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SOLAR-POWERED WATER SUPPLY

• AGRICULTURE • IRRIGATION • INDUSTRIAL • DOMESTIC



Exploring more by scanning!





APPLICATIONS OF SOLAR PUMP



Agriculture and forestry irrigation



Aeration machine cooling tower and other industrial usage



Desert water supply



Apartment Hotel & Hospital



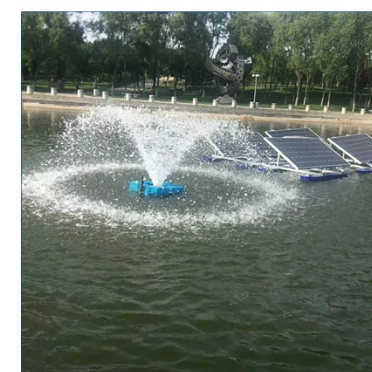
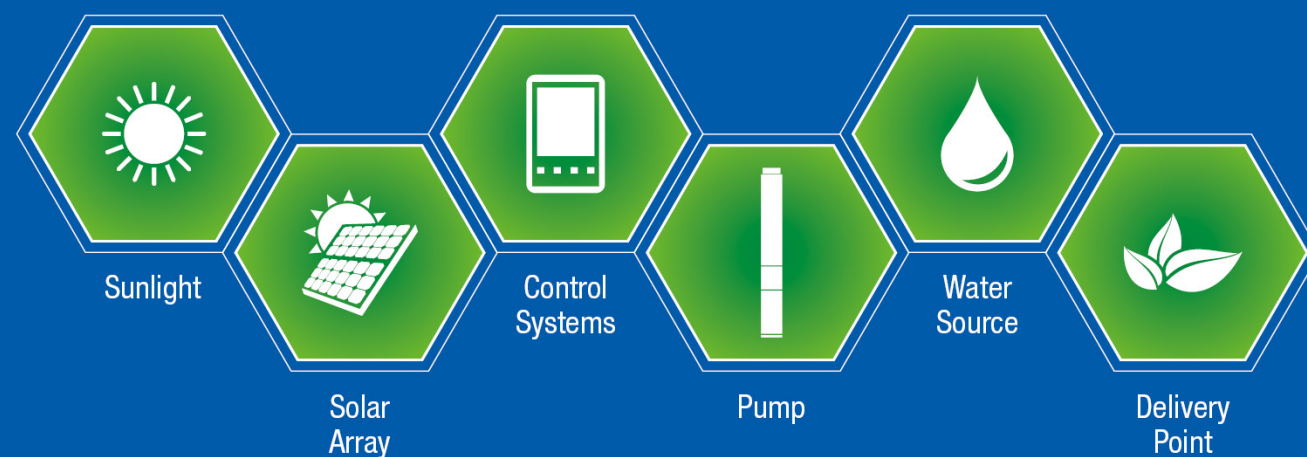
Village & Town Supply



Scenic spot fountains

SOLAR ENERGY IS A RENEWABLE VAST AND CLEAN RESOURCE

A typical solar pumping system consists of the following: A solar array to convert sunlight to electricity, a controller to manage the power from the array to the motor which rotates the pump to move the water to where you need it most.



BENEFITS YOU CAN REALIZE



No infrastructure to install

Using solar power means that you can install a pumping system almost anywhere, irrespective of power infrastructure availability and the associated costs.

Low operational costs

Operational cost savings are achieved as the system requires no fossil fuels, can be fully remotely managed and is designed to have a long working life. The result is very low, or no operating costs.

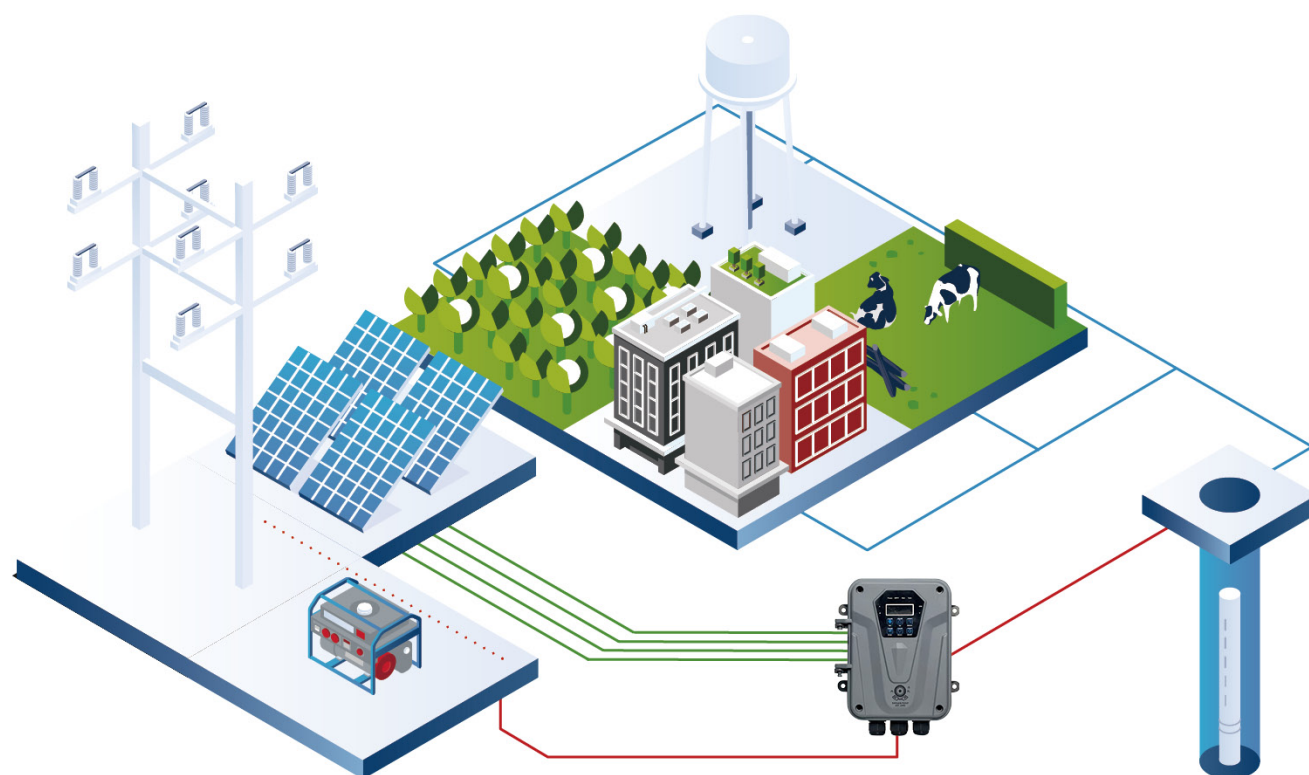
Low cost of water

Efficient permanent magnet brush-less motor for maximum efficiency, this results in significantly more water being pumped with the available power. This efficiency results in a lower unit cost of water pumped.

Lowest project risk

A complete system, it has all of the needed software and hardware for your water project. The result is that your projects are delivered on time, on budget and without technical risk.

SOLAR WATER PUMP WORKING PROCEDURE



The Solar Pumping System makes full use of the Photovoltaic effect of the crystalline silicon photovoltaic panel interface, converts solar energy into electricity, and drives the pump to pump water from deep wells, rivers, lakes, reservoirs and other water sources.

The Solar Pumping System mainly consists of solar modules, solar inverter (controller) and water pump.

Solar pumps use the long-lasting energy from the sun, work at sunrise and rest at sunset, without fuel, without power grid, no battery needed and the water pump is directly driven to pump water, which greatly saves the costs of construction, operation and maintenance.

It can be widely used in agricultural irrigation, desert governance, livestock and animal husbandry, desalination, landscape fountain, domestic water supply, etc.

3SEC/4SEC SOLAR WATER PUMP



Application

Water drainage and supply in remote areas lack of grid power
Clean water supply from wells or reservoirs
Off-grid solar pumping system and civilian water lifting system
Agriculture irrigation and livestock feeding, etc.

Multiple functions

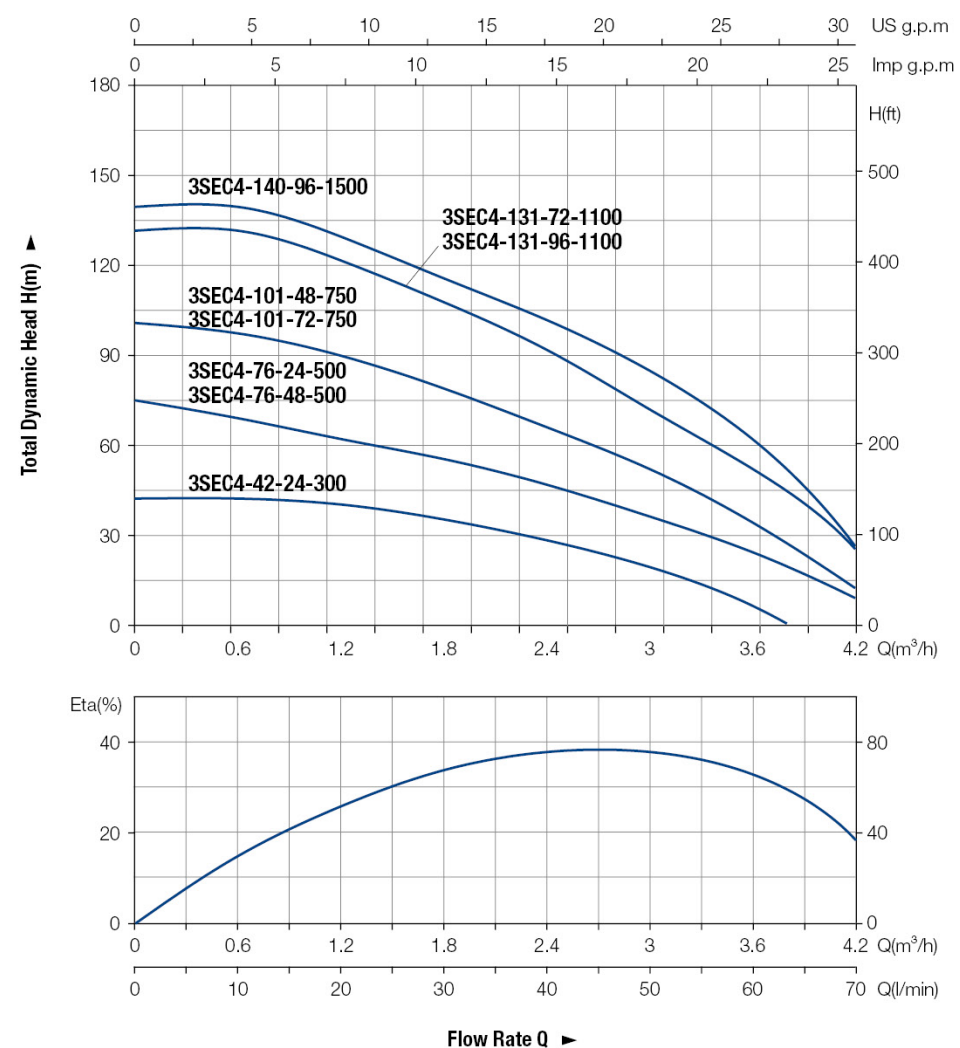
Efficient permanent magnet brush-less motor make efficiency up to 95%
Advanced GVC & SVC control
Easy installation & maintenance and compatible with any PV panel
Water level protection & dry-running protection
Over-voltage & over-current
Over-load protection & over temperature protection
Phase loss protection and soft start operation
Low-voltage start and reduce costs
Wide power range 500~2200w
IP68 Protection class & F Insulation class

SOLAR ENERGY WATER PUMP CONTROLLER



Electric control specification and adaptive water pump specification							
Controller model	Pump specification	Specified input power (kW)	Max. Input current (A)	Max. Input voltage (V)	Min. Input voltage (V)	The best MPPT Voltage (V)	Work environment (°C)
DY24-480W	Specified 24V pump	0.48	17	60	18	24~36	-15~60
DY48-800W	Specified 48V pump	0.8	17	105	30	48~72	-15~60
DY72-1100W	Specified 72V pump	1.1	17	150	50	72~108	-15~60
DY110-1500W	Specified 110V pump	1.5	17	200	80	110~164	-15~60
DY216-2200W	Specified 216V pump	2.2	17	350	100	216~324	-15~60

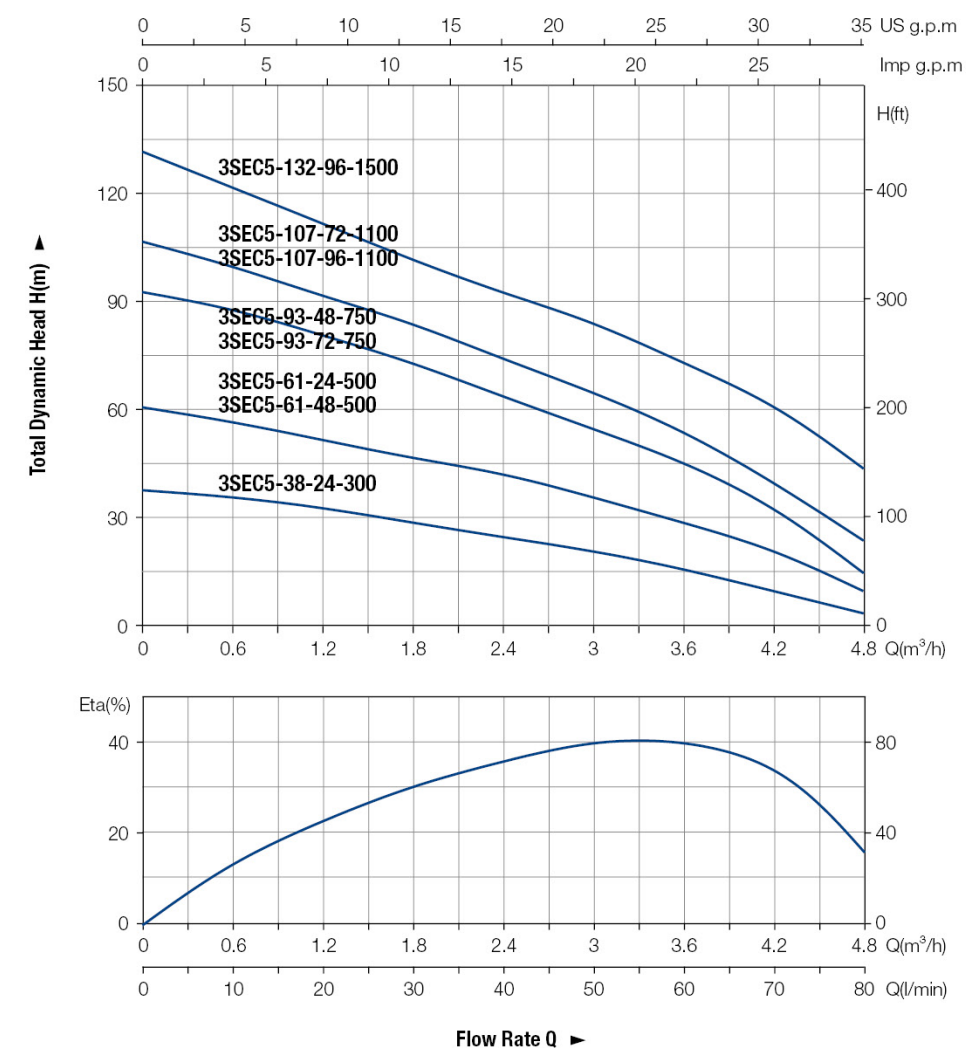
3SEC4



Technical Data

Model	Voltage/Motor	Voltage/Controller	Power	Max. Flow	Max. Head	Impeller Stage	Outlet Diameter	Diameter
	V	V	W	m^3/h	m		Inch	Inch
3SEC4-42-24-300	24	36	300	4	42	6	1"/1.25" (Optional)	3
3SEC4-76-24-500	24	36	500	4	76	9		3
3SEC4-76-48-500	48	72	500	4	76	9		3
3SEC4-101-48-750	48	72	750	4	101	12		3
3SEC4-101-72-750	72	108	750	4	101	12		3
3SEC4-131-72-1100	72	108	1100	4	131	16		3
3SEC4-131-96-1100	96	144	1100	4	131	16		3
3SEC4-140-96-1500	96	144	1500	4	140	18		3

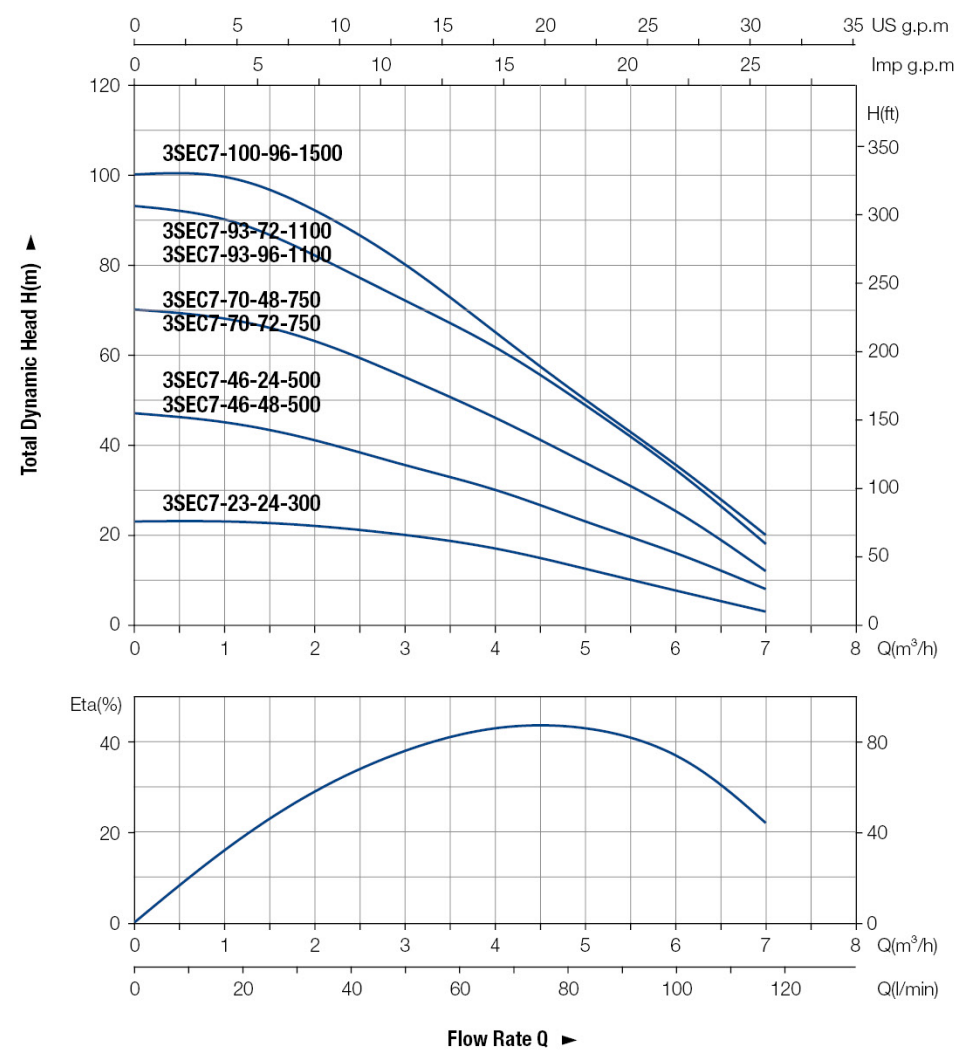
3SEC5



Technical Data

Model	Voltage/Motor	Voltage/Controller	Power	Max. Flow	Max. Head	Impeller Stage	Outlet Diameter	Diameter
	V	V	W	m^3/h	m		Inch	Inch
3SEC5-38-24-300	24	36	300	5	38	5	1.25"/1.5" (Optional)	3
3SEC5-61-24-500	24	36	500	5	61	8		3
3SEC5-61-48-500	48	72	500	5	61	8		3
3SEC5-93-48-750	48	72	750	5	93	12		3
3SEC5-93-72-750	72	108	750	5	93	12		3
3SEC5-107-72-1100	72	108	1100	5	107	15		3
3SEC5-107-96-1100	96	144	1100	5	107	15		3
3SEC5-132-96-1500	96	144	1500	5	132	17		3

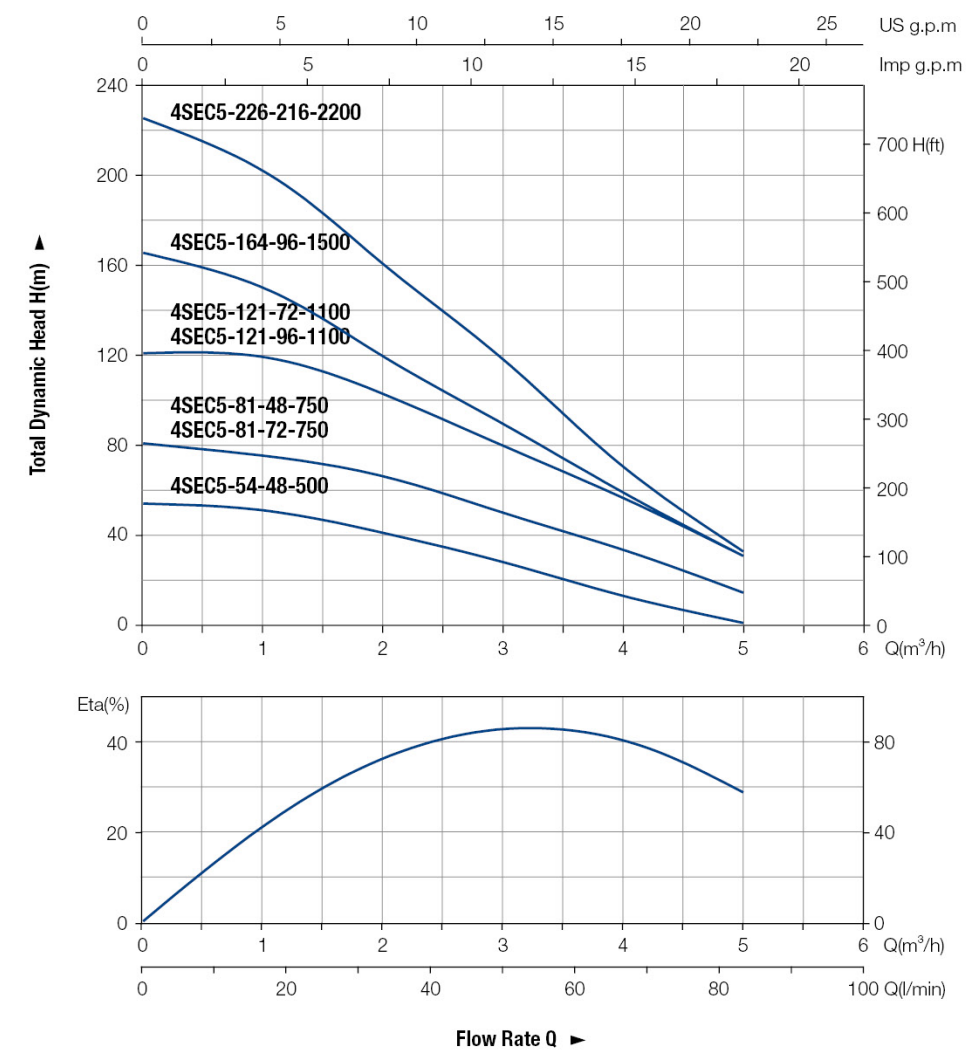
3SEC7



Technical Data

Model	Voltage/Motor	Voltage/Controller	Power	Max. Flow	Max. Head	Impeller Stage	Outlet Diameter	Diameter
	V	V	W	m^3/h	m		Inch	Inch
3SEC7-23-24-300	24	36	300	7	23	3	1.25"/1.5" (Optional)	3
3SEC7-46-24-500	24	36	500	7	46	6		3
3SEC7-46-48-500	48	72	500	7	46	6		3
3SEC7-70-48-750	48	72	750	7	70	9		3
3SEC7-70-72-750	72	108	750	7	70	9		3
3SEC7-93-72-1100	72	108	1100	7	93	12		3
3SEC7-93-96-1100	96	144	1100	7	93	12		3
3SEC7-100-96-1500	96	144	1500	7	100	13		3

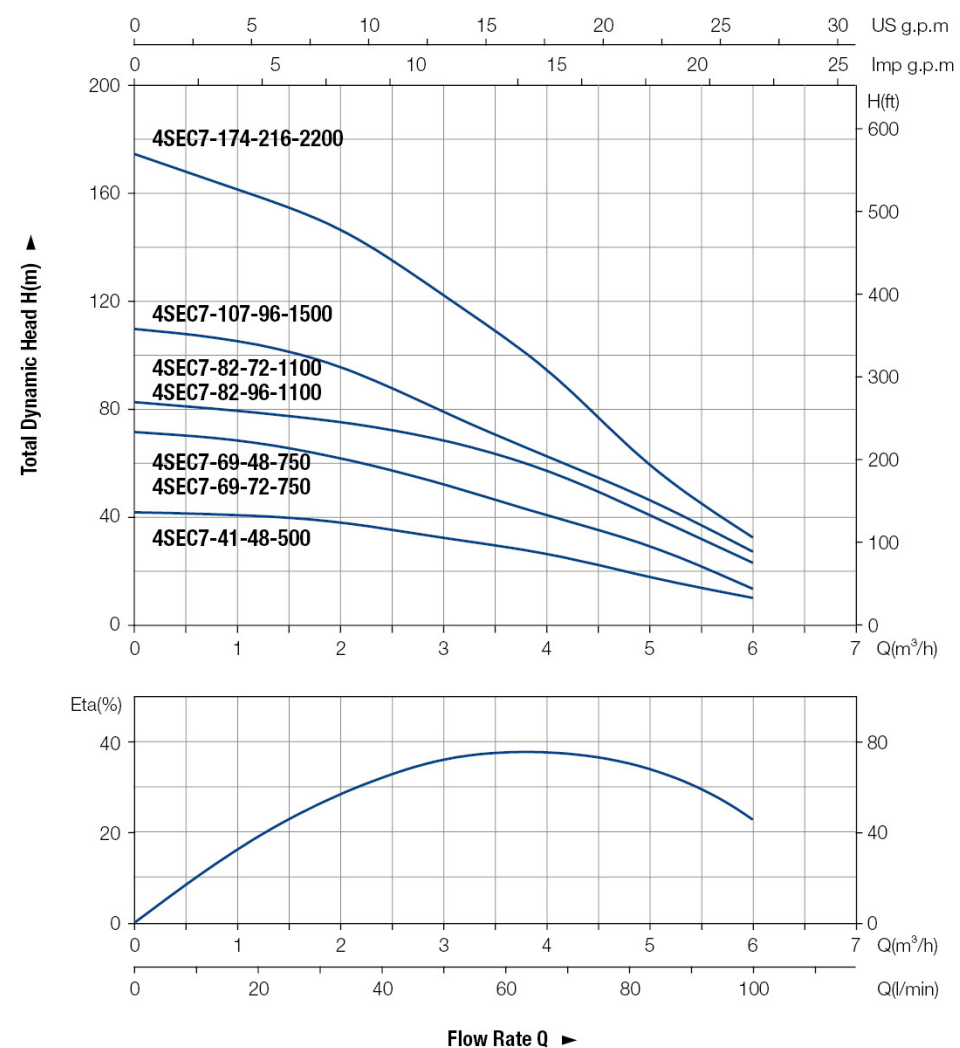
4SEC5



Technical Data

Model	Voltage/Motor	Voltage/Controller	Power	Max. Flow	Max. Head	Impeller Stage	Outlet Diameter	Diameter
	V	V	W	m^3/h	m		Inch	Inch
4SEC5-54-48-500	48	72	500	5	54	4	1.25"	4
4SEC5-81-48-750	48	72	750	5	81	6		4
4SEC5-81-72-750	72	108	750	5	81	6		4
4SEC5-121-72-1100	72	108	1100	5	121	9		4
4SEC5-121-96-1100	96/110	144	1100	5	121	9		4
4SEC5-164-96-1500	96/110	144	1500	5	164	12		4
4SEC5-226-216-2200	216	288	2200	5	226	17		4

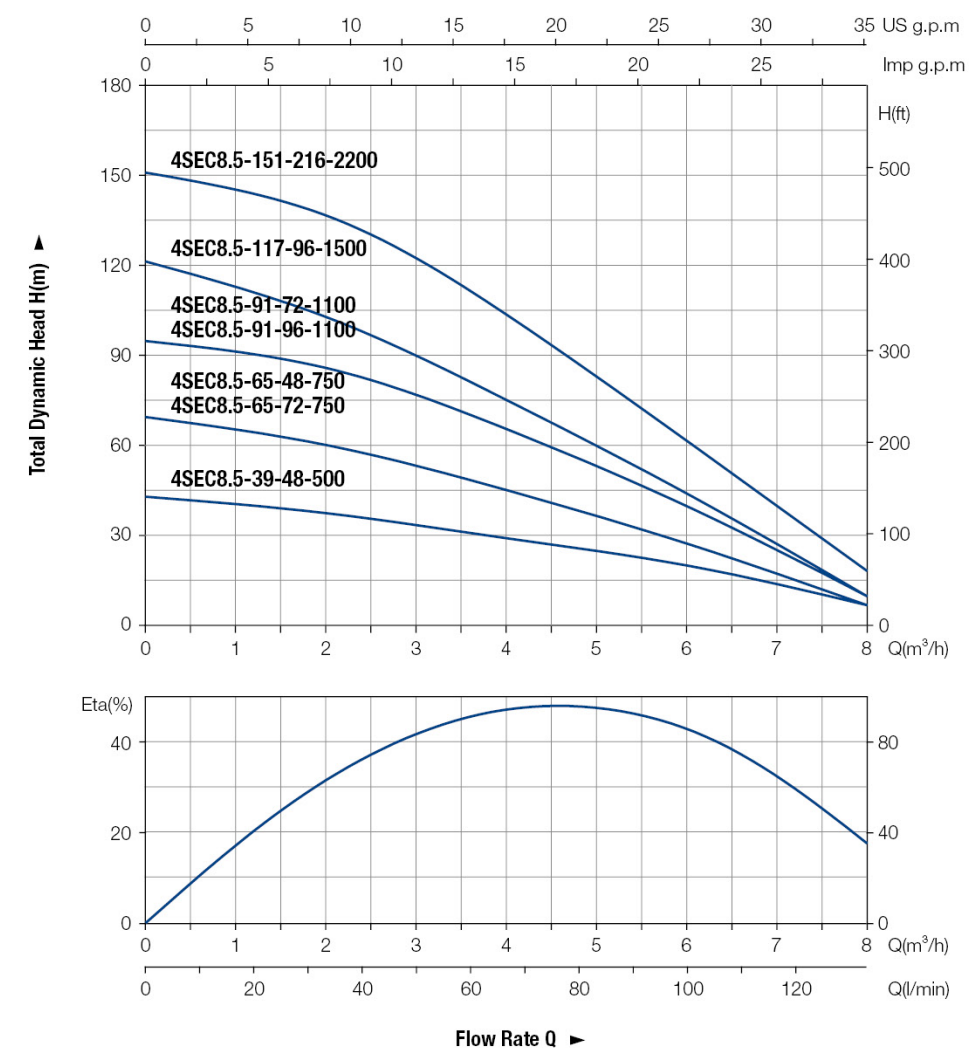
4SEC7



Technical Data

Model	Voltage/Motor	Voltage/Controller	Power	Max. Flow	Max. Head	Impeller Stage	Outlet Diameter	Diameter
	V	V	W	m³/h	m		Inch	Inch
4SEC7-41-48-500	48	72	500	7	41	3	1.25"	4
4SEC7-69-48-750	48	72	750	7	69	5		4
4SEC7-69-72-750	72	108	750	7	69	5		4
4SEC7-82-72-1100	72	108	1100	7	82	6		4
4SEC7-82-96-1100	96/110	144	1100	7	82	6		4
4SEC7-107-96-1500	96/110	144	1500	7	107	8		4
4SEC7-174-216-2200	216	288	2200	7	174	13		4

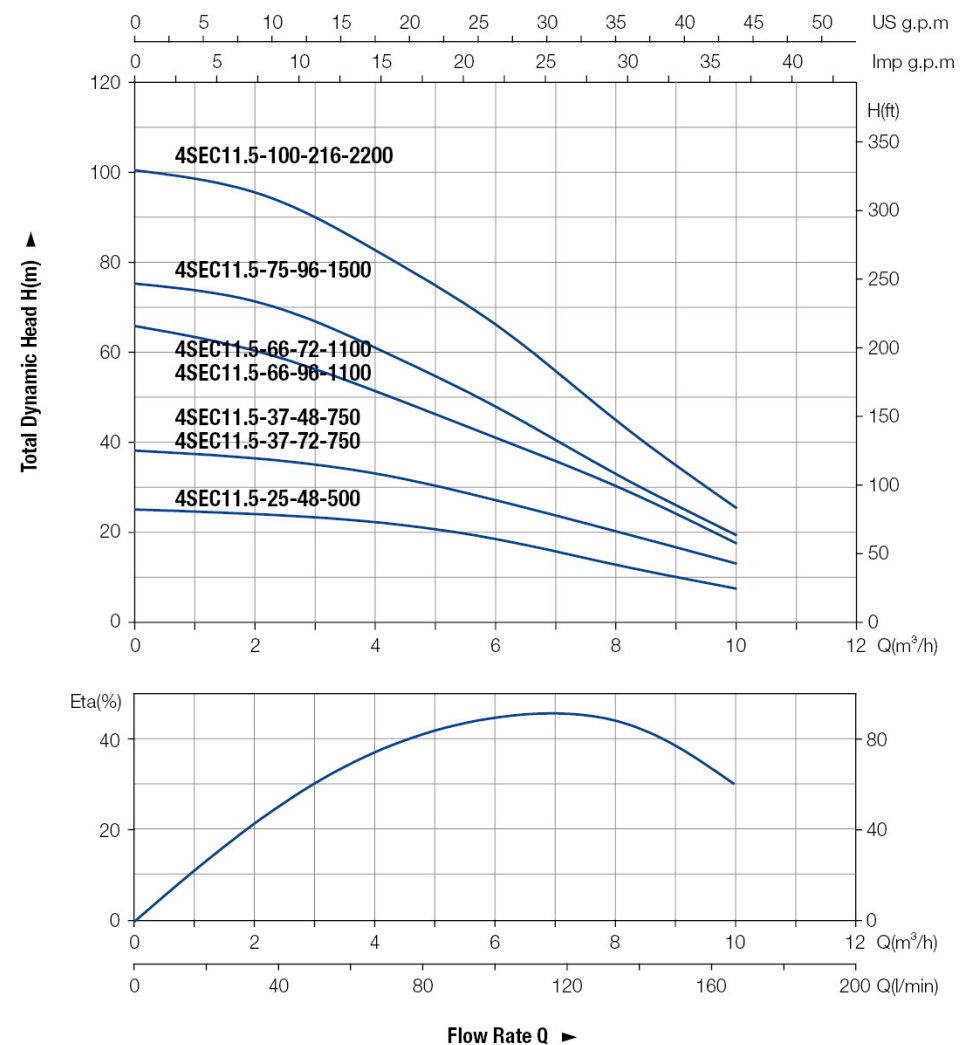
4SEC8.5



Technical Data

Model	Voltage/Motor	Voltage/Controller	Power	Max. Flow	Max. Head	Impeller Stage	Outlet Diameter	Diameter
	V	V	W	m³/h	m		Inch	Inch
4SEC8.5-39-48-500	48	72	500	8.5	41	3	1.25"	4
4SEC8.5-65-48-750	48	72	750	8.5	69	5		4
4SEC8.5-65-72-750	72	108	750	8.5	69	5		4
4SEC8.5-91-72-1100	72	108	1100	8.5	95	7		4
4SEC8.5-91-96-1100	96/110	144	1100	8.5	95	7		4
4SEC8.5-117-96-1500	96/110	144	1500	8.5	121	9		4
4SEC8.5-151-216-2200	216	288	2200	8.5	151	12		4

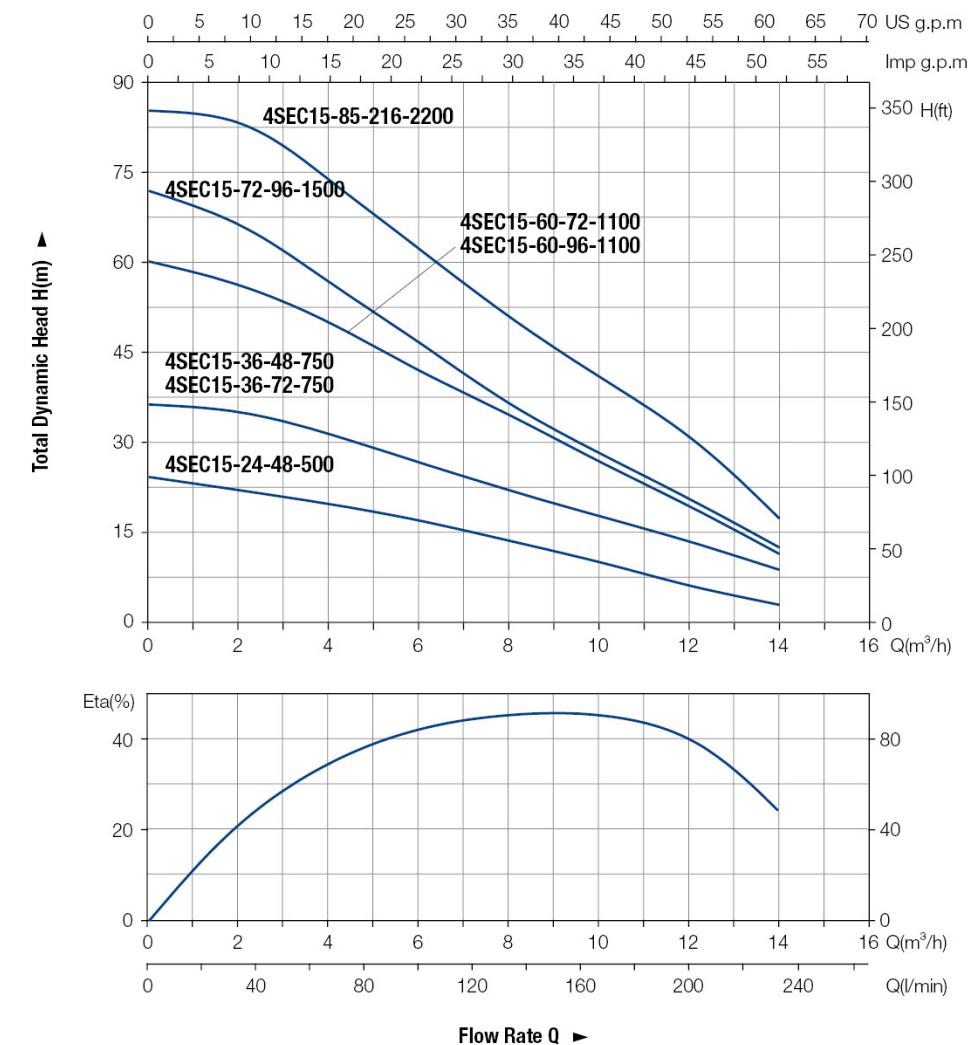
4SEC11.5



Technical Data

Model	Voltage/Motor	Voltage/Controller	Power	Max. Flow	Max. Head	Impeller Stage	Outlet Diameter	Diameter
	V	V	W	m³/h	m		Inch	Inch
4SEC11.5-25-48-500	48	72	500	11.5	25	2	1.5"	4
4SEC11.5-37-48-750	48	72	750	11.5	37	3		4
4SEC11.5-37-72-750	72	108	750	11.5	37	3		4
4SEC11.5-66-72-1100	72	108	1100	11.5	66	5		4
4SEC11.5-66-96-1100	96/110	144	1100	11.5	66	5		4
4SEC11.5-75-96-1500	96/110	144	1500	11.5	75	6		4
4SEC11.5-100-216-2200	216	288	2200	11.5	100	8		4

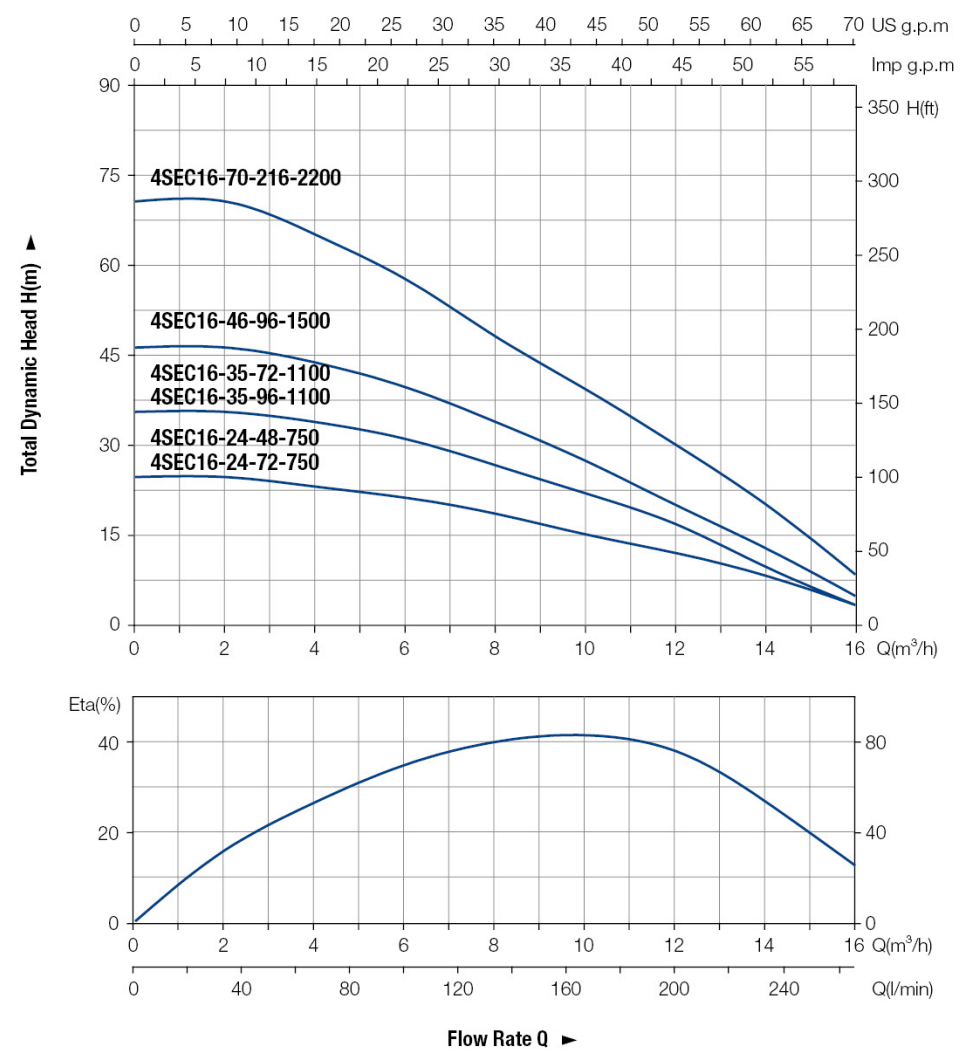
4SEC15



Technical Data

Model	Voltage/Motor	Voltage/Controller	Power	Max. Flow	Max. Head	Impeller Stage	Outlet Diameter	Diameter
	V	V	W	m³/h	m		Inch	Inch
4SEC15-24-48-500	48	72	500	15	24	2	1.5"	4
4SEC15-36-48-750	48	72	750	15	36	3		4
4SEC15-36-72-750	72	108	750	15	36	3		4
4SEC15-60-72-1100	72	108	1100	15	60	5		4
4SEC15-60-96-1100	96/110	144	1100	15	60	5		4
4SEC15-72-96-1500	96/110	144	1500	15	72	6		4
4SEC15-85-216-2200	216	288	2200	15	85	7		4

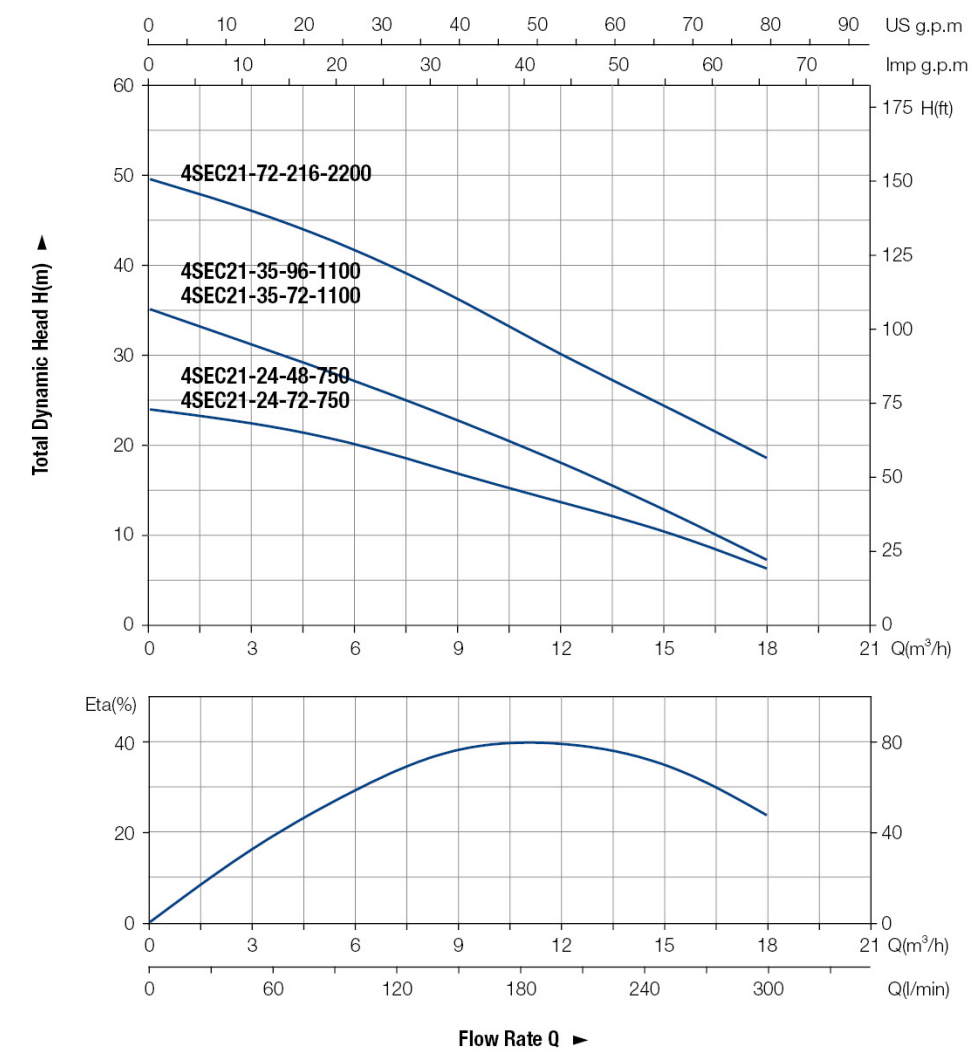
4SEC16



Technical Data

Model	Voltage/Motor	Voltage/Controller	Power	Max. Flow	Max. Head	Impeller Stage	Outlet Diameter	Diameter
	V	V	W	m³/h	m		Inch	Inch
4SEC16-24-48-750	48	72	750	16	24	2	1.5"	4
4SEC16-24-72-750	72	108	750	16	24	2		4
4SEC16-35-72-1100	72	108	1100	16	35	3		4
4SEC16-35-96-1100	96/110	144	1100	16	35	3		4
4SEC16-46-96-1500	96/110	144	1500	16	46	4		4
4SEC16-70-216-2200	216	288	2200	16	70	6		4

4SEC21



Technical Data

Model	Voltage/Motor	Voltage/Controller	Power	Max. Flow	Max. Head	Impeller Stage	Outlet Diameter	Diameter
	V	V	W	m³/h	m		Inch	Inch
4SEC21-24-48-750	72	72	1100	21	24	2	2"	4
4SEC21-24-72-750	72	108	1100	21	24	2		4
4SEC21-35-72-1100	72	108	1100	21	36	3		4
4SEC21-35-96-1100	96/110	144	1100	21	36	3		4
4SEC21-72-216-2200	216	288	2200	21	72	6		4

Tips on solar pump selection

In order to make the best solution, we need you to provide the following on-site information:

- ☐ The installation location of the solar pumping system, the longitude and latitude of the local city of the customer's country.
- ☐ Daily water consumption (the hourly flow is calculated according to the local average sunshine time per day).
- ☐ Head (converted from the vertical height of the water storage point and the water source point plus the height of the horizontal pipe loss and the bevel distance).
- ☐ Water source situation (well water, river water, pond water), water quality, etc.
- ☐ The distance from the pump to the pump station (distance from the inverter/controller), the distance from the component installation to the pump station, etc.
- ☐ In view of the existing water pump, when changing to single solar power supply, it is necessary to know the working time and frequency of the customer's original water pump, and then make an alternative plan.

Pump

- ☐ First, choose a type of pump after analyzing the customer's water source, pump station and other environmental conditions, such as deep well pump, surface pump, horizontal multi-stage centrifugal pump, vertical multi-stage centrifugal pump etc.
- ☐ Check the curve diagram in the manual, and choose the pump close to the best efficiency point according to the calculated head and required flow rate.
- ☐ DO NOT choose a pump close to the maximum head.

Solar Modules

- ☐ Usually 1.3~1.5 times than the power of the pump, 1.5 times is the common type, and 1.3 times can be chosen when the competition is fierce.
- ☐ Under the requirement of motor's working voltage, normally configured 1.414 times than motor voltage.
- ☐ The open circuit voltage shall be less than the voltage marked on the controller.

For example, the DC pump's power is 750W, and the motor voltage is 72V.

Then $P=750W \times 1.3=975W$, $V_{mp}=72V \times 1.414=101.8V$, according to the panel parameters, the most suitable component is: Monocrystalline silicon 330W, $V_{mp}=37.87V$, $V_{oc}=45.82V$.

The unit solar panel is 330W, and need 3 pieces connected in series, which can not only meets the open circuit voltage requirements, but also meets the working voltage requirements, and as well as the power configuration of the solar panel.