

HIGH PERFORMANCE  
**SOLAR**  
SURFACE PUMPS • SUBMERSIBLE PUMPS



**ROTOMAJ**  
*Water from the Sun*



### Solar Pumps for Shallow wells

Water intensive crops like Rice, Sugarcane and Soya require flooded soil for its growth. For such water intensive crops, flood irrigation through high discharge solar pumps is ideal.



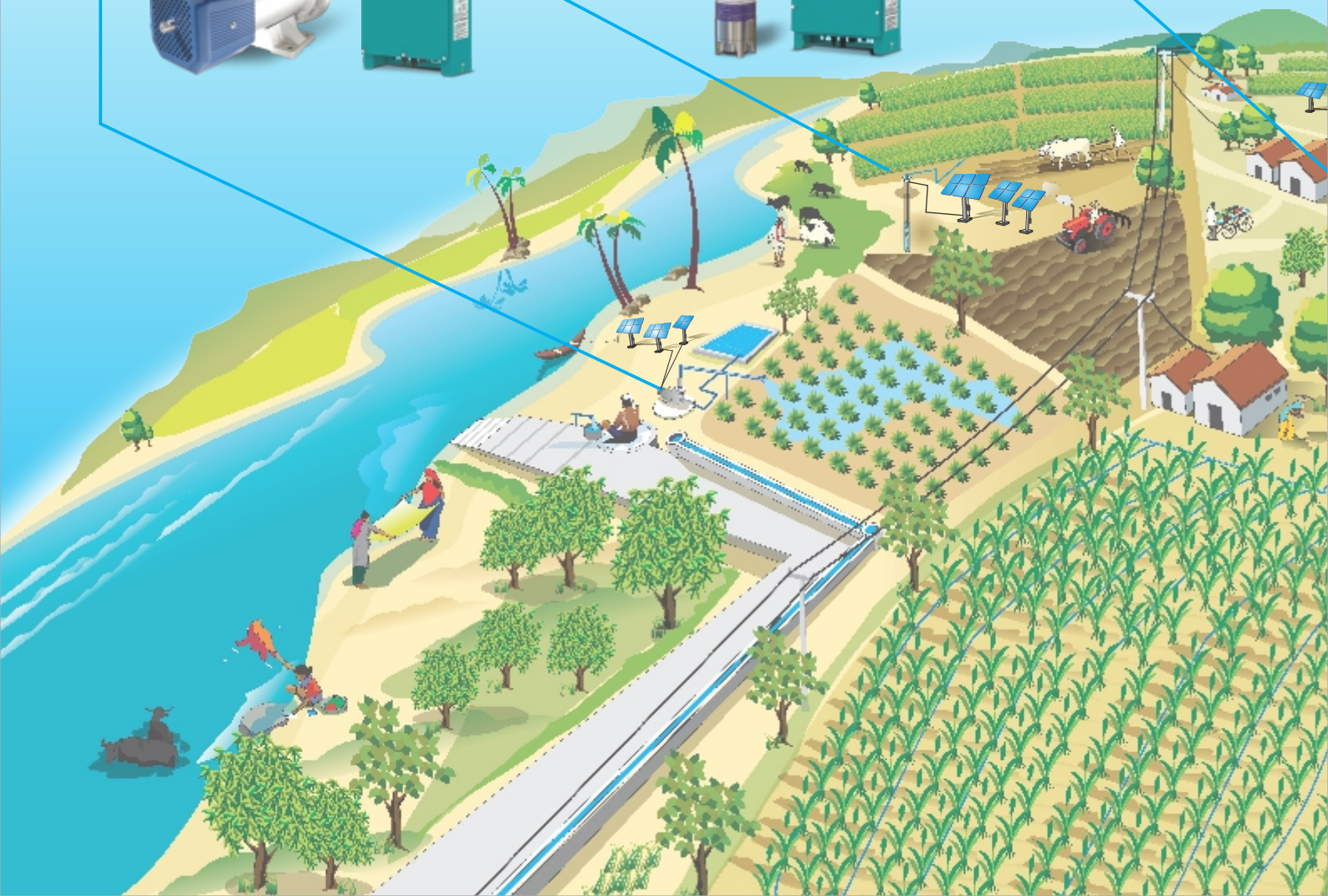
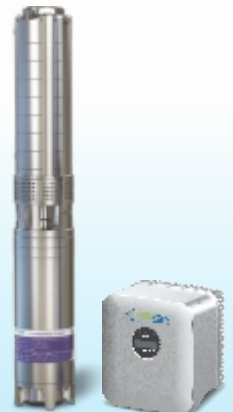
### Solar Pumps for Borewells

It is expensive to run power lines across long distances to provide electricity to pumps that provide water for livestock. An ideal solution is a solar pumping system as it eliminates the need for electric lines and delivery of water is guaranteed.



### Solar Pumps for Drinking Water

Solar pumps are a quick and efficient way to distribute water to communities where households rely on water that is manually drawn from a well.





## Solar Pumps with Universal Controllers

Pumps coupled with universal controllers serve 2 purposes. Once the primary purpose of irrigation is fulfilled, these universal controllers invert the power generated by the PV array and operate myriad of agricultural equipment.



## Solar Pumps with Grid connected Controllers

The Grid Tied controller can be coupled with a DC solar pump with the additional feature that it can be connected to an inverter. This in turn can inject the power generated by the PV array into the grid during simultaneous operation.



[www.rotosol.solar](http://www.rotosol.solar)





## About Rotomag



The Rotomag group is globally recognized for the manufacture of high performance motors, gearboxes, drives, solar pumps & solar string inverters. Incorporated in 1992, the Rotomag group has 2 companies and 5 brands.

Rotomag, the flagship company manufactures DC motors, gearboxes, solar pumps and solar string inverters. Rotomotive in collaboration with Motive, IT manufactures AC motors, gearboxes and drives for EVs.

## Manufacturing

Our world class manufacturing facilities are spread over 1.6 lac sq. ft. with a capacity to manufacture 35000 motors and pumps per month.

Key processes like controlled magnetizing, waterproof encapsulation, trickle impregnation, brazing, resiglass branding, dynamic balancing and assembly enable us to build product reliability during the manufacturing stage.

Inhouse state of the art R&D and QA ensures that every new product that is developed exceeds international standards of performance and quality.

Automatic testing facilities for solar pumps and solar PV simulators push our pumps to the limits of their performance and ensure that pumps meet the specifications laid down by our clients.

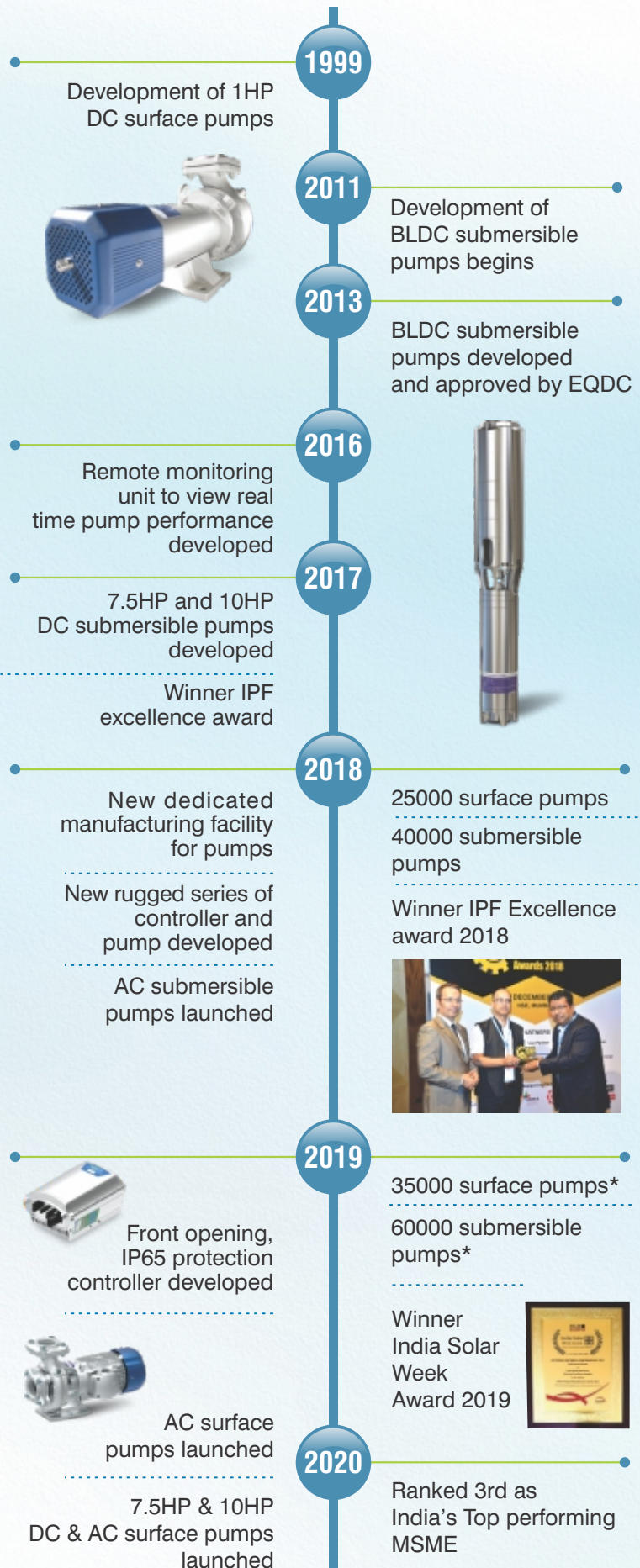


ISO 9001:2015



ISO 14001:2015  
OHSAS 18001:2007





\* Projected





## Unique Features of Rotosol Solar Pumps



## Rotosol Solar Offgrid Controllers

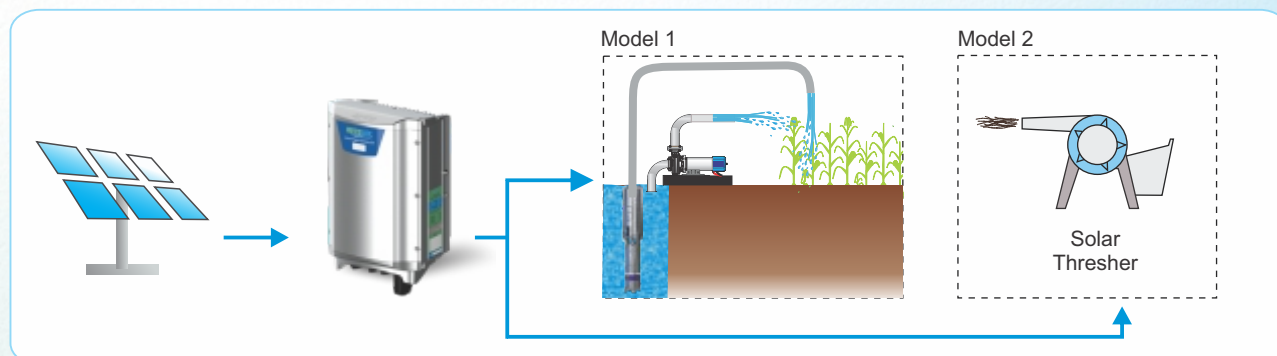


### Features

- Built in MPPT to maximize power use from solar panels
- Inbuilt RMU for real time data logging and transmission
- Fins for greater heat dissipation
- Low voltage, tank empty, tank full, over current fault detection
- Thermal overload shutdown to avoid damage to motor and controller
- IP65 ingress protection

## Rotosol Universal Controllers

The Universal controller operates the Off-grid AC or DC solar pumps. However, when the pumps are not in use, the same controller can invert the power generated by the PV array and operate any farm machinery equipped with a 3 phase AC induction motor of 2/3<sup>rd</sup> capacity of the PV array.



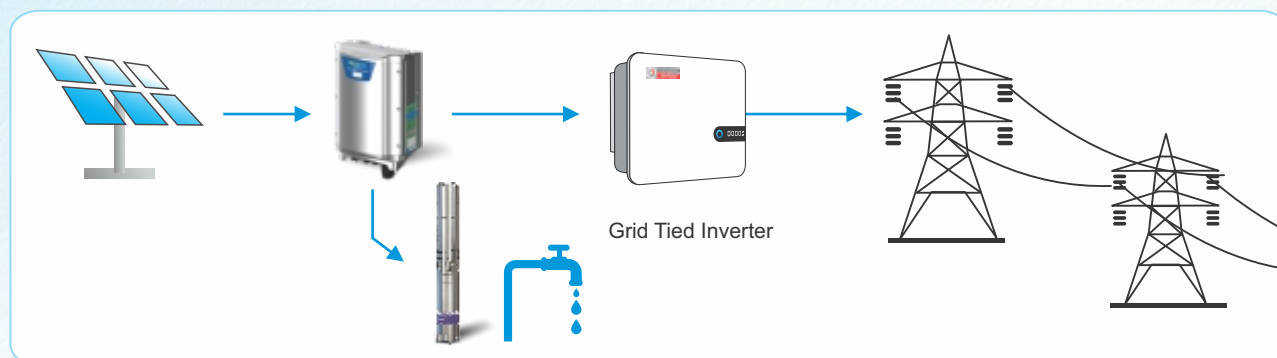
Sr No	Existing motor pump set capacity	PV panel rating (STC)	Max. rating of motors to be operated by USPC when pump is not used	Controller power efficiency should be more than or equal to
1	3 HP	3000 Wp	2 HP	93.00%
2	5 HP	4800 Wp	3 HP	93.00%
3	7.5 HP	6750 Wp	5 HP	94.00%
4	10 HP	9000 Wp	7.5 HP	94.50%
5	15 HP	13500 Wp	10 HP	94.50%

### Features

- Built-in MPPT
- External Remote Monitoring Unit
- Fins for greater heat dissipation
- Sensorless protection
- IP65 ingress protection
- Internal surge protection device
- Earthing terminal for grounding
- Internal sensor for auto-start/stop
- Fault/alert indications

## Rotosol Grid Tie Systems

The Grid Tied controller can be coupled with a DC solar pump with the additional feature that it can be connected to an inverter which in turn can inject the power generated by the PV array into the grid. Power splitters ensure that this can be done during simultaneous operation of the pump.



Model	kW	Head range (mtr.)	Operating DC voltage (Vdc)
RS3000	3	20-100	360
RS5000	5	20-100	576
RS7000	7.5	50-100	400
RS10000	10	50 & 100	540

### Features

- Built-in MPPT
- External Remote Monitoring Unit
- Fins for greater head dissipation
- Sensorless protection
- IP65 ingress protection
- Internal surge protection device
- Earthing terminal for grounding
- Internal sensor for auto-start/stop
- Fault/alert indications
- DC Isolator Switch
- Power splitters for distribution of power to the pump and injection into the grid
- Multi-channel RMU



## DC Submersible Pumps for Micro Irrigation

Model	Array Rating (Wp)	Array Rating Range (Wp)	Motor Power	SPV Array (VOC)	Input Voltage (Vmp)	Pump Type	Discharge (LPD)	Discharge calculated at (m)	Shut off Head (m)
EJ200	200	150-250	150W (0.2HP)	22-37	19-32	EJ002H010	5000	10	12
EJ300	300	250-450	225W (0.3HP)	37-67	32-58	EJ003H010	10000	10	12
EJ500	500	450-650	375W (0.5HP)	67-96	58-84	EJ005H020	10000	20	25
						EJ005H030	6000	30	45



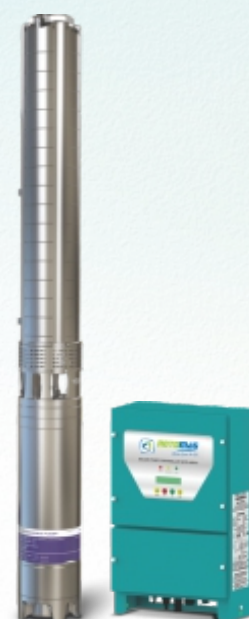
## DC Submersible Pumps for Drinking Water

Model	Array Rating (Wp)	Array Rating Range (Wp)	Motor Power	SPV Array (VOC)	Input Voltage (Vmp)	Pump Type	Discharge (LPD)	Discharge calculated at (m)	Shut off Head (m)
RDW500	500	450-650	375W (0.5HP)	67-96	58-84	RW005H030	13400	30	45
RDW750	750	650-850	560W (0.75HP)	96-126	84-110	RW007H030	16700	30	45
						RW007H060	5000	60	90
RDW900	900	850-1000	750W (1HP)	126-148	110-129	RW010H030	20000	30	45
						RW010H060	10000	60	120
						RW010H090	5000	90	120



## DC Submersible Pumps for Irrigation

Model	Array Rating (Wp)	Array Rating Range (Wp)	Motor Power	SPV Array (VOC)	Input Voltage (Vmp)	Pump Type	Discharge (LPD)	Discharge calculated at (m)	Shut off Head (m)
RS1200	1200	1000-1500	750W (1HP)	148-222	129-194	RD010H020	66000	20	25
						RD010H030	45600	30	45
						RD010H050	27600	50	70
RS1800	1800	1500-2200	1500W (2HP)	222-326	194-284	RD020H020	99000	20	25
						RD020H030	68400	30	45
						RD020H050	41400	50	70
						RD020H070	27000	70	100
RS3000	3000	2400-3300	2250W (3HP)	250-450	180-400	RD030H020	165000	20	25
						RD030H030	114000	30	45
						RD030H050	69000	50	70
						RD030H070	45000	70	100
						RD030H100	31500	100	150
RS5000	4800	3900-5300	3750W (5HP)	400-770	300-620	RD050H020	264000	20	25
						RD050H030	182400	30	45
						RD050H050	110400	50	70
						RD050H070	72000	70	100
						RD050H100	50400	100	150
RS7500	6750	6600-7200	5625W (7.5HP)	440-528	380-456	RD075H020	396000	20	25
						RD075H030	273600	30	45
						RD075H050	165600	50	70
						RD075H070	108000	70	100
						RD075H100	75600	100	150
RS10000	9000	8400-9600	7500W (10HP)	616-704	460-628	RD100H020	495000	20	25
						RD100H030	342000	30	45
						RD100H050	207000	50	70
						RD100H070	135000	70	100
						RD100H100	94500	100	150



Water output figures are on a clear sunny day with 3 times tracking of SPV panel, under "Average Daily Solar Radiation" condition of 7.15 KWh/sq.m on the surface of PV Array (i.e. coplanar with PV module) Standard Test Condition : AM=1.5, E=1000W/m<sup>2</sup>, Cell Temperature : 25°C

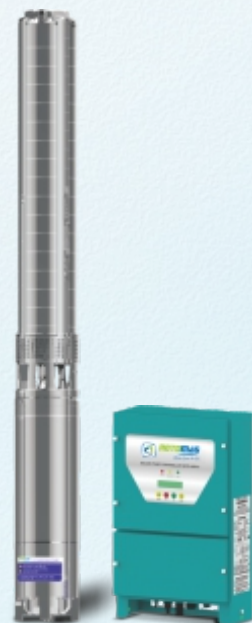
\* Controller optional





## AC Submersible Pumps for Irrigation

Model	Array Rating (Wp)	Array Rating Range (Wp)	Motor Power	SPV Array (VOC)	Input Voltage (Vmp)	Pump Type	Discharge (LPD)	Discharge calculated at (m)	Shut off Head (m)
RA1800	1800	1500-2200	1500W (2HP)	222-326	194-284	RA020H020	88200	20	25
						RA020H030	63000	30	45
						RA020H050	37800	50	70
						RA020H070	25200	70	100
RA3000	3000	2400-3300	2250W (3HP)	250-450	180-400	RA030H020	147000	20	25
						RA030H030	105000	30	45
						RA030H050	63000	50	70
						RA030H070	42000	70	100
						RA030H100	27000	100	150
RA5000	4800	3900-5300	3750W (5HP)	400-770	300-620	RA050H020	235200	20	25
						RA050H030	168000	30	45
						RA050H050	100800	50	70
						RA050H070	67200	70	100
						RA050H100	43200	100	150
RA7500	6750	6600-7200	5625W (7.5HP)	440+528	380-456	RA075H020	352800	20	25
						RA075H030	252000	30	45
						RA075H050	151200	50	70
						RA075H070	100800	70	100
						RA075H100	64800	100	150
RA10000	9000	8400-9600	7500W (10HP)	616-704	460-628	RA100H020	441000	20	25
						RA100H030	315000	30	45
						RA100H050	189000	50	70
						RA100H070	126000	70	100
						RA100H100	81000	100	150
RA15000	13500	12550-14450	11250W (15HP)	616-704	460-640	RA150H020	661500	20	25
						RA150H030	472500	30	45
						RA150H050	283500	50	70
						RA150H070	189000	70	100
						RA150H100	121500	100	150
RA20000	18000	16750-19300	15000W (20HP)	616-704	460-640	RA200H020	882000	20	25
						RA200H030	630000	30	45
						RA200H050	378000	50	70
						RA200H070	252000	70	100
						RA200H100	162000	100	150



## Bottom Suction DC Submersible Pumps for Irrigation

Model	Array Rating (Wp)	Array Rating Range (Wp)	Motor Power	SPV Array (VOC)	Input Voltage (Vmp)	Pump Type	Discharge (LPD)	Discharge calculated at (m)	Shut off Head (m)
BSV021820	1800	1500-2200	150W (2HP)	222-336	194-284	RD020H020	99000	20	45
BSV031830	3000	2400-3300	225W (3HP)	250-450	180-400	RD030H030	114000	30	45
BSV051830	4800	3900-5300	375W (5HP)	400-770	300-620	RD050H030	182400	30	45



Water output figures are on a clear sunny day with 3 times tracking of SPV panel, under "Average Daily Solar Radiation" condition of 7.15 KWh/sq.m on the surface of PV Array (i.e. coplanar with PV module)

Standard Test Condition : AM=1.5, E=1000W/m<sup>2</sup>, Cell Temperature : 25°C



## DC Surface Pumps for Micro Irrigation

Model	Array Rating (Wp)	Array Rating Range (Wp)	Motor Power	SPV Array (VOC)	Input Voltage (Vmp)	Rated Current (A)	Discharge (LPD)	Suction Head (m)	Discharge calculated at (m)	Shut off Head (m)
MBP 200	200	150-250	150W (0.2HP)	22-37	19-32	8.5	7000	2-3	5	8
MBP 300	300	250-450	225W (0.3HP)	37-67	32-58	8.5	10000	2-3	10	12
MBP 500	500	450-650	375W (0.5HP)	67-96	58-84	8.5	20000 10000 6000	6	10 20 30	12 25 45



## DC Surface Pumps

Model	Array Rating (Wp)	Array Rating Range (Wp)	Motor Power	SPV Array (VOC)	Input Voltage (Vmp)	Rated Current (A)	Discharge (LPD)	Suction Head (m)	Discharge calculated at (m)	Shut off Head (m)
MBP 30	810	900-1000	750W (1HP)	133-148	116-129	8.5	99000	7	10	12
MBP 60	1800	1800-2000	1500W (2HP)	89-99	77-86	25	198000	7	10	12
MBP 90 RB2700	2700	2700-3000	2250W (3HP)	360-450	290-370	25	148500	7	20	25
RB5000	4800	3900-5300	3750W (5HP)	400-770	300-620	-	371250	7	20	25
MBP6750	6750	6600-7200	5625W (7.5HP)	484-530	360-495	17	371250	7	20	25
MBP 9000	9000	3400-9600	7500W (10HP)	616-704	504-476	17	495000	7	20	25



## AC Surface Pumps

Model	Array Rating (Wp)	Array Rating Range (Wp)	Motor Power	SPV Array (VOC)	Input Voltage (Vmp)	Rated Current (A)	Discharge (LPD)	Suction Head (m)	Discharge calculated at (m)	Shut off Head (m)
MBP 60 AC	1800	1500-2200	1500W (2HP)	222-326	194-284	9	178200	7	10	12
MBP 90 AC	2700	2400-3300	2250W (3HP)	250-450	180-400	9	132300	7	20	25
MBP 120 AC	4800	3900-5300	3750W (5HP)	400-770	300-620	9	235200	7	20	25
MBP 6750 AC	6750	6600-7200	5625W (7.5HP)	484-530	360-495	17	330750	7	20	25
MBP 9000 AC	9000	8400-9600	7500W (10HP)	616-704	460-628	17	441000	7	20	25
MBP 15000 AC	13500	12550-14450	11250W (15HP)	616-704	460-640	28	661500	7	20	25
MBP 20000 AC	18000	16750-19300	15000W (20HP)	616-704	460-628	38	882000	7	20	25



Water output figures are on a clear sunny day with 3 times tracking of SPV panel, under "Average Daily Solar Radiation" condition of 7.15 kWh/sq.m on the surface of PV Array (i.e. coplanar with PV module)

Standard Test Condition : AM=1.5, E=1000W/m<sup>2</sup>, Cell Temperature : 25°C



## Software and Apps



### Pump Selector | Select the right pump to suit your needs

The pump selector is an online app that selects the best pump based on the input of a few site parameters.



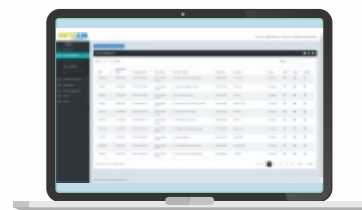
### Pump Eye | Monitor your pump performance

The pump eye provides real time data on pump performance and status of either single or multiple installations. Data can be compiled into reports for performance appraisal. The pump eye is available on desktop and as a mobile app.



### Support

This software empowers service personnel to provide prompt and efficient after sales support to customers. Right from installation, the software holds the service history of a pump which enables our service team to map out maintenance trends. This allows us to continuously improve on our product and on end user training.



## Every user of solar pump has a success story to share



Watch the Rotosol Movie





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