller over heating zone

| Type | Max. output service water Q [kW] | Draw-off volume (10/50°C) [l/min] | Heat exchanger | Max. pressure loss without heat meter [kPa] | Article No |
|---|-------------------------------------|---|----------------|--|--------------|
| TA-COMFORT- | | | | | |
| Dummy for heat meter 110 mm / Dummy for water meter 80 mm | | | | | |
| SC 35 - 110/80 | 35 | 12 | IC8T-24 | 20 | 26103-321135 |
| SC 42 - 110/80 | 42 | 15 | WP24-20 | 30 | 26103-321242 |
| SC 46 - 110/80 | 46 | 17 | WP24-30 | 30 | 26103-321346 |
| Dummy for heat meter 110 mm / Dummy for water meter 110 mm | | | | | |
| SC 35 - 110/110 | 35 | 12 | IC8T-24 | 20 | 26103-322135 |
| SC 42 - 110/110 | 42 | 15 | WP24-20 | 30 | 26103-322242 |
| SC 46 - 110/110 | 46 | 17 | WP24-30 | 30 | 26103-322346 |
| Dummy for heat meter 190 mm (DN 25/1") / Dummy for water meter 80 mm | | | | | |
| SC 35 - 190/80 | 35 | 12 | IC8T-24 | 20 | 26103-331135 |
| SC 42 - 190/80 | 42 | 15 | WP24-20 | 30 | 26103-331242 |
| SC 46 - 190/80 | 46 | 17 | WP24-30 | 30 | 26103-331346 |



TA-COMFORT-SP with differential pressure controller over heating interface unit

| Type | Max. output service water Q [kW] | Draw-off volume (10/50°C) [l/min] | Heat exchanger | Max. pressure loss without heat meter [kPa] | Article No |
|---|-------------------------------------|---|----------------|--|--------------|
| TA-COMFORT- | | | | | |
| Dummy for heat meter 110 mm / Dummy for water meter 80 mm | | | | | |
| SP 35 - 110/80 | 35 | 12 | IC8T-24 | 20 | 26103-421135 |
| SP 42 - 110/80 | 42 | 15 | WP24-20 | 30 | 26103-421242 |
| SP 46 - 110/80 | 46 | 17 | WP24-30 | 30 | 26103-421346 |
| Dummy for heat meter 110 mm / Dummy for water meter 110 mm | | | | | |
| SP 35 - 110/110 | 35 | 12 | IC8T-24 | 20 | 26103-422135 |
| SP 42 - 110/110 | 42 | 15 | WP24-20 | 30 | 26103-422242 |
| SP 46 - 110/110 | 46 | 17 | WP24-30 | 30 | 26103-422346 |
| Dummy for heat meter 190 mm (DN 25/1") / Dummy for water meter 80 mm | | | | | |
| SP 35 - 190/80 | 35 | 12 | IC8T-24 | 20 | 26103-431135 |
| SP 42 - 190/80 | 42 | 15 | WP24-20 | 30 | 26103-431242 |
| SP 46 - 190/80 | 46 | 17 | WP24-30 | 30 | 26103-431346 |

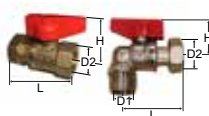


Surface heating manifold unit, with draining

Consisting of base plate, corrugated tube connection set and underfloor heating manifold with flow indicator, therm. internal fittings for an actuator, draining and venting, connection Eurokonus 3/4".

| Loops | H | B | Article No |
|-------|-----|-----|--------------|
| 3 | 400 | 600 | 26104-020003 |
| 4 | 400 | 600 | 26104-020004 |
| 5 | 400 | 600 | 26104-020005 |
| 6 | 400 | 600 | 26104-020006 |
| 7 | 400 | 600 | 26104-020007 |

Accessories



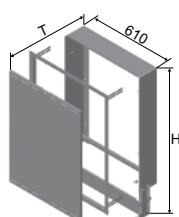
Ball valves
with union end

| Type | D | L | H | Kg | Article No |
|----------|------|----|----|------|--------------|
| Straight | 3/4" | 60 | 40 | 0,23 | 26104-030001 |
| Angle | 3/4" | 40 | 40 | 0,28 | 26104-030002 |



Surface-mounted cover
White RAL 9016

| Type | H | B | T | Article No |
|------------|------|-----|-----|--------------|
| Standard | 800 | 600 | 210 | 26104-010101 |
| Additional | 1175 | 600 | 210 | 26104-010102 |



Flush-mounted cover
White RAL 9016

| Type | H | T | Article No |
|----------|------|---------|--------------|
| Standard | 835 | 150-240 | 26104-010201 |
| Long | 1175 | 150-240 | 26104-010202 |



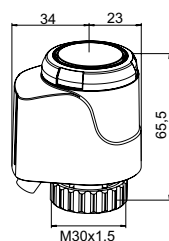
Foot for flush-mounted cover
Galvanized

| Article No |
|--------------|
| 26104-010301 |



Subbase with 7 ball valves

| For | Article No |
|-------------------|--------------|
| TA-COMFORT-S 3/4" | 26104-020102 |



EMO T actuator
230 V

| Type | Cable length | Article No |
|------------------------------------|--------------|-------------|
| EMO T, NO (Normally open) | 1 m | 1837-00.500 |
| EMO T, NC (Normally closed) | 1 m | 1833-00.500 |



Contact thermostat
230 V, 1 switch

| Type | L | B | T | Article No |
|------|----|----|----|-------------|
| BRC | 60 | 40 | 36 | 1991-00.000 |



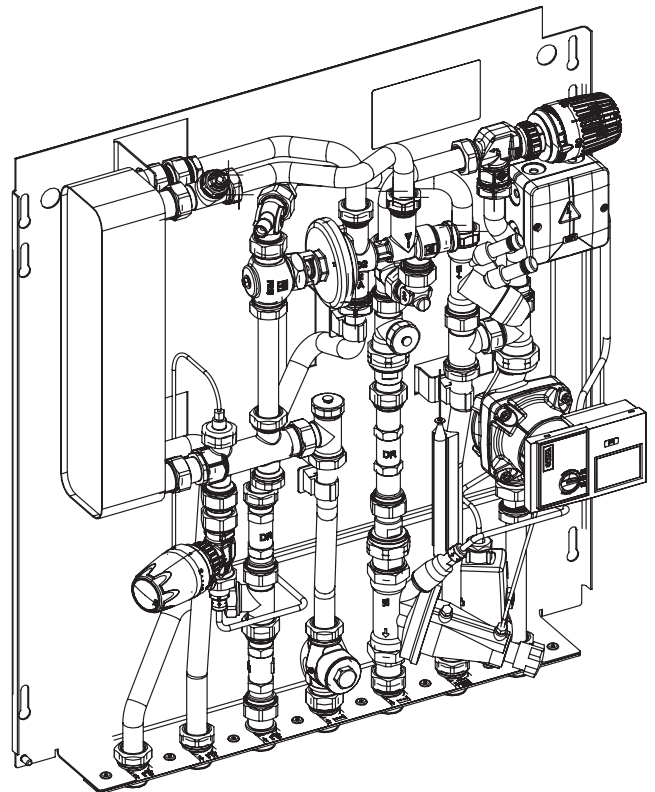
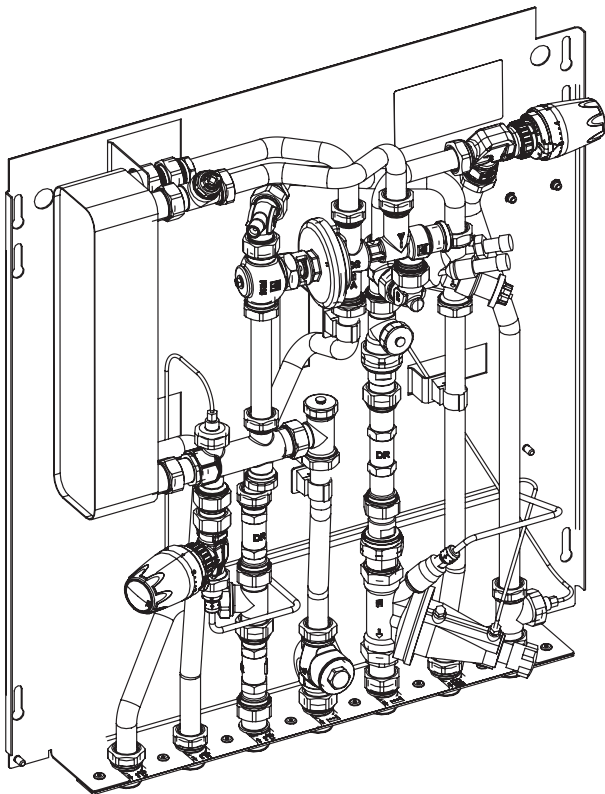
Room thermostat
230 V, 1 switch

| Type | L | B | T | Article No |
|-------|----|----|------|--------------|
| RTR | 75 | 75 | 27,5 | 26104-040001 |
| E6763 | | | | |

TA-COMFORT-R / -S

Heating interface units

Installation | Operation



Safety instructions

To reduce risk and avoid accidents and injuries, please follow the safety instructions carefully.

Target group

These instructions are intended for authorised service personnel only.

Work on the heating system and the drinking water, gas and electricity networks may only be carried out by skilled service personnel or installation engineers who have been authorised by the relevant authorities.

Regulations

Work on the system is covered by the following regulations

Statutory accident prevention rules.

Statutory environmental protection rules.

Accident prevention regulations issued by the Employer's Liability Insurance Association.

The applicable safety provisions contained in the following standards and norms:

DIN, EN, DVGW, TRGI, TRF, VDE and ACS standards.
ÖNORM, EN, ÖVGW-TR Gas, ÖVGW-TRF and ÖVE
SEV, SUVA, SVGW, SVTI, SWKI and VKF.

All new regulations and standards applicable at regional/national level.

Rules when working on the system and network parameters

Isolate the system from the power supply and verify the absence of power (e.g. at the separate fuse or a main switch).

Ensure that the system cannot be switched back on.

IMPORTANT: Risk of scalding: Temperature of medium > 60°C

| | | |
|---------------------------------------|-----------------------------|------|
| Network parameters for heating: | Max. operating temperature: | 90°C |
| Network parameters for potable water: | Max. operating temperature: | 90°C |
| Pressure class: | PN 10 | |

The equipment must be installed in enclosed rooms that are protected from frost in compliance with EN 60529. Compliant protection zones must be observed during the planning and installation process EN 60520 IP rating – IP42.

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Description of functions

TA-COMFORT heating interface units supply a home with domestic hot water and heating. The domestic hot water is heated instantaneously using a stainless steel plate heat exchanger and a pressure-controlled proportional flow controller with an antibacterial coating.

Principle of operation

The proportional flow controller only allows the domestic hot water and heating water to flow over the plate heat exchangers while domestic hot water is being drawn off. When the draw-off ends, the valve closes to stop the flow through the heat exchanger. The proportional flow controller regulates the flow to the heating circuit (priority circuit). It closes the heating circuit completely if the draw-off is at maximum. This means that all the heating energy is made available to heat the domestic hot water.

Notes

If the heating supply temperature is kept constant, proportional flow control means that the same hot water temperature is reached regardless of the volumes being drawn off.

If the heating water temperature is very high or fluctuates widely, producing an expected domestic hot water temperature exceeding 60°C, scald protection should be added by installing a temperature mixing valve module (optional).

In order to guarantee thermal stability and to reduce the time taken to reach the desired domestic hot water temperature, a thermostatic circulation bypass is included in the heating interface unit.

The valve TBV-C or TA-COMPACT-DP installed in front of the home interface unit provides a stable available differential pressure for water heating.

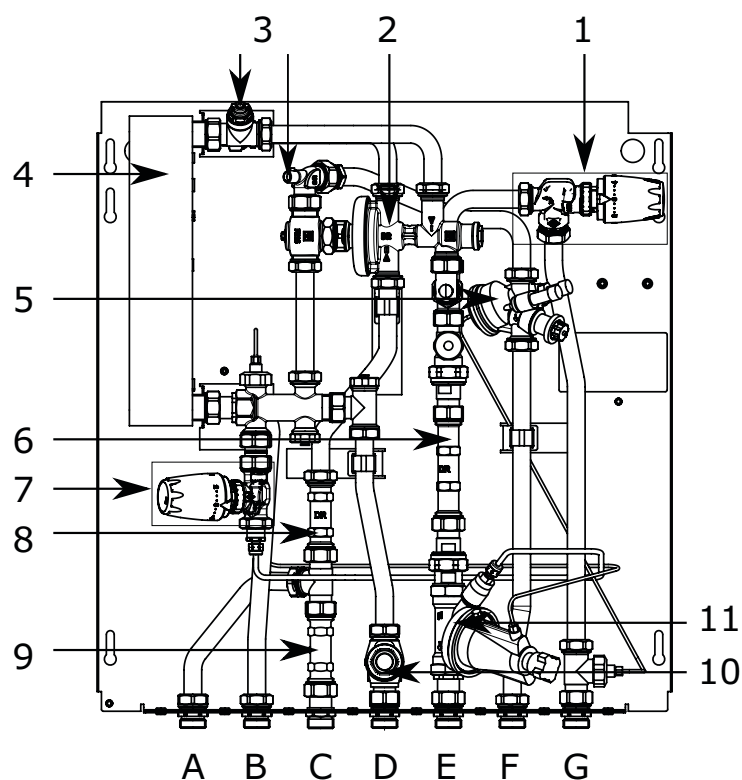
Each unit has an integrated zone valve for hydraulic control.

A (reference) room controller (optional) and thermal actuator (optional) can be installed to allow the domestic heating circuit to be operated separately.

Designated pipe sections for water and heat meter installation are provided in every home unit.

See our catalogues and price list for other accessories and further options.

Hydraulic diagram

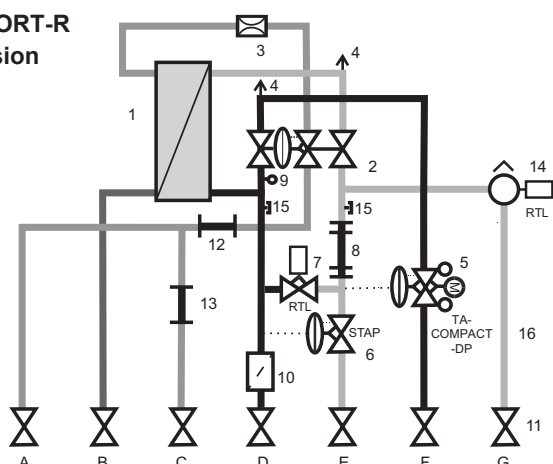


- | | | | |
|----|---------------------------|-----|--|
| A. | Cold water outlet | 1. | RTL: return temperature limiter |
| B. | Hot water outlet | 2. | Proportional controller |
| C. | Cold water inlet | 3. | Air vent |
| D. | Heating supply, primary | 4. | Stainless steel plate heat exchanger |
| E. | Heating return, primary | 5. | TA-COMPACT-DP control and balancing valve |
| F. | Heating supply, secondary | 6. | Dummy piece for heat meter sensor |
| G. | Heating return, secondary | 7. | RTL TRV thermal circulation bypass |
| | | 8. | Dummy piece for hot water meter |
| | | 9. | Dummy piece for cold water meter |
| | | 10. | Strainer |
| | | 11. | Internal Δp controller, setting range 10 - 60 kPa, presetting 35 kPa |

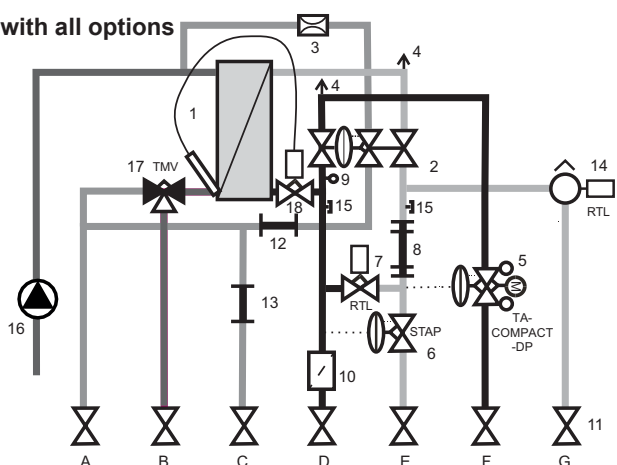
! Not all the options are available for every heating interface unit type or may not be available in combination.

Hydraulic diagram

TA-COMFORT-R
Basic version



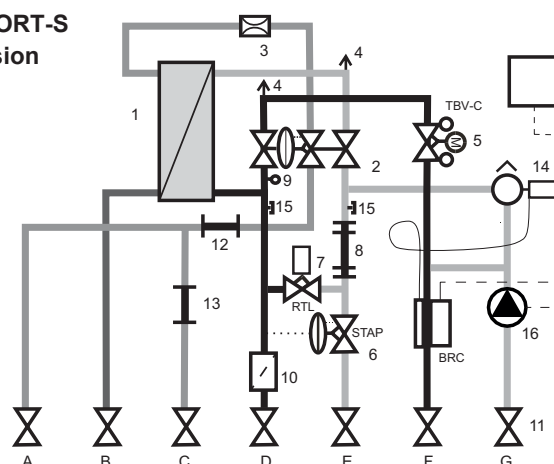
Unit with all options



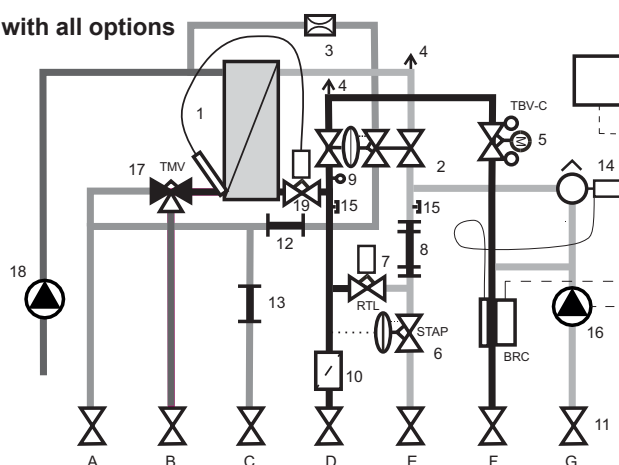
- A. Cold water outlet
- B. Hot water outlet
- C. Cold water inlet
- D. Heating supply, primary
- E. Heating return, primary
- F. Heating supply, secondary
- G. Heating return, secondary

- 1. Heat exchanger
- 2. PM controller
- 3. Flow limiter
- 4. Vent
- 5. TA-COMFORT-DP: Zone valve and Δp controller
- 6. STAP: Internal Δp controller, setting range 10 - 60 kPa, presetting 35 kPa
- 7. RTL TRV thermal circulation summer bypass
- 8. Dummy piece for heat meter
- 9. 3/4" connection for heat meter sensor
- 10. Strainer
- 11. Shut-off valves 3/4" (on bracket)
- 12. Dummy piece for hot water meter
- 13. Dummy piece for cold water meter
- 14. Return temperature limiter
- 15. Connection for external heating circuit (for example bathroom radiators)
- 16. Circulation circuit for hot tap water (optional)
- 17. Thermostatic mixing valve (optional)
- 18. Thermostatic temperature control valve with immersion sensor (optional)

TA-COMFORT-S
Basic version



Unit with all options



- A. Cold water outlet
- B. Hot water outlet
- C. Cold water inlet
- D. Heating supply, primary
- E. Heating return, primary
- F. Heating supply, secondary
- G. Heating return, secondary

- 1. Heat exchanger
- 2. PM controller
- 3. Flow limiter
- 4. Vent
- 5. Zone valve TBV-C
- 6. STAP: Internal Δp controller, setting range 10 - 60 kPa, presetting 35 kPa
- 7. RTL TRV thermal circulation summer bypass
- 8. Dummy piece for heat meter
- 9. 3/4" connection for heat meter sensor
- 10. Strainer
- 11. Shut-off valves 3/4" (on bracket)
- 12. Dummy piece for hot water meter
- 13. Dummy piece for cold water meter
- 14. Floor heating supply temperature limiter
- 15. Connection for external heating circuit (for example bathroom radiators)
- 16. Floor heating pump
- 17. Thermostatic mixing valve (optional)
- 18. Circulation circuit for hot tap water (optional)
- 19. Thermostatic temperature control valve with immersion sensor (optional)

! Not all the options are available for every heating interface unit type or may not be available in combination.

Installation

Please follow the safety and additional installation instructions during installation.

Incorrect installation and operation of the heating interface units will lead to losing any claims under the warranty.

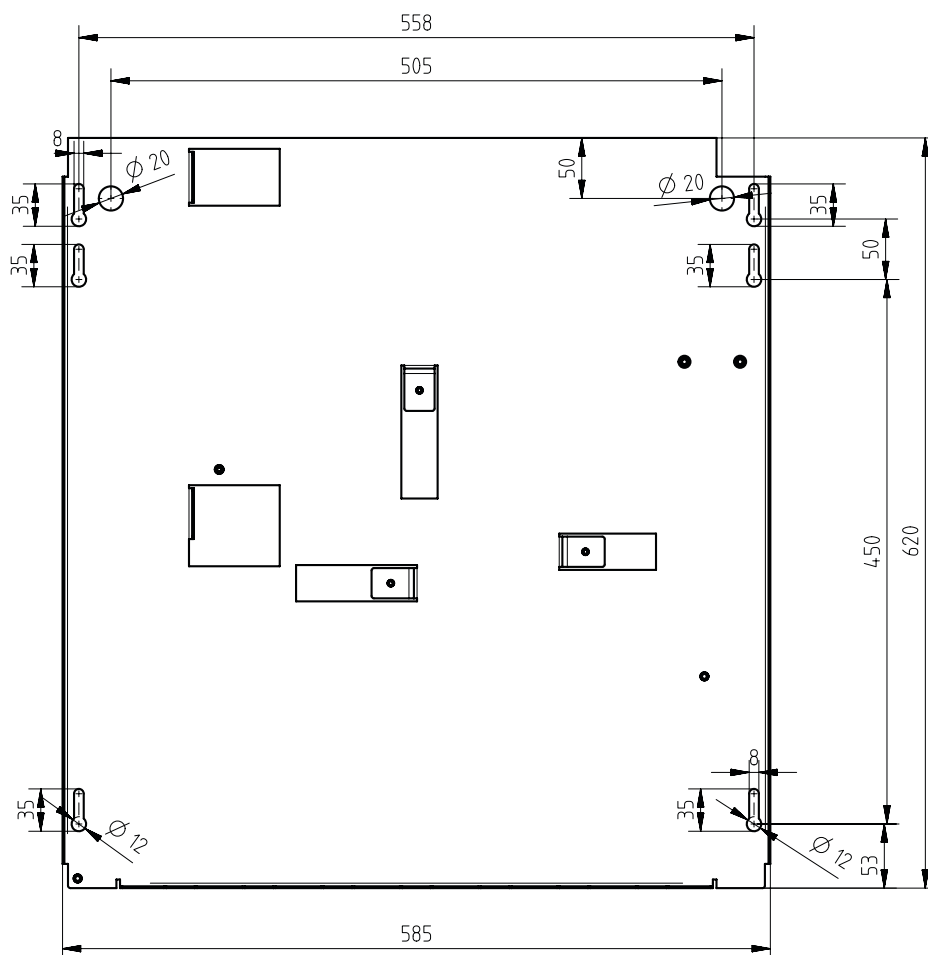
The units can be installed;

A) wall-mounted: with cover for surface mounting.

B) wall-mounted: with cover for flush-mounted.

C) floor-standing: with cover for flush-mounted (for the TA-COMFORT-S: long cover for flush mounted with stands).

Dimensions of base plate [mm]:



Dimensions (H/W/D in mm):

620 x 585 x 200 (depth from wall cover / depth from flush-mounted is variable)

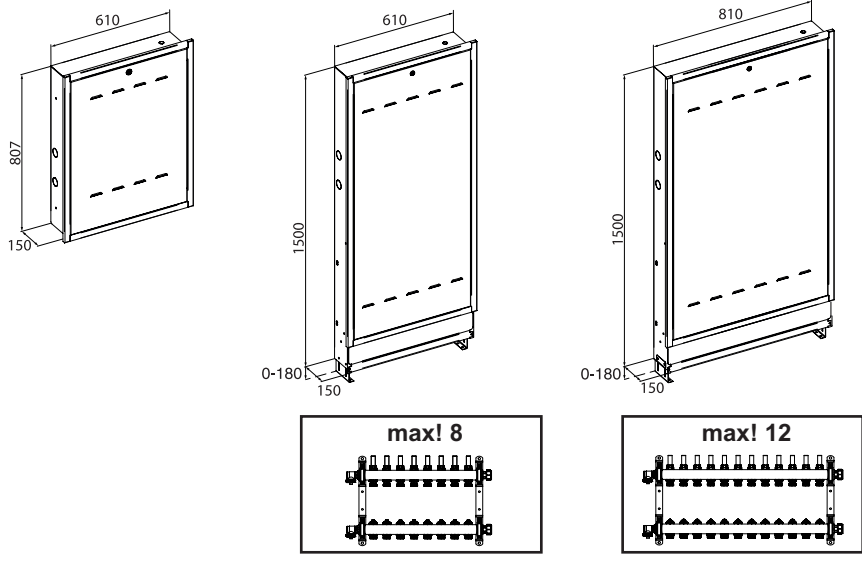
Distance from wall to connection axes:

47 mm, take account of the installation rail if there is a mixing circuit

Installation

Installation of cabinet

Dimensions [mm]:
The total height of the heating interface unit is 1519 mm including the cover for surface mounting.

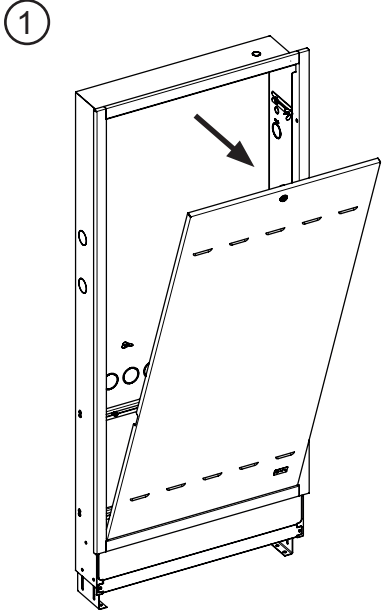


344 030 400 24
344 030 400 31
344 030 400 34

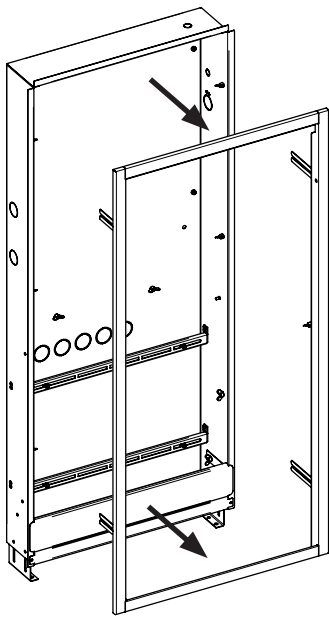
344 030 400 32
344 030 400 33
344 030 400 37

344 030 400 38

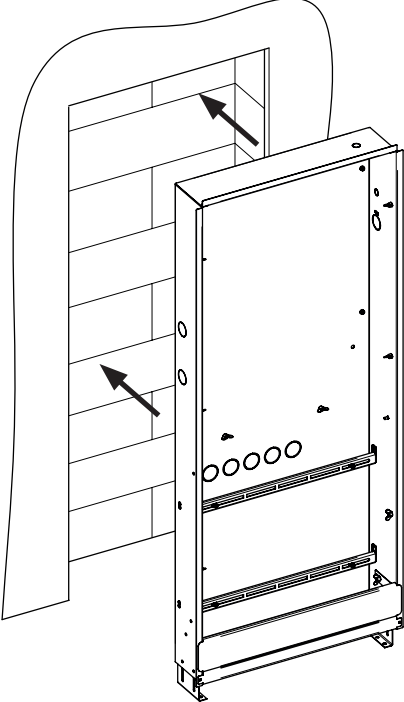
1





2

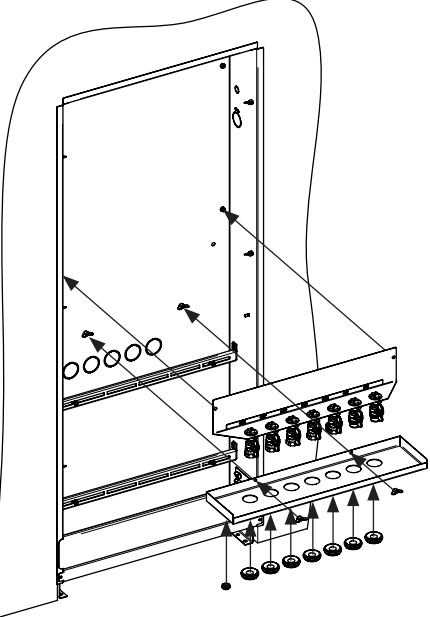


3

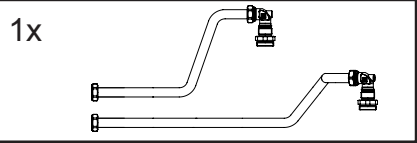




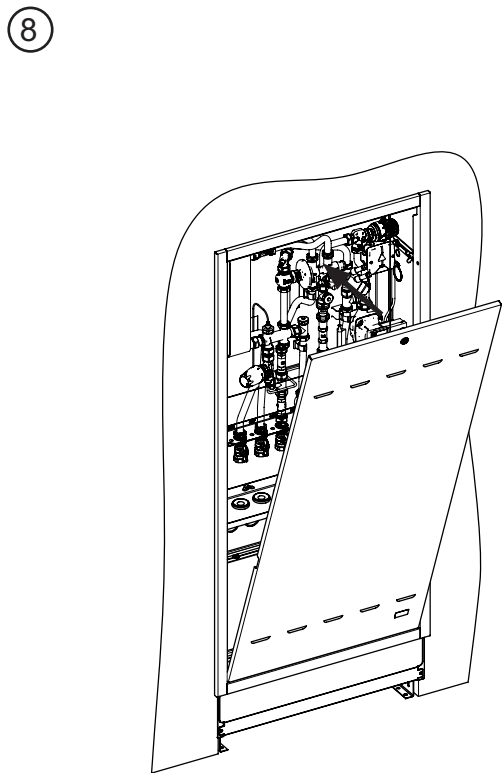
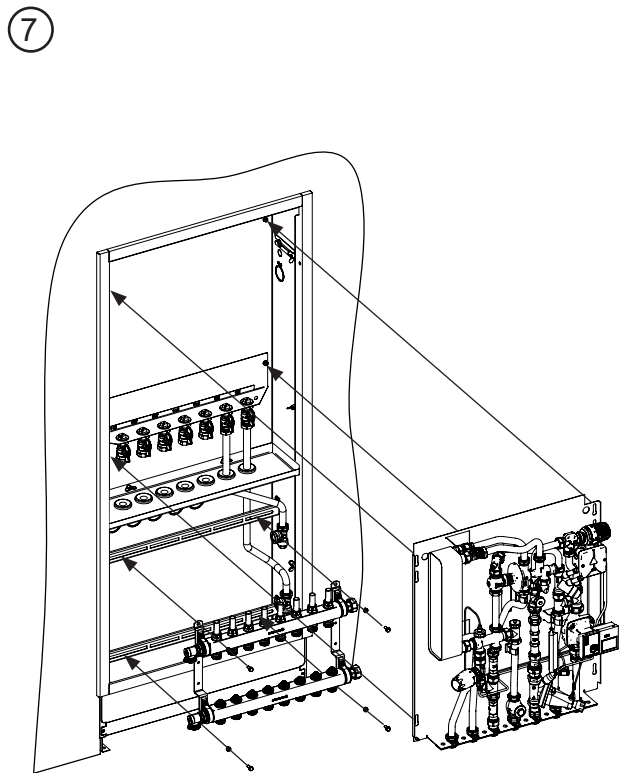
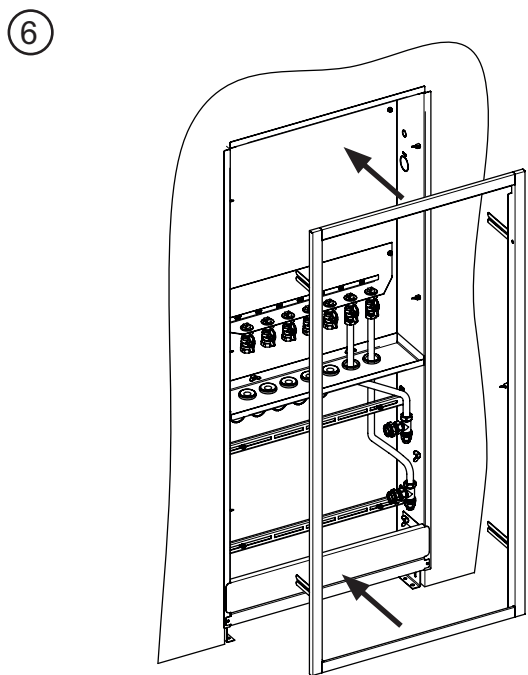
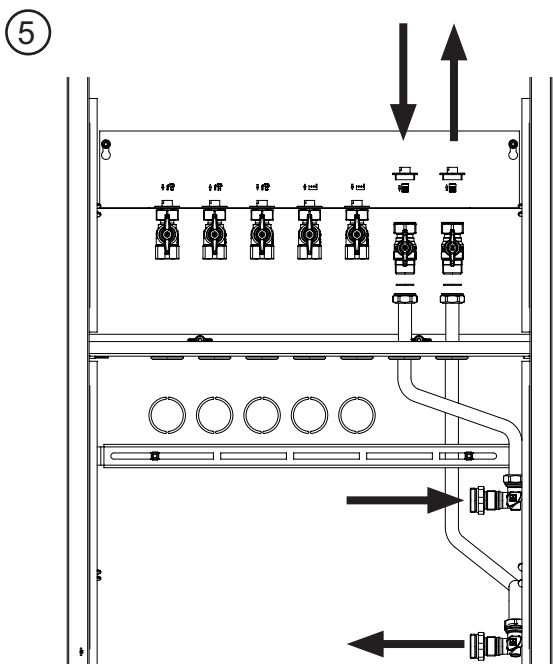
4



1x



8



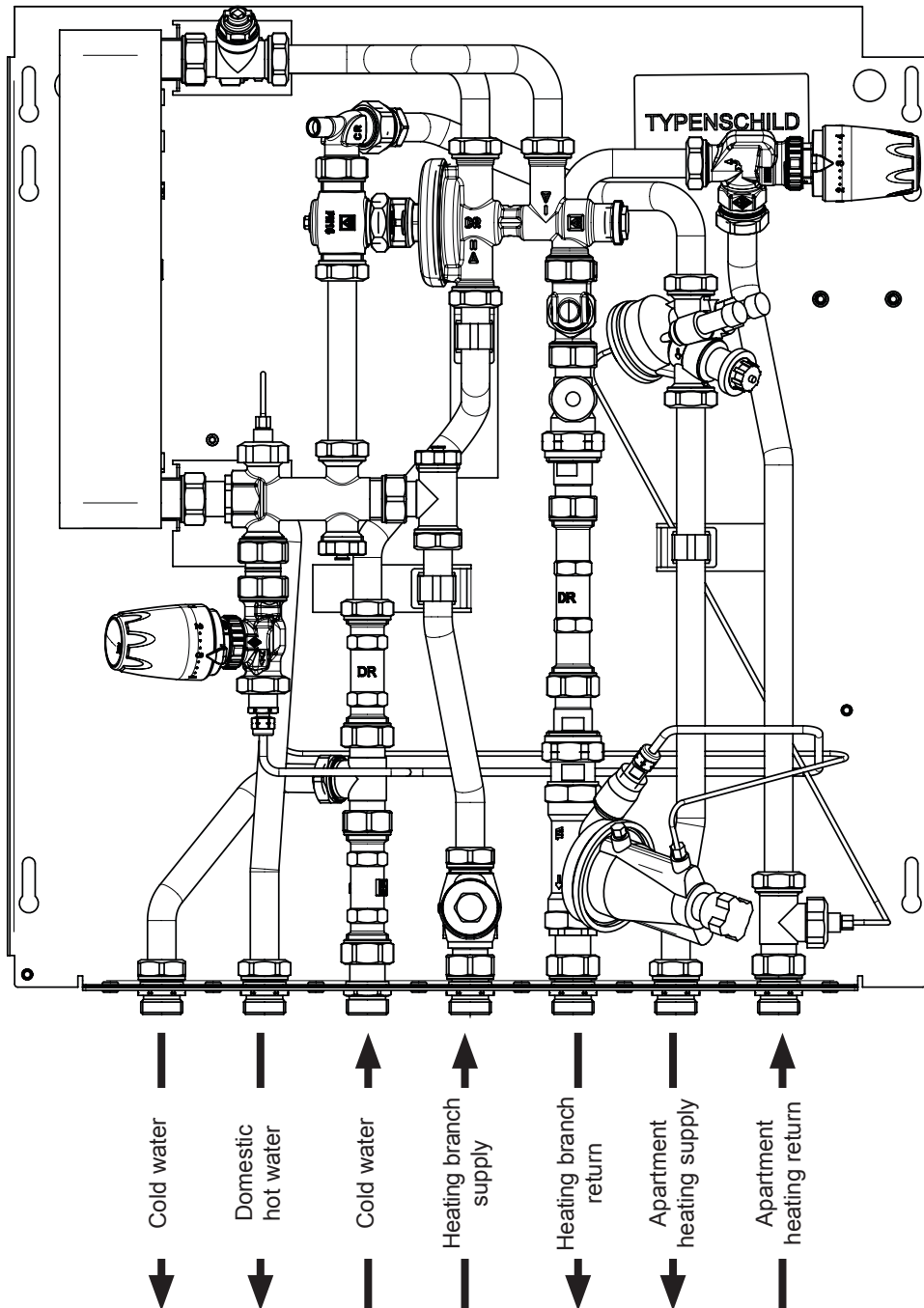
Flushing and filling

Before being filled, the system must be carefully flushed.

All connections must be checked and tightened if necessary.

After tightening, screwed joints must be securely locked with a counter nut.

When the system has been filled, the heating interface unit must be vented and the heating system topped up if necessary.



Connections

Heat meter installation

The heat meter must not be installed until the overall heating system has been flushed. TA-COMFORT heating interface units are supplied with a dummy pipe section for the heat meter, which must be removed before the heat meter can be installed. Due to the universal dummy piece heat meters with 1" thread and 190 mm length, as well as those with 130 mm and 3/4" connection, can be installed.

Procedure

Close all shut-off valves "A" (on mounting bracket).
Reduce the system pressure by opening the vents "B".
Undo the screwed joints on pipe section "C".

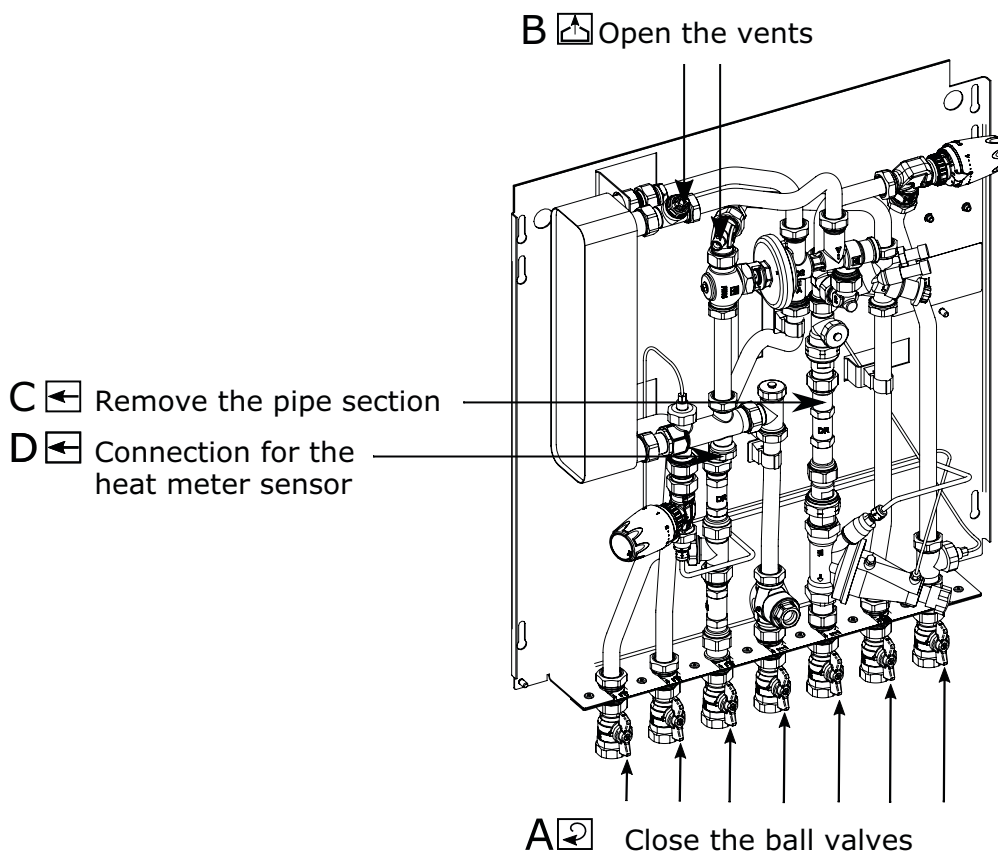
! Water may escape.

Remove the pipe section, position the heat meter and tighten.

! Observe the direction of the flow. (Do not forget the seals.)

Remove the brass plug "D" and screw in and seal the supply sensor for the heat meter.

When finished with the previous step, open the shut-off valves and use the vents to vent the system. Check for leaks.



Connections

Cold and hot water meter installation (optional)

TA-COMFORT home units are supplied with two dummy pipe sections for the cold and, if necessary hot water meter, which must be removed before the water meter can be installed.

Procedure

Close all shut-off valves "A" (optional) in the home unit.

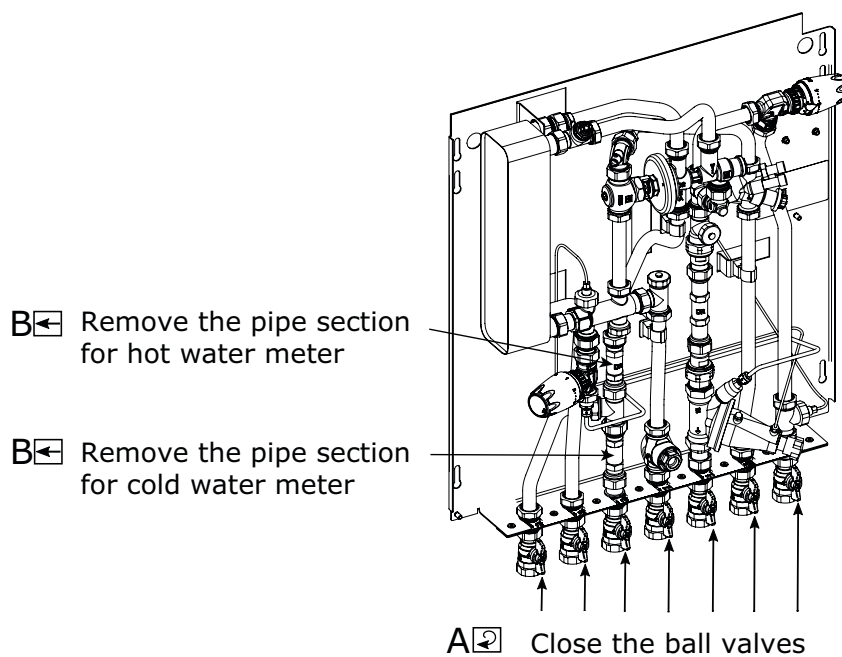
Undo the screwed joints on pipe section "B".

! Water may escape.

Remove the pipe section, position the water meter and tighten.

! Observe the direction of the flow. (Do not forget the seals.)

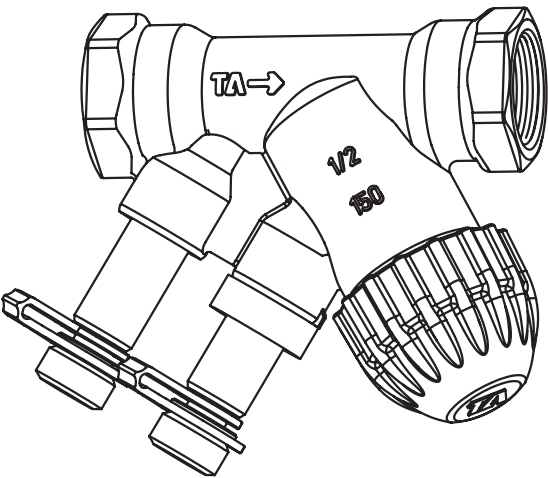
When finished with the previous step, open the shut-off valves and check the screwed joints for leaks.




Equipment and components

Zone valve - TBV-C

(Surface heating version)

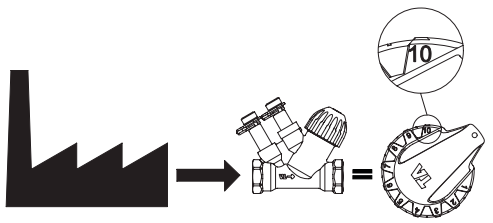



| <div>  Position </div> | Kv |
|--|-------------------|
| | TBV-C NF DN 15 |
| 1 | 0,22 |
| 2 | 0,33 |
| 3 | 0,45 |
| 4 | 0,50 |
| 5 | 0,60 |
| 6 | 0,82 |
| 7 | 0,99 |
| 8 | 1,1 |
| 9 | 1,4 |
| 10 | 1,8 |


-20°C – +120°C

PN 16
(max. 16 bar)

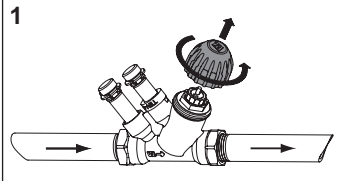
Max Δp:
30 kPa = 0,3 bar

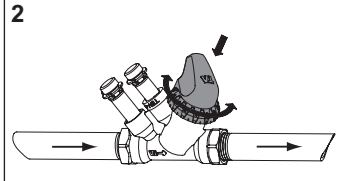






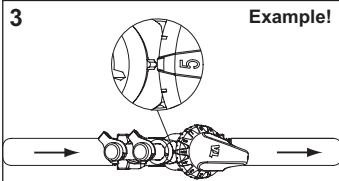
No. 52 133-100

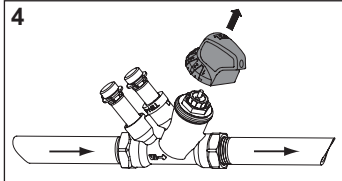
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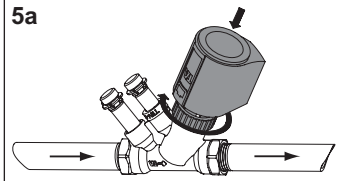
2


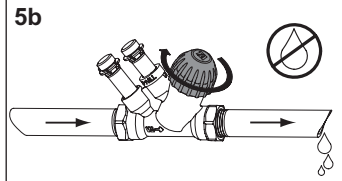
3

Example!

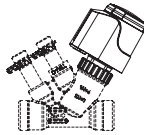


4


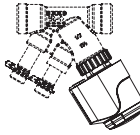
5a


5b


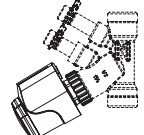
TBV-C + EMO T:



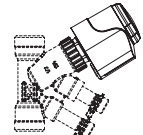
IP54



IP54



IP54

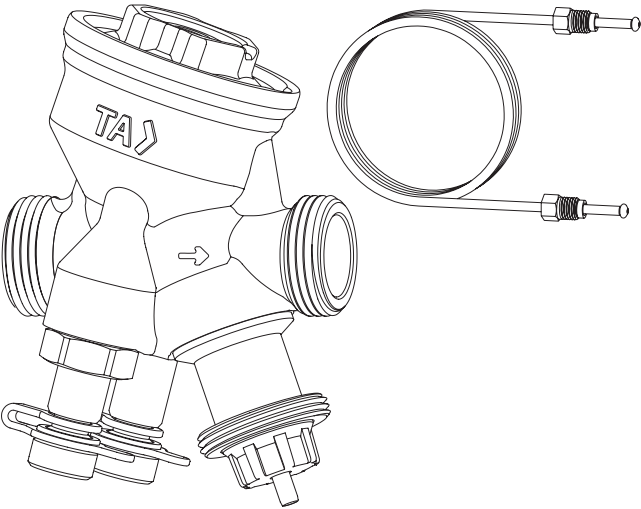


IP54

Equipment and components

Combined Δp controller, balancing and control valve - TA-COMPACT-DP

(Radiator version)



| Pos | q _{max} [l/h] | | |
|-----|------------------------|-----------------------|-----------------------|
| | Δp _L [kPa] | Δp _L [kPa] | Δp _L [kPa] |
| 1 | 5 | 10 | 14 |
| 2 | 76 | 59 | 42 |
| 3 | 129 | 98 | 67 |
| 4 | 166 | 127 | 84 |
| 5 | 209 | 158 | 103 |
| 6 | 251 | 189 | 122 |
| 7 | 288 | 216 | 138 |
| 8 | 324 | 243 | 153 |
| 9 | 353 | 265 | 166 |
| 10* | 379 | 284 | 177 |
| 10* | 397 | 298 | 185 |

*) Delivery setting

-20°C – +120°C
PN 16
ΔH_{max} : 400 kPa = 4 bar
ΔH_{min} : 18 kPa = 0,18 bar

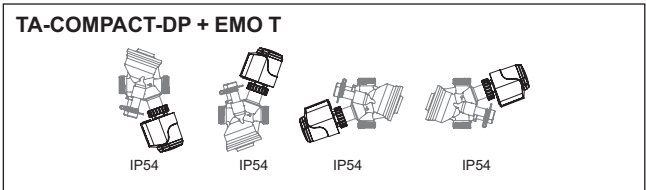
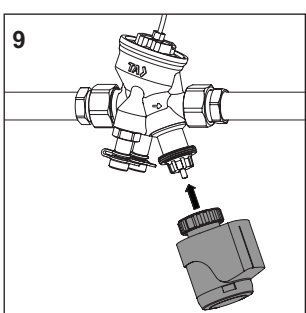
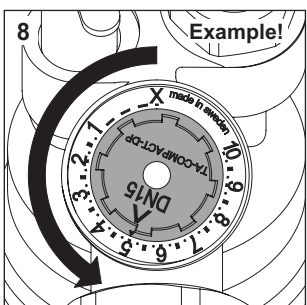
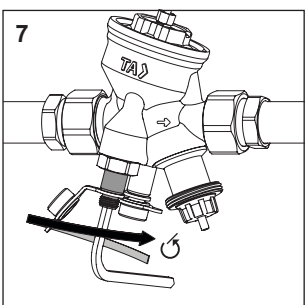
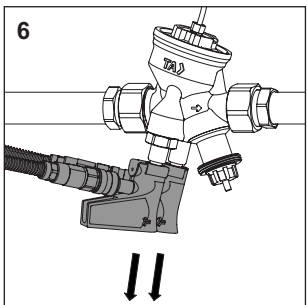
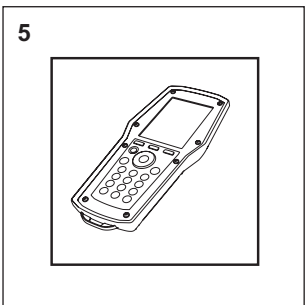
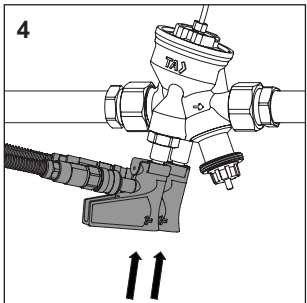
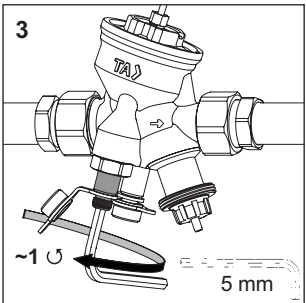
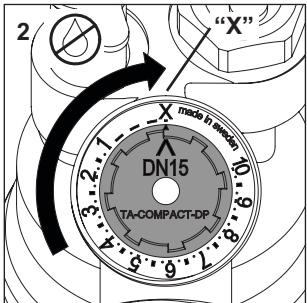
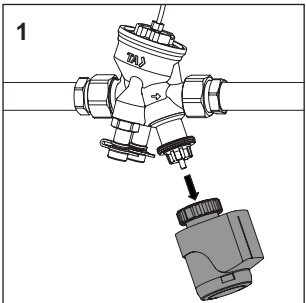
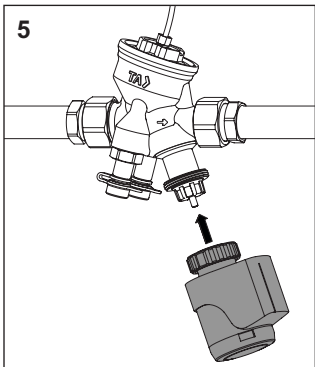
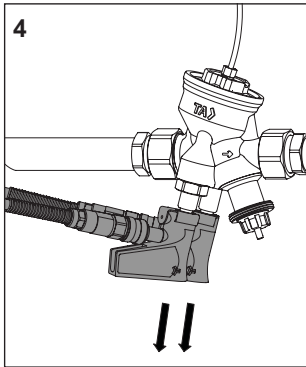
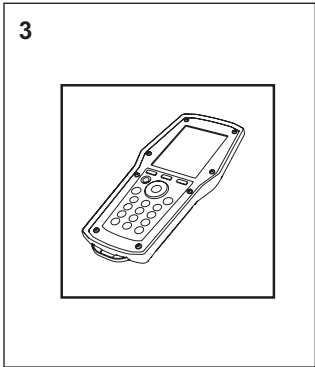
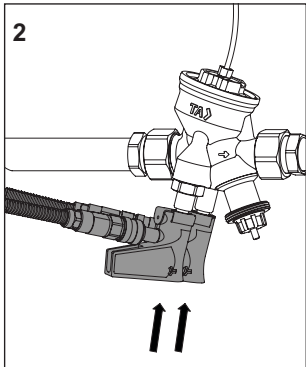
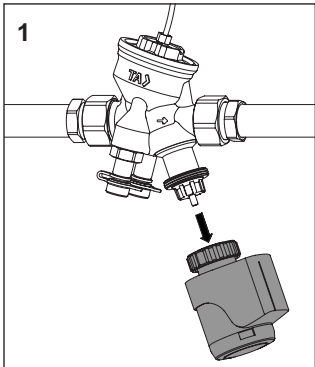
1

2

Equipment and components

Combined Δp controller, balancing and control valve - TA-COMPACT-DP

(Radiator version)



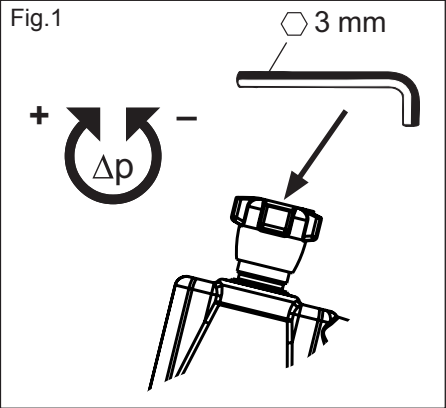
Equipment and components


Differential pressure controller – STAP

❗ When pressure-testing the system, the maximum static test pressure is 0,6 MPa (6 bar). The valve is preset to 35 kPa differential pressure.

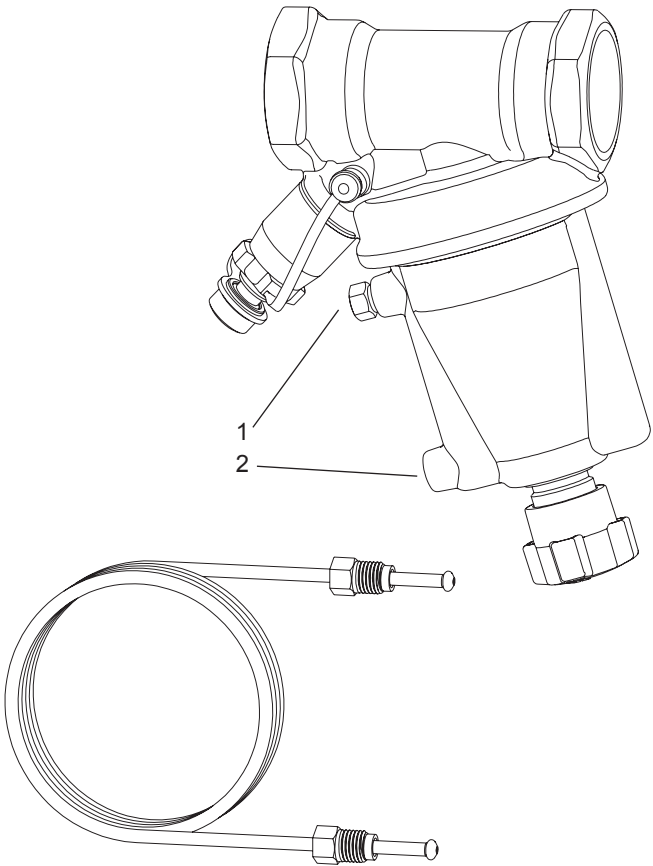
Balancing procedure

1. Fully open all control valves.
2. Adjust all terminals to give the design flow.
3. Deaerate the system and then deaerate the capillary pipe by opening (1) or (2) (depending on which is uppermost) until only water emerges.
4. Measure the flow through the TBV-C or TA-COMPACT-DP using a TA-SCOPE measuring instrument attached to the measuring points (see page 13 or 15).
Re-open the valve after measuring to avoid an unnecessary pressure drop.
5. If the design flow cannot be achieved, it may be due to:
 - a) Blockages in the system. Find and rectify the fault and measure again.
 - b) The circuit requires higher Δp_L than the delivery setting. Adjust the differential pressure using a 3 mm allen key in the shut-off handwheel (fig. 1). For the variation of differential pressure corresponding to the number turns, see the table below. Measure the flow again, as above, or measure Δp_L . Wait 2 – 3 minutes before reading the value.



| Δp_L [kPa] |  [Δp_{Lmin}] DN 20 (10-60 kPa) |
|-----------------------|---|
| 5 | - |
| 10 | 5 |
| 15 | 13 |
| 20 | 19 |
| 25 | 23 |
| 30 | 27 |
| 35 | 30 |
| 40 | 33 |
| 45 | 35 * |
| 50 | 37 |
| 55 | 39 |
| 60 | 41 |

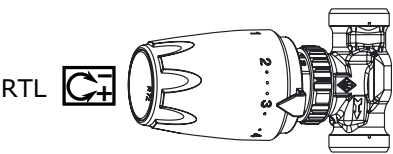
*) Delivery setting



Equipment and components

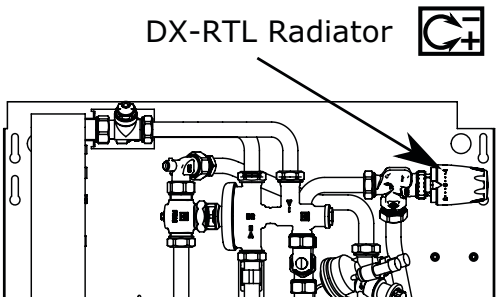
RTL TRV thermostatic circulation bypass

The thermostatic circulation bypass valve RTL ensures that heated tap water can be provided without any delay. The reserve temperature is infinitely adjustable using the temperature scale of 0 - 50°C.



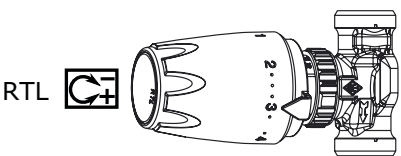
Return temperature limiter (for TA-COMFORT-R only)

The return temperature limiter DX-RTL limits the return temperature of the domestic heating circuit. The desired value is infinitely adjustable using the temperature scale of 0 - 50°C. The return temperature limiter does not replace hydraulic balancing of the domestic heating circuit and the heating interface unit.



Setting RTL

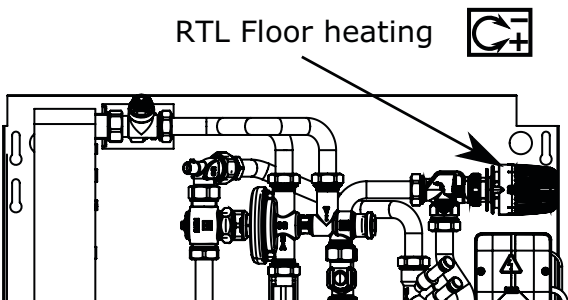
| Number | 0 | 1 | 2 | 3 | 4 | 5 |
|-------------------------------|---|----|----|----|----|----|
| Return temperature t_r [°C] | 0 | 10 | 20 | 30 | 40 | 50 |



Control of the supply temperature for surface heating (for TA-COMFORT-S only)

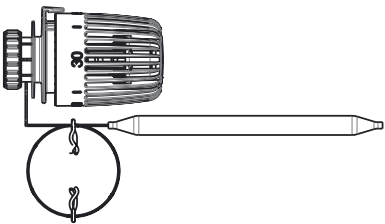
The thermostatic head K with remote sensor regulates the supply temperature for the floor heating. The desired value is infinitely adjustable using the temperature scale of 0 - 50°C.

This control valve does not replace hydraulic balancing of the domestic heating circuit and the heating interface unit.



Setting thermostatic head K with remote sensor

| Thermostatic head setting | Supply temperature of mixed heating circuit |
|---------------------------|---|
| 20 | ~ 20°C |
| 30 | ~ 30°C |
| 40 | ~ 40°C |
| 50 | ~ 50°C |



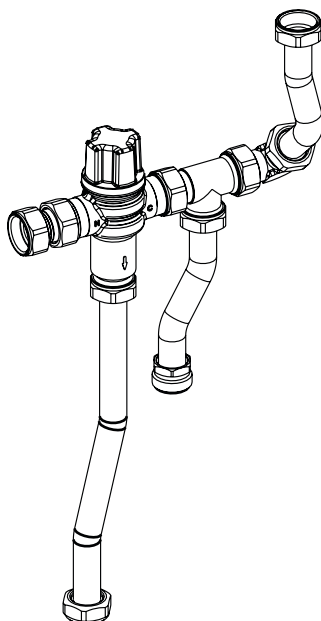
Optional components

Thermostatic hot water mixing valve – scald protection (optional)

The thermostatic mixing valve limits the output temperature and provides protection from scalding in the hot water system.

Adjustment range: 35°C to 60°C

Adjust the value by turning the handwheel.



Heating circuit manifold for domestic heating circuit (additional equipment for TA-COMFORT-S)

A heating circuit manifold is used in combination with a bigger cover. Manifolds are available for 2-12 domestic heating circuits. A volume flow limiter with a display, return adjustment cap and manual vent plug 1/2" is supplied as standard.

Settings

Supply volume flow limiter: 30 - 300 l/h

Integration

with the domestic heating circuits: G3/4 Eurocone

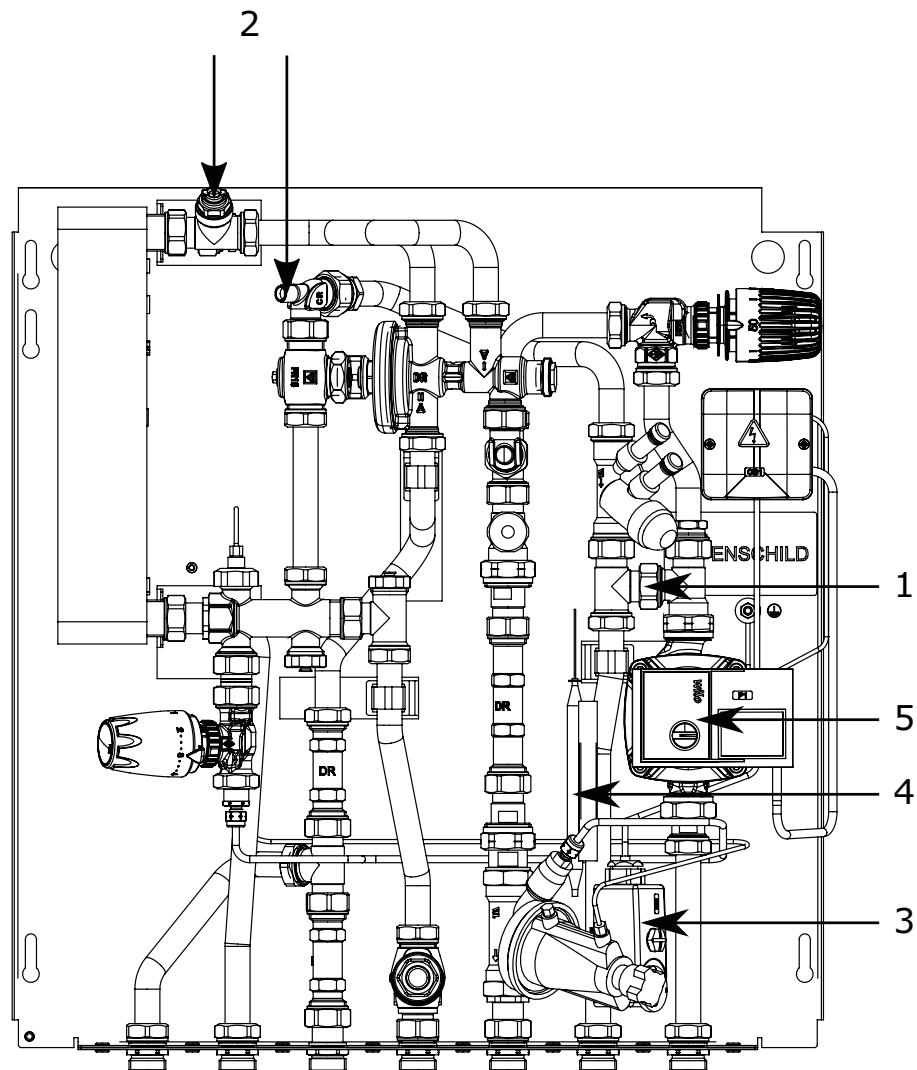
with an actuator: M30x1,5

Axial dimension of the connections: 50 mm

! See page 22 charts showing residual head and pressure drop.

TA-COMFORT-S for surface heating

Control loop for surface heating

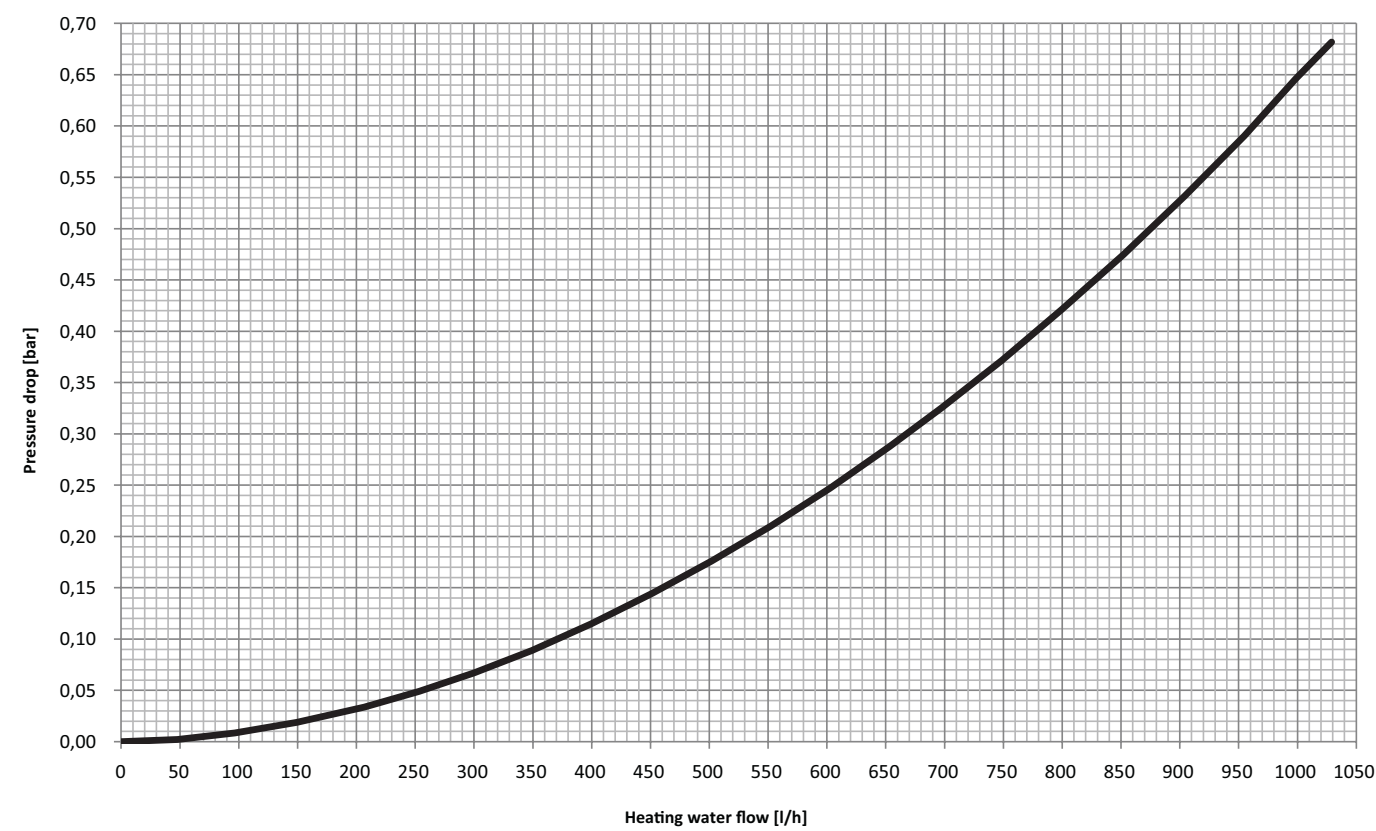


1. Primary bypass and injection circuit
2. Air vent
3. Security contact thermostat
4. Contact sensor for supply temperature regulation
5. Heating circuit pump

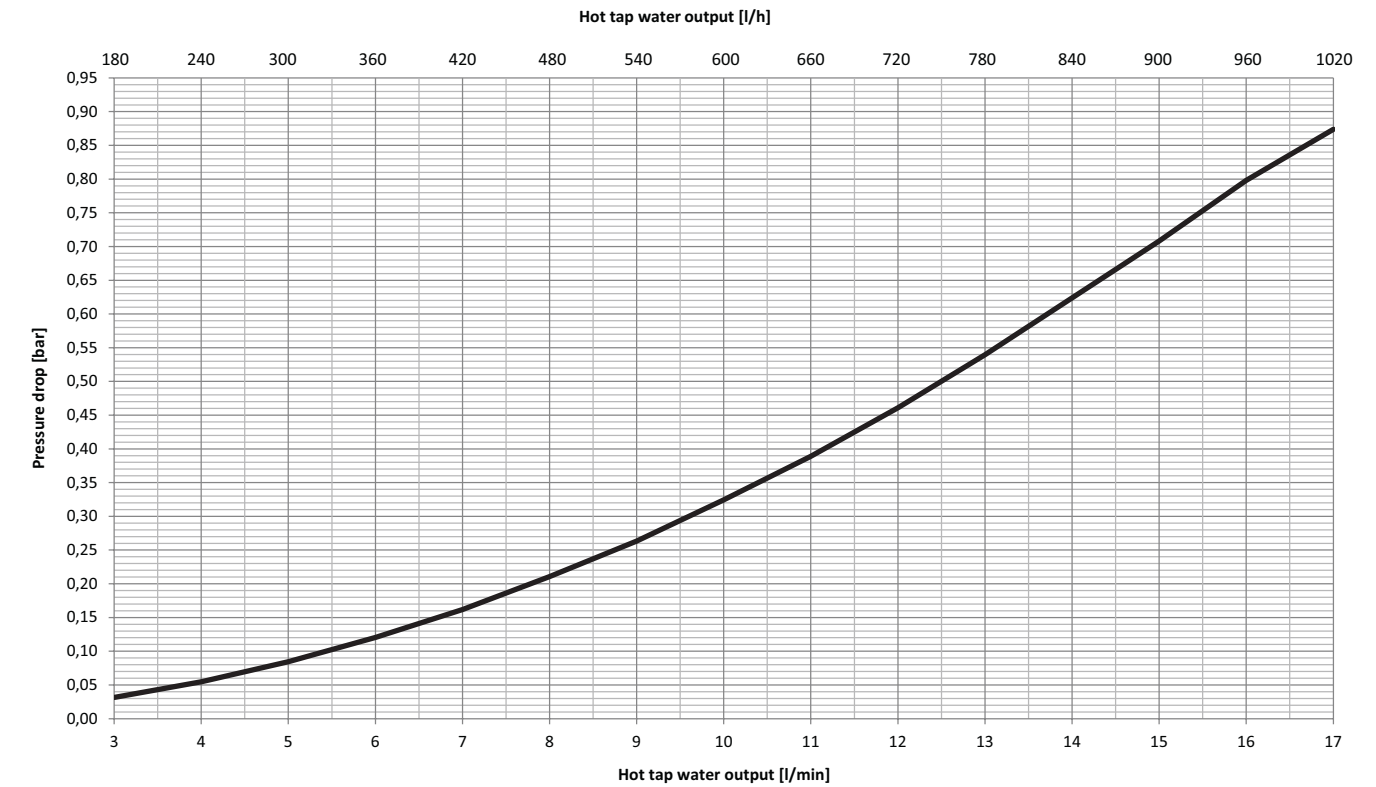
Available differential pressure, pressure drop and temperatures

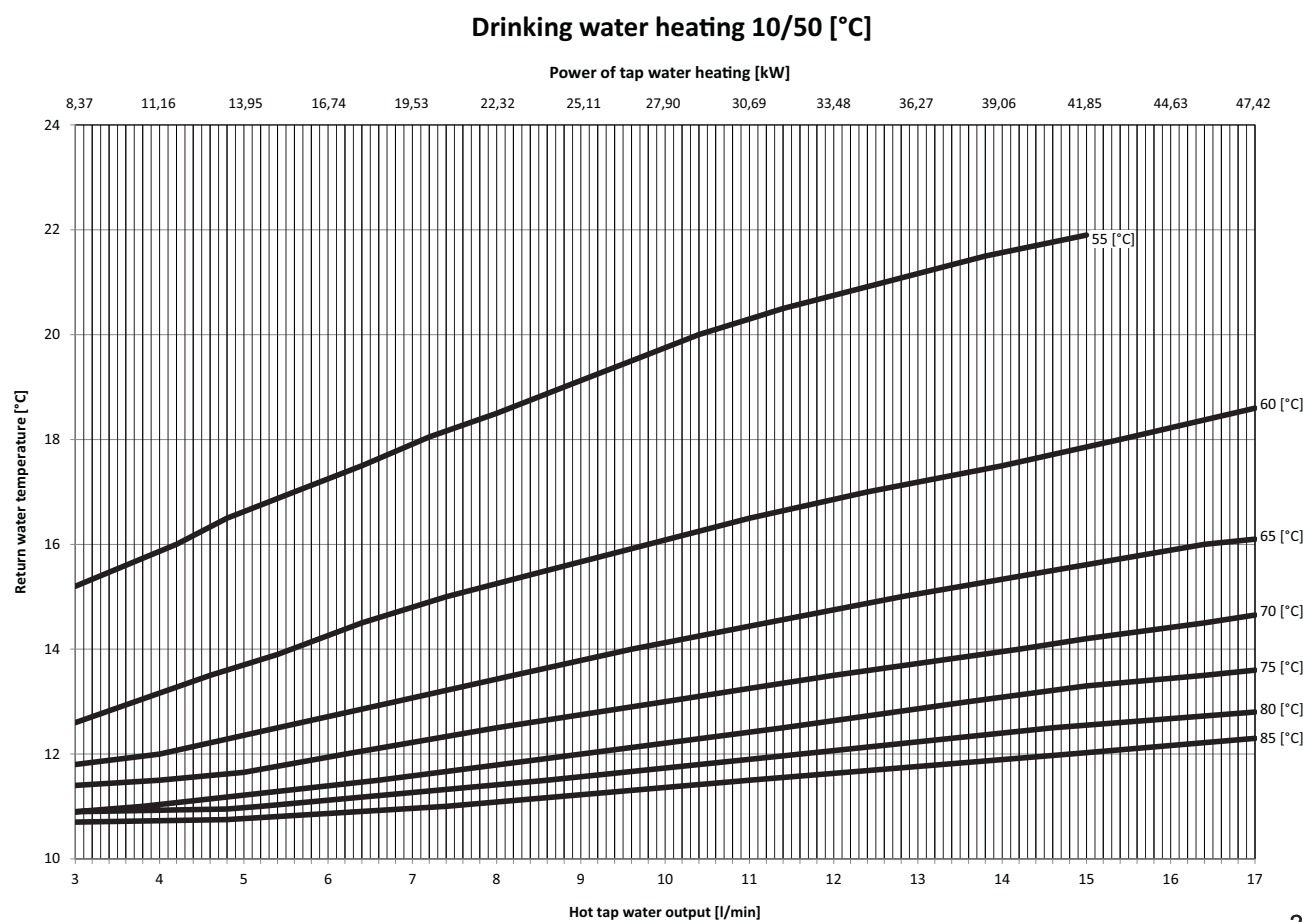
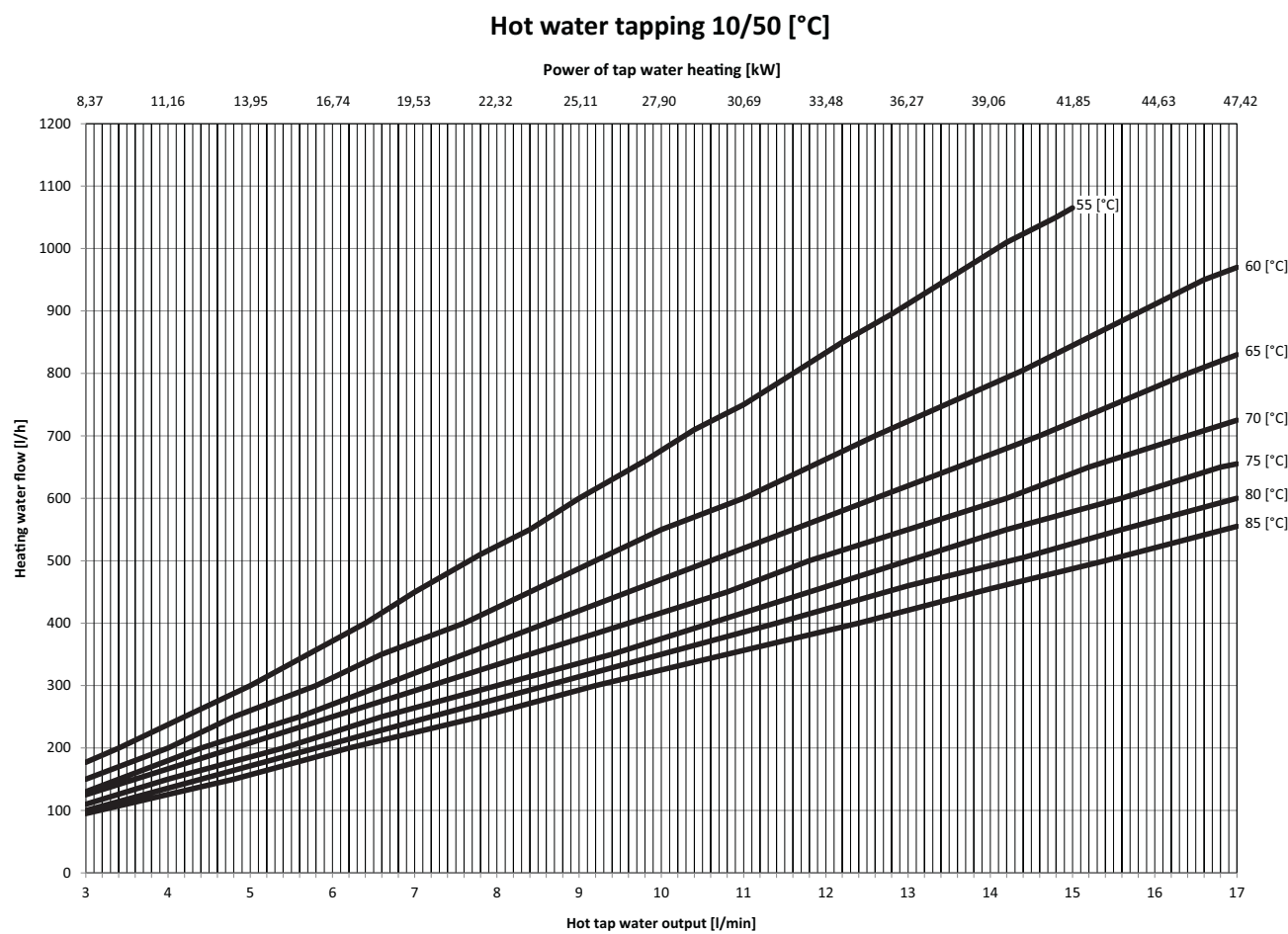
Must be taken into account when sizing the domestic heating circuits.

Pressure drop heating side during draw off



Pressure drop tap water side during draw off



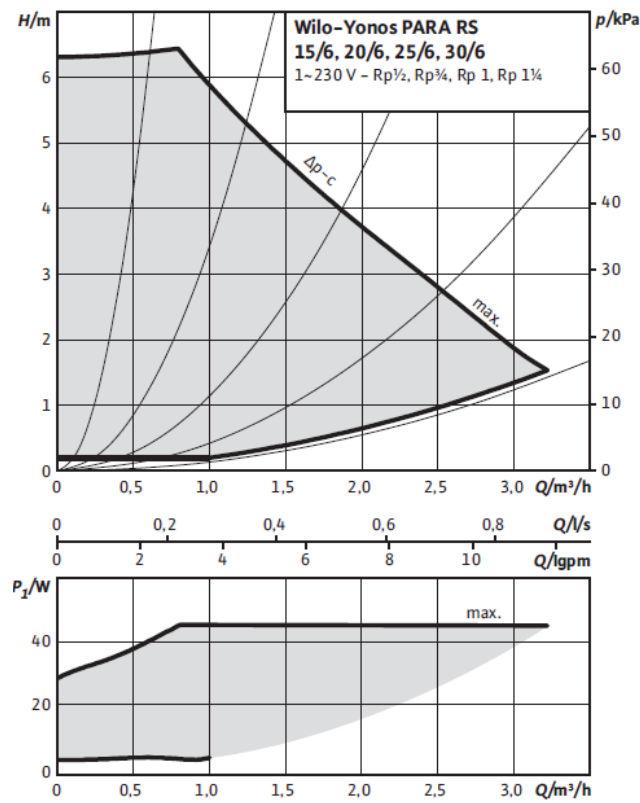


Charts

Available differential pressure for the surface heating with standard pump

Must be taken into account when sizing the surface heating circuits.

Tolerances of each curve according to EN 1151-1:2006



Connection of direct heating circuit

Additional connection for a direct domestic heating circuit

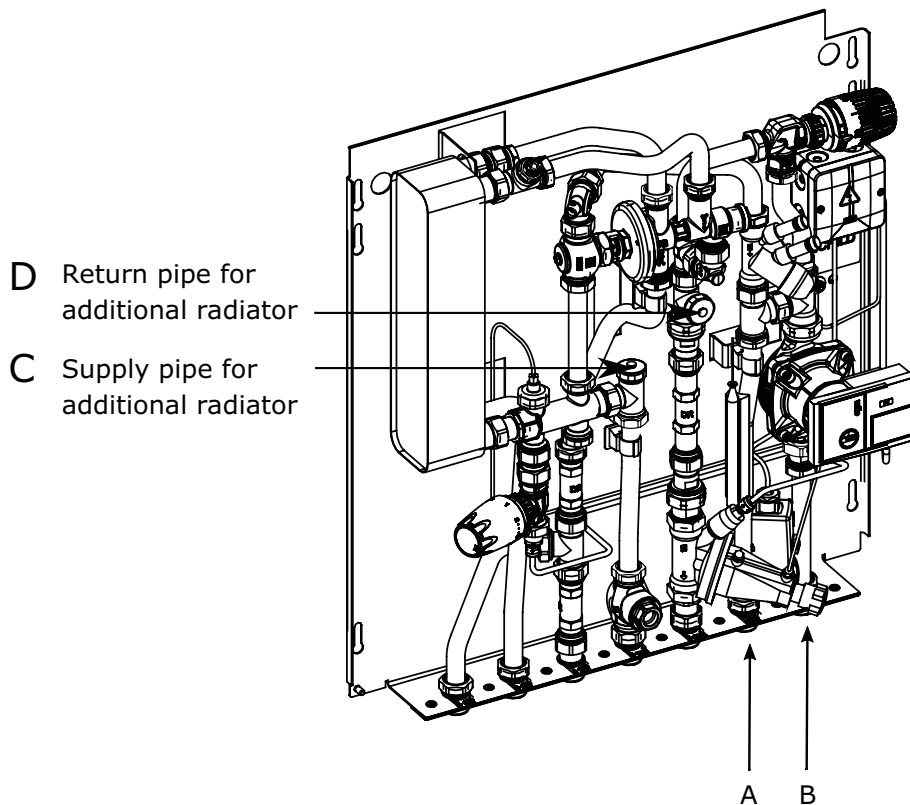
In the TA-COMFORT-S heating interface unit, a direct heating circuit can be used alongside a mixing circuit. The connections to the direct heating circuit are positioned before and after the mixing circuit as seen in the picture.

- A) Heating supply to the surface heating circuit (mixed)
- B) Heating return from the surface heating circuit (mixed)
- C) Heating supply to the direct heating circuit
- D) Heating return from the direct heating circuit

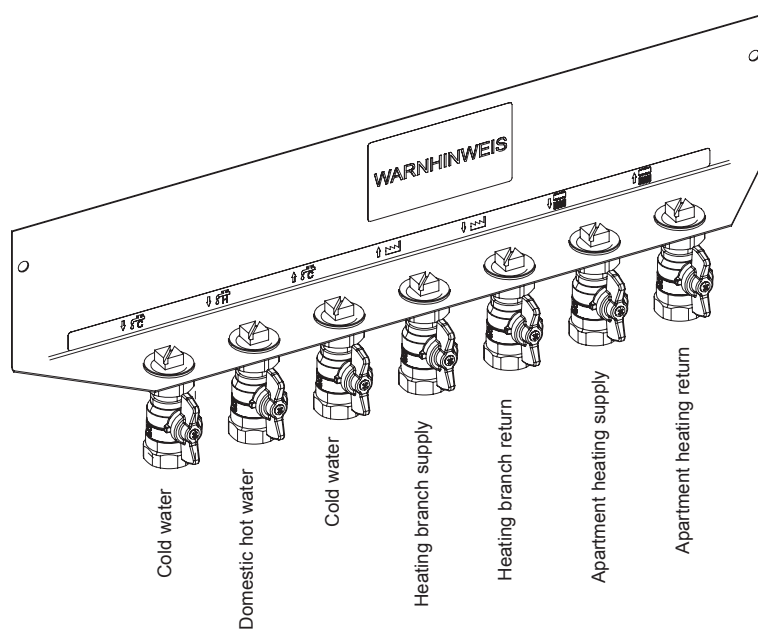
For more information, please contact your nearest IMI Hydronic Engineering office.

Please note that the connection for the direct heating circuit has the same differential pressure as the setting of the STAP. If there is any risk of noise with the connected thermostatic valve please use a TA-COMPACT-DP valve in addition.

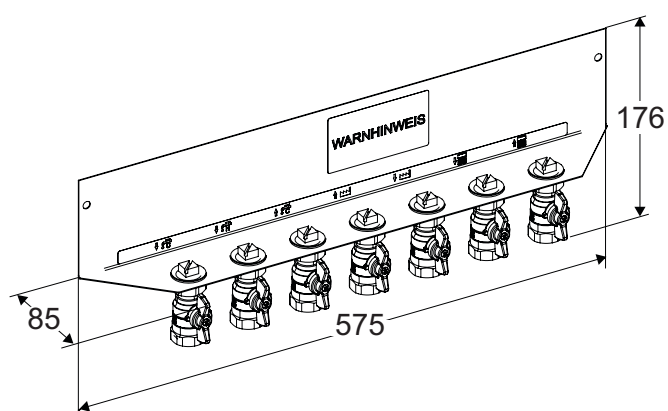
The connection for the domestic heating circuit can also be used in the radiator version (TA-COMFORT-R) when the heating is shut off and a bathroom radiator should be in operation independent from the main heating system.



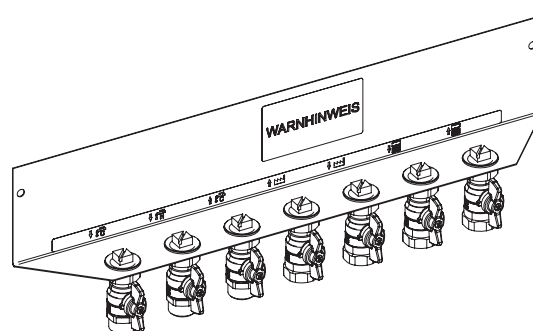
Mounting rail TA-COMFORT-R / -S



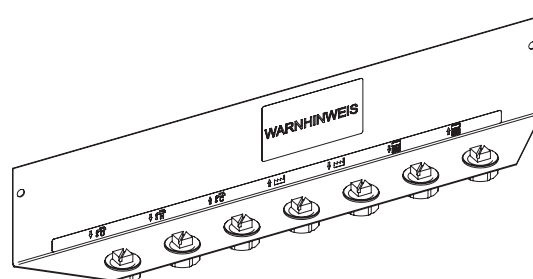
Dimensions of mounting rail



7 x Rp3/4



3 x G3/4 + 4 x Rp3/4



7 x plugs