

Type	Description
RW005H030	Solar submersible DC pump, Model: RW005H030
	Rated head: 30mtr., 0.5HP, Shut off head 45 mtr., With RDW500 controller
RW005H060	Solar submersible DC pump, Model: RW005H060
	Rated head: 60mtr., 0.5HP, Shut off head 90 mtr., With RDW500 controller

Type	RW005H030	RW005H060	Motor : Permanent Magnet Brushless DC Motor
Rated head (mtr.)	30	60	Pump : SS-304 material (In contact with water)
Optimum Head range (mtr.)	20-40	50-70	
Discharge (LPD)	13,400 #	6,700 #	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)
Shut Off head (mtr.)	45	90	
Array Rating	500 Wp		Stander Test Condition : AM=1.5, E=1000W/m ² , Cell Temperature : 25°C
Input Voltage (Vmp.)	≥ 58 Vdc		
Input Max. Current	8.5 Adc		
Ambient Temperature Range	Up to 50° C		
MNRE test certificate reference (Report no.)	-		

This water output is at STC conditions and testing as per MNRE's latest specifications for Solar water pumps for drinking water.

Product Introduction

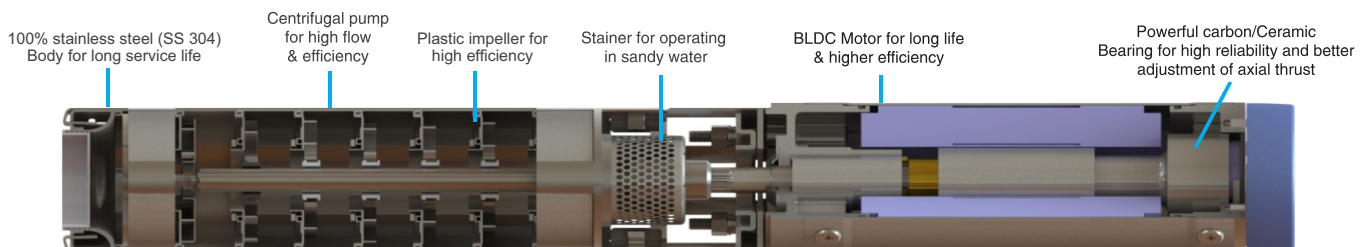
Rotosol solar submersible pump has a stainless steel SS-304 pump bowl and impellers which are precision laser welded. This ensures long life and high reliability against dust, sand and abrasive elements. The pump elements are driven by a sealed "Brushless DC motor" filled with oil/water. The motor is made from stainless steel 304 shell and sealed for life. Brushless DC motors has very high efficiency. 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. .



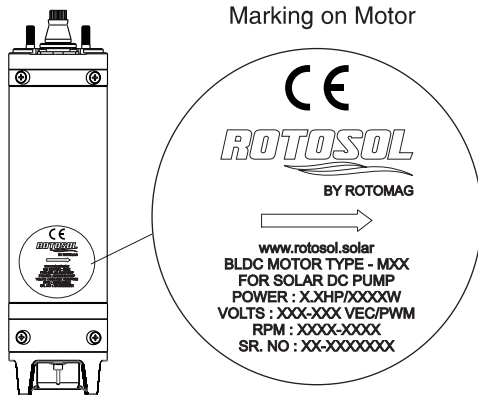
Application

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

Features and benefits



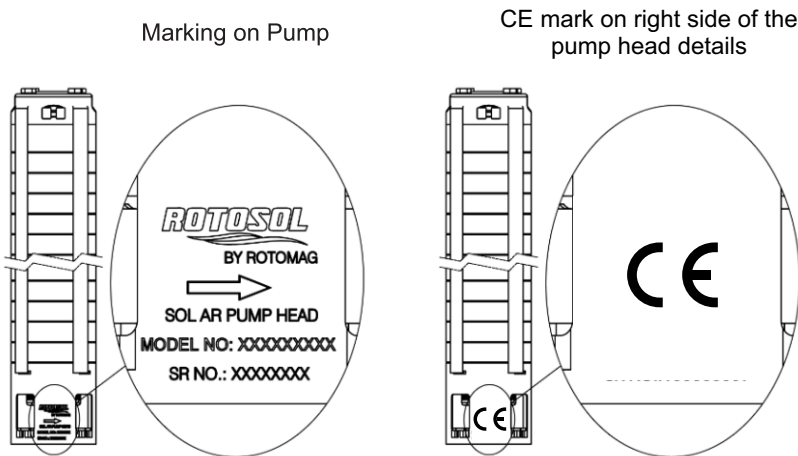
Specifications of BLDC Submersible motor:



BLDC motor type	M05
Power	0.5 HP/375W
Output VEC/PWM	36 - 91
RPM	1800 - 3300

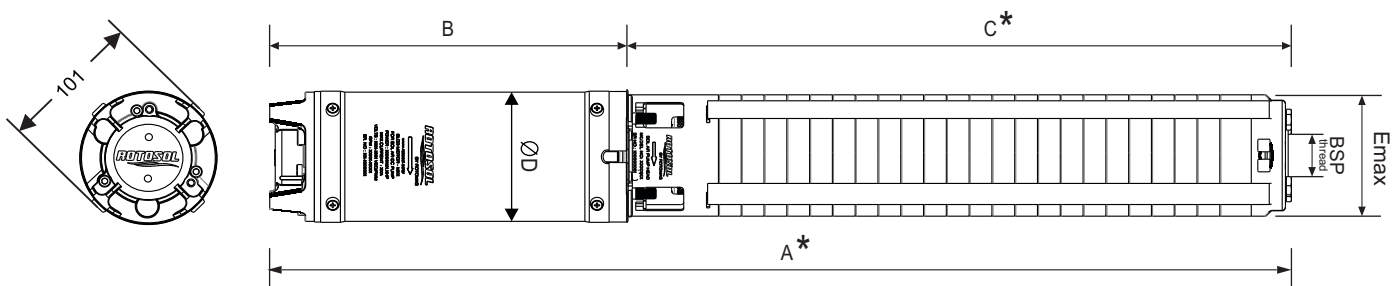
► Protection : IP68

Specifications of solar pump head:



Type	Rated head (mtr.)
RW005H030	30
RW005H060	60

Dimension of DC 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 (mm)	E max (mm)	BSP	Module Size (Wp)	No. of Module		
RDW500	RW005H030	775	250	525	96.4	92	1.25"	300	03	005H030	13.5
	RW005H060	775	250	525	96.4	92	1.25"	300	03	005H060	13.5

* 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 BLDC Submersible controller:

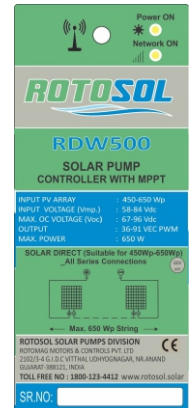
Input PV array	Input voltage (Vmp.)	Open circuit voltage (Voc)	Output VEC/PWM
450-650 Wp	58-84 Vdc	67-96 Vdc	36-91 V

Features of Controller:

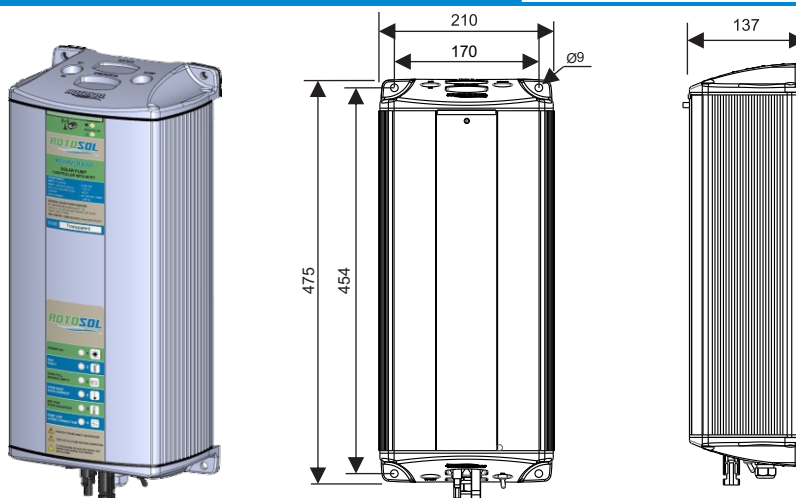
- ▶ Multiple fault diagnosis indications.
- ▶ Integrated MPPT (Maximum Power Point Tracking).
- ▶ "Tank Full" sensor for auto start and auto stop.

Protection against

Open Circuit
Accidental Short circuit (2 min. max.)
Reverse Polarity
Dry run



Mounting Dimensions:



Controller nett weight

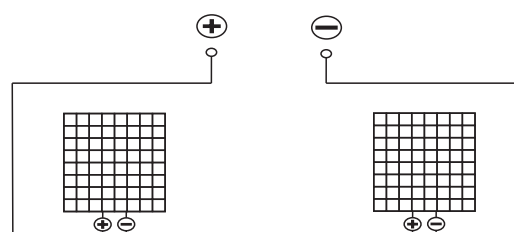
6.00 ± 1 kg.

Installation Requirements:

Preferred Solar PV Array

300 Wp, 72 Cell X 2 Panels: 600W

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



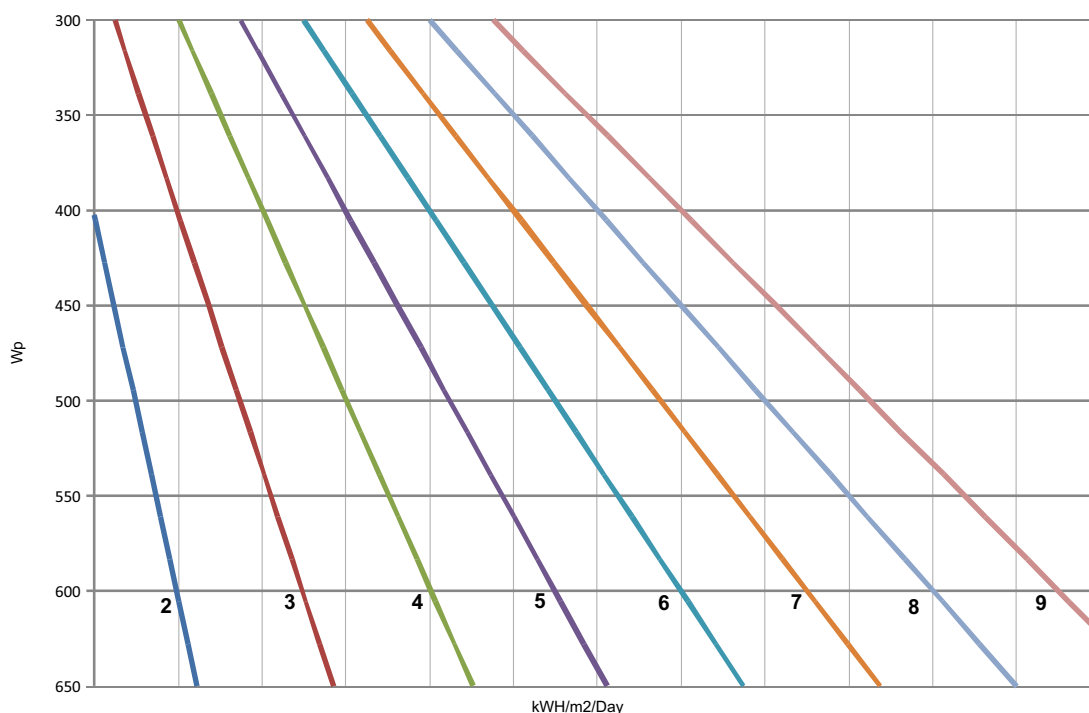
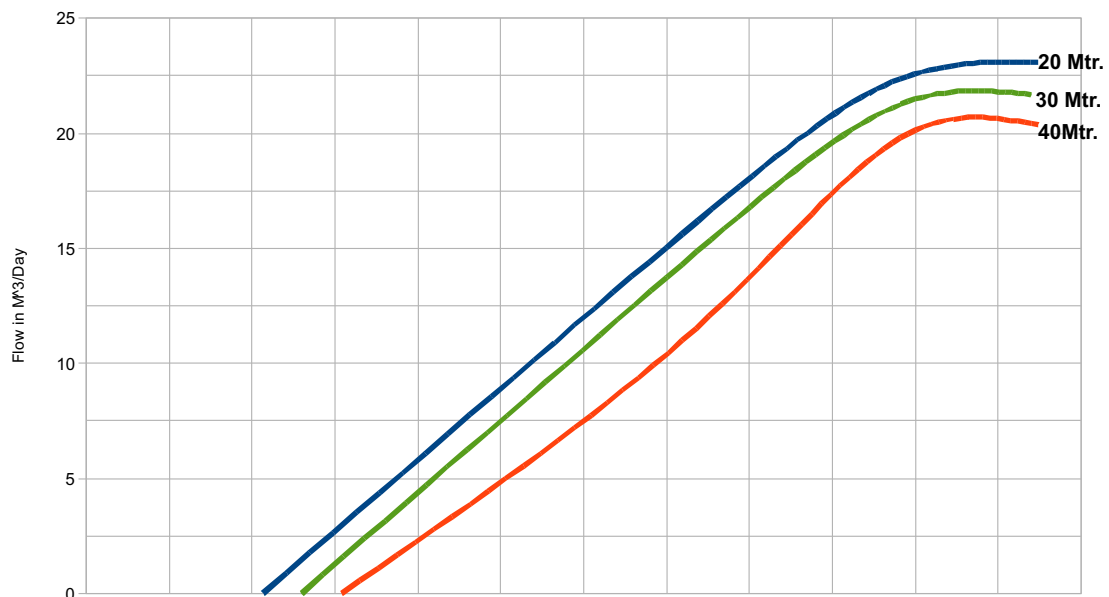
2 Series

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.

Performance characteristics of RW005H030 (No. :- 005H030)

This curves show the performance range of model RDW500 series of pumps with solar PV array.

- ▶ Ambient Temperature 50°C max.
- ▶ Based on 11 hours standard day.
- ▶ The water output is with continuous tracking, without tracking water output may reduce by 10-25% depending on angle of incidence.
- ▶ The actual output of PV array may be lower up to 30% depending on heat, dust and other losses.
- ▶ Irradiance measured on an inclined plane.



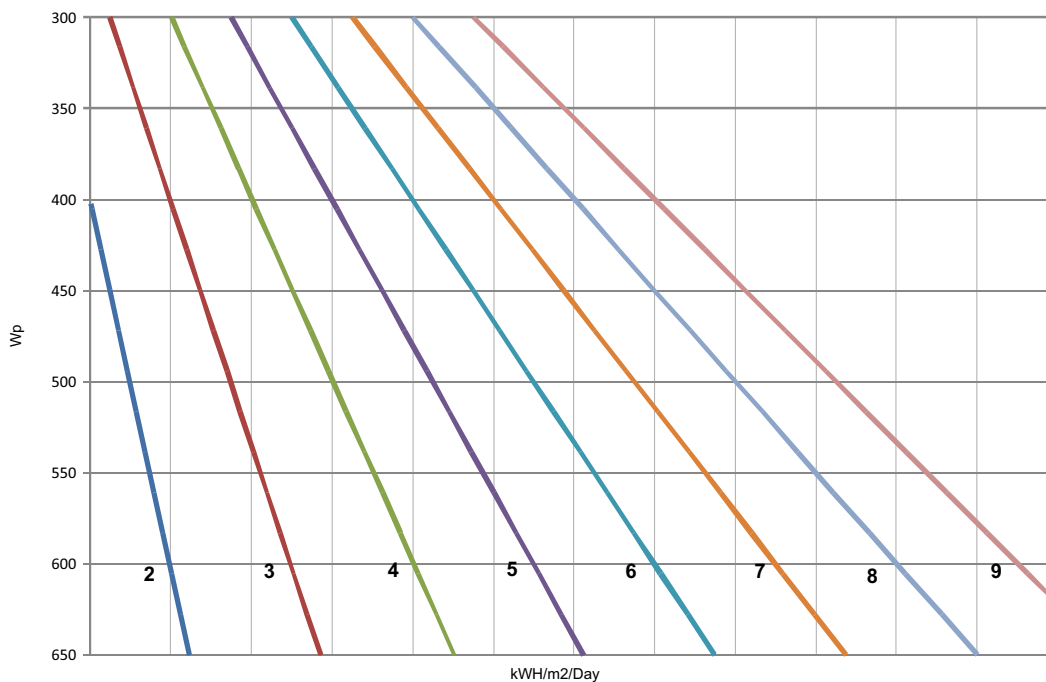
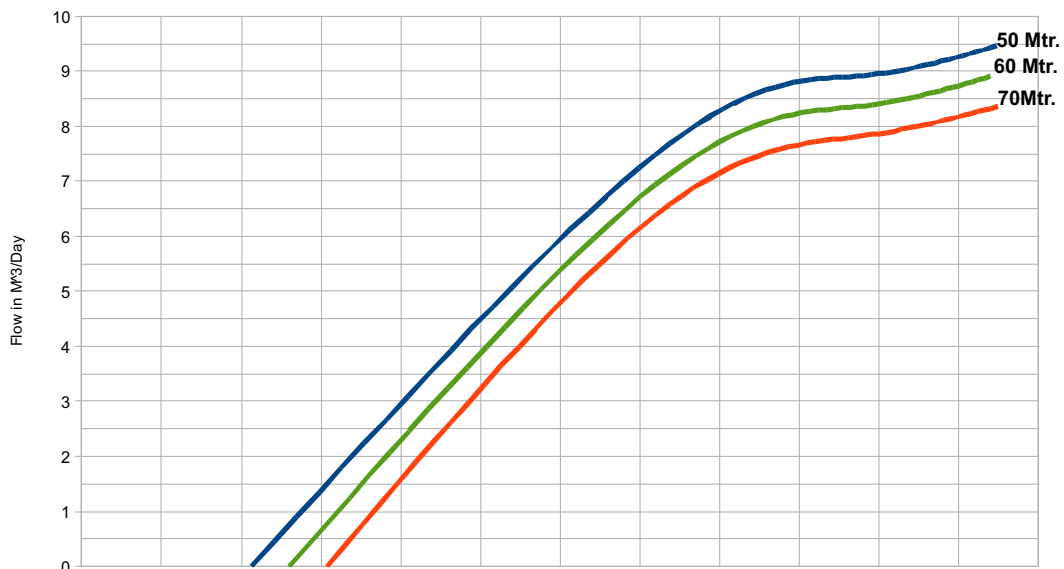
Explanation on above Charts:

An irradiation value and the required head in meters are given for a certain solar pumping system. Connect the point for the power output in Wp of the Solar array with an irradiation value, move vertical upwards to the intersection with the required head curve, then horizontal to the left the find the daily quantity of water that can be pumped (m³/day).

Performance characteristics of RW005H060 (No. :- 005H060)

This curves show the performance range of model RDW500 series of pumps with solar PV array.

- ▶ Ambient Temperature 50°C max.
- ▶ Based on 11 hours standard day.
- ▶ The water output is with continuous tracking, without tracking water output may reduce by 10-25% depending on angle of incidence.
- ▶ The actual output of PV array may be lower up to 30% depending on heat, dust and other losses.
- ▶ Irradiance measured on an inclined plane.



Explanation on above Charts:

An irradiation value and the required head in meters are given for a certain solar pumping system. Connect the point for the power output in Wp of the Solar array with an irradiation value, move vertical upwards to the intersection with the required head curve, then horizontal to the left to find the daily quantity of water that can be pumped (m³/day).

Pump Controller With Integrated Remote Monitoring System

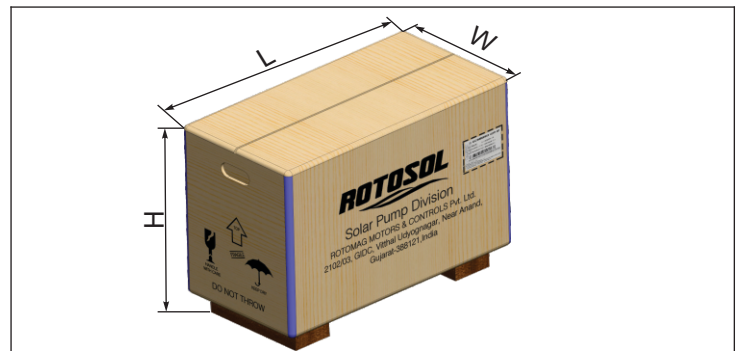
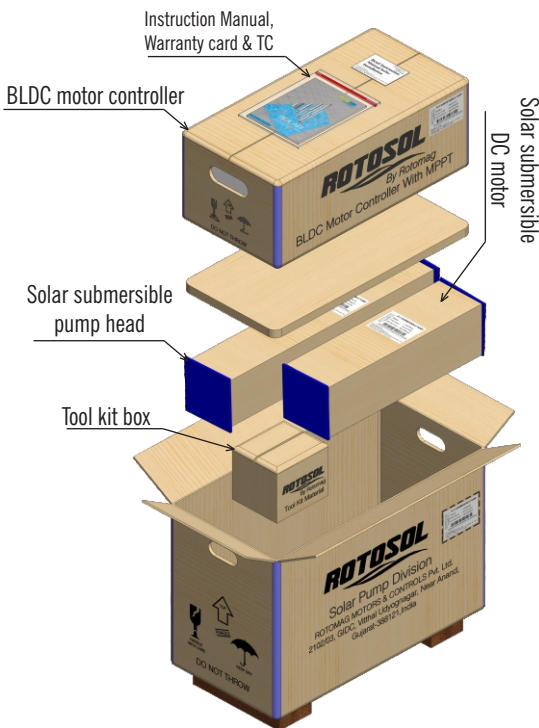
Remote monitoring system has been integrated with pump controller so that actual field information about voltage, current, temperature and error conditions are available with time on desktop computer as well as on mobile application.

Description of system:

The remote monitoring system integrated with the DC solar pump controller comprises of GPRS based data transmission modem in an IP54 enclosure. SIM card and SD card are to be separately inserted for remote monitoring system to start transmitting data to our server.

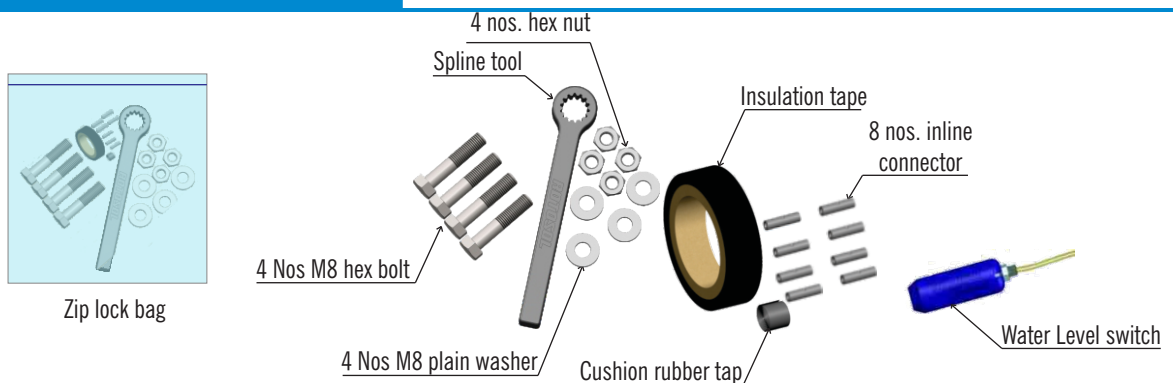
The operational data including Input DC voltage, Input DC current, Power (kW), Pump on hour, Number and nature of faults are processed and summarized reports are available. The reports show pump performance and faults in daily, monthly and user configurable periods. This data is transmitted to our server accessed by individual users or corporate users using mobile device or on desktop using appropriate login credentials.

Pump Set Packing Dimensions & Weight:



Type	L (mm)	W (mm)	H (mm)	Approx. packing weight (kgs)
RW005H030	700	350	450	27
RW005H060				

Supplied Tool Kit Parts:



The BLDC Motor & Pump head cannot be used separately. They are uncoupled only for transportation convenience. They can be operated only if coupled together. Do not attempt to use them separately with any other device or parts, otherwise they will be damaged.

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.

Solar Pumps Division

Rotomag Motors & Controls Pvt. Ltd.,

2102/03 GIDC Vithal Udyognagar, Near Anand-388 121 Gujarat Email: info@rotosol.solar • Phone : 09227110023/24/25