

Oswal Pumps Ltd.



MNRE · ISI · ISO 9001:2015 · BEE



PUMPS & MOTORS

True Partner!

OSWAL SOLAR PUMP CATALOG

MPPT Solar Pump Controllers · Stainless-Steel Submersible Pumps · AC/DC Solar Submersible Motors



Infinite Solar Pumping Energy

Energy-efficient range — solar pump controller, submersible pump & motor



Energy-Efficient Range

Controller · pump · motor



3-10 HP

2.2-7.5 kW controllers

10-100 m

head range

12-1,166 L/min

discharge range

IP65 · IP68

controller · motor

www.oswalpumps.com

SOLAR PUMP CONTROLLER

Oswal Solar Pump Controller

SOLAR PUMP INVERTER · IP65

A transformer-less inverter system with 110/160/230/320/415 V AC three-phase output voltage and V/F control to manage pump starting conditions (soft start).

The equipment is microcontroller-based and runs software for digital control of inverter parameters, fault diagnosis and digital I/O signalling.

2.2–7.5 kW

3 · 5 · 7.5 · 10 HP
ratings

3-phase

110–415 V AC output

IP65

enclosure protection



Protection — automatically shuts down in case of



Dry run



High or low
voltage surge



Phase loss



Reverse
polarity



Surge
protection



Over-heating



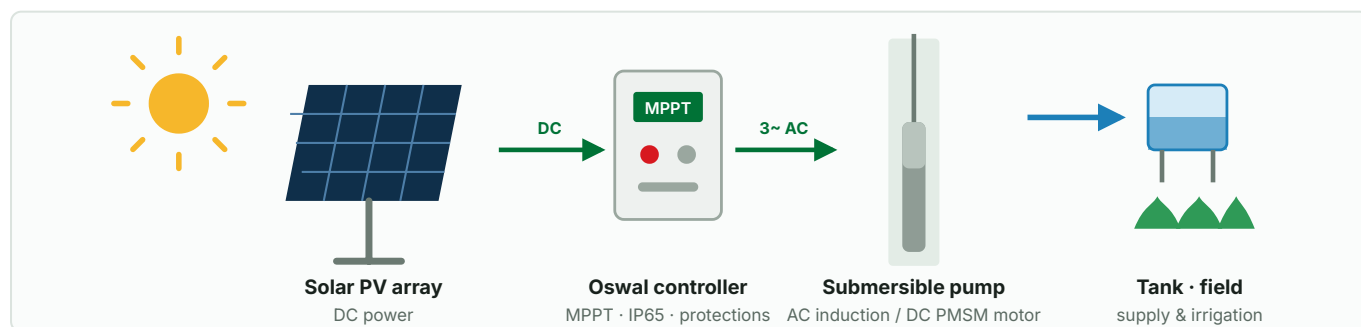
Short circuit



MPPT CONTROLLER Maximum power, all day

With the in-built MPPT (Maximum Power Point Tracking) function, the controller regulates the output frequency according to irradiation in real time to achieve maximum power. Its dynamic V-I MPPT control method gives fast response and stable operation — better than conventional methods, which can suffer from poor tracking performance, instability or even water-hammer damage when irradiation on the array changes rapidly.

How the system works



TECHNICAL SPECIFICATION

Oswal Solar Water Pump Controller

Salient features

- ✓ When solar power is not available, the controller can be manually switched to an AC supply input.
- ✓ High-resolution LCD display shows speed (rpm), input DC voltage, output AC/PWM voltage, current and system status.
- ✓ MPPT technology maximises water delivery at varying solar energy levels.
- ✓ Maximum power point tracking maximises the efficiency of input power use.
- ✓ GSM option available to control and monitor pumps at remote locations.
- ✓ Remote telemetry capability through RS485 continuous data points (optional).
- ✓ High-flow system for faster tank filling and significant water output.
- ✓ Simple installation and easy maintenance.
- ✓ Converts DC power into PWM sine-wave three-phase AC power and supplies it to the submersible pump through cable.
- ✓ Operate through the Oswal Kisan Sewa App.
- ✓ Remote software update is supported.

TECHNICAL SPECIFICATION — MPPT SOLAR PUMP CONTROLLER

Rating	3 HP	5 HP	7.5 HP	10 HP
ELECTRICAL				
Pump controller rating	2.2 kW	3.7 kW	5.5 kW	7.5 kW
MPPT range	200–450 V DC	350–550 V DC	500–900 V DC	650–900 V DC
Controller input V _{oc}	60–450 V DC	60–530 V DC	240–900 V DC	240–900 V DC
Controller input V _{mp}	60–450 V DC	60–530 V DC	220–900 V DC	220–900 V DC
Controller input current (DC)	12 A	12 A	13 A	13 A
Controller output current	12 A	12 A	14 A	14 A
Controller overload capacity	120% of rated current for 60 s · all ratings			
PROTECTION & ENVIRONMENT				
Enclosure protection	IP65	IP65	IP65	IP65
MPPT tracking	Yes	Yes	Yes	Yes
Operating temperature (ambient)	–10 °C to +55 °C · all ratings			
Temperature inside the control box	Up to 60 °C · all ratings			
Relative humidity	Less than 95% · all ratings			

V_{oc} = open-circuit voltage, V_{mp} = maximum-power voltage of the PV array. Specifications are subject to change without notice owing to continuous product improvement.

SS · SUBMERSIBLE

Stainless-Steel Submersible Pumps

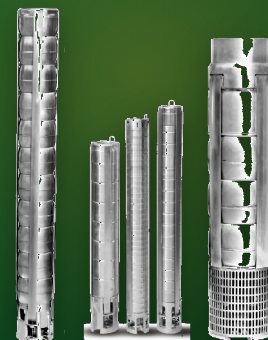
Sheet-metal stainless-steel pumps for 5", 6" and 8" submersible motors — AC and solar compatible

HEAD RANGE
10–100 m

DISCHARGE
12–1,166 L/min

MOTOR SIZE
5" · 6" · 8"

MATERIAL
AISI 304



SPECIAL FEATURES

Oswal sheet-metal stainless-steel submersible pumps are specially designed using the latest manufacturing techniques. Years of experience, superior design and better manufacturing have resulted in a range of pumps that is efficient and reliable in operation.

Strict quality-assurance standards throughout the process ensure trouble-free, reliable operation with minimum maintenance. The range covers many pump sizes and is available with an optional 30% higher-efficiency version.

Construction

MOTOR COMPATIBILITY

Suitable for 5", 6" and 8" submersible motors.

BEARINGS

All bearings are water-lubricated and square in shape, allowing any sand particles to leave the pump with the pumped liquid.

BEARING BUSH

Made of anti-friction NBR rubber for wear resistance.

NON-RETURN VALVE

Stainless steel (AISI 304). The valve casing is designed for optimum hydraulics, minimising pressure loss across the valve and contributing to high pump efficiency.

COUPLING

Pump-motor coupling according to NEMA standard.

IMPELLERS & BOWLS

Radial-flow and mixed-flow impellers and bowls in stainless steel (AISI 304).

STOP RING

Designed as a thrust bearing; limits axial movement of the pump shaft.

CASINGS

Suction case, stage casings and discharge chamber in stainless steel (AISI 304).

Applications



Borewell water supply



AC & solar compatible
grid or solar drive



Municipal & irrigation
water schemes & farms



Commercial supply
establishments & buildings



Small farms
gardening & nurseries

HEAD RANGE

10–100 m

DISCHARGE RANGE

12–1,166 L/min

AC · DC MOTOR

Solar AC/DC Submersible Motors

High-efficiency DC PMSM and AC induction submersible motors for solar pumping

PROTECTION
IP68

CASING
SS 304

SHAFT
SS 431

DC FREQUENCY
0-120 Hz



DC motor benefits

30% higher efficiency

compared with an AC submersible motor

30% higher discharge

compared with an AC submersible motor

Lower torque & power

required to operate

Starts early

in the morning

100% stainless steel

AISI 304

Features

- ✓ IP68 grade protection
- ✓ Stainless-steel casing (SS 304) and shaft (SS 431)
- ✓ Mechanical seal and sand guard for maximum sand protection

COMPARISON OF SOLAR DC (PMSM) MOTOR WITH INDUCTION MOTOR

No.	Parameter	PMSM motor (DC)	Induction motor (AC)
01	Speed range	0-3,600 rpm	2,850 rpm
02	Solar array required	Less	More
03	Size for same power rating	Less	More
04	Power density for same size	More	Less
05	Current required for same load	Less	More
06	Efficiency	Higher (>85%)	Lower (<85%)
07	Drive (AC/DC/DC-AC)	Compulsory	Optional
08	Frequency injection	Variable	N.A.
09	Motor frequency	0-120 Hz (variable)	50 Hz
10	Overloading	150%	120%
11	System efficiency (drive-motor-pump)	Higher	Lower

Need help selecting a solar pump?

Share your borewell depth, required head and daily water need — our team will recommend the right controller, pump and motor.

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True Partner!

Oswal Pumps Limited

Pumps & Motors · Solar | Domestic | Agriculture | Industrial

PAN-INDIA PRESENCE



GLOBAL PRESENCE



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