

HIU 2 series

Heat Interface Unit for hygienic domestic hot water generation and heat distribution

Installation and Operating Manual (translated from the original operating manual)



Contents

1	General information	2
1.1	Important information about the installation and operating manual	2
1.2	Product conformity	2
1.3	Product features	2
1.4	Product marking	2
2	Safety	3
2.1	Depiction of safety information	3
2.2	Important safety information	3
2.3	Intended use.....	3
2.4	Foreseeable misuse.....	3
2.5	Responsibilities of the operator.....	3
2.6	Personnel groups	3
2.7	Information on the operating environment	3
3	Technical data.....	4
4	Power curves and diagrams.....	5
4.1	Pressure loss diagrams	5
4.2	Power curves.....	7
5	Structure.....	9
5.1	HIU 2 HK	10
5.2	HIU 2 HKM	11
5.3	Hydraulic diagram.....	12
5.4	Overall dimensions	13
6	Installation and commissioning.....	14
7	Maintenance.....	16
7.1	Annual maintenance intervals	17
7.2	Replacement of wear parts	17
7.3	Cleaning the dirt trap.....	17
7.4	Replacing the plate heat exchanger	17
8	Disposal	18
8.1	Return shipment to the manufacturer	18
8.2	Reporting to administrative bodies and the manufacturer	18
9	Warranty	18

1 General information

1.1 Important information about the installation and operating manual

NOTICE The operator is responsible for ensuring adherence to the local laws and regulations (e.g. accident prevention regulations, etc.).

Incorrect operation or operating the HIU 2 contrary to the specifications shall void all rights to any warranty claim.

This installation and operating manual

- is a component of the HIU 2
- contains instructions and information on safe and correct installation and commissioning of the HIU 2
- must be available to all users throughout the entire service life of the HIU 2
- is intended for trained personnel who are familiar with the applicable standards and provisions and, in particular, with the relevant safety concepts and the operation and maintenance of the HIU 2
- is protected by copyright and may not be altered without the manufacturer's permission
- may not be made accessible to unauthorized personnel, either in original form or as a copy.

1.2 Product conformity

A Declaration of Conformity according to the Machinery Directive 2006/42/EC has been issued for this HIU 2 product.

1.3 Product features

- Stable bracket
- Intended for installation in a surface-mounted cabinet, flush-mounted cabinet or EPP insulation.
- All connections to the system with 1" male thread and 3/4" male thread, and flat sealing
- Tapping temperature adjustable
- Max. draw-off capacity of DHW 12 l/min, 17 l/min and 22 l/min at DHW heated from 10 to 45 °C, at a primary supply temperature of 65 °C and 200 mbar delta p (12 and 17 Liter Station) or 250 mbar (22 Liter Station).
- Very convenient controls, compact, space-saving design.
- Modular structure and suitable for connection to manifolds.

1.4 Product marking

Watts Industries Deutschland GmbH Godramsteiner Hauptstraße 167 D - 76829 Landau		
Artikel Nr:	100xxxxx	
Produktbezeichnung:	Wohnungsstation	
Typ:	HIU2 xx xx xx	
Baujahr:	2018	
Spannungsversorgung:	230 V, 50/60 Hz	
Leistungsaufnahme:	2,5 Watt	

2 Safety

2.1 Depiction of safety information

▲ DANGER DANGER indicates an imminent danger that may cause serious physical injury or death if the appropriate safety precautions are not in place.

▲ WARNING WARNING indicates a danger arising through incorrect behavior (e.g. misuse, disregarding notices, etc.) that may cause serious physical injury or death.

▲ CAUTION CAUTION indicates a potentially dangerous situation that may cause minor or slight injuries if the appropriate safety precautions are not in place.

NOTICE NOTICE indicates a situation that may cause material damage if the corresponding precautions are not taken.

2.2 Important safety information

- Before using the device, read this operating manual through carefully.
- Only connect the HIU 2 to a power source that corresponds to the mains voltage specified on the rating plate of the HIU 2.
- The power supply to the HIU 2 must be disconnected prior to maintenance, cleaning and repair work.
- Maintenance, cleaning and repair work may be carried out by trained specialist personnel only.
- The HIU 2 must not be used if it is damaged or if the HIU 2 is no longer operating correctly. In this case, contact your specialist dealer immediately.
- Observe the maintenance instructions and intervals.
- Protect the HIU 2 from the influences of weather.
- Never use the HIU 2 outdoors.
- The unit may be used only in accordance with its intended use.

2.3 Intended use

Ready-to-install compact, decentralized heat interface unit for hygienic domestic hot water generation and heat distribution in single-family houses and townhouse systems as well as for use in multi-story apartment blocks.

The HIU 2 is not intended to be operated by people (including children) with physical, sensory or mental disabilities, nor by people with insufficient experience or previous knowledge.

2.4 Foreseeable misuse

The following is considered to be foreseeable misuse:

- Operating the HIU 2 contrary to the specifications
- Improper use of the HIU 2
- Modifications to the HIU 2 that were not agreed with the manufacturer
- Use of replacement or wear parts that were not approved by the manufacturer
- Operating the HIU 2 outdoors (parts and components are not UV resistant)
- Use of prohibited media

2.5 Responsibilities of the operator

The operator must ensure that:

- the HIU 2 is only used for its intended purpose
- the HIU 2 is installed, operated and maintained according to the specifications in the Installation and Operating Manual
- the HIU 2 is only operated according to local regulations and occupational health and safety regulations
- all precautionary measures have been carried out to avoid dangers originating from the HIU 2
- all precautions for first aid and fire suppression are carried out
- only authorized and trained users have access to the HIU 2 and operate it
- users have access to this installation and operating manual at all times

2.6 Personnel groups

Only qualified persons may install and operate the HIU 2 or perform maintenance work.

Operator

An operator is deemed to be qualified if they have read these operating instructions and understood the potential hazards associated with improper behavior.

Fitter/commissioning engineer

A plumber or commissioning engineer is in a position, taking into consideration the applicable standards, provisions, regulations and laws and his/her technical training and technical knowledge, to carry out work on the HIU 2 and to detect and prevent potential hazards.

2.7 Information on the operating environment

Limescale deposits (from hard water) and corrosion, as well as chemical and physical reactions, can cause damage to the home station.

The selection of material for the plate heat exchanger (copper or stainless steel) must be checked with reference to the water quality (corrosion resistance).

The system planner is responsible for evaluating these parameters and taking appropriate precautions.

3 Technical data

Hydraulic performance data	HIU 2 HK / HIU 2 HKM
Max. operating pressure	10 bar (PN 10)
Max. ambient temperature	60 °C
Max. operating temperature	90 °C
Differential pressure (12 and 17 l/min)	200 mbar preset. Adjustable: 100 to 300 mbar
Differential pressure (22 l/min)	250 mbar preset. Adjustable: 100 to 300 mbar
Media	Water/water-glycol mixture as per VDI 2035/ÖNORM (Austrian standard) 5195
Actuating drive	
Voltage	230 V; +10...-20 %; 50/60 Hz
Power consumption, operating	2.5 W
Power consumption, end position	<1 W
Actuating power	100 N
Protection class	IP 54
Ambient temperature	0 to 60 °C
Actuator including regulator (only for HIU 2 HKM)	
Ambient temperature:	-5 to +55 °C
Temperature range:	+5 to +95 °C
Flow pipe sensor	
Enclosure rating:	IP41
Protection class:	II
Power supply:	24 ± 10% V AC, 50/60 Hz 230 ± 10% V AC, 50 Hz
Power consumption:	- 24 V AC: 3 VA - 230 V AC: 10 VA
Torque:	6 Nm
Running time at max. speed:	30 seconds
Width x height x depth	
HK	490 X 705 X 130 mm
HKM	500 x 705 x 140 mm
Weight	
Total weight excluding packaging HK12 / HK17 / HK22	approx. 13 kg / 14 kg / 16 kg
HKM12 / HKM17 / HKM22	approx. 16 kg / 17 kg / 19kg
Total weight including packaging HK12 / HK17 / HK22	approx. 15 kg / 16 Kg / 18 Kg
HKM12 / HKM17 / HKM22	approx. 18 Kg / 19 kg / 21 kg
Connections to pipe network	
Heat interface unit	1" male thread and ¾" male thread, flat sealing
Meter connections	
Adapter for heat meter	110 mm G ¾
Adapter for cold water meter	110 mm G ¾
Materials	
Pipes	Stainless steel Ø22 & Ø27 mm
Fittings	Brass
Seals	AFM34/2 and EPDM
Plate heat exchanger	stainless steel EN 1.4404/copper (solder) optional stainless steel/stainless steel (solder) Refer to the corresponding data sheets for more detailed information on the media used
Circulation pump, actuator and other components	Technical data can be found in the enclosed technical documentation.

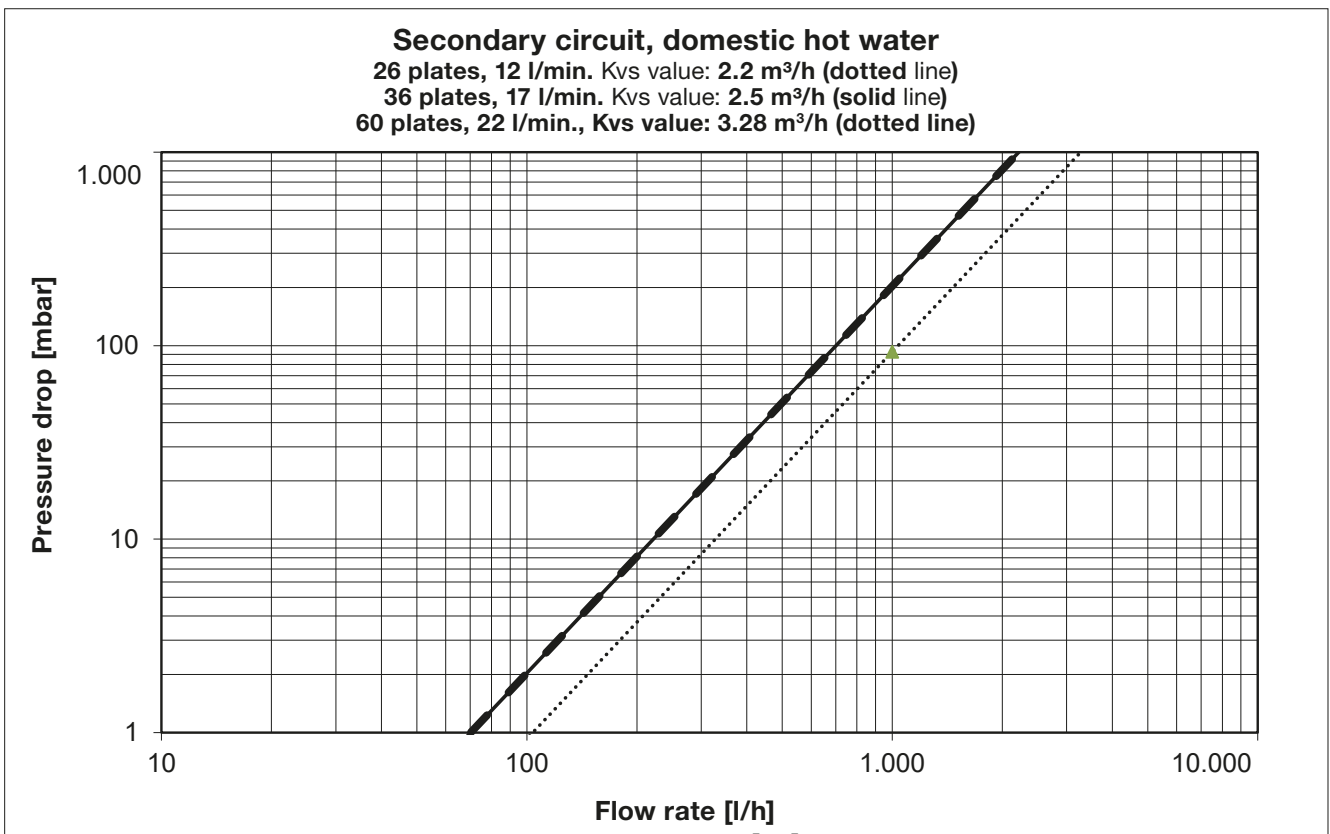
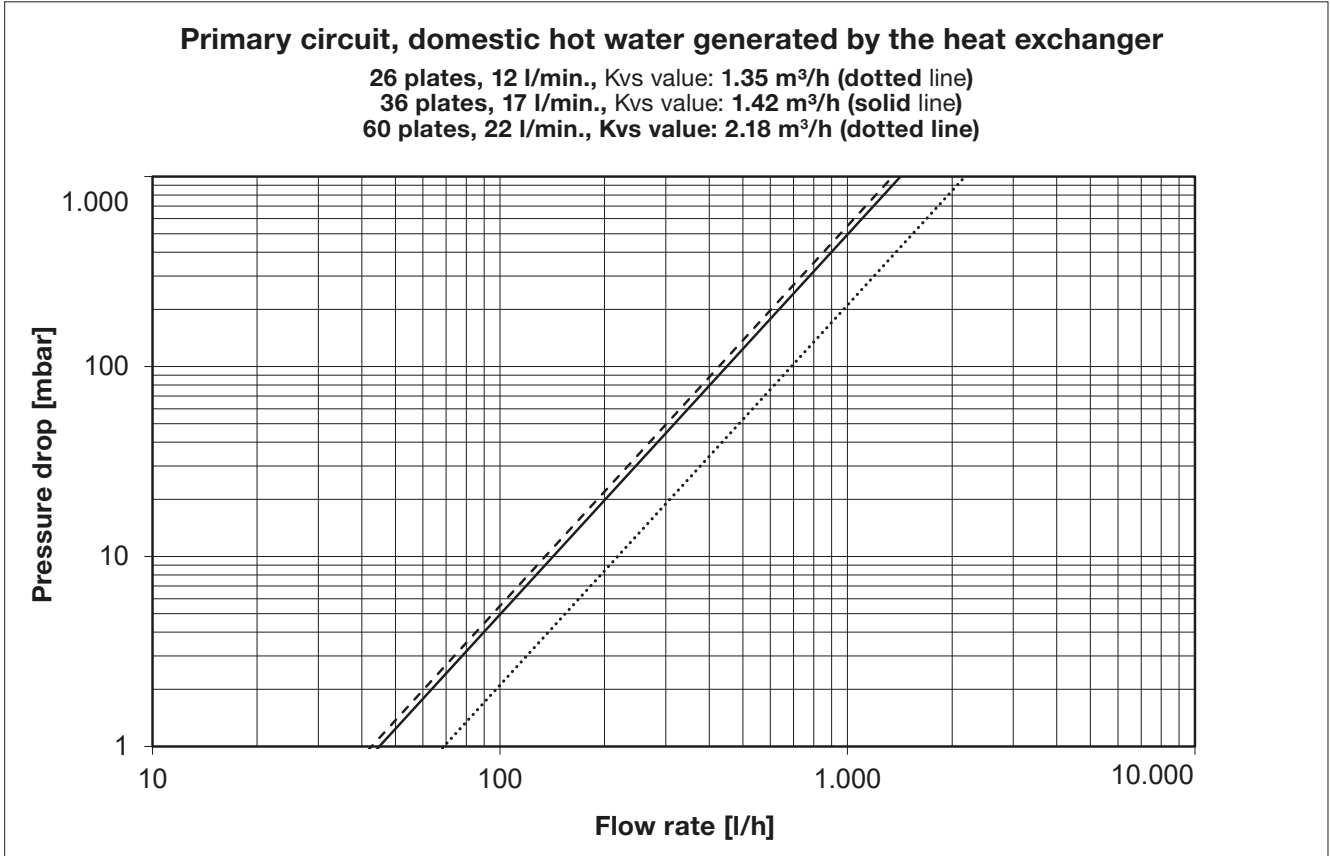
	DHW performance	Primary temperature		Secondary temperature		Presetting differential pressure	Flow rate Primary	Flow rate Secondary
		Supply	Return	DCW	DHW			
26 plates	33 kW	65 °C	19 °C	9 °C	48 °C	19 kPa	11.2 l/min	12.0 l/min
36 plates	41 kW	65 °C	18 °C	11 °C	45 °C	19 kPa	13.4 l/min	17.1 l/min
60 plates	52 kW	65 °C	15 °C	11 °C	45 °C	25 kPa	14,0 l/min	22,0 l/min

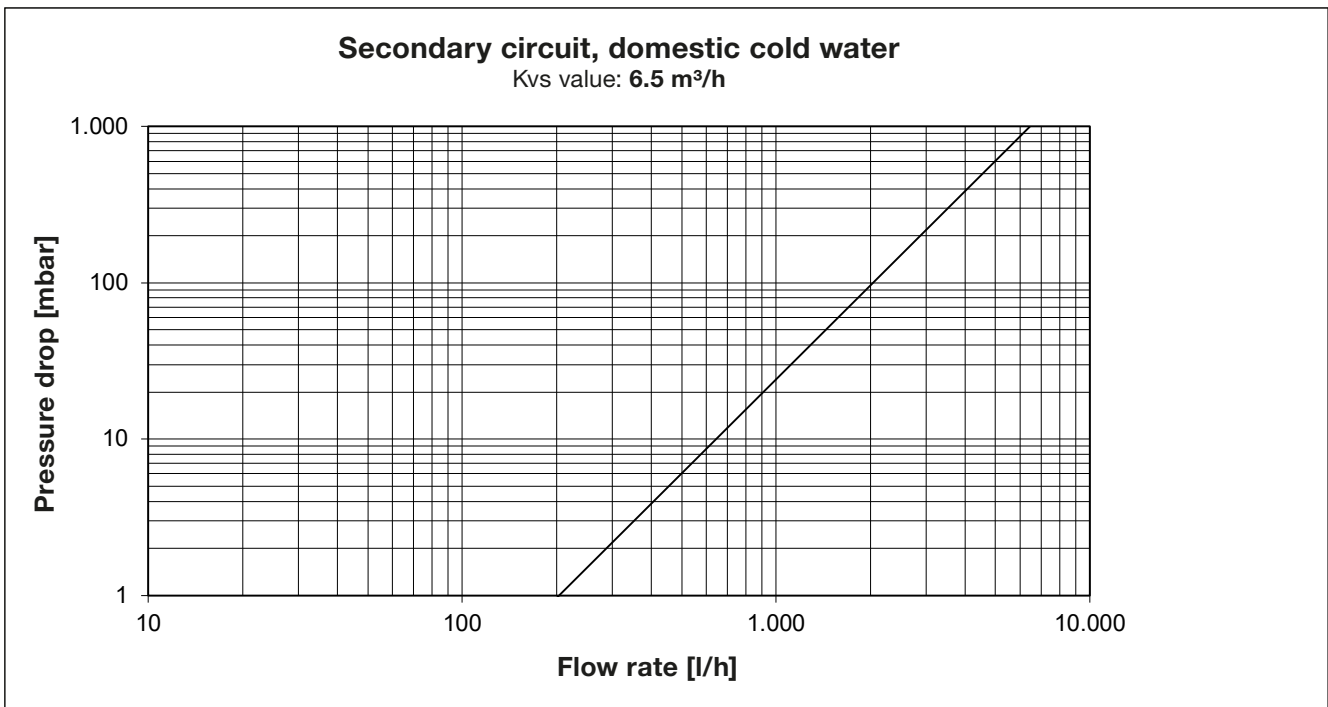
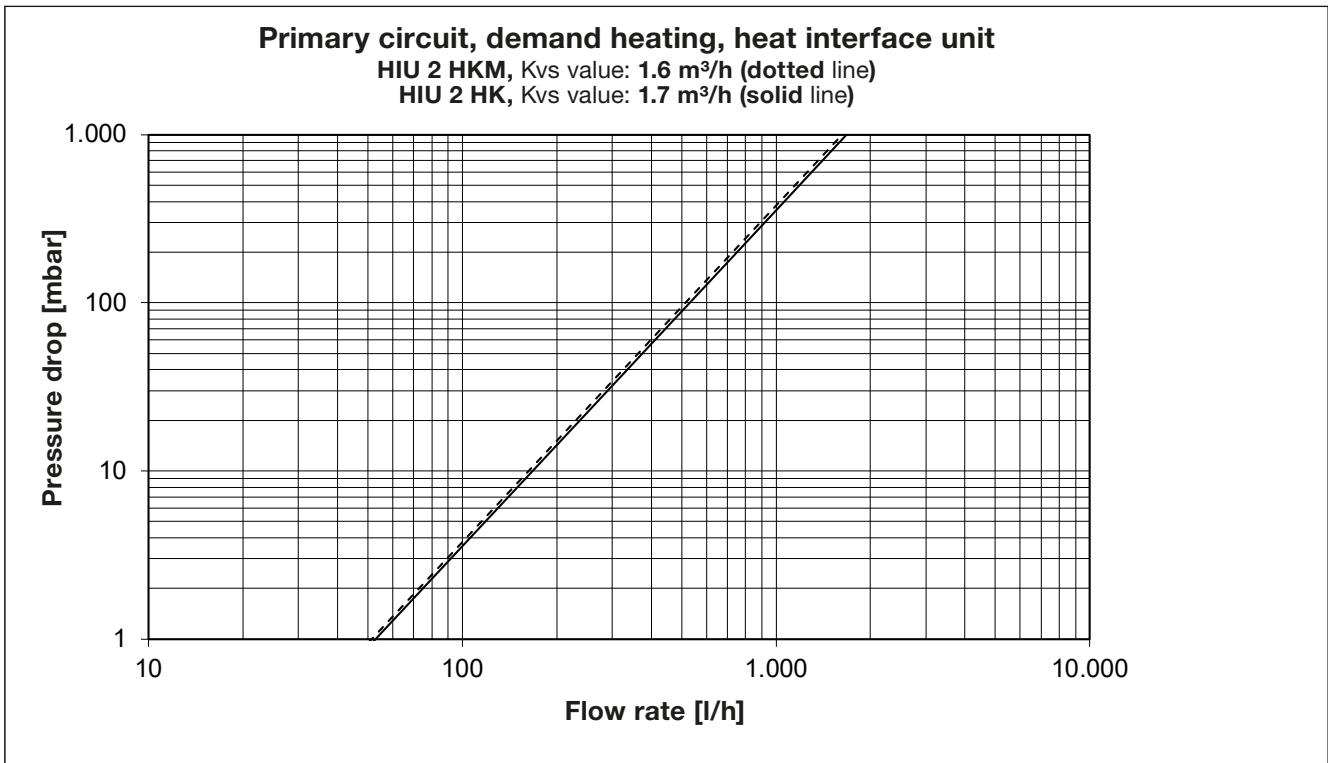
HIU 2 performance

Heat output (10K)	Q=	13 kW
Heat output (20K)	Q=	26 kW

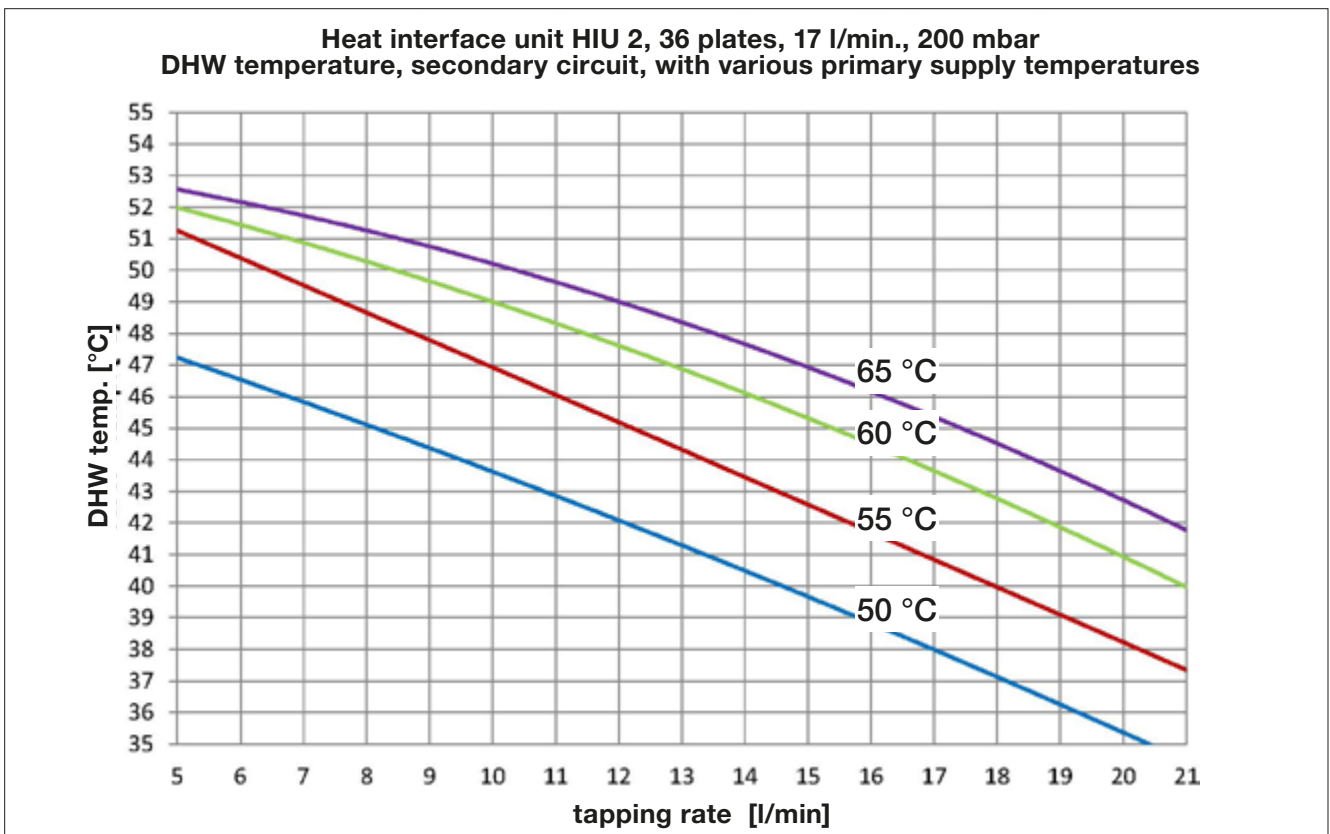
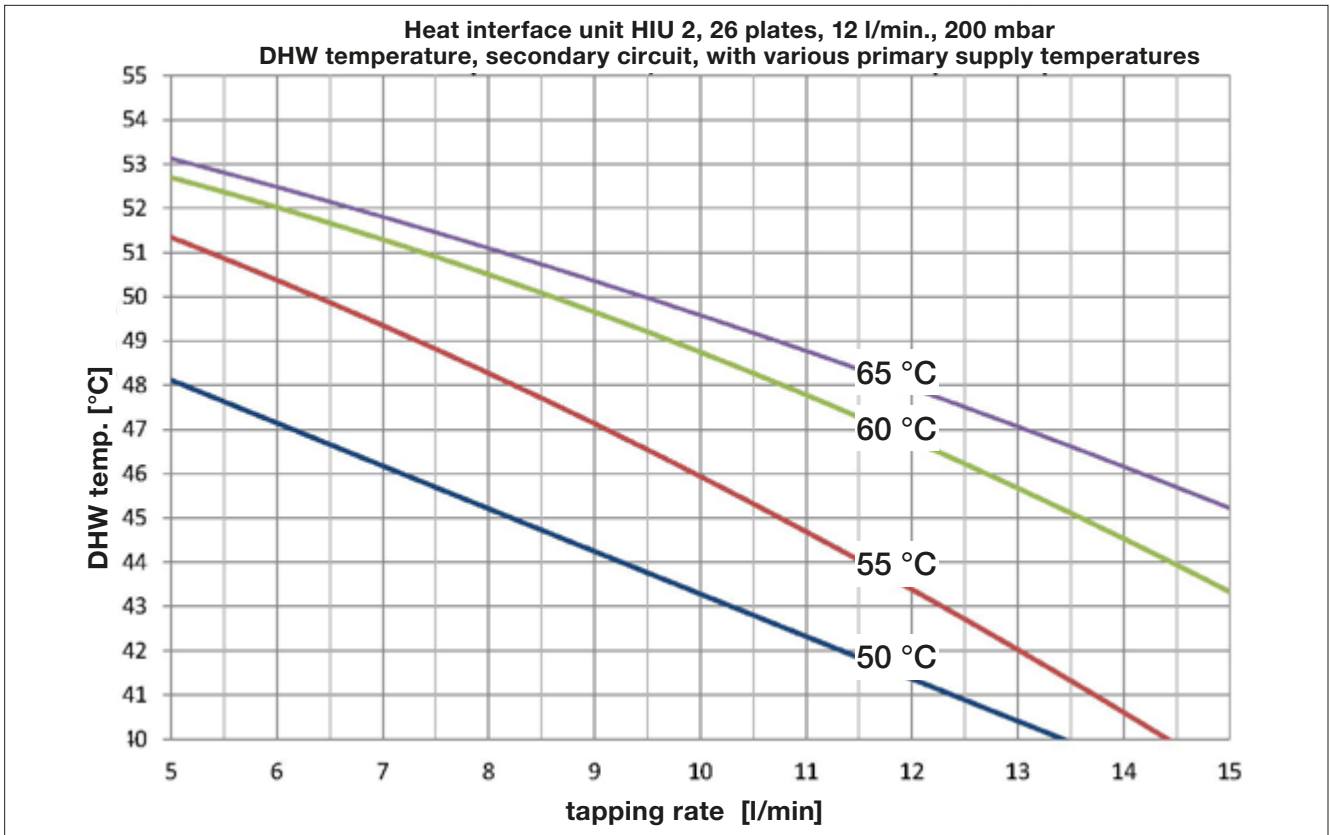
4 Power curves and diagrams

4.1 Pressure loss diagrams

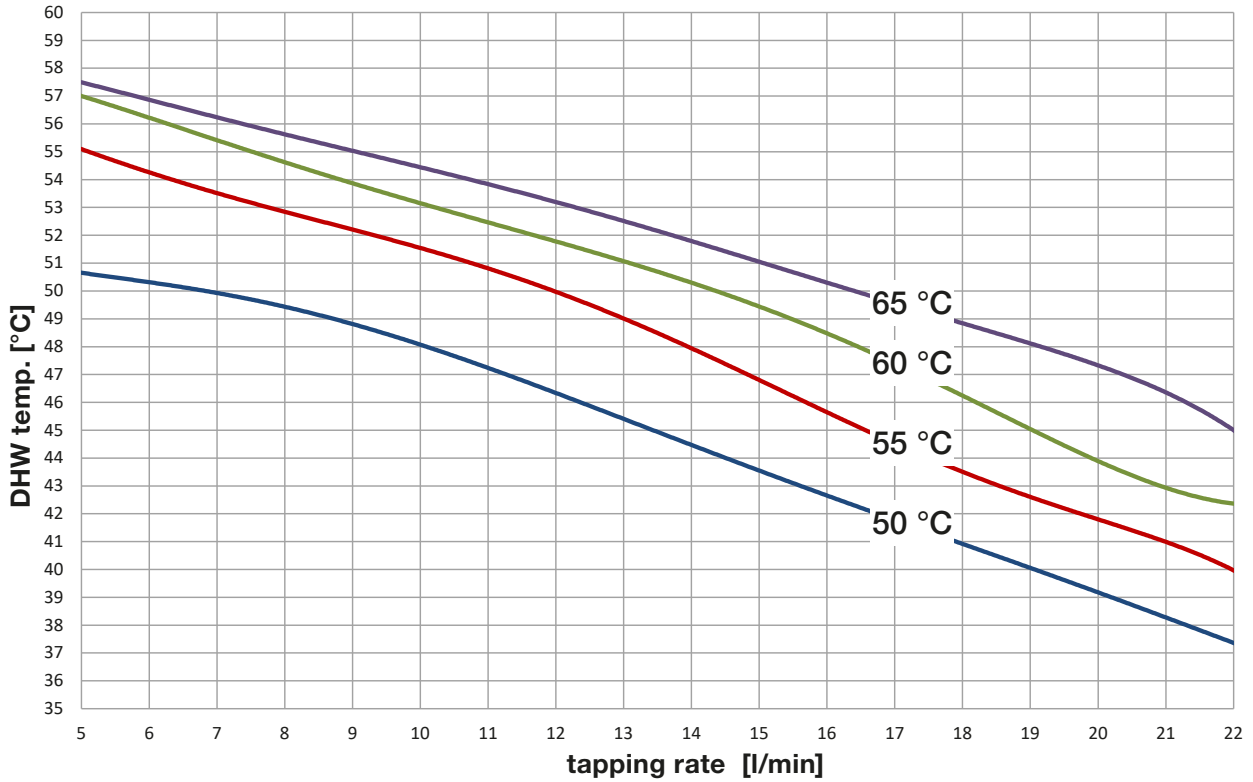




4.2 Power curves



**Heat interface unit HIU 2, 60 plates, 22 l/min., 250 mbar
DHW temperature, secondary circuit, with various primary supply temperatures**



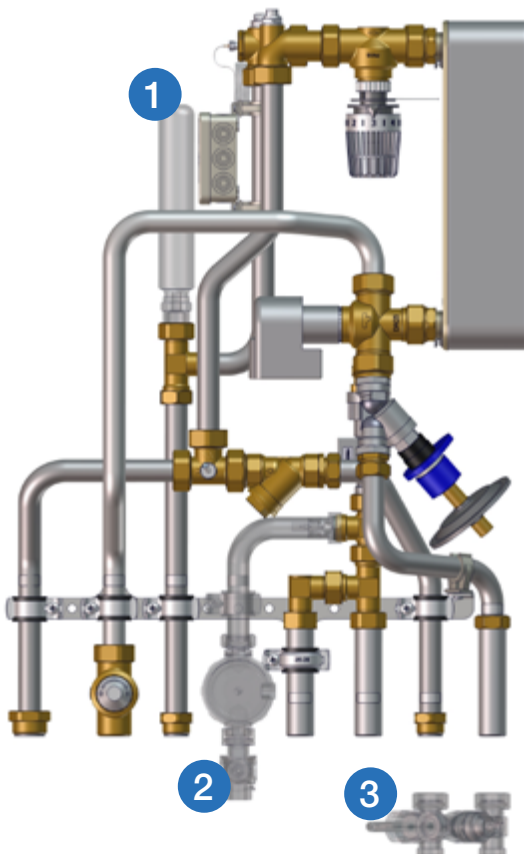
5 Structure

HIU 2 HK

10079852 HIU 2 HK 12 CU
 10079891 HIU 2 HK 12 STS
 10078464 HIU 2 HK 17 CU
 10079893 HIU 2 HK 17 STS
 10085285 HIU 2 HK 22 CU
 10085286 HIU 2 HK 22 STS

- For heating and drinking water heating
- Hot water priority circuit
- Differential pressure control
- Pre-installed adapters for heat meters and cold water meterst
- Optional:

- 1 Water hammer arrestor (Part no. 10079166)
- 2 Circulation set (Part no. 10080335)
- 3 Thermostatic circulation bridge (Part. no 10079903)

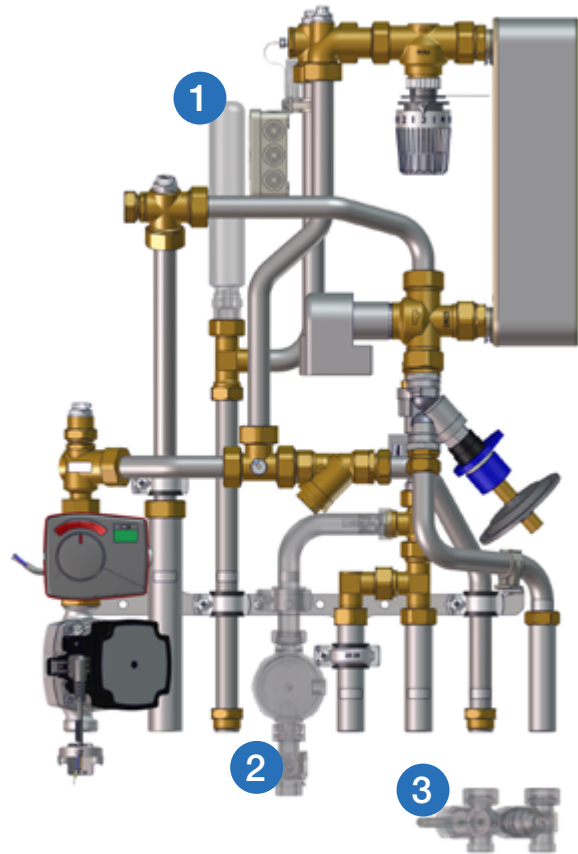


HIU 2 HKM

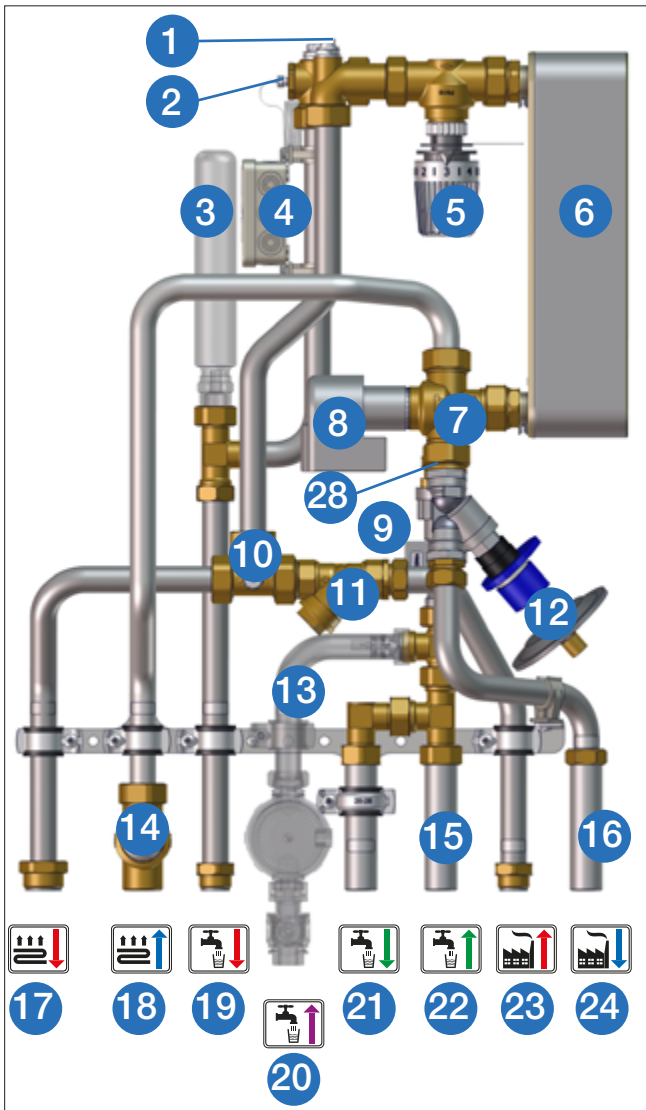
10079851 HIU 2 HKM 12 CU
 10079892 HIU 2 HKM 12 STS
 10078463 HIU 2 HKM 17 CU
 10079894 HIU 2 HKM 17 STS
 10085287 HIU 2 HKM 22 CU
 10085288 HIU 2 HKM 22 STS

- For heating and drinking water heating
- Hot water priority circuit
- Differential pressure control
- Pre-installed adapters for heat meters and cold water meters
- Mixer module
- Optional:

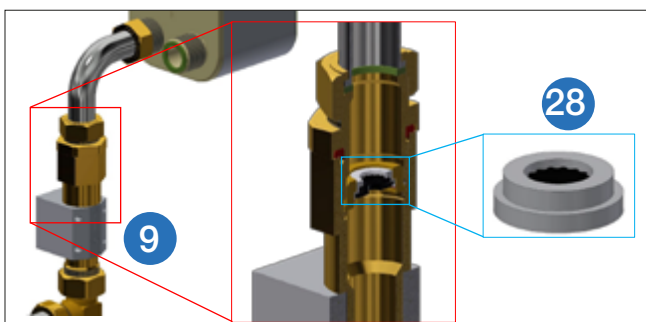
- 1 Water hammer arrestor (Part no. 10079166)
- 2 Circulation set (Part no. 10080335)
- 3 Thermostatic circulation bridge (Part. no 10079903)



5.1 HIU 2 HK

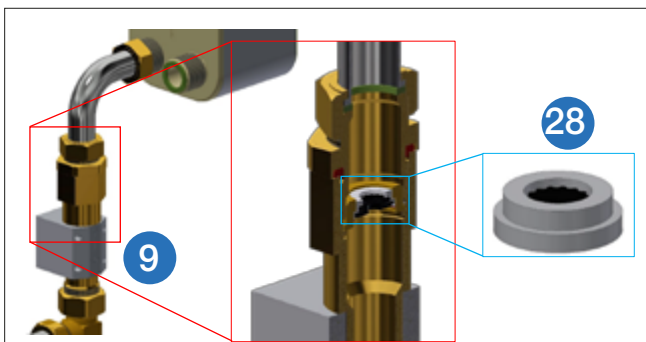
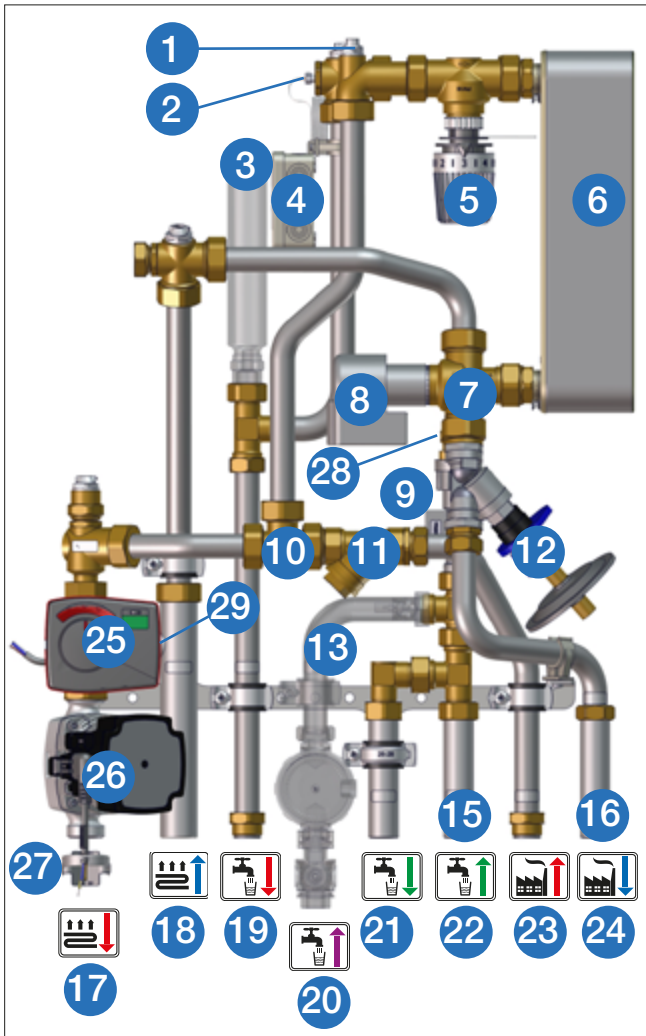


- 1 Vent
- 2 Temperature sensor
- 3 Water hammer arrestor (optional)
- 4 Junction box
- 5 Thermal valve
- 6 Plate heat exchanger
- 7 Switch valve, heating circuit/hot water
- 8 Actuating drive
- 9 Flow switch
- 10 Connection for supply temperature sensor of the heat meter (M10x1)
- 11 Dirt trap
- 12 Membrane regulator/differential pressure regulator
- 13 Circulation set (optional)
- 14 Zone valve (heating circuit)
- 15 Adapter for cold water meter
- 16 Adapter for heat meter connector
- 17 Supply heating circuit
- 18 Return heating circuit
- 19 Domestic hot water outlet
- 20 Domestic water circulation inlet
- 21 Domestic cold water outlet
- 22 Domestic cold water inlet
- 23 Primary supply
- 24 Primary return
- 25 —
- 26 —
- 27 —
- 28 Flow regulator



Flow regulator Position 28	Colour	HIU 2
	Pink	for 12 l station
	Black	for 17 l station
	Red	for 22 l station

5.2 HIU 2 HKM



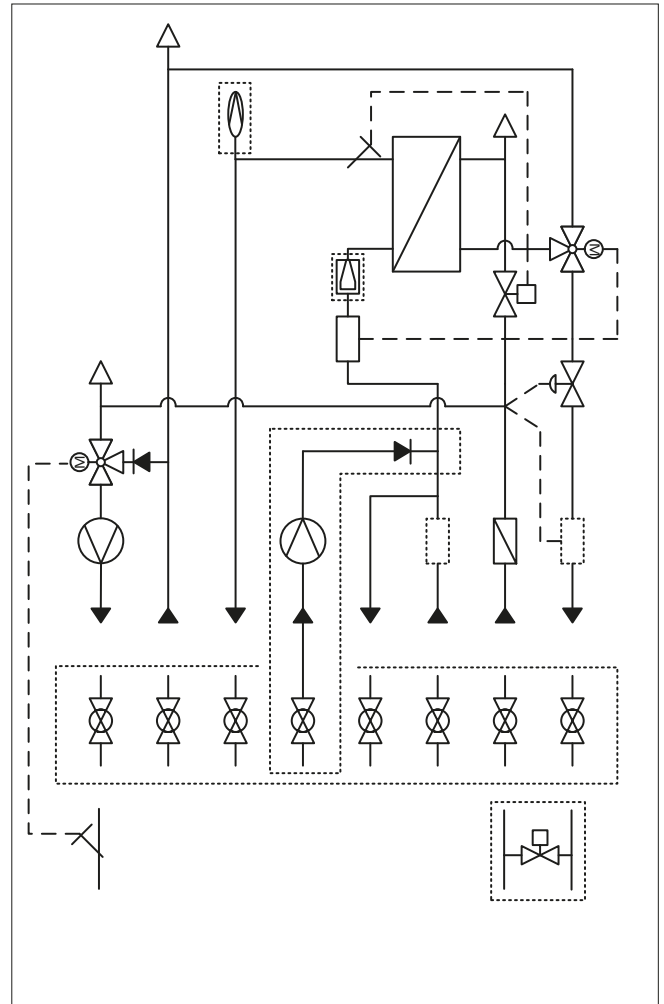
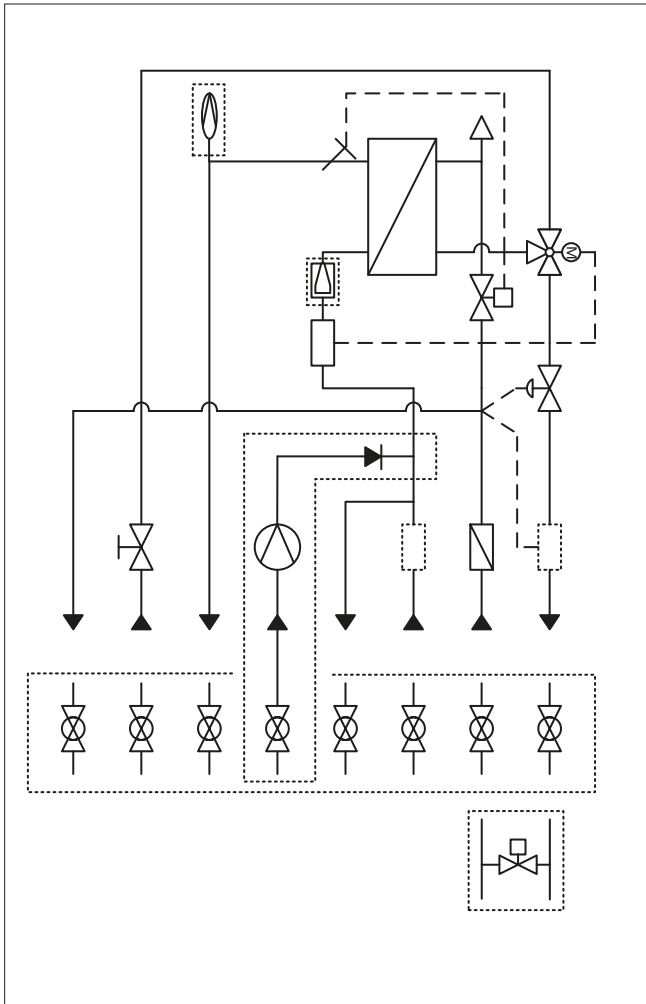
- 1 Vent
- 2 Temperature sensor
- 3 Water hammer arrestor (optional)
- 4 Junction box
- 5 Thermal valve
- 6 Plate heat exchanger
- 7 Switch valve, heating circuit/hot water
- 8 Actuating drive
- 9 Flow switch
- 10 Connection for supply temperature sensor of the heat meter (M10x1)
- 11 Dirt trap
- 12 Membrane regulator/differential pressure regulator
- 13 Circulation set (optional)
- 14 —
- 15 Adapter for cold water meter
- 16 Adapter for heat meter connector
- 17 Supply heating circuit
- 18 Return heating circuit
- 19 Domestic hot water outlet
- 20 Domestic water circulation inlet
- 21 Domestic cold water outlet
- 22 Domestic cold water inlet
- 23 Primary supply
- 24 Primary return
- 25 Actuator including regulator
- 26 Heating circuit pump
- 27 Bracket, spring and thermally conductive paste for contact sensor of the actuator
- 28 Flow regulator
- 29 Check valve

Flow regulator Position 28	Colour	HIU 2
	Pink	for 12 l station
	Black	for 17 l station
	Red	for 22 l station

5.3 Hydraulic diagram

HIU 2 HK

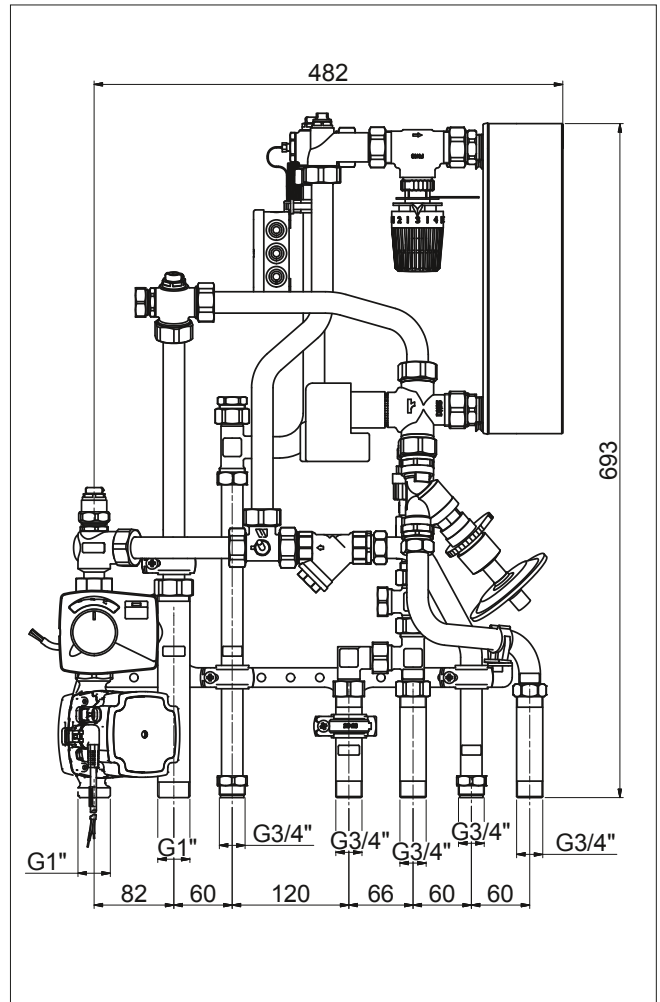
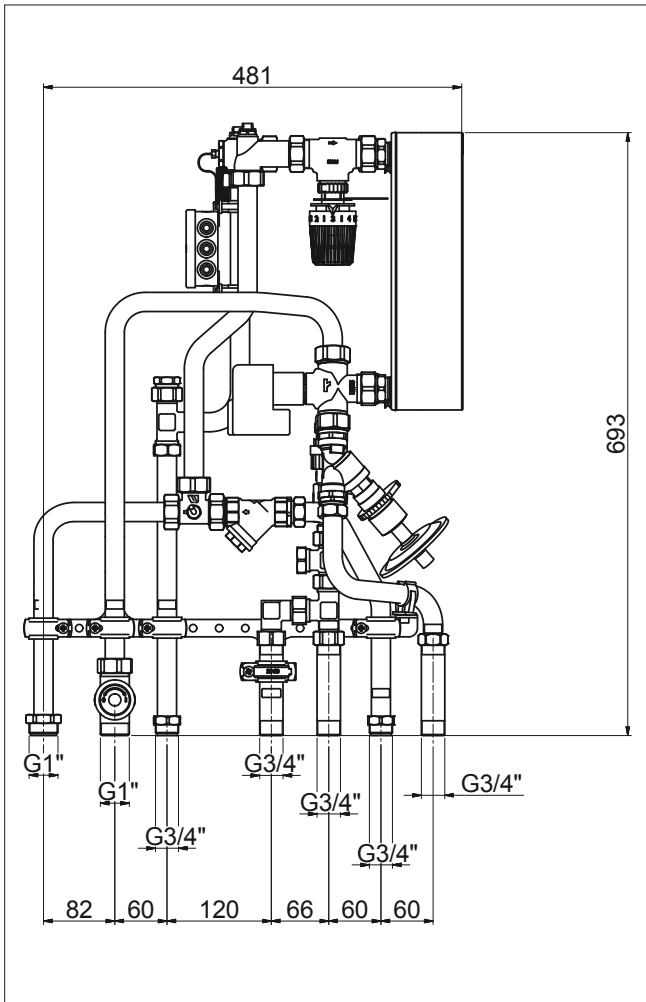
HIU 2 HKM



5.4 Overall dimensions

HIU 2 HK

HIU 2 HKM



6 Installation and commissioning

⚠ DANGER

Electricity!

Risk of death from electric shock.

- Work on parts carrying live voltage must only be carried out by trained electricians.
- Disconnect the power supply of the system and secure it against being switched back on before carrying out any installation, maintenance, cleaning or repair work.

NOTICE

The installation and commissioning of the HIU 2 must only be carried out by trained personnel who have been authorized by the manufacturer.

When installing and operating a circulation system, the recognized rules of engineering as well as the hygiene regulations according to "DVGW Arbeitsblatt W551" (German association for gas and water, worksheet W551) must be observed.

⚠ CAUTION

The HIU 2 may only be installed in an upright position.

When repairing the unit or replacing parts, be sure to observe the specified installation positions and flow directions of the parts being replaced.

⚠ CAUTION

Material damage!

Pressure shocks may occur if the stop valve is opened quickly.

- Always open the stop valve slowly and in a controlled way.

⚠ CAUTION

Bad water quality!

Hard water causes limescale deposits in the HIU 2 and diminishes the performance.

- Measure the water hardness in the supply system.
- Install a water softening unit from a degree of hardness of 17° dH.

Installation

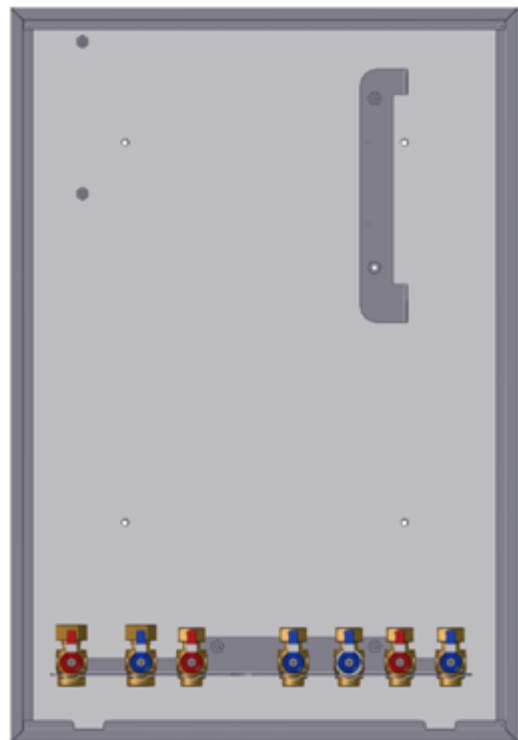
All screw fittings must be checked and tightened if necessary prior to installation and commissioning.

Torque:

- 3/4" screw fittings 35 Nm
- 1" screw fittings 55 Nm

Requirements

- The HIU 2 cabinet (surface-mounted or flush mounted) is installed.



- When connecting the HIU 2 to the drinking water pipeline the acknowledged rules of technology must be taken into account.
- The installation sequence must be observed to prevent electrochemical corrosion of galvanized lines and fittings.
- The valves are pre-installed at the factory but must be checked for leaks during commissioning (hydraulic pressure test).

Recommendation: Install water filter into the cold water inlet.

⚠ WARNING

Hot water!

Severe scalding possible.

Do not reach into the hot water when emptying the HIU 2.

Ensure that the HIU 2 has cooled down before carrying out maintenance, cleaning and repair work.

Install a suitable scalding protection device at every tapping point (for example, safety shut-off valve or thermostat mixer tap).

More detailed information on scalding protection can be found in DIN 1988, sheet 2, clause 4.2.

⚠ CAUTION

Danger of scalding!

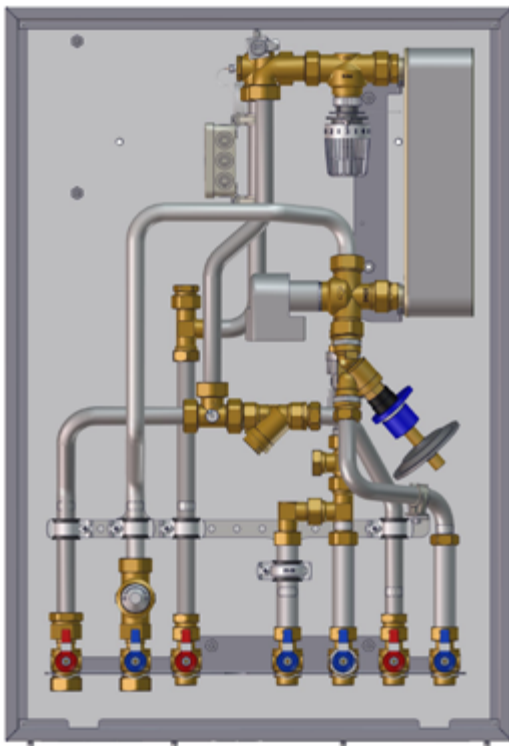
To avoid scalding when tapping hot water, appropriate scalding protection must be provided.

Observe the recognized rules of technology when doing so.

1. Insert the HIU 2 and connect to the connection rail.

Optional:

2. Install the water hammer arrestor, circulation set and circulation manifold.



3. Connection to power mains (230V).
4. Set the desired tapping temperature on the thermostatic head (X).



Setting, at max. flow rate with a supply temperature of 65 °C:

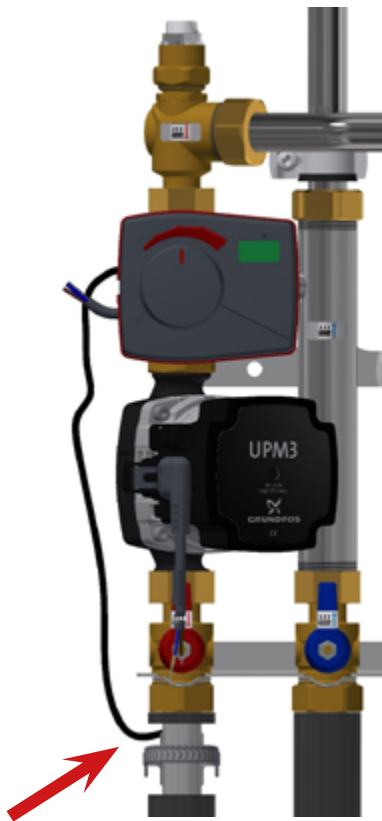
Scale	1	I	2	I	3	I	4	I	5
approx. °C	34	37	41	44	48	51	55	58	63

5. Vent the primary (heating) circuit.
 - Slowly open the stop valves on the heat network connectors (see Chapter 4).
 - Open and hold open the vent valve (see Chapter 4) until air no longer escapes.
6. Vent the secondary circuit (domestic water).
 - Slowly open all of the tapping points, one after the other, and draw water until all lines fill up and all air has been vented from the system.

7. Mount the flow temperature sensor to the pipeline.

For HIU2 HKM: the pre-installed temperature sensor of the actuator must be installed below the heating pump of the flow heating circuit. The enclosed bracket, spring and thermally conductive paste should be used herewith.

For more information, see the instructions for the actuator including controller.



8. Change of target temperature.

- In order to change the target flow temperature, press the joystick to the right or to the left (A).
- Press the joystick down to confirm new target temperature (B).

For additional information see the included manual of the controller.

The presetting of flow temperature sensor of the actuator with controller is 40 °C.

9. Temperature limiter.

When an underfloor heating is used a temperature limiter must be installed see DIN EN 1264.

7 Maintenance

⚠ DANGER Electricity!

Only perform maintenance work on the HIU 2 if the voltage supply has been disconnected.

⚠ WARNING Hot water!

Severe scalding possible.

Do not reach into the hot water when emptying the HIU 2.

Ensure that the HIU 2 has cooled down before carrying out maintenance, cleaning and repair work.

⚠ WARNING Hot surfaces!

Serious burns possible.

Do not touch the tubings/pipings or components during operation.

Ensure that the HIU 2 has cooled down before carrying out maintenance, cleaning and repair work.

Wear heat-resistant safety gloves if it is necessary to carry out work on hot components.

NOTICE The maintenance of the HIU 2 must only be carried out by trained personnel who have been authorized by the manufacturer.

7.1 Annual maintenance intervals

1. General visual inspection

- Check the station for leaks, annual maintenance intervals, if necessary

1. General visual inspections

- Check the station for leaks and retighten sealing connections or replace seals, as required.

2. Functional checks

- Check that settings and operating and performance parameters are set correctly.
- Check flow noise during operation.
- Ask users if there are any noticeable problems.

3. Ball valves

- Check that stop valves and ball valves can move freely.

4. Dirt trap

- Check and clean the dirt trap.

5. Plate heat exchanger

- Check the plate heat exchanger for limescale deposits and clean if necessary.

6. Actions following maintenance work

- Check that all screw fittings that were unscrewed have been retightened and retighten if necessary.
- Remove all tools, materials and other equipment used from the working area.
- Restore the power supply.
- Slowly pressurize the HIU 2 and vent it.
- Readjust the system settings if required.

7.2 Replacement of wear parts

Please note that the HIU 2 contains parts that, for technical reasons, are subject to wear depending on the intensity of use, even if the specified care and maintenance have been observed.

This especially applies to mechanical parts and parts that come into contact with water and steam, such as hoses, seals, valves, etc.

By their nature, defects caused by wear do not constitute a fault and are therefore not covered by the warranty or any guarantee. Nevertheless, these defects and malfunctions must be remedied only by trained specialist personnel.

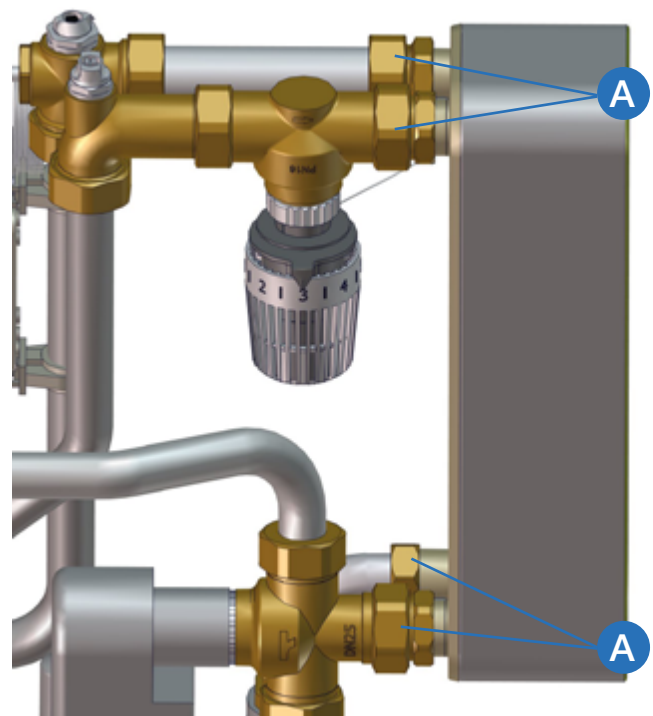
Contact your specialist dealer for this.

7.3 Cleaning the dirt trap

1. Depressurize the HIU 2 (e.g. by opening the vent valve).
2. Unscrew and remove the dirt trap and clean it.
3. Replace the filter into the dirt trap after cleaning.
4. Slowly open the stop valves and vent the system.

7.4 Replacing the plate heat exchanger

1. Close all stop valves.
2. Depressurize the HIU 2 (e.g. by opening the vent valve).
3. Loosen the nuts (pos. A) and remove the plate heat exchanger.



4. Replace all seals.
5. Insert the new plate heat exchanger and tighten the nuts (pos. A). (Refer to the "Technical data" chapter for the torque).
6. Slowly open the stop valves.
7. Slowly pressurize the HIU 2, fill and vent it.

8 Disposal

⚠ WARNING Potential for contamination of the environment and groundwater from improper disposal!

The regulations and guidelines of the legislature in the country of operation must be complied with when disposing of components and operating materials.

1. Ensure that all subassemblies and components are de-energized.
2. Professionally disassemble the HIU 2 or commission a specialist company with this task.
3. Sort the sub-assemblies and component parts into recyclable materials, hazardous substances and operating materials.
4. Dispose of the sub-assemblies and components in accordance with local laws and regulations or take them to be recycled.

8.1 Return shipment to the manufacturer

Get in contact with the manufacturer if you would like to return the HIU 2 or parts of it.

8.2 Reporting to administrative bodies and the manufacturer

Inform the manufacturer about decommissioning and disposal of the HIU 2 for statistical purposes.

9 Warranty

WATTS products are tested extensively. WATTS therefore guarantees only the replacement or, at the sole discretion of WATTS, the free-of-charge repair of components of the supplied products where these, in the opinion of WATTS, exhibit verifiable manufacturing faults. Warranty claims due to defects or defects of title may be asserted within one (1) year of delivery/transfer of risk. Excluded from the warranty are damages attributable to normal product wear or friction and damages resulting from modifications or non-authorized repairs on the products, for which WATTS rejects all claims for compensation (direct or indirect). (For more detailed information, please refer to our website.) In all cases, supply is subject to the General Terms and Conditions, which can be found at www.wattswater.eu/gtc/.

The descriptions and photographs contained in this product specification sheet are supplied by way of information only and are not binding.

Watts Industries reserves the right to carry out any technical and design improvements to its products without prior notice. Warranty: All sales and contracts for sale are expressly conditioned on the buyer's assent to Watts terms and conditions found on its website at www.wattswater.de/agb. Watts hereby objects to any term, different from or additional to Watts terms, contained in any buyer communication in any form, unless agreed to in a writing signed by an officer of Watts.



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