

"We Make Your Dream True"



SOLAR PANEL CLEANING SYSTEM



www.jpsolarenergy.com

ABOUT US

JP SOLAR has been foremost in the photovoltaic system technology with Solar On grid power plant (Residential and Commercial), Solar water pump, Solar panel cleaning system for all types of applications. We have excellent team of technical person to overcome the entire photovoltaic problem. We are therefore positioned to support your daily business worldwide adequately and effectively. Through our production in India and the tight inter connection of the entire delivery chain.

JP SOLAR is a successful company having wide range of AMRUT solar water pump & solar panel cleaning system by cutting edge technology and industry expertise to fulfill renewable energy dream of the world. Our company wide expertise covers the engineering procurement and construction (EPC) for our customers. Innovation and the implementation of the technology keep us ahead in the market of solar energy. Our highly qualified and motivated team provides tailor made solution for each project with ultimate design, advanced quality of raw materials and seamless engineering for our high esteemed customers to empower their energy needs. With our vision, skills, dedication and customer friendly approach we have built solid foundation and established long relationship with our clients, in which we always believe. We would like to serve you for the green energy and the best technology.

WHY IS IT IMPORTANT TO CLEAN SOLAR PANELS?

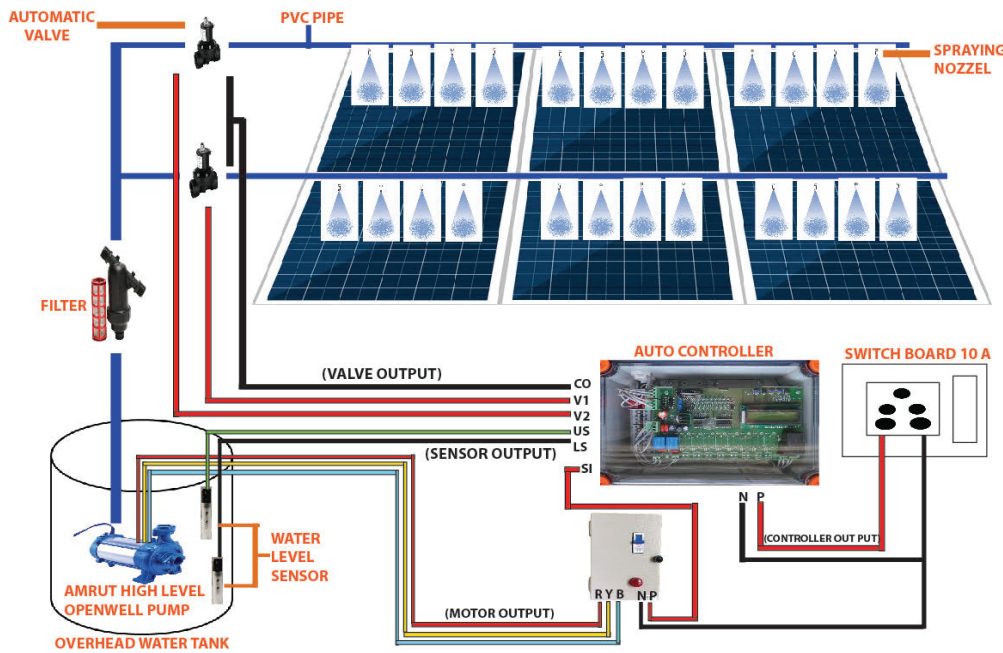
If you had installed solar panels on your home or business, as you are already aware of the saving and efficiency of solar panels. Solar panel cleaning is a mandatory to keep the system efficient as per system design. The dirtier a solar panel becomes less efficient and which can cost your money in the long run. Clean solar panel gives you 16 % Efficiency as committed by the manufacturer. Solar Panel cleaning plays a very important role in generation of solar power system.



The more light that hits a panel, the more power it will generate. One of main issue with solar panels is the attraction of birds. Bird droppings can also compromise the efficiency of your solar Power system. As Solar Panel is in open areas or rooftop so dust will start to settle on them which block sunlight and start reducing their efficiency. There are different possibilities of efficiency drop when solar panel is not cleaned. Let's have a look on the below table:

NUMBER OF WEEKS / MONTH	EFFICIENCY DROP
1 WEEK	10%
1 MONTH	25%
2 MONTHS	50%

WORKING DIAGRAM OF SOLAR PANEL CLEANING SYSTEM



The system consists of water pump and a device. There is water spraying nozzles on the top of every panel that will spray high pressure water on the panel in order to clean it. The device has a microcontroller unit which is programmed such that, the whole water pressure, created by pump, is applied to each and every water spraying section individually. So highpressure water is sprayed to every solar panels row one by one in order to clean every panels in solar power plant. The device also consist a timer which enable system on/off automatically to this system.

FEATURES OF SOLAR PANEL CLEANING SYSTEM

- Automatic timer operated cleaning system.
- It uses 5 liter of water for cleaning single module.
- Power consumption is only 0.2 per cycle of 8 nos solar panels.
- It takes 20 seconds to clean 8 Nos Solar panels.
- Early morning operation can be done so that before sun rises panel can be cleaned.
- Water level sensors apply to prevent the pump failure without water.
- Solar panel cleaning system controller is Water resistance IP 54 Rating.
- Open well pump stator is SS 304 for Long life operation.
- No need of any infrastructural modification, as the system operates on the frame of the solar panel.
- Scratch-free technology and Smooth operations
- Reduces dust accumulation on solar panel by 90%
- Easy replacement of nozzle and Screen filter system apply for separates solid matters and other fine articles to prevent blockage of nozzles.
- Controller install with real time clock if light goes then controller will restart automatically operating time.

TECHNICAL SPECIFICATION OF SOLAR PANEL CLEANING SYSTEM COMPONENTS

OPEN WELL SUBMERSIBLE PUMP

HEAVY MODEL		ECO MODEL	
STATOR	SS304	STATOR	SS304
PUMP HARDWARE	SS304	PUMP HARDWARE	SS304
HP/KW	1.0/0.75	HP/KW	1.0/0.75
VOLTAGE	230 V/SINGLE PHASE	VOLTAGE	230 V/SINGLE PHASE
RPM	2900	RPM	2900
AMP	7.5 A	AMP	7.5 A

SCREEN FILTER

MAX. WORKING PRESSURE	10 KG/CM ²
RANGE OF FLOW RATE	5-8 M ³ /HR
SCREEN CARTRIDGE	DOUBLE SCREEN 30/120 MESH
FILTRATION SURFACE AREA	120 CM ²

AUTOMATIC VALVE

WORKING MEDIUM	WATER	MAX.PRESSURE RESISTANCE	12 BAR
MOTION PATTERN	DIAPHRAGM TYPE	WORKING MEDIUM TEMP	-5~80° C
TYPE	NORMALLY CLOSED (2/2WAY)	COIL OPERATING TEMPERATURE	-5~85° C
ACTUATOR	ELECTROMAGNETIC	VOLTAGE RANGE	±10% OF POWER SUPPLY
POWER SUPPLY	24 V DC	MATERIAL OF BODY	NV 66 / CF 8 / CF 8M
SEAL	NBR / VITON	CONNECTION	BSP TYPE THREAD
WORKING PRESSURE	0 TO 10 BAR	COIL GLASS	F CLASS / H CLASS

SPRAYING NOZZLE

MATERIAL	ABS (PLASTIC)
WORKING ANGLE	0° to 90°
DISCHARGE	5 TO 7 LPM
PRESSURE	1 KG/CM ² TO 2 KG/CM ²

AUTO CONTROLLER

SMPS	IP - SINGLE PHASE OP- 12 VDC , 3A
CONTROL CARD	IP SUPPLY - 12 VDC OP DC VALVE - 12 V , 1.5 A

SUGGESTED CLEANING SYSTEM MODELS WITH NOS OF SOLAR PANEL

MODEL	NOS OF SOLAR PANEL	NOS OF NOZZLE	CAPACITY OF PUMP	TYPES OF CONTROLLER	NOS OF SOLAR PANEL- NOS OF ROW
2 KW SERIES	6 NOS	6 NOS	1.0 HP (E)	AUTOMATIC WITHOUT VALVE	WITHOUT VALVE ALL NOZZLE IN SERIES
	7 NOS	7 NOS	1.0 HP (E)	AUTOMATIC WITHOUT VALVE	
3 KW SERIES	8 NOS	8 NOS	1.0 HP (H)	AUTOMATIC WITHOUT VALVE	WITHOUT VALVE ALL NOZZLE IN SERIES
	9 NOS	9 NOS	1.0 HP (H)	AUTOMATIC WITHOUT VALVE	
	10 NOS	10 NOS	1.0 HP (H)	AUTOMATIC WITHOUT VALVE	
4 KW SERIES	12 NOS	12 NOS	1.0 HP (E)	AUTOMATIC WITH 2 NOS VALVE	6,6-2 ROW
	13 NOS	13 NOS	1.0 HP (E)	AUTOMATIC WITH 2 NOS VALVE	6,7-2 ROW
	14 NOS	14 NOS	1.0 HP (E)	AUTOMATIC WITH 2 NOS VALVE	7,7-2 ROW
5 KW SERIES	15 NOS	15 NOS	1.0 HP (H)	AUTOMATIC WITH 2 NOS VALVE	7,8-2 ROW
	16 NOS	16 NOS	1.0 HP (H)	AUTOMATIC WITH 2 NOS VALVE	8,8-2 ROW
	17 NOS	17 NOS	1.0 HP (H)	AUTOMATIC WITH 2 NOS VALVE	8,9-2 ROW
6 KW SERIES	18 NOS	18 NOS	1.0 HP (E)	AUTOMATIC WITH 3 NOS VALVE	6,6,6-3 ROW
	19 NOS	19 NOS	1.0 HP (E)	AUTOMATIC WITH 3 NOS VALVE	6,6,7-3 ROW
	20 NOS	20 NOS	1.0 HP (E)	AUTOMATIC WITH 3 NOS VALVE	6,7,7-3 ROW
7 KW SERIES	21 NOS	21 NOS	1.0 HP (H)	AUTOMATIC WITH 3 NOS VALVE	7,7,7-3 ROW
	22 NOS	22 NOS	1.0 HP (H)	AUTOMATIC WITH 3 NOS VALVE	7,7,8-3 ROW
	23 NOS	23 NOS	1.0 HP (H)	AUTOMATIC WITH 3 NOS VALVE	7,8,8-3 ROW
8 KW SERIES	24 NOS	24 NOS	1.0 HP (E)	AUTOMATIC WITH 4 NOS VALVE	6,6,6,6-4 ROW
	25 NOS	25 NOS	1.0 HP (E)	AUTOMATIC WITH 4 NOS VALVE	6,6,6,7-4 ROW
	26 NOS	26 NOS	1.0 HP (E)	AUTOMATIC WITH 4 NOS VALVE	6,6,7,7-4 ROW
10 KW SERIES	28 NOS	28 NOS	1.0 HP (H)	AUTOMATIC WITH 4 NOS VALVE	7,7,7,7-4 ROW
	30 NOS	30 NOS	1.0 HP (H)	AUTOMATIC WITH 4 NOS VALVE	7,7,8,8-4 ROW
	32 NOS	32 NOS	1.0 HP (H)	AUTOMATIC WITH 4 NOS VALVE	8,8,8,8-4 ROW
11/12/ 13 KW SERIES	33 NOS	33 NOS	1.0 HP (H)	AUTOMATIC WITH 5 NOS VALVE	6,6,7,7,7-5 ROW
	36 NOS	36 NOS	1.0 HP (H)	AUTOMATIC WITH 5 NOS VALVE	7,7,7,7,8-5 ROW
	39 NOS	39 NOS	1.0 HP (H)	AUTOMATIC WITH 5 NOS VALVE	7,8,8,8,8-5 ROW
	40 NOS	40 NOS	1.0 HP (H)	AUTOMATIC WITH 5 NOS VALVE	8,8,8,8,8-5 ROW
14/15/ 16 KW SERIES	42 NOS	42 NOS	1.0 HP (H)	AUTOMATIC WITH 6 NOS VALVE	7,7,7,7,7,7-6 ROW
	45 NOS	45 NOS	1.0 HP (H)	AUTOMATIC WITH 6 NOS VALVE	7,7,7,8,8,8-6 ROW
	48 NOS	48 NOS	1.0 HP (H)	AUTOMATIC WITH 6 NOS VALVE	8,8,8,8,8,8-6 ROW
17/18 KW SERIES	52 NOS	52 NOS	1.0 HP (H)	AUTOMATIC WITH 7 NOS VALVE	7,7,7,7,8,8,8-7 ROW
	56 NOS	56 NOS	1.0 HP (H)	AUTOMATIC WITH 7 NOS VALVE	8,8,8,8,8,8,8-7 ROW
20 KW SERIES	60 NOS	60 NOS	1.0 HP (H)	AUTOMATIC WITH 8 NOS VALVE	7,7,7,7,8,8,8,8-8 ROW
	64 NOS	64 NOS	1.0 HP (H)	AUTOMATIC WITH 8 NOS VALVE	8,8,8,8,8,8,8,8-8 ROW
25 KW SERIES	75 NOS	75 NOS	1.0 HP (H)	AUTOMATIC WITH 10 NOS VALVE	7,7,7,7,7,8,8,8,8,8-10 ROW
	80 NOS	80 NOS	1.0 HP (H)	AUTOMATIC WITH 10 NOS VALVE	8,8,8,8,8,8,8,8,8,8-10 ROW



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