

# SOLAR POWER SYSTEM PRODUCT INTRODUCTION



*Hangzhou Regional Center (Asia-Pacific) for Small Hydro Power*

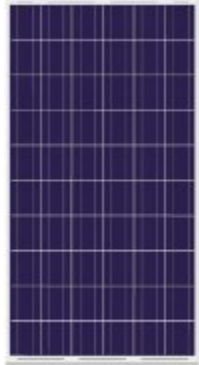


*Hangzhou Yatai Hydro Equipment Completing Co., Ltd.*



*Hangzhou Tri-energy Technology Co., Ltd.*

# Component



Solar panel



controller



inverter

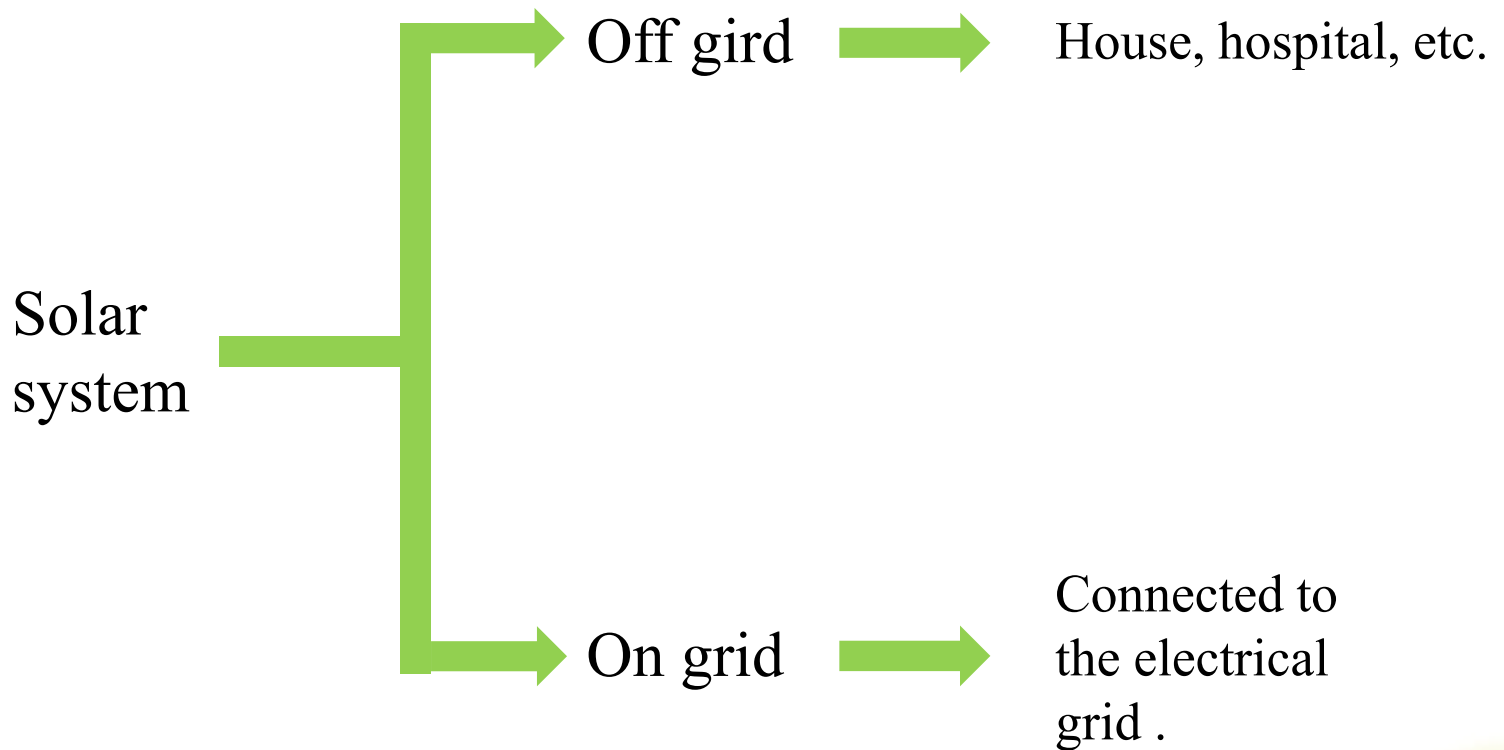


battery

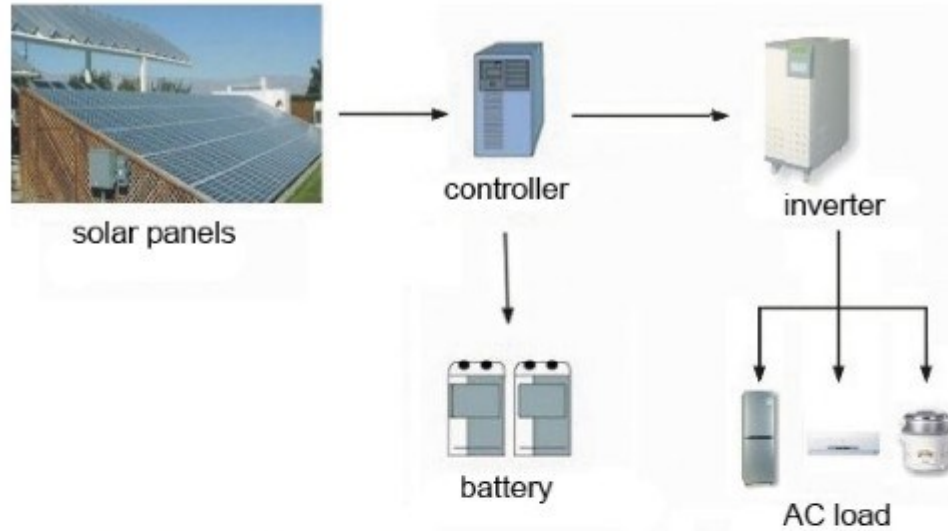
Main parts: solar panels,  
controller, inverter, battery



# Solar system type

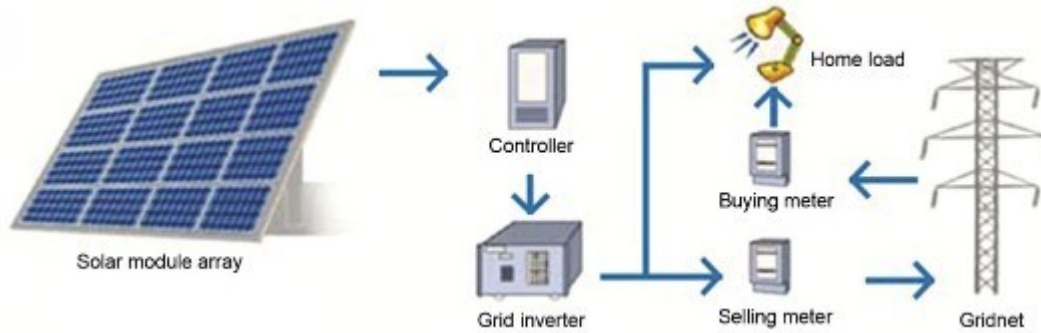


# Off grid type



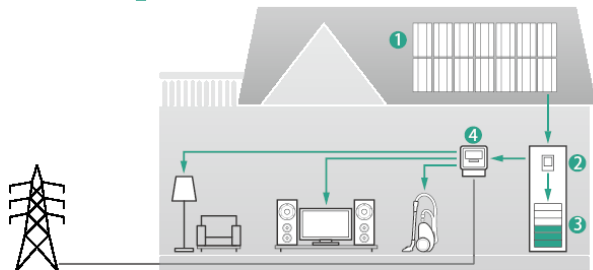


# On grid type



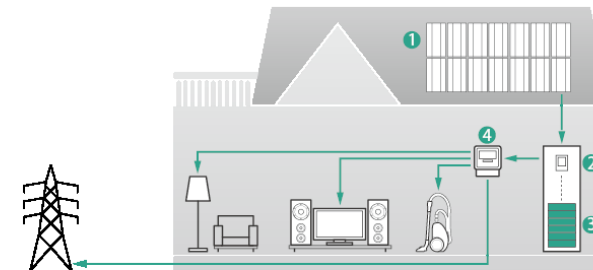
# On grid type for household

## Morning



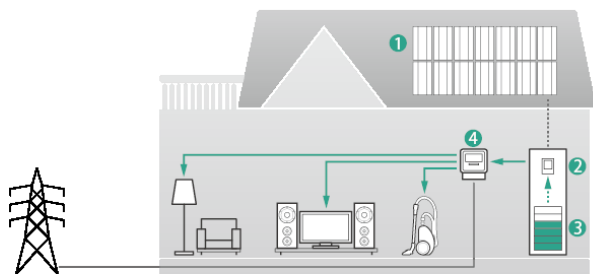
Energy produced by the PV system (1) is used to optimize self-consumption; excess energy is used to recharge the batteries (3).

## Afternoon



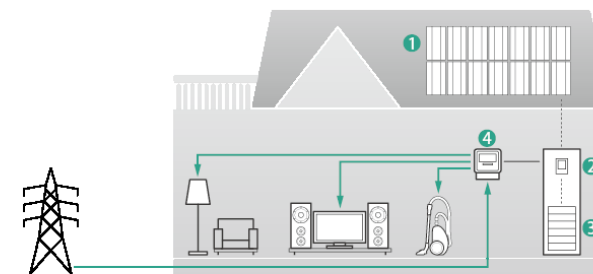
When the batteries (3) are fully charged and Phonocube is already meeting your self-consumption requirements; excess energy is fed into the public grid.

## Evening

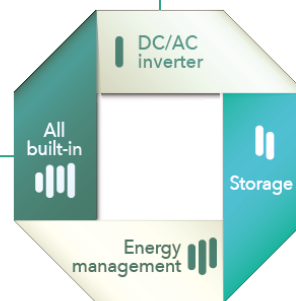


Once the sun has set, the system automatically switches to energy from the batteries (3).

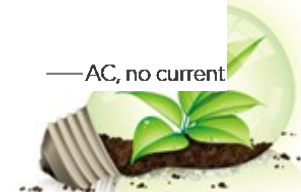
## Night



If the battery (3) capacity is insufficient to meet your consumption requirements; electricity is then obtained from the public grid.



- ① PV System
- ② Inverter
- ③ Built-in Batteries
- ④ Energy Meter
- DC, current
- DC, no current
- AC, current
- AC, no current



# Our Main Products



Off-  
grid  
type

- ◆ Household off-grid solar power system
- ◆ Portable Solar Power System
- ◆ Solar pump system

On-  
grid  
type

- Household on-grid solar power system
- On-grid solar power station



# Our Main Products



## Household solar power system











# Our Main Products



## Portable Solar Power System







Model:	GS-SP-10	GS-SP-10A	GS-SP-10B	GS-SP-10L	GS-SP-20A	GS-SP-20B
Photo:						
Output:	DC 12V	DC 12V	AC 220V and DC 12V	DC 12V	AC 220V and DC 12V	DC 12V
Panel	Poly 10W	Poly 10W	Poly 10W	Poly 10W	Poly 40W	Poly 20W
Max Capacity:	120Wh	72Wh	84Wh	144Wh	180Wh	120Wh
Battery:	Lead-acid 12V/7A	Lithium 12V6Ah	Lead-acid 12V7Ah	Lead-acid 12V12Ah	Lithium 12V15Ah	Lithium 12V10Ah
Weight:	9KG	6KG	5KG	11KG	11.5KG	8.5KG
Volume:	0.01CBM	0.012CBM	0.015CBM	0.02CBM	0.035CBM	0.017CBM



# Our Main Products



## Portable Solar Power System

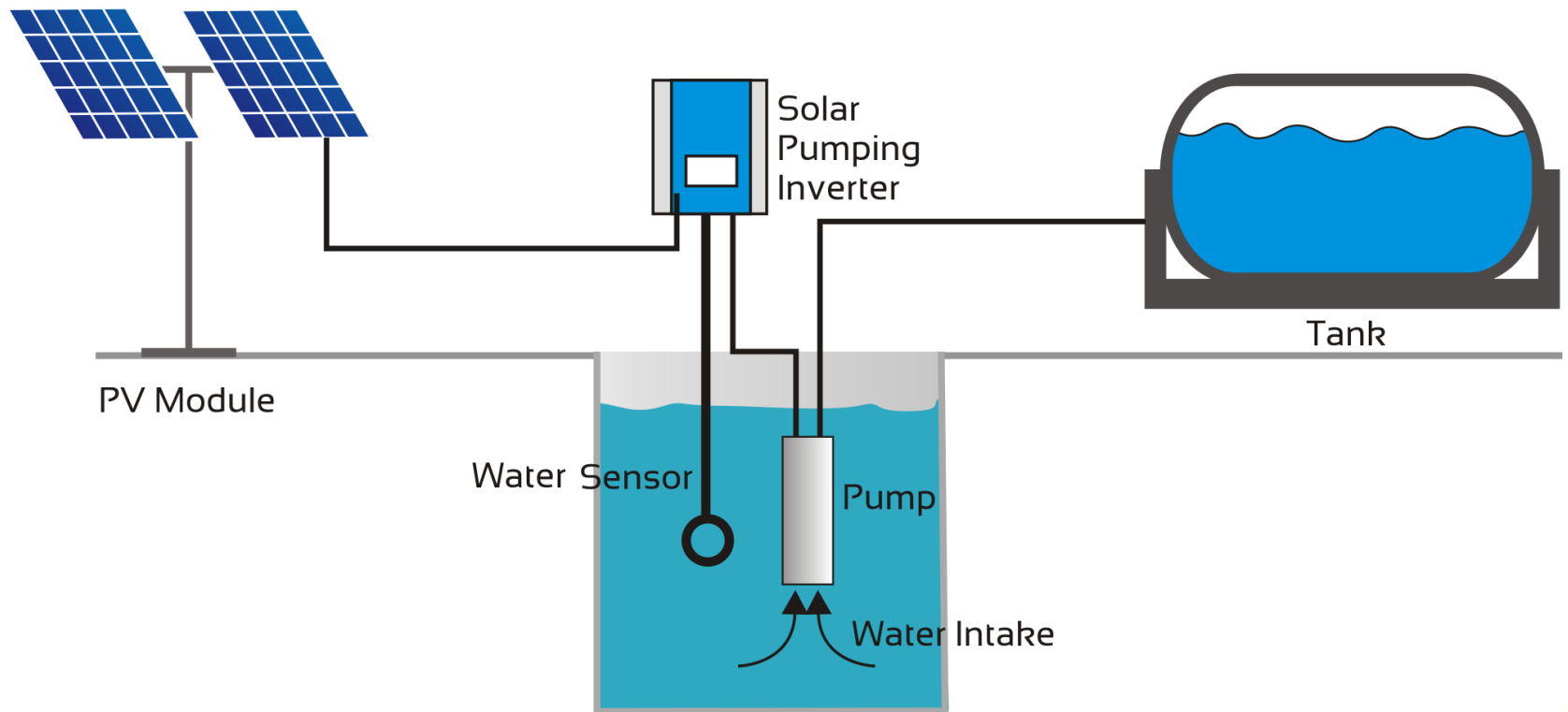
Model:	GS-SP-20C	GS-SP-50L	GS-SP-50X	GS-SP-85/130	GS-SP-85D	GS-SP-85L
Photo:						
Output:	AC 220V and DC 12V	AC 220V and DC 12V	AC 220V and DC 12V	AC 220V and DC 12V	AC 220V and DC 12V	AC 220V and DC 12V
Panel	Poly 20W	Mono 50W	Mono 50W	poly 85W	Poly 130W	Poly 130W
Max Capacity:	180Wh	456Wh	288Wh	780Wh	576Wh	960Wh
Battery:	Lithium 12V15Ah	Lead-acid 12V38Ah	Lead-acid 12V24Ah	Lead-acid 12V65Ah	Lead-acid 12V48Ah	Lead-acid 12V80Ah
Weight:	6.5KG	27KG	24KG	43KG	41KG	48/50KG
Volume:	0.004CBM	0.06CBM	0.07CBM	0.1CBM	0.15CBM	0.1/0.17CBM





# Our Main Products

## Solar Pumping System





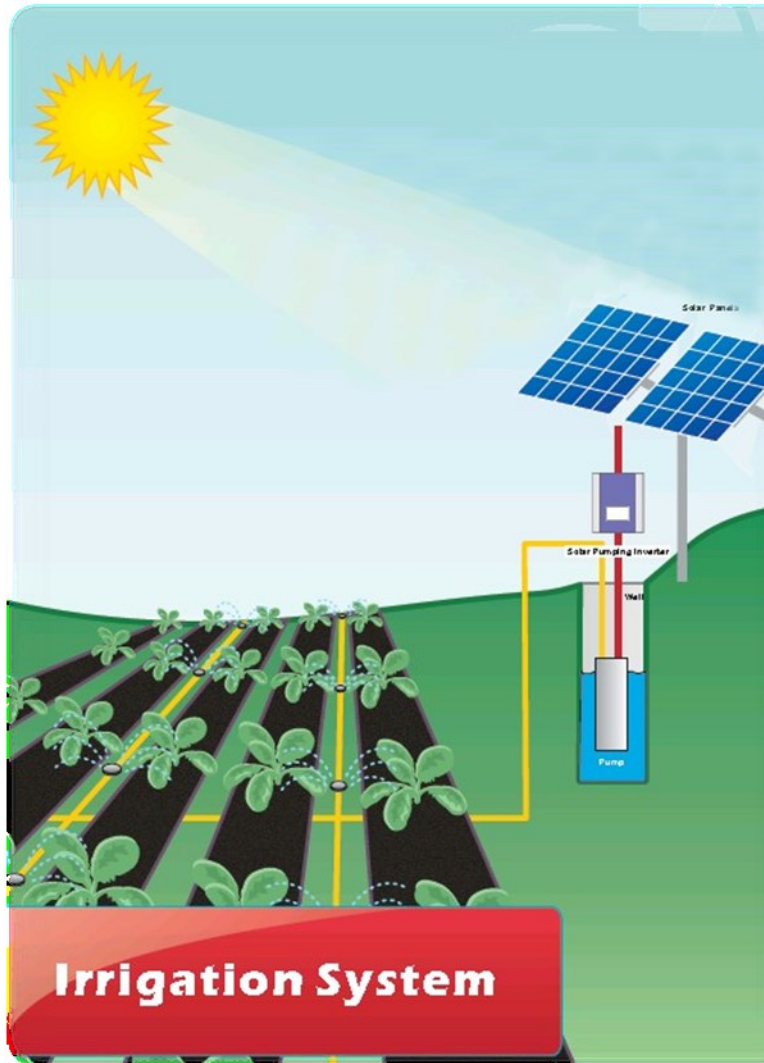
# Our Main Products

## Solar Pumping System

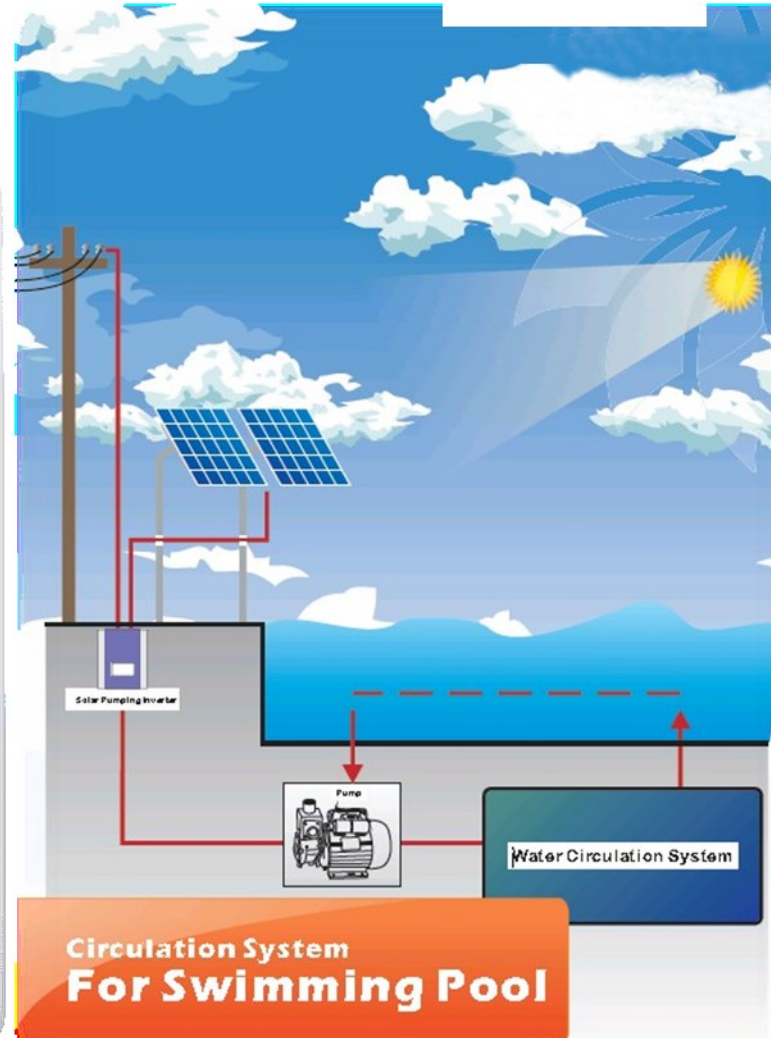
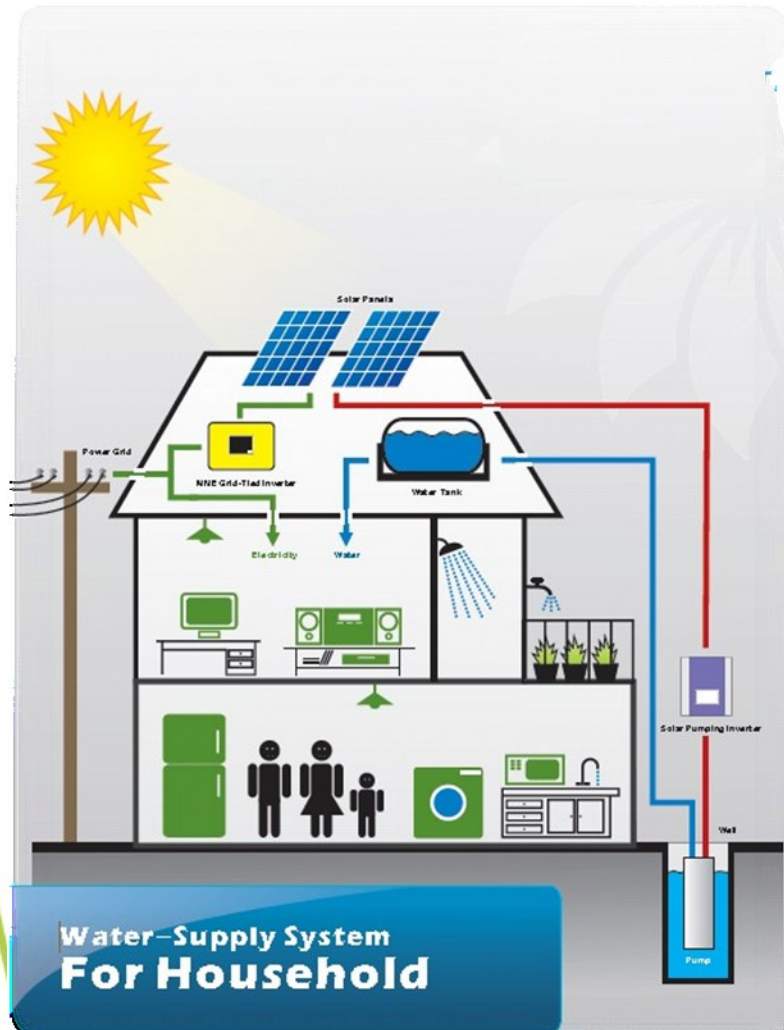




# Solar pump system application



# Solar pump system application



# Our Main Products



## Solar Power Station



# Our Main Products



## Solar Power Station





# Example project



Project name: 6kW grid-connected family-based photovoltaic system.

Location: Macedonia, a total area of 25,713 km<sup>2</sup> (9,928 sq mi). It lies between latitudes 40° and 43° N, and mostly between longitudes 20° and 23° E (a small area lies at the east of 23° ). According to the data from NASA, the sunshine duration is 3.84 h/day in Macedonia.

Location	Macedonia
Sunshine duration	3.84 h/day (from NASA)
Capacity	6.0kW
Installing location	Roof
System type	Grid-connected (380V)





# Schedule for example project

No.	Name	Model	Unit	Amount	Remarks
1	Solar panel (Poly)	250W/34.4V	pcs	24	
2	Controller	110V/60A	set	1	
3	Lead-acid battery	2V/200A	pcs	55	To be supplied by Owner
4	(On-grid with battery) Inverter	110V/6000W	set	1	
5	Solar brackets	On slanting roof	set	1	
6	Wire from combiner to battery	RVV2*4	M	100	
7	Wire from battery to inverter	RVV2*10	M	100	



# Characteristic of example project



Low battery capacity: continue raining 1 day, less cost.

Automation: when the power of battery is too low, connect to the National Grid; when the power of battery is enough, solar system will supply to the house.



# Solar pump system example project



No. of sets	1	2	3	4	5	6	7	8
Require water head of pump (m)	95	87	45	85	87	88	50	85
Require discharge (m <sup>3</sup> /day)	418	31	65	30	74	53	148	33
Pump model No.	SJ95-9	SJ8-21	SJ12-10	SJ5-25	SJ17-12	SJ12-18	SJ30-7	SJ8-21
Rated power of pump (kw)	37	4	3	2.2	7.5	5.5	7.5	4
Rated water head of pump (m)	95	83	50	94	87	91	52	83
Rated discharge of pump (m <sup>3</sup> /h)	95	8	12	5	17	12	30	8
Pump dimension (mm)	3066*200	1875*100	1480*100	1206*100	1913*133	2220*100	1858*133	1875*100
Outlet diameter of pump (inch)	5"	2"	2"	1"1/2	2"1/2	2"	3"	2"
Inverter model No.	MNE-SP45KV3	MNE-SP5K5V3	MNE-SP3K7V3B	MNE-SP2K2V3	MNE-SP9K2V3	MNE-SP5K5V3	MNE-SP9K2V3	MNE-SP5K5V3
Protect grade	IP52	IP52	IP52	IP52	IP52	IP52	IP52	IP52
Max open circuit V	820	820	700	820	820	820	820	820
Min MPP V	500	500	360	500	500	500	500	500
Output V	0~380 (3HP)	0~380 (3HP)	0~440 (3HP)	0~380 (3HP)	0~380 (3HP)	0~380 (3HP)	0~380 (3HP)	0~380 (3HP)
Solar panel type	poly-Si	poly-Si	poly-Si	poly-Si	poly-Si	poly-Si	poly-Si	poly-Si
Solar panel model No.	SZYL-P250-36	SZYL-P250-36	SZYL-P250-36	SZYL-P250-36	SZYL-P250-36	SZYL-P250-36	SZYL-P250-36	SZYL-P250-36
Amount	216	26	20	16	48	32	48	26
Operating voltage	36VDC	36VDC	36VDC	36VDC	36VDC	36VDC	36VDC	36VDC
Peak power w	250	250	250	250	250	250	250	250



# Solar pump system example project



# Solar pump system example project



# Solar pump system example project



# Thank You !

A row of five solar panels is mounted on a green, rolling hill. The panels are tilted towards the sun and reflect the blue sky and white clouds. The background is a clear blue sky with a few fluffy white clouds.

## Contact

Chen Ting

Tel: 0571-56729250

Fax: 0571-88800936

E-mail: [tchen@hrshp.org](mailto:tchen@hrshp.org)

HRC,

122, Xueyuan Road, Hangzhou, China

Post code: 310012