



ASKOHEAT-*PtH*

THE POWER TO HEAT ENTRY SOLUTION
FOR EVERY BUDGET



CE

ASKOMA *we care
about energy*

ASKOHEAT-*PtH*

- Store excess electricity in heat at any time
- Expandable at any time out of **ASKOFAMILY+**
- Open to all heat pump systems



The right heating element for the future

ASKOHEAT+ is used with the bidirectional meter to store excess electricity from the PV system in heat form in the hot water tank.

In our scope of delivery you receive the **ASKOHEAT+** 7-stage in different performance classes as a 230V or 400V version. You can choose from the following device variants:

- Screw-in heater 1½"
- Flange heater Ø 180mm
- **ASKOWALL+**

The **ASKOHEAT+** converts your surplus electricity from the PV system, wind turbine, water turbine or CHP unit into heat and stores this in your buffer storage / boiler in the house. This heat is then available to you when required.

Example for maximum PV electricity storage:

You have a 1000L buffer tank with a fresh water station that you heat up to 40°C with your heat pump with a high COP.

With the **ASKOWALL+** and the **ASKOHEAT+** you can load this buffer tank up to 85°C.

This means: 1000L x 45°C temperature difference to max. 85°C x 1.16 = 52 kWh

You can save up to 52 kWh of PV power.

Thanks to the PV surplus storage, you can protect the compressor of your heat pump in summer operation and increase the service life of the heat pump due to the hot water heating.

This energy will then be available on demand as needed.

"Take pleasure in heating" through the maximum use of surplus of specially produced renewable energy.

Initial temperature in the storage tank [°C]	40
Storage capacity [L]	1000

Final storage temperature [°C]	50	60	70	80	85
Rise of storage temperature [K]	10	20	30	40	45

Installation method of the heating element	Volume %								
ASKOWALL uses the whole storage capacity	100%		PV power storage [kW]	11.6	23.2	34.8	46.4	52.2	
Screw-in heater is in the middle area	50%		PV power storage [kW]	5.8	11.6	17.4	23.2	26.1	
Flange heater is in the lower range	75%		PV power storage [kW]	8.7	17.4	26.1	34.8	39.2	



The bidirectional meter for the Power to Heat entry

With the installation of the energy meter (bidirectional meter up to 100A 004-0356, up to 200A 004-0364 with flip conversions) at the building node and the **ASKOHEAT+** in the buffer storage, you have already taken the first step into the smart home world.

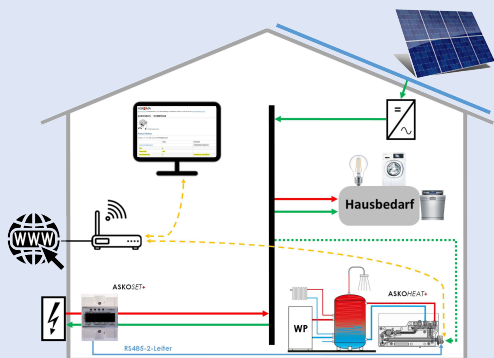
You connect your house router and the **ASKOHEAT+** with an on-site LAN cable. You connect the **ASKOHEAT+** and the energy meter with an RS 485 cable (two-wire line) and the wiring for **Power to Heat** is ready.

Functions available in the house network via WEB-Interface

ASKOHEAT-PIH

- PV surplus electricity prioritized to an **ASKOHEAT+**
- Power to Heat **7-stage**
- **System self-regulating** via information from the bidirectional meter
- System can be viewed **via home network**
- Visualisation of the house network via **PC, tablet, mobile phone**
- **No Cloud** necessary
- **Real-time visualisation** only
- Storage temperature can be read out with **4 sensor** (PT1000)
- Control as **emergency heating of heat pumps** (100%)
- **Manual operation of the heating element** 100% (shutdown after 24h)
- **Legionella protection** management (daily, weekly, fortnightly, monthly, always measured from the time of the last high temperature, thus max. PV power utilisation)
- Plug & Play for **SENEC batteries** and **SMA Sunny Home Manager (SEMP)**

Subject to technical changes



ADVANTAGE ASKOHEAT+ SCREW-IN HEATER 1½"

Easy to install

- ① Screw-in heater with insulated mounted heating tubes are suitable for enamelled and black steel boilers, and thanks to a dip switch also for stainless steel tanks
- ② Standard hex for secure tightening with conventional wrenches
- ③ Tapered thread for precise housing position and tight installation (1½" standard)
- ④ Factory-prepared internal wiring and supplied mating connectors

Technical design

- ⑤ Surface load 8-9W/cm², suitable for heating and drinking water
- ⑥ Optimal sensor position in the oval immersion tube for identical temperature measurement of safety temperature limiter and temperature control

ADVANTAGE ASKOHEAT-F+ FLANGE-HEATER Ø 180 mm

Easy to install

- ① Standard flange Ø 180 mm are suitable for enamelled and black steel boilers, and thanks to a dip switch also for stainless steel tanks
- ② Flat gasket included
- ③ Factory-prepared internal wiring and supplied mating connectors

Technical design

- ④ Low surface load (7W/cm²) for low calcification
- ⑤ Optimal sensor position
- ⑥ Insulated mounting of the heating tubes for low corrosion

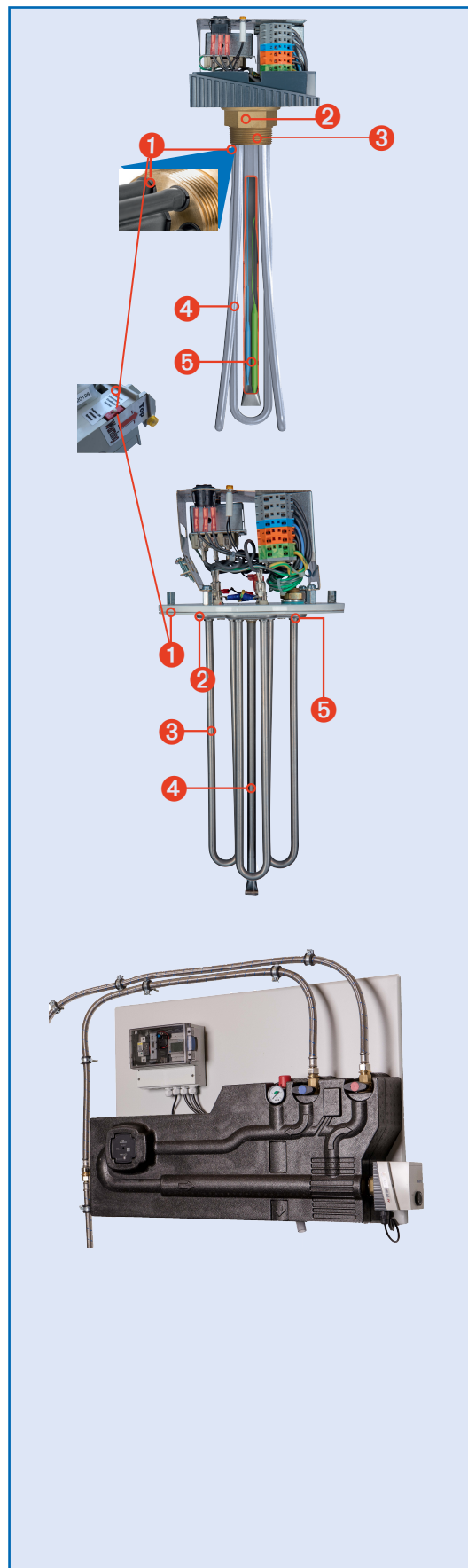
ADVANTAGE ASKOWALL+

- For max. surplus PV power storage
- Automatic temperature control
- Min. flow temperature can be freely selected (50-75°C)
- Temperatures up to 85°C possible
- Full buffer tank volume can be used
- Legionella protection thanks to high temperature
- Self-regulating pump
- No turbulence in thermal stratification of tank
- Pressure relief valve 3 bar
- Hydraulic unit tested up to 10 bar
- Slight changes possible
- Heating elements up to 9kW can be used

Approvals

- EN 60335-2-21
Condensate drain in housing prevents corrosion
No damage to the heating element during dry run
Overvoltage resistant (7.25%)
- EN 60335-1, EN 60335-2-73
- EN 55014-1, EN 55014-2
- EN 62233
- EN 60529

Subject to technical changes



	Order no.	Appellation	Description	Immersion length mm	Use
1.1. Screw-in heater ASKOHEAT +, 7 levels, 230V / 400V, LAN, Modbus TCP / RTU, REST API JSON and 0-10V					
	012-6391	AHIR-BI-plus-1.75	ASKOHEAT +, 230V / 400V, 7 levels 1.75kW	400	WALL/Tank
	012-6392	AHIR-BI-plus-3.5	ASKOHEAT +, 400V, 7 levels 3.5kW	600	WALL/Tank
	012-6393	AHIR-BI-plus-4.4	ASKOHEAT +, 400V, 7 levels 4.4kW	700	WALL/Tank
	012-6394	AHIR-BI-plus-5.2	ASKOHEAT +, 400V, 7 levels 5.2kW	750	WALL/Tank
1.2. Flange heater ASKOHEAT -F+, 7 levels, 230V / 400V, LAN, Modbus TCP / RTU, REST API JSON and 0-10V					
	012-6791	AHFR-BI-plus-1.75	ASKOHEAT -F+, 230V / 400V, 7 levels 1.75kW	250	Tank
	012-6792	AHFR-BI-plus-3.5	ASKOHEAT -F+, 400V, 7 levels 3.5kW	360	Tank
	012-6793	AHFR-BI-plus-4.4	ASKOHEAT -F+, 400V, 7 levels 4.4kW	420	Tank
	012-6794	AHFR-BI-plus-5.8	ASKOHEAT -F+, 400V, 7 levels 5.8kW	540	Tank
2.1. Expansion ASKOSET +					
	004-0356	Energy meter up to 100A	Energy meter for node point- or inverter reading up to 100A		Wall/Boiler
	012-0134 (004-0364)	Energy meter up to 200A and flip conversions	Energy meter for node point or inverter reading up to 200A with three flip conversions		Wall/Boiler

The advantages of an ASKOHEAT + compared to a normal heating element are as follows:

Settings

- The heating element has a **local web interface**. All settings can be conveniently made locally with the usual web browsers, which means that there is also an up-to-date device status display
- Enter in the **web browser**: <http://askoheat.local> or the direct IP address e.g. <http://192.168.1.29>

Assembling

- The electrical connection of the device is easy to install using the **supplied plug**.
- Thanks to these plugs, the device can be **easily** and completely disconnected from the power and data network **for service work**.
- Can be used in an **insulated design with a dip switch** for all storage materials and for heating as well as drinking water.

Function

- The **7 power levels** can be controlled via **LAN, Modbus TCP / RTU, REST API JSON** or via **0-10V**.
- POWER to HEAT** function directly via bidirectional energy meter, energy manager or building automation controls
- Control can either take place via **specified power** or **energy surplus control** (feed-in value).
- Plug & Play for **SENEC.Home** battery and **SMA Sunny Home Manager (SEMP)**
- Button for emergency heating** on the device = Heating element switches to 100% output for 24 hours
- Heat pump request** via **potential-free input** (output adjustable)

Comfort control

- Up to **4 x PT1000 temperature sensors** can be read out in order to display the stratification temperature behavior in the storage tank. In addition, the sensors can be selected individually for regulation.
- 4 dynamic legionella protection time programs** are integrated, daily, weekly, fortnightly, monthly (interval start after last high temperature).
- Use of night power** = drinking water can be kept at the desired, freely adjustable temperature in the boiler with night power (low rate tariff).
- Minimum temperature** = A minimum temperature can be defined, which is never fallen below.

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ASKOHEAT+ HOMEPAGE

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Actual Status

Version 1.15 - 15.6.2021 (Used with Firmware 4.3.0)

	Value	Comment
Local and Temperature		EMERGENCY MODE ON
MODE	0	
OPERATION	ON	
Actual Power Set	0	CONTROLLED BY SENECH HOME
Actual Power Limit	1000W	
Actual Temperature Limit	55 °C (Maximum temperature 55 °C)	USE THE LIMIT SETTING AND LIMIT POWER
External Temperature 4	55 °C	
External Temperature 3	55 °C	Used for temperature control and legionella protection
External Temperature 2	55 °C	
External Temperature 1	NOT CONNECTED	
Internal Temperature 0	55 °C	

This system can be expanded at any time with the energy manager **ASKOSET** and its software expansion **ASKOHOMES** and **ASKOHOMES+**. You can find a demo version in the App or Play Store under **ASKOHOMES+**. More information about this you can find in the **ASKOFAMILY+** brochure.