

Step Towards 
Green Future

SOLAR WATER PUMP SYSTEM



Mission

To deliver the best end to end integrated solar energy solutions. Ensuring Excellence, Integrity and Longevity in our relationship with our stakeholders. Encouraging employees to learn and innovate.

Vision

Empowering humankind with Solar Energy.

About Us



- Started in the year 2014, we have established our presence in the specialized field of Solar Pump and have set an unprecedented and unbeatable mark in the Solar Pump Market.
- We do not consider ourselves a business, but rather a “platform” where we want to address our customer’s every requirement.
- We believe in educating our customers, advising on the right option, sourcing the best equipment, and providing hassle-free service.
- We provide world-class Solar Pump Solutions, Services, Technology and contribute to the sustainability of our planet.

We are Certified by



UL Lab



CE



Bureau of
Indian Standards



MNRE



TUV



CPRI



ISO

Our Products are Installed at:



DWSD Dept.



ONGC Dept.



PWD



ION Dept.



Indian Railway Dept.



NSIC



AMRUT ENERGY SOLAR PUMPS

- Amrut Energy solar pumps offer incredible features coupled with excellent performance, thus making a distinctive mark in the solar pump market.
- Ranging from 1 hp- 50 hp, we offer Solar Submersible Pump, Solar Surface or Mono-block pump, and Solar Open-well Pump. We also offer hybrid solar pumps.
- Amrut Energy has always been a pioneer in state-of-the-art technology which helps in producing highly energy-efficient, reliable, and durable solar pumps.

APPLICATIONS

- Flood irrigation of small fields
- Drip irrigation for farms
- Cattle watering
- Water supply for small villages, schools, hospitals and homes



Solar is cost effective right now. When you consider the long term savings, the payback period is very short.
Solar is just as competitive as fossil fuel power generation.



SOLAR SUBMERSIBLE, MONOBLOCK & OPENWELL PUMP

Amrut Energy offers a wide range of **Solar Submersible Pumps** ranging from 1 hp to 50 hp. We also provide a hybrid Solar Pump that can run on both Solar and Electric Power. Our solar water pumping system is capable of running all types of electrical water pumps with applications varying from irrigation to household demands.

Amrut Energy offers **Solar Open-well Pumps** ranging from 3 hp to 10 hp. Our three-phase pumps are developed using a state-of-the-art manufacturing process. Our Solar Open-well pumps are ideal when there is a fluctuation in the water level while resting at the bottom of the well and functions beneath the water.

Amrut Energy offers **Solar Monoblock Pumps** ranging from 1 hp to 10 hp. These pumps are easy to install, have low maintenance cost, and offers greater efficiency.

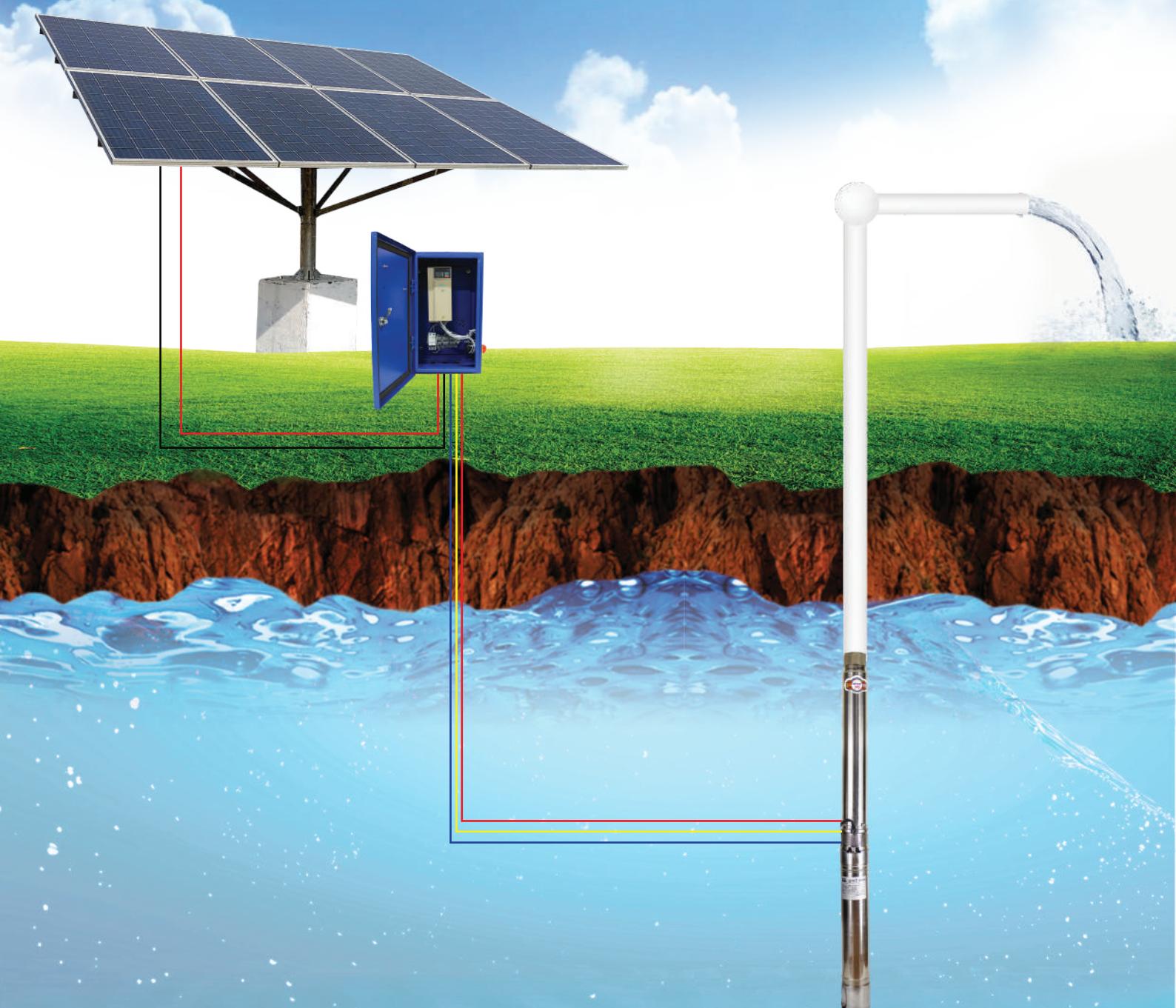
Some of the features include:

- Highly energy efficient submersible solar water pump with energy-efficient inverter duty motor.
- Highly-efficient solar photo-voltaic panels with a service life of a minimum of 20 years.
- Robust design Galvanized steel mounting structure for long life.
- High technology automatic controller with dynamic MPPT(Maximum Power Point Tracking) control method.
- The controller offers complete protection against under and over-voltage and dry-run protection for the pump.
- Highly efficient controller with a conversion efficiency of 98%.

*Consider the cost to our health from air pollution,
as any other energy source.*



SOLAR WATER PUMP SYSTEM



Our National Presence



Our Warehouse



Our Dealers



Gujarat (Main Office)



Karnataka



Maharashtra



Jharkhand



West Bengal



Assam



Tamil Nadu



Odisha

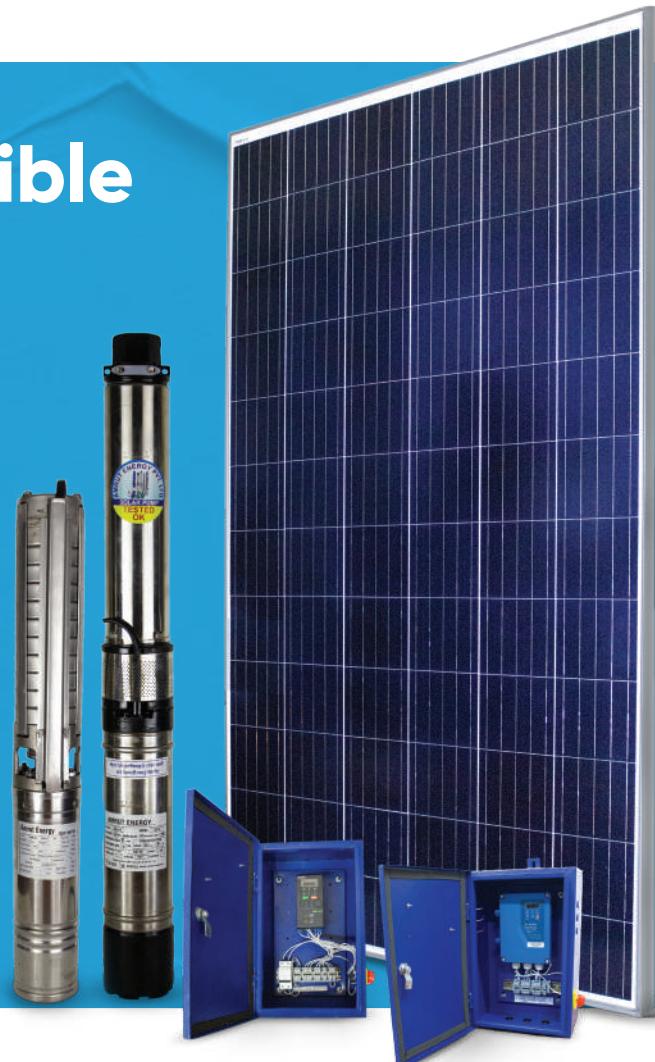


Our Global Presence

- ◆ Our products are appreciated globally with installation in Kenya, Australia, South Africa, Saudi Arabia, Sudan and Malawi

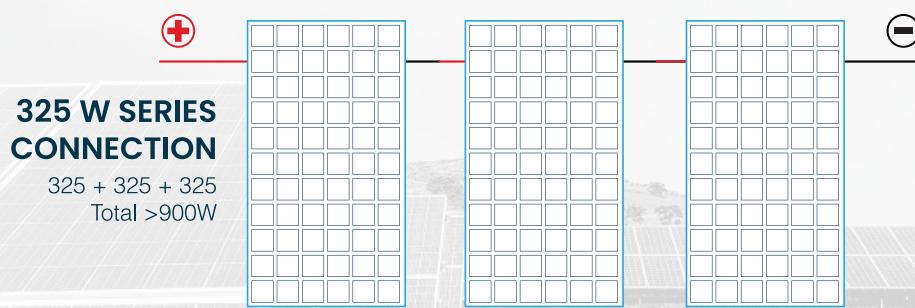
1 hp Solar Submersible Pump System

V4 Series



hp	kW	VOLTAGE	OUTER DIA. (mm)	CABLE SIZE (sq. mm)	SOLAR MODULE ARRAY
1(BLDC)	0.75	72	95	1 x 3 x 2.5	325 W x 3 Nos. 3 Panels in Series
1	0.75	80	95	1 x 3 x 2.5	325 W x 3 Nos. 3 Panels in Series
1	0.75	110	95	1 x 3 x 2.5	325 W x 4 Nos. 4 Panels in Series
1	0.75	160	95	1 x 3 x 2.5	325 W* x 3 Nos. 3 Panels in Series

* Special design of Solar Module



Submersible Pump

PUMP SHAFT	SS 410
SUCTION BRACKET	CAST IRON
PUMP HARDWARE	SS 304
IMPELLER	NORYL/SS
IMPELLER TYPE	RADIAL
STAGE CASTING	NORYL/SS
PUMP JACKET	SS
PUMP BEARING BUSH	LEADED BRONZE

Submersible Motor

RPM	2800
MOTOR SHAFT	SS 410
MOTOR BEARING BUSH	LTB 5 GRADE
THRUST BEARING	SS 410
LOWER & UPPER HOUSING	CAST IRON/SS
STATOR SHELL	SS
WINDING WIRE	3 Φ COPPER
MOTOR HARDWARE	SS 304

Discharge Chart

hp	Voltage	Ampere (I _m)	Shut off Head (m)	Head (m)				
				LPM				
1 (BLDC)	72	8A	120	30	50	60	70	90
				55	35	30	20	15
1	80	8A	60	20	30	40	50	60
				80	60	40	20	0
1	160	4A	65	20	30	40	50	60
				100	70	45	30	15

[^] All data mentioned here are at 50 Hz, it may vary according to various Environmental Conditions



2 & 3 hp Solar Submersible Pump System

V4 Series



hp	kW	VOLTAGE	OUTER DIA. (mm)	CABLE SIZE (sq. mm)	SOLAR MODULE ARRAY
2	1.5	160	95	1 x 3 x 2.5	325 W x 6 Nos. 6 Panels in Series
3	2.2	230	95	1 x 3 x 2.5	325 W x 9 Nos. 9 Panels in Series

Submersible Pump

PUMP SHAFT	SS 410
SUCTION BRACKET	CAST IRON
PUMP HARDWARE	SS 304
IMPELLER	NORYL/SS
IMPELLER TYPE	RADIAL
STAGE CASTING	NORYL/SS
PUMP JACKET	SS
PUMP BEARING BUSH	LEADED BRONZE

Submersible Motor

RPM	2800
MOTOR SHAFT	SS 410
MOTOR BEARING BUSH	LTB 5 GRADE
THRUST BEARING	SS 410
LOWER & UPPER HOUSING	CAST IRON/SS
STATOR SHELL	SS
WINDING WIRE	3 ♂ COPPER
MOTOR HARDWARE	SS 304

Discharge Chart

hp	Voltage	Ampere (I _m)	Shut off Head (m)	Head (m)				
				LPM				
2	160	9A	120	30	50	70	90	100
				150	90	60	40	30
3	230	9A	130	30	50	70	90	110
				230	145	100	65	40

[^] All data mentioned here are at 50 Hz, it may vary according to various Environmental Conditions



5 to 25 hp Solar Submersible Pump System

V6 & V8 Series



hp	kW	VOLTAGE	OUTER DIA. (mm)	CABLE SIZE (sq. mm)	SOLAR MODULE ARRAY
5	3.7	380	142	1 x 3 x 2.5	325 W x 15 Nos. (15 Panels in Series)
7.5	5.5	300	142	1 x 3 x 4	325 W x 24 Nos. (12 Panels in Series) x 2 Strings
10	7.5	380	142	1 x 3 x 4	325 W x 30 Nos. (15 Panels in Series) x 2 Strings
15	11	380	142	1 x 3 x 6	325 W x 45 Nos. (15 Panels in Series) x 3 Strings
20	15	380	142	1 x 3 x 10	325 W x 60 Nos. (15 Panels in Series) x 4 Strings
25	18.7	380	142	1 x 3 x 10	325 W x 75 Nos. (15 Panels in Series) x 5 Strings

Submersible Pump

PUMP SHAFT	SS 410
SUCTION BRACKET	CAST IRON
PUMP HARDWARE	SS 304
IMPELLER	SS 304
IMPELLER TYPE	RADIAL/MIXED
STAGE CASTING	CAST IRON
PUMP JACKET	CAST IRON
PUMP BEARING BUSH	LEADED BRONZE

Submersible Motor

RPM	2800
MOTOR SHAFT	SS 410
MOTOR BEARING BUSH	LTB 5 GRADE
THRUST BEARING	SS 410
LOWER & UPPER HOUSING	CAST IRON/SS
STATOR SHELL	SS
WINDING WIRE	3 ♂ COPPER
MOTOR HARDWARE	SS 304

Discharge Chart

hp	Voltage	Ampere (I _m)	Shut off Head (m)	Head (m)					
				LPM					
5	380	9A	150	30	50	70	90	110	130
				470	240	160	120	90	60
7.5	300	17A	170	30	50	70	110	130	150
				700	420	280	165	130	100
10	380	17A	240	30	50	70	130	190	220
				1000	580	380	170	95	65
15	380	24A	300	50	80	110	180	220	280
				900	450	320	200	160	100
20	380	32A	330	50	70	100	170	250	300
				1360	900	720	370	274	230
25	380	38A	350	50	70	100	150	200	300
				1500	1200	815	440	390	275

[^] All data mentioned here are at 50 Hz, it may vary according to various Environmental Conditions



Monoblock Pump System

1 to 10 hp Monoblock Pump System



hp	kW	VOLTAGE	CABLE SIZE (sq. mm)	SOLAR MODULE ARRAY
1	0.75	160	1 x 3 x 2.5	325 W* x 3 Nos. 3 Panels in Series
2	1.5	160	1 x 3 x 2.5	325 W x 6 Nos. 6 Panels in Series
3	2.2	230	1 x 3 x 2.5	325 W x 9 Nos. 9 Panels in Series
5	3.7	380	1 x 3 x 2.5	325 W x 15 Nos. 15 Panels in Series
7.5	5.5	300	1 x 3 x 4	325 W x 24 Nos. (12 Panels in Series) x 2 Strings
10	7.5	380	1 x 3 x 4	325 W x 30 Nos. (15 Panels in Series) x 2 Strings

* Special design of Solar Module

Monoblock Pump

RPM	2800
Impeller	Cast Iron FG200
Pump Casting	Cast Iron
Mechanical Seal	Rubber
Pump Shaft	SS 410
Suction Bracket	Cast Iron
Pump Hardware	SS 410
Motor Shaft	SS 410
Motor Bearing Type	Ball Bearing
Stator Shell	Cast Iron
Winding Wire	Copper
Motor Hardware	SS 304

Discharge Chart

hp	Voltage	Ampere (I_m)	Shut off Head (m)	Head (m)
				LPM
1	160	4A	12	7 275
2	160	9A	12	7 550
3	230	9A	12	7 825
5	380	9A	17	12 730
7.5	300	17A	19	12 925
10	380	17A	20	15 1350

[^] All data mentioned here are at 50 Hz, it may vary according to various Environmental Conditions

Openwell Pump System

3 to 10 hp Openwell Pump System



hp	kW	VOLTAGE	CABLE SIZE (sq. mm)	SOLAR MODULE ARRAY
3	2.2	230	1 x 3 x 2.5	325 W x 9 Nos. 9 Panels in Series
5	3.7	380	1 x 3 x 2.5	325 W x 15 Nos. 15 Panels in Series
7.5	5.5	300	1 x 3 x 4	325 W x 24 Nos. (12 Panels in Series) x 2 Strings
10	7.5	380	1 x 3 x 4	325 W x 32 Nos. (16 Panels in Series) x 2 Strings



Open-Well Pump

RPM	2800
Impeller	Cast Iron FG200
Pump Casting	Mild Steel
Mechanical Seal	Mild Steel
Pump Shaft	SS 410
Suction Bracket	Cast Iron
Pump Hardware	SS 410
Motor Shaft	SS 410
Motor Bearing Type	Ball Bearing
Stator Shell	Mild Steel
Winding Wire	Copper
Motor Hardware	SS 304

Discharge Chart

hp	Voltage	Ampere (I_m)	Shut off Head (m)	Head (m)	
				LPM	LPM
3	230	9A	24	8	750
5	380	9A	28	15	800
7.5	300	17A	28	15	1400
10	380	17A	35	22	1300

[^] All data mentioned here are at 50 Hz, it may vary according to various Environmental Conditions



Amrut Energy's Product Installation

Fixed and Movable Structure



STEP TOWARDS



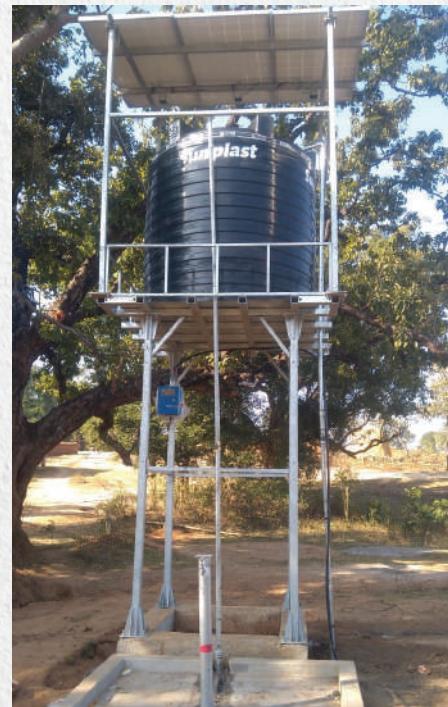


GREEN FUTURE



Amrut Energy's Product Installation

Tank Structure





1000L, 2000L & 5000L Tank Structure

Under Govt. Departments

Amrut Energy at Expo



The Smart

Mumbai

Inter So

REI Expo 2018

Hyderabad





REI Expo 2019

Greater Noida (Delhi)

QuarterE 2019

Quarter 2018

Bengaluru



**STEP TOWARDS
GREEN FUTURE**

CONTROLLER TECHNICAL SPECIFICATIONS

SOLAR PUMP INVERTER POWER (kW)	PUMP		MAXIMUM INPUT DC VOLTAGE (V)	TOTAL Voc (V) RANGE OF PANELS	RATED OUTPUT CURRENT (A)	OUTPUT FREQUENCY RANGE (Hz)	RECOMMENDED PUMP (HP)
	RATED POWER (kW)	RATED VOLTAGE (V)					
0.75	0.75	160	400	175-380	4.2A	0-600	1 HP
2.2	1.1	110	400	175-380	9.5A	0-600	1.5 HP
2.2	1.5	160	400	175-420	9.5A	0-600	2 HP
2.2	2.2	230	400	175-420	9.5A	0-600	3 HP
4	3.7	380	800	620-750	10A	0-600	5 HP
7.5	5.5	300	800	620-750	17A	0-600	7.5 HP
7.5	7.5	380	800	620-750	17A	0-600	10 HP
11	11	380	800	620-750	25A	0-600	15 HP
15	15	380	800	620-750	32A	0-600	20 HP
18	18	380	800	620-750	40A	0-600	25 HP



- The recommended total Vmp of the Solar Panel shall be 1.15 times of inverter bus voltage.
- For example, the recommended total power of the Solar Panel for a 7.5kW water pump system: $7500 \times 1.2 = 9000\text{W}$.
- The maximum withstanding voltage of Type I model products is 400VDC, and of Type II model products is 780VDC.

SOLAR WATER PUMP DISCHARGE REPORT

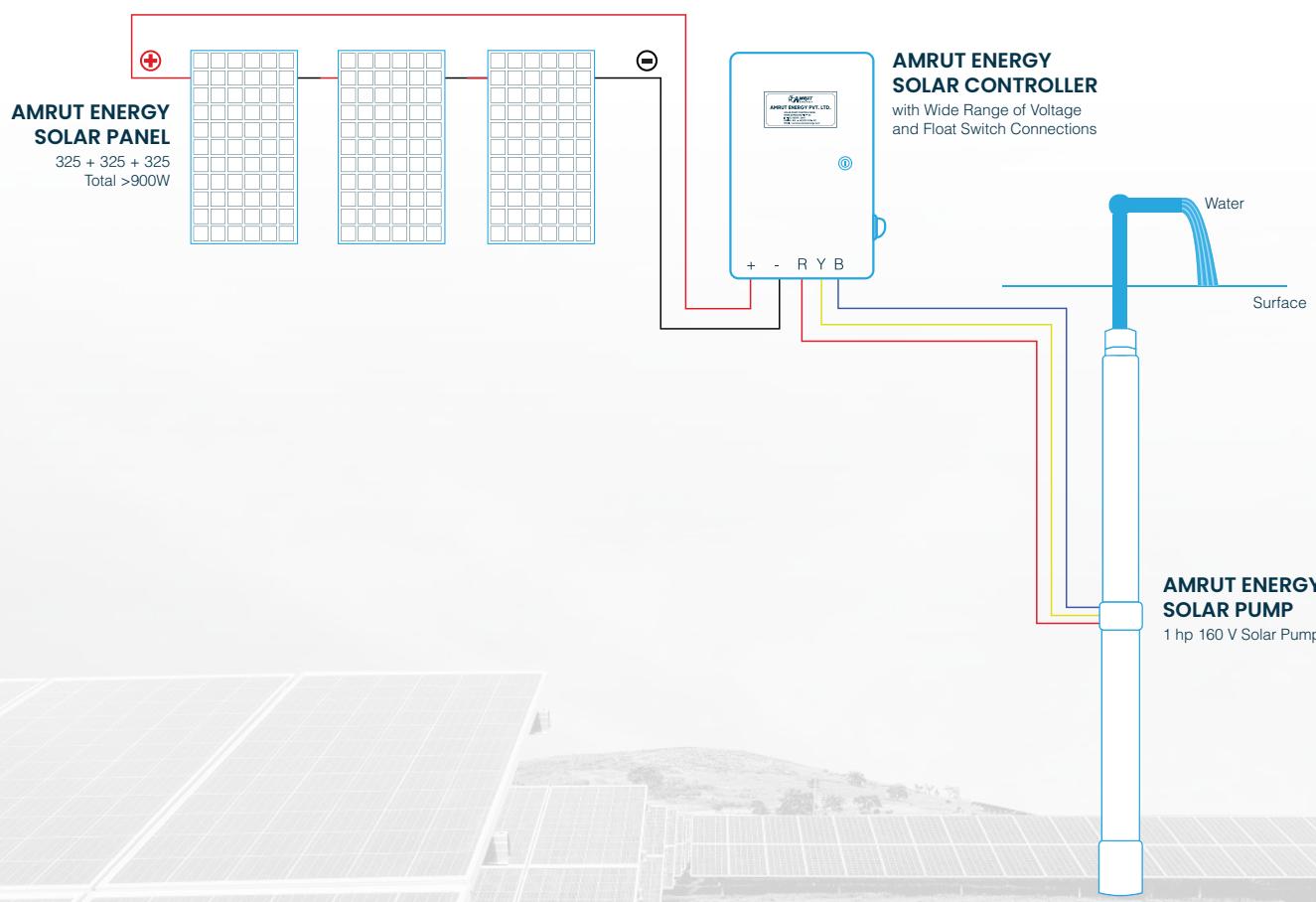
hp	kW	Voltage	Head In (m)	LPM	LPD	Delivery Size
1	0.75kW	80V	20	50	18000	1.25"
			30	30	10800	1"
			40	10	3600	1"
1	0.75kW	160V	20	100	36000	1.25"
			30	70	25200	1.25"
			40	45	16200	1"
			50	30	10800	1"
			60	15	5400	1"
1	0.75kW	110V	20	80	28800	1.25"
			30	60	21600	1.25"
			40	40	14400	1"
			50	20	7200	1"
			30	150	54000	1.5"
2	1.5kW	160V	50	90	32400	1.5"
			70	60	21600	1.25"
			100	30	10800	1.25"
			30	230	82800	2"
3	2.2kW	230V	50	145	52200	1.5"
			70	100	36000	1.5"
			110	40	14400	1.5"
			30	470	169200	3"
5	3.75kW	380V	50	240	86400	2"
			90	120	43200	1.5"
			110	90	32400	1.5"
			130	60	21600	1.5"
			30	700	252000	3"
7.5	5.5kW	300V	50	420	151200	2.5"
			90	200	72000	2"
			110	165	59400	2"
			130	130	46800	2"
			150	100	36000	2"
			30	1000	360000	3"
10	7.5kW	380V	50	580	208800	3"
			90	280	100800	2.5"
			130	170	61200	2"
			150	150	54000	2"
			220	65	23400	2"
			50	900	324000	3"
15	11kW	380V	80	450	162000	3"
			110	320	115200	3"
			180	200	72000	2"
			220	160	57600	2"
			280	130	46800	2"
			340	100	36000	2"

Example : 1 hp Solar Pump installation

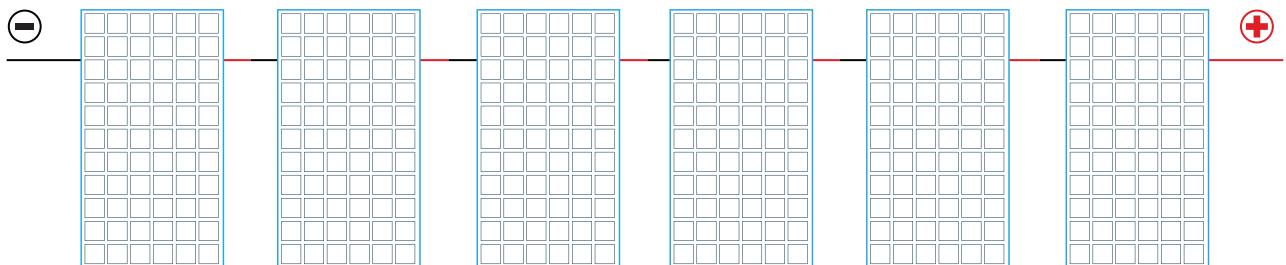


1 hp Submersible Pump includes

1 hp Submersible Pump
1 hp Solar Controller
325 W Solar Panel - 3 Nos./4 Nos.
Fixed Structure/ Movable Structure/
Tank Structure
Required Nut Bolts



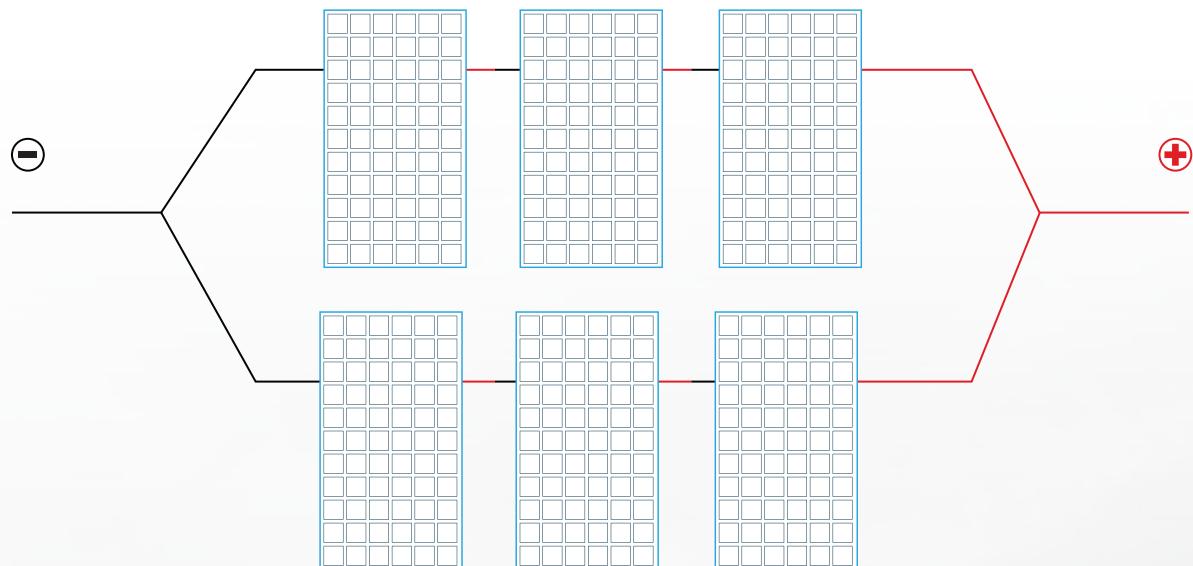
Example : 6 Panels In Series Connection



$42\text{ V} + 42\text{ V} = 252\text{ V}$

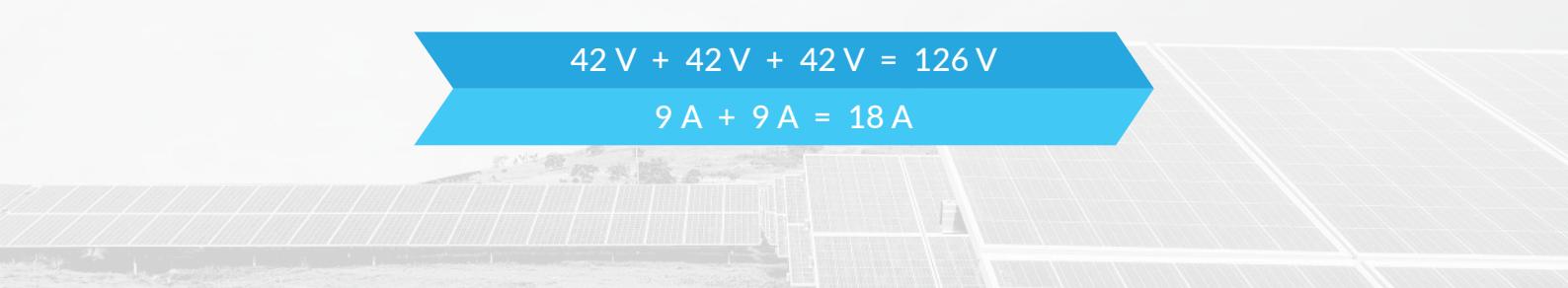
9 A

Example : 2 Strings in Parallel Connection



$42\text{ V} + 42\text{ V} + 42\text{ V} = 126\text{ V}$

$9\text{ A} + 9\text{ A} = 18\text{ A}$





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