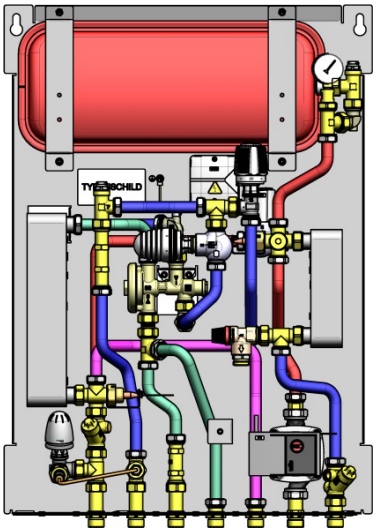
HERZ heating unit for apartment

WÜS MANCHESTER

Instructions for operators and dealers, No 0618



Description

WÜS Manchester, a compact unit for the preparation of hot water in a continuous principle and for transferring heat to radiator heating using a separating heat exchanger. Installation as a low-angle station or as a station with a lid installed on the surface. The connection of pipes to the equipment is carried out using a patented assembly system with a pre-assembly console.
The possibility of connecting the console of pre-assembly from the ground.

Consists of:

- Copper soldered asymmetrical stainless steel plate heat exchanger
- The second heat exchanger for separating the system on the heating side
- Patented and WRAS certified pressure and temperature controller for centralized control of hot water temperature
- Circulation pump for secondary heating circuit
- Zone valve for room temperature regulation; Connection thread for drives M 28 x 1.5 mm
- Thermomotor for installation on a differential pressure regulator; 230 V, 50 Hz, closed without power
- Control valve with thermostat with contact sensor for low heating return temperature
- Constant readiness for hot water preparation even in summer mode, thanks to temperature-controlled bypass switching, fixed at 45°C
- Cold water meter assembly 80 mm – G 3/4 made of dezincification-resistant brass, also suitable for continuous operation
- Heat gauge adapter 110 mm – G 3/4 made of dezincification-resistant brass, also suitable for continuous operation
- Fast ventilation on the secondary side
- Membrane expansion vessel on the secondary side
- Diaphragm safety valve 3 bar secondary side
- Dirt trap with a fine mesh in the primary stream
- Dirt trap with a fine mesh in the secondary return stream

Execution

1 **4008** 49 HERZ WÜS MANCHESTER; 15 l/min hot water tap

Accessories

1 **4008** 04 HERZ pre-assembly bracket
1 **4008** 85 HERZ low-mounted mounting box
1 **4008** 86 HERZ top wall mount cover
1 **4008** 98 HERZ Measurement, Adjustment and Draining Kit WÜS
1 **4111** 60 HERZ sensor holder for heat meter temperature sensor (M10x1)

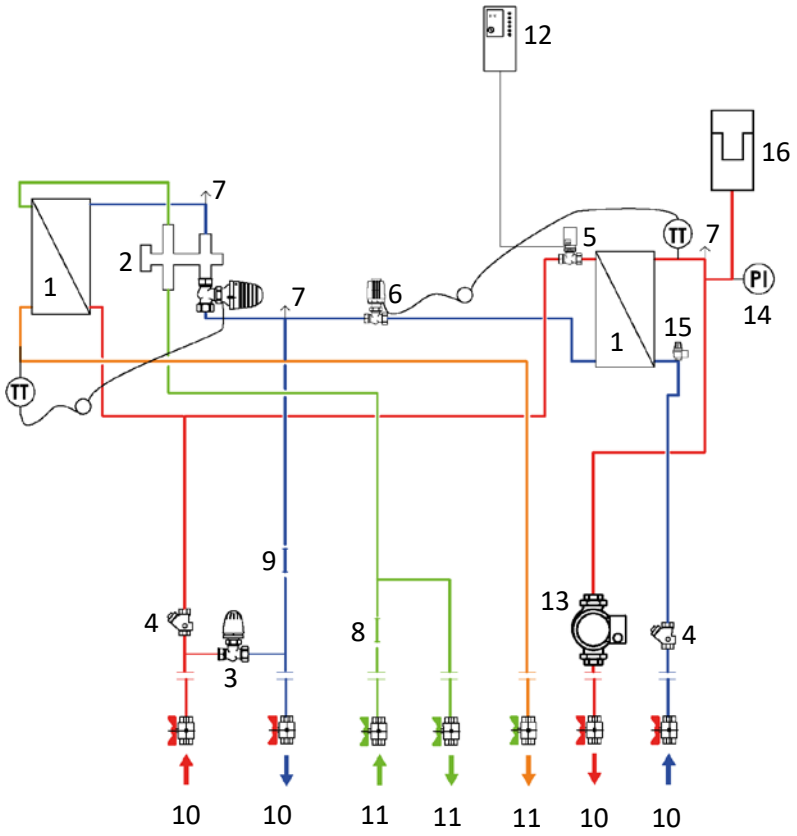
Installation instructions

- During installation, you should follow the dimensional sketches and information signs included with the device.
- When choosing a place for installation, it is necessary to take into account the weight of the equipment, including the weight of the water filling.
- If the equipment is equipped with redevelopments, installed in small rooms or false ceilings and the like, it is important to ensure that the front of the device is freely available for repair.
- During installation, it is important to ensure that the mounting wall is straight so that the equipment can be properly attached.
- Depending on the mounting surface, you should choose the appropriate dowels and screws.
- Adequate ventilation must be provided to prevent an increase in the temperature of the built-in parts.

Safety

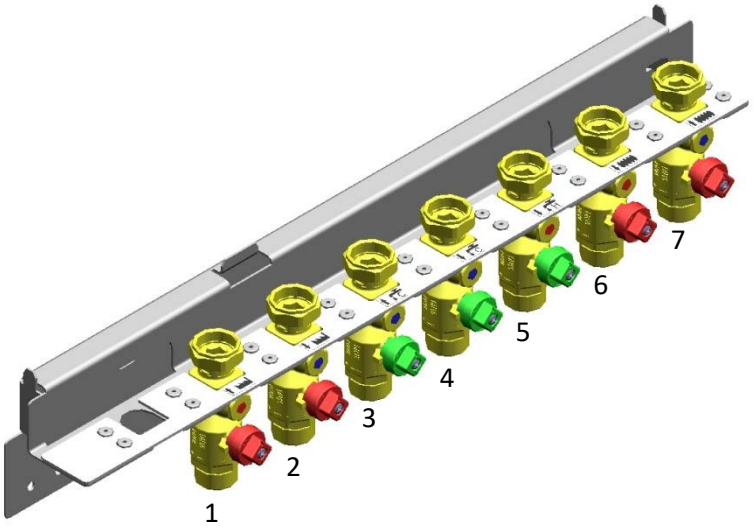
- Assembly and installation should only be carried out by professionally trained installers.
- Damaged parts and equipment components can only be replaced with original spare parts.
- Before putting the system into operation, it is necessary to check that there are no leaks at all connection points.
- After installation, all screws should be checked again to make sure that they are secured.
- The temperature of the hot water tap may vary depending on the current amount of tap, the current differential pressure of the system and the current flow temperature, and may also be in the temperature range where there is a risk of scalding. To avoid scalding, the drinking water mixing valve should be installed centrally or in front of each tap as a safety device.
- No technical changes may be made to the system. The consumer is not technically allowed to change the device, as no liability is assumed for any resulting damage to the system.
- The equipment may be installed only in heating or installation premises in accordance with the rules.

Functional diagram



Position	Description
1	Heat exchanger of the heating circuit
2	Pressure and temperature regulator
3	Summer bypass
4	Dirt filter
5	Zone valve with thermomotor
6	Zone valve with thermostat with contact sensor
7	Exhaust valve
8	Installation of a water meter
9	Installation of thermal energy meters
10	The inflow point of the heating circuit
11	Outlet point of the heating circuit
12	Room thermostat
13	Heating circuit circulation pump
14	Manometer
15	Safety valve
16	Expansion vessel

Connection of pipelines to the pre-assembly console



1	Inflow valve of the heating circuit
2	Heating circuit return valve
3	Cold water intake
4	Cold water outlet
5	Hot water outlet
6	Radiator heating flow
7	Return of radiator heating

Operational requirements

In addition to state rules and standards, the conditions for connecting local water supply companies must also be observed. The room in which the system is operated must be frost-free, and installation must take place in a place freely accessible for necessary maintenance or repair. The maximum flow temperature must be 80 °C.

On the primary side, a static and a differential pressure of 10 bar is allowed. In addition, it should be noted that in the event of a defect, the connecting pipes must withstand temperatures up to 95 °C.

Commissioning

The operation of the equipment is simple and user-friendly. All you need to do is open the ball valves in the following order to avoid water overflow:

1. Slowly open the heating heaters (red ball valve)
2. Slowly open the cold water supply (green ball valve)
3. Open heating slowly returns (red ball valve)
4. Slowly open the outlets of hot and cold water (green ball valve)

First commissioning

Before commissioning for the first time according to ÖNORM H5195-1, care must be taken to ensure that clean and standard-compliant pipe materials are used (without scale, rust and internal well, as well as without impurities), fittings and equipment (boilers, radiators, convectors, expansion vessels, etc.). In addition, ÖNORM H5195 provides for clean and hand-made production (without welding beads, remnants of sealing material or soldering aids, burrs, metal shavings and the like), as well as cleaning all components of the heating system before its installation.

Otherwise, deposits in the pipes can lead to damage to the regulator. In addition, there is a risk of contamination of drinking water. It is recommended to install mud flanges. To prevent corrosion damage to the system, ÖNORM H5195-1 states: The design and operation of the heating system must be carried out in such a way that the ingress of air into the closed heating system is prevented as best as possible.

When first commissioned, the heating system must be flushed with at least 2 times the contents of the system. Afterwards, clear filtered (pore size < 25µm) filling water of appropriate water quality must be introduced into the heating system. The heating system must remain in working order for 24 hours to achieve uniform mixing of heating water with inhibitors. Old systems must be chemically cleaned before filling, and then rinsed with water. Partial or complete emptying of the heating system for a longer period without preservation should be avoided, as this will lead to increased corrosion processes in the system. To provide sufficient protection against frost in the system at low temperatures, ÖNORM H5195-2 states: Although antifreeze can be mixed with water in any proportion, in systems with circulation pumps, you must first fill about two-thirds of the required amount of water into the system. Then antifreeze is added and filled into the system with water. When putting the circuit into operation, complete mixing is achieved. However, gravity systems must be filled with a prepared, frost-protected heat carrier. If antifreeze must be connected to heating systems that are not yet protected from frost, the following points must be observed:

1. It must be ensured that sealing materials are suitable for this.
2. Systems must be rinsed thoroughly.
3. After filling with antifreeze, more attention should be paid to the occurrence of leaks.

After installation, the system should be checked for leaks. Checking the system for leakage is carried out only if the positive line is connected and the ball valve of the pulse line is opened. The pressure should be increased evenly at all joints. Max. test pressure = 1,5 x working pressure. Max. differential pressure 2 bar in water.

For other media, the leakage test must be carried out with the corrected value. Failure to comply may cause damage to the system or controller and automatically lead to loss of warranty!

Decommissioning, emptying

If the pumping station is stopped for a long time or is dismantled for certain reasons, it is stopped by closing all ball valves. In rooms threatened with frost, the equipment must be emptied before the onset of the cold season, if it does not work for several days. To drain this equipment, a container with a capacity of 4 - 8 liters should be placed under it and hot water from the ball valves should be drained until completely empty. If there is a risk of frost, it should also be borne in mind that it can freeze not only in the water unit and hot water pipes, but also in all cold water supply pipes to the service fittings and the equipment itself. Therefore, it is advisable to drain all water-bearing fittings and pipes back to the frost-proof part of the home water system.

Maintenance and repair

Thanks to the design, the HERZ station has relatively low maintenance. However, with hard water, the system will limp. Descaling should be carried out by a specialist every one to two years, depending on the hardness of the water. If the valves are calcified too much, they must be replaced immediately to ensure proper operation.

Do not use abrasive or aggressive cleaners to clean the device. It is recommended to clean with a damp cloth with the addition of a few drops of liquid household cleaning agent.

In addition, for proper operation, you should pay attention to the quality of the water in the heat exchanger. The corresponding limit values can be found in the table below.

EXPLANATIONS:
+ Good resistance under normal conditions
0 Corrosion may occur, especially if other factors are estimated at 0
- Use is not recommended

			Board	Soldering material
WATER CONTENT	CONCENTRATION (mg/l or ppm)	TIME LIMITS Analysis before	AISI 316	Copper
Alkalinity (HCO3-)	70< 70-300 > 300	Within 24 hours	+ + +	0 + 0/+
Sulfate[1] ($SO4^{2-}$)	70< 70-300 > 300	No limit	+ + +	+ 0/- -
$HCO3^{-}$ / $SO4^{2-}$	> 1.0 < 1.0	No limit	+ +	+ 0/-
Electrical conductivity	<10 µS/cm 10-500 µS/cm > 500 µS/cm	No limit	+ + +	0 + 0
pH[2]	< 6.0 6.0-7.5 7.5-9.0 > 9.0	Within 24 hours	0 + + +	0 0 + 0
Ammonium (NH4+)	2< 2-20 20>	Within 24 hours	+ + +	+ 0 -
Chlorides (Cl^{-}) See table below	< 100 100-200 200-300 > 300	No limit	+ + + -	+ + + 0/+
Free chlorine (Cl2)	1< 1-5 5>	Within 5 hours	+ - -	+ 0 0/-
Hydrogen Sulfate (H2S)	< 0.05 > 0,05	No limit	+ +	+ 0/-
Free (aggressive) carbon dioxide (CO2)	5< 5-20 20>	No limit	+ + +	+ 0 -
Total hardness (**°dH)**	4.0-8.5	No limit	+	+
Nitrate[1] ($NO3^{-}$)	< 100 > 100	No limit	+ +	+ 0
Iron[3] (Fe)	< 0,2 > 0,2	No limit	+ +	+ 0
Aluminum (Al)	< 0,2 > 0,2	No limit	+ +	+ 0
Manganese[3] (Mn)	< 0.1 > 0,1	No limit	+ +	+ 0

[1] Sulfates and nitrates act as inhibitors for preventing corrosion caused by chlorides in a pH-neutral environment
[2] In general, a low pH (below 6) increases the risk of corrosion, and a high pH (above 7.5) reduces the risk of corrosion
[3] Fe3+ and Mn4+ are strong oxidizing agents and can increase the risk of local corrosion in stainless steel
[4] In combination with copper soldering material
SiO2 above 150 ppm increases the risk of calcification

Recycling and disposal

Both the equipment and the associated transport packaging mostly consist of recyclable raw materials.

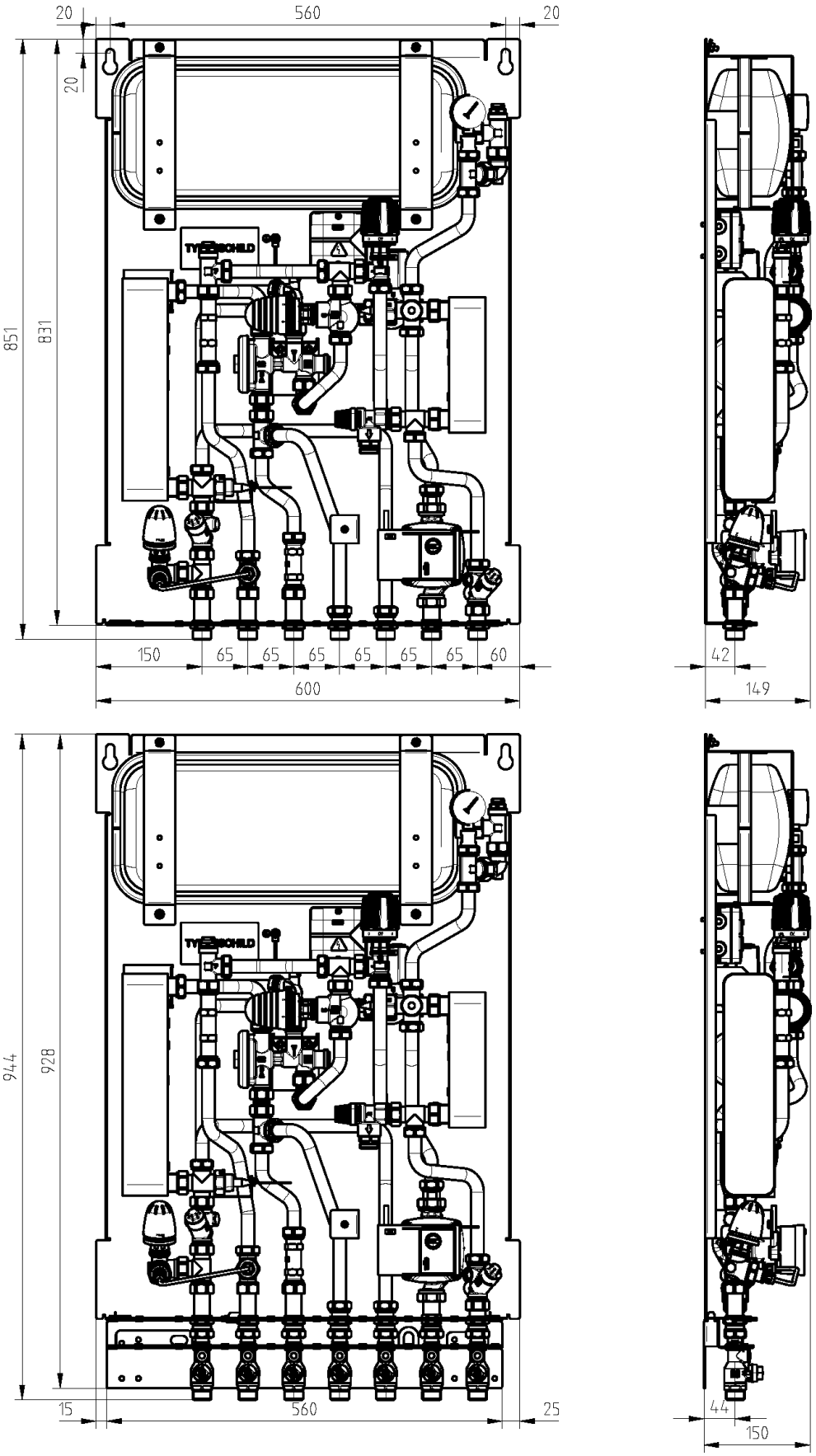
Device:

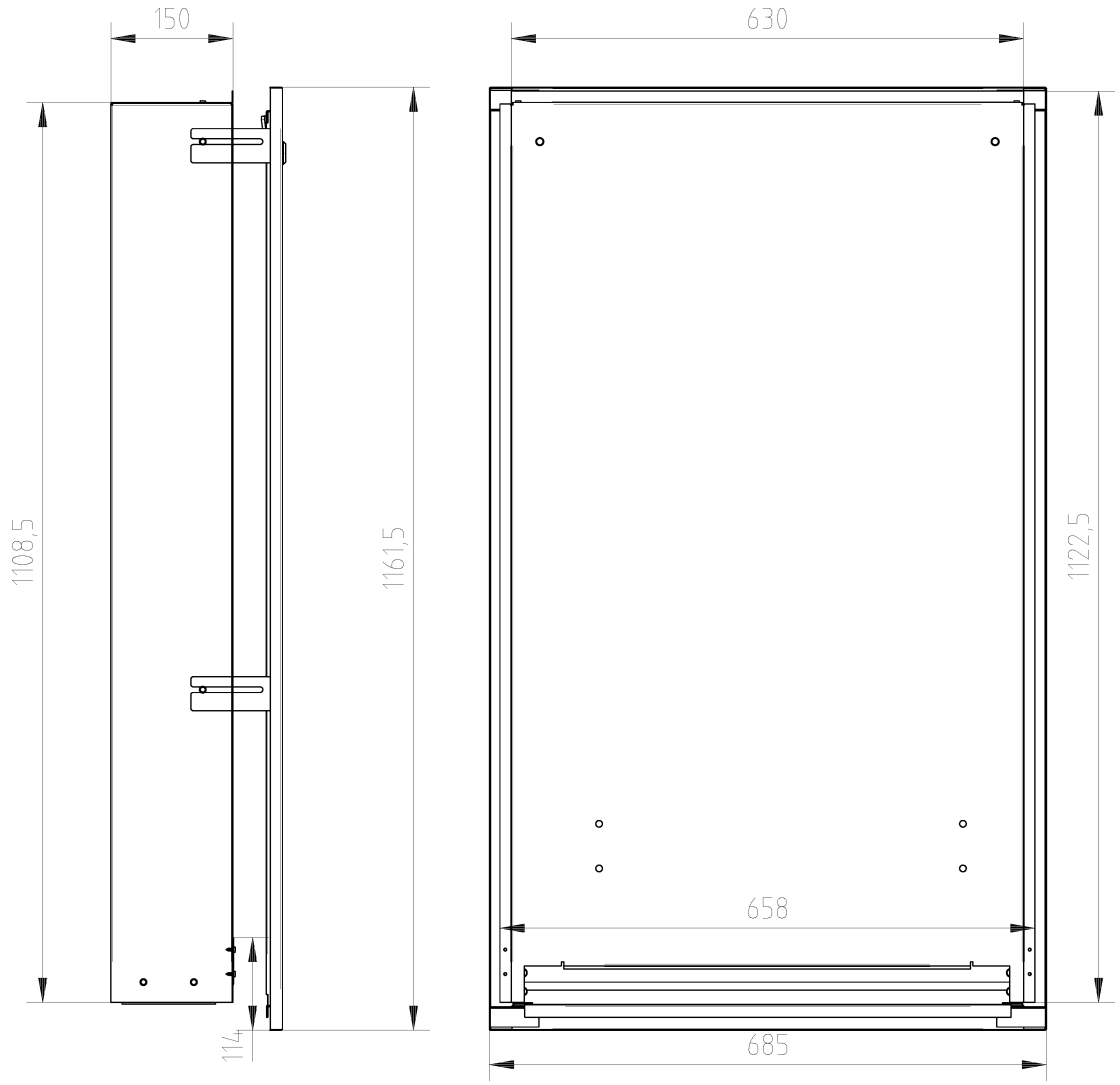
The equipment, as well as all accessories, does not fall into household waste. Make sure your device and any accessories you have are properly disposed of.

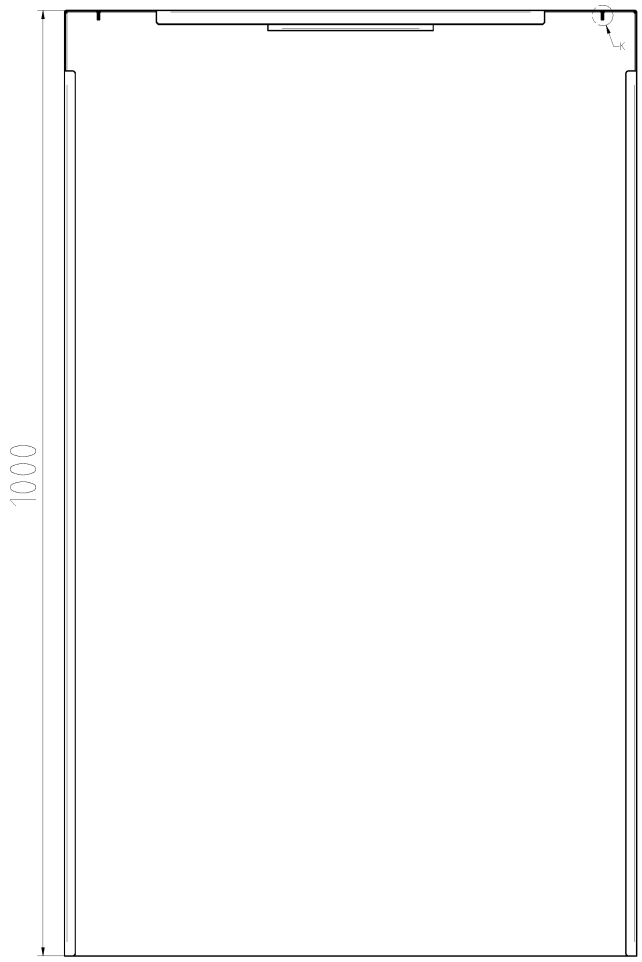
Packaging:

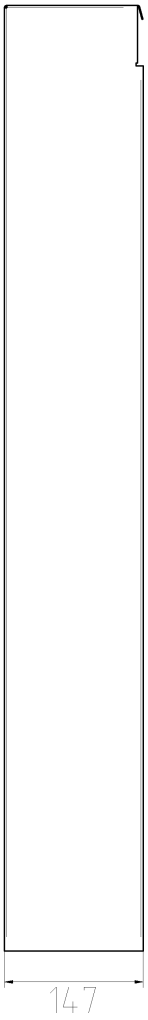
Leave the disposal of transportation packaging to a recognized specialized trading company that installed the device.

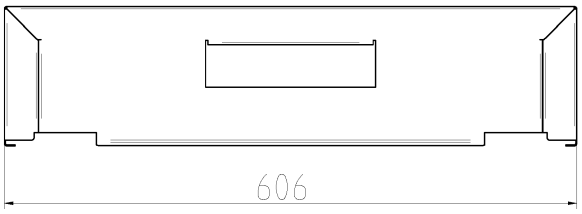
Dimensions


20
560
20
20
851
831
150
65
65
65
65
65
65
60
600
42
149
944
928
15
560
25
44
150


150
630
1108,5
1161,5
1122,5
658
114
685


1000


147


606

INBETRIEBNAHME- UND WARTUNGSPROTOKOLL FÜR WOHNUNGSÜBERGABESTATIONEN

Kunde:

Name und Anschrift

Telefon und Email

Inbetriebnahme bzw. Wartung durchgeführt von:

Name und Anschrift

Telefon und Email

Inbetriebnahme- bzw. Wartungsort

Artikelnummer Übergabestation/Type

Seriennummer Übergabestation

Wartungsarbeiten	Intervall	erledigt
1. Sichtprüfung und Dichtheitsprüfung	jährlich	☐
2. Sichtprüfung der elektrischen Verbindungen (falls vorhanden)	jährlich	☐
3. Funktionsprüfung und Kontrolle der Parameter und Einstellungen	jährlich	☐
a) Kontrolle des DT- Reglers auf Dichtheit und Funktion	jährlich	☐
b) Kontrolle der eingebauten Schmutzfänger	jährlich	☐
c) Kontrolle des Trinkwassermischventils auf Dichtheit und Funktion (falls vorhanden)	jährlich	☐
d) Kontrolle des Wärmetauschers auf Dichtheit	jährlich	☐
e) Kontrolle der Absperrarmaturen auf Funktion	jährlich	☐
f) Kontrolle der Bypassschaltung	jährlich	☐
g) Kontrolle der Warmwassertemperatur	jährlich	☐
IST - Wert: ☐ SOLL - Wert: ☐		
h) Kontrolle der Warmwassermenge	jährlich	☐
IST - Wert: ☐ SOLL - Wert: ☐		

Anmerkungen:

Die Inbetriebnahme bzw. Wartung wurde ordnungsgemäß durchgeführt.

Ort, Datum | Unterschrift Kunde/Betreiber | Unterschrift Fachhandwerker