

Solar package NIBE PV

NIBE PV is an integrated solution which is based on a fully modular system with eight basic sizes: 3.6 / 7.2 / 10.8 / 14.4 / 18 / 21.6 / 25.2 kW Each size consists of a number of base package with 10 panels and a nominal power of 3.6 kW, mounting parts and a suitable inverter with communication module, all of which are ready for installation.

NIBE PV comprises of monocrystalline silicon cell panels which use PERC technology, with an output of 320 Wp. The solar panels are elegant, all-black panels. NIBE PV harnesses sunlight all year round and converts it into electricity. NIBE PV can be connected to your NIBE heat pump* for maximum energy efficiency.

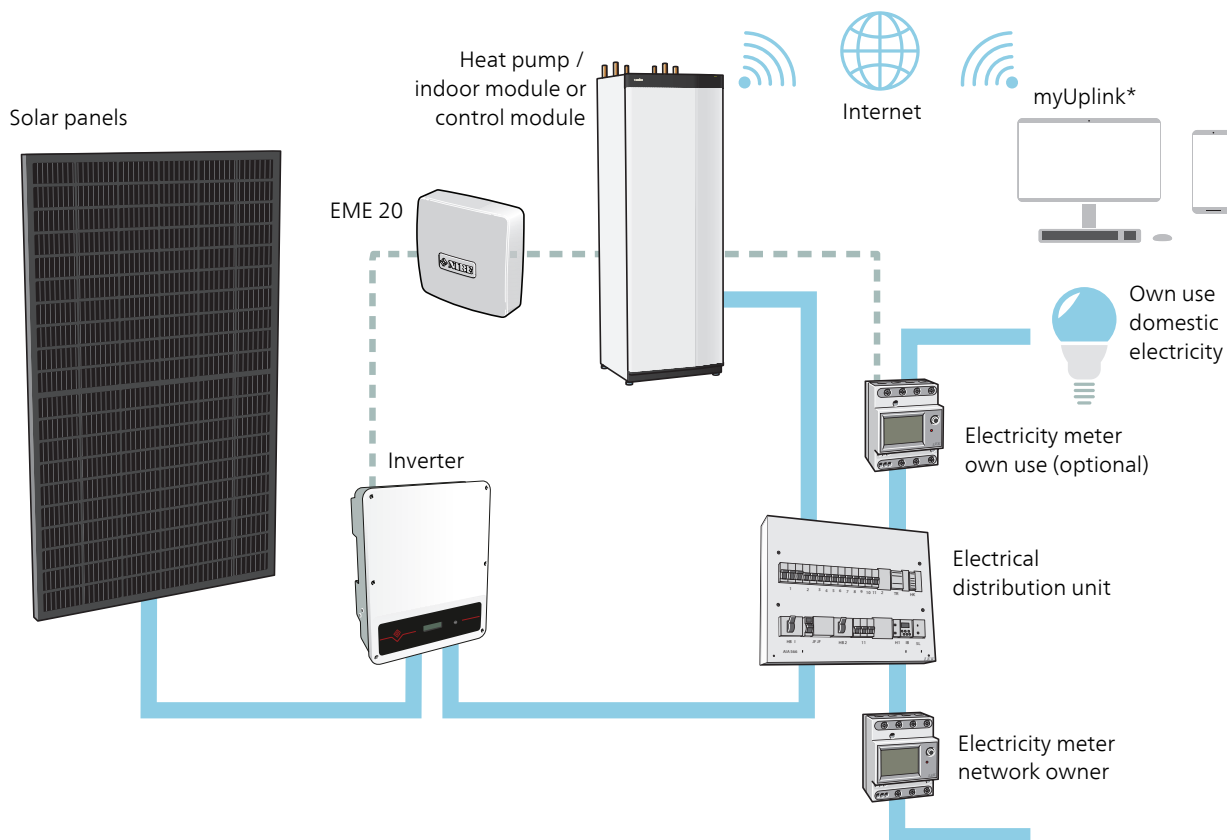
Thanks to smart technology, the product gives you control over your energy consumption and will be a key part of your connected home. The efficient control system automatically adjusts the indoor climate for maximum comfort, and you do nature a favour at the same time.

* applies to systems which can be connected to myUplink / NIBE Uplink.

- Flexible modular system with eight basic sizes which can be easily expanded.
- Elegant, all-black panels which use PERC technology for maximum efficiency.
- Connect to a NIBE heat pump for maximum energy efficiency.



This is how NIBE PV works



* myUplink for the S-series and NIBE Uplink for the F-series.

Factory-fitted junction boxes prepared with cables for positive and negative connections can be found on the reverse of the solar panels. The cables are fitted with quick-release connectors.

The electrical cables between the panels and the inverter must be double insulated and UV/weather-resistant photovoltaic cables, 4 mm² up to 100 m length (not supplied).

The inverter is connected and fused to the fuse panel as if it was a load with the same output. The inverter includes a factory-fitted 300 mA residual current device. If the inverter is to be connected to an external residual current device, this must be 300 mA or larger and of type A.

On an annual basis, you obtain the maximum possible benefit from your solar panel package when it is used together with a NIBE heat pump.

NIBE PV connected to your NIBE heat pump via a supplied communication module, which in turn can be connected to myUplink / NIBE Uplink. This system solution means that the inverter's information is shown in the heat pump. Thanks to smart technology, this system solution provides you with control over your energy consumption via myUplink / NIBE Uplink.

With the heat pump's efficient control system and smart communication, the heat pump can adapt to the free solar energy that is produced.

The surplus portion is supplied to the national grid for use in the neighbourhood. When you produce your own solar electricity from solar cells, you are producing renewable energy without any emissions, and with no worry about rising electricity prices.

INSTALLATION

General

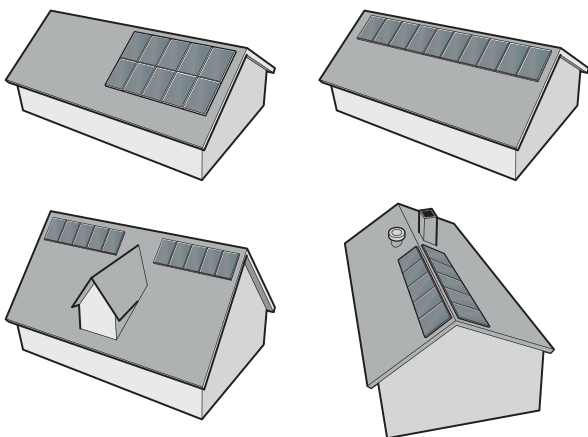
The installation must only be carried out by competent personnel.

The enclosed materials are those required for the installations described. In special cases, these may need to be supplemented. If in doubt, contact your supplier. Information regarding applicable standards and regulations must be obtained prior to the installation and commissioning of the solar panel system. Please note that commissioning the installation before the power supplier has given its approval is not permitted.

Mounting

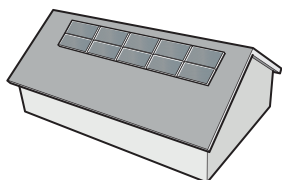
Examples of possible combinations

Examples of possible combinations per ten panels:



Horizontal installation

The rails are installed vertically in the case of horizontal mounting.



Specially adapted roof brackets for tiled roofs, sheet metal roofs, felt roofs or seamed sheet metal roofs. The type of roof bracket to be used must be specified when ordering. If the panels are installed in a different formation, additional mounting materials may be required.

Additional connectors and mounting materials may be required to install solar panels horizontally or in different groupings.

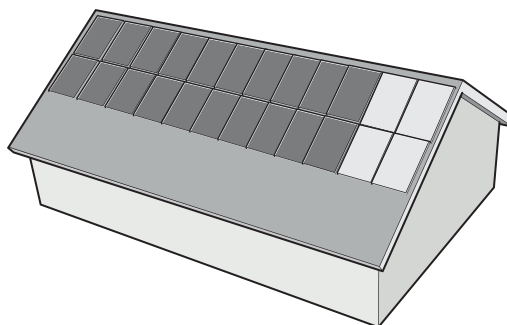
Additional panels

Each package can be expanded with additional panels.

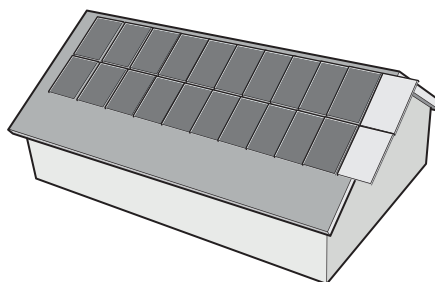
This means that you have extremely good flexibility, allowing attractive roof installation.

Example

7.2 kW package installed on roof that is expanded by e.g. four solar panels (8.6 kW)



7.2 kW package installed on roof where you have decided not to install e.g. two panels (6.5 kW).



Number of solar panels per string and per package

The table shows how many panels you can have per string, as well as how many panels are standard and how many the inverter can cope with. The inverter has dual trackers, allowing the installation of different numbers of panels per string. If the number of panels is not sufficient to achieve the minimum number for two strings, you have to install all the panels in one string.

String = a number of panels connected in series.

<i>PVI</i>	<i>Inverter max. DC:</i>	<i>Min./string</i>	<i>Max./string</i>	<i>Std./no.</i>	<i>Min. total</i>	<i>Max. total</i>
10-3 *	3.9 kW	4	10	-	4	10
20-4	5.2 kW	7	14	10	7	14
20-6	7.8 kW	7	21	20	7	21
20-10	13 kW	7	21	30	7	36
20-12	15.6 kW	7	2x21 **	40	7	43
20-15	19.5 kW	7	2x21 **	50	7	54
30-20	26 kW	10	2x20 ***	70	10	72

* 1x230 V.

** Tracker one can manage one string or two equally long strings.

*** Two equally long strings per tracker (can also manage one string per tracker).

Good to know about NIBE PV

Installation and positioning

Using the map and the diagram, it is possible to estimate the annual value of the insolation on the surface where the solar panels are placed.

100% is the insolation at a horizontal surface. The angle of inclined surfaces is 45°.

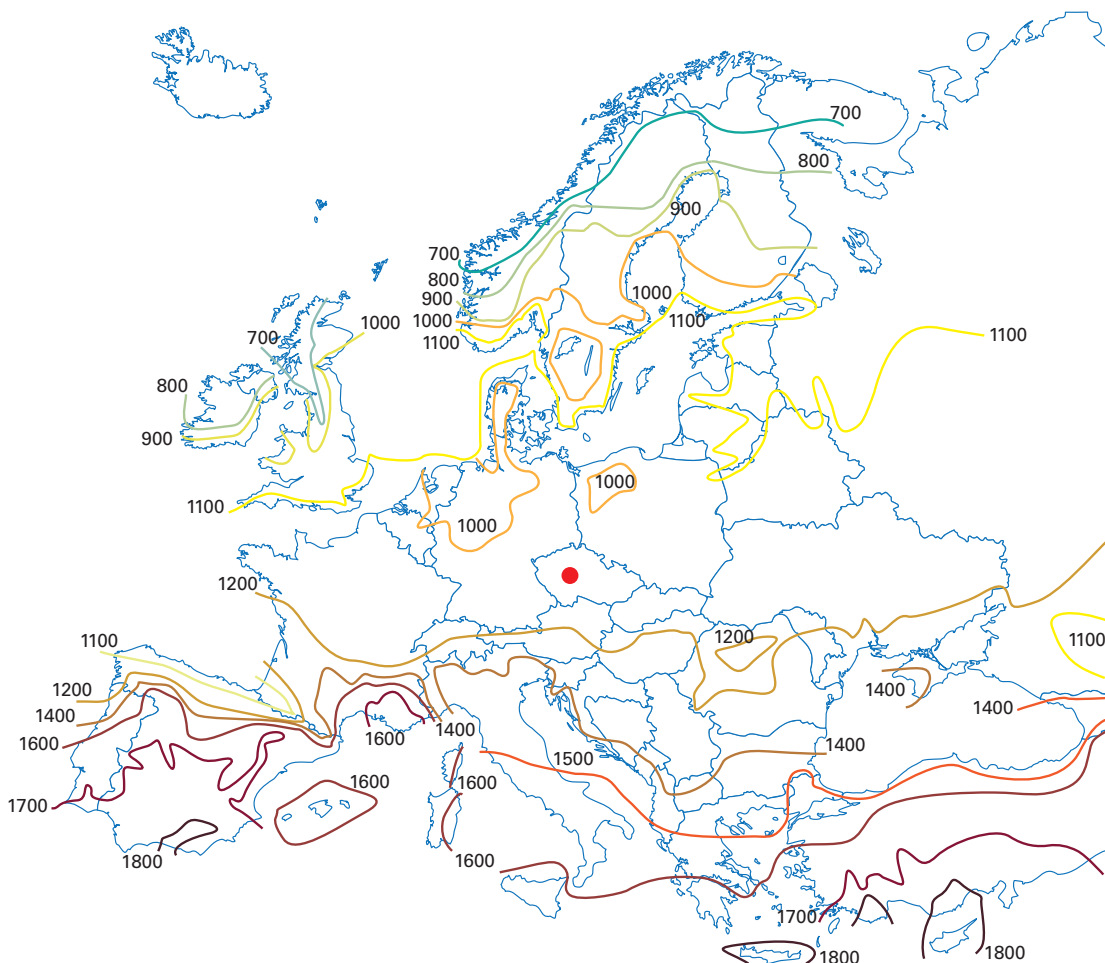
The diagram shows insolation as a percentage of global radiation in relation to surfaces at various orientations and angles.

The map shows lines with the same global radiant flux, i.e. the insolation measured at horizontal surfaces.

1. Calculate the annual solar radiation using the map. The specific solar radiation for the installation is obtained as a percentage, based on the location of the solar panel according to the diagram.
2. Multiply the results by the installation's peak output (e.g. 3.6 / 7.2 / 10.8 / 14.4 / 18 / 21.6 / 25.2 kW).
3. Multiply the result 2 by a constant 0.9 to calculate the energy production in kWh/year (with a reservation for shade, dirt and snow coverage).

Examples: Prague, 7.2 kW, 45°, installation south (112 %).

$$1120 \times (112/100) \times 7.2 \times 0.9 = 8129 \text{ kWh/year}$$



Technical specifications

<i>Solar panel</i>	<i>kW</i>	3.6	7.2	10.8	14.4	18	21.6	25.2	
Rated output at STC (P _{mpp})	W _p	360							
Rated voltage (U _{mpp})	V	34.3							
Rated current (I _{mpp})	A	10.5							
External; dimensions (LxWxH)	mm	1755x1038x35							
Version with aluminium frame		Anodised black							
Weight panel	kg	21							
Connection cables with pre-installed connectors	mm	2x1000							
<i>PVK basic kit</i>		30-10				30-20			
Part No.		057 292				057 293			
<i>Inverter</i>		<i>PVI 10-3</i>	<i>PVI 20-4</i>	<i>PVI 20-6</i>	<i>PVI 20-10</i>	<i>PVI 20-12</i>	<i>PVI 20-15</i>	<i>PVI 30-20</i>	
Voltage	V	1x230	3x400						
Outer dimensions (WxHxD)	mm	347x432x145	354x433x147	354x433x155			516x650x203		
Weight	kg	14	15	16	18	39			
Max. number of strings		2			3	4			
Colour		White							
Number of trackers (MPPT)		2							
Enclosure class		IP65							
Max. power output ¹	kW	3	4	6	10	12	15	20	
Recommended fuse size	A	16			25	32		40	
Part No.		057 200	057 276	057 277	057 278	057 279	057 281	057 286	
<i>EME 20 (only included in inverter PVI 10/20)</i>									
External dimensions (LxWxH)	mm	81x81x28							
Enclosure class		IP22							
Part No.		057 188							

¹ Has to be fused according to the max. power output or the max. DC power, if that is lower.

Accessories

Not all accessories are available on all markets.

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

Solar package NIBE PV

1 x Wifi communication module CMO
11 (for the PVI 10-series)

Part no. 057 252



1 x Wifi communication module CMO
22 (for the PVI 20/30-series)

Part no. 057 283



NIBE Energy Systems
Box 14, SE-285 21 Markaryd
nibe.eu

PBD EN 2120-6 M11989EN

This product sheet is a publication from NIBE Energy Systems. All product illustrations, facts and data are based on current information at the time of the publication's approval. NIBE Energy Systems makes reservations for any factual or printing errors in this product sheet.

©2021 NIBE ENERGY SYSTEMS