



As Per MNRE

PROXYS[®] SOLAR

An ISO 9001 : 2015 Company

VOCAL FOR LOCAL **MNRE**
Approved



PRAKASH GOLD INDUSTRIES
NOIDA (UP)

Solar Products with Best Efficiency

PROXYS[®] SOLAR As Per MNRE

BLDC / PMSM Submersible Pumps

PRAKASH GOLD[®]

Energy Efficient Water Pumps

P. G. GOLD

Energy Efficient Water Pumps

Prekosta

Energy Efficient Water Pumps

COMPANY PROFILE

PROXYS Pumps is a prime manufacturer of pump sets based in Noida. We are having a modern pumps and motors manufacturing set up, with our own in house research and development set up. It is backed by a tool room and a manufacturing set up of high precision machines. Having ISO-9001 accreditation, our focus is on continuous and consistent quality pump manufacturing. Our product range include self priming pumps, centrifugal pumps, open well submersible pumps and bore well submersible pumps. We also have a set up for manufacturing of fully stainless steel fabricated bore well submersible pump sets.

We have developed a special Permanent Magnet Synchronous Motor (PMSM) for solar application. These motors with our fully stainless steel pumps are used for solar application. These PMSM pumps are far more superior in terms of work performance, life, low voltage working and efficiency than regular pumps. These pumps work on lowest radiation of sun, hence start early and stop late in a day giving higher daily water out put. These pumps are low in maintenance cost with negligible breakdown possibility because of its sturdy designs. PMSM work on wider voltage bands than any regular motors.

We have also designed and developed controller drives for these pump sets which are so tuned to enhance the efficiency of the entire solar system through our pumps. These drives are hybrid in nature and can help the pump run on solar as well as other source of power like electricity or generator supply. These drives protect the PMS motors from over loading, dry running and extreme low or higher voltages. These drives can be used to monitor the pump functioning remotely from any location and any basic support can be provided for any distant location through GPS system. These controller drives are manufactured at our main plant in Noida.

A state of the art testing facility is installed at our plant using a sun radiation simulator. With the help of this simulator we test the products at any condition, of any state, any country, any location specific which make our products readily adaptable to different sun radiation conditions. It is our endeavor to get this PMSM technology in centrifugal as well as openwell pump designs to enable the use of solar technology in these products also, more effectively and efficiently.

PROXYS solar products are revolutionary in the solar pumping field. Our focus is to make the benefits of these products available to the society as a whole, in India and Abroad.



PERFORMANCE COMPARISON

	PMSM Motor	BLDC Motor	Induction Motor
Rotation	0-3600 RPM Speed, Constant Speed	0-3600 RPM Speed, Constant Speed	0-3420 RPM Speed, decrease with load increment
Power Source	50/60 Hz AC, DC and Solar Power	50/60 Hz AC, DC and Solar Power	Only 50 or 60 Hz Single / Three Phase AC or Solar Power
Voltage Level	Low and High voltage both are possible	Low Voltage Only	High Voltage Only
Operating Voltage Range	50% to 110% of rated voltage (wide range)	80% to 110% of rated voltage (moderate range)	90% to 110% of rated voltage (narrow range)
Current Require for same Load	Less due to high voltage and vector control	High due to less voltage	High due to less efficiency
Pump Motor	Permanent magnet synchronous motor	Brushless DC Motor	AC Single / Three Phase asynchronous motor
Frequency	0 to 250 Hz	0 to 250 Hz	0 to 50 Hz
Motor Efficiency	83 to 92%	80 to 90%	Single Phase = 63%, Three Phase = 75%
Good Performance Zone	Wide, 50% to 125% of rated load	Moderate, 70% to 110% of rated load	Narrow, 90% to 110% of rated load
Overload Capacity	150%	120%	120%
Unit Efficiency	2-10% higher than Induction Motor Pump (include controller)	2-8% higher than induction motor pump (include controller)	2-10% lower than PMSM pump (include controller)
Efficiency)			
Torque Ripple	Less	More	Less
Volume	20% to 50% Smaller	20% to 50% Smaller	Larger
Weight	20% to 50% Lighter	20% to 50% Lighter	Heavier
Functionally	Multi functional and automatic	Multi Functional and automatic	Unitary



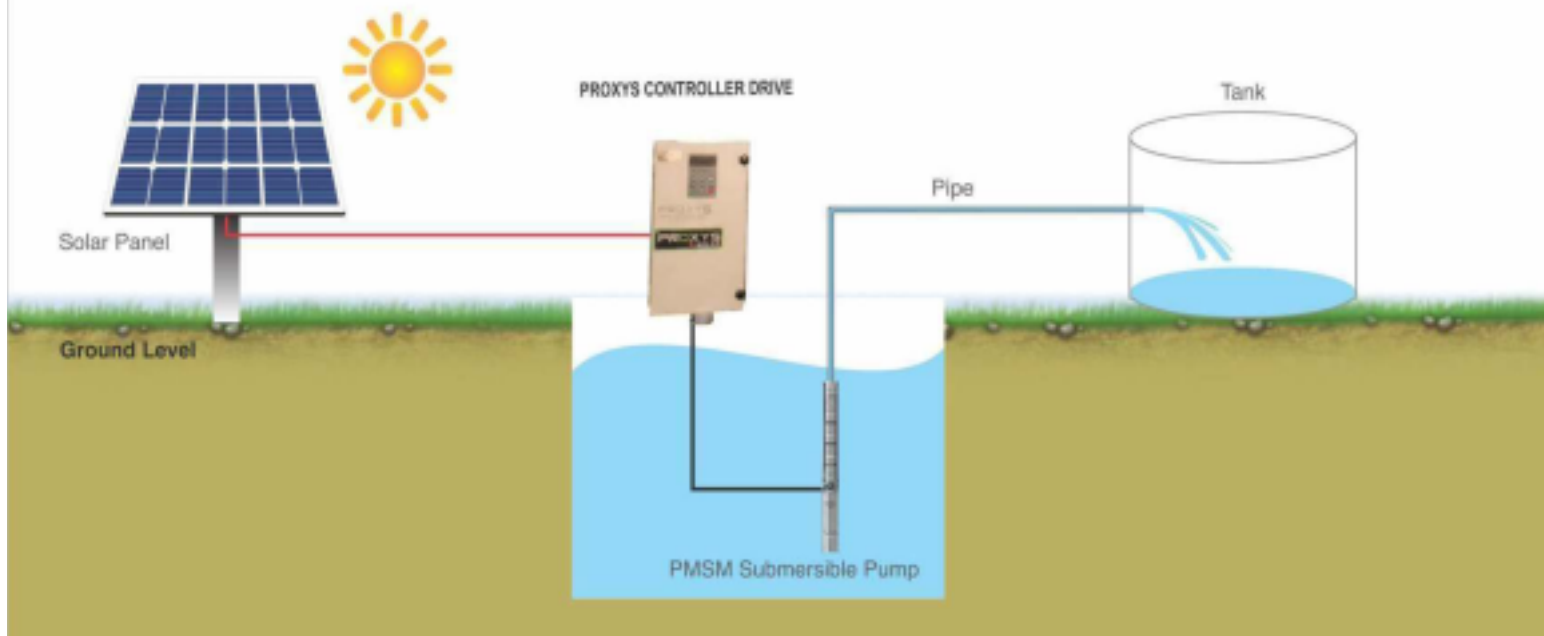
FEATURES OF BLDC/PMSM MOTORS

The permanent magnet synchronous motor is cross between an Induction motor and brushless DC motor. Like a brushless DC motor, it has a permanent magnet rotor and windings on the stator. However, the stator structure with windings constructed to produce a sinusoidal flux in the air gap of the machine resembles that of an induction motor. Permanent magnet synchronous motor's power density is higher than induction motors with the same ratings. Today, these motors are more powerful while having a lower mass and lower moment of inertia.

- High-efficiency permanent magnet motor requires less solar arrays.
- Motors are in Smaller Size, lighter weight still gives longer service life, Higher Efficiency.
- Wider speed range (0-3600rpm)
- Permanent Magnet Synchronous Motor give more output @ +25% to 35%.
- Can be used in AC & DC supply.
- With the technology of DC to AC conversion, It owns the advantage of low noise and can start under low voltage and low radiation.
- Soft start : Motor starts with high torque and smooth acceleration.
- The Motor Structure is made up of stainless steel with imported Alloy mechanical seal which is durable in use.
- Can be used with centrifugal pump for big flow or a helical rotor pump for high lift.

CONTROLLER DRIVE

- New Design, Smart / Intelligent controller Drive.
- MPPT function that is maximum solar power point tracking will adjust work speed automatically. So motor can extract maximum power from panels and provides maximum water output according to solar radiation.
- Intelligent control provides dry run protection, if there is no water in sump for 1 minute, solar pump will stop working automatically. In addition, it has intelligent overload protection when the abnormal situation appeared during the work, the pump automatically shut down.
- It offers Protection from high-voltage, low-voltage, single phasing, over current and overload.
- It also offers automatic ON / OFF.
- Remote monitoring System : RMS will keep record of operational data and provides access to it remotely through mobile phone or computer, for maintenance support.



SOLAR PUMP SET MODELS & TECHNICAL SPECIFICATION

Sr. No.	Model	Hp	Head (M)	Shut Off Head (M)	LPM	LPD	Water / Watt Peak	Motor Voltage	Current / Power	DC Voltage Vmp
01	PG30-0304	3	30	46	315	118278	39.426	180	10A / 3000W	368
02	PG17-0204	2	30	46	184	69050	38.361	120	9A / 1800W	220.8
03	PG8-0112	1	30	74	92	45558	37.965	60	12A / 1200W	147.2
04	PG8A-0315	3	50	106	162	69393	23.131	180	10A / 3000W	368
05	PG8-0318	3	70	108	112	46452	15.484	180	10A / 3000W	368
06	PG17-0508	5	50	90	268	114443	23.842	340	9A / 4800W	552
07	PG8-0518	5	70	108	192	77706	16.188	340	9A / 4800W	552
08	PG8-0525	5	100	150	138	52593	10.956	340	9A / 4800W	552
09	PG30-0757	7.5	50	80	431	181333	27.897	260	15A / 6500W	404.8
10	PG17-07513	7.5	70	145	258	113955	17.531	260	15A / 6500W	404.8
11	PG17-07512	7.5	100	135	205	76552	11.777	260	15A / 6500W	404.8
12	PG30-0107	10	50	80	551	238183	27.220	340	15A / 8750W	515.2
13	PG30-0109	10	70	102	429	166161	18.989	340	15A / 8750W	515.2
14	PG17-0116	10	100	180	258	110462	12.624	340	15A / 8750W	515.2
15	PG3-0118	1	50	110	30	12068	13.408	60	9A / 900W	110.4
16	PG3-0116	1	30	95	50	23426	26.028	60	9A / 900W	110.4
17	PH1.5-1090	1	90	200	15	7301	8.112	60	9A / 900W	110.4



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FEATURES OF BLDC/PMSM MOTORS

- Site Analysis & Technical Feasibility Study
- Project Investment, Payback & IRR Analysis
- Techno-Commercial Proposal
- Project Planning, Controlling & Management
- Engineering, Procurement & Construction
- Technical & Document Support for Approval & Permission from Government
- Service, Operation & Maintenance

OUR COMMITMENT

- Quality Product & Solutions
- Timely Delivery
- Cost Effectiveness
- Total Customer Satisfaction
- Applications

APPLICATIONS

- Residential
- Domestic
- Industrial
- Commercial
- Manufacturing Unit
- Education Institute
- Trust/NGO/Hospitals/Clinics Etc.
- Benefits of Grid connected Solar Power Plant

BENEFITS OF GRID CONNECTED SOLAR POWER PLANT

- Up to 50% saving in Electricity bill
- Accelerated Depreciation Benefits
- Net Metering facility as per State Solar Policy
- 25 Years Long Lasting Life
- 4 to 5 year's Project Payback
- Hedge against inflation in Elec. Tariff
- Cheaper than Current Electricity Rate
- Nominal Maintenance Required
- Step towards Green World
- Reduce Carbon Emission

SOLAR PUMP TEST REPORT

Date	25-05-2019		Test Location	Line 1		Name of Technician	Pravin	
Pump Model	VF900-60		Power Source: Simulator / PV Array		Simulator		Day Profile	Hot
Motor Type & rating	1HP PMSM		PV Module conf(Sr. & Pr)		325Wp (3 X 1)		Total Static head,	60
Controller model	1HP		Simulator Array Power (Wp)		975			
Sr. No.	Time	Temperature Of PV Panel	Irradiation Simulator (W/m ²)	Total Head (m)	Array Voltage (V DC)	Array Current (I DC)	Array Power (kW)	Water Output (LPH)
1	07:00	38.25	231.53	0	97.23	0.00	0.00	0
2	07:30	43.69	328.73	60	111.30	1.72	0.19	0
3	08:00	47.76	438.06	60	102.00	3.25	0.33	5
4	08:30	53.71	551.94	60	101.20	4.50	0.46	8
5	09:00	57.61	621.80	60	102.90	5.23	0.54	12
6	09:30	60.70	704.63	60	98.69	6.22	0.61	18
7	10:00	66.33	779.83	60	98.61	6.94	0.68	21
8	10:30	69.06	836.56	60	102.70	6.82	0.70	24
9	11:00	71.95	889.11	60	103.60	6.83	0.71	25
10	11:30	72.99	892.89	60	103.80	6.69	0.69	26
11	12:00	64.78	911.87	60	103.80	6.66	0.69	28
12	12:30	65.72	870.10	60	104.60	6.64	0.69	27
13	13:00	64.13	867.16	60	103.70	6.88	0.71	26
14	13:30	62.65	872.57	60	103.40	6.70	0.69	25
15	14:00	63.86	791.57	60	102.00	6.84	0.70	21
16	14:30	61.21	720.17	60	99.33	6.74	0.67	20
17	15:00	60.71	651.27	60	101.40	5.83	0.59	13
18	15:30	56.93	598.24	60	102.80	4.66	0.48	10
19	16:00	56.88	474.52	60	106.10	3.82	0.41	6
20	16:30	50.98	359.72	60	101.80	2.83	0.29	2
21	17:00	47.71	285.12	60	103.30	0.82	0.08	0
	Total		7.150				5.01	10,985
	Unit		kWh/m²/day				kWh	LPD
TEST RESULTS						Remarks: Pass		
7.15	Reference Solar Radiation By simulator							
10,985	Discharge, LPD @ 7.15kWh/m2/day							
11.3	LPD/Wp @ 7.15kWh/m2/day							
10000	Required Liter LPD							
						Checked By	Ankur Gupta	



Solar BLDC/PMSM Surface Monoblock Pumps

Pump Set Details

PROXY'S SOLAR

Kw/Hp	0.37 to 3.7/ 0.5 to 5
Duty Point Head	8 to 30m
Duty Point Discharge	250 to 1400 LPM
Head Range	6 to 38m
Delivery Size	1.5" to 4.0"
Motor Voltage	110 to 380
Phase	3
Current	8.5 A Max
Frequency	110Hz
Overall Eff.	48 to 55%
Type of Duty	51
Rated Speed	3300 RPM

Motor Type	PMSM
Wire Type	Insulation Class F
Body	Aluminium
Impeller	SS304
Chamber	FG 200
Pump Shaft	S.S. 410
Bearing	Ball Bearing
Stamping	CRNO
Seal Type	Mechanical Seal

Solar PMSM SURFACE MONOBLOCK PUMPS

MODEL No	HP	Voltage	Power(watt)	Head	Shut off	Discharge	Suction (Inches)	Delivery (Inches)
PGM3050	0.50	48	600	20	25	18000	1.0	1.0
PGM311	1	72	900	25	30	25000	1.0	1.0
PGM3122	1	110	900	10	12	99000	2.0	2.0
PGM32252	2	160	1800	10	17	198000	2.5	2.0
PGM3333	3	230	2700	10	17	297000	3.0	3.0
PGM33252	3	230	2700	20	25	148500	2.5	2.0
PGM3544	5	380	4800	10	17	528000	4.0	4.0
PGM35325	5	380	4800	20	30	264000	3.0	2.5

Prakash Gold Industries, E-53, Sector-7, Noida (U.p)



Mfg by : Prakash Gold Industries, Noida



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"Centrifugal Monoblock Pumps"



PROXYS[®] SOLAR As Per MNRE

Prakash Gold Industries,
E-53, Sector-7,
Noida (U.P)



APPROX. PERFORMANCE CHART (w.e.f 01/07/2021) OF "PROXYS SOLAR" BRAND CENTRIFUGAL MONOBLOCK PUMPSETS, 2800RPM, 50 HZ, 1HP, 2HP, 3HP models.

Sr. No.	MODEL	HP	SIZE	HEAD IN METRES															
				4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34
				DISCHARGE IN L.P.M.															
1.	DM311515	1	38 X 38		410	380	360	300	130	90									
2.	DM3122	1	50 X 50		490	440	430	350	180										
3.	DM3222	2	50 X 50								480	435	400	370	340	285	250	175	
4.	DM32252	2	65 X 50	1030			570	530	490	450	370	240							
5.	DM3233	2	75 X 75	1120	1000	930	835	690	540	380									
6.	DM3244	2	100 X 100		960	800	600	400											
7.	DM3322	3	50 X 50					555	550	530	510	480	450	400	360	310	260		
8.	DM33252	3	65 X 50	1035					640	590	520	450	350	200					200
9.	DM3333	3	75 X 75		1010	960	840	700	550	400									
10.	DM3344	3	100 X 100			1080	1030	900	710	500									
11.	DM35252	5	65 X 50								800	750	700	630	600	550	450		280
12.	DM35325	5	75 X 65	1850		1050	980	920	870	820	790	712	685	620	534	460	320	300	
13.	DM3544	5	100 X 100		1800	1750	1440	1380	1010	690									

PRAKASH GOLD[®]

High Power Submersible Pumps

PROXYS[®]

High Power Submersible Pumps

Prekosta

High Power Submersible Pumps

P. G. GOLD

High Power Submersible Pumps

Pump Set Details

Kw/Hp	0.7 to 3.7 / 1 to 5	Motor Type	AC
Duty Point Head	8 to 30 m	Wire Type	Insulation Class F
Duty Point Discharge	250 to 1400 LPM	Body	FG 200
Head Range	6 to 38 m	Impeller	FG 200
Delivery Size	1.5" to 4.0"	Chamber	FG 200
Motor Voltage	110 to 380	Pump Shaft	S.S. 410
Phase	3	Bearing	Ball Bearing
Current	8.5 A Max	Stamping	CRNO
Frequency	50 Hz	Seal Type	Mechanical Seal
Overall Eff.	48 to 55%		
Type of Duty	51		
Connection	Star & Delta		
Rated Speed	2850 rpm		

Solar AC Surface Monoblock Pumps

Model No.	HP	Voltage	Power (Watt)	Head (M)	Shut off Head (m)	Discharge (LPD)	Suction Size	Delivery Size
DSM3122	1	110	900	10	12	89,900	2.0"	2.0"
DSM32252	2	160	1800	10	17	1,79,000	2.5"	2.0
DSM3333	3	230	2700	10	17	2,68,500	3.0"	3.0"
DSM33252	3	230	2700	20	25	1,33,500	2.5"	2.0"
DSM3544	5	380	4800	10	17	4,76,200	4.0"	4.0"
DSM35325	5	380	4800	20	30	2,37,500	3.0"	2.5"
DSM35252	5	380	4800	30	40	1,68,700	2.5"	2.0"



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