

Storage tank

NIBE UKV 20 500, 750, 1000

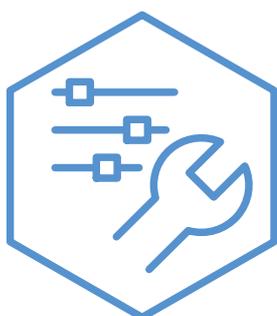


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Important information

Safety information

This manual describes installation and service procedures for implementation by specialists.

The manual must be left with the customer.

For the latest version of the product's documentation, see nibe.eu.

This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved. Children shall not play with the appliance. Cleaning and user maintenance shall not be made by children without supervision.

This is an original manual. It may not be translated without the approval of NIBE.

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SYMBOLS

Explanation of symbols that may be present in this manual.

INSPECTION OF THE INSTALLATION

Current regulations require the heating installation to be inspected before it is commissioned. The inspection must be carried out by a suitably qualified person.

| ✓ | Description | Notes | Signature | Date |
|---|--------------------------|-------|-----------|------|
| | Heating medium (page 10) | | | |
| | Shut off valves | | | |
| | Safety valve | | | |



CAUTION!

This symbol indicates danger to person or machine.



NOTE!

This symbol indicates important information about what you should consider when installing or servicing the installation.

General

NIBE UKV 20 is designed and manufactured according sound engineering practice¹ in order to ensure safe usage.

¹ Pressure Equipment Directive 2014/68/EU Article 4 point 3.

SERIAL NUMBER

You will find the serial number on the product's jacket by the lower connections.



NOTE!

Always give the product's serial number when reporting a fault.

RECOVERY



Leave the disposal of the packaging to the installer who installed the product or to special waste stations.

Do not dispose of used products with normal household waste. It must be disposed of at a special waste station or dealer who provides this type of service.

Improper disposal of the product by the user results in administrative penalties in accordance with current legislation.

For the User

Maintenance

The safety valve in the system where the accumulator tank is installed must be inspected regularly (about four times a year) to prevent blockages.

To inspect the valve, open the safety valve manually and check that water flows through the overflow pipe. If this does not happen then the safety valve is defective and must be replaced.

Emptying

1. If an immersion heater is installed, disconnect the power to the accumulator tank.
2. Shut off the incoming cold water.
3. Open the drain connection, or the drain valve if fitted.



CAUTION!

Water may splash at the drain connection or the drain valve.

There is a risk of scalding.

During draining, air must be let into the accumulator tank by opening a vent valve or a hot water connection.

To ensure that the accumulator tank drains completely, a hose or a pipe with an outlet below the lowest level of the water heater must be attached to the drain connection or drain valve. When installed where there is a risk of frost, the accumulator tank must be emptied whenever it is not in operation. Freezing could result in the accumulator tank bursting.

Service

For service, contact the installer. Serial number (PZ3) (14 digits) and installation date should always be stated.

Only replacement parts supplied by NIBE may be used.

For the Installer

General

NIBE UKV 20 is an accumulator tank that is suitable for connection to a heat pump or other external heat source.

NIBE UKV 20 can have several different areas of application, and can be used during external control of the heating system.

The heat pump then charges NIBE UKV 20 with floating or fixed condensing. The external control function controls the heat distribution from NIBE UKV 20 to the consumer. If the flow to the heating system can be restricted, for example by using radiator thermostats, install a NIBE UKV 20 as an intermediate tank. This ensures a secure flow for the heat pump. NIBE UKV 20 also allows a greater flow to the heating system than across the heat pump. In some installations, so-called heating clicks occur as a result of movements during changes in temperature. To eliminate temporary changes in temperature, and thereby prevent heating clicks, install a NIBE UKV 20 between the heat source and the heating installation.

The water tank consists of a high-quality steel jacket, the outside of which is coated with rust-protection paint.

UKV 20-500 is designed and manufactured for a maximum cut-off pressure of 10 bar in the water tank. UKV 20-750 and UKV 20-1000 are designed and manufactured for a maximum cut-off pressure of 3 bar in the water tank. The maximum permitted temperature is 85 °C. All NIBE UKV 20 are equipped with a temperature gauge, which can be installed at different levels in the accumulator tank.

UKV 20-750 and UKV 20-1000 are equipped with a diffuser plate, which is tasked with preserving the stratification of the water in the accumulator tank.

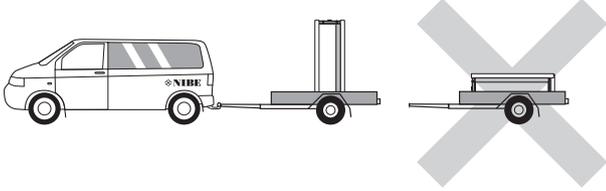
The insulation is polyurethane, which provides excellent heat insulation. The insulation and grey plastic outer cladding can be removed to make it easier to move the water heater through doorways, for example.

NIBE UKV 20 is equipped with an immersion heater socket and a submerged tube for controlling hot water heating.

UKV 20-750 and UKV 20-1000 can be equipped with an immersion heater and UKV 20-500 can be equipped with up to two immersion heaters.

Transport

NIBE UKV 20 should be transported and stored vertically in a dry place. The NIBE UKV 20 may, however, be carefully laid on its back when being moved into a building.



Assembly

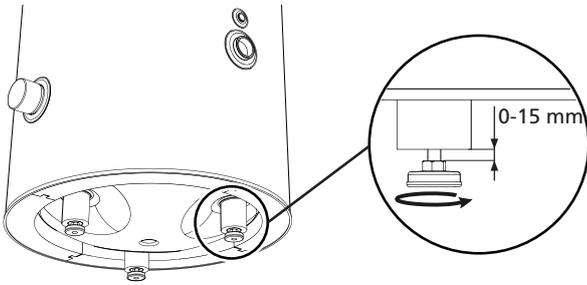
NIBE UKV 20 must only be installed vertically.

The accumulator tank must be installed in a dry area at a temperature that does not drop below 0 °C (frost-free).

Position NIBE UKV 20 on a firm base that can take the weight, preferably on a concrete floor or foundation. Use the product's adjustable feet to obtain a horizontal and stable set-up.

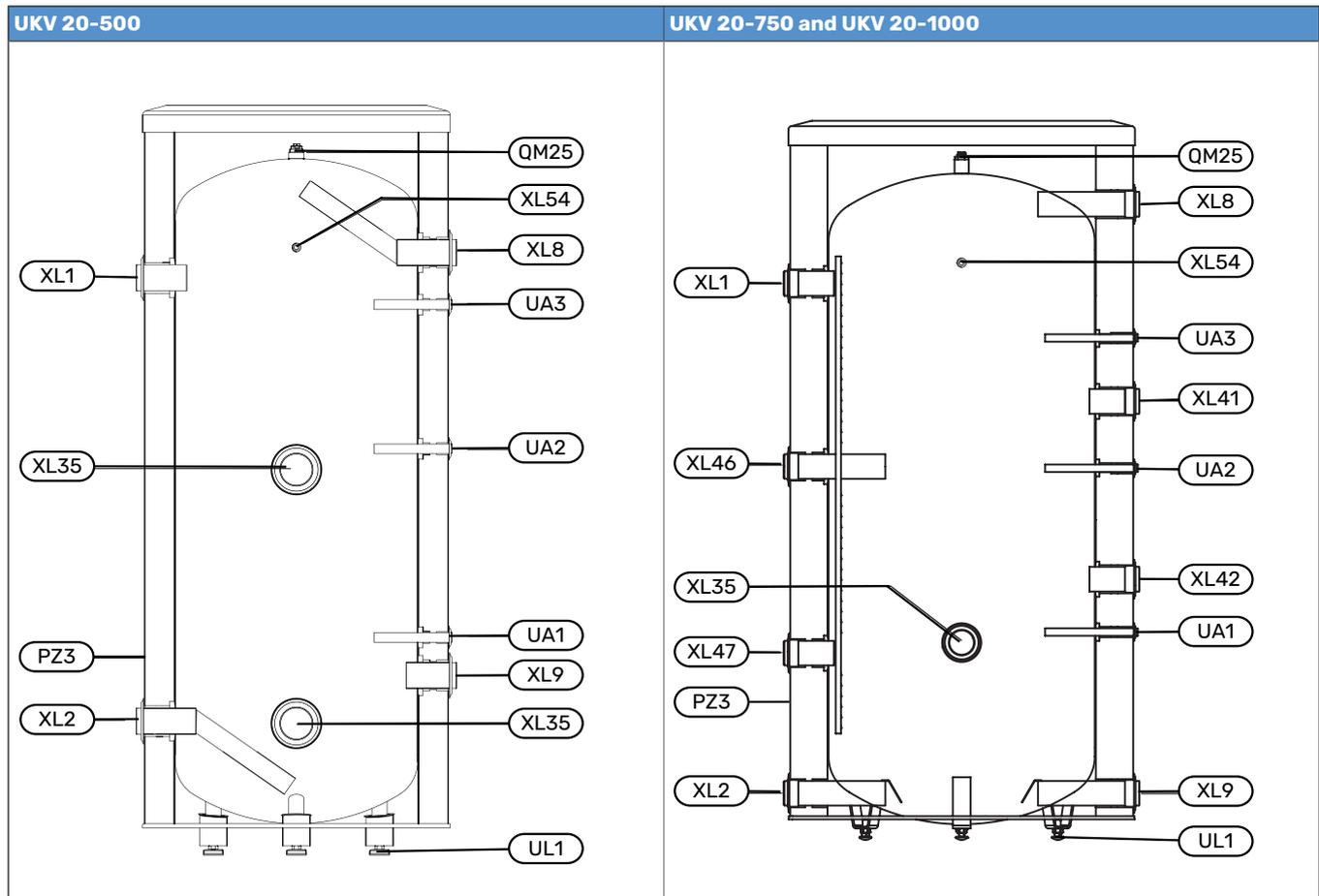
Ensure that there is sufficient space to perform servicing and maintenance.

The area where NIBE UKV 20 is located must be equipped with floor drainage.



Component location and pipe

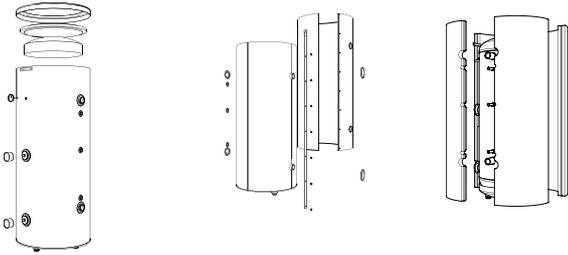
connections



| Designation | Name | UKV 20-500 | UKV 20-750/UKV 20-1000 |
|-------------|---|------------|---|
| XL1 | Connection, HP, Supply | int. 1½" | int. 2" |
| XL2 | Connection, HP, Return | int. 1½" | int. 2" |
| XL8 | Docking connection, heating system, supply | int. 1½" | int. 2" |
| XL9 | Docking connection, heating system, return | int. 1½" | int. 2" |
| XL35 | Connection, immersion heater | | int. 2" |
| XL41 | Docking connection, level 1 | | int. 2" |
| XL42 | Docking connection, level 2 | | int. 2" |
| XL46 | Docking connection, level 3 | | int. 2" |
| XL47 | Docking connection, level 4 | | int. 2" |
| XL54 | Connection, measurement point (thermometer) | | int. Ø 10 mm Insertion depth: approx. 250 mm |
| QM25 | Valve, bleeding | | int. ¾" |
| UA1 | Submerged tube, docking | | int. Ø 16 mm Insertion depth: approx. 250 mm |
| UA2 | Submerged tube, docking | | int. Ø 16 mm Insertion depth: approx. 250 mm |
| UA3 | Submerged tube, docking | | int. Ø 16 mm Insertion depth: approx. 250 mm |
| UL1 | Adjustable feet | | |
| PZ3 | Serial number plate | | |

Removing the insulation

- Remove the temperature gauge and the covers over the immersion heater connections.
- Lift off the top cover and remove the insulation at the top.
- Remove the covers over the connections and the cover discs.
- Remove all screws along the joining plate.
- Remove the insulated jacket.
- Remove the four insulated jacket sections; the outer diameter of the accumulator tank decreases by 100 mm without the insulated jackets.



When the accumulator tank has been placed in the correct location, reinstall the removed components in the reverse order.

Finally, fit all the supplied cover discs on the relevant connections by pressing them over the connections.



NOTE!

Fit the cover discs before the pipe installation is made.

Installation

The accumulator tank must be installed in an upright position. The four feet are vertically adjustable.

All connections (including connections or holes that are not used) must be insulated to minimise energy losses.

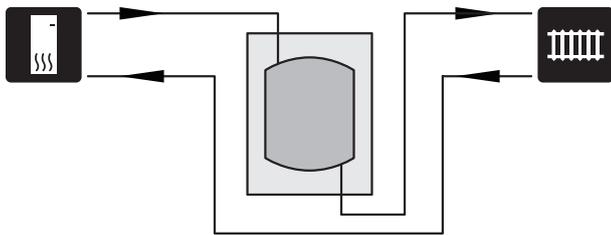
DOCKINGS



CAUTION!

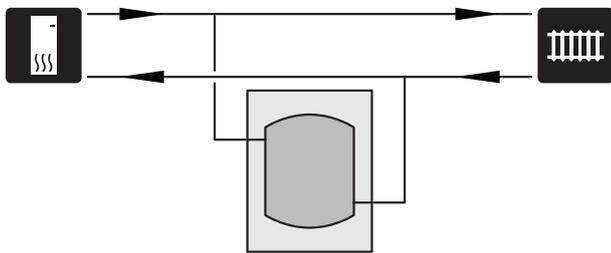
These are outline diagrams. Actual installations must be planned according to applicable standards.

Volume increase as well as reduction of heat spikes



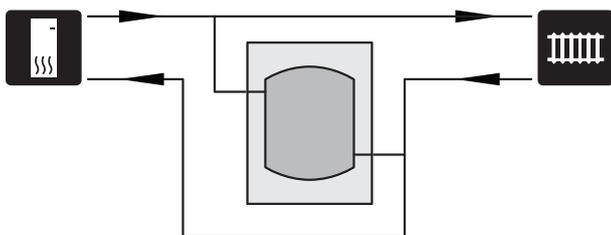
A NIBE UKV 20 is installed as a volume increaser in those cases where the system volume in the climate system is below the minimum recommended volume for the heat pump.

Volume and flow increaser and reduction in heat spikes



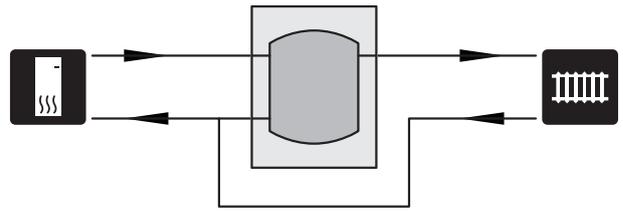
A NIBE UKV 20 is installed as a volume and flow increaser in those cases where the system volume in the climate system is below the minimum recommended volume for the heat pump and/or the flow is restricted without control.

Volume and flow equaliser, 2-pipe, low temperature, unbalanced and low flow



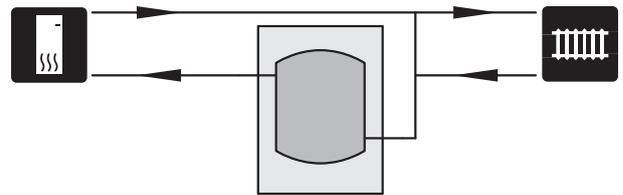
A NIBE UKV 20 is installed as a volume and flow increaser in those cases where the system volume in the climate system is below the minimum recommended volume for the heat pump and/or the flow is restricted without control.

Volume and flow equaliser, 3-pipe, low temperature, unbalanced flow, max. two compressors



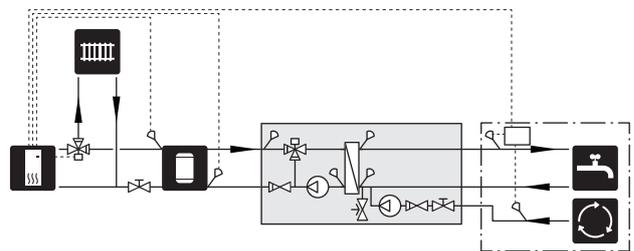
A NIBE UKV 20 is installed as a volume and flow increaser in those cases where the system volume in the climate system is below the minimum recommended volume for the heat pump and/or the flow is restricted without control.

Volume increase



A NIBE UKV 20 is installed as a volume increaser in those cases where the system volume in the climate system is below the minimum recommended volume for the heat pump.

Cetethem AquaEfficiency



The heat pump is connected to UKV 20 and charges them.

The energy is transferred via Cetethem AquaEfficiency from UKV 20 to the tap side. The hot water is heated when needed, but not stored.

Pipe installation

Pipe installation must be carried out in accordance with current norms and directives.

The drain valve is installed on the heating system's return line (XL9).

The system where UKV 20-500 is installed must be supplied with a safety valve of max. 10 bar (1.0 MPa), and the system where UKV 20-750 or UKV 20-1000 is installed must be supplied with a safety valve of max. 3 bar (0.3 MPa).

The overflow pipe must be the same size as the safety valve's. Route the overflow pipe from the safety valve, sloping along its entire length, and ensure that it is frost-proof and well supported. The mouth of the overflow pipe must be visible and not placed close to electrical components.

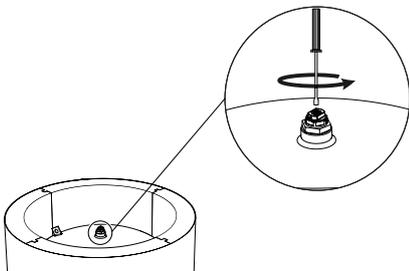
Ensure that incoming water is clean.

If uncertain, contact a plumber alternatively see applicable standards.

Filling

Fill the accumulator tank as follows:

1. Open the vent valve (QM25) at the top of the accumulator tank.
2. Fill the vessel through the drain valve.
3. When only water comes out of the vent valve (initially an air-water mixture comes out of the valve), the vent valve can be closed the accumulator tank is filled.



Electrical installation



CAUTION!

Electrical installation and service must be carried out under the supervision of a qualified electrician, and in accordance with applicable electrical safety regulations.

UKV 20-750 and UKV 20-1000 can be equipped with one immersion heater and UKV 20-500 can be equipped with up to two immersion heaters, connection dimension G50.

Each immersion heater is supplemented with junction box type K11 (2-pole thermostat, 3-pole temperature limiter). Do not modify or reconnect! A separate supply from group central is routed to each immersion heater.

When installing, ensure that there is enough room in front of the connection area to remove the element (see the following table).

IMMERSION HEATERS

| Element | Power (W) | Insertion length (mm) | Part no. |
|---------|-----------|-----------------------|----------|
| IU 31 | 1500 | 250 | 218 008 |
| IU 33 | 2250 | 260 | 218 001 |
| IU 34 | 3000 | 280 | 218 009 |
| GAR 312 | 9000 | 652 | 267 022 |
| IU 36 | 4500 | 400 | 218 010 |
| IU 39 | 6000 | 400 | 218 011 |
| IU 310 | 7500 | 400 | 218 002 |
| IU 311 | 9000 | 400 | 218 003 |

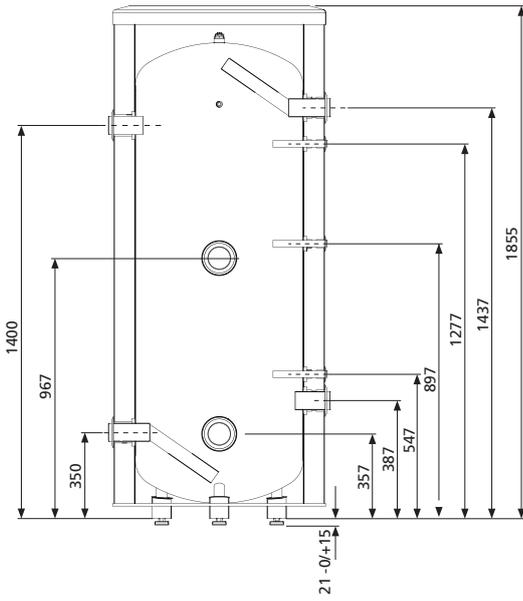


CAUTION!

The accumulator tank must be completely filled with water before it can be connected on the electrical side.

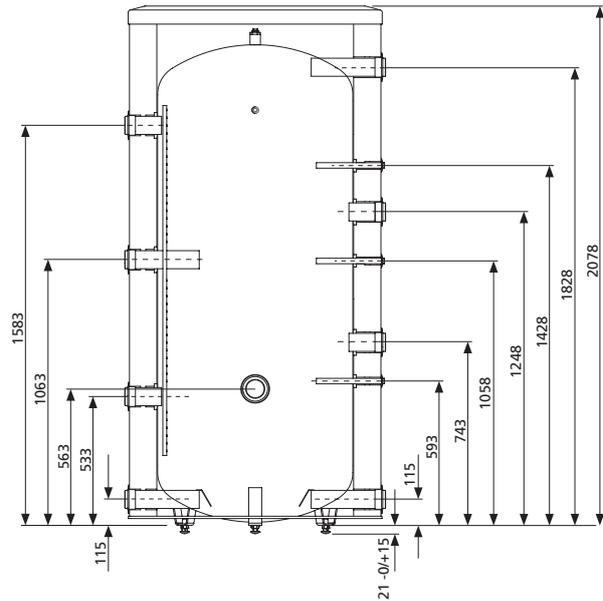
Technical data

UKV 20-500

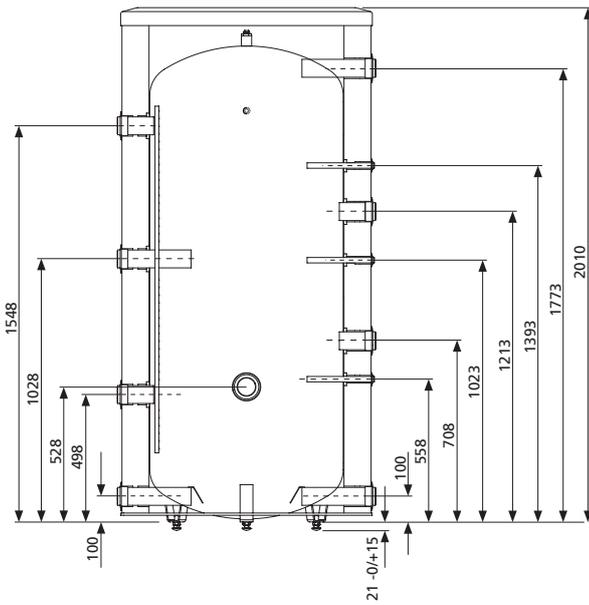


Dimensions

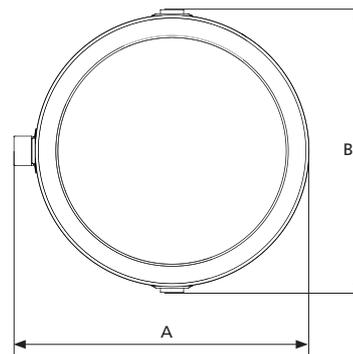
UKV 20-1000



UKV 20-750



Insulator end panel NIBE UKV 20



| Model | | A | B |
|-------------|----|------|------|
| UKV 20-500 | mm | 852 | 856 |
| UKV 20-750 | mm | 1020 | 1000 |
| UKV 20-1000 | mm | 1130 | 1110 |

| Model | | A | B |
|-------------|----|------|------|
| UKV 20-750 | mm | 1020 | 1000 |
| UKV 20-1000 | mm | 1130 | 1110 |

Technical specifications

| Type | | UKV 20-500 | UKV 20-750 | UKV 20-1000 |
|-----------------------------------|-------|------------|------------|-------------|
| Max. temperature in the tank | °C | 85 | | |
| Max. working pressure in the tank | (bar) | 10 | 3 | |
| Weight | kg | 110 | 170 | 200 |
| Part No. | | 080 014 | 085 002 | 085 003 |

Energy labelling

| Supplier | | NIBE | | |
|-------------------------------|---|------------|------------|-------------|
| Model | | UKV 20-500 | UKV 20-750 | UKV 20-1000 |
| Efficiency class ¹ | | C | | |
| Heat loss | W | 98 | 123 | 140 |
| Volume | l | 496 | 741 | 992 |

¹ Scale for the product's efficiency class A+ to F.

Accessories

Not all accessories are available on all markets.

Detailed information about the accessories and complete accessories list available at nibe.eu.

IMMERSION HEATER

This accessory is used as a supplement.

IU 31

1,500 W
Part no. 218 008

IU 34

3,000 W
Part no. 218 009

IU 39

6,000 W
Part no. 218 011

IU 311

9,000 W
Part no. 218 003

IU 33

2,250 W
Part no. 218 001

IU 36

4,500 W
Part no. 218 010

IU 310

7,500 W
Part no. 218 002

GAR 312

9,000 W
Part no. 267 022

TERMINAL BOX K11

Connection box with thermostat and overheating protection. (When connecting immersion heater IU/GAR)

Part no. 018 893

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