

*Water*



*Sun*

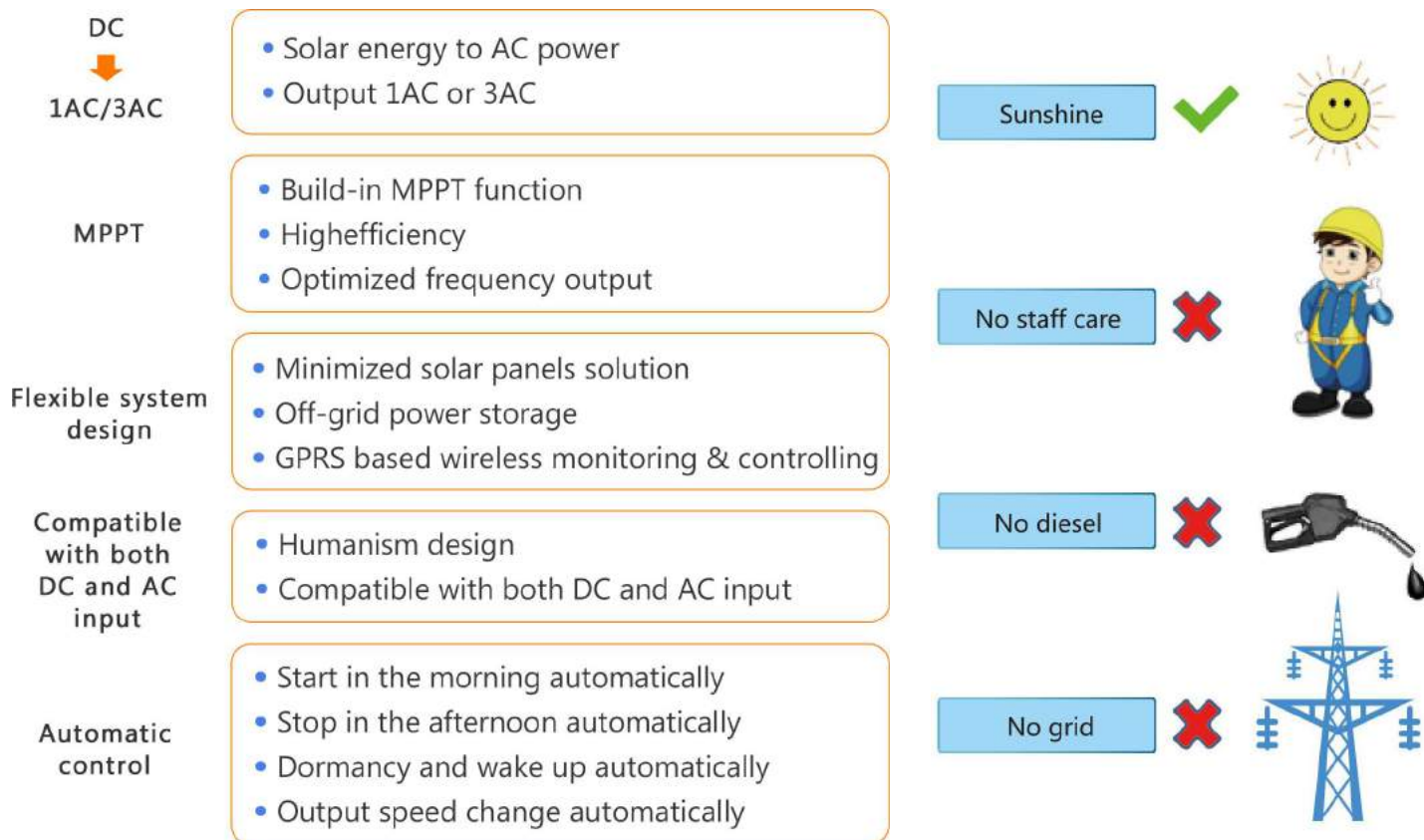


*Life*





## Product features



## Model Selection

### Single-Phase 220~240V Output

Model No.	Rated output power	Max. DC input current	Rated output current	Pump
	(kW)	(A)	(A)	(kW)
SPI100-2S-0.4B	0.4	4.5	2.5	≤0.2
SPI100-2S-0.7B	0.75	8.2	4.0	≤0.4
SPI100-2S-1.5B	1.5	14.0	7.0	≤0.75
SPI100-2S-2.2B	2.2	23.0	9.6	≤1.5
SPI100-2S-4.0B	4.0	35.0	17.0	≤2.2

### Three-Phase 220~240V Output

Model No.	Rated output power	Max. DC input current	Rated output current	Pump
	(kW)	(A)	(A)	(kW)
SPI100-2T-0.4B	0.4	4.5	2.5	≤0.2
SPI100-2T-0.7B	0.75	8.2	4.0	≤0.4
SPI100-2T-1.5B	1.5	14.0	7.0	≤0.75
SPI100-2T-2.2B	2.2	23.0	9.6	≤1.5
SPI100-2T-4.0B	4.0	35.0	17.0	≤2.2

IP20-SPI200

Model description



SPI200-4T-011B

Products series Number  
 SPI: Solar Pump Inverter  
 100: 220~240V level  
 200: 380~415V level

Output voltage  
 4T: Three phase 380~415V  
 2T: Three phase 220~240V  
 2S: Single phase 220~240V

Brake unit  
 None: No Braking Unit  
 B: Built-in brake unit

Output power: 2.2kW

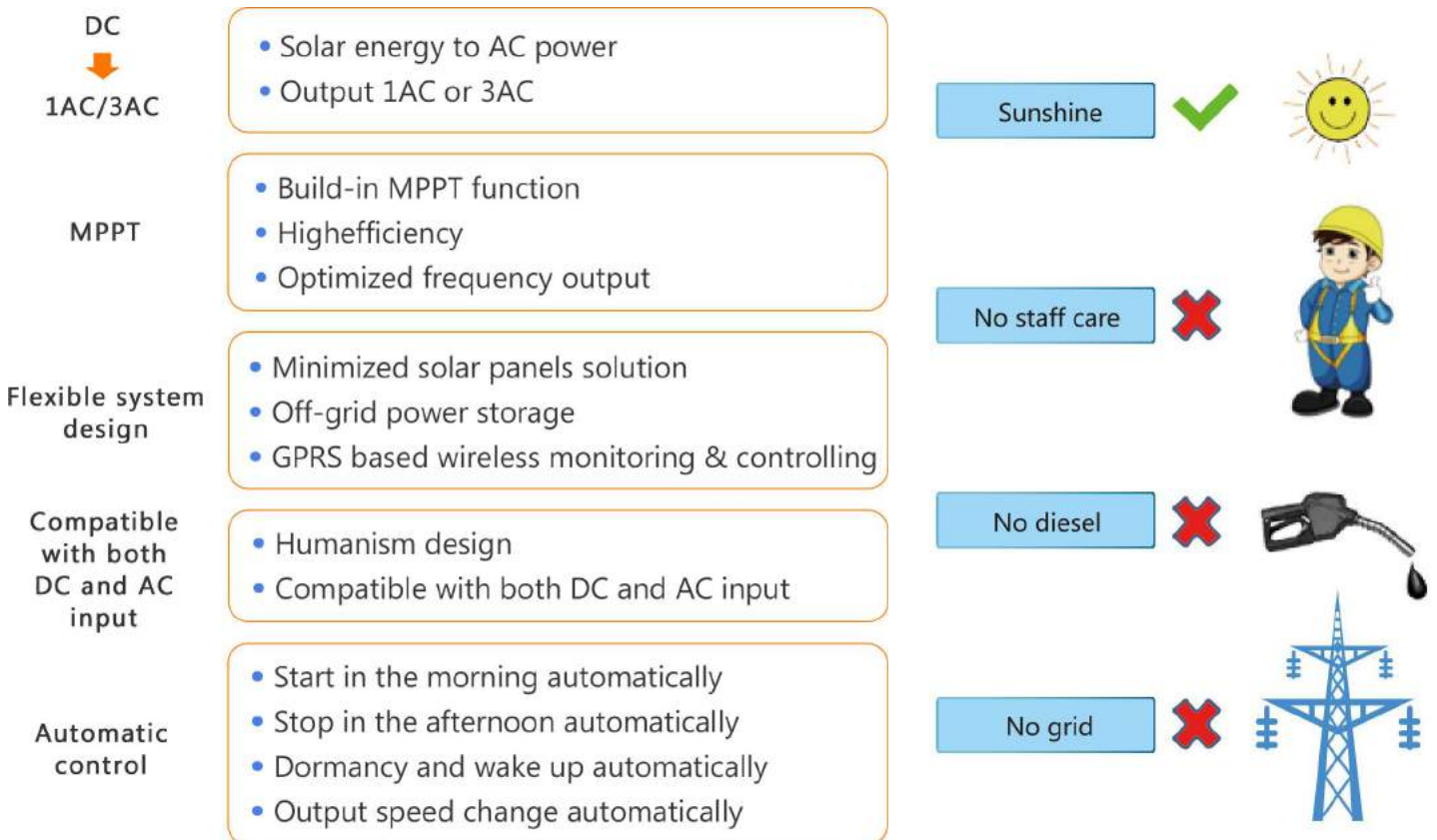
Features

- Simple & Easy
- High efficiency MPPT
- Fully automatic running
- Water level control
- Max. water head: 400m
- Max. water flow: 8000m /day
- Output: 3AC 380~415V

Specifications

Max input DC voltage	800VDC
Recommended MPPT voltage range	450~600VDC
Recommended input voltage (Vmp)	500~540VDC
MPPT efficiency	99.9%
Rated output voltage	3AC 380~415V
Output frequency range	0~600Hz
Efficiency of the inverter	97%
IP grade	IP20
Water level control function	Low water level start High water level stop

## Product features



## Model Selection

### Three-Phase 380~415V Output

Model No.	Rated output power	Max. DC input current	Rated output current	Pump
	(kW)	(A)	(A)	(kW)
SPI200-4T-0.7B	0.75	3.4	2.5	≤0.45
SPI200-4T-1.5B	1.5	5.0	3.8	≤0.75
SPI200-4T-2.2B	2.2	5.8	5.1	≤1.5
SPI200-4T-4.0B	4	10.5	9.0	≤2.2
SPI200-4T-5.5B	5.5	14.6	13.0	≤4
SPI200-4T-7.5B	7.5	20.5	17.0	≤5.5
SPI200-4T-011B	11	26.0	25.0	≤7.5
SPI200-4T-015B	15	35.0	32.0	≤11
SPI200-4T-018B	18.5	38.5	37.0	≤15
SPI200-4T-022B	22	46.5	45.0	≤18.5
SPI200-4T-030B	30	62.0	60.0	≤22

※ Upto 710kW Inverter can be supported.

## New Launch - One Button Control Solar Pump Inverter

IP65-API

*Model description*



**API 5500 H**

Products series Number  
API: AC Pump Inverter

Output power: 5.5kW

Output Voltage  
H: High Voltage, 3 Phase 380V  
L: Low Voltage, 3 Phase 220V  
S: Single Phase, 220V

### *Features*

- One button control, simple & easy operation
- High MPPT efficiency 99.9%
- 2/1 PV combiner box integrate
- Lightning protection, short circuit protection
- Compatible with generator or untility power
- Remote control, RS232/485 protocol
- integrate GPRS/Wifi/GSM/3G control optional

### *Specifications*

	Single phase inverter	Three phase inverter
Max input DC voltage	450VDC	800VDC
Recommended MPPT voltage range	250~350VDC	450~600VDC
Recommended input operation voltage (Vmp)	310VDC	540VDC
Input voltage	Single phase 220V (-15%~30%)	Three phase 380V (-15%~30%)
Rated output voltage	1PH or 3PH 220V~240V	3PH 380V
Output frequency	0~600.00Hz (Default: 0~50.00Hz)	0~600.00Hz (Default: 0~50.00Hz)
IP grade	IP65	IP65

## Inverter details



Inverter terminal board



Inverter keypad

## Outer plug instruction

Socket	Terminal	Wire description	Connection Description
	PV Input Positive	Red wire single strand	connected positive pole of PV array
	PV Input Negative	Black wire single strand	connected negative pole of PV array
	AC Input	Red Wire	L1 Phase
		Green Wire	L2 Phase
		Yellow Wire	L3 Phase
	AC Output	Black	U Phase
		Black	V Phase
		Black	W Phase
		Yellow-green	Ground
	Sensor	Yellow Wire	The high level of tank sensor
		Orange Wire	The low level of tank sensor
		Red Wire	The high level of reservoir sensor
		Black	The low level of reservoir sensor
		Brown Wire	—

## Model Selection

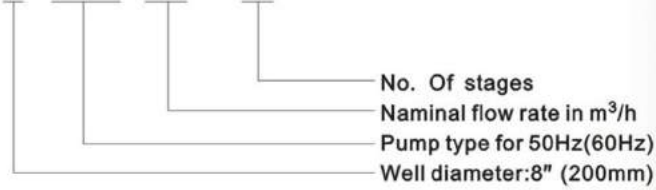
Solar Pump Inverter					Solar Panel	AC Pump
Model	Rated Power(KW)	Max. DC Input Current(A)	Rated Output Current(A)	Rated Output Voltage(V)	DC Power (KW)	Rated Power(KW)
API750S	0.75	8.2	4.0	Single PH 220	1.5	0.45
API1500S	1.5	14.0	7.0	Single PH 220	2.5	0.75
API2200S	2.2	23.0	9.6	Single PH 220	4.0	1.5
API4000S	4.0	35.0	17.0	Single PH 220	6.0	2.2
API750L	0.75	8.2	4.0	3PH220	1.5	0.45
API1500L	1.5	14.0	7.0	3PH220	2.5	0.75
API2200L	2.2	23.0	9.6	3PH220	4.0	1.5
API4000L	4.0	35.0	17.0	3PH220	6.0	2.2
API750H	0.75	3.4	2.5	3PH380	0.825	0.75
API1500H	1.5	5.0	3.8	3PH380	2.25	1.5
API2200H	2.2	5.8	5.1	3PH380	3.3	2.2
API4000H	4	10.5	9.0	3PH380	6	4
API5500H	5.5	14.6	13.0	3PH380	8.25	5.5
API7500H	7.5	20.5	17.0	3PH380	11.25	7.5
API11000H	11	26.0	25.0	3PH380	16.5	11
API15000H	15	35.0	32.0	3PH380	20	15
API18000H	18	38.5	37.0	3PH380	24	18.5
API22000H	22	46.5	45.0	3PH380	29	22
API30000H	30	62.0	60.0	3PH380	39	30

# 8CS & 8CSS Series 8" Casting Stainless Steel Submersible Borehole Pump



● PUMP IDENTIFICATION CODE  
For Example

8 CS(S) 100 - 15



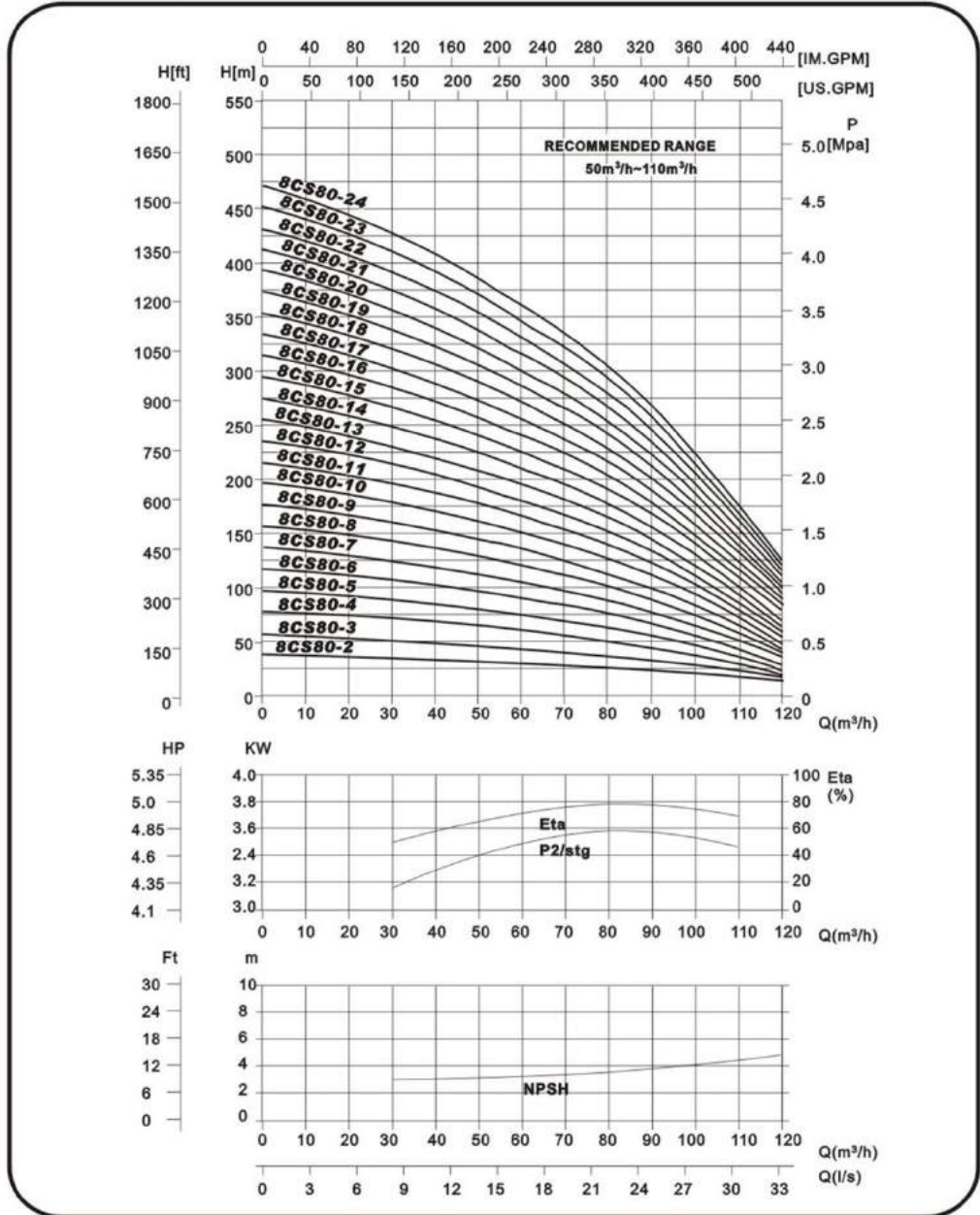
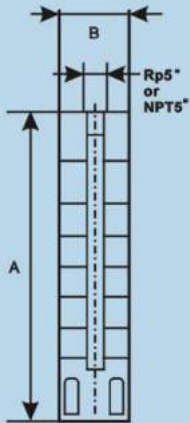


# 8" Submersible Pump

# 8CS80

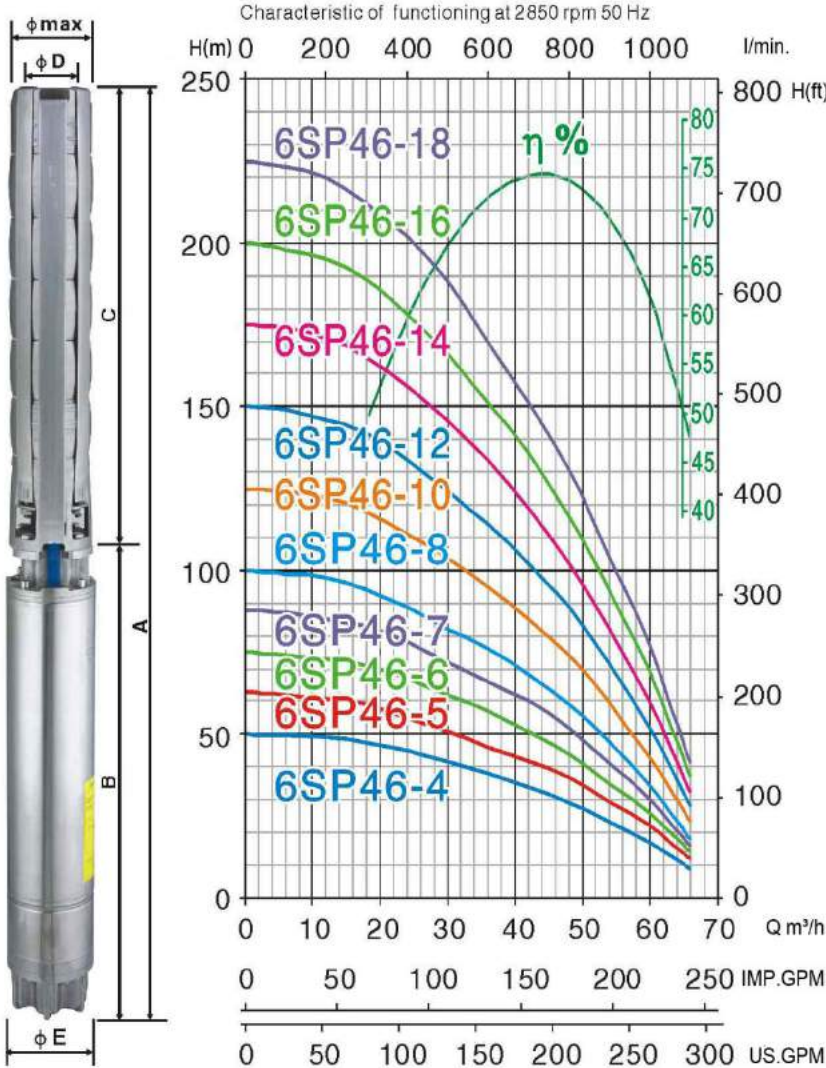
50Hz 2900rpm

## Performance curve



Pump Type	Motor			Dimension(mm)		Net Weight(kg)
	Type	Power		Pump		Pump
		KW	HP	A	B(max)	
8CS80-2	6" Motor	7.5	10	625	170	29
8CS80-3	6" Motor	11	15	751	170	35.5
8CS80-4	6" Motor	15	20	877	170	42
8CS80-5	6" Motor	18.5	25	1003	170	48.5
8CS80-6	6" Motor	22	30	1129	170	55
8CS80-7	6" Motor	30	40	1255	170	61.5
8CS80-8	6" Motor	30	40	1381	170	68
8CS80-9	6" Motor	30	40	1507	170	74.5
8CS80-10	8" Motor	37	50	1633	170	82
8CS80-11	8" Motor	37	50	1759	170	88.5
8CS80-12	8" Motor	45	60	1890	170	95
8CS80-13	8" Motor	55	75	2016	170	101.5
8CS80-14	8" Motor	55	75	2142	170	108
8CS80-15	8" Motor	55	75	2268	170	114.5
8CS80-16	8" Motor	75	100	2394	170	121
8CS80-17	8" Motor	75	100	2520	170	127.5
8CS80-18	8" Motor	75	100	2646	170	134
8CS80-19	8" Motor	75	100	2772	170	140.5
8CS80-20	8" Motor	75	100	2898	170	147
8CS80-21	8" Motor	75	100	3024	170	153.5
8CS80-22	8" Motor	93	125	3150	170	160
8CS80-23	8" Motor	93	125	3276	170	166.5
8CS80-24	8" Motor	93	125	3402	170	173

PUMP - 6SP46



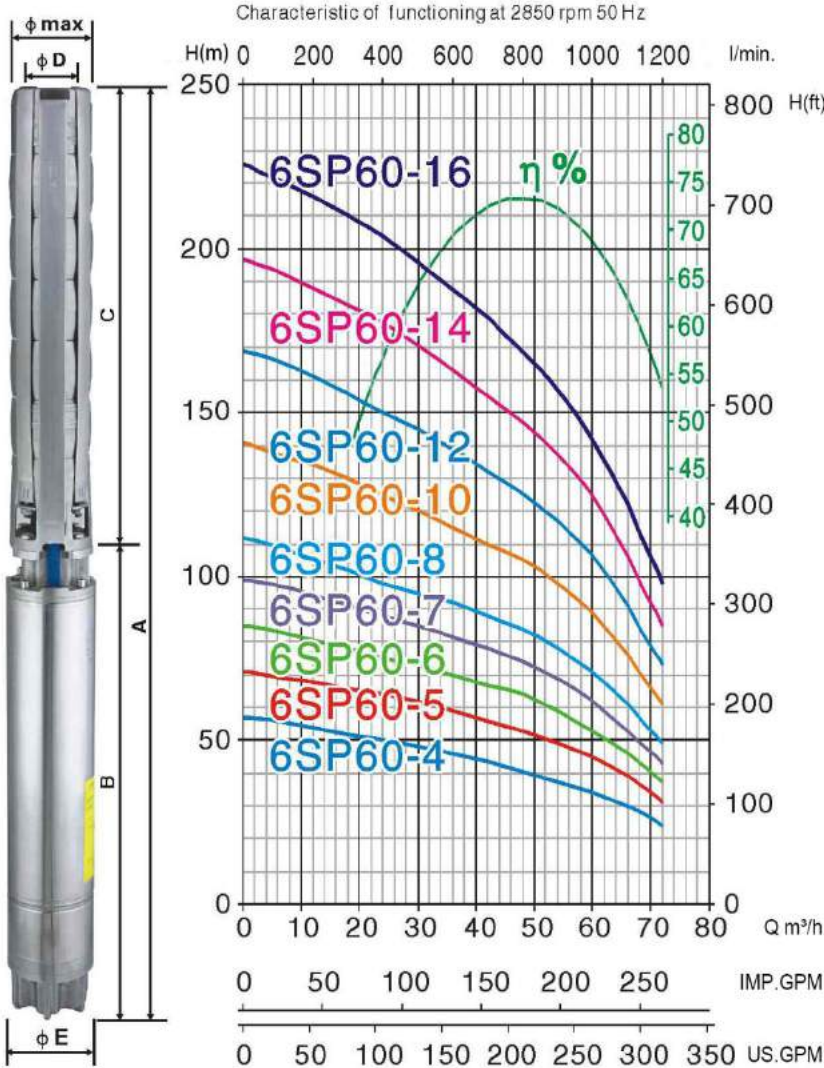
PUMP MATERIALS

Part	Material
Shaft	AISI304
Check valve	AISI304
Coupling	AISI304
Pump body	AISI304
Impeller	AISI304
Diffuser	AISI304
Bearing	Wear resistant rubber
Suction strainer	AISI304
Suction support	AISI304
Delivery body	AISI304

Type	A	B	C	D	E	φ Max
6SP46-4	1505.2	783	722.2	3"G	144	145
6SP46-5	1618	783	835	3"G	144	145
6SP46-6	1760.8	813	947.8	3"G	144	145
6SP46-7	1898.6	838	1060.6	3"G	144	145
6SP46-8	2041.4	868	1173.4	3"G	144	145
6SP46-10	2322	923	1399	3"G	144	145
6SP46-12	2597.6	973	1624.6	3"G	144	145
6SP46-14	2873.2	1023	1850.2	3"G	144	145
6SP46-16	3143.8	1068	2075.8	3"G	144	145
6SP46-18	3424.4	1123	2301.4	3"G	144	145

Type	Motor Power		Three phase 380V	Q	Capacity							
					m³/h	0	24	30	36	42	48	54
(50Hz)	HP	kW	A	l/min	0	400	500	600	700	800	900	1100
				<b>H m</b>	<b>Total head in meters</b>							
6SP46-4	10	7.5	17		50	44	40	37	34	30	23	9
6SP46-5	10	7.5	17		63	55	51	46	42	37	29	12
6SP46-6	12.5	9.2	21		75	67	62	57	51	44	35	14
6SP46-7	15	11	24		88	78	72	66	60	52	41	16
6SP46-8	17.5	13	28		100	89	82	76	68	59	46	18
6SP46-10	20	15	32		125	111	104	94	85	74	58	23
6SP46-12	25	18.5	40		150	134	124	114	102	89	70	28
6SP46-14	30	22	46		175	155	144	133	119	102	81	32
6SP46-16	35	26	54		200	178	166	151	136	118	93	37
6SP46-18	40	30	62	225	202	188	170	151	131	104	41	

# PUMP - 6SP60



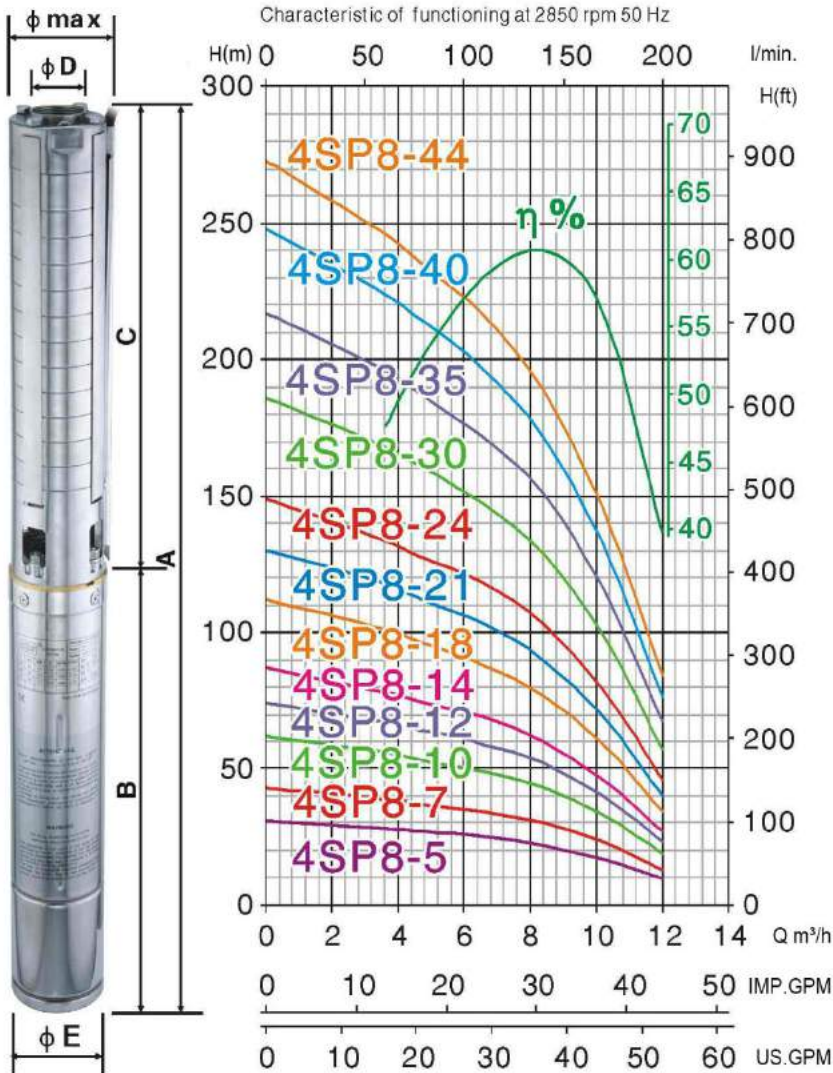
## PUMP MATERIALS

Part	Material
Shaft	AISI304
Check valve	AISI304
Coupling	AISI304
Pump body	AISI304
Impeller	AISI304
Diffuser	AISI304
Bearing	Wear resistant rubber
Suction strainer	AISI304
Suction support	AISI304
Delivery body	AISI304

Type	A	B	C	D	E	$\phi_{Max}$
6SP60-4	1505.2	783	722.2	3"G	144	145
6SP60-5	1648	813	835	3"G	144	145
6SP60-6	1785.8	838	947.8	3"G	144	145
6SP60-7	1928.6	868	1060.6	3"G	144	145
6SP60-8	2096.4	923	1173.4	3"G	144	145
6SP60-10	2372	973	1399	3"G	144	145
6SP60-12	2647.6	1023	1624.6	3"G	144	145
6SP60-14	2918.2	1068	1850.2	3"G	144	145
6SP60-16	3198.8	1123	2075.8	3"G	144	145

Type	Motor Power		Three phase 380V	Q	Capacity												
					m³/h	l/min	0	24	36	42	48	54	60	72			
(50Hz)	HP	kW	A														
6SP60-4	10	7.5	17	H m	Total head in meters												
6SP60-5	12.5	9.2	21		57	50	45	42	39	37	34	24					
6SP60-6	15	11	24		71	64	59	56	53	49	45	31					
6SP60-7	17.5	13	28		85	75	70	67	64	59	53	37					
6SP60-8	20	15	32		99	88	81	78	74	69	62	43					
6SP60-10	25	18.5	40		112	98	92	88	84	78	71	49					
6SP60-12	30	22	46		141	125	115	110	105	98	89	61					
6SP60-14	35	26	54		169	150	139	132	126	118	107	73					
6SP60-16	40	30	62		197	175	160	152	145	137	125	85					
					226	204	185	176	166	157	142	98					

## PUMP - 4SP8



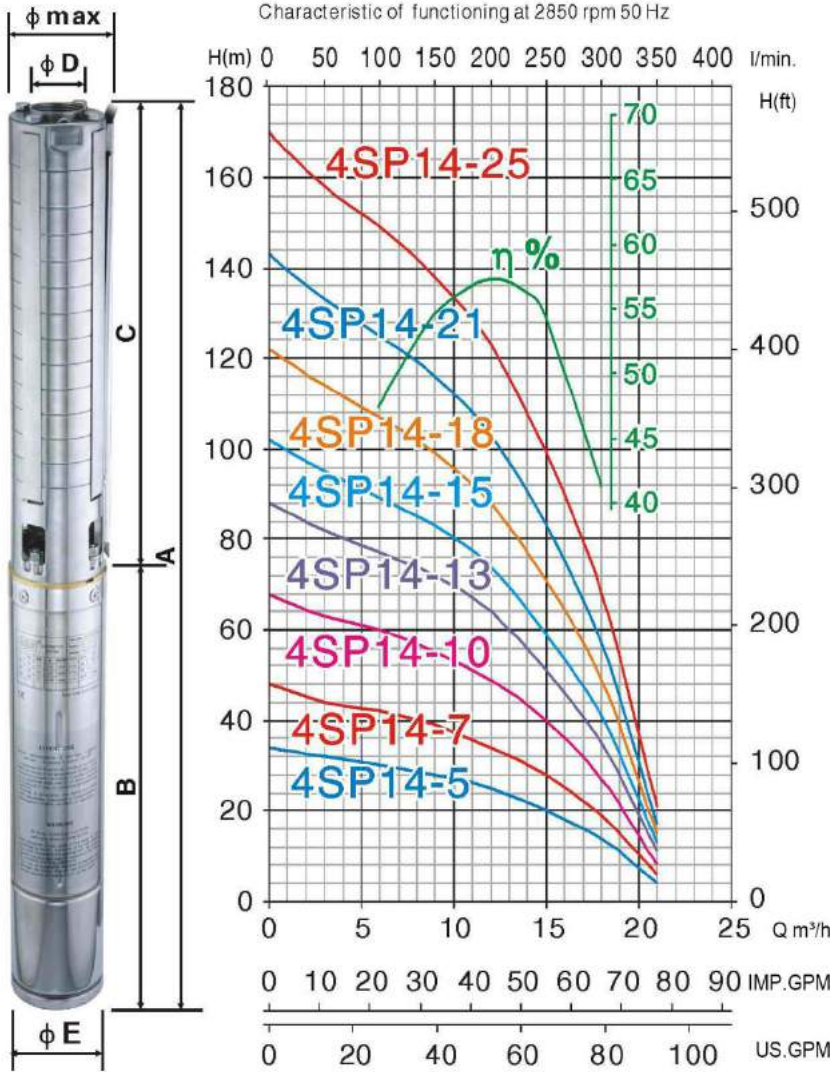
### PUMP MATERIALS

Part	Material
Shaft	AlSi304
Coupling	AlSi304
Check valve	AlSi304
Pump body	AlSi304
Impeller	AlSi304
Diffuser	AlSi304
Bearing	Wear resistant rubber
Suction strainer	AlSi304
Suction support	AlSi304
Delivery body	AlSi304

Type	A	B	C	D	E	φ Max
4SP8-5	678.5	386	292.5	2"G	95	93
4SP8-7	753.5	406	347.5	2"G	95	93
4SP8-10	871	441	430	2"G	95	93
4SP8-12	986	501	485	2"G	95	93
4SP8-14	1041	501	540	2"G	95	93
4SP8-18	1211	561	650	2"G	95	93
4SP8-21	1333.5	601	732.5	2"G	95	93
4SP8-24	1416	601	815	2"G	95	93
4SP8-30	1701	721	980	2"G	95	93
4SP8-35	1838.5	721	1117.5	2"G	95	93
4SP8-40	2096	841	1255	2"G	95	93
4SP8-44	2206	841	1365	2"G	95	93

Type	Motor Power		Three phase 380V	Single phase 220V			Q	Capacity							
								m³/h	0	3.6	4.8	6.6	8.4	10.2	12
							l/min	0	60	80	110	140	170	200	
							H m	Total head in meters							
(50Hz)	HP	kW	A	A	μF	VC		31	28	27	25	22	17	10	
4SP8-5	1	0.75	2.5	6.3	30	450		43	39	37	34	30	23	13	
4SP8-7	1.5	1.1	3.4	8.6	40	450		62	56	53	49	43	33	19	
4SP8-10	2	1.5	4.4	10	50	450		74	67	64	59	52	40	23	
4SP8-12	3	2.2	6.2	14	60	450		87	78	74	69	60	46	27	
4SP8-14	3	2.2	6.2	14	60	450		112	101	95	88	77	59	34	
4SP8-18	4	3	8.3	-	-	-		130	118	111	103	90	69	40	
4SP8-21	5.5	4	10.3	-	-	-		149	134	127	118	103	79	46	
4SP8-24	5.5	4	10.3	-	-	-		186	168	159	147	129	99	57	
4SP8-30	7.5	5.5	14	-	-	-		217	196	186	171	151	116	67	
4SP8-35	7.5	5.5	14	-	-	-		248	224	212	196	172	132	76	
4SP8-40	10	7.5	18.5	-	-	-		273	246	233	216	189	145	84	
4SP8-44	10	7.5	18.5	-	-	-									

# PUMP - 4SP14



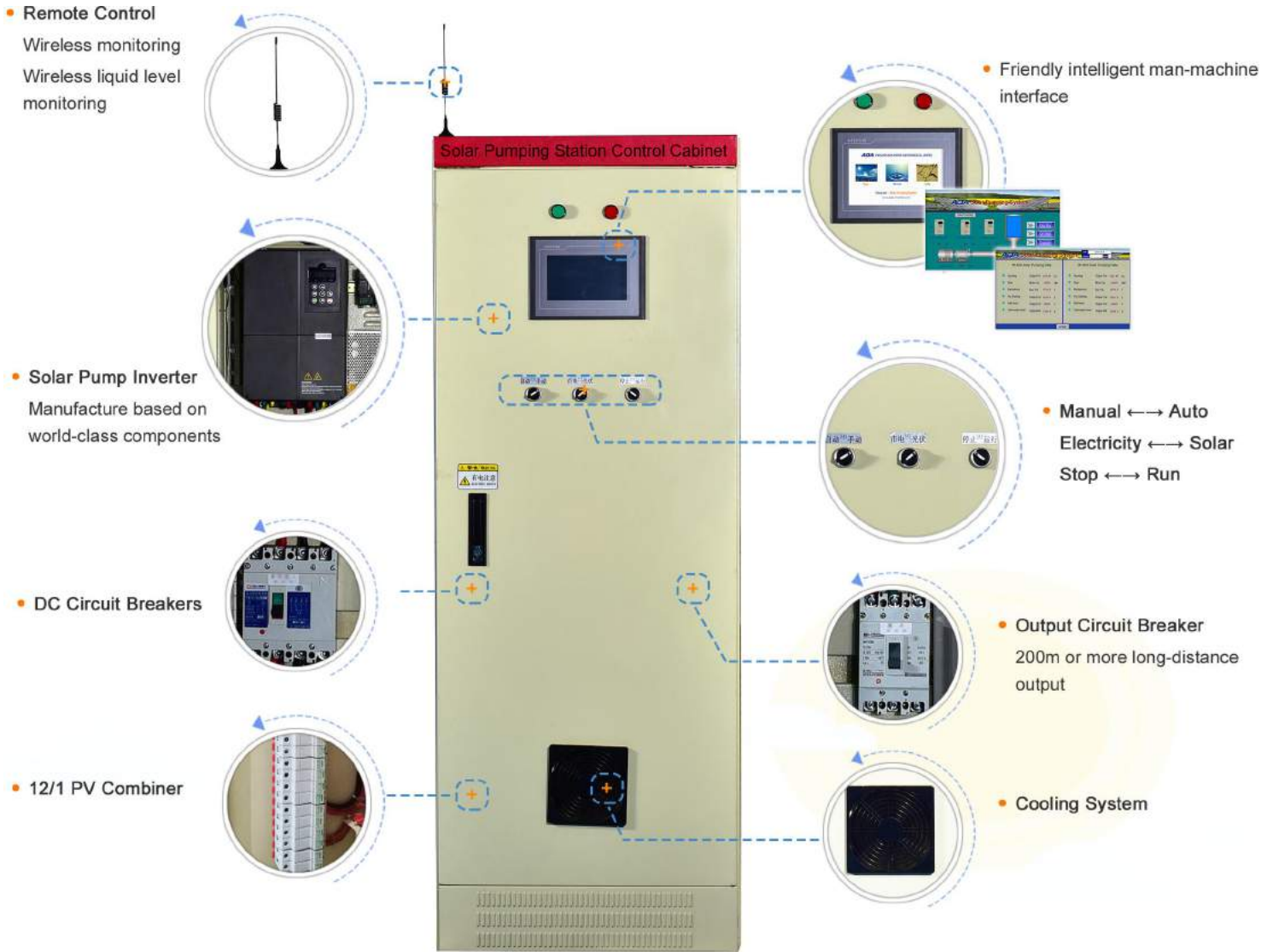
## PUMP MATERIALS

Part	Material
Shaft	AISI304
Coupling	AISI304
Check valve	AISI304
Pump body	AISI304
Impeller	AISI304
Diffuser	AISI304
Bearing	Wear resistant rubber
Suction strainer	AISI304
Suction support	AISI304
Delivery body	AISI304

Type	A	B	C	D	E	φ Max
4SP14-5	806	441	365	2"G	95	93
4SP14-7	950	501	449	2"G	95	93
4SP14-10	1136	561	575	2"G	95	93
4SP14-13	1302	601	701	2"G	95	93
4SP14-15	1506	721	785	2"G	95	93
4SP14-18	1632	721	911	2"G	95	93
4SP14-21	1878	841	1037	2"G	95	93
4SP14-25	2046	841	1205	2"G	95	93

Type	Motor Power		Three phase 380V	Single phase 220V			Q		Capacity							
							m³/h	l/min	0	3	6	9	12	15	18	21
(50Hz)	HP	kW	A	A	μF	VC	H m	Total head in meters								
4SP14-5	2	1.5	4.4	10	50	450		34	32	30	28	25	20	14	4	
4SP14-7	3	2.2	6.2	14	60	450		48	44	42	39	34	28	19	6	
4SP14-10	4	3	8.3	-	-	-		68	63	60	55	49	40	27	8	
4SP14-13	5.5	4	10.3	-	-	-		88	82	77	72	64	51	35	11	
4SP14-15	7.5	5.5	14	-	-	-		102	95	89	83	74	59	41	13	
4SP14-18	7.5	5.5	14	-	-	-		122	114	107	99	88	71	49	15	
4SP14-21	10	7.5	18.5	-	-	-		143	133	125	116	103	83	57	17	
4SP14-25	10	7.5	18.5	-	-	-		170	158	149	138	123	99	68	21	

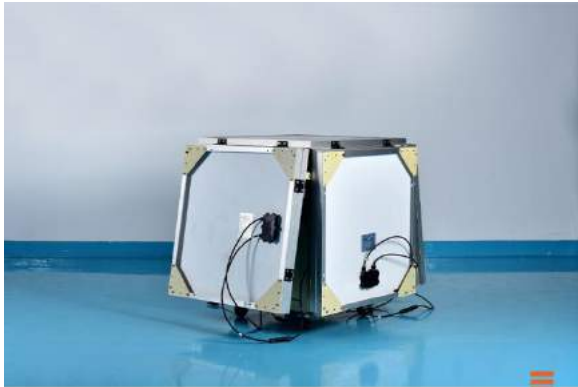
# System Integration - IoT Solar Pumping Station



## Features

- HMI combiner & solar pump inverter
- 12/1 PV combiner with anti reverse connection
- Special fuse for PV DC 1200V
- Form 750W~110kW as standard
- Non-standard design with PLC and hardware
- Output reactor optional for long distance pump (200m above)
- Diesel generator & grid power supply as optional, fulfil the water supply in all different weather
- Lightning protection for PV+ PV-
- IP54, IP42 design as request
- DC circuit breaker for system safety

## Product Display



### Features

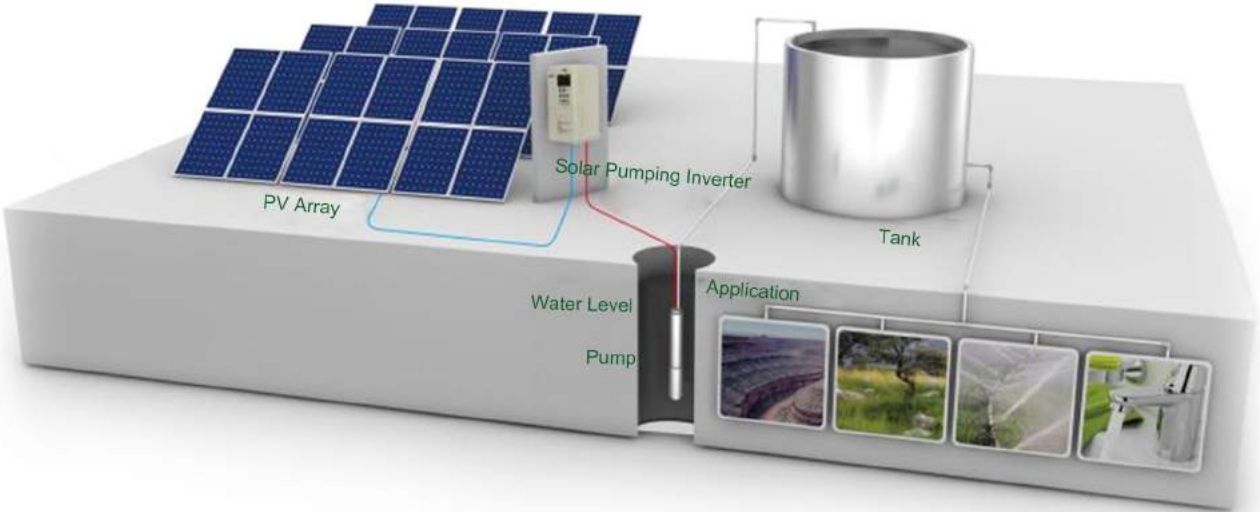
- Mobility and "all-in-one" design.
- Flexible design power supply for both home & water pumping.
- Easy open and foldable.
- For water pumping, water head 20m, 90000L/day.
- Can be parallel to unlimited power supply.
- MPPT controller, pump inverter, home inverter, on/off grid all can be designed inside as customer request.
- Battery capacity/48V/65Ah/32kWh/day.

### Specifications

OUTPUT VOLTAGE (V)	110V / 230V 50/60Hzt - AC
WORK TIME (H)	24 Hours
PV POWER(WP)	800 Mono
INVERTER POWER(W)	1500
BATTERIES(N-Y-Ah)	8-6-67
BATTERY CAPACITY(WH)	3215(48V/67AH)
DIMENSIONS CLOSED(mm)	850*850*1000H
DIMENSIONS OPENED(mm)	2550*2550*2150H
WEIGHT(Kg)	140
OPTIONAL	<ul style="list-style-type: none"> <li>- on and off grid</li> <li>- 3.2KWH enhanced battery</li> <li>- DC output 48V</li> <li>- AC output 110V/230V 50/60Hzt</li> <li>- Remote monitor controll</li> <li>- Add recharge from wind turbine</li> </ul>



Solar Pumping System



The Solar Pumping System has 3 key componets: PV Array, Solar Pumping Inverter and AC Pump.

PV Array (Ploy)



Power	0~320W
Open circuit voltage	21.5~45.7V
Power voltage	18~37.7V
Short circuit current	0.62~8.94A
Output tolerance	±3%

Solar Pumping Inverter



Max. input DC voltage	450VDC, 750VDC
Recommended MPPT voltage range	250~350VDC, 450~600VDC
Recommended input voltage (Vmpp)	300~330VDC, 500~540VDC
Rated output voltage	1AC/3AC 380~415V
Output frequency range	0~600Hz

AC Pump



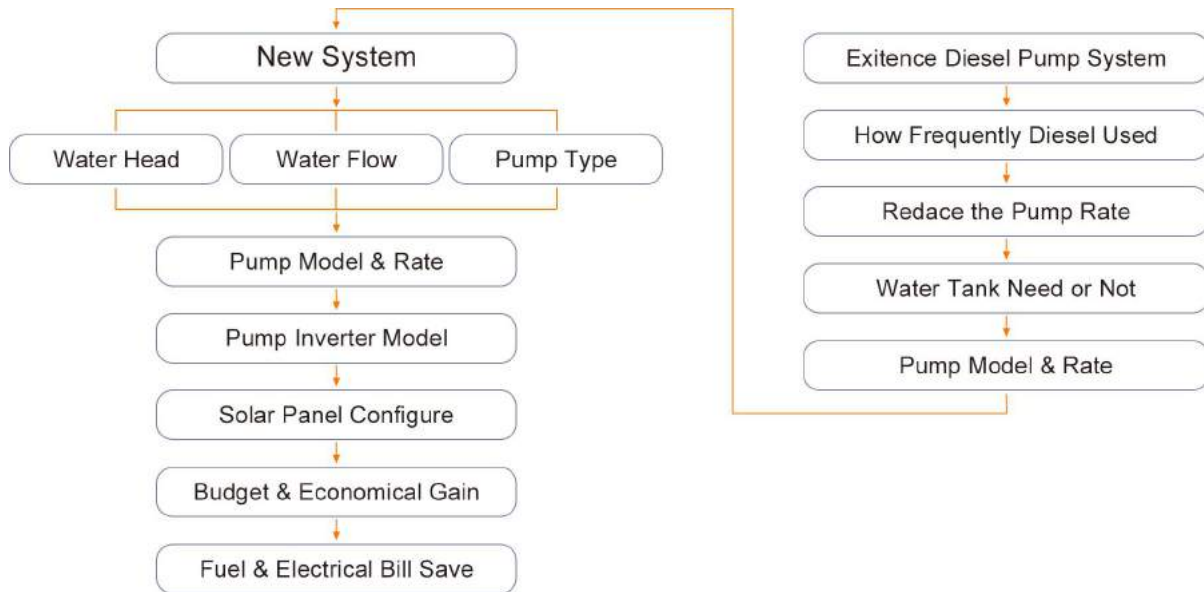
Flow rate	0.6-240m <sup>3</sup> /h
Water head	4-681m
Liquid temp	max, +35°C
Voltage	220V/380V
Material	stainless steel



## Solar Pumping System Configuration Guidance

For the optimal pumping solution, we need following:

- Installation place (the sunshine situation)
- Daily water requirement
- Water head
- New system or change the diesel to solar power



## Solar Pump Quick Selection Guidance

Pump Rates \ Water Require	12 (m <sup>3</sup> /day)	18 (m <sup>3</sup> /day)	30 (m <sup>3</sup> /day)	42 (m <sup>3</sup> /day)	60 (m <sup>3</sup> /day)	84 (m <sup>3</sup> /day)	120 (m <sup>3</sup> /day)	180 (m <sup>3</sup> /day)	240 (m <sup>3</sup> /day)	300 (m <sup>3</sup> /day)	360 (m <sup>3</sup> /day)	480 (m <sup>3</sup> /day)	600 (m <sup>3</sup> /day)
10m			0.37	0.55	0.75	1.1	1.5	2.2	3.0	4.0	4.0	5.5	7.5
20m	0.37	0.37	0.75	0.75	1.5	2.2	3.0	4.0	5.5	5.5	7.5	9.2	13.0
30m	0.55	0.75	1.1	1.5	2.2	3.0	4.0	5.5	7.5	9.2	11.0	15.0	18.5
50m	0.75	1.1	1.5	2.2	3.0	4.0	7.5	9.2	11.0	13.0	15.0	18.5	30.0
80m	1.1	1.5	2.2	3.0	5.5	7.5	9.2	13.0	15.0	18.5	22.0	30.0	45.0
100m	1.5	2.2	3.0	5.5	5.5	9.2	11.0	15.0	18.5	25.0	30.0	37.0	55.0
120m	2.2	2.2	4.0	5.5	7.5	9.2	13.0	18.5	22.0	30.0	37.0	45.0	63.0
150m	2.2	3.0	5.5	7.5	9.2	11.0	15.0	22.0	30.0	37.0	45.0	55.0	75.0
200m	3.0	4.0	7.5	9.2	11.0	15.0	22.0	30.0	45.0	55.0	55.0	75.0	90.0
250m	4.0	5.5	7.5	11.0	15.0	22.0	25.0	37.0	55.0	63.0	75.0	90.0	110.0
300m	5.5	7.5	11.0	13.0	18.5	25.0	37.0	55.0	63.0	75.0	90.0	110.0	140.0
350m	5.5	9.2	11.0	15.0	22.0	25.0	37.0	55.0	75.0	90.0	110.0	140.0	160.0
400m	7.5	11.0	13.0	18.5	25.0	30.0	45.0	63.0	90.0	110.0	120.0		

Pump Selection Mark:

- ✘ Get Water Requirement data. For example, if the Water Read 80m, 120m<sup>3</sup> /day, then 9.2kW pump.
- ✘ According to pump selection, the choose inverter & panel configuration.
- ✘ This data sheet is 6 Rours/day effective sunshine. You can adjust the figure according to installation place.
- ✘ This data sheet is submersible pump, if other type, then change the system configuration accordingly.
- ✘ If need bigger Water Read or Water Requirement. We can design Multi-stage or Multi-Pump Irrigation.

## Solar Pumping System Accessories/Annex

### Solar Mounting Bracket For Solar Panel

#### Features

- **Easy to install.**

The tilt-in module can be put into the extruded rail from the any location and can be high pre-assembly with the clamp to minimize the time and cost of installation. The U bolt with the cap can fix the pipe easy and quick.

- **Offer unmatched durability.**

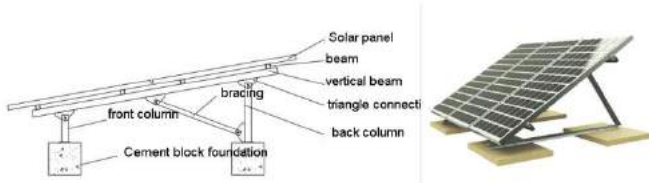
With all structural components comprised of high class stainless steel, anodized aluminum alloy and the double anticorrosive finish for the steel pipe and cap, it is designed for twenty years service life and backed by ten years warranty.

- **Stand up to extreme weather.**

The grace solar ground mount system is designed to stand up to the extreme weather complied with the AS/NZS 1170 and other international structure load standard by the skilled engineer. The main support components also have been test to guaranty its structure and load-carrying capacity.

- **Provide broad installation flexibility.**

These systems accommodate most commercially available framed solar panels and diverse foundation solution, and they can scale easily from small to large, multi-megawatt installations.



### Solar PV Combiner Box

#### Features

Solar PV Combiner Box provides a means of combining multiple source circuits from the PV array into a single DC output. In the solar pumping system, PV combiner box collects number of PV arrays input and combine inverter in the the PV combiner box.

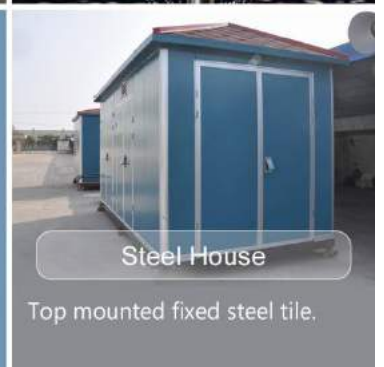
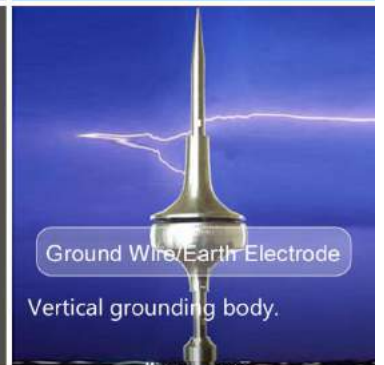
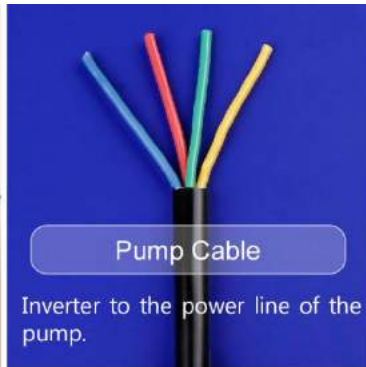
So, comparig to system without PV combiner box:

- IP66 design meet the use requirements of outdoor installation, and also enjoy a long life.
- PV-DC high uoltage circuit breakers, pressure capacity of up to 1000V.
- PV module having a specific lightning protection system from lightning damage.
- Simple for Installation and maintenance and more safty, also beatified the whole system (Used common in bids program).



## Solar Pumping System Accessories/Annex

### Solar Pumping System Accessories/Annex



### Engineering Tools

