

TECHNICAL DATASHEET



ELECTRICAL

Mains Backup and Mains Parallel Operation:

- AC Voltage (Nominal)	V	3~ 400
- Nominal Frequency	Hz	50
- Nominal Power ¹	kW	7.2
- Fuel Cell Power Output ²	kW _{el}	1.5
- Power Usage for Electrolysis (Hydrogen Production) ²	kW _{el}	2.3
- Apparent Power ¹	kVA	9.0
- Energy Battery (Short-Term Storage, Capacity Total / Usable) ³	kWh _{el}	36 / 20
- Electrical Energy from Hydrogen Storage (Seasonal) ²	kWh _{el}	300 (expandable up to 1,500)

DC Connection to Photovoltaic⁴:

- Number of Independent MPPT Inputs / Strings		3
- Max. Convertible Generator Power per MPPT	kW	5.8
- Max. Input Voltage (Open Terminal Voltage) per MPPT	V _{oc}	250

AC Connection to External PV Inverter⁴:

- Voltage/ Frequency/ Max. Charging Power of picea Battery	V / Hz / kW	3~ 400 / 50 / 5.7
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THERMIC

Usable Process Heat ⁵	kWh	ca. 3,000
Temperature Level of Process Heat (warm water treatment in summer)	°C	max. 55

Ventilation:

- Max. Air Volume (at 100 Pa)	m ³ /h	350
- Heat Recovery Rate	%	up to 87
- Sound Level without Silencer in Nominal Operation ⁶	dB (A)	58
- Sound Level of Duct Connections with Silencer in Nominal Operation ⁶	dB (A)	37
- Nominal Pipe Size	DN	180
- Dimensions of the 4 Air Filter Boxes incl. Reducers (W x H x D)	mm	each 470 x 427 x 330
- Can be Combined with Heating Unit Independent of Ambient Air		yes (optional)
- Filter Boxes: Outside Air with ISO Coarse 60% (G4) and ISO ePM1 ≥ 50% (F7), House Exhaust Air with ISO ePM1, ≥ 50% (F7), Circulation Air with ISO Coarse 60% (G4)		

Hydraulic Connections:

- Flow / Return Connection to the Hot Water Tank	G ¾" AG / G ½" AG
- Fresh Water Hose / Waste Water Hose	DN ¼" / 10x15 mm flexible

Heating Rod:

- Thermal Power	kW	three-stage up to 4.5
- Fitting Length	mm	450
- Thread		G 1½" male

Interface to Heat Pumps SG Ready (for heat pumps), combination with all common heat pumps possible

MAIN COMPONENTS

Energy Unit (indoor system)⁷:

	Weight	Dimensions W x H x D
- Consisting of System and Battery Cabinet	approx. 2.2 t	1.5 x 1.85 x 1.0 m
- Electrical Subdistribution for Integration into Household Circuit	approx. 45 kg	0.55 x 1.1 x 0.22 m
- Installation inside the Thermal Hull of the House, T>15°C		
- Min. Room Height for the Indoor System: 2.0m; Location max. 1,000 m above Sea Level		

Hydrogen Storage (Outdoor System)⁸:

	Weight	Dimensions W x H x D
- Compact Compressor Unit	approx. 0.6 t	0.75 x 2.0 x 1.0 m
- Gas Cylinder Bundle XL (300 kWh electrically usable)	approx. 1.8 t	1.0 x 2.0 x 1.0 m
- Noise Level without Silencer in Nominal Operation ⁹	dB (A)	58
- Noise Level with Silencer in Nominal Operation ⁹	dB (A)	55
- Noise Level without Silencer in Nominal Operation at 3m Distance ⁹	dB (A)	49
- Operating Pressure of Gas Cylinder Bundle	bar	max. 300

Hydrogen Storage Extension (modular design, up to 4):

	Weight	Dimensions W x H x D
- Gas Cylinder Bundle XL (300 kWh electrically usable) ²	approx. 1.8 t	1.0 x 2.0 x 1.0 m

FURTHER INFORMATION

Energy Source / Emissions	Solar Energy / H2O and O2
picea App ¹⁰	Android, iOS

¹Dependent on temperature and battery state of charge. Apparent output power (kVA) is limited to 3 kVA per phase in mains backup operation. ²In delivery state, depending on the load profile and operating conditions. ³The lifetime as well as the gross and net capacity of the batteries depends on the installation and operating conditions. In mains standby operation mode, the net capacity of the battery can be up to 25 kWh_{el} in grid parallel operation up to 20 kWh_{el}. ⁴In accordance with the EEG and VDE-AR-N 4105:2018-11, the picea standard design assumes a maximum total PV system output of 30 kWp. The maximum apparent power of externally installed generation systems may total an additional 21kVA. Attention should be paid to VDE-AR-N 4105:2018-11. ⁵Depending on configuration and consumption behavior, typically between 2,000 and 4,000 kWh. ⁶Measurement according to E DIN EN 13141-7. ⁷The energy unit meets protection class IP20D. ⁸The hydrogen storage tank meets protection class IP44C. ⁹Measurement by hand based on DIN EN ISO 3744:2011-02, all requirements of TA noise for residential areas are met. Noise emissions only sporadically and never between 10pm and 6am. ¹⁰Internet connection is required for the picea app as well as for remote maintenance and yield monitoring. Further details on request.