

| Type      | Description   |
|-----------|---|
| RA050H020 | AC Submersible Solar pump type: RA050H020<br>Rated head: 20mtr., 5.0HP, Shut off head 25 mtr., With RA5000 controller   |
| RA050H030 | AC Submersible Solar pump type: RA050H030<br>Rated head: 30mtr., 5.0HP, Shut off head 45 mtr., With RA5000 controller   |
| RA050H050 | AC Submersible Solar pump type: RA050H050<br>Rated head: 50mtr., 5.0HP, Shut off head 70 mtr., With RA5000 controller   |
| RA050H070 | AC Submersible Solar pump type: RA050H070<br>Rated head: 70mtr., 5.0HP, Shut off head 100 mtr., With RA5000 controller  |
| RA050H100 | AC Submersible Solar pump type: RA050H100<br>Rated head: 100mtr., 5.0HP, Shut off head 150 mtr., With RA5000 controller |

| Type   | RA050H020             | RA050H030             | RA050H050           | RA050H070           | RA050H100           |  |
|--|-----------------------|-----------------------|---------------------|---------------------|---------------------|--|
| Rated head (mtr.)                            | 20                    | 30                    | 50                  | 70                  | 100                 | Motor : AC Induction Motor   |
| Optimum Head range (mtr.)                    | 10-30                 | 20-40                 | 40-60               | 60-80               | 90-110              |  |
| Discharge (LPD)                              | 2,16,000 <sup>#</sup> | 1,53,600 <sup>#</sup> | 91,200 <sup>#</sup> | 62,400 <sup>#</sup> | 40,800 <sup>#</sup> | Pump : SS-304<br>material (In contact with water)  |
| Shut Off head (mtr.)                         | 25                    | 45                    | 70                  | 100                 | 150                 |  |
| Array Rating                                 | 4800 Wp               |                       |                     |                     |                     | 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) |
| Input Voltage (Vmp.)                         | > 576 Vdc             |                       |                     |                     |                     |  |
| Input Max. Current                           | 9 Adc                 |                       |                     |                     |                     |  |
| Ambient Temperature Range                    | Up to 50° C           |                       |                     |                     |                     |  |
| MNRE test certificate reference (Report no.) | -                     |                       |                     |                     |                     | Standard Test Condition : AM=1.5, E=1000W/m <sup>2</sup> , Cell Temperature : 25°C   |

<sup>#</sup> This water output is at STC conditions and testing as per MNRE's latest specifications for Solar water pumps.

## Product Introduction

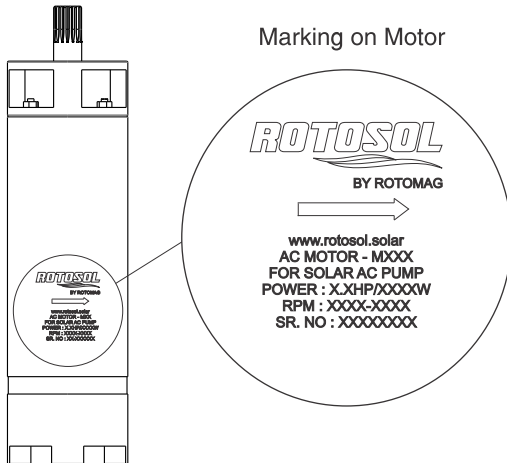
Rotosol solar submersible pump has a stainless steel SS-304 pump. This ensures long life and high reliability against dust, sand and abrasive elements. The pump elements are driven by a sealed "AC motor" filled with water. The motor is made from stainless steel 304 and sealed for life. High efficiency AC motors are used. The motor is driven by a controller which has inbuilt MPPT (Maximum power point tracker), dry running protection and overheating protection. A special thrust bearing supports the rotor of the motor to withstand the axial thrust of the water column when the pump is switched off. .



## Application

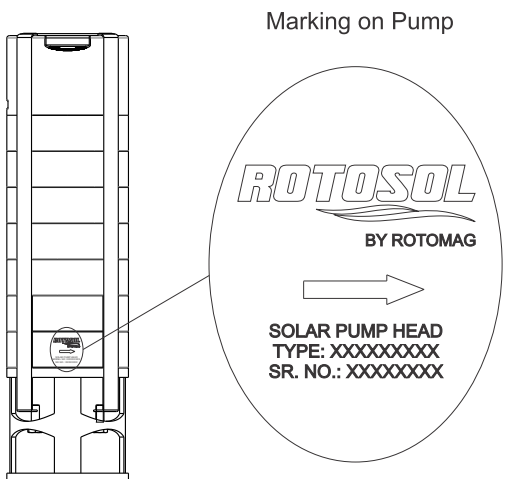
- Drinking water supply
- Livestock watering
- Pond management
- Irrigation
- Village water supply

### Specifications of AC Submersible motor:



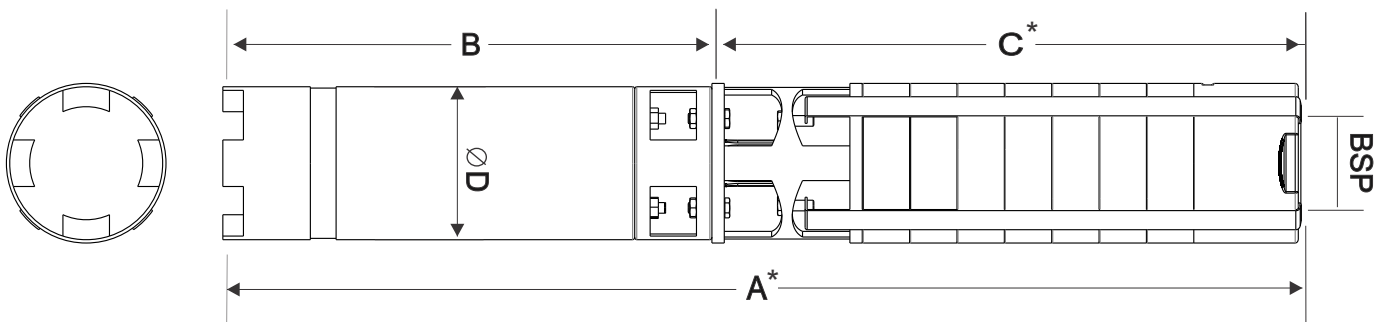
|               |            |
|---------------|------------|
| AC motor type | MA50       |
| Power         | 5HP/3.75kW |
| RPM           | 1800-3300  |

### Specifications of solar pump head:



|           |                   |
|-----------|-------------------|
| Type      | Rated head (mtr.) |
| RA050H020 | 20                |
| RA050H030 | 30                |
| RA050H050 | 50                |
| RA050H070 | 70                |
| RA050H100 | 100               |

### Dimension of AC submersible solar pump head:



| Model  | Type      | Dimensional Details |        |        |            |      | Module Details   |               | Performance Curves No. | Approx. Nett Weight in Kg. (± 1.5 kgs.) |
|--------|-----------|---------------------|--------|--------|------------|------|------------------|---------------|------------------------|---|
|        |           | A (mm)              | B (mm) | C (mm) | D max (mm) | BSP  | Module Size (Wp) | No. of Module |                        |   |
| RA5000 | RA050H020 | 1150                | 700    | 450    | 145        | 2.5" | 300              | 16            | -                      | 60                                      |
|        | RA050H030 | 1150                | 700    | 450    | 145        | 2.5" | 300              | 16            | -                      | 60                                      |
|        | RA050H050 | 1270                | 700    | 570    | 145        | 2.5" | 300              | 16            | -                      | 63                                      |
|        | RA050H070 | 1650                | 700    | 950    | 145        | 2.5" | 300              | 16            | -                      | 66                                      |
|        | RA050H100 | 1810                | 700    | 1110   | 145        | 2"   | 300              | 16            | -                      | 70                                      |

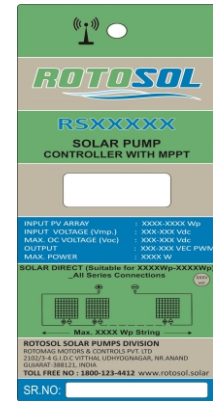
\* The length is subject to change without notice as R&D is a continuous process and the modification may be required to suit the modification in I-V curves of the modules and the water output at varying heads.

## Specifications of AC Submersible controller:

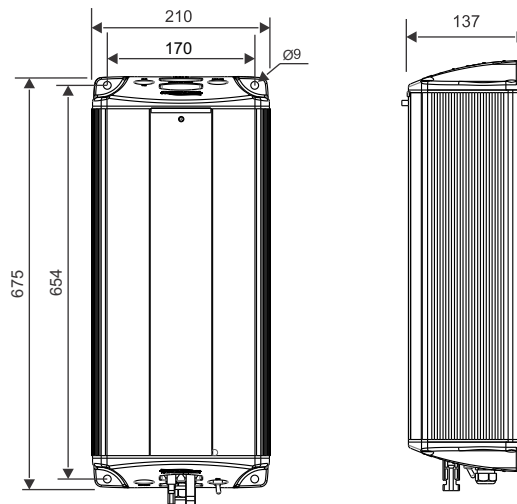
| Model  | Input PV array | Input voltage (Vmp.) | Max. Open circuit voltage (Voc.) |
|--------|----------------|----------------------|----------------------------------|
| RA5000 | 5000W          | > 576 Vdc            | 720 Vdc                          |

## Features of Controller:

- ▶ Fully enclosed with IP54 protection. as per IEC 60529:2013-08 Edition 2.2
- ▶ Multiple fault diagnosis indications.
- ▶ Integrated MPPT (Maximum Power Point Tracking).
- ▶ Tested as per IEC 60068-2-30, IEC 60068-2-14, IEC 60068-2-1, IEC 60068-2-2 for environment and IEC 61683 : 1999 for efficiency.\*
- ▶ Option of “Tank Full” and “Source Empty” sensor for auto start and auto stop.



## Mounting Dimensions: 560 x 560 mm



IEC certificate nos.  
for controller

- ▶ I.P. test certificate RP-1718-044898

**Controller Nett weight**

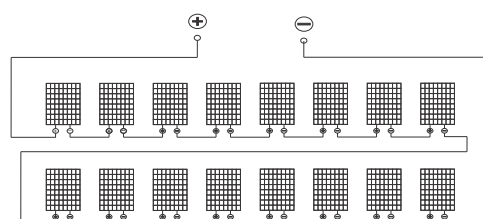
**7.6 ± 1 kg.**

## Installation Requirements:

### Preferred Solar PV Array

300 Wp, 72 Cell x 16 Panels: 4800 W

| Panel specifications          |         |
|-------------------------------|---------|
| Voltage at maximum power Vmax | 38.88 V |
| Open circuit voltage Voc      | 44.56 V |
| Current at maximum power Imax | 7.71 A  |
| Short circuit current Isc     | 8.48 A  |



16 Series

Technical specifications/details mentioned in this datasheet are subject to change without prior notice. Please contact our sales/marketing team for any updated information or any change done.